



User Manual

Wi-Fi AC750 Portable Router and Charger

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.

Manual Revisions

Revision	Date	Description
1.0	7 November, 2013	• Initial release for Revision A1
1.01	18 December, 2013	• Update to Revision A1

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Package Contents



DIR-510L



Quick Installation Guide



Micro USB Power Adapter



D-Link Cloud Service Mobile Apps Guide

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

Note: Using a power supply with a different voltage rating than the one included with the will cause damage and void the warranty for this product.

System Requirements

Network Requirements	<ul style="list-style-type: none">• Cable/DSL modem, 3G/4G USB adapter, or a hotspot• IEEE 802.11bgn wireless clients
Web-based Configuration Utility Requirements	<p>A computer or mobile device with the following:</p> <ul style="list-style-type: none">• Windows®, Macintosh, Linux-based, iOS, or Android™ operating system• An installed Wi-Fi adapter <p>Browser Requirements:</p> <ul style="list-style-type: none">• Internet Explorer® 8 or higher• Firefox® 12.0 or higher• Safari® 4 or higher• Chrome™ 20 or higher <p>Windows® Users: Make sure you have the latest version of Java installed. Visit www.java.com to download the latest version.</p>
mydlink SharePort Requirements	<ul style="list-style-type: none">• iPhone/iPad/iPod Touch (iOS 5.0 or higher)• Android device (2.3.3 or higher)
SharePort Mobile	<ul style="list-style-type: none">• Windows 8/RT device

Introduction

The D-Link DIR-510L Wi-Fi AC750 Portable Router and Charger lets you create a secure wireless network to share photos, files, music, and video on the go. Connect the router to a cable or DSL modem and share your high-speed Internet access with everyone on the network. Even when you are away from home, connect to a Wi-Fi hotspot to share your Internet access with your friends securely. Directly attaching a 3G/4G USB adapter allows sharing of a mobile broadband connection on the go. For convergence and convenience, the DIR-510L also supports UPnP and DLNA protocols for easy sharing of media to other certified devices. With the mydlink SharePort and SharePort Mobile apps, your iOS, Android, and Windows 8/RT devices can easily access files and stream media either remotely or locally from a USB drive attached to the router.

The DIR-510L provides the latest Wireless AC 750 technology for smooth performance during data transmission and multimedia streaming. It supports all of the latest wireless security features to prevent unauthorized access; no matter if you are connected to the Internet via a wired or wireless connection. Support for WPA2 standards ensures that you'll be able to use the best possible encryption method, regardless of your client devices. WPS 2.0 Wi-Fi Protected Setup allows for easy and secure wireless connections and a Guest Zone feature provides a separate subnet for guests to access the Internet without the privilege to access the administration UI. In addition, this router allows VPN pass through via PPTP, L2TP, or IPSec for secure tunnel connections.

To round out this complete all-in-one mobile solution, the DIR-510L can charge mobile devices such as phones, tablets, and other devices via its universal USB ports. This feature offers convenience and peace of mind when your devices are low on battery or when you've forgotten to bring along your devices' chargers on your travels.

Features

- **Advanced Wireless AC Technology** - The DIR-510L provides up to 750 Mbps¹ wireless speeds with other 802.11ac wireless clients using dual frequency bands to free up network congestion. This capability allows for smooth performance in video streaming, audio playback, and online gaming for multiple clients.
- **Access the Internet** - The DIR-510L allows you to connect all of your wireless devices to the Internet via wired Broadband, 3G/4G, or wireless hotspot.
- **Multimedia On-The-Go** - The DIR-510L is designed as the media hub for all of your mobile needs with the following features:
 - **Dual USB Interfaces**² - Easily store and share music, videos, photos, and files on your USB drive while charging another device.
 - **UPnP and DLNA Support**³ - Compliant with the latest DLNA certification requirements, the DIR-510L can stream many compatible media formats to other DLNA devices wirelessly.
 - **mydlink SharePort app** - Stream your media and upload files locally or remotely through the Internet to your iPhone®, iPad® or Android™ device.
 - **Built-in Charger**⁴ - A 4000 mAh lithium-ion internal battery with Over Current Protection (OCP), Over Voltage Protection (OVP), Over Temperature Protection (OTP), and Short Circuit Protection (SCP) lets you charge your mobile devices on-the-go.
- **Compatible with 802.11n, 802.11g and 802.11b Devices** - The DIR-510L is still fully backward-compatible with the IEEE 802.11n, 802.11g and 802.11b standards, so it can connect with existing devices using these standards.

¹Maximum wireless signal rate derived from IEEE Standard specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

²The battery may be drained if a high-power 2.5" or 3.5" USB hard drive is attached to the USB ports.

³DLNA support will be available in a future firmware update.

⁴Actual usable capacity may vary depending on charging conditions.

Hardware Overview



1	ON/OFF/CHARGER Switch	Slide the switch to ON to operate the unit in router modes. ¹	
		Slide the switch to CHARGER to charge devices connected via USB.	
2	WPS Button	Press the WPS button to automatically connect additional devices to the unit securely.	
3	Reset Button	Pressing the Reset button restores the router to its original factory default settings.	
4	USB Port 1 A	Connect a 3G/4G USB adapter to use Mobile Router Mode to share your Internet broadband. Connect a USB drive to share locally using mydlink SharePort and SharePort Web Access. Connect a device (high-power support) via USB cable to charge it. ²	
5	Power/Status LED	Green (Solid)	The device is connected and working properly.
		Green (Blinking)	The device is currently connecting via WPS.
		Orange (Solid)	The device is booting or resetting.
		Orange (Blinking)	The device cannot connect to the Internet or is in recovery mode.
		Red (Solid)	The system is defective.
		Off	The device is turned off or in charging mode.
6	Battery LED	Green (Solid)	Battery capacity is 80% or more.
		Orange (Solid)	Battery capacity is between 15% and 80%.
		Red (Solid)	Battery capacity is 15% or less.
		Red (Blinking)	Battery is defective.
		Off	Charging is complete (connected to power adapter) or the device is out of battery.
7	USB Port 0.5 A	Connect a USB drive to share locally using mydlink SharePort and SharePort Web Access. ¹	

¹To comply with SAR certification, no RF devices can be connected to the 0.5 A USB port.



8	Power Receptor (Micro USB)	Connect the included power adapter to power and charge the unit.
9	INTERNET Port	Connect an Ethernet cable to a cable or DSL modem to use Broadband Router Mode.

¹If you have attached one or more USB devices (such as a 2.5" USB drive) that draw a total of 0.7 A or more power, the power adapter will not supply enough voltage to charge your DIR-510L while simultaneously powering the USB devices.

²The DIR-510L only supports charging other devices on USB port (1 A) in CHARGER mode.

Installation

Wireless Installation Considerations

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

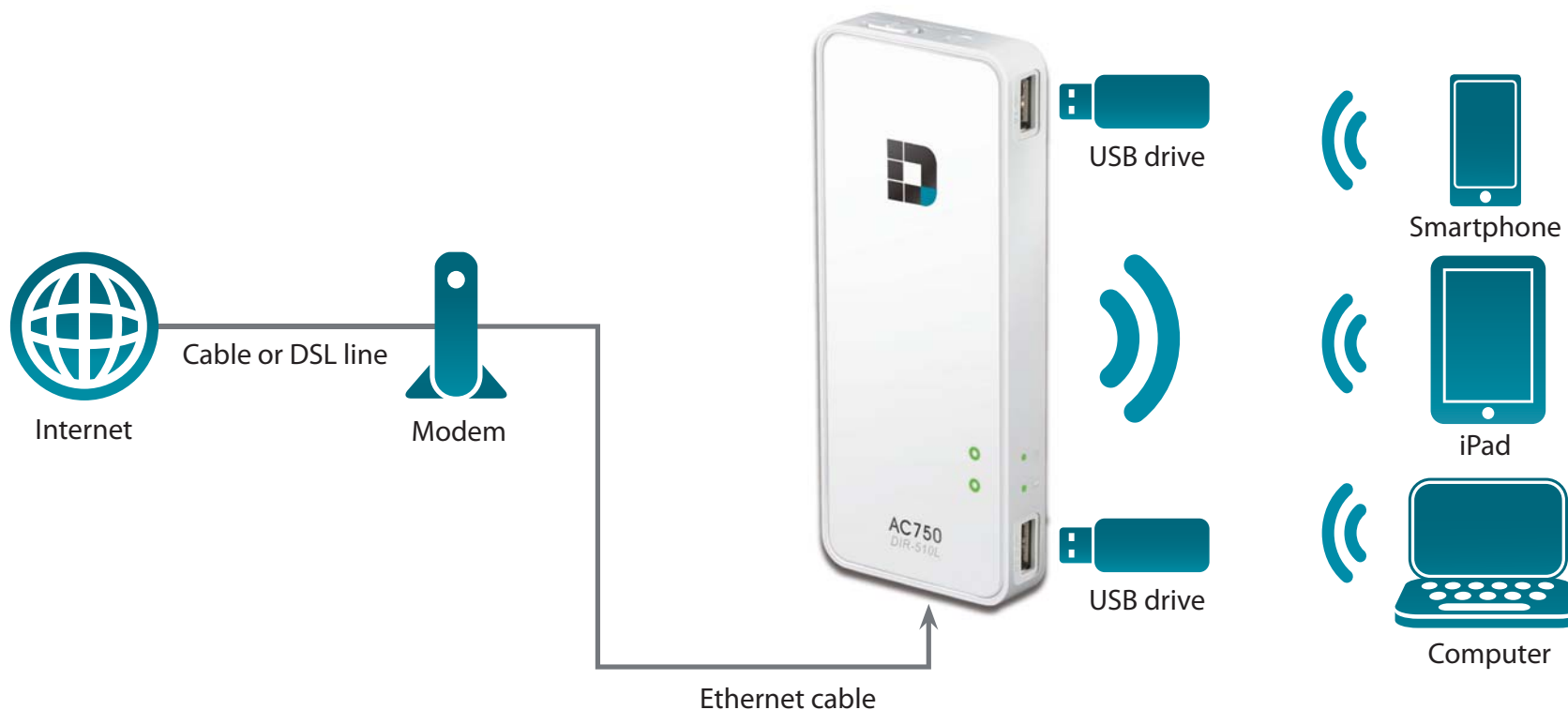
1. Keep the number of walls and ceilings between the D-Link router and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building Materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
5. If you are using 2.4 GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4 GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

Connection Diagrams

Broadband Router Setup

In the Broadband Router Mode, the DIR-510L connects to your cable modem, DSL modem, or other Internet source via an Ethernet cable and wirelessly shares your Internet connection with other devices, providing Internet access for an entire home, office, or hotel room. You can then connect an SD card and/or a USB drive to share files with these devices on your wireless network by using the SharePort feature.

Note: To ensure performance when using SharePort, it is highly suggested to limit this application to 5 simultaneous users.



Mobile Router Setup

In the Mobile Router Mode, you must have a compatible 3G/4G USB adapter and be within your ISP's cellular coverage. Once connected, you can then wirelessly share your Internet connection with other devices on the go. You can also share files with these devices on your wireless network by inserting a USB drive and using the SharePort feature.

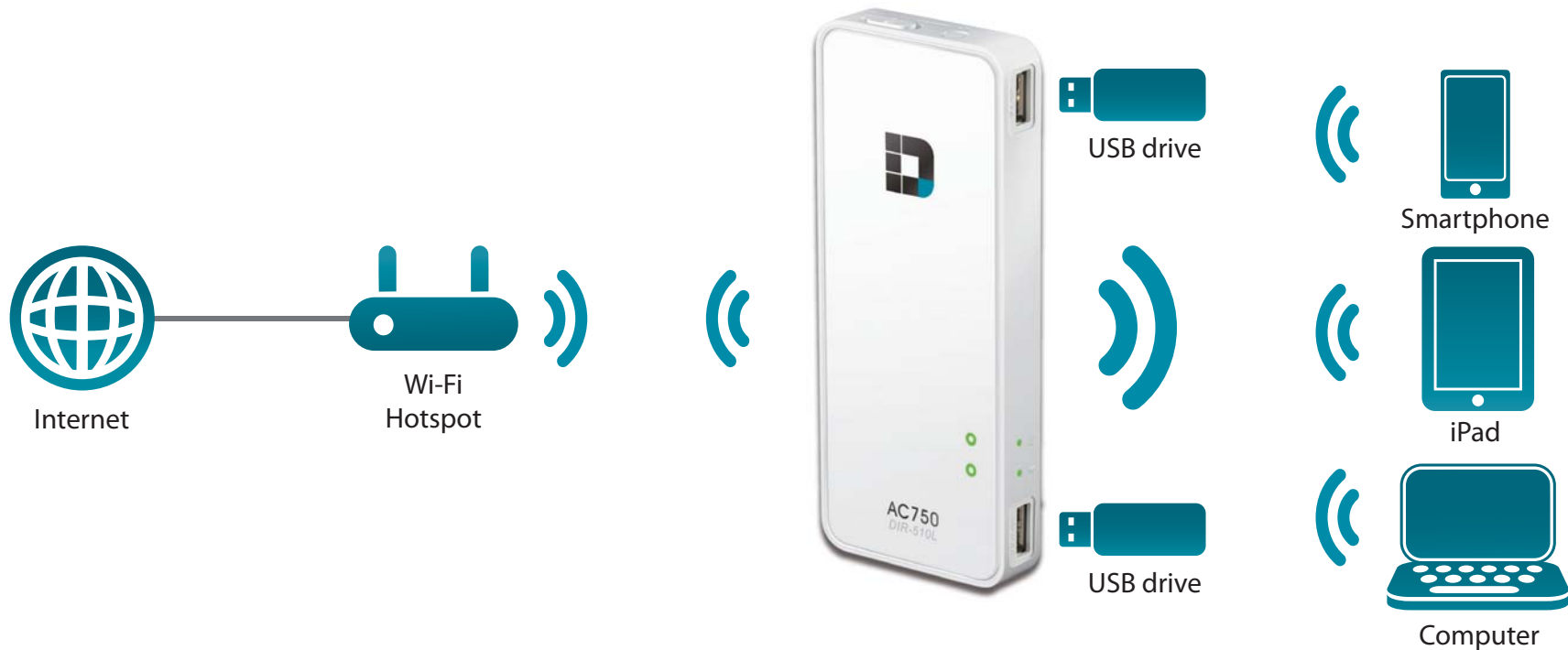
Note: Please check your local D-Link website for more information on compatible 3G/4G USB adapters.



Wi-Fi Hotspot Setup

You can set up your DIR-510L to share a hotspot (for example, at a cafe) wirelessly with other devices. In the Wi-Fi Hotspot Mode, the DIR-510L connects wirelessly to another wireless network and then wirelessly shares your Internet connection with other devices. You must have the username and password for the access point you are connecting the DIR-510L to.

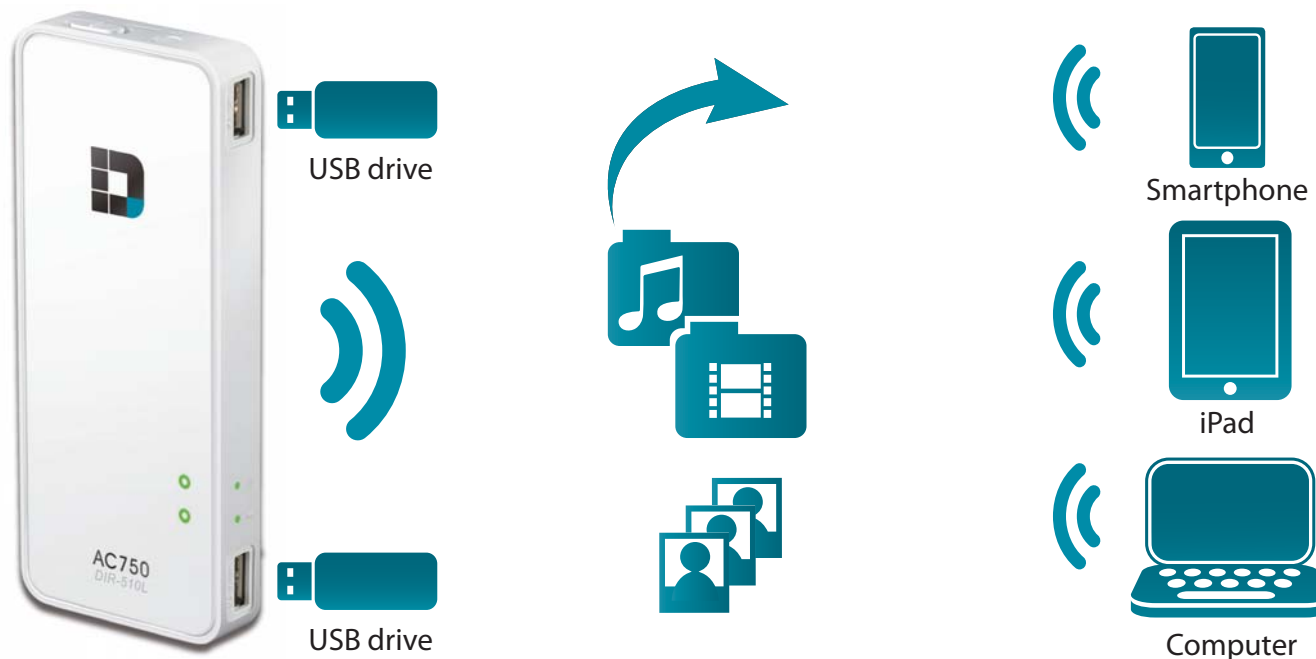
Note: In public environments, it is highly recommended to password protect the shared Internet connection on the DIR-510L.



LAN Sharing Setup

Even without Internet broadband access, you can connect other Wi-Fi devices wirelessly to the DIR-510L by creating a private network anywhere. You can then connect one or two USB drives to locally share files with these devices on your wireless network via the SharePort feature.

Note: In public environments, it is highly recommended to password protect the private LAN on the DIR-510L.



Setting Up Your DIR-510L

- Peel off the protective film from the top and bottom of the device.



- Charge the device by connecting one end of the power adapter to the DIR-510L and the other end to a wall outlet. Charge the device for at least 4 hours or until the battery LED indicator is solid green or off.



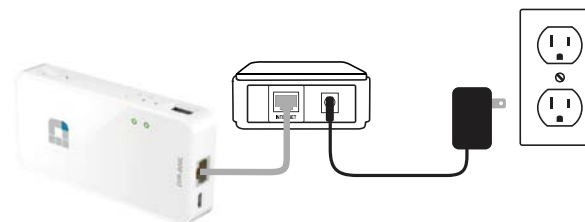
Note: For more information on charging the device and the battery LED indicator, refer to “Hardware Overview” on page 5.

Connecting Your Equipment

Depending on your equipment, the DIR-510L can be set up easily from any device with Wi-Fi and a Web browser.

Using Broadband Ethernet: You will need an Ethernet cable connection to your cable or DSL modem.

- Connect one end of an Ethernet cable to your modem and the other end to the Internet port on the DIR-510L.



Using a 3G/4G USB Adapter: You will need a compatible 3G/4G USB adapter with an active SIM card. Please check our compatibility list for more information.

- Plug the 3G/4G USB adapter into the USB 1 A port on the DIR-510L.



Connecting to a Wi-Fi Hotspot: You will need the Wi-Fi network name and password of the hotspot you want to connect to.



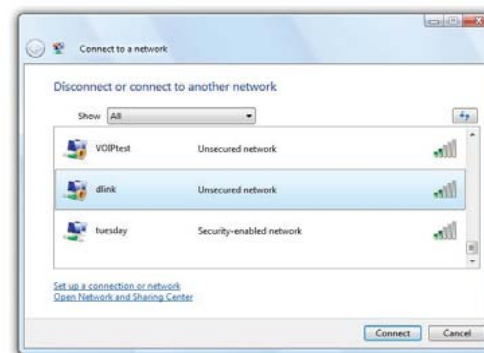
Connecting to Your DIR-510L

To configure the router, you will need to connect to it wirelessly from your mobile device or computer.

- Turn on DIR-510L by sliding the ON/OFF/CHARGER switch to **ON**.
- On your computer or mobile device, connect to the DIR-510L's wireless network. By default, the settings are:
 - 2.4 GHz Wi-Fi Network Name (SSID): **DIR510L**
 - 5 GHz Wi-Fi Network Name: **DIR510L_5GHz**
 - Password: (leave this blank)

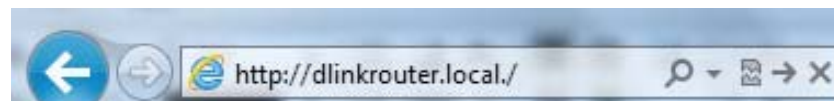


Mobile



Desktop



- Once connected, open a Web browser on your mobile or computer and type **http://dlinkrouter.local.** or **http://dlinkrouter** in the URL address box.
- At the login page, enter the Admin Password. By default, it should be left blank. Click **Log In**.

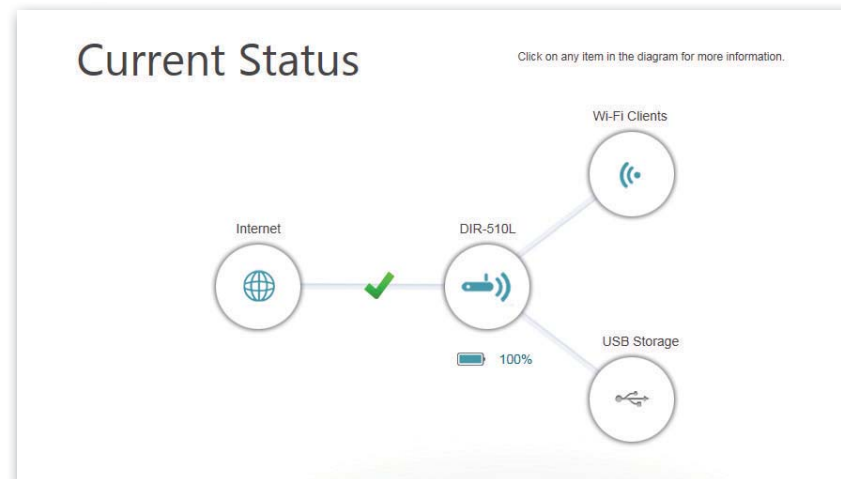




Admin Password:

Log In

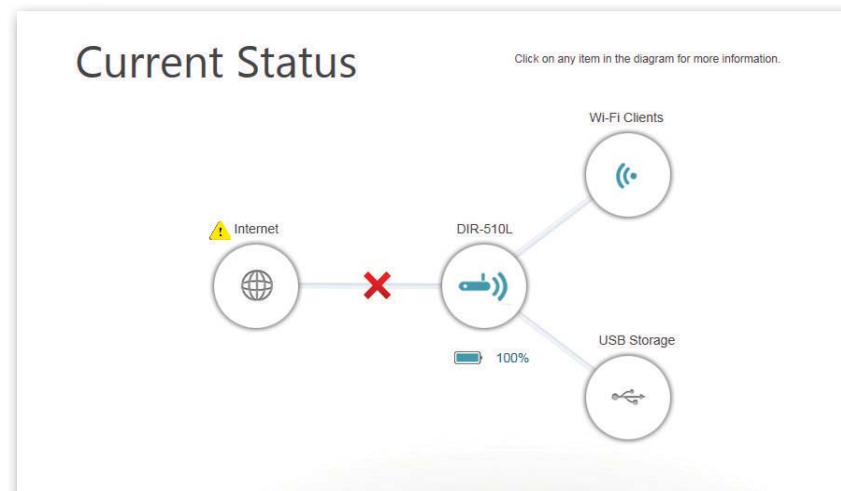
Note: If you have a device that supports Wi-Fi Protected Setup, please refer to "WPS Button" on page 108.

After logging in, you will see the Current Status page. If the Internet icon  is blue and there is a  mark, you are already connected to the Internet and the device is ready for use!



If the Internet icon  is grey and there is an  icon, please refer to :

- **“xDSL Broadband (PPPoE)” on page 89** if you are using an xDSL modem.
- **“3G/4G Wireless USB” on page 90** if you are using a 3G/4G USB adapter.
- **“Wi-Fi Hotspot Client” on page 91** if you are connecting to a Wi-Fi hotspot.



Sharing Files

Using the mydlink SharePort app for iPad[®], iPhone[®], and iPod touch[®]

The mydlink SharePort app is a streamlined mobile application that allows you to conveniently stream media and share files stored on a removable storage connected to your router. Once the router is set up, you can start the app and easily connect from a local network or through the Internet to access your photos, videos, music, and documents. It allows you to create your own personal cloud storage; you can upload files and photos from your mobile device to the removable storage via the app from anywhere in the world!

Note: In order to ensure smooth streaming performance, you will need a minimum of 2 Mbit/s upload bandwidth for your router's Internet connection. Streaming performance will vary depending on the quality of your Internet connection.

1. If you are connecting remotely through the mydlink SharePort app from the Internet, you will need a **mydlink** account. Please refer to "mydlink" on page 101 for more details.

2. Make sure the device is powered on. Then plug your USB drive into the USB port of the device.

Note: If you connect a removable storage with many files or a large capacity, it may take a while for the router to scan and catalog your files.



3. Use your iPhone, iPad or iPod Touch to search for and download the free **mydlink SharePort** app from the App Store.

If you have a QR code reader, you can scan the code for **mydlink SharePort** to the right.



4. On your mobile device, go to your Wi-Fi settings and connect to your router's wireless network using the default Wi-Fi settings. By default, your wireless network details are:

- 2.4 GHz Wi-Fi Network Name (SSID): **DIR510L**
- 5 GHz Wi-Fi Network Name: **DIR510L_5GHz**
- Password: (leave this blank)



- Once connected, tap the **mydlink SharePort** icon, and the app will load.
- At the login page, tap to select between a local access or remote access connection. If you are unsure, tap **Help?** to see descriptions of the two types of connections.

Local Access:

Local mode will connect you to storage on your current network. For example, if you are at home connecting to your router, choose this mode.

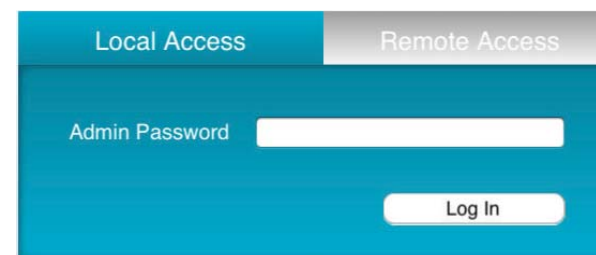
Remote Access:

Remote mode will connect you to storage on your router in a different location. For example, you are at your office connecting to your router at home.

