D-Link

User Manual

mydlink Camera Video Recorder

DNR-202L

Preface

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.

Manual Revisions

Revision	Date	Description
1.0	August 7, 2013	DNR-202L Revision A1 with firmware version 1.00
1.01	October 7, 2013	Updated with minor changes

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Table of Contents

Product Overview
Package Contents

DNR-202L mydlink Camera Video Recorder

Power adapter

CAT5 Ethernet cable

Quick Installation Guide

CD-ROM with User Manual and software

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.

Introduction

Congratulations on your purchase of the DNR-202L mydlink Camera Video Recorder.

The DNR-202L is a wired Network Video Recorder (NVR) which supports up to four network cameras with M-JPEG, MPEG4, or H.264 recording with up to two attached USB hard disks. Thanks to the powerful embedded system, the NVR can record video from network cameras located in local or remote sites to dedicated disk storage without needing a PC.

Powered by mydlink technology, the DNR-202L can be easily setup for Internet access. It supports real-time monitoring and playback from anywhere via an Internet browser. Users can keep recording while viewing a live feed or while searching playback at the same time. Complete video management, display, and playback ability makes the DNR-202L a convenient and stable video recording solution.

System Requirements

- Computer with Microsoft Windows 8®, Windows 7, Vista®, XP, or Mac OS 10.5 or above
- PC with Pentium 4 – 2.4 GHz or above, at least 512 MB RAM
- Internet Explorer 8 and above, Firefox 3.5 or above, Safari 4 or above, Chrome 2 or above
- Existing 10/100 Ethernet-based network
- Broadband Internet connection

Features

Comprehensive IP Surveillance Solution

- **Total Solution:** The D-Link DNR- 202L is a Network Video Recorder (NVR) capable of 24/7 recording without requiring a PC. The DNR-202L can manage multiple network cameras, providing direct access to view live video and play recorded data through the Internet from anywhere, anytime. The device itself is light weight and compact in size.

- **Easy to Use:** A user-friendly GUI simplifies network and camera setup, allowing users to easily access multiple cameras for viewing, recording, playback, and configuration.

- **Centralized Interface for Configuration:** The DNR-202L provides a flexible and economic alternative to manage and configure multiple network cameras on a centralized web interface.

- **Megapixel Resolution Support:** The major advantage of digital over analog video is its higher resolution support. The DNR-202L supports high resolution megapixel recording for vivid video with high clarity.

- **Empowered by mydlink technology:** The DNR-202L can be easily setup for Internet access. It supports real-time monitoring and playback from anywhere via an Internet browser.

Powerful Event Management

1. **Camera Status:** The camera status page will show connection, recording, frame rate, and bit rate information of each camera. Meanwhile, the estimated available recording time is also displayed for quick reference.
2. **Flexible Event Management:** Event setup is another key feature of the DNR-202L. The NVR can monitor all of the camera triggers for motion detection. One of the most powerful functions is the notification application. The NVR centrally controls the e-mail notifications and recording from all connected cameras.

Instant Live View

1. **Full Screen:** Enlarge the display to full screen of live view and recorded video.
2. **Camera Name and Status on OSD:** Camera name and recording status are displayed via OSD to aid in identification.
3. **PTZ/Audio Support:** Users can control pan/tilt/zoom (PTZ) functions from within the interface using the provided interface buttons.
4. **Preset Point:** Presets from within the interface can be set to instantly restore a previously saved viewpoint.
5. **Digital Zoom:** Videos can be enlarged by using digital zoom.

Intelligent Playback

1. **AVI Output:** During playback, if you uncover video that needs to be exported, you can easily export video in the convenient AVI format.
2. **Playback Speed Control:** Playback speed control allows for up to 32x speed fast forward or fast backward play. The step playback option displays one frame at a time.
3. **Image Enhancement:** Users can enhance the recorded video with controls such as brightness, contrast, and sharpness.
4. **Print Picture:** If a printer is connected to the user's PC, the NVR can also print the selected still image.

Hardware Overview

Right View

Rear View
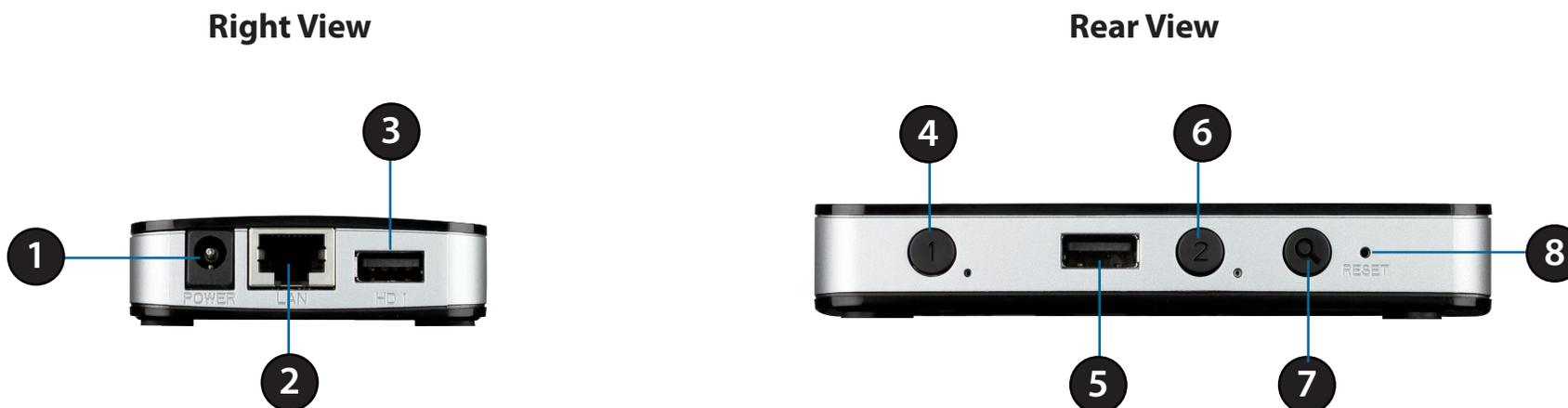
1	**Power Receptor**	Connect the provided power adaptor
2	**RJ45 Connector**	Connect one end of the provided network cable.
3	**USB Port for HDD 1**	Attach an external USB Hard Disk (HDD) to this port to save recorded streams
4	**HDD 1 Release Button**	Press this button to release the HDD attached to the USB Port for HDD 1
5	**USB Port for HDD 2**	Attach an external USB HDD to this port to save recorded streams
6	**HDD 2 Release Button**	Press this button to release the HDD attached to the USB Port for HDD 2
7	**Auto Scan Key**	Press this button to automatically scan for cameras on the network
8	**Reset Button**	Press and hold the recessed button for 10 seconds to reset the device

Assembly and Installation
Attaching External Drives

Step 1
Place the NVR on a non-slip flat surface.

Step 2
Attach an external USB HDD to the USB HDD1 port.
The NVR will mount the HDD and beep once.

Note: When you want to remove an HDD, press and hold the release button for at least three seconds. The NVR will release the HDD and emit a long beep. You can now unplug the USB cable.
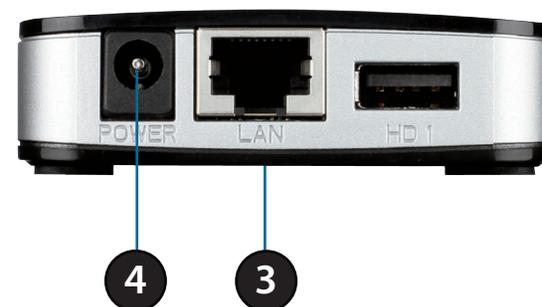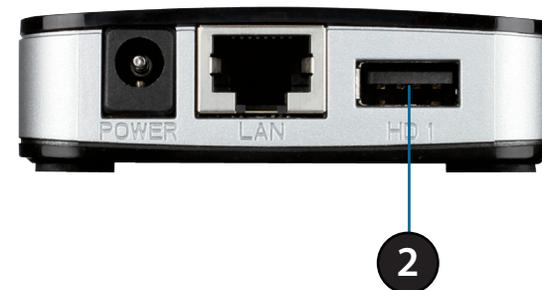
Step 3
Attach one end of the provided RJ45 network cable to the NVR. Attach the other end to your network. The DNR-202L will test for an Internet connection. Once an Internet connection is established, the blue LED will blink.

Note: If you do not connect an Ethernet cable, the DNR-202L will beep.

Step 4
Attach the provided power adaptor.

Software Installation

Step 1

Insert the Installation CD-ROM into your computer's optical drive to start the autorun program.

Windows Users:

The CD-ROM will open the Setup Wizard. The Setup Wizard will guide you through the installation process through to configuring the NVR.

Note:

If the autorun program does not automatically start on your computer, go to Windows and click **Start** > **Run**. In the Run command box type **D:\autorun.exe**, where D: represents your CD-ROM drive.

OS X Users:

Insert the DNR-202L Driver CD in the CD -ROM drive. After you have inserted the CD into your computer, go to the CD drive directory, and double-click the Mac Utility folder to enter.

Step 2

Accept the End User Licence Agreement and follow the on-screen prompts.
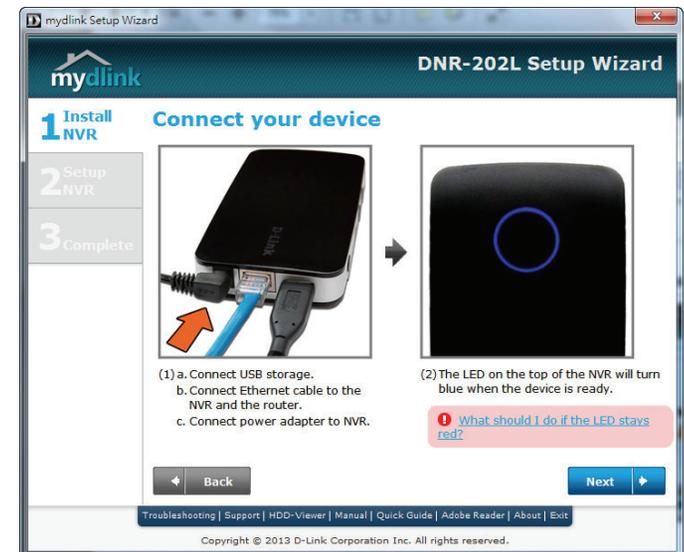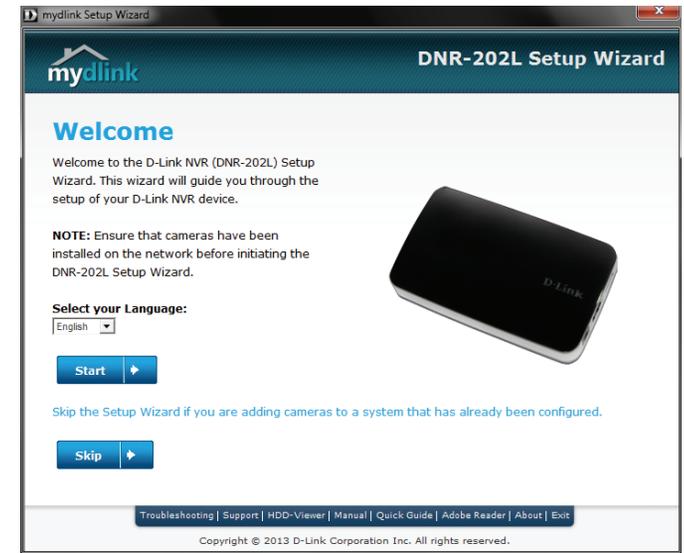
Step 3

Select your NVR from the list, then click **Next**. If you have multiple NVRs, you can identify them by the MAC ID printed on the label on the bottom of the device.
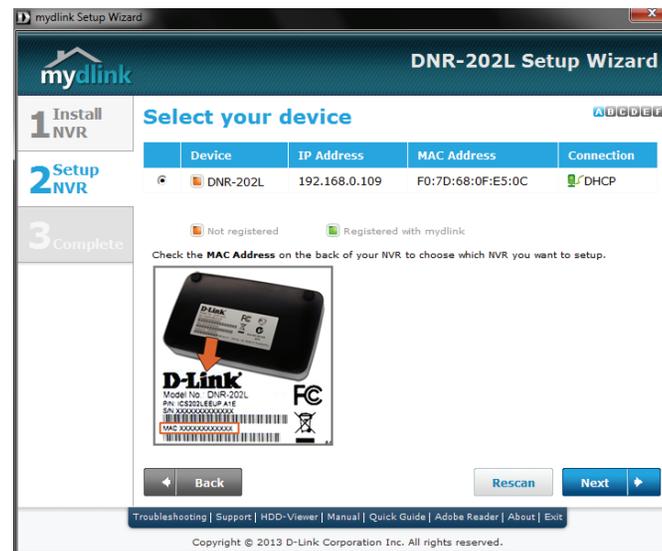
Step 4

By default the **Admin ID** is "admin" and the password is blank.

