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1. YOUR HERCULES WIRELESS N ROUTER

Your Hercules N router opens up the doors to a new world of **WiFi** for you: one of high-speed wireless communications and extended coverage. In keeping with the trend of Web 2.0, your Hercules N router takes interactivity with users even further and allows you to share your Internet access to watch high-definition videos or transfer large files without any worries. It also allows you to share your devices and your data between several computers, while at the same time doing away with the need for kilometers worth of cables.

Moreover, Hercules has equipped your Hercules N router with a new functionality, **WiFi signal management**, which offers three novel functions adapted to each user. Firstly, a button located on the router allows you to immediately **switch the WiFi function off or on** whenever you like, in order to save energy. Next, using WiFi Manager N, the settings configuration software included with the Hercules Wireless N Router, you can **adjust the WiFi signal strength** to only cover the boundaries of your home. Finally, you can **plan the WiFi operation periods** based on an hourly/daily/weekly schedule, according to your habits. These functions will be described in detail later on in this manual.

Great care has been taken in designing your product. Both simple to operate and user-friendly, it is well suited to beginners and advanced users alike.

And now, it's time to learn about your new product and join in the Wireless Attitude™!

1.1. Recommendations

- Never open up your Hercules Wireless N Router, as you risk damaging its internal components.

- In order to avoid the risk of fire or electrical discharge, keep your router away from:

    - rain or humidity, as well as all fluids (water, chemical products and any other liquids),

    - sources of heat such as heaters, stoves and any other heat-producing devices (including amplifiers),

    - direct sunlight.

- Do not cover your router.

- Unplug the router's power cable if you do not plan on using it again for an extended period of time. To unplug the power cable, take hold of and pull on the plug. Never pull on the cable itself.

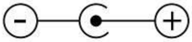
- Disconnect the router before cleaning. Use a soft cloth for cleaning and avoid using aerosol cleaners.

1.2. Specifications

Your **Hercules Wireless N Router** is equipped with several functionalities: **802.11n** wireless WiFi **router**, 10/100 LAN switch and Internet firewall.

- Compatible with the following WiFi protocols:
    - 802.11b: 1, 2, 5.5 and 11Mbits/s data rates in the 2.4GHz band
    - 802.11g: 6, 9, 12, 18, 24, 36, 48 and 54Mbits/s data rates in the 2.4GHz band
    - 802.11n: data rates in the 2.4GHz band, varying depending on the bandwidth of the channel used (20 or 40MHz). Values are classified from MCS0 to MCS15 and vary from 7.2 to 144.44Mbits/s for 20MHz and from 15 to 300Mbits/s for 40MHz
- Supports MIMO 2T2R technology (improved data rates and coverage)
- **DSSS**/**CCK** frequency range and **OFDM** modulation from 2.412GHz to 2.484GHz (13 channels)
- Compatible with the following security protocols:
    - **WEP** with 64 and 128-bit key length

  - **WPA-PSK** with TKIP or AES encryption (802.11i security protocol)
  - **WPA2** and **WPA2-PSK** with TKIP and AES encryption (802.11i security protocol)
- Supports NAT/NAPT IP sharing
- Filtering by **MAC address**/IP address, URL blocking
- Anti-DoS **firewall**
- **WMM** mode support (Wi-Fi MultiMedia™)
- **WPS** (Wi-Fi Protected Setup™)
- WAN mode support (PPPoE, automatic DHCP, static IP)
- LAN mode support
- Router mode support
- Supports virtual server and DMZ
- Supports WDS mode
- Supports special applications (Port Triggers)
- Supports DDNS (DynDNS, TZO) and QoS
- Supports VPN pass-through (IPSec/PPTP)
- **802.11n** wireless **access point**
- RF specification: frequency band = 2.4GHz – 2.484GHz
- Maximum transmission power: 100mW
- 2 integrated antennas
- 4 RJ-45 connectors for a Fast Ethernet 10/100Mbps connection
- Auto-MDIX support (automatic detection of crossed cabling)
- Conforms to the IEEE 802.3u specification
- IEEE 802.3x flow control support in Full Duplex mode
- External DC power supply. Input: 200~240V, 50/60 Hz; output: 9V DC/1 A



- WiFi on/off button
- **WPS** button (Wi-Fi Protected Setup™)
- Restore factory settings button
- White LEDs on the unit's front face, visible only when the router is powered on
- Software update via Ethernet port
- Router configuration software
- System status and security information

1.3. Minimum system requirements

To access configuration settings:

- Intel® Pentium® III 1GHz processor or higher
- 512MB RAM
- Ethernet 10/100 RJ45 network card
- CD-ROM drive
- Operating system: Windows XP with Service Pack 2, Windows XP Tablet PC Edition or Windows Vista® Home Premium Edition, Ultimate, Business or Enterprise Edition, including 64-bit editions, Microsoft® Windows® 7

To access the Internet:

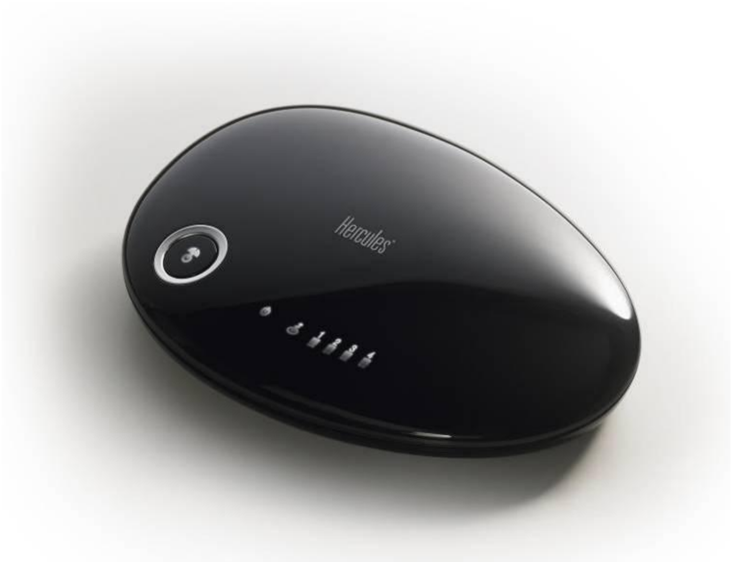
- Active Internet line
- Internet Explorer 6.0, Netscape Navigator 4.7 or Mozilla Firefox 1.0 or higher
- ADSL Ethernet modem, cable modem, Internet “Box” (Livebox®, Freebox®, SFR Neufbox®…)

1.4. Box contents

Please verify that the following elements are present in your Hercules router box:

- Hercules Wireless N Router
- CD-ROM containing the installation Assistant and User Manual in PDF format
- Quick Start Guide in English
- Ethernet cable
- Power adapter
- Hercules Wireless N USB mini Key (optional)

1.5. Front face overview



⚠ The LEDs are only visible when the router is powered on.

⏻ : Power LED: flashes when using the restoration function.

: WiFi on/off button: lit up only if the WiFi function is enabled; flashes if the WPS function is working .

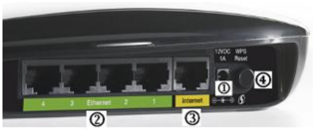
Note: The WiFi settings (planning the operation periods, for example) are not lost if you switch off the WiFi function with this button.

: WiFi LED: lit up when the WiFi connection is active. Flashes during WPS connection process.

1 : 4 LEDs corresponding to the 4 Ethernet ports: the LED is lit up when a device is connected to the corresponding port. The LEDs flash during data transfer.

: Internet LED: lit up when the Ethernet cable is connected to the WAN connector. Flashes during data transfer.

1.6. Connectivity overview



① Power plug to connect the power adapter.

② Four **Ethernet ports** allowing your Hercules router to be connected to 4 desktop computers and/or laptop computers and/or game consoles equipped with Ethernet (RJ-45) ports and/or devices (webcam...) in order to create a network.

③ RJ-45 WAN port allowing you to connect an ADSL modem, cable modem or Internet "Box" to your Hercules router.

④ Restore factory settings button/**WPS** button (Wi-Fi Protected Setup™)

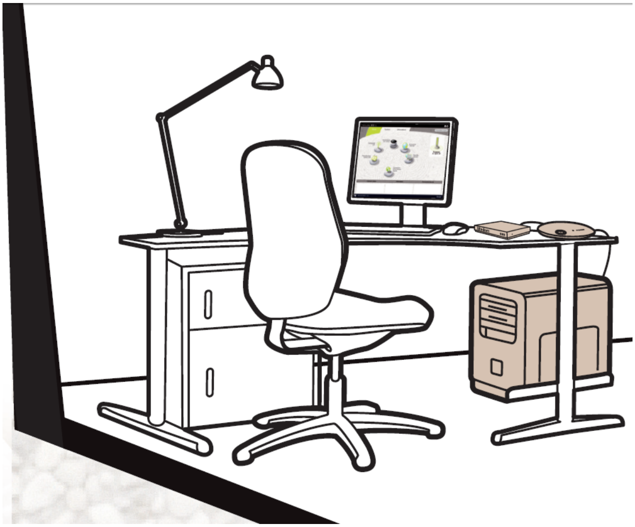
*Pressing this button for **5 seconds** enables the **WPS function**. The WiFi on/off button flashes to indicate the start of the initialization sequence.*

*Pressing the button for **more than 10 seconds** enables the **restoration** function. During this sequence, the WiFi on/off button and the power LED flash.*

2. INSTALLING YOUR HERCULES WIRELESS N ROUTER

Your Hercules Wireless N Router has been designed to be simple to use and install. If you are new to working with wireless products, we invite you to first follow the advice presented in chapters **2.1 to 2.3**. Otherwise, you can proceed directly to chapter **2.3. Launching the Hercules Wireless N Router installation Assistant**, which explains how to install your Hercules Wireless N Router step by step.

2.1. How to position your Hercules Wireless N Router



Remove the router and the power adapter from the box.
To help you select the best spot to position your Hercules router, we are pleased to offer you the following tips, which you may adapt according to your environment (the number of rooms, computers, floors in your home, the presence of any obstacles, the locations of power and telephone plugs…).

- Position the router near your modem (ADSL, cable or Internet "Box") and a power outlet.
- Try to place your router in a room centrally located in relation to your other computers and WiFi devices.
- Keep a minimum distance of 2m between the router and any computers and WiFi devices.
- If you have several computers or WiFi devices on different floors in your home (on the ground floor and the second floor, for example), you should ideally try to place your Hercules router on the ground floor.

⚠ Your router's WiFi performance may be greatly affected by certain obstacles, such as the presence of paper (a bookcase), metal, water (an aquarium) or a wall made of reinforced concrete between the Hercules router and any WiFi adapters.

2.2. Uninstalling your modem or disabling the automatic connection to your modem

If you already have an Internet “Box” or Ethernet modem connected to your computer, we recommend that you **uninstall** it or **disable the automatic connection** to this modem. The objective in doing so is to establish the Internet connection via the TCP/IP local area network created by the Hercules router, and no longer directly via your ADSL modem.

> ⚠ This procedure only applies if you connect to the Internet via an Ethernet modem. If you have a USB modem, you cannot connect the USB modem to your Hercules router and access the Internet.

If you decide to uninstall the modem's drivers:

- Switch off and then disconnect your modem from your computer's Ethernet port.
- Uninstall the software supplied by your service provider, as well as the modem's drivers. For more information, please refer to your modem's user manual.
- Now connect your modem to the Internet port on your Hercules router.

If you decide to disable the automatic connection to the modem:

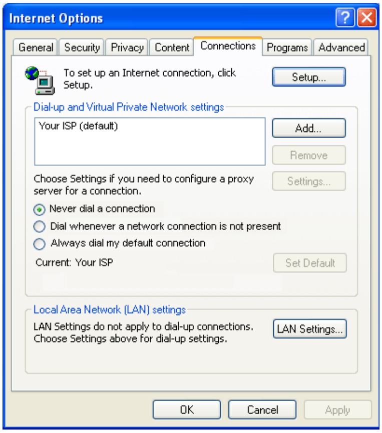
In order to avoid software conflicts, please follow the procedure described below:

- Open your Internet Explorer browser.

- Click **Tools/Internet Options**.

The Internet Options window is displayed.

- Select the **Connections** tab.



To set up an Internet connection, click Setup.

Dial-up and Virtual Private Network settings

Your ISP (default)

Choose Settings if you need to configure a proxy server for a connection.

● Never dial a connection

○ Dial whenever a network connection is not present

○ Always dial my default connection

Current: Your ISP

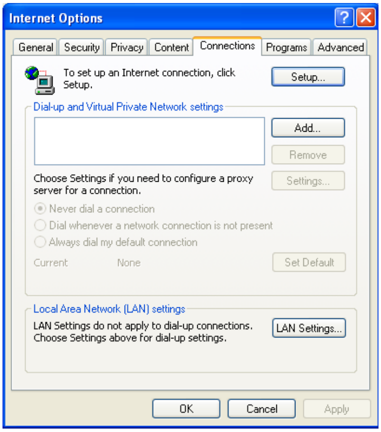
Local Area Network (LAN) settings

LAN Settings do not apply to dial-up connections. Choose Settings above for dial-up settings.

Scenario 1: your ISP appears in the Internet Options window.

- Disable the automatic connection to your modem by selecting the **Never dial a connection** option.

- Click **OK**.



To set up an Internet connection, click Setup.

Dial-up and Virtual Private Network settings

Choose Settings if you need to configure a proxy server for a connection.

● Never dial a connection
○ Dial whenever a network connection is not present
○ Always dial my default connection

Current None

Local Area Network (LAN) settings

LAN Settings do not apply to dial-up connections. Choose Settings above for dial-up settings.

Scenario 2: your ISP does not appear in the Internet Options window.

The automatic connection is managed directly by the software furnished by your ISP.

- Refer to the user manual for your ADSL modem or for the software furnished by your ISP for details on how to disable the automatic connection and/or for the Internet connection to be established via a **local area network** (TCP/IP).

Reminder: it is the Hercules router that will create a local area network through which the computers will access the Internet.

⚠ You can also find information on our website (FAQs etc.): **www.hercules.com**.

2.3. Launching the Hercules Wireless N Router installation Assistant

The Assistant, available on the CD-ROM included with the router, will guide you through the different steps of the installation. To help you with the installation, each of the steps is described below.

- Insert the included CD-ROM into your CD-ROM drive.

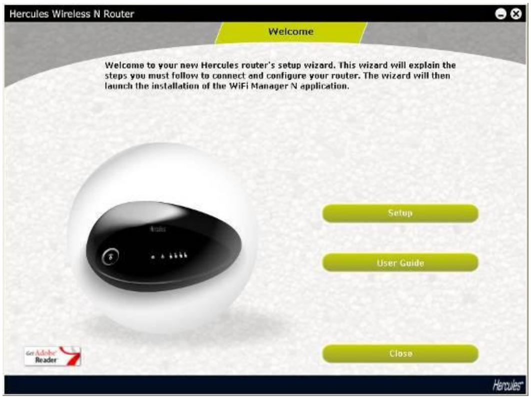
The installation Assistant appears automatically.

If the installation menu is not launched automatically:

- Double-click **My Computer** (Windows 2000/XP) or **Computer** (Windows Vista).
- Double-click ⚙.
- *Double-click **Setup.exe**, if necessary.*

*The Welcome page appears. Click **Setup**.*

⚠ The Assistant will launch the installation procedure for your router, as well as for the associated software, **WiFi Manager N**, using **Adobe® AIR™**. If Adobe® AIR™ is not installed on your computer, follow the on-screen instructions once you have clicked the **Setup** button.

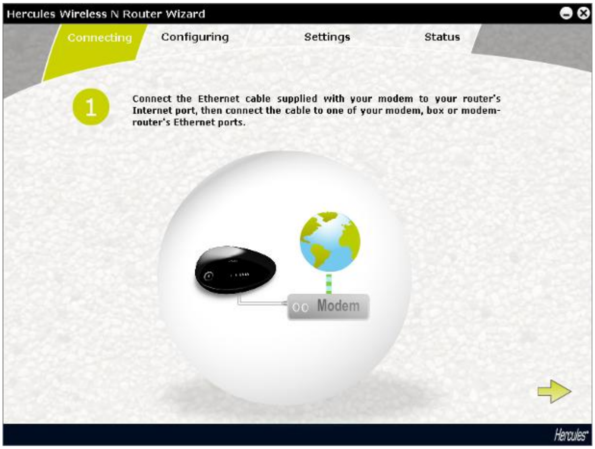


Welcome to your new Hercules router's setup wizard. This wizard will explain the steps you must follow to connect and configure your router. The wizard will then launch the installation of the WiFi Manager N application.

2.4. Installing the Hercules Wireless N Router

Step 1 - Connecting

- Connect the Ethernet cable, included with your modem, to the Internet port on your router, and connect the other end of the cable to one of the Ethernet ports on your modem, Internet "box" or modem router.



Connect the Ethernet cable supplied with your modem to your router's Internet port, then connect the cable to one of your modem, box or modem-router's Ethernet ports.

⚠ If you are unable to connect your router to the modem and to the computer at the same time (if, for example, the router is located in a different room), click ⇨. At the end of the installation, you will be prompted to connect your router to the modem.

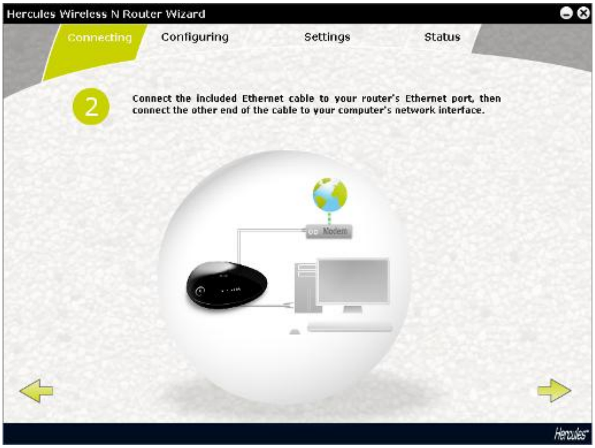
*The **WiFi** LED stays lit up. The **Internet** (WAN) LED lights up and flashes during data transfers.*

- Click ⇨.

Step 2 - Connecting

- Connect one end of the included Ethernet cable to one of the four Ethernet ports on your Hercules Wireless N Router, and connect the other end to your computer's Ethernet port.

The LED corresponding to the number of the Ethernet port you have selected lights up.

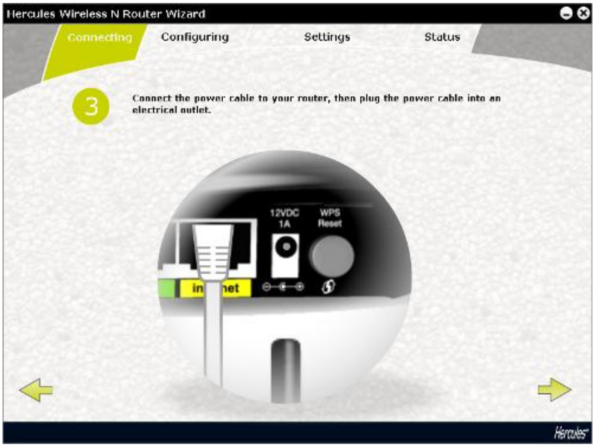


Connect the included Ethernet cable to your router's Ethernet port, then connect the other end of the cable to your computer's network interface.

- Click ➡.

Step 3 - Connecting

- Connect your Hercules router's power cord to the power connector, and plug the power adapter into an electrical outlet.

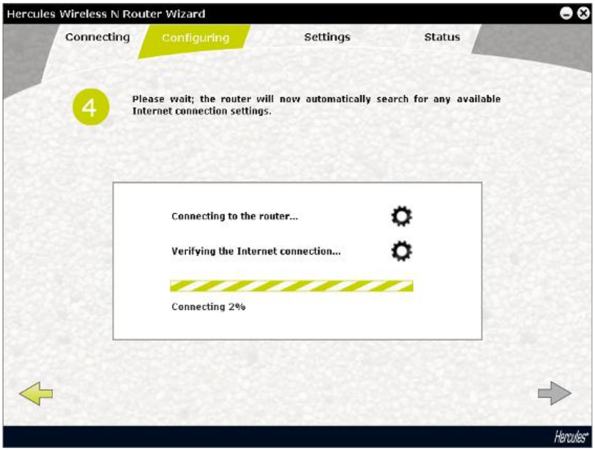


Connect the power cable to your router, then plug the power cable into an electrical outlet.

- Click ➡.

Step 4 - Configuring

During this step, the installation Assistant proposes to carry out the Internet configuration. After having verified the proper connection to the router, the Assistant will automatically search for your Internet connection settings.



Please wait; the router will now automatically search for any available Internet connection settings.

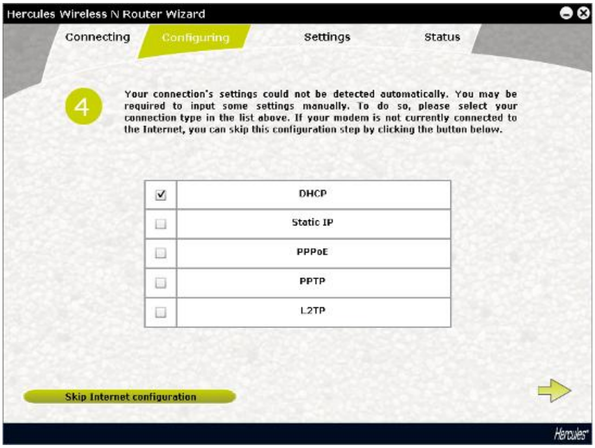
Connecting to the router...

