NEW EASY TO FOLLOW USER GUIDES

FRITZ!Box

FOR BEGINNERS

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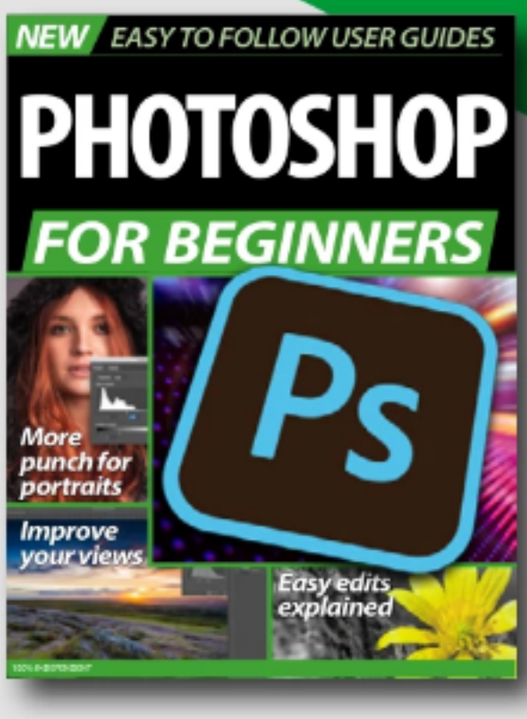

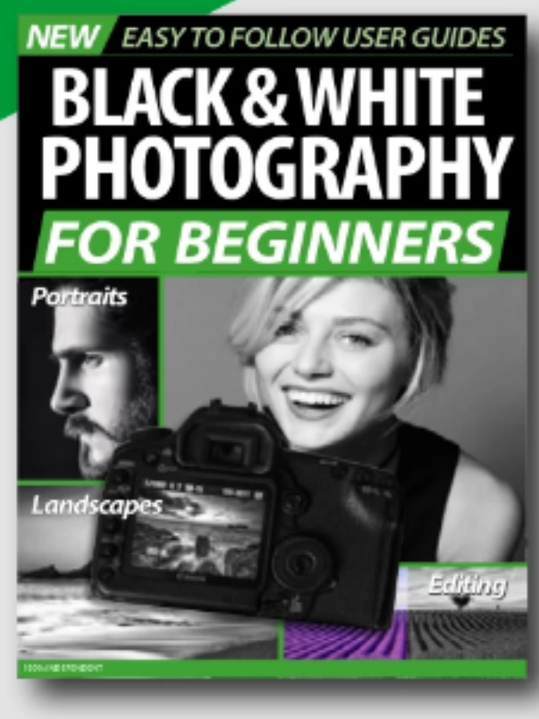

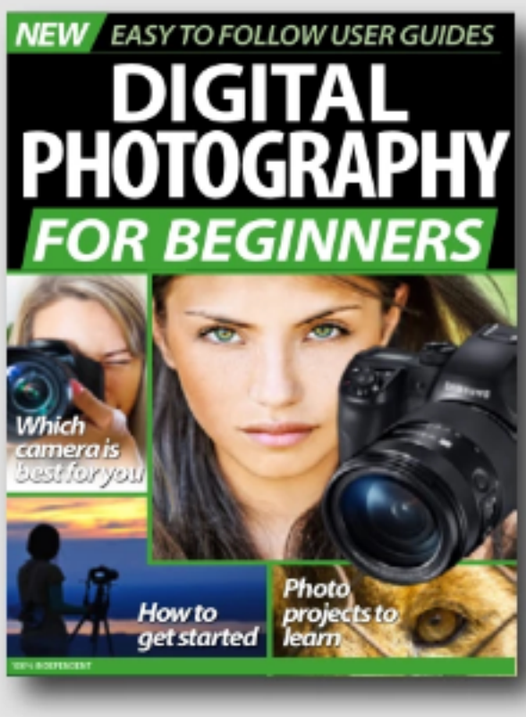

FRITZ!Box

FOR BEGINNERS

Starting something new can be daunting. Learning a skill or mastering a new piece of hardware is tough. Even tougher if you have no-one at hand to help. Conversely as the complexity of our consumer technology increases, the size of the requisite instruction manual decreases or in some cases it simply disappears. At numerous times in our lives we have all been "beginners", there is no shame in that fact and rightly so. How many times have you asked aloud, "What does this button do?". "Why doesn't that work?". "What do you mean it doesn't do that?". "HELP!". At the start of any new journey or adventure we are all beginners but fortunately for you we are here to stand beside you at every stage.

Over this extensive series of titles we will be looking in great depth at the latest consumer electronics, software, hobbies and trends out of the box! We will guide you step-by-step through using all aspects of the technology that you may have been previously apprehensive at attempting. Let our expert guide help you build your technology understanding and skills, taking you from a novice to a confident and experienced user.

Over the page our journey begins. We would wish you luck but we're sure with our support you won't need it.

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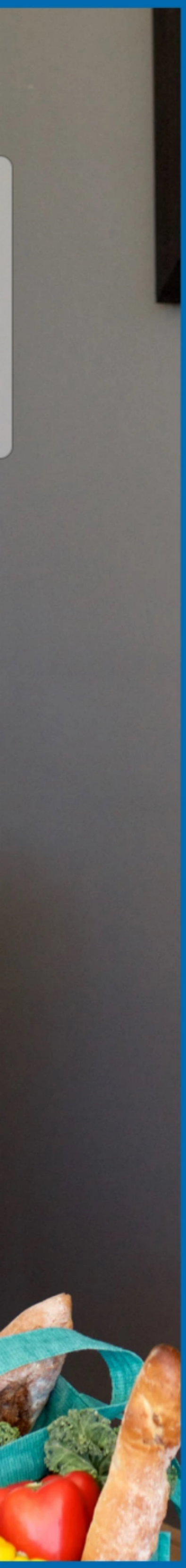
You can take your smartphone online through Wi-Fi with a FRITZ!Box router.

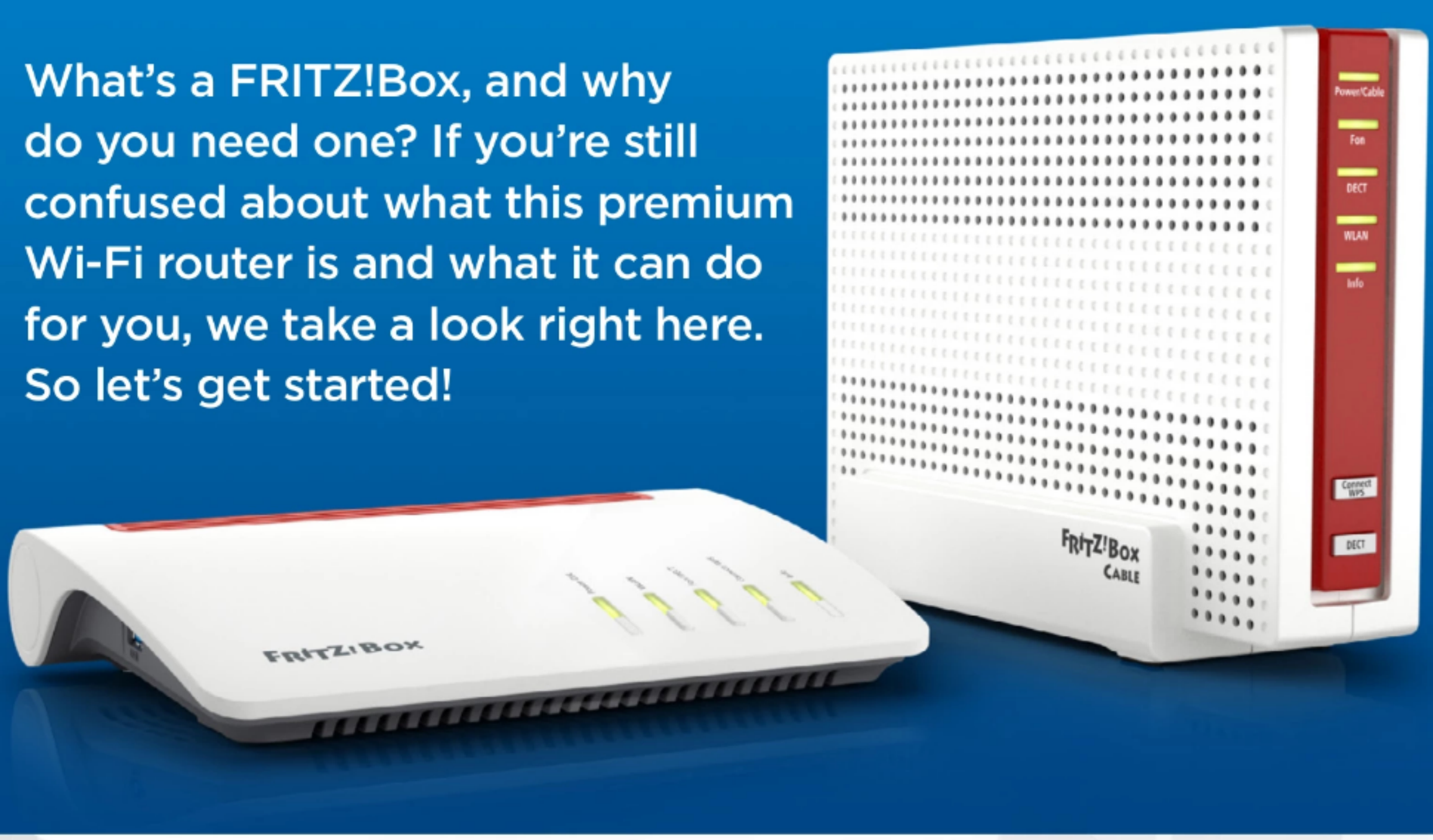


An Introduction to the AVM FRITZ!Box

What's a FRITZ!Box? What's a router? Who is AVM? Why do I need a new router anyway? My ISP gave me one for free when I signed up. In this section, we answer all these questions and more, as well as taking a look at the current FRITZ!Box models, their buttons and connection ports, and more. We also show you how to set up your FRITZ!Box, and how to connect with Wi-Fi or Ethernet.

What's a FRITZ!Box?

What's a FRITZ!Box, and why do you need one? If you're still confused about what this premium Wi-Fi router is and what it can do for you, we take a look right here. So let's get started!



A quarter of a century ago, home computers that accessed the Internet usually did so using just a modem. Short for modulator-demodulator, a modem connected your computer to your phone line and converted technical data to a sound that could be transmitted from computer to computer. As households – and businesses – began to take more and more computers and increasingly other devices onto the Internet, routers were born. These allowed more than one device at a time to go online. You could connect your computer or other Internet-capable device to the router using an Ethernet cable or later through Wi-Fi too, a wireless means of connecting to the router that required no cables, making it ideal for mobile devices.

The next step was obvious. If most people who use a modem also use a router, why not combine the two and make a router that also includes a built-in modem? They were far more convenient, required only one power point and cut down on unnecessary cabling. The next major breakthrough was broadband modems. These ADSL (asymmetric digital subscriber line) devices made better use of the phone lines for a massive increase in speed. Most broadband routers, such as the FRITZ!Box 7590 and FRITZ!Box 7530, are ADSL routers.

But not all FRITZ!Box models use ADSL. If your Internet is supplied through a cable service instead of over the phone line, you need a cable router such as the FRITZ!Box 6591. These connect directly to your cable port, but otherwise function in a similar way to an ADSL router. There's also LTE (Long-Term Evolution), a standard used for connecting to the Internet using mobile phone data connectivity through 3G, 4G and (coming soon) 5G. You can also buy a router that uses the mobile phone networks to go online, such as the FRITZ!Box 6890 LTE.

In this guide, we focus on the newest routers in the FRITZ!Box range, but most of our tips and tutorials equally apply to older models.

Who is AVM?

Based in Berlin, Germany, AVM is a leading manufacturer of broadband devices for DSL, cable, LTE (4G) and fibre optics. Founded in 1986, the FRITZ! brands such as FRITZ!Box, FRITZ!Fon and FRITZ!OS are owned and manufactured by AVM.

AVM's offices in Berlin, Germany.

What is DECT telephony?

A DECT (Digital Enhanced Cordless Telecommunications) telephone system lets you use several wireless handsets using only one base station. This base station connects to your phone line, and the handsets connect wirelessly to the base station. Some – but not all – FRITZ!Box routers have a built-in DECT base station, so you can connect phone handsets as well as Internet devices.

Some FRITZ!Box routers have a built-in DECT base station.

Tech Specs

Are you wondering which FRITZ!Box you should buy for your home or small business network? Does your current model have the features you need? Let's find out.

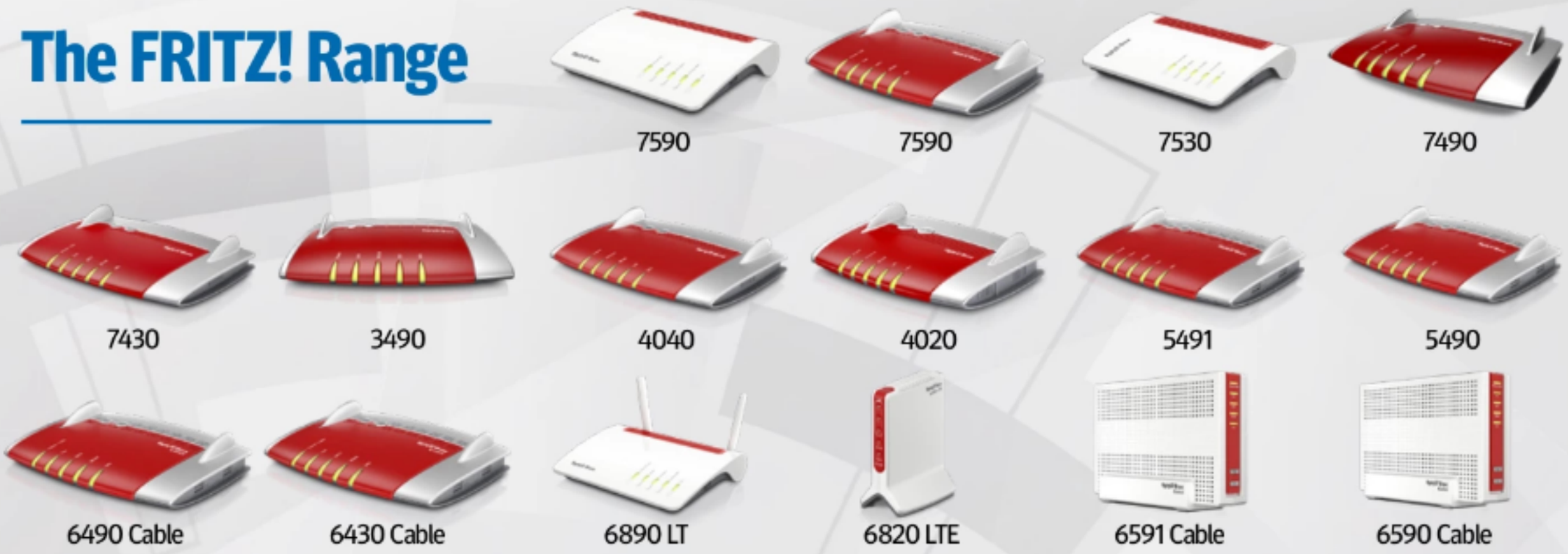
	Modem	WAN *	Wireless Bands	Wi-Fi	Top Wi-Fi Speed	Mesh Wi-Fi Supported	
FRITZ!Box 7590	ADSL/VDSL	Yes	2.4GHz & 5GHz	Wireless AC+N	1733 Mbit/s	Yes	
FRITZ!Box 7560	ADSL/VDSL	Yes	2.4GHz & 5GHz	Wireless AC+N	866 Mbit/s	Yes	
FRITZ!Box 7530	ADSL/VDSL	Yes	2.4GHz & 5GHz	Wireless AC+N	866 Mbit/s	Yes	
FRITZ!Box 7490	ADSL/VDSL	Yes	2.4GHz & 5GHz	Wireless AC+N	1300 Mbit/s	Yes	
FRITZ!Box 7430	ADSL/VDSL	Yes	2.4GHz	Wireless N	450 Mbit/s	Yes	
FRITZ!Box 3490	ADSL/VDSL	Yes	2.4GHz & 5GHz	Wireless AC+N	1300 Mbit/s	Yes	
FRITZ!Box 4040	None	Yes	2.4GHz & 5GHz	Wireless AC+N	866 Mbit/s	Yes	
FRITZ!Box 4020	None	Yes	2.4GHz	Wireless N	450 Mbit/s	Yes	
FRITZ!Box 5491	None	Yes	2.4GHz & 5GHz	Wireless AC+N	1300 Mbit/s	Yes	
FRITZ!Box 5490	None	Yes	2.4GHz & 5GHz	Wireless AC+N	1300 Mbit/s	Yes	
FRITZ!Box 6591 Cable **	Cable, DOCSIS 3.1	Yes	2.4GHz & 5GHz	Wireless AC+N	1733 Mbit/s	Yes	
FRITZ!Box 6590 Cable **	Cable, DOCSIS 3.0	Yes	2.4GHz & 5GHz	Wireless AC+N	1733 Mbit/s	Yes	
FRITZ!Box 6490 Cable **	Cable, DOCSIS 3.0	Yes	2.4GHz & 5GHz	Wireless AC+N	1300 Mbit/s	Yes	
FRITZ!Box 6430 Cable **	Cable, DOCSIS 3.0	No	2.4GHz	Wireless N	450 Mbit/s	Yes	
FRITZ!Box 6890 LTE ***	DSL/VDSL, LTE, Multiband	Yes	2.4GHz & 5GHz	Wireless AC+N	1733 Mbit/s	Yes	
FRITZ!Box 6820 LTE ***	LTE, Multiband	No	2.4GHz	Wireless N	450 Mbit/s	Yes	

* WAN port is for the connection to a cable/DSL/fibre optic modem or existing network.

** In Germany, ISPs must allow customers to use their cable router of choice. In other countries, including the UK, cable providers often don't allow customers to use another router directly at the cable connection, making it impossible to connect a FRITZ!Box. Consult your cable ISP for more information.

*** LTE Internet uses the mobile phone networks, so needs a SIM card and a data plan.

The FRITZ! Range



	Ethernet ports	USB ports	Telephony	Voicemail / Fax	Media Server	Dimensions	Average power consumption
	4 (Gigabit)	2x USB 3.0	6x DECT, 2x Analogue, 1x ISDN	Yes	Yes	250 x 48 x 184 mm	9-10 W
	4 (Gigabit)	1x USB 2.0	6x DECT, 1x Analogue	Yes	Yes	226 x 159 x 47 mm	8–11 W
	4 (Gigabit)	1x USB 2.0	6x DECT, 1x Analogue	Yes	Yes	208 x 150 x 37 mm	6 W
	4 (Gigabit)	1x USB 2.0	6x DECT, 2x Analogue, 1x ISDN	Yes	Yes	245 x 175 x 55 mm	9.3 W
	4 (Fast Ethernet)	1x USB 2.0	6x DECT, 1x Analogue	Yes	Yes	226 x 47 x 160 mm	8–11 W
	4 (Gigabit)	1x USB 2.0	None	No	Yes	245 x 55 x 175 mm	8-20 W
	4 (Gigabit)	1x USB 3.0, 1x USB 2.0	None	No	Yes	226 x 160 x 47 mm	3.5–7 W
	4 (Fast Ethernet)	1x USB 2.0	None	No	Yes	166 x 120 x 48 mm	2–7 W
	4 (Gigabit)	2x USB 3.0	6x DECT, 2x Analogue, 1x ISDN	Yes	Yes	245 x 175 x 55 mm	7.2 W
	4 (Gigabit)	2x USB 3.0	6x DECT, 2x Analogue, 1x ISDN	Yes	Yes	245 x 175 x 55 mm	7.2 W
	4 (Gigabit)	2x USB 3.0	6x DECT, 2x Analogue, 1x ISDN	Yes	Yes	85 x 209 x 273 mm	11 W
	4 (Gigabit)	2x USB 2.0	6x DECT, 2x Analogue, 1x ISDN	Yes	Yes	85 x 209 x 273 mm	11 W
	4 (Gigabit)	2x USB 2.0	6x DECT, 2x Analogue, 1x ISDN	Yes	Yes	245 x 59 x 173 mm	11 W
	4 (Gigabit)	2x USB 2.0	6x DECT, 2x Analogue	Yes	Yes	226 x 160 x 47 mm	8–11 W
	4 (Gigabit)	1x USB 3.0	6x DECT, 1x Analogue, 1x ISDN	Yes	Yes	250 x 48 x 184 mm	9.5 W
	1 (Gigabit)	None	None	No	No	64 x 99 x 134 mm	6 W

2.4GHz and 5GHz Bands

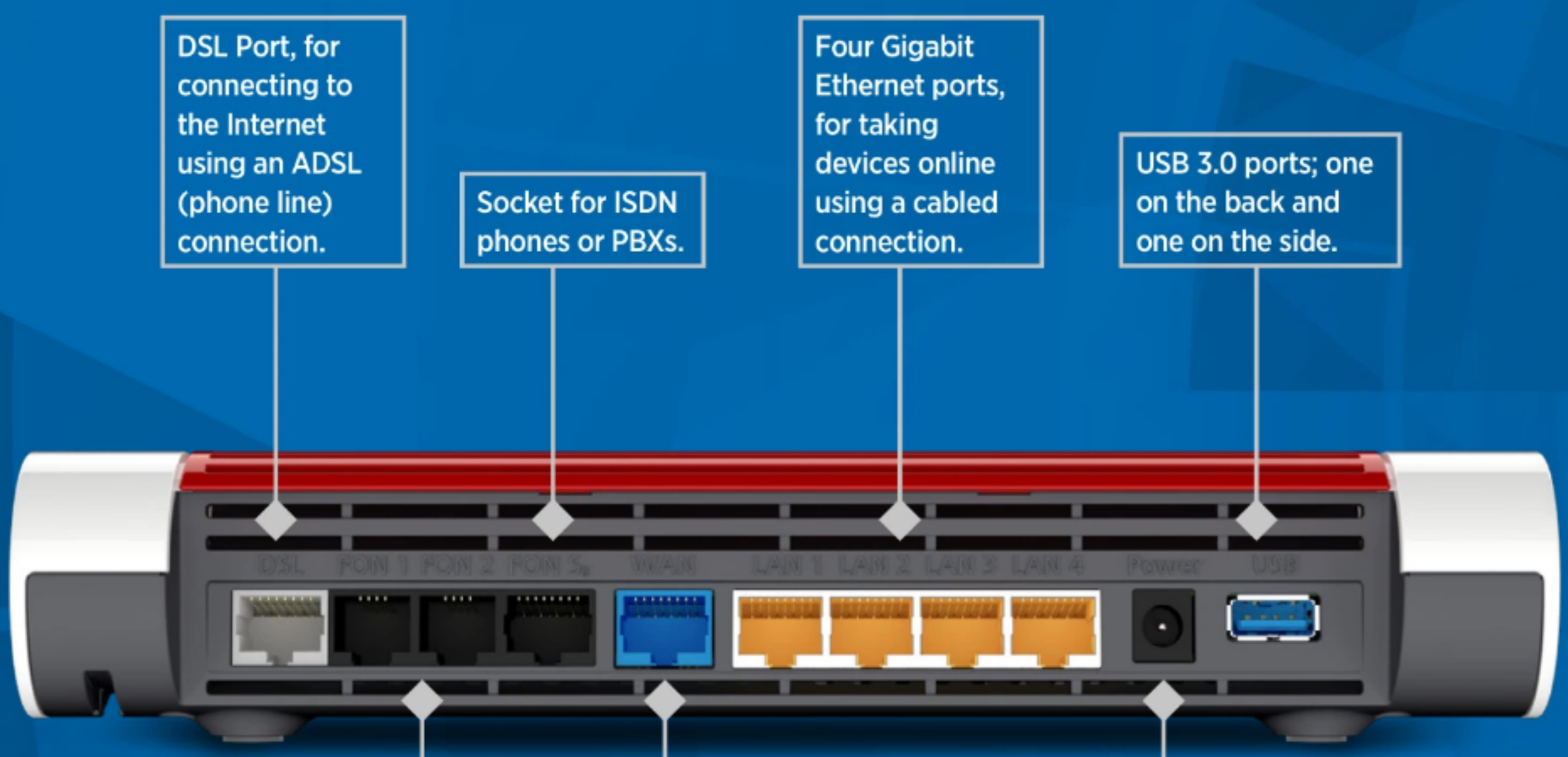
Most models of FRITZ!Box offer both 2.4GHz and 5GHz Wi-Fi. The 5GHz band is generally faster, as 2.4GHz is used by other applications, such as Bluetooth, and is therefore more congested. If your router is Dual Band, network devices which only offer 2.4GHz can use this band, while those that can also manage 5GHz opt for this faster band whenever possible.

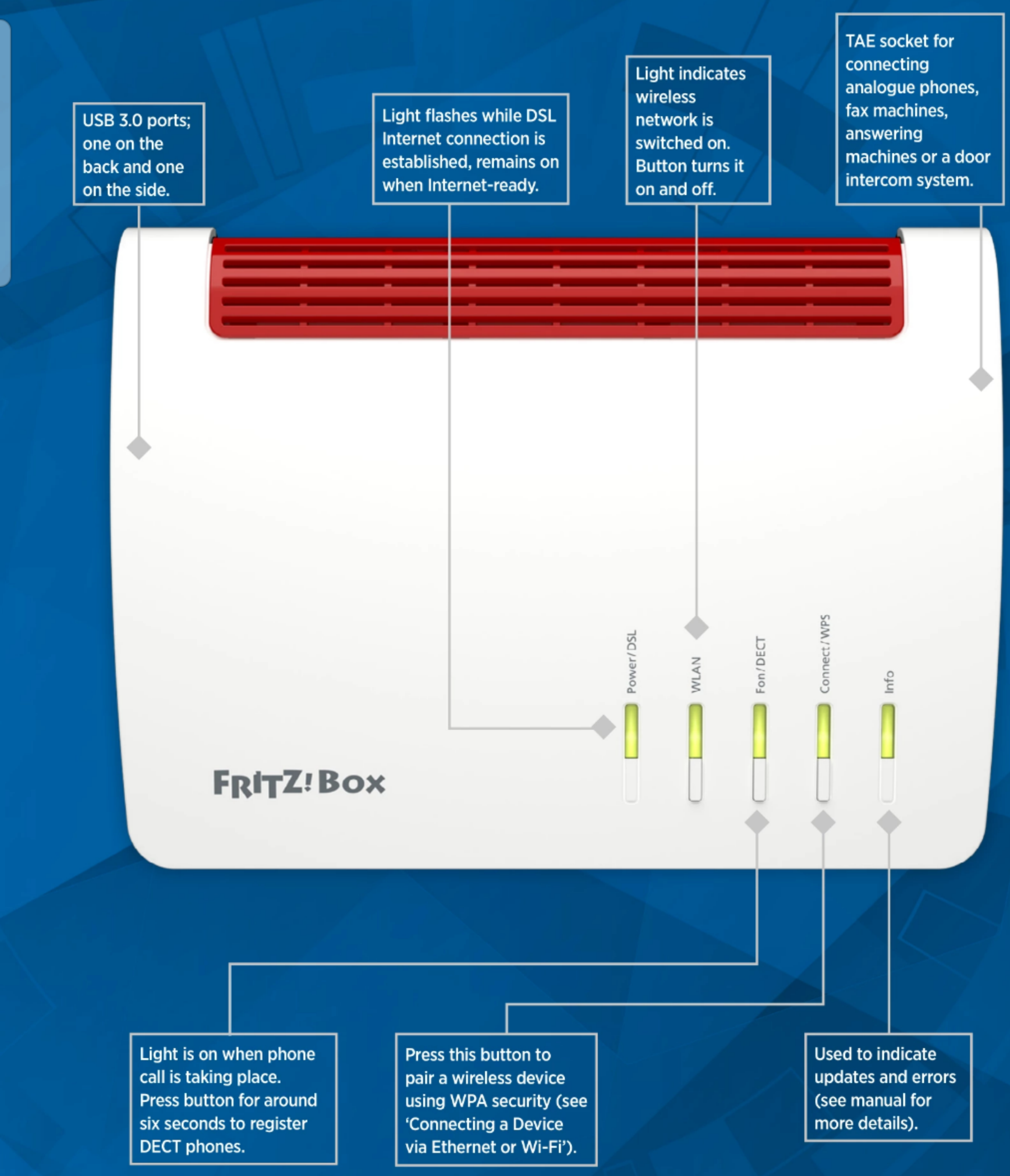
What's Where?

If you're wondering what all those ports, buttons and lights on your FRITZ!Box are for, you're reading the right page. Here we take a look at the four top models in the router range.

FRITZ!Box 7590

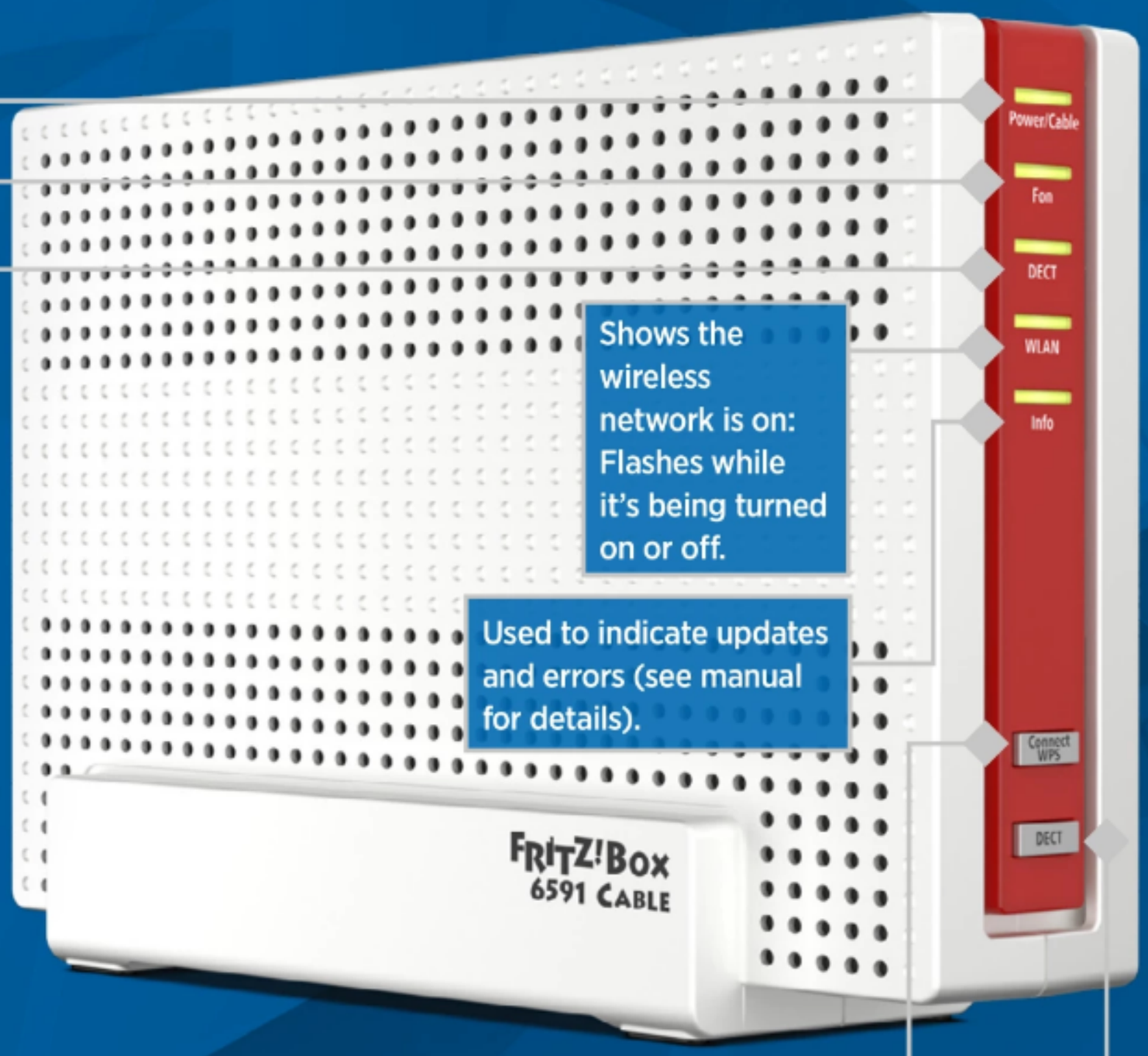
AVM's flagship router, for Internet and telephony




USB 3.0 ports; one on the back and one on the side.
Light flashes while DSL Internet connection is established, remains on when Internet-ready.
Light indicates wireless network is switched on. Button turns it on and off.
TAE socket for connecting analogue phones, fax machines, answering machines or a door intercom system.
Power/DSL
WLAN
Fon/DECT
Connect/WPS
Info
FRITZ!Box
Light is on when phone call is taking place. Press button for around six seconds to register DECT phones.
Press this button to pair a wireless device using WPA security (see 'Connecting a Device via Ethernet or Wi-Fi').
Used to indicate updates and errors (see manual for more details).

FRITZ!Box 6591 Cable

A router for those who have cable Internet



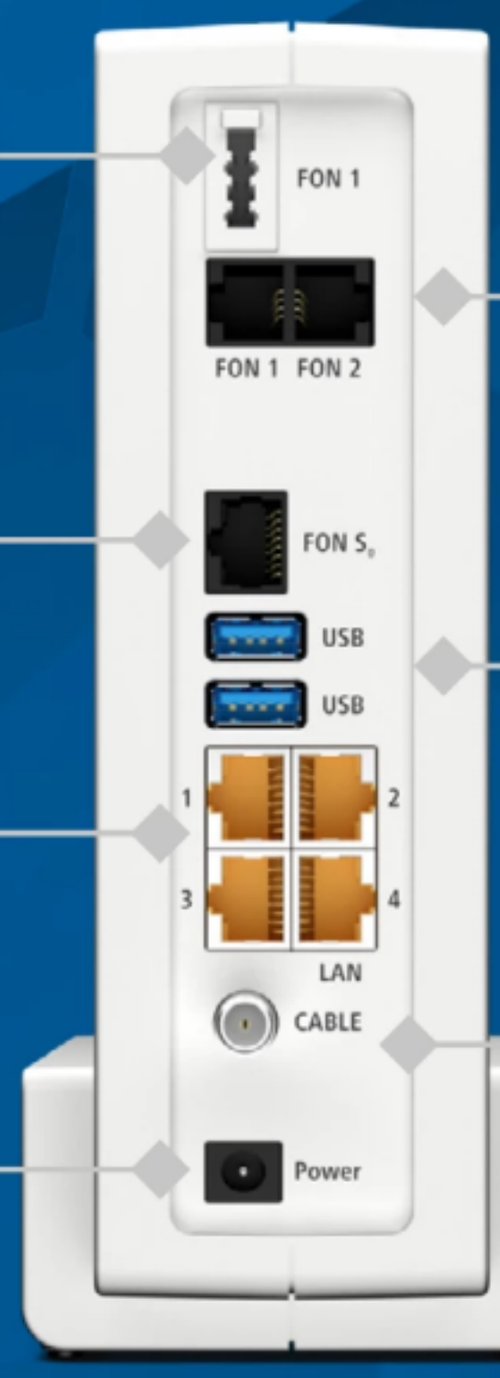
Power indicator: flashes while connection to Internet is being established.

