WIFI
Setup guide

Best Wi-Fi service

Feel free to contact our experts! Together we can find the best solution to boost your Wi-Fi performance.

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What's Wi-Fi?

The word "wifi" is short for "Wireless Fidelity". It is a transmission technology, which allows devices (computer, smartphone, ...) to communicate to each other by radio waves, without the use of a cable.

Unlike the Ethernet cable connection, the speed of the wifi connection varies depending on your environment. Therefore, by following a few a few simple recommendations, you can easily improve the performance of your home wifi network.

Here are all the tips you need to make the most of WiFi Internet with Luxembourg Online!

Summary

Tip #1: Get equipped!

Your home's characteristics can indeed affect the quality of your Wi-Fi network. For instance, if the walls of your house are thick and made of brick or concrete, they might act as barriers to Wi-Fi waves and prevent them from reaching every room.

To prevent this from happening, there are plenty of devices that are easy to install as well as solutions like Wi-Fi MESH for boosting your Wi-Fi performance (see page 8 for more information).

	Our best devices		
	Repeater FRITZ!WLAN 2400	Routeur FRITZ!Box	Powerline FRITZ!Powerline 1260E Set
Max. Wi-Fi Mbit/s	1733 + 600	According to the model	866 + 400
Dual-band Wi-Fi	✔	✔	✔
Ethernet Gigabit port(s)	1*	4	1
Ease of installation	★★★★	★★★	★★★★
Cost Indicative price july 2022	5€ / month	4€ / month	7€ / month

Our advice

*This port is taken if you install the repeater as an access point.

Repeater – WAP mode

In WAP (wireless access point) mode, the repeater is connected to the modem via an Ethernet cable. The signal is then transmitted wirelessly from the repeater.

Our advice: the Ethernet cable solution is always the best! We strongly recommend that you use the repeater as a wireless access point to enjoy the stability and performance of a wired network.

No signal quality loss
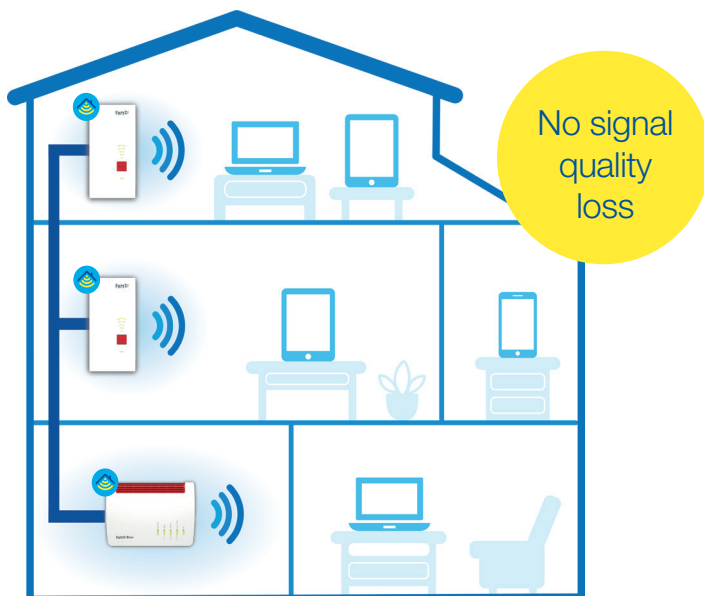
1 Repeater per floor

Network cabling required

One-click setup

Pros
WAP mode: no signal quality loss between modem and repeater.

Cons
WAP mode: the Ethernet port is taken.

Repeater – repeater mode

In repeater mode, the device repeats the existing Wi-Fi signal from the spot where it has been placed. Installation couldn't be easier, since you just have to plug it in the power outlet of your choice. In order to work properly, it should preferably be installed within the coverage area of the modem's Wi-Fi network. In addition, the repeater mode also allows for plugging a device with a cable.

Easy to install and move
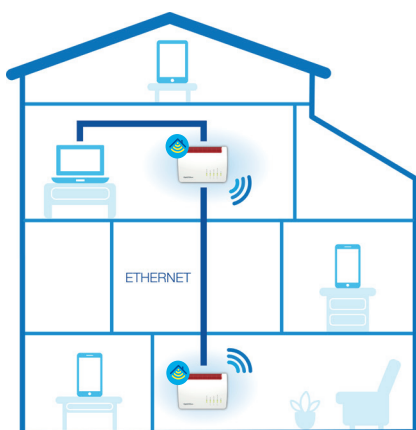
1 Repeater per floor

One-click setup

Pros

Repeater mode: easy to install and move.

Cons

Repeater mode: must be placed at a spot where the modem's Wi-Fi signal is strong.