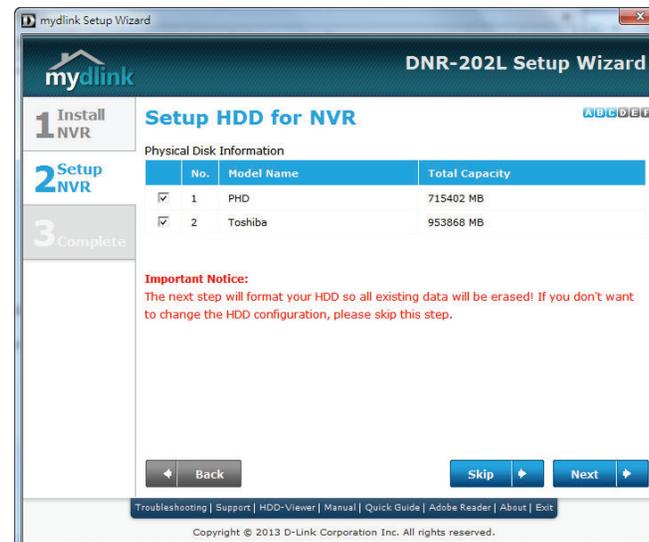Create and confirm a password for your device.
Click **Next** to continue.
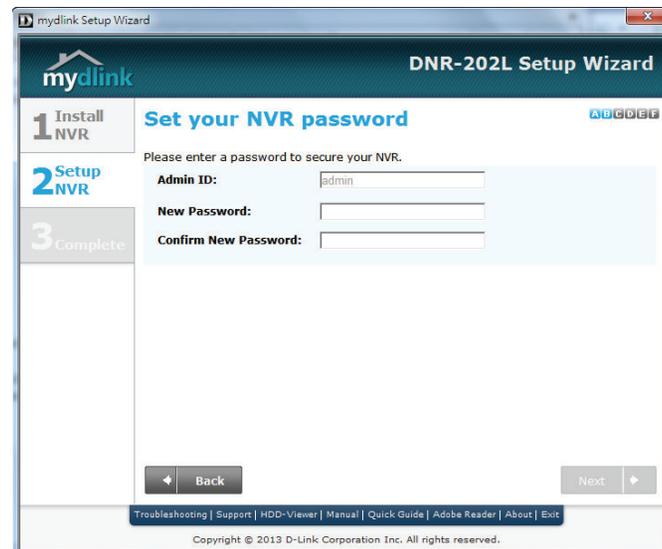
Step 5

The wizard will scan for attached storage and ask if you wish to format the devices found.

Note: Select **Skip** if you are unsure of which settings to choose.

Click **Next** to continue.

Step 6

The wizard will attempt to find your Internet 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.

Note: Select DHCP if you are unsure of which settings to choose.

Click **Next** to continue.
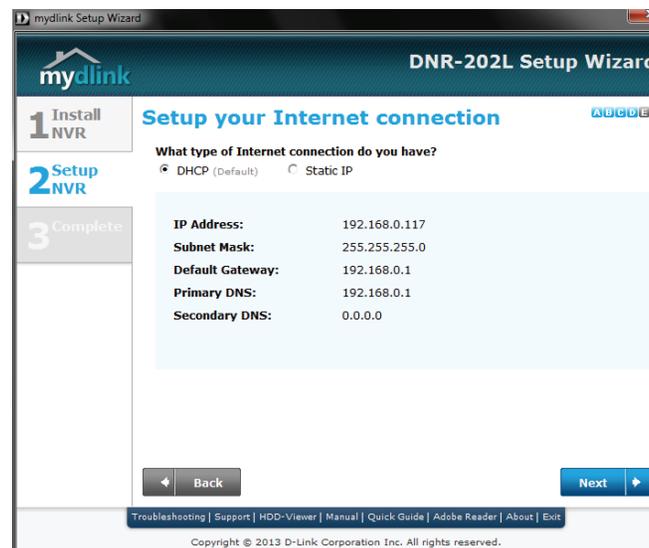
Step 7

The wizard will guide you through the process of connecting your NVR to a mydlink account. If you already have a mydlink account, enter the correct configuration information and click **Next** to continue, otherwise select **No, I need to sign up for a new account** or **I don't want to sign up right now** and follow the instructions.
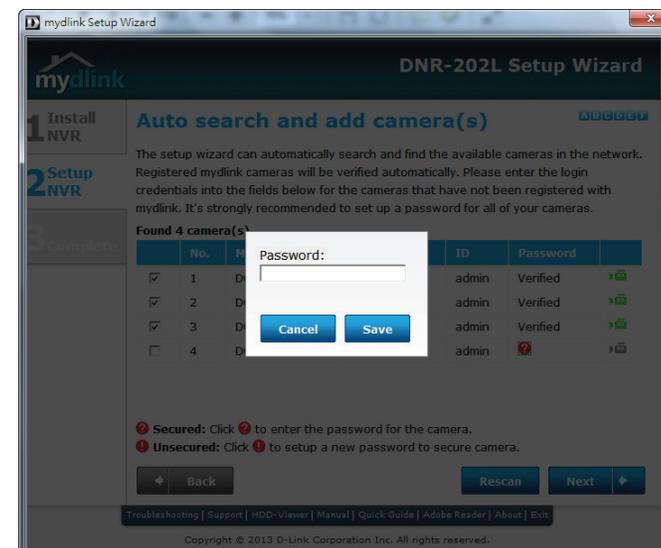
Click **Next** to continue.
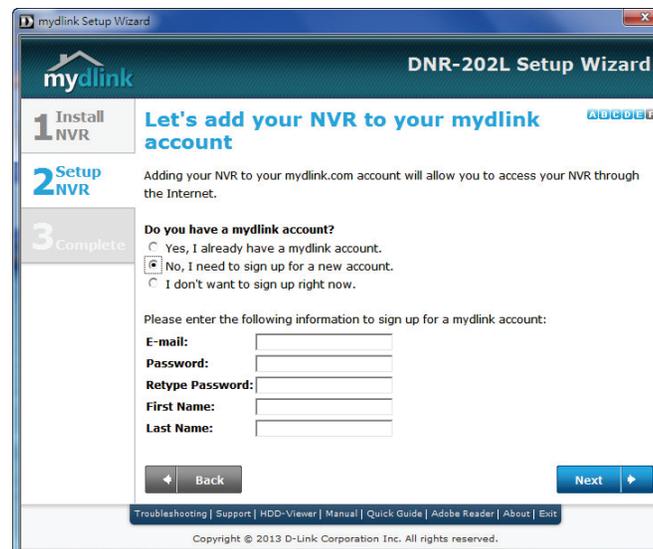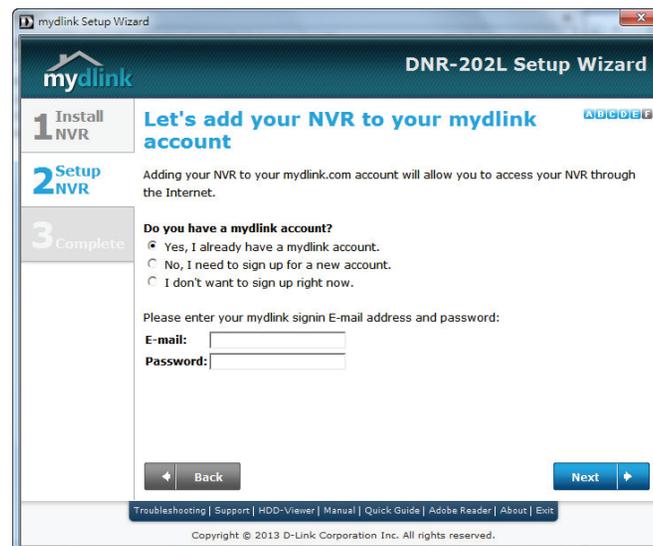
Step 8

The wizard will scan for all available cameras attached to your network. Registered mydlink cameras will be verified automatically.
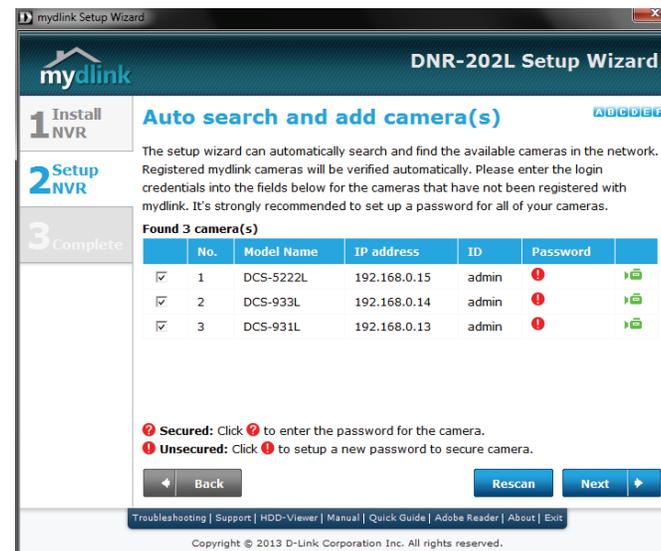
After the wizard has completed the scan for all available cameras attached to your network click on the red icons to confirm/create the password for each camera.

Click **Next** to continue.

**Note**: It is strongly advised to setup passwords for all of your cameras.

You can preview the discovered cameras by clicking on the green camera icon, or click **Next** to continue.
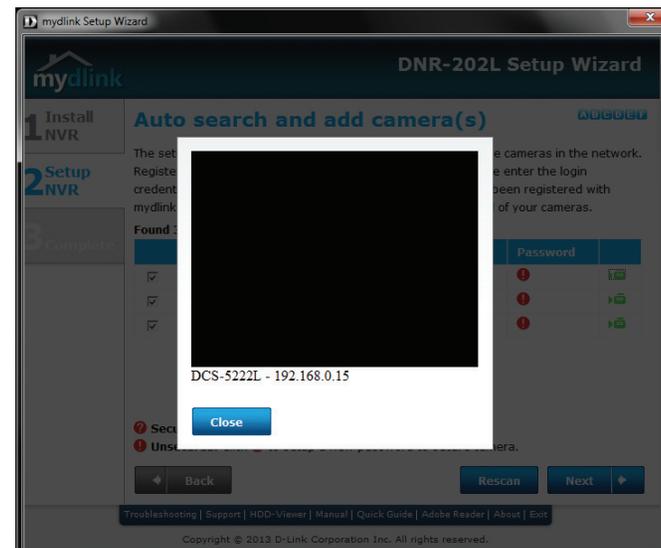
Step 9
Setup is complete. Make a note of the details presented and click on **Go to NVR** to log in to the NVR for further configuration (see "Using the Configuration Interface" on page 36) or click **Finish.**
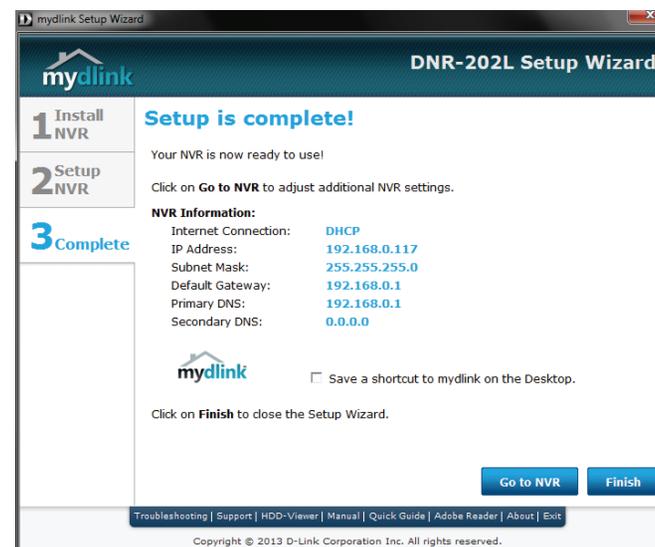
Adding Cameras using the Setup Software

Step 1

Insert the Installation CD-ROM into your computer's optical drive to start the autorun program.

The CD-ROM will open the Setup Wizard. The Setup Wizard will guide you through the installation process of adding a camera to the NVR.

At the welcome page, click on the **Skip** button.

Note:

If the autorun program does not automatically start on your computer, go to Windows and click **Start** > **Run**. In the Run command box type **D:\autorun.exe**, where D: represents your CD-ROM drive.

