
# FRITZ!Box 5530 Fiber

## Manual

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# General Information on the FRITZ!Box

# Safety Instructions

## Overview

Before connecting the FRITZ!Box, observe the following security instructions in order to protect yourself, the surroundings, and the FRITZ!Box from harm.

## Fires and Electrical Shocks

Overloaded outlets, extension cords, and power strips can cause fires or electric shocks.

- Avoid using socket strips and extension cords if at all possible.
- Do not connect multiple extension cords or socket strips to each other.

## Danger: Laser Light

Laser light presents a risk to eyesight.

- Never look directly into the fiber optic cable, the fiber optic socket of the FRITZ!Box, or the fiber optic connection.

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- Never look directly into the fiber optic cable, the fiber optic socket of the FRITZ!Box, or the fiber optic connection.

## Overheating

Heat accumulation can cause the FRITZ!Box to overheat. This can result in damage to the FRITZ!Box.

- Provide for sufficient air circulation around the FRITZ!Box.
- Make sure that the ventilation slits on the FRITZ!Box housing are always unobstructed.
- The FRITZ!Box should not be placed on carpets or upholstery.

- Do not cover the FRITZ!Box.

### Damage to Heat-Sensitive Surfaces

The base of the FRITZ!Box heats up during normal operation. This heat can cause damage to heat-sensitive surfaces.

- Do not place the FRITZ!Box on heat-sensitive surfaces.

### Power Surges Caused by Lightning

During electrical storms, electrical surges caused by lightning present a danger to connected electrical devices.

- Do not install the FRITZ!Box during an electrical storm.
- During a storm, disconnect the FRITZ!Box from the power supply.

### Moisture, Liquids, and Vapors

Moisture, liquids, and vapors that find their way into the FRITZ!Box can cause electric shocks or short circuits.

- Only use the FRITZ!Box indoors.
- Never let liquids get inside the FRITZ!Box.
- Protect the FRITZ!Box from vapors and moisture.

### Improper Cleaning

Improper cleaning with strong detergents, solvents or wet cloths can cause damage to the FRITZ!Box .

- Please refer to the information about how to clean your FRITZ!Box; see page 15.

### Improper Opening and Repairs

The device contains hazardous components and should only be opened by authorized repair technicians.

- Do not open the FRITZ!Box housing.

- If the FRITZ!Box needs to be repaired, please take it to a specialized vendor.

## Internet Security

Comprehensive information about how to protect your FRITZ!Box and your home network from access by strangers is presented in the internet at:

en.avm.de/guide

## Radio and Electromagnetic Interference

Radio interference can be generated by every device that emits electromagnetic signals. With so many devices transmitting and receiving radio waves, interference can occur when radio waves overlap.

- Do not use the FRITZ!Box in places where the use of radio devices is prohibited.
- Follow any instructions to switch off radio devices – especially in hospitals, outpatient treatment centers, medical practices, and other medical facilities – in order to prevent interference with sensitive medical equipment.
- Consult your doctor and the manufacturer of your medical device (pacemaker, hearing aid, electronically controlled implant, etc.) to find out whether it could be affected by interference from your FRITZ!Box.
- If applicable, maintain the recommended minimum distance of 15 cm recommended by the manufacturers of medical devices in order to prevent malfunctions of your medical device.

## Potentially Explosive Environments

Under unfavorable conditions, radio waves in the vicinity of explosive environments can cause fires or explosions.

- Do not install and operate your FRITZ!Box in the vicinity of explosive environments, flammable gases, areas in which the air contains chemicals or particles like grain, dust or metal powder, or in the vicinity of detonation grounds.

- In locations with potentially explosive atmospheres, and in the vicinity of detonation grounds, follow the instructions to switch off electronic devices in order to prevent interference with detonation and ignition systems.

# Package Contents

## Package Contents

The FRITZ!Box 5530 Fiber is available in several different product variants, each of which is delivered with different components. See the box for details about what is included in your FRITZ!Box package.

| Amt. | Supplied Part | Details |
|---|---|---|
| 1 | FRITZ!Box 5530 Fiber | |
| 1 | Power adapter | white |
| 1 | Network cable | also called LAN cable, white/yellow |
| 1 | Fiber optic cable | LC/APC 8° |
| 1 | FRITZ!SFP AON | SFP module for active (AON) fiber optic connections |
| 1 | FRITZ!SFP GPON | SFP module for passive (GPON) fiber optic connections |
| 1 | Quick guide | instructions for connecting the FRITZ!Box |

# Instructions and Help

## Instructions and Help

Use the comprehensive customer documentation to connect, configure, and operate your FRITZ!Box.

The latest information on products, important developments, and updates is presented on social media.

After a FRITZ!OS update, download the latest manual from en.avm.de/service/manuals .

| Medium | Contents | Location |
|---|---|---|
| Manual | • Status FRITZ!OS version 07.26<br>• Connecting, configuration, and operation<br>• Range of functions of your FRITZ!Box | en.avm.de/service/manuals |
| Quick guide | Connecting and configuration | Provided in print with your FRITZ!Box |
| Online help | • Instructions on configuration and operation<br>• Help on the functions and settings options in the user interface | http://fritz.box/ |
| Knowledge Base | Solutions for common problems during connection, configuration, and operation | en.avm.de/service |
| Social media | The latest about the FRITZ!Box, your FRITZ!Box home network, and your FRITZ! device | Facebook<br>Instagram<br>Twitter<br>YouTube |

# Symbols Used

## Symbols Used

The following symbols are used in this manual:

| | Meaning |
|---|---|
|  | Warnings on the hazards of laser light that should be complied with in order to prevent injuries and damage. |
|  | Important message that should be complied with in order to prevent material damage, errors or malfunctions |
|  | Useful tip for configuring and operating the FRITZ!Box |

# Information on Cleaning

## Rules

- Remove the FRITZ!Box from the mains before cleaning.
- Wipe the FRITZ!Box with a slightly moist, lint-free cloth or an anti-static cloth.
- Do not use any strong detergents or solvents for cleaning.
- Do not use any wet cloths for cleaning.

# Functions and Structure

# Functions

## Internet Router

The FRITZ!Box 5530 Fiber is an internet router for the fiber optic connection. The FRITZ!Box has a SFP slot and can be used on the following fiber optic connections:

- AON (Active Optical Network), ITU-T G.652; IEEE 802.3ah-2004 1000BASE-BX10
- GPON (Gigabit Passive Optical Network), ITU-T G.984.2/984.5
- XGS-PON (10 Gigabit Symmetric Passive Optical Network), ITU-T G.9807

## Telephone System

The FRITZ!Box is a telephone system (or PBX: Private Branch Exchange) for internet telephony (IP telephony, VoIP) on IP-based lines.

The following devices can be connected to the FRITZ!Box:

- 6 cordless (DECT) telephones
- 1 analog device (telephone, answering machine, fax)
- 10 IP telephones (FRITZ!App Fon, for instance)

Up to five integrated answering machines can be used to save voice messages and, upon request, send them to you by email.

Via the integrated fax function you can also send and receive faxes without an external fax machine.

## Wireless Access Point

The FRITZ!Box is a wireless access point for any wireless devices, for instance:

- notebooks
- tablets
- smartphones
- wireless printers

## Hub in the Home Network

The FRITZ!Box is the hub in the home network. All of the devices connected with the FRITZ!Box make up the home network. With the FRITZ!Box you can keep track of all devices. The functions available for the home network include:

- MyFRITZ!, for access to your own FRITZ!Box over the internet from anywhere

## DECT Base Station

The FRITZ!Box is a DECT base station that supports the DECT ULE standard. The following DECT devices can be operated simultaneously on the FRITZ!Box:

- Up to 6 cordless (DECT) telephones
- Smart Home devices

## Smart Home

The following Smart Home devices can be registered with the FRITZ!Box at the same time, and configured and controlled via the FRITZ!Box:

| Type of Device | Number | Features |
|---|---|---|
| Smart plugs<br>• FRITZ!DECT 210<br>• FRITZ!DECT 200 | Up to 10 | • Control the power supply to connected devices by schedule.<br>• Measure the power consumption of connected devices. |
| Radiator controls<br>• FRITZ!DECT 301<br>• FRITZ!DECT 300<br>• Comet DECT | Up to 12 | Control the room temperature automatically and save energy costs. |

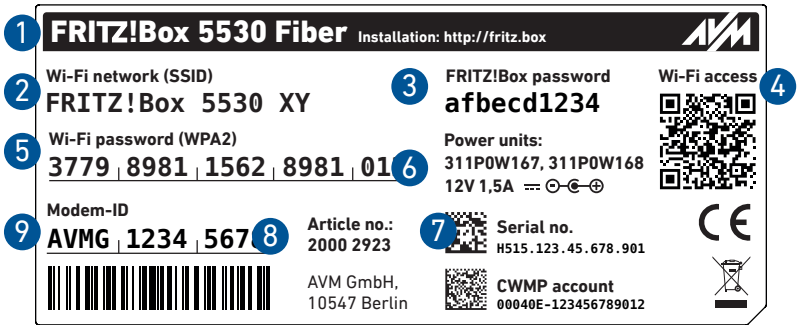
| Type of Device | Number | Features |
|---|---|---|
| Switches<br>• FRITZ!DECT 440<br>• FRITZ!DECT 400 | Up to 10 | Switch and control FRITZ!DECT devices. |
| FRITZ!DECT 500 LED light | Up to 10 | Control white and color lighting. |
| Smart Home devices via HAN FUN | Up to 10 | Connect Smart Home devices from other manufacturers with the FRITZ!Box . |

# Device Data on the Type Label

## Overview

Important device data on your FRITZ!Box are presented on the type label on the bottom of the housing. There you find the preset network key for Wi-Fi connections with the FRITZ!Box, the preconfigured FRITZ!Box password for the user interface, the serial number for support queries, and additional data.

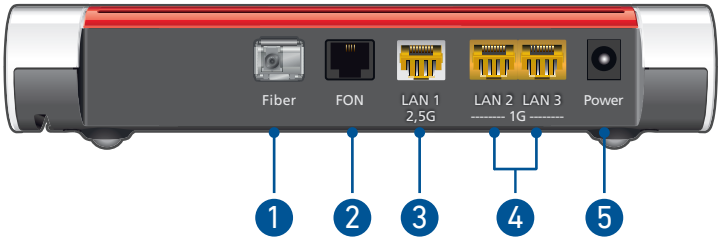
## Device Data on the Type Label




| No. | Meaning |
|---|---|
| 1 | Product name |
| 2 | Name of Wi-Fi network (SSID) |
| 3 | FRITZ!Box password |
| 4 | QR Code to Access Wi-Fi |
| 5 | Network key (Wi-Fi password) |
| 6 | Serial number |
| 7 | Power adapter specification |
| 8 | Article number |
| 9 | Modem ID (GPON serial number) |

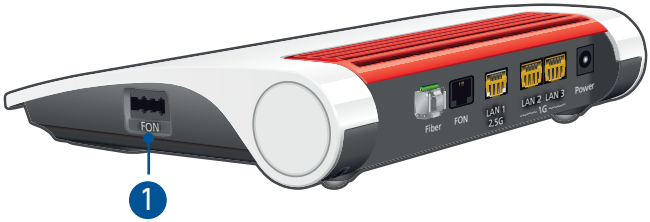
# Connection Sockets

## Connector Panel




| No. | Name | Function |
|---|---|---|
| 1 | Fiber | Slot for an SFP module. In some FRITZ!Box variants, the SFP module is inserted upon delivery. |
| 2 | FON | RJ11 socket for connecting a telephone, fax machine, answering machine or a door intercom system. The socket must remain free (unused), if another device is already connected to the TAE socket on the side of the FRITZ!Box. |
| 3 | LAN 1 | Ethernet port (2.5 GBit/s) for connecting network-compatible devices or a modem or router |
| 4 | LAN 2 – LAN 3 | Ethernet ports (1 GBit/s) for connecting network-compatible devices |
| 5 | Power | Socket for the power supply plug |

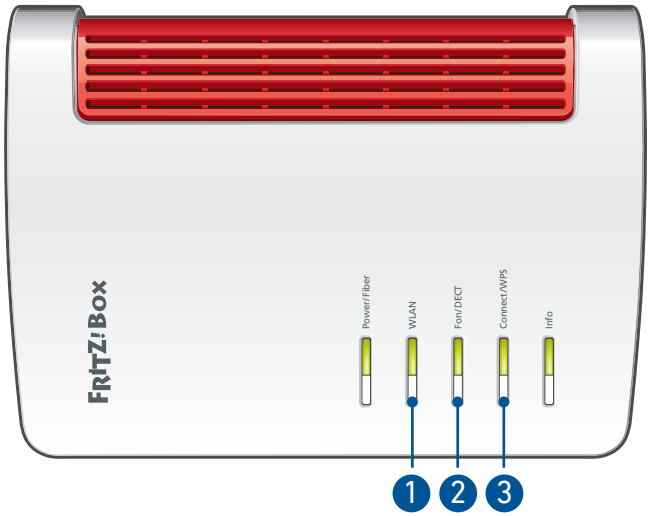
## Connectors on the Sides: FON




| No. | Name | Function |
|---|---|---|
| 1 | FON | TAE socket for connecting a telephone, fax machine, answering machine or a door intercom system. The socket must remain free (unused), if another device is already connected to the RJ11 socket on the back of the FRITZ!Box. |

# Buttons

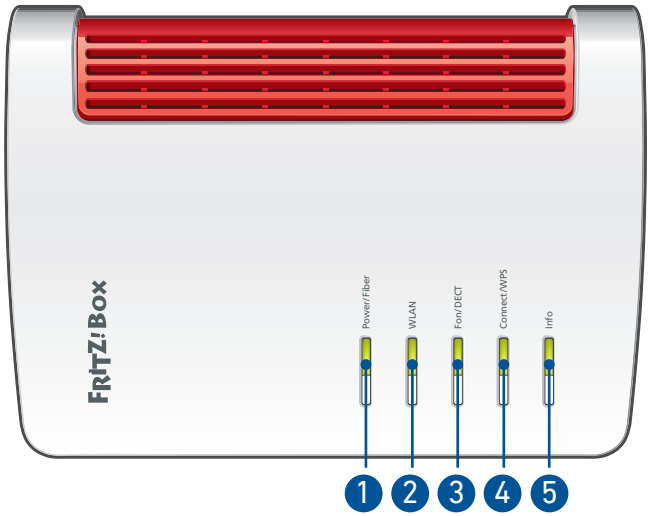
## Button Functions




| No. | Button | Function |
|---|---|---|
| 1 | WLAN | Switch Wi-Fi on and off |
| 2 | Fon/DECT | Search for cordless telephones (paging call) |
| 3 | Connect/WPS | • Register cordless telephones with the FRITZ!Box; see page 45<br>• Register wireless devices with the FRITZ!Box via WPS; see page 43<br>• Register Smart Home devices with the FRITZ!Box |

# LEDs

## Meaning of the LEDs




| No. | LED | Condition | Meaning |
|---|---|---|---|
| 1 | Power/Fiber | on | Device has electric power. When the fiber optic cable is connected: connection to the fiber optic network is being established. |
| | | flashing | Power supply is connected and the connection to DSL is being established or has been interrupted. |
| 2 | WLAN | on | Wi-Fi is enabled. |
| | | flashing | • Switching the Wi-Fi function on or off.<br>• Applying changes to the Wi-Fi network settings. |

| No. | LED | Condition | Meaning |
|---|---|---|---|
| 3 | Fon/ DECT | on | Telephone connection via internet or landline network active. |
| | | flashing | Messages in your voice mailbox.<br>(Function must be supported by the telephony provider.) |
| 4 | Connect/ WPS | flashing | Registration in progress for a wireless, DECT, Smart Home or powerline device. |
| | | flashing fast | Registration aborted: more than 1 device registering with the FRITZ!Box. Repeat the WPS procedure: 1 device per WPS procedure. |
| 5 | Info | on | • Adjustable, see page 159 |
| | | flashing | • Updating FRITZ!OS.<br>• Time budget for online time has been reached.<br>• Adjustable, see page 159 |
| | | on or flashing red | Error:<br>Open the user interface (see page 50) and follow the instructions on the “Overview” page. |

# Requirements for Operation

## Requirements

- For operation directly on the fiber optic connection: fiber optic connection (AON, GPON, XGS-PON)
- For configuration of the FRITZ!Box: a network device (computer or tablet) with network connection or Wi-Fi support and up-to-date web browser

For comprehensive technical information about your FRITZ!Box, see page 229.

# Connecting

# Overview: Connecting the FRITZ!Box

## Overview

Connecting the FRITZ!Box entails the following steps:

| | Instructions |
|---|---|
|  | Place or hang up the FRITZ!Box in a suitable location. |
|  | Insert a suitable SFP module. |
|  | Connect the FRITZ!Box to the power supply. |
|  | Connect the FRITZ!Box to your fiber optic connection. |
|  | Connect your computers and network devices to the FRITZ!Box. |
|  | Connect your telephones to the FRITZ!Box. |

# Placement

## Overview

You can place the FRITZ!Box on a horizontal surface or mount it on a wall.

Ideal operating conditions are achieved when you mount the FRITZ!Box on a wall.

## Rules for Setting Up the FRITZ!Box

- Only use the FRITZ!Box indoors.
- Position the FRITZ!Box near an electrical outlet that is easy to reach, so that you can unplug the FRITZ!Box at any time.
- Position the FRITZ!Box in a dry location that is free of dust.
- Do not place the FRITZ!Box on heat-sensitive surfaces like furniture with sensitive paintwork.
- To avoid heat accumulation, the FRITZ!Box should not be placed on carpets or upholstered furniture.
- Provide for sufficient air circulation around the FRITZ!Box and do not cover up the FRITZ!Box. The ventilation slits must never be obstructed.

## Rules for Optimum Wi-Fi Reception

Radio wave propagation during Wi-Fi operation is strongly dependent on the position of your FRITZ!Box. By slightly shifting the position of the FRITZ!Box you can improve the Wi-Fi connection. If these measures are not sufficient, then you can extend the range of your Wi-Fi network with a wireless repeater and Mesh with FRITZ!; see page 68.

- Position the FRITZ!Box in a central location.
- Position the FRITZ!Box in an elevated location.

- Keep sufficient distance from potential sources of interference like DECT base stations, microwave devices or electric devices with large metal housings.
- Position the FRITZ!Box so that it is not covered by other objects and there are as few walls or other obstacles as possible between it and the other wireless devices.
- Make sure that the FRITZ!Box uses frequency ranges that are used by as few other devices as possible.

### Instructions: Setting Up the FRITZ!Box

1. In compliance with the rules mentioned above, select a suitable location for the FRITZ!Box.
2. Place the FRITZ!Box in this location.

### Instructions: Mounting FRITZ!Box on the Wall

Damage to electric wiring or gas or water pipes during drilling can present a significant danger. Before mounting the FRITZ!Box on the wall, make sure that there are no electricity lines, gas or water pipes located where you need to drill the holes. If necessary, check the site with a pipe detector or consult with qualified experts.

1. In compliance with the rules mentioned above, select a suitable location for mounting the FRITZ!Box on the wall.
2. Mark the spots for drilling at the desired location using the drilling template (see page 241).
3. Mount the FRITZ!Box on the wall with the socket strip down.

# Inserting the SFP Module

## Overview

For operation, the FRITZ!Box requires an SFP (Small Form-Factor Pluggable) module that is suitable for your fiber optic connection. The SFP module is inserted in the “Fiber” slot.

## SFP Module for Your Connection

The FRITZ!Box 5530 Fiber is available in several different product variants, each of which is delivered with different components.

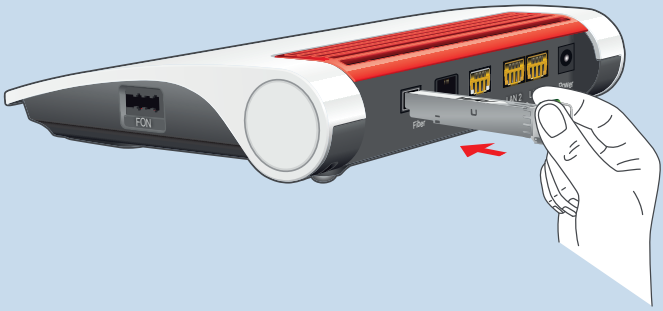
Use the following SFP module appropriate for your product:

| Product Variant | SFP Module |
|---|---|
| Two SFP modules are included with delivery of the FRITZ!Box: FRITZ!SFP AON, FRITZ!SFP GPON | Consult your contract documents or contact your fiber optic provider to find out which SFP module is suitable for your connection. |
| You received an SFP module from your fiber optic provider along with the FRITZ!Box (separately or already inserted in in the “Fiber” slot). | Use the SFP module from your fiber optic provider |

## Instructions: Inserting the SFP Module

Do not remove the dust protection cap from the SFP until you are ready to connect the fiber optic cable. Do not leave the SFP module unprotected for an extended period.

1. Insert the SFP module that is suitable for your connection into the “Fiber” slot of the FRITZ!Box.

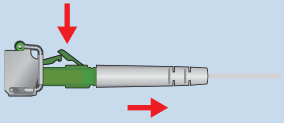



## Instructions: Switching SFP Modules

You can remove the inserted SFP module and replace it with a different SFP module.