If you are directly connected to the DIR-510L's wireless network, tap **Local Access** and enter the Admin Password of your router, then tap **Log In**.

If you are connecting through the Internet tap **Remote Access** and enter your mydlink login information, then tap **Log In**. Tap on your router on the devices page that appears. You can now share your files.

After logging in, select your router from the device list.



7. You can now use the mydlink SharePort app interface to stream media and access files stored on your removable drive. The wireless icon at the bottom will be lit blue to indicate a Local Access connection. It will be green to indicate you are connected to the router through Remote Access.

Note: If you see a red wireless icon, your router's network environment may not be suitable for a direct network connection and you may experience slow network speeds.



Main Menu

The mydlink SharePort main menu has different sections that let you see all the documents, photos, movies, or music stored on your removable storage. Tap < or >, or swipe left or right to move between the different sections. The Wi-Fi icon at the bottom indicates an active local network connection (blue) or remote connection (green/red). Tap **Log In** if it is not lit, or **Log Out** to return to the login page.



Tap on the document icon to view documents.



Tap the camera icon to view photos.



Tap on the movie icon to play videos.



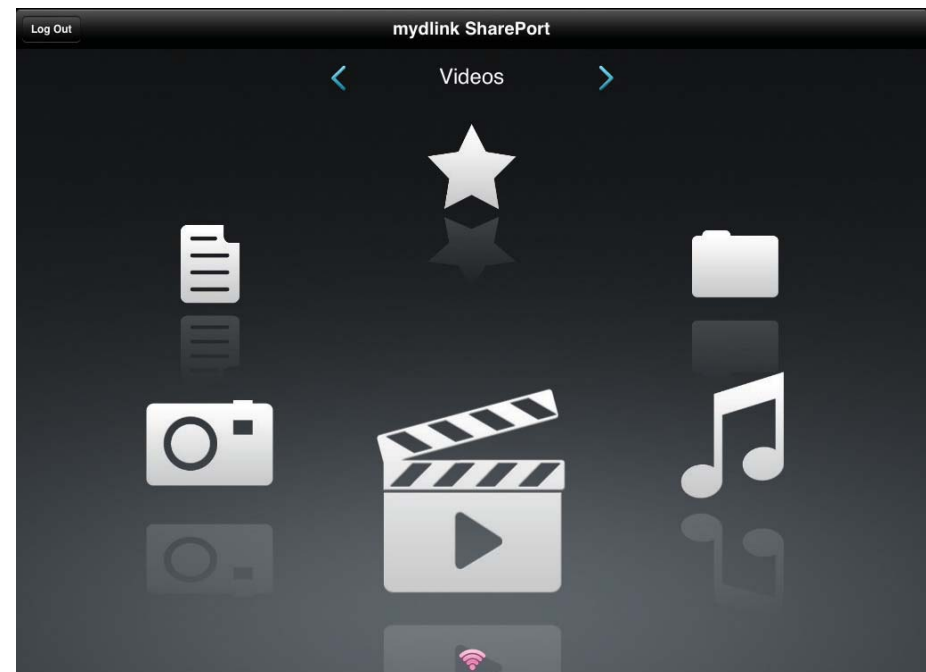
Tap on the music icon to play audio files.



Tap on the folder icon to browse all files in a folder view.

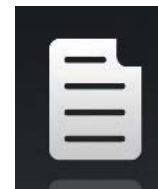


Tap on the star icon to access your favorite files.



Documents

The Documents section allows you to share, print, and view documents streamed from your DIR-510L to your mobile device. Tap the document icon on the main menu to browse the documents on your mobile device.



Search Bar: Enter a filename here to search your storage.



Tap to mark files for deletion.

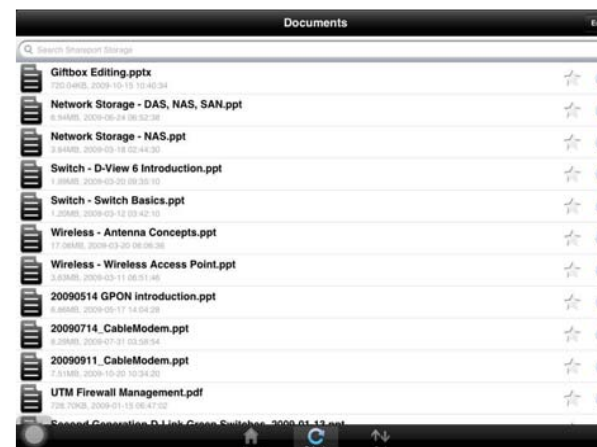


Tap the star icon next to each file to download it to your device and add it into your Favorites section.



Tapping this icon gives you additional options:

- **Mail:** Tap to e-mail the file.
- **iCloud:** Tap to store the file on iCloud.
- **AirPrint:** Tap to print the file.
- **Open In...:** Tap to use a third-party app to open the file.



The bottom menu bar includes these options:



Tap to go back to the main menu.





Tap to update the list of files.



Tap to reorder the files alphabetically.

Tap on a file to start the document viewer. In the viewer:

 Tap to add/remove the file from your Favorites.

 Tap to bring up the same options as >.

Note: Some files may require a third-party app to view them.





Pictures


The Pictures section allows you to stream images from your DIR-510L to your mobile device. Tap the camera icon on the main menu to browse your photo collection on your removable storage.



Search Bar: Enter a filename here to search your storage.


 Tap to mark files for deletion.


 Tap the star icon next to each file to download it to your device and add it into your Favorites section.

 Tapping this icon gives you additional options:


- **Mail:** Tap to e-mail the image.
- **iCloud:** Tap to store the image on iCloud.
- **AirPrint:** Tap to print the image.
- **Facebook:** Tap to upload the image to your Facebook account.
- **Twitter:** Tap to upload the image to your Twitter account.
- **Open In...:** Tap to use a third-party app to open the file.

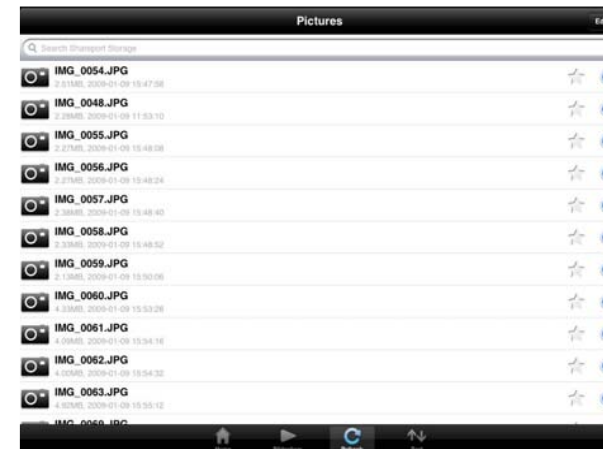
The bottom menu bar includes these options:

 Tap to go back to the main menu.

 Tap to start a slideshow of your photos. Tap the screen again to bring up the menu.

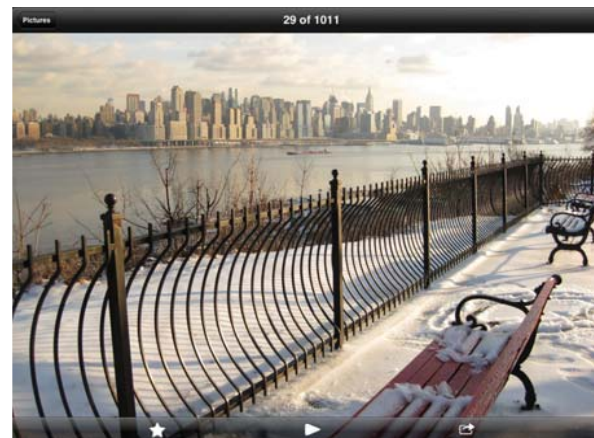
 Tap to update the list of files.

 Tap to reorder the files alphabetically.



Tap on a file to start the photo viewer. In the viewer:

- ★ Tap to add/remove the current image from your Favorites.
- ▶ Tap to start the slideshow.
- ↶ Tap to bring up the same options as >.






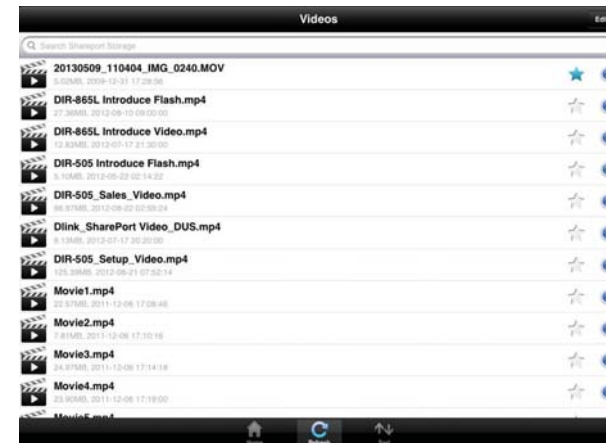
Videos

The Videos section allows you to stream video clips and movies from your DIR-510L to your mobile device. Tap the movie icon on the main menu to browse your videos on your removable storage.






Search Bar: Enter a filename here to search for a specific file.





-  Tap to mark files for deletion.
-  Tap the star icon next to a file to download it to your device and add it into your Favorites section.
-  Tapping this icon gives you additional options:
 - **Mail:** Lets you e-mail the file.
 - **iCloud:** Lets you store the file on iCloud.
 - **Open In...:** Lets you use a third-party app to open the file.



The bottom menu bar includes these options:

-  Tap to go back to the main menu.
-  Tap to update the list of files.
-  Tap to reorder the files alphabetically.

Tap on a file to start playing it. In the player:

-  Tap to play/pause the video. You can scroll to any time on the time line by holding and sliding your finger.
-  Tap to enter/exit fullscreen mode.
-  Tap to add/remove the file from your Favorites.
-  Tapping this icon gives you additional options:
 - **Mail:** Lets you e-mail the video.
 - **iCloud:** Lets you store the video on iCloud.
 - **Open In...:** Lets you use a third-party app to open the file.






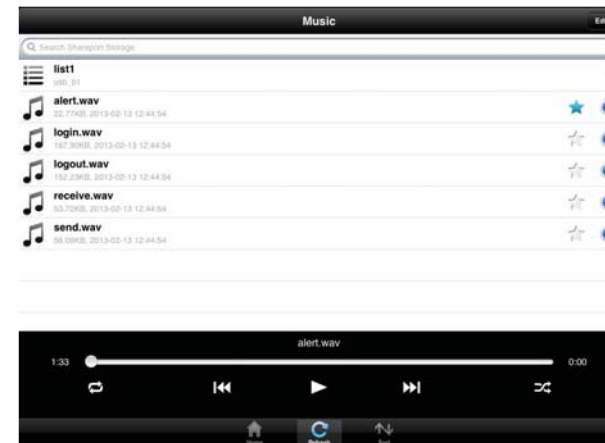
Music

The Music section allows you to stream songs from your DIR-510L to your mobile device. Tap the music icon on the main menu to browse your music collection on your removable storage.






Search Bar: Enter a filename here to search your storage.

-  Tap to create a playlist and mark files for deletion.
-  Tap the star icon next to each file to download it to your device and add it into your Favorites section.
-  Tapping this icon gives you additional options:
 - **Mail:** Lets you e-mail the file.
 - **iCloud:** Lets you store the file on iCloud.
 - **Open In....:** Lets you use a third-party app to open the file.





The bottom menu bar includes these options:

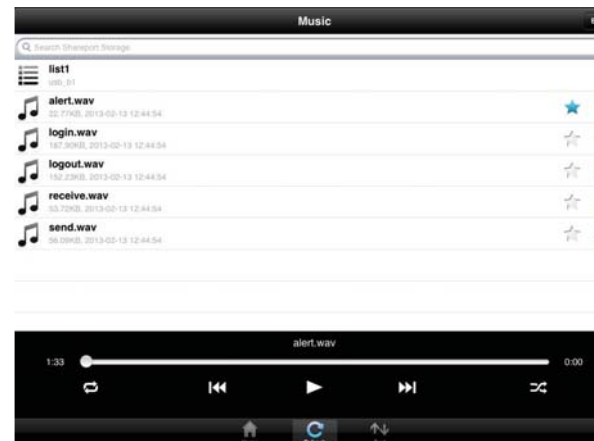
-  Tap to go back to the main menu.
-  Tap to update the list of files.
-  Tap to reorder the files alphabetically.

Tap on a file to start playing it. In the player:

  Tap to repeat all. Tap again to repeat a single song.

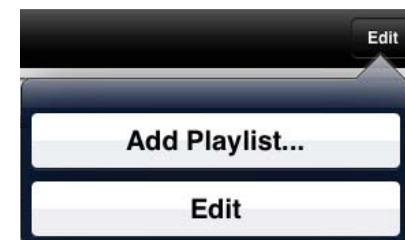
  Tap to skip to the previous/next song.

 Tap to enable/disable shuffle mode.




To create a playlist:

- Tap **Edit** > **Add Playlist**.



- Enter a name for the playlist, then tap **Save**.



- The name of the playlist will appear in the browser next to the  icon.

To add songs to a playlist:

- Tap the playlist in the browser.
- Tap **Add Music...** to add songs to the current playlist.
- Tick the songs you wish to add and tap **Done**.

To delete songs from the playlist:

- Tap **Edit** in the playlist browser and mark the files to be deleted.
- Tap **Delete**.






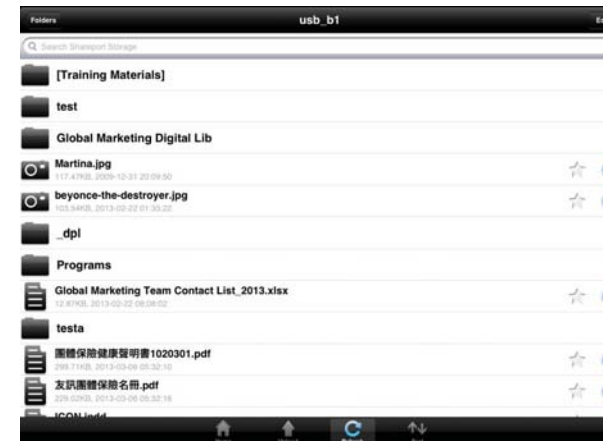
Folders

You can browse your removable storage in a folder view in the folders section. Tapping the filename will open the viewer/player for that file type as described in the previous pages. You can also upload files from your mobile device to the removable storage attached to your router.







Search Bar: Enter a filename here to search your storage.

-  Tap to take you to the editing screen where you can add a folder and mark files for deletion or copying.
-  Tap the star icon next to each file to download it to your device and add it into your Favorites section.
-  Tapping the > icon gives you additional options depending on the file type.

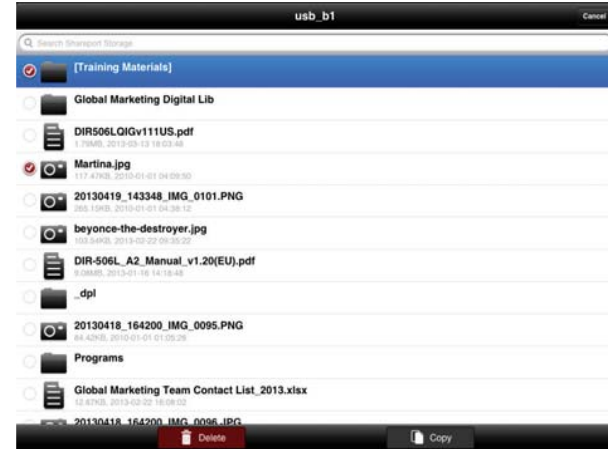


The bottom menu bar includes these options:

-  Tap to go back to the main menu.
-  Tap to upload files from your device to your removable storage.
-  Tap to update the list of files.
-  Tap to reorder the files alphabetically.

To delete files:

- Tap **Edit** at the top right.
- Tick the circle next to a file to mark it for deletion.
- Tap on **Delete** at the bottom to delete the file.



To copy files:

- Tap on **Copy** to bring up a window where you can select the folder to copy to.
- Browse to the directory you want to copy the marked files to and tap **Paste**.
- You can also tap **Add Folder** to create a new folder.



To create a new folder:

- Browse to the directory you wish to create a new folder in.
- Tap **Edit** at the top right.
- Tap **Add Folder** to add a new folder.
- Enter the name of the new folder, then tap **Save**.
- Tap **OK** to confirm folder creation.



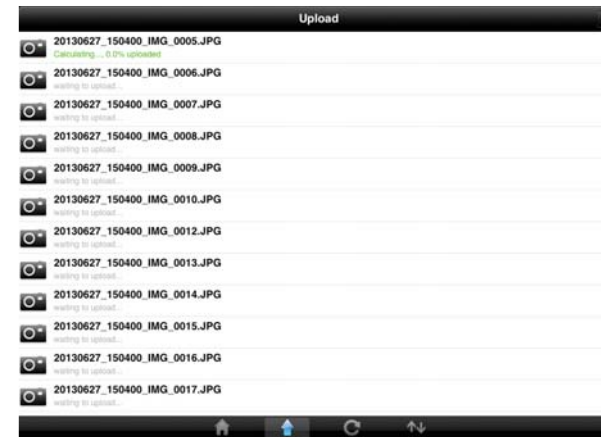
To upload images and videos from your mobile device:

- Browse to the folder you wish to upload to.
- Tap **Upload** at the bottom.
- Select the photos/videos you wish to upload.
- Tap **Done**.



During the upload process, the size of the file and the upload progress will be displayed.


To upload more files, tap the + icon at the top right and repeat the steps listed above.




Favorites


The Favorites section allows you to quickly access your most often used files, no matter what file type, in a special section. Files added to the Favorites section will be copied here for playback in a centralized location.





 Tap to mark files for deletion from the local storage in Favorites. The file will still be accessible in other mydlink SharePort sections.

 Tapping this icon gives you additional options depending on the file type.


The bottom menu bar includes these options:


 Tap to go back to the main menu.

 Tap to update the list of files.

 Tap to reorder the files alphabetically.

Tap on a file to start the file viewer. In the viewer:

 Tap to add/remove the file from your Favorites.

 Tap to bring up additional options.



Note: The file options available will vary depending on the file type.

Using the mydlink SharePort app for Android™

The mydlink SharePort app is a streamlined mobile application that allows you to conveniently stream media and share files stored on a removable storage connected to your router. Once the router is set up, you can start the app and easily connect from a local network or through the Internet to access your photos, videos, music, and documents. It allows you to create your own personal cloud storage; you can upload files and photos from your mobile device to the removable storage via the app from anywhere in the world!

Note: In order to ensure smooth streaming performance, you will need a minimum of 2 Mbit/s upload bandwidth for your router's Internet connection. Streaming performance will vary depending on the quality of your Internet connection.

1. If you are connecting remotely through the mydlink SharePort app from the Internet, you will need a **mydlink** account. Please refer to "mydlink" on page 101 for more details.

2. Make sure the device is powered on. Then plug your USB drive into the USB port of the device.

Note: If you connect a removable storage with many files or a large capacity, it may take a while for the router to scan and catalog your files.



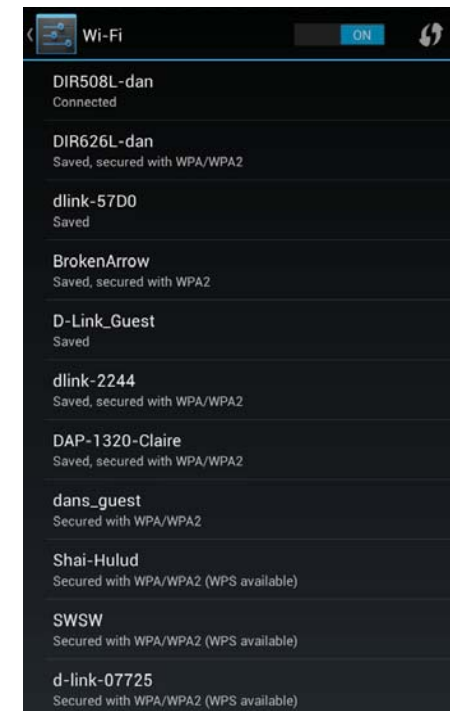
3. Use your Android mobile device to search for and download the free **mydlink SharePort** app from Google Play™.

If you have a QR code reader, you can scan the code for **mydlink SharePort** to the right.



4. On your mobile device, go to your Wi-Fi settings and connect to your router's wireless network using the default Wi-Fi settings. By default, your wireless network details are:

- 2.4 GHz Wi-Fi Network Name (SSID): **DIR510L**
- 5 GHz Wi-Fi Network Name: **DIR510L_5GHz**
- Password: (leave this blank)

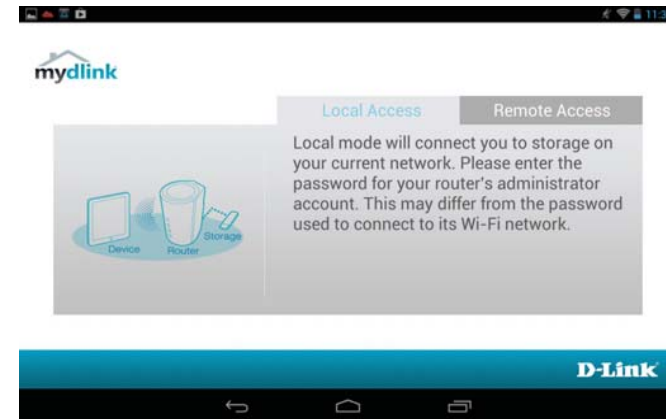


5. Once connected, tap the **mydlink SharePort** icon, and the app will load.
6. At the login page, tap to select between a local access or remote access connection. If you are unsure, tap **?** to see descriptions of the two types of connections.



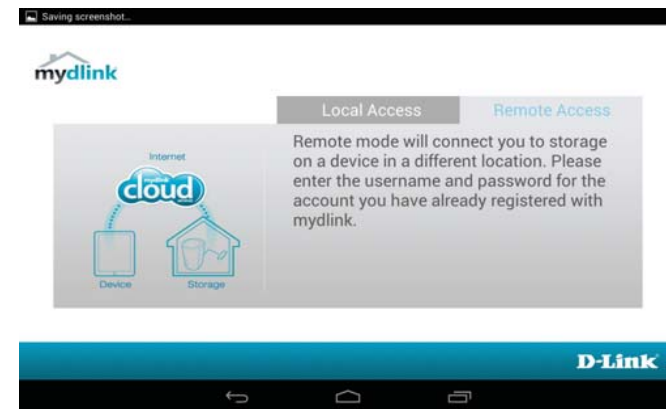
Local Access:

Local mode will connect you to storage on your current network. For example, if you are at home connecting to your router, choose this mode.

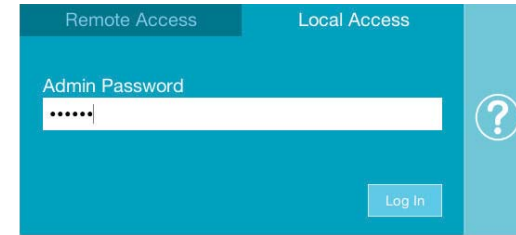


Remote Access:

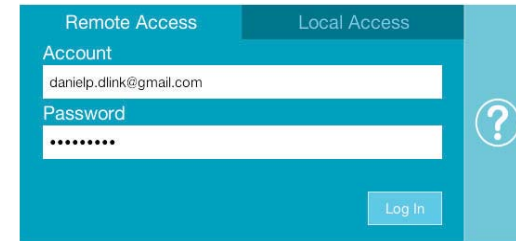
Remote mode will connect you to storage on your router in a different location. For example, you are at your office connecting to your router at home.



If you are directly connected to the DIR-510L's wireless network, tap **Local Access** and enter the Admin Password of your router, then tap **Log In**.



If you are connecting through the Internet tap **Remote Access** and enter your mydlink login information, then tap **Log In**. Tap on your router on the devices page that appears. You can now share your files.



After logging in, select your router from the device list.



7. You can now use the mydlink SharePort app interface to stream media and access files stored on your removable drive.

The wireless icon at the bottom will be lit blue to indicate a Local Access connection. It will be green to indicate you are connected to the router through Remote Access.

Note: If you see a red wireless icon, your router's network environment may not be suitable for a direct network connection and you may experience slow network speeds.



Main Menu

The mydlink SharePort main menu has different sections that let you see all the documents, photos, movies, or music stored on your removable storage. Tap < or >, or swipe left or right to move between the different sections. The Wi-Fi icon at the bottom indicates an active local network connection (blue) or remote connection (green/red). Tap **Log In** if it is not lit, or **Log Out** to return to the login page.



Tap on the document icon to view documents.



Tap the camera icon to view pictures.



Tap on the movie icon to play videos.



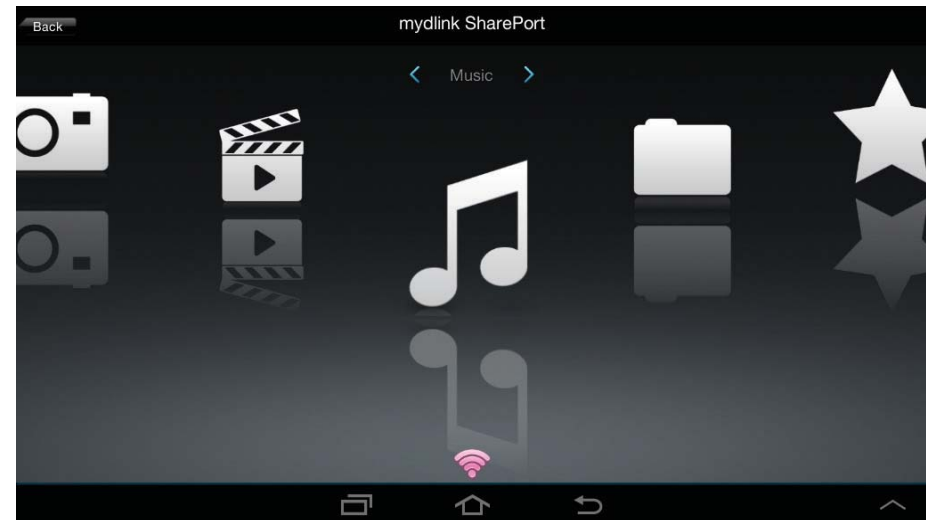
Tap on the music icon to play audio files.



Tap on the folder icon to browse all files in a folder view.



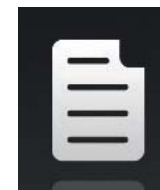
Tap on the star icon to access your favorite files.