Verifying the Internet connection...

Connecting 2%

- If the procedure is successful, click ➡.

- If the verification fails, you must manually enter the connection information: select the connection type from the list offered, and all of the other items of information (DHCP, static IP...) referring to the information supplied by your Internet service provider.


Hercules Wireless N Router Wizard
Connecting
Configuring
Settings
Status
4
Skip Internet configuration
Hercules

Your connection's settings could not be detected automatically. You may be required to input some settings manually. To do so, please select your connection type in the list above. If your modem is not currently connected to the Internet, you can skip this configuration step by clicking the button below.

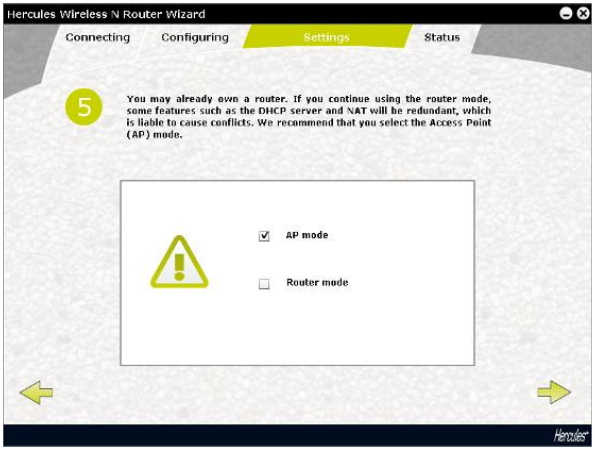
☑	DHCP
□	Static IP
□	PPPoE
□	PPTP
□	L2TP

- Click ➡ to proceed to the next screen.

At the end of the procedure, a screen indicating the connection status should appear.

- Click ➡.

*The following screen displayed hereafter appears if the installation Assistant has detected the IP address of a modem router. This means that the router/access point is connected to another router which already has the routing and DHCP server functions. You can keep the router/access point as your router, or set it as an access point (**recommended**).*



You may already own a router. If you continue using the router mode, some features such as the DHCP server and NAT will be redundant, which is liable to cause conflicts. We recommend that you select the Access Point (AP) mode.

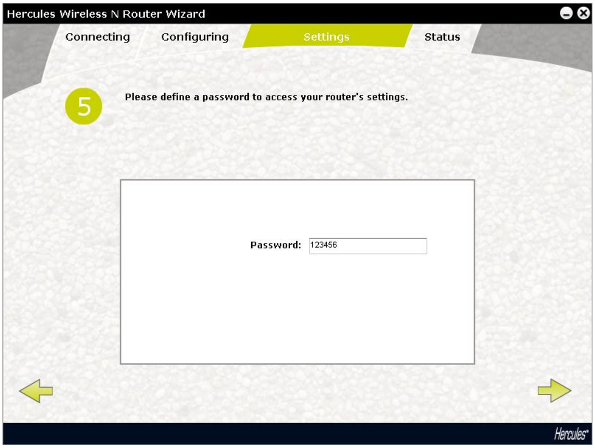
☑ AP mode

□ Router mode

- Click ➡ to continue.

Step 5 - Defining the router access settings

- Enter the router access password (by default, **123456**).



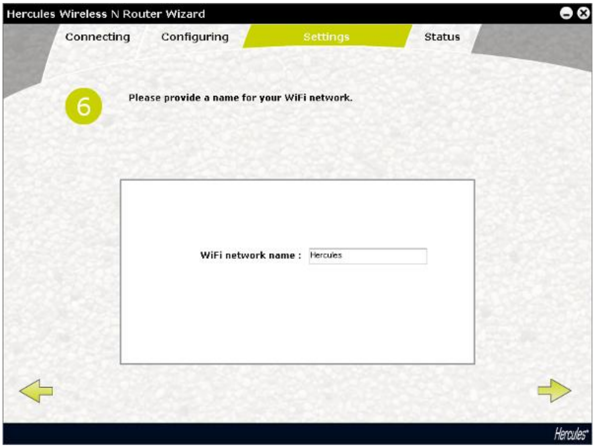
Please define a password to access your router's settings.

Password: 123456

- Click ➡.

Step 6 - Defining the router access settings

- Enter the name of your network (by default, **Hercules**).



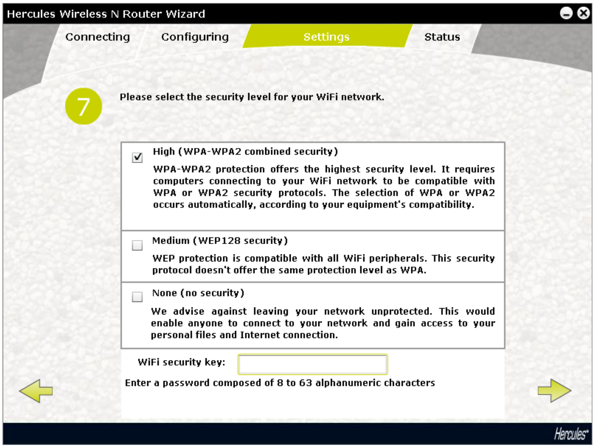
Please provide a name for your WiFi network.

WiFi network name : Hercules

- Click ⇨.

Step 7- Defining the router access settings

- Enter the security level for your network and the corresponding key. In order to get a good idea of the differences between the different levels of security, we invite you to consult section **3.6.2 Securing your WiFi network**.



Please select the security level for your WiFi network.

☑ High (WPA-WPA2 combined security)
WPA-WPA2 protection offers the highest security level. It requires computers connecting to your WiFi network to be compatible with WPA or WPA2 security protocols. The selection of WPA or WPA2 occurs automatically, according to your equipment's compatibility.

☐ Medium (WEP128 security)
WEP protection is compatible with all WiFi peripherals. This security protocol doesn't offer the same protection level as WPA.

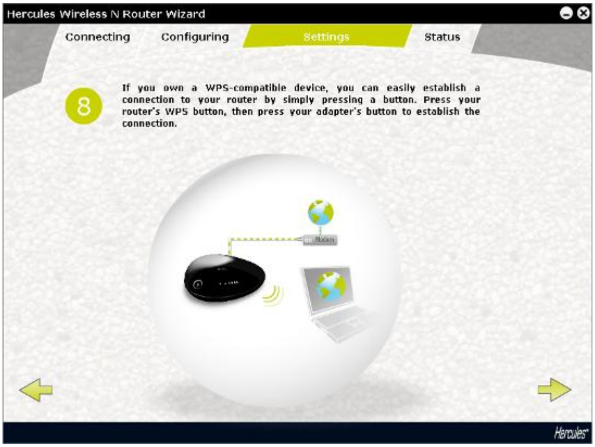
☐ None (no security)
We advise against leaving your network unprotected. This would enable anyone to connect to your network and gain access to your personal files and Internet connection.

WiFi security key:

Enter a password composed of 8 to 63 alphanumeric characters

- Click ⇨.

Step 8 - Connecting to the Internet via WPS



If you own a WPS-compatible device, you can easily establish a connection to your router by simply pressing a button. Press your router's WPS button, then press your adapter's button to establish the connection.

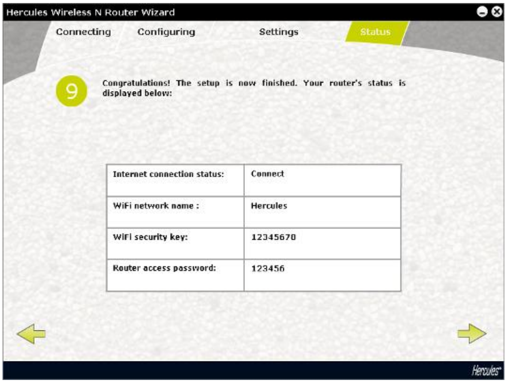
Installation of your **Hercules Wireless N Router** is now complete. Before moving on to installation of **WiFi Manager N**, the software allowing you to configure and view your router's settings, you can discover through the screen shown above how to very easily connect via **WPS** using the WPS quick connection button.

For more information on connection via WPS, please refer to section **2.5. Connecting to a network with Wi-Fi Protected Setup™**.

- Click ⇨.

Step 9 - Connection status

All of the information relating to the connection of your **Hercules Wireless N Router** is displayed in this screen.



Congratulations! The setup is now finished. Your router's status is displayed below:

Internet connection status:	Connect
WiFi network name :	Hercules
WiFi security key:	12345670
Router access password:	123456

- Click ⇨.

End of installation

The Assistant will now install WiFi Manager N, the software allowing you to configure and view your Hercules Wireless N Router's settings.

- Click ➡ to start the installation.

- Follow the on-screen instructions.

To learn more about the advanced functionalities available in WiFi Manager N, please refer to section **3. WiFi Manager N, the versatile utility**.

To learn about practical applications for your WiFi devices, please refer to section **4. Welcome to the Wireless Attitude** of this manual.

2.5. Connecting to a network with Wi-Fi Protected Setup™

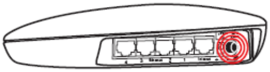
If connecting to a WiFi network and configuring it seems like too much trouble to you, you can use the integrated **WPS (Wi-Fi Protected Setup™)** functionality, indicated on the product or packaging by one of the following logos:

Wi-Fi PROTECTED SETUP or

What is WPS (Wi-Fi Protected Setup™) ?

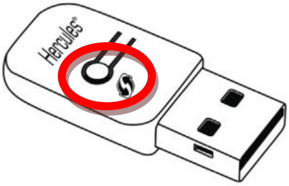
WPS is a technology which simplifies the connection procedure to a wireless network between a WPS-compatible device (your **Hercules Wireless N Key**, for example) and your **Hercules Wireless N Router**. Different connection methods are available to you: simply click a button located on the router or in WiFi Manager N, or enter the PIN code of the device to be connected (your **Hercules Wireless N Router** or your **Hercules Wireless N Key**, for example) in the WiFi Manager N interface.

1st option: use the WPS button located on the router



- On your WiFi router: press the **WPS** button ④ located on the back of the router.

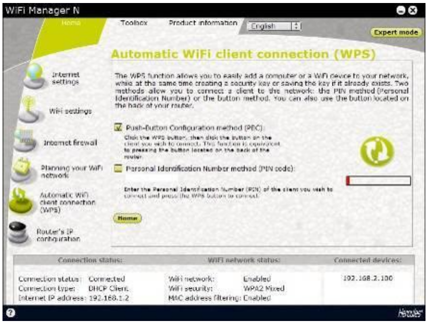
You now have two minutes to connect your Hercules Wireless N USB Key to the router. You will not have to repeat this step the next time you connect.



- Press the **WPS** button located on the side of the Hercules Wireless N mini Key or the **WPS** button on a **WPS-compatible** device.

2nd option: use the WPS button accessible in WiFi Manager N

- On the WiFi Manager N home page, press the **Automatic WiFi client connection (WPS)** button.



Automatic WiFi client connection (WPS)

The WPS function allows you to easily add a computer or a WiFi device to your network, while at the same time creating a security key or saving the key if it already exists. Two methods allow you to connect a client to the network: the PIN method (Personal Identification Number) or the button method. You can also use the button located on the back of your router.

☑ Push-Button Configuration method (PBC):

Click the WPS button, then click the button on the client you wish to connect. This function is equivalent to pressing the button located on the back of the router.

□ Personal Identification Number method (PIN code):

Enter the Personal Identification Number (PIN) of the client you wish to connect and press the WPS button to connect.

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Enabled	

***Push-Button Configuration method (PBC)** is selected by default.*

- Click the connection button.

Alternatively:

- Select **Personal Identification Number method (PIN code)**.
- Enter the **PIN** code of the WPS device you wish to connect.
- Click the connection button.

*To find out the **PIN code** for your WPS device, please refer to section **Connecting to a network with a PIN code** in the user manual of your **Hercules Wireless N USB mini Key**, or refer to the manual supplied by the manufacturer of your WPS device.*

You now have two minutes to connect your Hercules Wireless N USB Key or your device via WPS.

*If the connection is not secure, a **WPA** or **WPA2** type security key (depending on the client's capabilities) is generated automatically.*

*For more information on connecting your device via WPS, please refer to the PDF user manual of your **Hercules Wireless N USB mini Key** or to the manual supplied by the manufacturer of your WPS device.*

3. WIFI MANAGER N, THE VERSATILE UTILITY

With WiFi Manager N, nothing could be easier than combining your high-speed Internet modem with the Hercules router, thereby sharing your Internet access with all of the computers in your home or small business, or simply creating a wireless network.

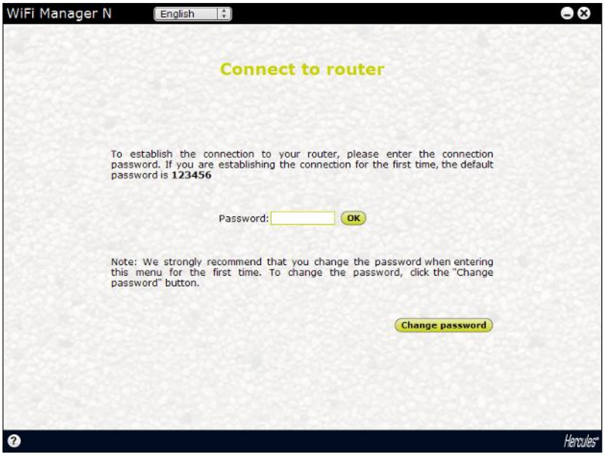
WiFi Manager N is the interface which allows you to communicate with your Hercules router and configure your wireless network or Internet firewall.

3.1. Opening the doors of WiFi Manager N

The Installation Assistant you have launched from the CD-ROM has installed a shortcut to WiFi Manager N. This utility will bring you straight to the door (locked with a key, for the moment) to WiFi Manager N.

- To access the door to enter WiFi Manager N, simply double-click the icon on your Desktop.

The connection window to the router appears.



Connect to router

To establish the connection to your router, please enter the connection password. If you are establishing the connection for the first time, the default password is **123456**

Password: OK

Note: We strongly recommend that you change the password when entering this menu for the first time. To change the password, click the "Change password" button.

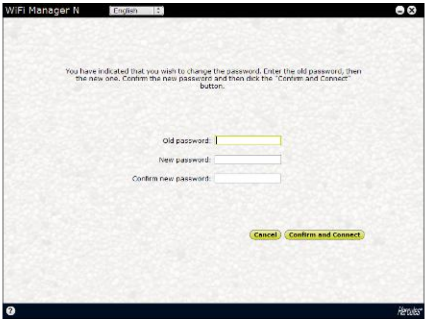
You are now at the door to enter WiFi Manager N, which you must open using a password.
- To open the door, enter the default password or enter your own password if you have already defined one (for information on how to define your own password, please refer to chapter **3.2. Changing the WiFi Manager N password!**).

- Click **OK**.

⚠ The password ensures that you are the only one who can access your WiFi Manager N interface, and therefore your Hercules router's settings. For this reason, it is important that you change the password when using WiFi Manager N for the first time (see below).

3.2. Changing the WiFi Manager N password

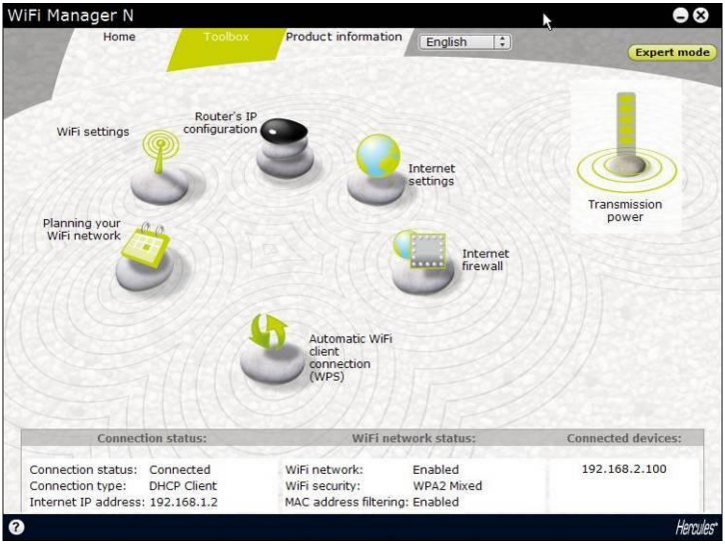
When opening the door to WiFi Manager N for the first time, we strongly recommend that you change the default password, **123456**, during your first use directly via the **Connect to router** window (if you have not already carried out this procedure in the installation Assistant).



You have indicated that you wish to change the password. Enter the old password, then the new one. Confirm the new password and then click the "Confirm and Connect" button.

- Click the **Change password** button.
- Enter the **old** password (**123456**, if you are doing this for the first time), the **new** password, which you will select, and then **confirm** the new password.
- Click **Confirm and Connect** to store your new password and connect.

The door to WiFi Manager N opens to the **Home page** depicted below. You can now explore all of your Hercules router's functionalities.



Connection status:

Connection status: Connected
Connection type: DHCP Client
Internet IP address: 192.168.1.2

WiFi network status:

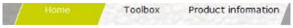
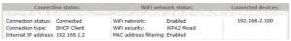
WiFi network: Enabled
WiFi security: WPA2 Mixed
MAC address filtering: Enabled

Connected devices:

192.168.2.100

3.3. Navigating within the WiFi Manager N interface

The **WiFi Manager N** interface has been designed to simplify navigation through the different menus. Nevertheless, should you ever feel a bit lost, you can always click the **Home** tab at any time to return to the Home page, the starting point for all of your Hercules router's functionalities. The following table sets out the main functions of WiFi Manager N.

Icon/button	Function
	Select the interface **language**.
	Button allowing you to adjust the **transmission power** of the WiFi signal, from 0 (no signal) to 100% (maximum power).
 	These tabs allow you to access, respectively, the **home page** (to select the Internet connection, adjust the firewall, customize your WiFi network, set the operation periods of the WiFi network...), the **toolbox** (to restore the original configuration, update the firmware...) and **information about the router**.
	Access the **connection mode** of the router to the Internet (PPPoE, PPTP…).
	Access the customization mode for your **WiFi network** (settings for connection, security, enabling/disabling your WiFi network).
	Access the configuration mode for the **firewall** (port forwarding, IP filtering and website blocking).
	Access the configuration mode for the **DHCP server**.
	Access **planning** of the operation periods for functioning of the WiFi signal.
	Quick connection button to **WPS** devices.
 	Access the configuration mode for **advanced options** for the WiFi network (expert WiFi settings, filtering by MAC address, DDNS, Denial of Service…).
 Connection status: Connection status: Connected Connection type: DHCP Client Internet IP address: 192.168.1.2 WiFi network status: WiFi network: Enabled WiFi security: WPA2 Mixed MAC address filtering: Enabled Connected devices: 192.168.2.100	Table summarizing the status of the Internet connection, the status of the WiFi network and the list of connected devices.

3.4. Easily managing your router's WiFi signal

In the Hercules Wireless N Router, Hercules has implemented functions for **managing the WiFi signal** which are both simple and useful, and which respond to the needs of a growing number of users. In the following sections, you will find out how to enable or disable the WiFi network in a fraction of a second, limit the broadcasting of your WiFi network to the boundaries of your home, and plan the operation periods for the WiFi signal.

3.4.1. Disabling/re-enabling WiFi in a fraction of a second

If you are conscious about saving energy or don't see the use of always having your Hercules Wireless N Router's WiFi function switched on, press the ◉ button. The ⏻ LED switches off, indicating that WiFi is disabled.

To **re-enable WiFi**, press the ◉ button again. The ⏻ LED switches back on, indicating that WiFi is enabled again.

⚠ When WiFi is disabled, you will only be able to access the Internet by connecting your computer to one of the Ethernet ports on the router using the included cable.

3.4.2. Limiting broadcasting of your WiFi network to your home

By default, your router's WiFi signal is adjusted to the maximum power in order to provide optimal comfort of use; however, you may not want one of your neighbors to be able to detect your WiFi network and attempt to access it. In addition to the protective features offered by your router (security key, MAC address filtering...), Hercules helps you to limit broadcasting of your WiFi network by adjusting the strength of the WiFi signal to cover only your home.

Let's imagine that you live in an apartment, or a house with a garden; in these two instances, your needs will be different. Practically speaking, the greater the area of your home to be covered, the more powerful the signal must be, and the smaller the area, the less powerful the signal. We therefore invite you to access WiFi Manager N and test out the different power settings to determine the power required to cover your home.

- Open WiFi Manager N.

- On the home page, adjust the transmission power by positioning the button on a power level less than 100% (the default setting): from 0 (no signal) to 100 % (maximum power).

- Test your WiFi connection by accessing the Internet with your computer in different locations in your home, and verify the signal quality.

- Adjust the signal strength until you find the setting best adapted to your home (not too strong, and not too weak).