Turns on during a telephone call, flashes to indicate a voice mail has been received.

Shows the DECT function is on; Flashes during registration of a DECT device.

Shows the wireless network is on: Flashes while it's being turned on or off.

Used to indicate updates and errors (see manual for details).



TAE socket for connecting analogue phones, fax machines, answering machines or a door intercom system.

Two RJ11 sockets; also for analogue telephony devices.

Press this button to pair a wireless device using WPA security (see 'Connecting a Device via Ethernet or Wi-Fi').

For connecting ISDN phones and PBX systems.

Twin USB 3.0 sockets.

Four Gigabit Ethernet ports: for cabled Internet connections.

Press button for around six seconds and DECT light flashes to indicate registration of a compatible phone or device is in progress.

Your cable Internet connection goes here.

Plug in the power supply unit here.

FRITZ!Box 6890 LTE

A router for both ADSL and mobile Internet

Power indicator: Solid when DSL/ADSL Internet connection is established, flashes while connection is being made.

Shows the DECT function is on. Flashes during registration of a DECT device. Press button for around six seconds to start DECT registration. Light is on during a phone call, and flashes when a message is left on your answer machine.

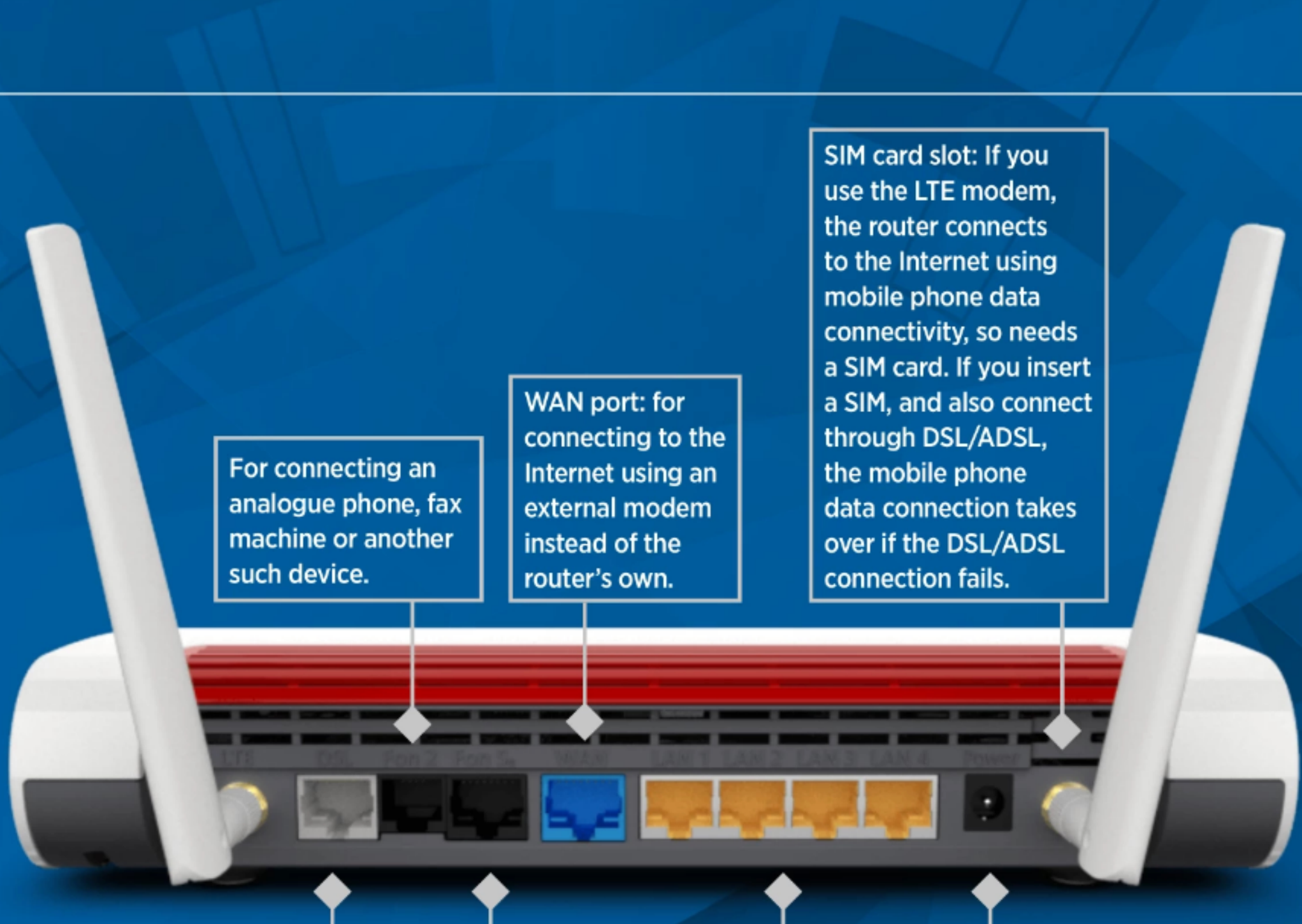
Light indicates Wi-Fi is on. Button switches it on and off.

Press button to initiate registration of a WPS-secured device. Light flashes during registration.

The Info light is used to indicate updates and errors (see manual for details).

TAE port: for connecting an analogue phone, answering machine, fax machine, or a door intercom system.

USB 3.0 port: to connect devices such as printers or storage.

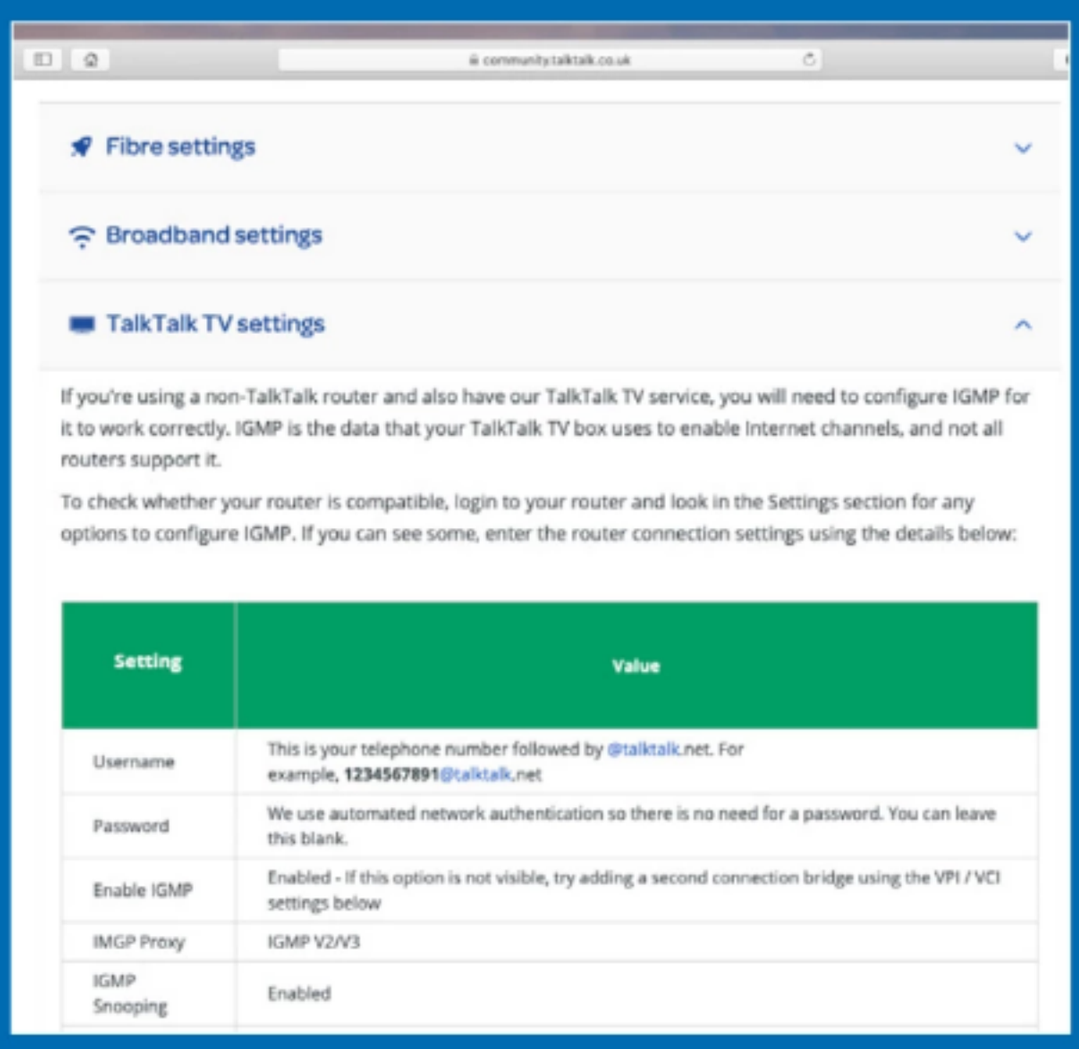


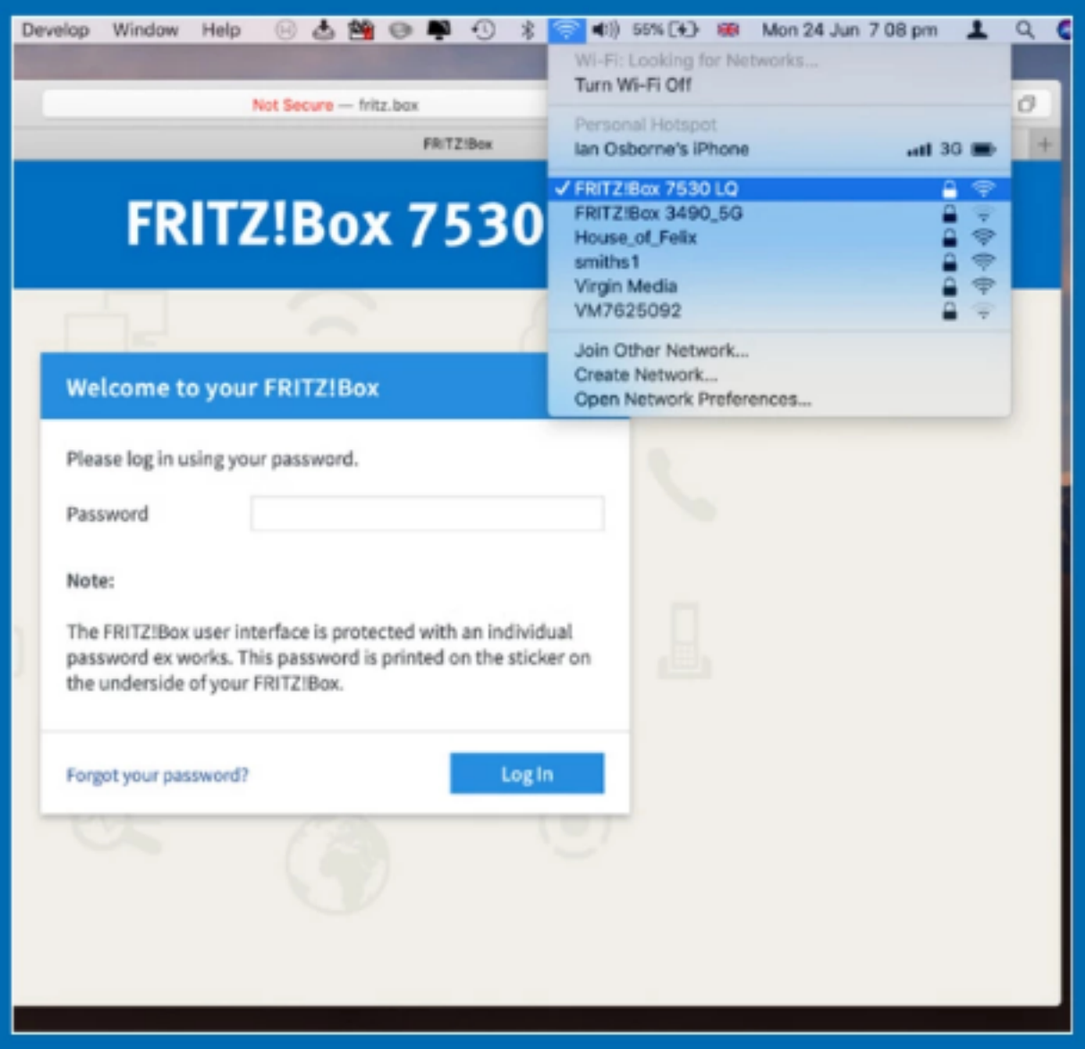
What's a SIM Card?

A SIM (subscriber identification module) card is supplied by your mobile phone service provider, and allows you to get online using the mobile phone networks (3G/4G). You need to subscribe to a data package to use one with your LTE router.

Setting up Your FRITZ!Box

Before you can enjoy your FRITZ!Box router, you must first set it up. Different FRITZ!Box models are connected to your landline, cable or LTE service in different ways, so here, we concentrate on setting up your router with your ISP's settings.

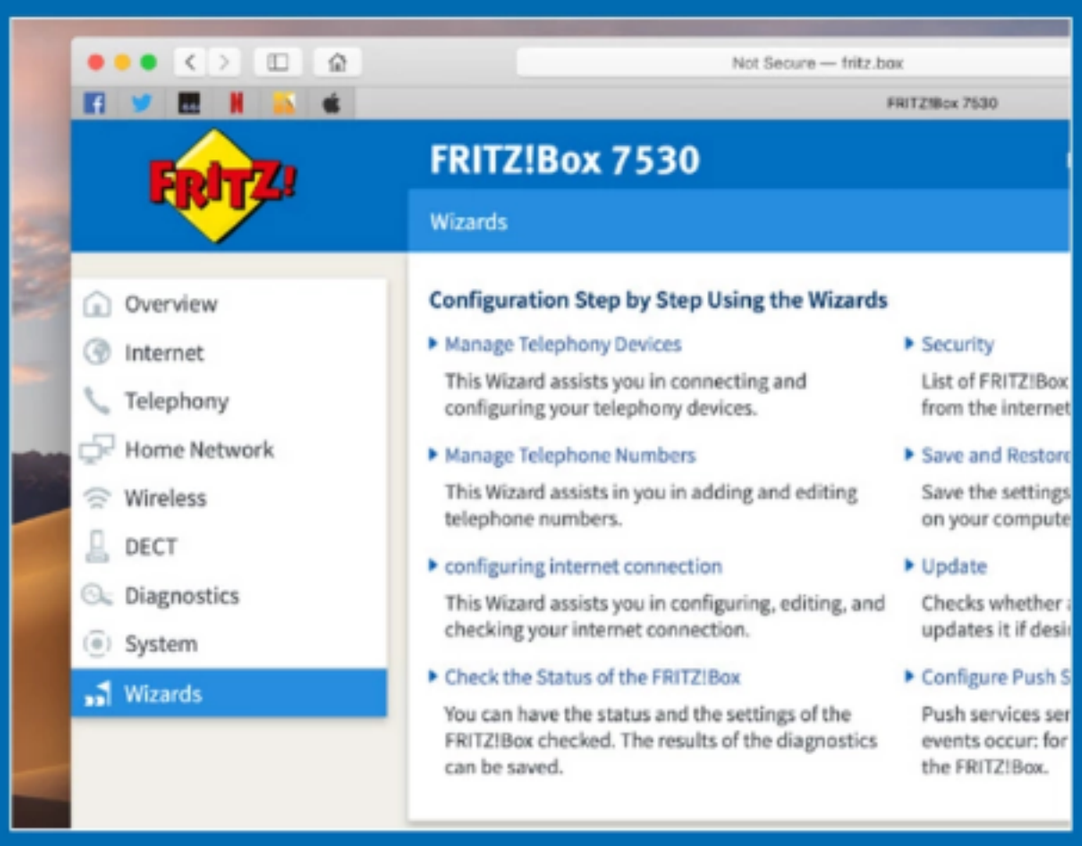


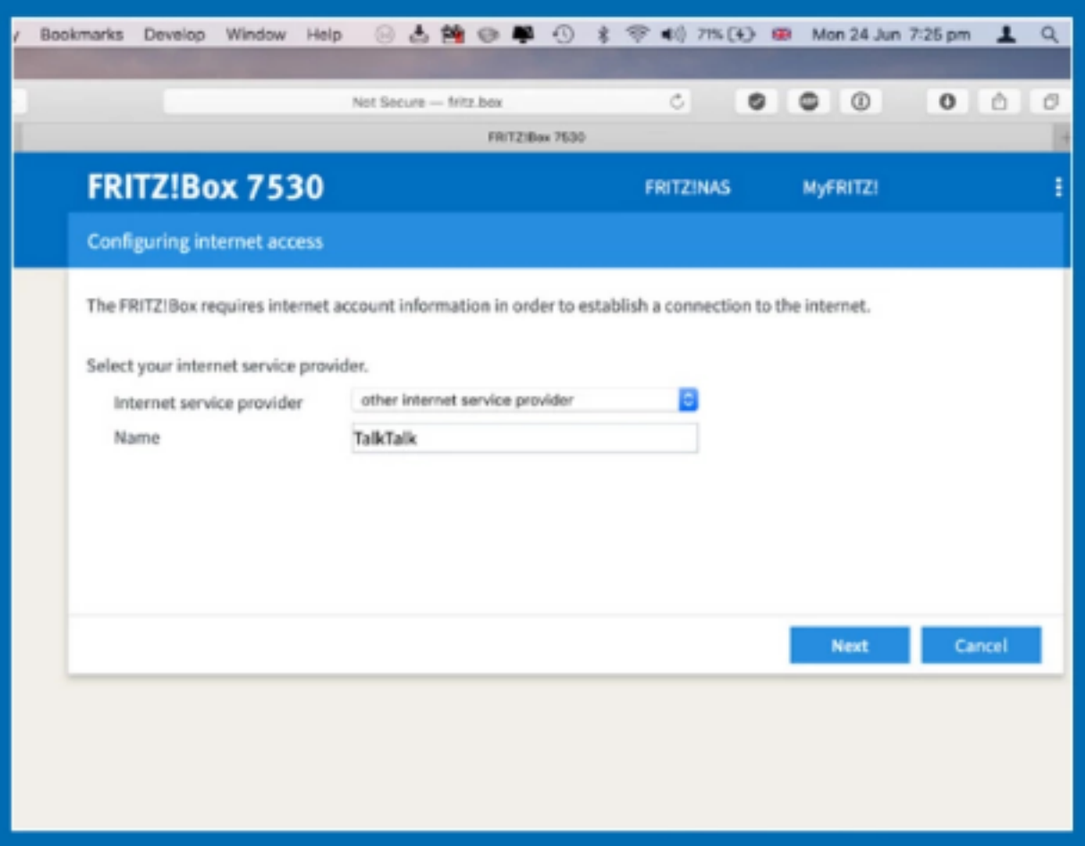


1 If you didn't get your FRITZ!Box router from your Internet Service Provider (ISP), you have to set it up. Go online, and get the instructions from your ISP's help page. Here, for example, is the settings page for the UK ISP TalkTalk; select the one that's appropriate for your router, and print it out. Follow the guide that came with the router to plug it in.

2 If your computer isn't connected to the router through an Ethernet cable, wait for the WLAN light to come on, and log onto the router using Wi-Fi. It may take a minute or two to appear. Open a web browser, and type 'http://fritz.box' in the address field. You access the router's interface from here, which is where you change its settings.

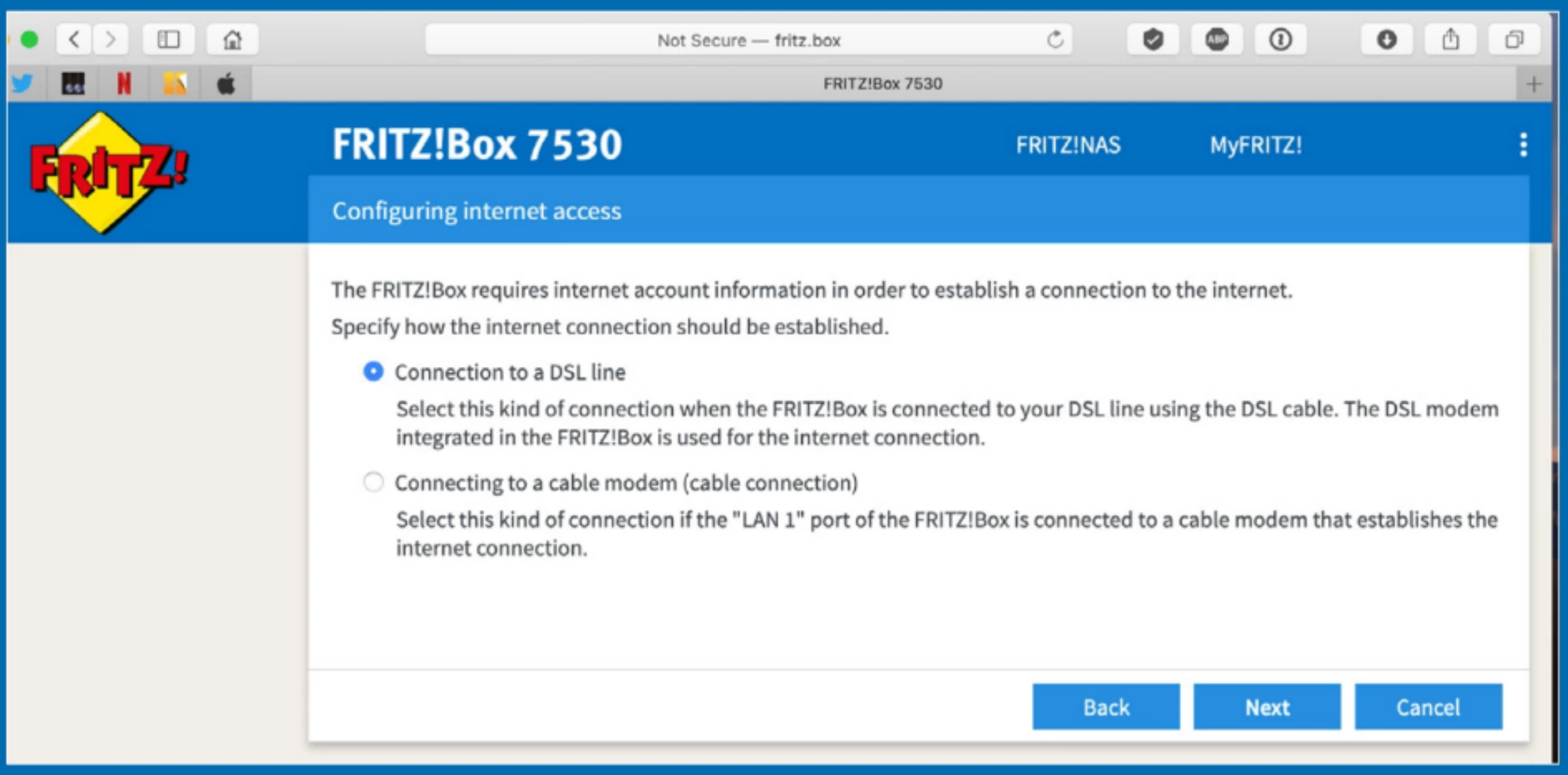
3 You now need to log into your router's interface, using the sticker found on the base of your router. It's labelled 'FRITZ!Box password', and it's found on the right hand side of the sticker. It's unique to your own router, but for extra security, you can change it for something else if you wish (see tutorial on Changing Your passwords).



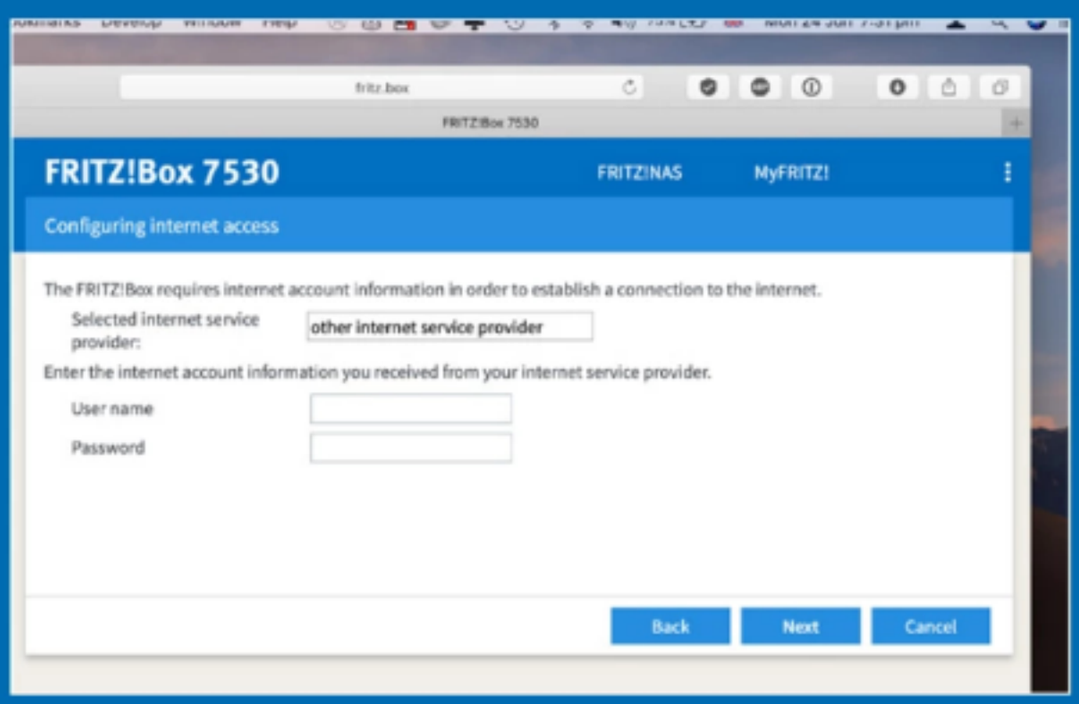


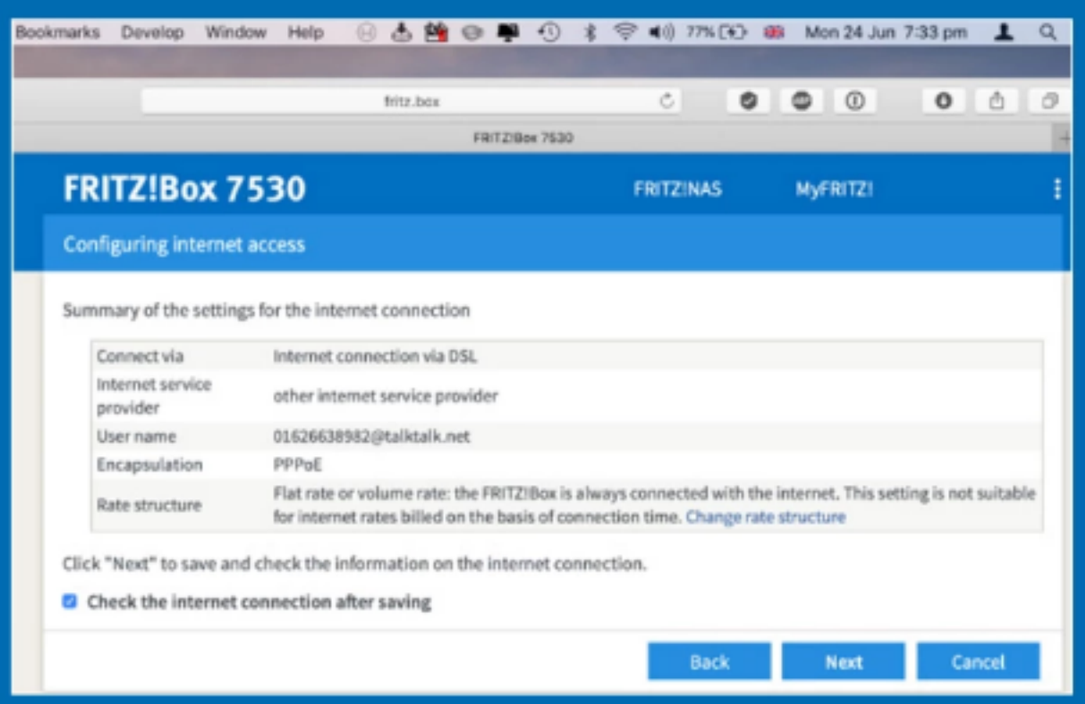
4 In the interface's sidebar, on the left of the window, go to the bottom and click on Wizards. To start your setup, on the next screen, click on 'configuring Internet connection'. Once again, make sure you have your settings information ready, as you'll need them when the wizard asks you for details.

5 On the next screen, find your ISP (Internet Service Provider) in the pull-down menu. If it's not listed there, select 'other Internet service provider', and add a name in the Name field. Ignore the Existing Connection over LAN and Existing Connection over WLAN options, as they're for something else. Click Next when done.



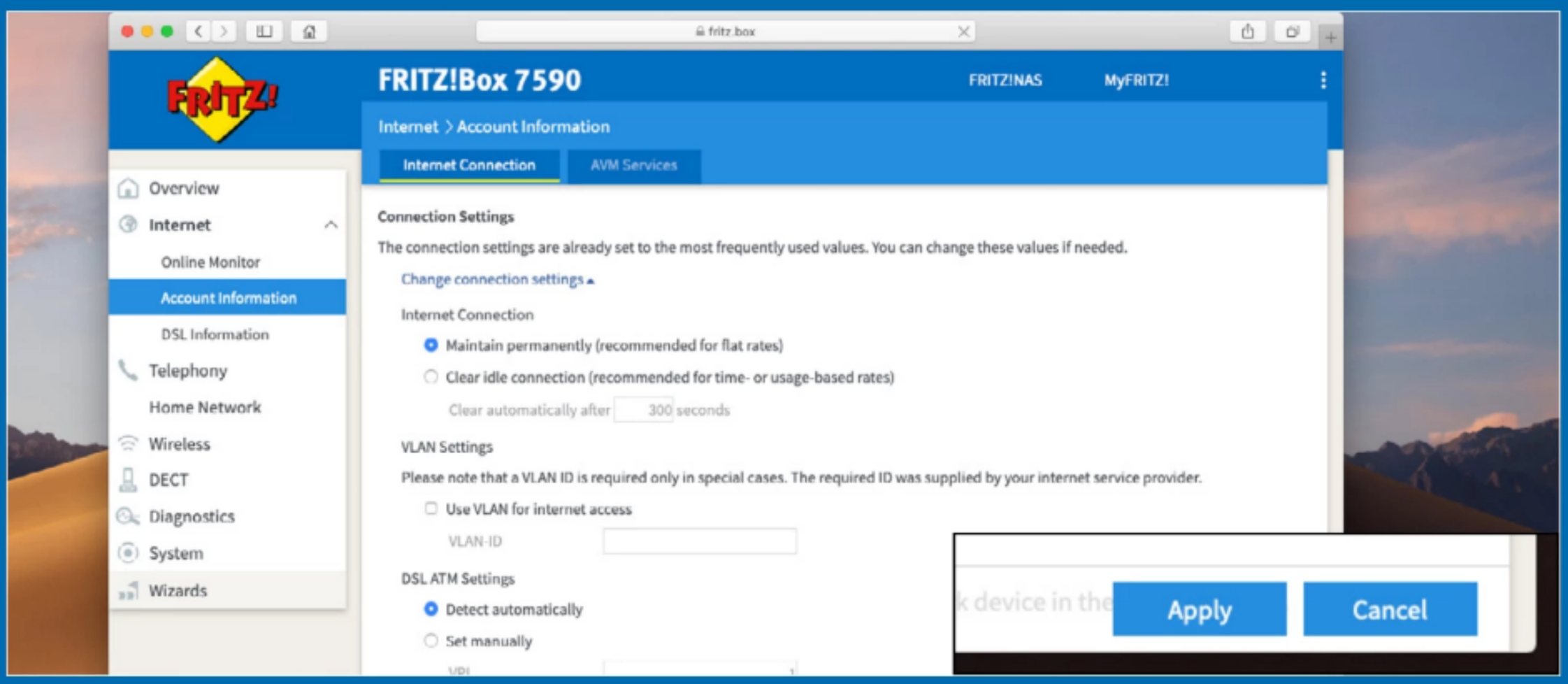
6 For the next step, you must state whether you're connecting to a DSL line (that is, if you're using a telephone line for your Internet connection), or if you're connecting to a cable modem for a cable Internet service. Here we're connecting to a phone line, so we'll choose the DSL setting. Click Next.





7 Your User name and Password are provided by your Internet Service Provider. They're unique to you, so if you don't have them to hand, you need to contact your ISP for help. When you have them, type them into the fields provided and then click the Next button to proceed.

8 You're shown the settings you've set up so far, and asked if you want to check the Internet connection after saving. It's a good idea to do this, so make sure that box is checked. The settings are saved, and the router checks the connection. It might take a few minutes. After the check is completed, you're done.



9 If there's a problem with your connection, you might have to change some of the settings manually. Definitely do this, go to Internet > Account Information and click the Internet connection tab. Scroll this page and check the settings are the same as those you got from your ISP in step 1. Change anything that needs changing, and click Apply.

