



FRITZ!Box 7530

Manual

Table of Contents

General information on the FRITZ!Box.....	8
Safety instructions.....	9
About this manual.....	12
Package contents.....	13
Instructions and help.....	14
Information on cleaning.....	15
Functions and structure.....	16
Functions.....	17
Device data on the type label.....	19
Connection sockets.....	20
Buttons.....	23
LEDs.....	24
Connecting.....	27
Connecting FRITZ!Box: Steps.....	28
Placing or attaching to the wall.....	29
Connecting to electric power.....	31
Connecting to the DSL line.....	32
Connecting computers and other devices using a LAN cable.....	34
Connecting wireless devices with the FRITZ!Box.....	35
Option: Connecting to a modem or router.....	37
Overview.....	38
Connecting to router.....	39
Connecting to a DSL modem.....	41
Connecting to a fibre optic modem.....	43
Connecting to a cable modem.....	45
Option: Configuring internet via mobile network.....	47
Configuring internet via mobile network dongle or smartphone.....	48

Configuring.....	51
Configuring the FRITZ!Box: Steps.....	52
Using the Initial Configuration Wizard.....	53
Opening the FRITZ!Box User interface.....	54
Configuring the internet connection on the DSL line.....	55
Configuring your phone numbers.....	56
Option: Configuring internet access via DSL modem.....	57
Option: Configuring internet access via fibre optic modem.....	59
Option: Configuring internet access via cable modem.....	61
Option: Configuring internet access via another router (cascading).....	63
Option: Configuring internet access by Wi-Fi (cascading).....	65
Option: Configuring internet access via LAN connection to another router (IP client).....	67
Option: Configuring internet access by Wi-Fi (IP client).....	69
Connecting phones.....	71
Connecting phones, fax machines, and answering machines.....	72
Connecting a smartphone.....	74
Connecting a door intercom system.....	75
Configuring phones, fax machines and answering machines.....	76
Configuring a door intercom system.....	78
Expanding a Wi-Fi network with Mesh.....	79
Mesh with FRITZ!.....	80
Enabling Mesh for FRITZ!Repeaters and FRITZ!Powerline.....	82
Using the FRITZ!Box as a Mesh Repeater.....	84
User interface: Internet menu.....	85
Using AVM Services for Diagnostics and Maintenance.....	86
Configuring parental controls.....	88
Creating and assigning access profiles.....	91
Editing filter lists.....	93
Prioritizing internet access for devices and applications.....	95
Configuring port sharing.....	97

Enabling dynamic DNS.....	99
Accessing the the FRITZ!Box from the internet.....	100
Configuring VPN.....	102
Configuring IPv6.....	104
User interface: Telephony menu.....	106
Configuring and using the phone book.....	107
Configuring and using the answering machine.....	109
Using the Fax Function.....	111
Configuring call diversion.....	112
Configuring call blocks.....	113
Configuring Do Not Disturb.....	115
Setting an alarm.....	116
Configuring a dialling rule.....	117
Enabling DECT Eco.....	118
Allowing non-encrypted DECT connections.....	120
User interface: Home Network menu.....	121
Overview of the devices in the home network (Mesh Overview).....	122
Managing network devices.....	124
Changing the IPv4 settings of the FRITZ!Box.....	126
Distributing IPv4 addresses.....	129
Changing IPv6 settings.....	131
Configuring a static IP route.....	133
Obtaining an IP address automatically.....	134
Configuring LAN guest access.....	136
Configuring Wake on LAN.....	138
Using USB storage and USB devices on the FRITZ!Box.....	139
Configuring USB storage media as network storage.....	141
Integrating USB storage in the computer as a network drive.....	142
Configuring cloud storage in the FRITZ!Box.....	148
Configuring a USB printer as a network printer.....	150
Configuring USB 3.0 or 2.0 (Power mode / Green mode).....	153

Configuring and using the media server.....	154
Assigning a FRITZ!Box name.....	156
User interface: Wi-Fi menu.....	157
Switching the Wi-Fi network on and off.....	158
Selecting the Wi-Fi channel.....	159
Configuring Wi-Fi guest access.....	160
User interface: Smart Home menu.....	162
Smart home devices.....	163
Registering smart home devices with the FRITZ!Box.....	165
Operating smart home devices.....	166
Settings and possibilities in the smart home.....	167
User interface: Diagnostics menu.....	169
Starting function diagnostics.....	170
Starting security diagnostics.....	172
User interface: System menu.....	175
Saving power with the FRITZ!Box.....	176
Setting the mode for using energy-saving functions.....	177
Configuring energy-saving functions of the FRITZ!Box.....	178
Configuring push services.....	179
FRITZ!Box password.....	182
FRITZ!Box users.....	184
Specifying functions of the Info LED.....	186
Locking and unlocking buttons.....	187
Setting the user interface language.....	188
Changing regional options.....	189
Adjusting the time zone.....	190
Saving settings.....	191
Loading settings.....	192
Restarting the FRITZ!Box.....	193
Restoring factory settings to the FRITZ!Box.....	194
Configuring automatic FRITZ!OS updates.....	196

Performing a FRITZ!OS update manually.....	197
User interface: Wizards menu.....	198
Using the wizards.....	199
Performing a FRITZ!OS update with the wizard.....	201
Using the wizard to switch FRITZ!Boxes.....	202
FRITZ!NAS.....	204
Using FRITZ!NAS functions.....	205
Displaying FRITZ!NAS in the file manager.....	207
Backing up data from internal FRITZ!Box storage.....	208
MyFRITZ!.....	210
What is MyFRITZ!?.....	211
Configuring a MyFRITZ! account.....	213
FRITZ!Apps.....	214
MyFRITZ!App.....	215
FRITZ!App Smart Home.....	216
FRITZ!App Fon.....	217
FRITZ!App WLAN.....	218
Controlling the FRITZ!Box with keypad codes.....	219
Information on keypad codes.....	220
Configuration on the phone.....	222
Operating on the phone.....	232
Restoring factory settings by phone.....	245
Malfunctions.....	247
Troubleshooting procedures.....	248
Troubleshooting chart.....	249
Opening the user interface with the fallback IP address.....	252
Knowledge Base.....	253
Support.....	254
Taking out of service and disposal.....	255
Taking out of service.....	256
Disposal.....	257

Technical specifications..... 258

 Technical specifications..... 259

Legal..... 262

 Legal notice..... 263

Index..... 268

General information on the FRITZ!Box

Safety instructions..... 9

About this manual..... 12

Package contents..... 13

Instructions and help..... 14

Information on cleaning..... 15

Safety instructions

Before connecting the FRITZ!Box 7530, observe the following security instructions in order to protect yourself, the surroundings, and the FRITZ!Box from harm.

General security information

- Do not install the FRITZ!Box during an electrical storm.
- If possible, disconnect the FRITZ!Box from power and from the DSL line during storms.
- Only use the FRITZ!Box indoors.
- Protect the FRITZ!Box from vapours and moisture.
- Never let liquids get inside the FRITZ!Box.
- Connect the power adapter of the FRITZ!Box to an power socket that is easy to reach, so that you can unplug the power adapter at any time.
- Do not place the FRITZ!Box near any heat sources.
- Provide for sufficient air circulation around the FRITZ!Box.
- Make sure that the ventilation slots on the FRITZ!Box housing are always unobstructed.
- Do not cover the FRITZ!Box.
- Do not place the FRITZ!Box on heat-sensitive surfaces.
- The FRITZ!Box should not be placed on carpets or upholstery.
- Avoid using power strips and extension cords if at all possible.
- Do not connect multiple extension cords or power strips to each other.
- Do not attach any other objects to the FRITZ!Box.

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:

fritz.com/en/blogs/discover-fritz

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 centres, 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 minimum distance of 20 cm recommended by the manufacturers of medical devices in order to prevent malfunctions of your medical device.

Potentially explosive environments

Under unfavourable 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 where 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.

About this manual

FRITZ!OS version

This manual refers to the version FRITZ!OS 8 or later.

Symbols used

The following symbols are used in this manual:

Symbol	Meaning
	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.

Package contents

Package contents

No.	Supplied part	Details
1	FRITZ!Box 7530	
1	Power adapter	• 1.5 m
1	LAN cable	• Network cable • 1.5 m
1		• 4 m
1	Quick guide	Instructions for connecting the FRITZ!Box
1	FRITZ! Notes	Service card with FRITZ!Box settings upon delivery

Instructions and help

Instructions and help

Use the comprehensive customer documentation to connect, configure, and operate your FRITZ!Box. The latest information on products and updates is presented in the newsletter (available only in German) and on social media.

Medium	Contents	Location
Manual	Connecting, configuration, and operation	fritz.com/service/manuals
Quick guide	Connecting and configuration	Printed, included with delivery
Service card	Meaning of the LEDs and important settings upon delivery	Printed, included with delivery
Online help	Configuration and operation	User interface http://fritz.box
Knowledge Base	Solutions for problems during connection, configuration, and operation	fritz.com/service
Social media	The latest about the FRITZ!Box	YouTube
		Instagram
		Facebook
		Telegram
		X

Information on cleaning

Please note

- 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..... 17

Device data on the type label..... 19

Connection sockets..... 20

Buttons.....23

LEDs..... 24

Functions

Internet router

The FRITZ!Box 7530 is an internet router for DSL lines.

The FRITZ!Box can be used on the following DSL lines:

- ADSL/ADSL2 line
- ADSL2+ line (up to 24 Mbit/s)
- VDSL2 line
- VDSL2 line with vectoring (up to 100 Mbit/s)
- VDSL2 line with supervectoring (up to 300 Mbit/s)

Phone system

The FRITZ!Box is a phone system for IP-based connections with answering machine, phone book, call blocks, and other functions. You can connect the following devices:

- Cordless phones
- One analogue device (phone, answering machine, fax)
- IP phones

DECT base station for cordless phones

The FRITZ!Box is a DECT base station for cordless phones. You can register up to six cordless phones like FRITZ!Fon with the FRITZ!Box.

Smart home hub

The FRITZ!Box is a smart home hub for Smart Home devices from FRITZ! and smart home devices from other manufacturers that support the DECT ULE/HAN FUN protocol.

Wi-Fi

The FRITZ!Box supports Wi-Fi 5 (Wireless AC) on the 2.4 GHz band and on the 5 GHz band.

The FRITZ!Box supports Wi-Fi 4 (Wireless N) on the 2.4 GHz band.

Hub in the home network

The FRITZ!Box is the hub in the home network. The home network consists of all devices connected with the FRITZ!Box.

The FRITZ!Box media server transmits music, pictures, and videos to playback devices in the home network and FRITZ!NAS allows easy access to files in the network.

USB port

The FRITZ!Box has a USB 3.0 port to which you can connect the following devices:

- USB storage devices (for example, flash drives, external hard drives, card readers)
- USB printers, USB all-in-one printers, USB scanners
- USB mobile broadband dongles or smartphones with USB tethering
- USB hubs

MyFRITZ!

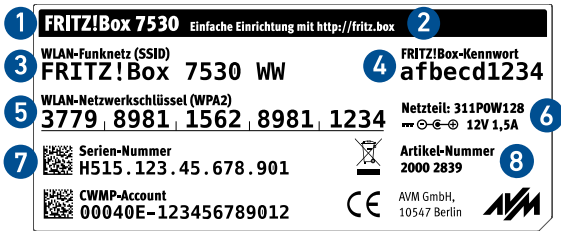
With MyFRITZ! you can access your FRITZ!Box home network securely from anywhere over the internet.

For instance, you can control smart home devices, open the call list, change FRITZ!Box settings, or access pictures, music, and videos that are saved on a connected USB storage medium.

Device data on the type label

Important device data for the FRITZ!Box is presented on the type label on the housing.

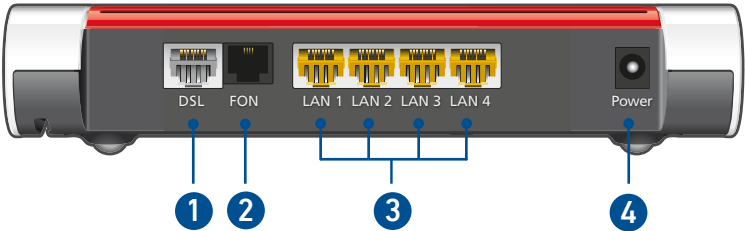
Device data on the type label



No.	Meaning
1	Product name
2	Address of user interface
3	Name of Wi-Fi network (SSID)
4	FRITZ!Box password
5	Network key (Wi-Fi password)
6	Power adapter specification
7	Serial number
8	Article number

Connection sockets

Connector panel



No.	Name	Function
1	DSL	
2	FON	
3	LAN 1 - LAN 4	
4	Power	

Connectors on the sides: FON



No.	Name	Function
1	FON	

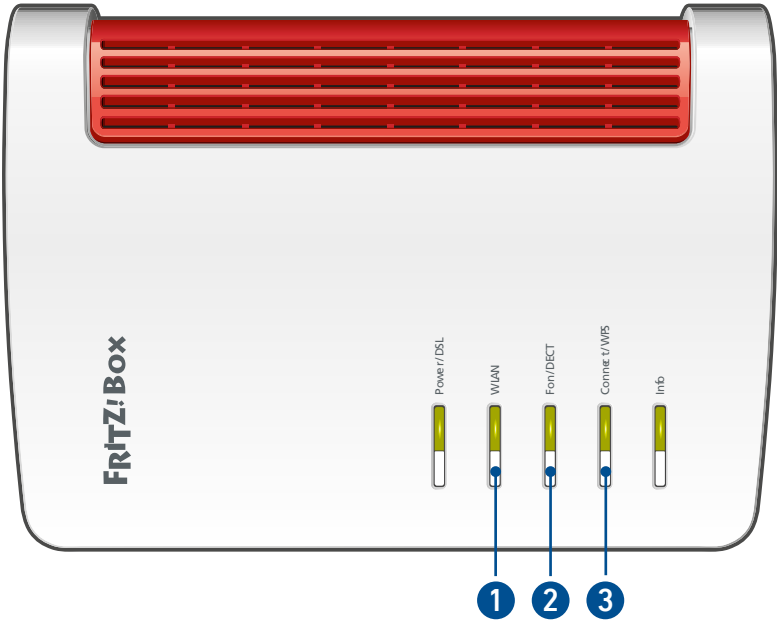
Connectors on the sides: USB



No.	Name	Function
1	USB	

Buttons

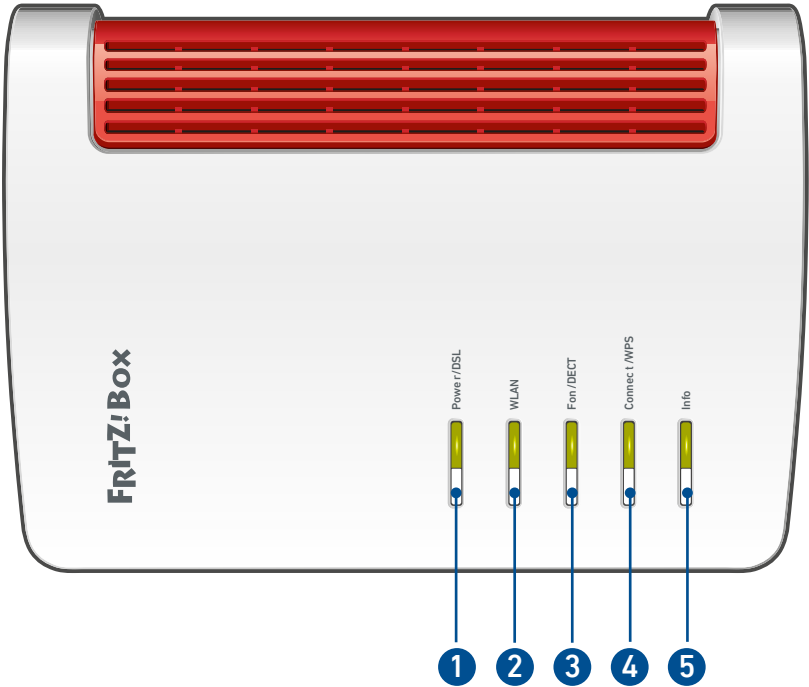
Button functions



No.	Button	Function
1	WLAN	Switch Wi-Fi on and off
2	Fon/DECT	Search for cordless phones (paging call)
3	Connect/WPS	- Register cordless phones with the FRITZ! Box; see page 72 - Register wireless devices with the FRITZ! Box via WPS; see page 36 - Register smart home devices with the FRITZ!Box

LEDs

Meaning of the LEDs



No.	LED	Condi- tion	Meaning
1	Power/ DSL	off	The device has no electrical power.
		on	The device has electrical power and DSL is synchronized. The FRITZ!Box is ready for operation.
		flashing	Power adapter is connected and the connection to DSL is being established or has been interrupted

No.	LED	Condition	Meaning
2	WLAN	off	Wi-Fi is disabled.
		on	Wi-Fi is enabled.
		flashing	- Switching Wi-Fi function on or off. - Applying changes to the Wi-Fi settings. - WPS in progress: Registration of a wireless device in progress.
3	Fon/DECT	off	No phone call is being conducted.
		on	A phone connection via the internet is active.
		flashing	Messages in your voice mailbox. (Function must be supported by the telephony provider.)
4	Connect/WPS	off	No devices registering with the home network.
		flashing	Registration in progress for a wireless, DECT, smart home or powerline device.
		on	Registration of a wireless, DECT, smart home or powerline device was successful.
		flashing fast	Registration aborted: more than 1 device registering with the FRITZ!Box. Repeat the registration: 1 device per registration.

No.	LED	Condition	Meaning
5	Info	off	None of the following processes is active:
		green	- FRITZ! Stick & Surf procedure with FRITZ!WLAN Stick concluded. - Adjustable; see page 186.
		flashing green	- FRITZ!OS update in progress. - FRITZ! Stick & Surf procedure with the FRITZ!WLAN Stick in progress. - Time budget for online time has been reached. - Adjustable; see page 186.
		on or flashing red	Error. Details on errors and tips for resolving them are presented in the FRITZ!Box user interface under Overview .

Connecting

Connecting FRITZ!Box: Steps.....	28
Placing or attaching to the wall.....	29
Connecting to electric power.....	31
Connecting to the DSL line.....	32
Connecting computers and other devices using a LAN cable.....	34
Connecting wireless devices with the FRITZ!Box.....	35

Connecting FRITZ!Box: Steps

Connect the FRITZ!Box by performing the following steps:

Instructions	
	Place or hang up the FRITZ!Box in a suitable location.
	Connect the FRITZ!Box to the power adapter.
	Connect the FRITZ!Box to your DSL connection.
	Connect a computer to the FRITZ!Box via LAN cable, or connect a computer, smartphone or tablet to the FRITZ!Box via Wi-Fi.

Placing or attaching to the wall

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.
- Connect the FRITZ!Box to a power socket 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. Do not cover the FRITZ!Box. The ventilation slits must never be obstructed.