Routeur - WAP mode

By connecting a dedicated router as a wireless access point (e.g. FRITZ!Box 4040) to your modem with an Ethernet cable, the Wi-Fi signal is transmitted from the spot where it has been placed, therefore creating a new, quality wireless access point. This WAP mode solution also allows for plugging in one or more devices with a cable, depending on the Ethernet ports that remain available on your router.

Powerline

This set consists of two devices that use your home's electricity as a network.
The first one should be placed between the modem and a power outlet, while the second can be plugged in the power outlet of your choice according to your home's Wi-Fi needs. The signal is then transmitted from the second one and allows for plugging in a device with a cable.

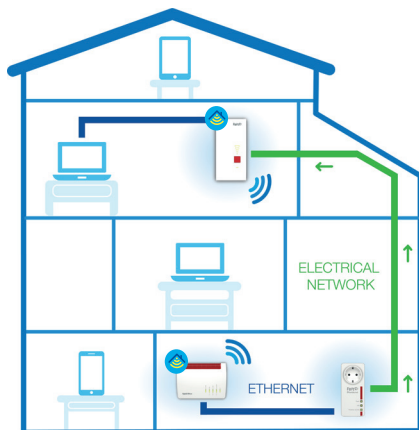ETHERNET

ELECTRICAL NETWORK

ETHERNET

Pros

WAP mode: stable and reliable, no interference from surrounding networks. 4 Ethernet ports available.

Powerline mode: discreet, very easy to install on any power outlet.

Cons

WAP mode: you need an Ethernet network and an electrical power supply.

Powerline mode : a quality electrical installation is crucial for poper usage.

MESH-WiFi

Wi-Fi Mesh is an efficient solution that allows for boosting the performance of your Wi-Fi network by offering a more stable and powerful connection across the house.

How does it work?

The purpose of the Mesh architecture is to set up one or more devices to complement your modem. The idea is to create a network of Wi-Fi access points that communicate with each other in order to build a wider Wi-Fi coverage. By placing them at specific spots in your home, your devices will automatically connect to the most powerful hotspot.

What are the advantages?

Unlike a typical Wi-Fi network, the Mesh architecture is more efficient as all devices remain connected to each other, when they are usually only connected to the central device. This way, in case one of the devices fails, another one can automatically take over.

Another key advantage is that your devices can automatically connect to the best available network while moving through the house. Using a mesh network therefore allows you to enjoy a full Wi-Fi coverage everywhere in your home. Better yet, installation couldn't be easier!
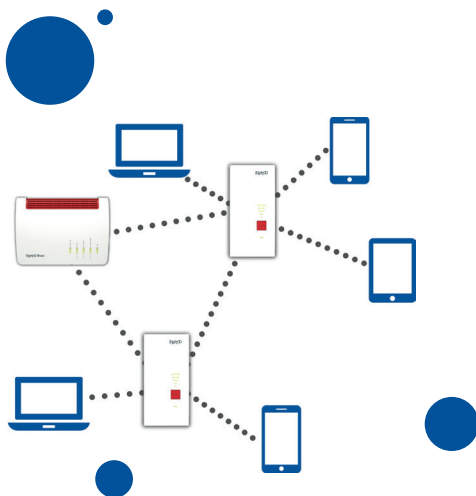
MESH WiFi will guarantee optimal WiFi coverage at a low price in most home configurations.
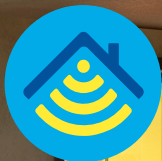
Mesh - Quick setup guide

Installing MESH wifi in your home couldn't be easier.
In one click, you can enjoy a high performance wifi coverage everywhere
in your home. To do this, make sure that your FRITZ!Box model has the latest
update (if it is not the case, the update manual is in the modem box).

To set up Wi-Fi MESH, just press the WPS button on your FRITZ!Box for 5
seconds and do the same on your repeater(s) or powerline(s). That's it, your Wi-
Fi MESH is now set up!
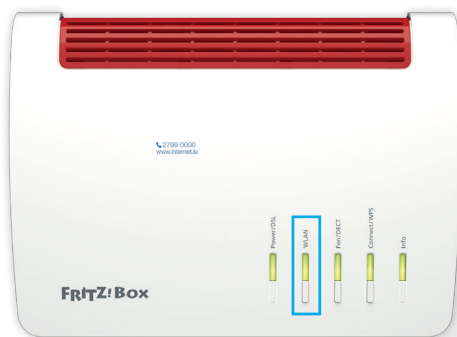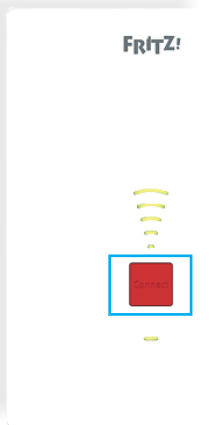
FRITZ!Box 7590   FRITZ!Repeater 2400

That's it, the Mesh is now set up!