Other types of FRITZ!Box Connection

LTE Models

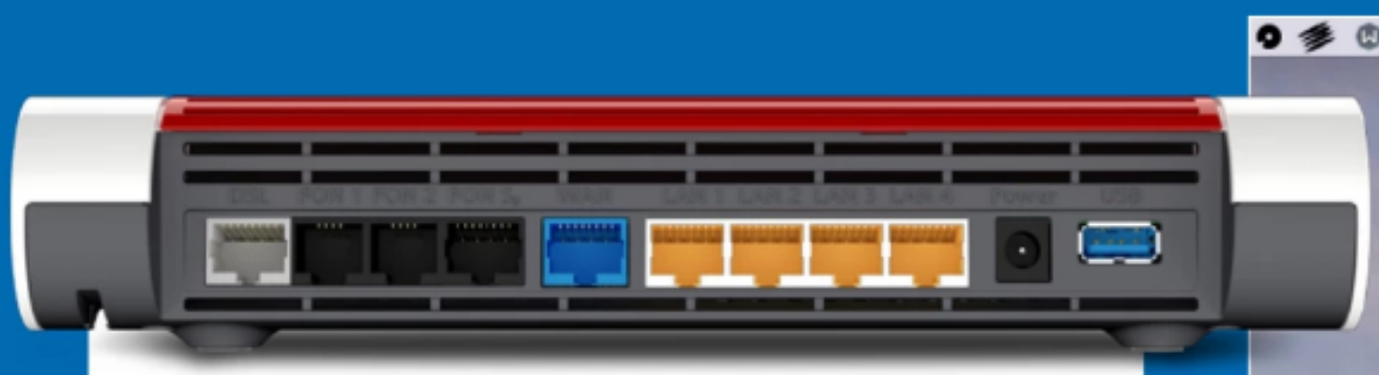
If you have an LTE model, like the FRITZBox 6842 LTE shown here, you must insert a SIM card, like the one you use for your mobile phone, into the router. This is how it accesses the Internet – using the mobile phone network. Talk to your mobile phone service provider about getting a contract for your router.

Cable Models

If you use cable Internet, you have two options. You can connect a regular FRITZ!Box router to the cable modem your ISP gave you, using the router's WAN port. Alternatively, if your ISP allows third-party devices to be connected directly, you can use a cable router such as the FRITZ!Box 6591 Cable.

Connecting a Device via Ethernet or Wi-Fi

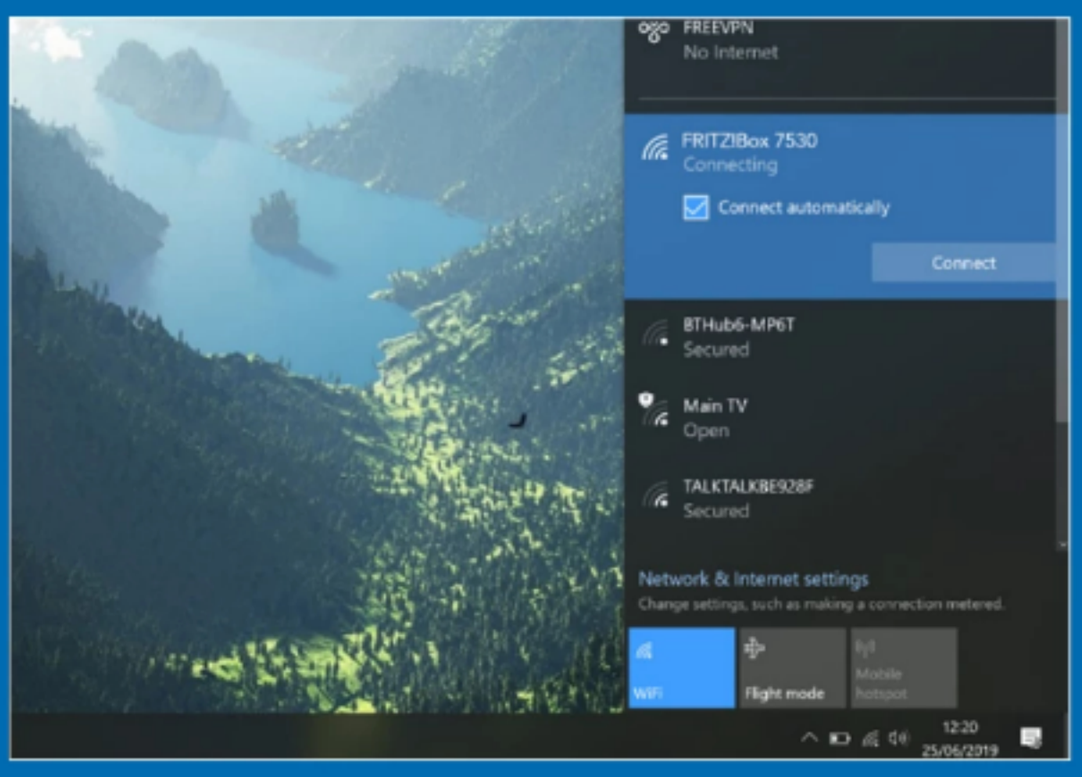
Your FRITZ!Box router is your gateway to the Internet. You can use it to take your computer, or mobile device online, and also for devices such as Internet radios, which can connect directly to your router and get online for various services. Here's how.

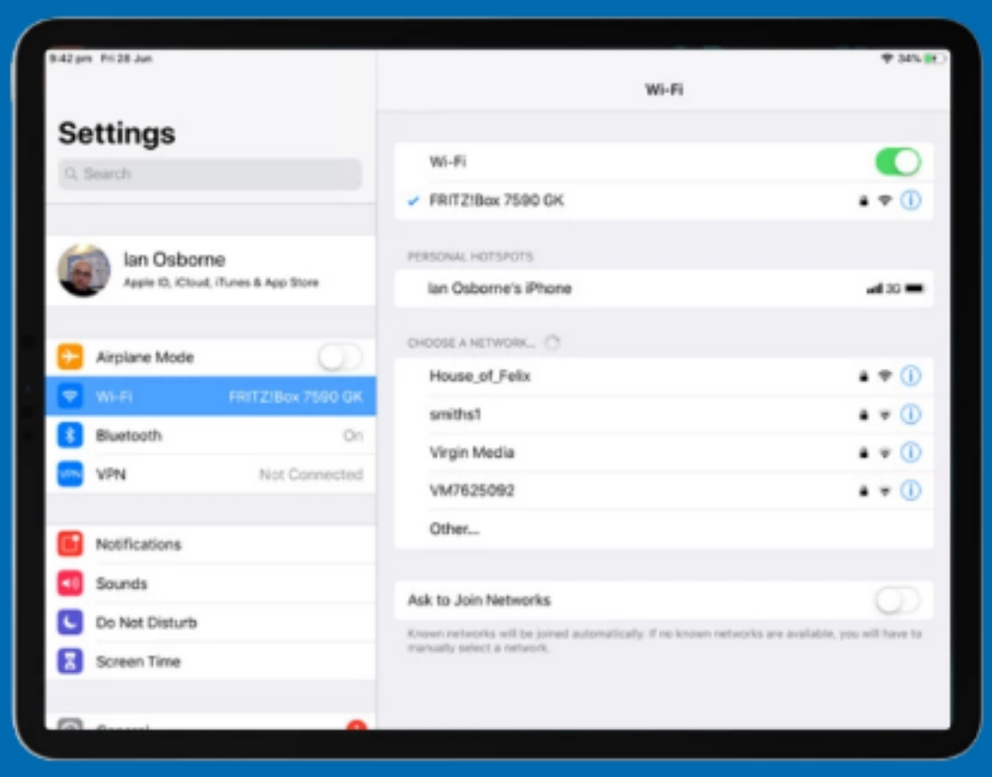


1 A cabled connection, using Ethernet, is easy. Using an Ethernet cable, like the one pictured here, connect one end to your FRITZ!Box (one of the yellow ports) and the other to the Ethernet port on your computer or Internet device. These cabled connections are known as your LAN (Local Area Network).

2 To connect a Mac to your wireless network using Wi-Fi, click on the Wi-Fi icon in the right hand side of the top bar, and find your wireless network's name (this is called the SSID) in the list. Select it, and enter the FRITZ!Box's wireless password, which is found on a sticker on the base of the router.

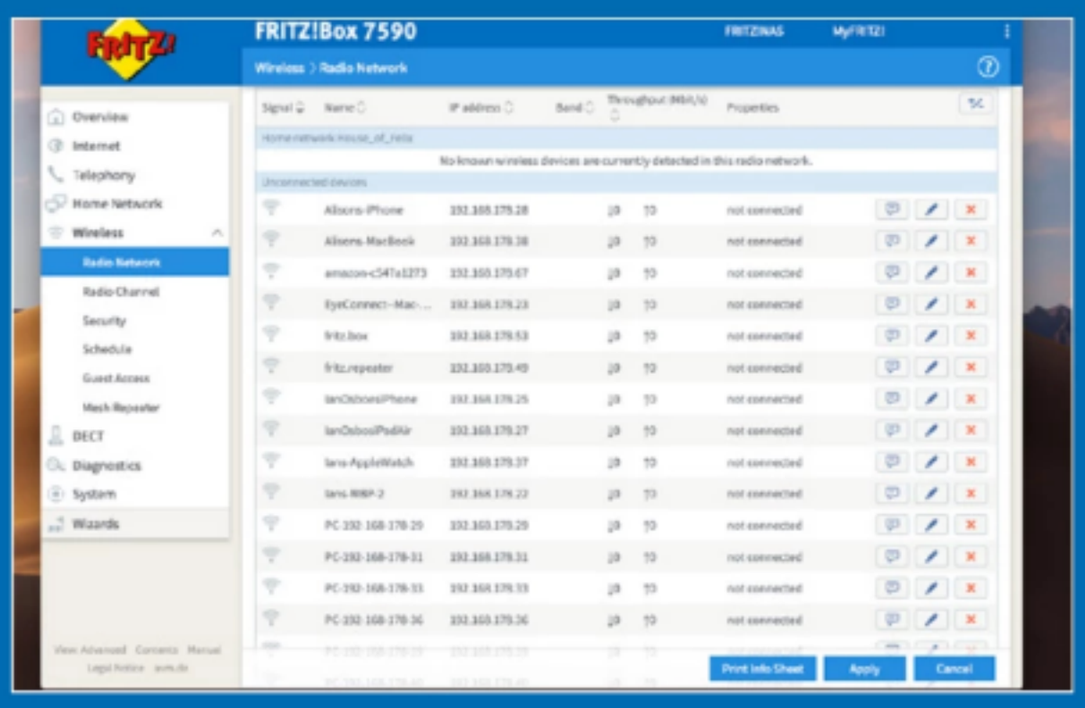
What's a FRITZ!Box?





3 If you use a Windows device, click the Wireless icon in the bottom right corner of the taskbar. Click on your wireless network's name (SSID), and check the Connect Automatically box if you use this network regularly. Click Connect, and enter your wireless password, which is found on a sticker on the base of the router.

4 To connect an iOS device to your home network, go to Settings > Wi-Fi and click on the name (SSID) of the network you're joining. On an Android device, go to Apps > Settings > Wi-Fi, and select your network. In both cases, you must now enter your wireless password, which is found on a sticker on the base of the router.

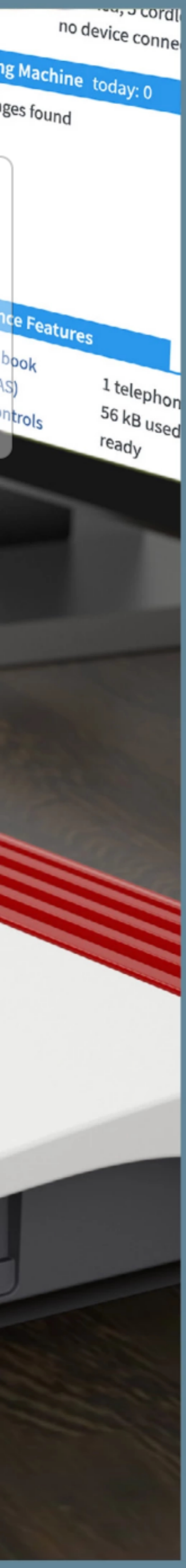


5 For other devices, such as Internet radios or networked printers, you must follow the manufacturers' instructions. You might need your passcode, from the bottom of the router, or you might be able to join with WPS (Wi-Fi Protected Setup). After which you press a button on the device, then press the WPS button on your router, and you're done.

6 In the FRITZ!Box interface, if you go to Wireless > Radio Network, you can see a range of devices currently registered with (but not necessarily connected to) your router. Click the Cross button to deregister the device, or the Pencil button to edit its settings and set its parental controls, if you want to place 'restrictions on how and when it can be used.

The FRITZ!Box Interface

It's easy to access and use your FRITZ!Box's user interface.

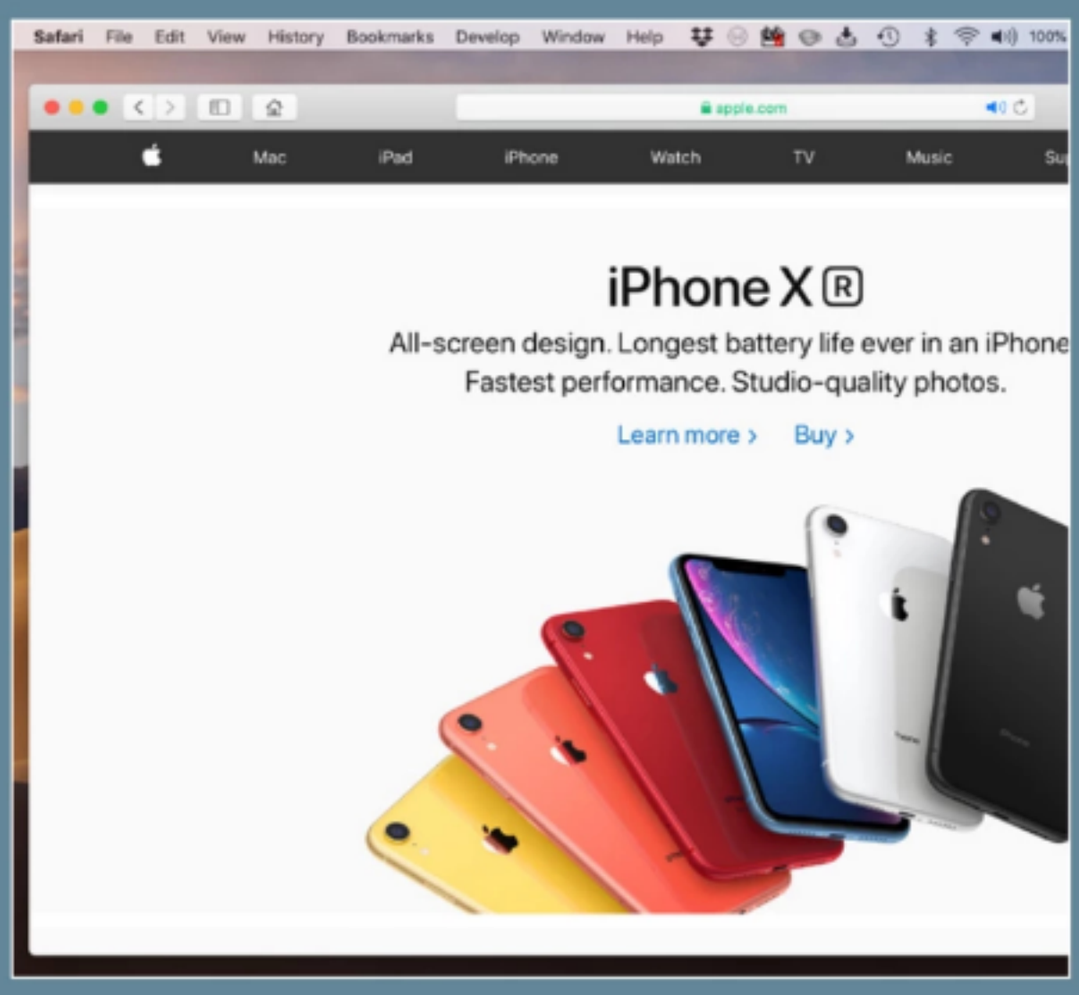


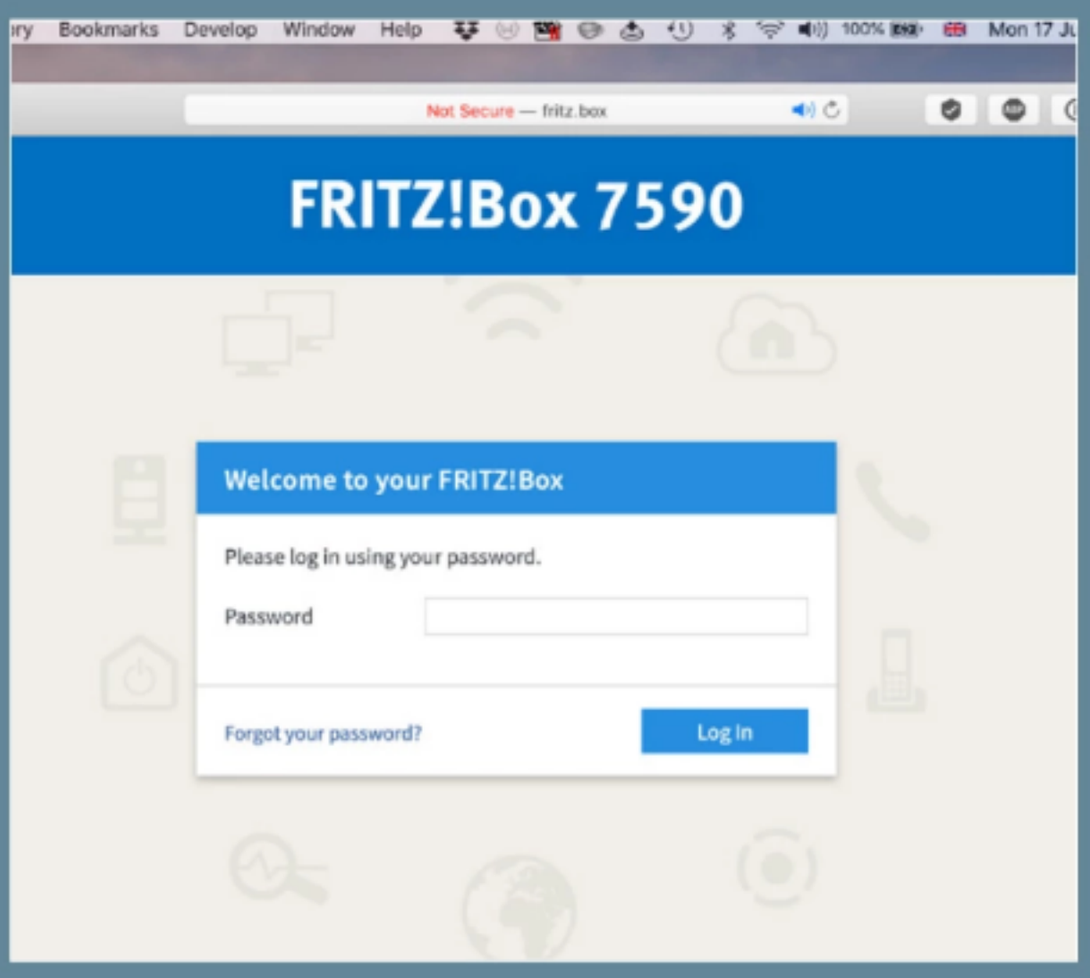
The FRITZ!Box Interface

You can access your FRITZ!Box's interface using an ordinary web browser, from any computer or tablet connected to the router's network. In this section, we show you how to access this interface, switch between Standard and Advanced settings, use the interface to change your Wi-Fi name and password, organise your DECT phones, review what's going on with your router and more.

Accessing the FRITZ!Box Interface

If you want to get into your FRITZ!Box's interface, you must use a regular web browser. Here we show you how to access the router's settings, so you can make changes.



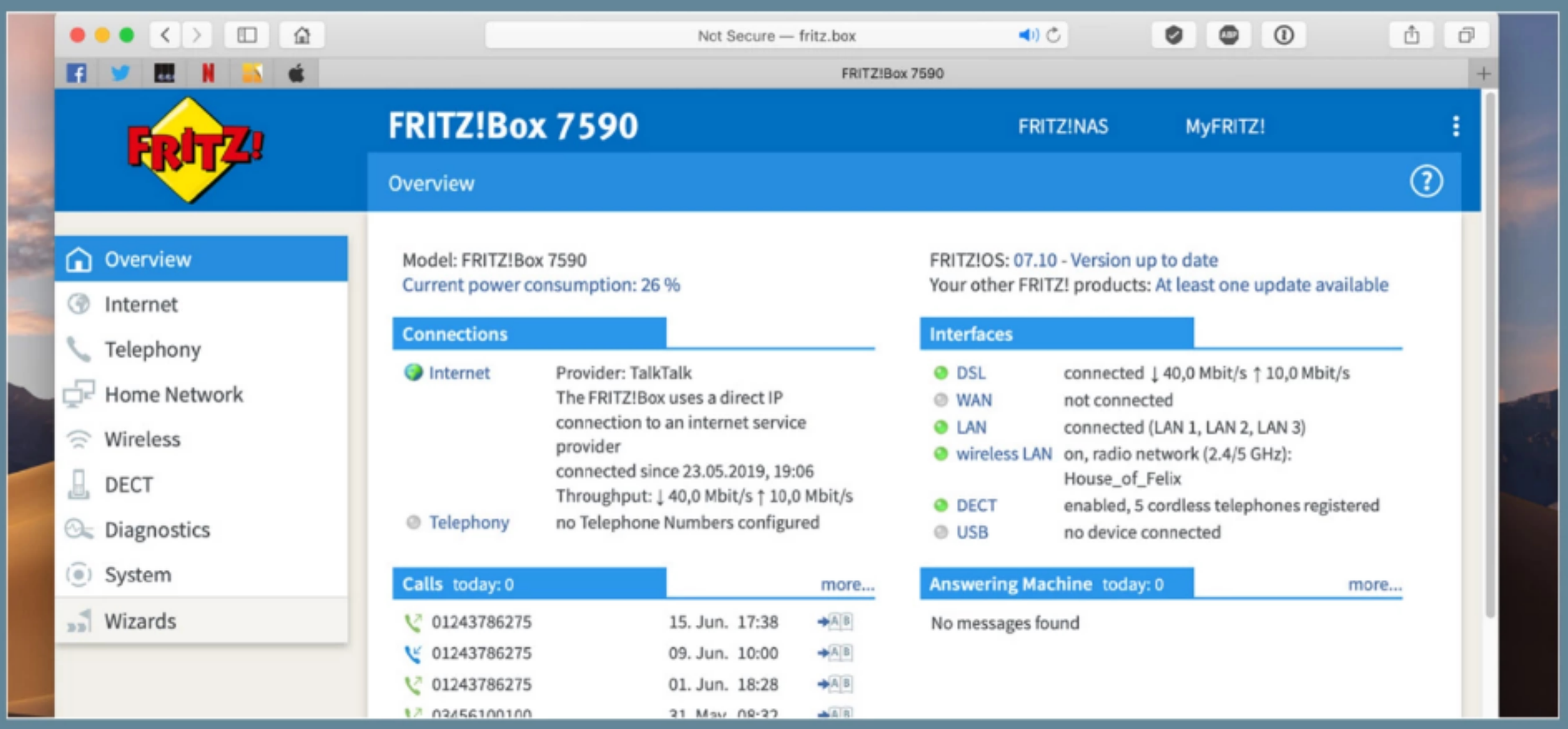


Finding Your FRITZ!Box Controls

1 Regardless of what model you have, you can access the FRITZ!Box's settings interface using a regular web browser. Here we're using Safari on a Mac, but it can be any browser and any Internet device, as long as it's connected to your FRITZ!Box, either wirelessly or through Ethernet.

2 To access the FRITZ!Box interface, type 'fritz.box' in your browsers address bar, seen here at the top of the window, and press Return/Enter. You're taken to the router's log-in screen, where you should enter the password you've set up to access the FRITZ!Box, and then click Log In.

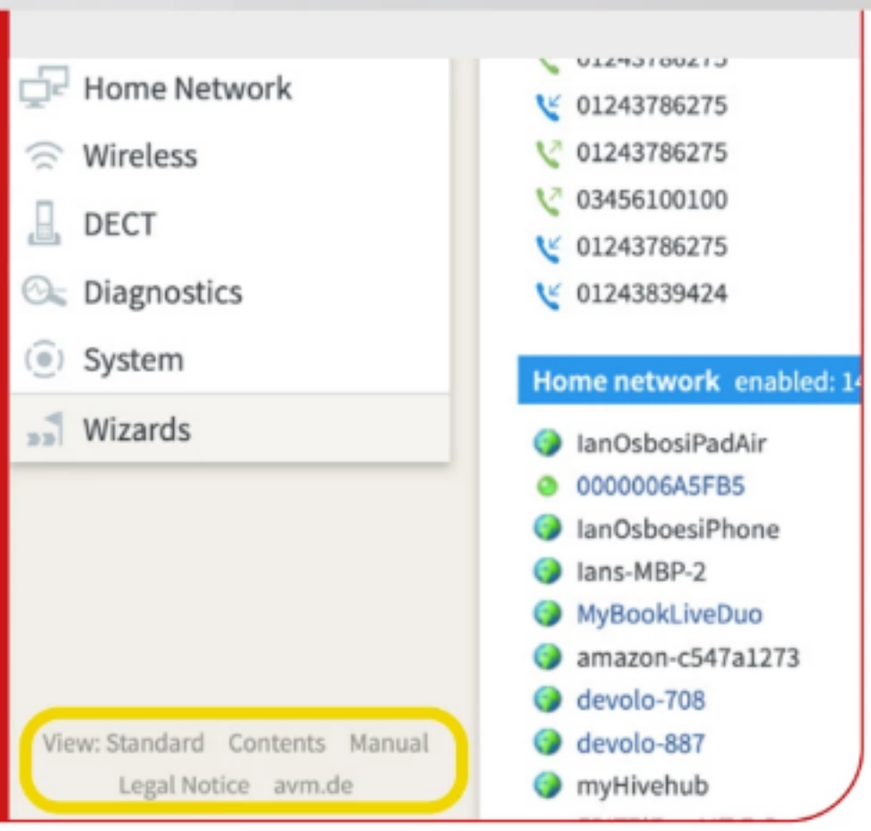
3 If you haven't set up a password yourself, use the default password for your router. This can be found on the sticker on the back of your FRITZ!Box. Here, as you can see, the password is 'greys7653', but yours will of course, be different. After you've entered the password, click Log In.



4 You're then taken to the FRITZ!Box Overview screen, which is the landing page for the interface. You can see a range of informative lists here, including connections made with your FRITZ!Box and, if it has a DECT function, telephone calls made through the router and answer messages.

Advanced Settings

If you look in the bottom left corner of the screen, you see View: Standard. Click on this, and you can switch to the Advanced view, which gives far more options. This is intended for people who know what they're doing, however. Don't use the Advanced view if you're not familiar with the inner workings of routers. You can also click the word 'Manual' here, and access an online version of the manual that came with your FRITZ!Box.



Interface: Overview

The first page you see when you open your FRITZ!Box interface is the Overview page. We're using the Standard view, rather than the experts-only Advanced view, throughout this guide. Obviously, if your FRITZ!Box lacks some of the features described here, they won't be shown on your own Overview screen.

1 This is the model of FRITZ!Box you're using. This is helpful if you need to look something up and you can't remember which model you have.

2 Click here to go to your optional MyFRITZ! account. Setting up a MyFRITZ! account gives access to more features.

3 Click here to get straight to the FRITZ!NAS feature, and access a storage drive directly connected to your router's USB port. We cover this in more detail later.

4 The three-dots icon gives you a sub-menu with options to log off, change your password, switch to Advanced view and access FRITZ!NAS or MyFRITZ! These options are all available elsewhere in the interface, but this menu is a useful shortcut to the router's most popular features.

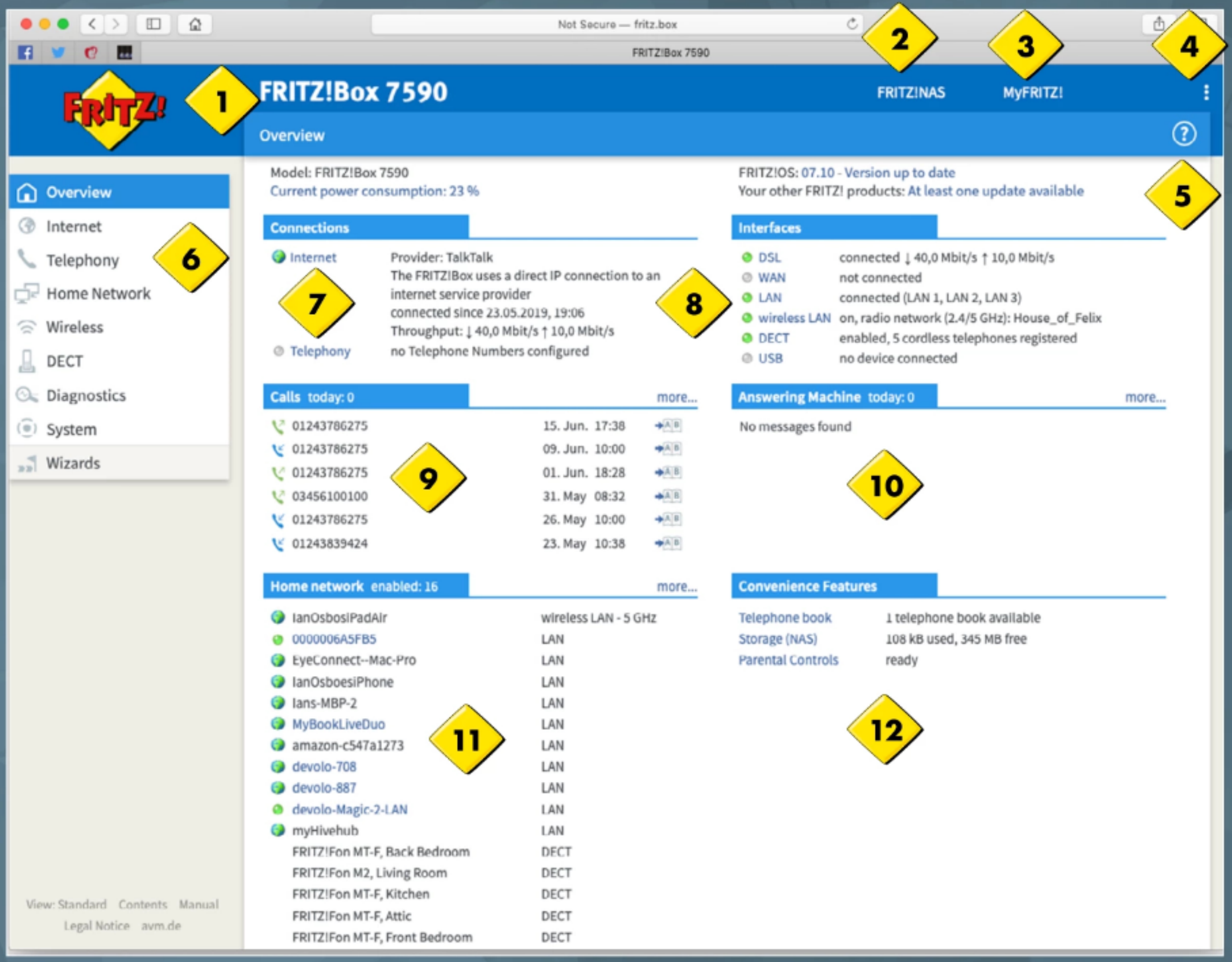
5 The Help feature: click here if you're stuck and you need a little on-screen advice.

6 This sidebar gives you access to the router's in-depth features and settings. Each listed option is a heading; click on it to expand it and show that section's options.

7 Connections: this refers to your Internet connection and your telephone, if it's plugged directly into the router. DECT wireless telephones are covered elsewhere.

8 Interfaces: these are the router's interface options. From here you can see: if you're on to the Internet through your FRITZ!Box's primary connection (DSL here), whether you're connected to a cable modem through WAN, what's connected through an Ethernet cable (LAN, Local Area Network), whether your Wireless LAN, or Wi-Fi, is on or off, DECT wireless phones and whether you have anything connected to the router's USB ports.

9 Calls Today: incoming and outgoing calls are listed here. Click the 'A-B' icon to add the number to your internal telephone book, or block it to stop further calls from that number.



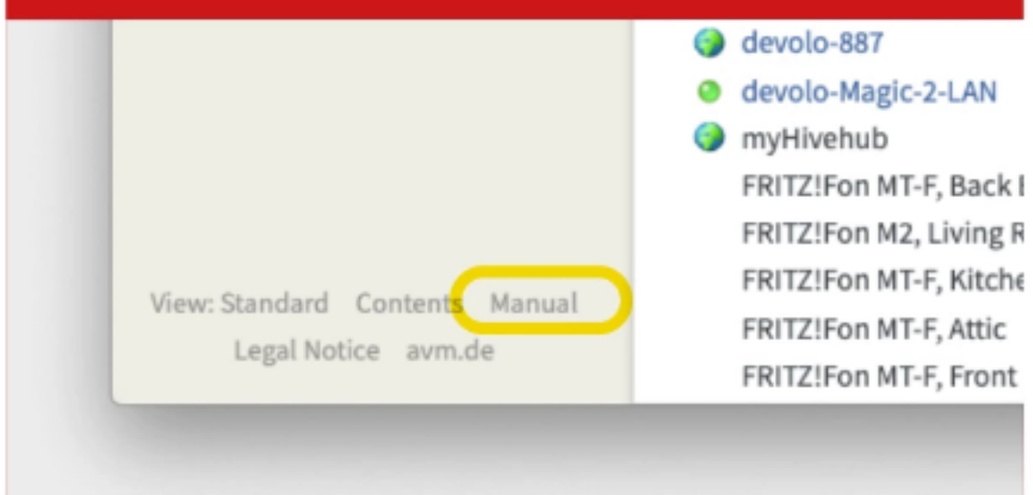
10 Answering Machine: if your FRITZ!Box has a telephone answering machine built in, any received messages currently stored in it will be listed here.

11 Home Network: devices connected to your router by Ethernet cable (LAN), Wi-Fi (Wireless LAN), or wireless telephones (DECT) are listed here.