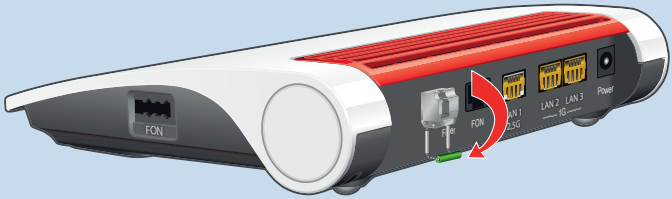
Protect the fiber optic cable and SPF modules that are not connected with dust protection caps. Do not leave the SFP module unprotected for an extended period.

1. If the fiber optic cable is already connected, remove it from the SFP module. Press the clip on the cable plug while removing it from the socket.

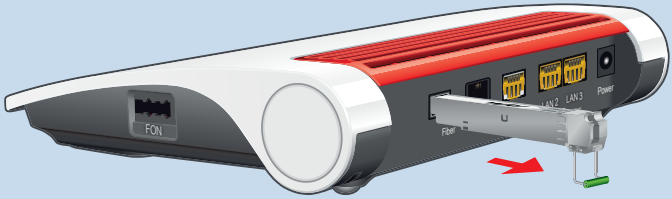


2. Place a dust protection cap on the fiber optic cable.

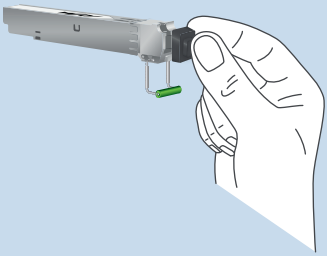
3. Unlock the SFP module.




4. Remove the SFP module from the FRITZ!Box.




5. Place a dust protection cap on the SFP module.



# Connecting to Electric Power

## Overview

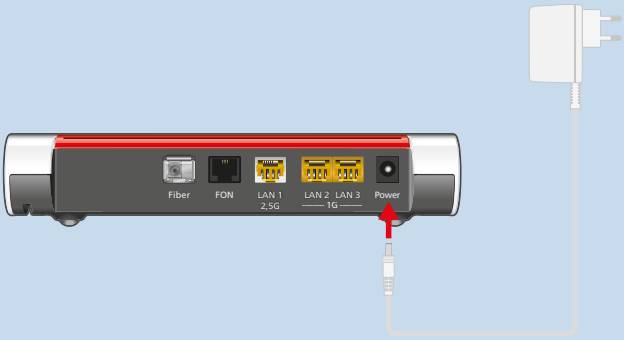
Connect the FRITZ!Box to the power supply.

## Rules

- If possible, avoid using any power strips or extension cords.
- If it is not possible to avoid using socket strips and extension cords, then do not connect multiple extension cords or socket strips to each other.
- Use only the power adapter included with delivery.

## Instructions: Plugging In to Electrical Power

1. Connect the power adapter to the socket on the FRITZ!Box labeled “Power”.




2. Plug the other end into a electrical outlet.

# Connecting to the Fiber Optic Connection

## Overview

You can connect the FRITZ!Box directly to your fiber optic subscriber terminal (FO-ST).

**⚠ CAUTION**

**Danger: Laser Light!**

Laser light presents a risk to eyesight!

Do not look directly into the fiber optic cable, the fiber optic socket of the FRITZ!Box, or the fiber optic connection.

## Requirements

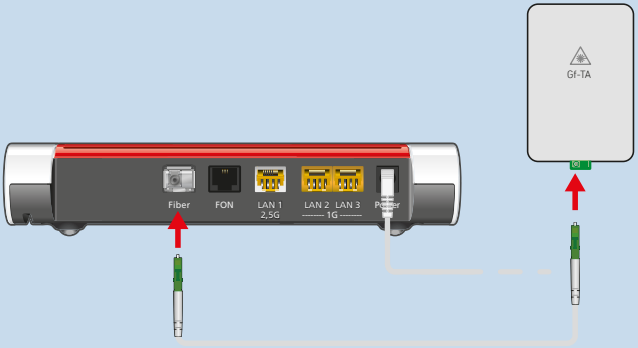
- An SFP module that is suitable for your fiber optic connection is inserted in the FRITZ!Box; see page 31.

## Instructions: Connecting to the Fiber Optic Connection

Do not kink the fiber optic cable, and do not remove the dust protection caps until immediately before starting operation.

1. Remove the dust protection caps from the fiber optic cable, the SFP module, and from the optical telecommunications outlet (FO-ST).

2. Insert the fiber optic cable into the SFP module in the “Fiber” socket on the FRITZ!Box.
3. Insert the other end of the fiber optic cable into the FO-ST.



# Connecting with the Internet: Via Modem or Router

## Overview

The FRITZ!Box can be connected to a modem or a router and thus operated on different types of internet connections.

The following connection types are possible:

| Type of connection | Access Device for the Connection Type |
|---|---|
| Fiber optic connection | Fiber optic modem (FTTH-ONT/media converter) |

# Connecting with the Internet: Via a Fiber Optic Modem

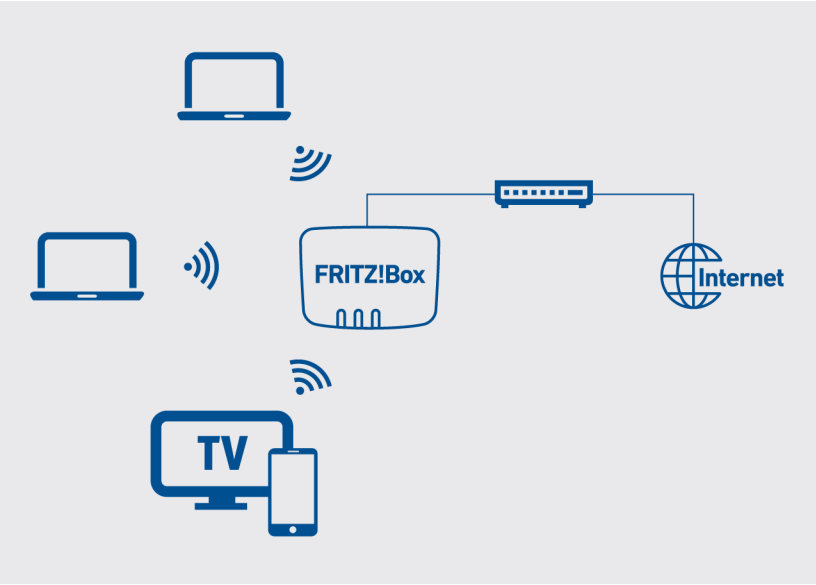
## Overview

You can connect the FRITZ!Box with a fiber optic modem (FTTH ONT) on the fiber optic connection.

## Requirements

- A fiber optic modem that is connected to your fiber optic connection
- A network cable (for instance, from the FRITZ!Box package)

## Example Configuration




## Instructions: Connecting to a Fiber Optic Modem

1. Insert one end of the network cable into the “LAN 1” port on the FRITZ!Box.

2. Insert the other end of the network cable into the LAN (Ethernet) socket on the fiber optic modem.

# Connecting Computers and Other Devices Using a Network Cable

## Overview

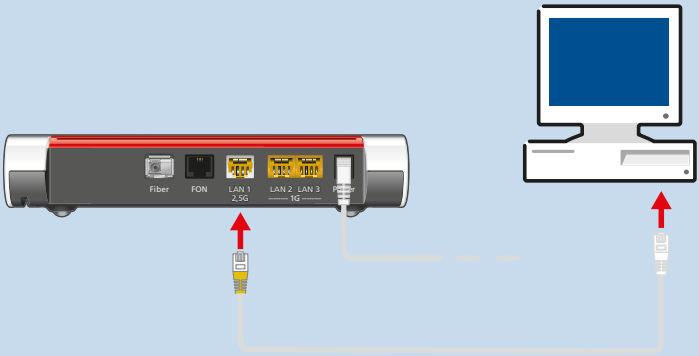
You can connect computers and other network devices with the FRITZ!Box using a network cable. This is recommended especially for the initial configuration of your FRITZ!Box. The way a computer is connected is the same regardless of the computer's operating system.

## Rules

- The network cable used to connect a computer or another network device to the FRITZ!Box may be no longer than 100 m.

## Instructions: Connecting a Computer Using a Network Cable

1. Insert the network cable into the LAN socket of the computer.
2. Insert the free end of the cable into a LAN socket on the FRITZ!Box.




## Instructions: Connecting a Network Hub or Network Switch

1. Insert the network cable included in the package into the uplink port of the network hub or network switch.

2. Insert the free end of the cable into a LAN socket on the FRITZ!Box.

# Connecting Wireless Devices with FRITZ!Box

## Overview

You can connect computers, smartphones, tablets, and other network devices wirelessly with the FRITZ!Box via Wi-Fi.

Wi-Fi connections can be established using a QR code, the Wi-Fi network key of the FRITZ!Box, or via WPS.

## Requirements

- for Wi-Fi connections via QR code: smartphone or tablet with a QR code app
- for Wi-Fi connections via WPS: Wireless device with support for WPS at the touch of a button (WPS Push Button)

  Many Windows computers support WPS. Apple devices (MacOS, iOS) do not support WPS.

## Scanning QR Codes on a Smartphone or Tablet

Many smartphones and tablets can scan QR codes using the camera app, for instance, iPhones with iOS13 or later. To test your smartphone or tablet, open the camera app and point the camera at a QR code. If the device detects the QR code, a message appears with the information stored in the QR code. If no message appears, you can use a QR code app to scan the QR code.

Example: QR code with the address (URL) of the English-language AVM website:

### Instructions: Establishing a Wi-Fi Connection with the QR Code

1. Open the user interface; see page 50.
2. Select “Wi-Fi / Wi-Fi Network”.
   Here is where to find the QR code for Wi-Fi connections with the FRITZ!Box.
3. Scan the QR code on your smartphone or tablet.
   You can scan the QR code directly from the screen or print it out (by clicking on “Print Info Page”).

### Instructions: Establishing a Wi-Fi Connection Using a Network Key

1. On the wireless device, select the Wi-Fi network of the FRITZ!Box.
   The preconfigured Wi-Fi name is composed of “FRITZ!Box 5530” and two randomly selected letters (for instance, “XY”). It is printed on the type label on the bottom of the housing.
2. Start the connection procedure.
3. Enter the network key of the FRITZ!Box.
   This is found on the type label on the bottom of the housing.

### Instructions: Establishing a Wi-Fi Connection Using WPS

WPS is a method for establishing secure Wi-Fi connections at the touch of a button.

1. On the wireless device, select the Wi-Fi network of the FRITZ!Box.
   The preconfigured Wi-Fi name is composed of “FRITZ!Box 5530” and two randomly selected letters (for instance, “XY”). It is printed on the type label on the bottom of the housing.
2. Start the connection procedure via WPS (see the documentation of the wireless device).

3. On the FRITZ!Box: Press the “Connect/WPS” button briefly.

The “Connect/WPS” LED flashes while the Wi-Fi connection is being established.

# Connecting Telephones

## Overview

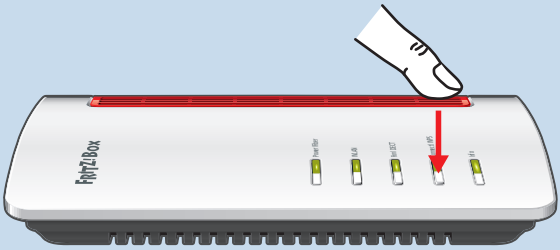
You can connect telephones, fax machines, answering machines, and telephone systems to your FRITZ!Box.

During a power outage you cannot make any telephone calls with the connected telephones.

## Instructions: Registering a Cordless Telephone

You can register up to six cordless telephones like FRITZ!Fon with the FRITZ!Box.

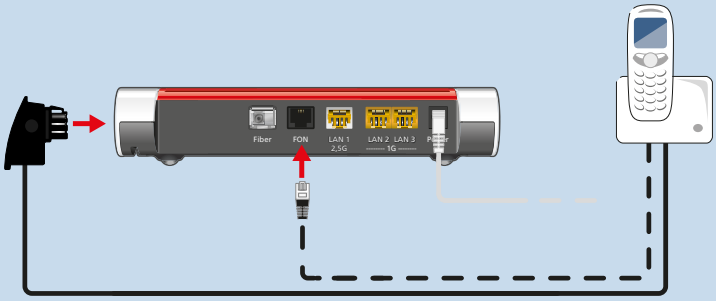
1. On a cordless telephone: Start registration with a base station.
2. On the FRITZ!Box: Press the “Fon/DECT” button.



   The “Fon/DECT” LED flashes.
3. On a cordless telephone: Enter the PIN of the FRITZ!Box on the telephone (preset value: 0000).
4. In the user interface of your FRITZ!Box: Configure the telephone; see page 62.

## Instructions: Connecting an Analog Telephone

1. Connect the telephone, the answering machine or the fax machine to a “FON” socket. Use only one “FON” socket at a time. One of the two sockets must remain free.




2. In the user interface of your FRITZ!Box: Configure the connected device; see page 62.

## Instructions: Connecting an IP Telephone

IP telephones are special telephones for internet telephony (IP stands for Internet Protocol).

1. Connect the IP telephone to the FRITZ!Box using a network cable or Wi-Fi.
2. In the user interface of your FRITZ!Box: Configure the telephone; see page 62.

# Registering a Smartphone for Making Calls on the Landline

## Overview

You can register your iPhone or Android smartphone with the FRITZ!App Fon using your FRITZ!Box. Then you can make calls with your smartphone at home, using all of the telephone numbers configured in the FRITZ!Box. And the smartphone can still be reached at your mobile telephone number as well.

## Requirements

- iPhone or Android smartphone
- The setting “Allow access for applications” is enabled in the FRITZ!Box (in the user interface under “Home Network / Network / Network Settings”)

## Instructions: Connecting a Smartphone

1. Establish a Wi-Fi connection to the FRITZ!Box on your smartphone.
2. Install FRITZ!App Fon on your smartphone. FRITZ!App Fon is available from the Google Play Store and the Apple App Store.
3. Start the FRITZ!App Fon. FRITZ!App Fon is automatically configured as an IP telephone in the FRITZ!Box.
4. In the user interface of your FRITZ!Box: Configure the IP telephone “FRITZ!App Fon”; see page 62.

# Connecting a Door Intercom System

## Overview

Door intercom systems with an a/b interface and IP door intercoms can be connected to the FRITZ!Box. Then you have the following options:

- You can answer the doorbell on your telephones, speak with visitors, and open the door, even on a mobile telephone or other tele-phone connection away from home.
- You can have the camera image from your door intercom system displayed on FRITZ!Fon telephones with a color display.
- You can configure a special ring tone to signal the doorbell on a FRITZ!Fon.

## Supported Door Intercom Systems

- Door intercom system with an a/b interface that uses DTMF (dual-tone multi-frequency signaling) tone dialing.
- IP door intercom systems that can be configured as SIP clients (by entering the login data for a SIP registrar).

## Instructions: Connecting a Door Intercom System with an a/b Interface

1. Connect the door intercom system to a “FON” socket. Note: One “FON” socket must remain free (not allocated).
2. In the user interface of your FRITZ!Box: Configure the door intercom system; see page 64.

## Instructions: Connecting an IP Door Intercom System

1. Connect the IP door intercom system to the FRITZ!Box using a network cable or Wi-Fi.
2. In the user interface of your FRITZ!Box: Configure the door intercom system; see page 64.

# User Interface

# Opening the User Interface

## Overview

Open the user interface of the FRITZ!Box in a web browser. In the user interface you configure the FRITZ!Box and receive information on connections, interfaces, and on the entire home network.

## Requirements

- Your computer, tablet or smartphone is connected with the FRITZ!Box via Wi-Fi or with the network cable.

## Instructions: Opening User Interface

1. Start a web browser on your computer or mobile device and enter http://fritz.box in the address bar.


2. Enter the preset FRITZ!Box password and click on “Log In”.
   The preconfigured FRITZ!Box password is printed on the type label on the bottom of the housing and on the “FRITZ! Notes” service card.

   If you already changed the preset FRITZ!Box password, or if a FRITZ!Box user has already been created, then log in with the changed login information; see page 155.

The FRITZ!Box user interface opens to display the “Overview” homepage.

# Homepage of the User Interface

## Overview

The “Overview” menu is the homepage of your FRITZ!Box user interface. In addition to a clear menu structure and wizards offering step-by-step instructions, the homepage displays important information on the FRITZ!Box and all of the devices connected in the home network.

## Overview of Settings on the Homepage

The homepage displays all of the basic information on the status of your FRITZ!Box as well as an overview of all FRITZ!Box settings and devices in the home network. The homepage also presents important notifications for secure, reliable operation of your FRITZ!Box.

- Links take you directly to the pages in the user interface on which you can configure settings for FRITZ!Box functions.
- Links to FRITZ! products in the home network open their user interfaces in their own browser tabs.

| Area | Function / Display |
|---|---|
| System | • Product name or individually assigned name of the FRITZ!Box<br>• FRITZ!OS installed<br>• Current power consumption<br>• Important notifications for secure, reliable operation of your FRITZ!Box |

| Area | Function / Display |
| --- | --- |
| Connections and Interfaces | • Information on internet and telephony connections and on all FRITZ!Box interfaces<br>• Information on telephone calls and voice messages on the integrated answering machine<br>• Devices connected to the FRITZ!Box, such as computers, smartphones, network storage, printers, and Smart Home devices<br>• Configured convenience features |

# Using the Wizard for Basic Configuration

## Overview

The first time the user interface is opened, the Wizard for Basic Configuration of the FRITZ!Box is started. This wizard assists you in entering your account information to connect to the internet and use your telephones.

The wizard can be restarted at any time via the “Wizards” menu in the FRITZ!Box user interface.

## Requirements

- The FRITZ!Box password has been supplied. The preconfigured FRITZ!Box password is printed on the FRITZ!Box service card “FRITZ! Notes” and on the type label on the bottom of the housing.
- The account information has been supplied by your internet service provider.
- The telephone numbers have been supplied by your telephony provider.

## Instructions: Using the Wizard for Basic Configuration

1. Enter the preset FRITZ!Box password and click on “Log In”.
2. Choose whether you would like to use the AVM services for diagnostics and maintenance. We recommend leaving this option enabled. You can always change the setting later.
3. Click on “Next”.
4. Follow the wizard’s instructions.

Once the wizard is complete, the basic configuration of the FRITZ!Box has been concluded. The FRITZ!Box is ready for the internet and for telephony.

# Changing the FRITZ!Box Password

## Overview

Within the FRITZ!Box home network you can log in with the FRITZ!Box using a FRITZ!Box password without a username. For the first lo-gin with the FRITZ!Box, use the FRITZ!Box password preset for your FRITZ!Box. The preconfigured FRITZ!Box password is printed on the "FRITZ! Notes" service card and on the type label on the bottom of the housing of your FRITZ!Box. You can change the preconfigured FRITZ!Box password.

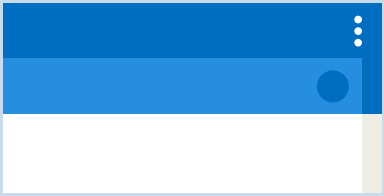
We recommend configuring the "Forgot Password" push service; see page 153. When you have forgotten a password, the FRITZ!Box sends an access link to the email address you specified. Using this link you can set a new password.

## Requirements

- You have not yet changed the username automatically created for the FRITZ!Box password; see page 155.

## Instructions: Changing the FRITZ!Box Password

1. Open the FRITZ!Box user interface. In the browser, enter the address http://fritz.box.
2. Log on with the FRITZ!Box password.
3. Click on the menu with the three dots in the header of the FRITZ!Box user interface:



4. Click on "Change Password" in the menu.

5. Enter a new password. Remember to comply with the rules for passwords; see page 157.
6. Click on “Apply”.

# Logging Out of the User Interface

## Overview

Session IDs are assigned for access to the FRITZ!Box user interface. The use of session IDs offers effective protection from attacks from the internet in which attackers send unauthorized data to a web application. For security reasons, we therefore recommend that you log out of the user interface before surfing the web.

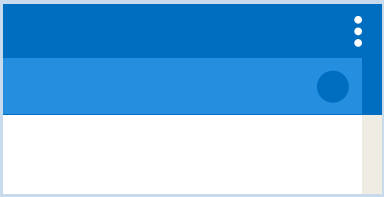
Use push services to have yourself notified each time someone logs into or out of your FRITZ!Box ; see page 153.

## Automatic Logout when Idle

If you have not logged out of the FRITZ!Box user interface, and have not been active in the browser for 20 minutes, you will be logged out automatically.

## Instructions: Manual Logout

1. Click on the menu with the three dots in the header of the FRITZ!Box user interface:



2. Click on “Log Off” in the menu.

You have logged out of the FRITZ!Box user interface.

# Configuring

# Overview: Configuring the FRITZ!Box

## Overview

Configuration of the FRITZ!Box entails the following steps:

| | Instructions |
|---|---|
|  | Set up the internet connection in the FRITZ!Box. |
|  | Set up the connected telephones and their telephone numbers in the FRITZ!Box. |
|  | Configure your smartphone in the FRITZ!Box (optional). |

## Requirements

- The FRITZ!Box is connected with the internet access.
- You have connected all of the telephones you want to use with the FRITZ!Box.

# Configuring Internet Access at the Fiber Optic Connection

## Overview

The internet connection for the fiber optic connection has to be configured once in the FRITZ!Box, then it is always available.

## Requirements

- The FRITZ!Box is connected to the fiber optic connection, (directly, or via a fiber optic modem or media converter).