Rules for optimum Wi-Fi reception

- Place the FRITZ!Box in a central location. A raised location like a shelf is ideal.
- The fewer walls and ceilings between the FRITZ!Box and your wireless devices, the better.
- Do not place the FRITZ!Box in, behind, or under a cabinet.
- Do not place the FRITZ!Box near metallic objects or objects containing water, like radiators, a refrigerator, or a houseplant.
- Make sure there is enough distance from potential sources of interference like microwaves, wireless speakers, and Bluetooth devices.

Instructions: FRITZ!Box placement

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 the FRITZ!Box on a wall



Damage to electric wiring or gas or water pipes during drilling can present a significant danger. Before mounting the FRITZ!Box on a 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. Measure the distance between the centres of the mounting holes on the FRITZ!Box.
The mounting holes are located on the back of the housing.
3. Mark two spots for drilling at the distance you measured at the desired location on the wall.
4. Drill two holes and insert screws.
5. Hang the FRITZ!Box on the wall with the socket strip pointing down.

Connecting to electric power

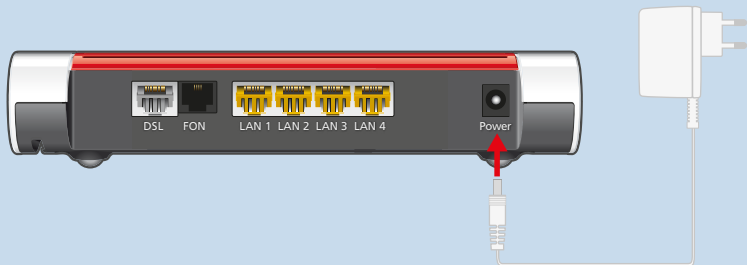
Connect the FRITZ!Box to the power adapter.

Please note

- If at all possible, do not use any power strips or extension cords.
- If it is not possible to avoid using a socket strip or an extension cord, 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. Plug the power adapter into a power socket.
2. Connect the power adapter to the socket on the FRITZ!Box labelled **Power**.

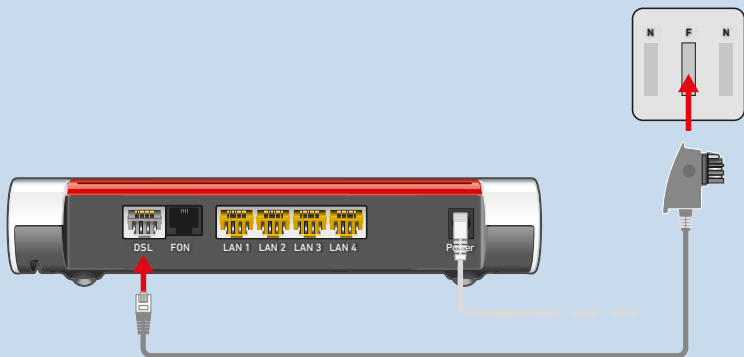


Connecting to the DSL line

Connect the FRITZ!Box to your DSL line. Use the connecting cable included with delivery.

Instructions: Connecting to a DSL line in Germany

1. Insert the RJ connector of the connecting cable into the **DSL** port on the FRITZ!Box.

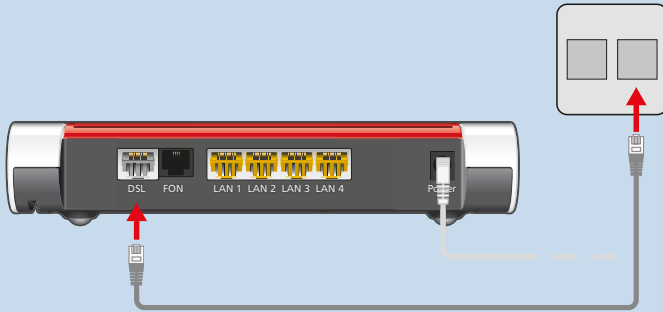


2. Insert the phone connector of the connecting cable into the socket on the phone jack labelled **F**.

After a short time the **Power/DSL** LED on the FRITZ!Box lights up.

Instructions: Connecting to a DSL line in other countries

1. Insert one end of the DSL cable into the **DSL** socket of the FRITZ!Box



2. Insert the other end of the cable into the RJ socket on your phone jack.

After a short time the **Power/DSL** LED on the FRITZ!Box lights up.

Connecting computers and other devices using a LAN cable

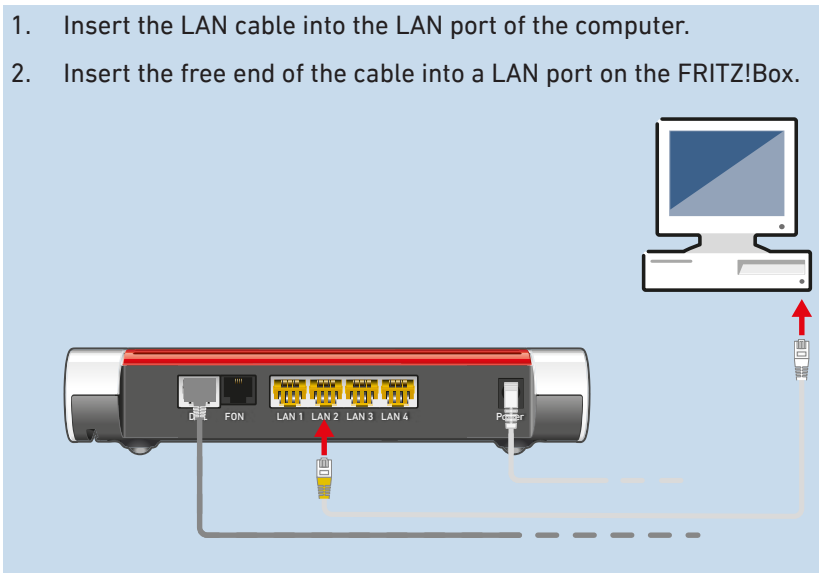
You can connect laptops, PCs, and other network devices with the FRITZ!Box using a LAN cable.

Please note

- The LAN cable used must not be longer than 100 m.

Instructions: Connecting a computer with a LAN cable

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



Instructions: Connecting a network hub or network switch

1. Insert the LAN 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 port on the FRITZ!Box.

Connecting wireless devices with the FRITZ!Box

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 WPS: Your wireless device supports WPS at the touch of a button (WPS Push Button).

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

Finding the Wi-Fi QR code of the FRITZ!Box

The QR code with the preconfigured Wi-Fi access information of the FRITZ!Box is found on the FRITZ! Notes.

If you changed the Wi-Fi settings, use the QR code from the FRITZ!Box user interface. There the QR code is found in the **Wi-Fi > Wi-Fi Network** menu.

Instructions: Establishing a Wi-Fi connection with the QR code

1. Open an app on your smartphone or tablet for scanning QR codes.
Many mobile devices and tablets can scan QR codes using the camera app.
2. Scan the Wi-Fi code of the FRITZ!Box.

The mobile device detects the QR code automatically and offers way to establish the Wi-Fi connection.

Instructions: Establishing a Wi-Fi connection using a network key

1. On the wireless device, select the Wi-Fi network of the FRITZ!Box.

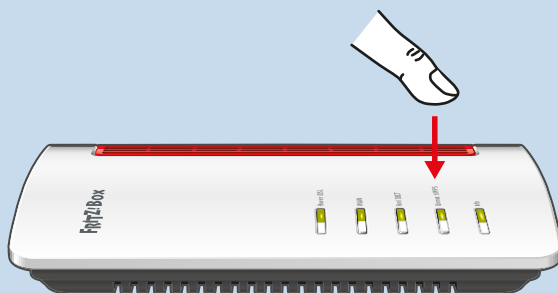
The preconfigured name of the Wi-Fi network (SSID) is printed on the type label attached to the FRITZ!Box housing.

2. Start the connection procedure.
3. Enter the network key of the FRITZ!Box.
This is printed on the type label on the outside of the FRITZ!Box 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. Select the Wi-Fi network of the FRITZ!Box.
The preconfigured name of the Wi-Fi network (SSID) is printed on the type label attached to the FRITZ!Box housing.
2. Start the connection procedure with 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.

Option: Connecting to a modem or router

Overview..... 38

Connecting to router..... 39

Connecting to a DSL modem..... 41

Connecting to a fibre optic modem..... 43

Connecting to a cable modem..... 45

Overview

You can connect the FRITZ!Box to a modem or to another router.

Connection options

With a modem or another router you can use the FRITZ!Box on the following internet connections:

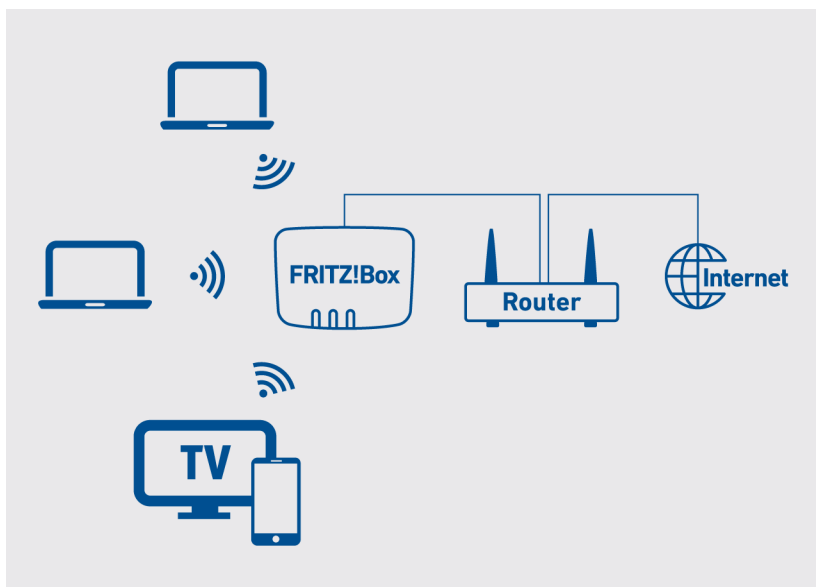
- Any internet connection with an internet router
- DSL or VDSL line with a DSL or VDSL modem
- Fibre optic connection with fibre optic modem (FTTH-ONT)
- Cable connection with cable modem

Connecting to router

You can connect the FRITZ!Box with a router that establishes the internet connection. Then the FRITZ!Box uses the internet connection of the router.

The FRITZ!Box can be operated as a router on another router or as an IP client. As a router, the FRITZ!Box generates its own IP network and works as a router itself. As an IP client, the FRITZ!Box becomes part of the IP network of the other router. The network devices connected to the FRITZ!Box receive their IP addresses from the other router.

Example configuration



Instructions: Connecting via LAN cable (operation as a router)

If the FRITZ!Box is to be operated as a router on another router, proceed as follows:

1. Insert a LAN cable into the **LAN 1** socket on the FRITZ!Box.

You can use the LAN cable supplied with the FRITZ!Box.

2. Insert the other end of the cable into the LAN socket on the internet router.
3. Set up the internet connection in the FRITZ!Box; [see page 63](#).

Instructions: Connecting via LAN cable (operation as an IP client)

If the FRITZ!Box is to be operated as an IP client, proceed as follows:

1. Insert a LAN cable into a LAN socket on the FRITZ!Box.
You can use the LAN cable supplied with the FRITZ!Box.
2. Insert the other end of the cable into the LAN socket on the internet router.
3. Set up the internet connection in the FRITZ!Box; [see page 67](#).

Connecting via Wi-Fi (operation as a router)

You can connect the FRITZ!Box with another router via Wi-Fi and operate the FRITZ!Box as a router; [see Option: Configuring internet access by Wi-Fi \(cascading\)](#), page 65.

Connecting via Wi-Fi (operation as an IP client)

You can connect the FRITZ!Box with another router via Wi-Fi and operate the FRITZ!Box as an IP client; [see Option: Configuring internet access by Wi-Fi \(IP client\)](#), page 69.

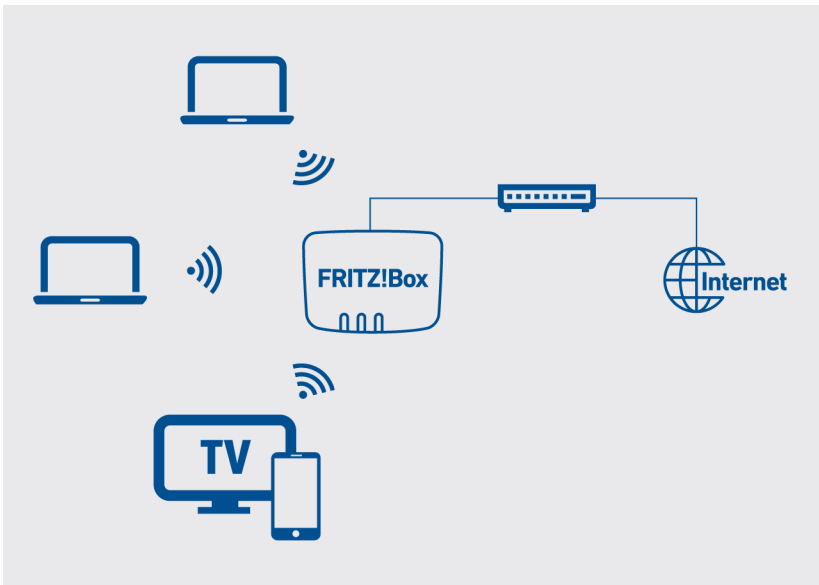
Connecting to a DSL modem

You can connect the FRITZ!Box with your DSL line using a DSL modem. Then the FRITZ!Box establishes the internet connection via the DSL connection.

Requirements

- A DSL modem is connected to your DSL line.

Example configuration



You need

- A LAN cable (for instance, from your FRITZ!Box package)

Instructions: Connecting to a DSL modem

1. Insert the LAN cable into the **LAN 1** socket on the FRITZ!Box.

2. Insert the other end of the cable into the LAN socket on the DSL modem.
3. Set up the internet connection via DSL in the FRITZ!Box; [see page 57](#).

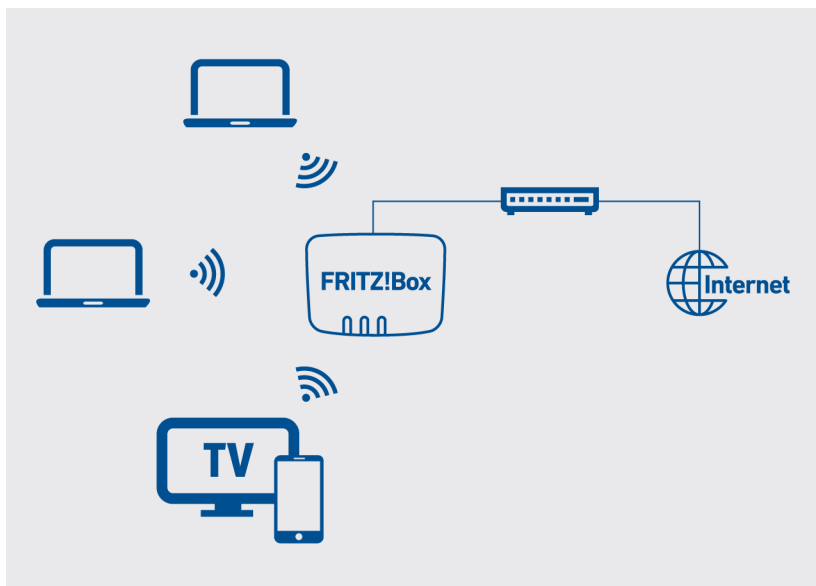
Connecting to a fibre optic modem

You can connect the FRITZ!Box with your fibre optic connection using a fibre optic modem (ONT). Then the FRITZ!Box establishes the internet connection via the fibre optic connection.

Requirements

- A fibre optic modem is connected to your fibre optic connection.

Example configuration



You need

- A LAN cable (for instance, from your FRITZ!Box package)

Instructions: Connecting to a fibre optic connection

1. Insert the LAN cable into the LAN 1 socket on the FRITZ!Box.

2. Insert the other end of the cable into the LAN socket on the fibre optic modem.
3. Set up the internet connection via the fibre optic connection in the FRITZ!Box; [see page 59](#).

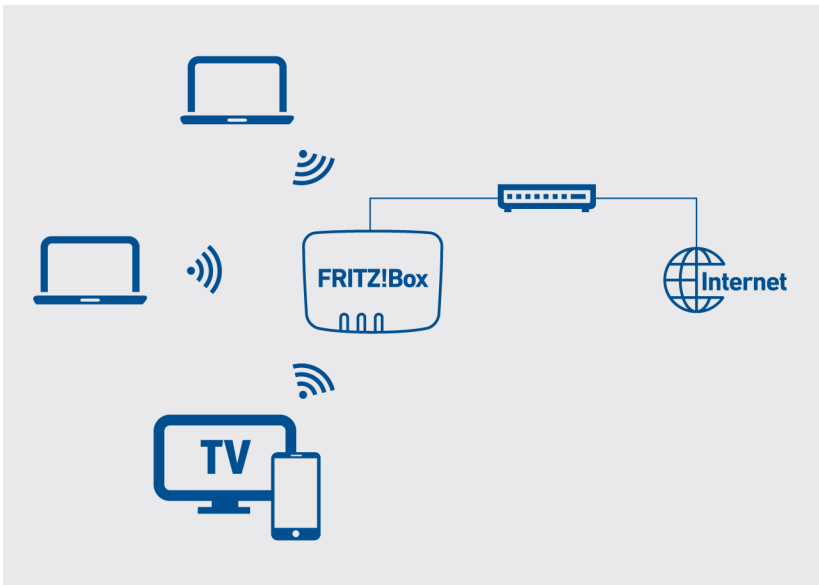
Connecting to a cable modem

You can connect the FRITZ!Box with your cable junction via a cable modem. Then the FRITZ!Box establishes the internet connection via the cable connection.

Requirements

- A cable modem is connected to your cable junction.

Example configuration



You need

- A LAN cable (for instance, from your FRITZ!Box package)

Instructions: Connecting to a cable modem

1. Insert the LAN cable into the LAN socket of the cable modem.

2. Insert the other end of the cable into the **LAN 1** socket on the FRITZ!Box.
3. Set up the internet connection via the cable connection in the FRITZ!Box; [see page 61](#).

Option: Configuring internet via mobile network

Configuring internet via mobile network dongle or smartphone.....48

Configuring internet via mobile network dongle or smartphone

The FRITZ!Box can use a mobile network dongle for internet access, or share the internet connection of a smartphone.