12 Convenience Features: quick access to your telephone book, network attached storage and parental controls.

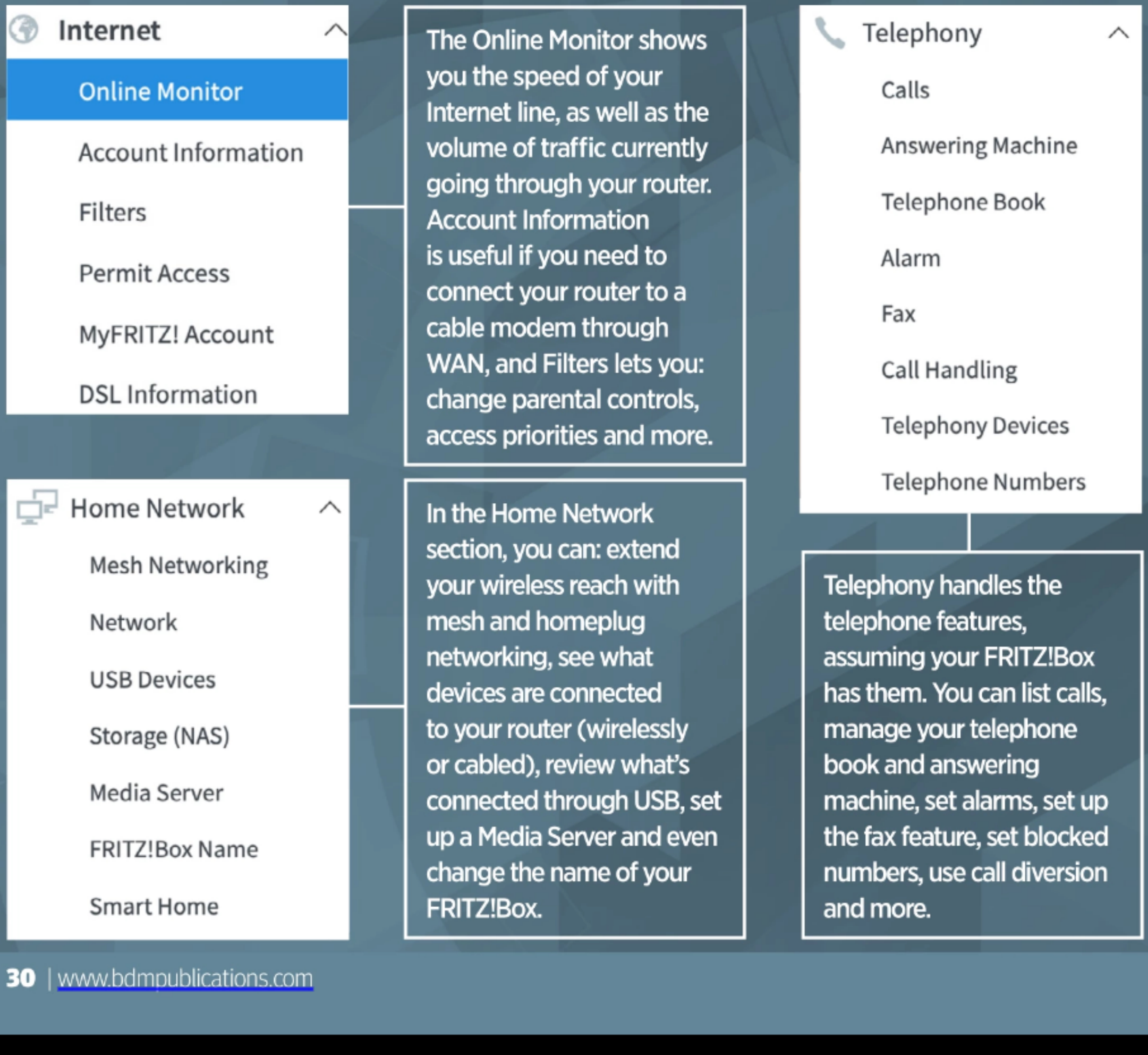
The FRITZ!Box Manual

Something else you can find in the bottom left corner of the user interface, is a link called 'Manual'. Click this to open a new browser window, giving you a digital version of the FRITZ!Box manual you can read and (if you wish) download.



Interface: The Sidebar

The sidebar on the FRITZ!Box's user interface is a very important tool for navigating your way around its settings. Here we show you how to use the sidebar and what features are listed under each section. Just click on a section title in the sidebar to expand it as shown.



Wireless
- Radio Network
- Radio Channel
- Security
- Schedule
- Guest Access

Manage your Wi-Fi with the Wireless section; monitor what's happening, change your security settings, schedule downtime and set up guest access to reserve bandwidth for other people to use.

Diagnostics
- Function
- Security

You can have your FRITZ!Box functions checked using the Diagnostics section. You can also review its security.

DECT
- Cordless Telephones
- Base Station
- DECT Monitor
- Web Services

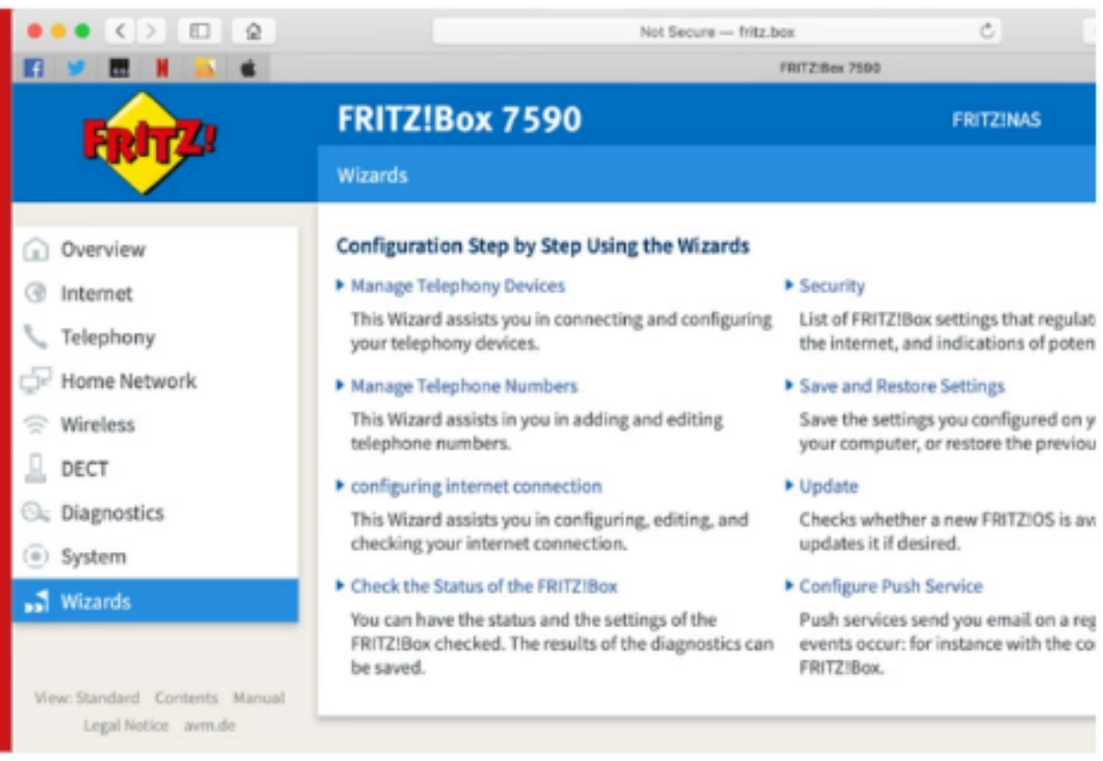
The DECT section is where you manage your wireless phones that are connected to the FRITZ!Box. Obviously, if your router lacks this feature, this section won't be there.

System
- Event Log
- Energy Monitor
- Push Service
- Buttons and LEDs
- FRITZ!Box Users
- Backup
- Update
- Region and Language

In the System section, you can monitor energy consumption and logs, set up push services, so you're automatically sent an email when certain events occur, change the function of the Info light, set the brightness of the router's LED lights and more. You can also change your router's language and region, back up its settings and update the current version of its software, FRITZ!OS.

The Wizards

For step-by-step help in using popular FRITZ!Box features such as: connecting and configuring your telephony devices, configuring, editing, and checking your internet connection, adding and editing telephone numbers and more, use the Wizards section.

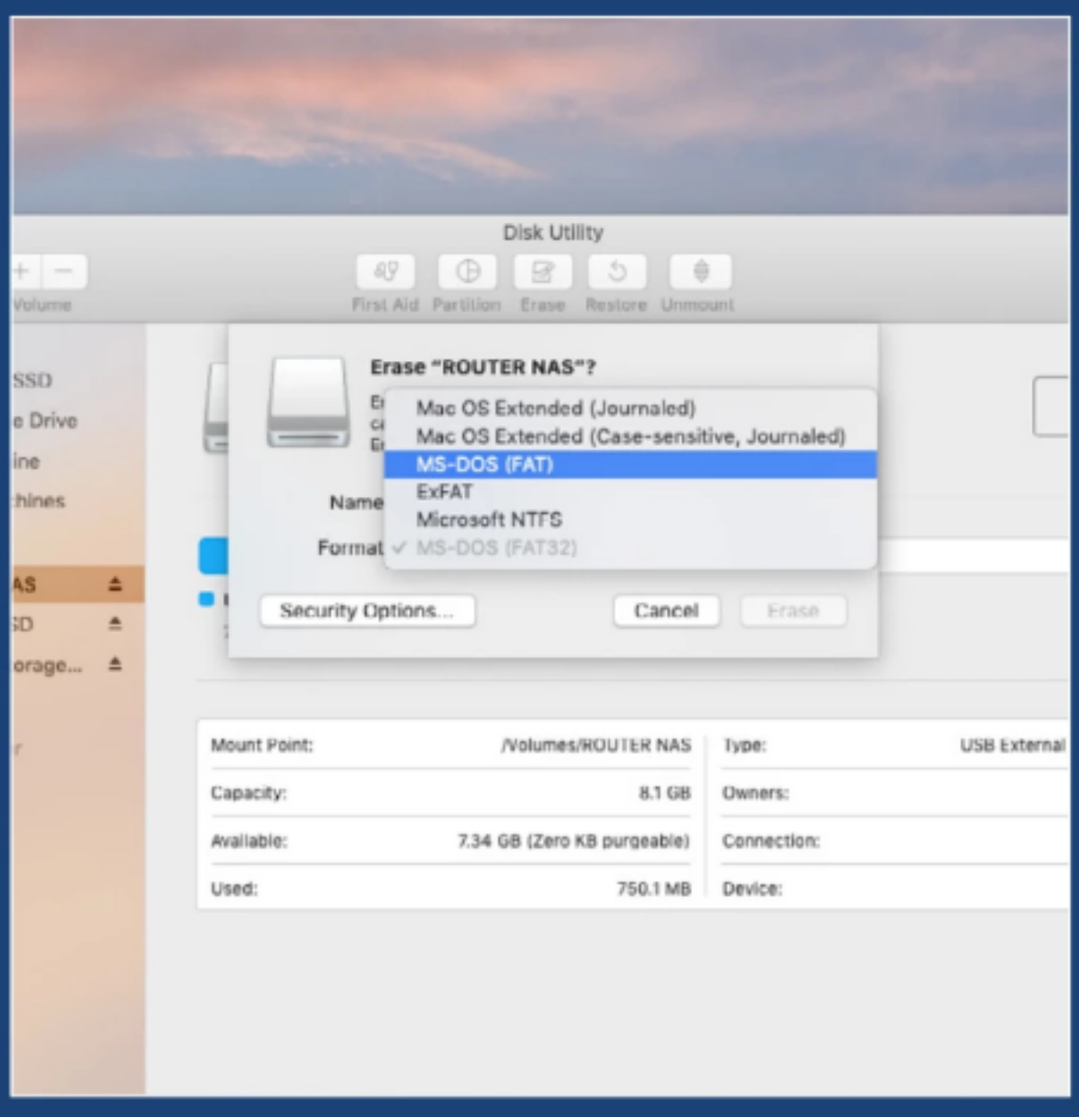


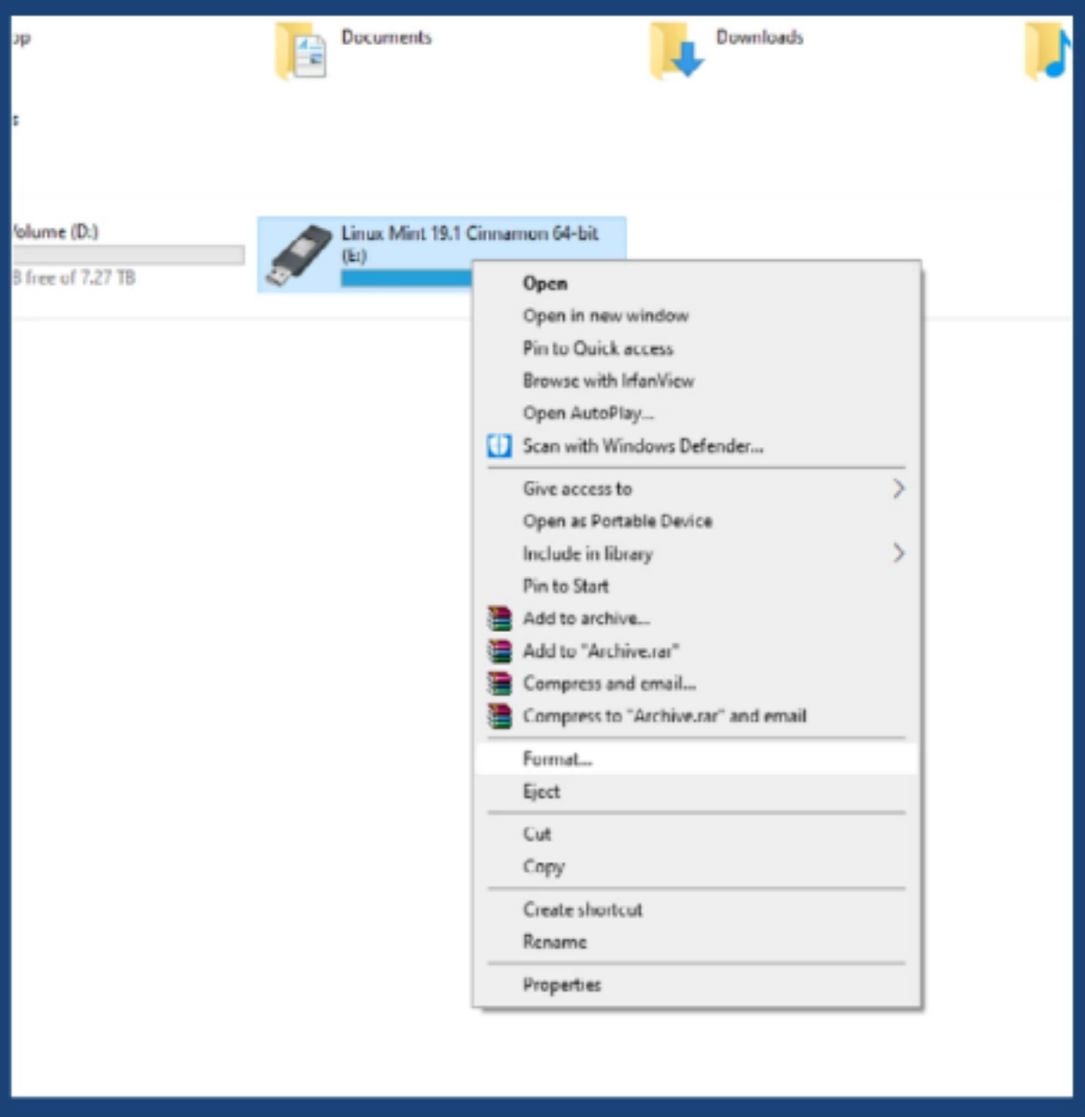
FRITZ!Box Projects

It's amazing what you can do with your FRITZ!Box. You can connect a hard drive, or thumb stick, to its USB port and use that storage over the network. It's a great media server. You could also connect a USB printer, and allow any device connected to your router to use it. You can even set aside a portion of your bandwidth for guests and visitors to use. Here's how to do all this and more.

Networking a Hard Drive

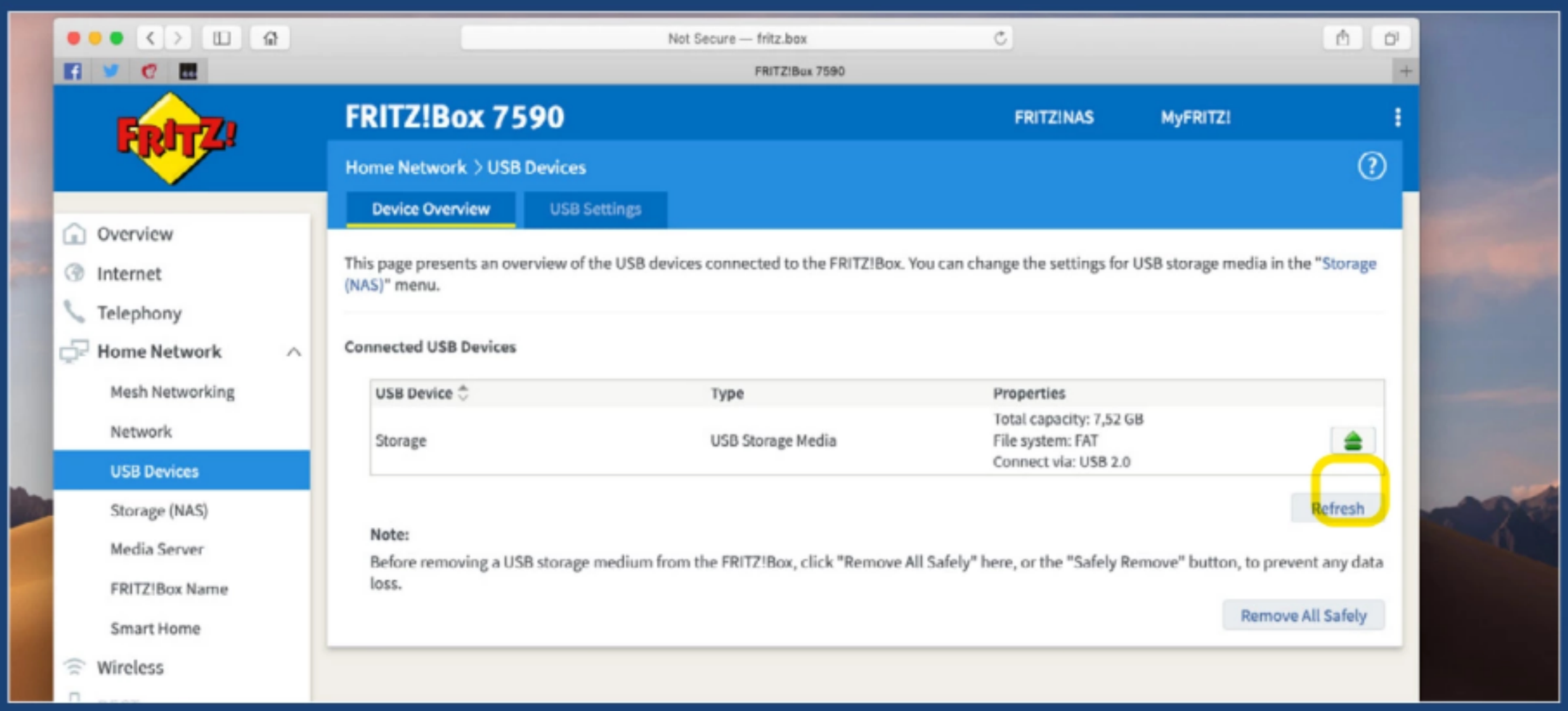
You can plug a USB storage device such as a hard drive, flash drive, or a card reader into your FRITZ!Box's USB port, so material stored on it can be shared with every computer or mobile device on the FRITZ!Box's network. Here's how to do it.



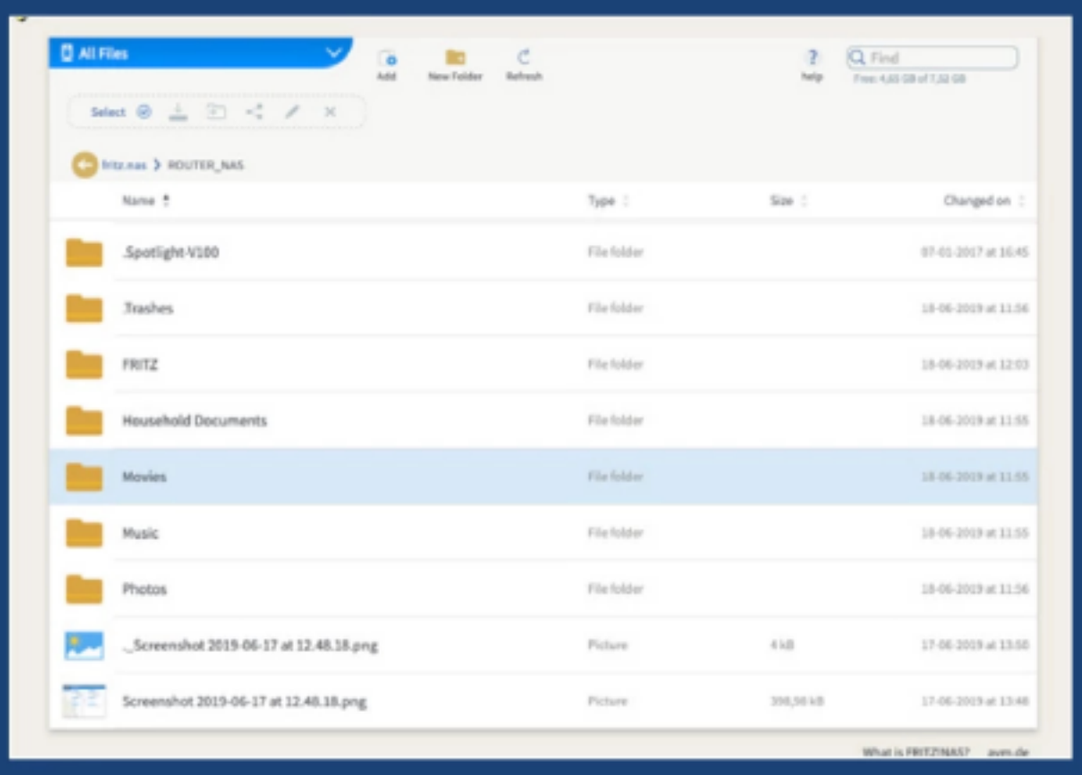


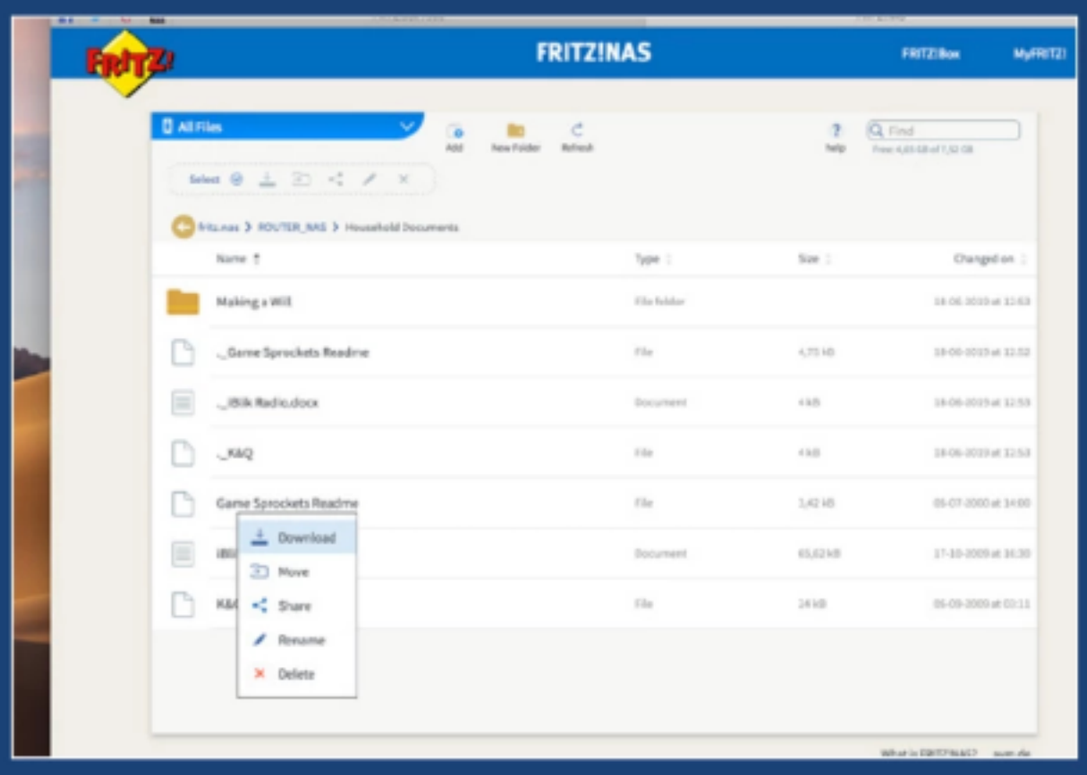
1 First of all, make sure the storage device you're planning on using is formatted in either EXT2/3/4, FAT, FAT32 or NTFS mode. If it isn't, you must reformat it. On a Mac, open Disk Utility, click on the drive in question in the sidebar, and click erase at the top. Choose a format, using the pull-down menu, then click the Erase button.

2 On a Windows PC, open Windows Explorer and locate the drive you want to format in the Devices and Drives section. Right-click the drive, and from the menu choose 'Format...'. The Format window opens, and you can create a new Volume Label. When you're ready click the Start.



3 Most current routers have either one or two USB ports. Plug your USB thumb drive, USB hard drive, or card reader into one of them. If your router has two USB ports, either will do. You don't need to turn the router off before plugging the drive in, but to remove the drive later, go to Home Network > USB Devices and click on the Eject button first.



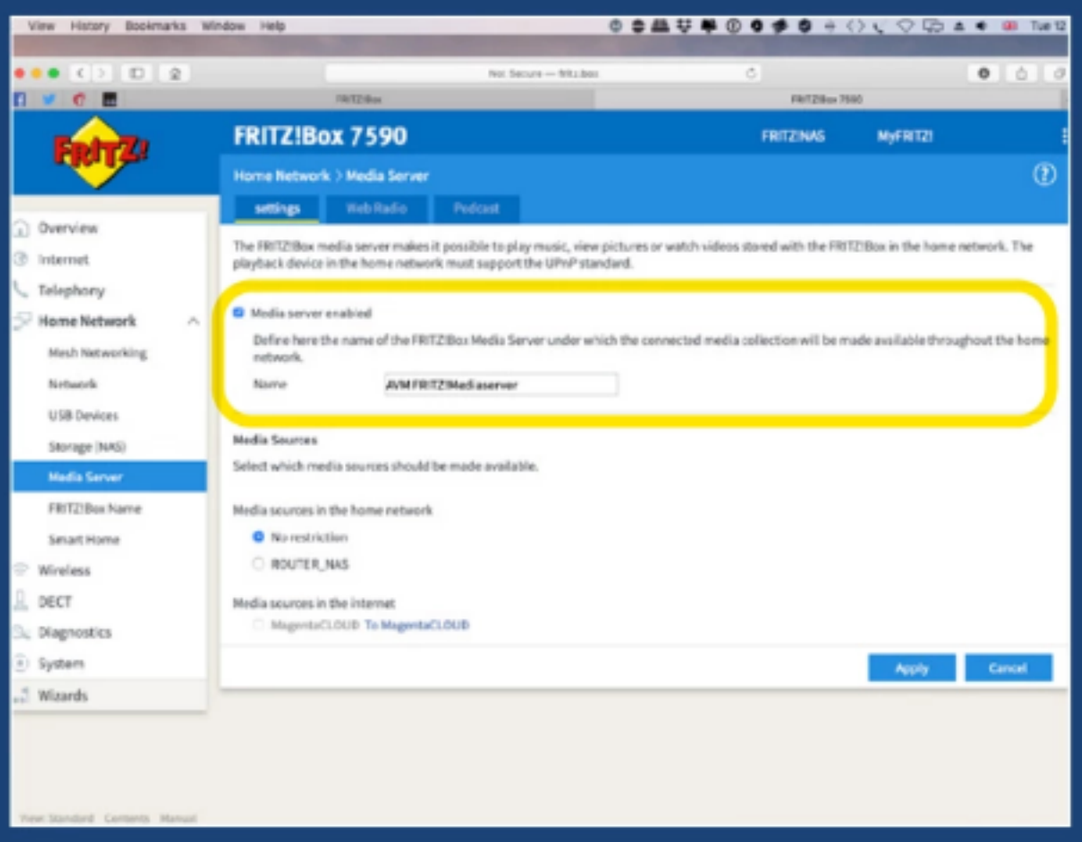


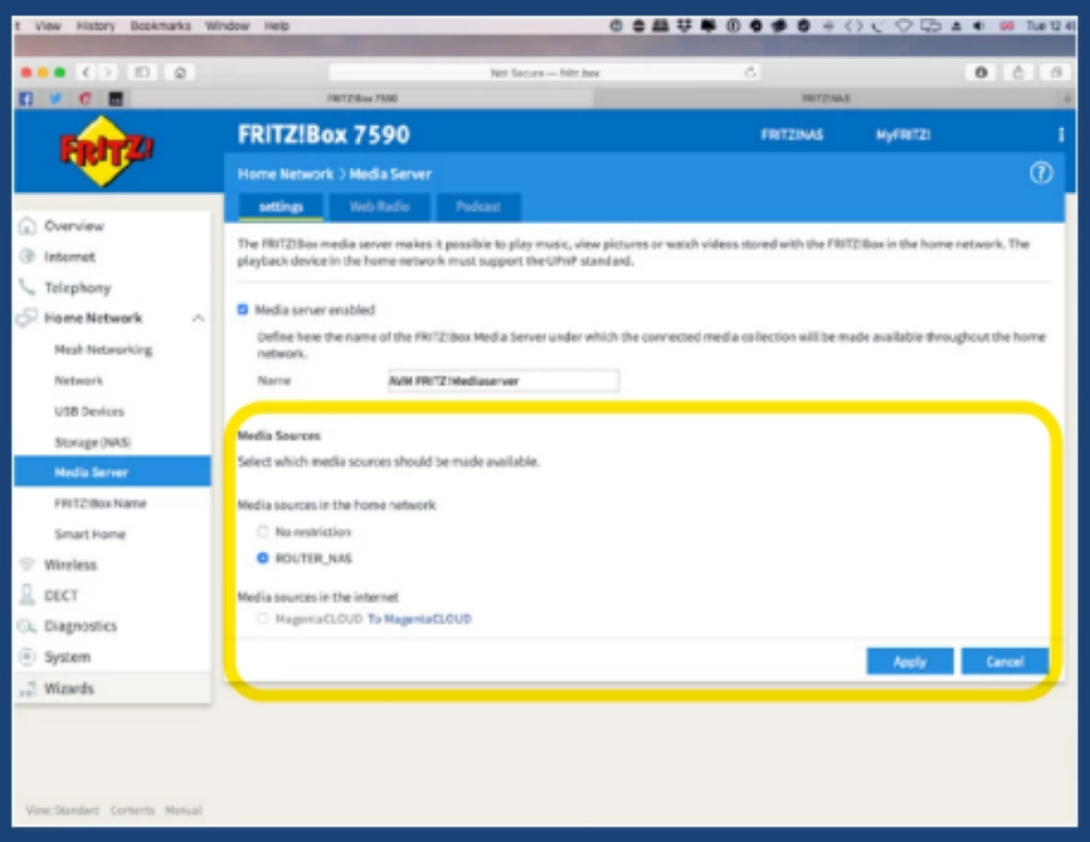
4 On a Mac or PC, to access the USB drive connected to your FRITZ!Box, open a web browser and type 'fritz.box/nas' in the address bar. If your router is password-protected, you need to log in. You can then see all the files on your FRITZ!Box's internal memory, and also the USB storage device you plugged in during this tutorial.

5 Click on a document to open it. Those that can't be opened in a browser are downloaded instead. You can download and share documents by right-clicking and selecting the option from the pop-up menu. You can also add items to the FRITZ!Box drive by dragging it onto the browser window. It's a great way to share files on the network.

Create a FRITZ!Box Media Server

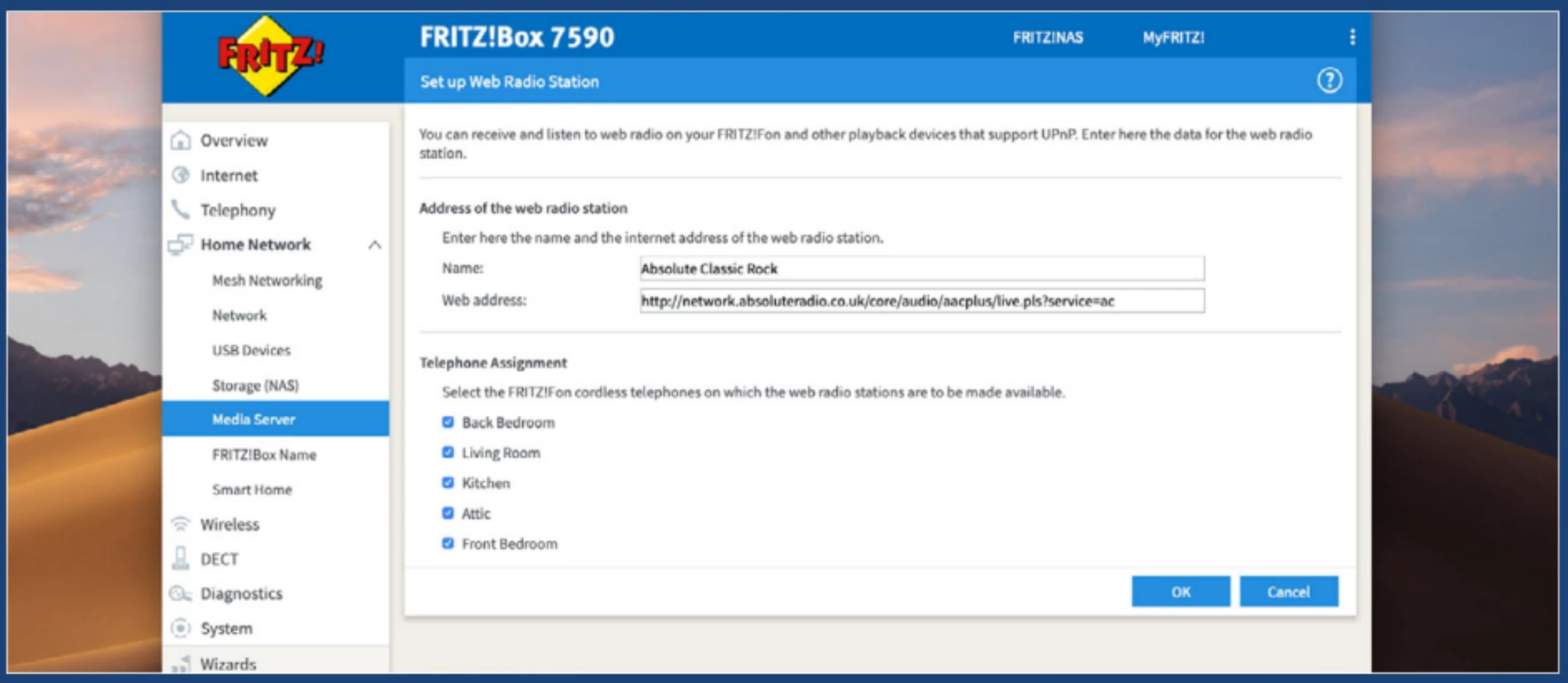
With the FRITZ!Box media server, you can enjoy photos, music and movies stored on your router's internal memory or via a storage device plugged into its USB port (see Networking a Hard Drive tutorial). You can even use it to listen to Internet radio.