## Preparations

Check the materials supplied by the provider of your fiber optic connection. Some providers will send you the following information, which you will need to configure the FRITZ!Box:

- Account information for the internet connection
- VLAN ID and PBit

## Instructions: Configuring the Internet Connection

1. Open the user interface; see page 50.
2. Select “Internet / Account Information”.
3. Select the connection type under “Internet Connection via”:
   “Fiber (fiber optic)”, if the FRITZ!Box is connected directly to the fiber optic socket.
   “LAN 1”, if the FRITZ!Box is connected to a fiber optic modem or a media converter.
4. If you received account information from your fiber optic provider: Under “Account Information”, select “Yes” and enter the account information.
5. If you received a VLAN ID from your fiber optic provider: Click on “Change connection settings”, enable “Use VLAN for internet access”, and enter the VLAN ID and PBit.

6. Click on “Apply”.

# Configuring Your Telephone Numbers

## Overview

Configure all telephone numbers in the FRITZ!Box that are not configured automatically.

Some telephony providers configure your telephone numbers automatically. This configuration starts either right after the FRITZ!Box is connected to the internet or after the FRITZ!Box user interface is opened.

## Instructions: Configuring Your Own Telephone Numbers

1. Open the user interface; see page 50.
2. Select “Wizards / Manage Telephone Numbers”.
3. Click on “Add Telephone Number” and follow the wizard’s instructions.

# Configuring Telephones

## Overview

Once you have connected your telephony devices, configure these devices in the FRITZ!Box. For each device, specify:

- Telephone number for outgoing calls to the public telephone network
- How incoming calls should be handled: Should the device react (ring, for instance) to every call, or only respond to calls for certain telephone numbers?
- Further settings that depend on the kind of device.

## Requirements

- Your own telephone numbers are set up in the FRITZ!Box.

## Rules

The following rules apply for IP telephones:

- IP telephones are configured in the FRITZ!Box such that no international calls are possible. You can disable this security feature, see page 63.
- Various FRITZ!Box features are not available for IP telephones, including telephone books, fax and data connections, routing, busy on busy, and controlling FRITZ!Box functions (for instance, switching Wi-Fi on and off).

## Instructions: Configuring Telephones and Other Devices

1. Open the user interface; see page 50.
2. Select “Telephony / Telephony Devices”.

3. If the device to be configured is not yet included in the list of telephony devices, click on “Configure New Device”. The wizard guides you through the assignment of telephone numbers and enters the device in the list.
4. To configure further settings for a device in the list, click on the “Edit”  button of the device. The kind of device determines which additional settings are available.

### Instructions: Enabling International Calls for an IP Telephone

An IP telephone is configured in the FRITZ!Box such that only domestic calls and calls to emergency numbers are possible. You can disable this security feature:

1. Open the user interface; see page 50.
2. Under “Telephony / Telephone Numbers”, select the “Line Settings” tab.
3. Under “Security”, click on “Change Selection”.
4. Disable the checkbox next to the desired IP telephone and click on “OK”.
5. Save your settings by clicking on “Apply”.

# Configuring a Door Intercom System

## Overview

Once you have connected your door intercom system to the FRITZ!Box, configure the door intercom system in the FRITZ!Box. Specify the telephones or telephone numbers to which door calls should be forwarded. You can also configure other settings, for instance, to have the camera image from the door intercom system sent to your FRITZ!Fon.

## Requirements

- Your telephones are configured in the FRITZ!Box (see previous section).

## Instructions: Setting up a Door Intercom System

1. Open the user interface; see page 50.
2. Select “Telephony / Telephony Devices”.
3. Click on “Configure New Device”. With the “Edit” button  you can also change the settings of a door intercom system that has already been configured.

# Saving Power with the FRITZ!Box

## Overview

The FRITZ!Box offers various settings for energy-saving operation. The following section describes how you can configure these settings and what potential energy savings can be expected.

## Viewing Information on Energy Consumption

The current power consumption of the total FRITZ!Box system is displayed on the “Overview” page of the user interface.

Information on the power consumption of the individual areas, and on the average power consumption over the last 24 hours, is presented in the FRITZ!Box user interface under “System / Energy Monitor / Power Consumption”.

## Using Savings Potential

| What | How to | Where |
|---|---|---|
| Wi-Fi | Configure a schedule; see page 132 | “Wi-Fi / Schedule” menu |
| | Switch off Wi-Fi; see page 132 | • “WLAN” button<br>• “Wi-Fi / Wi-Fi Network” menu |
| | Reduce the maximum transmitter power | “Wi-Fi / Wi-Fi Channel / Wi-Fi Channel Settings / Additional settings” menu |
| LAN | Use the LAN port in energy-saving (green) mode | “Home Network / Network / Network Settings / LAN Settings” menu |

## Saving Power with Smart Home

With intelligent Smart Home devices like FRITZ!DECT, electrical appliances are integrated into the home network. This way they can be switched on and off by schedule. At the same time, the FRITZ!Box informs you about consumption, energy costs incurred, and the $CO_2$ footprint.

## Instructions: Configuring a Schedule for Electrical Appliances in the Home Network

1. Open the user interface; see page 50.
2. Select “Smart Home / Device Management / Edit Socket / Automatic Switching”.
3. For instructions, open the online help.

# Mesh with FRITZ!

# Expanding a Wi-Fi Network with Mesh

## Overview

If the Wi-Fi network of the FRITZ!Box does not reach all of your rooms, then you can extend it with various FRITZ! products. Mesh combines the individual Wi-Fi networks of the FRITZ! devices into a single Wi-Fi network.

The FRITZ!Box is the hub of the Wi-Fi with Mesh, the “Mesh Master”. Other FRITZ! devices in the Mesh are “Mesh Repeaters”.

Mesh is available in FRITZ!OS version 7.00 or later.

The Mesh functions are not available when you expand the Wi-Fi network with a wireless repeater from another manufacturer.

## FRITZ! Devices with Mesh

The following FRITZ! products can be used as “Mesh Repeaters” to expand the Wi-Fi network of the FRITZ!Box:

- FRITZ!Repeater
  The connection to the FRITZ!Box will be established via Wi-Fi or LAN cable (FRITZ!Repeater with LAN port only). More information at en.avm.de/products/fritzwlan.
- FRITZ!Powerline
  The connection to the FRITZ!Box is established via the electric wiring. For more information, see en.avm.de/products/fritzpowerline.
- second FRITZ!Box
  The second FRITZ!Box must be configured as a “Mesh Repeater” and as an IP client (IP client mode); see the FRITZ!Box manual at en.avm.de/service/manuals.
  The connection to the first FRITZ!Box is established using a LAN cable. For some FRITZ!Box products a Wi-Fi connection is also possible; see the FRITZ!Box manual at en.avm.de/service/manuals.

## Features in the Mesh

The FRITZ!Box is the hub of the Mesh, the “Mesh Master”. Other FRITZ! devices in the Mesh are “Mesh Repeaters”. The following features provide for high-performance connections between the devices and for convenience in the Mesh:

- Consistent Wi-Fi settings: “Mesh Repeaters” adopt from the “Mesh Master” the network name (SSID), network key, Wi-Fi guest access, and Wi-Fi schedule.
- “Mesh Overview” in the user interface of the “Mesh Master”: Here you can perform updates for all FRITZ! devices in the Mesh.
- Improved information exchange among FRITZ! devices provides for faster Wi-Fi connections.
- Mesh Wi-Fi Steering (access point steering, FRITZ!OS 7.10 or later): The “Mesh Master” can select the best FRITZ! device for each wireless device to use to access the home network.

# Enabling Mesh for FRITZ!Repeater and FRITZ!Powerline

## Overview

In order to benefit from the advantages of Mesh, enable Mesh for all FRITZ!Repeaters and FRITZ!Powerline devices located in the home network of your FRITZ!Box .

## Requirements

- FRITZ!OS 7.00 or later is installed on the FRITZ!Box.
- FRITZ!OS version 7.00 or later is installed on the FRITZ!Repeater or FRITZ!Powerline.
- The FRITZ!Repeater or FRITZ!Powerline is located in the home network of the FRITZ!Box.

## Instructions: Enabling Mesh for a FRITZ!Repeater

1. Open the FRITZ!Box user interface; see page 50.
2. Select “Home Network / Mesh”.
3. The FRITZ!Box is displayed in the overview with the “Mesh enabled” symbol. If the symbol is also displayed for the FRITZ!Repeater, then Mesh is already enabled for the FRITZ!Repeater. If the symbol is missing next to the FRITZ!Repeater, continue with the next step.
4. Press the button on the FRITZ!Repeater.

   After the button is released, the “WLAN” or “Connect” LED on the FRITZ!Repeater flashes rapidly.
5. Within 2 minutes, start WPS on the FRITZ!Box. Do this by pressing the “Connect/WPS” button until the “Info” LED starts flashing.

Mesh is enabled and the FRITZ!Repeater is displayed in the overview marked with the “Mesh enabled” symbol.

## Instructions: Enabling Mesh for a FRITZ!Powerline

1. Open the FRITZ!Box user interface; see page 50.
2. Select “Home Network / Mesh”.
3. The FRITZ!Box is displayed in the overview with the “Mesh enabled” symbol. If the symbol is also displayed for FRITZ!Powerline, then Mesh is already enabled for FRITZ!Powerline. If the symbol is missing next to FRITZ!Powerline, continue with the next step.
4. Press the button on FRITZ!Powerline to establish a connection:

   | FRITZ!Powerline Model | Connection Button |
   |---|---|
   | 1260E | Connect |
   | 1240E, 546E, 540E | WLAN/WPS |

   All of the LEDs on FRITZ!Powerline will be flashing when you release the button.
5. Within 2 minutes, start WPS on the FRITZ!Box . Do this by pressing the “Connect/WPS” button until the “Info” LED starts flashing.

Mesh is enabled and the FRITZ!Powerline is displayed in the overview marked with the “Mesh enabled” symbol.

# Using Telephony in the Mesh

## Overview

In a Mesh with more than one FRITZ!Box, you can configure your telephone numbers in one FRITZ!Box (the Mesh Master) and adopt them automatically on every other FRITZ!Box in the Mesh.

Whenever you add or change telephone numbers in the Mesh Master, the changes are automatically applied to the other FRITZ!Boxes.

## Requirements

- Your telephone numbers are registered in the FRITZ!Box that is configured as the Mesh Master.
- All FRITZ!Boxes on which you would like to adopt the telephone numbers are configured as Mesh Repeaters.

## Instructions: Setting up Telephony in the Mesh

1. Open the user interface; see page 50.
2. Select “Home Network / Mesh / Mesh Settings”.
3. For instructions, open the online help .

# User Interface: Internet Menu

# Using AVM Services for Diagnostics and Maintenance

## Overview

The AVM services for diagnostics and maintenance keep your FRITZ!Box and the FRITZ!OS operating system up to date and support the se-curity and further development of your FRITZ!Box.

We recommend leaving the use of all AVM services enabled for your FRITZ! device.

## AVM Services

The following AVM services are provided by your FRITZ!Box:

| AVM Service | Explanation |
|---|---|
| Search for updates | Your FRITZ!Box connects with the AVM update server regularly to search for and install new versions of FRITZ!OS. |
| Diagnostics data for error analysis | Upon suspicion of misuse by third parties, your FRITZ!Box transmits error reports or technical diagnostics data to AVM for analysis. |
| Diagnostics data for system maintenance | Your FRITZ!Box transmits device-specific data to AVM for the development of security updates and to further develop FRITZ!OS. |

## Data Protection

The diagnostics data and the device-specific data transmitted by your FRITZ!Box to AVM do not contain any personalized data. The data transmitted serve the exclusive purpose of technical adaptations and optimizations of your FRITZ!Box. Also, AVM does not pass these data on to third parties. The exact wording of the data privacy statement is presented under “Legal Notice / Data Privacy Statement” in the online help.

## Instructions: Configuring AVM Services

1. Open the user interface; see page 50.
2. Select “Internet / Account Information / AVM Services”.
3. For instructions, open the online help .

# Configuring Parental Controls

## Overview

With parental controls you can control network devices' internet use. For each individual network device, you can limit the duration and content of internet use. The specifications for temporal and content-related restrictions are created and saved as access profiles. You assign these access profiles to the network devices.

- You can create multiple different access profiles; see page 79.
- With the device block you can block all internet use for a network device without using a special access profile; see page 77.
- With tickets you can extend the restricted use time for individual network devices. A ticket is redeemed on the network device and extends the use time by 45 minutes. Tickets can be redeemed before the use time has been exhausted to avoid interruption of online time. To distribute a ticket for extended use time, see Instructions: Distributing a Ticket for Extended Use Time, page 78.
- The remaining online time permitted can be queried on any network device with restricted online time; see Instructions: Querying Remaining Online Time, page 78.

## Example

You have three children, all of whom use various devices that access the internet via FRITZ!Box. You would like to restrict your children's use of the internet as follows:

- Their daily time online is to be restricted to a few hours.
- Access to websites with adult content is to be blocked.

With parental controls you can restrict the internet use of each child individually.

## Instructions: Configuring Parental Controls for a Network Device

1. Open the user interface; see page 50.

2. Select “Internet / Filters / Access Profiles”.
3. If there is no access profile with the restrictions you want, then create an access profile:
   – For instructions, open the online help.
4. Select “Internet / Filters / Parental Controls”.
5. Click on the “Change Access Profile” button.
6. Assign to the network device the access profile with the desired restrictions:
   – For instructions, open the online help.

### Instructions: Blocking a Device

1. Open the user interface; see page 50.
2. Select “Internet / Filters / Parental Controls”.
3. Select the network device in the device overview and click on the “Block” link.

Internet access is blocked for this network device. It is no longer possible to access the internet from this device.

### Instructions: Distributing a Ticket for Extended Use Time

1. Open the user interface; see page 50.
2. Select “Internet / Filters / Access Profiles”.

   In the “Tickets for Additional Online Time” area a list with 10 tickets is displayed.
3. Distribute the tickets by printing out the list with the tickets.
   - Click on “Print Tickets”.
   - › The 10 tickets are shown in the “Tickets for Online Access” window.
   - Print out the list and distribute the tickets to the users of the network devices whose online time is to be extended.
4. If you want to distribute only one single ticket, then click on “Share Ticket”.

   A ticket is saved to the clipboard and can be sent to the user of a network device however you like. In the list of tickets, that ticket is displayed crossed out in gray.

### Instructions: Querying Remaining Online Time

1. Open a browser on the network device for which the remaining online time is to be queried.
2. Enter “fritz.box” in the address bar of the browser.

   The time remaining before the permitted online time has been exhausted is shown in the “Parental Controls” window. If the user has a ticket to extend online time, it can be redeemed here.

# Creating and Assigning Access Profiles

## Overview

In an access profile you can enter the time and content restrictions for internet use. The devices in the network can have different access profiles. An access profile can be assigned to one or multiple network devices. A network device then accesses the internet exactly as specified in the access profile.

## Access Profile: Definition

An access profile is a provision that describes exactly what is allowed during internet use. An access profile takes into consideration three aspects of internet use:

| Aspect | Description |
|---|---|
| Time limit | With time limits you can define when and for how long internet use is permitted each day. |
| Filters for websites | With the filter lists you can specify which websites are allowed to be accessed. |
| Blocked network applications | With the list of blocked network applications you specify which network applications are allowed to communicate over the internet. This list can contain, for instance, file sharing programs or chat software. |

## Example

You have three children and would like to control the internet use of each child in different ways:

- Create an individual access profile for each child.
- Include in this access profile the time and content restrictions to be imposed on the given child.

## Preconfigured Access Profiles

| Name | Properties |
|---|---|
| Standard | • Set by default to unrestricted use<br>• Automatic access profile for network devices registering with the home network for the first time<br>• Can be changed |
| Guest | • Automatic, exclusive access profile for network devices registering with the guest network<br>• Can be changed |
| Unrestricted | • Unrestricted internet use<br>• Cannot be changed |

## Instructions: Creating an Access Profile

1. Open the user interface; see page 50.
2. Select “Internet / Filters / Access Profiles”.
3. For instructions, open the online help.

## Instructions: Assigning an Access Profile

1. Open the user interface; see page 50.
2. Select “Internet / Filters / Parental Controls”.
3. For instructions, open the online help.

# Editing Filter Lists

## Overview

You can use a filter list to block access to websites with inappropriate content. Upon delivery, there are two empty lists in the FRITZ!Box. You can enter websites in these lists. These lists can then be used as filters in the access profiles.

## Types of Lists

There is the “Permitted websites” list and the “Blocked websites” list. Use one of the lists to block access to websites with inappropriate contents. The lists work in the following way:

| Filter List | Function and Use |
|---|---|
| Permitted websites | • Websites included in the permitted websites list can be accessed.<br>• Use the permitted websites list if most websites are to be blocked and only a few are permitted. |
| Blocked websites | • Websites included in the blocked websites list are blocked.<br>• Use the blocked websites list if most websites are to be permitted and only a few are to be blocked. |

## Instructions: Editing Filter Lists

1. Open the user interface; see page 50.
2. Select “Internet / Filters / Lists”.
3. For instructions, open the online help.

# Configuring Priorities for Internet Use

## Overview

For network devices or network applications you can define different priorities for access to the internet connection.

You can reserve bandwidth for the home network whenever the guest network of the FRITZ!Box is in use.

## Prioritization Categories

There are three prioritization categories for network applications:

- Real-time applications have the highest priority. This category is intended for applications with high demands on transmission speed and reaction times (for example, internet telephony, IPTV, video on demand). If an application of this category uses the internet connection to full capacity, no other data will be transmitted.
- Prioritized applications have intermediate priority. This category is intended for applications that require fast reaction times (for example, company access, terminal applications, games). These applications will be granted higher priority. When an application of this category uses the full capacity of the internet connection, the data of other applications will be transferred with lower priority.
- Background applications have the lowest priority. This category is for applications that run in the background, which are treated with low priority when the internet connection is running at capacity (for instance, automatic updates, peer-to-peer services). If no other network applications are active, then the background applications receive the entire bandwidth.

## Reserving Bandwidth for the Home Network

All of the network devices connected with the FRITZ!Box share the bandwidth available on the connection. This means that devices in the home network and in the guest network have to share bandwidth. You

can reserve bandwidth for the home network. Whenever the bandwidth reserved for the home network is not needed, it can be used by the devices in the guest network.

### Instructions: Configuring Priorities

1. Open the user interface; see page 50.
2. Select “Internet / Filters / Prioritization”.
3. For instructions, open the online help.

# Configuring Port Sharing

## Overview

With default settings in the FRITZ!Box, programs on your computer and LAN cannot be accessed from the internet. For applications like online games and file sharing software, or server services like HTTP, FTP, VPN, terminal and remote access servers, you have to make your computer accessible to other internet users.

## Port Sharing

Using port sharing you allow incoming connections from the internet. By releasing certain ports for incoming connections, you grant other internet users controlled access to the computers in your network.

## Port Sharing on Protocols

Port sharing in the FRITZ!Box is possible on the following protocols:

| Protocol | Internet Protocol | Explanation |
|---|---|---|
| PING | IPv6 | The FRITZ!Box responds to ping inquiries from the internet addressed to the IPv6 address of the FRITZ!Box. Additionally, you can set up PING6 port forwarding rules for each computer in the home network since each computer has its own globally valid IPv6 address. |
| TCP<br>UDP | IPv4 | Within IPv4 networks you can open the FRITZ!Box firewall for the TCP and UDP protocols when entering the port range. One port can be opened for exactly one computer. |

| Protocol | Internet Protocol | Explanation |
|---|---|---|
| | IPv6 | Within IPv6 networks you can open the FRITZ!Box firewall for the TCP and UDP protocols when entering the port range. One port can be opened for each computer in the network. |
| ESP<br>GRE | IPv4 | Within IPv4 networks you can open the firewall for the two protocols ESP and GRE, which do not use ports. |

### Instructions: Configuring Port Sharing

1. Open the user interface; see page 50.
2. Select “Internet / Permit Access / Port Sharing”.
3. For instructions, open the online help.

# Enabling Dynamic DNS

## Overview

Every time the internet connection is interrupted, the internet service provider reassigns the IP address. The IP address may change in the process. Dynamic DNS is an internet service that makes it possible for the FRITZ!Box to remain accessible from the internet at all times under a fixed name, the domain name, even when the public IP address changes.

You must register with a dynamic DNS provider to use this service. Every time the IP address changes, the FRITZ!Box transmits the new IP address to the dynamic DNS provider in the form of an update request. Then the current IP address is assigned to the domain name by the dynamic DNS provider.

## Dynamic DNS and MyFRITZ!

MyFRITZ! can be used as an alternative to dynamic DNS. The two services can also be used in parallel. For more information on MyFRITZ!, see page 182.

## Requirements

- You are registered with a dynamic DNS provider and have set up a domain name.

## Instructions: Enabling Dynamic DNS

1. Open the user interface; see page 50.
2. Select “Internet / Permit Access / DynDNS”.
3. For instructions, open the online help ?.

# Remote Access to the FRITZ!Box

## Overview

Over the internet it is possible to access the user interface of the FRITZ!Box even from outside the home network. With a laptop, smartphone or tablet you can configure settings in the FRITZ!Box user interface from on the go.