Your connected devices are marked with a Mesh symbol on the FRITZ!Box
interface. All future FRITZ!Box products should be compatible.

Tip #2: Find the ideal location for your modem

Wi-Fi performance mainly depends on the distance between the modem and the devices connected to it - the closer they are to the modem, the better the connection. On the other hand, the further apart they are from each other (over 8 meters), the harder it is for the Wi-Fi waves to spread properly.

We recommend placing your modem in the room where you are most often. If this is not possible, consider installing Wi-Fi repeaters, wireless access points or a powerline kit (see tip #1). These accessories will help you extend Wi-Fi coverage everywhere in your home.

Where should you place your modem?

Ideal spot
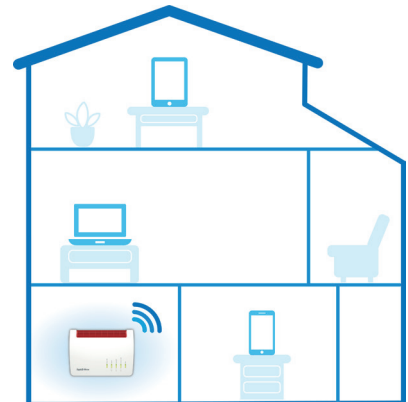
Wrong spot

Tip #3: Your modem likes to be clean and clearly visible

For best efficiency, you should place your Wi-Fi modem in a spacious, unobstructed spot - ideally at chest level. Avoid locking it up or placing other objects on it. Also remember to dust it off regularly.

Tip #4: Remove disruptors

Specific materials such as reinforced concrete, brick or marble act as barriers to Wi-Fi waves. This also goes for many other objects in our surroundings such as wireless devices, microwaves, mirrors, aquariums, and Christmas lights, as these can also interfere with your wireless network. You should therefore make sure that your modem remains far enough from these obstacles.

Tip #5: More devices means slower Wi-Fi

When connecting a large number of devices to your Wi-Fi network at the same time, the connection is likely to slow down. More simultaneous downloads means sharing the Wi-Fi speed, thus affecting its performance. Therefore, remember to disconnect the devices you are not currently using.

Tip #6: Check the condition of your equipment

Have a brand new modem, but your computer is getting old? This might affect your Wi-Fi performance. The same goes for devices that are infected by malicious software.

We therefore recommend using newer devices. Also, make sure you protect them properly by installing dedicated anitvirus software.

Tip #7: Go for Ethernet

Tasks such as running a business, everyday gaming and working from home require a fast Internet connection by all means. If this is your case, then we highly recommend going for an Ethernet cable connection. Unlike Wi-Fi, this option is faster and more stable by avoiding speed loss.

# Tip #8: Check your wifi channel (advanced)

Wi-Fi technology uses a frequency band that is divided into 13 channels in order to avoid interference with other household appliances. Actually, there so many devices emitting Wi-Fi nowadays that the amount of waves crossing each other daily from tens of different modems can overload the channel being used, therefore causing interference.

Wi-Fi channels

Change the Wi-Fi channel manually

Your modem is set up in 'automatic' mode by default: this means it will choose the best channel automatically. However, you can also select a channel manually.

1   Open an Internet browser and type **'fritz.box'** or **192.168.178.1** in the search bar. You should now see the FRITZ!Box interface.

2   On the left hand side menu, click on **'Réseau sans fil'**, then select **'Canal Radio'**. Under **'Utilisation des canaux sans fil'**, check the diagram in order to determine the best available channel - that is, the one with the lowest blue column.

3   In **'Configuration du Canal Radio'**, check the **'Ajuster la configuration du Canal radio'** option and select a new channel.
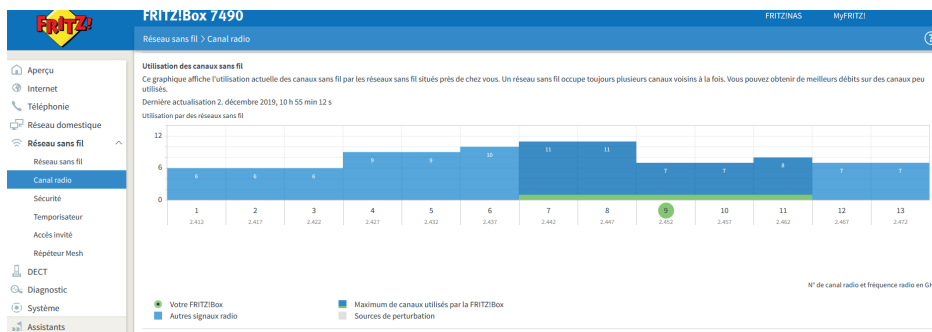
Check for a few days whether there are still disturbances.
If there is no improvement, try repeating this process with a different channel, always choosing the least affected one.