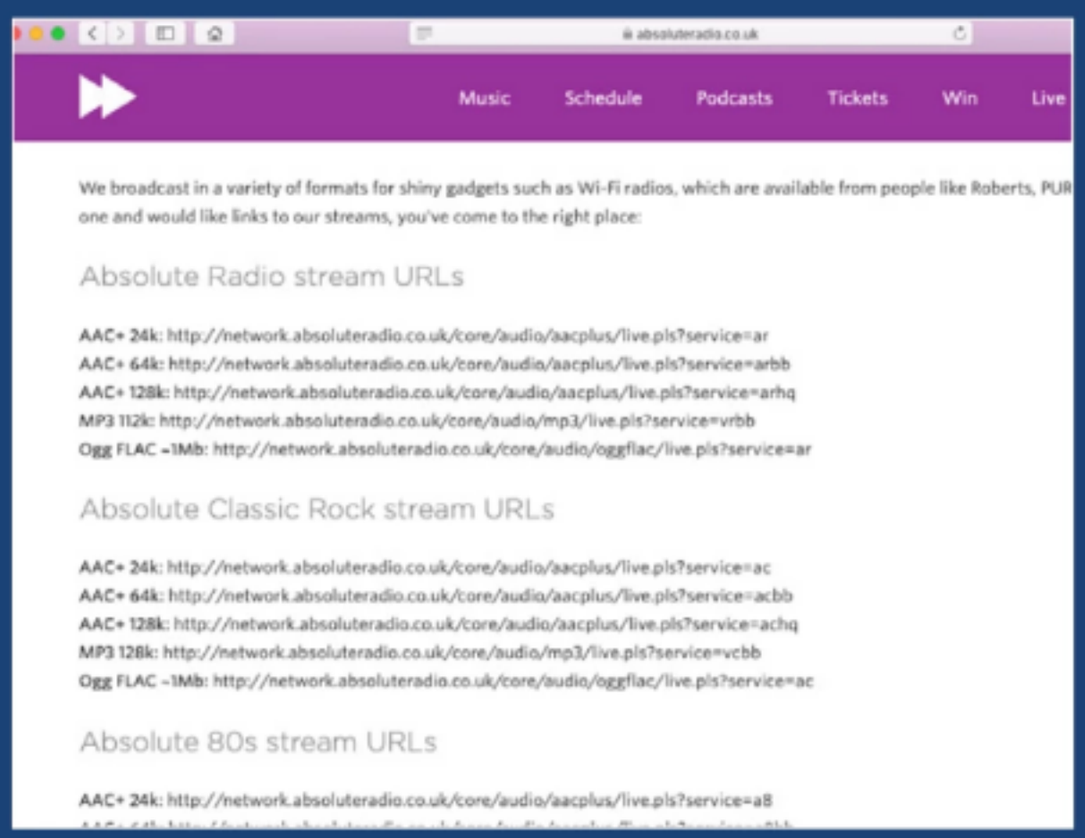


1 In the FRITZ!Box interface, go to Home Network > Media Server. Under the Settings tab, make sure 'Media server enabled' is ticked. By default, the router's media server is called 'AVM FRITZ!Mediaserver'. You can change this if you wish. If you do, remember to click the Apply button in the bottom right when you're done.

2 The server can read media from both the router's internal memory and USB storage devices plugged into the USB ports. If you don't want all sources to be on the media server, just choose the ones you do, and once again, click the Apply button. If you fail to click Apply, the changes will not be applied to the router.



3 After the Settings tab, the next two tabs read Web Radio and Podcasts. These work in exactly the same way. Click one, then, to add a source use the pull-down menu to get Other Web Radio Station/Podcast. Add the name of the station or podcast, along with its web address. Make sure you don't put a space after this.

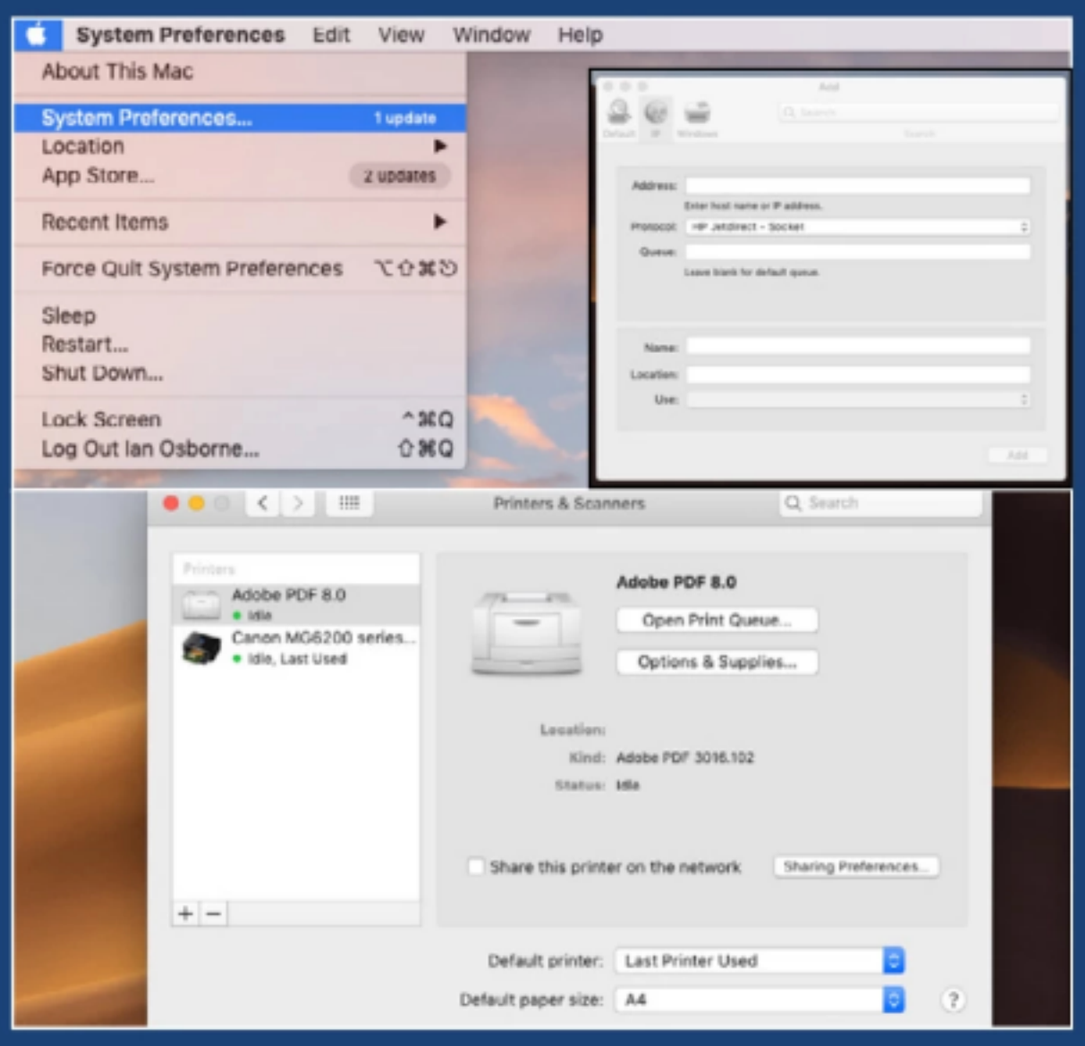


4 You can find the web address for your favourite podcasts or radio stations online. Search for it with Google. Make sure you use the streaming address, not the station's, or podcast's home page address. Here, for example, we've found the streaming addresses of Absolute radio stations broadcasting on the Internet.

5 When you're done, you can watch, view, or listen to media stored on your server using any app or device that's UPnP (Universal Plug and Play) compatible. Here, we're using an iPhone media player. As you can see, the AVM FRITZ!Mediaserver is there. Tap on it and you can navigate to the videos, pictures and music stored earlier.

Networking a Printer

If you have a printer that connects to your computer using USB, but can't be connected to the network via Ethernet or Wi-Fi, there's another solution. Connect it to your FRITZ!Box router using USB, and it's then available to everyone on your network.

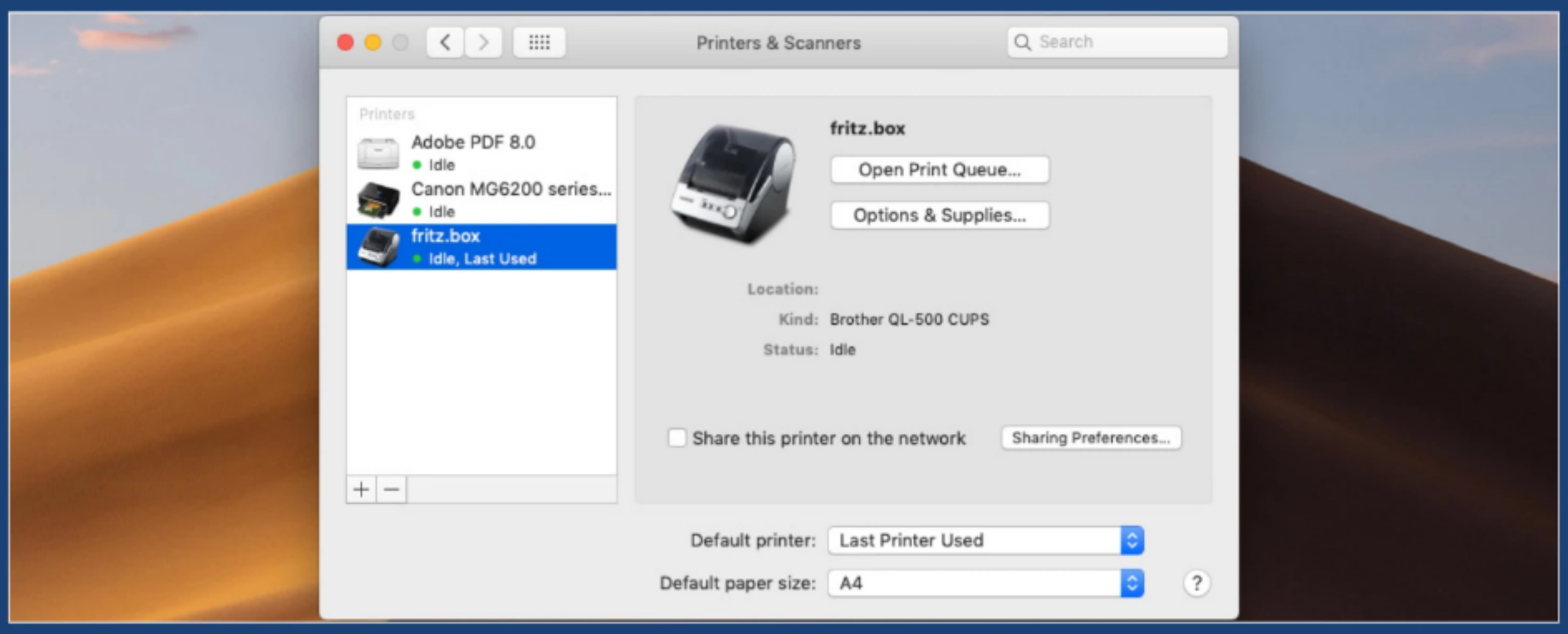


Printing Over Your Home Network

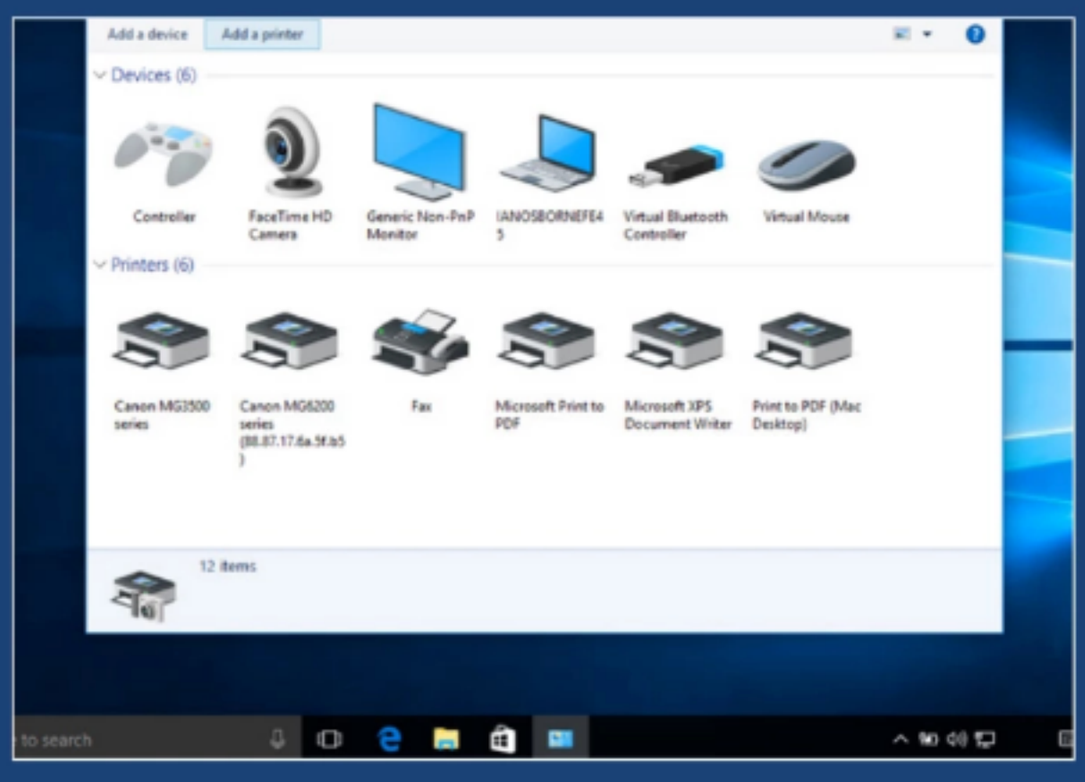
1 First of all, plug your printer into the mains and then connect it to your FRITZ!Box router using a USB cable. If your router has two USB ports, either will do. Here, we're using a Brother label printer, but any printer can be connected to the network in this way.

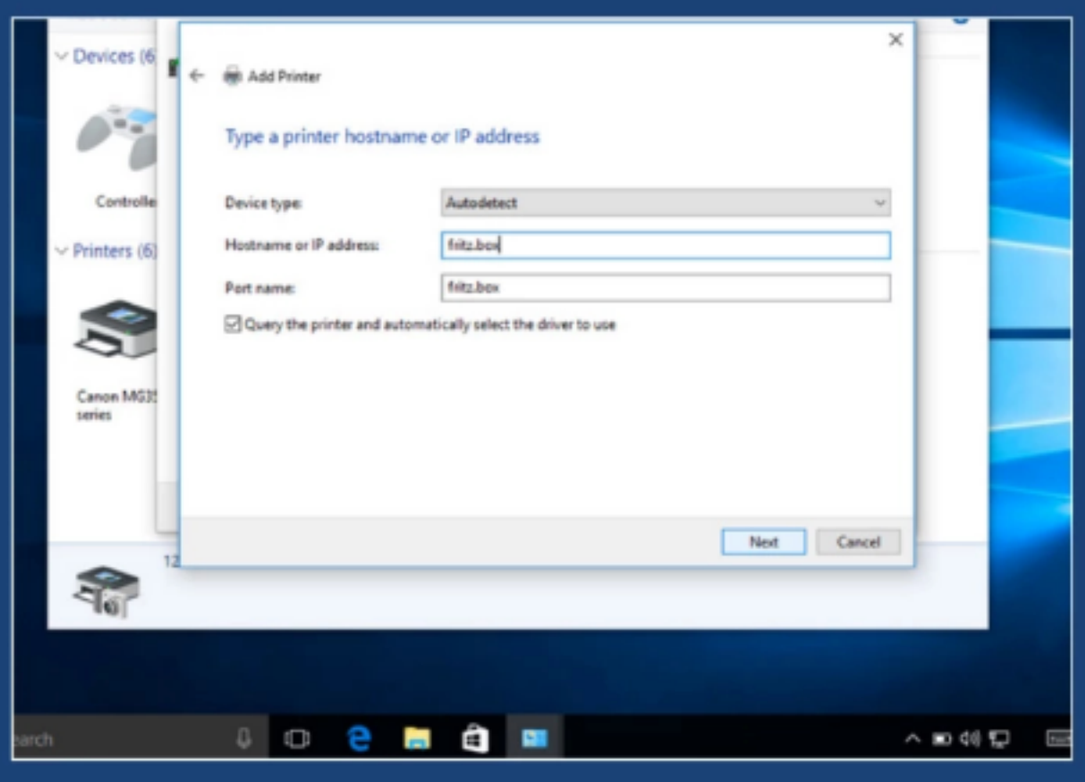
Using macOS

2 If you're on a Mac, open System Preferences and click Printers & Scanners. Click the plus sign, under the list of current printers, and in the new window (titled 'Add') click the IP tab found in the top bar. In the Protocol: pull-down menu, select HP Jetdirect - Socket, regardless of the brand of printer you're using.



3 In the Address field, enter 'fritz.box'. In the Use: pull-down menu, select the printer you've connected to your router. If it's not there, you must download and install the printer software for your device. Check the manufacturer's home page. If it's still not there, select Choose Software and navigate to it. Click Add, and your printer will be configured.

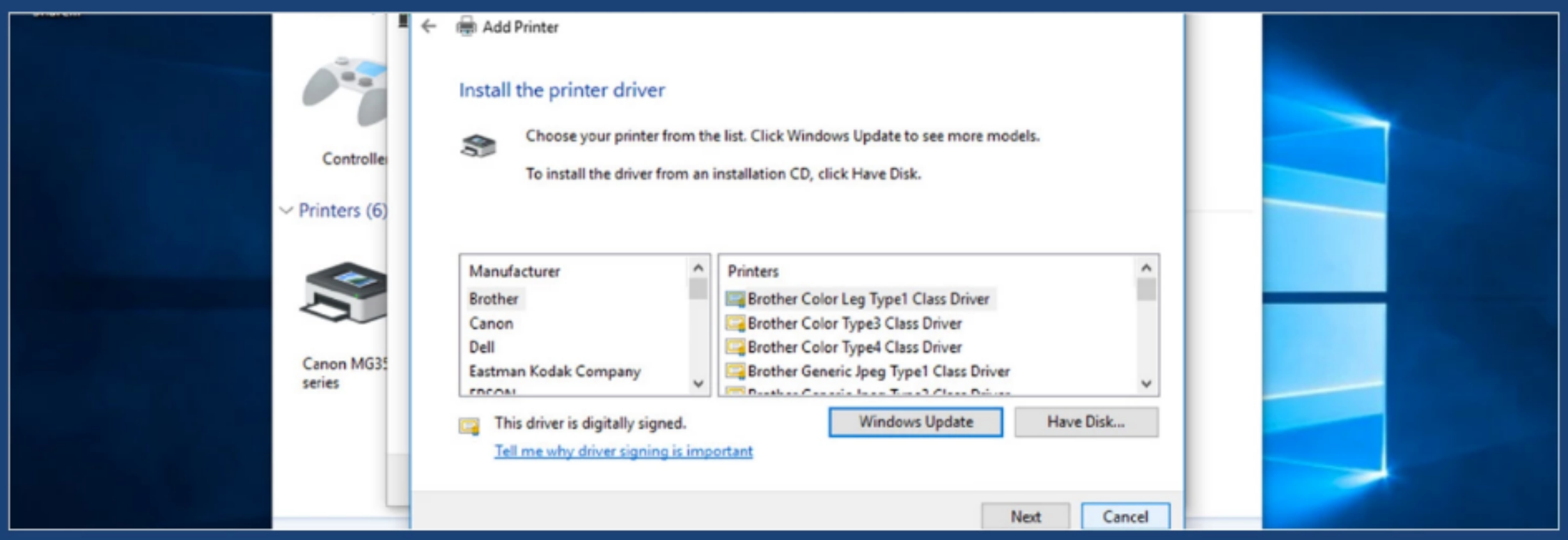




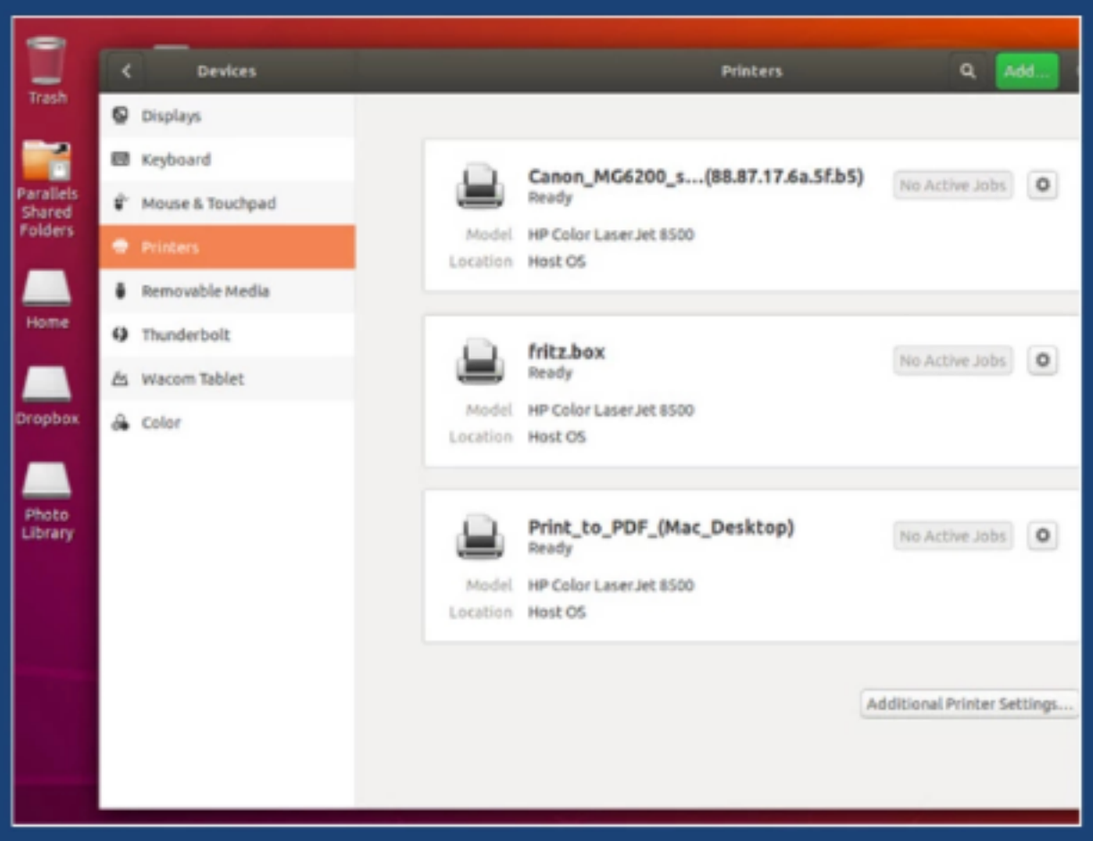
Using Windows 10

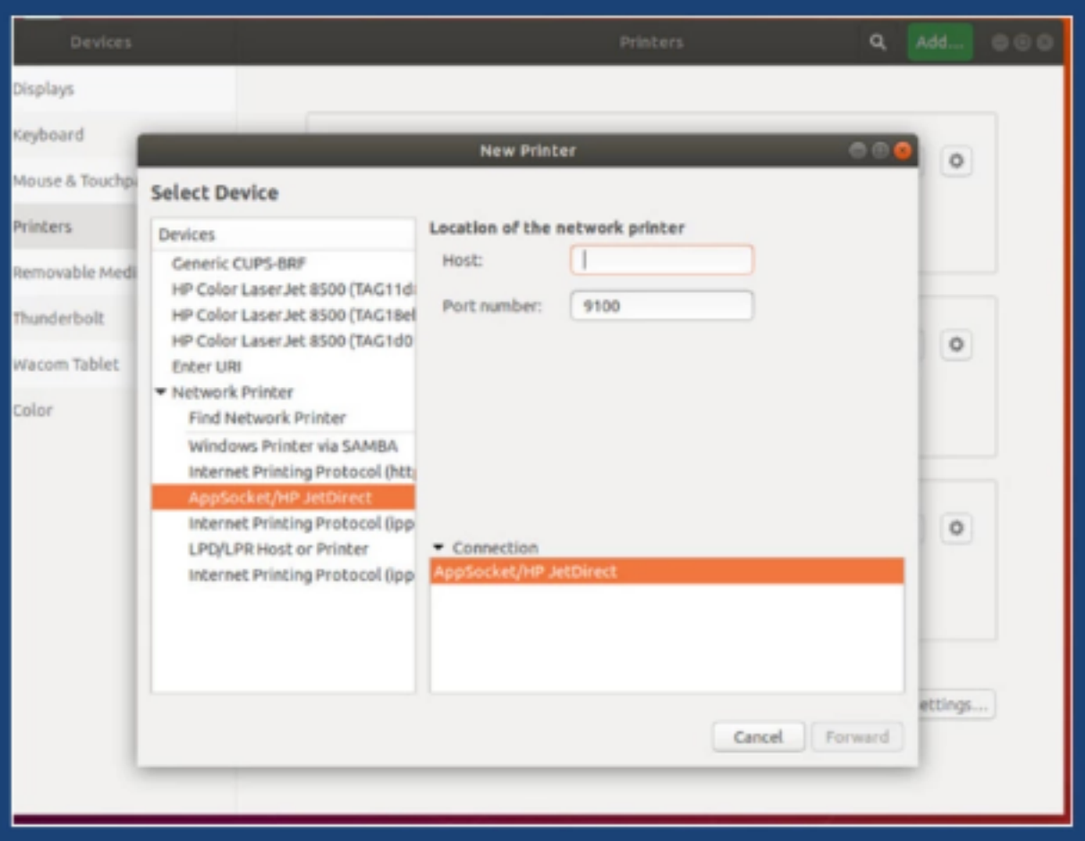
4 If you're using a Windows computer, set up your printer as follows: After plugging it in (see Step 1), press the Windows key + X, and select Control Panel. Click Hardware and Sound, then Devices and Printers, and in the menu bar, click Add a printer. Windows scans for any connected printers that are available to use.

5 Click 'The printer that I want isn't listed', then click on 'Add a printer using TCP/IP address or hostname' and click the Next button. Enter fritz.box in the 'Hostname or IP address' field, and then click Next. Select your model of printer, then click Next again. If you're asked about Printer Sharing, decline to share it.



6 If Windows can't find the drivers, you should download them from the manufacturer's website, then click Have Disk... and follow the instructions to install them on your PC. If you've already installed them before, they should now be ready to use. Click Next and your USB printer is configured to use as a networked printer.





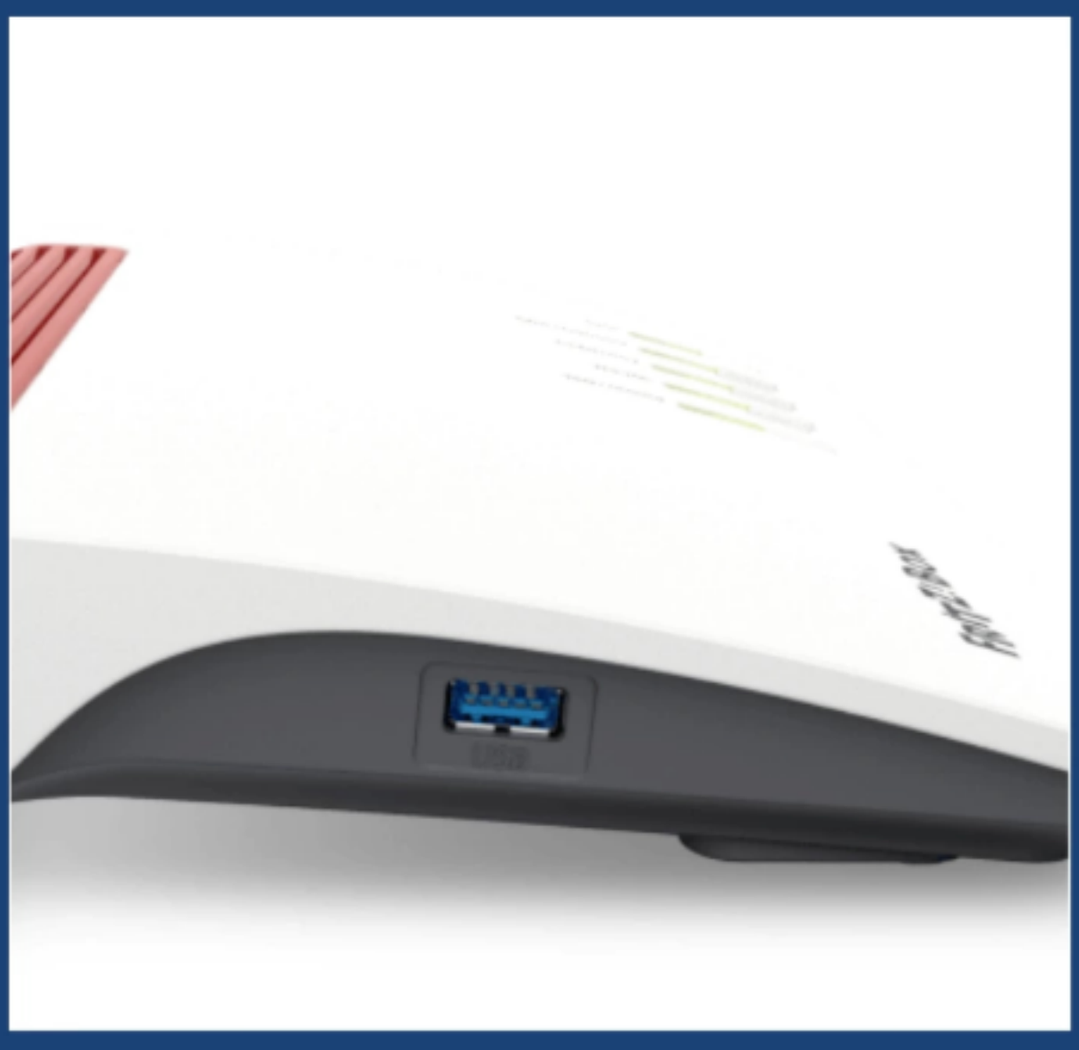
Using Other Operating Systems

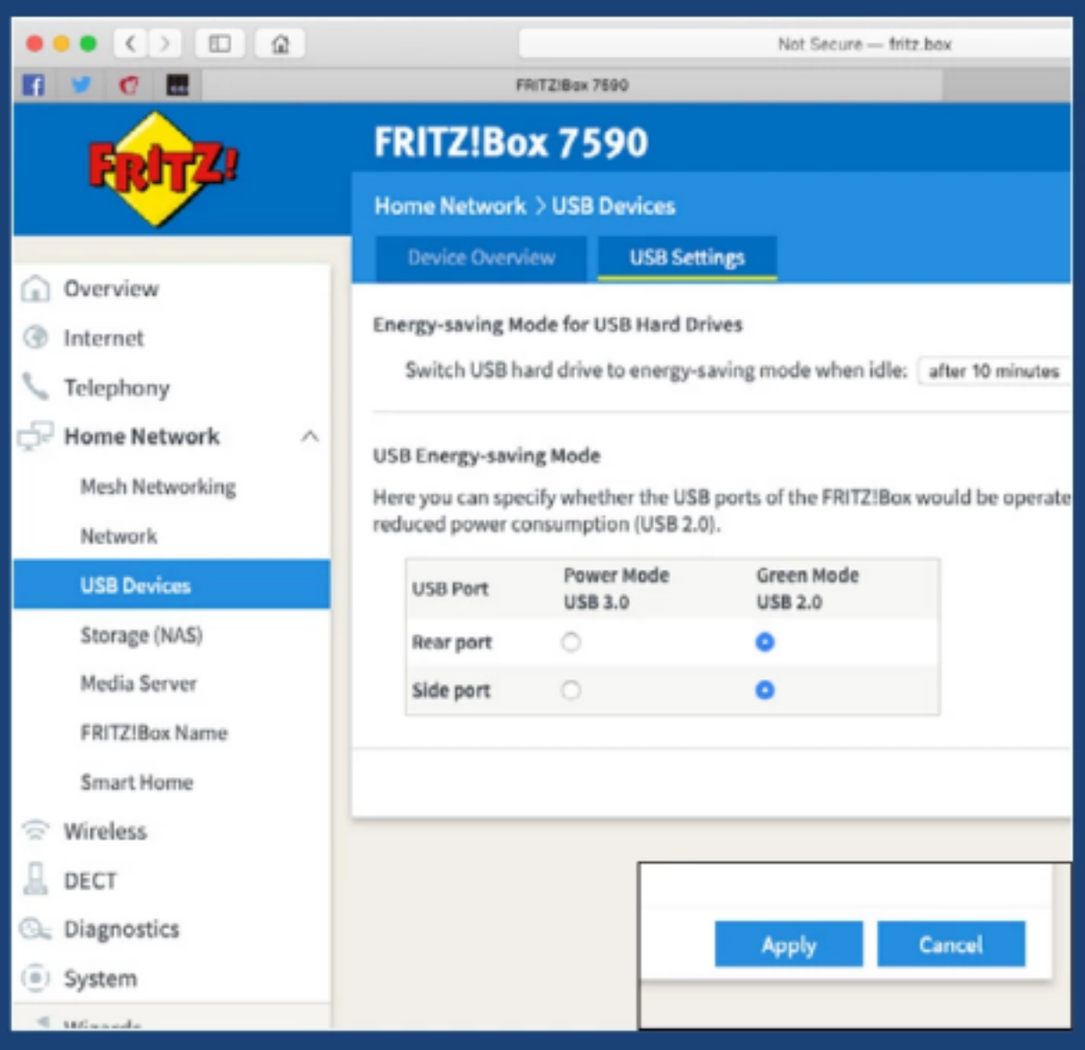
7 If you use an operating system that isn't Windows, or for the Mac, you need to find out how to install a networked printer on that particular OS. In Linux Ubuntu, for example, you go to System > Devices > Printers, click Add and select Find Network Printer. Other operating systems may differ, of course.