## HTTPS

| Protocol | Function |
|---|---|
| HTTPS (Hypertext Transfer Protocol Secure) | HTTPS is an internet protocol for bug-proof communication between the web server and the browser in the World Wide Web.<br><br>Enable this protocol to allow access to the FRITZ!Box from the internet. |

## Requirements

- Access to the user interface: Every user who would like to access the FRITZ!Box externally from the internet requires a FRITZ!Box user account which is authorized for access from the internet.
- Access to storage: Every user who would like to access the storage of the FRITZ!Box externally from the internet requires a FRITZ!Box user account with the rights to access from the internet and to access the contents on the storage media.
- The HTTPS protocol must be enabled in the FRITZ!Box.

## Instructions: Enabling HTTPS in the FRITZ!Box

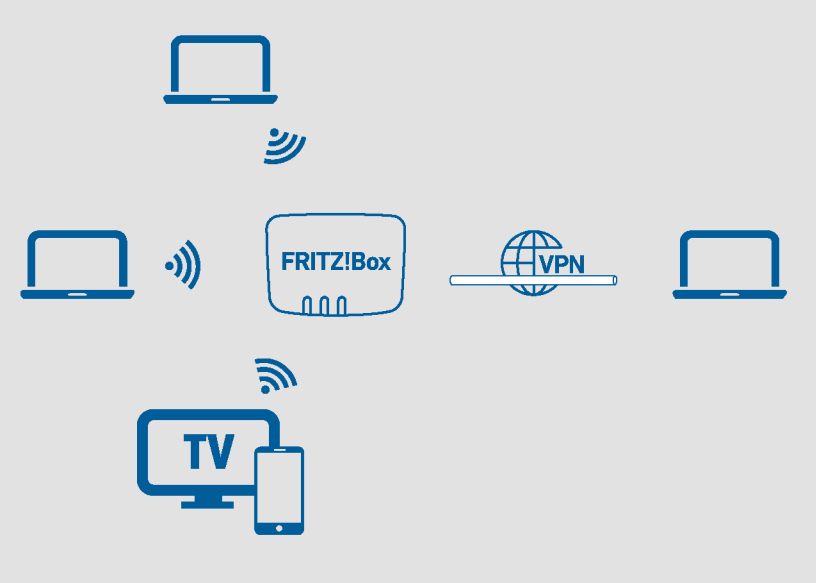
1. Open the user interface; see page 50.
2. Select “Internet / Permit Access / FRITZ!Box Services”.
3. For instructions, open the online help.

# Configuring VPN Remote Access

## Overview

VPN stands for Virtual Private Network. Via VPN, secure remote access to the network of the FRITZ!Box can be established. The connection is established via the internet. The data are transmitted in encrypted form via what is known as a tunnel. This excludes the possibility of unauthorized access to the data. This way field representatives, for instance, can connect with the corporate network via VPN.

## Example Configuration



## VPN Service Portal

Under en.avm.de/vpn, the AVM website presents comprehensive infor-mation on VPN in general and in connection with the FRITZ!Box.

Also on the VPN Service Portal is the “ FRITZ! VPN” software for free downloading. The “ FRITZ! VPN” software is a VPN client for Windows. Install the software on the network devices from which you would like to reach the FRITZ!Box over a VPN connection.

## Instructions: Configuring VPN in the FRITZ!Box

1. Open the user interface; see page 50.
2. Select “Internet / Permit Access / VPN”.
3. For instructions, open the online help .

# Configuring IPv6

## Overview

IPv6 stands for internet protocol version 6. This is the successor protocol to IPv4. IPv6 is more powerful, and has more addresses and better security properties than IPv4.

The FRITZ!Box supports IPv6 and can establish IPv6 connections.

## Services that Support IPv6

| Home Network / Internet | Services that Support IPv6 |
|---|---|
| IPv6-capable services in the home network | • Access to the user interface with HTTP or HTTPS over IPv6<br>• The DNS resolver of the FRITZ!Box supports queries for IPv6 addresses (AAAA records) and can query the upstream DNS resolver of the internet service provider over IPv6.<br>• The globally valid prefix is distributed via router advertisement.<br>• For guest access to the Wi-Fi network, the home network and Wi-Fi guests are separated by IPv6 subnetworks. |

| Home Network / Internet | Services that Support IPv6 |
|---|---|
| IPv6-capable services in the internet | • Completely closed firewall to protect against unsolicited data from the internet (Stateful Inspection Firewall)<br>• Voice over IPv6<br>• Automatic provisioning (TR-069)<br>• Time synchronization over NTP (Network Time Protocol)<br>• Remote access via HTTPS<br>• Dynamic DNS via dyndns.org or namemaster.de |

### Requirements

- IPv6 must be installed and enabled on the computers in your home network (standard in Windows since Windows Vista and Windows 7, in Mac OS X since macOS 10).

### Instructions: Configuring IPv6 in the FRITZ!Box

1. Open the user interface; see page 50.
2. Select “Internet / Account Information / IPv6”.
3. For instructions, open the online help.

# Configuring FRITZ!Box as a LISP Router

## Overview

LISP stands for Locator/Identifier Separation Protocol. LISP is a routing architecture which separates information about location and identity: there is one IP address for the location and one for the identity. The FRITZ!Box can be configured as a LISP router.

LISP is useful if technical or organizational reasons make it preferable to keep the same IP addresses, even when you switch internet service providers. With LISP, devices do not lose their identity (host devices, virtual machines) when they change location.

## Requirements

- You are registered with a LISP provider.

## Instructions: Configuring the FRITZ!Box as a LISP Router

1. Open the user interface; see page 50.
2. Select “Internet / Account Information / LISP”.
3. For instructions, open the online help ?.

# User Interface: Telephony Menu

# Configuring and Using the Telephone Book

## Overview

You can set up various telephone books in the FRITZ!Box. Which telephone book features are available depends on the telephone used:

| Telephone | Available Functions |
|---|---|
| FRITZ!Fon | • Telephone book available in the FRITZ!Fon menu<br>• Option for separate telephone books for multiple FRITZ!Fon telephones<br>• Quick-dial numbers<br>• Click to Dial |
| Cordless telephone with CAT-iq 2.0 support | • Telephone book available in the menu of the telephone<br>• Quick-dial numbers<br>• Click to Dial |
| FRITZ!App Fon | Telephone book available in FRITZ!App Fon |
| IP telephone | FRITZ!Box telephone book not available |
| Others | • Quick-dial numbers<br>• Click to Dial |

## Kinds of Telephone Books

You can set up different kinds of telephone books in the FRITZ!Box:

| Telephone book | Description |
|---|---|
| Local telephone book | The entire telephone book is saved in the FRITZ!Box. |

| Telephone book | Description |
|---|---|
| Online telephone book | You can set up the following contacts as an online telephone book: |
| | Google Contacts |
| | iCloud contacts (Apple) |
| | Contacts from email accounts with 1&1, GMX, WEB.DE, and Telekom (Telekom Mail) |
| | Contacts in CardDAV format |
| | Once an online telephone book has been configured, its contacts are available on your FRITZ!Fon cordless telephones. The online telephone book is synchronized with your contacts in the internet at regular intervals. |

You can set up multiple local and multiple online telephone books, for instance, separate telephone books for different FRITZ!Fon telephones. Quick-dial numbers can be configured only in the first local telephone book.

### Instructions: Setting Up a New Telephone Book in the FRITZ!Box

1. Open the user interface; see page 50.
2. Select “Telephony / Telephone Book / New telephone book”.
3. For instructions, open the online help.

### Instructions: Creating a New Telephone Book Entry

1. Open the user interface; see page 50.
2. Select “Telephony / Telephone Book”.
3. For instructions, open the online help.

### Instructions: Copying/Moving Telephone Book Entries

You can copy or move telephone book entries from one telephone book to another.

1. Open the user interface; see page 50.
2. Select “Telephony / Telephone Book”.
3. For instructions, open the online help.

### Instructions: Enabling and Using “Click to Dial”

With "Click to Dial" you can establish calls from the call list or the telephone book.

1. Open the user interface; see page 50.
2. Select “Telephony / Telephone Book / Click to Dial”.
3. For instructions, open the online help.

# Configuring and Using the Answering Machine

## Overview

You can configure up to 5 answering machines in the FRITZ!Box, including multiple answering machines for the same telephone number.

## Features

- If desired, you can receive any new messages automatically by email.
- With a schedule you can define times to switch on and off on different days of the week.
- With remote playback you can check answering machines from on the go.

## Example 1

You have one telephone number for personal contacts and a second telephone number for business contacts. You can set up a separate answering machine for each telephone number.

## Example 2

You use the answering machine in the office and the answering machine should record messages at all times. However, callers should hear a different message during office hours than outside of business hours.

For this you can set up two answering machines with different messages for the office telephone numbers. Configure the schedules such that the answering machines are never enabled at the same time.

## Instructions: Configuring the Answering Machine

1. Open the user interface; see page 50.
2. Select “Telephony / Answering Machine”.
3. For instructions, open the online help.

### Operating the Answering Machine with Devices in the Home Network

You can operate the answering machine with the following devices:

- With your FRITZ!Fon. Instructions are presented in the current FRITZ!Fon manual on en.avm.de/service/manuals .
- By voice menu using any connected telephone. For more information, see page 203.
- By pressing a button on your FRITZ!DECT 440. Instructions for configuring the buttons are presented in the current FRITZ!DECT manual on en.avm.de/service/manuals .

### Picking Up a Call from the Answering Machine on the Telephone

Calls that have already been accepted by the answering machine can be picked up on your telephone. For more information, see page 205.

### Instructions: Listening to the Answering Machine via Remote Playback

If you enabled remote playback in the configuration of the answering machine, then you can listen to an enabled answering machine from on the go:

1. Call your telephone line.
2. When the answering machine answers: Press the ✪ (star) key on the telephone and then enter the remote playback PIN.
3. Follow the voice menu.

# Using the Fax Function

## Overview

With the FRITZ!Box you can send and receive faxes. The FRITZ!Box can forward received faxes to your email address. Send the fax from the user interface. A graphic file in JPG or PNG format can be appended to any fax transmission.

## Maximum Fax Length

A maximum of ten A4 pages can be transmitted as a fax. If you append a graphics file, page 10 is reserved for the graphics.

## Instructions: Configuring the Fax Function

1. Open the user interface; see page 50.
2. Select “Telephony / Telephony Devices”.
3. For instructions, open the online help.

## Instructions: Sending Faxes

1. Open the user interface; see page 50.
2. Select “Telephony / Fax”.
3. For instructions, open the online help.

# Configuring Call Diversion

## Overview

You can configure call diversion for incoming calls in the FRITZ!Box .

## Incoming Calls

Call diversion can be set up for the following calls:

- All incoming calls
- All calls from a certain telephone number or a certain person in the telephone book
- All calls without a telephone number (anonymous calls)
- For multiple telephone numbers: all calls for a certain telephone number or a certain telephone

## Destination Numbers

You can divert calls to:

- Another telephone number (a different telephone line or mobile telephone number)
- One of the FRITZ!Box's internal answering machines

## Example

While you are on the go, calls are to be forwarded from the office to your mobile telephone.

## Instructions: Configuring Call Diversion

1. Open the user interface; see page 50.
2. Select "Telephony / Call Handling / Call Diversion".
3. For instructions, open the online help .

# Configuring Call Blocks

## Overview

In the FRITZ!Box you can block telephone numbers for outgoing and for incoming calls.

## Kinds of Call Blocks

You can configure various kinds of call blocks:

| Call Block for | Function |
|---|---|
| Outgoing calls | The blocked telephone number can no longer be called from the FRITZ!Box.<br>Ranges of telephone numbers can also be blocked, for instance, mobile networks, or all telephone numbers that begin with 0180. |
| Incoming calls | The FRITZ!Box will not accept calls from the blocked telephone number. However, the call block only works if the caller allows transmission of their telephone number. |
| Calls without a telephone number (anonymous calls) | The FRITZ!Box will not accept any calls from callers who suppress their telephone number. |

## Example 1

You would like to prevent dialing of expensive premium telephone numbers. For this you can set up a call block for outgoing calls to all telephone numbers that begin with 0900.

## Example 2

You would like to block sales calls from a certain telephone number. For this you can set up a call block for incoming calls from this telephone number.

## Instructions: Configuring a Call Block

1. Open the user interface; see page 50.
2. Select “Telephony / Call Handling / Call Blocks”.
3. For instructions, open the online help .

# Configuring Do Not Disturb

## Overview

Do Not Disturb keeps a telephone from ringing at specified times. Calls you miss then appear in the FRITZ!Box call list. Do Not Disturb cannot be configured for IP telephones (connected via LAN port/Wi-Fi).

## Example

You do not want your telephone to ring between 11 p.m. and 6 a.m.

## Instructions: Setting Up Do Not Disturb

1. Open the user interface; see page 50.
2. Select “Telephony / Telephony Devices”.
3. Click on the “Edit” button for the desired telephone.
4. Switch to the “Do Not Disturb” tab.
5. For instructions, open the online help.

# Setting an Alarm

## Overview

Setting an alarm will make your telephone ring at the specified time.

## Example

You would like your telephone to wake you at 6:30 every morning.

## Instructions: Configuring the Alarm

1. Open the user interface; see page 50.
2. Select “Telephony / Alarm”.
3. For instructions, open the online help .

# Configuring a Dialing Rule

## Overview

If you have multiple telephone numbers, you can configure dialing rules. A dialing rule determines which telephone number the FRITZ!Box uses for outgoing calls to a certain range of numbers, for instance to mobile networks or to foreign countries.

## Example

You have a telephone number with which you can save on international calls. Then configure a dialing rule for international calls.

## Instructions: Configuring Dialing Rules

1. Open the user interface; see page 50.
2. Select “Telephony / Call Handling / Dialing Rules”.
3. For instructions, open the online help.

# Reducing the Radiation of DECT Emissions

## Overview

With the following settings you can reduce the radiation of DECT emissions:

- Reduce DECT field strength: Enable this setting only if you use all DECT devices in the vicinity of the FRITZ!Box. Reducing the field strength also reduces the range of the DECT wireless network.
- DECT Eco: When DECT Eco is enabled, the FRITZ!Box switches off the DECT wireless network as soon as all cordless telephones are in standby mode. When a call arrives or you press a key on a cordless telephone, the wireless network is switched back on.

You can enable these settings individually or at the same time.

## Requirements

- All registered cordless telephones support DECT Eco: Under “Telephony / DECT / Monitor” in the FRITZ!Box user interface, “DECT Eco supported” is displayed for each telephone.
- The following devices are not registered with the FRITZ!Box: FRITZ!DECT devices with a smart plug, FRITZ!DECT Repeaters, another FRITZ!Box in DECT repeater mode.

## Instructions: Reducing DECT Transmission Power

1. Open the user interface; see page 50.
2. Select “Telephony / DECT / Base Station”.
3. Enable the “Reduce DECT field strength” checkbox.
4. Click on “Apply”.

## Instructions: Enabling DECT Eco

1. Open the user interface; see page 50.
2. Select “Telephony / DECT / Base Station”.

3. Enable the checkbox “DECT Eco”.
4. Select whether DECT Eco should always be enabled, or define times when DECT Eco should be switched on and off.
5. Save your settings by clicking on “Apply”.

# Allowing Non-Encrypted DECT Connections

## Overview

Some DECT repeaters from other manufacturers do not support encrypted connections. For operation of such DECT repeaters you can allow non-encrypted DECT connections.

In the default settings, the FRITZ!Box allows only authenticated and encrypted DECT connections.

## Rules

The following FRITZ!Box features cannot be used if you allow non-encrypted connections:

- Registration of a FRITZ!DECT Repeater or FRITZ!Box in DECT repeater mode
- DECT Eco
- HD telephony
- With FRITZ!Fon: ring tones of your own, web radio, podcasts, background image, photos of callers

## Instructions: Allowing Non-encrypted DECT Connections

1. Open the user interface; see page 50.
2. Select “Telephony / DECT / Base Station”.
3. For instructions, open the online help ?.

# User Interface: Home Network Menu

# Overview of All Devices

## Overview

In the “Mesh Overview” you see all devices that are attached to the FRITZ!Box or connected with the network of the FRITZ!Box. The overview covers the home network and the guest network.

## Home Network and Mesh Wi-Fi: Overview Diagram

An overview diagram shows all devices that are physically connected to the FRITZ!Box or connected with the FRITZ!Box via Wi-Fi. The overview diagram is a helpful tool to make the device connections transparent.

| What the Diagram Shows | Details |
|---|---|
| Network devices | All devices connected with the FRITZ!Box via Wi-Fi, by network cable, via VPN or via powerline: PCs, laptops, tablets, smartphones, TVs, game consoles, wireless repeaters, powerline devices, etc. |
| Smart Home devices | Radiator controls, smart plugs, controllable switches, etc. |
| DECT repeater | Repeaters to extend the DECT transmission range |
| Connection technology | The technology of the connection to the FRITZ!Box is shown for every device:<br>• Wi-Fi, Ethernet cable, VPN, powerline: for network devices<br>• 2.4 GHz or 5 GHz : for wireless devices<br>• DECT: for cordless telephones, Smart Home devices, and DECT repeaters |

| What the Diagram Shows | Details |
|---|---|
| Connection topology | Connection path of the devices to the FRITZ!Box: direct connection or via a repeater, an access point, or a powerline device |
| Devices in the guest network | Devices that are connected with the FRITZ!Box via the guest network |
| Update available | The Perform update >> button for FRITZ! products indicates that a new FRITZ!OS is available. |
| Devices in the Mesh | Mesh enabled: the “Mesh enabled” symbol marks the devices that are configured as Mesh Repeaters. |

## Active Connections and Current Software Version

All devices shown in the “Home Network and Mesh Wi-Fi” diagram are also listed in the “Active Connections in the Home Network and Current Software Version” table.

The table offers the following functions:

| Function | Description |
|---|---|
| Check FRITZ!OS version | For FRITZ! products, the “Update” column displays whether the FRITZ!OS installed on the FRITZ! device is the latest, or whether an update is available. |
| Perform FRITZ!OS update | If the “Update” column in the table indicates that a FRITZ!OS update is available, you can perform the update directly from the table. |
| Open a properties window for a device | The “Properties” column contains a “Details” link for each device. Clicking on this link opens the properties window for network devices. For other devices, it opens the settings page in the device’s technology area. |

### Prioritize Device for Internet Access

You can prioritize network devices for internet access. Prioritized devices receive preferential treatment when they access the internet.

| Properties and Actions | Description |
|---|---|
| Highest priority | • On prioritized devices, all applications that access the internet are treated as real-time applications.<br>• When the internet connection is working at full capacity, a prioritized device receives preferential treatment.<br>• If multiple devices are prioritized, they are prioritized equally. |
| Wireless repeaters and powerline devices | Prioritized wireless repeaters and powerline devices do not pass their prioritization on to the network devices that are connected with them. The prioritization must be configured on the network devices. |
| Adjusting prioritization | Prioritized devices and all of their applications are added to the real-time applications under “Internet / Filters / Prioritization”. There you can configure adjustments to the prioritization of the device. |
| Configuring prioritization | Prioritization is configured in the properties window of the device (open properties window; see page 114). |

### Editing the Properties of a Network Device

The properties of any network device can be viewed, and settings changed or reset, in the properties window of the given device.

You can edit the following settings:

- Name of the device in the home network

- IPv4 address in the home network: change, always assign the same IPv4 address
- Internet settings: prioritization, device block
- Wake on LAN

### Instructions: Opening a Properties Window for a Device

1. Open the user interface; see page 50.
2. Select “Home Network / Mesh / Mesh Overview”.
3. Select the device in the “Active Connections in the Home Network and Current Software Version” table. Click on the link.
4. Click on the “Details” link in the “Properties” column.

The window with the properties for the device opens.

# Managing Network Devices

## Overview

In the FRITZ!Box user interface, a table listing all network connections is shown under “Home Network / Network / Network Connections”. A network connection is an IP connection between a network device and the FRITZ!Box. By means of the table you can keep track of the network connections and all network devices. You can edit the connection properties, and add and remove network devices.

## Explanation of Terms: Network and Other Terms

| Term | Explanation |
|---|---|
| Network device | Network devices are devices that are connected with the FRITZ!Box in one of the following ways:<br>• with a network cable to a LAN port on the FRITZ!Box<br>• via Wi-Fi<br>• via the internet with a VPN connection (see page 88) |
| Network | All network devices on the FRITZ!Box comprise a network. |
| Internet protocol (IP) | Communication within the network takes place using the internet protocol, IP for short. The internet protocol is the language that all network devices speak and understand. |
| IP network | A network based on the internet protocol is also known as an IP network. Connections within an IP network are known as IP connections. |

| Term | Explanation |
| --- | --- |
| Network interface | A network interface is the interface used to connect a network device with a network. This can be a wireless module for Wi-Fi connections or a network port for cabled connections. |

## Properties and Benefits

The table with the network connections assists you in organizing and keeping track of the IP network:

- Overview: The table offers an overview of the entire IP network of the FRITZ!Box.
- All connections: Every connection any network device has to the FRITZ!Box is displayed. A connection can be established with a network cable, via Wi-Fi, or over VPN.
- Idle connections: Connections that are currently inactive are displayed.
- Only shown here: VPN connections are displayed only in this table.
- Guest network overview: Connections to the guest network are displayed.
- Connection properties: Properties are displayed for every connection.
- Find devices quickly:
  - Show and hide table columns: 
  - Sort table columns:  for ascending and  for descending
- Adjustable connection properties: The properties window can be opened for each connection. Connection properties can be changed in the properties window.

## Add Device

You can include in the table even network devices that are not physically connected with the FRITZ!Box.