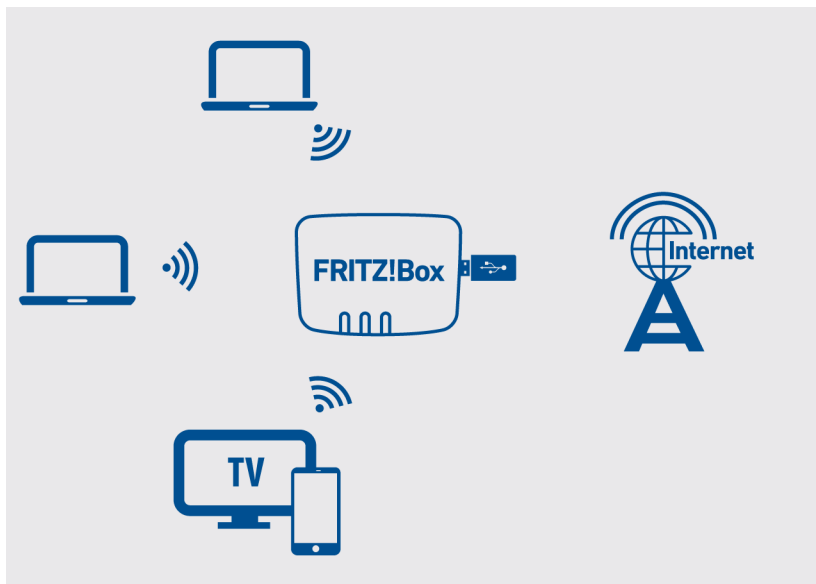
Requirements

- If you are using a mobile network dongle: The mobile network dongle supports USB tethering.
- If you are using a smartphone: The smartphone supports USB tethering or is configured as a Wi-Fi hotspot.

Please note

- Internet telephony and other functions that require a public IP address (for example, receiving incoming VPN connections) may not be available, or available only to a limited extent. This depends on the mobile network operator.

Example configuration



Instructions: Connecting the mobile network dongle

1. Insert the mobile network dongle into the **USB** port of the FRITZ!Box.

Instructions: Connecting an Android smartphone to the USB port

1. Connect the smartphone to the **"USB"** port on the FRITZ!Box using a USB cable.

Connecting with the smartphone via Wi-Fi

You can also establish the connection to the smartphone via Wi-Fi; [see page 65](#).

Instructions: Configuring the internet connection in FRITZ!Box

1. Open the user interface; [see page 54](#).

2. Click on **Internet > Mobile Network** in the menu.
3. For instructions, open the online help .

Configuring

Configuring the FRITZ!Box: Steps.....	52
Using the Initial Configuration Wizard.....	53
Opening the FRITZ!Box user interface.....	54
Configuring the internet connection on the DSL line.....	55
Configuring your phone numbers.....	56
Option: Configuring internet access via DSL modem.....	57
Option: Configuring internet access via fibre optic modem.....	59
Option: Configuring internet access via cable modem.....	61
Option: Configuring internet access via another router (cascading).....	63
Option: Configuring internet access by Wi-Fi (cascading).....	65
Option: Configuring internet access via LAN connection to another router (IP client).....	67
Option: Configuring internet access by Wi-Fi (IP client).....	69

Configuring the FRITZ!Box: Steps

Configure the FRITZ!Box by performing the following steps:

Instructions	
	Set up the internet connection in the FRITZ!Box.
	Configure your phone numbers in the FRITZ!Box.

Using the Initial Configuration Wizard

The first time the user interface is opened, the Initial Configuration of the FRITZ!Box wizard starts. The wizard assists you in configuring your internet connection and phone numbers.

If you do not want to use the wizard, or would like to change settings later, you can configure the internet connection and phone numbers separately.

You need

For initial configuration with the wizard, you need the following:

- The preconfigured FRITZ!Box password.
The FRITZ!Box password is printed on the FRITZ! Notes FRITZ!Box service card and on the type label on the outside of the FRITZ!Box housing.
- If you received account information from your internet service provider, keep this information handy.
- If you received phone numbers from your internet or phone provider, keep these phone numbers handy.

Opening the FRITZ!Box user interface

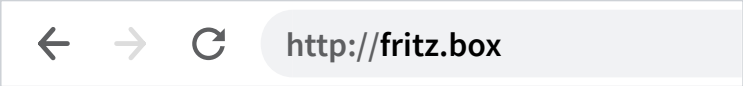
The FRITZ!Box has a user interface you can open in a browser on your computer, tablet or smartphone. Configure the FRITZ!Box in the user interface.

Requirements

- Your computer, smartphone or tablet is connected with the FRITZ!Box via Wi-Fi or network cable.
- The connection is **not** via the Wi-Fi guest access or LAN guest access of the FRITZ!Box.

Instructions: Opening the FRITZ!Box user interface

1. Start a web browser on your computer or mobile device.
2. Enter the address **http://fritz.box**.



You can also use the following addresses:

- **http://169.254.1.1** (fallback IP address)
- local IP address of the FRITZ!Box (default:
http://192.168.178.1)

3. Log in with the FRITZ!Box password or with the login data of a FRITZ!Box user.

The preconfigured FRITZ!Box password is printed on the type label on the outside of the housing and on the FRITZ! Notes service card.

The first time the user interface is opened, the Initial Configuration of the FRITZ!Box wizard starts. The next time it is opened, the **Overview** page appears.

Configuring the internet connection on the DSL line

The internet connection is set up in the FRITZ!Box user interface. A wizard assists you with configuration.

Requirements

- The FRITZ!Box is connected to the DSL line.

You need

- If you received account information from your DSL provider, keep this information handy.

Instructions: Configuring the internet connection

1. Open the user interface; [see page 54](#).
2. If the wizard does not start automatically, click on **Wizards** in the menu.
3. Click on **Configure the Internet Connection**.
4. Follow the wizard's instructions.

Configuring your phone numbers

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

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

Which phone numbers can be configured in the FRITZ!Box?

You can configure up to 20 of the following phone numbers:

- Landline phone numbers for making calls via the internet connection (also known as: internet phone numbers, SIP phone numbers, VoIP phone numbers)
- SIP trunking from Deutsche Telekom (CompanyFlex, Deutschland LAN SIP-Trunk Pooling, Deutschland LAN SIP-Trunk) or from another provider
- SIP DDI line

Instructions: Configuring your own phone numbers

1. Open the user interface; [see page 54](#).
2. Click on **Wizards** in the menu.
3. Click on **Manage Phone Numbers**.
4. Click on **Add Phone Number** and follow the wizard's instructions.

Option: Configuring internet access via DSL modem

If you connected the FRITZ!Box to a DSL modem, configure the FRITZ!Box for internet access via the DSL modem.

Operating mode of the FRITZ!Box

The following apply when the FRITZ!Box is connected with the internet access via DSL modem:

- The FRITZ!Box obtains the public IP address from the internet service provider via DHCP or PPPoE.
- The FRITZ!Box establishes the internet connection itself.
- The FRITZ!Box functions as a router.
- The FRITZ!Box creates its own IP network.
- The firewall of the FRITZ!Box is enabled.

Requirements

- You connected the FRITZ!Box to a DSL modem that is connected with the DSL line.

Instructions: Configuring internet access on the DSL connection

1. Open the user interface; [see page 54](#).
2. Click in the menu on **Internet > Account Information** and on the **Internet Connection** tab.
3. If your internet provider is included in the **Internet Provider** drop-down list, then select your internet provider. If your internet provider is not entered in the list, select the **other internet providers** entry if it is available and then select your internet provider.
 - Enter the account information you received from your internet provider in the **Account Information** area.
 - Click on **Change Connection Settings**.

- Under **Internet Connection**, select the **via an external modem** option.
4. If your internet provider is not included in the drop-down lists, select the **other internet provider** entry.
 - You have the option to enter the name of your internet service provider in the **Name** field.
 - Under **Connect via**, select the **Connection to an external modem or router** option.
 - Under **Operating Mode**, select the **Establish own connection to the internet** option.
 - If you received account information from your internet service provider, select **Yes** under **Account Information** and enter the account information.
 5. Save your settings by clicking on **Apply**.
 6. For further settings, use the FRITZ!Box help.

Option: Configuring internet access via fibre optic modem

If you connected the FRITZ!Box to a fibre optic modem, configure the FRITZ!Box for internet access via the fibre optic modem.

Operating mode of the FRITZ!Box

The following apply when the FRITZ!Box is connected with the internet access via a fibre optic modem:

- The FRITZ!Box obtains its public IP address from the internet service provider via DHCP or PPPoE.
- The FRITZ!Box establishes the internet connection itself.
- The FRITZ!Box functions as a router.
- The FRITZ!Box creates its own IP network.
- The firewall of the FRITZ!Box is enabled.

Requirements

- You connected the FRITZ!Box to a fibre optic modem that is connected with the fibre optic connection.

Instructions: Configuring the internet connection on a fibre optic modem

1. Open the user interface; [see page 54](#).
2. Click in the menu on **Internet > Account Information** and on the **Internet Connection** tab.
3. If your fibre optic network provider is included in the **Provider** drop-down list, select your fibre optic network provider.
 - If the **Connected via** area appears and the fibre optic connection can be selected as the type of connection, then select the fibre optic connection and enter the account information you received from your fibre optic network provider in the **Account Information** area.

- If the **Connected via** area does not appear, then enter the account information you received from your fibre optic network provider in the **Account Information** area. Then click on **Change Connection Settings** and select **Via an external modem** option under **Internet Connection**.
4. If your fibre optic network provider is not included in the **Internet service provider** drop-down list, proceed as follows:
 - Select **More internet providers**, if this entry is included. A second drop-down list appears. Select in the second drop-down list the **other internet provider** entry.
 - If the **More internet providers** entry is not available, select the **other internet provider** entry.
 - Assign a name for the internet provider (optional).
 - Under **Connected via**, enable **Connection to an external modem or router**.
 - Under **Operating Mode**, enable the **Establish own connection to the internet** option.
 - If you received account information from your fibre optic network provider, select the **Yes** option under **Account Information** and enter the account information.
 5. Enable **Check the internet connection after 'Apply' has been clicked**.
 6. Save your settings by clicking on **Apply**.

Your internet connection has been configured and successfully checked. For further settings, use the FRITZ!Box help.

Option: Configuring internet access via cable modem

If you connected the FRITZ!Box to a cable modem, configure the FRITZ!Box for internet access via the cable modem.

Operating mode of the FRITZ!Box

The following apply when the FRITZ!Box is connected with the internet access via a cable modem:

- The FRITZ!Box obtains the public IP address from the internet service provider via DHCP.
- The FRITZ!Box establishes the internet connection itself.
- The FRITZ!Box functions as a router.
- The FRITZ!Box creates its own IP network.
- The firewall of the FRITZ!Box is enabled.

Requirements

- You connected the FRITZ!Box to a cable modem, which is connected with the cable junction.

Instructions: Configuring internet access on the cable connection

1. Open the user interface; [see page 54](#).
2. Click in the menu on **Internet > Account Information** and on the **Internet Connection** tab.
3. If your cable provider is included in the **Internet Provider** drop-down list, select your cable provider.
 - Click on **Change Connection Settings**.
 - Under **Internet Connection**, enable the **via an external modem** option.
4. If your cable provider is not included in the **Internet service provider** drop-down list, proceed as follows:

- Select **More internet providers**, if this entry is included. A second drop-down list appears. Select in the second drop-down list the **other internet provider** entry.
 - If the **More internet providers** entry is not available, select the **other internet provider** entry.
 - Assign a name for the internet provider (optional).
 - Under **Connected via**, enable the **Connection to a cable modem (cable connection)** option.
5. Enable **Check the internet connection after 'Apply' has been clicked**.
 6. Save your settings by clicking on **Apply**.

Your internet connection has been configured and successfully checked. For further settings, use the FRITZ!Box help.

Option: Configuring internet access via another router (cascading)

If the FRITZ!Box is connected to another router via LAN cable, the FRITZ!Box can share the internet connection of the other router.

For this, configure the FRITZ!Box as a cascaded router if the FRITZ!Box is to set up its own IP network.

Operating mode of the FRITZ!Box

The following apply when the FRITZ!Box has this kind of internet connection:

- In the default setting, the FRITZ!Box receives an IP address from the other router via DHCP.
- The FRITZ!Box works as a router and generates its own IP network.
- The firewall of the FRITZ!Box is enabled.
- The Wi-Fi network of the FRITZ!Box with its own security settings can be used in addition to the Wi-Fi network of the other router.
- You can use the FRITZ!Box as a phone system and make phone calls using the internet connection of the other router.

Requirements

- The FRITZ!Box is connected via LAN cable to the router that provides the internet connection.

Instructions: Configuring as a router on another router

1. Open the user interface; [see page 54](#).
2. Click in the menu on **Internet > Account Information** and on the **Internet Connection** tab.
3. Select the following from the **Internet Providers** drop-down list:
 - If the **More internet providers** entry is available, select this entry.

- › A second drop-down list appears.
 - In the second drop-down list, select the **existing connection over LAN 1** entry.
 - If the **more internet providers** entry is not available, select the **existing connection via LAN 1** entry.
4. Save your settings by clicking on **Apply**.

The FRITZ!Box now functions as a router itself and provides a network with its own network address range. When the settings are applied the network address range of the FRITZ!Box changes automatically.

Option: Configuring internet access by Wi-Fi (cascading)

The FRITZ!Box can share the internet connection of another device via a Wi-Fi connection. This can be a router, or a smartphone configured as a hotspot.

Operating mode of the FRITZ!Box

The following apply when the FRITZ!Box has this kind of internet connection:

- In the default setting, the FRITZ!Box receives an IP address from the other router via DHCP.
- The FRITZ!Box works as a router and generates its own IP network.
- The firewall of the FRITZ!Box is enabled.
- The Wi-Fi network of the FRITZ!Box with its own security settings can be used in addition to the Wi-Fi network of the other router.
- You can use the FRITZ!Box as a phone system and make phone calls using the internet connection of the other router.

Requirements

- The Wi-Fi network of the other device transmits in the 2.4-GHz frequency band.
- The Wi-Fi uses WPA or WPA3 encryption.
- The Wi-Fi network allows the FRITZ!Box to set up a Wi-Fi connection.

Instructions: Configuring internet access via Wi-Fi

1. Open the user interface; [see page 54](#).
2. Click in the menu on **Internet > Account Information**.
3. Select the **More internet providers** entry from the **Internet Provider** drop-down list-

4. In the second drop-down list, select the **Existing connection over Wi-Fi** entry.

A list of the Wi-Fi networks in the vicinity is displayed.

5. Select the Wi-Fi network you want to connect the FRITZ!Box with.
6. Enter the network key of the Wi-Fi network in the **Network key** field in the **Security** area.
7. Save your settings by clicking on **Apply**.

The FRITZ!Box is configured as a router and the network range is changed automatically. The FRITZ!Box, along with the connected network devices, forms its own self-contained network.

Option: Configuring internet access via LAN connection to another router (IP client)

If the FRITZ!Box is connected to another router via LAN cable, the FRITZ!Box can share the internet connection of the other router.

For this, configure the FRITZ!Box as an IP client if the FRITZ!Box is to be part of the other router's IP network.

Operating mode of the FRITZ!Box

The following apply when the FRITZ!Box uses the internet connection of another router as an IP client:

- In the default setting, the FRITZ!Box receives an IP address from the other router via DHCP.
- The FRITZ!Box becomes part of the other router's IP network.
- The network devices connected to the FRITZ!Box receive their IP addresses from the other router.
- The firewall of the FRITZ!Box is disabled.
- You can use the FRITZ!Box as a phone system and make phone calls with connected phones using the internet connection of the other router.

Requirements

- The FRITZ!Box is connected via LAN cable to a router that provides the internet connection.

Instructions: Configuring the internet connection

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > Network** in the menu.
3. Click on the **Network Settings** tab.
4. Enable the **IP client** option in the **Operating Mode in the Home Network** area.

5. Enable the **via LAN** option.
6. Save your settings by clicking on **Apply**.

Option: Configuring internet access by Wi-Fi (IP client)

You can use the FRITZ!Box on another router as an IP client. The other router provides the internet connection. The FRITZ!Box is connected with the other router via Wi-Fi.

As an IP client, the FRITZ!Box is integrated into the existing network and can be used as a Mesh Repeater; [see Expanding a Wi-Fi network with Mesh, page 79](#).

Operating mode of the FRITZ!Box

The following apply when the FRITZ!Box uses the internet connection of another router as an IP client:

- In the default setting, the FRITZ!Box receives an IP address from the other router via DHCP.
- The FRITZ!Box becomes part of the other router's IP network.
- The network devices connected to the FRITZ!Box receive their IP addresses from the other router.
- The firewall of the FRITZ!Box is disabled.
- You can use the FRITZ!Box as a phone system and make phone calls with connected phones using the internet connection of the other router.

Requirements

- The Wi-Fi network of the other router allows the FRITZ!Box to set up a Wi-Fi connection.

Instructions: Configuring internet access via Wi-Fi (IP client)

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > Network** in the menu.
3. Click on the **Network Settings** tab.
4. Enable the **IP client** option in the **Operating Mode in the Home Network** area.

5. Enable the **via Wi-Fi** option.
6. Select the Wi-Fi network of the router you want to connect with the FRITZ!Box from the **Select Wi-Fi Network** area.
7. Save your settings by clicking on **Apply**.

Connecting phones

Connecting phones, fax machines, and answering machines..... 72

Connecting a smartphone..... 74

Connecting a door intercom system..... 75

Configuring phones, fax machines and answering machines..... 76

Configuring a door intercom system..... 78

Connecting phones, fax machines, and answering machines

You can connect phones, fax machines, answering machines and phone systems to your FRITZ!Box.

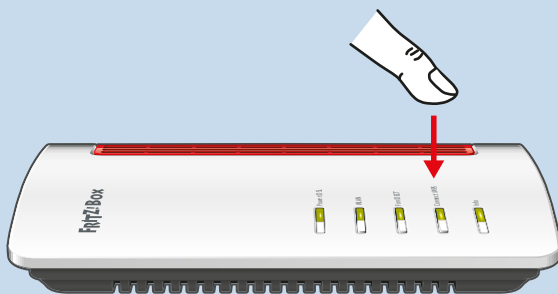
Please note

- During a power outage you cannot make any phone calls with the connected phones.

Instructions: Registering a cordless phone

You can register up to six cordless phones, for instance FRITZ!Fon, with the DECT base station of the FRITZ!Box.

1. Start the process of registering your cordless phone with a base station.
On the FRITZ!Fon you can start registration in the **Settings > Registration** menu.
2. Press the **Connect/WPS** button on the FRITZ!Box.



The **Fon/DECT** LED flashes.

3. Enter the PIN of the FRITZ!Box on the cordless phone (preset value: 0000).
4. Configure the phone in the FRITZ!Box user interface; [see page 76](#).

Instructions: Connecting a phone to FON

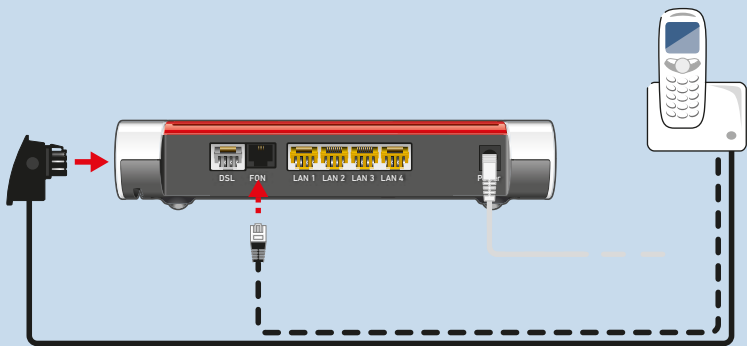
You can connect a phone, an answering machine or a fax machine to a **FON** socket.