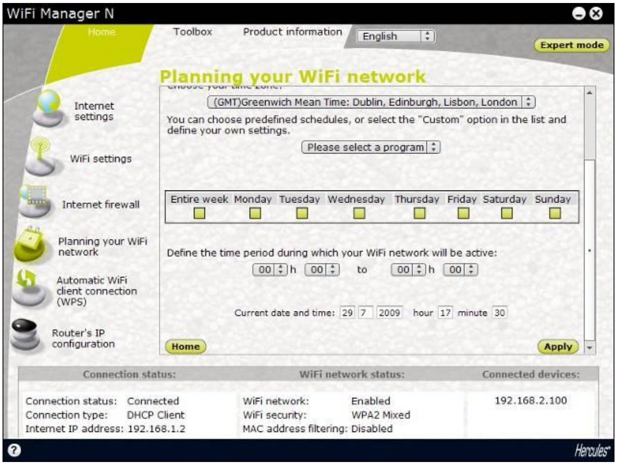
⚠ Depending on the surface area to be covered and any obstacles (the presence of a bookcase, metal, an aquarium or a wall made of reinforced concrete), you may want to keep the power of the WiFi signal at its maximum level.

3.4.3. Planning the WiFi operation periods

Do you only surf the Internet at the end of the day or on the weekend? In that case, there's no point in always keeping the WiFi function enabled. The **WiFi planning** function allows you to manage the periods during which WiFi is enabled.

- Open WiFi Manager N.

- On the home page, click the **Planning your WiFi network** button .



Planning your WiFi network

(GMT)Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London

You can choose predefined schedules, or select the "Custom" option in the list and define your own settings.

Please select a program

Entire week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
□	□	□	□	□	□	□	□

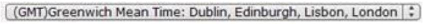
Define the time period during which your WiFi network will be active:

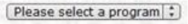
00 h 00 to 00 h 00

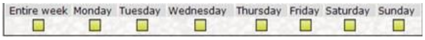
Current date and time: 29 7 2009 hour 17 minute 30

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

To select a preset program


(GMT)Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London

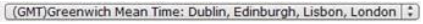

Please select a program

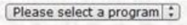


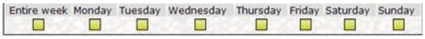
Entire week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
□	□	□	□	□	□	□	□

- Select the time zone corresponding to your country.
- In the drop-down list (opposite), select one of the **preset programs**.
- If the settings displayed in the table are good for you, click **Connect**.
- If not, select another preset program or define a personalized program.

To define a personalized program


(GMT)Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London


Please select a program



Entire week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
□	□	□	□	□	□	□	□

- Select the time zone corresponding to your country.
- In the drop-down list (opposite), select the **Custom** option.
- In the table, indicate the days to enable your WiFi network and enter the time period.
- To validate your planning, click **Connect**.

3.5. Sharing your Internet connection via the router

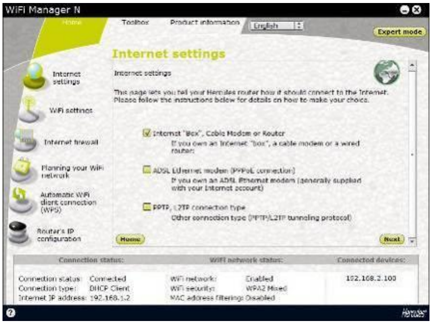
You can easily pair your Hercules router with your modem, thereby sharing your Internet connection with your other computers and/or game consoles.

Once installation of your router is complete, your WiFi connection and firewall are enabled. However, you must still select your type of Internet connection (via Ethernet modem, "Box" or other method) and enter the required information. To do so, simply consult the items of information supplied by your ISP, typically found in the membership details sent to you (connection username (login), connection password...).

3.5.1. Selecting your Internet connection

With WiFi Manager N, you don't have to be a computer expert to share your Internet connection via WiFi with your router: just get together the information sent to you by your service provider.

- On the home page, click **Internet settings**.



Internet settings

This page lets you tell your Hercules router how it should connect to the Internet. Please follow the instructions below for details on how to make your choice.

☑ Internet "Box", Cable Modem or Router
If you own an Internet "box", a cable modem or a wired router:

□ ADSL Ethernet modem (PPPoE connection)
If you own an ADSL Ethernet modem (generally supplied with your Internet account)

□ PPTP, L2TP connection type
Other connection type (PPTP/L2TP tunneling protocol)

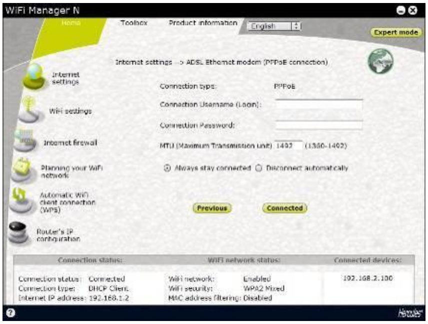
Connection status:
Connection status: Connected
Connection type: DHCP Client
Internet IP address: 192.168.1.2

WiFi network status:
WiFi network: Enabled
WiFi security: WPA2 Mixed
MAC address filtering: Disabled

Connected devices:
192.168.2.100

- Select the Internet connection mode: **ADSL Ethernet modem (PPPoE connection)** or **Internet "Box", Cable Modem or Router**, and click **Next**.

If you select ADSL Ethernet modem (PPPoE connection)



Internet settings --> ADSL Ethernet modem (PPPoE connection)

Connection type: PPPoE

Connection Username (Login):

Connection Password:

MTU (Maximum Transmission unit) 1492 (1300-1492)

● Always stay connected ○ Disconnect automatically

Connection status: Connection status: Connected; Connection type: DHCP Client; Internet IP address: 192.168.1.2

WiFi network status: WiFi network: Enabled; WiFi security: WPA2 Mixed; MAC address filtering: Disabled

Connected devices: 192.168.2.100

- Enter your **connection username (login)** and **password**.

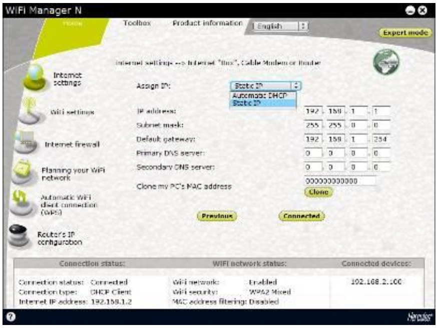
This information can be found in the membership details sent to you by your ISP.

- Also enter a valid **MTU** value.

*The **MTU** value corresponds to the maximum value, in bytes, of transmitted data packets (for example, 1500 bytes on an ADSL WiFi network).*

- If you wish, you can **always stay connected**, thereby leaving your Internet connection enabled all the time; you can also choose to **disconnect automatically** after a certain length of time.

If you select the Internet "Box", Cable Modem or Router mode



Internet settings --> Internet "Box", Cable Modem or Router

Assign IP: Static IP

IP address: 192 . 168 . 1 . 1

Subnet mask: 255 . 255 . 0 . 0

Default gateway: 192 . 168 . 1 . 254

Primary DNS server: 0 . 0 . 0 . 0

Secondary DNS server: 0 . 0 . 0 . 0

Clone my PC's MAC address 000000000000

Connection status: Connection status: Connected; Connection type: DHCP Client; Internet IP address: 192.168.1.2

WiFi network status: WiFi network: Enabled; WiFi security: WPA2 Mixed; MAC address filtering: Disabled

Connected devices: 192.168.2.100

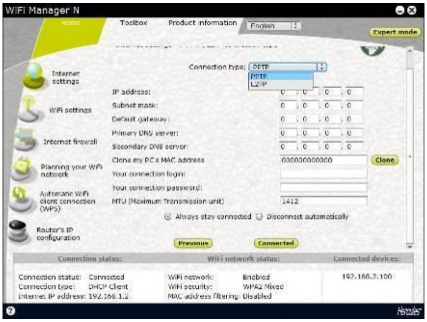
- Select the **Assign IP** type: **Static IP** or **Automatic DHCP**.
- If you select **Automatic DHCP**, the DHCP server will be responsible for assigning the IP address.
- Select **Static IP** if you have subscribed to an Internet line with a fixed IP address.

This information can be found in the membership details sent to you by your ISP.

- Enter the **IP address**, **subnet mask**, and **default gateway**.

If you select another connection type:

- If you select the **PPTP** connection type:



Connection type: PPTP

IP address: 0 . 0 . 0 . 0

Subnet mask: 0 . 0 . 0 . 0

Default gateway: 0 . 0 . 0 . 0

Primary DNS server: 0 . 0 . 0 . 0

Secondary DNS server: 0 . 0 . 0 . 0

Clone my PC's MAC address: 000000000000

Your connection login:

Your connection password:

MTU (Maximum Transmission unit): 1412

● Always stay connected ○ Disconnect automatically

Connection status: Connection status: Connected; Connection type: DHCP Client; Internet IP address: 192.168.1.2

WiFi network status: WiFi network: Enabled; WiFi security: WPA2 Mixed; MAC address filtering: Disabled

Connected devices: 192.168.2.100

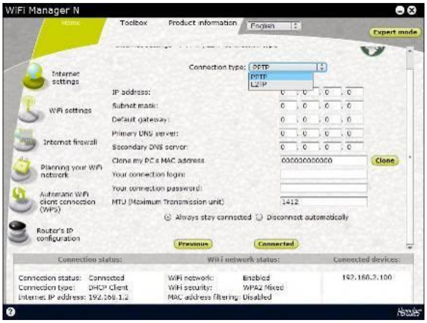
- Select **PPTP** in the drop-down list.
- Enter the **host name** supplied when subscribing to the service.
- If necessary, click the **Clone** button to clone your PC's MAC address.
- Enter your **connection username (login)** and **password**.
- Also enter the **PPTP gateway** and, if you wish, a connection ID for this gateway.

This information can be found in the membership details sent to you by your ISP.

- Enter a valid **MTU** value.

*The **MTU** value corresponds to the maximum value, in bytes, of transmitted data packets (for example, 1500 bytes on an ADSL WiFi network).*

- If you select the **L2TP** connection type:



Connection type: PPTP

IP address: 0 . 0 . 0 . 0

Subnet mask: 0 . 0 . 0 . 0

Default gateway: 0 . 0 . 0 . 0

Primary DNS server: 0 . 0 . 0 . 0

Secondary DNS server: 0 . 0 . 0 . 0

Clone my PC's MAC address: 000000000000

Your connection login:

Your connection password:

MTU (Maximum Transmission unit): 1412

● Always stay connected ○ Disconnect automatically

Connection status: Connection status: Connected; Connection type: DHCP Client; Internet IP address: 192.168.1.2

WiFi network status: WiFi network: Enabled; WiFi security: WPA2 Mixed; MAC address filtering: Disabled

Connected devices: 192.168.2.100

- Select **L2TP** in the drop-down list.
- Enter the **host name** supplied when subscribing to the service.
- If necessary, click the **Clone** button to clone your PC's MAC address.
- Enter your **connection username (login)** and **password**.
- Also enter the **L2TP gateway** and, if you wish, a connection ID for this gateway.

This information can be found in the membership details sent to you by your ISP.

- Enter a valid **MTU** value.

*The **MTU** value corresponds to the maximum value, in bytes, of transmitted data packets (for example, 1500 bytes on an ADSL WiFi network).*

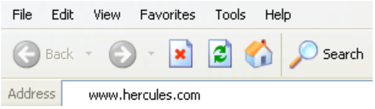
⚠ Once you have selected your connection mode, don't forget to click the **Apply and Save** button to save your settings.

3.5.2. Testing your Internet connection

Once you have selected your Internet connection mode for your Hercules router, you can carry out a first test and verify that you are able to access the Internet.

On the **General settings** page, you can also view the Earth icon 🌍 to see your status: green (router connected), or red (router not connected).

⚠ During this test, leave the Ethernet cable connected to your Hercules router.



www.hercules.com

- Launch an Internet browser (Internet Explorer, Netscape Navigator or Mozilla Firefox) on your computer.

- Enter the address **www.hercules.com**.

The Hercules website homepage should appear.

If your Internet connection is working properly:

It is now time for you to learn how to master your WiFi network (please see section **3.6. Mastering your WiFi network at your fingertips**).

⚠ Do not disconnect your Ethernet cable just yet, so long as your WiFi network has not been created; you will need it in order to communicate with your router.

3.6. Mastering your WiFi network at your fingertips

In this chapter, you will learn how to personalize your WiFi network and secure it against unwelcome intrusion attempts.

⚠ Configuration of your network is carried out via the Ethernet cable connecting your router to your computer. Once you have finished, you can disconnect this cable and explore all the subtleties of WiFi, described in chapter **4. Welcome to the Wireless Attitude™!**

3.6.1. Personalizing your WiFi network

When the wireless access point (your Hercules router's WiFi function) is enabled, WiFi Manager N displays the name of your network, the Radio Frequency (RF) channel and security type used. These settings may be modified, subject to certain conditions.

⚠ Should you decide to modify certain settings, we recommend that you take care to follow the recommendations below.

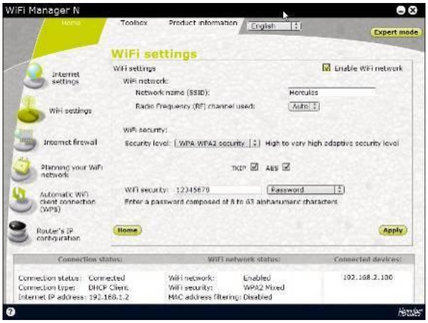
To personalize your WiFi network:

- On the home page, select **WiFi settings**.

Various items of information are displayed, such as the name of your network and the RF channel used.

- Before personalizing your WiFi network, verify that the **WiFi network enabled** box is ticked.

- If you wish, you may personalize the **Network name (SSID)** (Hercules, by default).



WiFi settings

WiFi settings ☑ Enable WiFi network

WiFi network:

Network name (SSID): Hercules

Radio Frequency (RF) channel used: Auto

WiFi security:

Security level: WPA WPA2 security — High to very high adaptive security level

TKIP ☑ AES ☑

WiFi security: 12345670 Password

Enter a password composed of 8 to 63 alphanumeric characters

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

The SSID (Service Set Identifier) is the unique name shared by the WiFi adapters and the access point in a wireless network. ***Make sure that you do not lose or forget this name****, as you will need it to connect your WiFi devices.*

- If necessary, change the **Radio Frequency (RF) channel** used by the local area WiFi network to communicate (from 1 to 13).

By default, the radio channel is automatically selected according to the least-congested channel. Change this setting ***only if*** *another transmitter is using the same channel, which may result in a drop in your router's WiFi performance.*

Don't forget to protect your network by selecting a security key; otherwise, any user, whether with bad intentions or not, will be able to connect to it.

For details on how to protect your network, please refer to section **3.6.2. Securing your WiFi network**.

- Click the **Apply** button to validate your settings.

The access point restarts. All computers or devices connected via WiFi are disconnected. The ADSL connection, however, remains active.

3.6.2. Securing your WiFi network

Creating a WiFi network is very useful if you have several wireless computers or devices, but how can you avoid having someone on the outside connect to your network without permission or intercept your unencrypted data exchanges? Thanks to the WiFi Manager N, you can define your own security choices. To help you select the best level of security for your network, we invite you to consult the table below, which sums up the **5 types of security** supported by WiFi Manager N.

Type	Level of security	Key used	Authentication
WEAK (WEP 64)	The lowest level of security, whereby simple encryption is carried out on exchanged data. Each wireless client in the network must use the same key to decode the transmission.	**64-bit** key in hexadecimal format (10 characters), or in alphanumeric format with 5 ASCII characters (e.g.: *hello*). *A* ***hexadecimal key*** *is composed of numbers 0 to 9 and letters A to F (example: A123BCD45E for a 64-bit key).*	Open (no authentication), Shared (authentication method via shared key) or Auto (authentication when requested by the device).

		An ***alphanumeric character*** *corresponds either to a number (0-9), or to a letter (a-z or A-Z).*	
MEDIUM (WEP 128)	Level of security identical to that of WEP 64. Only the key length is different.	**128-bit** key in hexadecimal format (26 characters), or in alphanumeric format with 13 ASCII characters. *A* ***hexadecimal key*** *is composed of numbers 0 to 9 and letters A to F.* *An* ***alphanumeric character*** *corresponds either to a number (0-9), or to a letter (a-z or A-Z).*	Open (no authentication), Shared (authentication method via shared key) or Auto (authentication when requested by the device).

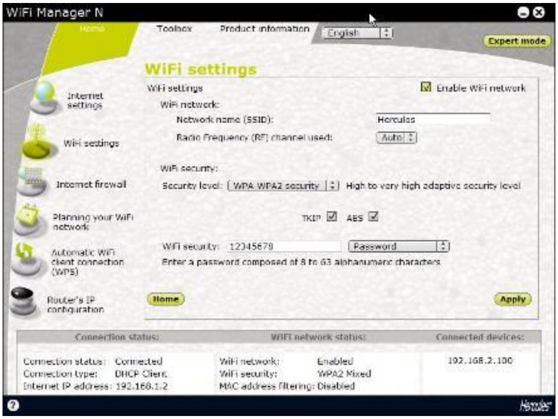
Type	Level of security	Key used	Authentication
HIGH (WPA-PSK)	Latest-generation heightened level of security, specially designed for environments such as a small office or the home, based on a pre-shared key.	Password with a minimum of **8 alphanumeric characters**. *An* ***alphanumeric character*** *corresponds either to a number (0-9), or to a letter (a-z or A-Z).*	**TKIP**
VERY HIGH (WPA2)	Latest-generation very heightened level of security, specially designed for environments such as a small office or the home, based on a pre-shared key.	Password with a minimum of **8 alphanumeric characters**. *An* ***alphanumeric character*** *corresponds either to a number (0-9), or to a letter (a-z or A-Z).*	**AES**
HIGH TO VERY HIGH WPA or WPA2	Level of security selected by the router depending on the maximum level of security supported by the devices on the network.	Password with a minimum of **8 alphanumeric characters**. *An* ***alphanumeric character*** *corresponds either to a number (0-9), or to a letter (a-z or A-Z).*	**TKIP** or AES

⚠ You must not select a level of security in WiFi Manager N more advanced than that supported by your computers or other WiFi devices. For example, if your computers or other devices only support the **WEAK (WEP 64)** or **MEDIUM (WEP 128)** levels, you should not select the **HIGH (WPA-PSK)** or **VERY HIGH (WPA2)** level.

⚠ If you have used the **WPS** function to connect, a **WPA** or **WPA2** type security key has automatically been generated.

To secure your WiFi network:

- Before enabling security for your WiFi network, verify that the **Enable WiFi network** box is ticked.



WiFi settings

WiFi settings ☑ Enable WiFi network

WiFi network:

Network name (SSID): Hercules

Radio Frequency (RF) channel used: Auto

WiFi security:

Security level: WPA WPA2 security High to very high adaptive security level

TKIP ☑ AES ☑

WiFi security: 12345678 Password

Enter a password composed of 8 to 63 alphanumeric characters

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- Select your level of security: **MEDIUM** (WEP 128), **HIGH** (WPA) or **VERY HIGH** (WPA2).

If you select the "VERY HIGH (WPA2)" security type:

- Select the level of security: **WPA2 (AES)**.

- Enter a **password** (8 alphanumeric characters minimum) or a **key** with 64 hexadecimal characters.

An alphanumeric character corresponds either to a number (0-9), or to a letter (a-z or A-Z).

A hexadecimal key is composed of numbers 0 to 9 and letters A to F (example: A123BCD45E for a 64-bit key).

In the status zone, you can consult the overview of your WiFi settings. Make a note of the network name, security type and key used.

- Click **Apply** to validate the new settings.

If you select the "HIGH TO VERY HIGH (WPA-WPA2)" security type:

- Select the level of security: **WPA-WPA2**.

- Enter a **password** (8 alphanumeric characters minimum) or a **key** with 64 hexadecimal characters.

An alphanumeric character corresponds either to a number (0-9), or to a letter (a-z or A-Z).

A hexadecimal key is composed of numbers 0 to 9 and letters A to F (example: A123BCD45E for a 64-bit key).

In the status zone, you can consult the overview of your WiFi settings. Make a note of the network name, security type and key used.

- Click **Modify** to validate the new settings.

If you select the "HIGH (WPA)" security type:

- Enter a **password** with 8 alphanumeric characters minimum, or a **key** with 64 hexadecimal characters of your choice.

An alphanumeric character corresponds either to a number (0-9), or to a letter (a-z or A-Z).

A hexadecimal key is composed of numbers 0 to 9 and letters A to F (example: A123BCD45E for a 64-bit key).

In the status zone, you can consult the overview of your WiFi settings. Make a note of the network name, security type and key used.

- Click **Modify** to validate the new settings.

If you select the "MEDIUM (WEP 64-WEP 128)" security type:

- Enter a **key** with 10 hexadecimal characters or a **password** with 5 alphanumeric characters for **WEP 64** security, or a key with 26 hexadecimal characters or a password with 13 alphanumeric characters for **WEP 128** security.

A hexadecimal key is composed of numbers 0 to 9 and letters A to F (example: A123BCD45E for a 64-bit key).

An alphanumeric character corresponds either to a number (0-9), or to a letter (a-z or A-Z).