Note: Available features may differ depending on the Android OS version of your device.

Documents

The Documents section allows you to share, print, and view documents streamed from your DIR-510L to your mobile device. Tap the document icon on the main menu to browse the files on your mobile device.



Search Bar: Type in the name of a file to search for it.



Tap to return to the main menu.



Tap to refresh, sort, or mark files for deletion.



Tap the star icon next to each file to download it to your device and add it into your Favorites section.

Tap for additional options:



Tap to return to the main menu.



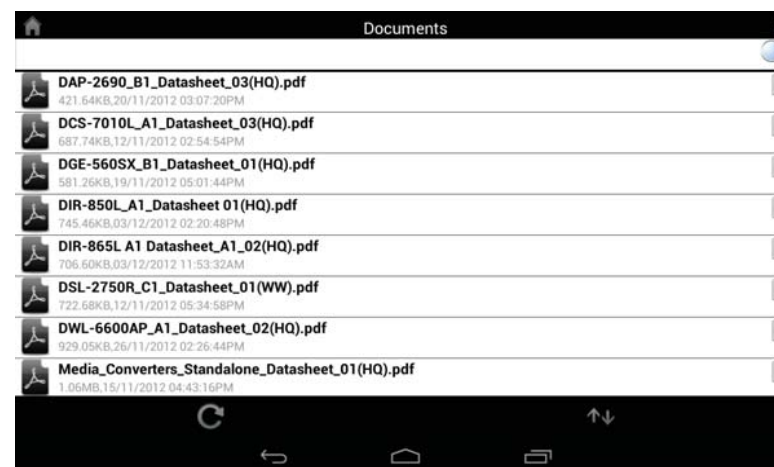
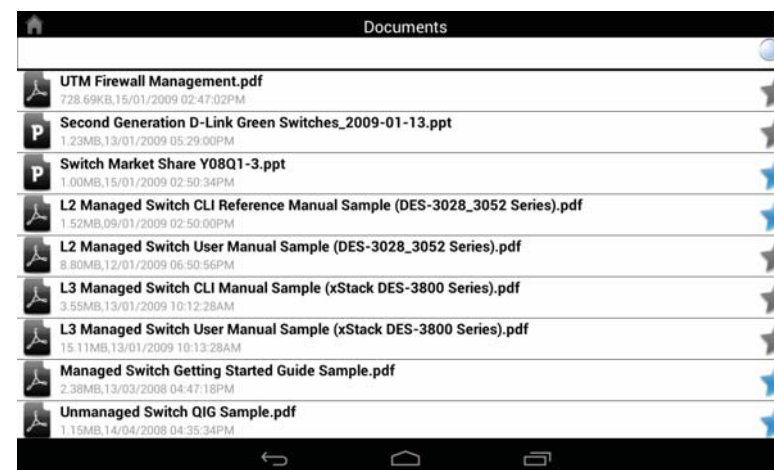
Tap to update the list of files.




Tap to sort the files by name, size, type, or date.



Check a file then tap to delete it.



Tap on a file to start the document viewer. In the viewer:

- Tap the screen to bring up zoom in/out buttons.
- Drag the screen up or down to scroll between pages.
- Tap  to perform File, Find, Zoom, Reading View, Go To Page, and Bookmarks actions.

Note: Available actions may differ depending on your Android OS.







Pictures





The Pictures section allows you to view images streamed from your DIR-510L to your mobile device. Tap the camera icon on the main menu to browse your photo collection on your removable storage.

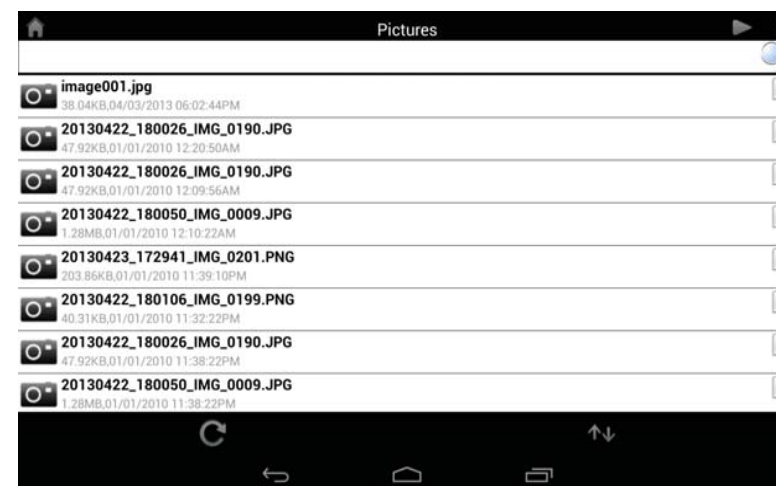
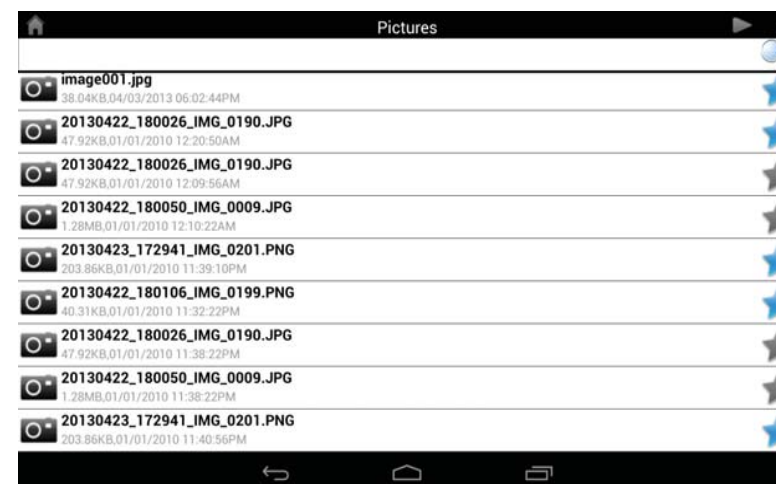


Search Bar: Type in the name of a file to search for it.






-  Tap to return to the main menu.
-  Tap to start a slideshow.
-  Tap to refresh, sort, or mark files for deletion.
-  Tap the star icon next to each file to download it to your device and add it into your Favorites section.

Tap  for additional options:

-  Tap to return to the main menu.
-  Tap to update the list of files.
-  Tap to sort the files by name, size, type, or date.
-  Check a file then tap to delete it.



Tap on an image file to start the image viewer. In the viewer:

-  Tap the star icon to download it to your device and add it into your Favorites section.
-  Tap to start a slideshow. Tap the image to stop the slideshow.
-  Tap to delete the current image. Tap **OK** to confirm.
-  Tap to bring up additional options using other applications.
-  Tap to access the image editor.

Note: This function may vary depending on the version of your Android OS.






Videos





The Videos section allows you to stream video clips and movies from your DIR-510L to your mobile device. Tap the movie icon on the main menu to browse your videos on your removable storage.

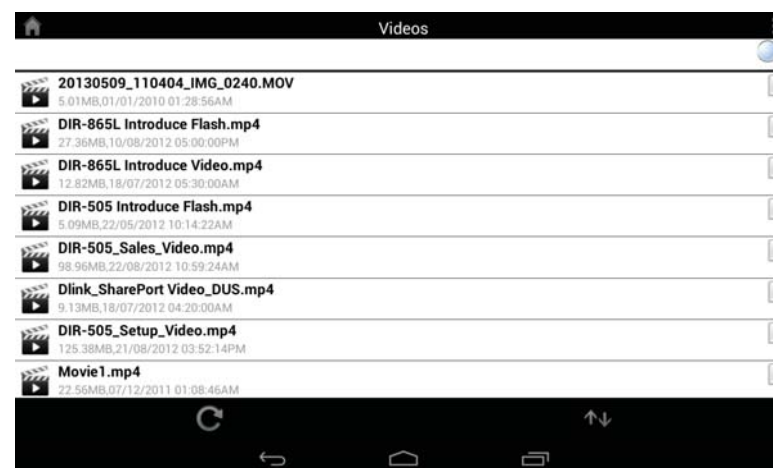
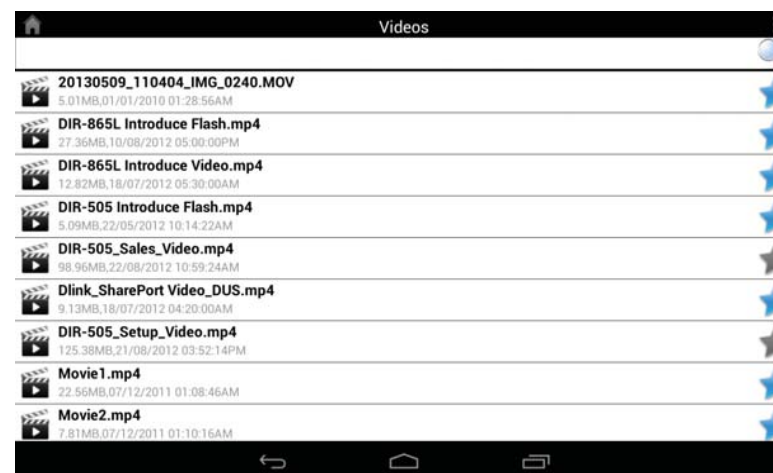


Search Bar: Type in the name of a file to search for it.


-  Tap to return to the main menu.
-  Tap to refresh, sort, or mark files for deletion.
-  Tap the star icon next to a file to download it to your device and add it into your Favorites section.


Tap  for additional options:

-  Tap to return to the main menu.
-  Tap to update the list of files.
-  Tap to sort the files by name, size, type, or date.
-  Check a file then tap this icon to delete it.

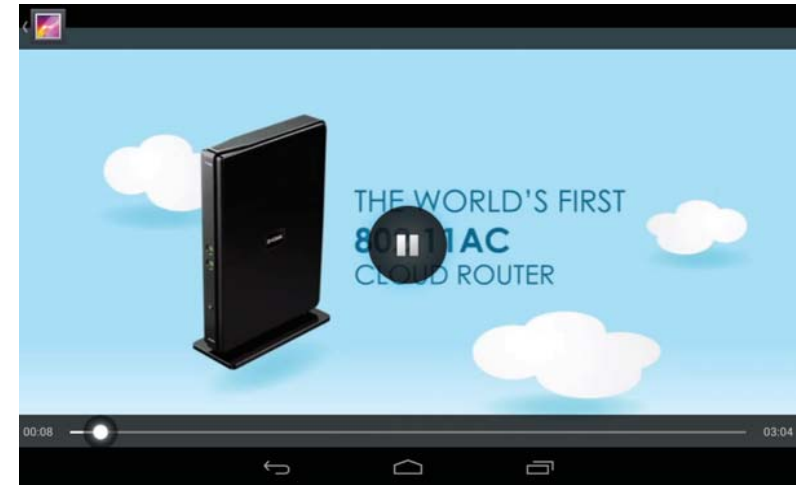


Tap on a file to start playing it. Tap on the screen to bring up the scrollbar, pause button, and play button.

 Tap to resume playback.

 Tap to pause the video.

Note: Available features may vary depending on the Android OS version installed on your device.







Music





The Music section allows you to stream songs from your DIR-510L to your mobile device. Tap the music icon on the main menu to browse your music collection on your removable storage.

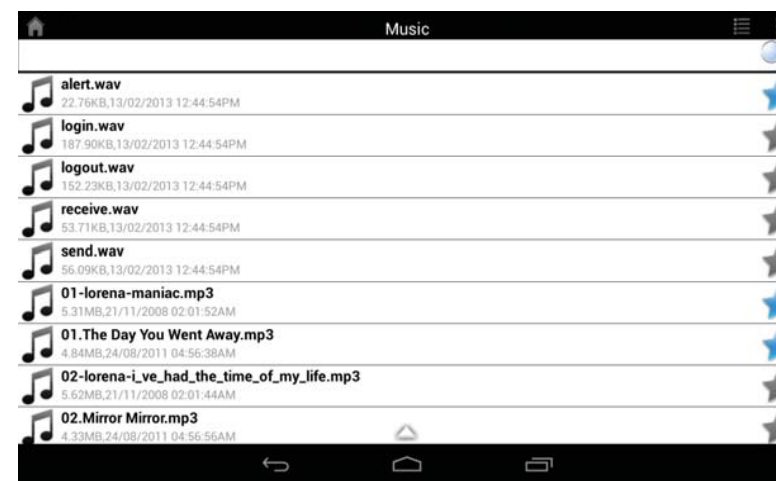


Search Bar: Type in the name of a file to search for it.









-  Tap to return to the main menu.
-  Tap to refresh, sort, or mark files for deletion.
-  Tap to browse your playlists.
-  Tap the star icon next to a file to download it to your device and add it into your Favorites section.

Tap  for additional options:





-  Tap to return to the main menu.
-  Tap to update the list of files.
-  Tap to sort the files by name, size, type, or date.
-  Check a file then tap this icon to delete it.

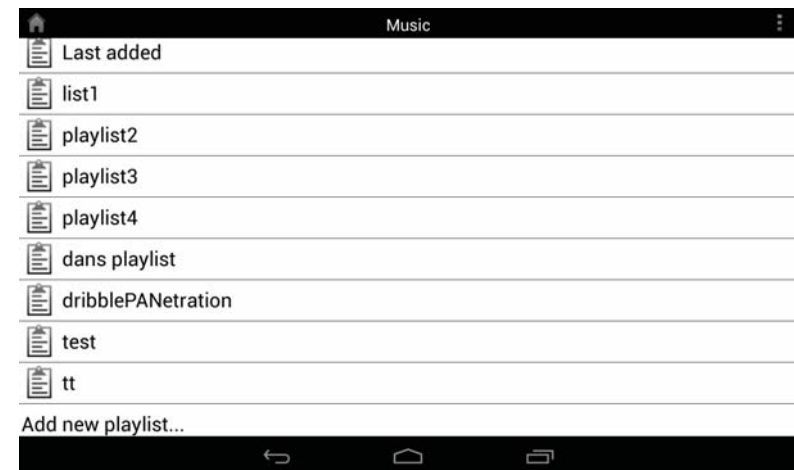
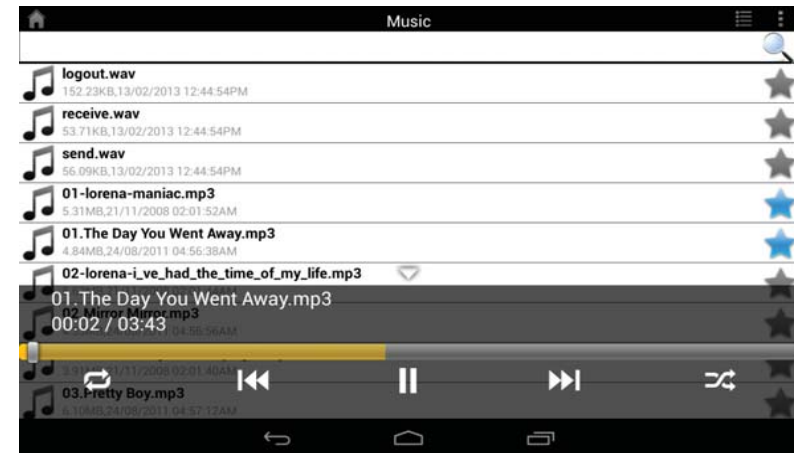


Tap on a file to start playing it. In the player:


-  Tap on the up/down arrow to show/hide the player controls.
-   Tap to repeat all. Tap again to repeat a single song.
-   Tap to skip to the previous/next song.
-   Tap to play or pause the song.
-  Tap to enable/disable shuffle mode.

To create a playlist:

- Tap 
- Tap **Add new playlist...**
- Enter a name for the playlist, then tap **OK**. The name of the playlist will appear in the browser next to the  icon.
- You can tap  then  to refresh the playlist page.




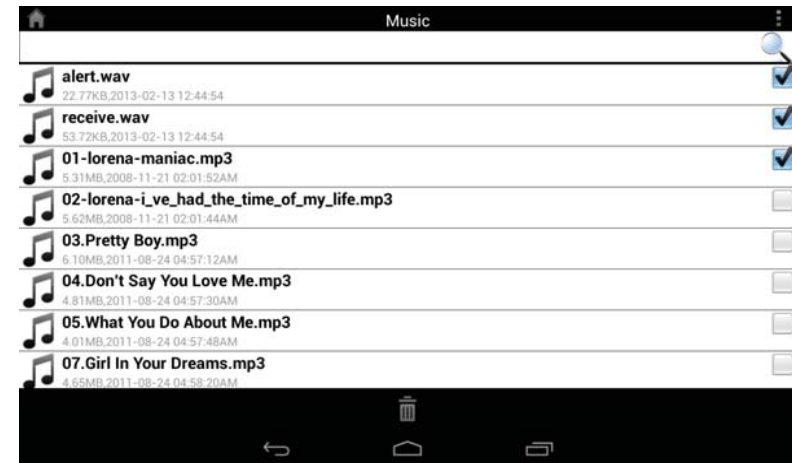
To add songs to a playlist:

- Tap a playlist to see its contents.
- Tap **Add Music...** to add songs to the current playlist.
- Tick the songs you wish to add and tap  to save.



To delete songs from the playlist:

- Tap **Edit** in the playlist browser and mark the files to be deleted.
- Tap  then tap **OK** to confirm.



Folders

You can browse your removable storage in a folder view in the folders section. Tapping the filename will open the viewer/player for that file type as described in the previous pages. You can also upload files from your mobile device to the removable storage attached to your router.



Search Bar: Type in the name of a file to search for it.



Tap to return to the main menu.



Tap to access file options.

In the file browser:



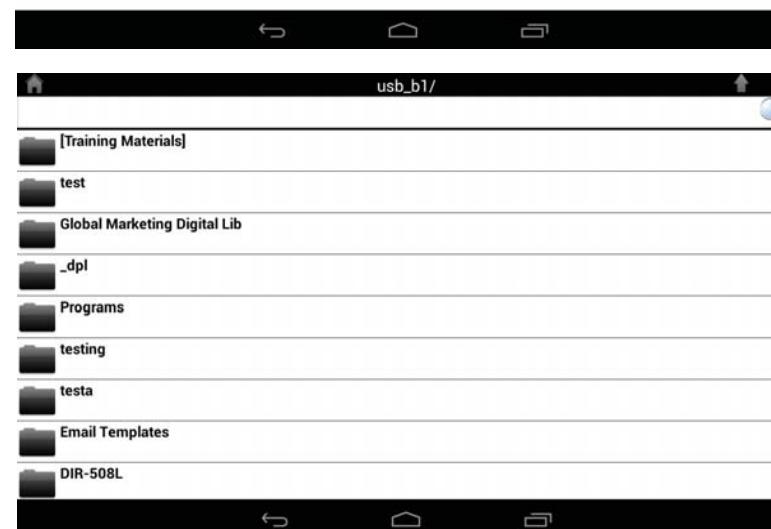
Tap to return to the main menu.








Tap to upload files.





Tap to refresh, sort, create a new folder, or mark files for deletion and copying.





Tap  to select files and perform the following actions:

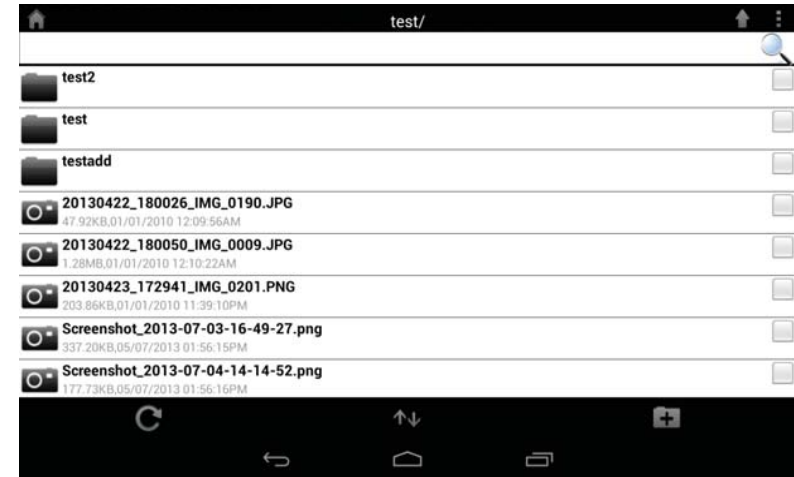
-  Tap to update the list of files.
-  Tap to sort the files by name, size, type, or date.
-  Tap to create a new folder.
-  Mark a file then tap this icon to delete it.
-  Mark a file then tap this icon to copy it.

To delete files:

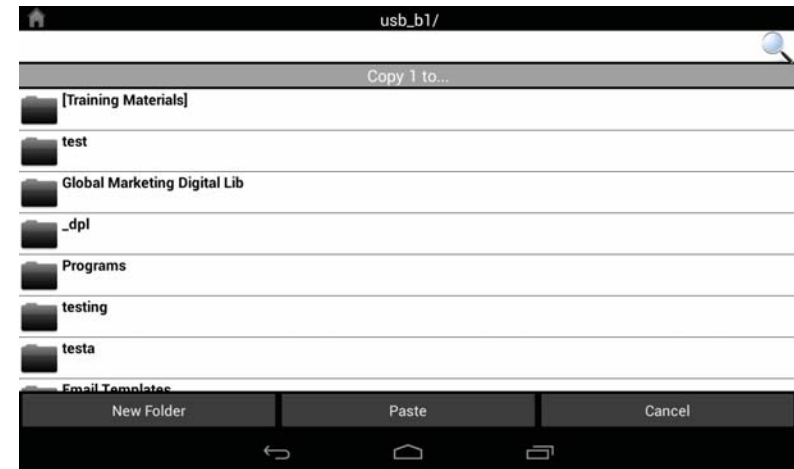
- Tap on  and tick the box next to a file for deletion.
- Tap on  to delete your selected files. Tap **OK** to confirm.

To copy files:



- Tap on  to select files for copying. Tick the box next to each file for copying.
- Tap on  to browse to the destination.

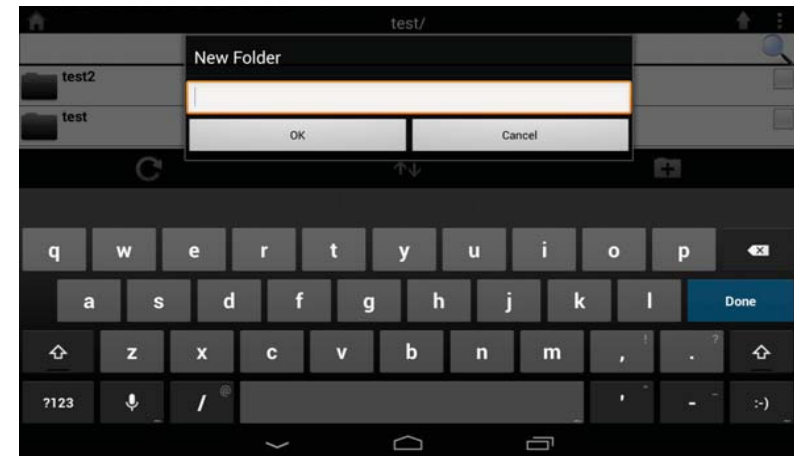


- Tap **Paste** or **Cancel**.
- You can also tap **New Folder** if you wish to create a folder in the current directory.




To create a new folder:

- Browse to the directory you wish to create a new folder in.
- Tap  then .
- Enter the name of the folder in the box, then tap **OK**.



To upload images and videos from your mobile device:

- Browse to the folder you wish to upload to.
- Tap  and browse to the file or files you wish to upload from the local device.
- Tick the box next to each of the files you wish to upload.
- Tap **Upload**.

During the upload process, the size of the file and the upload progress will be displayed under the file name.

- To remove a file from the upload queue, tap the X next to it.



Favorites

The Favorites section allows you to quickly access your most often used files, no matter what file type, in a special section. Files added to the Favorites section will be copied here for playback in a centralized location.

Search Bar: Type in the name of a file to search for it.



Tap to return to the main menu.



Tap to refresh, sort, or mark files for deletion.

Tap for additional options:



Tap to return to the main menu.



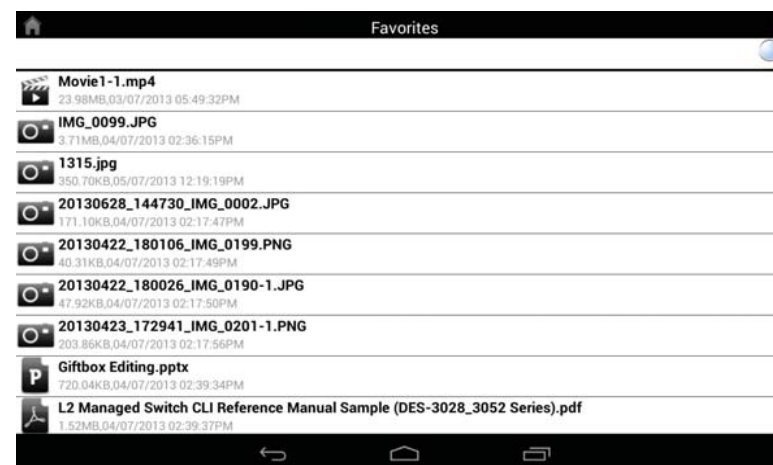
Tap to update the list of files.



Tap to sort the files by name, size, type, or date.



Check a file then tap to delete it.



Using SharePort Mobile for Windows® 8/RT

The SharePort Mobile app is a streamlined mobile application that allows you to conveniently stream media and share files stored on a removable storage connected to your router. Once the router is set up, you can start the app and easily connect from a local network to access your photos, videos, music, and documents. Then, you can upload files and photos from your mobile device to your router's removable storage via the app wirelessly!

1. Make sure the device is powered on. Then plug your USB drive into the USB port of the device.

Note: If you connect a removable USB drive with many files or a large capacity, it may take a while for the router to scan and catalog your files.

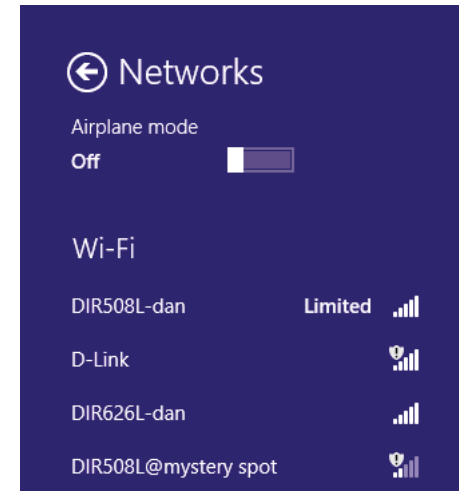


2. Use your Windows 8/RT mobile device to search for and download the free **SharePort Mobile** app from the Windows store.