Only one of the **FON** sockets may be used at once. The other **FON** socket must remain free.

1. Connect the phone, answering machine or fax machine to the appropriate **FON** socket.

In countries with country-specific phone plugs, the FRITZ!Box package may include an adapter for connecting phones.



2. Configure the connected device in the FRITZ!Box user interface; [see page 76](#).

Instructions: Connecting an IP phone

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

1. Connect the IP phone to the FRITZ!Box using a network cable or connect the IP phone with the FRITZ!Box over Wi-Fi.
2. Configure the phone in the FRITZ!Box user interface; [see page 76](#).

Connecting a smartphone

If you install FRITZ!App Fon on your iPhone or Android smartphone, you can register the smartphone with your FRITZ!Box.

Then you can make calls with your smartphone at home, using all of the phone numbers configured in the FRITZ!Box. The smartphone can still be reached at your mobile phone number.

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 phone in the FRITZ!Box.
4. Configure the IP phone **FRITZ!App Fon** in the FRITZ!Box user interface; [see page 76](#).

Connecting a door intercom system

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

- You can answer the doorbell on your phones, speak with visitors, and open the door, even on a mobile phone or another phone connection away from home.
- You can have the camera image from your door intercom system displayed on FRITZ!Fon phones with a colour display.
- You can configure a special ringtone 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 signalling) tone dialling.
- 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 78](#).

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. Configure the door intercom system in the FRITZ!Box user interface; [see page 78](#).

Configuring phones, fax machines and answering machines

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

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

Requirements

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

Please note

- IP phones are configured in the FRITZ!Box such that no international calls are possible. You can disable this security feature, [see page 77](#).
- Various FRITZ!Box features are not available for IP phones, including phone books, fax and data connections, routing, busy on busy, and controlling FRITZ!Box functions (for instance, switching Wi-Fi on and off).

Instructions: Configuring phones and other devices

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Telephony Devices** in the menu.
3. If the device to be configured is not yet included in the list of telephony devices, click on **Configure New Device**. Follow the wizard's instructions. The wizard guides you through the assignment of phone numbers and enters the device in the list.
4. To configure further settings for a device in the list, click next to the device on the **Edit** button . The kind of device determines which additional settings are available.

Instructions: Enabling international calls for an IP phone

An IP phone 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 54](#).
2. Click in the menu on **Telephony > Phone Numbers** and on the **Line Settings** tab.
3. Under **Security**, click on **Limit the number of calls to foreign numbers**.
4. Disable the checkbox next to the desired IP phone and click on **OK**.
5. Save your settings by clicking on **Apply**.

Configuring a door intercom system

Once you have connected your door intercom system to the FRITZ!Box, configure the door intercom system in the FRITZ!Box. Specify the phones or phone 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.

Instructions: Configuring a door intercom system

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Telephony Devices** in the menu.
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.

Expanding a Wi-Fi network with Mesh

Mesh with FRITZ!..... 80

Enabling Mesh for FRITZ!Repeaters and FRITZ!Powerline..... 82

Using the FRITZ!Box as a Mesh Repeater..... 84

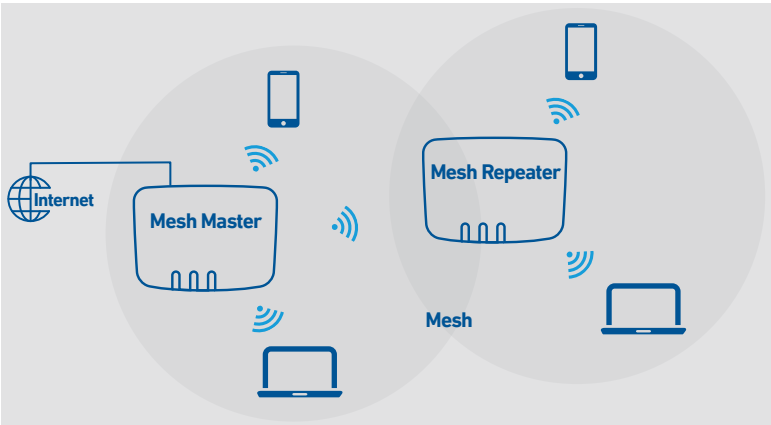
Mesh with FRITZ!

If the Wi-Fi network of the FRITZ!Box does not reach all of your rooms, then you can extend it with various FRITZ! devices.

Mesh combines the individual Wi-Fi networks of the FRITZ! devices into one large Wi-Fi network which has just one Wi-Fi network name and one network key.

The FRITZ!Box is the hub of the Mesh, the Mesh Master. Other FRITZ! devices in the Mesh are Mesh Repeaters.

Example configuration



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! device	Details
FRITZ!Repeater	Connection to the FRITZ!Box via Wi-Fi; for FRITZ!Repeater devices with a LAN port, also option to connect via LAN cable
FRITZ!Powerline	Connection to the FRITZ!Box over electrical wiring

FRITZ! device	Details
Second FRITZ!Box	The second FRITZ!Box must support the Mesh Repeater and IP client mode functions. Connection to the Mesh Master via LAN cable; many FRITZ!Box devices can also be connected via Wi-Fi

Enabling Mesh for FRITZ!Repeaters and FRITZ!Powerline

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

Requirements

- FRITZ!Repeater / FRITZ!Powerline with FRITZ!OS 7 or later

Instructions: Enabling Mesh for FRITZ!Repeaters

1. Open the FRITZ!Box user interface; [see page 54](#).
2. Click on **Home Network** > **Mesh** in the menu.
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 not displayed 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 FRITZ!Repeater is displayed in the overview marked with the **Mesh enabled** symbol.

Instructions: Enabling Mesh for FRITZ!Powerlines

1. Open the FRITZ!Box user interface; [see page 54](#).
2. Click on **Home Network** > **Mesh** in the menu.

3. The FRITZ!Box is displayed in the overview with the **Mesh enabled**  symbol. If the symbol is also displayed for the FRITZ!Powerline, then Mesh is already enabled for the FRITZ!Powerline. If the symbol is not displayed next to the 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

After the button is released, all of the LEDs on the FRITZ!Powerline flash.

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 FRITZ!Powerline is displayed in the overview marked with the **Mesh enabled** symbol.

Using the FRITZ!Box as a Mesh Repeater

You can use your FRITZ!Box 7530 as a Mesh Repeater. As a Mesh Repeater, the FRITZ!Box 7530 expands the Wi-Fi network of another FRITZ!Box which is connected to the internet connection.

Instructions: Configuring FRITZ!Box as a Mesh Repeater

1. Open the user interface; [see page 54](#).
2. Click on **Home Network** > **Mesh** in the menu and then on the **Mesh Settings** tab.
3. For instructions, open the online help .

User interface: Internet menu

- Using AVM Services for Diagnostics and Maintenance..... 86
- Configuring parental controls..... 88
- Creating and assigning access profiles..... 91
- Editing filter lists..... 93
- Prioritizing internet access for devices and applications..... 95
- Configuring port sharing..... 97
- Enabling dynamic DNS..... 99
- Accessing the the FRITZ!Box from the internet..... 100
- Configuring VPN..... 102
- Configuring IPv6..... 104

Using AVM Services for Diagnostics and Maintenance

The AVM services for diagnostics and maintenance support the security and further development of your FRITZ!Box 7530 and keep the FRITZ!OS up to date.



We recommend leaving the use of all AVM services enabled.

AVM Services

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

AVM Service	Explanation
Search for updates	Your FRITZ!Box connects to the FRITZ! 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 FRITZ! for analysis.
Diagnostics data for system maintenance	Your FRITZ!Box transmits device-specific data to FRITZ! for the development of security updates and to further develop FRITZ!OS.

Data privacy

The diagnostics data and the device-specific data transmitted by your FRITZ!Box to FRITZ! do not contain any personalized data. The data transmitted serve the exclusive purpose of technical adaptations and optimizations of your FRITZ!Box. Also, FRITZ! 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 54](#).
2. Click in the menu on **Internet > Account Information** and on the **AVM Services** tab.
3. For instructions, open the online help .

Configuring parental controls

With parental controls you can control the internet use of devices in the home network. You can limit online time, restrict access to only certain websites, or block certain websites.

Rules for restricting internet use are saved in access profiles. Each access profile can be assigned to one or multiple devices in the home network; [see page 91](#).

The following functions are also available:

- With the device block you can block the internet use of a device in the home network without using a special access profile; [see page 89](#)
- You can distribute tickets with which users in the home network can extend online time for individual devices; [see page 90](#).
- For devices with restricted online time, the remaining online time permitted can be queried; [see page 90](#).

Please note

- Parental controls are not available if the FRITZ!Box is configured as an IP client or Mesh Repeater. In this case configure the parental controls in the router or Mesh Master.

Instructions: Configuring parental controls for a device in the home network

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Filter** in the menu and then on the **Access Profiles** tab.
3. If there is no access profile with the settings you want, then create a new access profile.

For instructions, open the online help .

4. Click on **Internet > Filter** in the menu and then on the **Parental Controls** tab.
5. Click on **Change Access Profiles** and assign the desired access profile to the device in the home network.
6. Save with **Refresh**.

Instructions: Blocking a device

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Filter** in the menu and then on the **Parental Controls** tab.
3. Click in the table on **Block** next to the device to be blocked from internet access.

The device no longer has access to the internet.

Instructions: Distributing a ticket for extended use time

One ticket extends the online time for 45 minutes. The ticket can be redeemed before the online time runs out to allow internet use to be prolonged without a break.

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Filter** in the menu and then on the **Access Profiles** tab.
Ten tickets for additional online time will be displayed.
3. If you want to distribute multiple tickets, print them out and distribute the tickets to users of devices in the home network.
If you want to distribute only one single ticket, click on **Share Ticket**. A single ticket is saved to the clipboard and can be sent to the user of the device in the home network however you like.

Instructions: Querying the remaining online time on a device in the home network

Devices in the home network that have their online time restricted can query how much online time they have left.

1. In the browser on the device, enter the address **fritz.box**.
The remaining online time is displayed 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

In an access profile you can restrict online time for devices in the home network, block websites, or permit access only to certain websites.

You can create different access profiles and assign each access profile to one or multiple devices in the home network.

Function of an access profile

An access profile specifies what is allowed during internet use. An access profile takes into consideration three aspects of internet use:

Aspect	Description
Time limit	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 and which are blocked.
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 two children and would like to control internet use for each child individually:

- Create an access profile for each child.
- Specify in each access profile the restrictions to internet use intended for the given child.

Preconfigured access profiles

Name	Properties
Standard	• Default access profile for devices registering in the home network for the first time • Internet use not restricted • Can be changed
Guest	• Access profile possible for devices that register with the guest network • Can be changed
Unrestricted	• Internet use not restricted • Cannot be changed

Instructions: Creating and assigning an access profile

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Filter** in the menu and then on the **Access Profiles** tab.
3. For instructions, open the online help .

Editing filter lists

For devices in the home network whose internet use is not to be restricted by parental controls, you can block websites.

You do this using filter lists, which either allow only certain websites, or block certain websites. These lists can then be used as filters in the access profiles.

Filter lists

The following filter lists can be enabled in access profiles. The access profiles can be assigned to devices in the home network via the parental controls.

Filter list	Function and use
Permitted Websites	Use this list if most websites are to be blocked and only a few websites are to be permitted.
Blocked Websites	Use this list if access to most websites is to be permitted and only a few websites are to be blocked.
Permitted IP Addresses	When you enable a filter list in an access profile, opening IP addresses in the internet directly is blocked for this access profile. You can release individual IP addresses for access in the Permitted IP Addresses list. The FRITZ!Box automatically adds IP addresses entered in the browsers to the list. The IP addresses remain blocked until they are released.
IP Block List	With this list you can block incoming connections from specific IP addresses. IP addresses entered in the list cannot establish connections to the FRITZ!Box.

Requirements

- Filter lists are not available if the FRITZ!Box is configured as an IP client or Mesh Repeater.

Instructions: Editing filter lists

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Filter** in the menu and then on the **Lists** tab.
3. For instructions, open the online help  .

Prioritizing internet access for devices and applications

In the FRITZ!Box, you can specify devices and applications in the home network that are to be prioritized when the internet connection is working to capacity.

If you use the guest network of the FRITZ!Box, you can reserve bandwidth for the home network.

Prioritization categories

Three categories can be selected for prioritization:

Real-Time Applications: intended for applications with high demands on transmission speed and reaction times, for example, internet telephony, IPTV, or video on demand. When a real-time application is using the internet connection to full capacity, no other data will be transmitted.

Prioritized Applications: intended for applications that require fast reaction times, for example, company access, terminal applications, games. These applications will be granted higher priority. When a prioritized application uses the full capacity of the internet connection, the data of other applications will be transferred with lower priority.

Background Applications: 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 or peer-to-peer services.

Reserving bandwidth for the home network

All devices in the home network and the guest network have to share the bandwidth available on the internet connection. 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 prioritization rules for a device or application

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Filter** in the menu and then on the **Prioritization** tab.
3. For instructions, open the online help .

Configuring port sharing

The firewall of the FRITZ!Box protects all of the devices in the home network from incoming connections and unwanted data from the internet.

With port sharing you can make applications in the home network accessible for other internet users, for instance, online games or file-sharing programs. With port sharing you can also allow internet users to access server services in the home network, for instance, an HTTP, FTP, VPN, terminal, or remote maintenance server.

Port sharing grants other internet users controlled access to devices and applications in the home 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 pings from the internet addressed to the IPv6 address of the FRITZ!Box. In addition, you can set ping6 sharing for each individual computer in the home network. Every computer has its own globally valid IPv6 address.
TCP 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.
	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.

Protocol	Internet protocol	Explanation
ESP 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 54](#).
2. Click on **Internet > Permit Access** in the menu and then on the **Port Sharing** tab.
3. For instructions, open the online help  .

Enabling dynamic DNS

With dynamic DNS, the FRITZ!Box can be reached in the internet under a fixed name. This way you can access a NAS system in the home network, for instance, or perform remote maintenance on a computer.

The domain name does not change even if the FRITZ!Box receives a new public IP address after the internet connection is interrupted.

With dynamic DNS, the FRITZ!Repeater can be reached in the internet under a fixed name. This way you can access a NAS system in the home network, for instance, or perform remote maintenance on a computer.

The domain name does not change even if the FRITZ!Repeater receives a new public IP address after the internet connection is interrupted.

In order to use dynamic DNS, you must be registered with a dynamic DNS provider and have configured a domain name.

The alternative: MyFRITZ!

With the free FRITZ! service MyFRITZ!, too, you can access your FRITZ!Box and the home network at any time over the internet; [see page 210](#).

Instructions: Enabling dynamic DNS

1. Open the user interface; [see page 54](#).
2. Click on **Internet** > **Permit Access** in the menu and then on the **DynDNS** tab.
3. For instructions, open the online help .

Accessing the the FRITZ!Box from the internet

You can also access the FRITZ!Box user interface via the internet from on the go.

For access via the internet, enable the HTTPS, FTP or FTPS protocol in the FRITZ!Box.

HTTPS, FTP and FTPS

Protocol	Function
HTTPS (Hyper-text Transfer Protocol Secure)	Internet protocol for secure communication between the web server and the browser on the internet Enable HTTPS in order to access the FRITZ!Box securely from the internet.
FTP (File Transfer Protocol)	Network protocol for transmitting files in IP networks Enable FTP in order to access the storage media on the FRITZ!Box from the internet.
FTPS (FTP over SSL)	Method for encrypting the FTP protocol Enable FTPS to secure transmission over FTP.

Requirements

- In the FRITZ!Box at least one user has been configured with access rights from the internet.
- To change FRITZ!Box settings that require additional confirmation (two-factor authentication): You configured an authenticator app for the user with access rights from the internet. Instructions are presented in the online help of the FRITZ!Box user interface.
- For access to storage: In the FRITZ!Box at least one FRITZ!Box user has been configured with access rights from the internet and the right to access the available storage media.

Instructions: Enabling HTTPS, FTP, and FTPS in the FRITZ!Box

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Permit Access** in the menu and then on the **FRITZ!Box Services** tab.
3. For instructions, open the online help .

Configuring VPN

The FRITZ!Box supports the two VPN solutions IPsec and WireGuard. A VPN (Virtual Private Network) allows bug-proof encrypted connections over the internet. Via VPN you can:

- Establish connections to your FRITZ!Box and to devices in the home network on a smartphone, tablet, or computer.
- Connect two or more FRITZ! home networks at different locations with each other via VPN (LAN-LAN linkup).
- Connect your FRITZ! home network with the VPN server at your company (via IPsec).



Additional information on VPN with FRITZ! is presented at fritz.com/service/vpn.

Requirements

- The FRITZ!Box is **not** configured as an IP client.

VPN with MyFRITZ!App for Android

You can establish MyFRITZ!App IPsec VPN connections to the FRITZ!Box on smartphones and tablets with Android.

Install the MyFRITZ!App on your mobile device and register with the FRITZ!Box. Then configure the VPN connection in the settings of the MyFRITZ!App.

When you now establish a VPN connection to your FRITZ!Box in the MyFRITZ!App, all your Android device's internet communication takes place over VPN.

IPv4 and IPv6 network traffic over VPN

The FRITZ!Box can establish VPN connections over IPv4 and over IPv6. This means that VPN connections can also be established if the FRITZ!Box is operated on an internet connection with Dual-Stack Lite (DS-Lite).

Only IPv4 data are transmitted within the VPN tunnel. It is not possible to access internet services or devices in the remote network over the VPN connection if they are only available via IPv6.

Maximum number of concurrent VPN connections

The maximum number of VPN connections that can be used at the same time depends on the speed and current utilization of the internet connection, the VPN technologies used, and the utilization of the FRITZ!Box. We recommend using no more than 10 to 20 VPN connections at any given time.

IPSec connections can be configured for up to 20 users.

Instructions: Configuring VPN in the FRITZ!Box

1. Open the user interface; [see page 54](#).
2. Click on **Internet > Permit Access** in the menu.
3. If you would like to configure a VPN connection with IPSec, click on **VPN (IPSec)**.
If you would like to configure a VPN connection with WireGuard, click on **VPN (WireGuard)**.
4. For instructions, open the online help .