Step 2

Follow the on screen prompts to ensure the device is plugged in and powered on.
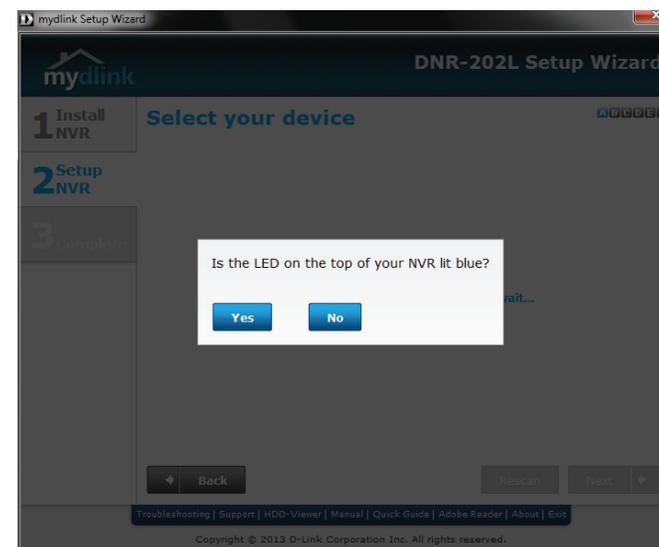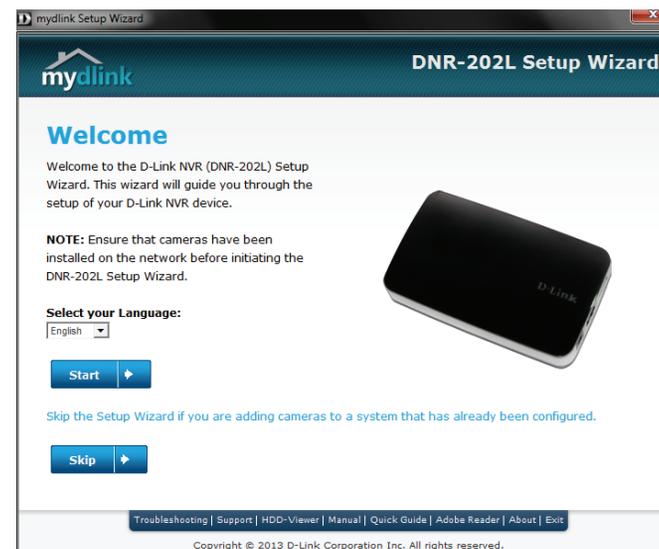
Step 3

Select your NVR from the list, then click **Next**. If you have multiple NVRs, you can identify them by the MAC ID printed on the label on the bottom of the device.
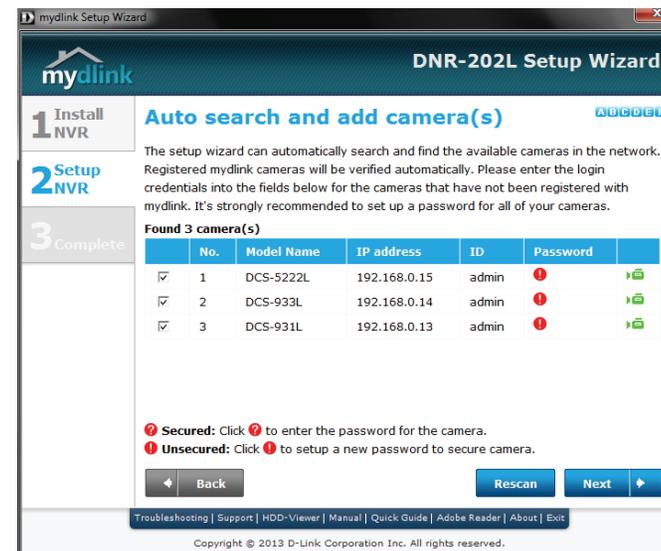

Step 4

Confirm the password for your device.

Click **Camera Search** to continue.
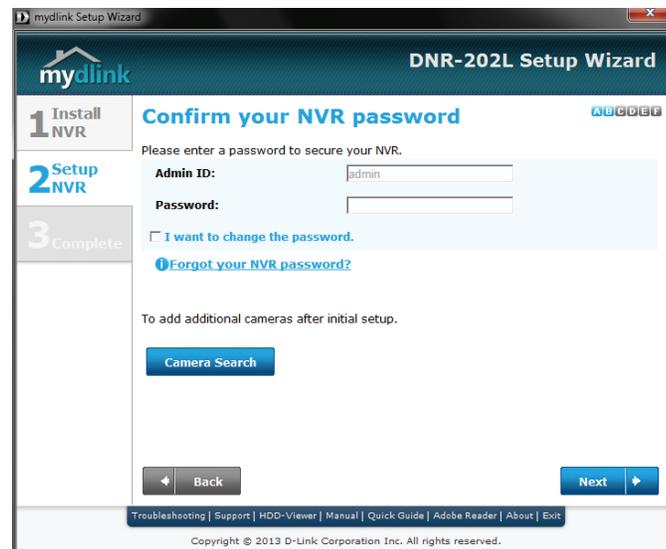
Step 5

The wizard will scan for all available cameras attached to your network. Registered mydlink cameras will be verified automatically.

After the wizard has completed the scan for all available cameras attached to your network, click on the red icons to confirm/create the password for each camera.

Click **Next** to continue.

Note: It is strongly advised to setup passwords for all of your cameras.
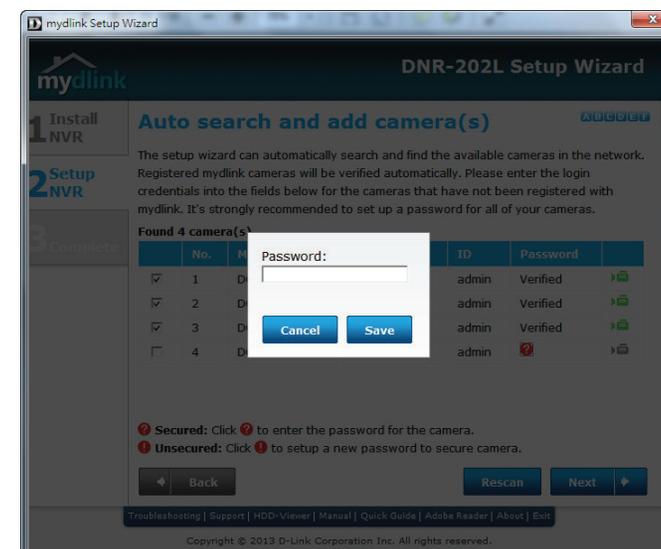
Step 6

Make a note of the details presented and click on **Go to NVR** to log in to the NVR for further configuration (see "Using the Configuration Interface" on page 36) or click **Finish.**
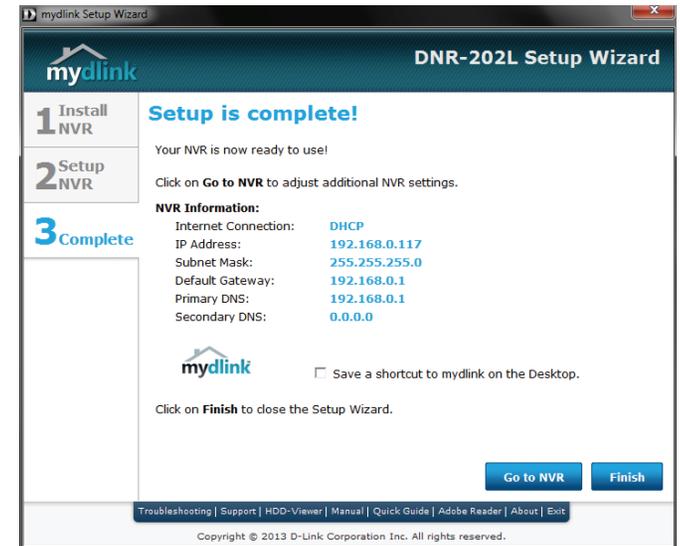
HDD Viewer Software Installation

Your DNR-202L comes with a convenient application to assist you in managing your recorded video. This section will guide you thorugh the simple setup procedure, and the interface of the application.

Step 1

Attach the hard disk containing the DNR-202L recordings you wish to view.

Step 2

Insert the DNR-202L Driver CD in the CD-ROM drive. Navigate to the **D:\HddViewer** folder (where D: represents the drive letter of your CD-ROM drive) and double click on the setup program to begin the installation.

Step 3

Follow the on-screen prompts and click **Finish** to complete the installation.

HDD Viewer Software Interface

The HDD-Viewer application enables you to view, search and, backup your recorded videos from a simple interface. The interface controls are described below. For advanced users refer to "Playback" on page 39 for more details.

|		
	Open Recording Search Menu	Use this button to show the Open Recording menu. See "Open Recording" on page 21 for more.
	Display Single feed	Use this button to switch to a single camera feed in the live video display area.
	Display 2 x 2 feed	Use this button to switch to a 2 x 2 camera feed in the live video display area.
	Actual Size	Use this button to display the recording in it's native resolution.
	Full Screen	Use this button to switch to a full screen view of the live video feed.
	On Screen Display Settings	Use this button to configure the various settings for the on screen display.
	Save as AVI	Use this button to export the video as an AVI file.
	Print Image	Use option this to print a still image.
	Save as Image	Use this option to save a still image.
	Image Enhancement	Use this option to apply image enhancements.
	Backup Data	Use this option to make a backup your video recordings.
	Volume	Use the slider to adjust the playback volume.
	Close Application	Use this button to close the application.
	Minimize Application	Use this button to minimize the application.

Open Recording

Click the **Open Recording** button to access the Date-Time Panel and select the video recordings which you would like to review.
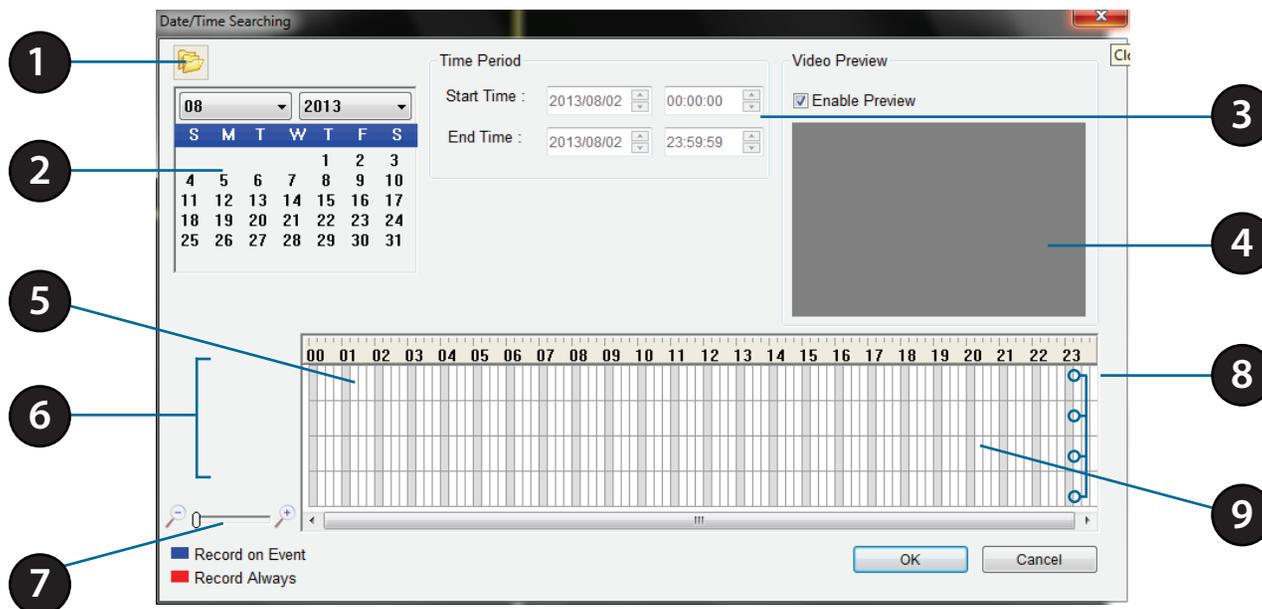

1	**Select Folder**	Use this button to navigate to your video recordings folder.
2	**Date Selection Area**	Select the year, month and day of the recording you wish to view. Dates with recordings available for playback are highlighted blue.
3	**Time Range Selection**	Select a beginning and end time for the recording you wish to view.
4	**Video Preview**	When Enable Preview is checked, this area will display a preview.
5	**Timeline**	This timeline will adjust according to the level of zoom selected.
6	**Available Streams**	This area lists the recording devices available.
7	**Zoom Slider**	Use the zoom slider control to zoom in and out of the timeline.
8	**Available Recordings**	Recordings are graphed below the timeline. Blue bars indicate an event was recorded. Red bars indicate the camera is set to always record.
9	**Selected Period**	Click within the timeline to select a recording period.