3. On your mobile device, go to your Wi-Fi settings and connect to your router's wireless network using the default Wi-Fi settings. By default, your wireless network details are:

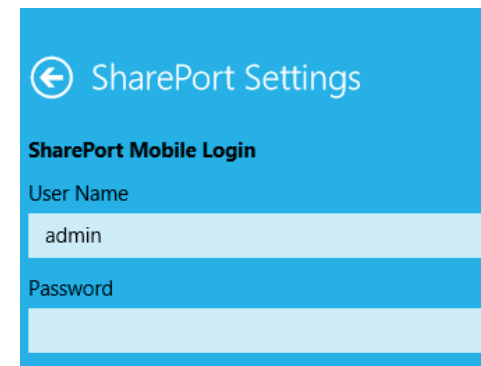
- 2.4 GHz Wi-Fi Network Name (SSID): **DIR510L**
- 5 GHz Wi-Fi Network Name: **DIR510L_5GHz**
- Password: (leave this blank)



4. Once connected, tap the **SharePort Mobile** icon, and the app will load.




5. At the main menu, if you see any greyed out icons, swipe the right edge of the screen to bring up Settings. Then tap **SharePort Settings** and enter your admin password. Tap on the back icon to exit settings and log in. Once you are logged in, all of the menu icons will be lit to indicate a successful connection.

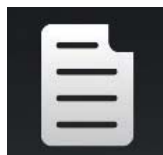


6. You can now use the SharePoint Mobile app interface to stream media and access files stored on your removable drive.



Main Menu

The SharePort Mobile main menu has different sections that let you see all the documents, photos, movies, or music stored on your removable storage. Tap an icon to access your files by type. In each section, you can tap  at any time to go back.



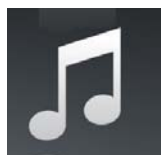
Tap on the document icon to view documents.



Tap the camera icon to view pictures.



Tap on the movie icon to play videos.



Tap on the music icon to play audio files.



Tap on the folder icon to browse all files in a folder view.

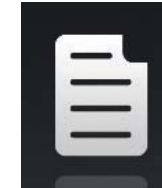


Tap on the star icon to access your favorite files.



Documents

The Documents section allows you to share, print, and view documents streamed from your DIR-510L to your mobile device. Tap the document icon on the main menu to browse the documents on your mobile device.



In the documents browser, tap the document to open it with a third-party application.



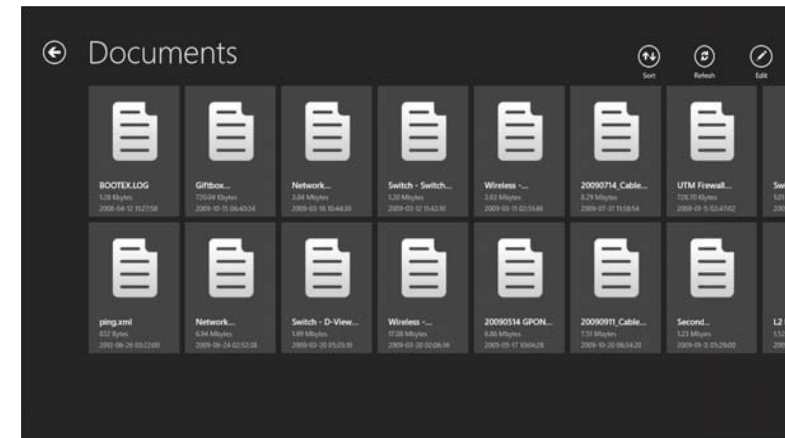
Tap to sort files by...



Tap to refresh the list of files.



Tap to select files to be added as a favorite or deleted.



Tapping **Edit** and selecting one or more files gives you the following options:



Tap to leave the editing screen.



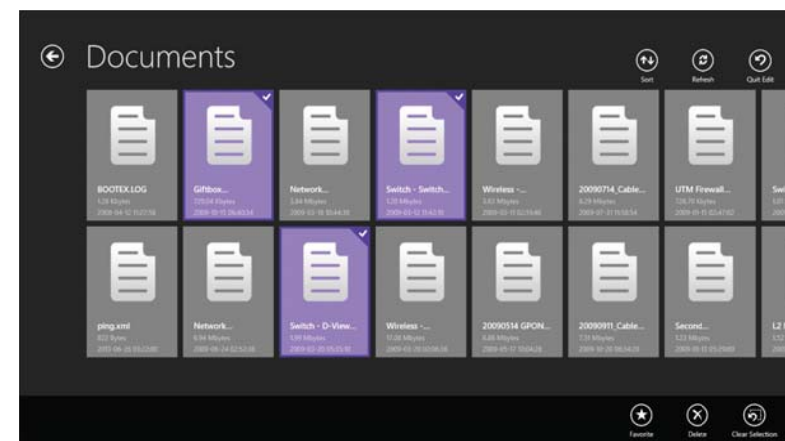
Tap to add the file to Favorite and download it to your local device.



Tap to delete the selected file or files.



Tap to deselect all selected files.



Pictures

The Pictures section allows you to stream images from your DIR-510L to your mobile device. Tap the camera icon on the main menu to browse your photo collection on your removable storage.



In the image browser, tap the image to open it.



Tap to start a slideshow of your images.



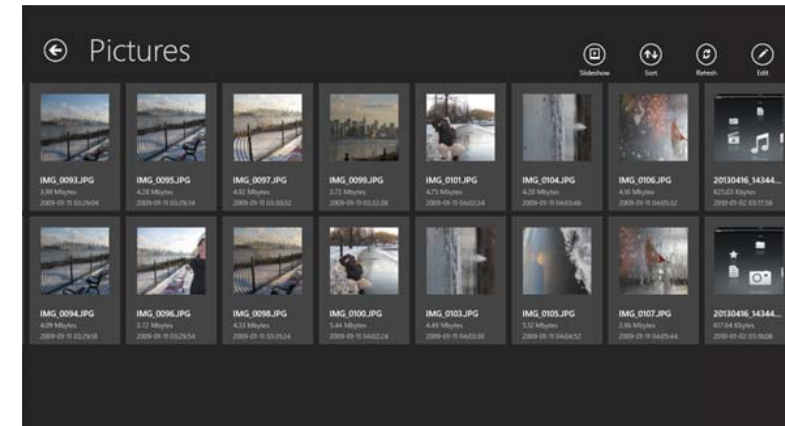
Tap to sort files by...



Tap to refresh the list of files.



Tap to select files to be added as a favorite or deleted.



Tapping **Edit** and selecting a file gives you the following options:



Tap to leave the editing screen.



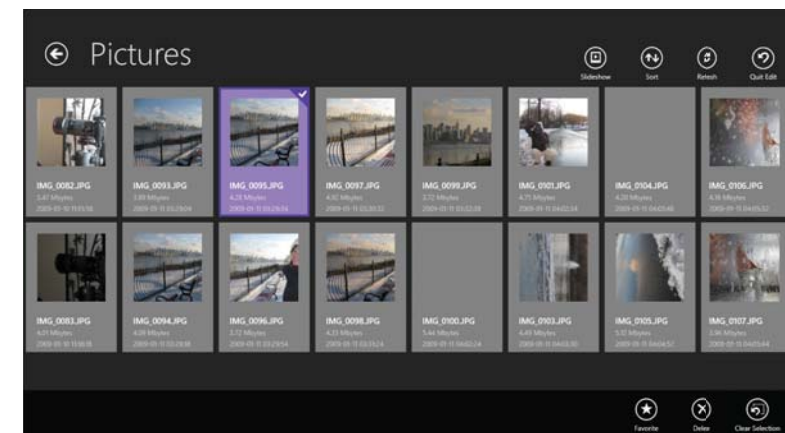
Tap to add the file to Favorite and download it to your local device.



Tap to delete the selected file or files.



Tap to deselect all selected files.



In the image viewer:



Slideshow

Tap to start a slideshow of your images.



Edit

Tap to open, mark as favorite, or delete the image.

After tapping **Edit**:



Quit Edit

Tap to leave the editing screen.



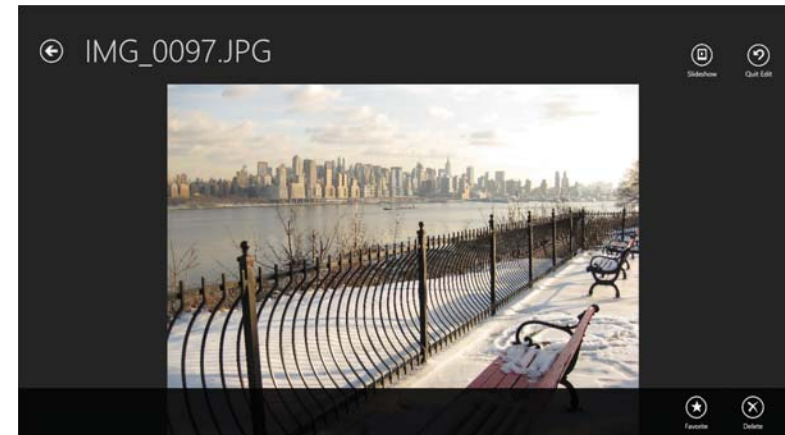
Favorite

Tap to add the file to Favorite and download it to your local device.



Delete

Tap to delete the selected file or files.



Movies

The Movies section allows you to stream video clips and movies from your DIR-510L to your mobile device. Tap the movie icon on the main menu to browse your videos on your removable storage.



In the movies browser, tap the file to play it.



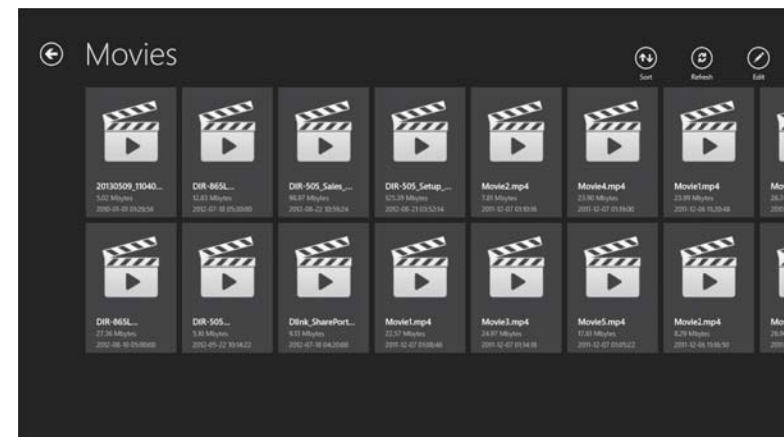
Tap to sort files by....



Tap to refresh the list of files.



Tap to select files to be added as a favorite or deleted.



Tapping **Edit** and selecting a file gives you the following options:



Tap to leave the editing screen.



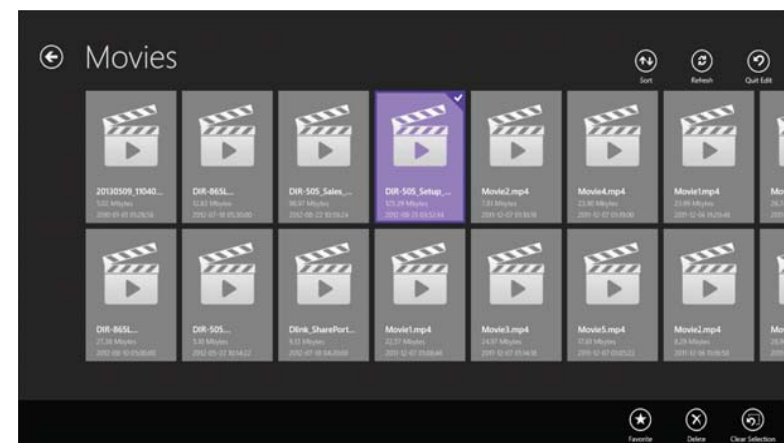
Tap to add the file to Favorite and download it to your local device.









Tap to delete the selected file or files.

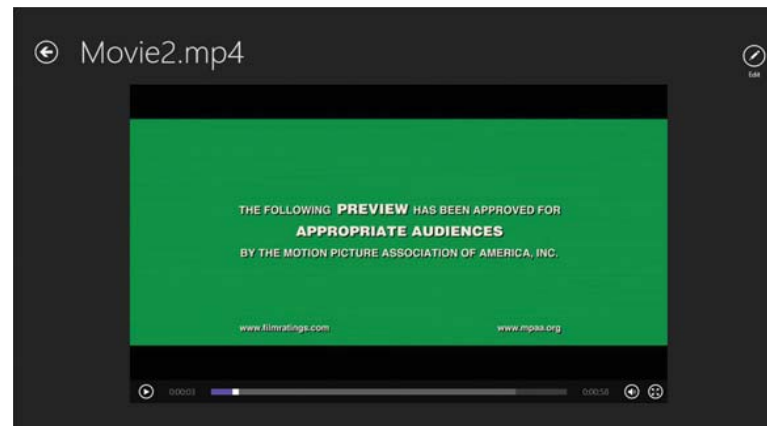


Tap to deselect all selected files.







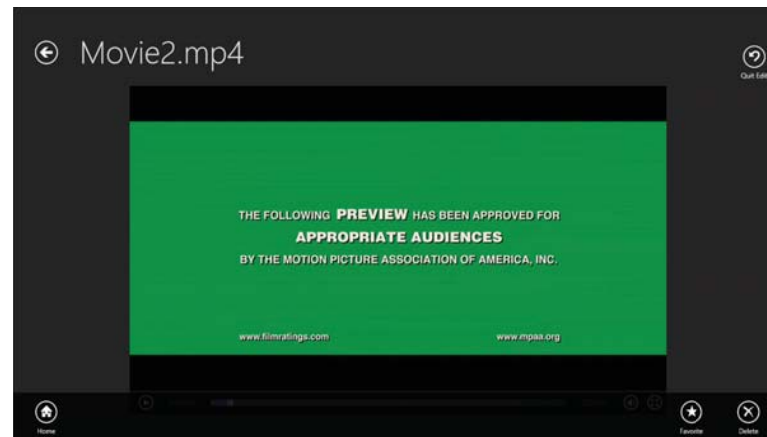
Tap on a file to start playing it. In the player:

-   Tap to play/pause the video. You can scroll to any time on the time line by holding and sliding your finger.
-   Tap to enter/exit fullscreen mode.
-  Tap to adjust the volume.
-  Tap to add or delete the file.



After tapping **Edit**:

-  Tap to leave the editing screen.
-  Tap to return to the main menu.
-  Tap to add the file to Favorite and download it to your local device.
-  Tap to delete the file.



Music

The Music section allows you to stream songs from your DIR-510L to your mobile device. Tap the music icon on the main menu to browse your music collection on your removable storage.



In the music browser, tap a file to play it with the music player.



Tap to repeat one or all songs.



Tap to enable/disable shuffle mode.



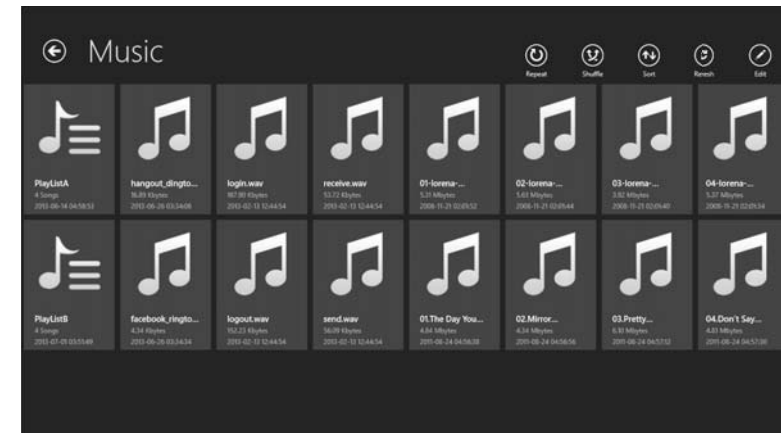
Tap to sort files by...



Tap to refresh the list of files.



Tap to select files to be added as a favorite or deleted.



Tapping **Edit** and selecting a file will show:



Tap to leave the editing screen.



Tap to add selected songs to a new play list.



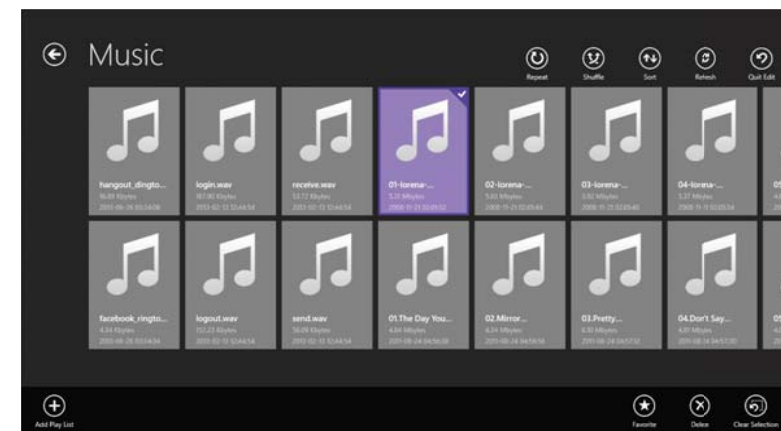
Tap to add the file to Favorite and download it to your local device.







Tap to delete the selected file or files.

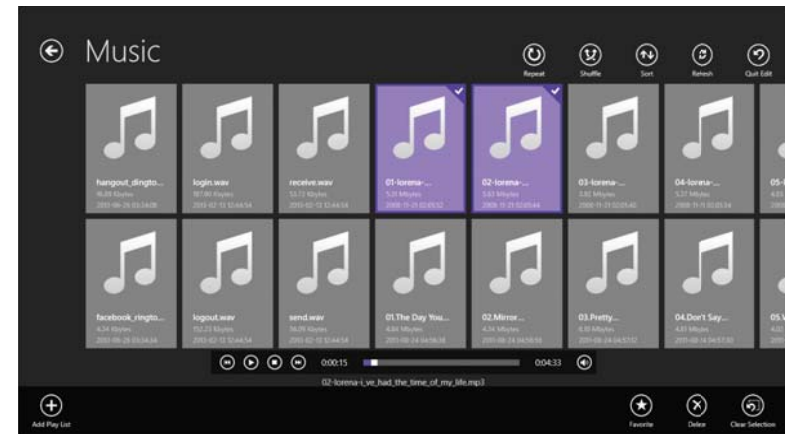


Tap to deselect all selected files.



Tap on a file to start playing it. In the player:

-  Tap to play/pause the song.
-  Tap to skip to the previous/next song.
-  Tap to stop playback.
-  Tap to adjust the volume.



To create a playlist:

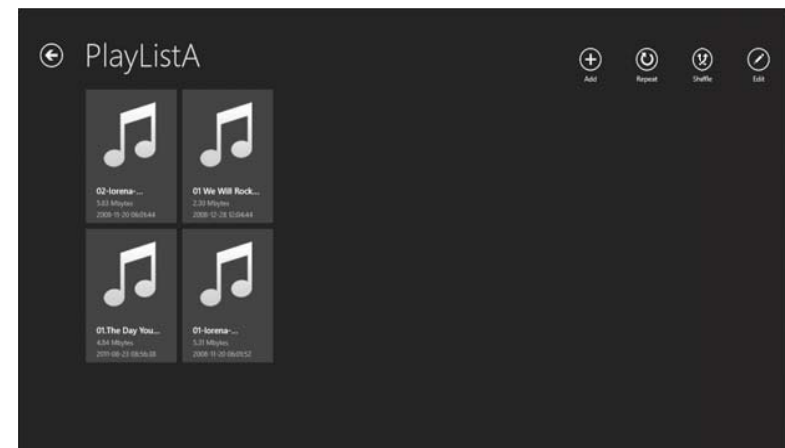
- Tap **Edit**, then select songs to be added to a new playlist.
- Tap **Add Playlist**.
- Enter a name for the playlist, then tap **Save**.



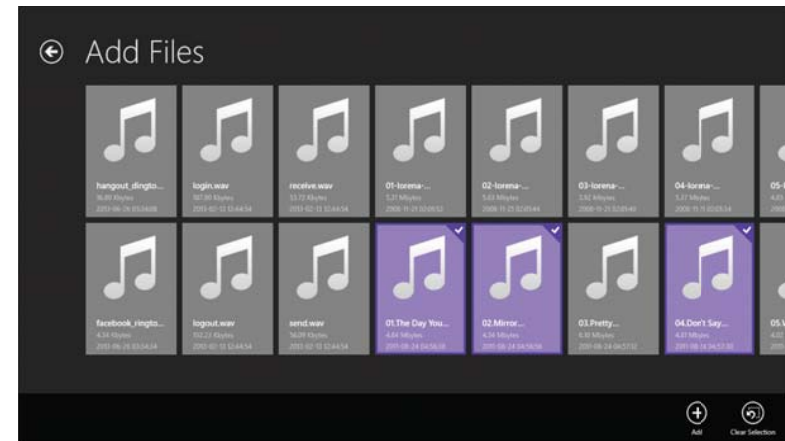
The playlist will appear in the browser as an  icon.

To add songs to a playlist:

- Tap your playlist to see its current contents.
- Tap **Edit**.
- Tap **Add**.

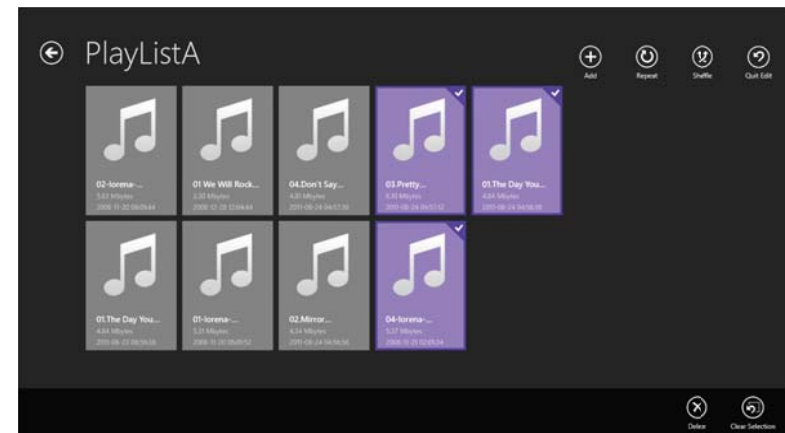


- Select songs to be added to your playlist, then tap **Add**.



To delete songs from your playlist:

- Tap your playlist to see its current contents.
- Tap **Edit** in the playlist browser and mark the files to be deleted.
- Tap **Delete** to remove the file.



Folder

You can browse your removable storage in a folder view in the Folder section. Tapping the filename will open the viewer/player for that file type as described in the previous pages. You can also upload files from your mobile device to the removable storage attached to your router here.



In the browser, tap the file to open it.



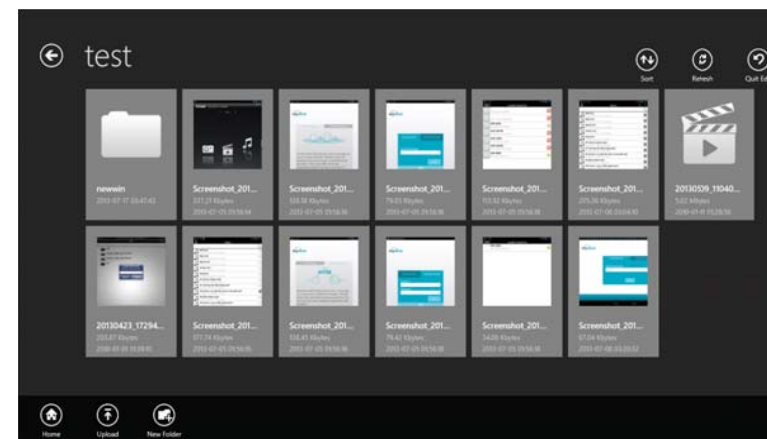
Tap to sort files by...



Tap to refresh the list of files.



Tap to upload files, create a new folder, or select files to be copied, opened, favorited or deleted.



Tapping **Edit** will show:



Tap to return to the main menu.









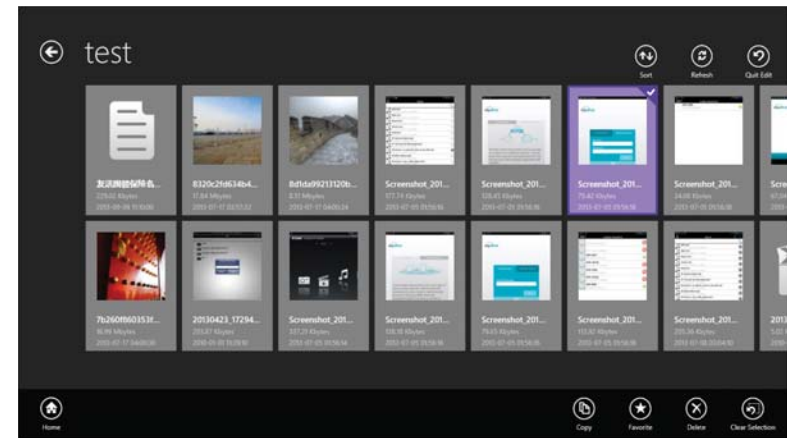
Tap to upload a file from your device.



Tap to create a new folder.

Tapping **Edit** and selecting a file gives you the following options:

-  Tap to leave the editing screen.
-  Tap to return to the main menu.
-  Tap to copy selected files.
-  Tap to add the file to Favorite and download it to your local device.
-  Tap to delete the selected file or files.
-  Tap to deselect all selected files.

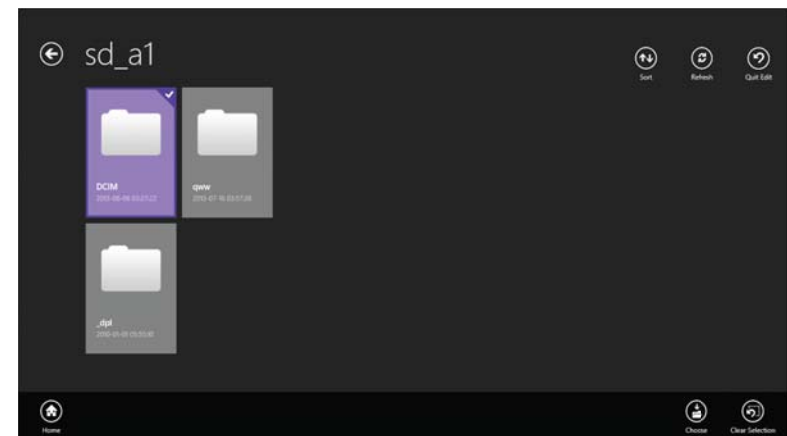


To delete files:

- Browse to the folder with the file to be deleted.
- Tap **Edit** in the browser and mark the file to be deleted.
- Tap **Delete** to delete the file.