As soon as an entry for a device is included in the table, you can configure various properties, for instance, port sharing. The type of connection is not listed in the table until the device is physically connected with the FRITZ!Box.

### Example

The “Add Device” function is useful for vendors. When a customer orders a new FRITZ!Box, they can have the vendor set up the network in the FRITZ!Box. With the “Add Device” function this can be done without actually connecting any network devices.

### Removing Devices

Unused connections can be removed individually or all at once, as long as they do not have any special settings. When a single unused connection is removed, all of the settings configured for this device are also deleted.

A click on the “Remove” button removes all inactive connections for which properties were never assigned. This function is useful in the following situations:

- in environments with walk-in customers (for example, hotels, cafés, betting offices)
- in households with children who often invite their friends to use the Wi-Fi

# Changing IPv4 Settings

## Overview

The IPv4 settings define the IPv4 network of the FRITZ!Box. Without these settings there is no IPv4 network. In the FRITZ!Box an IPv4 network is the default setting. The preconfigured IPv4 network is identical in all FRITZ!Boxes. You can change the IPv4 settings.

Changes to the IPv4 settings can have the result that the FRITZ!Box can no longer be reached. Make changes in this menu only if you are proficient in network technology.

## Application Example

In the following cases it is necessary to change the IPv4 address of the FRITZ!Box:

- VPN connection: The home network of the FRITZ!Box is connected with another FRITZ!Box network via a LAN-LAN linkup.
- The FRITZ!Box is integrated into an existing FRITZ!Box network and both FRITZBoxes are operating in router mode (cascaded).

In both cases the FRITZ!Boxes involved cannot have identical IPv4 networks.

### IPv4 Factory Settings

The following values are preconfigured in the FRITZ!Box:

| IPv4 Setting | Preset Value |
|---|---|
| IPv4 address of the FRITZ!Box | 192.168.178.1 |
| Subnet mask | 255.255.255.0 |
| IPv4 network address | 192.168.178.0 |
| Address range available for network devices | 192.168.178.2 - 192.168.178.254 |
| DHCP server | enabled |
| Address range of the DHCP server | 192.168.178.20 - 192.168.178.200 |
| Local DNS server | 192.168.178.1 |

### Reserved IPv4 Addresses

The following IPv4 addresses are reserved for certain tasks and cannot be assigned for any other use:

| IPv4 Address | Purpose |
|---|---|
| 192.168.178.1 | IPv4 address of the FRITZ!Box |
| 192.168.178.255 | Broadcast address. This address is used to send messages within the network. The messages are received by all network devices. |

### IPv4 Address in Case of Emergency

The FRITZ!Box also has a fixed IPv4 address that cannot be changed.

| IPv4 Address | Purpose |
|---|---|
| 169.254.1.1 | The FRITZ!Box can always be reached at this IPv4 address. |

How to use the emergency IPv4 address: see page 223.

## IPv4 Network

IPv4: IPv4 stands for internet protocol, version 4. Together, the IPv4 address of the FRITZ!Box and the subnet mask specify the IPv4 network of the FRITZ!Box. The IPv4 address range available for the network devices is determined by this network. If either of these two values is changed, a different network results.

## Instructions: Changing the IPv4 Settings

1. Open the user interface; see page 50.
2. Select “Home Network / Network / Network Settings”.
3. For instructions, open the online help.

# Distributing IPv4 Addresses

## Overview

Every network device in the IPv4 home network of the FRITZ!Box has an address from the IPv4 address range of the FRITZ!Box. Either a network device receives its IPv4 address automatically from the DHCP server of the FRITZ!Box, or you enter the IP address manually in the network settings of the network device.

## IPv4 DHCP Server

DHCP stands for Dynamic Host Configuration Protocol. A DHCP server in the IPv4 network assigns IPv4 addresses to the network devices automatically. Assigning the IP addresses via the DHCP server ensures that all of the network devices connected with the FRITZ!Box are located in the same IP network.

The DHCP server of the FRITZ!Box is enabled upon delivery.

One part of the IPv4 address range of the FRITZ!Box is reserved for the DHCP server. The DHCP server assigns IP addresses from this range to the network devices.

| IPv4 Addresses Reserved for the DHCP Server upon Delivery |
|---|
| 192.168.178.20 - 192.168.178.200 |

You can change the address range for the DHCP server if needed:

| Kind of Change | Requirement |
|---|---|
| Enlarge | If there are many network devices in the network, many IP addresses will be needed. In this case the address range of the DHCP server can be enlarged. Example for a larger range: 192.168.178.20 - 192.168.178.220 |
| Reduce | If there are fewer network devices, the address range can be reduced. Example for a smaller range: 192.168.178.20 - 192.168.178.120 |

| Kind of Change | Requirement |
|---|---|
| Move | If you permanently assign the IPv4 addresses 192.168.178.2 - 192.168.178.49 to network devices, but want to maintain a DHCP address range of the same size, then you can shift the DHCP address range, for instance to the range 192.168.178.50 - 192.168.178.230 |

### Rules

- Only one DHCP server may be active in a network.

### Preparing Network Devices for DHCP

For the IP address to be assigned by the DHCP server, the “Obtain an IP address automatically” option must be enabled in the IPv4 settings of the network devices; see page 127.

When a network device registers with the FRITZ!Box, it receives an IPv4 address from the DHCP server. Every time the network device is restarted, the DHCP server assigns it an IP address again.

### Always Assign the Same IPv4 Address

You can specify that the DHCP server always assign the same IPv4 address to network devices. This option can be enabled under “Home Network / Network / Network Connections” in the detailed settings of the network devices.

### Disabling the DHCP Server

You can disable the DHCP server of the FRITZ!Box.

In the following cases it is necessary to disable the DHCP server of the FRITZ!Box:

- You use a different DHCP server in your home network.
- You would like to assign addresses to all of the network devices in the home network manually.

# Changing IPv6 Settings

## Overview

The FRITZ!Box has preconfigured IPv6 settings upon delivery. You can change these settings.

## Requirements

- The “IPv6 support enabled” setting is enabled under “Internet / Account Information / IPv6” in the FRITZ!Box user interface.

## Factory Settings

The following IPv6 settings are configured in the FRITZ!Box upon delivery:

| IPv6 Property | Setting |
|---|---|
| Unique Local Addresses (ULA) | As long as there is no IPv6 internet connection, the FRITZ!Box assigns unique local addresses to the network devices so that they can communicate with each other. |
| Additional IPv6 routers in the home network | This FRITZ!Box provides the default IPv6 connection. Other IPv6 routers are disregarded. |
| DNSv6 server in the home network | Also announce the DNSv6 server via router advertisement. |
| DHCPv6 server in the home network | The DHCPv6 server is enabled. Only the DNS server is announced via DHCPv6. |

You can change the settings. For more information on this subject, see the online help of the FRITZ!Box.

## Instructions: Changing the IPv6 Settings

1. Open the user interface; see page 50.

2. Select “Home Network / Network / Network Settings”.
3. For instructions, open the online help .

# Configuring a Static IP Route

## Overview

A static IP route is a description of a path to an IP subnet whose net-work address is not known to the FRITZ!Box.

## Application Example

Static IP routes are intended for the following situation:

- In the FRITZ!Box network there is a subnet whose network address in the FRITZ!Box is unknown.
- The network devices in the subnet are to communicate with the network devices of the FRITZ!Box or access the internet via the FRITZ!Box.
- Only relevant for IPv4: The router that spans the subnet does not do NAT (Network Address Translation).

## How Static IP Routes Work

IP packets whose IP destination addresses are unknown are forwarded to the internet by default. In the application described above, because the FRITZ!Box does not know the destination addresses located in the subnet, it forwards the packet to the internet. To prevent this from happening and have the packets forwarded to the subnet instead, the FRITZ!Box must know the network address of the subnet and the IP address of the interface to the subnet. These two addresses are required to configure a static route. Static IP routes are registered in the routing table.

## Instructions: Configuring a Static IPv4 Route

1. Open the user interface; see page 50.
2. Select “Home Network / Network / Network Settings”.
3. In the “Static Routing Table” area, click on the “IPv4 Routes” button.
4. For instructions, open the online help.

## Instructions: Configuring a Static IPv6 Route

1. Open the user interface; see page 50.
2. Select “Home Network / Network / Network Settings”.
3. In the “Static Routing Table” area, click on the “IPv6 Routes” button.
4. For instructions, open the online help.

# Obtaining an IP Address Automatically

## Overview

Network devices that are to obtain their IP address automatically by DHCP must be configured accordingly. This configuration is performed on the operating system level in the IP settings of the network devices.

## Obtaining an IP Address Automatically in Windows

1. In Windows 10, click on “Start”.
   In Windows 8, press the Windows key and the Q key at the same time.
2. Enter “ncpa.cpl” in the search field and press Enter.
3. Click on the network connection between the computer and the FRITZ!Box with the right mouse button and select “Properties”.
4. Under “This connection uses the following items”, select “Internet Protocol Version 4 (TCP/IPv4)”.
5. Click on the “Properties” button.
6. On the “General” tab, enable the options “Obtain an IP address automatically” and “Obtain DNS server address automatically”.
7. Save with “OK”.
8. Enable the options “Obtain an IP address automatically” and “Obtain DNS server address automatically” for the internet protocol version 6 (TCP/IPv6) as well.

The network device receives an IP address from the FRITZ!Box.

### Obtaining an IP Address Automatically in Mac OS X

1. Select the “System Preferences” in the Apple menu.
2. In the “System Preferences” window, click on “Network”.
3. In the “Network” window, select the “Ethernet” entry from the “Show:” list.
4. Click on the “Advanced...” button. The “TCP/IP” settings page opens. Select the “Using DHCP” option from the “Configure IPv4:” drop-down list.
5. Click on “OK”.

The network device now automatically receives an IP address from the FRITZ!Box.

### Obtaining an IP Address Automatically in Linux

For comprehensive information and tips on network settings in Linux, see, for example:

www.tldp.org/HOWTO/NET3-4-HOWTO-5.html

# Configuring Wake on LAN

## Overview

Wake on LAN is a function that allows a computer to be started via network adapter. Wake on LAN can be used with remote maintenance software, to eliminate the need to keep the computer switched on permanently. The FRITZ!Box supports Wake on LAN both for IPv4 and for IPv6 connections.

## Requirements

- The network adapter of the computer supports Wake on LAN.
- The computer is connected with the FRITZ!Box
  - via a FRITZ!Powerline device or
  - by network cable
- For access from the internet, the computer must be in standby operation.

## Instructions: Configuring Wake on LAN

1. Open the user interface; see page 50.
2. Select “Home Network / Network / Network Connections / Edit Device Details”.
3. For instructions, open the online help.

# Assigning a FRITZ!Box Name

## Overview

You can assign an individual name for your FRITZ!Box in the FRITZ!Box user interface. This name is then adopted as the name of the Wi-Fi network (SSID).

Changing the name may make it necessary to reconfigure your Wi-Fi connections and network links.

## Consequences of Assigning a Name

The name is adopted in the following areas of your home network:

- Name of the Wi-Fi network (SSID)
- Name of the Wi-Fi guest network (SSID)
- Name of the working group released for home network sharing
- Name of the DECT base station
- Push service sender name
- Name of your FRITZ!Box in the device overview in MyFRITZ!

## Instructions: Assigning a FRITZ!Box Name

1. Open the user interface; see page 50.
2. Select “Home Network / FRITZ!Box Name”.
3. For instructions, open the online help.

# User Interface: Wi-Fi Menu

# Switching the Wi-Fi Network On and Off

## Overview

When no one is using it, you can switch off the Wi-Fi network. This way you reduce both power consumption and wireless radiation.

You can switch the Wi-Fi network on and off manually, and set up a schedule for times when the Wi-Fi network is turned on and off automatically.

## Switching the Wi-Fi Network On and Off Manually

You can switch the Wi-Fi network on and off in the following ways:

- with the “WLAN” button
- in the “Home Network / Wi-Fi” menu of a connected FRITZ!Fon cordless telephone
- in the “Convenience Features / Wireless” menu of the MyFRITZ!App
- by keypad code using a connected telephone; see page 202

## Instructions: Switching the Wi-Fi Network On and Off by Schedule

1. Open the user interface; see page 50.
2. Select “Wi-Fi / Schedule”.
3. For instructions, open the online help  .

# Selecting the Wi-Fi Channel

## Overview

Wi-Fi uses the frequency ranges at 2.4 and 5 GHz for transmission. In the default setting the FRITZ!Box automatically checks the Wi-Fi environment and selects the optimum Wi-Fi channel settings. In some cases it may be necessary to adjust the Wi-Fi channel settings.

## Comparison of the 2.4 and 5 GHz

| | 2.4 GHz | 5 GHz |
|---|---|---|
| Advantages | • Greater range<br>• Supported by all wireless devices | Less busy, therefore less interference |
| Disadvantages | Busier, therefore more interference | • Lower range<br>• Only supported by newer wireless devices |
| Recommendation | Use for applications with a low to normal throughput rate (for instance, reading and writing email). | Use for applications with a steadily high throughput rate (for instance, streaming). |

## Automatic Configuration of the Wi-Fi Channel Settings by the FRITZ!Box

With the “Set Wi-Fi channel settings automatically” setting, the FRITZ!Box automatically searches for a channel subject to minimal interference. This process takes into consideration adjacent Wi-Fi networks and other sources of interference (for instance baby monitors, microwave ovens). Should problems with interference in the Wi-Fi network persist despite this setting, try to identify the source of interference and eliminate it.

## Controlling Wireless Devices Automatically to Improve Data Transmission (Mesh Wi-Fi Steering)

Mesh Wi-Fi Steering is available starting with FRITZ!OS 7.10 and comprises two features to improve data transmission:

Band steering: For a dual-band compatible wireless device, the FRITZ!Box can select the frequency range that is currently more suitable. Dual-band compatible devices support the 2.4 and the 5 GHz frequency ranges.

AP steering (Access Point steering): For a wireless device in the Mesh Wi-Fi, the FRITZ!Box can select the FRITZ! device which is currently the best access point to the Mesh Wi-Fi.

Disable Mesh Wi-Fi steering only if a wireless device experiences problems with Wi-Fi connections. There are a few wireless devices that are incompatible with Mesh Wi-Fi steering.

## Instructions: Adjusting the Wi-Fi Channel Settings

1. Open the user interface; see page 50.
2. Select “Wi-Fi / Wi-Fi Channel”.
3. For instructions, open the online help.

# Configuring Wi-Fi Guest Access

## Overview

In addition to its Wi-Fi network, the FRITZ!Box can provide a second, independent Wi-Fi guest network. You can make this Wi-Fi guest network available to your guests. Then your guests can log in with the Wi-Fi guest network on their own smartphones, tablets, laptops or other network devices, without being able to access the FRITZ!Box home network.

## Private Wi-Fi Guest Access and Public Wi-Fi Hotspot

The Wi-Fi guest access can be configured as a private or public hotspot.

With a private Wi-Fi guest access you can provide houseguests with an internet connection of their own. The guest access receives its own Wi-Fi network key and guest network name (SSID). You can provide the access information to your guests via QR code or print it out for them.

With a public hotspot you can make Wi-Fi access available to guests in a public space, such as a restaurant or a medical practice. The public hotspot receives its own Wi-Fi hotspot name (SSID), but remains non-encrypted so that no Wi-Fi network key is required.

### The “Guest” Access Profile

Wireless devices using the private Wi-Fi guest access or the public hotspot are automatically assigned the “Guest” access profile.

| Condition | Activities |
|---|---|
| Allowed | • Surfing the web (according to your filters specified in the “Permitted websites” list or the “Blocked websites” list)<br>• Sending and receiving email |
| Not allowed | • Accessing contents of the home network<br>• Changing the settings of the FRITZ!Box |

The “Guest” access profile can be edited in the “Internet / Filters / Access Profiles” menu; see page 79.

The configured filters determine which websites your guests are allowed to visit. The filters can be edited in the “Internet / Filters / Lists”; see page 81.

### Settings for the Wi-Fi Guest Access

You can configure the Wi-Fi guest access as a private guest access or a public hotspot:

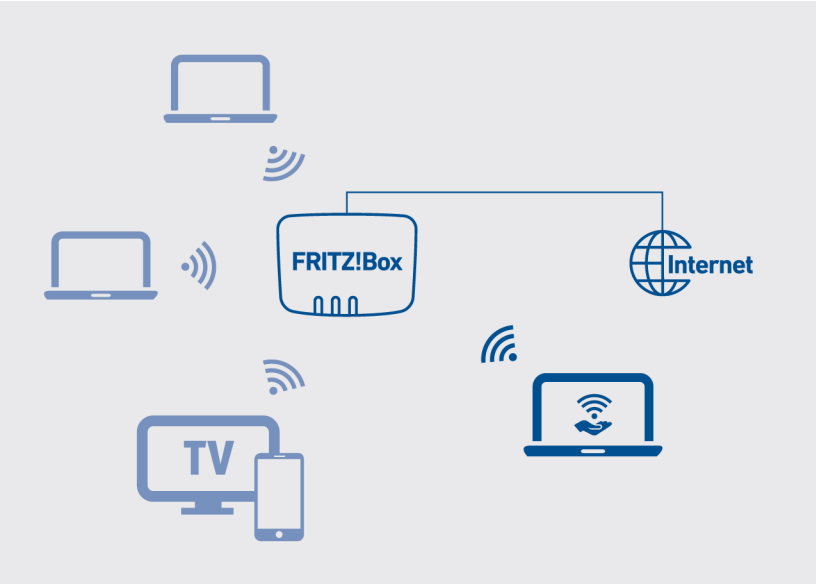
| Setting | Content and Function |
|---|---|
| FRITZ!Box push service | Notification by email about devices registering with and deregistering from your FRITZ!Box; see page 153. |
| Restrict use | Guests are restricted to surfing the internet, and sending and receiving email. |
| Captive portal | With a captive portal you can inform guests about the terms of use you defined and then route them to your website. |
| Visibility in the guest network | Specify whether or not the users' wireless devices can reach each other in the Wi-Fi guest network. |

| Setting | Content and Function |
|---|---|
| Switch off automatically | The Wi-Fi guest access is disabled automatically after a time range you specify, or whenever the last guest has logged off. |
| QR code | The FRITZ!Box automatically generates a QR code for the Wi-Fi guest access. Then your guests can log in conveniently by scanning this code. |

### Switching the Wi-Fi Guest Access On and Off

- by smartphone or tablet: MyFRITZ!App (Android and iOS)
- FRITZ!Fon : Menu “Home Network / Wi-Fi”
- in the FRITZ!Box user interface
  - http://myfritz.box: “Convenience Features”
  - http://fritz.box: “Wi-Fi / Guest Access” menu and time limit in the “Guest” access profile

## Example Configuration




## Instructions: Configuring Wi-Fi Guest Access

1. Open the user interface; see page 50.
2. Select “Wi-Fi / Guest Access”.
3. For instructions, open the online help.

# User Interface: Smart Home Menu

# Smart Home Devices

## Overview

With Smart Home devices you can switch the power supply to electric devices, measure their energy consumption, control your radiators, or create color lighting for every situation. In the “Smart Home” menu you can configure and operate your Smart Home devices.

## Compatible Smart Home Devices

The following Smart Home devices can be registered with the FRITZ!Box via DECT radio (DECT ULE):

- up to 10 FRITZ!DECT 210/200 smart plugs
- up to 12 FRITZ!DECT 301/300 of Comet DECT radiator controls
- up to 10 FRITZ!DECT 440/400 switches
- up to 10 FRITZ!DECT 500 LED lights
- up to 10 devices from other manufacturers that support the HAN FUN (Home Area Network FUNctional) Smart Home standard

## FRITZ!DECT 210/220 Smart Plugs

With the FRITZ!DECT 210/200 smart plugs, you can control the power supply to lights and other electric devices, manually or by schedule. You can also measure the power consumption of these devices. You operate the plugs in the FRITZ!Box user interface, with a FRITZ!DECT 440/400 switch, with FRITZ!App Smart Home, or with a FRITZ!Fon.

## FRITZ!DECT 301/300 Radiator Control

With the FRITZ!DECT 301/300 radiator controls you can control the room temperature automatically and save heating costs. In combination with a FRITZ!DECT 440/400 switch, the FRITZ!App Smart Home, or a FRITZ!Fon, you can display the measured temperature, set the normal and cool-down temperature, and change the desired temperature until the next scheduled switching point.

### FRITZ!DECT 440/400 Switches

With the FRITZ!DECT 440/400 switches, you can switch and control the FRITZ!DECT 210/200 smart plugs, the FRITZ!DECT 301/300 radiator controls, and the FRITZ!DECT 500 LED light.

With the FRITZ!DECT 440 switch you can also turn the answering machine and the Wi-Fi guest access on and off.

### FRITZ!DECT 500 LED Light

FRITZ!DECT 500 is a LED light for white and color lighting. With the FRITZ!DECT 440 and 400 switches you can switch the LED light. With FRITZ!App Smart Home you can also dim the LED light and change its color. FRITZ!DECT 500 requires an E27 lighting fixture.

### HAN FUN Devices

You can also connect Smart Home devices from other manufacturers to the FRITZ!Box and configure and operate them in the FRITZ!Box user interface, for instance, motion sensors and door and window contacts. The devices must support the HAN FUN (Home Area Network FUNctional) Smart Home standard.