mydlink Portal

After registering your NVR with a mydlink account in the NVR Setup Wizard, you will be able to remotely access your NVR from the www.mydlink.com website. After you log in to your mydlink account, you be taken to the My Devices page.
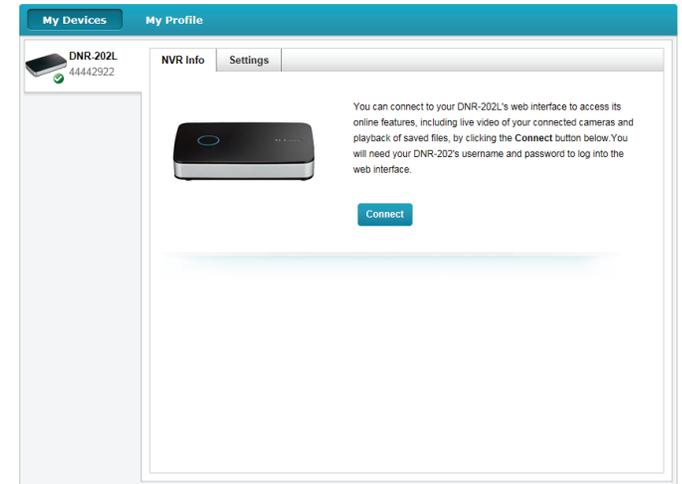
To connect to your NVR click on the **Connect** button and provide your password to complete the login process. After you have connected to the NVR, you will be taken to the Live Video page. (Refer to "Live Video" on page 25)
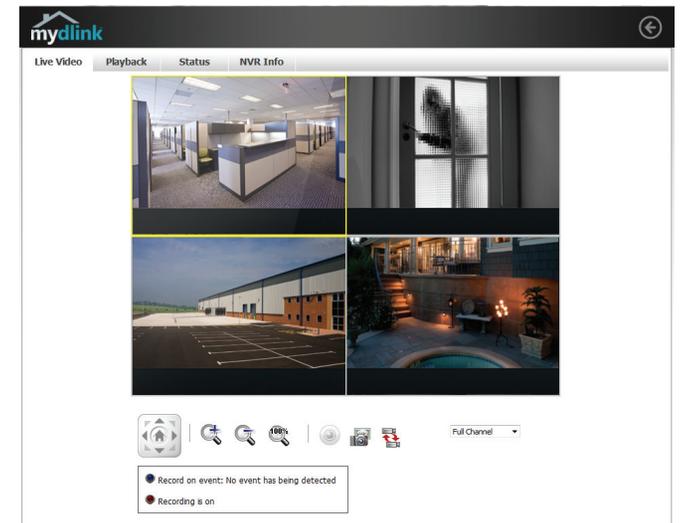
NVR Status Icons

Here, you can see the online status of each of your NVRs. Your online status may be one of the following:

A green checkmark indicates that your NVR is online and ready to use.

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

A red cross indicates that your NVR is offline and currently cannot be accessed remotely.

If your NVR is offline, try the following:
* Check to make sure that the Internet connection to your NVR is working properly.
* Try restarting your Internet router.
* Check your NVR's cable connections and make sure they are secure.
* Check to make sure that the LED on your NVR is lit solid blue.

If you still cannot access your NVR, reset your NVR and run the NVR Setup Wizard again from the CD-ROM included in your package.

Settings

On the Settings tab you can see a general summary of your NVR.

If you wish to remove your NVR from your mydlink account click on the **Delete NVR** button and provide your password to complete the action.

Live Video

After you have connected to your NVR, the Live Video tab will be selected by default and will display the Live Video feed. You can choose a different camera from the drop down list, or you can choose to view all the available channels.

A notice is displayed below the controls if any events have been recorded, or if the NVR is currently recording.

The available controls are detailed below.

	Control Pad	This control pad can be used to pan, tilt, and zoom (PTZ) a dome camera, or electronically pan, tilt, and zoom (PTZ) within the camera's predefined view area, if one has been defined.
	Zoom Control	Use the + and - buttons to zoom in or out.
	Actual Size	Use this control to view video in it's native resolution.
	Record	Use this control to toggle recording.
	Save to Image	Use this option to save a snapshot image.
	Glance	Use this option to toggle the glance mode.

Playback

The Playback tab enables the user to review pre-recorded video. The available playback controls are detailed below.

	Playback Seeker	Use the playback seeker to quickly jump to a specific point in the recording.
	Volume Control	Adjust the slider to increase or decrease the audio volume.
	Open Recording	Click on this control to open the saved recordings search dialog. See "Open Recording" on page 27.
	Pause Playback	Use this control to pause the current playback.
	Stop Playback	Use this control to stop the current playback.
	Step Back/Forward	Use these controls to pause playback and either step back one frame or advance forward by one frame.
	Speed Down/Up	Use these controls to slow down or speed up the playback.
	Zoom Control	Use the + and - buttons to zoom in or out.
	Actual Size	Use this control to view video in it's native resolution.
	Save to Image	Use this option to save a snapshot image.
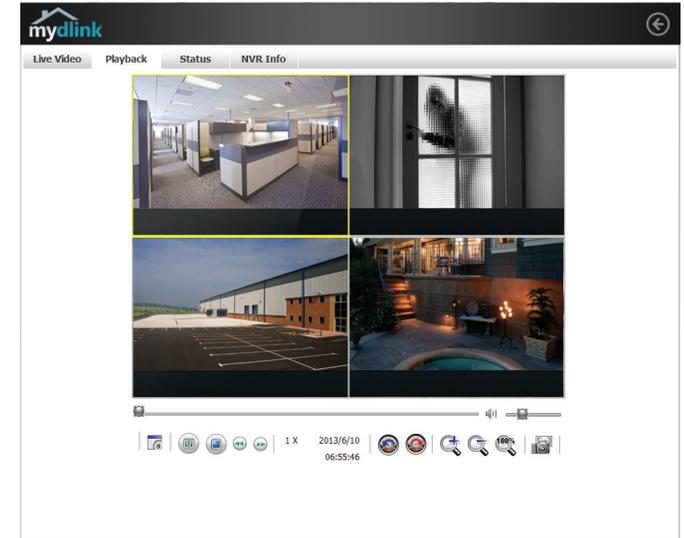
Open Recording

Click the **Open Recording** button to access the Date-Time Panel and select the video recordings which you would like to review.
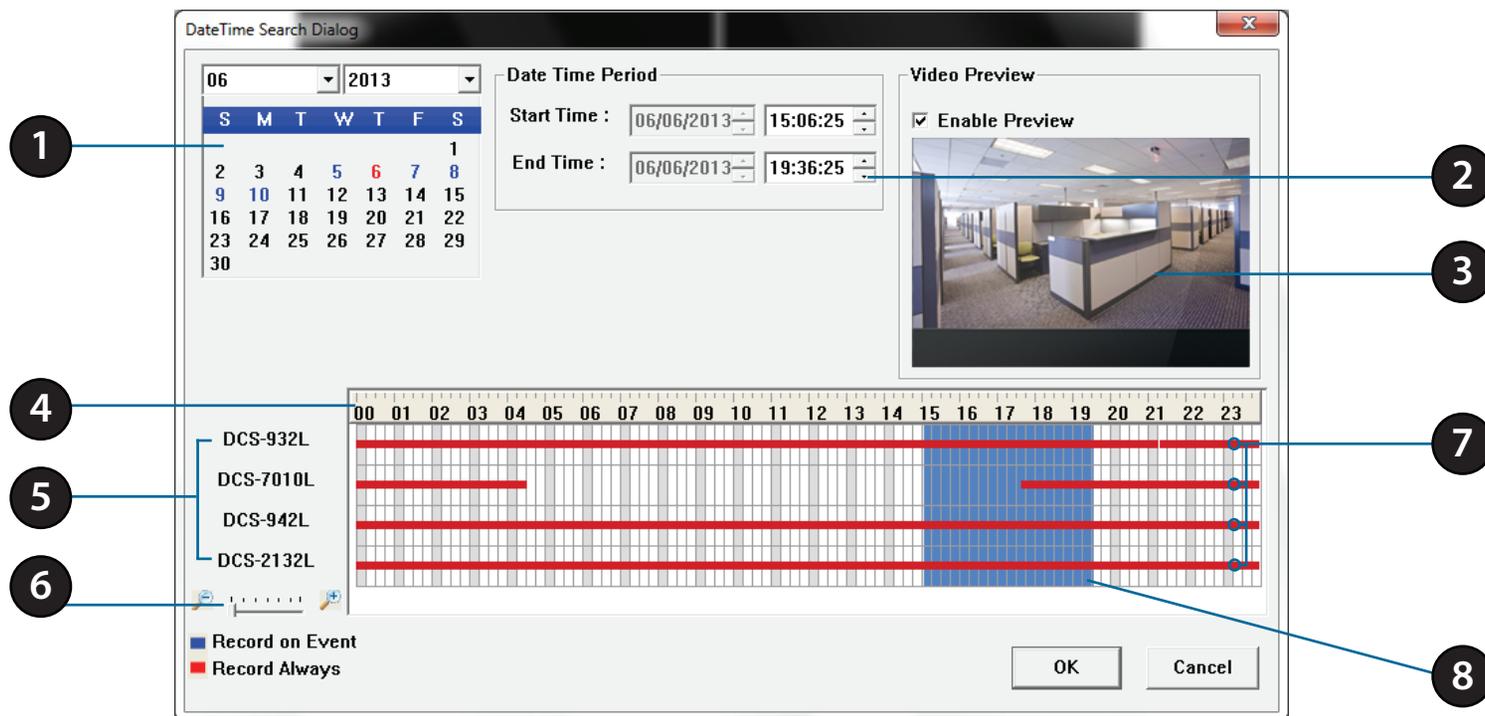
1	**Date Selection Area**	Select the year, month and day of the recording you wish to view. Dates with recordings available for playback are highlighted blue.
2	**Time Range Selection**	Select a beginning and end time for the recording you wish to view.
3	**Video Preview**	When Enable Preview is checked, this area will display a preview.
4	**Timeline**	This timeline will adjust according to the level of zoom selected.
5	**Available Streams**	This area lists the recording devices available.
6	**Zoom Slider**	Use the zoom slider control to zoom in and out of the timeline.
7	**Available Recordings**	Recordings are graphed below the timeline. Blue bars indicate an event was recorded. Red bars indicate the camera is set to always record.
8	**Selected Period**	Click within the timeline to select a recording period.

Status

The Status tab describes both USB storage and cameras connected to the NVR.

Name: This shows the name given to the USB storage device attached to the USB 1 or USB 2 port.

Total Hard Drive Capacity: This shows the total amount of storage space available on the USB storage device attached to the USB 1 or USB 2 Port.

Used Space: This shows the used storage space of the USB storage device attached to the USB 1or USB 2 Port.

Unused Space: This shows the amount of space available for recording on the USB storage device attached to the USB 1 or USB 2 Port.

Status: This shows if the USB storage device attached to the USB 1or USB 2 port is currently being recorded to.

Advanced Settings: Clicking on the Advanced Settings button allows you to access your NVR's configuration interface. To open your NVR's configuration interface, select the NVR web page and enter the password.
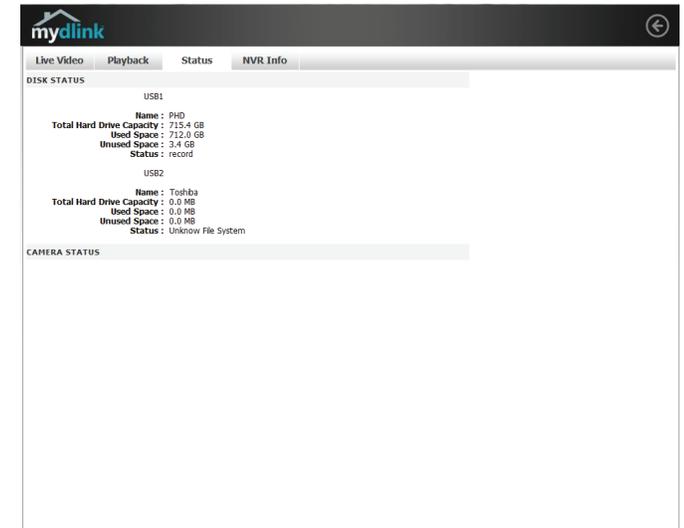
NVR Info

The NVR Info tab shows you various information about your NVR.

NVR Name: The Device Name is a unique name that can help you to identify the NVR. Clicking on the Device Name will open a window for you to login to your NVR's configuration interface.

mydlink No.: Displays the mydlink number of your device.

Model Name: Displays the model name of your device.

MAC Address: Displays the MAC address of your device.

NVR activated on: Displays the time and date that your device was added to mydlink.

Advanced Settings: Clicking on the **Advanced Settings** button allows you to access your NVR's configuration interface. To open your NVR's configuration interface, select the NVR web page and enter the password.
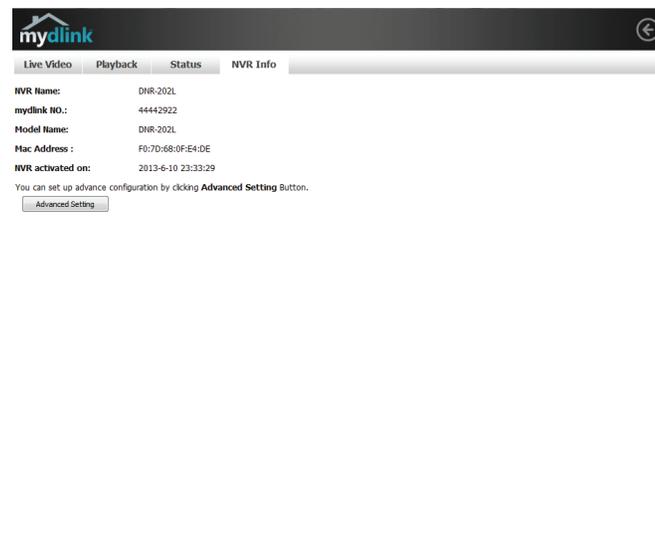
mydlink View - NVR App

Search for "mydlink View - NVR " to download and install the app on your smartphone or tablet when connected to the Internet.

mydlink View - NVR app requires: iOS version 5.1.1 or above or Android version 4.01 or above.