In the status zone, you can consult the overview of your WiFi settings. Make a note of the network name, security type and key used.

- Click **Modify** to validate the new settings.

If you select NO (Disabled) security (not recommended):

⚠ If you don't apply any security, your network will not be protected. Any user, whether with bad intentions or not, will be able to connect to it.

In the status zone, you can consult the overview of your WiFi settings. Make a note of the network name, security type and key used.

- Click **Modify** to validate the new settings.

⚠ The **WEP, WPA-PSK (TKIP) and WPA2-PSK (TKIP)** security levels are not supported by the 802.11n-2009 standard. If you select one of these security levels, data rates for the connection with WiFi clients will be limited to **54Mbps**.

3.6.3. Limiting access to your WiFi network to certain WiFi computers or devices

Filtering by **MAC address** is a complement to your security settings, allowing you to select the wireless computers and devices authorized to connect to your local area WiFi network.

*A **MAC address** is a unique address created by the builder of the network device (WiFi or Ethernet), serving to identify this element within a network.*

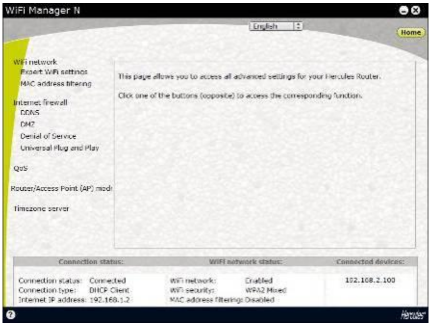
⚠ Before enabling filtering, we recommend that you connect via WiFi all computers you wish to authorize.

To add a WiFi computer or device (webcam, game console or other) to the list:

If you are using this function for the first time:

- On the home page, click the **Expert mode** button located in the upper right-hand corner.

- In the **WiFi network** tab, click the **MAC address filtering** option.

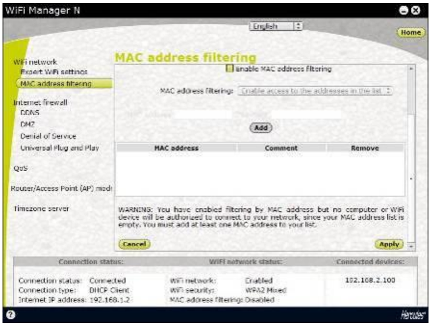


This page allows you to access all advanced settings for your Hercules Router.

Click one of the buttons (opposite) to access the corresponding function.

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- In the **MAC address filtering** drop-down list, select **Enable access to the addresses in the list**.



MAC address filtering

☐ Enable MAC address filtering

MAC address filtering: Enable access to the addresses in the list

MAC address	Comment	Remove

WARNING: You have enabled filtering by MAC address but no computer or WiFi device will be authorized to connect to your network, since your MAC address list is empty. You must add at least one MAC address to your list.

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

Any new computer or device must be added manually.

- Manually enter its MAC address (in AAAAAAAAAAAA format, without separators) and, if you wish, the name of the device in the **Comment** field.

- Click the **Add** button.

This address has been added to the list of WiFi computers and devices authorized to connect.

- Click the **Apply** button to validate your settings, or **Cancel** to cancel the settings you have entered.

Once you have enabled the filtering by MAC address function, **only** the computers and devices appearing in this list will be authorized to connect to your Hercules router.

If your friends visit you with their WiFi computer or device, or if you wish to connect new WiFi devices, don't forget to **add their MAC address** to the filtering list, or else they will never be able to connect.

To remove a WiFi computer or device (webcam, game console or other) from the list:

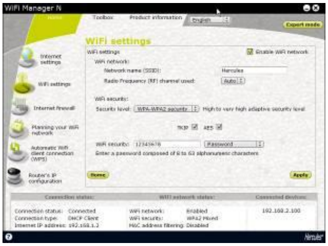
- In the **Remove** column, click next to the computers or devices you wish to remove from the filtering list.

- Confirm the removal in the dialog box which appears.

- Click the **Modify** button to validate your settings, or **Cancel** to cancel the settings you have entered.

3.6.4. Disabling your WiFi network in WiFi Manager N

If you wish to use your Hercules router as a wired router only (that is to say, connected to the computer via the Ethernet port, and not by WiFi), you can disable your WiFi network by pressing the button on the router, as indicated in section **3.4.1. Disabling/re-enabling WiFi in a fraction of a second**. You can also do the same thing in WiFi Manager N.



WiFi settings

WiFi settings ☑ Enable WiFi network

WiFi network:

Network name (SSID): Hercules

Radio Frequency (RF) channel used: Auto

WiFi security:

Security level: WPA-WPA2 security High to very high adaptive security level

TKIP ☑ AES ☑

WiFi security: 12345678 Password

Enter a password composed of 8 to 63 alphanumeric characters

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.3	MAC address filtering:	Disabled	

- On the home page, select **WiFi settings**.

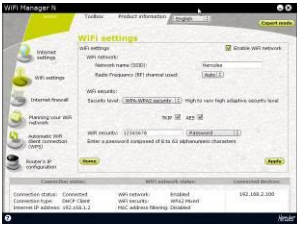
- In the **WiFi settings** page, deselect the **Enable WiFi network** box.

- Confirm that you wish to disable your WiFi network.

3.6.5. Re-enabling your WiFi network in WiFi Manager N

If you wish to re-enable your WiFi network, press the button on the router again (the WiFi LED lights up) or proceed as follows:

- On the WiFi Manager N home page, select **WiFi settings**.



WiFi settings

WiFi settings ☑ Enable WiFi network

WiFi network:

Network name (SSID): Hercules

Radio Frequency (RF) channel used: Auto

WiFi security:

Security level: WPA-WPA2 security High to very high adaptive security level

TKIP ☑ AES ☑

WiFi security: 12345678 Password

Enter a password composed of 8 to 63 alphanumeric characters

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.3	MAC address filtering:	Disabled	

- In the **WiFi settings** page, select the **Enable WiFi network** box.

- Confirm that you wish to re-enable your WiFi network.

3.7. The firewall: your ultimate protection against Internet attacks

Like a secure fortress, your network is protected by a drawbridge and ramparts that are impossible to scale. On top of this, all of your defenses are in a state of alert to repel any intrusion attempts. It is possible, however, to lower these defenses from time to time, in order to authorize your computers to access specific Internet services (P2P, web/FTP servers, IP or WiFi camera…), to simply limit access on a specific computer to certain Internet services, or to redirect all Internet requests to a designated computer. For more information, please refer to chapters **5.2.1. Opening doors in your firewall to put your camera online or authorize access for a computer to certain Internet services**, **5.2.2. Limiting access of one of your network computers to Internet services** and **5.2.3. Redirecting Internet requests to a specific computer**.

⚠ If your computer is equipped with a **software firewall** (Norton Personal Firewall, Windows Service Pack 2 Firewall, McAfee Personal Firewall…), **disable it** when you connect to the router, as your router's firewall is sufficiently strong on its own, or adopt the same configuration settings as those established for your router in order to avoid any possible conflicts. If you go somewhere else with your computer, however, and have to connect to other networks, you can **re-enable** your software firewall.

Be careful not to confuse a firewall with an antivirus program!

An **antivirus program** analyzes the contents of your computer, your emails, files you have downloaded from the Internet, etc., and detects, blocks and/or removes any viruses, worms and Trojans in order to ensure that your computer functions properly.

Your **firewall** hides your computer on the network, monitors the Internet data arriving at your computer and blocks intrusion attempts to stop computer hackers from stealing your personal information.

4. WELCOME TO THE WIRELESS ATTITUDE™!

Now that you have mastered the main functionalities of WiFi Manager N, it is time to move on to a few practical applications. In the following chapters, we will show you how wireless computing is closely linked to user-friendliness and ease of use. Sharing your folders, your printer, or letting friends use your ADSL connection for online gaming are some examples of the things we will help you to do. Enter the world of wireless and join in the **Wireless Attitude™!**

4.1. A few important points to bear in mind before getting started

We advise you to follow the instructions provided hereinafter for each of your computers:

- The procedures described in this chapter differ according to the various operating systems discussed. Please ensure that you refer to the chapters corresponding to your operating system.

- These procedures also apply to the computers or devices directly connected to your router via an Ethernet cable.

- To share an ADSL connection, your Hercules router and your modem (ADSL Ethernet, cable or Internet "Box") must be switched on and your ADSL line must be active.

Reminder: the WiFi network you have just finished setting up is an **Infrastructure** type network (as opposed to **Ad hoc** mode), as it is composed of an **access point** and one or more computers.

4.2. Computers running Windows Vista: Sharing folders, a printer or an ADSL connection

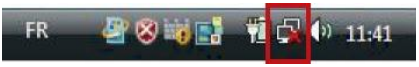
⚠ To create a network of computers, share data, a printer or an **ADSL** connection between computers running **Windows Vista**, it is not imperative that the computers belong to the same **workgroup**. However, if you wish to share between **Windows Vista** and an earlier operating system, make sure to define the same workgroup on all computers. For information on how to create a workgroup, please refer to the manual of your Hercules product.

Note: The access paths described hereafter may vary slightly if you have modified the default display in Windows Vista (that is to say, the Start menu properties and the Control Panel display).

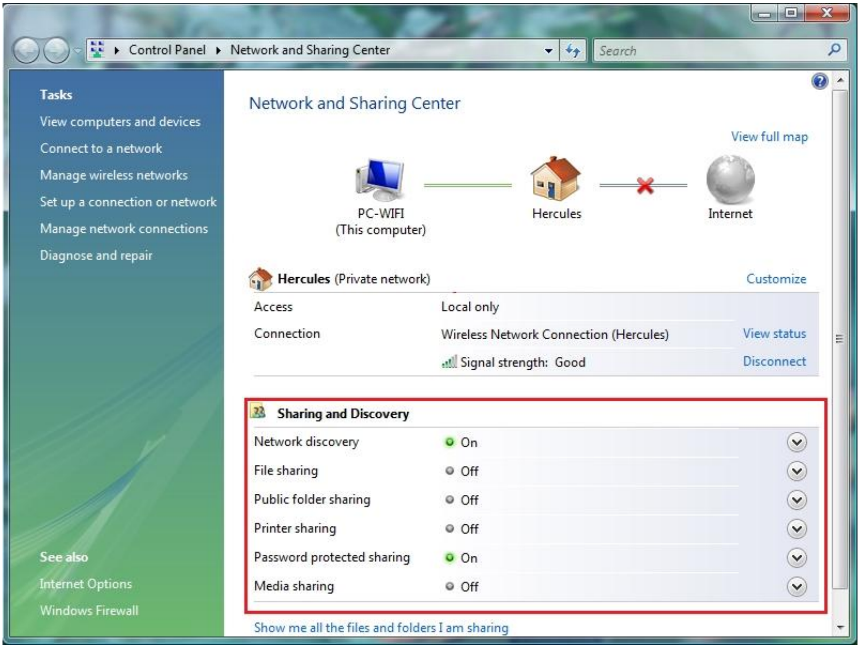
You have connected your computer to a **private network** (as opposed to a **public network**). Therefore, the **discovery** options (namely, the ability to view outside devices and computers and to be seen by other networks) are enabled, but **sharing** options are not. You must therefore enable them manually before you can share your folders, your Internet connection or your printer.

4.2.1. Enabling sharing

Before setting up sharing for your folders, your printer or your Internet connection, you must enable sharing in the **Network and Sharing Center**.



Note: To open the **Network and Sharing Center**, click the network icon in the **Windows taskbar**, then the **Network and Sharing Center** link.



Control Panel ▸ Network and Sharing Center

Tasks
- View computers and devices
- Connect to a network
- Manage wireless networks
- Set up a connection or network
- Manage network connections
- Diagnose and repair

See also
- Internet Options
- Windows Firewall

Network and Sharing Center

View full map

PC-WIFI (This computer) — Hercules — Internet

Hercules (Private network) Customize

Access	Local only	
Connection	Wireless Network Connection (Hercules)	View status
	Signal strength: Good	Disconnect

Sharing and Discovery

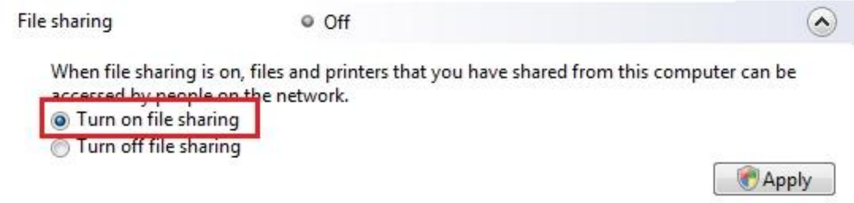
Network discovery	● On
File sharing	○ Off
Public folder sharing	○ Off
Printer sharing	○ Off
Password protected sharing	● On
Media sharing	○ Off

Show me all the files and folders I am sharing

Enabling file sharing

- In the **Sharing and Discovery** zone, click the **Off** link or the ⌄ button located opposite **File sharing**.

- Select the **Turn on file sharing** radio button.



File sharing ○ Off

When file sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

● Turn on file sharing

○ Turn off file sharing

Apply

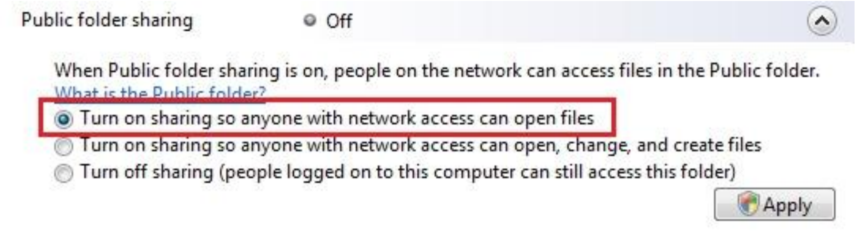
- Click **Apply**. In the Windows Vista confirmation window, click **Continue**.

Enabling public folder sharing

Note: A public folder is a folder which can be shared by other users of the same computer or of the same network.

- In the **Sharing and Discovery** zone, click the **Off** link or the ⌄ button located opposite **Public folder sharing**.

- Select the **Turn on sharing so anyone with network access can open files** radio button (they will only be able to consult files) or select **Turn on sharing so anyone with network access can open, change, and create files** (there will be no limitations on the contents of these folders in terms of viewing, making changes and additions or other actions).



Public folder sharing ● Off

When Public folder sharing is on, people on the network can access files in the Public folder.
What is the Public folder?

● Turn on sharing so anyone with network access can open files
○ Turn on sharing so anyone with network access can open, change, and create files
○ Turn off sharing (people logged on to this computer can still access this folder)

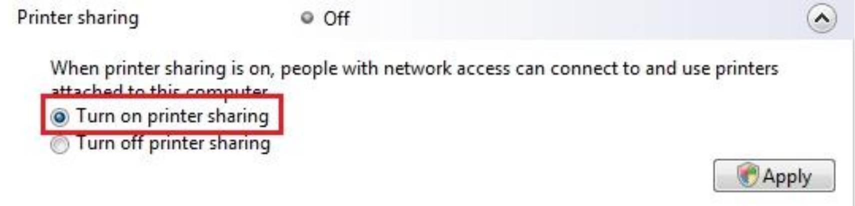
- Click **Apply**. In the Windows Vista confirmation window, click **Continue**.

Enabling printer sharing

Note: To enable printer sharing, you must first have installed a printer.

- In the **Sharing and Discovery** zone, click the **Off** link or the ⌄ button located opposite **Printer sharing**.

- Select the **Turn on printer sharing** radio button.



Printer sharing ● Off

When printer sharing is on, people with network access can connect to and use printers attached to this computer.

● Turn on printer sharing
○ Turn off printer sharing

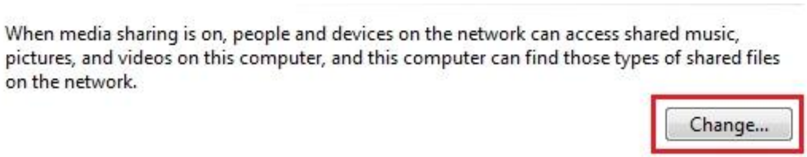
- Click **Apply**. In the Windows Vista confirmation window, click **Continue**.

Enabling media file sharing

Note: This option allows you to enable sharing of your music, videos and images.

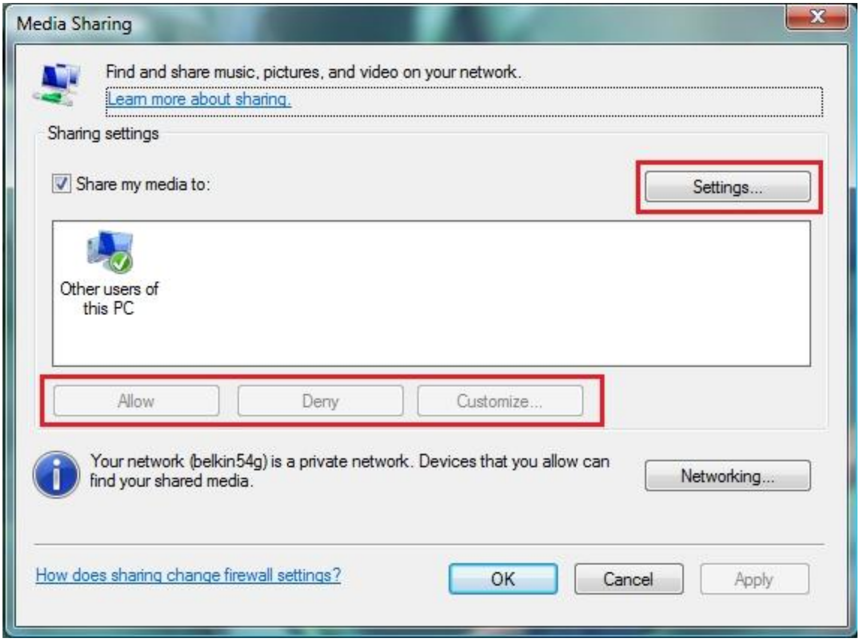
- In the **Sharing and Discovery** zone, click the **Off** link or the ⌄ button located opposite **Media sharing**.

- Click **Change…**



When media sharing is on, people and devices on the network can access shared music, pictures, and videos on this computer, and this computer can find those types of shared files on the network.

- In the **Media Sharing** window that appears, tick the **Share my media** box.



Media Sharing

Find and share music, pictures, and video on your network.

Learn more about sharing.

Sharing settings

☑ Share my media to:

Your network (belkin54g) is a private network. Devices that you allow can find your shared media.

How does sharing change firewall settings?

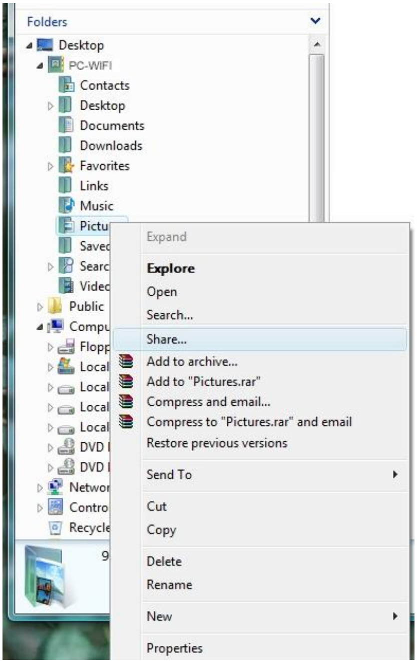
- Click **OK**. In the Windows Vista confirmation window, click **Continue**.

- In the following window, you can define the different **settings**, such as: authorize or refuse groups of users, set parental controls, select media types to be shared, and so on.

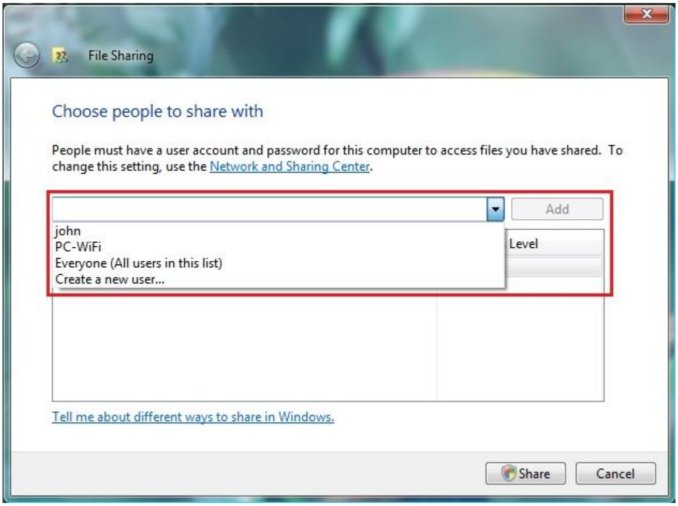
- When you're done, click **Apply**, then **OK**.

4.2.2. Windows Vista: Sharing public or personal folders

Reminder: In Windows Vista, there are two types of folders: **personal or local folders and public folders**. A **personal folder** is a folder belonging to a specific user created on the computer, whereas a **public folder** is a folder that can be shared by any other user of the same computer or the same network. In essence, a public folder is shared, and therefore available to everyone for viewing (minimum authorization level). For sharing **personal folders** (your folder of your own images, for example), you must select the users who will be able to access their contents and set the authorization level, as indicated in the following procedure.