Configuring IPv6

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

Services that support IPv6

Services in the home network that support IPv6:

- FRITZ!NAS access via SMB or FTP/FTPS
- Access to the user interface with HTTP or HTTPS over IPv6
- 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
- The globally valid prefix is distributed via router advertisement
- For guest access to the Wi-Fi network, the home network and Wi-Fi guests are separated by IPv6 subnetworks
- UPnP, UPnP AV media server

IPv6-capable services on the internet:

- FRITZ!NAS access via FTPS
- Completely closed firewall to protect against unsolicited data from the internet (Stateful Inspection Firewall)
- Voice over IPv6
- Automatic provisioning (TR-069)
- Time synchronization over NTP (Network Time Protocol)
- Remote access via HTTPS
- Dynamic DNS via dyndns.org or namemaster.de

Instructions: Configuring IPv6 in the FRITZ!Box

1. Open the user interface; [see page 54](#).
2. Click in the menu on **Internet > Account Information** and on the **IPv6** tab.
3. For instructions, open the online help .

User interface: Telephony menu

- Configuring and using the phone book..... 107
- Configuring and using the answering machine.....109
- Using the fax function..... 111
- Configuring call diversion..... 112
- Configuring call blocks..... 113
- Configuring Do Not Disturb.....115
- Setting an alarm..... 116
- Configuring a dialling rule..... 117
- Enabling DECT Eco..... 118
- Allowing non-encrypted DECT connections..... 120

Configuring and using the phone book

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

- FRITZ!Fon: Phone book available in the menu, separate phone books for multiple FRITZ!Fons, quick-dial numbers, Click to Dial
- Cordless phone with CAT-iq 2.0 support: Phone book available in the menu, quick-dial numbers, Click to Dial
- FRITZ!App Fon: Phone book available in FRITZ!App Fon
- IP phone: FRITZ!Box phone book not available
- Others: quick-dial numbers, Click to Dial

Quick-dial numbers can be configured only in the first local phone book.

Kinds of phone books

You can set up multiple local and online phone books, for instance, separate phone books for different FRITZ!Fon phones in the FRITZ!Box.

Phone book	Properties
Local phone book	The entire phone book is saved in the FRITZ!Box.
Online phone book	Configured online phone books are available on your FRITZ!Fon cordless phones. The contacts are synchronized with your contacts on the internet at regular intervals. You can set up the following contacts as an online phone book:
	Google contacts
	iCloud contacts (Apple)
	Contacts from email accounts with 1&1, GMX, WEB.DE, and Telekom (Telekom Mail)
	Contacts in CardDAV format

Instructions: Setting up a new phone book in the FRITZ!Box

1. Open the user interface; [see page 54](#).
2. Click in the menu on **Telephony > Phone Book** and on the **Phone Book** tab.
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 phone book.

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Phone Book** in the menu and then on the **Click to Dial** tab.
3. For instructions, open the online help .

Configuring and using the answering machine

You can configure up to five answering machines in the FRITZ!Box, including multiple answering machines for the same phone 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 phone number for personal contacts and a second phone number for business contacts. You can set up a separate answering machine for each phone 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 announcements for the office phone number. Configure the schedules such that the answering machines are never enabled at the same time.

Instructions: Configuring answering machines

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Answering Machine** in the menu.
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 at fritz.com/service/manuals.
- By voice menu using any connected phone. Instructions are included in this manual; [see page 232](#).
- By pressing a button on your FRITZ!Smart Control 440. Instructions for configuring the buttons are presented in the current manual at fritz.com/service/manuals.

Picking up a call from the answering machine on the phone

Calls that have already been accepted by the answering machine can be picked up on your phone. Instructions are included in this manual: [see page 234](#).

Instructions: Listening to answering machines 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 phone number.
2. When the answering machine answers: Press the  (star) key on the phone and then enter the remote playback PIN.
3. Follow the voice menu.

Using the fax function

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 54](#).
2. Click on **Telephony** > **Telephony Devices** in the menu.
3. For instructions, open the online help .

Instructions: Sending faxes

1. Open the user interface; [see page 54](#).
2. Click on **Telephony** > **Fax** in the menu.
3. For instructions, open the online help .

Configuring call diversion

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 phone number or a certain contact in the phone book
- all calls from phone numbers not included in the phone book
- all calls without a phone number (anonymous calls)
- for multiple phone numbers: all calls for a certain phone number or a certain phone

Destination numbers

You can divert calls to:

- another phone number (a different phone line or mobile phone 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 phone.

Instructions: Configuring call diversion

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Call Handling** in the menu and then on the **Call Diversion** tab.
3. For instructions, open the online help .

Configuring call blocks

In the FRITZ!Box you can block phone 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 to certain phone numbers or certain ranges of phone numbers	Blocked phone numbers can no longer be called from the FRITZ!Box. You can also block ranges of phone numbers like mobile networks or all phone numbers that start with 0180.
Incoming calls from certain phone numbers or certain ranges of phone numbers	The FRITZ!Box does not accept calls from blocked phone numbers. Call blocks for incoming calls only work when the caller transmits their phone number.
Calls from phone numbers not in the phone book	You can block all phone numbers that are not entered in a FRITZ!Box phone book. The phone book is then your positive list for phone numbers: You can only be reached by contacts from a FRITZ!Box phone book.
Calls without a phone number (anonymous calls)	The FRITZ!Box will not accept any calls from callers who suppress their phone number.

Example 1

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

You can also configure a call block for the range of **premium numbers** and further prevent the dialling of phone numbers that start with 0190, 0180, 0137, or 0138.

Example 2

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

Instructions: Configuring a call block

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Call Handling** in the menu and then on the **Call Blocks** tab.
3. For instructions, open the online help .

Configuring Do Not Disturb

You can configure Do Not Disturb for individual phones in the FRITZ!Box: Do Not Disturb keeps a phone from ringing for calls. If no other phone rings either, the caller hears a busy signal. In any case, the call appears in the call list of the FRITZ!Box.

Do Not Disturb cannot be configured for IP phones (connected via LAN socket/Wi-Fi).

Example

You do not want your phone to ring between 23:00 and 6:00.

Please note

- Calls from **important persons** in the phone book are signalled even when Do Not Disturb is enabled.
- Internal calls are signalled even when Do Not Disturb is enabled.

Instructions: Configuring Do Not Disturb

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Telephony Devices** in the menu.
3. Click on the **Edit** button  for the desired phone.
4. Switch to the **Do Not Disturb** tab.
5. For instructions, open the online help .

Setting an alarm

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

Example

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

Instructions: Configuring an alarm

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > Alarm** in the menu.
3. For instructions, open the online help .

Configuring a dialling rule

If you have multiple phone numbers, you can configure dialling rules. A dialling rule determines which phone 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 phone number with which you can save on international calls. Then configure a dialling rule for international calls.

Instructions: Configuring dialling rules

1. Open the user interface; [see page 54](#).
2. Click on **Telephony** > **Call Handling** in the menu and then on the **Dialling Rules** tab.
3. For instructions, open the online help .

Enabling DECT Eco

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 reduces the range of the DECT radio network.
- **DECT Eco:** When DECT Eco is enabled, the FRITZ!Box switches off the DECT radio network when all cordless phones are in standby mode. The radio network is switched back on when a call arrives or you press a key on a cordless phone.

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

Requirements

- All registered cordless phones support DECT Eco:
In the **Telephony > DECT > DECT Monitor** of the FRITZ!Box user interface, **DECT Eco supported** is displayed for each phone.
- The following devices are not registered with the FRITZ!Box:
 - FRITZ!Smart devices with a smart plug
 - FRITZ!DECT Repeater
 - other FRITZ!Boxes in DECT Repeater mode.

Instructions: Reducing DECT transmission power

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > DECT** in the menu and then on the **Base Station** tab.
3. Enable the **Reduce DECT field strength** checkbox.
4. Save your settings by clicking on **Apply**.

Instructions: Enabling DECT Eco

1. Open the user interface; [see page 54](#).
2. Click on **Telephony > DECT** in the menu and then on the **Base Station** tab.
3. Enable the **DECT Eco** checkbox.
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

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.

Please note

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: ringtones of your own, web radio, podcasts, background image, photos of callers, and playback of music files by the FRITZ!Box media server

Instructions: Allowing non-encrypted DECT connections

1. Open the user interface; [see page 54](#).
2. Click on **Telephony** > **DECT** in the menu and then on the **Base Station** tab.
3. For instructions, open the online help .

User interface: Home Network menu

Overview of the devices in the home network (Mesh Overview).....	122
Managing network devices.....	124
Changing the IPv4 settings of the FRITZ!Box.....	126
Distributing IPv4 addresses.....	129
Changing IPv6 settings.....	131
Configuring a static IP route.....	133
Obtaining an IP address automatically.....	134
Configuring LAN guest access.....	136
Configuring Wake on LAN.....	138
Using USB storage and USB devices on the FRITZ!Box.....	139
Configuring USB storage media as network storage.....	141
Integrating USB storage in the computer as a network drive.....	142
Configuring cloud storage in the FRITZ!Box.....	148
Configuring a USB printer as a network printer.....	150
Configuring USB 3.0 or 2.0 (Power mode / Green mode).....	153
Configuring and using the media server.....	154
Assigning a FRITZ!Box name.....	156

Overview of the devices in the home network (Mesh Overview)

The Mesh Overview in the FRITZ!Box user interface displays all active devices in the home network and the guest network.

For FRITZ! devices with their own user interface, the user interface can be opened via a link.

You can perform updates for FRITZ! devices and enable Mesh for FRITZ! devices that support Wi-Fi.

You can also rename devices, select symbols that match the device type for devices from other manufacturers, and see at a glance which devices currently have internet access blocked by parental controls.

Blocked devices

The symbol  **Device block enabled** identifies devices in the home network for which internet access is currently blocked by parental controls.

The **Mesh Overview** does not show any blocked devices that are currently switched off or in use outside the home network. All blocked devices are displayed in the user interface under **Internet > Filter** on the **Parental Controls** tab. There you can also block and unblock devices by mouse click.

Enabling Mesh for FRITZ! devices

The symbol  **Mesh enabled** identifies the FRITZ! devices for which Mesh is enabled. If a FRITZ!Box, a FRITZ!Repeater, or a FRITZ!Powerline device with Wi-Fi functionality is displayed without the Mesh symbol, enable Mesh for this device; [see page 82](#).

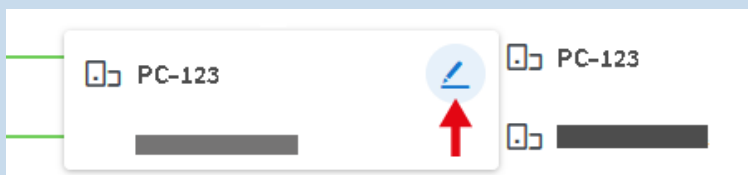
Instructions: Performing updates for FRITZ! devices

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > Mesh** in the menu and then on the **Mesh Overview** tab.

3. Scroll to the end of the page and click on **Search for updates**.
If an update is available, then **Update available** is displayed in the **Update** column of the **This FRITZ!Box** row.
4. Click on **Refresh**.
The display switches to **System > Update** and to the **FRITZ!OS version** tab.
5. Click on **Install New FRITZ!OS**.
The update will be started. After the update process begins, you will be redirected to the **Mesh Overview** page. The progress of the update is visible in the activity bar there.

Instructions: Renaming device and changing symbol

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > Mesh** in the menu and then on the **Mesh Overview** tab.
3. Move the mouse in the overview over the device you would like to rename and click on the **Edit** button.



4. Enter a new device name for the device.
5. FRITZ! devices are automatically assigned the symbol for their device type. You can select an appropriate symbol for devices from other manufacturers: Click on the symbol with a blue background next to the device name, select a symbol, and click on **Apply**.
6. Save your settings by clicking on **Apply**.

Managing network devices

Under **Home Network > Network > Network Connections** in the FRITZ!Box user interface there is a table with all network connections of the FRITZ!Box. You can edit the properties of connections and add or remove devices.

Network connections

The Network Connections table contains:

- Devices in the home network that are connected with the FRITZ!Box by LAN cable or via Wi-Fi
- VPN connections to the home network

To find devices quickly, you can sort the table columns:

-  to sort in alphabetical order
-  to sort in reverse alphabetical order

Adding a device

You can include in the table even network devices that are not yet 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 will not be listed in the table until the device is physically connected with the FRITZ!Box.

Removing devices

Devices with unused connections can be removed from the network connections table.

You can remove an individual device using the delete symbol: 

With the **Remove All Connections** button you can remove all unused connections for which no settings have been configured.

Connections with individual settings, for instance port sharing, parental controls, or fixed IP addresses, remain intact.

Changing the IPv4 settings of the FRITZ!Box

Two IPv4 networks are preconfigured in the FRITZ!Box: the home network and the guest network. You can change the IPv4 settings for the home network. The IPv4 settings for the guest network cannot be changed.

Preconfigured IPv4 values

IPv4 setting	Preconfigured values
IPv4 address of the FRITZ!Box in the home network	192.168.178.1
Subnet mask	255.255.255.0
IPv4 network address	192.168.178.0
DHCP server	enabled
Validity of IPv4 addresses assigned by DHCP server	10 days
Address range of the DHCP server	192.168.178.20 - 192.168.178.200
Local DNS server	192.168.178.1 You can enter the IP address of a different DNS server.

The preconfigured values yield the following addresses and address ranges:

Address / Address range	Preconfigured values	Use
Address range for the network devices:	192.168.178.2 - 192.168.178.254	
Addresses below the DHCP address range	192.168.178.2 - 192.168.178.19	The addresses can be assigned as fixed IPv4 addresses.

Address / Address range	Preconfigured values	Use
Addresses above the DHCP address range	192.168.178.201 - 192.168.178.254	The addresses can be assigned as fixed IPv4 addresses and are used when VPN users are configured.
Broadcast address	192.168.178.255	The address will be used to send messages within the network.

Preconfigured IPv4 values for the guest network

You cannot change these values.

IPv4 setting	Preconfigured values
IPv4 address of the FRITZ!Box in the guest network.	192.168.179.1
Subnet mask	255.255.255.0
IPv4 network address	192.168.179.0
Address range available for network devices	192.168.179.2 - 192.168.179.254
DHCP server	enabled
Validity of IPv4 addresses assigned by DHCP server	6 hours

Fallback IPv4 address

With this additional IPv4 address, which cannot be changed, the FRITZ!Box can always be reached: **169.254.1.1**

Application cases

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

- VPN connection: The network of the FRITZ!Box is connected with another FRITZ!Box network (LAN-LAN linkup). The IPv4 settings of the two networks must not be identical.
- The FRITZ!Box is integrated in an existing FRITZ!Box or FRITZ!Repeater network and both FRITZ! devices are used as routers. The IPv4 settings of the two networks must not be identical.
- You want to integrate network devices into your home network that have fixed IP addresses specified by the manufacturer, for example TVs, speakers.

Instructions: Changing the IPv4 settings

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > Network** in the menu and then on the **Network Settings** tab.
3. For instructions, open the online help .

Distributing IPv4 addresses

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

Please note

- 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 134](#).

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

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	Meaning
Router advertisement enabled in the LAN	enabled	Router advertisement is a procedure with which a router offers services and information in the local network. The FRITZ!Box offers IPv6 prefixes and IPv6 information in the home network and the guest network through router advertisements.
Assign unique local addresses (ULAs)	enabled	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.

IPv6 property	Setting	Meaning
This FRITZ!Box provides the standard internet connection	enabled	This FRITZ!Box provides the default IPv6 connection. Other IPv6 routers are disregarded.
Also announce DNSv6 server via router advertisement (RFC 5006)	enabled	
Enable DHCPv6 server in the FRITZ!Box for the home network	enabled	The DHCPv6 server is enabled.
Only assign DNS server	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 54](#).
2. Click on **Home Network > Network** in the menu and then on the **Network Settings** tab.
3. For instructions, open the online help .

Configuring a static IP route

You can configure a static IP route in the FRITZ!Box and assign a fixed IP address as the gateway.

In a network with multiple IP networks (subnets), a static IP route allows all devices to access the internet via the FRITZ!Box.

Instructions: Configuring a static IPv4 route

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > Network** in the menu and then on the **Network Settings** tab.
3. In the **Table for Static Routes** area, click on **IPv4 Routes**.
4. For instructions, open the online help .

Instructions: Configuring a static IPv6 route

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > Network** in the menu and then on the **Network Settings** tab.
3. Click on **Additional Settings**.
4. Click under **Table for Static Routes** on **IPv6 Routes**.
5. For instructions, open the online help .

Obtaining an IP address automatically

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. Click on **Start** in Windows 11 and Windows 10.
2. Enter **ncpa.cpl** in the search field and press Enter.
3. Click with the right mouse button on the network connection between the computer and the FRITZ!Box 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 macOS

1. Click on **System Settings** in the **Apple**  menu.
2. In the **System Preferences** window, click on **Network**.
3. In the **Network** window, click on **Ethernet (integrated)** in the **Show:** menu.
4. Switch to the **TCP/IP** tab and click on **DHCP** in the **Configure IPv4** menu.
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 LAN guest access

With a LAN guest access you can provide houseguests with an internet connection of their own via network cable (LAN cable). A guest access is designed for temporary use by your guests. A guest access can also be made available wirelessly via Wi-Fi.

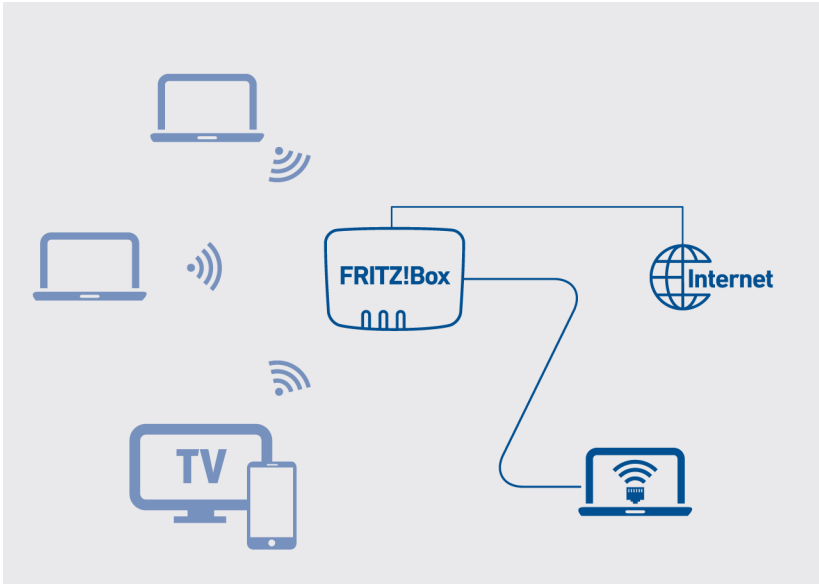
The guest access profile

Only the **Guest** access profile can be used at the LAN guest access. You can edit the **Guest** access profile in the **Internet > Filter > Access Profiles** menu.

The preconfigured **Guest** access profile defines the following for the guest access:

Allowed/Not allowed	Activities
allowed	• Surfing the web (according to the filters specified in the Permitted websites list or the Blocked websites list) • Sending and receiving email
not allowed	• Accessing contents of the home network • Changing the settings of the FRITZ!Box

Example configuration



Requirements

- The FRITZ!Box establishes its own connection to the internet. It is not configured as an IP client.
- You have a network cable.