# Configuring a Group of Smart Plugs and LED Lights

## Overview

Using groups you can combine similar Smart Home devices to control them simultaneously. A group can contain multiple smart plugs, LED lights, or both types of devices. The Smart Home devices can be switched on and off and controlled automatically as a group. You can configure automatic switching for a group and specify one Smart Home device that switches the entire group on and off together.

## Instructions: Configuring a Group of Smart Plugs and LED Lights

1. Open the user interface; see page 50.
2. Select “Smart Home / Groups and Templates”
3. For instructions, open the online help ?.

# Setting Up a Group of Radiator Controls

## Overview

Using groups you can combine similar Smart Home devices to control them simultaneously. For a group of radiator controls, you can configure heating periods with two temperatures (schedule), heating periods with one temperature (vacation switching), and periods when heating is off.

## Instructions: Setting Up a Group of Radiator Controls

1. Open the user interface; see page 50.
2. Select “Smart Home / Groups and Templates”
3. For instructions, open the online help ?.

# Configuring a Template for Smart Plugs and LED Lights

## Overview

In a template you can combine several groups and multiple smart plugs and LED lights so that they are switched on and off at the same time.

## Rules

- In a template you can only combine similar Smart Home devices: Either radiator controls, or smart plugs and LED lights.

## Example

You have smart plugs and LED lights in operation in your home. In one room you have floor lamps connected to two smart plugs, which have been configured as a group. In another room you have three different LED lights connected.

To switch all smart plugs and LED lights, you can configure one or more templates:

- one template to enable automatic switching (schedule)
- one template to switch all sockets/LED lights on or off
- one template to delete automatic switching for the sockets/LED lights

## Instructions: Configuring a Template for Smart Plugs and LED Lights

1. Open the user interface; see page 50.
2. Select “Smart Home / Groups and Templates”
3. For instructions, open the online help ?.

# Configuring a Template for Radiator Controls

## Overview

In a template you can combine several groups and several radiator controls so that they are controlled at the same time.

## Rules

- In a template you can only combine similar Smart Home devices: Either radiator controls, or smart plugs and LED lights.

## Example

You have several radiator controls operating in various rooms of your home. In one room you configured a group for several radiator controls. The other rooms have only one radiator control each. To control all radiator controls in all rooms together, you can configure one or more templates:

- one template to preheat the entire home (for instance, with boost mode or a schedule)
- one template to maintain the same temperature on all radiators while you are gone (vacation switching)
- one template to turn off all radiators

## Instructions: Configuring a Template for Radiator Controls

1. Open the user interface; see page 50.
2. Select “Smart Home / Groups and Templates”
3. For instructions, open the online help ?.

# User Interface: Diagnostics Menu

# Starting Function Diagnostics

## Overview

With the function diagnostics you can get an overview of the functional status of your FRITZ!Box and its internet connection, and of your home network as well. In case an error occurs, the diagnostics results can help you localize and remedy any problems.

## Function Diagnostics Checkpoints

| Area | Checkpoint/Status |
|---|---|
| FRITZ!Box 5530 Fiber | • name of the FRITZ!Box<br>• FRITZ!Box version<br>• FRITZ!OS up to date |
| Registration | Configured login method to the FRITZ!Box user interface |
| LAN | • allocation of LAN ports<br>• power settings on LAN ports |
| Wi-Fi | • Wi-Fi frequency band enabled/disabled with Wi-Fi function<br>• number of wireless devices connected<br>• security settings |
| DECT | • DECT enabled/disabled<br>• number of DECT devices connected |
| Internet connection | • IPv4 connection active since/not active<br>• IPv6 connection active since/not active<br>• current IP address |
| Telephone numbers | How many and which numbers assigned |

| Area | Checkpoint/Status |
|---|---|
| MyFRITZ! | • status of MyFRITZ! activation<br>• MyFRITZ! account email address |
| Home network | • number of network devices connected with the FRITZ!Box at present or at an earlier point in time<br>• number of network devices online |
| Smart Home | Number of Smart Home devices |
| Wi-Fi environment | Wi-Fi frequency band with number of Wi-Fi networks on the same or an adjacent channel |

### Instructions: Starting Function Diagnostics

1. Open the user interface; see page 50.
2. Select “Diagnostics / Function”.
3. For instructions, open the online help .

# Starting Security Diagnostics

## Overview

By means of the security diagnostics you get an overview of all security-relevant settings of your FRITZ!Box. At a glance you can see whether the latest FRITZ!OS is installed, which ports are open, which users are logged in or off the FRITZ!Box, which wireless devices with which properties are connected to the FRITZ!Box, and much more.

## Security Diagnostics Test Points

| Number Range | Checkpoint/Status |
|---|---|
| FRITZ!OS | • FRITZ!Box version<br>• FRITZ!OS up to date |
| Registration | Configured login method to the FRITZ!Box user interface |
| Internet Connection | • ports opened on the FRITZ!Box<br>• protocols used on these ports<br>• port sharing for home network devices to the internet<br>• filters for internet access |
| MyFRITZ! | • status of MyFRITZ! activation<br>• MyFRITZ! account email address<br>• registration link for MyFRITZ!<br>• overview of MyFRITZ! sharing for access from the internet |
| Outgoing filters | Overview of active filters for access from the internet |

| Number Range | Checkpoint/Status |
|---|---|
| Wi-Fi | • properties and security-relevant settings for access to the Wi-Fi network and Wi-Fi guest access<br>• names of registered and known wireless devices |
| Telephony | • Mesh Repeater with telephony<br>On a Mesh Repeater (FRITZ!Box) enabled for telephony in the Mesh, all of the telephone numbers configured in the Mesh Master are available.<br>• functions and properties of the DECT base station of the FRITZ!Box<br>• Call handling like call diversion settings, premium numbers, settings for international calls, and security-relevant connection settings<br>• IP telephone settings: connected with the FRITZ!Box directly or via FRITZ!App Fon<br>• CAPIoverTCP driver function<br>CAPI drivers install virtual modem drivers so that analog services like faxing can be used digitally. With CAPIoverTCP you can use the "FRITZ!Fax for FRITZ!Box" program with the FRITZ!Box to send and receive faxes. |
| FRITZ!Box Users | • all FRITZ!Box users and their rights to access FRITZ!Box contents, for the FRITZ!Box home network and for access from the internet<br>• time of the last login to the FRITZ!Box and the IP address used to do so |

## Instructions: Starting Security Diagnostics

1. Open the user interface; see page 50.
2. Select “Diagnostics / Security”.
3. For instructions, open the online help .

# User Interface: System Menu

# Configuring Push Services

## Overview

Various push services are available in the user interface under “System / Push Service”. Push services are notification services that in-form you about the activities of your FRITZ!Box and assist you in sav-ing your passwords and FRITZ!Box settings. With the push services you can have email sent to you at regular intervals informing you about the latest connections, usage, and configuration of your FRITZ!Box.

## Available Push Services

You can request push service mails to be notified about the following activities by the FRITZ!Box:

| Push Service | Function |
|---|---|
| FRITZ!Box Info | Sends you regular email messages with data on FRITZ!Box usage and connections |
| Smart Home | Sends you the status of a Smart Home device regularly or when important events occur |
| Wi-Fi Guest Access | Sends a message whenever devices register with or deregister from the Wi-Fi guest access |
| Calls | Sends you email about telephone calls and calls from door intercom systems (including camera images). You have the option of re-ceiving email for all incoming calls, or only for missed calls. |
| Answering Machine | Forwards messages recorded on the FRITZ!Box answering machines to the specified email address |
| Fax Function | Forwards your faxes by email and also saves them to a storage location you defined |
| New FRITZ!OS | Notifies you whenever a new FRITZ!OS version is available for your FRITZ!Box |

| Push Service | Function |
|---|---|
| Forgot Password | Sends you an access link to the specified email address if you have forgotten your password |
| Save Settings | Saves the settings of the FRITZ!Box to a back-up file before each update and every time the factory settings are restored, and forwards this file by email, protected with a password |
| Change Notice | Sends you an email every time changes are made to a FRITZ!Box setting or when potentially security-relevant events occur |
| Current IP Address | Sends the IP address assigned by the internet service provider every time the internet connection is established |

### Instructions: Enabling Push Service

1. Open the user interface; see page 50.
2. Select “Overview / Wizards”.
3. For instructions, open the online help.

### Instructions: Configuring Push Service

1. Open the user interface; see page 50.
2. Select “System / Push Service”.
3. For instructions, open the online help.

# Logging In to the FRITZ!Box User Interface

## Overview

When you open the user interface of your FRITZ!Box, you will be prompted to log in. This login serves to keep your FRITZ!Box secure and protects access to the user interface.

You have two options for logging in to your FRITZ!Box:

- with a FRITZ!Box password; see page 155
- as a FRITZ!Box user; see page 156

## FRITZ!Box Password

For the first login to the FRITZ!Box , a general FRITZ!Box password is preconfigured, which works without a username. The preconfigured FRITZ!Box password is printed on the “FRITZ! Notes” service card and on the type label on the bottom of the housing.

The FRITZ!Box password has the following properties:

- Login with the FRITZ!Box password without a username is possible only within the FRITZ!Box home network.
- Every user who logs in with the FRITZ!Box password without a username has the right to access all contents and settings on the FRITZ!Box.
- For the FRITZ!Box password, the FRITZ!Box automatically creates a FRITZ!Box user with a username composed of the letters “fritz” and a four-digit string of numerals, for instance, “fritz1234”. The FRITZ!Box uses this user account internally whenever you log in to the home network with the FRITZ!Box password and without a username. This automatically created user account cannot be deleted.
  If you change the automatically created username, then you can no longer log in using just the FRITZ!Box password without a username. Then login is possible only with a username and password.

- You can change the preconfigured FRITZ!Box password; see page 54.
- The preconfigured FRITZ!Box password is restored if you restore the factory settings to the FRITZ!Box.

### FRITZ!Box Users

FRITZ!Box users are individual authorizations to access and use the FRITZ!Box, which are linked with individual user accounts. A FRITZ!Box user account is set up with a username and a password.

A FRITZ!Box user account has the following properties:

- Login using a FRITZ!Box account is possible from the home network of the FRITZ!Box and, with the appropriate rights, also via the internet.
- If you create a FRITZ!Box user account for a person, then that person is granted rights to use selected areas and functions of the FRITZ!Box.
- A FRITZ!Box user does not have to be an actual person. You can create a FRITZ!Box user for the purpose of bundling certain use rights. For instance, you can create a Smart Home user who can access only Smart Home functions.
- Every FRITZ!Box user logs in with their own username and a unique password.
- You can set up as many as 18 FRITZ!Box user accounts.

You can configure the following rights for each FRITZ!Box user:

- Access the FRITZ!Box from the internet
- View and edit FRITZ!Box settings
- View and listen to voice messages, faxes, and the FRITZ!App Fon call list
- Control Smart Home devices
- Access selected network storage (NAS)
- Establish a VPN connection to the FRITZ!Box

## Rules for User Names and Passwords

- For FRITZ!Box users, select a username that begins with a letter from a to z in upper or lower case and has a maximum of 32 characters; see page 158.
- Select a password with at least twelve characters, which includes capitals and lower-case letters as well as numerals and special characters; see page 158.
- Configure the “Forgot Password” push service. When you have forgotten a password, the FRITZ!Box sends an access link to the email address you specified. Using this link you can set a new password.

If you lose your FRITZ!Box access information and did not configure the “Forgot Password” push service, you will have to restore the factory settings to the FRITZ!Box and reconfigure all of your personal settings for your internet connection, your telephone system, and your home network.

## Characters Allowed for Passwords and Usernames

| Characters | In Usernames | In Passwords |
|---|---|---|
| Letters of the Latin alphabet in upper case (A-Z) and in lower case (a-z) | allowed | allowed |
| Numerals (0-9) | allowed | allowed |
| Spaces | allowed | allowed |
| Umlauts (ä, ö, ü) | not allowed | not allowed |
| The letter ß | not allowed | not allowed |
| Currency symbols: € | not allowed | not allowed |
| Special characters: - _ , . | allowed | allowed |
| Special characters: ! " # $ % & ' ( * ) + / : ; < = > ? @ [ \ ] ^ ‘ { \| } ~ | not allowed | allowed |
| Special characters: § ´ | not allowed | not allowed |

## Instructions: Configuring FRITZ!Box Users

1. Open the user interface; see page 50.
2. Select “System / FRITZ!Box Users / Users”.
3. For instructions, open the online help ?.

# Selecting Signaling of the “Info” LED

## Overview

The “Info” LED signals various events. Some events are preset and configured permanently; see page 24. In addition to this, the “Info” LED can be assigned to display another event of your choice.

## Example 1

You would like to be notified about new messages on the answering machine. The “Info” LED flashes when there are new messages on the FRITZ!Box answering machine. The LED stops flashing as soon as all new messages have been heard.

## Example 2

You would like to be notified when the data or time included in your internet package, stipulated in the “Internet / Online Monitor / Online Meter”, has been exhausted. The “Info” LED will then flash when the con-figured volume has been exceeded.

## Instructions: Selecting the Signaling of the “Info” LED

1. Open the user interface; see page 50.
2. Select “System / Buttons and LEDs / 'Info' Display.”
3. For instructions, open the online help ?.

# Switching Off the LED Display

## Overview

By means of the LEDs, your FRITZ!Box notifies you about the current connection status and signals events in the home network. In the “System / Buttons and LEDs / LED Display” menu you can switch off the brightness of the LEDs. Error conditions will still be signaled, and it is also possible to switch them on briefly without permanently changing the LED display settings.

## Example

Your FRITZ!Box is located in the bedroom and you find the light from the LEDs too bright or irritating.

## Instructions: Switching Off and Dimming the LEDs

1. Open the user interface; see page 50.
2. Select “System / Buttons and LEDs / LED Display”.
3. For instructions, open the online help.

# Locking and Unlocking Buttons

## Overview

You can lock the buttons on the FRITZ!Box. Locking the buttons prevents the settings for your FRITZ!Box or your home network from being changed unintentionally or without authorization.

## Instructions: Locking the FRITZ!Box Buttons

1. Open the user interface; see page 50.
2. Select “System / Buttons and LEDs / Keylock”.
3. Enable the checkbox “Buttons locked”.
4. Click on “Apply”.

The buttons are locked.

## Instructions: Unlocking the FRITZ!Box Buttons

1. Open the user interface; see page 50.
2. Select “System / Buttons and LEDs / Keylock”.
3. Disable the “Buttons locked” checkbox.
4. Click on “Apply”.

The button lock is disabled.

# Setting the User Interface Language

## Overview

You can change the language of the user interface. You can choose between Dutch, English, French, German, Italian, Polish, and Spanish.

## Rules

- FRITZ!Fon cordless telephones automatically adopt the new language of the FRITZ!Box. You can prevent this: Within two minutes after you changed the language setting in the FRITZ!Box, press “Cancel” on the FRITZ!Fon.

## Instructions: Setting the User Interface Language

1. Open the user interface; see page 50.
2. In the “System / Region and Language” menu, select the “Language Settings” tab.
3. Select the desired language from the drop-down list.
4. Click on “Apply”.

   The FRITZ!Box restarts. After restarting, the user interface appears in the language you selected.

# Changing Regional Options

## Overview

The FRITZ!Box is optimized to make telephone calls in various countries. With the regional options you specify the country in which you use your FRITZ!Box for telephone calls. This way you ensure that the FRITZ!Box adapts optimally to the telephony functionality of the country in which it is used.

## Instructions: Changing Regional Options

1. Open the user interface; see page 50.
2. Select “System / Region and Language / Regional Options”.
3. For instructions, open the online help .

# Adjusting the Time Zone

## Overview

By default, the FRITZ!Box automatically sets the time zone when it connects to the internet. However, you can also set the time zone where you use the FRITZ!Box manually.

If you are using the FRITZ!Box in a country with daylight saving time, you can enable the option to adjust to daylight time automatically.

For all features of the FRITZ!Box to work smoothly, the FRITZ!Box must always be set to the local time zone where it is located.

## Instructions: Adjusting the Time Zone

1. Open the user interface; see page 50.
2. Select “System / Region and Language / Time Zone”.
3. For instructions, open the online help .

# Saving Settings

## Overview

You can save all of the settings made in your FRITZ!Box to a backup file. Using this file you can save time on future configurations:

- You can restore the saved settings to your current FRITZ!Box.
- You can load the saved settings into another FRITZ!Box of the same model.
- You can load the saved settings into another FRITZ!Box of a different model.

## Instructions: Saving Settings Automatically

1. Open the user interface; see page 50.
2. Select “System / Push Service / Push Services”.
3. For instructions, open the online help ?.

## Instructions: Saving Settings Manually

1. Open the user interface; see page 50.
2. Select “System / Backup / Save”.
3. For instructions, open the online help ?.

# Loading Settings

## Overview

FRITZ!Box settings you have previously saved can be restored.

- You can restore settings saved in your current FRITZ!Box.
- You can load the saved settings into another FRITZ!Box of the same model.
- You can load the saved settings into another FRITZ!Box of a different model.

When restoring your FRITZ!Box settings, you can choose whether to restore all settings, or only certain selected ones.

## Instructions: Loading Settings

1. Open the user interface; see page 50.
2. Select “System / Backup / Restore”.
3. For instructions, open the online help .

# Restarting the FRITZ!Box

## Overview

A restart of your FRITZ!Box may be necessary if the FRITZ!Box no longer reacts correctly, or if internet connections can no longer be established for no apparent reason. You can perform a restart directly on the FRITZ!Box or via the FRITZ!Box user interface.

## Consequences of Restarting

- The FRITZ!Box is reinitialized.
- Events in the “System / Event Log” menu are deleted.
- Settings you made in the FRITZ!Box remain intact.

## Instructions: Restarting the FRITZ!Box

1. Remove the power adapter of the FRITZ!Box from the electrical outlet.
2. Wait 5 seconds.
3. Plug the power adapter back into the outlet.

Restarting the FRITZ!Box takes about 2 minutes.

## Instructions: Restarting the FRITZ!Box from the User Interface

1. Open the user interface; see page 50.
2. Select “System / Backup / Restart”.
3. For instructions, open the online help ?.

# Restoring Factory Settings

## Overview

You can restore factory settings to the FRITZ!Box.

## Application Example

Resetting makes sense in the following cases:

- You forgot the login information for your FRITZ!Box and can no longer access the FRITZ!Box user interface.
- The FRITZ!Box no longer works properly (for instance, due to improper settings).
- The FRITZ!Box is to be passed on to an outside party for repair.
- The FRITZ!Box is to be resold to another user.
- The FRITZ!Box is to be disposed of.

## Consequences of Resetting

- All of the settings you made in the FRITZ!Box are deleted.
- The network key from the factory settings will be reactivated.
- The name of the Wi-Fi network (SSID) will be reset.
- The IP configuration of the factory settings will be restored.

## Preparations

If you would like to restart operation of the FRITZ!Box after restoring factory settings, make the following preparations:

- Save your FRITZ!Box settings; see page 165.

## Instructions: Restoring Factory Settings

When the factory settings are restored, all of the settings you made in the FRITZ!Box are deleted.

1. Open the user interface; see page 50.
2. In the FRITZ!Box user interface, select the “System / Backup” menu.
3. Select the “Factory Settings” tab.
4. Click on the “Load Factory Settings” button.

The FRITZ!Box is reset to its factory settings. All data are deleted.

If you intend to restart operation of the FRITZ!Box, we recommend updating the FRITZ!OS of the FRITZ!Box; see page 173.

# Performing a FRITZ!OS Update Automatically

## Overview

The FRITZ!Box works with its own operating system: FRITZ!OS. AVM regularly makes new versions of FRITZ!OS available for your FRITZ!Box, free of charge. Updates contain further developments and often new features.

With the automatic update function of the FRITZ!Box you will never miss a software update for your FRITZ!Box and will be able to use new features right away. A new version of FRITZ!OS can contain improvements, bug fixes, and important security updates, as well as significant new functions.

Always install the latest FRITZ!OS version on all FRITZ! products in your FRITZ!Box home network. This keeps your FRITZ! products up to date and ensures optimum synchronization of all devices in your home network.

## Properties of Automatic Updates

In the “System / Update / Auto Update” menu you can specify when and which updates should be installed automatically, or whether you would like to be merely informed about new FRITZ!OS updates. The default setting is for notification of updates and automatic installation of all updates (level III).

The “Automatic Update” function offers you the following methods:

| Procedure | Description |
|---|---|
| Level I: Notify me about new FRITZ!OS versions | • The FRITZ!Box indicates that a new version of FRITZ!OS is available on the "Overview" page.<br>• You start the update yourself; see page 175. |
| Level II: Notify me about new versions of FRITZ!OS and install necessary updates automatically | • The FRITZ!Box indicates that a new version of FRITZ!OS is available on the "Overview" page. You start the update yourself; see page 175.<br>• Updates that AVM regards as necessary for continued secure and reliable operation (for instance, security updates) will be installed automatically.<br>• The FRITZ!Box selects a suitable time for the update, generally at night.<br>• During installation all internet and telephony connections will be interrupted briefly. |
| Level III: Notify me about new versions of FRITZ!OS and install new versions automatically (recommended) | • The FRITZ!Box indicates that a new version of FRITZ!OS is available on the "Overview" page.<br>• Every new version of FRITZ!OS will be installed automatically.<br>• The FRITZ!Box selects a suitable time for the update, generally at night.<br>• During installation all internet and telephony connections will be interrupted briefly. |

The FRITZ!Box is preconfigured for automatic updates, generally at night. During installation all internet and telephone connections will be briefly interrupted. If you require a stable internet connection without interruption at night, for instance for working on servers, large downloads or updates, then select a time period that works better for you with the “Define time range” option in the “System / Update / Auto Update” menu of the FRITZ!Box.