1. Select the folder that you wish to share, without opening it. Here, your **Pictures** folder.
2. Right-click the folder. Select **Share**.



Choose people to share with

People must have a user account and password for this computer to access files you have shared. To change this setting, use the Network and Sharing Center.

Add
john
PC-WiFi
Everyone (All users in this list)
Create a new user...
Level
Tell me about different ways to share in Windows.
Share
Cancel

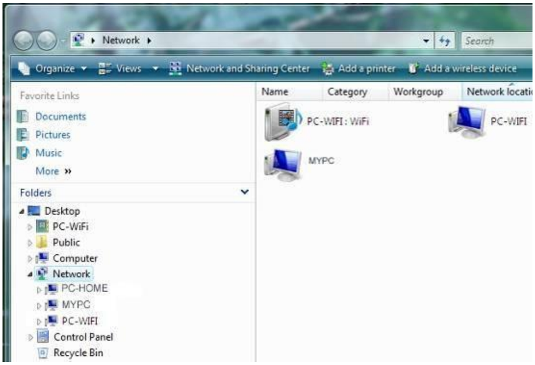
3. In the **File Sharing** window, select the user(s) who will be able to access this folder, then click **Add**.

Note: You can provide access to all users with no restrictions (**Everyone** option) or select specific users previously created on your PC. You can also create new users by clicking **Create a new user…** in the drop-down list.

4. Select the **Permission Level** you wish to assign by clicking on the line for that user: **Reader** (authorization to view only), **Contributor** (authorization to view, add and delete) or **Co-owner** (authorization to view, modify, add and delete).
5. Click **Share**. Be sure to note the path indicated, which will allow for access to the shared folder on the network from another computer. For example: **\\PC-WIFI\Users\My documents\Shared Pictures Folders**.
6. Click **Done**.

*The folder is now shared. You can now display all shared folders and files on the computer or the shared files on the network by clicking the links in the **Network and Sharing Center**.*

4.2.3. Computers running Windows Vista: Accessing shared folders



1. In the file explorer, accessible via **Start**/**Computer**, double-click **Network**.

*You access the list of the computers on the same network. Use the path indicated by Windows when setting up sharing (for example : **\\PC-WIFI\Users\My documents\Shared Pictures Folders**).*

2. Double-click the computer sharing the folders you wish to access.
3. If a password has been defined, enter your **user name** and your **password**.

All shared folders appear. Depending on your authorization level, you can display, modify, add and/or delete shared folders and files.

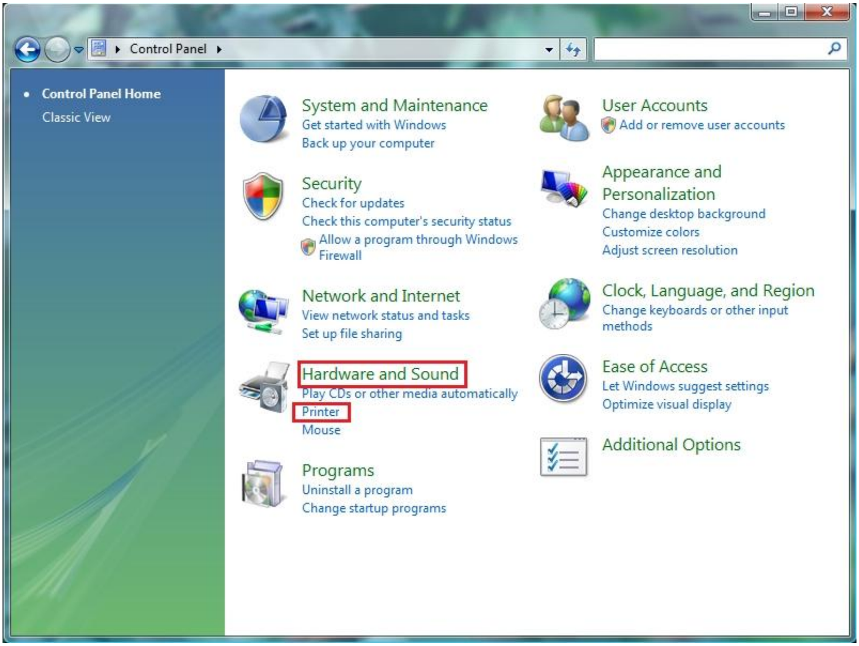
4.2.4. Windows Vista: Sharing a printer

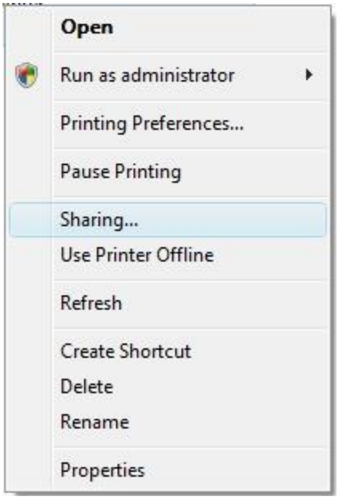
You can put a printer on the network and thereby share it with all computers in your home equipped with a WiFi adapter.

To access a printer on the network, sharing for the printer must first be set up in the **Network and Sharing Center** (please refer to chapter **4.2.1 Enabling sharing**). The printer must then be set up for sharing on the computer to which is connected and on which it is installed.

On the computer connected to the printer:

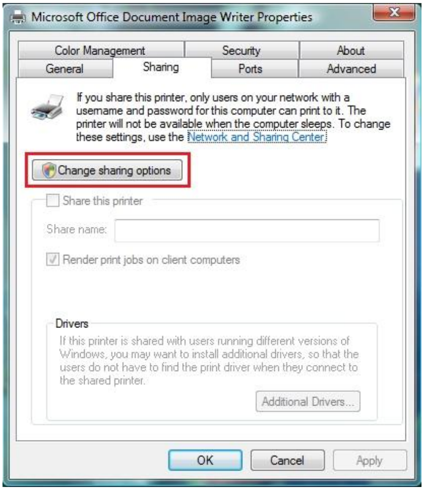
1. Click **Start/Control Panel**.
2. Under the **Hardware and Sound** heading, click the **Printer** link.





The list of installed printers is displayed.

3. Right-click the printer and select the **Sharing…** option.



If you share this printer, only users on your network with a username and password for this computer can print to it. The printer will not be available when the computer sleeps. To change these settings, use the Network and Sharing Center.

□ Share this printer

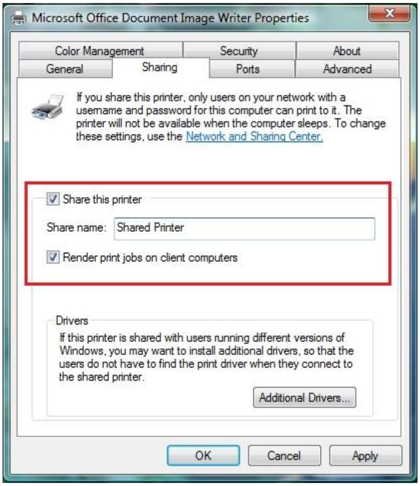
Share name:

☑ Render print jobs on client computers

Drivers

If this printer is shared with users running different versions of Windows, you may want to install additional drivers, so that the users do not have to find the print driver when they connect to the shared printer.

4. In the **Printer Properties** window, click the **Change sharing options** button.
5. In the Windows Vista confirmation window, click **Continue**.



If you share this printer, only users on your network with a username and password for this computer can print to it. The printer will not be available when the computer sleeps. To change these settings, use the Network and Sharing Center.

☑ Share this printer

Share name: Shared Printer

☑ Render print jobs on client computers

Drivers

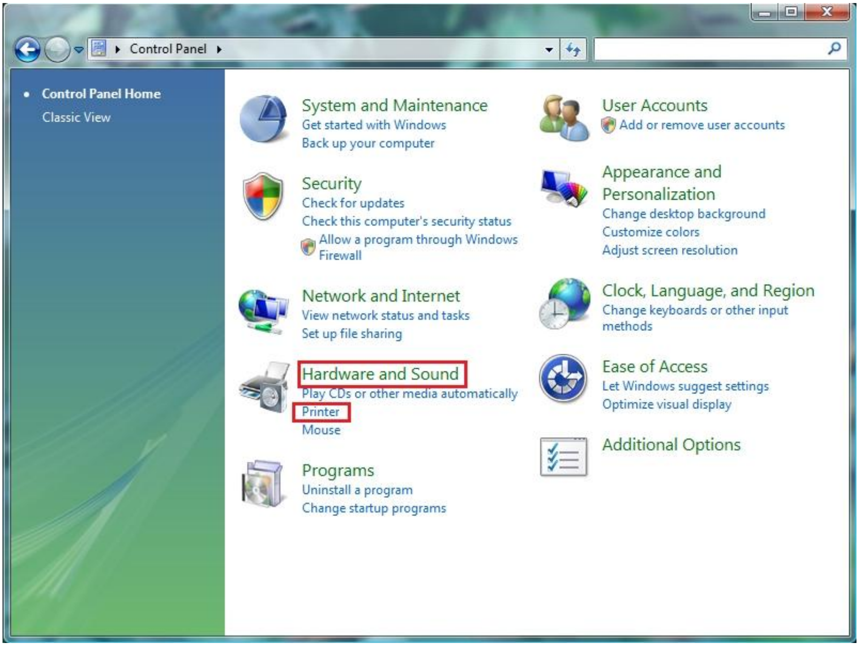
If this printer is shared with users running different versions of Windows, you may want to install additional drivers, so that the users do not have to find the print driver when they connect to the shared printer.

6. Tick the **Share this printer** box.
7. Select the name of the printer which will be displayed on the network under **Share name**.
8. Click **Apply**, then **OK**.

4.2.5. Computers running Windows Vista : Accessing the shared printer

On the computers that will use the shared printer:

1. Click **Start/Control Panel**.
2. Under the **Hardware and Sound** heading, click the **Printer** link.



Control Panel

- Control Panel Home

Classic View

System and Maintenance
Get started with Windows
Back up your computer

Security
Check for updates
Check this computer's security status
Allow a program through Windows Firewall

Network and Internet
View network status and tasks
Set up file sharing

Hardware and Sound
Play CDs or other media automatically
Printer
Mouse

Programs
Uninstall a program
Change startup programs

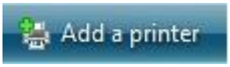
User Accounts
Add or remove user accounts

Appearance and Personalization
Change desktop background
Customize colors
Adjust screen resolution

Clock, Language, and Region
Change keyboards or other input methods

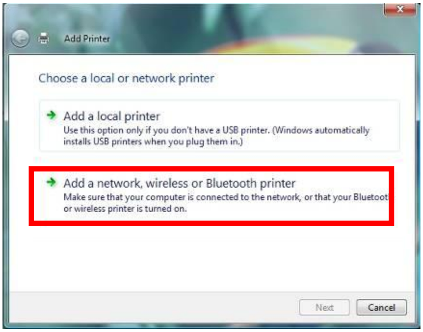
Ease of Access
Let Windows suggest settings
Optimize visual display

Additional Options



3. Click the **Add a printer** button.

The Add a printer assistant appears.



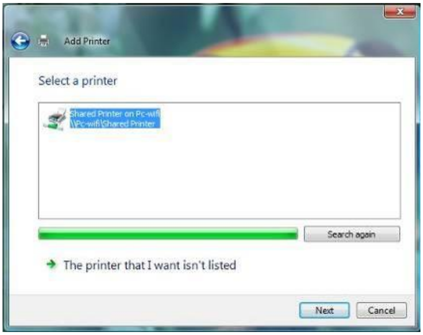
Add Printer

Choose a local or network printer

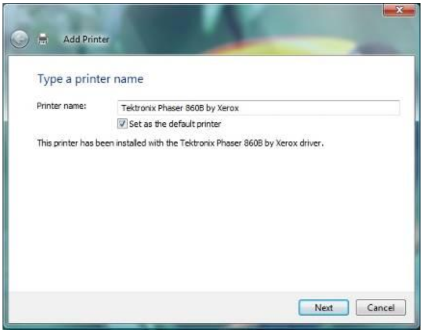
Add a local printer
Use this option only if you don't have a USB printer. (Windows automatically installs USB printers when you plug them in.)

Add a network, wireless or Bluetooth printer
Make sure that your computer is connected to the network, or that your Bluetoot or wireless printer is turned on.

4. Click **Add a network, wireless or Bluetooth printer**.



5. Windows searches for the shared printers on your network. Select the shared printer.
6. Click **Next**.
7. If necessary, accept installation of the printer's drivers when you are being prompted by Windows.



Printer name: Tektronix Phaser 860B by Xerox

☑ Set as the default printer

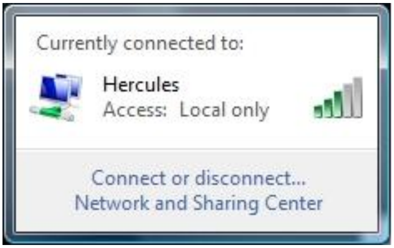
This printer has been installed with the Tektronix Phaser 860B by Xerox driver.

8. Validate the name of your printer, then click **Next**.
9. Click **Finish** to close the assistant.

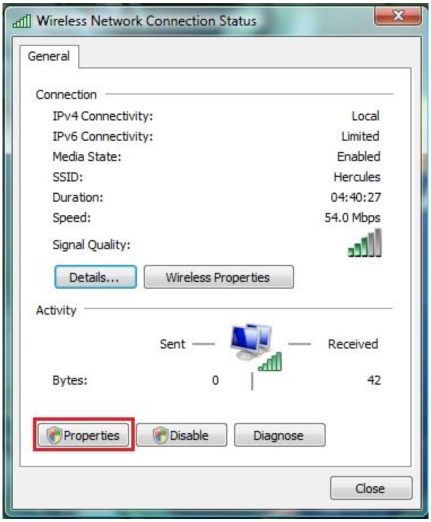
4.2.6. *Windows Vista: Sharing an ADSL connection in an Infrastructure type network*

Reminder: If you have a Livebox, a modem router or a router connected to a modem and one or more computers, your network will be in **Infrastructure mode** by default. In this mode, the WiFi adapters are connected to your **access point**, which might be your Livebox, your Hercules modem router or your Hercules router connected to a modem. **Infrastructure mode** is ideal for exchanging data, online gaming, and also for sharing an Internet connection and/or printer among several computers. Follow the instructions below to finally free yourself from the cable that connects you to your modem… without cutting the links to your ADSL connection. Viva the Wireless Attitude!

Proceed as follows for each computer that will use the shared Internet connection:



1. Connect to your wireless network (Hercules or Livebox_AAAA, for example).
2. Access the **Network and Sharing Center**. To do so, click the network icon on the Windows taskbar, then click the **Network and Sharing Center** link.
3. Click the **View status link**.



Wireless Network Connection Status

General

Connection

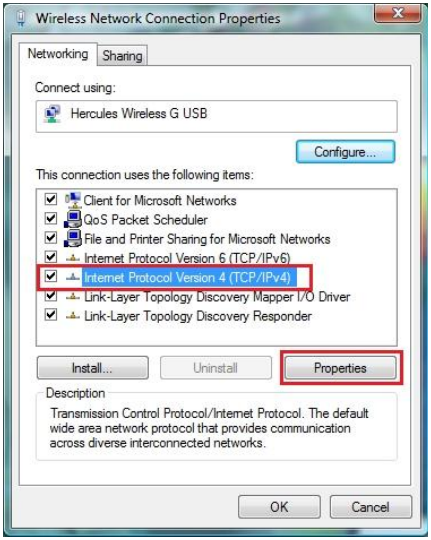
IPv4 Connectivity: Local
IPv6 Connectivity: Limited
Media State: Enabled
SSID: Hercules
Duration: 04:40:27
Speed: 54.0 Mbps
Signal Quality:

Activity

Bytes: Sent 0 Received 42

4. In the **Wireless Network Connection Status** window, click **Properties**.

5. In the Windows Vista confirmation window, click **Continue**.



Wireless Network Connection Properties

Networking Sharing

Connect using:

Hercules Wireless G USB

This connection uses the following items:

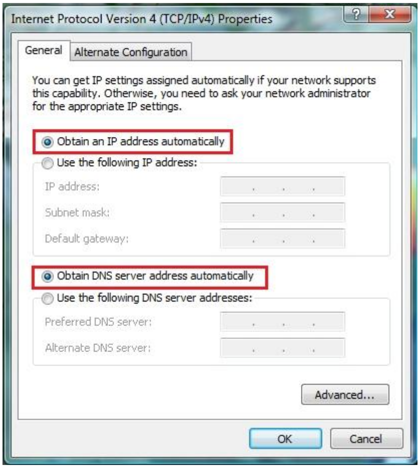
☑ Client for Microsoft Networks
☑ QoS Packet Scheduler
☑ File and Printer Sharing for Microsoft Networks
☑ Internet Protocol Version 6 (TCP/IPv6)
☑ Internet Protocol Version 4 (TCP/IPv4)
☑ Link-Layer Topology Discovery Mapper I/O Driver
☑ Link-Layer Topology Discovery Responder

Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

6. In the **Wireless Network Connection Properties** tab, select **Internet Protocol version 4 (TCP/IPv4)**.

7. Click **Properties**.



You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

● Obtain an IP address automatically
○ Use the following IP address:
IP address: . . .
Subnet mask: . . .
Default gateway: . . .

● Obtain DNS server address automatically
○ Use the following DNS server addresses:
Preferred DNS server: . . .
Alternate DNS server: . . .

8. In the **Internet Protocol version 4 (TCP/IPv4)** window, select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.
9. Click **OK** to validate.
10. Do the same for **Internet Protocol version 6 (TCP/IPv6)**.

To access the Internet, simply launch your Internet browser.

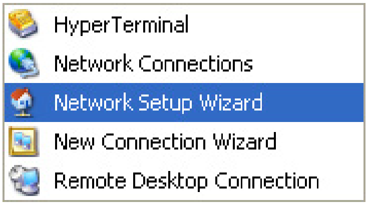
4.3. Computers running Windows XP: Sharing folders, a printer or an ADSL connection

A simple solution for sharing folders, a printer or an **ADSL** connection in Windows XP is to use the **Network Setup Wizard**. This Wizard will help you create a real home network.

Note: the access paths mentioned below may vary slightly if you have modified the default display configuration in Windows XP (meaning the Start menu properties and Control Panel display).

4.3.1. Windows XP: Using the Network Setup Wizard in an Infrastructure network

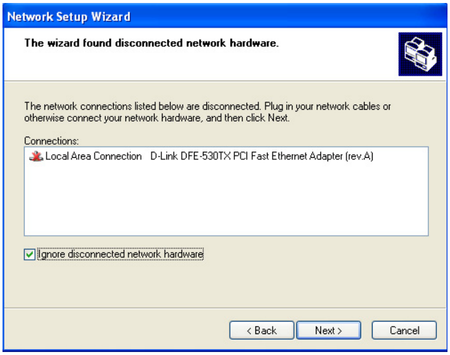
Proceed as follows for each computer:



1. Click **Start/All Programs/Accessories/ Communications/ Network Setup Wizard**.

The Network Setup Wizard is launched.

2. Click **Next** twice.



Network Setup Wizard

The wizard found disconnected network hardware.

The network connections listed below are disconnected. Plug in your network cables or otherwise connect your network hardware, and then click Next.

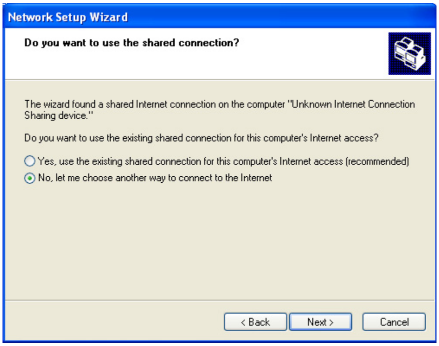
Connections:

Local Area Connection D-Link DFE-530TX PCI Fast Ethernet Adapter (rev.A)

☑ Ignore disconnected network hardware

The window opposite may appear if ***The Wizard found disconnected network hardware****.*

3. If your Hercules Wireless Adapter wireless network connection is not displayed in the list, tick the **Ignore disconnected network hardware** box, then click **Next**. Otherwise, exit the Wizard by clicking **Cancel** and establish the connection from your network device to your router (if you use a Hercules Wireless G PCI, USB or PCMCIA adapter, please refer to the "The WiFi Station utility" chapter of your User Manual).



Network Setup Wizard

Do you want to use the shared connection?

The wizard found a shared Internet connection on the computer "Unknown Internet Connection Sharing device."

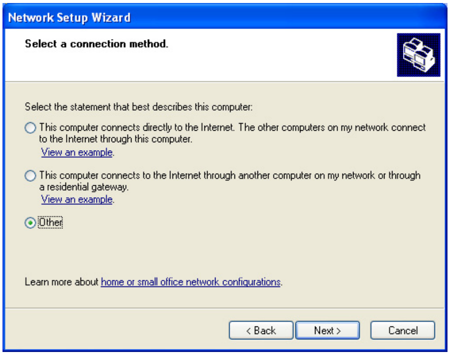
Do you want to use the existing shared connection for this computer's Internet access?