Instructions: Configuring LAN guest access

1. Open the user interface; [see page 54](#).
2. Click on **Home Network** > **Network** in the menu and then on the **Network Settings** tab.
3. For instructions, open the online help [?](#).

Configuring Wake on LAN

Wake on LAN is a function that allows a computer to be started from the internet 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.
- Your computer is connected with the FRITZ!Box in one of the following ways:
 - 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 54](#).
2. Click on **Home Network > Network** in the menu and then on the **Network Connections** tab.
3. Select the network devices in the list and click on  **Edit**.
4. For instructions, open the online help .

Using USB storage and USB devices on the FRITZ!Box

The FRITZ!Box has a USB port to which you can connect various USB devices and operate them as network devices. All devices in the FRITZ!Box home network can use these USB devices jointly and simultaneously.

Supported USB devices

The following USB devices can be operated on the FRITZ!Box as network devices:

- USB storage formatted for EXT2/3/4, FAT, FAT32, exFAT or NTFS
 - flash drives
 - external hard drives
 - card readers
- USB printers, USB all-in-one printers, USB scanners
- USB mobile broadband modems
 - Android smartphones (USB tethering)
 - USB mobile broadband dongles
- USB hubs

Please note

- USB devices with power consumption of no more than 900 mA can be connected directly to the FRITZ!Box. If the power consumption of the USB device is higher, connect the device to the FRITZ!Box via an active USB hub.
- Do not perform any updates for USB devices that are connected with the computer via the FRITZ!Box USB remote connection.
- The FRITZ!Box cannot protect itself from voltage peaks and drops during an electrical storm, which can result in data loss on USB storage media. You should back up the contents of your USB storage media on a regular basis.

- Place USB hard drives far away from the FRITZ!Box in order to prevent interference with Wi-Fi transmission.

Configuring USB storage media as network storage

You can connect USB storage media to the FRITZ!Box and make them available as network storage. Connected USB storage media are also available for FRITZ!NAS; [see page 204](#).

Instructions: Configuring USB storage media on the FRITZ!Box

1. Connect a USB storage medium to the USB port on the FRITZ!Box.
2. Open the user interface; [see page 54](#).
3. Click on **Home Network > USB / Storage** in the menu and on the **Device Overview** tab.
4. For instructions, open the online help .

Integrating USB storage in the computer as a network drive

You can integrate the USB storage media on the FRITZ!Box as a network drive in the file manager of a computer in the home network. The storage then receives a drive letter and can be used on the computer just like a local drive or a USB storage medium connected directly to the computer, for instance in the Windows Explorer or macOS Finder.

Steps

Configure the USB storage media as a network drive by performing the following steps:

Instructions	
	Configure the USB storage medium for network access in the FRITZ!Box user interface.
	Integrate the USB storage medium into the computer as a network drive.

Requirements

- To use USB storage media on the FRITZ!Box: The **USB remote connection** is disabled for USB storage media.
- A FRITZ!Box user with **Access to NAS contents** rights is configured.

Instructions: Configuring USB storage for network access

1. Open the user interface; [see page 54](#).
2. Click on **Home Network > USB / Storage** in the menu and on the **Device Overview** tab.
3. Enable the **Storage (NAS) function of [FRITZ!Box name] enabled**. The available storage media are displayed (internal FRITZ!Box storage, USB storage media and/or cloud storage).
4. Switch to the **Home Network Sharing** tab.

5. Enable **Access via network drive (SMB)**.
Access with SMBv2 and SMBv3 is enabled.
6. Accept the name **FRITZ.NAS** as the name for sharing, or enter a different name.
The name for sharing will be displayed in file managers like Windows Explorer or macOS Finder.
For older devices that do not support SMBv2/v3, you can also **Enable support for SMBv1**.
7. Accept the name **WORKGROUP** for the workgroup. This is the default name for workgroups in computer operating systems.
If you assigned a name of your own for the workgroup, enter this name here.
All computers that are to be able to access the USB storage must be located in the same workgroup.
8. For older devices that do not support SMBv2/v3, you can also **Enable support for SMBv1**.
9. Save your settings by clicking on **Apply**.

Instructions: Integrating USB storage as a network drive (Windows 11)

1. Enter **\\fritz.box** in the search box in the Windows taskbar and press Enter.
If the FRITZ!Box is configured as a Mesh Repeater or an IP client: Enter the IP address at which the FRITZ!Box can be reached in the home network, for example **\\192.168.178.20**.
The IP address is displayed in the FRITZ!Box user interface in the **Home Network > Network** menu on the **Network Connections** tab.
2. If you are prompted to enter account information: Enter the name and the password of a FRITZ!Box user who has **Access to NAS contents** rights.
User rights can be adjusted under **System > FRITZ!Box Users** in the FRITZ!Box user interface.
3. Enable **Remember my credentials** and click on **OK**.
The folder called **FRITZ!NAS** or the name you assigned it is displayed in the Windows Explorer.

4. If you want to configure the entire FRITZ!Box storage as a network drive:
 - Right-click on the **FRITZ!NAS** folder and click in the context menu on **Show more options** and then on **Map Network Drive....**
 - From the drop-down list, select a free drive letter and click on **Finish**.
Leave the **Reconnect at login** setting enabled to keep the network drive mapped permanently.
The internal FRITZ!Box storage and the connected USB data storage are connected as network drive **FRITZ.NAS**.
5. If you only want to set up a specific data medium (USB storage media or internal FRITZ!Box memory) or a subfolder as a network drive:
 - Click on **This PC** in the navigation area of Windows Explorer.
 - In the menu bar, click on the three-dot menu and then on **Map Network Drive....**
 - In the **Folder** field, enter the path to the data storage you want to connect as a network drive.
Example: To connect a connected USB storage device named **Backup** as a network drive, enter **\\fritz.box\FRITZ.NAS\Backup**.
You can also find the path to the data storage by clicking on **Browse**.
 - From the drop-down list, select a free drive letter and click on **Finish**.
Leave the **Reconnect at login** setting enabled to keep the network drive mapped permanently.
The desired storage or subfolder is mounted as a network drive with the volume name.

The data storage or subfolder is now displayed in Windows Explorer as a folder with the drive letter you selected.

Instructions: Integrating USB storage as a network drive (Windows 10)

1. Enter **\\fritz.box** in the search box in the Windows taskbar and press Enter.
 If the FRITZ!Box is configured as a Mesh Repeater or an IP client: Enter the IP address at which the FRITZ!Box can be reached in the home network, for example **\\192.168.178.20**.
 The IP address is displayed in the FRITZ!Box user interface in the **Home Network > Network** menu on the **Network Connections** tab.
2. If you are prompted to enter account information: Enter the name and the password of a FRITZ!Box user who has **Access to NAS contents** rights.
 User rights can be adjusted under **System > FRITZ!Box Users** in the FRITZ!Box user interface.
3. Enable **Remember my credentials** and click on **OK**.
 The folder called **FRITZ!NAS** or the name you assigned it is displayed in the Windows Explorer.
4. If you want to configure the entire FRITZ!Box storage as a network drive:
 - Right-click on the **FRITZ!NAS** folder and click in the context menu on **Map Network Drive....**
 - From the drop-down list, select a free drive letter and click on **Finish**.
 Leave the **Reconnect at login** setting enabled to keep the network drive mapped permanently.
 The internal FRITZ!Box storage and the connected USB data storage are connected as network drive **FRITZ.NAS**.
5. If you only want to set up a specific data medium (USB storage media or internal FRITZ!Box memory) or a subfolder as a network drive:
 - Click on **This PC** in the navigation area of Windows Explorer.
 - In the menu bar, click on **Computer** and then on **Map Network Drive**.

- In the **Folder** field, enter the path to the data storage you want to connect as a network drive.
Example: To connect a connected USB storage device named **Backup** as a network drive, enter **\\fritz.box\FRITZ.NAS\Backup**.
- From the drop-down list, select a free drive letter and click on **Finish**.
Leave the **Reconnect at login** setting enabled to keep the network drive mapped permanently.
The desired storage or subfolder is mounted as a network drive with the volume name.

The data storage or subfolder is now displayed in Windows Explorer as a folder with the drive letter you selected.

Instructions: Integrating USB storage as a network drive (macOS)

1. Right-click on the Finder symbol to open the context menu of the macOS Finder.
2. Click on **Connect to Server....**
3. Enter the following address in the **Server Address:** field: **smb://fritz.box**.
If the FRITZ!Box is configured as a Mesh Repeater or an IP client: Enter the IP address at which the FRITZ!Box can be reached in the home network, for example **smb://192.168.178.20**.
The IP address is displayed in the FRITZ!Box user interface in the **Home Network > Network** menu on the **Network Connections** tab.
4. Click on **Connect**.
5. If you are prompted to enter account information: Enter the name and the password of a FRITZ!Box user who has **Access to NAS contents** rights.
The folder called FRITZ.NAS or the name you assigned it is displayed in the Finder.
6. Double-click on the folder.
7. Select the folder you want to permanently add to the Finder.

8. Select **Make Alias** from the Finder **File** menu.
 9. Drag the new alias to the **Favourites** area in the Finder.
- The folder is now displayed in the Finder under **SHARED**.

Configuring cloud storage in the FRITZ!Box

Cloud storage is generally made available by storage service providers. Cloud storage is memory in the internet, in which you can save photos, music, and other data. You can access the data in cloud storage from anywhere via the internet. You can configure your cloud storage in the FRITZ!Box. Then the data are always available both on the internet and in the home network.

Please note

- The access information for the cloud storage is stored in the FRITZ!Box.
- When data is saved to cloud storage, the data is cached on a USB storage medium connected to the FRITZ!Box. This way, uploads of large amounts of data are possible even when the computer is switched off.
- You can then use the cloud storage like a local drive on the computers in the home network. Then you can access the cloud storage in the Windows Explorer or macOS Finder; [see page 207](#).

Requirements

- A USB storage device is connected to the FRITZ!Box. The storage space available on the USB storage device must equal at least the volume of data to be copied to or from the cloud storage (cache).
- The online storage supports access via the WebDAV protocol.
- A FRITZ!Box user with **Access to NAS contents** rights is configured; [see page 184](#).

Instructions: Configuring online storage (cloud storage)

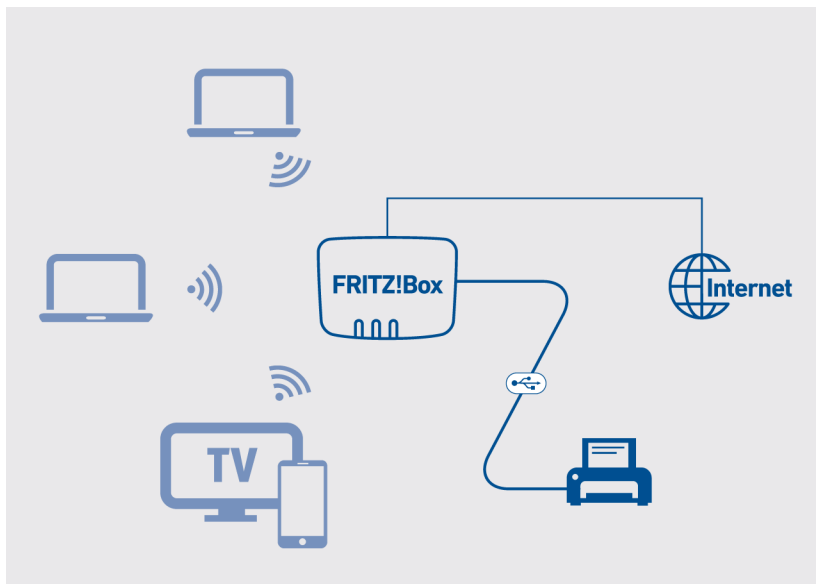
1. Open the user interface; [see page 54](#).
2. Click on **Home Network > USB / Storage** in the menu and on the **Device Overview** tab.

3. For instructions, open the online help .

Configuring a USB printer as a network printer

You can connect USB printers, USB all-in-one printers, and USB scanners to the FRITZ!Box and operate them as network devices.

Example configuration



Instructions: Configuring a USB printer as a network printer (Windows 11, Windows 10)

1. Connect the printer to the FRITZ!Box using a USB cable and switch on the printer.
2. On your Windows computer: Click on the magnifying glass icon in the Windows taskbar and enter the search term **Printer**.
3. From the search results, select **Printers & scanners**.
The **Printers & scanners** window opens.

4. Click next to **Add a printer or a scanner** on **Add device**.
The connected printers and scanners are searched for and then displayed.
5. If your printer is displayed: Click on the name of your printer and then on **Add device**.
6. If your printer is not displayed: Click next to **The printer that I want isn't listed** on **Add a local printer or network printer with manual settings**.
7. Enable **Add a printer using TCP/IP address or hostname** and click on **Next**.
8. Enter the address **http://fritz.box** in the **Hostname or IP address** field.
If the FRITZ!Box is configured as a wireless repeater or an IP client, enter here the IP address at which the FRITZ!Box can be reached in the network.
9. Click on **Next**.
10. If the **Printer Sharing** window appears, select **Do not share this printer** and click on **Next**.
11. Click on **Finish**.

The selected printer is configured as a network printer with the standard Windows 10 or Windows 11 drivers and can be used via the Windows print dialogue.

Instructions: Configuring a USB printer as a network printer (macOS)

1. Click on **System Settings** in the **Apple**  menu.
2. Click on **Print & Fax**.
3. Click on **+**.
4. Click on **IP** .
5. In the **Protocol:** drop-down list, select the entry **HP Jet Direct – Socket**.
6. Enter the address **fritz.box** in the **Address** field.
If the FRITZ!Box is configured as a wireless repeater or an IP client, enter here the IP address at which it can be reached in the network.
7. In the **Use:** list, select the printer that is connected to the USB port of your FRITZ!Box.
If the printer is not displayed, you must first install the printer drivers for this device. Consult the documentation of your printer for instructions.
8. Click on **Add**.

The USB printer has been configured and can be used as a network printer.

Instructions: Configuring a USB printer in other operating systems

In operating systems other than Windows or macOS, configure the following settings to set up a USB printer as a network printer:

Setting	Value
Connection type	Raw TCP
Port	9100
Printer name	fritz.box or the IP address of the FRITZ!Box in the network Use the IP address when the FRITZ!Box is configured as a wireless repeater or IP client, or when a VPN connection is active.

Configuring USB 3.0 or 2.0 (Power mode / Green mode)

In the FRITZ!Box user interface, the following settings for the USB port are located under **Home Network > USB/Storage > USB Settings**:

Setting	Function
Power mode (USB 3.0)	Full transmission capacity During operation of USB devices, slow data transmission in the 2.4-GHz Wi-Fi network and poor voice quality on calls with DECT phones can occur. This depends on the quality of the USB cable used. To correct such deficiencies, switch to the 5-GHz wireless network or set Green mode .
Green mode (USB 2.0)	During operation of devices with USB 3.0 • reduced power consumption • reduced transmission capacity

Configuring and using the media server

As a media server in the home network, the FRITZ!Box can transmit images, music, and videos as well as web radio stations and podcasts to compatible playback devices like televisions, smartphones, Wi-Fi music systems, and streaming software (media streaming).

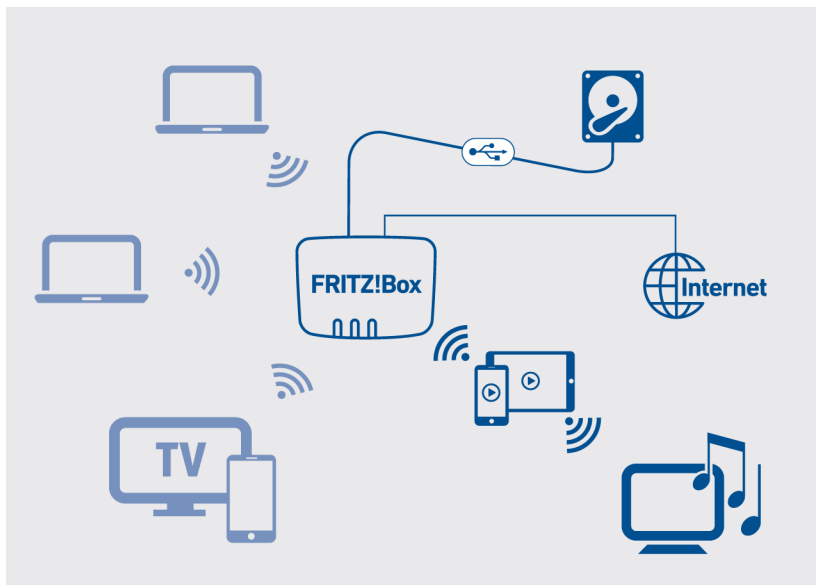
How it works

The FRITZ!Box detects media files automatically and makes them available to playback devices in a clear playlist. You can decide yourself which media sources on the media server should be made available to the users in the home network and from the internet.



Writing large amounts of data to a storage medium connected to the FRITZ!Box can take a while. You can accelerate the process by copying the data to the storage medium on your computer first and then connecting the storage medium to the FRITZ!Box.

Example configuration



Requirements for playback devices

- The playback devices support the UPnP AV standard.

Instructions: Configuring and using the media server

1. Open the user interface; [see page 54](#).
2. Click on **Home Network** > **Media Server** in the menu.
3. For instructions, open the online help [?](#).

Assigning a FRITZ!Box name

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 guest Wi-Fi network (SSID)
- name of the media server
- 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 54](#).
2. Click on **Home Network > FRITZ!Box Name** in the menu.
3. For instructions, open the online help .

User interface: Wi-Fi menu

Switching the Wi-Fi network on and off..... 158

Selecting the Wi-Fi channel.....159

Configuring Wi-Fi guest access..... 160

Switching the Wi-Fi network on and off

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

- Press the **WLAN** button on the FRITZ!Box
- On the FRITZ!Fon in the **Home Network > Wi-Fi** menu
- In the MyFRITZ!App in the **Convenience Features > Wi-Fi** menu
- By keypad code with connected phones; [see page 231](#)

Instructions: Switching the Wi-Fi network on and off by schedule

1. Open the user interface; [see page 54](#).
2. Click on **Wi-Fi > Schedule** in the menu.
3. For instructions, open the online help .

Selecting the Wi-Fi channel

In the default setting **Set Wi-Fi channel settings automatically**, the FRITZ!Box automatically searches for the ideal channel. The FRITZ!Box takes into consideration adjacent Wi-Fi networks and other sources of interference like baby monitors or microwave ovens.

Should problems with interference in the Wi-Fi network persist, try to find the source of interference and eliminate it.

In some cases it may be necessary to adjust the Wi-Fi channel settings.

Instructions: Adjusting the Wi-Fi channel settings

1. Open the user interface; [see page 54](#).
2. Click on **Wi-Fi > Wi-Fi Channel** in the menu.
3. For instructions, open the online help .