8 We can't give a detailed breakdown of how to add a networked printer in every different operating system, but we can give you the settings you need to configure it with your computer when you do. Select port type, 'Raw TCP'. Enter 9100 as the port, and fritz.box as the printer name.

Configuring USB Ports as 2.0 or 3.0

If your FRITZ!Box is USB 3.0, the USB ports can be set to either USB 2.0, which uses less power, or USB 3.0, which is faster. Here we show you how to go into the user interface and switch between the USB 2.0 and the USB 3.0 settings





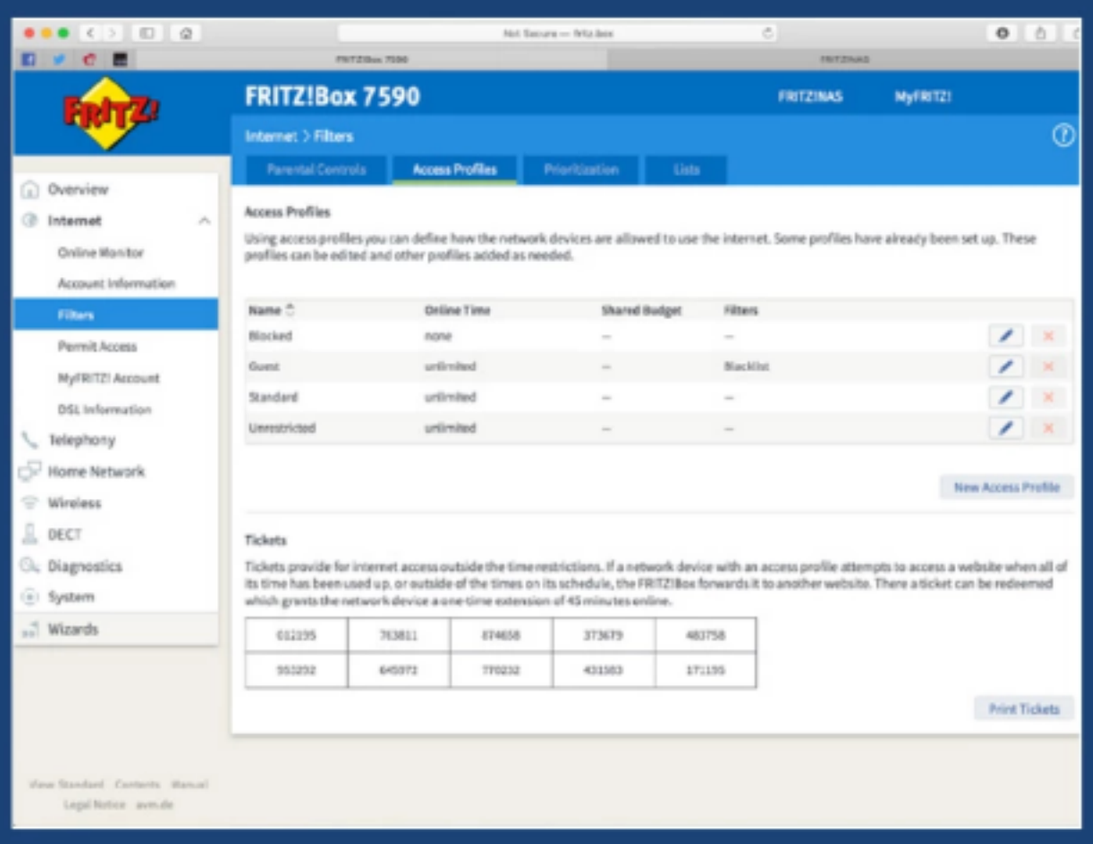
Your Router's USB Port Settings

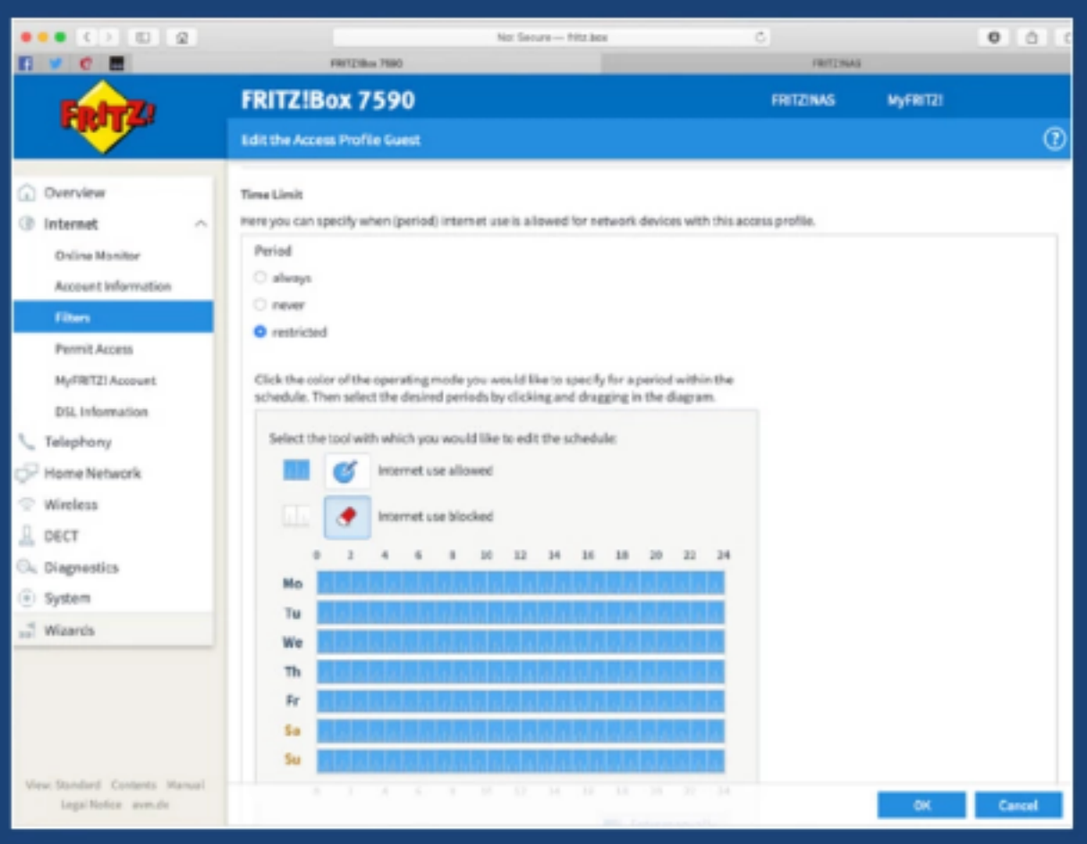
1 USB is fully backwards compatible with USB 2.0, so you can use a slower, USB 2.0 peripheral in the port, if you wish. But if you have a USB 2.0 device connected to the port, there's no advantage in having the port set to the faster, but more power-hungry, USB 3.0 setting.

2 Open the FRITZ!Box user interface, as explained in an earlier tutorial. Now go to Home Network > USB Devices and click the USB Settings tab. Here you can switch between USB 2.0 and 3.0 for each port independently, and also change the time in which the USB peripheral, when unused, goes into Energy Saving Mode.

Configure and Use Guest Access

With a FRITZ!Box, you can set aside bandwidth for a guest to use without logging on to your main wireless network. Maybe you run a cafe or a B&B, for example, and want to let your customers get online. Here's how to configure it.

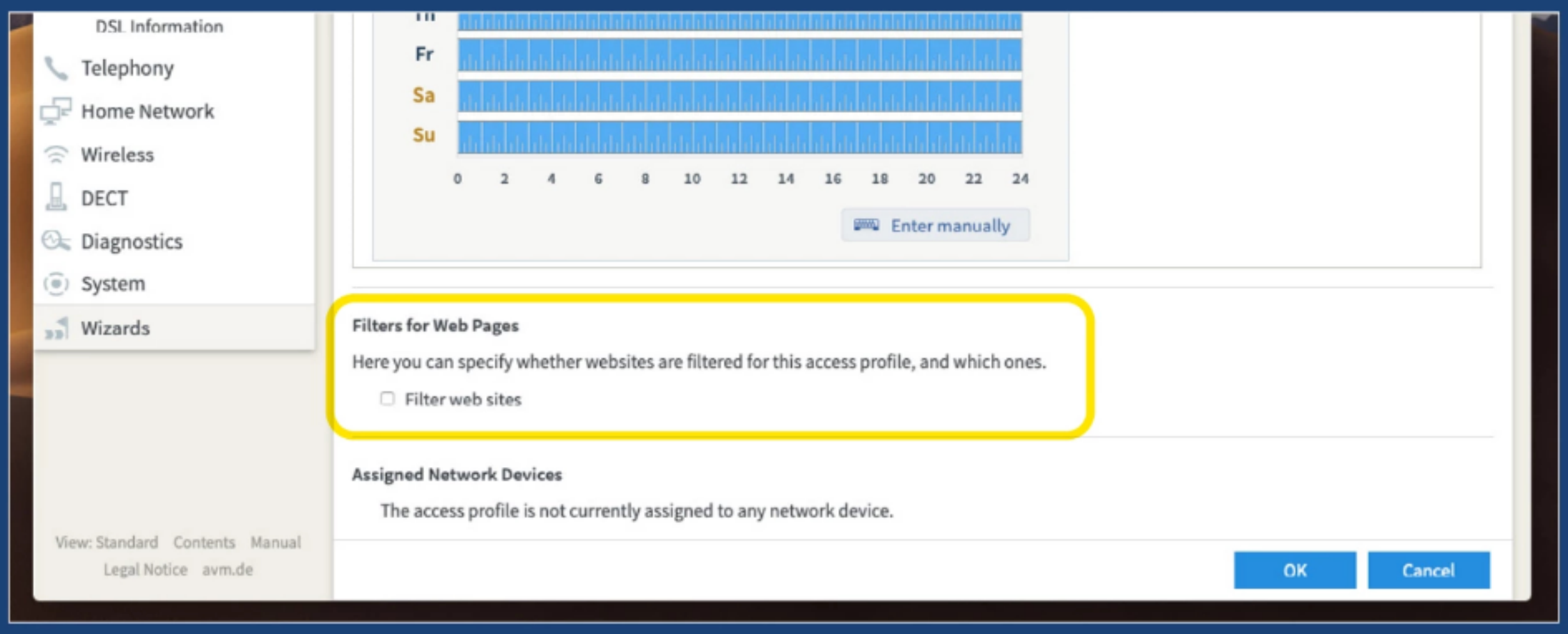




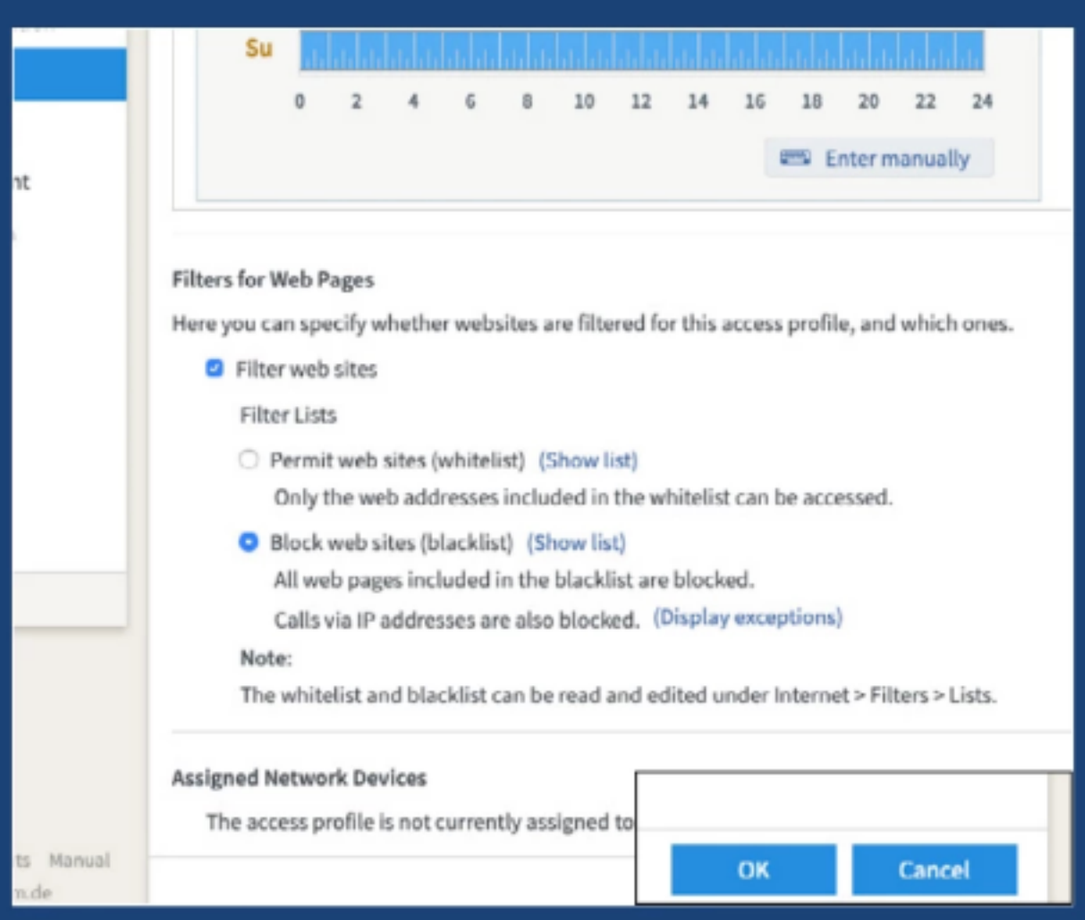
A Guest Profile

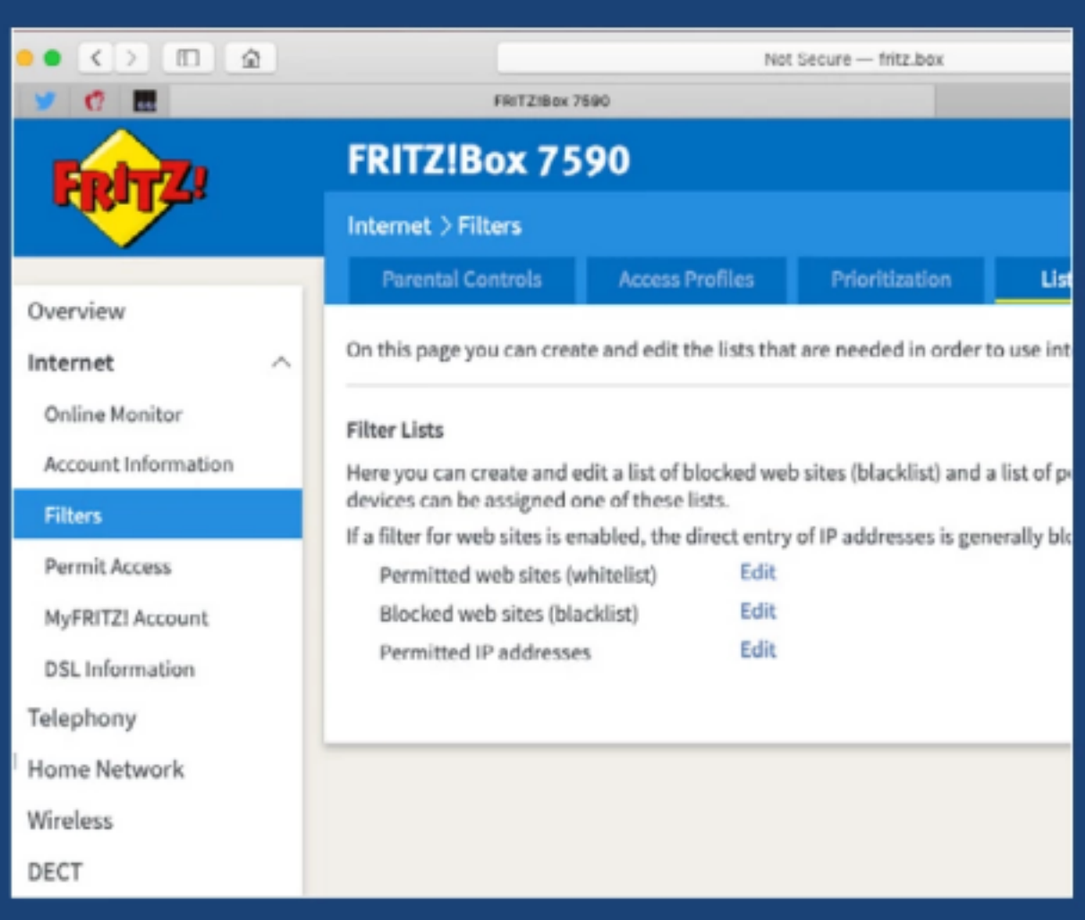
1 In the FRITZ!Box interface, go to Internet > Filters > Access Profiles. As you can see, a Guest profile is already there by default, with unlimited online time and the filters set at Blacklist. You can change these settings; first of all, click on the Pencil button next to the Guest account.

2 You can change the name of the Guest account. You can also set when this account can access the Internet on your FRITZ!Box. 'Always' and 'Never' are self-explanatory. 'Restricted' lets you set it so it can only go online at certain times. Use the rubber tool to block Internet time, and the pencil to allow it.



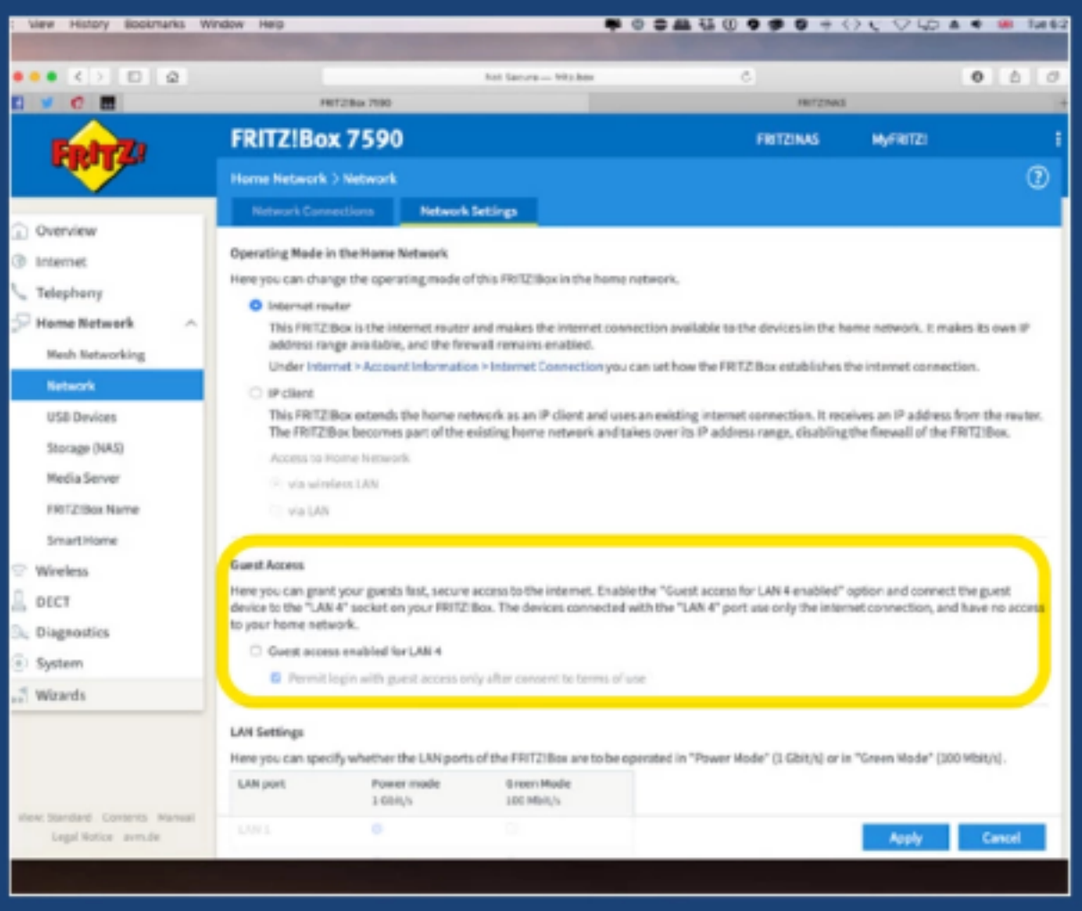
3 Scroll up to see the Filters for Web Pages section. Here you can restrict what websites the Guest account can access. Check the 'Filter web sites' box if you want to make restrictions; uncheck it if you want to allow the Guest account free access to the net, with no restrictions on which sites it can visit.

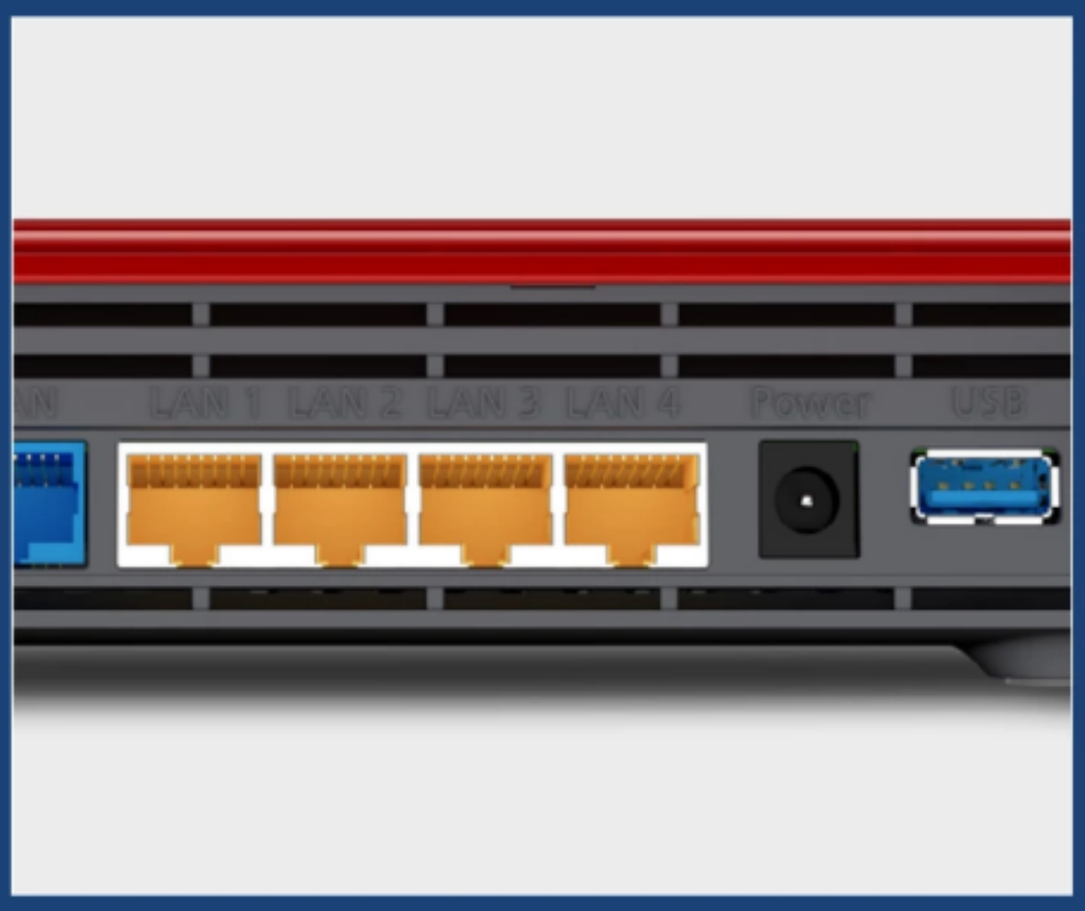




4 With the 'Filter web sites' box checked, you can opt to whitelist or blacklist websites. The former lets you set up a list of sites that are allowed. Using the latter, you can set up a list of banned websites, which the Guest profile cannot visit. Click Show List to see the printable list of websites that are currently banned or permitted, as applicable.

5 Click OK to come out of the Guest account editing page. At the top of the interface, click the Lists tab. It's here you can add websites to either your whitelist or your blacklist; click Edit, then add them on the next screen. When done, anyone using your Guest account is bound by the whitelist, the blacklist, or is unrestricted, whichever you've set up.

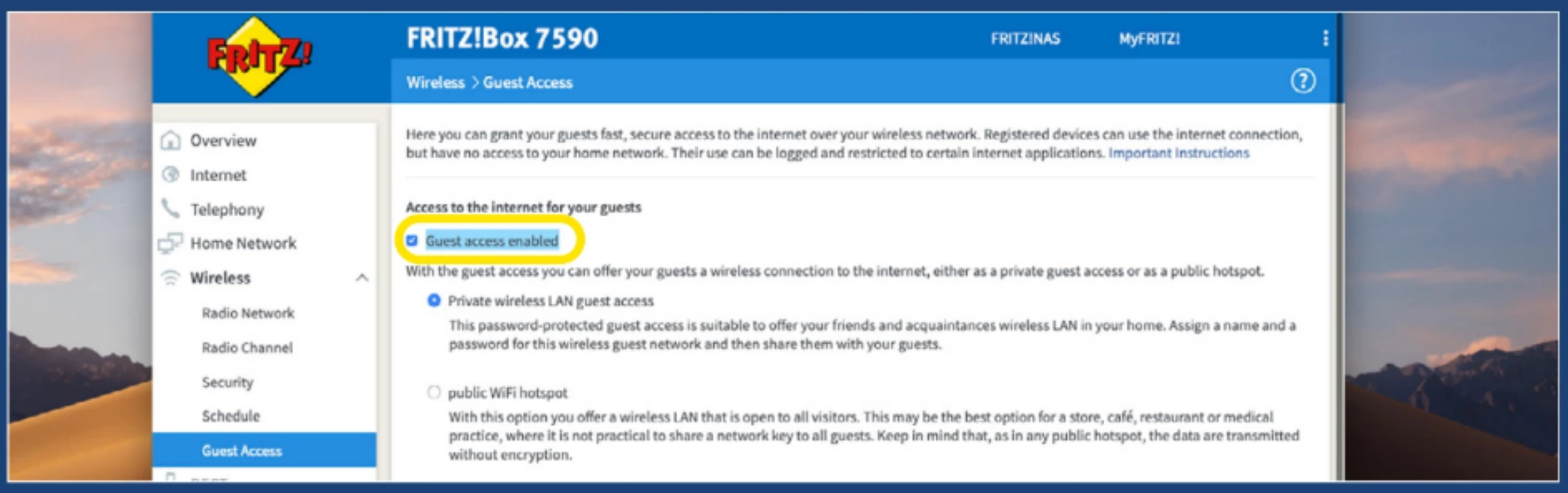




Guest Access: Cabled

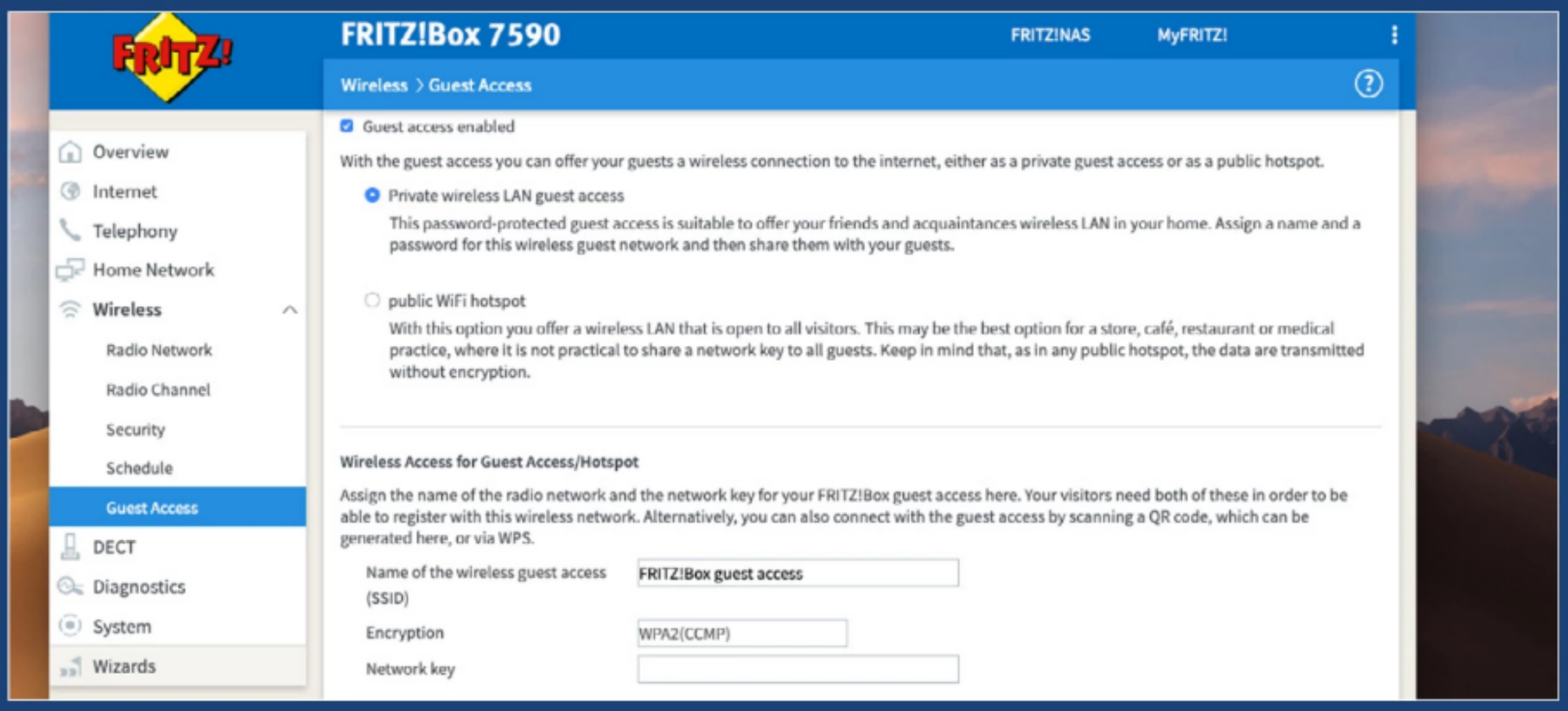
6 To set up guest access over a LAN connection (Local Area Network), that is, using a cabled connection, in the FRITZ!Box interface, go to Home Network > Network and click the Network Settings tab at the top. Ignore the first section, 'Operating Mode in the Home Network', and scroll down to 'Guest Access'.

7 Click the box labelled 'Guest access enabled for LAN 4'. You can also choose to only let a guest log on after agreeing to terms and conditions. When you're done, click Apply. Now, whatever device is connected to your router's LAN 4 Internet port automatically uses the guest access profile.