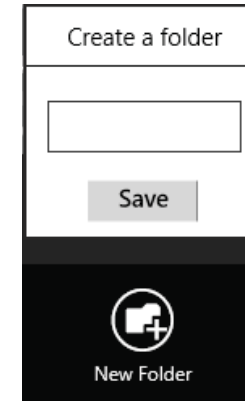
To copy files:

- Select the file to be copied and tap **Copy**.
- Browse to and select the destination folder.
- Tap **Choose** to copy the file to that folder.



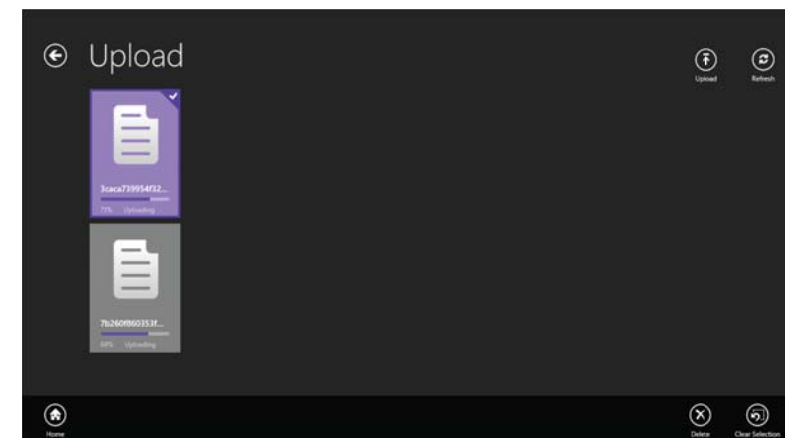
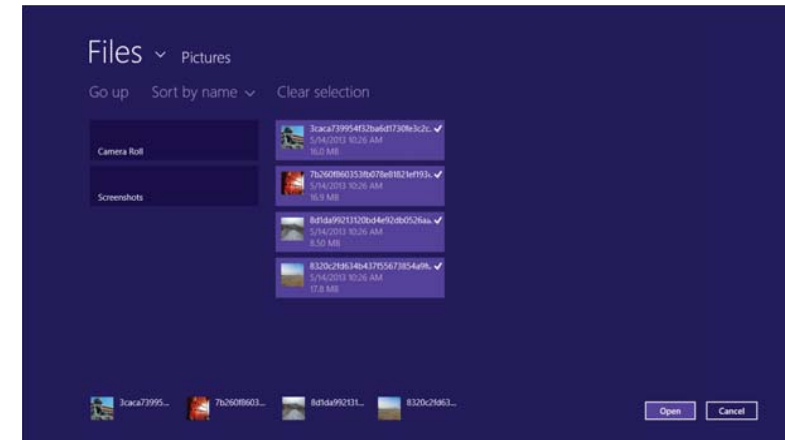
To create a new folder:

- Browse to the directory you wish to create a new folder in.
- Tap **Edit** at the top right.
- Tap **New Folder** and enter the name of the new folder.
- Tap **Save** to create the folder.



To upload images and videos from your mobile device:

- Browse to the folder you wish to upload to.
- Tap **Upload**. In the Upload screen, tap **Upload** to bring up Windows file browser.
- Select your files to be uploaded from your device to the USB storage and tap **Open**. The files will begin uploading.
- During the upload process, you can tap the upload queue files to delete them from the queue.
- To upload more files, tap the **Upload** icon at the top right and repeat the steps above.



Favorite

The Favorite section allows you to quickly access your most often used files, no matter what file type, in a special section. Files added to this section will be copied here for playback in a centralized location.



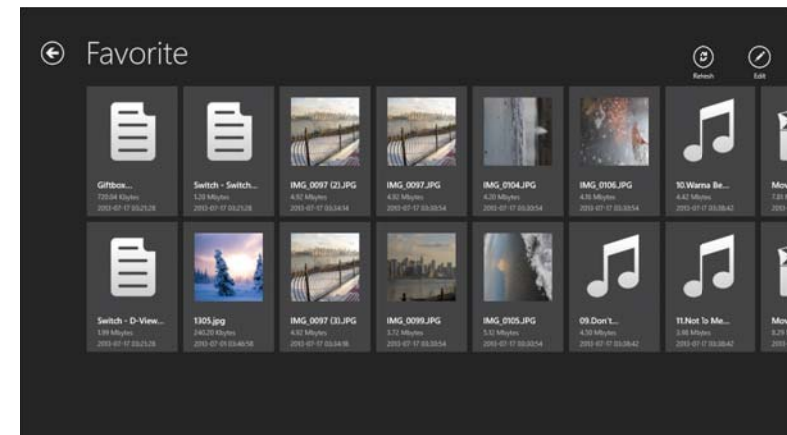
In the Favorite browser, tap the file to open it.



Tap to refresh the list of files.



Tap to select files to be opened or deleted.



Tapping **Edit** and selecting a file gives you the following options:



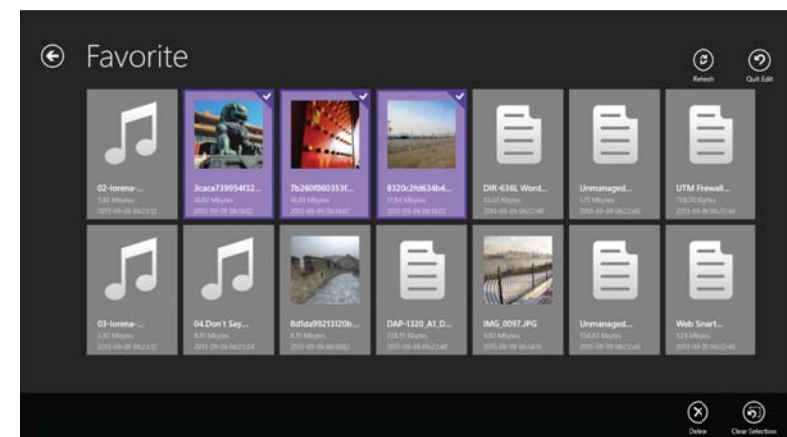
Tap to leave the editing screen.



Tap to delete the selected file or files.



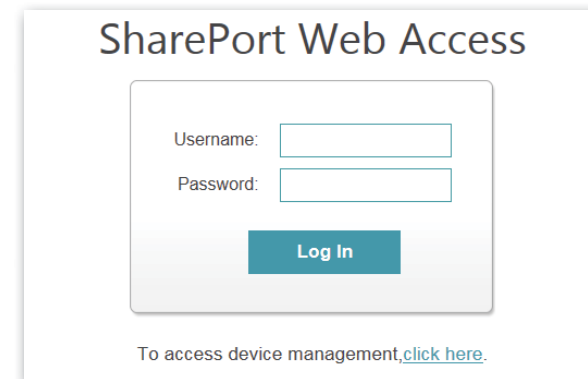
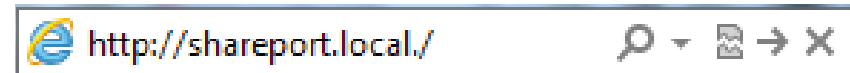
Tap to deselect all selected files.




Using SharePoint Web Access

SharePort Web Access lets you stream music, photos, and movies from a USB drive attached to your DIR-510L through a Web browser. You can also download and upload files to and from a computer through the Web browser interface.

- Type **http://shareport.local.** in your browser's URL to take you to the SharePort Web Access log in page.
- Log in with your admin password or a SharePort Username and Password.



At the main menu, you can browse the files stored on your USB drive by file type.

- Click  to browse by folders.



The folder browser section will show folder hierarchy at the left and files at the right. You can quickly browse directories and perform operations by using the buttons in the folder browser view.

- Click  to return to the main menu.

To create a new folder:

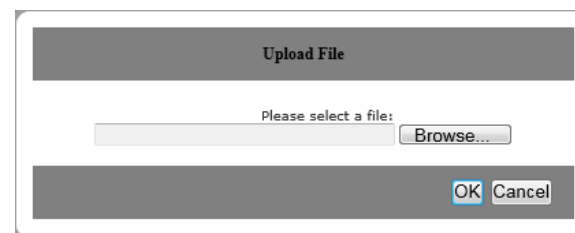
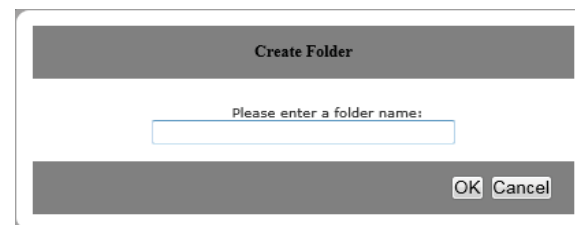
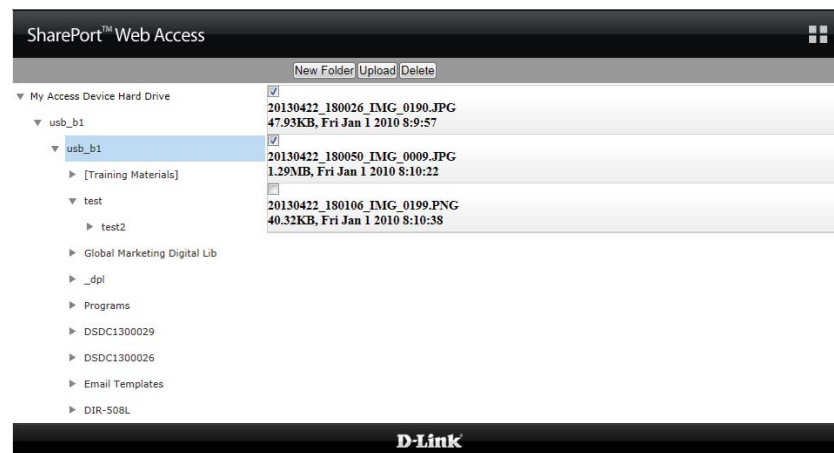
- Click **New Folder** in the current directory.
- Enter a folder name in the Create Folder pop-up.
- Click **OK**. The new folder will appear in the left column.

To upload a file:

- Click **Upload** to upload a file to the current folder.
- In the pop-up browse to the file you wish to upload.
- Click **OK**. The file will appear after the browser refreshes.

To delete a file:

- Tick the checkbox next to the files you wish to delete.
- Click **Delete** and a dialog box will appear.
- Click **OK** to confirm.



Music

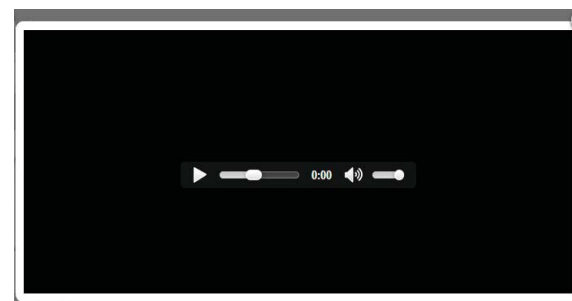
You can go to the Music section to browse and play the music files on your storage. Click **Back** to return to the main menu.

- Click on the audio filename to play it in the browser.



You can pause, seek, mute and adjust the volume in the window.

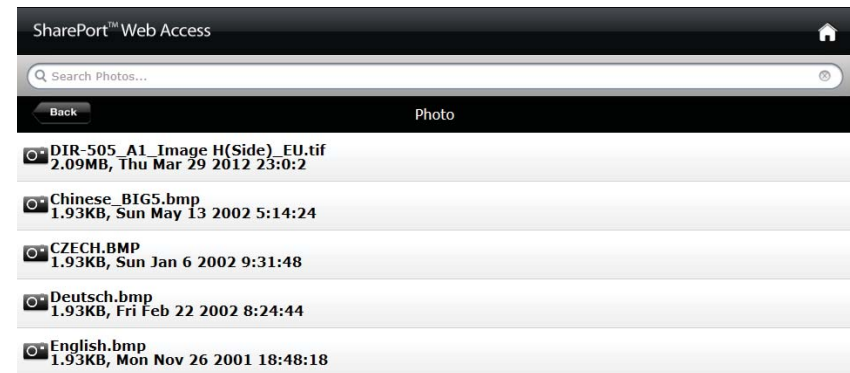
- Close the window to end playback.



Pictures

You can go to the Pictures section to browse and view the image files on your storage. Click **Back** to return to the main menu.

- Click on the image name to view it in the browser.



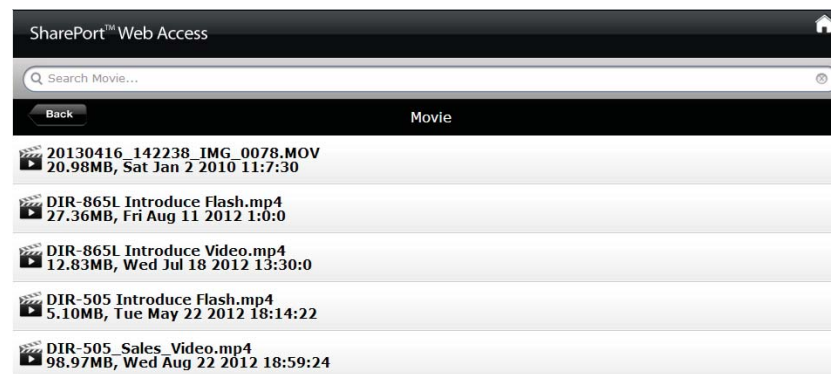
- Hover your mouse over the left or right side of the image and click < or > to view the previous or next image.



Videos

You can go to the Videos section to browse and play the video files on your storage. Click **Back** to return to the main menu.

- Click on the video file to open the file in a window for streaming.



You can pause, seek, mute, adjust the volume, and activate full screen mode in the window controls.

- Close the window to end playback.

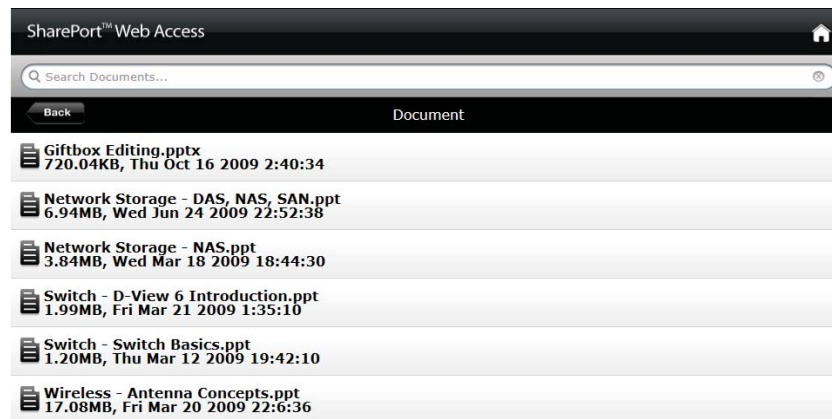
Note: Depending on your browser, the video file may be played back using the default player associated with that file format.



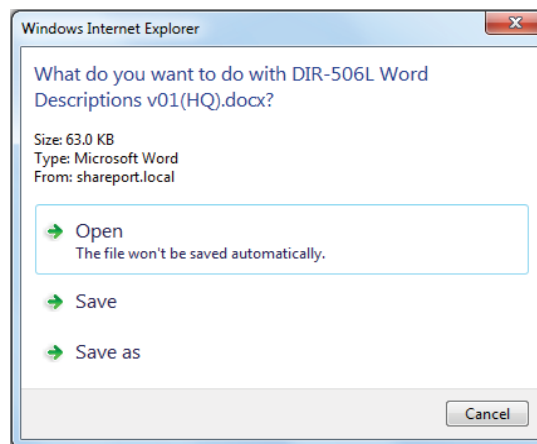
Documents

You can go to the Documents section to open and save files from your storage to your computer. Click **Back** to return to the main menu.

- Click on the filename to open the file.



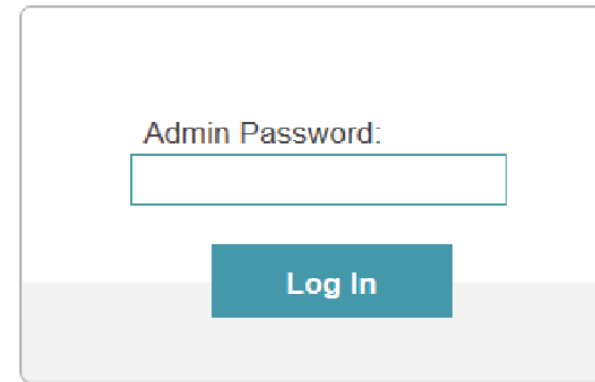
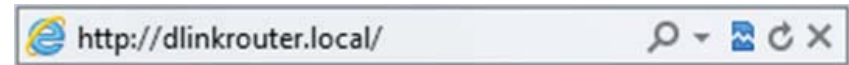
- Depending on the file type, the default program will be started or a pop-up may ask you to open or save the file.



Configuration

Before you can use your DIR-510L, you will need to access its configuration utility by using a Web browser.

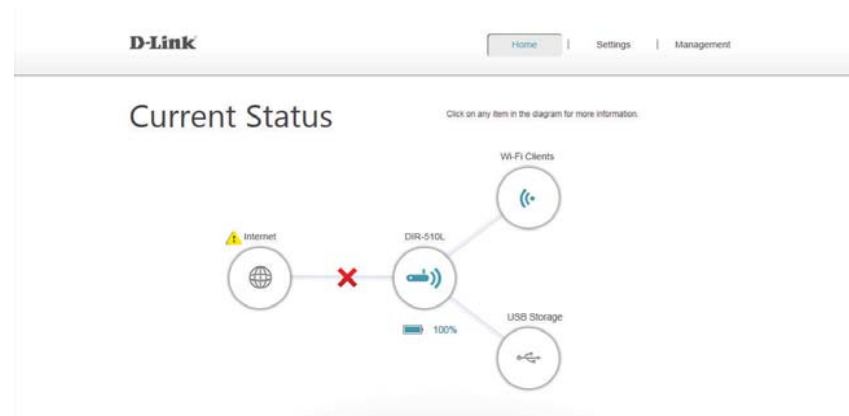
- To access the configuration utility of the DIR-510L, open a Web browser and enter **http://dlinkrouter.local.** or **http://dlinkrouter** in the address bar.
- Enter your password for the Admin account.
By default, the password is blank.
- Click **Log In**.







The router's home page will open, and you can check its current status, start a wizard, and navigate to the different settings of the DIR-510L.

The bar at the top of the page has quick access to **Settings** and **Management** functions, and you may quickly jump back **Home** at any time.

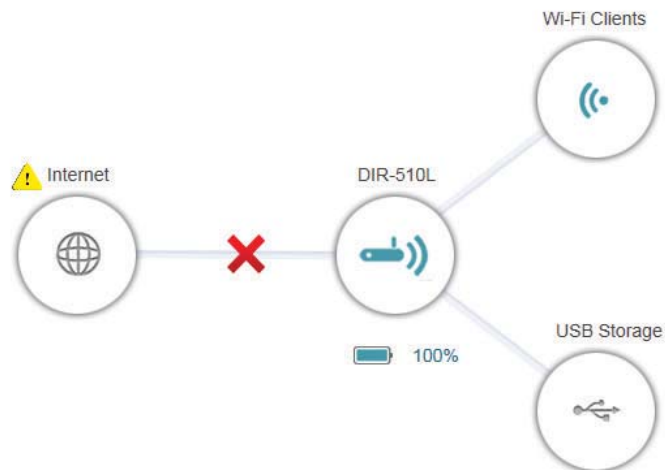
Note: The system will automatically log out after a period of inactivity.



Home

The Home page will display a diagram with icons indicating the statuses of various functions and connections. Clicking on an icon with an  next to it will start a wizard for that function. You may also click on the  to configure your Internet connection. If the link to the Internet shows , this means your router has been assigned an uplink IP but does not have Internet access. You will need to contact your service provider. If the link is showing a , it means you are connected to the Internet.

Current Status



Internet: The Internet icon indicates the status of the Internet connection to the router. It is grey if there is no connection, and blue if a connection is established.

DIR-510L: The router icon indicates the status of the Wi-Fi security on the DIR-510L. It is grey if it is unsecured, and blue if your Wi-Fi network name (SSID) and password have been set.

Wi-Fi Clients: The Wi-Fi icon indicates if there are clients currently connected to the router via Wi-Fi. It will be blue if there are active connections.

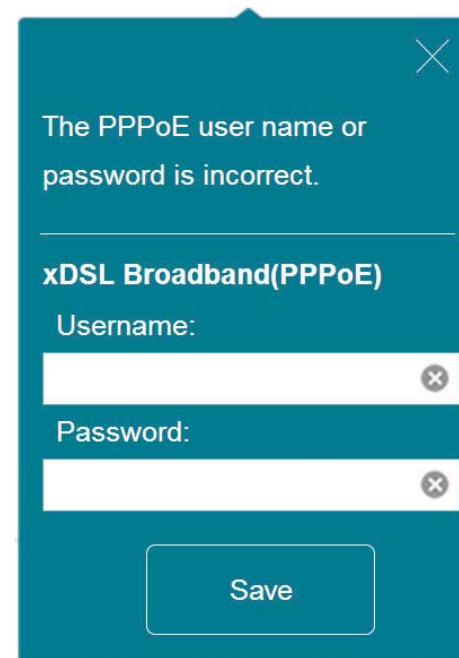
USB Storage: The USB icon will be blue if you have connected a USB storage device to the router.

Internet Broadband Ethernet

If you have connected the DIR-510L to a cable modem via an Ethernet cable, your Internet should be connected and ready for use. The Internet icon will be blue and the connection will have a check mark ✓.

If you have connected the DIR-510L to an xDSL modem via an Ethernet cable but can not access the Internet:

- Click on the Internet icon to start the wizard.
- Enter the Username and Password as provided by your Internet Service Provider.
- Click **Save**.



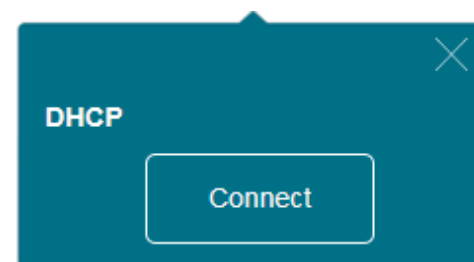
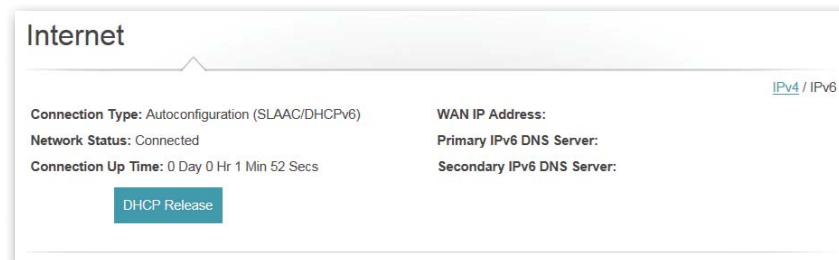
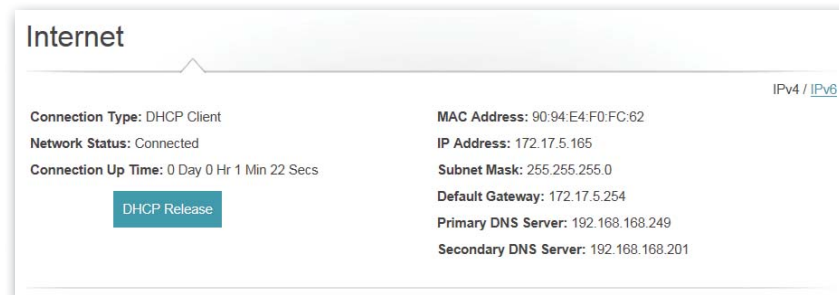
Once you are connected:

- Click on the Internet icon to display the IPv4 network details below the diagram. You can view the IPv6 details by clicking at the top right.

Note: This information will be saved as an xDSL Broadband (PPPoE) Internet Profile for future use.

- Click on **DHCP Release** if you wish to disconnect from the Internet.

- To reconnect to the Internet, you may click the Internet icon and then click **Connect** in the pop-up dialog to enable DHCP.



3G/4G Mobile Broadband

You can connect a compatible 3G/4G USB adapter to the USB port on the DIR-510L to access the Internet. Depending on your mobile service provider, you may have to input optional settings before use. You may need to contact your service provider regarding these details.

PIN code (optional): Enter the 4-digit PIN for your SIM card.

- Click **Save** to store the settings.

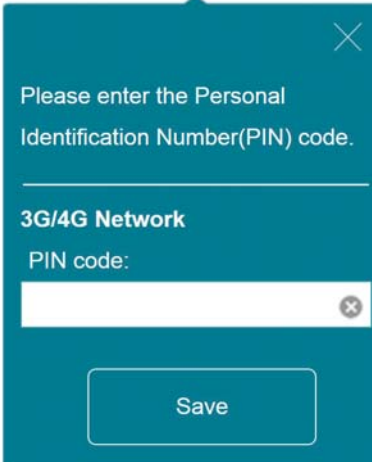
APN: Enter your service provider's APN.

Dial-Up Number (optional): Enter the dial-up number required by your service provider.

Username (optional): Enter the username provided by your service provider.

Password (optional): Enter the password provided by your service provider.


- Click **Save** to store the settings.



Please enter the Personal Identification Number(PIN) code.

3G/4G Network

PIN code:



A 3G/4G broadband profile was not retrieved or the dial-up attempt failed.

3G/4G Network

APN:

Dial-up Number:(optional)

Username:(optional)

Password:(optional)

When you are connected to the Internet via mobile broadband, the Internet icon should be blue and the link will have a green check mark ✓.

Clicking on the Internet icon will display the 3G/4G network details. You may click on the **Disconnect** button to drop the 3G/4G connection .

Connection Type: Displays whether it is a 3G/4G network.

Operator: Displays the country name and service provider.

Network Status: Displays the status of the connection to the 3G/4G network.

Connection Up Time: Displays the number of days, hours, minutes, and seconds the router has been connected to the 3G/4G network.

MAC Address: Displays the MAC address of the 3G/4G adapter.