Once the download has been completed, launch the "mydlink View - NVR" app and log in to your mydlink account. Select your DNR-202L from the device list to access the live video from the connected cameras.

Now you can remotely access the live video, playback recorded videos, and manually enable or disable recording.
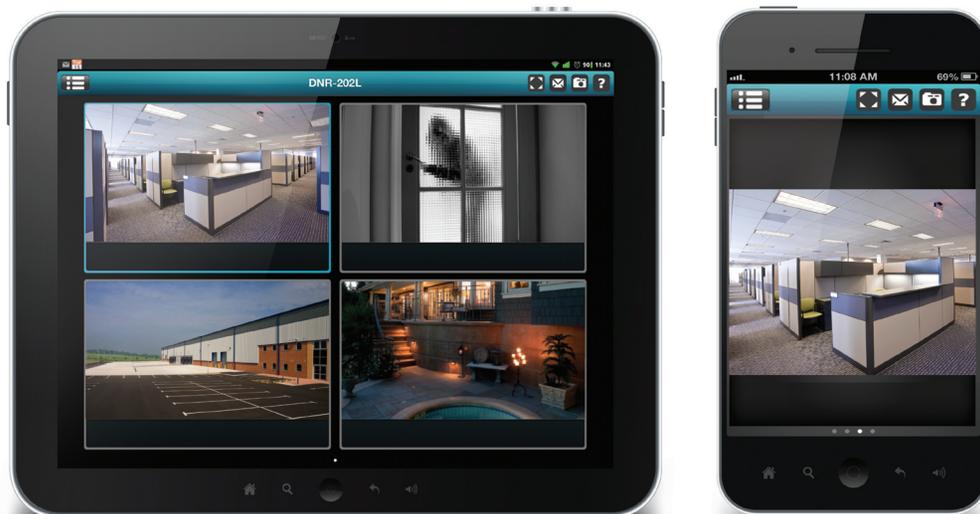
First Use - Select Your Device

Before using the mydlink View - NVR app for the first time, please ensure to add your DNR-202L to your mydlink account first.

After starting the mydlink View - NVR app, your DNR-202L will be displayed in the My Device list. The app will connect to your DNR-202L, and you can then view live video and playback from your recordings archive via your device.
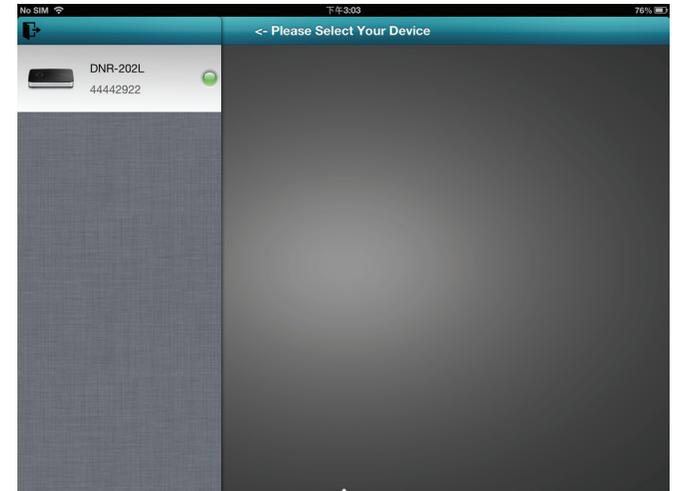
Live View

Tap on the DNR-202L icon and the mydlink View-NVR will access to the Live video panel.
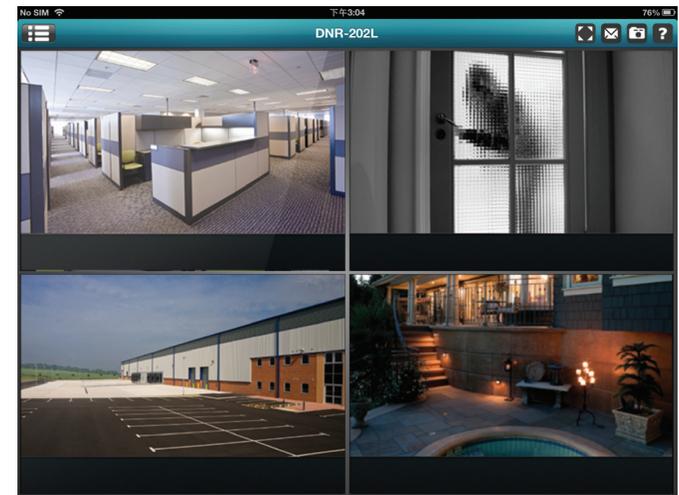
iPhone/iPod Touch Grid View

On an iPhone or an iPod Touch, mydlink View-NVR can display the Device List of your mydlink account on the main screen. Tap on your DNR-202L to enter the 4-grid view.

iPad Grid View

On an iPad, mydlink View-NVR can expand and shrink the Device List of your mydlink account at the left-hand side of the panel. Click on your DNR-202L to enter live the video view. Double-tap on one of the channels to start a single-channel live video. Double-tap again to return back to the grid view.
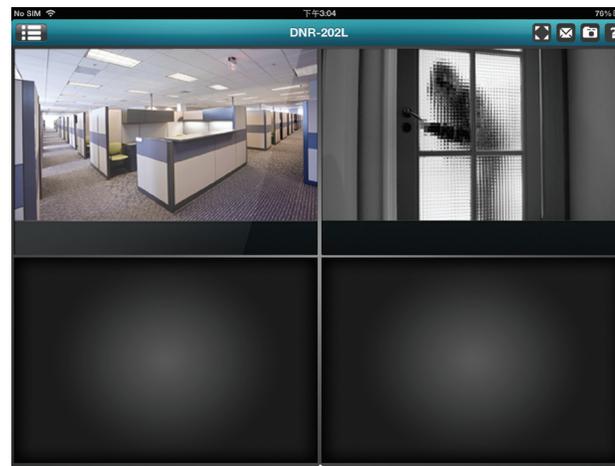
Channel selection

- In single channel mode, users can swipe through the video channels to see the previous or the next video channel of the cameras connected to the DNR-202L.
- Double-tap on one of the channels to select a single-channel live video stream.
- Tap on the "My Device" button to return to the Device List of your mydlink account.
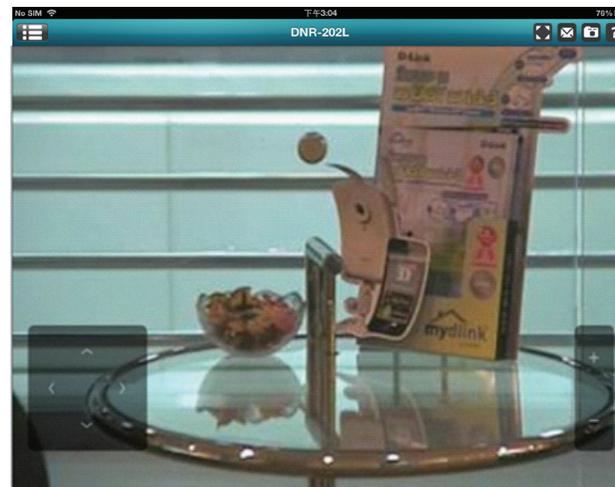
Pan Tilt Zoom (PTZ)
To access PTZ controls, use a two finger tap while streaming a single channel video stream and the PTZ control panel will appear.

Use a two finger tap on the video stream again to disable the PTZ control panel.

1	**Pan Tilt Control**	Tap on the directional arrows to Pan and Tilt the camera
2	**Zoom Control**	Tap the plus or minus button to zoom the camera focus in or out

Note: The PTZ control function must be enabled on the camera connected to the DNR-202L in order for mydlink View-NVR to control the PTZ function. See "Live Video" on page 37 for more information.

Video Stretch
In live view or playback archive mode, you can tap on the video stretch button (⬚)to stretch the video to full screen. Tap the button again to disable stretch.

Note: This function may alter the aspect ratio of the video stream.

Snapshot
While streaming a single channel, tap the Snapshot button (📷)to capture a snapshot. The image will be saved to the device's picture storage area.
While viewing video in grid view, tap the Snapshot button (📷) to take snapshots of all the channels. The images will be saved to the device's camera roll.

Note: The saved snapshot will be at the original resolution of the IP camera video.
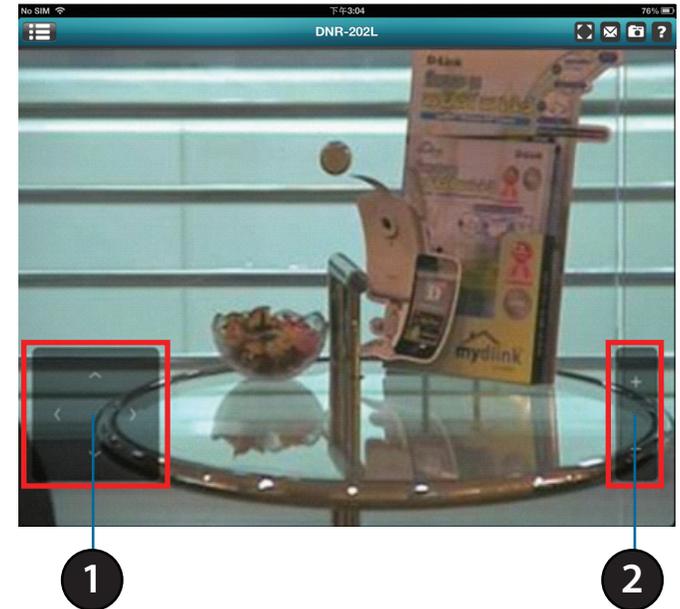
E-Mail

While streaming a single-channel video, tap the e-mail button ( ) to capture a snapshot and insert it into an e-mail. Complete the **To**, **Cc/Bcc** fields as required and click **Send** to send the e-mail with snapshot attached or click **Cancel** to cancel the operation.

While viewing in grid view, tap the e-mail button ( ) to capture a snapshot of all the channels and insert all the snapshots into a single e-mail. Complete the **To**, **Cc/Bcc** fields as required and tap **Send** to send the e-mail with snapshot attached or tap **Cancel** to cancel the operation.
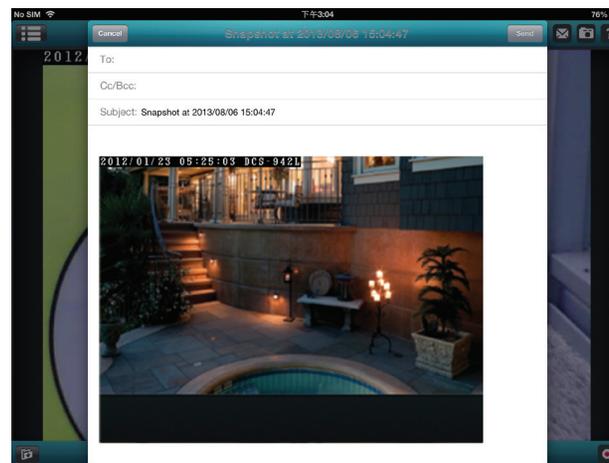
Video Playback

The video playback function is only available in single view mode. Tap the open recording button ( ) while in single channel mode to bring up the playback selection panel.

Use the playback selection panel to scroll through your video recordings archive. Scroll to the date and time you wish to playback, and tap **Play**.
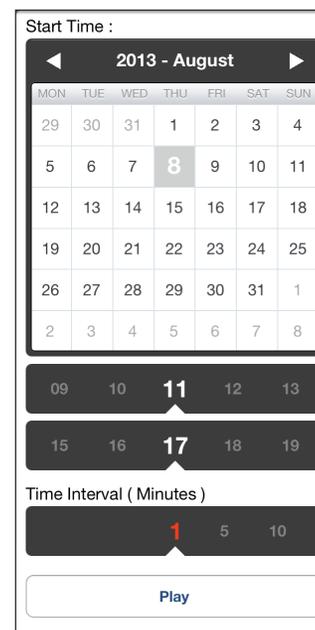
Video Playback Control

While the video recording is playing in single view mode, tap the playback control button ( ) to control the direction of the video playback.

The control buttons are:
step backward for 1 Second ( )
play/pause toggle ( )
step forward for 1 Second ( )

Use speed panel (32X) to control the speed of video playback from x1 through to x32 speed.