### Instructions: Configuring Automatic Updates

1. Open the user interface; see page 50.
2. Select “System / Update / Auto Update”.
3. For instructions, open the online help.

### Instructions: Disabling Automatic Updates

If you do not wish to have updates installed or searched for automatically, you can disable this function.

We recommend keeping the search for updates and the automatic installation of updates enabled. This way you benefit from further developments of existing and new features for your FRITZ!Box.

1. Open the user interface; see page 50.
2. Select “Internet / Account Information / AVM Services”.
3. For instructions, open the online help.

# Performing a FRITZ!OS Update in the Mesh Overview

## Overview

The FRITZ!Box works with its own operating system: FRITZ!OS. AVM regularly makes new versions of FRITZ!OS available for your FRITZ!Box, free of charge. Updates contain further developments and often new features.

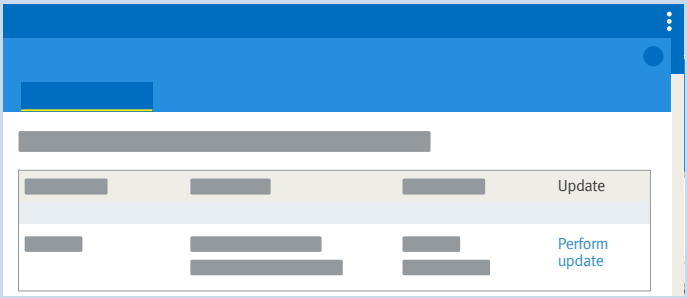
You can update the FRITZ!OS in the user interface of your FRITZ!Box, in the Mesh Overview.

Always install the latest FRITZ!OS version on all FRITZ! products in your FRITZ!Box home network. This keeps your FRITZ! products up to date and ensures optimum synchronization of all devices in your home network.

## Instructions: Performing a FRITZ!OS Update in the Mesh Overview

Do not clear the connection between the FRITZ!Box and the computer during a FRITZ!OS update, and do not unplug the power cord. Interrupting a FRITZ!OS update could damage your FRITZ!Box.

1. Open the user interface; see page 50.
2. Select “Home Network / Mesh”.
3. When a new update is available, the “Active Connections in the Home Network and Current Software Version” table displays the “Perform update” link next to the FRITZ!Box entry.



4. Start the update by clicking on “Perform update” and wait until the message “Update was successful” appears.

# Performing a FRITZ!OS Update with the Wizard

## Overview

The FRITZ!Box works with its own operating system: FRITZ!OS. AVM regularly makes new versions of FRITZ!OS available for your FRITZ!Box, free of charge. Updates contain further developments and often new features.

Using the "Update" wizard makes it especially easy to install a new version of FRITZ!OS. The wizard checks whether a new version of FRITZ!OS is available and guides you step by step through installation.

Always install the latest FRITZ!OS version on all FRITZ! products in your FRITZ!Box home network. This keeps your FRITZ! products up to date and ensures optimum synchronization of all devices in your home network.

## Instructions: Performing a FRITZ!OS Update with the Wizard

Do not clear the connection between the FRITZ!Box and the computer during a FRITZ!OS update, and do not unplug the power cord. Interrupting a FRITZ!OS update could damage your FRITZ!Box.

1. Open the user interface; see page 50.
2. On the "Overview" page, select the "Wizards" menu.
3. Start the "Update" wizard.
   The "System / Update / FRITZ!OS Version" page is opened.
4. Click on the "Find New FRITZ!OS" button.
   The wizard checks whether a FRITZ!OS update is available for your FRITZ!Box.
   If the wizard finds an update, the version number of the new FRITZ!OS is displayed. Click on the link under the FRITZ!OS ver-sion to view information about further developments and new functions contained in the FRITZ!OS update.

5. To install an update, click on the “Start Update” button.

   The FRITZ!OS update begins and the “Info” LED starts flashing.
   The FRITZ!OS update is complete when the LED stops flashing.

# Performing a FRITZ!OS Update Manually

## Overview

The FRITZ!Box works with its own operating system: FRITZ!OS. AVM regularly makes new versions of FRITZ!OS available for your FRITZ!Box, free of charge. Updates contain further developments and often new features.

In some cases it is not possible to perform an automatic update, or an update via the "Mesh Overview" or wizard. Then you have the option of performing a manual update with a FRITZ!OS file that is already saved on your computer's hard drive, or on a storage medium connected to the computer, for instance a USB stick. No internet connection is needed for this update.

Always install the latest FRITZ!OS version on all FRITZ! products in your FRITZ!Box home network. This keeps your FRITZ! products up to date and ensures optimum synchronization of all devices in your home network.

## Instructions: Performing a FRITZ!OS Update Manually

Do not clear the connection between the FRITZ!Box and the computer during a FRITZ!OS update, and do not unplug the power cord. Interrupting a FRITZ!OS update could damage your FRITZ!Box.

1. Enter the following address in the web browser: ftp.avm.de/fritzbox.
2. Switch to the folder for your FRITZ!Box model, then to the subfolder "other", and then to the "fritz.os" folder.
   The complete model name of your FRITZ!Box is shown in the user interface on the "Overview" page and on the bottom of the housing.
3. Download the file with the file extension ".image" to your computer.
4. Open the user interface; see page 50.

5. Select “System / Update / FRITZ!OS File”.
6. If you did not configure the “Save Settings” push service: Back up the settings on your FRITZ!Box before the update. Using this file you can restore the settings of your FRITZ!Box as needed.
   - Enable the option “Create a backup file before the update”.
   - Assign a password for the encryption of your backup file.
   - Perform the additional confirmation and click on “OK”.
   - Save the backup file.
7. Click on the “Browse...” button and choose the file with the new FRITZ!OS you already downloaded and saved on your computer.
8. Click on “Start Update”.

The FRITZ!OS update begins and the “Info” LED starts flashing. The FRITZ!OS update is complete when the “Info” LED stops flashing.

# User Interface: Wizards Menu

# Using the Wizards

## Overview

Wizards guide you step by step through configuration of the most important FRITZ!Box functions. All settings options are commented on in detail. Follow the wizard's instructions in each window to configure your settings.

When you cancel a wizard, any entries you made during the course of using the wizard are discarded.

## Range of Functions

The following wizards assist you in step-by-step configuration:

| Wizard | Function |
|---|---|
| Manage Telephony Devices | Connects and configures the following devices:<br>• telephones<br>• answering machines<br>• fax machines<br>• cordless (DECT) telephones |
| Manage Telephone Numbers | Adds and edits telephone numbers |
| Check the Status of the FRITZ!Box | Performs diagnostics of the functional status of your FRITZ!Box, its internet connection, and the home network connection to the FRITZ!Box |

| Wizard | Function |
|---|---|
| Security | • Performs diagnostics of FRITZ!Box settings that regulate access to the FRITZ!Box from the internet or in the home network<br>• Warns about potentially insecure settings |
| Save and Restore Settings | Saves and restores the FRITZ!Box settings |
| Update | Checks whether a new version of FRITZ!OS is available for your FRITZ!Box |
| Configuring Push Service | Sets up push services (automatic email sent with status and usage data) |
| More Functions in Brief | Introduces new and interesting functions, settings, and features of the FRITZ!Box |

### Instructions: Starting Wizards

1. Open the user interface; see page 50.
2. Click on the “Wizards” menu.
3. Start the wizard of your choice with a mouse click.
4. Follow the instructions the wizard displays on the screen.

# MyFRITZ!

# What Is MyFRITZ!?

## Overview

MyFRITZ! adds additional functionality to your FRITZ!Box. With MyFRITZ! you can access various information and features of your FRITZ!Box via the internet or from the home network.

## MyFRITZ! Components

| | MyFRITZ! account / MyFRITZ!net | MyFRITZ!App | MyFRITZ! / myfritz.box |
|---|---|---|---|
| Function | MyFRITZ! in the internet | MyFRITZ! mobile | MyFRITZ! in the home network |
| Access to | a personal FRITZ!Box overview portal and, depending on the user rights, to FRITZ!Box functions | FRITZ!Box functions from on the go | FRITZ!Box functions in the home network |
| Accessed via... | log in with MyFRITZ! account on the http://www.myfritz.net website | a mobile device (with MyFRITZ!App installed) | MyFRITZ! link in the FRITZ!Box user interface or the address http://myfritz.box in the browser |

## Using MyFRITZ! in the Internet: MyFRITZ! Account / MyFRITZ!Net

With the MyFRITZ! account you can log in to the FRITZ!Box Overview page http://www.myfritz.net via web browser and access your FRITZ!Box from there, for instance, to retrieve information on calls or to access photo, music, or video files on home network storage. The FRITZ!Box automatically sends important information about the home network to the email address of the MyFRITZ! account.

Create a MyFRITZ! account with an email address and a password.

## FRITZ!Box FRITZ!Box Web Address

Upon registering with the MyFRITZ! account, the FRITZ!Box is assigned a web address at which it can always be reached.

If internet access to the FRITZ!Box is enabled and a FRITZ!Box user has been configured with “Access from the internet allowed” rights, then you can open the assigned web address in a browser to access your FRITZ!Box directly.

You can also use the assigned web address to establish VPN connections to your FRITZ!Box or server services and network devices in the home network for which you configured port sharing in the FRITZ!Box ; see page 84.

In the following case, the assigned address cannot be reached from the internet:

- Your internet service provider did not assign a public IPv4 address to your FRITZ!Box , for instance for connections with the dual-stack lite protocol. The FRITZ!Box does not have a public IPv4 address if the message “ FRITZ!Box uses a DS Lite tunnel” is displayed in the “Connections” section of the “Overview” menu in the user interface.

## Using MyFRITZ! from a Mobile Device: MyFRITZ!App

With the free MyFRITZ!App you receive information from the home network directly on your mobile device. You can access your FRITZ!Box at any time from anywhere.

- Messages: view the FRITZ!Box call list and listen to messages on the answering machine

- Home network: access the FRITZ!Box user interface and connected home network devices securely
- Smart Home: Control smart plugs and radiator controls
- Convenience functions: control answering machines and call diversion settings

To use the MyFRITZ!App with iOS, a MyFRITZ! account and a FRITZ!Box user account must be configured; see page 155.

### Using MyFRITZ! in the Home Network: myfritz.box

Via the "MyFRITZ!" overview page at the address "myfritzbox" you can access functions of your FRITZ!Box frequently used in the home network directly from your browser:

- Call list: View calls and listen to messages
- Convenience functions: Display and switch Wi-Fi, WPS, guest access, answering machines on and off
- Smart Home: Switch and control smart plugs and radiator controls

Which functions you can access depends on the rights configured for the FRITZ!Box users logged in. If you logged in with the general FRITZ!Box password, you have access to all areas; see page 155.

# Creating a New MyFRITZ! Account

## Overview

In order to be able to use MyFRITZ! via the http://www.myfritz.net website or via the MyFRITZ!App for iOS, a MyFRITZ! account is needed. When the MyFRITZ! account is created, the FRITZ!Box from which the account is created is registered with the MyFRITZ! account.

If you would like to use MyFRITZ! only via the MyFRITZ!App for Android, then you do not need a MyFRITZ! account.

## MyFRITZ! Account and FRITZ!Box

You only have to set up a MyFRITZ! account once. It exists no matter which FRITZ!Box was used to create it. Once an account has been created you can register any number of FRITZ!Box models with your MyFRITZ! account. If you switch to a new FRITZ!Box, you can then register the new model with your existing MyFRITZ! account and delete any old FRITZ!Box models no longer in use.

## Instructions: Creating a New MyFRITZ! Account or Using an Existing MyFRITZ! Account

1. Open the user interface; see page 50.
2. Select “Internet / MyFRITZ! Account”.
3. For instructions, open the online help.

# Configuring MyFRITZ!App in Android

## Overview

With the MyFRITZ!App you can access your FRITZ!Box from anywhere using your Android device. The MyFRITZ!App is configured in the FRITZ!Box home network first.

The MyFRITZ!App from AVM can be downloaded free from the Google Play Store.

## Requirements

- Android smartphone or Android tablet with Google Android 4 (or newer)
- Your Android mobile device is located in the Wi-Fi network of your FRITZ!Box .
- For registration with FRITZ!Box users: The user has " FRITZ!Box Settings" rights.
- For the connection to the home network: The "Allow access for applications" option is enabled in the "Access Settings in the Home Network" section of the "Home Network / Network / Network Settings".

## Instructions: Configuring MyFRITZ!App

1. Install the MyFRITZ!App from the Google Play Store on your mobile device.
2. Open the MyFRITZ!App.
3. If multiple FRITZ!Box models are displayed, select the FRITZ!Box you want to connect with.
4. To register with the FRITZ!Box, enter the required data.

   The MyFRITZ!App connects with the FRITZ!Box.

5. To configure secure access to the FRITZ!Box user interface and the connected home network devices, tap on “Home Network” and follow the instructions for configuring the home network connection.

# Configuring MyFRITZ!App in iOS

## Overview

With the MyFRITZ!App you can access your FRITZ!Box from anywhere using your Apple mobile device. The MyFRITZ!App is configured in the FRITZ!Box home network first.

The MyFRITZ!App from AVM is available for free download in the Apple App Store.

## Requirements

- iPhone (model 4GS or later) or iPod touch (5th generation or higher) or iPad with iOS 9.0 (or later).
- Your Apple mobile device is located in the Wi-Fi network of your FRITZ!Box.
- You configured a MyFRITZ! account and your FRITZ!Box is registered with this MyFRITZ! account.
- An account as a FRITZ!Box user has been set up for you in your FRITZ!Box, and the FRITZ!Box user has the rights “Access from the internet allowed” and “FRITZ!Box Settings”.

## Instructions: Configuring MyFRITZ!App

1. Install the MyFRITZ!App on your mobile Apple device.
2. Open the MyFRITZ!App.
3. If multiple FRITZ!Box models are displayed, select the FRITZ!Box you want to connect with.
4. To register with the FRITZ!Box, enter the required data.

   The MyFRITZ!App connects with the FRITZ!Box.

# Controlling the FRITZ!Box with Keypad Codes

# Information on Keypad Codes

## Overview

Various FRITZ!Box functions can be configured and operated using a connected telephone without opening the user interface. These include not only telephony functions like the alarm, Do Not Disturb, and call diversion, but also other functions. For instance, you can switch Wi-Fi on and off, and restore the factory settings to the FRITZ!Box.

## How It Works

Keypad codes are combinations of keys (for instance, #81*1*), which you enter on the telephone keypad.

## Requirements

- For analog telephones and DECT telephones with their own base station: The telephone is configured such that special characters (* and #) can be dialed; see the manual of your telephone.

## Rules

- Keypad codes do not work with smartphones.
- Keypad codes do not work with FRITZ!App Fon; exception: internal calls.
- Only the following shortcuts work with IP telephones: internal calls, call transfer, using keypad sequences, suppressing telephone number once, and call diversion on/off (international calls must be allowed for the IP telephone; see page 63)

## Entering Keypad Codes

A keypad code can contain the following characters: *, #, the numerals 0 to 9. Depending on the type of telephone, here is how to dial keypad codes:

| Type of Telephone | Action |
| --- | --- |
| Telephone without call button | • Pick up the handset.<br>• Enter the keypad code.<br>• Hang up. |
| Telephone with call button (usually green) | • Enter the keypad code.<br>• Press the “Call” (“Connect”) button.<br>• Press the end call key. |

# Configuration on the Telephone

## Instructions: Disabling Outside Line Access for the FON Port

If you make a lot of internal calls, you can disable outside line access on the “FON” port. Then you can enter internal numbers without the prefix ** (for instance, 1 instead of **1). Instead, you must dial the prefix 0 for outside calls (for instance, 0030399760 instead of 030399760).

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Disable outside line access:<br>#1100* (FON) | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Enabling Outside Line Access for the FON Port

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Enable outside line access:<br>#❶❶✱❶✱ (FON) | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Switching On Call Diversion for All Calls

Call diversion automatically diverts incoming calls to a previously specified external telephone number. If your telephone provider supports this, calls will be diverted by your provider and your line will remain free for other calls. Otherwise the FRITZ!Box establishes a second connection. In either case, extra charges will accrue according to your contracted telephone rates.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |

| Telephone without Call Button | Telephone with Call Button |
|---|---|
| Configure immediate call diversion to destination call number <DCN>:<br>✱21✱<DCN>✱#<br>Configure call diversion after 20 seconds to destination call number <DCN>:<br>✱61✱<DCN>✱#<br>Configure call diversion on busy to the destination call number <DCN>:<br>✱67✱<DCN>✱# | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Switching Off Call Diversion for All Calls

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch off immediate call diversion:<br>✱21✱✱#<br>Switch off delayed call diversion:<br>✱61✱✱#<br>Switch off call diversion on busy:<br>✱67✱✱# | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Switching On Call Diversion for One Telephone Number

If you have multiple telephone numbers, you can configure call diversion that is applied to only one specified telephone number (TN). Calls for your other telephone numbers will not be diverted.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch on immediate call diversion to destination call number <DCN>:<br>✱21✱<DCN>✱<TN>#<br>Switch on call diversion after 20 seconds to destination call number <DCN>:<br>✱61✱<DCN>✱<TN>#<br>Switch on call diversion on busy to the destination call number <DCN>:<br>✱67✱<DCN>✱<TN># | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Switching Off Call Diversion for One Telephone Number

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch off immediate call diversion:<br>✱21✱✱<TN>#<br>Switch off delayed call diversion:<br>✱61✱✱<TN>#<br>Switch off call diversion on busy:<br>✱67✱✱<TN>#<br>  | |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Switching On Call Diversion for the FON Port

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch on immediate call diversion for the FON port without ringing to destination call number <DCN>:<br>#❹❶❶✱<DCN>✱<br>Switch on immediate call diversion for the FON port with ringing to destination call number <DCN>:<br>#❹❺❶✱<DCN>✱<br>Switch on call diversion for the FON port after 20 seconds to destination call number <DCN>:<br>#❹❷❶✱<DCN>✱<br>Switch on call diversion for the FON port on busy to the destination call number <DCN>:<br>#❹❸❶✱<DCN>✱<br>Switch on immediate call diversion for the FON port on busy, otherwise delayed, to the destination call number <DCN>:<br>#❹❹❶✱<DCN>✱ | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Switching Off Call Diversion for the FON Port

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch off call diversion for the FON port:<br>#401** | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Configuring a Telephone as a Baby Monitor

You can configure a telephone on the “FON” port as a baby monitor and use it to listen in on a room. As soon as a certain noise level is reached, the telephone then automatically calls a previously specified telephone number, for instance, the number of your mobile telephone.

You can also use your FRITZ!Fon cordless telephone as a baby monitor. See the manual of your FRITZ!Fon for instructions.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Press the following keys:<br>#4<level>*<TN>#<br><Level> specifies the sensitivity. Permitted values: 1 (highest) – 8 (lowest)<br><TN> is the internal or external telephone number that the baby monitor is supposed to call. Internal numbers should also be entered without **. | |
| |  |
| The baby monitor is enabled. Hang up to disable it. | |

## Instructions: Switching Wi-Fi On

The Wi-Fi network of your FRITZ!Box can be switched on and off using a connected telephone.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch Wi-Fi on:<br>#96*1* | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Switching Wi-Fi On and Off

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch Wi-Fi off:<br>#96*0* | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

# Operating on the Telephone

## Instructions: Operating the Answering Machine with the Telephone

You can operate the answering machine with the telephone using a voice menu, for instance to switch the answering machine on or off and to listen to messages.

Here is how to establish a connection to the answering machine:

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Establish a connection to the answering machine:<br>✱✱600 (answering machine 1)<br>✱✱601 (answering machine 2)<br>✱✱602 (answering machine 3)<br>✱✱603 (answering machine 4)<br>✱✱604 (answering machine 5) | |
| |  |
| Follow the voice menu | |

## Voice Menu of the Answering Machine

| Main Menu (Level 1) | Level 2 | Level 3 |
|---|---|---|
| 1 Play back messages | 3 Return call<br>5 Delete message<br>7 To previous message<br>9 To next message | |

| Main Menu (Level 1) | Level 2 | Level 3 |
|---|---|---|
| ❷ Delete all messages | | |
| ❸ Answering machine on/off | | |
| ❹ Record a greeting | ❶ Greeting message<br>❷ Greeting for announcement mode<br>❸ Closing message | ❶ Listen to all greetings, select greeting with ❷<br>❺ Delete greeting/announcement<br>❽ Record greeting, end with ❶ |
| ❺ Enable recording/announcement mode (no messages recorded in announcement mode) | | |

## Instructions: Picking Up a Call from the Answering Machine or Telephone

You can pick up and take the following calls on connected telephones:

- Calls that have already been accepted by an answering machine. This can be the FRITZ!Box answering machine or a connected answering machine.
- Calls that arrive at another connected telephone (the other telephone rings).

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Press the following keys:<br>✪09 | |
| |  |

## Instructions: Making Internal Calls

You can conduct free internal calls between connected telephones.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Enter an internal telephone number from the FRITZ!Box telephone book | |
| |  |

## Instructions: Starting a Broadcast Call

A group call or broadcast call is an internal call that is signaled on all telephones connected with the FRITZ!Box.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Press the following keys for a broadcast call:<br>✪✪⑨ | |
| |  |
| All telephones on the FRITZ!Box ring. You will be connected to the telephone that picks up the call first. | |

## Instructions: Transferring Calls with Consultation

With the “Call Transfer” feature you can forward (transfer) a call to another telephone or to an external telephone number.