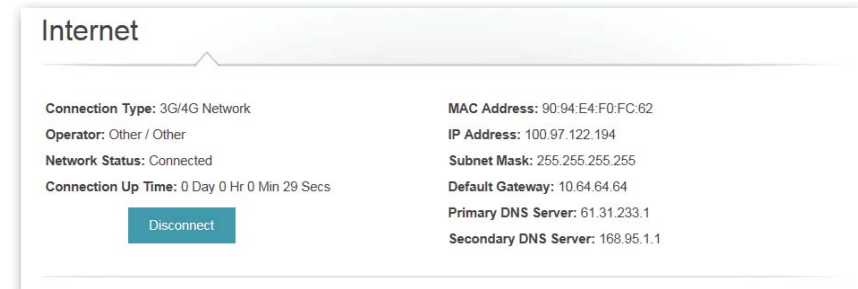
IP Address: Displays the IP address provided to the router.

Subnet Mask: Displays the subnet mask of the 3G/ 4G network.


Default Gateway: Displays the default gateway of the 3G/4G network.

Primary DNS Server: Displays the primary DNS server of the 3G/4G network.

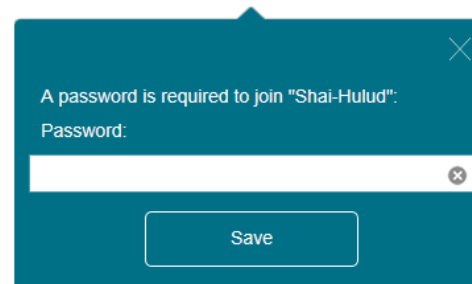
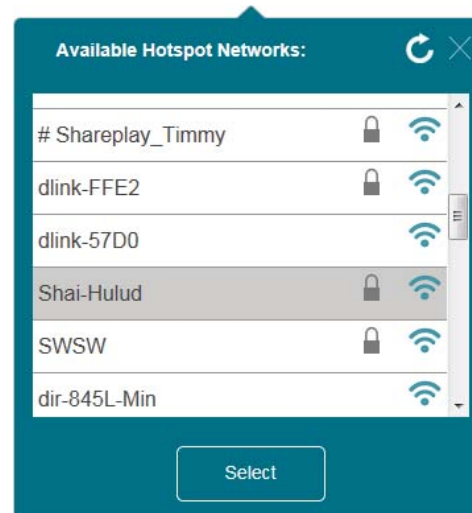
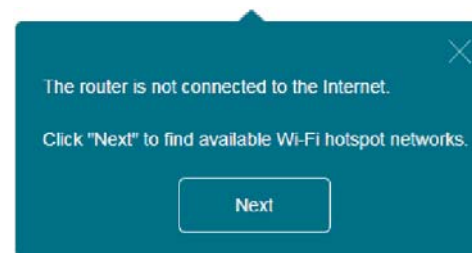
Secondary DNS Server: Displays the secondary DNS server of the 3G/4G network.



Wi-Fi Hotspot

On the Home page, when you wish to connect to the Internet via a Wi-Fi hotspot, there will be a  next to the Internet icon. Click it to start the wizard.

- Click **Next** to scan available Wi-Fi networks.
- Click on the hotspot network you wish to connect to and click **Select**.
- You will need to enter a password if there is a lock icon next to that network. Enter the password and click **Save**. You will need to wait while the router connects to the network.



Once you are connected, the Internet icon will be blue and the status diagram will show a green check mark ✓ when the connection is established. You can now click on the Internet icon in the Current Status diagram to see details of the connection. You may also click on the button to **Disconnect** from this network .

Connection Type: Displays whether it is a hotspot network connection.

Network Status: Displays the status of the connection to the hotspot network.

Hotspot Name (SSID): Displays the SSID or the name of the hotspot network.

Password: Displays the password of the hotspot network.

Connection Up Time: Displays the number of days, hours, minutes, and seconds the router has been connected to the hotspot network.

MAC Address: Displays the MAC address of the hotspot router.

IP Address: Displays the IP address provided to the router.

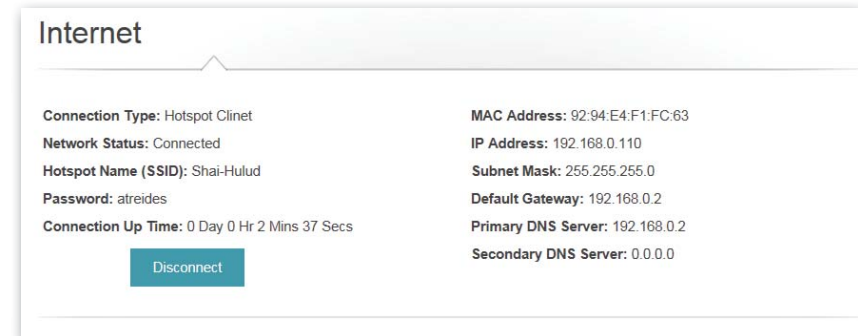
Subnet Mask: Displays the subnet mask of the hotspot network.

Default Gateway: Displays the default gateway of the hotspot network.

Primary DNS Server: Displays the primary DNS server of the hotspot network.


Secondary DNS Server: Displays the secondary DNS server of the hotspot network.

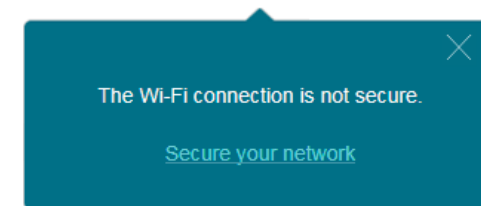
Note: These connection details will be saved as a Wi-Fi Hotspot under Internet Profiles to allow automatic connections to this network in the future. For more information, please refer to "Internet Profiles" on page 87.



Router

On the home page, you can proceed to secure your wireless network. To secure your network, you may customize your Wi-Fi Network Name (SSID) and Password by clicking on the router icon. You may also customize the 2.4 GHz and 5 GHz network settings independently.

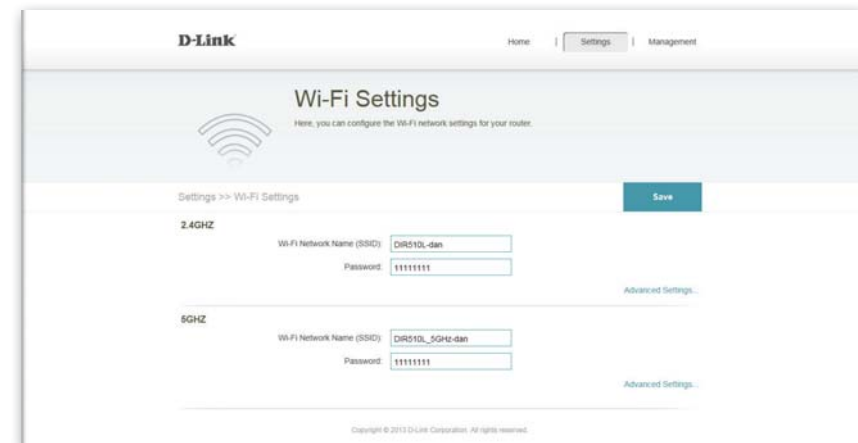
- Click on the router icon with the  next to “DIR-510L” to start the wizard.
- Click **Secure your network** in the pop-up.




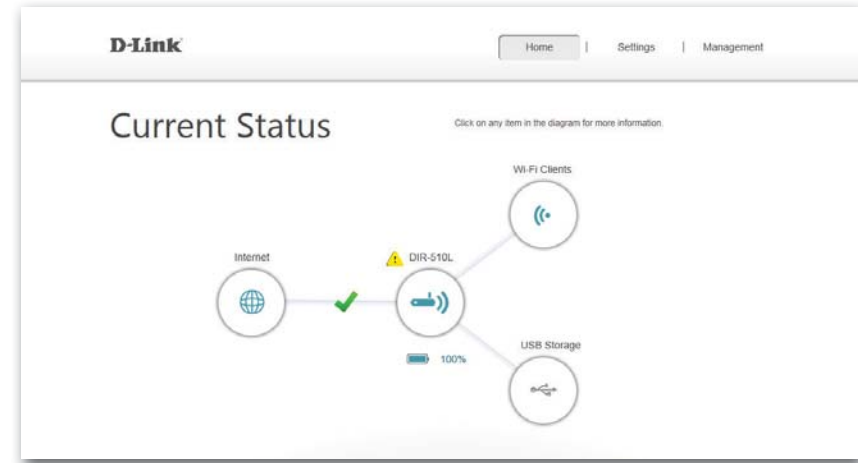
On the Wi-Fi Settings page, you can customize the Wi-Fi Network Name (SSID) and Password for both bands.

Note: Enter a password with a minimum of 8 characters.

- Click **Save**. The settings will take effect and you will be disconnected from the network.



Devices may now connect to the network using the new SSID and password. The  will no longer be displayed on the Home page.



- Clicking on the router icon will now display Network, Wi-Fi, and Guest Zone information.
- Clicking on the links will take you to their respective pages under **Settings** where you can further configure advanced settings.



For Network, please refer to "Network (LAN)" on page 95.

For Wi-Fi, please refer to "Wi-Fi" on page 93.

For Guest Zone, please refer to "Guest Zone" on page 100.

Wi-Fi Clients

On the Home page, clicking on the Wi-Fi Clients icon takes you to a page where you can see a list of all devices connected to your Wi-Fi network on both the 2.4 GHz and 5 GHz bands.

- Click on the Wi-Fi icon to access Wi-Fi client details.



The box for each device will show its connection status, name, vendor, IP address, and access status. To change the settings for each device, you can click on the pencil icon to bring up a new window.



Name: Enter a custom name for this client.

Vendor: Displays the vendor of the device.

IP Address: Enter a specific IP address for this client.

Reserved IP: Enable to reserve this IP address for this client.

Access: Allow or Block access to the router.

- Click **Save** when you are done.

USB Storage

If you have a USB drive attached to the DIR-510L, you can view the storage details from the Home page via the USB Storage pane.

- Click on the USB Storage icon to access storage details.



USB1/USB2

Available Space: Displays the amount of free space on the USB storage.

Total: Displays the total capacity of the USB storage.

DLNA MEDIA SERVER

Status: Displays if DLNA is enabled or disabled.

Service Name: Displays the name of the DLNA server as it appears to other devices on the network.

SHAREPORT

Status: Displays if SharePort is enabled or disabled.

For more information on DLNA and SharePort settings, please refer to "SharePort" on page 97.

USB Storage

USB1

Available Space: 1.7GB Total: 3.7GB



USB2

Available Space: Total:



DLNA Media Server

Status: Enabled

Service Name: DIR510L

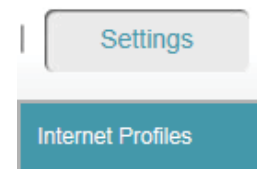
SharePort

Status: Enabled

Settings

Internet Profiles

Internet Profiles are networks you want the device to remember and reconnect to in the future. Profiles are created automatically the first time you connect to a particular network. The Profile List shows all of the saved profiles and you can select the profile you wish to use by clicking on the radio button. You may also Add, Edit, and Delete profiles from this page.



To Add a profile:

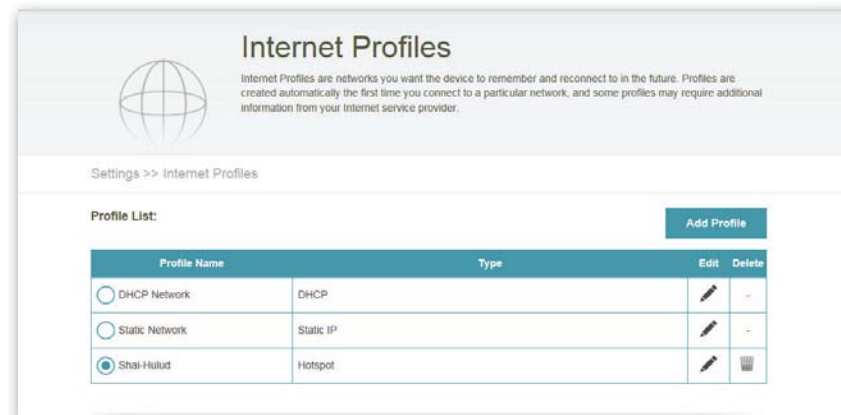
- Click **Add Profile**.
- On the next screen, select a connection type from the drop down menu.
- Fill in the required information under the connection type. If required, click on **Advanced Settings...** to fill in details required by the ISP.
- Click **Save** to store the profile.

To Edit a profile:

- Click on the pencil icon next to the profile you want to edit.

To Delete a profile:

- Click on the trash icon next to the profile you want to delete.



DHCP

Depending on your connection method and your service provider, you may select the default DHCP profile to automatically connect to the Internet. Click on the pencil to edit it. Click **Save** to store your settings.

Host Name: Enter the name of your host.

MAC Address Clone: Type in the MAC address or select the client from the drop-down menu and click <<.



xDSL Broadband (PPPoE)

Depending on your Internet Service Provider, you may need to configure the PPPoE settings in order to connect to the Internet. You may need to contact your ISP for this information. Click **Save** to store your settings.

My Internet Connection is: Select xDSL Broadband (PPPoE) from the drop-down list.

Profile Name: Enter a custom name for this profile.

Username: Enter the username assigned by your ISP.

Password: Enter the password assigned by your ISP.

ADVANCED SETTINGS

Address Mode: Select Static IP if your ISP assigned you the IP address, Subnet Mask, ateway, and DNS Server addresses. Otherwise, select Dynamic.

Service Name: Enter the ISP Service Name (optional).

Reconnect Mode: Select either Always-on, On-Demand, or Manual.

Primary DNS Address: Enter the Primary DNS Server Address.

Secondary DNS Address: Enter the Secondary DNS Server Address.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1492 is the default MTU.

Note: If you are using a PPPoE connection, you will need to remove or disable any PPPoE client software running on your computers.

3G/4G Wireless USB

Depending on the service provider for your 3G/4G wireless service, you may need to configure the 3G/4G settings in order to connect to the Internet. You may need to contact your ISP for this information. Click **Save** to store your settings.

My Internet Connection Is: Select 3G/4G Wireless USB from the drop-down list.

Profile Name: Enter a custom name for this profile.

Dial-up Number: Enter your service provider's dial-up number.

APN: Enter the password assigned by your ISP.

ADVANCED SETTINGS

Country: Select the country of your service provider.

ISP: Select your provider from the drop-down menu.

Username: Enter the username assigned by your service provider.

Password: Enter the password assigned by your service provider.

Authentication Protocol: Select between Auto(PAP+CHAP), PAP, or CHAP, depending on your service provider.

SIM Card Status: Displays whether your SIM card is locked or unlocked.

Reconnect Mode: Select between Always-on, On Demand, or Manual.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1500 is the default MTU.

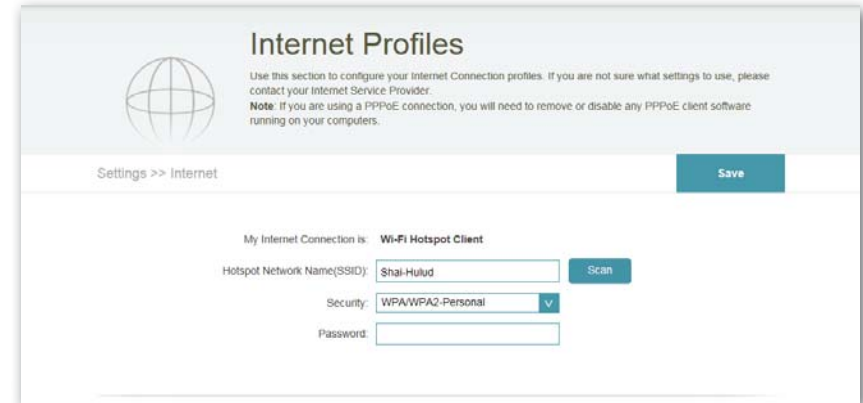
Wi-Fi Hotspot Client

This is the Wi-Fi Hotspot page; you may need to configure the settings in order to connect to the Internet. You may need to contact your hotspot provider for this information. Click **Save** to store your settings.

Hotspot Network Name (SSID): Enter the name of your hotspot or click **Scan** to select from a list. Please refer to “Wi-Fi Hotspot” on page 81 for detailed steps.

Security: Select None, WEP, or WPA/WPA2-Personal encryption depending on the security of your hotspot.

Password: Enter the hotspot network password.



The screenshot shows the 'Internet Profiles' configuration page. At the top left is a globe icon. The title is 'Internet Profiles'. Below the title is a note: 'Use this section to configure your Internet Connection profiles. If you are not sure what settings to use, please contact your Internet Service Provider. Note: If you are using a PPPoE connection, you will need to remove or disable any PPPoE client software running on your computers.' Below this is a breadcrumb 'Settings >> Internet' and a 'Save' button. The main form area shows 'My Internet Connection is: Wi-Fi Hotspot Client'. There are three input fields: 'Hotspot Network Name(SSID):' with the value 'Shai-Hulud' and a 'Scan' button; 'Security:' with a dropdown menu set to 'WPA/WPA2-Personal'; and 'Password:' with an empty text box.

Static IP

Depending on your Internet Service Provider, you may need to configure the static IP settings in order to connect to the Internet. You may need to contact your service provider for this information. Click **Save** to store your settings.

My Internet Connection Is: Select Static IP from the drop-down list.

IP Address: Enter the IP address assigned by your ISP.

Subnet Mask: Enter the Subnet Mask assigned by your ISP.

Default Gateway: Enter the Gateway assigned by your ISP.

Primary DNS Address: Enter the Primary DNS Address assigned by your ISP.

ADVANCED SETTINGS

Secondary DNS Address: Enter the Secondary DNS Address assigned by your ISP.

MTU: Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1500 is the default MTU.

Internet Profiles

Use this section to configure your Internet Connection profiles. If you are not sure what settings to use, please contact your Internet Service Provider.
Note: If you are using a PPPoE connection, you will need to remove or disable any PPPoE client software running on your computers.

Settings >> Internet Save

My Internet Connection Is: ▼

IP Address:

Subnet Mask:

Default Gateway:

Primary DNS Address:

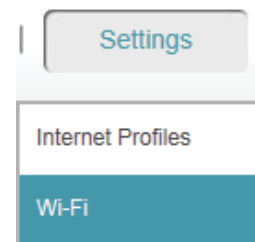
[Advanced Settings ...](#)

Secondary DNS Address:

MTU:

Wi-Fi

To secure your Wi-Fi network manually and/or access advanced settings, you can go to the **Wi-Fi** page under **Settings**. You can configure the settings for both the 2.4 GHz and 5 GHz bands on this page. Click **Save** to store your settings.



2.4 GHz

Wi-Fi Network Name (SSID): Enter a custom name for your 2.4 GHz network.

Password: Enter a custom password for your network.

ADVANCED SETTINGS

Security Mode: Select from None or WPA/WPA2-Personal

802.11 Mode: 802.11b Only - Select only if all of your wireless clients are 802.11b.

802.11g Only - Select only if all of your wireless clients are 802.11g.

802.11n Only - Select only if all of your wireless clients are 802.11n.

Mixed 802.11g/b - Select if you are using both 802.11g and 802.11b wireless clients.

Mixed 802.11n/g - Select if you are using both 802.11n and 802.11g wireless clients.

Mixed 802.11b/g/n - Select if you are using both 802.11b, 802.11g, and 802.11n wireless clients.

Wi-Fi Channel: Change the channel setting for the DIR-510L. By default the channel is set to Auto.

Transmission Power: Select from High, Medium, or Low.

Channel Width: Select between Auto 20/40 MHz or 20 MHz.

 A screenshot of the 'Wi-Fi Settings' web interface. The page title is 'Wi-Fi Settings' with a subtitle 'Here, you can configure the Wi-Fi network settings for your router.' Below the title is a 'Save' button. The main content area is for the '2.4GHz' band. It includes a 'Wi-Fi Network Name (SSID)' field with the value 'DIR510L-dan', a 'Password' field with '11111111', and an 'Advanced Settings' link. Below these are several dropdown menus: 'Security Mode' set to 'WPA/WPA2-Personal', '802.11 Mode' set to 'Mixed 802.11b/g/n', 'Wi-Fi Channel' set to 'CH15', 'Transmission Power' set to 'Medium', and 'Channel Width' set to 'Auto 20/40 MHz'.

5 GHz

Wi-Fi Network Name (SSID): Enter a custom name for your 5 GHz network.

Password: Enter a custom password for your network.

ADVANCED SETTINGS

Security Mode: Select from None or WPA/WPA2-Personal

802.11 Mode: 802.11a Only - Select only if all of your wireless clients are 802.11b.

802.11n Only - Select only if all of your wireless clients are 802.11g.

Mixed 802.11a/n - Select if you are using both 802.11a and 802.11n wireless clients.

Mixed 802.11a/n/ac - Select if you are using both 802.11a 802.11n, and 802.11ac wireless clients.

Wi-Fi Channel: Change the channel setting for the DIR-510L. By default the channel is set to Auto.

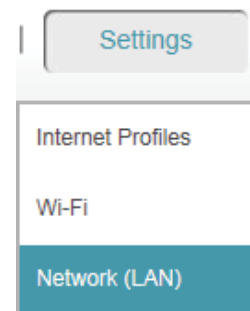
Transmission Power: Select from High, Medium, or Low.

Channel Width: Select between Auto 20/40/80, Auto 20/40 MHz, or 20 MHz.

The screenshot shows the configuration page for the 5GHz network. At the top, there are two input fields: "Wi-Fi Network Name (SSID)" with the value "DIR510L_5GHz-dan" and "Password" with the value "11111111". To the right of the password field is a link for "Advanced Settings". Below this, there is a section for "Advanced Settings" with five dropdown menus: "Security Mode" set to "WPA/WPA2-Personal", "802.11 Mode" set to "Mixed 802.11a/n/ac", "Wi-Fi Channel" set to "Auto", "Transmission Power" set to "Medium", and "Channel Width" set to "Auto 20/40/80 MHz". At the bottom of the page, there is a small copyright notice: "Copyright © 2013 D-Link Corporation. All rights reserved."

Network (LAN)

You can configure the local network settings for your router by going to **Network (LAN)** under **Settings**. Click **Save** to store your settings.



NETWORK SETTINGS

Device IP Address: Enter the IP address of the router. The default IP address is 192.168.0.1.

If you change the IP address, once you click **Save Settings**, you will need to enter the new IP address in your browser to get back into the configuration utility.

Subnet Mask: Enter the Subnet Mask. The default subnet mask is 255.255.255.0.

Device Name: Enter a name for the router.

Local Domain Name: Enter the Domain name (Optional).

Enable DNS Relay: Disable DNS Relay to transfer the DNS server information from your ISP to your computers. If enabled, your computers will use the router for a DNS server.

 A screenshot of the 'Network' configuration page. At the top, there is a header 'Network' with a sub-header 'Settings >> Network' and a 'Save' button. Below the header, there is a section titled 'Network Settings' with the following fields:

- Device IP Address: 192.168.100.1
- Subnet Mask: 255.255.255.0
- Device Name: http:// dlinkrouter .local.
- Local Domain Name: (empty field)
- Enable DNS Relay: Enabled (checkbox checked)

DHCP SERVER

Status: Slide to enable or disable the DHCP server function.

DHCP IP Address Range: Enter the starting and ending IP addresses for the DHCP server's IP assignment.

Note: *If you statically (manually) assign IP addresses to your computers or devices, make sure the IP addresses are outside of this range or you may have an IP conflict.*

DHCP Lease Time: The length of time for the IP address lease. Enter the Lease time in minutes.

Always Broadcast: Enable this feature to broadcast your network's DHCP server to LAN/WLAN clients.

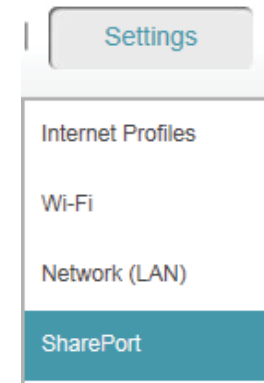
The screenshot shows the 'DHCP Server' configuration page. It includes the following settings:

- Status: Enabled (toggle switch)
- DHCP IP Address Range: 192.168.100.100 to 192.168.100.199
- DHCP Lease Time: 1440 (minutes)
- Always Broadcast: Enabled (toggle switch)

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SharePort

On this page, you can configure the various storage sharing features of your router. The DLNA server allows you to stream stored pictures, music, and video to another DLNA-compatible device on your network. SharePort Web Access allows you to use a Web browser to access stored files from a PC connected to your network. Click **Save** to store your settings.



DLNA MEDIA SERVER

Status: Slide to enable or disable the DLNA Media Server function.

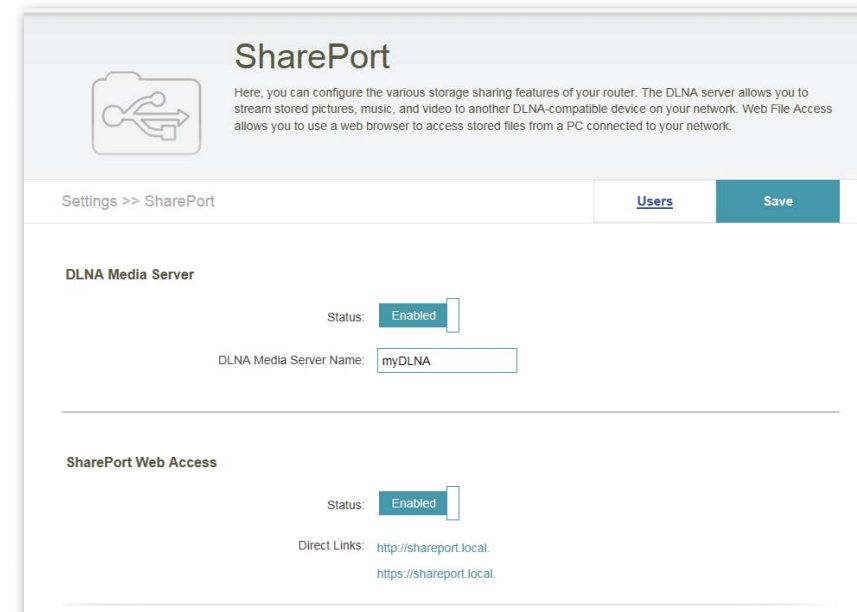
DLNA Media Server Name: Enter a name for the DLNA Media Server.

SHAREPORT WEB ACCESS

Status: Slide to enable or disable the SharePort Web Access function.