Note: The quality of display performance will vary according to network bandwidth availability.
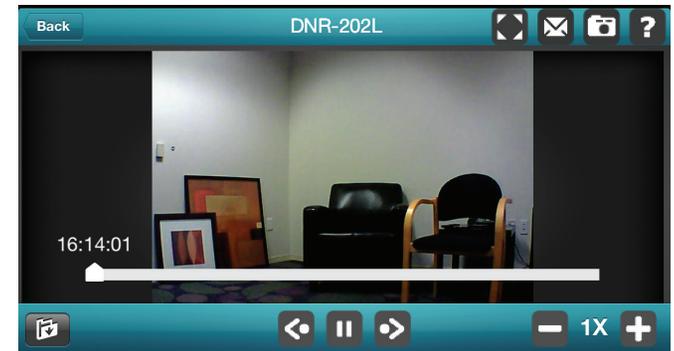
Configuration
Using the Configuration Interface

After completing the Setup Wizard, you are ready to use your NVR. The NVR's built-in web configuration utility is designed to allow you to easily access and configure your DNR-202L. At the end of the wizard, click **Go to NVR**, or enter the IP address of your camera into a web browser, such as Internet Explorer. To log in, use the username **admin** and the password you created in the Setup Wizard. If you did not create a password, the default password is blank. After entering your password, click **OK**.
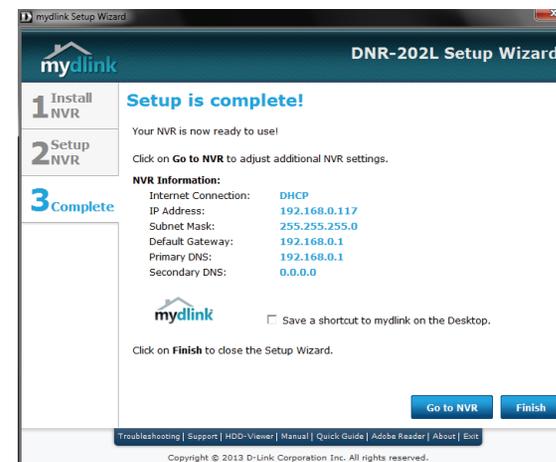
Step 2
Enter your credentials to access the configuration interface.

Live Video

This section shows the NVR's live video feeds. You may select any of the available icons listed below to operate the camera.

	Recording Toggle	Use this button to start/stop recording. When a recording is in progress, this indicator will change color.
	On Screen Display Settings	Use this button to configure the various settings for the on screen display.
	Display Single feed	Use this button to switch to a single camera feed in the live video display area.
	Display 2 x 2 feed	Use this button to switch to a 2 x 2 camera feed in the live video display area.
	Full Screen	Use this button to switch to a full screen view of the live video feed.
	Glance Toggle	Use this button to toggle glance mode. In glance mode the NVR will cycle through all the connected cameras briefly.
	Control Pad	This control pad can be used to pan, tilt, and zoom (PTZ) a dome camera, or electronically pan, tilt, and zoom (PTZ) within the camera's predefined view area, if one has been defined.
	Zoom Control	Use the + and - buttons to zoom in or out.
	Auto/Manual Focus	Use this control to choose between automatic and manual focus control.
	Focus Near/Far	Use this control to choose between far or near focus.
	Preset Path	Use this option to toggle the Preset Path function
	Auto-Pan	Use this option to toggle Auto-Panning
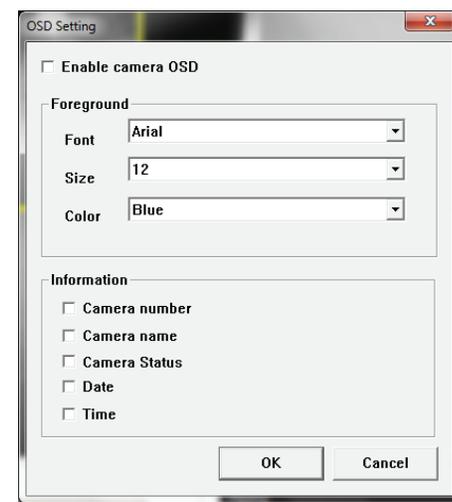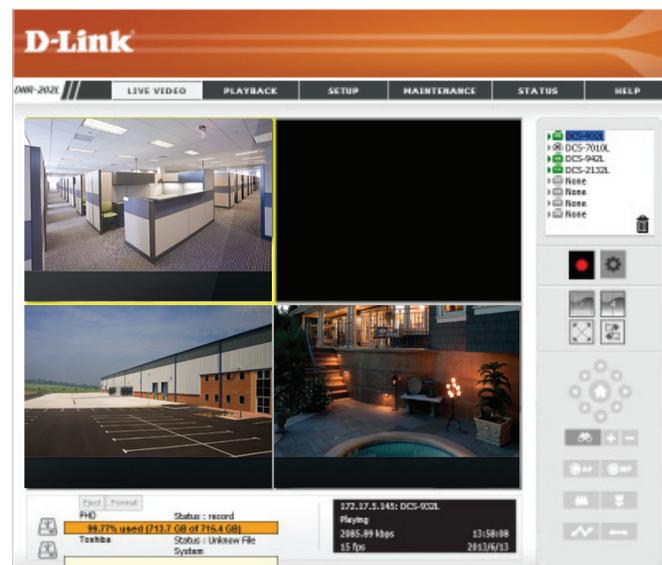
HDD Status: This option displays the status of attached HDD. If no HDD is attached, the icon will appear greyed out.

Eject: This option allows the user to safely disconnect/unmount an attached HDD.

Format: This option allows a user to format an attached HDD.

Information Area: This area will update in real-time to display relevant information about the selected video feed.
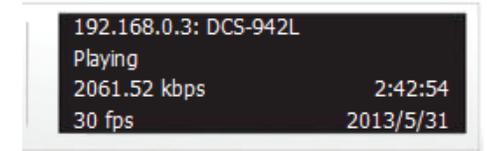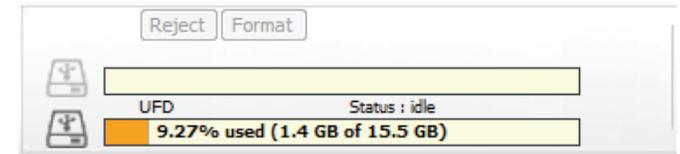
Playback

This section shows the NVR's recorded video feeds. You may select any of the available icons listed below to play back, adjust, and export the recorded video streams.

	Open Recording Search Menu	Use this button to show the recording search menu. ("Searching Recordings" on page 41)
	Display Single feed	Use this button to switch to a single camera feed in the live video display area.
	Display 2 x 2 feed	Use this button to switch to a 2 x 2 camera feed in the live video display area.
	Actual Size	Use this button to display the recording in it's native resolution.
	Full Screen	Use this button to switch to a full screen view of the live video feed.
	On Screen Display Settings	Use this button to configure the various settings for the on screen display.
	Save as AVI	Use this button to export the video as an AVI file.
	Print Image	Use option this to print a still image.
	Save as Image	Use this option to save a still image.
	Image Enhancement	Use this option to apply image enhancements.
	Volume	Use the slider to adjust the playback volume.
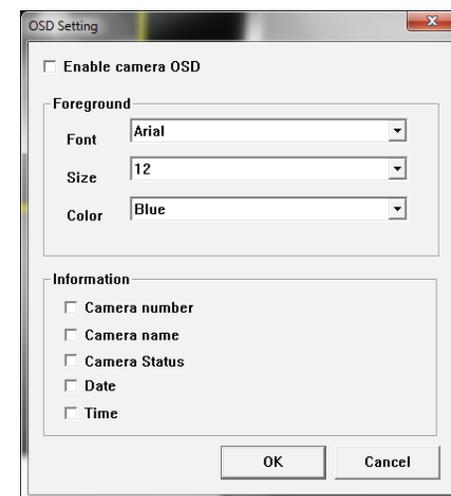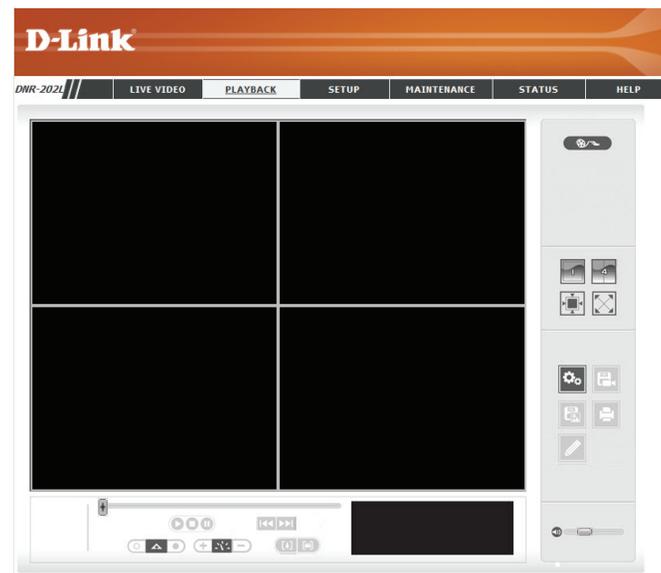
	Play/Stop/Pause	Select a camera/ video and click this button to play/stop/pause a particular channel.
	Speed	Click the + or - button to increase or decrease the playback speed.
	Cue in/Cue Out	Click the Cue In or Cue Out button to set the period for Save Video.
	Step Forward/Reverse	Click to pause the playback and move to next frame or last frame.
	Zoom In/Zoom Out	Click to zoom in or zoom out.
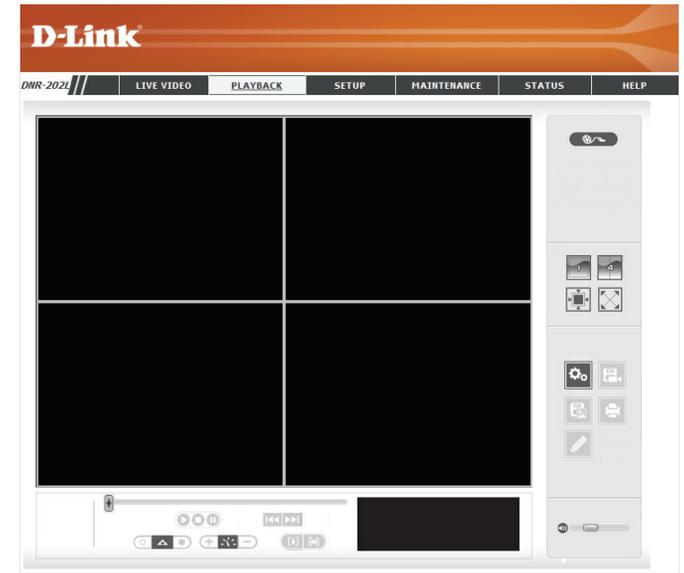
Searching Recordings