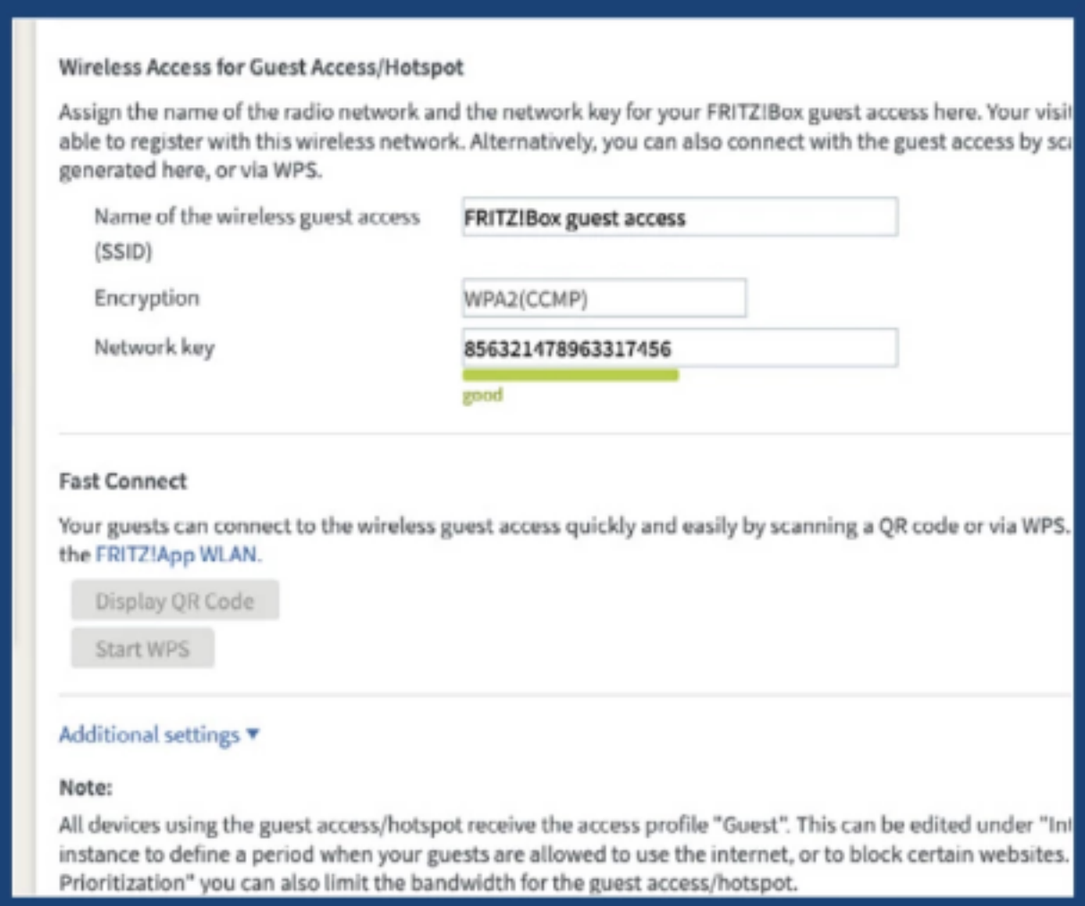


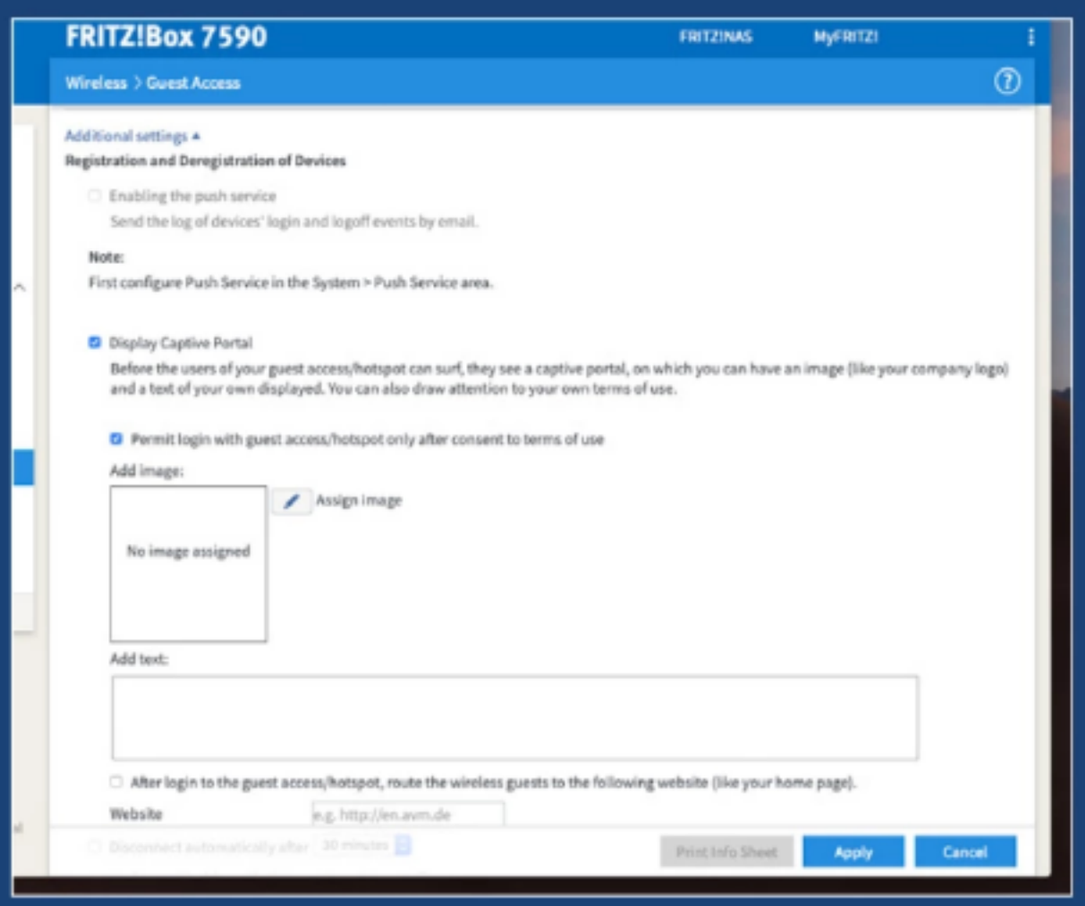
Guest Access: Wi-Fi

8 To set up a second network, which guests can use without having access to your main FRITZ!Box network, in the interface, go to Wireless > Guest Access. To switch on this feature, click on the box labelled 'Guest access enabled'. The guest access is now on, and can be configured to your requirements.



9 Now you must decide whether to set up Guest Access as a private network, or a public hotspot. The private network is best for friends and house guests, but for a cafe or other public place, a public hotspot might be more suitable. Remember, public hotspot data is always delivered unencrypted.



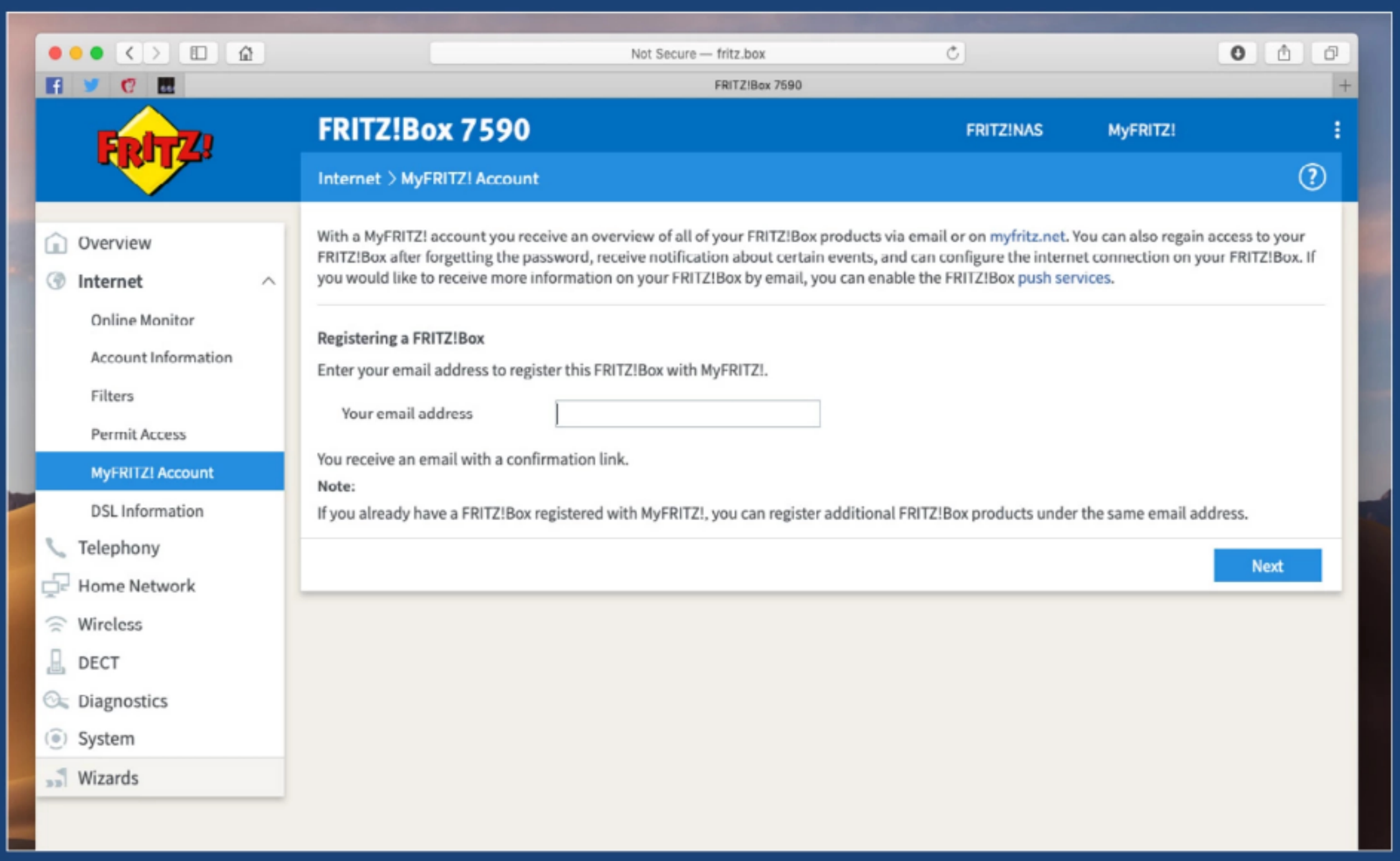


10 In the section entitled, 'Wireless Access for Guest Access/Hotspot', you can set the name of the network, which appears when you access it using your Wi-Fi-enabled device. Call it anything you like. You can also set a Network Key, i.e. a password, which you must give to your guest so they can log on.

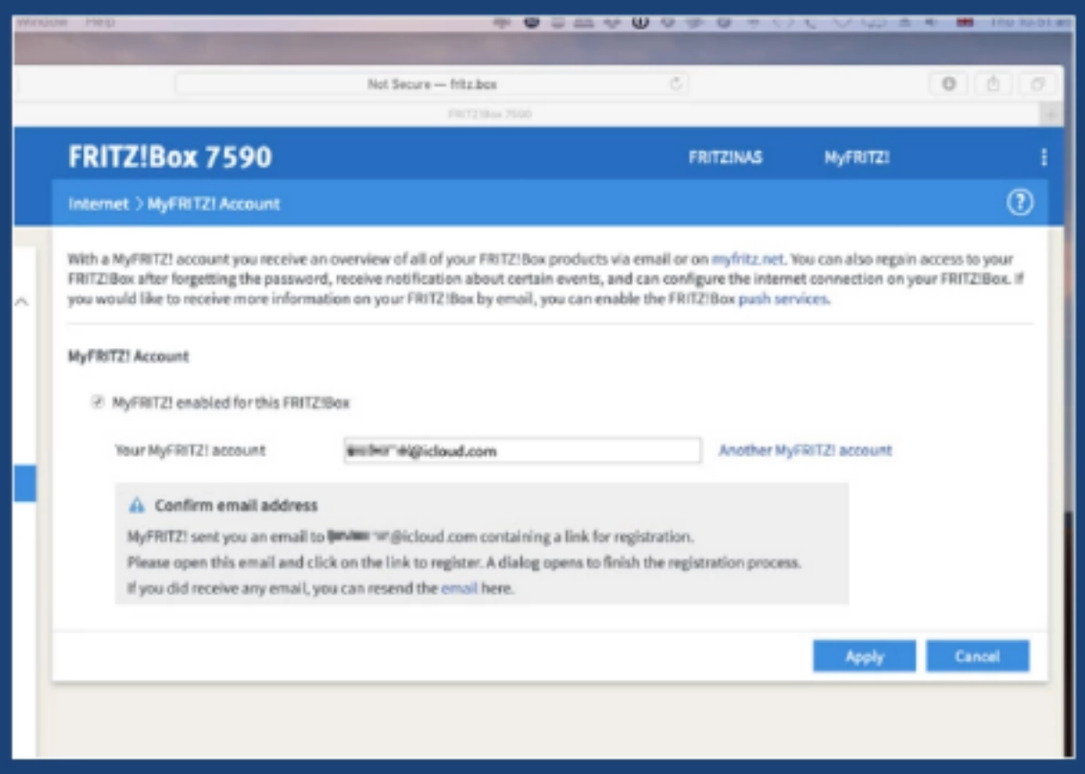
11 Click Additional Settings, towards the foot of the page, and you can permit guest login only after they've agreed to your terms and conditions. You can write those terms and conditions here too, and add an image such as your cafe's or B&B's logo. When you're done, click on the Apply button to apply your new settings.

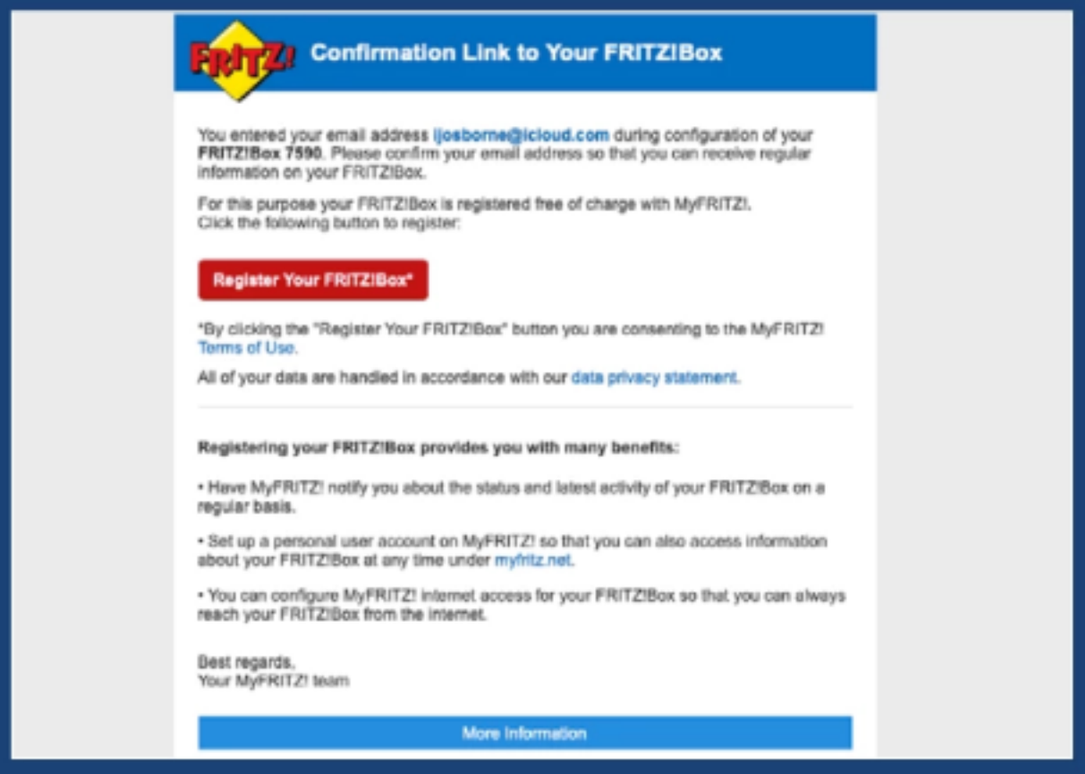
Set Up and Use MyFRITZ!

Setting up a MyFRITZ! account gives you access to a host of extra FRITZ!Box features, including getting onto your FRITZ!Box from the Internet, from a mobile device and on your own network for new and interesting features.



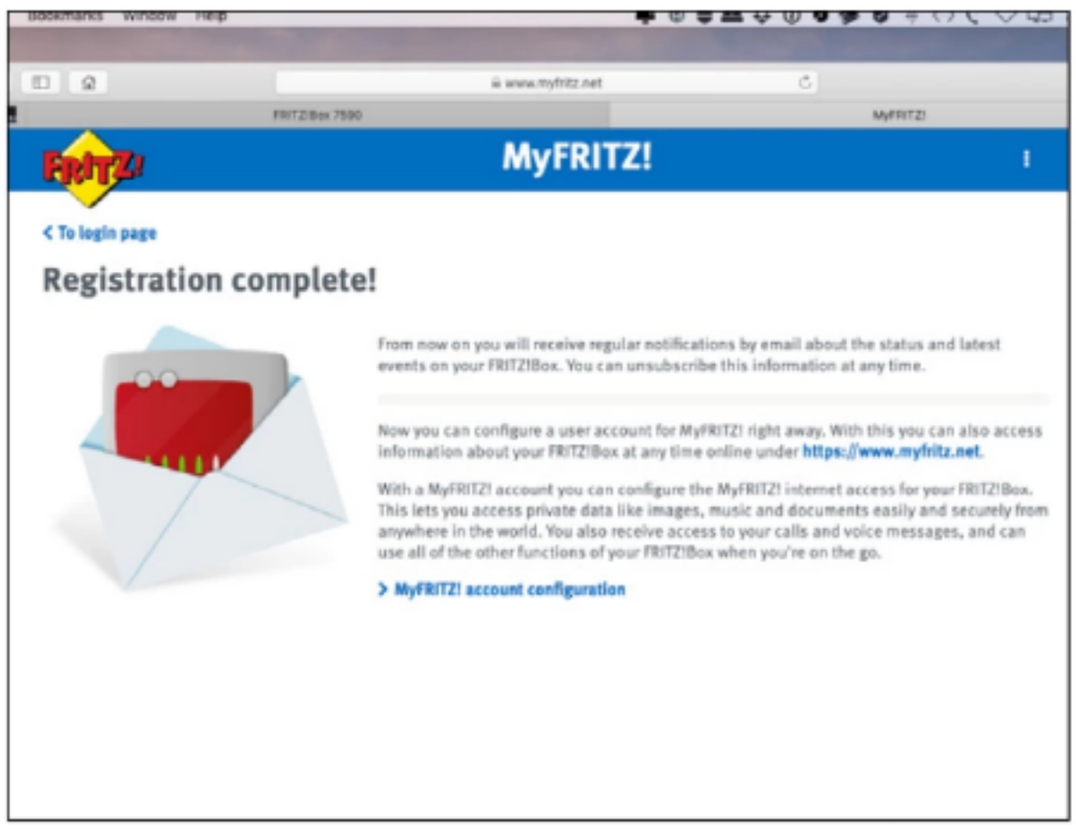
1 First of all, we need to create a MyFRITZ! account. You only need to do this once as when your MyFRITZ! account is up and running, with it you can register any number of FRITZ!Box routers. First of all, open the FRITZ!Box interface, and in the sidebar, go to Internet > MyFRITZ! Account. You see the screen shown here.

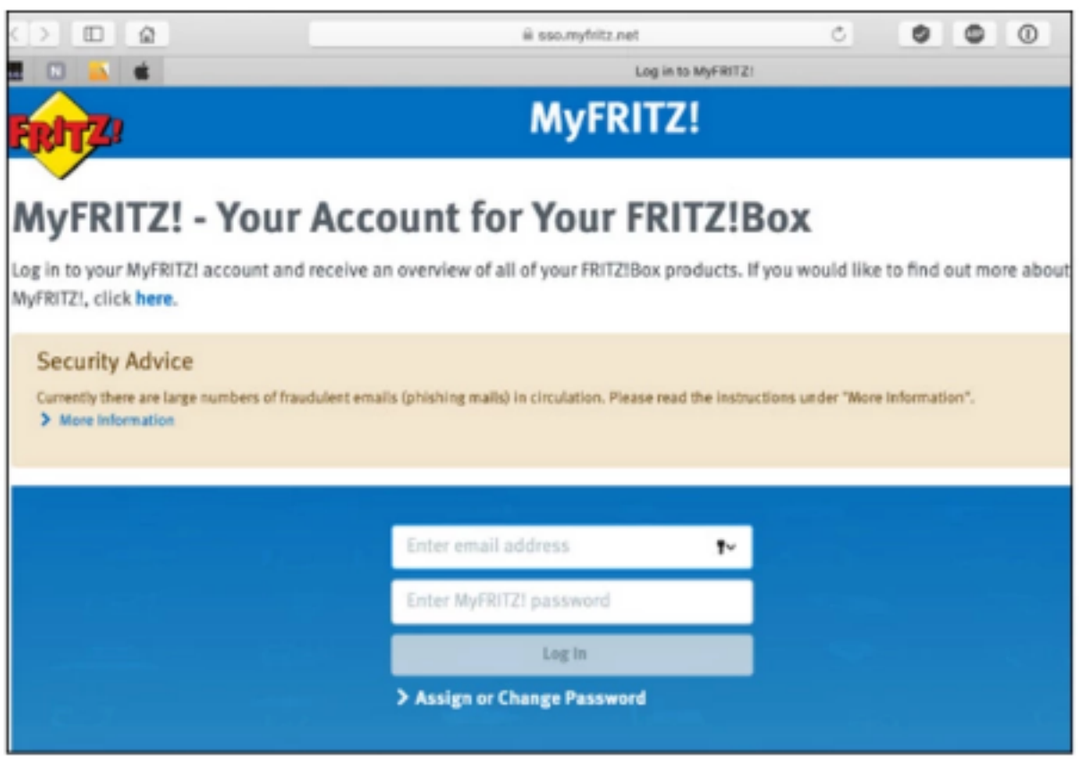




2 Enter the email address you wish to use for your MyFRITZ! account in the field provided, and then click the Next button. An email is sent to the address you entered, asking you to confirm the registration of your FRITZ!Box router with your MyFRITZ! account. To do this, click the link in the email.

3 This is the email you get when you register your FRITZ!Box with a new MyFRITZ! account. If it doesn't arrive promptly, check your junk mail folders; it might have been wrongly classified as junk mail. If you don't get an email at all, click the email link shown in the previous step, at the bottom of the 'Confirm email address' box, to resend.

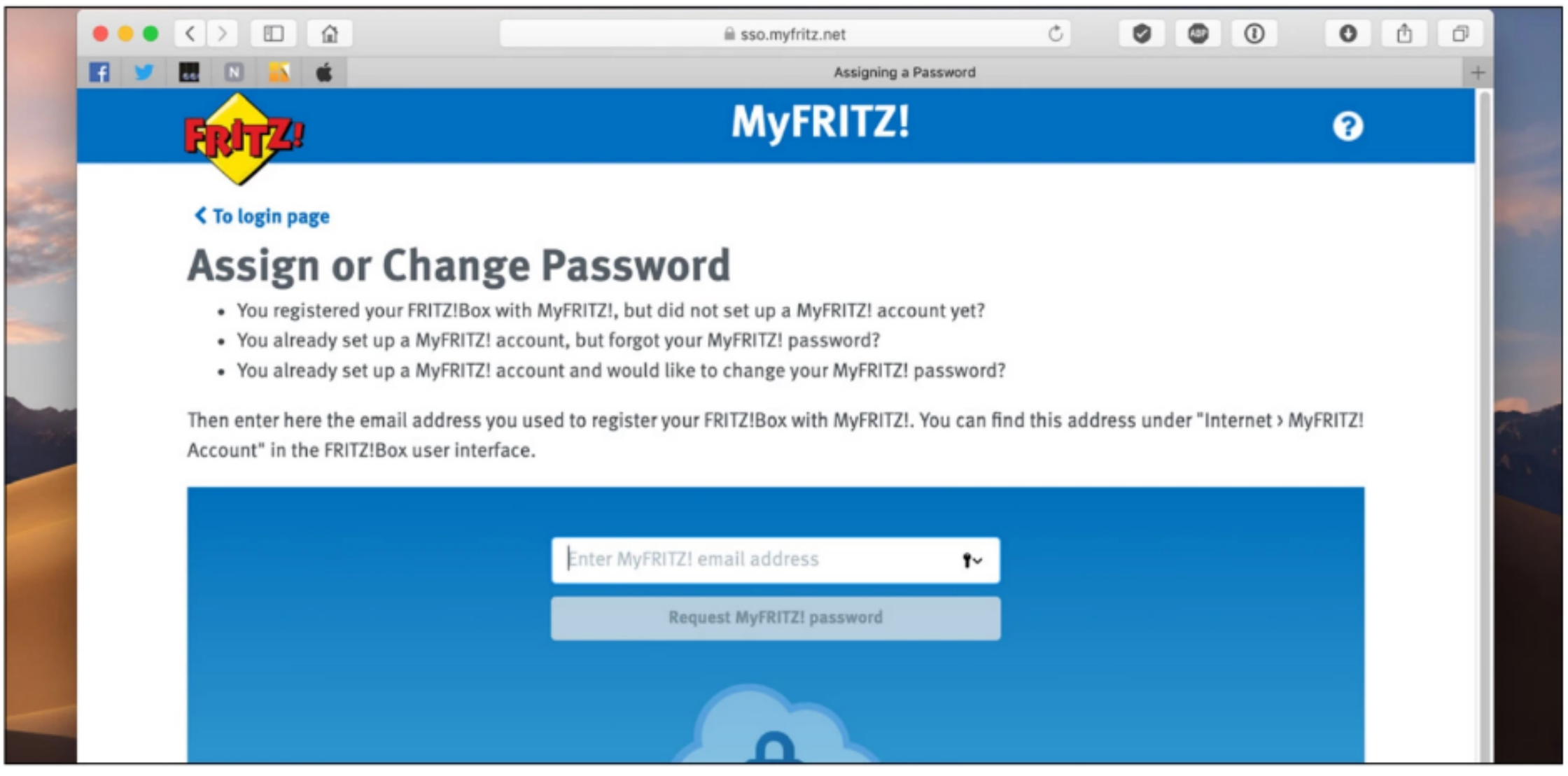




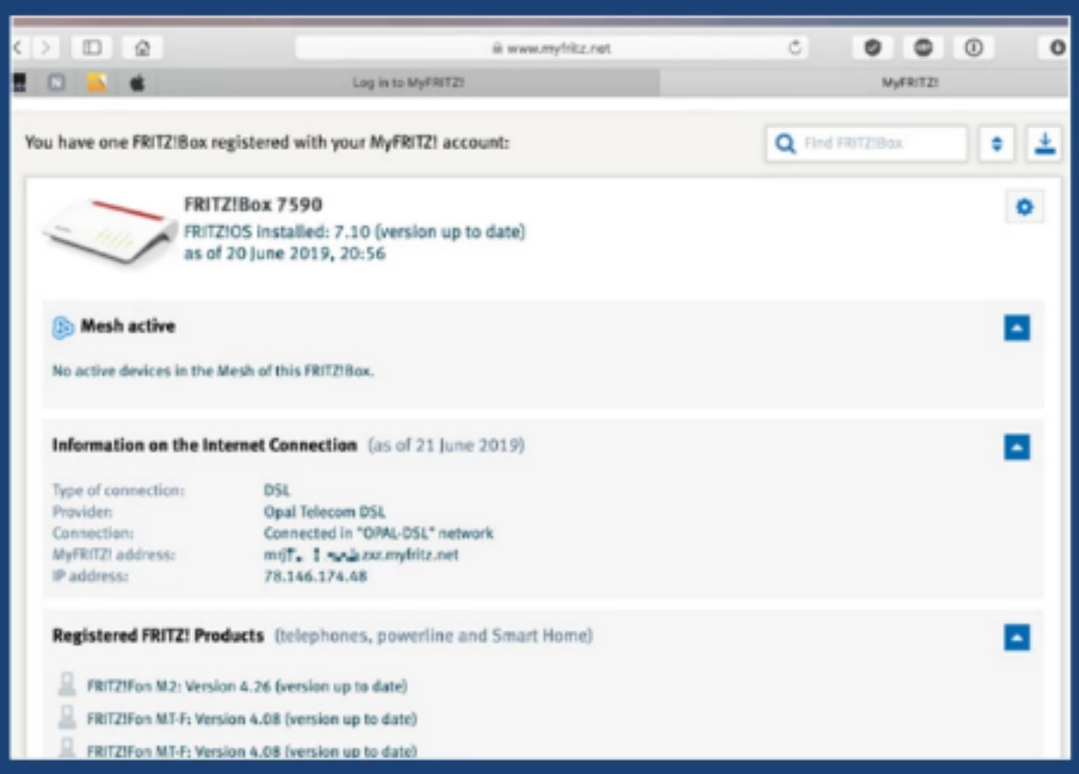
Finishing Your Registration

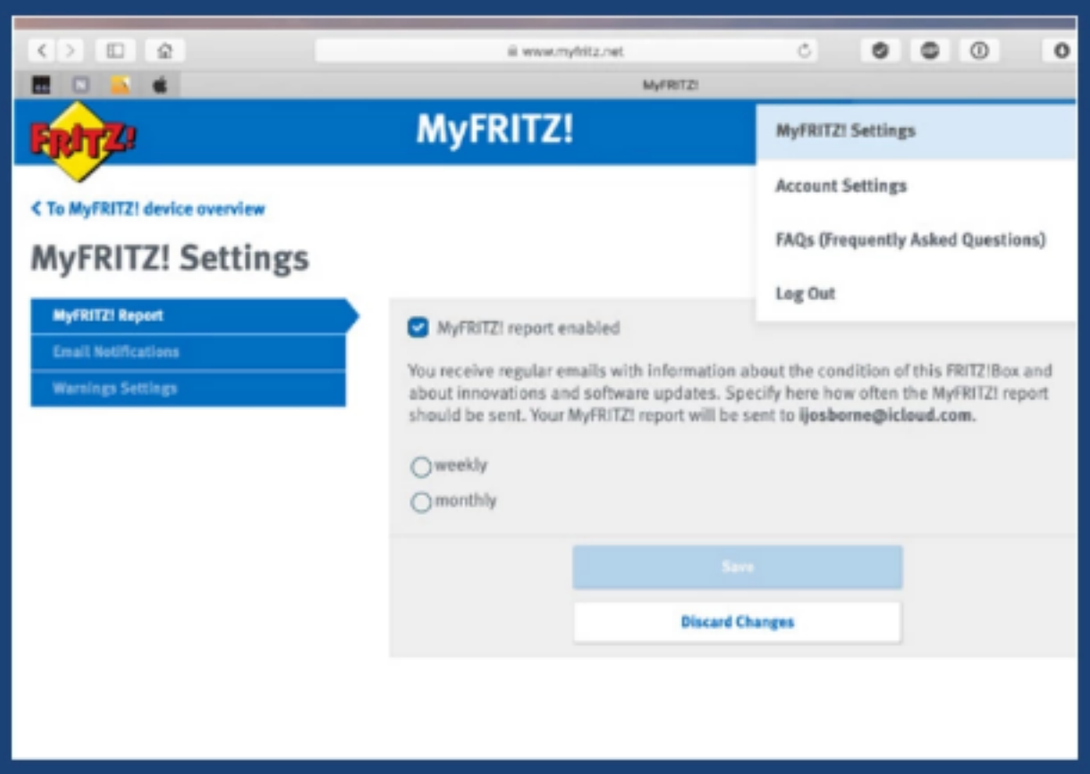
4 Your registration is now complete. From now on, regular updates about the status of your FRITZ!Box will be emailed to you (you can unsubscribe if you wish). Click on the MyFRITZ! Account Configuration link and you're sent another confirmation email. Click the Confirm MyFRITZ! Registration button to proceed.

5 Open your web browser and type https://www.myfritz.net in the address field. You see a login screen, as shown. The email address you must enter is the one you used for registering with MyFRITZ! You haven't set a password yet, so click Assign or Change Password.



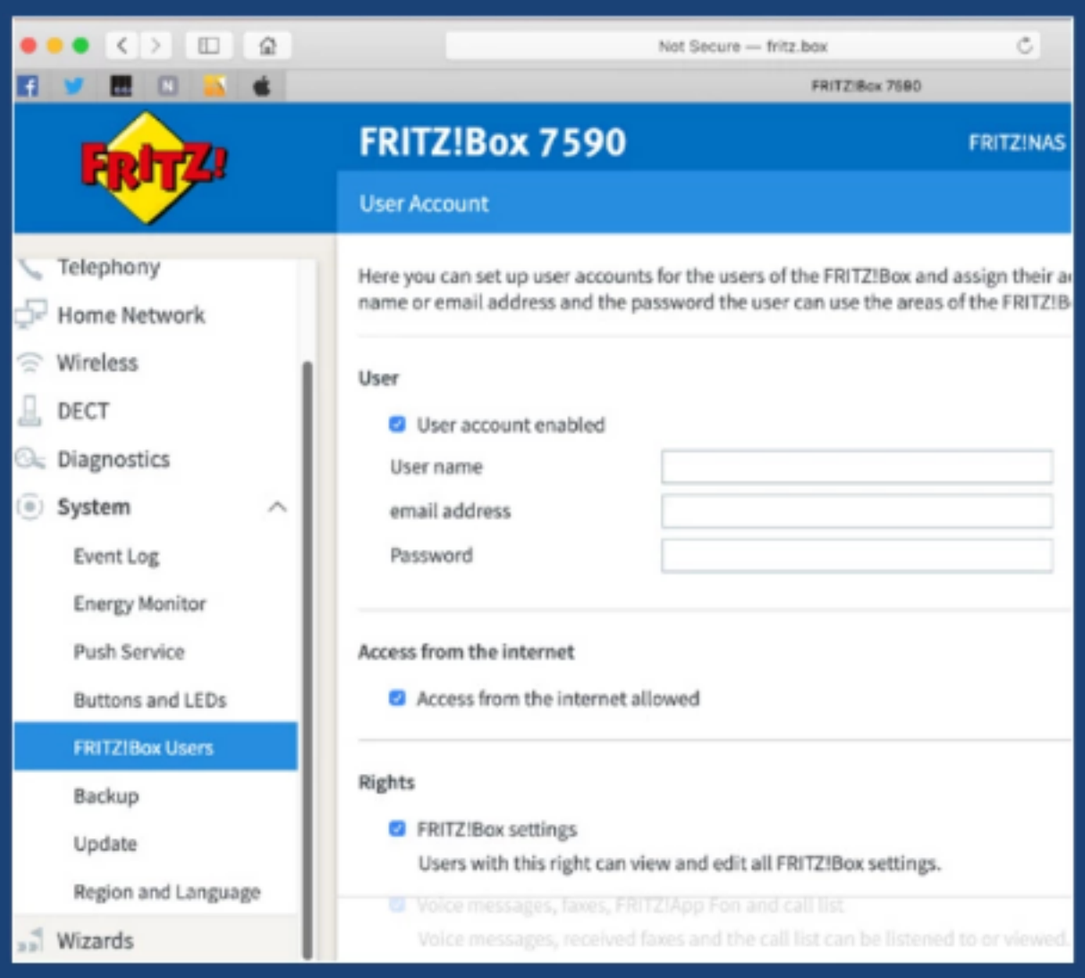
6 Enter the email address you used to register your FRITZ!Box with MyFRITZ!, and click on Request MyFRITZ! password. A password is sent to you by email. You're taken back to the login screen, where you should enter the password that's been emailed to you; again, if it's not there, check your junk mail.