Configuring Wi-Fi guest access

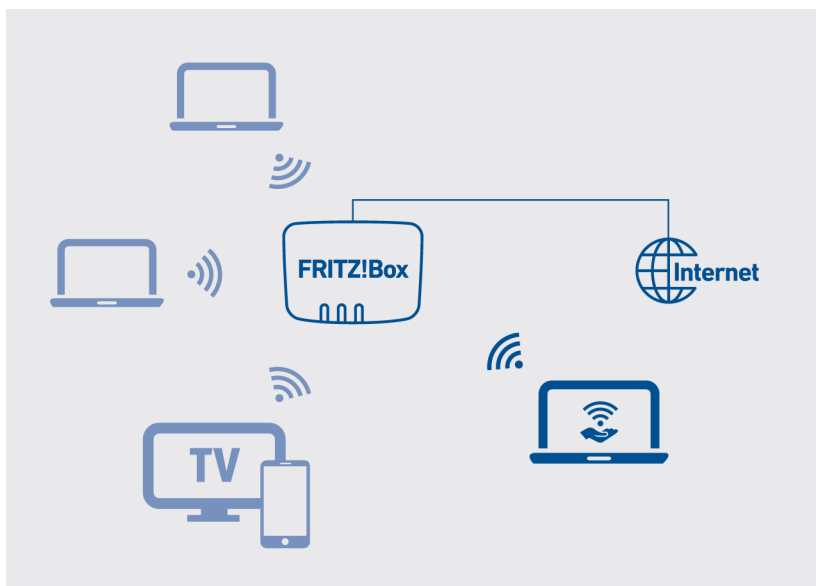
With the Wi-Fi guest access you can make an internet connection available to guests which is separate from your home network. Guests cannot access shared files or printers in the FRITZ!Box home network.

You can configure a private Wi-Fi guest access or a public Wi-Fi hotspot. The private Wi-Fi guest access can only be used with a password and data transmission is encrypted. The private Wi-Fi guest access is suitable for friends and acquaintances who want access to the internet when visiting you at home.

The public Wi-Fi hotspot can be used without a password (open Wi-Fi), making it suitable for the public spaces in shops, cafés, or doctor's offices.

Your guests can connect to the Wi-Fi guest access quickly by scanning a QR code.

Example configuration



Requirements

- The FRITZ!Box is not configured as an IP client.

Functions for the security and monitoring of the Wi-Fi guest access

Various functions are available for the security and monitoring of the Wi-Fi guest access.

- In the default setting, wireless devices in the guest network cannot communicate with each other.
- You can enable a **captive portal** for the guest access so that the user must confirm the provider's terms of use. Every time the FRITZ!Box is restarted, all users must log back in and consent to the terms of use.
- If you enable the push service for the guest access, you will receive email messages about registrations with and deregistrations from the guest network.
- You can restrict internet applications to surfing and email.
- Wireless devices in the guest network receive the **Guest** access profile in the parental controls. For this access profile you can restrict internet use to certain periods and block certain websites. When **Germany** is selected in the FRITZ!Box user interface as the country under **System > Region and Language**, all websites included in the index of the Federal Agency for Child and Youth Protection in the Media (German BPjM module) will be blocked.

Instructions: Configuring Wi-Fi guest access

1. Open the user interface; [see page 54](#).
2. Click on **Wi-Fi > Guest Access** in the menu.
3. For instructions, open the online help .

User interface: Smart Home menu

Smart home devices..... 163

Registering smart home devices with the FRITZ!Box..... 165

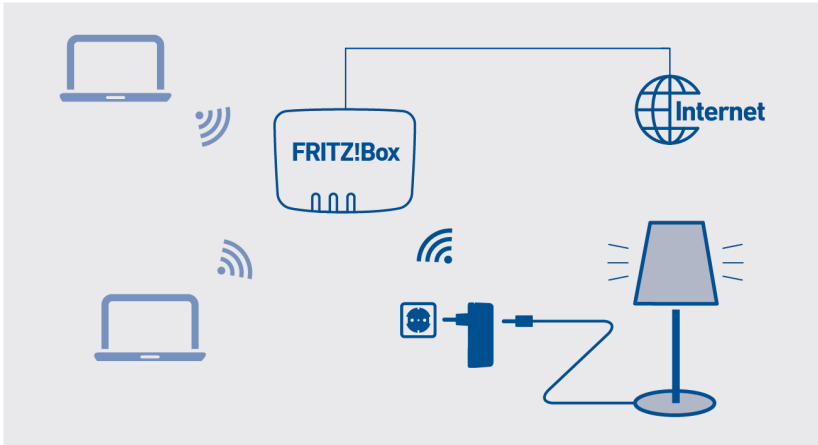
Operating smart home devices..... 166

Settings and possibilities in the smart home..... 167

Smart home devices

The FRITZ!Box is a hub for smart home devices from FRITZ! and smart home devices from other manufacturers.

Example configuration



Compatible smart home devices

The following devices can be registered with the FRITZ!Box:

- FRITZ!Smart radiator controls
- FRITZ!Smart plugs and LED lights
- FRITZ!Smart switches and door/window contacts
- Devices from other manufacturers that support the DECT ULE/HAN FUN standard

Maximum number of devices

You can register a maximum of **50** smart home devices with the FRITZ!Box.



With a FRITZ!Smart Gateway or a second FRITZ!Box as a Mesh Repeater, you can increase this number of devices to a maximum of 100. All smart home devices in the home network are available in the FRITZ!Box user interface and can be configured and operated there.

Restrictions for different device classes

- For FRITZ! radiator controls, smart switches, and door/window contacts, only the maximum number of 50 devices must be observed.
- You can register up to 20 FRITZ! smart plugs and LED lights with the FRITZ!Box (e.g. 10 smart plugs and 10 LED lights).
- You can register up to 30 smart home devices that support Zigbee. Some limitations can arise when more than 3 cordless phones and/or DECT door intercom systems are connected with the FRITZ!Box.

Example

Thirty HAN FUN devices are registered with the FRITZ!Box. Then you can register another 20 FRITZ! devices.

Registering smart home devices with the FRITZ!Box

The way a smart home device is registered depends on the type of device.

Instructions: Registering a smart home device

1. Open the user interface; [see page 54](#).
2. Click on **Smart Home > Devices and Groups** in the menu.
3. For instructions, open the online help .

Operating smart home devices

Devices in the FRITZ!Box Smart Home can be operated in various ways.

Operating smart home devices: Options

- At home in the FRITZ!Box user interface under **Smart Home > Operation**
- At home on the FRITZ!Fon in the **Home Network > Smart Home** menu
- At home and on the go with FRITZ!App Smart Home
- At home and on the go with MyFRITZ!App
- At home with the four-way switch FRITZ!Smart Control 440
- At home with the FRITZ!Smart Control 400 switch for switchable sockets and FRITZ!Smart LED lights

Settings and possibilities in the smart home

Configuring an automatic switching schedule

You can configure various types of automatic switching for devices like LED lights, smart plugs, and radiator controls, for instance:

- You can specify different switch-on and switch-off times for the individual days of the week.
- By having your LED lights switch on and off at random times, you can simulate that someone is home while you're away.
- For radiator controls you can specify when you want the room to have the desired temperature, and when the temperature can be lower.
- You can use door/window contacts to turn smart home devices on and off. You can configure door/window contacts in the FRITZ!Box so that other smart home devices are switched on or off when a door or window is opened.

Configuring groups

You can combine different smart home devices of the same type in a group like LED lights, smart plugs, or radiator controls.

In the group you can switch devices on and off together. You can also configure automatic switching, templates, and scenes for groups.

Configuring templates and scenes

In templates and scenes you can save settings to be used later. When you get home, leave the house, and in other specific situations, these prepared templates and scenes can be applied quickly. When they are applied, the current settings of your smart home devices are overwritten with the settings from the template or scene.

With the predefined **Coming Home** scene, for instance, you can switch on all LED lights and set all radiator controls to the desired temperature.

Templates contain settings for smart home devices of the same type.
Scenes can contain multiple templates, even for different device types.

Configuring routines

Routines are if-then rules containing a trigger, a condition, and an action.

The trigger is a smart home device with a sensor, for instance, a door/window contact.

The condition is an event on the trigger, for instance, the opening of a door or window.

The action is a template or a scene such as **switch on all LED lights**.
The action is carried out when the condition is met.

User interface: Diagnostics menu

Starting function diagnostics..... 170

Starting security diagnostics..... 172

Starting function diagnostics

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 the event of an error, the diagnostics results can help you localize and remedy any problems.

Function diagnostics checkpoints

Aspect	Checkpoint/Status
FRITZ!Box 7530	• Name of the FRITZ!Box • FRITZ!Box version • FRITZ!OS up to date
Registration	Configured login method to the FRITZ!Box user interface
LAN	• Allocation of LAN ports • Power settings on LAN ports
Wi-Fi	• Wi-Fi frequency band enabled/disabled with wireless function • Number of wireless devices connected • Security settings
DECT	• DECT enabled/disabled • Number of DECT devices connected
USB devices	• Number of storage media connected • Number of partitions • Connected printers
Internet connection	• IPv4 connection active since/not active • IPv6 connection active since/not active • Current IP address
	If the internet connection check is negative, the is diagnosed.

Aspect	Checkpoint/Status
Phone numbers	How many and which numbers assigned
MyFRITZ!	• Status of MyFRITZ! activation • MyFRITZ! account email address
Home network	• Number of network devices connected with the FRITZ!Box at present or at an earlier point in time • Number of network devices online
Smart home	Number of smart home devices
Wi-Fi environment	Wi-Fi frequency band with number of wireless networks on the same or an adjacent channel

Instructions: Starting function diagnostics

1. Open the user interface; [see page 54](#).
2. Click on **Diagnostics** > **Function** in the menu.
3. For instructions, open the online help .

Starting security diagnostics

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 checkpoints

Aspect	Checkpoint/Status
FRITZ!OS	- FRITZ!Box version - FRITZ!OS up to date
Registration	Configured login method to the FRITZ!Box user interface
Internet connection	- Ports opened on the FRITZ!Box - Protocols used on these ports - Port sharing for home network devices to the internet - Filters for internet access
MyFRITZ!	- Status of MyFRITZ! activation - MyFRITZ! account email address - Registration link for MyFRITZ! - Overview of MyFRITZ! sharing for access from the internet
Outgoing filters	Overview of active filters for access from the internet
Wi-Fi	- Properties and security-relevant settings for access to the Wi-Fi network and Wi-Fi guest access - Names of registered and known wireless devices

Aspect	Checkpoint/Status
Telephony	• Mesh Repeater with telephony On a Mesh Repeater (FRITZ!Box) enabled for telephony in the Mesh, all of the phone numbers configured in the Mesh Master are available. • Functions and properties of the DECT base station of the FRITZ!Box • Call handling like call diversion settings, premium numbers, settings for international calls, and security-relevant connection settings • IP phone settings: connected with the FRITZ!Box directly or via FRITZ!App Fon • CAPloverTCP driver function CAPi drivers install virtual modem drivers so that analogue services like faxing can be used digitally. With CAPloverTCP 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 • Time of the last login to the FRITZ!Box and the IP address used to do so
FRITZ!NAS	Access rights to the FRITZ!Box storage media with the following details: • Which user has access to which storage media • Which rights (write and read) are included • Whether access is permitted only via the home network, or also from the internet

Instructions: Starting security diagnostics

1. Open the user interface; [see page 54](#).
2. Click on **Diagnostics** > **Security** in the menu.
3. For instructions, open the online help  .

User interface: System menu

Saving power with the FRITZ!Box.....	176
Setting the mode for using energy-saving functions.....	177
Configuring energy-saving functions of the FRITZ!Box.....	178
Configuring push services.....	179
FRITZ!Box password.....	182
FRITZ!Box users.....	184
Specifying functions of the Info LED.....	186
Locking and unlocking buttons.....	187
Setting the user interface language.....	188
Changing regional options.....	189
Adjusting the time zone.....	190
Saving settings.....	191
Loading settings.....	192
Restarting the FRITZ!Box.....	193
Restoring factory settings to the FRITZ!Box.....	194
Configuring automatic FRITZ!OS updates.....	196
Performing a FRITZ!OS update manually.....	197

Saving power with the FRITZ!Box

The FRITZ!Box offers various settings for energy-saving operation.

Displaying information on power consumption

Information on the current power consumption of the entire FRITZ!Box system is displayed on the **Overview** page in the FRITZ!Box 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**.

Setting the mode for using energy-saving functions

In the preset, the FRITZ!Box uses a balanced mode for using the energy-saving functions. The most important energy-saving functions are already enabled.

If you would like to further reduce the energy consumption, you can enable the **energy-saving mode**.

Comparison of balanced and energy-saving modes

Function	Balanced mode	Energy-saving mode
Wi-Fi	The 2.4-GHz and 5-GHz bands are enabled.	If the 2.4-GHz and 5-GHz bands are enabled, the 5-GHz band will be disabled.
Maximum data rate for LAN connections	1 Gbit/s (Power Mode).	100 Mbit/s (Green Mode)
USB mode	As specified (USB 3 or USB 2)	USB 2 (Green Mode)
LED brightness	Bright	Weak

Configuring energy-saving functions of the FRITZ!Box

You can configure various energy saving functions in the FRITZ!Box.

Wi-Fi

- You can configure a switching schedule for Wi-Fi; [see page 158](#).
- You can reduce the maximum transmitter power in the FRITZ!Box user interface in the **Wi-Fi > Wi-Fi Network** menu.

LAN

- You can use LAN ports in energy-saving (green) mode. This setting is found in the FRITZ!Box user interface in the **Home Network > Network > Network Settings > LAN Settings** menu.

USB

- You can use USB hard drives in energy-saving (green) mode; [see page 153](#).

Configuring push services

The FRITZ!Box makes various push services available. Push services are service email messages with information on the activities of your FRITZ!Box. 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. Push services also support you in restoring your passwords and backing up the FRITZ!Box settings.

Available push services

The following push services are available in your FRITZ!Box:

Push service	Function
FRITZ!Box info	Sends you regular emails with data on FRITZ!Box usage and connections.
Wireless guest access	Sends you a message whenever devices register with or deregister from the Wi-Fi guest access.
SMS reception	Forwards texts that arrive at the FRITZ!Box via the mobile network by email.
New FRITZ!OS	Notifies you whenever a new FRITZ!OS version is available for your FRITZ!Box.
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 backup file before each update and every time the factory settings are restored, and forwards this file by email, protected with a password.

Push service	Function
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 provider every time the internet connection is established.
Calls	Sends you emails about calls from phones and door intercom systems (including camera images). You have the option of receiving emails for all incoming calls, or only for missed calls. You can configure the Calls push service individually for up to nine different phone numbers.
Answering machine	Forwards messages recorded on the FRITZ!Box answering machines to the specified email address.
Smart home	Sends you the status of a smart home device regularly or when important events occur.

Steps

Configure the push service emails by performing the following steps:

	Instructions
	Set an email address as the sender of push service mail.
	Enable the desired push services and make any other necessary settings.

Instructions: Configuring and Testing an Email Address for Sending Push Service Mail

1. Open the user interface; [see page 54](#).
2. Click on **System > Push Service** in the menu and then on the **Sender** tab.
3. For instructions, open the online help .

Instructions: Configuring and enabling push services

1. Open the user interface; [see page 54](#).
2. Click on **System > Push Service** in the menu and then on the **Push Services** tab.
3. For instructions, open the online help .

FRITZ!Box password

For the first login to the FRITZ!Box user interface, a FRITZ!Box password is preconfigured that can be used without a username.

The FRITZ!Box password is printed on the FRITZ! Notes service card and on the type label on the outside of the FRITZ!Box housing.

Please note

- Login using the FRITZ!Box password is possible only within the FRITZ!Box home network.
- With the FRITZ!Box password you have access to the FRITZ!Box settings.
- You can change the preconfigured FRITZ!Box password.
- The FRITZ!Box automatically creates a FRITZ!Box user for the FRITZ!Box password. The username consists of **fritz** and four numerals, for example **fritz1234**.

Do not change this username; otherwise you will always have to enter the username for the FRITZ!Box password when logging in to the FRITZ!Box.

- The preconfigured FRITZ!Box password is restored if you restore the factory settings to the FRITZ!Box.

Instructions: Changing the FRITZ!Box password

1. Open the user interface; [see page 54](#).
2. Log in with your 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 184](#).

Push service for a forgotten password

After changing the FRITZ!Box password, configure the Forgot Password push service. If you forget your password, the FRITZ!Box sends you an email with a link which you can use to assign a new password.

If you lose your FRITZ!Box password and did not configure the Forgot Password push service, you will have to restore the factory settings to the FRITZ!Box and then reconfigure it.

The **Forgot Password** push service is configured in the **System > Push Service** menu on the **Push Services** tab.

FRITZ!Box users

A FRITZ!Box user is a user account for accessing the functions and settings of the FRITZ!Box.

Every FRITZ!Box user receives a username and password for logging in to the FRITZ!Box.

You can configure up to 18 FRITZ!Box users and assign different rights to different users. Users with the corresponding rights can also access the FRITZ!Box from the internet.

Rights for FRITZ!Box users

You can assign different rights to FRITZ!Box users to control access to the FRITZ!Box. The following rights are available:

- 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 usernames 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 185](#).
- Select a password with at least twelve characters, which includes capitals and lower-case letters as well as numerals and special characters; [see page 185](#).
- Configure the **Forgot Password** push service. If you forget your password, the FRITZ!Box sends you an email with a link which you can use to assign a new password.

If you lose your FRITZ!Box password and did not configure the Forgotten Password push service, you will have to restore the factory settings to the FRITZ!Box and then reconfigure it.

Characters allowed for passwords and usernames

Characters	In usernames	In passwords
Latin letters from a to z in lower case and upper case	allowed	allowed
Numerals 0 to 9	allowed	allowed
Spaces	allowed	allowed
Umlauts in upper case and lower case (for example, ä, ö, ü)	not allowed	not allowed
The letter ß in lower case and upper case	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 54](#).
2. Click on **System > FRITZ!Box Users** in the menu and then on the **Users** tab.
3. For instructions, open the online help .

Specifying functions of the Info LED

The **Info** LED signals various events. Some events are preset; [see page 24](#). You can also assign signalling of an additional event to the **Info** LED.

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** menu, has been exhausted. The **Info** LED will then flash when the configured volume has been exceeded.

Instructions: Selecting the signalling of the Info LED

1. Open the user interface; [see page 54](#).
2. Click on **System > Buttons and LEDs** in the menu and then on the **Info Display** tab.
3. For instructions, open the online help .

Locking and unlocking buttons

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

Example

With the **WLAN** button the Wi-Fi network of the FRITZ!Box can be switched off at the touch of a button. Then the Wi-Fi network will not be available. If this happens by accident, in some cases it may take some time before the cause is found. With the button lock you can prevent the **WLAN** button from being pressed by accident.