Click the Open Record button to access the Date-Time panel and select the video records which you would like to review.
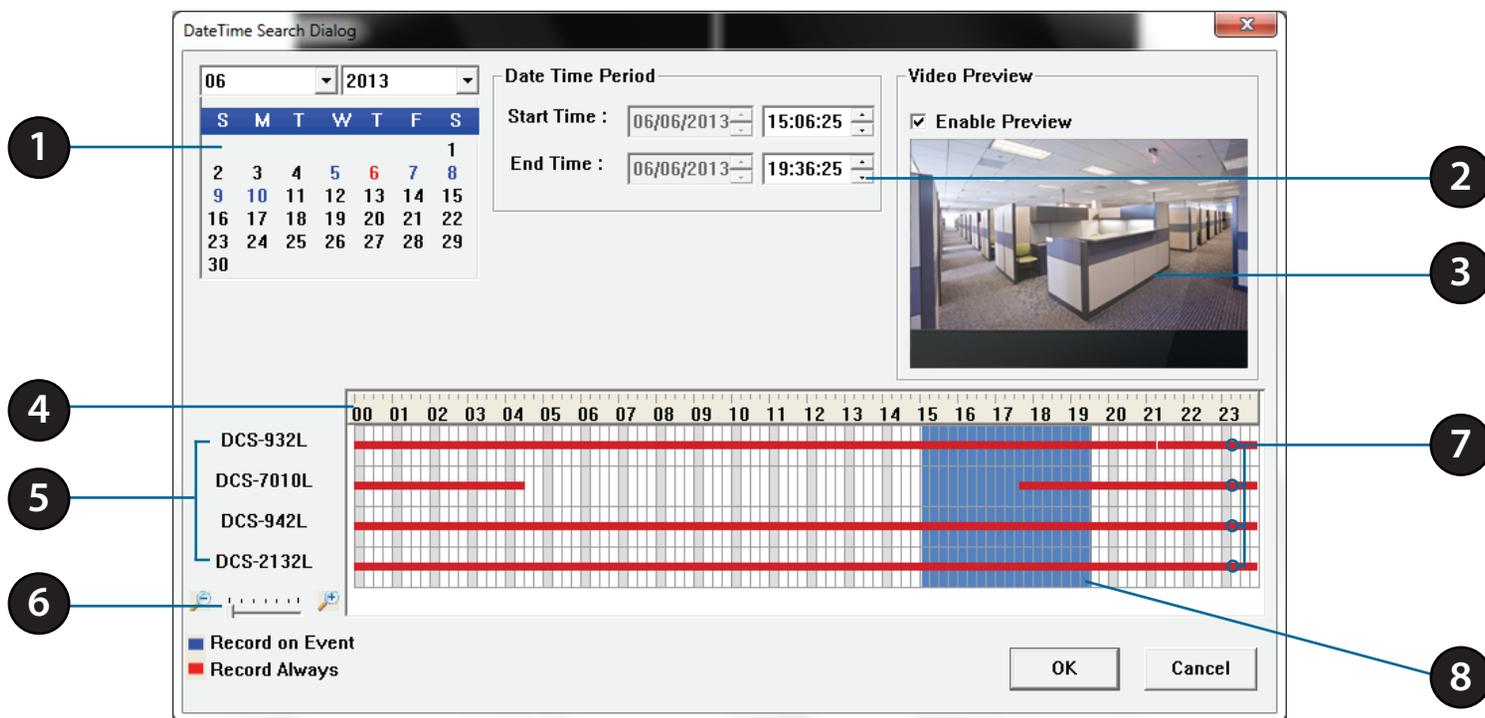
1	**Date Selection Area**	Select the year, month and day of the recording you wish to view. Dates with recordings available for playback are highlighted.
2	**Time Period Selection**	Select a beginning and end time for the recording you wish to view.
3	**Video Preview**	When **Enable Preview** is checked, this area will display a preview.
4	**Timeline**	This timeline will adjust according to the level of zoom selected.
5	**Available Streams**	This area lists the recording devices available.
6	**Zoom Slider**	Use the zoom slider control to zoom in and out of the timeline.
7	**Available Recordings**	Recordings are graphed below the timeline. Blue bars indicate an event was recorded. Red bars indicate the camera is set to always record.
8	**Selected Period**	Click within the timeline to select a recording period.

Step 1: From the **Date Selection** area at the top left of the **Date Time** panel, select the date you would like to search for the recording. The dates highlighted on the timetable indicate available recorded video records.

Step 2: Colored bars shown in the timeline area differentiate recording types from each other. This will help you select video clips.

Step 3: Select a time period using the **Start Time** and **End Time** in the **Date Time Period** section. Alternatively, select a range from the timeline.

Step 4: Select the **Enable Preview** option to get a preview of the video you select.

Step 5: Highlight the video clip(s) you would like to review by left-clicking and dragging the time period in the timeline area. The scale of the timeline can be modified using the icon at the bottom left corner.

Step 6: Click the **OK** button to begin playback.
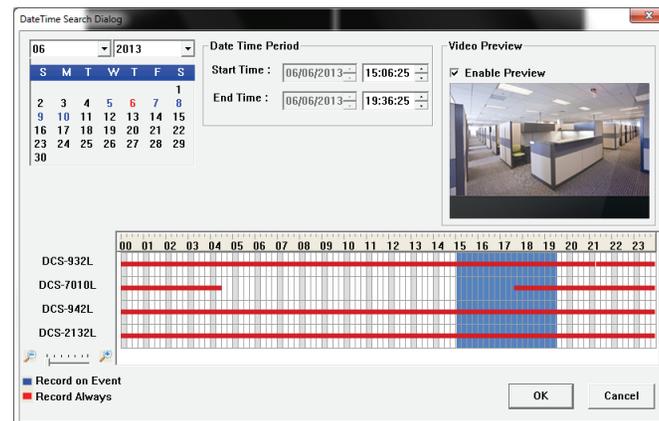
Save Recording to AVI

After selecting a recording following the steps outlined in "Open Recording" on page 27, users can export the video in AVI format.

Step 1: During playback, users can choose the camera from which they would like to save a video clip.

Step 2: Set the cue in and cue out points; the cue in and cue out time will be shown on the information window. Then click the **Save Video** button.

Step 3: Choose the folder where you would like to save the file.

Step 4: Input the file name and click the **Save** button.

Step 5: Choose the export format.

Step 6: Click the **OK** button.
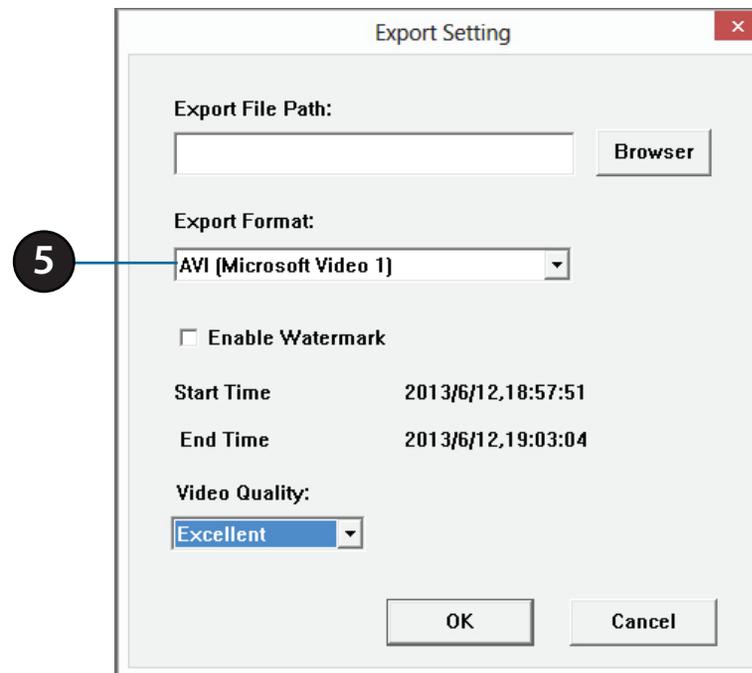
Save Snapshot

Step 1: During playback, users can choose to save an image from a selected camera.

Step 2: Users can click on the **Image Enhancement** button to adjust the output of the image.

Step 3: Click the **Save Image** button when the desired image is shown on the screen.

Step 4: Click the **Save Image** button again to choose the folder where you would like to save the file to.

Step 5: Choose the desired image format.

Step 6: Input the file name.

Step 7: Click the **Save** button.
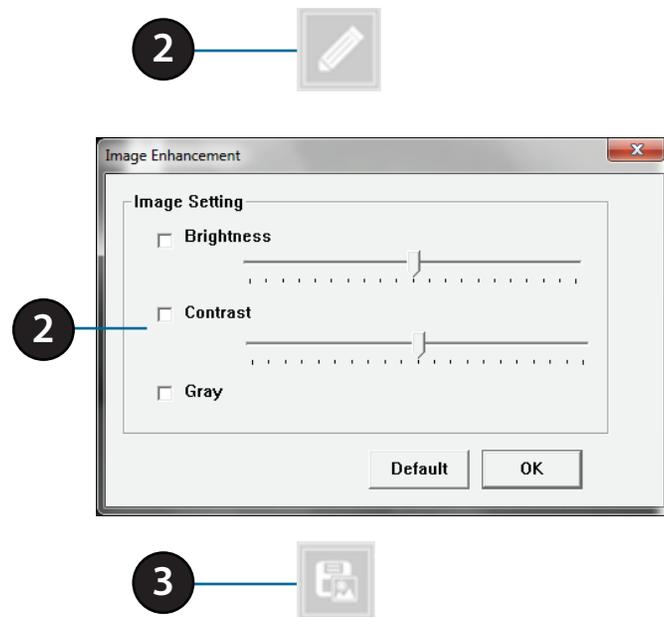
Print Snapshot

Step 1: During playback, user can choose to print a selected image.

Step 2: Click the **Print** button when the desired image is shown on the screen.

Step 3: Select the desired print settings.

Setup

Use this tab if you want to follow the simple steps of the Setup Wizard.

Click **Run Wizard** to begin the Setup Wizard.
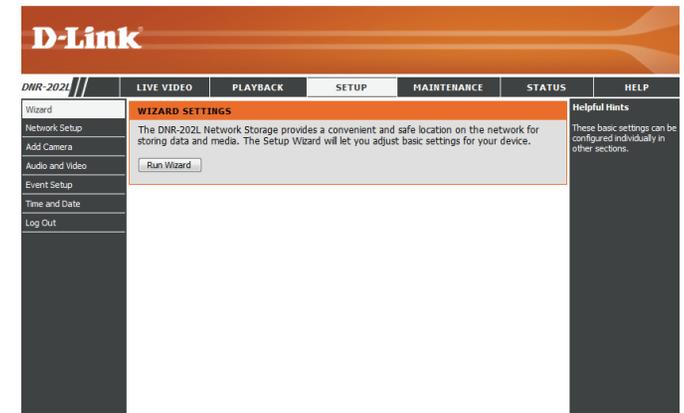
Click **Next** to begin the Setup Wizard.
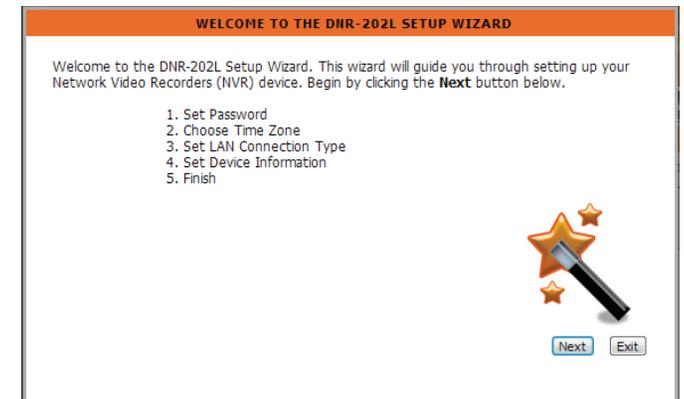
STEP 1: Choose a password for your device.

Click **Next** to continue.

STEP 2: Choose your time zone from the dropdown menu.

Click **Next** to continue.
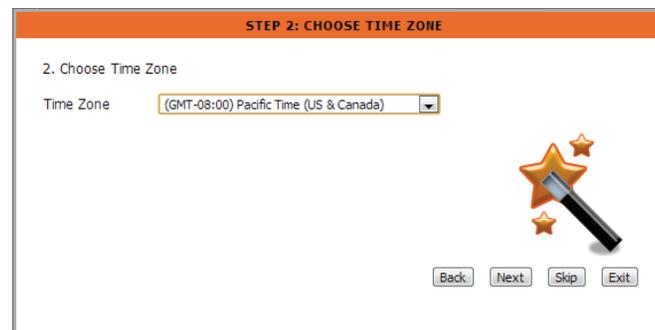
STEP 3: Choose your network connection type.

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.

Note: Select **DHCP** if you are unsure of which settings to choose.

Click **Next** to continue.
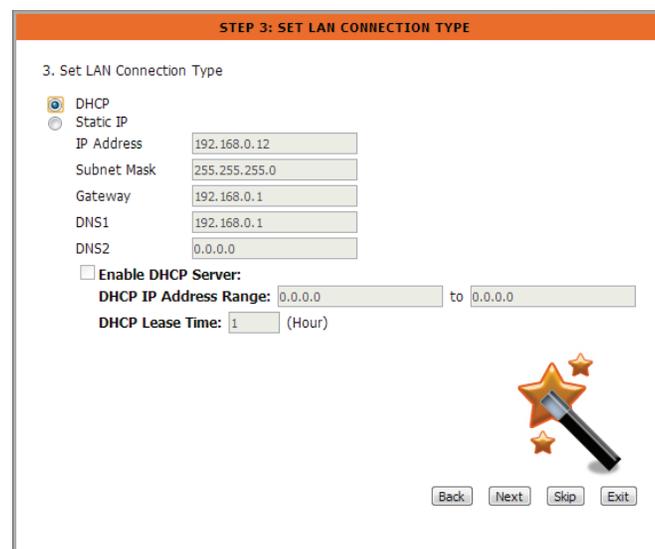
STEP 4: Enter a name for your device.

Click **Next** to continue.
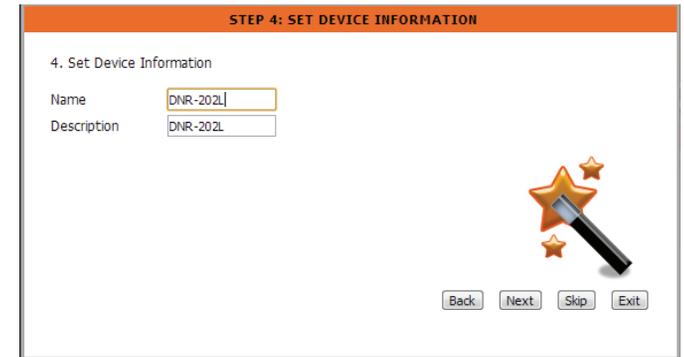
STEP 5: Click **Finish** to complete the setup process.