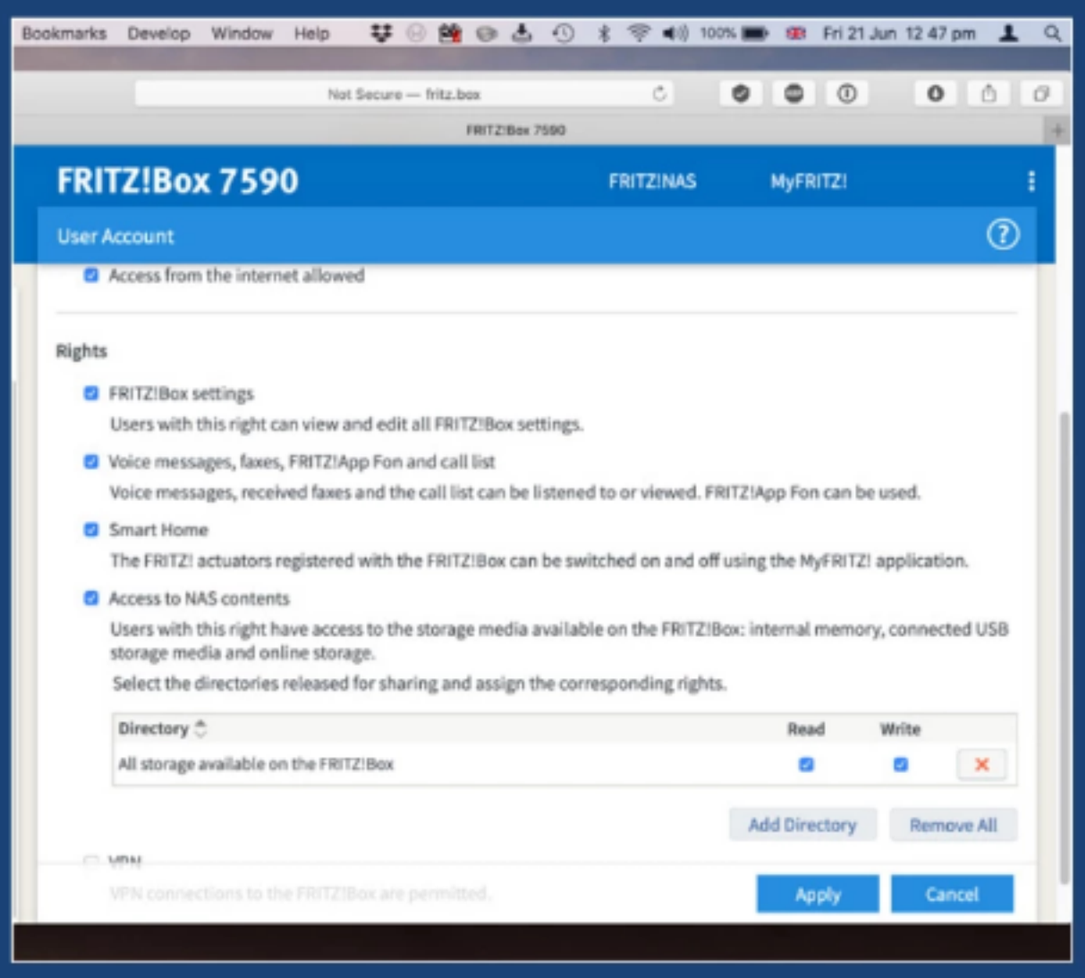




7 Follow the instructions in the email, and set up your password. You're logged into your MyFRITZ! account, from where you can see your router's activities. Remember, now your MyFRITZ! account and registration is set up, you can log onto your router from outside your own network by opening a browser and going to https://www.myfritz.net.

8 Click on the Three-dots icon in the top right corner and you obtain a menu that lets you access your MyFRITZ! Settings, Account Settings and FAQs. You can also log out here. Under MyFRITZ! Settings, you can change your password and set whether, and how often, you get the FRITZ!Box email.

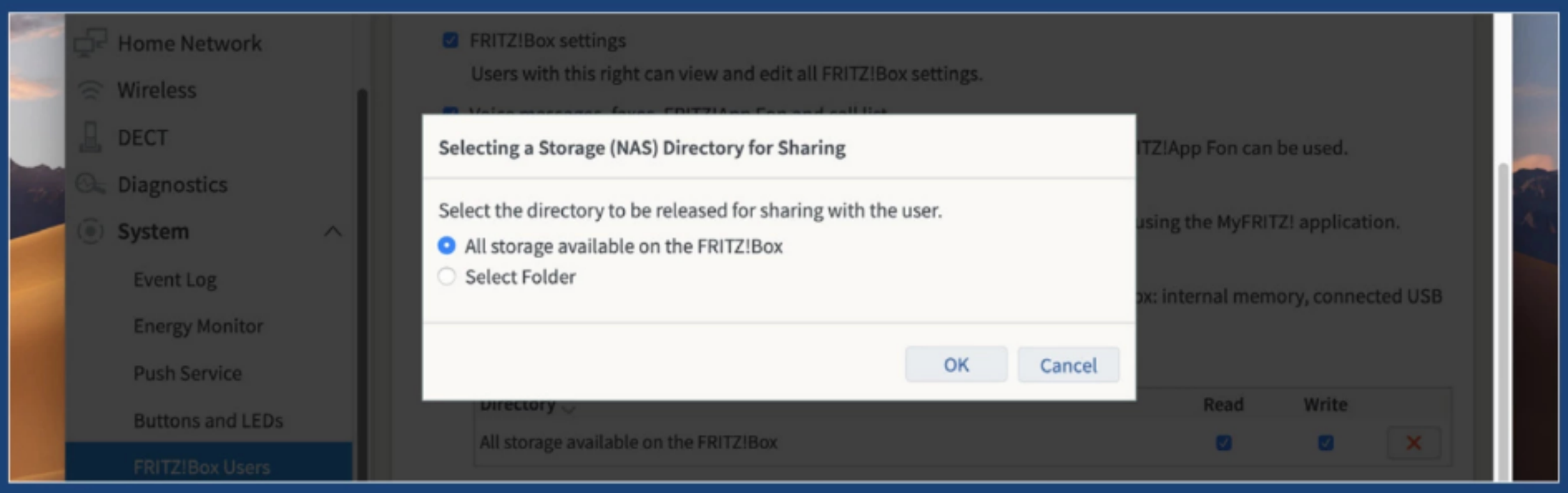




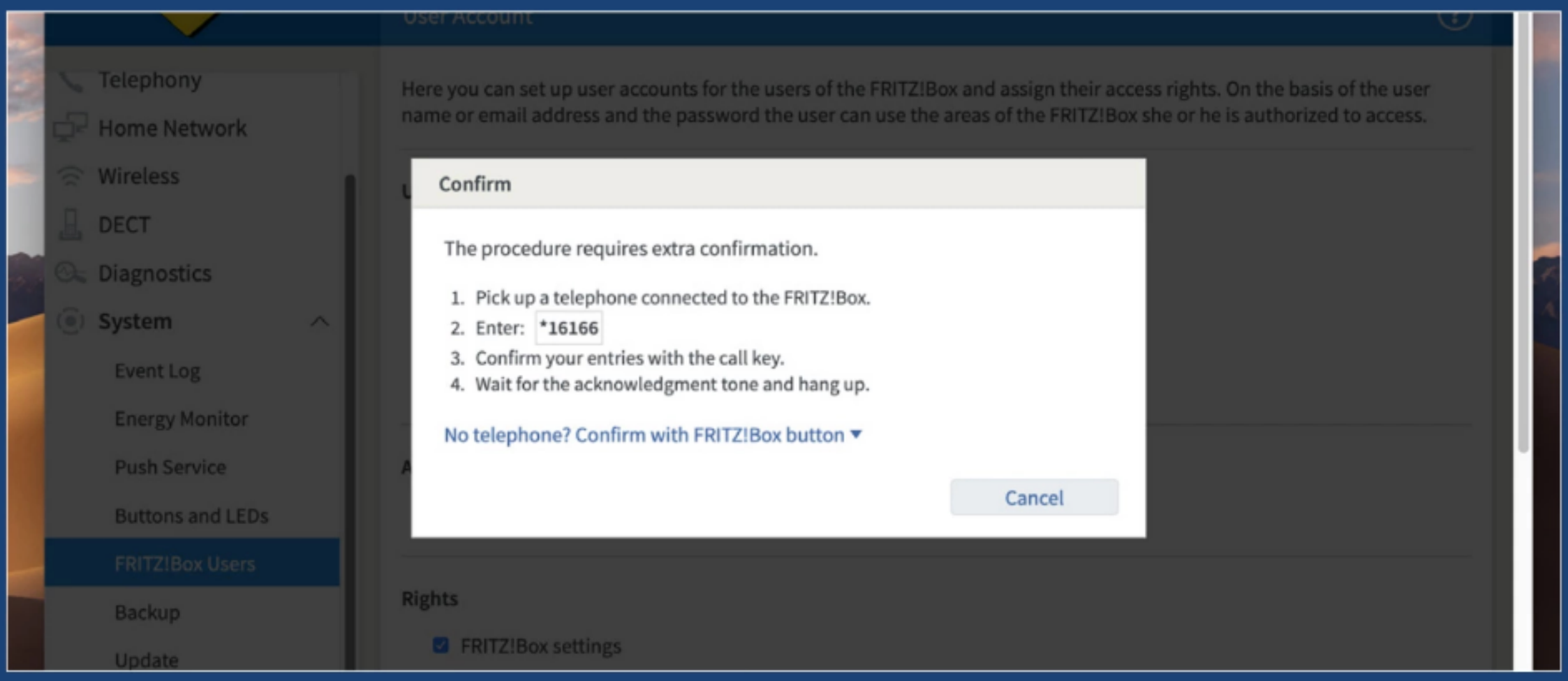
More FRITZ! Features over the Internet

9 To access your router's settings and media over the Internet, you must first set up a user account. Go to System > FRITZ!Box Users and click the Users tab. Click the Add User button and you're taken to this screen, where you enter a user's details. Enter your name, email address, and a password.

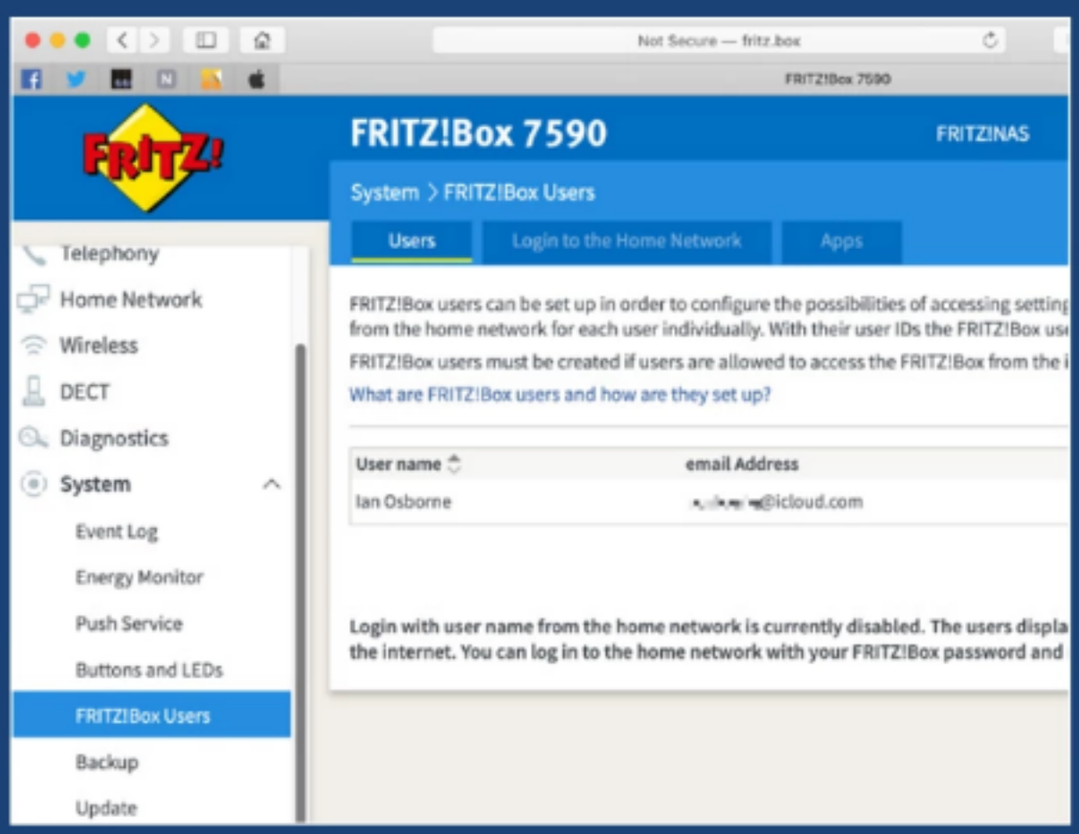
10 Scroll up the screen, and set that person's rights. You can choose whether the person in question can access the FRITZ!Box settings over the Internet, voice messages and other phone services, media on the NAS service and the Smart Home features. Choose which to allow, and then click Apply.

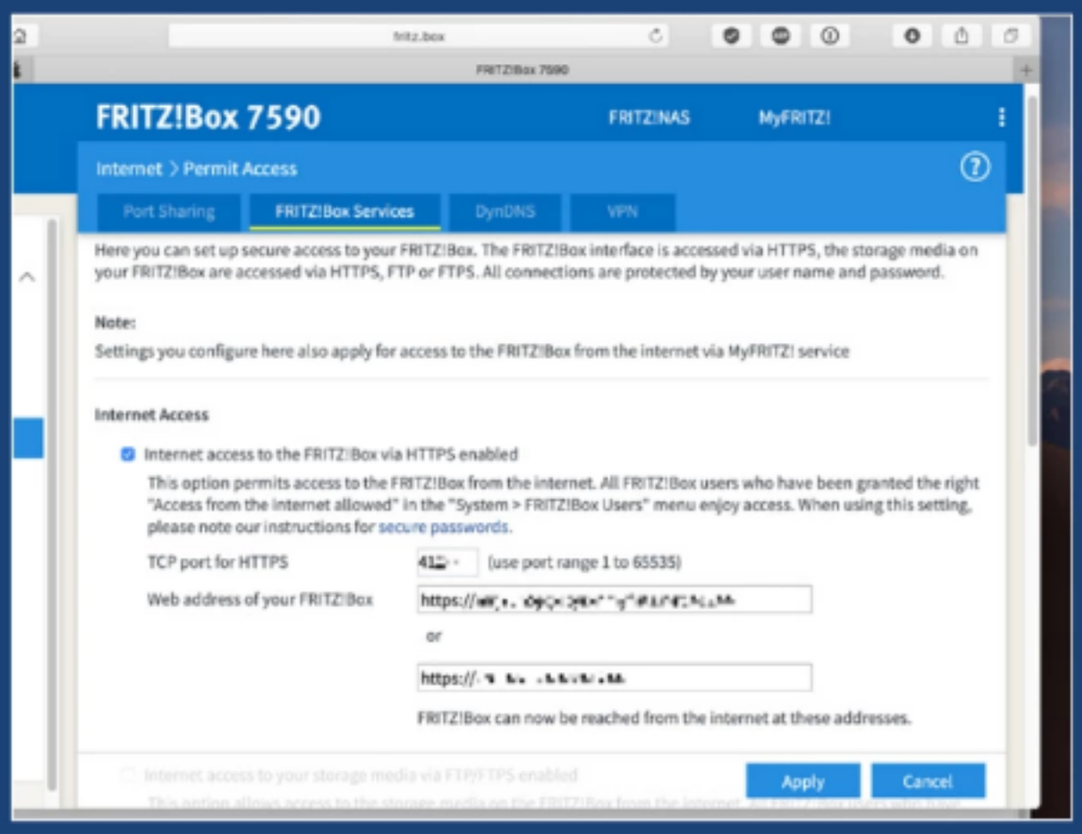


11 If you allow access to the files, photos, music and movies you've stored on the FRITZ!Box's NAS (Network Attached Storage) feature (as discussed in the Networking a Hard Drive tutorial), you must choose whether to allow access to all of it, or only specific folders. The choice is yours, and you can change it later if you wish.



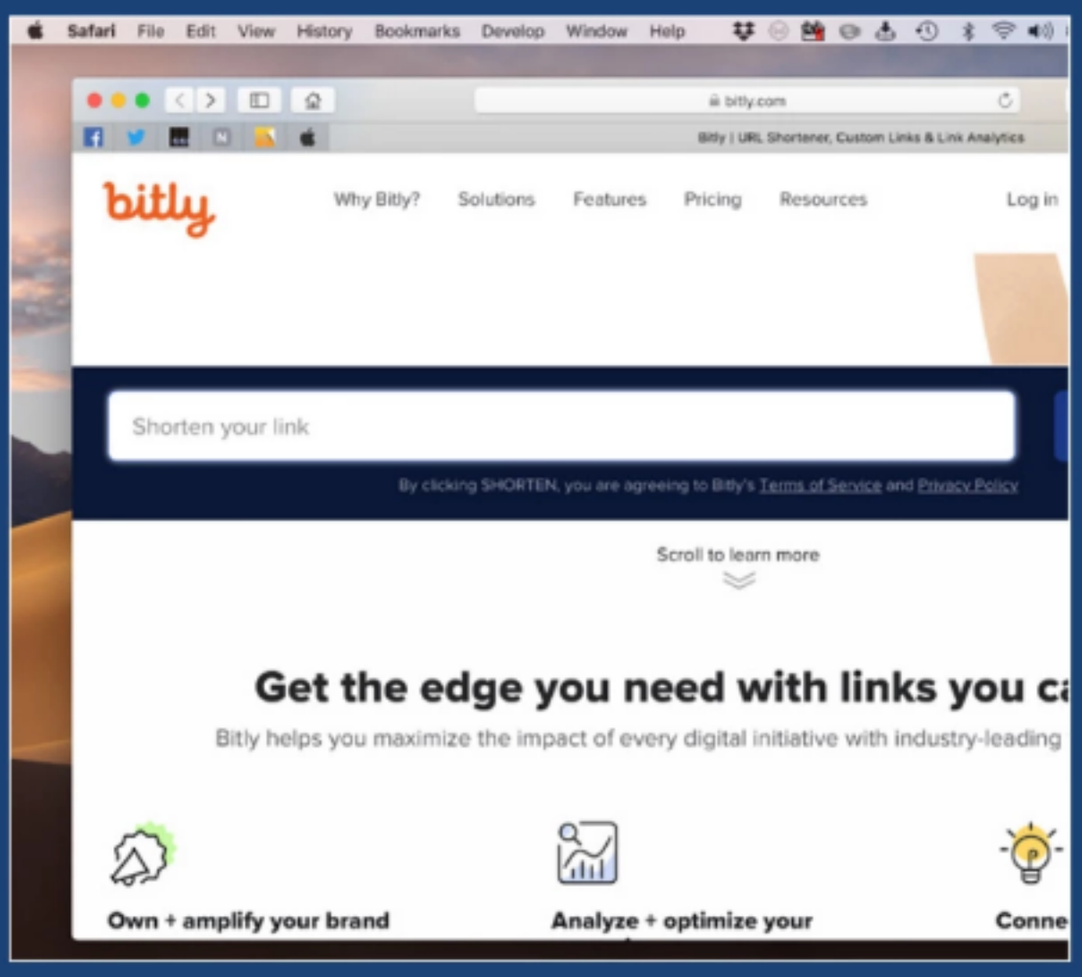
12 You can also gain access to your FRITZ!Box's files stored in its memory, or on a USB storage drive, from outside your home network. Log onto your router with MyFRITZ! as described earlier, and look for the section called 'Information on the Internet Connection'. In this section, look for 'MyFRITZ! address'.address'.

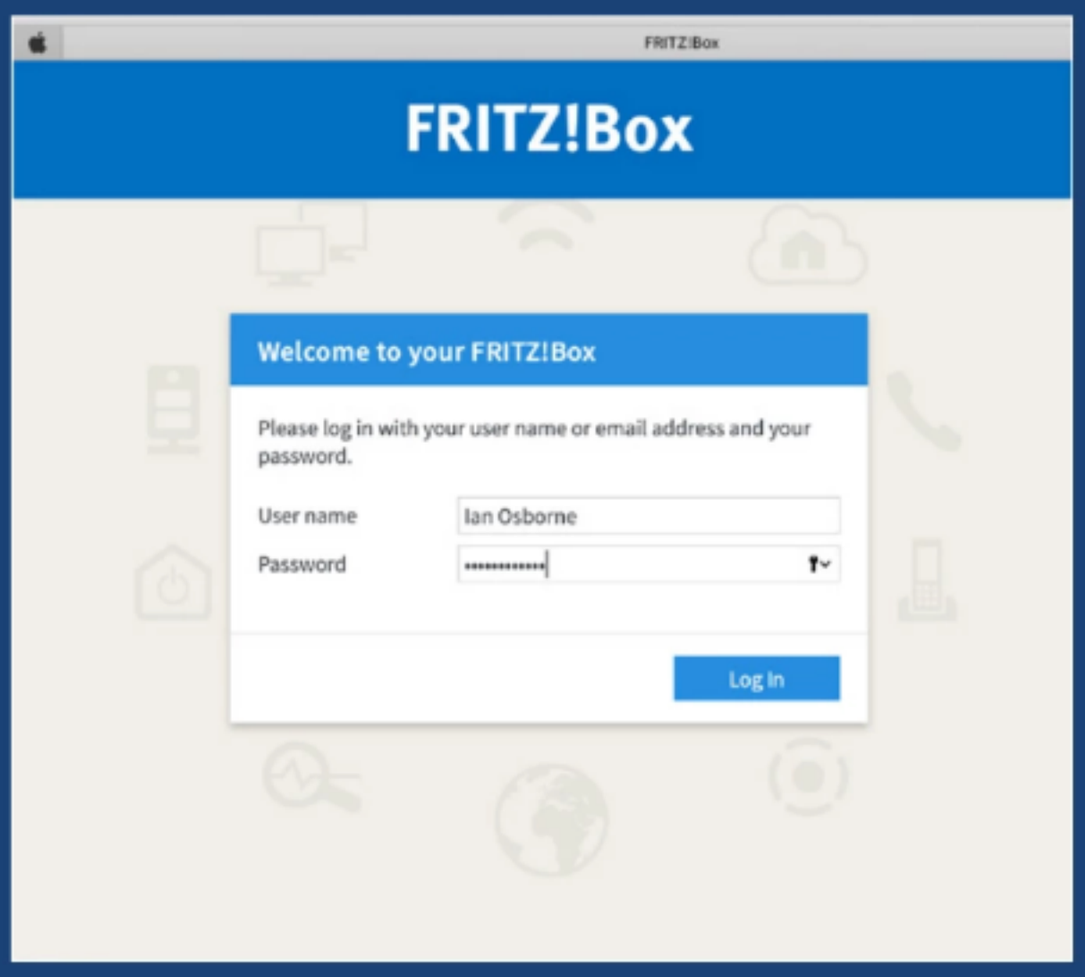




13 The MyFRITZ! address is a unique domain name assigned to your FRITZ!Box, ending with 'myfritz.net'. Highlight and copy it. Now, in a browser, type 'https://', then paste your unique domain name, then type '/nas'.

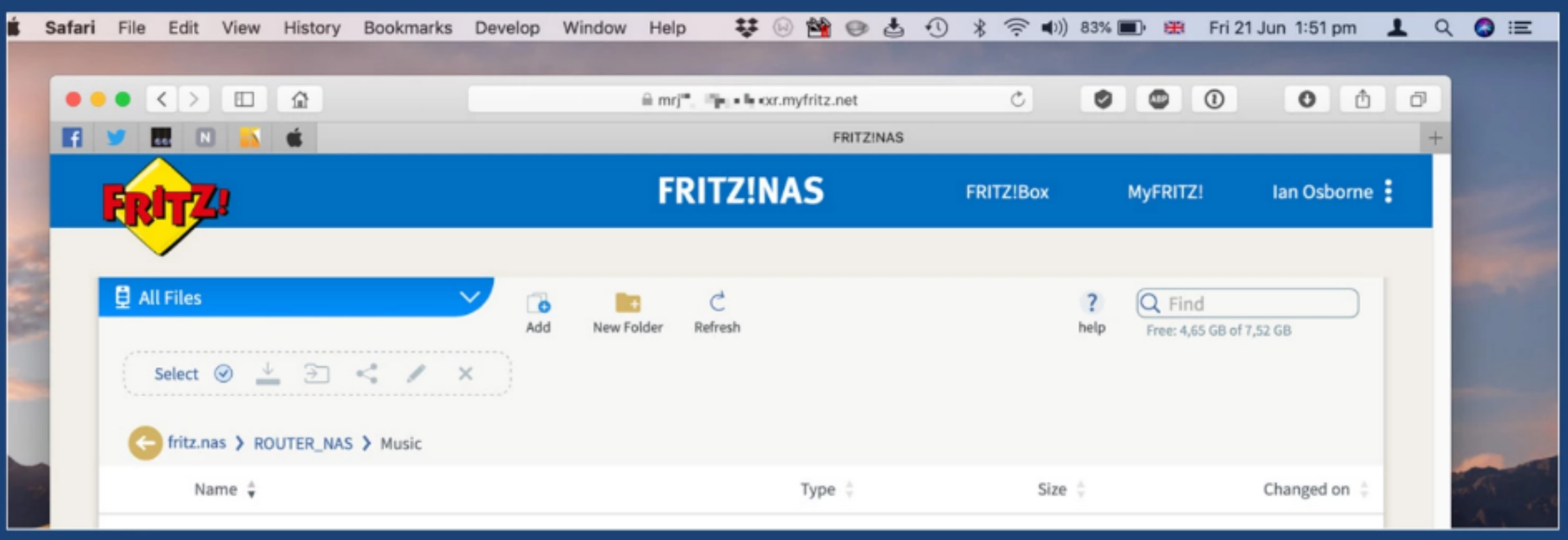
14 One last thing to do now. Go to Internet > Permit Access in the FRITZ!Box interface, and select the FRITZ!Box Services tab. Make sure 'Internet access to the FRITZ!Box via HTTPS enabled' is checked. Here you can see the web address of your FRITZ!Box, and unfortunately, it's a bit long.





15 This step is entirely optional. To make your web address something more manageable, you can go to bit.ly and shorten it. You don't need to set up an account. Just scroll to the field marked 'Shorten your link', paste it in and press the Shorten button. You get a much more manageble URL, that looks something like 'https://bit.ly/2Y2dyhm'

16 Using this URL (the one offered on the interface or the shortened version from Step 15), you can access your FRITZ!Box from anywhere in the world by typing or pasting it into a web browser. You can then log on using your User Name and Password created in Steps 9-12. You're taken to the main FRITZ!Box interface screen.



17 From here, you can (if you've given permission to do so in Steps 10-12) access the FRITZ!Box's settings, making changes if you wish. By clicking 'FRITZ!NAS' at the top of the window, you can access your FRITZ!Box's stored media too (see tutorials on 'Networking a Hard Drive' and 'A FRITZ!Box Media Server'.

Jargon Buster

We've kept the jargon down to a minimum in this guide, but if you come across something you don't understand, take a look at this jargon busting guide to technical terms.

ADSL
Asymmetric Digital Subscriber Line. It's a means of connecting to the Internet through your telephone line. Sometimes just called 'DSL'

AVM
The Berlin-based telecommunications technology company that owns the FRITZ! brands.

Broadband
Wide bandwidth data transmission, that is, fast Internet as opposed to the older, dial-up services.

DECT
Digital Enhanced Cordless Telecommunications. It's a wireless standard used mostly for cable-free telephone systems.

DECT
Base Station: DECT phones connect wirelessly to a DECT Base Station, which has a cabled connection to the household or business phone line. A base station can manage multiple DECT phones.

Ethernet
The format used for local cabled networks (LAN). Your router comes supplied with Ethernet cables and has ports for plugging them in.

Extender
A device that extends the range of a wireless network by creating a second entry point, which may, or may not, merge with the main one.

FRITZ!
A series of brands owned by AVM. These include FRITZ!Box (routers), FRITZ!Fon (telephones) and FRITZ!WLAN (wireless devices).

Guest Access
A means of allowing your guests and visitors to use your Internet connection, without giving them access to your network or your router settings.

Hard Disk Drive
A device used to store computer data. Portable Hard Disk Drives (HDDs) take their power from the device they're connected to, but desktop HDDs need to be plugged into the mains.

Interface
The means by which the user operates a device. The FRITZ!Box interface is accessed through a web browser.

Internet
A global system of interconnected computers and networks which use the Internet Protocol Suite (TCP/IP) to link online devices.

ISP
Internet Service Provider. The company who you pay to give you Internet access at home or work.

LAN
Local Area Network. Devices that are connected to your router using Ethernet cables, are part of the LAN (see also WLAN).

LTE:
Long-Term Evolution, a standard used for wireless broadband mostly on mobile phones. An LTE router uses the same technology, and needs a SIM card like a phone.

Media Server
A Media Server allows you to keep your media such as videos, photos and music on one device, and enjoy them with other devices over your network.

Mesh
A means of combining two wireless access points into one, so they use the same settings and appear as a single network to devices that join it.

Modem
Short for modulate-demodulate, a modem converts data into a signal that can be transferred over a phone line, and does so in reverse for incoming data.

MyFRITZ!
A service available to FRITZ!Box owners. Setting up a MyFRITZ! account on your FRITZ!Box gives access to a range of extra features.

Network Attached Storage
A Network Attached Storage (NAS) drive lets you access stored data from any capable device connected to your network. You can plug a storage drive into your FRITZ!Box and network-attach it.

Network Printer
A printer that's attached to the network rather than a single computer, so you can print from any device that's also connected to your network.

Router
A device that manages and organises your home network devices, whether they connect to the router using a cable (LAN), or wirelessly (WLAN).

Smartphone
A modern mobile phone that's capable of using the Internet as well as making calls and sending/receiving messages.

Solid State Drive
A Solid State Drive (SSD) works in the same way as a Hard Disk Drive, but uses memory chips instead of magnetic platters, making it faster.

SSID
Service Set ID. In a nutshell, this is the 'name' of your wireless network, and can be changed using your router.

Tablet
A device that's similar to a Smartphone, but without the telephony features (unless it has cellular capability), and with a bigger screen.

Thumb Drive
Also known as a flash drive, a Thumb Drive is a small device for carrying around data. You can plug one into your FRITZ!Box to turn it into a network-attached storage (NAS) drive.

UPnP
Universal Plug and Play. A protocol used by digital media players for enjoying video, music, and pictures over your home network.

URL
Uniform Resource Locator. This is a web address, used to access a web page on the Internet, and usually starts 'www' and ends in '.com', or some other top-level domain.

USB
Universal Serial Bus. A standard for connecting peripherals to computers, or other devices, by means of a USB cable.

VDSL
Very High Speed Digital Subscriber Line. It's another protocol for getting on the Internet using your phone line, and is sometimes shortened to DSL.

WAN
Wide Area Network, another means of connecting your FRITZ!Box to the Internet using a modem, or to a wider network.

Wi-Fi
A group of backwards-compatible radio technologies used to connect peripherals to a network wirelessly.

WLAN
Wireless Local Area Network. Your network of wireless devices, as opposed to devices connected with a cable (see LAN).

WPS
Wi-Fi Protected Setup, an easier way of connecting wireless devices to your router.

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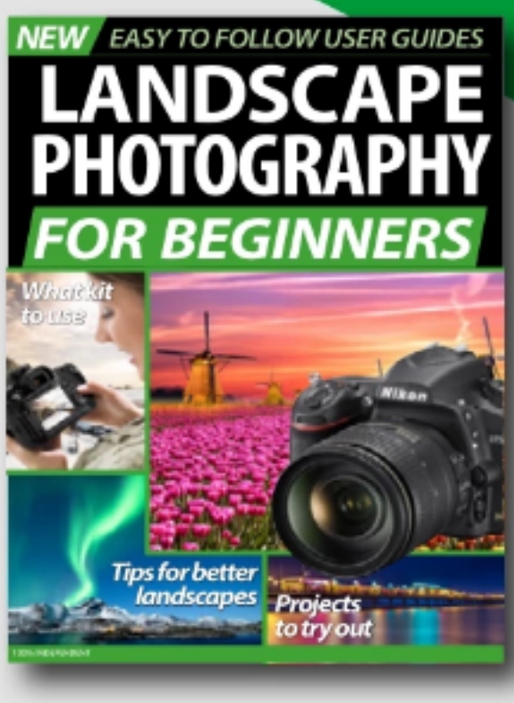

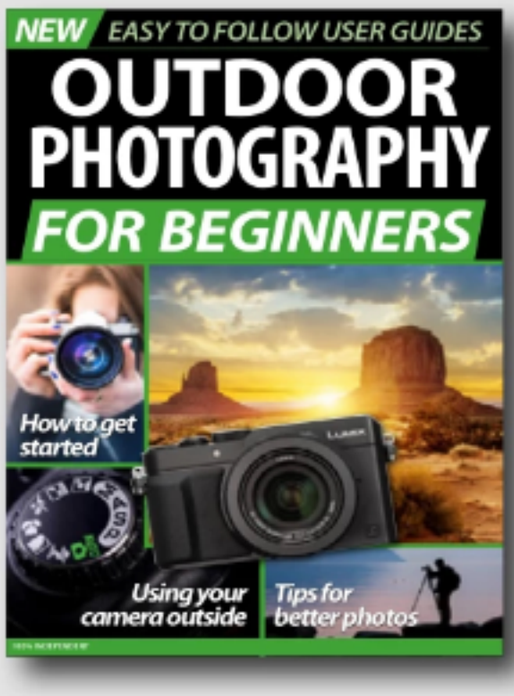

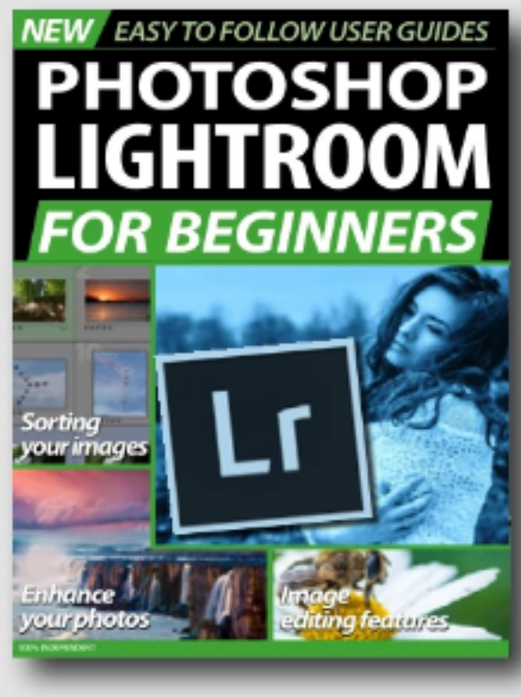

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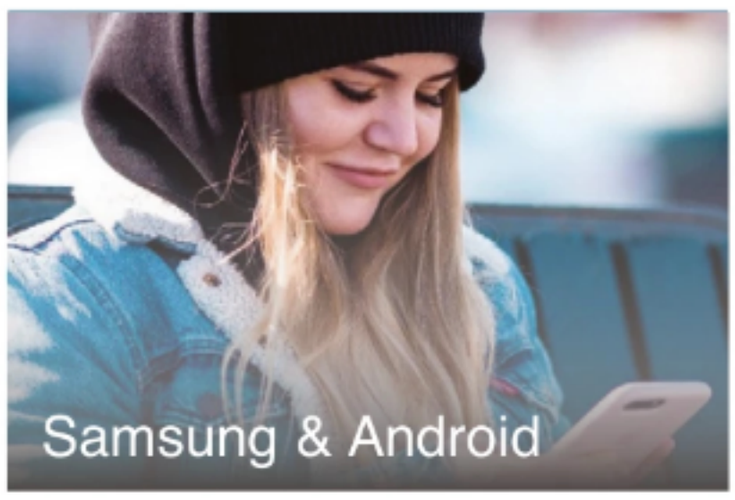

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