Direct Links: Click on the first link to reach your SharePort page using HTTP protocol.

Click on the second link to reach your SharePort page using HTTPS protocol.



You can manage your user accounts and their access privileges for SharePort Web Access by clicking on the Users tab.

The User List displays the Username, Access Path, and Permissions of all saved users.

USERS

- To Edit a user, click on the pencil icon.
- To Delete a user, click on the trash icon.
- To Create a user, click on **Create a New User +**.

A window with the following fields will appear:

Username: Enter a username for the new user.

Password: Enter a password for the new user.

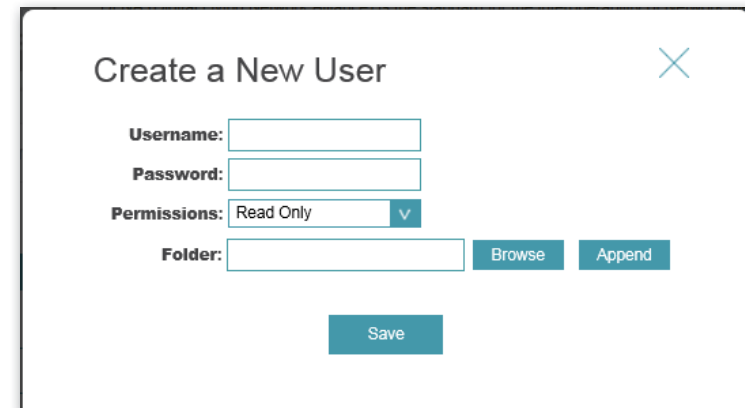
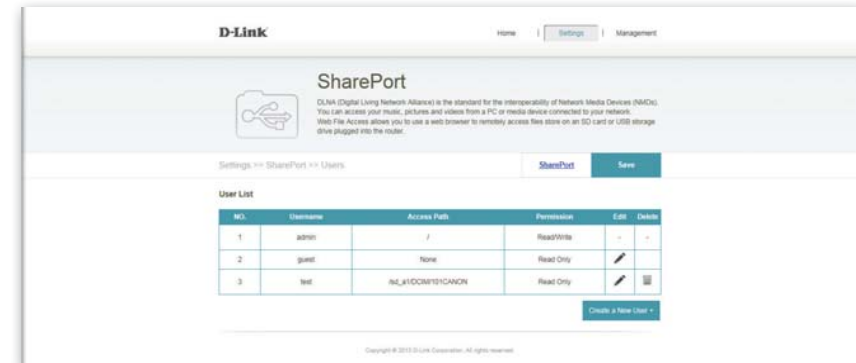
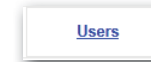
Permissions: Select Read Only or Read/Write privileges from the drop-down.

Folder: Click **Browse** to select a folder that you want this user to access. You can browse to lower directories by clicking on the rightward-facing arrow.

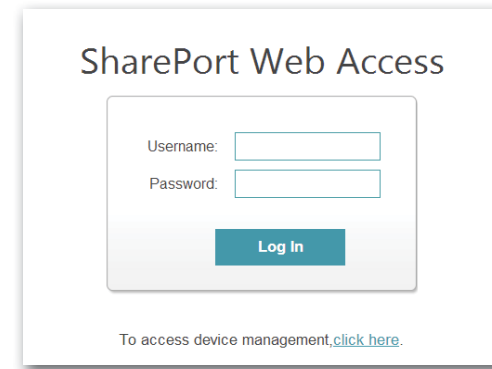
Click on the folder name to add it. Then, click **Append**.

If you wish to add multiple sub-directories, repeat the steps above. Click **Save**.

- Click **Save** to store your settings.

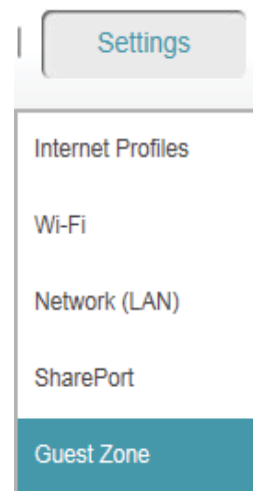


You can now log in to SharePort Web Access with any of the accounts you created by typing **http://shareport.local** in your browser URL to access the log in page.



Guest Zone

You can create a Wi-Fi Guest Zone to share Internet access with guests on a separate Wi-Fi network for both the 2.4 GHz and 5 GHz networks. This is useful when you wish to block guests from accessing devices on your home network.



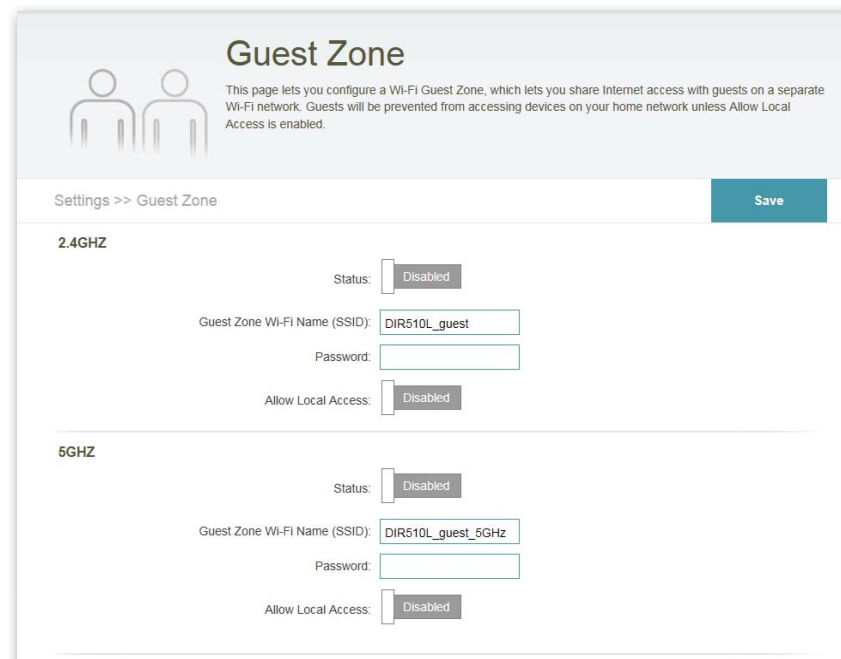
Status: Enable or disable the Guest Zone feature.

Guest Zone Wi-Fi Name (SSID): Enter a custom Guest Zone name.

Password: Enter a password for your Guest Zone.

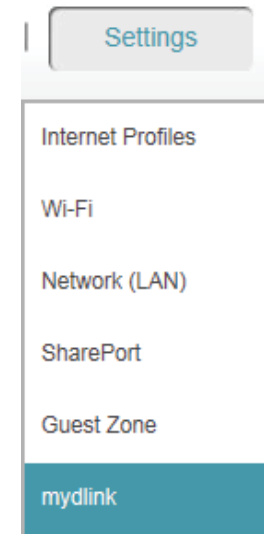
Allow Local Access: Enable or disable this feature to allow or block guests from accessing devices and files on your network.

- Click **Save** to store the settings.



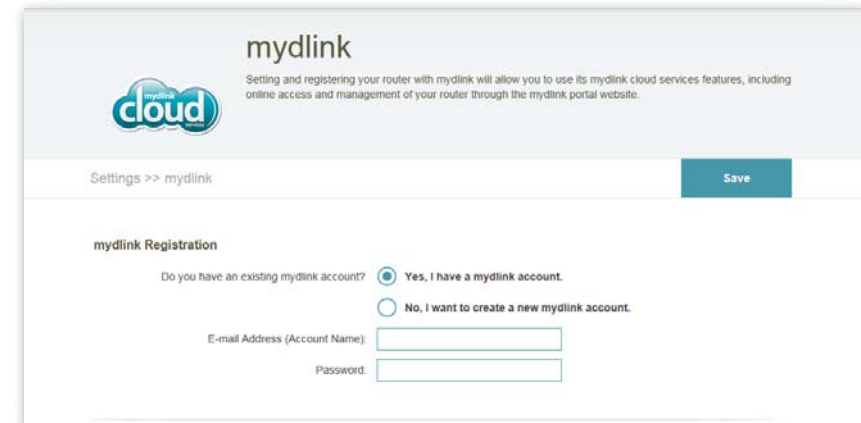
mydlink

Setting and registering your router with mydlink will allow you to use its mydlink cloud services features, including online access and management of your router through the mydlink portal website.



If you have an existing account:

- Select **Yes, I have a mydlink account.**
- Log in with the E-mail address and password that you signed up with.
- Click the **Save** button.

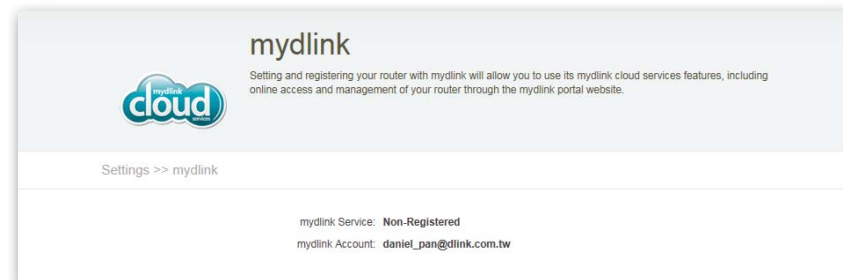
The screenshot shows the 'mydlink' registration page. At the top, there is a 'mydlink cloud' logo and a brief description of the service. Below the logo, the text reads 'mydlink cloud' and 'Setting and registering your router with mydlink will allow you to use its mydlink cloud services features, including online access and management of your router through the mydlink portal website.' The page has a breadcrumb trail 'Settings >> mydlink' and a 'Save' button. The main section is titled 'mydlink Registration' and contains the question 'Do you have an existing mydlink account?' with two radio button options: 'Yes, I have a mydlink account.' (which is selected) and 'No, I want to create a new mydlink account.' Below the radio buttons are two input fields: 'E-mail Address (Account Name):' and 'Password:'.

If you do not have an account:

- Select **No, I want to create a new mydlink account.**
- Fill in the following fields.
- Read and tick the checkbox next to **I accept the mydlink terms and conditions.**
- Click the **Sign Up** button.

Note: If you have not set an admin password, you will be asked to do so now. Click **Save**.

Accessing **Settings>mydlink** will now display a summary of your mydlink Service status and mydlink Account.



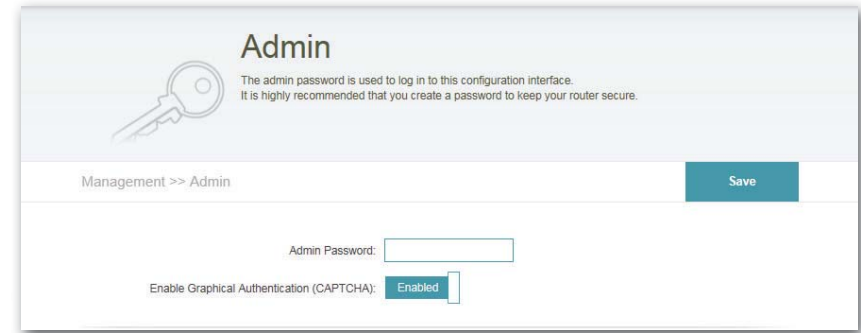
Note: After mydlink registration is completed, your router's default PPPoE connection will be set to **Always On**. If your ISP charges for usage, you may wish to manually choose **Dial On Demand** as your default setting, however, mydlink features may not work as intended.

Management Admin

On this page, you can change the admin security settings for logging in to the router configuration interface. It is highly recommended that you create a password with a minimum of 6 characters to keep your router secure. Click **Save** to store your settings.

Admin Password: Enter a password to secure administrative access to your router.

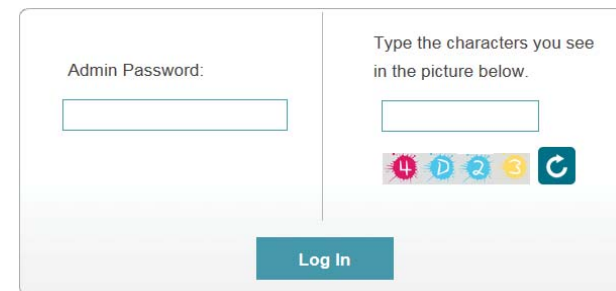
Enable Graphical Authentication (CAPTCHA): If enabled, you will be required to enter a CAPTCHA along with your password at the log in page.



The screenshot shows the 'Admin' configuration page. At the top, there is a key icon and the title 'Admin'. Below the title, a message states: 'The admin password is used to log in to this configuration interface. It is highly recommended that you create a password to keep your router secure.' The page has a breadcrumb 'Management >> Admin' and a 'Save' button. The 'Admin Password' field is empty. The 'Enable Graphical Authentication (CAPTCHA)' checkbox is checked and labeled 'Enabled'.

You will need to log back into the configuration interface with the new password.

If CAPTCHA has been enabled, you will need to enter the 4-digit code as well.



The screenshot shows the login page. It has two input fields: 'Admin Password:' and a CAPTCHA field. The CAPTCHA field contains a 4-digit code '1D23' with a refresh button. Below the fields is a 'Log In' button.

System

Here, you can save or restore your router settings to and from a file. You can also reset your router to the factory default settings and reboot the router.

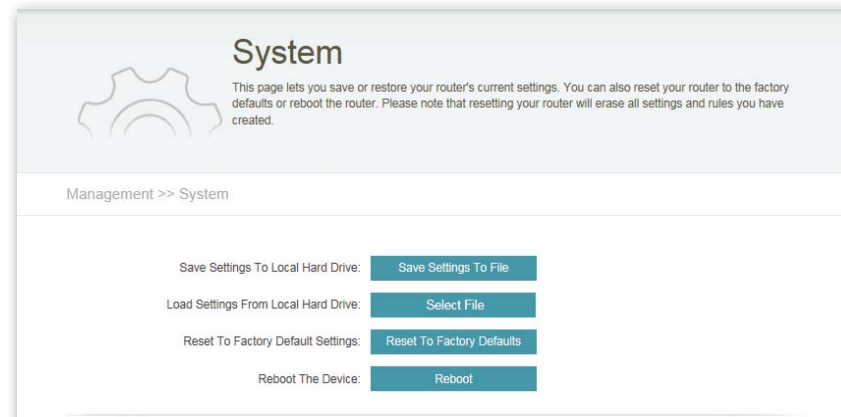
Save Settings to Local Hard Drive: Use this option to save the current router configuration settings to a file on the hard disk of the computer you are using. First, click the **Save Settings to File** button. A file dialog will appear, allowing you to select a location and file name for the settings.

Load Settings from Local Hard Drive: Use this option to load previously saved router configuration settings. First, click the **Select File** button to find a previously saved file of configuration settings. Then, click the **Restore Settings From File** button to transfer those settings to the router.

Reset to Factory Default Settings: This option will restore all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost, including any rules that you have created. Clicking **OK** in the window will require you to reconnect to this device using the default SSID and password.

Reboot Device: Click to reboot the router.

Note: Resetting your router here or via the RESET button will have the same effect as Reset to Factory Default Settings.



Upgrade

This page displays your current firmware version and language pack, and allows you to check for and download new firmware. After downloading the firmware, you can then upload it from this page. If you are using a language pack for your web UI, we recommend that you also download the latest version when upgrading the firmware to ensure that any changes in the interface are shown correctly.

FIRMWARE INFORMATION

Current Firmware Version: Displays the version of the installed firmware.

Current Firmware Date: Displays the date of the installed firmware.

Click **Check for New Firmware** to retrieve the latest version.

LANGUAGE PACK INFORMATION

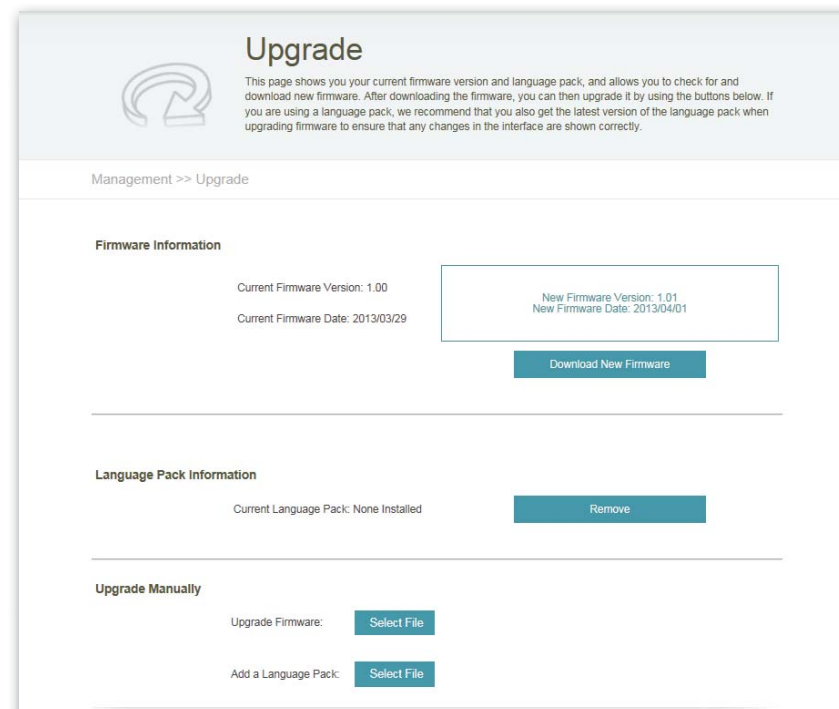
Current Language Pack: Displays the installed language pack. You can select your language on the login page.

Click **Remove** to uninstall any previously installed language packs.

UPGRADE MANUALLY

Upgrade Firmware: Click **Select File** to open a window and select a downloaded firmware file. Click **Upload** to install it.

Add a Language Pack: Click **Select File** to install a downloaded language pack. Click **Upload** to install it.



Statistics

This page provides statistics about data transmitted and received by your router through the Internet (WAN) on your router's 2.4 GHz and 5 GHz wireless networks. It also displays the status of the internal battery. The graph displays the real-time upstream and downstream transfer speeds depending on which tab (**Internet** or **Wi-Fi**) you are currently viewing.

The Blue line indicates the upload speeds and the red line indicates the download speeds.

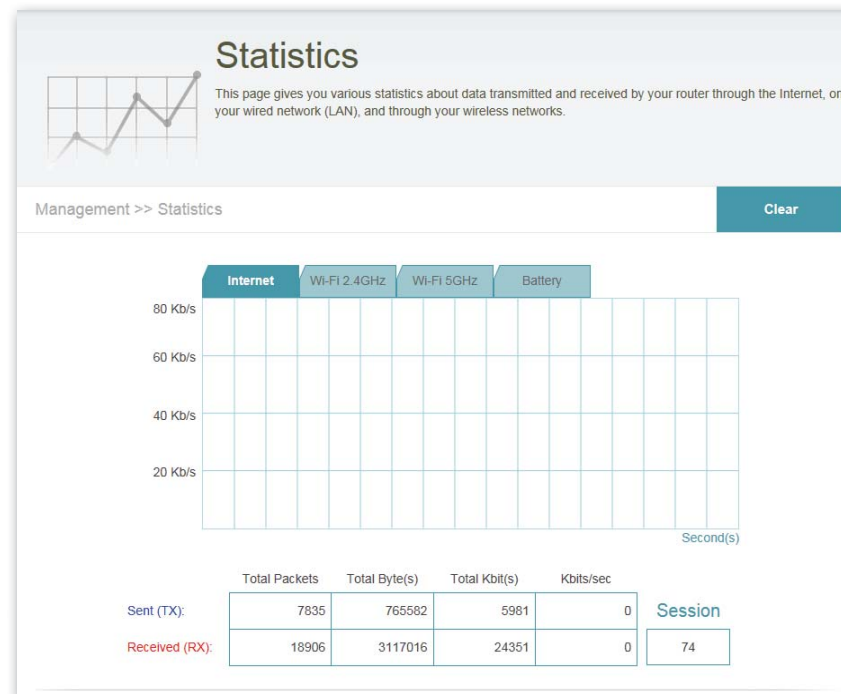
Click **Clear** to reset the statistics.

The table below displays the following in real-time:

- Total Packets
- Total Byte(s)
- Total Kbit(s)
- Kbits/sec
- Session (Internet only)

The Session box displays the number of active Internet sessions through your router. An Internet session is a conversation between a program or application on a LAN-side computer and a program or application on a WAN-side computer.

The **Battery** tab shows the remaining charge in percent.



Connecting a Wireless Client

WPS Button

The easiest and most secure way to connect your wireless devices to the router is WPS (Wi-Fi Protected Setup). Most wireless devices such as wireless adapters, media players, Blu-ray DVD players, wireless printers and cameras will have a WPS button (or a software utility with WPS) that you can press to connect to the router. Please refer to your user manual for the wireless device you want to connect to make sure you understand how to enable WPS. To connect a client, follow the steps below:

To connect your wireless devices to the router using WPS:

- Step 1** - Press the WPS button on the router for about 1 second.
The Power/Status LED will start to blink.
- Step 2** - Within 2 minutes, press the WPS button on your wireless client (or launch the software utility and start the WPS process).
- Step 3** - Allow up to 1 minute to configure. Once the Power/Status LED stops blinking, you will be connected and your wireless connection will be secure with WPA2.



Windows® 8

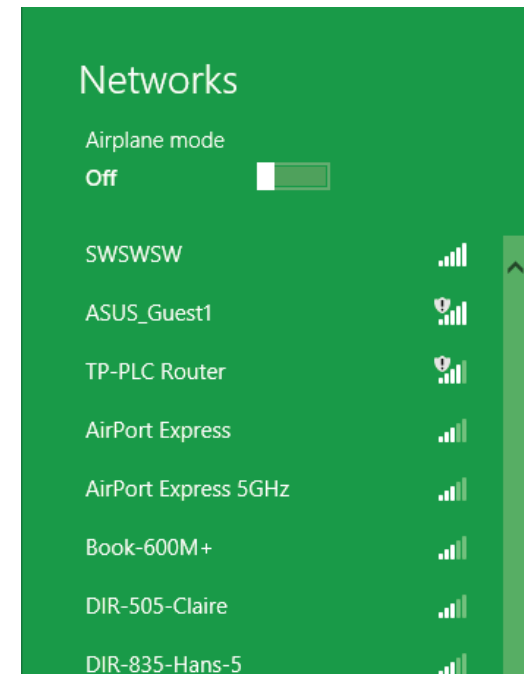
WPA/WPA2

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key (Wi-Fi password) being used.

To join an existing network, locate the wireless network icon in the taskbar, next to the time display.

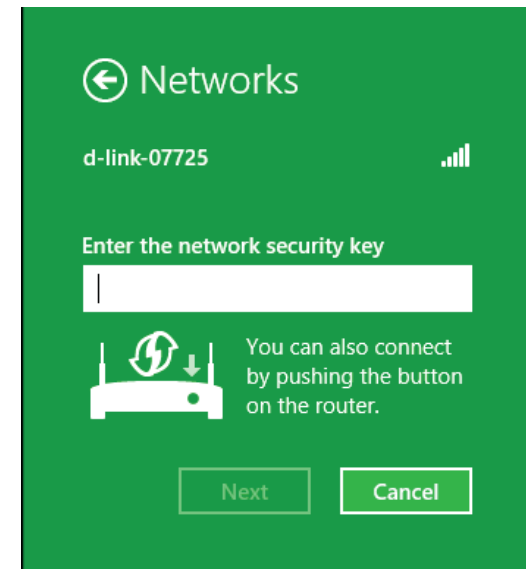


Clicking on this icon will display a list of wireless networks which are within connecting proximity of your computer. Select the desired network by clicking on the network name.

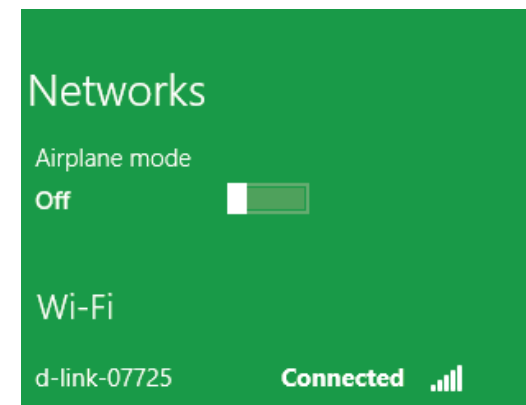


You will then be prompted to enter the network security key (Wi-Fi password) for the wireless network. Enter the password into the box and click **Next**.

If you wish to use Wi-Fi Protected Setup (WPS) to connect to the router, you can also press the WPS button on your router at this point to enable the WPS function.



When you have established a successful connection to a wireless network, the word **Connected** will appear next to the name of the network to which you are connected.



Windows® 7

WPA/WPA2

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Click on the wireless icon in your system tray (lower-right corner).



Wireless Icon

2. The utility will display any available wireless networks in your area.

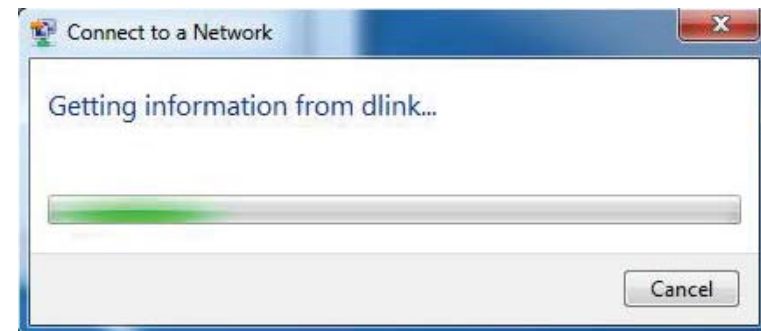


3. Highlight the wireless connection with Wi-Fi name (SSID) you would like to connect to and click the **Connect** button.

If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the Networking Basics section in this manual for more information.