Please wait a few moments while the DNR-202L saves your settings.

Network Setup

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

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

IP Address: The static IP address.

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

Gateway IP Address: The gateway forwards frames to destinations in a different subnet. Invalid gateway settings may cause the failure of transmissions to a different subnet.

DNS1: Primary domain name server that translates names to IP addresses.

DNS2: Secondary domain name server to backup the primary one.

DHCP server: Enable or disable the DHCP server. If your network doesn't have DHCP server, enable NVR DHCP server for easier local network setup.
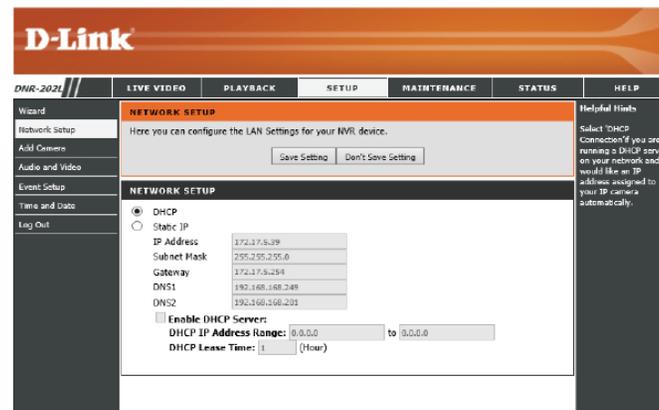
Add Camera

Step 1: Click the **Search** button to search for UPnP cameras. The system will list all the available cameras at this moment. Click the ✚ icon to add this camera into your camera list. If the cameras are already added, they will be listed in red.

Step 2: After clicking the icon, the camera setting page will pop-up. Click on the camera that you want to add.

Step 3: Enter the camera name, user name, and password of the camera.

Note
- Some cameras will limit the login authority to the administrator only.
- To add cameras without the UPnP function, please go to the Camera Setup menu and enter the IP address manually.
- You may not be able to see all the cameras on your first search. It may take a moment for the devices to respond to the UPnP request. Please click **Search** again if cameras are not immediately displayed.

Step 4: Click the **Add** button to add the selected camera.

Step 5: After clicking **Add**, the updated information will be displayed in the camera list.

Step 6: Repeat steps 2 through 5 to add other cameras to your list.

Audio and Video

This section will allow you to configure and modify the audio and video parameters for each camera.

Step 1: Select the camera which you would like to modify from the camera list.

Step 2: NVR will display the parameters for the selected camera. You can modify the information on this page.

Camera Name:	The name of the camera.
Video Format:	Select the video format the camera supports.
Frame rate:	Select the frame rate.
Resolution:	Select the resolution.
Quality:	Select the image quality.
Audio:	Check the **Enable Audio** option for live view and recording
Go to Web:	Click to connect to the web page of the selected network camera for advanced setup. For example, motion detection should be configured via the camera web interface to enable the NVR to receive the trigger message.

Step 3: Click the **Save Settings** button.

Note: The system will adjust the frame rate automatically based on the maximum frame rate which that camera can support.

Event Setup

In a typical application, when motion is detected, the DNR-202L sends an alert via e-mail as a notification. An event can be triggered by many sources, such as motion detection or digitial input. When an event is triggered, a specified action will be performed.

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

Motion: This option allows you to receive notifications when motion is detected during camera live video monitoring for each channel.

DI Trigger: This option to allow you to receive notifications when an external trigger input is received for each channel.

Loss: This option to allow you to receive notifications when a camera loses network connection for each channel.

Alert Mail: Select this option to have e-mail sent to a specified SMTP account after receving a camera event.

pre-event: Specify the period to save data before a camera event is received.

post-event: Specify the period to save data after a camera event is received.

Interval: This setting allows you to specify how long you will receive event notifications from your NVR.

Recording schedule: Enable and choose the days of the week and start/end time to do scheduled recording.

Time and Date Setup

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 time is enabled.

Synchronize with NTP Server: Enable this feature to obtain time automatically from an NTP server.

NTP Server: Network Time Protocol (NTP) synchronizes the DNR-202L 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.

Maintenance

User Management

Admin Password Setting: Set a new password for the administrator's account. **Note**: Click **Save** to save the new password

Add User Account: Add new user account.

User Name: The user name for the new account.

Password: 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.

Note:
The Administrator account can configure all functions of the NVR. This account cannot be deleted. The default password for "admin" is blank. Setting a password after the first login is strongly recommended. If the administrator password is lost, you may hold the reset button on the rear panel of the device to reset the NVR to factory defaults. This will erase all the previously-saved settings.

System

The System settings section allows you to restart the system or reset the device to its factory default settings. Restoring the unit to factory settings will erase all settings, including any rules that you have created.

Restart: If the NVR is malfunctioning or crashes unexpectedly, click the **Restart** button. Restarting the NVR will take about 90 seconds.

Default: This will reset all configurations to factory default.

Save Configuration: All the configurations can be saved as a file to the specified location. Click the **Save** button to save the file.

Load Configuration: User can restore the configuration from a file after resetting to factory default. Click the **Browse** button to select the configuration file and restore it by clicking the **Load** button.

Idle Time: When an adminstrator enters any of the Setup pages (except the Live Video and Playback page) the NVR will count the idle time where the user is inactive. After the idle time exceeds a specified period the NVR will force the user to logout and request login authentication again for security. Change the period of idle time here.

Buzzer: This option will toggle the device buzzer on or off. (See "LED and Buzzer Overview" on page 61)

Enable Auto Plugin: This option will enable the device to automatically add verified cameras found on the network.
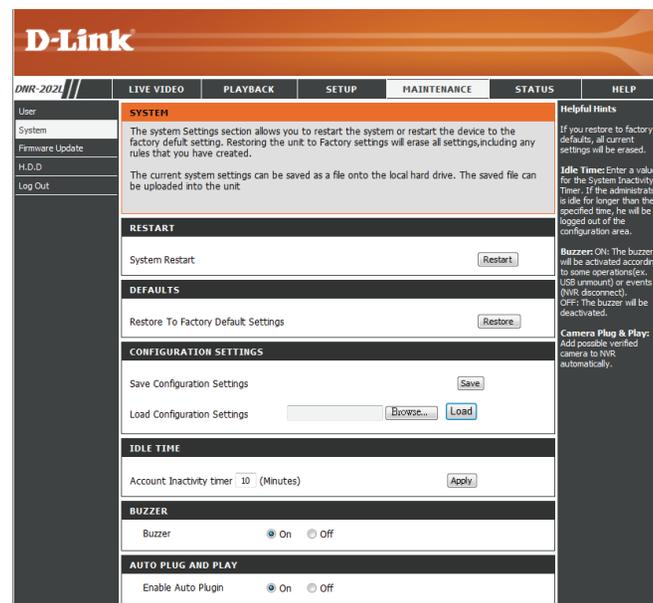
Firmware Update

The device firmware can be upgraded from this page. The firmware update must be saved on the local hard drive of your computer. Click the **Browse** button to search the local hard drive for the firmware update file. Click **Apply** to upgrade. You may check for firmware updates on the D-Link Support website.

Hard Drive Configuration

The section provides users with an overview of the attached USB storage devices, and offers the option to enable circular recording (automatic overwrite).

Users can also format attached USB storages devices.

Note: All data will be erased from the attached USB storage device during formatting.
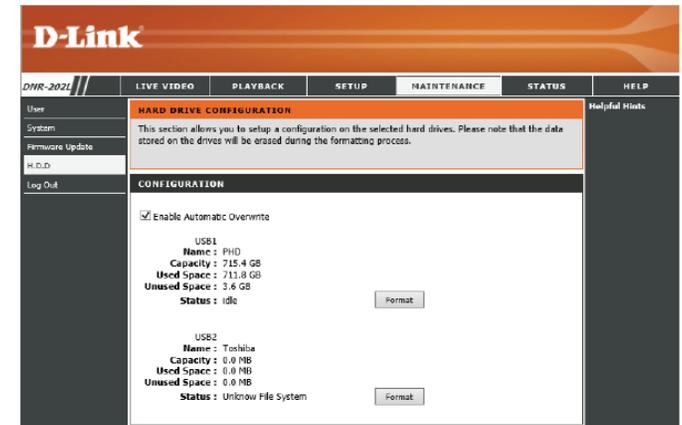
Status

Camera Status

This page displays the connection and recording status of your cameras.

Connection Status: Shows the camera connection status.

Recording Status: Shows the recording schedule and current recording status of the cameras. Please note that if the camera is disconnected, the recording may continue but will produce blank video.

Frame Rate: Displays the frame rate of the camera.

Bit Rate: Displays the transmission bit rate of the camera.

Note: If the Frame Rate or Bit Rate is too low, please check the your network configuration between cameras and NVR. If the bit rate is too high, it will cause the Live Video display to slow or lag. Please modify the quality or bit rate setting in the camera web GUI accordingly.

System Info

This section displays the summary information of your NVR.

LAN Information: Displays the local network settings of the NVR.

Device Information: Displays the device name and current temperature of the NVR.

Hard Drive Information: Displays the hard drive information, including the disk mode, total size, used and remaining drive space.

Logs

This page displays the system event list of your NVR. The **System Log** includes the following items:

1. User login/logout
2. Modify/delete account
3. System restart
4. System reset to default
5. System firmware update

Support

The NVR Help page provides a list of support topics. Click the items in the left menu to view the help topics associated.

LED and Buzzer Overview

LED	Color	Status	Description
Power & Network LED	Red	Off	Power down / Link Up
		On	Power on
		Blinking	FW update
	Blue (Network)	Off	Network failure
		On	Network Link Connected
		Blinking	Traffic
USB1 LED	Green	Off	HDD1 disabled
		On	HDD1 enabled
		Blinking	Read / Write HDD1
USB2 LED	Green	Off	HDD2 disabled
		On	HDD2 enabled
		Blinking	Read / Write HDD2

Key	Trigger Method	Description
USB1 button	Press button for 3 seconds	Un-mount HDD1, Buzzer will beep (long).
		USB1 LED off.
USB2 button	Press key2 for 3 seconds button	Un-mount HDD2, Buzzer will beep (long).
		USB2 LED off.
Auto scan button	Auto scan function- Press scan button for 3 seconds	Start auto scan IP Cameras in local network.
		Buzzer will beep (long).
	Camera Echo function- Press scan button for 0.5 second	Echo IP Camera found (1 beep for 1st camera found, 2 beeps for 2nd, 3 beeps for 3rd, 4 beeps for 4th).
		Buzzer will beep (short).
Reset button	Press reset pin for 10 seconds	Reset to factory default.
		Buzzer will beep (long).

Technical Specifications

Technical Specifications		
Network Video Recorder		
Video Format	• H.264/MPEG-4/MJPEG for live streaming	• JPEG for still images
Audio support	• G.711	• G.726
Reset Button	• Reset to factory default	
Auto Scan Key	• IP Camera Finder (press for 3 seconds)	
External Device Interfaces	• 10/100 BASE-TX Fast Ethernet port	• 2 x USB 2.0 ports for external HDD storage
Video Management		
Live View Resolution	• 1280 x 720 (1 ch)	• 640 x 480 (4 channels)
Live View Display Modes	• 1 and 4 channels display	
Recording Modes	• Schedule, Manual, Event (Motion)	• Continuous
Recording Performance	• 32 Mbps	
Playback Modes	• Time, Event, Camera	
Playback Performance	• Max. 720P for 1 channel	• 640 x 480 (4 channels)
Playback Control	• Play, Stop, Pause, Forward, Backward, Next, Previous	
Video Export Formats	• AVI	
Network		
Physical Interface	• RJ45 10/100 LAN Ethernet (auto MDI/MDIX)	
Network Protocols	• IPV4, ARP, TCP, UDP, ICMP • DHCP Client • DNS Client • HTTP Server • HTTPS • SMTP	• RTP • RTCP • RTSP • NTP • UPnP
Security		
User Management	• Adminstrator password authentication	
Automatic Logoff	• Idle user timeout on configuration pages	

Appendix B: Technical Specifications

System		
System Requirements	• Microsoft Windows: XP SP3, Vista, 7, 8	• Mac OS X 10.5 or later
Browser Requirements	• Internet Explorer 8 or higher	• Firefox, Chrome, Safari
Mobile Support	• Android	• iOS
Remote Management	• Take snapshots/video via web browser	• Configuration interface accessible via web browser
System Log	• Status of active users	• Login history
Certifications	• CE • FCC	• CE LVD • C-Tick
Physical		
Weight	• 90 g	
External Power Adapter	• Input: Min.5V, 2.5A	• Consumption: 8.5 watts ± 5 % (include 2 x 2.5 HDD)
Temperature	• Operating: 0 to 40 ℃	• Storage: -20 to 70 ℃ (-4 to 158 ℉)
Humidity	• Operating: 10% to 90% non-condensing	• Storage: 5% to 95% non-condensing
Dimensions		