Please note that the diagram of the wireless environment only reflects the current situation! Channel assignment can change significantly from one day to the other.

Tip #9: Secure your network (advanced)

It's no secret that Wi-Fi is much more vulnerable to security breaches than a wired network. This is why protecting your network is crucial. First and foremost, log in to your FRITZ!Box interface.

1   Open an Internet browser and type **'fritz.box'** or **192.168.178.1** in the search bar. You should now see the FRITZ!Box interface.

2   If a password is required, type the one indicated on the sticker under the modem.

3   Then, on the left hand side menu, select **'Réseau sans fil'**, where you can make the changes indicated below to strengthen the security of your Wi-Fi network.

Renaming your Wi-Fi network	Hiding your Wi-Fi network	Filtering connected devices	Changing your Wi-Fi password
Click on 'Radio Network'. This option allows you to change the name of your network. Click 'Apply' to save changes.	Click on 'Radio Network'. Check 'Wireless radio network enabled', then click 'Apply'.	Under 'Security' > 'Network Key', check the 'Do not allow any new wireless devices' option.	Under 'Security' > 'Network Key', you can replace the current password with the one of your choice. Click 'Apply' to save changes.
The default network name should be 'Luxembourg Online' followed by your initials. We recommend avoiding any network names containing personal information such as your first and last names.	Please note that in order to connect new devices to the network, you will first need to uncheck this option.	Please note that in order to connect new devices to the network, you will first need to uncheck this option.	Make sure to choose a sufficiently complex password.

Tip #10: Change frequencies (advanced)

In short, a frequency band corresponds to a frequency range of the radio waves through which the signals are transmitted. The majority of existing modems are able to automatically select the most suitable frequency, that is either 2.4 GHz or 5 GHz. Each has its pros and cons. However, the 5 GHz frequency tends to be less affected by interference.

Opting for the frequency that best suits your needs may be a possible solution to improve ease of use.

	2,4 GHz	5 GHz
Pros	• Longer range • High penetration through materials	• Faster speed • More resistant to interference
Cons	• More vulnerable to interference • Slower	• Shorter range • Not compatible with all devices

1   Open an Internet browser and type **'fritz.box'** or **192.168.178.1** in the search bar. You should now see the FRITZ!Box interface.

2   Under the **'Réseau sans fil'** menu, click on **'Canal Radio'**.

3   Enable the **'Ajuster la configuration du canal radio'** option.

4   In the **'Réseau sans fil'** dropdown list, select the **'802.11n+ac"** standard.

5   Click **'Appliquer'** to save.

6   Restore the wireless connection to the FRITZ!Box.

If this didn't make any difference, then it is likely the surrounding devices may be causing the interference.

There's an answer to every problem!

The Wi-Fi doesn't work

- Make sure your device is not out of range of the modem.

- Check if the Wi-Fi is properly activated both on your device and modem.

- Make sure your device is connected to the right network by checking its name (SSID).

- Make sure you have typed the correct password.

- Check if your network is not set as hidden on the FRITZ!Box interface.

- Make sure your modem is correctly set up and plugged.

- Make sure the option for adding new devices is checked on the FRITZ!Box interface.

Lost password

- If you have changed or lost your Wi-Fi password, you can recover and modify it by logging in to your modem's interface.

- To do this, follow tip #9: 'Renaming your Wi-Fi network'. You will find the password in the 'Wireless' section.

Slow Wi-Fi

- Test the speed of your Ethernet cable connection at www.speedtest.net for a few days at different times of the day, then compare the results with your Wi-Fi speed. If there is a big difference between the two, it means you your Wi-Fi setup must be improved.

Wi-Fi connection drops

- Check your Wi-Fi channel (see tip #8).

- Check whether this also happens with other devices.

- If you have a filter, check its condition by unplugging the modem and plugging it again directly into the wall socket - that is, without the filter. Then check your Internet connection again.

Notes :

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Phone: 2799 0000   E-mail: wifi@internet.lu

We remain at your disposal for any question:

- By telephone: call **2799 0000**
- Through the contact form on **www.internet.lu**
- In our shop at
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Luxembourg Online was founded in 1995 and is one of Luxembourg's main telecommunication operators. As an Internet, television, mobile and landline telephone service provider as well as a company specialised in network and software development, Luxembourg Online has been an expert in the field of telecommunications for over 25 years now.

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