○ Yes, use the existing shared connection for this computer's Internet access (recommended)

● No, let me choose another way to connect to the Internet

The window opposite may appear if ***The Wizard found a shared Internet connection on the computer****.*

4. Select **No, let me choose another way to connect to the Internet**, then click **Next**.



Network Setup Wizard

Select a connection method.

Select the statement that best describes this computer:

○ This computer connects directly to the Internet. The other computers on my network connect to the Internet through this computer.
View an example.

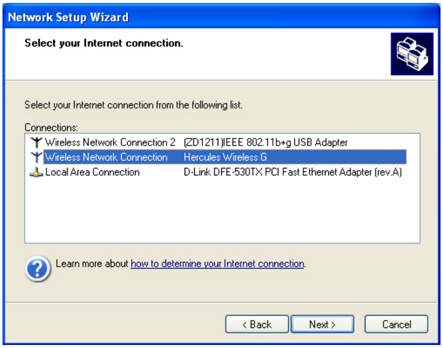
○ This computer connects to the Internet through another computer on my network or through a residential gateway.
View an example.

● Other

Learn more about home or small office network configurations.

5. In the **Select a connection method** window, select the **Other** option.

6. In the following window, select **This computer connects to the Internet directly or through a network hub**, then click **Next**.



Network Setup Wizard

Select your Internet connection.

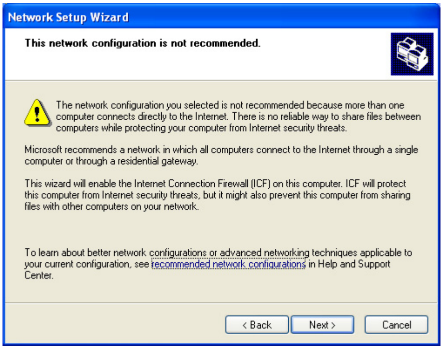
Select your Internet connection from the following list.

Connections:

Wireless Network Connection 2	(ZD1211)IEEE 802.11b+g USB Adapter
Wireless Network Connection	Hercules Wireless G
Local Area Connection	D-Link DFE-530TX PCI Fast Ethernet Adapter (rev.A)

Learn more about how to determine your Internet connection.

7. If the window opposite appears, select the Hercules Wireless network connection, then click **Next**.



Network Setup Wizard

This network configuration is not recommended.

The network configuration you selected is not recommended because more than one computer connects directly to the Internet. There is no reliable way to share files between computers while protecting your computer from Internet security threats.

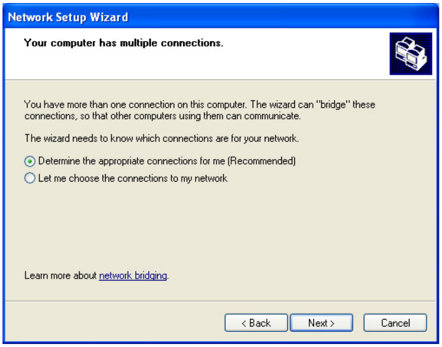
Microsoft recommends a network in which all computers connect to the Internet through a single computer or through a residential gateway.

This wizard will enable the Internet Connection Firewall (ICF) on this computer. ICF will protect this computer from Internet security threats, but it might also prevent this computer from sharing files with other computers on your network.

To learn about better network configurations or advanced networking techniques applicable to your current configuration, see recommended network configurations in Help and Support Center.

8. When this warning screen appears, ignore it by clicking **Next**.

If you are using the Hercules router, your computers are already protected by the integrated firewall.



Network Setup Wizard

Your computer has multiple connections.

You have more than one connection on this computer. The wizard can "bridge" these connections, so that other computers using them can communicate.

The wizard needs to know which connections are for your network.

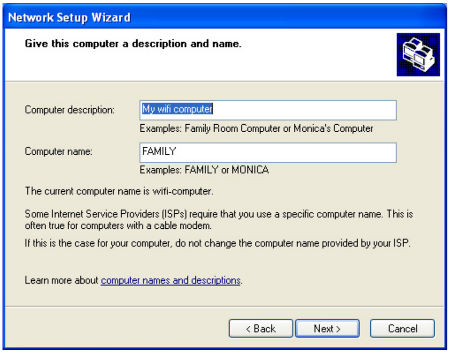
● Determine the appropriate connections for me (Recommended)

○ Let me choose the connections to my network

Learn more about network bridging.

9. If your computer has at least three connections (or network devices), the window opposite appears. In this case, let the Wizard determine the appropriate connections.

10. Click **Next**.



Give this computer a description and name.

Computer description: My wifi computer

Examples: Family Room Computer or Monica's Computer

Computer name: FAMILY

Examples: FAMILY or MONICA

The current computer name is wifi-computer.

Some Internet Service Providers (ISPs) require that you use a specific computer name. This is often true for computers with a cable modem.

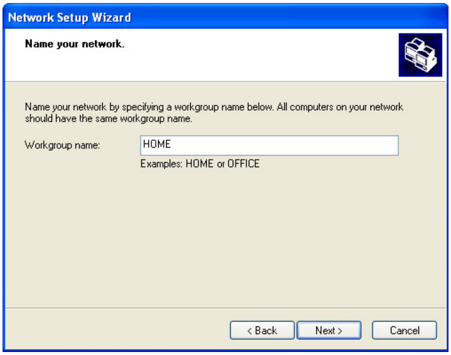
If this is the case for your computer, do not change the computer name provided by your ISP.

Learn more about computer names and descriptions.

11. Enter the computer name and a description, if required.

Give the computer a name that is unique and sufficiently distinctive, making it easy to recognize on your network (my-computer, wifi-computer or julie, for example).

12. Click **Next**.



Name your network.

Name your network by specifying a workgroup name below. All computers on your network should have the same workgroup name.

Workgroup name: HOME

Examples: HOME or OFFICE

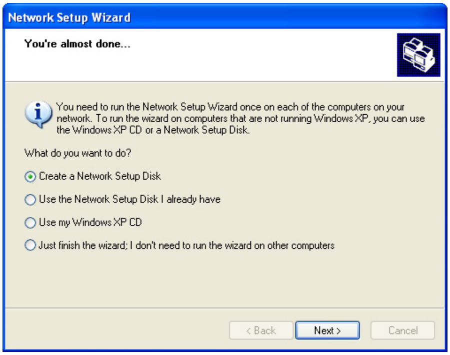
13. Enter the **workgroup** name (HOME, OFFICE or HERCULES, for example) and a description, if required.

The workgroup name must be identical (be sure to respect the case of letters) for all computers you wish to link together in a network.

14. Click **Next**.

15. Verify the configuration settings you have entered in the window that appears, then click **Next**.

The Wizard configures the computer for the home network. This may take a few minutes.



You're almost done...

You need to run the Network Setup Wizard once on each of the computers on your network. To run the wizard on computers that are not running Windows XP, you can use the Windows XP CD or a Network Setup Disk.

What do you want to do?

● Create a Network Setup Disk

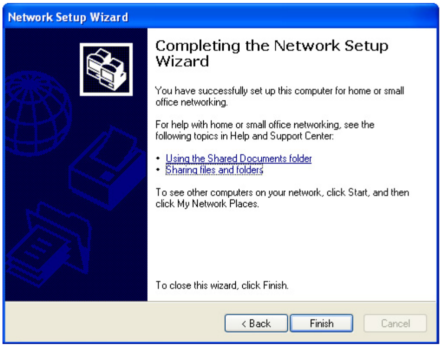
○ Use the Network Setup Disk I already have

○ Use my Windows XP CD

○ Just finish the wizard; I don't need to run the wizard on other computers

16. Before completing the procedure, you may select the **Create a Network Setup Disk** option. This consists of copying this Wizard onto a storage medium (your choice of floppy disk or USB key) so that it can be launched on computers equipped with operating systems other than Windows XP.

This operation is carried out automatically, once you have selected a medium for saving the Wizard.



Network Setup Wizard

Completing the Network Setup Wizard

You have successfully set up this computer for home or small office networking.

For help with home or small office networking, see the following topics in Help and Support Center:

- Using the Shared Documents folder
- Sharing files and folders

To see other computers on your network, click Start, and then click My Network Places.

To close this wizard, click Finish.

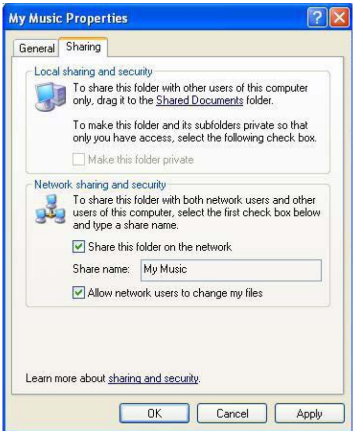
17. Click **Finish** to exit the Wizard.

Once the procedure is finished, Windows XP may prompt you to restart your computer.

The procedures described in this chapter are specific to Windows XP. For all other questions related to sharing folders, a printer or an Internet connection, or on using Windows, please refer to the Windows online help utility.

4.3.2. Windows XP: Sharing folders

After having configured all of your computers using the Network Setup Wizard, you can now share data located on different disk drives, as long as the user has authorized access.



My Music Properties

Local sharing and security

To share this folder with other users of this computer only, drag it to the Shared Documents folder.

To make this folder and its subfolders private so that only you have access, select the following check box.

□ Make this folder private

Network sharing and security

To share this folder with both network users and other users of this computer, select the first check box below and type a share name.

☑ Share this folder on the network

Share name: My Music

☑ Allow network users to change my files

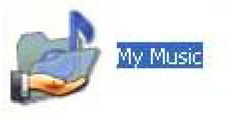
Learn more about sharing and security.

1. Select the folder you wish to share, without opening it.

2. Right-click the folder. Select **Sharing and Security.**
3. In the **Network sharing and security** section of the **Sharing** tab, tick the **Share this folder on the network** box.
4. On the **Share name** line, enter the folder name as it will be displayed on the network (12 characters maximum to ensure compatibility with other operating systems).

*You can also tick the **Allow network users to change my files** box. In this case, the user will be able to read files and save any changes. If this box is not ticked, the shared files can only be read, and not changed.*

⚠ The **[Shared folder name] Properties** window is divided into two sections. **Local sharing and security** only allows for the sharing of files among several users on the same PC. The files are then placed in a **Shared Documents** folder. **Network sharing and security**, however, allows for the sharing of files among more than one computer.



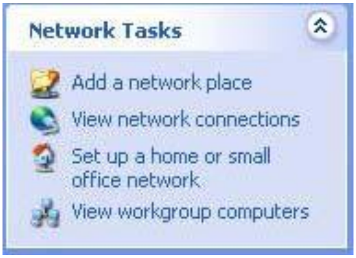
5. Click **Apply** to validate your choices, then click **OK** to close the window.

An icon representing a hand beneath the folder indicates that the folder is now shared.

⚠ You can only share the contents of a folder, and not an individual file. We therefore recommend that you create a folder specifically for this purpose where you will put files to be shared.

4.3.3. Windows XP: Accessing shared folders

To easily access folders set up for sharing by several computers, it is preferable that the computers belong to the same workgroup. In Windows XP, the workgroup name has been defined using the Network Setup Wizard.



1. Click **Start/My Computer**.
2. Click **My Network Places**, then click **View workgroup computers**.

You directly access the list of computers in your workgroup.

3. Double-click the computer that is sharing the folders you wish to access.

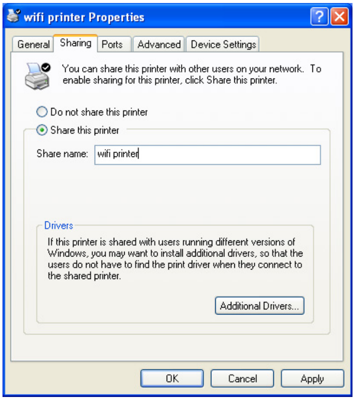
All shared folders appear.

4.3.4. Windows XP: Sharing a printer

It is possible to put a printer on the network and share it with all computers in the house equipped with a WiFi adapter.

⚠ To access a printer on the network, the printer must be set up for sharing on the computer where it is connected and installed.

On the computer connected to the printer:



You can share this printer with other users on your network. To enable sharing for this printer, click Share this printer.

○ Do not share this printer
● Share this printer

Share name: wifi printer

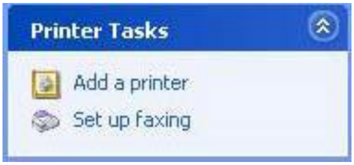
If this printer is shared with users running different versions of Windows, you may want to install additional drivers, so that the users do not have to find the print driver when they connect to the shared printer.

1. Click **Start/Control Panel/Printers and Other Hardware/ Printers and Faxes**.
2. Right-click the printer and select **Sharing**.
3. In the **Sharing** tab, select the **Share this printer** radio button and enter a name for your printer.

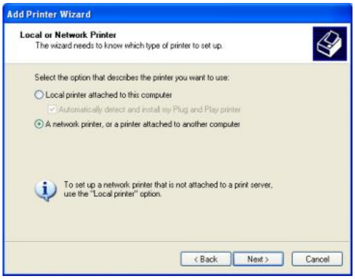
Give the printer a name that is unique and sufficiently distinctive, making it easy to recognize (my-printer or home laser printer, for example). If one of your computers is running Windows 98 SE, we recommend that the sharing name not exceed 12 characters (without spaces) in order to ensure its compatibility with this operating system.

4. Click **Apply**, then **OK**.

On the computers that will use the shared printer:



1. Click **Start/Control Panel/Printers and Other Hardware/ Printers and Faxes**. In the **Printer Tasks** section, select **Add a printer**.
2. The **Add Printer Wizard** is launched. Click **Next**.



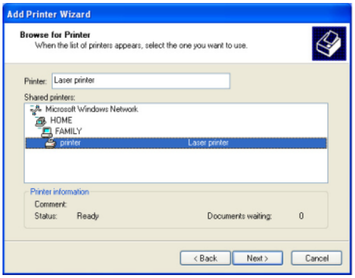
Local or Network Printer
The wizard needs to know which type of printer to set up.

Select the option that describes the printer you want to use:

○ Local printer attached to this computer
☑ Automatically detect and install my Plug and Play printer
● A network printer, or a printer attached to another computer

To set up a network printer that is not attached to a print server, use the "Local printer" option.

3. Select the **A network printer, or a printer attached to another computer** option, then click **Next**.
4. In the window that appears, click **Next** to launch the search for shared printers.



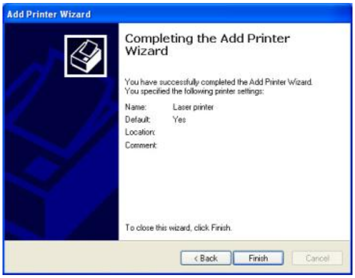
Browse for Printer
When the list of printers appears, select the one you want to use.

Printer: Laser printer

Shared printers:
Microsoft Windows Network
HOME
FAMILY
printer Laser printer

Printer information
Comment:
Status: Ready Documents waiting: 0

5. In the list displayed, double-click the computer connected to the printer.
6. Select the shared printer, then click **Next**.
7. If you wish, set the shared printer as the default printer, then click **Next**.



Completing the Add Printer Wizard

You have successfully completed the Add Printer Wizard. You specified the following printer settings:

Name: Laser printer
Default: Yes
Location:
Comment:

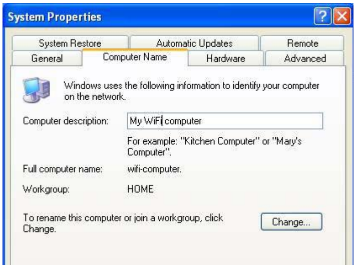
To close this wizard, click Finish.

8. Click **Finish** to exit the Wizard.

You can now use the network printer thanks to your WiFi connection. For more information on sharing a printer, please refer to your printer's manual.

4.3.5. Windows XP: Modifying a workgroup name

It may happen that you need to change the name of your workgroup (advanced users only). To do so, proceed as follows:



Windows uses the following information to identify your computer on the network.

Computer description: My WiFi computer

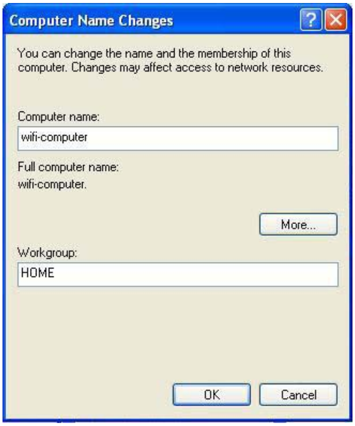
For example: "Kitchen Computer" or "Mary's Computer".

Full computer name: wifi-computer.

Workgroup: HOME

To rename this computer or join a workgroup, click Change.

1. Click **Start/Control Panel/Performance and Maintenance/System**.
2. In the **System Properties** window, select the **Computer Name** tab.
3. Click the **Change…** button.



You can change the name and the membership of this computer. Changes may affect access to network resources.

Computer name: wifi-computer

Full computer name: wifi-computer.

Workgroup: HOME

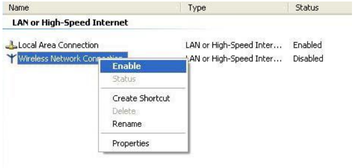
4. In the **Computer Name** zone, enter a name sufficiently distinctive that it can easily be recognized in the list of computers for the **workgroup** (my-computer, wifi-computer or julie, for example).
5. In the **Workgroup** zone, enter a name for the group (HOME, OFFICE or HERCULES, for example).

The workgroup name must be identical (be sure to respect the case of letters) for all computers you wish to link together in a network.

6. A Windows message indicates that the task has been carried out successfully and that you must restart the computer.
7. Repeat this procedure for each computer.

4.3.6. Windows XP: Manually enabling or disabling your adapter's WiFi connection (advanced users)

You can manually enable or disable your adapter's WiFi connection for a variety of reasons: to temporarily avoid connecting to networks, save battery power, etc.



Name	Type	Status
LAN or High-Speed Internet		
Local Area Connection	LAN or High-Speed Inter...	Enabled
Wireless Network Connection	LAN or High-Speed Inter...	Disabled

- Click **Start**/**Connections/Show All Connections**.

Verify that your Hercules Wireless network connection is listed.

- If its status is **Disabled**, right-click your **Wireless Network Connection** and select **Enable**.

- If its status is **Enabled**, right-click your **Wireless Network Connection** and select **Disable**.

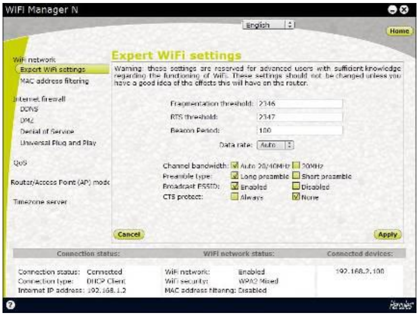
5. WIFI MANAGER N FOR ADVANCED USERS

WiFi Manager N has been designed to respond to the needs of the widest cross-section of the public. Thus, after having explained the most useful functionalities in the previous chapters, we dedicate this chapter to users who wish to take advantage of the subtleties of WiFi, and explore their router's more advanced functionalities. **But be careful!** Modifying certain settings may have a negative impact on the proper functioning of your network, and therefore on your router. You should bear in mind, however, that nothing is irreversible, and that you can always return to the original configuration or reload a personalized configuration.

⚠ In certain cases, your settings will only be taken into account after WiFi Manager N has restarted.

5.1. Configuring your WiFi network's advanced options

⚠ This window contains the settings which affect the functioning of your Hercules router. If you do not know their functions, we recommend that you keep the default settings.



Expert WiFi settings

Warning: these settings are reserved for advanced users with sufficient knowledge regarding the functioning of WiFi. These settings should not be changed unless you have a good idea of the effects this will have on the router.

Fragmentation threshold: 2346
RTS threshold: 2347
Beacon Period: 100
Data rate: Auto

Channel bandwidth: ☑ Auto 20/40MHz □ 20MHz
Preamble type: ☑ Long preamble □ Short preamble
Broadcast ESSID: ☑ Enabled □ Disabled
CTS protect: □ Always ☑ None

Connection status:
Connection status: Connected
Connection type: DHCP Client
Internet IP address: 192.168.1.2

WiFi network status:
WiFi network: Enabled
WiFi security: WPA2 Mixed
MAC address filtering: Disabled

Connected devices:
192.168.2.100

- On the WiFi Manager N home page, click the **Expert mode** button.

- In the **WiFi network** tab, click the **Expert WiFi settings** option.

- The **Fragmentation threshold** consists of defining the size at which data packets are fragmented. If the size is less than the predefined amount, the packet is not fragmented. By contrast, if the size is greater, the packet is fragmented before being transmitted, then reconstituted at the access point.

Fragmentation lets you improve the success of transmissions.

- When an **RTS threshold** is defined, the wireless device asks the **access point** for authorization to transmit data, thereby avoiding data arriving simultaneously (risk of collision).

Modifying the RTS threshold may affect your router's performance.

- The Beacon Period allows you to define the wireless network detection interval.

- The **DTIM** interval corresponds to the interval between two synchronous frames containing information on the transmission messages.

- The **Data Rate** corresponds to the speed at which data packets are transferred, both being sent and received. It is set to **Auto** by default, but can be adjusted from **1Mbps** (min) to **54Mbps** (max).