For transferring a call on a telephone without a hold button, see the manual of the telephone.

<table>
<tr><th>Telephone without Call Button</th><th>Telephone with Call Button</th></tr>
<tr><td colspan="2">During the call with the party 1, press the hold button:<br>R<br>The call is on hold.</td></tr>
<tr><td colspan="2">Enter the telephone number of party 2. This can be an external telephone number or an internal number from the FRITZ!Box telephone book.</td></tr>
<tr><td colspan="2">When party 2 accepts the call, you can consult with others in the room.</td></tr>
<tr><td colspan="2">Connect party 1 and party 2 with each other:</td></tr>
<tr><td>  </td><td>On cordless telephones:<br>*4<br>Others:<br>  </td></tr>
<tr><td colspan="2">If party 2 cannot be reached or does not wish to speak with party 1, go back to party 1:<br>R1</td></tr>
</table>

## Instructions: Transferring Calls without Consultation

With the Call Transfer feature you can forward (transfer) a call to another connected telephone or to an external telephone number.

For transferring a call on a telephone without a hold button, see the manual of the telephone.

<table>
<tr><th>Telephone without Call Button</th><th>Telephone with Call Button</th></tr>
<tr><td colspan="2">During the call with the party 1, press the hold button:<br>®<br>The call is on hold.</td></tr>
<tr><td colspan="2">Enter the telephone number of party 2. This can be an external telephone number or an internal number from the FRITZ!Box telephone book.</td></tr>
<tr><td>  </td><td>On cordless telephones:<br>*4<br>Others:<br>  </td></tr>
</table>

## Instructions: Picking Up from Call Waiting

When the call waiting feature is enabled for a telephone, you are notified about incoming calls during an active telephone call. You hear a signal tone. You can accept or reject waiting calls.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
| During a call:<br>Pick up from call waiting: ⓇⓋ<br>Reject waiting call: ⓇⓄ | |
| If you pick up the waiting call, you can:<br>Switch between call 1 and call 2 (alternate): ⓇⓋ<br>End the active call and continue the other call: Hang up, wait until your telephone rings and pick up | |

## Instructions: Suppressing Telephone Number Once

For a call on the “FON” port you can suppress identification of your telephone number once (for one call). Then your telephone number will not be transmitted to the other caller during this call.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Press the following keys:<br>✱31# | |
| Enter the external telephone number | |
| |  |

## Instructions: Setting Up a Three-Party Conference

A three-party conference call is a call with three participants. The call can be conducted with external or internal parties.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
| During the call with the party 1, press the hold button:<br>Ⓡ<br>Call 1 is on hold. | |
| To establish the call with party 2, enter an internal or external telephone number. | |
| When party 2 accepts the call, establish the three-party conference:<br>Ⓡ❸ | |
| If party 2 cannot be reached, go back to party 1:<br>Ⓡ | |
| During the three-party conference call you can:<br>Interrupt the conference (you speak with party 1, call 2 is on hold): Ⓡ❷<br>Switch back and forth between parties 1 and 2 (alternate): Ⓡ❷<br>Restore an interrupted conference: Ⓡ❸<br>End call 2 and continue with call 1: Ⓡ❶<br>End the active call and continue the other call: Hang up, wait until your telephone rings, and pick up | |

## Instructions: Holding/Consultation/Toggling

During a telephone call you can establish a connection to another party (consultation) without ending the first call (the call is on hold). You can alternate between the two parties as often as you like.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
| During the call with the party 1, press the hold button:<br>Ⓡ<br>The call is on hold. | |
| To establish the call with party 2, enter an internal or external telephone number. | |
| When party 2 accepts the call, you can:<br>Toggle back and forth between the calls: Ⓡ❷<br>End the active call and continue the other call: Hang up, wait until your telephone rings, and pick up | |
| If party 2 cannot be reached, go back to party 1:<br>Ⓡ | |

## Instructions: Using Keypad Shortcuts

Keypad shortcuts are commands consisting of characters and numerals which you enter on the telephone. With keypad shortcuts you can control services and features in your telephone provider's network. For information about which keypad sequences you can use, contact your carrier.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Press the following keys (<Seq> is the keypad shortcut):<br>✱#<Seq> | |
| |  |

## Instructions: Enabling an Alarm

You can use connected telephones for alarm calls. For this you can set up, enable, and disable up to three alarms under “Telephony / Alarm” in the user interface. The first alarm configured can also be enabled and disabled with the telephone keys.

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch on the alarm:<br>#881** | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

## Instructions: Disabling an Alarm

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Switch alarm off:<br>#8810# | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

# Restoring Factory Settings with the Telephone

## Overview

You can restore factory settings to the FRITZ!Box by telephone. This is necessary, for instance, if you can no longer access the user interface of your FRITZ!Box because you've forgotten your password and did not configure the "Forgot Password" push service. Then the FRITZ!Box is reset to its factory settings.

## Consequences of Resetting

- All of the settings you made in the FRITZ!Box are deleted.
- The internal memory of the FRITZ!Box is deleted. Received messages on the answering machine and faxes will also be deleted.
- The preconfigured FRITZ!Box password is restored.
- The preconfigured network key and the preconfigured name of the Wi-Fi network (SSID) are reactivated.
- The preconfigured IP configuration is restored.

## Instructions: Loading Factory Settings

| Telephone without Call Button | Telephone with Call Button |
|---|---|
|  | |
| Restore factory settings to FRITZ!Box:<br>#991*1590159 0* | |
| |  |
| Wait for acknowledgment tone | |
|  |  |

# Malfunctions

# Troubleshooting Procedures

## Overview

The following table offers recommendations about what do when problems with your FRITZ!Box arise:

| Problem | Help |
|---|---|
| • LEDs not on<br>• No access to the user interface<br>• Wi-Fi connection cannot be established or is interrupted | Troubleshooting chart; see page 220 |
| Problem with:<br>• Connecting<br>• Configuration<br>• Telephony<br>• Internet<br>• Wi-Fi<br>• etc. | Knowledge Base; see page 224 |
| Troubleshooting chart and Knowledge Base do not offer a solution | Support, see page 225 |

# Troubleshooting Chart

## Overview

If malfunctions occur, for instance, such that you can no longer access the user interface of the FRITZ!Box , first try to solve the problems using the following tables.

## Troubleshooting Chart

| Problem | Cause | Solution |
|---|---|---|
| LEDs not on | Power supply interrupted | • Make sure the power supply unit is connected properly.<br>• Try plugging in a different device to make sure that the electrical outlet is active. |
| Cannot establish a Wi-Fi connection | Computer's wireless adapter not ready for operation | Switch on your computer's wireless adapter. For details, consult the manual of your computer. |
| | Wi-Fi network of the FRITZ!Box switched off | If the "WLAN" LED is off, press the WLAN button on the FRITZ!Box. Hold the button down until the "WLAN" LED begins flashing. |
| | Computer cannot find the Wi-Fi network of the FRITZ!Box | Enable the "Name of the Wi-Fi network visible" function ("Wi-Fi / Wi-Fi Network") in the FRITZ!Box user interface. |
| | Incorrect network key | Enter the correct network key ("Wi-Fi / Security"). |

| Problem | Cause | Solution |
|---|---|---|
| User interface does not open | Path name incorrect | Open the user interface by entering its complete address ( http://fritz.box instead of fritz.box). |
| | FRITZ!Box has crashed | Remove the FRITZ!Box from the power mains and restart the FRITZ!Box again after about five seconds. |
| | Cache is full | Empty the cache of your web browser.<br>For more information on this, see the help of your web browser. |
| | Proxy configuration does not allow the FRITZ!Box address | If a proxy server is enabled in your web browser, the address of the FRITZ!Box must be entered as an exception. Check your web browser settings.<br>For more information on this, see the help of your web browser. |
| | Computer is not configured to obtain IP address automatically | On your computer, enable the setting “Obtain an IP address automatically” for the network adapter used to connect to the FRITZ!Box .<br>For more information, see the documentation by the manufacturer of your operating system. |
| | Forgot FRITZ!Box password | Restore factory settings to the FRITZ!Box (see page 168). |

| Problem | Cause | Solution |
|---|---|---|
| | Combination of various settings in the “Internet” and “Home Network” menus. | Attempt to open the user interface with the emergency IP address; see page 223.<br>If this does not work, restore factory settings to the FRITZ!Box (see page 168). |
| Wi-Fi connection interrupted | Wi-Fi connection between FRITZ!Box and wireless device interrupted | Change the positions of the FRITZ!Box and the wireless devices:<br>• Do not set up the FRITZ!Box in the corner of a room.<br>• Do not set up the FRITZ!Box directly next to or beneath an obstacle or a metal object (like a cabinet or radiator).<br>• Position the FRITZ!Box and the wireless devices so that there are as few obstacles between them as possible. |
| | Wi-Fi channel with heavy interference | Configure automatic selection of the Wi-Fi channel in the FRITZ!Box user interface.<br>Then the FRITZ!Box will automatically select a Wi-Fi channel with the least interference possible (“Wi-Fi / Wi-Fi Channel”). |

# Opening the User Interface with the Emergency IP Address

## Overview

The FRITZ!Box has an emergency IP address at which the user interface can always be reached.

## Information on the Emergency IP Address

- The emergency IP address is: 169.254.1.1
- The emergency IP address cannot be changed.

## Requirements

- The computer with which the user interface was opened using the emergency IP address is connected with the FRITZ!Box by network cable.

## Instructions: Opening the User Interface with the Emergency IP Address

1. Disconnect the FRITZ!Box from other network devices and make sure that there is no Wi-Fi connection between your computer and the FRITZ!Box.
2. Restart your computer.
3. Open a web browser and enter the emergency IP address “169.254.1.1”.
4. Log in to the FRITZ!Box user interface.

# Knowledge Base

## Overview

Help for resolving problems with the FRITZ!Box is provided in the AVM Knowledge Base. This resource presents answers to the questions asked most frequently of our Support team.

If the problem cannot be resolved using the Knowledge Base, then contact the Support team; see page 225.

## AVM Knowledge Base

The AVM Knowledge Base is available online at:

en.avm.de/service

# Support

## Overview

The Support team assists you in resolving any problems with your FRITZ! products.

## Preparations

Keep the following device information handy:

- FRITZ!Box Model
- Article number, see page 20
- FRITZ!OS Version
- Internet service provider
- Error messages, if any

## Instructions: Support by Email

1. Start a web browser on your terminal device.
2. Open the website en.avm.de.
3. Click on “Service” and then on “Support”.
4. Click on “Support Request”  .
   Our email support is not available in all languages. If necessary, select an alternative language and then click on “Support Request”  .
5. Follow the instructions displayed on the screen.
6. To conclude, click on “Send Support Request”.

Our Support team will respond by email as quickly as possible.

# Decommissioning and Disposal

# Decommissioning

## Deleting Private Data

As the final user of a FRITZ! product, you are responsible for deleting your own personalized data on devices to be disposed of.

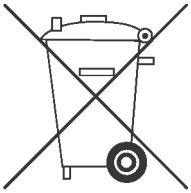
Delete your personal settings and personalized data from your FRITZ!Box device before ending its operation and disposing of the device. To do this, restore the factory settings to the FRITZ!Box; see page 168.

# Disposal

## Disposal of Electronic Devices and Electronic Components

In accordance with European regulations, the FRITZ! device, and devices and electronic components contained in the package, may not be disposed with household waste, residual waste, or the yellow recycling bin.

Bring your FRITZ! device and all electronic components included with delivery to a collection point in your local community for the disposal of electronic appliances where it can be disposed of properly. Distributors of electronic devices are also obligated to accept returns of their products free of charge.



The crossed out bin on the type label or on the housing of your FRITZ! device means that you are required by law to dispose of the electronic device separately from household waste.

# Technical Specifications

# Technical Specifications

## Device Properties

| Attribute | Value |
|---|---|
| Dimensions (W x H x D) | approx. 245 x 55 x 175 mm |
| Supply voltage | 230 V / 50 Hz |

## Ambient Conditions

| Property | Value |
|---|---|
| Operating temperature | 0 °C – +40 °C |
| Storage temperature | -20 °C – +70 °C |
| Relative humidity (operation) | 10 % – 90 % |
| Relative humidity (storage) | 5 % – 95 % |

## Active Power

| Attribute | Value |
|---|---|
| Maximum active power | 16 W |
| Intermediate active power, determined with the following load:<br>• internet connection enabled<br>• Wi-Fi on; no devices registered via Wi-Fi<br>• DECT on; one telephone registered via DECT; no active calls | 9-10 W |

## Ports and Interfaces

| Connected via | Interface |
|---|---|
| Fiber optics | FRITZ!SFP AON<br>• AON (Active Optical Network) fiber optic connection: ITU-T G.652; IEEE 802.3ah-2004 1000BASE-BX10<br>• Class 1 laser<br>FRITZ!SFP GPON<br>• GPON (Gigabit Passive Optical Network) fiber optic connection: ITU-T G.984.2/984.5<br>• Class 1 laser<br>FRITZ!SFP XGS-PON<br>• XGS-PON (10 Gigabit Symmetric Passive Optical Network): ITU-T G.9807<br>• Class 1 laser |
| FON | 1 a/b port with a RJ11 and TAE socket for connecting an analog terminal device |
| DECT | DECT base station:<br>• up to 6 handsets<br>• up to 10 FRITZ! DECT 200/210 smart plugs<br>• up to 10 FRITZ! DECT 440/400 switches to switch/control FRITZ! DECT devices<br>• up to 12 FRITZ! DECT 300/301/Comet DECT radiator controls<br>• up to 10 Smart Home devices by other manufacturers with the FRITZ!Box via HAN FUN |

| Connected via | Interface |
| --- | --- |
| LAN | 3 LAN ports via RJ45 sockets<br>• LAN 1: 2.5-gigabit Ethernet, 10/100/1000 BASE-T and 802.3bz-2016 (NBase-T), 2.5 Gbit/s<br>• LAN 2 – LAN 3: standard Ethernet, 10/100/1000 Base-T, 1 Gbit/s |
| Wi-Fi – 2.4 GHz range | Wireless access point for Wi-Fi networks in the 2.4 GHz range<br>Wi-Fi standards supported:<br>• IEEE 802.11g (Wi-Fi 3) – for 20 MHz channel bandwidth, transmission rates of up to 54 Mbit/s<br>• IEEE 802.11n (Wi-Fi 4) – for 40 MHz channel bandwidth, transmission rates of up to 400 Mbit/s (including 256QAM)<br>• IEEE 802.11ax (Wi-Fi 6) – for 40 MHz channel bandwidth, transmission rates of up to 600 Mbit/s |

| Connected via | Interface |
|---|---|
| Wi-Fi – 5 GHz range | Wireless access point for Wi-Fi networks in the 5 GHz range<br>Wi-Fi standards supported:<br>• IEEE 802.11a (Wi-Fi 3) – for 20 MHz channel bandwidth, transmission rates of up to 54 Mbit/s<br>• IEEE 802.11n (Wi-Fi 4) – for 20 MHz channel bandwidth, transmission rates of up to 300 Mbit/s<br>• IEEE 802.11n (Wi-Fi 4) – for 40 MHz channel bandwidth, transmission rates of up to 600 Mbit/s<br>• IEEE 802.11ac (Wi-Fi 5) – for 40 MHz channel bandwidth, transmission rates of up to 866 Mbit/s<br>• IEEE 802.11ax (Wi-Fi 6) – for 80 MHz channel bandwidth, transmission rates of up to 1200 Mbit/s |

## Wi-Fi Frequencies

| Frequency | Frequency Range | Max. Transmitter Power |
|---|---|---|
| 2.4 GHz | 2400 - 2483 MHz | 100 mW |
| 5 GHz | 5150 - 5350 MHz | 200 mW |
| | 5470 - 5725 MHz | 1000 mW |

In the 5 GHz band for Wi-Fi, the range from 5150 MHz to 5350 MHz is intended only for indoor use. This restriction or requirement is effective in the countries AT, BE, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, UK.

## DECT Radio Frequencies

| Frequency | Frequency Range and Transmitter Power |
|---|---|
| DECT | • Frequency range: 1880 MHz – 1900 MHz<br>• Maximum transmitter power: 250 mW |

## Electromagnetic Fields

The FRITZ!Box receives and transmits radio waves during operation.

- The FRITZ!Box was designed and constructed to comply with the threshold values for the exposition of radio waves recommended by the International Commission on Non-ionizing Radiation Protection (ICNIRP).
- This directive was formulated by independent scientific organizations after regular and careful evaluation of scientific studies. It includes a wide safety margin in order to ensure the safety of all persons, regardless of their age and health.
- For devices mounted in a fixed position that have their own power connection, like the FRITZ!Box, compliance with the minimum distance of 20 cm defined in the ICNIRP guideline has been certified. The measurements were conducted in accordance with the European EN 50385 standard.

## Audio Tones

| Beep | Melody |
|---|---|
| Busy signal | 500 ms tone, 500 ms pause, +/– 20 ms |
| Dial tone | 1 s tone, 4 s pause, +/– 100 ms |

# Legal Notice

# Legal Notice

## Manufacturer's Warranty

We, AVM GmbH, Alt-Moabit 95, 10559 Berlin, as manufacturer of this original product, offer a warranty of 5 years for defects to the product which are demonstrably due to faults in materials or manufacturing. Your legal rights in the case of defects for which claims can be made free of charge are not restricted by this warranty.

The warranty period begins with the date of purchase by the first end user. Compliance with the warranty period must be proven by submission of the original invoice of the first end consumer or comparable documents as well as the return of the product in question. In order to return your product, our Support team will send you a link to an "RMA form". After filling out this form you will receive an RMA number authorizing you to return the product to us. This RMA number must be clearly visible and easy to read on the outside of the package, and sufficient postage must be attached (insured shipping is recommended). The product must be dispatched within 14 days after the RMA number has been issued. The package is to be returned without the original box and accessories, packed carefully and secured for transportation. AVM accepts no liability for any damage during transport. Returns without an RMA number, packages sent freight collect or without sufficient postage, and packages without an invoice will not be processed and sent back to the sender; in such cases we reserve the right to charge a processing fee of up to 35 €.

Within the warranty period, we will remove reported defects to the product hardware which are demonstrably due to faults in materials or manufacturing. Our warranty does not cover defects which occur due to incorrect installation, improper use, non-observance of instructions in the user manual, normal wear and tear, or defects in the environment of the system (third-party hardware or software). In this case we reserve the right to return such devices without processing and will charge you a processing fee of 35 €. We may, at our discretion, repair or replace the defective product. AVM bears the costs for returning the repaired or exchanged product. Claims other than the right to the re-

moval of defects which is mentioned in these terms of warranty are not constituted. We guarantee that the software conforms with general specifications, not, however, that the software meets your individual requirements. Shipping costs will not be reimbursed. Products to be exchanged due to a warranty claim are transferred to our ownership upon provision of the replacement product. Claims recognized under warranty entail neither an extension nor a recommencement of the warranty period. If we reject a warranty claim, this claim lapses no later than six months after being rejected by us. All claims from or in association with this warranty shall be governed by German substantive law, to the exclusion of the United Nations Convention on Contracts for the International Sale of Goods (CISG).

## Legal Notice

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The licensing conditions are presented in the help for the FRITZ!Box 5530 Fiber user interface under the “Legal Notice” heading.

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## Declaration of CE Conformity

AVM declares herewith that the device is compliant with directive 2014/53/EU.

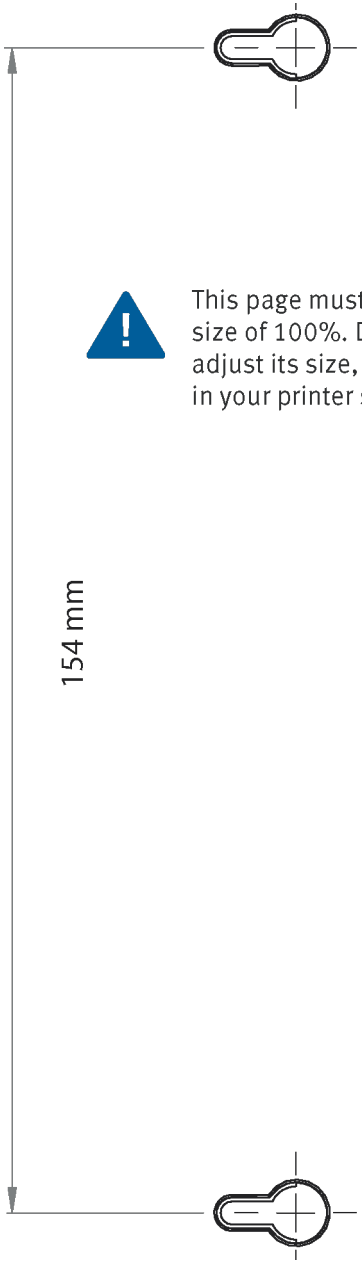
The full text of the declaration of EU conformity is available at https://en.avm.de/service/declarations.

# Drilling Template

See the next page for the drilling template for your FRITZ!Box.

The drilling template assists you in marking the holes needed to mount the FRITZ!Box on a wall.

Be sure to print out the page with the drilling template in its original size, or 100%. Do not enlarge it, adjust its size, reformat or rescale it in your printer settings.

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