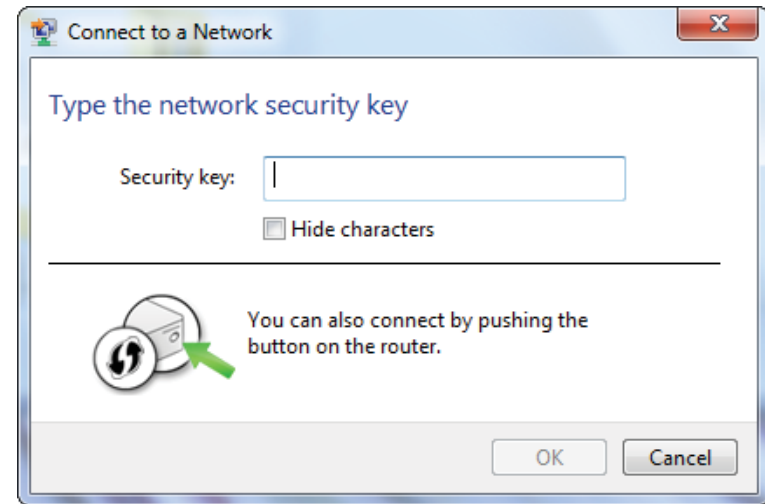


4. The following window appears while your computer tries to connect to the router.



5. Enter the same security key or passphrase (Wi-Fi password) that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.



Windows Vista®

Windows Vista® users may use the built-in wireless utility. If you are using a third-party utility or Windows® 2000, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a “site survey” option similar to the Windows Vista® utility as seen below.

If you receive the **Wireless Networks Detected** pop-up, click on the center of the window to access the utility.

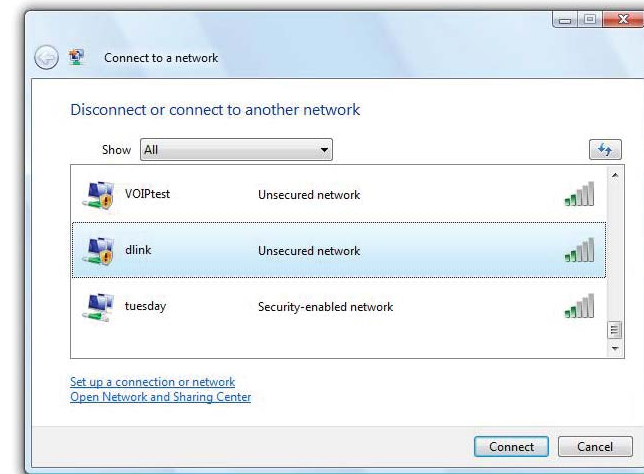
or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **Connect to a network**.



The utility will display available wireless networks in your area. Select a network (displayed using the SSID) and click the **Connect** button.

If you have a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



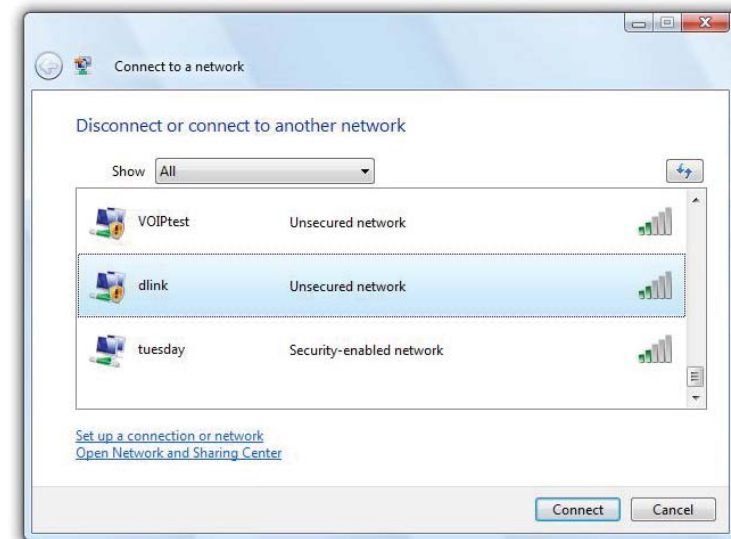
WPA/WPA2

It is recommended to enable wireless security (WPA/WPA2) on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the security key or passphrase being used.

1. Open the Windows Vista® Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower right corner of screen). Select **Connect to a network**.



2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. Enter the same security key or passphrase that is on your router and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.



Windows® XP

Windows® XP users may use the built-in wireless utility (Zero Configuration Utility). The following instructions are for Service Pack 2 users. If you are using another company's utility, please refer to the user manual of your wireless adapter for help with connecting to a wireless network. Most utilities will have a "site survey" option similar to the Windows® XP utility as seen below.

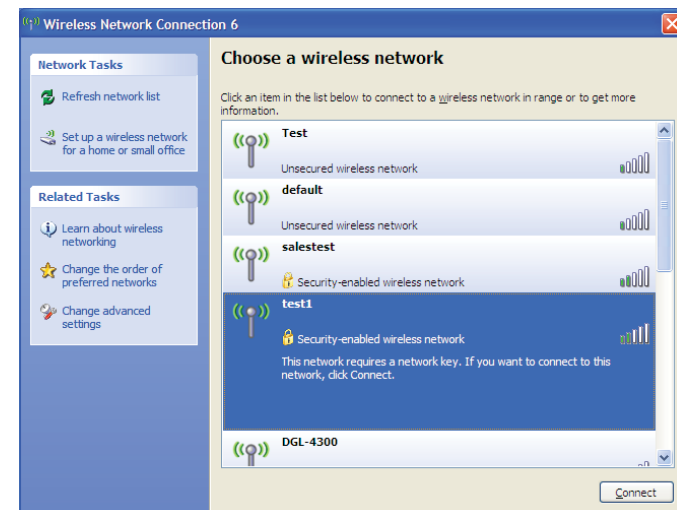
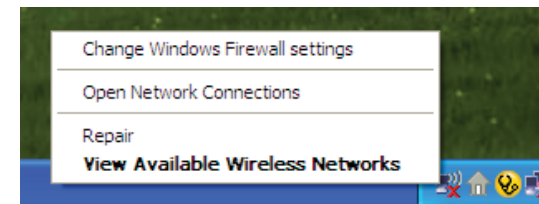
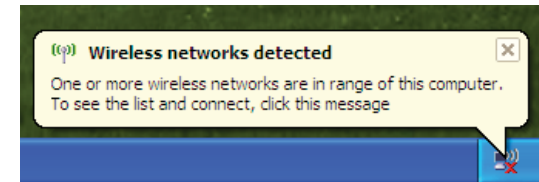
If you receive the **Wireless Networks Detected** bubble, click on the center of the bubble to access the utility.

or

Right-click on the wireless computer icon in your system tray (lower-right corner next to the time). Select **View Available Wireless Networks**.

The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

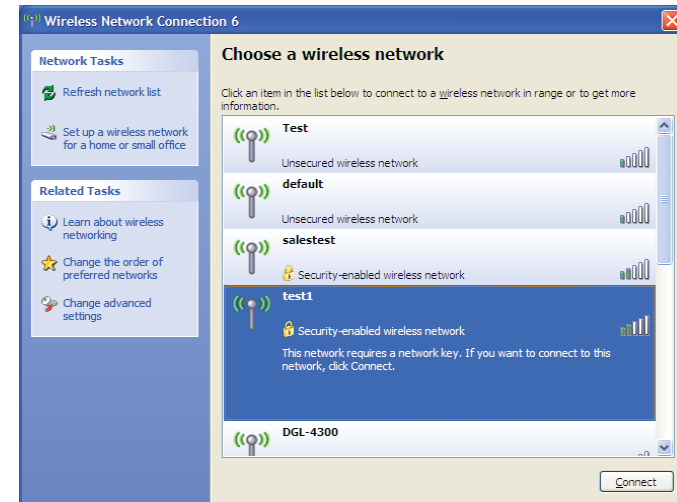
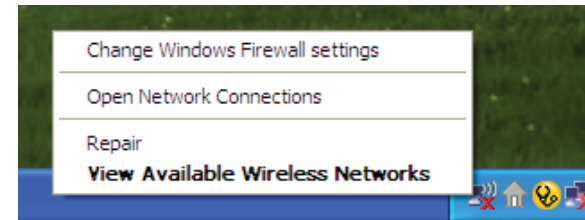
If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the **Networking Basics** section in this manual for more information.



WPA/WPA2

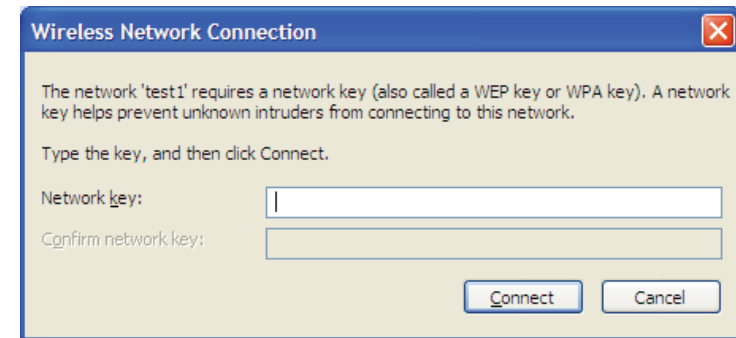
It is recommended to enable WPA on your wireless router or access point before configuring your wireless adapter. If you are joining an existing network, you will need to know the WPA key being used.

1. Open the Windows® XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.
2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The **Wireless Network Connection** box will appear. Enter the WPA-PSK passphrase and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WPA-PSK settings are correct. The WPA-PSK passphrase must be exactly the same as on the wireless router.



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DIR-510L. Read the following descriptions if you are having problems. The examples below are illustrated in Windows® XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.

1. Why can't I access the web-based configuration?

When entering `http://dlinkrouter.local.`, you are not connecting to a website nor do you have to be connected to the Internet. The device has the utility built-in to a ROM chip in the device itself. Your computer must be on the same IP subnet to connect to the web-based utility.

Make sure you have an updated Java-enabled Web browser. We recommend the following:

- Microsoft Internet Explorer® 8.0 or higher
- Mozilla Firefox® 12.0 or higher
- Google™ Chrome 20 or higher
- Safari® 4.0 or higher

Verify wireless connectivity by checking for solid link lights on the device. If you do not get a solid link light, try using a different device if possible.

Disable any Internet security software running on the computer. Software firewalls such as ZoneAlarm, BlackICE, Sygate, Norton Personal Firewall, and Windows® XP firewall may block access to the configuration pages. Check the help files included with your firewall software for more information on disabling or configuring it.

Configure your Internet settings:

- Go to **Start > Settings > Control Panel**. Double-click the **Internet Options** icon. From the **Security** tab, click the button to restore the settings to their defaults.
- Click the **Connection** tab and set the dial-up option to Never Dial a Connection. Click the LAN Settings button. Make sure nothing is checked. Click **OK**.
- Go to the **Advanced** tab and click the button to restore these settings to their defaults. Click **OK** three times.
- Close your Web browser (if open) and open it.

Access the web management. Open your Web browser and enter the IP address of your D-Link router in the address bar. This should open the login page for your web management.

If you still cannot access the configuration, unplug the power to the router for 10 seconds and plug back in. Wait about 60 seconds and try accessing the configuration. If you have multiple computers, try connecting using a different computer.

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

If you forgot your password, you must reset your router. Unfortunately this process will change all your settings back to the factory defaults.

To reset the router, locate the reset button (hole) on the rear panel of the unit. With the router powered on, use a paperclip to hold the button down for 10 seconds. Release the button and the router will go through its reboot process. Wait about 60 seconds to access the router. The default IP address is 192.168.0.1 or you may be able to reach the router at **http://dlinkrouter.local./** or **http://dlinkrouter/**. When logging in, leave the admin password box empty.

3. Why can't I connect to certain sites or send and receive emails when connecting through my router?

If you are having a problem sending or receiving email, or connecting to secure sites such as eBay, banking sites, and Hotmail, we suggest lowering the MTU in increments of ten (Ex. 1492, 1482, 1472, etc).

To find the proper MTU Size, you'll have to do a special ping of the destination you're trying to go to. A destination could be another computer, or a URL.

- Click on **Start** and then click **Run**.
- Windows® 95, 98, and Me users type in **command** (Windows® NT, 2000, XP, Vista®, and 7 users type in **cmd**) and press **Enter** (or click **OK**).
- Once the window opens, you'll need to do a special ping. Use the following syntax:

ping [url] [-f] [-l] [MTU value]

Example: **ping yahoo.com -f -l 1472**

```
C:\>ping yahoo.com -f -l 1482
Pinging yahoo.com [66.94.234.13] with 1482 bytes of data:
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Packet needs to be fragmented but DF set.
Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping yahoo.com -f -l 1472
Pinging yahoo.com [66.94.234.13] with 1472 bytes of data:
Reply from 66.94.234.13: bytes=1472 time=93ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=109ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=125ms TTL=52
Reply from 66.94.234.13: bytes=1472 time=203ms TTL=52
Ping statistics for 66.94.234.13:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 93ms, Maximum = 203ms, Average = 132ms
C:\>
```

You should start at 1472 and work your way down by 10 each time. Once you get a reply, go up by 2 until you get a fragmented packet. Take that value and add 28 to the value to account for the various TCP/IP headers. For example, let's say that 1452 was the proper value, the actual MTU size would be 1480, which is the optimum for the network we're working with (1452+28=1480).

Once you find your MTU, you can now configure your router with the proper MTU size.

To change the MTU rate on your router follow the steps below:

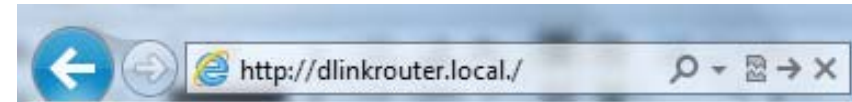
- Open your browser, enter the IP address of your router (192.168.0.1, **http://dlinkrouter.local.** or **http://dlinkrouter**) and click **OK**.
- Enter your username (admin) and password (blank by default). Click **OK** to enter the web configuration page for the device.
- Click on **Setup** and then click **Manual Configure**.
- To change the MTU enter the number in the MTU field and click **Save Settings** to save your settings.
- Test your email. If changing the MTU does not resolve the problem, continue changing the MTU in increments of ten.

4. What happens if the power is cut during firmware upgrade?

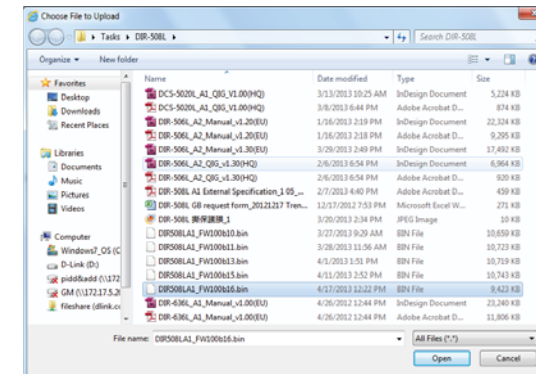
If you can't connect to your device or are having a problem connecting to the admin page, your router may be in recovery mode. This is indicated by a steady blinking orange Power/Status LED.

To recover your device:

- Connect an Ethernet cable from the router to your computer.
- Open a Web browser and enter the IP of your router (<http://dlinkrouter> or <http://dlinkrouter.local> or 192.168.0.1) and press **Enter**.
- The page will show D-link Router Recovery Mode. Click **Browse** to select your current or a newer firmware.



- Click **Open** to load it.
- Click **Upgrade**.



- When the screen shows “Upgrade Successfully”, unplug the Ethernet cable and power off and on the device.
- Please refer to “Connecting to Your DIR-510L” on page 14 to setup your router.



Wireless Basics

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

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

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

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

What is Wireless?

Wireless or Wi-Fi technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

Why D-Link Wireless?

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

How does wireless work?

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

Wireless Local Area Network (WLAN)

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

Wireless Personal Area Network (WPAN)

Bluetooth is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away.

Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

Who uses wireless?

Wireless technology has become so popular in recent years that almost everyone is using it, whether it's for home, office, business, D-Link has a wireless solution for it.

Home

- Gives everyone at home broadband access
- Surf the web, check e-mail, instant message, etc.
- Gets rid of the cables around the house
- Simple and easy to use

Small Office and Home Office

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

Where is wireless used?

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

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

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

Tips

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

Centralize your router or Access Point

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

Eliminate Interference

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

Security

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

Wireless Modes

There are basically two modes of networking:

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

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

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

Networking Basics

Check your IP Address

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

In Windows:

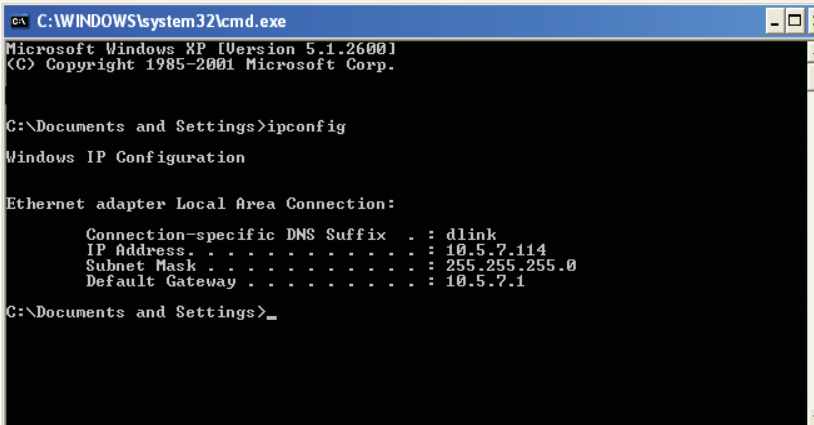
Click on **Start > Run**.

In the run box type **cmd** and click **OK**. (Windows® 7/Vista® users type **cmd** in the **Start Search** box.)

At the prompt, type **ipconfig** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address. . . . . : 10.5.7.114
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.5.7.1

C:\Documents and Settings>_
```

Assign a Static IP address

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

Step 1

Windows® 7 - Click on **Start > Control Panel > Network and Internet > Network and Sharing Center**.

Windows Vista® - Click on **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage Network Connections**.

Windows® XP - Click on **Start > Control Panel > Network Connections**.

Windows® 2000 - From the desktop, right-click **My Network Places > Properties**.

Step 2

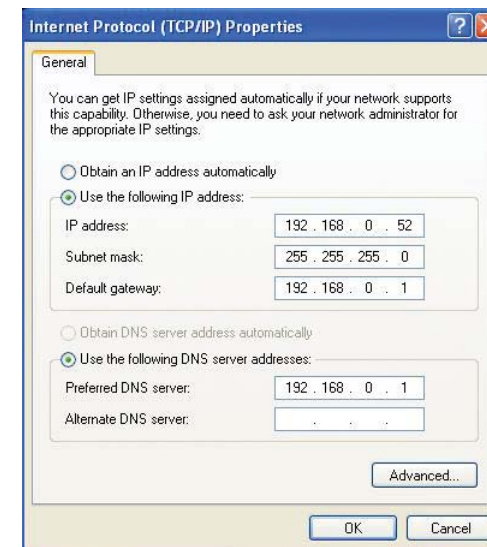
Right-click on the **Local Area Connection** which represents your network adapter and select **Properties**.

Step 3

Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

Step 4

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



Example: If the router's LAN IP address is 192.168.0.1 or http://dlinkrouter.local., make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set the Default Gateway the same as the LAN IP address of your router (I.E. 192.168.0.1 or http://dlinkrouter.local.).

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

Step 5

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

Technical Specifications

Standards

- IEEE 802.11b/g/n
- IEEE 802.11a/n
- IEEE 802.11ac
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x

Internet Modes

- Broadband Router Mode
- Mobile Router Mode
- Wi-Fi Hotspot Mode

Wireless Frequency Range ¹

- 802.11b/g/n: 2.4 GHz to 2.497 GHz
- 802.11a/n/ac: 5.15 GHz to 5.85 GHz

Security

- Wi-Fi Protected Access (WPA/WPA2)
- WPS 2.0 (Wi-Fi Protected Setup)

Advanced Features

- mydlink SharePort app for iPhone®, iPad®, iPod touch® and Android
- SharePort Mobile app for Windows 8/RT
- D-Link Intelligent QoS Technology
- VPN passthrough
- Guest Zone Support
- UPnP™ (DLNA) Support
- SharePort Web Access Support
- IPv6

Transmitter Output Power

IEEE 802.11b:

- 17 dBm at 1, 2, 5.5, 11 Mbps

IEEE 802.11g:

- 18 dBm at 6 to 18 Mbps
- 16 dBm at 24 to 36 Mbps
- 14 dBm at 48 to 54 Mbps

IEEE 802.11n (2.4 GHz):

- 18 dBm at MCS0 to MCS3
- 14 dBm at MCS6 to MCS7
- 19 dBm at MCS12 to MCS13
- 16 dBm at MCS4 to MCS5
- 21 dBm at MCS8 and MCS11
- 17 dBm at MCS14 to MCS15

IEEE 802.11n (5 GHz):

- 18 dBm at MCS0 to MCS3
- 14 dBm at MCS6 to MCS7
- 19 dBm at MCS12 to MCS13
- 16 dBm at MCS4 to MCS5
- 21 dBm at MCS8 and MCS11
- 17 dBm at MCS14 to MCS15

IEEE 802.11ac (5 GHz):

- 18 dBm at MCS0 to MCS3
- 14 dBm at MCS6 to MCS7
- 19 dBm at MCS12 to MCS13
- 16 dBm at MCS4 to MCS5
- 21 dBm at MCS8 and MCS11
- 17 dBm at MCS14 to MCS15

Receiver Sensitivity¹

IEEE 802.11b:

- -89 dBm at 1 Mbps
- -85 dBm at 5.5 Mbps
- -87 dBm at 2 Mbps
- -82 dBm at 11 Mbps

IEEE 802.11g:

- -82 dBm at 6 Mbps
- -81 dBm at 9 Mbps

- -79 dBm at 12 Mbps
- -74 dBm at 24 Mbps
- -67 dBm at 48 Mbps
- -77 dBm at 18 Mbps
- -71 dBm at 36 Mbps
- -66 dBm at 54 Mbps

IEEE 802.11n HT20(MHz):

- -82 dBm at MCS0, MCS8
- -77 dBm at MCS2, MCS10
- -70 dBm at MCS4, MCS12
- -65 dBm at MCS6, MCS14
- -79 dBm at MCS1, MCS9
- -74 dBm at MCS3, MCS11
- -66 dBm at MCS5, MCS13
- -64 dBm at MCS7, MCS15

IEEE 802.11n HT40(MHz):

- -79 dBm at MCS0, MCS8
- -74 dBm at MCS2, MCS10
- -67 dBm at MCS4, MCS12
- -62 dBm at MCS6, MCS14
- -76 dBm at MCS1, MCS9
- -71 dBm at MCS3, MCS11
- -63 dBm at MCS5, MCS13
- -61 dBm at MCS7, MCS15

USB Interface

- USB 2.0 Type A
- Micro USB-B

Embedded Battery

- 4000 mAh (Li-ion) power capacity¹
- OCP, OVP, OTP, SCP protection

Electrical

- Power Input: Max 1800 mA (standard adapter); 1000 mA (USB 2.0 port)
- Max Operating Voltage: 5 V
- Max Power Consumption: 14 W
- USB 1 A Output: Max 1000 mA
- USB 0.5 A Output: Max 500 mA

Operating Temperature

- 0 to 40 °C (32 to 104 °F)

Storage Temperature

- -20 to 65 °C (-4 to 149 °F)

Operating Humidity

- 10% to 90% non-condensing

Storage Humidity

- 5% to 95% non-condensing

Certifications

- FCC/CE/cUL

Dimensions

- 140 x 59 x 16 mm (5.51 x 2.32 x 0.63 inches)

Weight

- 154 g (0.34 lbs)

mydlink SharePort App Supported File Formats for iPhone, iPad, iPod touch, and Android

Video:

- .mp4, .mov, .m4v

Music:

- .mp3, .wav, .m4a

Image:

- .jpg, .bmp, .png

Document:

- Microsoft Office formats, .pdf

¹ Actual usable capacity may vary depending on charging conditions.

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<http://tsd.dlink.com.tw/GPL.asp>

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Where such specific license terms entitle you to the source code of such software, D-Link will provide upon written request via email and/or traditional paper mail the applicable GPL and LGPL source code files via CD-ROM for a nominal cost to cover shipping and media charges as allowed under the GPL and LGPL.

Please direct all inquiries to:
Email: GPLCODE@DLink.com
Snail Mail:
Attn: GPLSOURCE REQUEST
D-Link Systems, Inc.
17595 Mt. Herrmann Street
Fountain Valley, CA 92708

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Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

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“The Program” refers to any copyrightable work licensed under this License. Each licensee is addressed as “you”. “Licensees” and “recipients” may be individuals or organizations.

To “modify” a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a “modified version” of the earlier work or a work “based on” the earlier work.

A “covered work” means either the unmodified Program or a work based on the Program.

To “propagate” a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To “convey” a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays “Appropriate Legal Notices” to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

1. Source Code.

The “source code” for a work means the preferred form of the work for making modifications to it. “Object code” means any non-source form of a work.

A “Standard Interface” means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The “System Libraries” of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A “Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The “Corresponding Source” for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

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You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

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- b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".
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A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

- a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
- b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
- c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
- d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.
- e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A “User Product” is either (1) a “consumer product”, which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, “normally used” refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

“Installation Information” for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

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17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

Safety Statements

CE Mark Warning:

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

FCC Statement:

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

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

FCC Caution:

1. This device complies with Part 15 of the FCC rules/Industry Canada RSS 210 standard . Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference, and
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.
3. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

IMPORTANT NOTE : (For Mobile Device Configuration)

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and

operated with minimum distance 20 cm between the radiator & your body.

IMPORTANT NOTE : (For Portable Device Configuration)

Federal Communication Commission (FCC) Radiation Exposure Statement

This EUT is compliance with SAR for general population/uncontrolled exposure limits in ANSI/IEEE C95.1-1999 and had been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C. SAR has been evaluated at 10 mm.

This Class [*] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [*] est conforme à la norme NMB-003 du Canada.

Industry Canada Caution:

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and**
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.**

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) il ne doit pas produire de brouillage et**
- (2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.**

IC IMPORTANT NOTE : (For Mobile Device Configuration)

IC Radiation Exposure Statement:

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

IC IMPORTANT NOTE : (For Portable Device Configuration)

IC Radiation Exposure Statement

This EUT is compliance with SAR for general population/uncontrolled exposure limits in IC RSS-102 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528. This equipment should be installed and operated with minimum distance 1 cm between the radiator & your body. SAR has been evaluated at 10 mm.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

En vertu de la réglementation de l'industrie du Canada, cet émetteur de radio ne peuvent fonctionner en utilisant une antenne d'un type et maximum (ou moins) Gain approuvé pour l'émetteur par Industrie Canada. Pour réduire risque d'interférence aux autres utilisateurs, le type d'antenne et son gain doivent être choisis de sorte que la puissance isotrope rayonnée équivalente (PIRE) ne dépasse pas ce qui est nécessaire pour la réussite de communication.

附錄(7) 低功率電波輻射性電機管理辦法

第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。