- The **N Data Rate** is specific to the transfer of data in the 802.11n standard. The values vary from **MCS0** to **MCS15**.

- Select the **channel bandwidth**.

*Select bandwidth of **20MHz** (on one channel) to limit interference, or define a higher bandwidth, **40MHz** (two channels), for transmission of your data in total comfort.*

- The **Preamble type** defines the size of WiFi packets. A **Short** preamble optimizes transfer rates at the expense of WiFi coverage. A **Long** preamble (selected by default) favors WiFi coverage by way of longer latency times.

- If you do not wish for your network to broadcast its name, select the **Disabled** radio button.

If the SSID is hidden, the name of the network will not be displayed during detection by a WiFi client (the Network name (SSID) is empty in Hercules WiFi Station N, for example).

Be sure to remember this name, as you will need it to connect your WiFi devices.

- **CTS** (Clear-To-Send) protection guarantees the connection of wireless B, G and N devices to the Hercules Wireless N Router when using wireless B, G and N devices at the same time on the network.

Enabling this function may reduce the speed of your Hercules Wireless N Router.

5.2. Configuring your Internet firewall

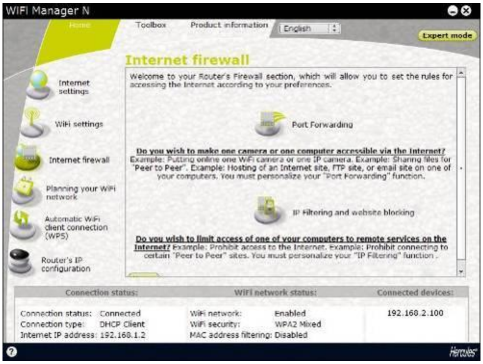
In this chapter, you will learn how to lower certain defenses in order to authorize access to your computers or your IP or WiFi camera for specific Internet services (P2P, web/FTP servers, viewing your camera on the Internet…), or shore up other defenses to limit access on a specific computer to certain remote or Internet services. Finally, you also have the possibility of redirecting all Internet requests to a computer whose address you have specified.

5.2.1. Opening doors in your firewall to put your camera online or authorize access for a computer to certain Internet services

If you wish to put a camera online, or if you would like for your computers to be able to either provide specific Internet services (P2P, web/FTP servers…), or access specific services, you will have to open up mini-drawbridges (referred to as ports) in your firewall using **port forwarding**.

To put your camera online or authorize access to one or more of your computers for specific Internet services (automatic mode):

- On the WiFi Manager N home page, click the **Internet firewall** button.



Internet firewall

Welcome to your Router's Firewall section, which will allow you to set the rules for accessing the Internet according to your preferences.

Do you wish to make one camera or one computer accessible via the Internet? Example: Putting online one WiFi camera or one IP camera. Example: Sharing files for "Peer to Peer". Example: Hosting of an Internet site, FTP site, or email site on one of your computers. You must personalize your "Port Forwarding" function.

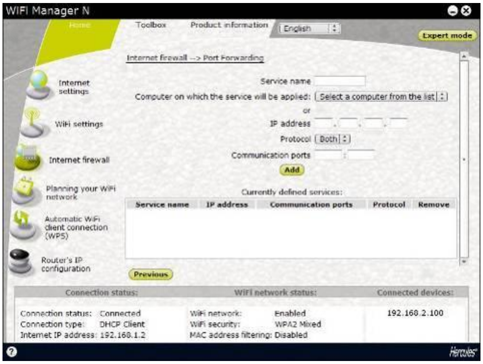
Do you wish to limit access of one of your computers to remote services on the Internet? Example: Prohibit access to the Internet. Example: Prohibit connecting to certain "Peer to Peer" sites. You must personalize your "IP Filtering" function .

Connection status: Connected
Connection type: DHCP Client
Internet IP address: 192.168.1.2

WiFi network: Enabled
WiFi security: WPA2 Mixed
MAC address filtering: Disabled

Connected devices: 192.168.2.100

- Click the **Port Forwarding** button.



Internet firewall --> Port Forwarding

Service name
Computer on which the service will be applied: Select a computer from the list
or
IP address . . .
Protocol Both
Communication ports :

Currently defined services:

Service name	IP address	Communication ports	Protocol	Remove

Connection status: Connected
Connection type: DHCP Client
Internet IP address: 192.168.1.2

WiFi network: Enabled
WiFi security: WPA2 Mixed
MAC address filtering: Disabled

Connected devices: 192.168.2.100

- In the **Add a rule** list, select a predefined application: **Webcam or IP camera, Peer to Peer, Online gaming...**

- Select the name of the **computer**, connected to the router, on which the service will be applied, or enter its **IP address**.

- The other settings are filled in automatically.

- Click the **Add** button.

*The computer is added to the list. You can then **modify**, **remove** or **view** the contents of the list.*

- Click the **Apply** button to validate your settings and return to the home page.

⚠ If you wish to modify the default number of ports and save the rule with different values than those predefined, click the ✎ icon.

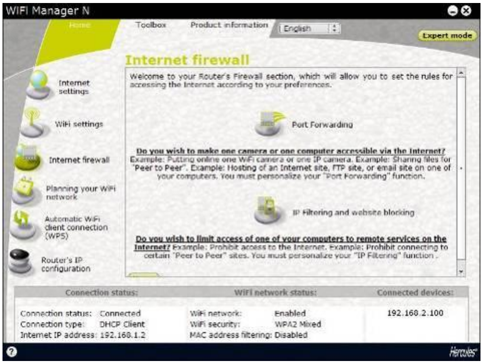
Next, enter the new port numbers.

This procedure does not modify the default values entered in the router, but rather creates a new rule.

If you subsequently remove this rule, then add it again, the modifications you have made will be lost and the default values will apply.

To put your camera online or authorize access to one or more of your computers for specific Internet services (manual mode):

- On the WiFi Manager N home page, click the **Internet firewall** button.



Internet firewall

Welcome to your Router's Firewall section, which will allow you to set the rules for accessing the Internet according to your preferences.

Do you wish to make one camera or one computer accessible via the Internet? Example: Putting online one WiFi camera or one IP camera. Example: Sharing files for "Peer to Peer". Example: Hosting of an Internet site, FTP site, or email site on one of your computers. You must personalize your "Port Forwarding" function.

Do you wish to limit access of one of your computers to remote services on the Internet? Example: Prohibit access to the Internet. Example: Prohibit connecting to certain "Peer to Peer" sites. You must personalize your "IP Filtering" function .

Connection status:		WIFI network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- Click the **Port Forwarding** button.

- In the **Add a rule** list, select **Other rules**.

- Enter the service name in the dedicated zone (for example, peer to peer).

- Select the name of the **computer**, connected to the router, on which the service will be applied, or enter its **IP address**.

- Select the **protocol** (TCP, UDP or TCP and UDP).

Scenario 1: you enable the range of ports

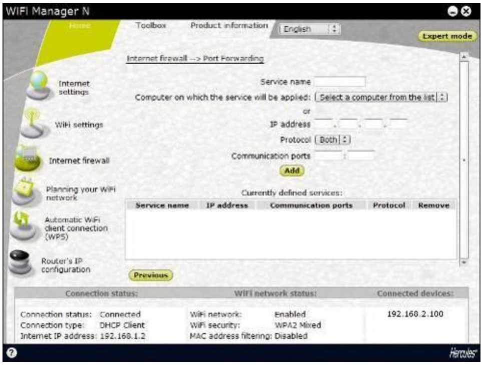
- Enter a value in the **Start port** and **End port** fields (between 1 and 65535).

You can specify a single port by entering the same start and end port.

The fields for external and internal ports will be inaccessible and will take on the same value.

Scenario 2: you disable the range of ports

The fields for start and end ports will be inaccessible.



Internet firewall --> Port Forwarding

Service name

Computer on which the service will be applied: Select a computer from the list

or

IP address . . .

Protocol Both

Communication ports :

Currently defined services:

Service name	IP address	Communication ports	Protocol	Remove

Connection status:		WIFI network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- Enter a value in the **External port** and **Internal port** fields.

The external port corresponds to the port on the router at which the request arrives (connection to the Internet, for example). It is supplied by your ISP. The internal port corresponds to the port to which the request is redirected.

You can specify a single port by entering the same external and internal ports.

- Click the **Add** button.

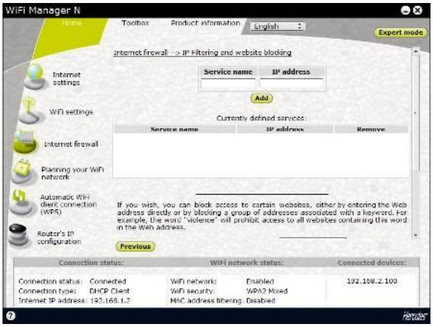
*The computer is added to the list. You can then **modify**, **remove** or **view** the contents of the list.*

- Click the **Modify** button to validate your settings and return to the home page

5.2.2. Limiting access of one of your network computers to Internet services

By default, the computers are able to access all Internet services. If you wish to limit access on one specific computer to certain Internet services, however (Internet access, Peer to Peer sites…), you can use the **IP address filtering and website blocking** system.

To limit access on a specific computer to an Internet service (filtering method by IP address):



Internet firewall --> IP Filtering and website blocking

Service name	IP address

Currently defined services:

Service name	IP address	Remove

If you wish, you can block access to certain websites, either by entering the Web address directly or by blocking a group of addresses associated with a keyword. For example, the word "violence" will prohibit access to all websites containing this word in the Web address.

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the WiFi Manager N home page, click the **Internet firewall** button.

- Click the **IP Filtering and website blocking** button.

- Enter the **service name** (for example, FTP server).

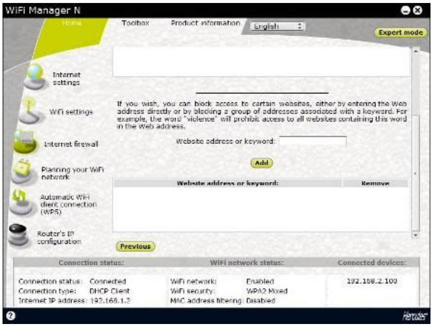
- Enter the IP address or the range of **IP addresses** of the computers in question.

- Click the **Add** button.

*The service is added to the list. You can then **modify**, **remove** or **view** the contents of the list.*

- Click the **Apply** button to validate your settings and return to the home page.

To limit access on a specific computer to an Internet service (website blocking method):



If you wish, you can block access to certain websites, either by entering the Web address directly or by blocking a group of addresses associated with a keyword. For example, the word "violence" will prohibit access to all websites containing this word in the Web address.

Website address or keyword:

Website address or keyword:	Remove

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the WiFi Manager N home page, click the **Internet firewall** button.

- Click the **IP Filtering and website blocking** button

- Enter the **website** you wish to block by entering its URL (www.example.com).

Or:

- Enter a **keyword** (for example, violence), which will block access to any site containing this word..

- Click the **Add** button.

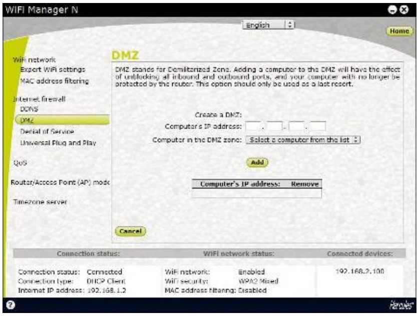
*The website or keyword is added to the list. You can then **remove** contents from the list .*

- Click the **Apply** button to validate your settings and return to the home page.

5.2.3.Redirecting Internet requests to a specific computer

To protect the computers on your network from any unwelcome Internet requests, you can create a demilitarized zone (or DMZ) which will redirect these requests, on whatever port, to a specific computer. This computer will process the requests according to the type (game server, FTP server…).

⚠ Although this operation allows you to protect the computers on the network, the computer to which the requests are directed itself becomes vulnerable to attacks.



DMZ

DMZ stands for Demilitarized Zone. Adding a computer to the DMZ will have the effect of unblocking all inbound and outbound ports, and your computer with no longer be protected by the router. This option should only be used as a last resort.

Create a DMZ:
Computer's IP address: . . .
Computer in the DMZ zone: Select a computer from the list

Computer's IP address:	Remove

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the WiFi Manager N home page, click the **Expert mode** button.

- In the **Internet firewall** tab, click the **DMZ** option.

- Enter the **IP address** of the computer to which Internet requests will be directed or select its **name** in the drop-down list.

- Deselect the applications you do not wish to include.

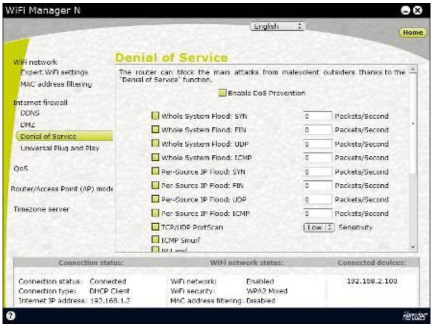
- Click the **Add** button.

The table displays the rules applied to the router.

- Click the **Apply** button to validate your settings and return to the home page.

5.2.4. Protecting yourself from Internet attacks with the DoS (Denial of Service) function

The **DoS** (Denial of Service) function protects you from external attacks. When this function is enabled, your firewall is able to send large volumes of requests in order to saturate the hacker's bandwidth and prevent the hacker from continuing to send or receive data.



Denial of Service

The router can block the main attacks from malevolent outsiders thanks to the "Denial of Service" function.

□ Enable DoS Prevention

□ Whole System Flood: SYN	0	Packets/Second
□ Whole System Flood: FIN	0	Packets/Second
□ Whole System Flood: UDP	0	Packets/Second
□ Whole System Flood: ICMP	0	Packets/Second
□ Per-Source IP Flood: SYN	0	Packets/Second
□ Per-Source IP Flood: FIN	0	Packets/Second
□ Per-Source IP Flood: UDP	0	Packets/Second
□ Per-Source IP Flood: ICMP	0	Packets/Second
□ TCP/UDP PortScan	Low	Sensitivity
□ ICMP Smurf		
□ IP Land		

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the WiFi Manager N home page, click the **Expert mode** button.

- click the **Denial of Service** option.

- **Ping of Death** consists of sending ping packets of more than 65535 bytes.

- **Block WAN ping** allows you to disable the WAN ping.

- **Scan ports** consists of detecting possible vulnerabilities on the ports.

- **Sync Flood** sends a flood of TCP/SYN packets, often accompanied by a false issuing address, with each of these packets being treated as a connection request.

- Click the **Apply** button to validate your choices.

5.3. A toolbox with multiple facets

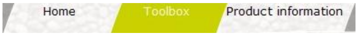
WiFi Manager N functions as a toolbox which can help you to correct any mistakes you might make.

5.3.1. Restoring your original settings

If you have modified certain settings – whether intentionally or not – and wish to restore the original settings, follow the instructions below.

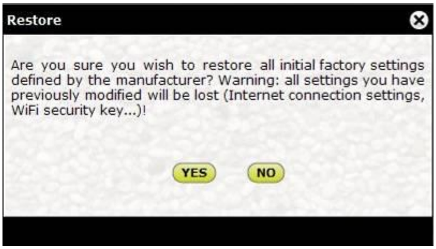
During the restoration, all settings that you have previously modified (Internet connection mode, WiFi security key, filtering by MAC address…) will be lost!

To restore the original settings:



- On the home page, click the **Toolbox** tab.

- Select **Restore original settings**.



Restore

Are you sure you wish to restore all initial factory settings defined by the manufacturer? Warning: all settings you have previously modified will be lost (Internet connection settings, WiFi security key...)!

- Click **YES** to confirm restoration of the original settings.

You can also use the Reset button located on the router:

- Press the **Reset button** ④ for 10 seconds using an object with a pointed tip.

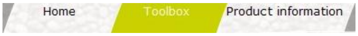
- Release the button, then wait.

Your router will load its original settings and then restart.

5.3.2. Loading and saving a configuration

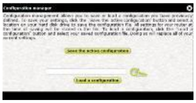
At any time, you can save a configuration containing your preferred settings, or load a specific configuration according to your needs.

To load a configuration:



- On the home page, click the **Toolbox** tab.

- Select **Configuration management**.



Configuration manager

Configuration management allows you to save or load a configuration you have previously defined. To save your settings, click the "Save the active configuration" button and select a location on your hard disk drive to save the configuration file. All settings for your router at the time of saving will be stored in the file. To load a configuration, click the "Load a configuration" button and select your saved configuration file. Doing so will replace all of your current settings.

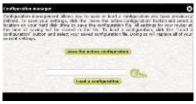
- Click the 🔍 button.
- Select your configuration file, then click **Open**.
- Click **Load a configuration**.

Your Hercules router will now use this new configuration.

To save a configuration:

- On the home page, click the **Toolbox** tab.

- Select **Configuration management**.



Configuration manager

Configuration management allows you to save or load a configuration you have previously defined. To save your settings, click the "Save the active configuration" button and select a location on your hard disk drive to save the configuration file. All settings for your router at the time of saving will be stored in the file. To load a configuration, click the "Load a configuration" button and select your saved configuration file. Doing so will replace all of your current settings.

- Click the 🔍 button to select the saving location.

- Enter the name of the configuration file.

- Click **Save the active configuration**.

The file will be saved with the default extension.

5.3.3. Updating firmware

If you wish to take advantage of new functionalities or improved functionalities for your Hercules router, we recommend that you regularly visit the **www.hercules.com** website to check whether any firmware updates are available.

⚠ We strongly recommend that you carry out firmware updates while connected by the Ethernet cable (and not via WiFi).

⚠ During the update, all settings that you have previously modified (Internet connection settings, WiFi security key…) will be lost!

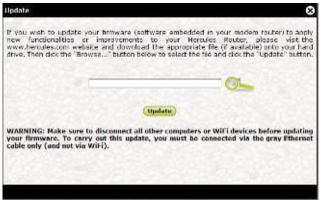
If a firmware update is available:

- On the **www.hercules.com** website, click the **Support/FAQ** link.

- Follow the on-screen instructions provided. Then:

- On the home page, click the **Toolbox** tab.

- Select **Update**.



Update

If you wish to update your firmware (software embedded in your modem router) to apply new functionalities or improvements to your Hercules Router, please visit the www.hercules.com website and download the appropriate file (if available) onto your hard drive. Then click the "Browse..." button below to select the file and click the "Update" button.

WARNING: Make sure to disconnect all other computers or WiFi devices before updating your firmware. To carry out this update, you must be connected via the gray Ethernet cable only (and not via WiFi).

- Click the 🔍 button.

- Select your firmware file, then click **Open**.

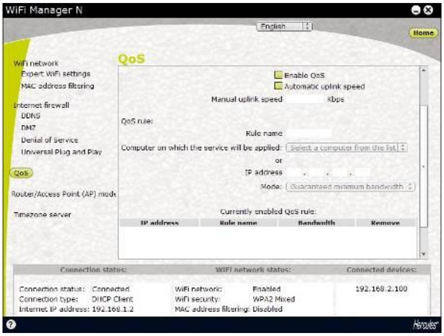
- Click **Update** to import the data.

Your Hercules router will now use this new firmware version.

5.4. Other advanced options

5.4.1. Assigning priority to a type of data in the event of an overloaded network

WiFi Manager N, using the **QOS** (Quality of Service) function, allows you to ensure the continuity of data streams, even on an overloaded network, by giving priority to a specific stream in relation to other data streams. To access the **QOS** function:



QoS

□ Enable QoS
□ Automatic uplink speed
Manual uplink speed Kbps

QoS rule:
Rule name
Computer on which the service will be applied: Select a computer from the list
or
IP address . . .
Mode: Guaranteed minimum bandwidth

Currently enabled QoS rule:

IP address	Rule name	Bandwidth	Remove

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the WiFi Manager N home page, click the **Expert mode** button.

- In the **QoS** tab, click the **QoS** option.

- Enable the **QoS** function.

- If you wish, you can set an **automatic uplink speed** and enter its maximum value in Kbps.

- Enter the name of the rule and the computer on which the rule will be applied.

Or:

- Enter the IP address of the transfer server.

- Select a **priority**: **guaranteed** or **maximum**.

*The **maximum priority** corresponds to the highest level of priority. The principle consists of using the required bandwidth for the immediate transfer of data.*

*The **guaranteed priority** guarantees the traffic of data according to the availability of bandwidth.*

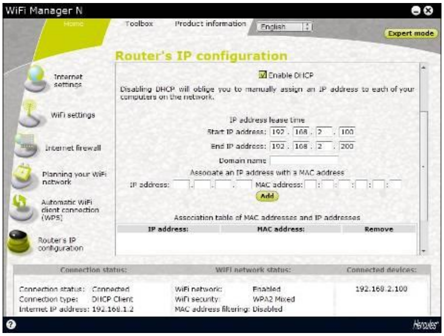
5.4.2. Configuring the DHCP server

This chapter will explain how to configure the internal DHCP server which manages the IP addresses of your computers.

- On the WiFi Manager N home page, click the **Router's IP configuration** button.

- You can modify the **Router's IP address** (192.168.2.1, by default) and its **subnet mask** (255.255.255.0, by default).

⚠ Be sure to make a note of this IP address. Without it, you will not be able to reconnect to your router.



Router's IP configuration

☑ Enable DHCP

Disabling DHCP will oblige you to manually assign an IP address to each of your computers on the network.

IP address lease time
Start IP address: 192 . 168 . 2 . 100
End IP address: 192 . 168 . 2 . 200
Domain name

Associate an IP address with a MAC address
IP address: . . . MAC address: : : : : :

Association table of MAC addresses and IP addresses

IP address:	MAC address:	Remove

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- If you **enable DHCP**, you can modify the **start IP address** (192.168.2.2, by default), the **end IP address** (192.168.2.128, by default) and the **lease time** for these addresses (**Forever** is the default value).

- If you **do not enable DHCP**, you decide to set the IP address for each computer yourself.

- You can assign a **domain name** to this server and a specific **IP address** according to the computer's **MAC address**.

The table displays the list of IP and MAC addresses added.

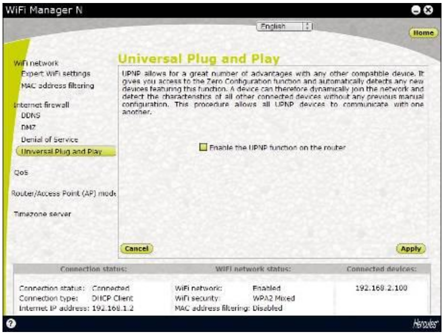
- Click the **Apply** button to validate your settings.

5.4.3. Facilitating connection of devices with the UPnP protocol

WiFi Manager N's **UPnP** protocol has the objective of facilitating the connection of devices on the network for the sharing of files or of the Internet connection, for example, by carrying out an automatic identification of the computer's components.

To enable the UPnP protocol:

- On the WiFi Manager N home page, click the **Expert mode** button.



Universal Plug and Play

UPNP allows for a great number of advantages with any other compatible device. It gives you access to the Zero Configuration function and automatically detects any new devices featuring this function. A device can therefore dynamically join the network and detect the characteristics of all other connected devices without any previous manual configuration. This procedure allows all UPNP devices to communicate with one another.

☐ Enable the UPNP function on the router

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- Click the **Universal Plug and Play** option.

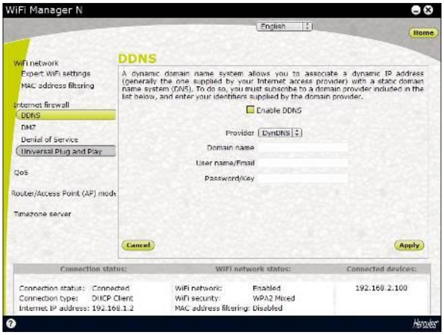
- Tick the **Enable the UPNP function on the router** box.

- Click the **Apply** button to validate your choice.

5.4.4. Linking an IP address to a dynamic domain name server

Thanks to the **Dynamic DNS** (or DDNS) function in WiFi Manager N, your IP address is always known to your domain name server. Simply enter the supplied password and username and the Dynamic DNS service takes care of regularly sending your router's public IP address (that assigned to your router's Internet connection by your service provider).

Note: You must have subscribed to a Dynamic DNS service.



DDNS

A dynamic domain name system allows you to associate a dynamic IP address (generally the one supplied by your Internet access provider) with a static domain name system (DNS). To do so, you must subscribe to a domain provider included in the list below, and enter your identifiers supplied by the domain provider.

□ Enable DDNS

Provider: DynDNS

Domain name:

User name/Email:

Password/Key:

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the WiFi Manager N home page, click the **Expert mode** button.

- In the **Internet firewall** tab, click the **DDNS** option.

- Tick the **Enable DDNS** box.

- Select the **DDNS provider** to which you have subscribed, then enter the required information (username and password).

These items of information were supplied when you subscribed to the service.

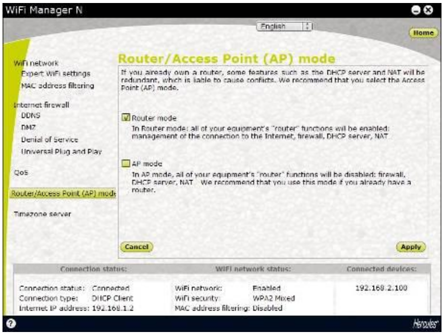
- Click the **Apply** button to validate your choice.

5.4.5. Selecting router or access point mode

In WiFi Manager N, you can switch your Hercules Wireless N Router between router and access point modes. **Router** mode lets you access the Internet from several computers in your home and share your data on a local area network. **Access point** mode lets you provide wireless and Ethernet access to different neighboring devices.

⚠ If you already have a router and decide to use **router mode**, you will have two firewalls, and two routing functions for two redundant WiFi networks (that of your router if it is equipped with a WiFi function, and that of your Hercules Wireless N Router). In that case, it is preferable to opt for **access point** mode, which disables the router function. In this mode, only a single WiFi network exists to which all of your computers and WiFi devices will connect. You should therefore disable the WiFi function of your modem/router if it is equipped with one.

To select router or access point mode:



Router/Access Point (AP) mode

If you already own a router, some features such as the DHCP server and NAT will be redundant, which is liable to cause conflicts. We recommend that you select the Access Point (AP) mode.

☑ Router mode

In Router mode: all of your equipment's "router" functions will be enabled: management of the connection to the Internet, firewall, DHCP server, NAT

□ AP mode

In AP mode, all of your equipment's "router" functions will be disabled: firewall, DHCP server, NAT. We recommend that you use this mode if you already have a router.

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the WiFi Manager N home page, click the **Expert mode** button.

- In the **Router/AP mode** tab, click the **Router/AP mode** option.

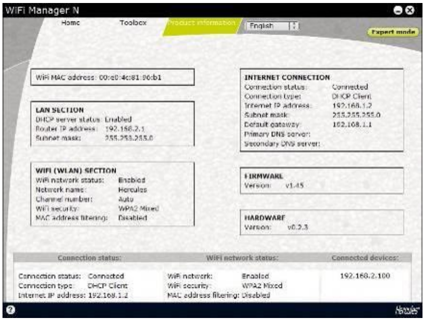
- Tick the box corresponding to the mode you wish to use.

The mode selected during the installation is ticked by default.

5.5. Product information

WiFi Manager N allows you to view all of the information relating to the functioning of your Hercules router.

To consult product information:



WiFi MAC address: 00:e0:4c:81:96:b1

LAN SECTION
DHCP server status: Enabled
Router IP address: 192.168.2.1
Subnet mask: 255.255.255.0

WIFI (WLAN) SECTION
WiFi network status: Enabled
Network name: Hercules
Channel number: Auto
WiFi security: WPA2 Mixed
MAC address filtering: Disabled

INTERNET CONNECTION
Connection status: Connected
Connection type: DHCP Client
Internet IP address: 192.168.1.2
Subnet mask: 255.255.255.0
Default gateway: 192.168.1.1
Primary DNS server:
Secondary DNS server:

FIRMWARE
Version: v1.45

HARDWARE
Version: v0.2.3

Connection status:		WiFi network status:		Connected devices:
Connection status:	Connected	WiFi network:	Enabled	192.168.2.100
Connection type:	DHCP Client	WiFi security:	WPA2 Mixed	
Internet IP address:	192.168.1.2	MAC address filtering:	Disabled	

- On the home page, click the **Product information** tab.

The following items of information are displayed: ***MAC address*** *of your Hercules router, status of the* ***ADSL*** *connection, of the local area network and wireless network, as well as the firmware and hardware versions.*

6. GLOSSARY

802.11

Standard established in 1997 by the IEEE (Institute of Electrical and Electronics Engineers, an American organization), defining wireless networks in the 2.4 – 2.48GHz frequency range and offering transfer speeds of between 1 and 2Mbits/s. Revisions have been made to the original standard in order to optimize transfers (this is the case for the 802.11a, 802.11b and 802.11g standards, referred to as physical 802.11 standards) or to ensure better security or improved interoperability of equipment.

802.11b

Standard established by the IEEE (Institute of Electrical and Electronics Engineers, an American organization) in the 802.11 family, allowing for theoretical transfer rates of 11Mbits/s in the 2.4GHz frequency range with a physical range of up to 300m in an environment free from obstructions. The frequency range used is the 2.4GHz band, with 3 radio channels available.

802.11g

Standard established by the IEEE (Institute of Electrical and Electronics Engineers, an American organization) in the 802.11 family, allowing for theoretical transfer rates of 54Mbits/s in the 2.4GHz frequency range with a physical range of up to 300m in an environment free from obstructions. The 802.11g standard offers backwards compatibility with the 802.11b standard, which means that equipment compliant with the 802.11g standard will also work with 802.11b.

802.11i

Standard established by the IEEE (Institute of Electrical and Electronics Engineers, an American organization) in the 802.11 family, whose goal is to improve security by integrating WPA-PSK authentication into AES encryption. This Hercules adapter is compatible with this standard.

802.11n

Standard established by the IEEE (Institute of Electrical and Electronics Engineers, an American organization) in the 802.11 family, allowing for theoretical transfer rates of 300Mbits/s in the 2.4GHz frequency band with a physical range of up to 300m in an environment free from obstructions. The 802.11n standard offers backwards compatibility with the 802.11b and g standards, which means that equipment compliant with the 802.11n standard will also work with 802.11b and/or g.

Access point

The access point is the heart of your local WiFi network. The system access point is a wireless router whose function is to bring several clients together, which is to say link together all computers equipped with WiFi adapters, thanks to its radio antenna.

Ad hoc mode

Mode allowing several computers equipped with WiFi to communicate directly with one another. This mode is also referred to as Peer to Peer.

ADSL (Asymmetric Digital Subscriber Line)

This equipment, connected to a standard telephone line, offers great speed in terms of sending and receiving data.

AES (Advanced Encryption Standard)

A symmetrical block-based encryption standard supporting different key lengths, this is a powerful, quick and efficient encryption method.

ATM (Asynchronous Transfer Mode)

High-speed transfer mode for fixed-size data.

CCK (Complementary Code Keying)

Advanced encoding scheme for radio waves in wireless networks allowing for high transfer speeds.

Client

Computer equipped with a PCI, USB or PCMCIA WiFi adapter.

DHCP (Dynamic Host Configuration Protocol)
Protocol managing the allocation of IP addresses to computers.

DSSS (Direct Sequence Spread Spectrum)
Technique for using radio frequencies in broad-spectrum wireless networks meant to increase the range of transmissions.

ESSID (Service Set Identifier)
8 to 32-character identifier, often abbreviated as SSID, serving as the unique name for a network shared by clients and the access point.

Ethernet port (or RJ-45)
Port allowing for the connection of two devices via a cable, such as a PC and a router, in order to exchange data packets without collision.

Filter
Device placed between the telephone plug and the modem to improve the quality of telephone communications, which are often degraded by ADSL signals.

Firewall
Combination of software and security devices protecting a network connected to the Internet.

Infrastructure mode
Communication mode consisting of grouping together several computers equipped with WiFi in a network via a wireless access point such as the Hercules ADSL router.

IP address
Unique computer address assigned by the router. Each computer has its own IP address, allowing it to be identified within the network.

LEAP (Lightweight Extensible Authentication Protocol)
Security protocol developed by the company Cisco for the world of Windows. The format used is identifier/password.

MAC address (Message Authentication Code)
Unique address created by the builder of the client adapter or router, serving to identify this element within a network.

MIMO technology (Multiple In, Multiple Out)
Technology used in the 802.11n standard, allowing for the WiFi signal to be shared over several antennas with a corresponding increase in terms of signal range and transfer speeds. Transmission can take place on one channel in the 20MHz frequency band (for theoretical maximum transfer speeds of 144.44Mbits/s) or two channels simultaneously (for theoretical maximum transfer speeds of 300Mbits/s) with 40MHz bandwidth. In both cases, the WiFi signal's coverage and range are the same. The choice of one mode or the other (20 or 40MHz) depends solely on the transmitter used. The Hercules Wireless N key will automatically adapt to the signal received.

NAT (Network Address Translation)
Technique allowing for the masking of IP addresses of local area network computers with respect to the Internet.

OFDM (Orthogonal Frequency Division Multiplexing)
Radio transmission technique providing very high transfer speeds widespread within DSL technology, in the wireless terrestrial distribution of television signals and adopted for the high-speed 802.11 wireless communication standard.

PPPoA (Point-to-Point Protocol over ATM)
Protocol allowing for connection to the Internet of computers linked over an ATM network, while still identifying the user.

PPPoE (Point-to-Point Protocol over Ethernet)
Protocol allowing for connection to the Internet of computers linked over an Ethernet network via a high-speed modem.

Static IP
Permanent IP address assigned to a computer by the access provider.

Subnet mask
Part of an IP address indicating the class of the network used (class C, type 255.255.255.0 for a local area network).

TKIP (Temporal Key Integrity Protocol)
The WPA standard uses the TKIP protocol, which consists of regenerating new keys for each data packet, whereas WEP uses a system based on a fixed key.

UPnP (Universal Plug n' Play)
Protocol allowing for the connection to one another of many computers and peripherals available on a network.

WEP (Wired Equivalent Privacy)
Security protocol for wireless networks using encryption based on a 64-bit, 128-bit or 256-bit fixed key used only once, at the start of the decryption phase. To decode a transmission, each wireless network client must use the same 64, 128 or 256-bit key. WEP is part of the 802.11 standard with a view to ensuring authentication (access is only authorized for those who know the WEP key) and confidentiality (encryption). An encryption key is composed of numbers 0 to 9 and letters A to F (example: A123BCD45E).

WiFi (Wireless Fidelity)
An abbreviation of Wireless Fidelity, WiFi is the commercial name adopted by the WECA (Wireless Ethernet Compatibility Alliance), an organization responsible for maintaining the interoperability of equipment in a wireless local area network (WLAN) compliant with the IEEE 802.11 standard. Thus, a WiFi network is actually a 802.11 network. In practice, WiFi allows for the connection of laptop computers, desktop computers or Personal Digital Assistants (PDAs) many tens of meters distant from one another via an access point, allowing them to communicate with one another without any cables and exchange data at high speeds.

WiFi Manager N
Utility developed by Hercules to configure and view settings for the Hercules Wireless N Router.

WMM (Wi-Fi Multimedia)
Functionality certified by the Wi-Fi Alliance, whose goal is to define levels of priority according to available bandwidth. Thus voice over IP (priority 1) will take precedence over transmission of video data (priority 2), which will itself take precedence over applications making use of the network, such as Internet browsing (priority 3), and then lastly come background applications, such as printing jobs or downloads (priority 4).

WiFi router
Device installed at the heart of a WiFi network, allowing for the connection of several computers equipped with WiFi adapters for the exchange of data.

WiFi Station N
Utility developed by Hercules to define, verify and configure all connection and security settings regarding your WiFi installation.

WLAN (Wireless Local Area Network)
Wireless local area network, generally employing the 802.11b, g or n standards.

Workgroup
Group of computers with which you wish to communicate or share resources such as folders, a printer or an Internet connection. To be part of a workgroup, computers must have the same group name.

WPA (WiFi Protected Access)
Wireless network security standard put in place by manufacturers, employing a data encryption algorithm relying on dynamic key management, which was lacking in WEP, the difference being that once communication is established, the key changes randomly for enhanced security.

WPA2 (WiFi Protected Access 2)
Security standard for wireless networks based on the WPA standard, which adds support for the TKIP or AES encryption algorithm, for heightened security.

WPA-PSK (WiFi Protected Access-Pre-Shared Key)
Latest-generation heightened security protocol specially designed for use in environments such as a small office or the home, based on a pre-shared key (a single password). This key is also used for TKIP or AES data encryption.

WPS (Wi-Fi Protected Setup™)
Technology standardized by the Wi-Fi Alliance, which aims to simplify the connection and configuration of a wireless network while at the same time maintaining a high level of security. This technology allows the user to enable protection of a WiFi network via a single button located on the WiFi client, or via entry of a PIN code in the software supplied with the router.

Log on now to our website (www.hercules.com) to download the latest driver and software versions, consult the list of Frequently Asked Questions (FAQs) relating to your product and access User Manual updates. You can also discover the entire Hercules range and get information on upcoming products.

7. TECHNICAL SUPPORT

If you encounter a problem with your product, please go to http://ts.hercules.com and select your language. From there you will be able to access various utilities (Frequently Asked Questions (FAQ), the latest versions of drivers and software) that may help to resolve your problem. If the problem persists, you can contact the Hercules products technical support service ("Technical Support"):

By email:
In order to take advantage of technical support by email, you must first register online. The information you provide will help the agents to resolve your problem more quickly.
Click **Registration** on the left-hand side of the Technical Support page and follow the on-screen instructions.
If you have already registered, fill in the **Username** and **Password** fields and then click **Login**.

By telephone:

United Kingdom	**08450800942** **Charges** **at local rate**	Monday to Friday from Noon to 4pm and 5pm to 10pm Saturday from 9am to Noon and 1pm to 7pm Sunday from 9am to Noon and 1pm to 4pm
United States	**1-866-889-5036** **Free**	Monday to Friday from 7am to 11am and from Noon to 5pm Saturday and Sunday from 7am to Noon (Eastern Standard Time)
Canada	**1-866-889-2181** **Free**	Monday to Friday from 7am to 11am and from Noon to 5pm Saturday and Sunday from 7am to Noon (Eastern Standard Time)
Denmark *(English)*	**80887690** **Free**	Monday to Friday from 1pm to 5pm and 6pm to 11pm Saturday from 9am to 1pm and 2pm to 8pm Sunday from 10am to 1pm and 2pm to 5pm
Sweden *(English)*	**0200884567** **Free**	Monday to Friday from 1pm to 5pm and 6pm to 11pm Saturday from 9am to 1pm and 2pm to 8pm Sunday from 10am to 1pm and 2pm to 5pm
Finland *(English)*	**0800 913060** **Free**	Monday to Friday from 2pm to 6pm and 7pm to Midnight Saturday from 10am to 2pm and 3pm to 9pm Sunday from 11am to 2pm and 3pm to 6pm

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Worldwide, Guillemot Corporation S.A. ("Guillemot") warrants to the consumer that this Hercules product will be free from material defects and manufacturing flaws for a period of two (2) years from the original date of purchase. Should the product appear to be defective during the warranty period, immediately contact Technical Support, who will indicate the procedure to follow. If the defect is confirmed, the product must be returned to its place of purchase (or any other location indicated by Technical Support).
Within the context of this warranty, the consumer's defective product will, at Technical Support's option, be either repaired or replaced. Where authorized by applicable law, the full liability of Guillemot and its subsidiaries (including for indirect damages) is limited to the repair or replacement of the Hercules product. The consumer's legal rights with respect to legislation applicable to the sale of consumer goods are not affected by this warranty.
This warranty shall not apply: (1) if the product has been modified, opened, altered, or has suffered damage as a result of inappropriate or abusive use, negligence, an accident, normal wear, or any other cause not related to a material defect or manufacturing flaw; (2) in the event of failure to comply with the instructions provided by Technical Support; (3) to software not published by Guillemot, said software being subject to a specific warranty provided by its publisher.

9. ENVIRONMENTAL PROTECTION RECOMMENDATION

At the end of its working life, this product should not be disposed of with standard household waste, but rather dropped off at a collection point for the disposal of Waste Electrical and Electronic Equipment (WEEE) for recycling.

This is confirmed by the symbol found on the product, user manual or packaging.

Depending on their characteristics, the materials may be recycled. Through recycling and other forms of processing Waste Electrical and Electronic Equipment, you can make a significant contribution towards helping to protect the environment.

Please contact your local authorities for information on the collection point nearest you.

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Declaration of conformity with EU directives

This device can be used in: AT, BE, FR, DE, IE, IT, LU, NL, PL, ES, SE, GB, FI, CH.

Hereby, GUILLEMOT CORPORATION, Carentoir France, declares that this ***Hercules HWNRi 300*** is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. The Declaration of Conformity can be consulted at this website address:

http://ts.hercules.com/download/wifi/DoC/HWNR-300/DoC-eng_Hercules_HWNRi-300.pdf

CE 1177

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EUROPEAN USERS:
This equipment has been tested and found to comply with Directive 1999/5/EC of the European Parliament and of the Council on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity. After assessment, the equipment has been found to comply with the following standards: EN 300.328 (radio), EN 301 489-1, EN 301 489-17 (electromagnetic compatibility) and EN 60950 (safety). This equipment may be used in all European Union countries and in all countries applying Directive 1999/5/EC, without restriction, with the exception of the following countries:
FRANCE:
When this equipment is used outdoors, output power is limited to within the frequency bands listed below. For more information, consult the ART website: www.art-telecom.fr.

Location	**Frequency band (MHz)**	**Power (EIRP)**
Indoor (no restrictions)	2400 – 2483.5	100mW (20dBm)
Outdoor	2400 – 2454 2454 – 2483.5	100mW (20dBm) 10mW (10dBm)

Operation of this equipment in a residential environment may give rise to radio interference; if so, it is incumbent upon the user to rectify the situation.
ITALY:
This device complies with the National Radio Interface and the requirements of the Frequency Allocation Table. Use of this wireless product outside of the boundaries of the owner's property requires a general authorization. For more information, consult the website www.comunicazioni.it.

Federal Communication Commission Interference 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 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.

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

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

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