Instructions: Locking or unlocking the buttons of the FRITZ!Box

1. Open the user interface; [see page 54](#).
2. Click on **System** > **Buttons and LEDs** in the menu and then on the **Button Lock** tab.
3. Enable or disable **Button Lock**.
4. Click on **Apply**.

Setting the user interface language

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

Please note

- FRITZ!Fon cordless phones 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 54](#).
2. Click on **System > Region and Language** in the menu and then on the **Language** tab.
3. Select the desired language from the drop-down list.
4. Click on **Apply**.

The FRITZ!Box restarts. After restarting, the user interface is in the desired language.

Changing regional options

Use the Region page to specify the country in which your FRITZ!Box is deployed. The country setting optimizes the connection settings of the FRITZ!Box for that country and automatically sets the right time zone.

Instructions: Changing regional options

1. Open the user interface; [see page 54](#).
2. Click on **System > Region and Language** in the menu and then on the **Region** tab.
3. For instructions, open the online help .

Adjusting the time zone

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 54](#).
2. Click on **System > Region and Language** in the menu and then on the **Time Zone** tab.
3. For instructions, open the online help .

Saving settings

You can save all of the settings made in your FRITZ!Box to a backup file.

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



If you have saved data on the internal storage of your FRITZ!Box, you should back them up as well. Instructions are included in this manual: [see page 208](#).

Instructions: Saving settings manually

1. Open the user interface; [see page 54](#).
2. Click on **System** > **Backup** in the menu and then on the **Save** tab.
3. For instructions, open the online help .

Instructions: Saving settings automatically

With the **Save Settings** email service you can have an automatically generated file of your FRITZ!Box settings sent to you before an update or before restoring the factory settings to the FRITZ!Box. With this backup file you can restore your personal settings.

1. Open the user interface; [see page 54](#).
2. Click on **System** > **Push Service** in the menu and then on the **Push Services** tab.
3. For instructions, open the online help .

Loading settings

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 a 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 54](#).
2. Click on **System** > **Backup** in the menu and then on the **Restore** tab.
3. For instructions, open the online help .

Restarting the FRITZ!Box

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. Unplug the FRITZ!Box from the power socket.
2. Wait 5 seconds.
3. Insert the plug back into the socket.

Restarting the FRITZ!Box takes about 2 minutes.

Instructions: Restarting the FRITZ!Box from the user interface

1. Open the user interface; [see page 54](#).
2. Click on **System > Backup** in the menu and then on the **Restart** tab.
3. For instructions, open the online help .

Restoring factory settings to the FRITZ!Box

You can restore the factory settings to the FRITZ!Box.

Application example

- You forgot the login information for the FRITZ!Box user interface and can no longer access the 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 internal memory of the FRITZ!Box is deleted. In addition to contents on FRITZ!NAS, messages received on the answering machine and faxes are discarded.
- The Wi-Fi network key from the factory settings will be reactivated.
- The name of the Wi-Fi network (SSID) is reset.
- The IP configuration of the factory settings is 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 191](#).
- Back up your data from the internal memory, for instance, using the download function in FRITZ!NAS; [see page 208](#).

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 54](#).
2. Click on **System > Backup** in the menu and then on the **Factory Settings** tab.
3. Click on **Load Factory Settings**.

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

Configuring automatic FRITZ!OS updates

FRITZ! regularly makes new versions of FRITZ!OS available for your FRITZ!Box, free of charge. FRITZ!OS updates include new functions and provide for more security.

Available auto update settings

With the **Auto Update** feature you can specify whether and which updates are installed automatically. You will always be informed about new FRITZ!OS updates in the overview of the FRITZ!Box user interface.

Auto update setting	Function
Level I: Notify me about new FRITZ!OS versions	You start installation of the updates yourself; see page 201 .
Level II: Install necessary (security) updates automatically	Updates that FRITZ! has identified as necessary for continued secure and reliable operation will be installed automatically.
Level III: Install new versions automatically (recommended)	All new FRITZ!OS updates will be installed automatically.



In the default setting, the FRITZ!Box generally installs automatic updates at night. This interrupts the internet connection briefly. If you require an uninterrupted internet connection at night (for instance for working on servers), select a suitable time period in the **System > Update > Auto Update** menu of the FRITZ!Box user interface.

Instructions: Configuring automatic updates

1. Open the user interface; [see page 54](#).
2. Click on **System > Update** in the menu and then on the **Auto Update** tab.
3. For instructions, open the online help .

Performing a FRITZ!OS update manually

FRITZ! regularly makes new versions of FRITZ!OS available for your FRITZ!Box, free of charge. Updates include new functions and provide for more security.

If there is no other way to perform an update, you can perform a manual update with a FRITZ!OS file. For this the FRITZ!Box does not need an internet connection.

Instructions: Updating FRITZ!OS without an internet connection

1. On a computer with an internet connection, enter in the browser the address: download.avm.de
2. Navigate through the following folders: **fritzbox** > **your FRITZ!Box model** > **deutschland** > **fritz.os**.
The complete model name of your FRITZ!Box is shown in the user interface and on the type label on the outside of the housing.
3. Download the file with the file extension **.image**. Save the file on a storage medium which you can access from the FRITZ!Box user interface.
4. Open the FRITZ!Box user interface; [see page 54](#)
5. Click on **System** > **Update** in the menu and then on the **FRITZ!OS File** tab.
6. Click on the Browse button and select the downloaded file.
7. Click on **Start Update**.

[Important](#)

Do not clear the connection between the FRITZ!Box and the computer during a FRITZ!OS update, and do not unplug any power cords.

User interface: Wizards menu

Using the wizards..... 199

Performing a FRITZ!OS update with the wizard.....201

Using the wizard to switch FRITZ!Boxes..... 202

Using the wizards

Wizards guide you step by step through the most important FRITZ!Box functions.

Wizards

The following wizards are available in the FRITZ!Box:

Wizard	Function
Manage Telephony Devices	For connecting and configuring the following devices: • cordless (DECT) phone • phone • answering machine(s) • fax machine • door intercom system
Manage Phone Numbers	For adding and editing phone numbers.
Configuring the Internet Connection	For configuring and checking internet access.
Check the Status of the FRITZ!Box	For checking the functions and settings of the FRITZ!Box. You can save the results.
Transfer Your Settings to a New FRITZ!Box	For transferring all FRITZ!Box settings for telephony, smart home, internet, Wi-Fi, and MyFRITZ! to a new FRITZ!Box.
Safety	For displaying settings that control access to the FRITZ!Box from the internet or home network, with indications of potentially insecure settings.
Save and Restore Settings	For saving and restoring FRITZ!Box settings.

Wizard	Function
Update	For checking whether a new FRITZ!OS version is available.
Configure Push Service	Push services send you emails on a regular basis or when certain events occur: for instance with the connection and usage data.

Instructions: Starting a wizard

1. Open the user interface; [see page 54](#).
2. Click on **Wizards** in the menu.
3. Click on the desired wizard.

Performing a FRITZ!OS update with the wizard

FRITZ! regularly makes new versions of FRITZ!OS available for your FRITZ!Box, free of charge. Updates include new functions and provide for more security.

The **Update** wizard checks whether a new version of FRITZ!OS is available and guides you step by step through installation.

Instructions: Performing an 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 54](#).
2. Click on **Wizards** in the menu.
3. Click on **Update**.
The wizard checks whether a FRITZ!OS update is available for your FRITZ!Box.
4. If an update is available: Click on **Start Update** and follow the wizard's instructions.
The FRITZ!OS update begins and the **Info** LED starts flashing. The FRITZ!OS update is complete when the LED stops flashing.

Using the wizard to switch FRITZ!Boxes

The **Transferring settings to a new FRITZ!Box** wizard for switching FRITZ!Boxes assists you if you are using a FRITZ!Box and want to replace it with a new FRITZ!Box.

With the wizard you can adopt all settings for the internet, Wi-Fi, telephony, MyFRITZ!, and the smart home. Devices in the home network such as FRITZ!Repeaters, cordless phones, and radiator controls can be connected with the new FRITZ!Box for immediate use.

Example 1

You are switching to a different internet connection and using a FRITZ!Box with a different internet technology.

Example 2

You want to replace your old FRITZ!Box with a newer FRITZ!Box.

Requirements

- FRITZ!OS 7.51 or later is installed both on the old FRITZ!Box and the new FRITZ!Box.
- The new FRITZ!Box has the factory settings configured and is not plugged in.
- The latest version of FRITZ!OS is installed on all FRITZ! devices connected with the old FRITZ!Box.

Please note

- The wizard for easy switching to a different FRITZ!Box is available only when you access the FRITZ!Box user interface from within the home network. This wizard is not available with remote access.
- It is not possible to use the wizard if your old FRITZ!Box is used as a Mesh Repeater or operated in IP client mode.

- Older FRITZ! devices in the home network may not be automatically adopted by the new FRITZ!Box during the switch. These FRITZ! devices can be connected with the new FRITZ!Box manually at a later point in time.

Instructions: Starting a switch to a new FRITZ!Box

Start the process of switching FRITZ!Boxes on the old FRITZ!Box:

1. Open the user interface; [see page 54](#).
2. Click on **Wizards** in the menu.
3. Click on **Transfer Your Settings to a New FRITZ!Box**.
4. Follow the wizard's instructions.

FRITZ!NAS

Using FRITZ!NAS functions..... 205

Displaying FRITZ!NAS in the file manager..... 207

Backing up data from internal FRITZ!Box storage.....208

Using FRITZ!NAS functions

The FRITZ!Box can provide central storage (NAS) for music, pictures, videos, and other files in the home network. NAS is short for Network Attached Storage.

With FRITZ!NAS you can access your files from all computers, smart-phones, and other devices in the home network.

The FRITZ!Box storage is composed of:

- connected USB storage media
- configured online storage (cloud storage)

Requirements

- Network storage is configured on the FRITZ!Box (USB storage or online storage); [see page 141](#)
- For access to the FRITZ!NAS portal: A web browser that supports HTML5, for instance Microsoft Edge, Mozilla Firefox version 17 or later, Google Chrome version 23 or later, or Safari version 5 or later.
- For login with the FRITZ!Box from the home network: The FRITZ!Box user has **Access to NAS contents** configured; [see page 184](#). Login only with the FRITZ!Box password without a username has all rights by default.

For login via the internet, the following prerequisites must also be met:

- A MyFRITZ! account has been set up; [see page 213](#).
- The FRITZ!Box can be reached from the internet; [see page 211](#).
- A FRITZ!Box user with the rights **Access from the internet allowed** and **Access to NAS contents** has been set up; [see page 184](#).

Opening FRITZ!NAS in the FRITZ!Box

You can open the FRITZ!NAS portal in the FRITZ!Box.

On this portal the following file administration functions are available: adding, sorting, saving, moving, renaming, splitting, and deleting.

Opening FRITZ!NAS	Where
Opening FRITZ!NAS in the Home Network	Enter fritz.nas in the address line of a web browser. Log in with your FRITZ!Box using the FRITZ!Box password if prompted to do so.
Opening FRITZ!NAS from the internet	Enter myfritz.net in the address line of a web browser. Log in with the email address and the password of your MyFRITZ! account.

Displaying FRITZ!NAS in the file manager

You can display the contents of the FRITZ!Box data storage in the file manager of a computer in the home network. The storage can be used on the computer just like a local drive or a USB drive connected directly to the computer, for instance in the Windows Explorer or macOS Finder.

Requirements

- Your computer is connected with the FRITZ!Box via network cable.

Instructions: Displaying FRITZ!Box storage in Windows Explorer

1. Open Windows Explorer.
2. Enter **fritz.nas** in the address bar of the browser.

The NAS of your FRITZ!Box is displayed in Windows Explorer. You can list, rename, copy, and delete files.

Instructions: Displaying FRITZ!Box storage in the macOS Finder

1. Right-click on the Finder symbol to open the context menu of the macOS Finder.
2. Click on **Connect to Server....**
3. Enter the server address <smb://fritz.nas>.

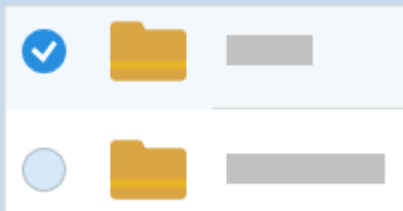
The storage of your FRITZ!Box is displayed in the Finder. You can list, rename, copy, and delete files.

Backing up data from internal FRITZ!Box storage

When you restore the factory settings to the FRITZ!Box, all data stored in the internal memory of the FRITZ!Box is deleted. This can include, for instance, received faxes and answering machine messages. With FRITZ!NAS you can download the data from the internal FRITZ!Box memory and back it up.

Instructions: Saving data from internal FRITZ!Box memory

1. Open the user interface; [see page 54](#).
2. Click on FRITZ!NAS in the user interface.
The FRITZ!NAS file manager appears.
3. Click on **Select** in the file manager.
4. Click on **All** or select the data you want to save.



5. Click on **Download**.
The selected files are packed into a ZIP file and the browser dialogue for saving the file opens.
6. Save the ZIP file to your computer.
You can unzip the file in the Windows Explorer, macOS Finder, or another standard software.

Instructions: Saving data from internal memory

1. Open a web browser.
2. Enter **fritz.nas** in the address bar of the browser.

3. Select on the FRITZ!NAS page the data you would like to save.
4. Click in the toolbar on the icon for downloading and select a storage location for the data.
5. Save with **OK**.

The selected data are copied to a ZIP file in the download folder you specified.

MyFRITZ!

What is MyFRITZ!?.....211

Configuring a MyFRITZ! account.....213

What is MyFRITZ!?

With MyFRITZ! you can access your FRITZ!Box from anywhere over the internet.

MyFRITZ! account and MyFRITZ!Net

If you configure a MyFRITZ! account ([see page 213](#)), you can access your FRITZ!Box from the internet at any time via myfritz.net:

- On FRITZ!NAS you can upload or download files and play multimedia contents.
- You can open the call list of the FRITZ!Box and check for messages on the answering machine.
- You can change settings or control smart home devices in the FRITZ!Box user interface.

You also receive regular information on updates and the status of the FRITZ! devices in your home network at the email address of your MyFRITZ! account.

FRITZ!Box web address

Upon registration with the MyFRITZ! account, the FRITZ!Box receives a unique MyFRITZ! address with the domain ending **.myfritz.net**. The FRITZ!Box is then available at this address even when the public IP address of the FRITZ!Box changes.

With the FRITZ!Box web address you can access your home network from the internet:

- This allows you to open the FRITZ!Box user interface in a web browser.
- You can establish VPN connections to your FRITZ!Box.
- You can access server services and network devices in the home network for which you configured port sharing in the FRITZ!Box.

MyFRITZ!App

With MyFRITZ!App you have secure access to your FRITZ!Box and your home network at home and on the go.

- You can open the call list of the FRITZ!Box and listen to messages on the answering machine.
- You can enable and disable the FRITZ!Box answering machine and call diversion settings.
- You can block and unblock internet access for individual devices in the home network.
- You can access FRITZ!NAS and upload or download files, view pictures, and play music.

Downloading MyFRITZ!App

The MyFRITZ!App is available free of charge for Android and iOS:

Google Play Store (Android)	App Store (iOS)
	

Configuring a MyFRITZ! account

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

Please note

- When the MyFRITZ! account is created, the FRITZ!Box from which the account is created is registered with the MyFRITZ! account.
- The MyFRITZ! account exists no matter which FRITZ!Box was used to create it. You can register multiple FRITZ!Box devices with one 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 54](#).
2. Click on **Internet > MyFRITZ! Account** in the menu.
3. For instructions, open the online help .

FRITZ!Apps

MyFRITZ!App..... 215

FRITZ!App Smart Home..... 216

FRITZ!App Fon.....217

FRITZ!App WLAN..... 218

MyFRITZ!App

The MyFRITZ!App offers fast access to your FRITZ!Box and your home network, even over the internet when you're on the go.

- Open call list and listen to messages on the answering machine
- Access home network storage with FRITZ!NAS, for instance, for photo, music, or video files
- Change FRITZ!Box settings and view information
- Manage telephony settings
- Switch Wi-Fi and Wi-Fi guest access on and off
- Share the Wi-Fi using a QR code

Downloading MyFRITZ!App

The MyFRITZ!App is available free of charge for Android and iOS:

Google Play Store (Android)	App Store (iOS)
	

FRITZ!App Smart Home

With the FRITZ!App Smart Home you can control your FRITZ! smart home devices from home or on the go:

- Switch FRITZ! smart plugs and FRITZ! radiator controls
- Operate FRITZ!Smart LED lights and create colour templates
- Display the energy consumption of the devices connected to FRITZ! smart plugs
- Switch on and off routines to automate smart home devices

Downloading FRITZ!App Smart Home

The FRITZ!App Smart Home is available free of charge for Android and iOS:

Google Play Store (Android)	App Store (iOS)
	

FRITZ!App Fon

With the FRITZ!App Fon you can make calls using your smartphone or tablet at home over your landline phone numbers:

- Make outgoing calls and accept incoming calls
- Access your smartphone contacts and the contacts in the FRITZ! App Fon phone book
- Listen to the answering machine.

Downloading FRITZ!App Fon

The FRITZ!App Fon is available free of charge for Android and iOS:

Google Play Store (Android)	App Store (iOS)
	

FRITZ!App WLAN

FRITZ!App WLAN informs you about your Wi-Fi connection and the FRITZ! devices in the home network:

- Monitor Wi-Fi connections
- Mesh: find the ideal position for the repeater relative to the FRITZ!Box
- Share Wi-Fi with friends (Android)

Downloading FRITZ!App WLAN

The FRITZ!App WLAN is available free of charge for Android and iOS:

Google Play Store	App Store (iOS)
	

Controlling the FRITZ!Box with keypad codes

Information on keypad codes..... 220

Configuration on the phone..... 222

Operating on the phone..... 232

Restoring factory settings by phone..... 245

Information on keypad codes

Various FRITZ!Box functions can be configured and operated using a connected phone 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, **#811*1***), which you enter on the phone keypad.

Requirements

- For analogue phones and DECT phones with their own base station: The phone is configured such that special characters (***** and **#**) can be dialled; see the manual of your phone.

Please note

- Keypad codes do not work with smartphones.
- Keypad codes do not work with FRITZ!App Fon; exception: internal calls.
- Only the following keypad codes work with IP phones: internal calls, call transfer, using keypad sequences, suppressing the phone number once, and call diversion on/off (international calls must be allowed for the IP phone; [see page 77](#))

Entering keypad codes

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

Type of phone	Action
Phone without call button	• Pick up the handset. • Enter the keypad code. • Hang up.
Phone with call button (usually green)	• Enter the keypad code. • Press the 'Call' ('Connect') button. • Press the end call key.

Configuration on the phone

Instructions: Disabling outside line access for the FON

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).

Phone without call button	Phone with call button
	
Disable outside line access: #11*0* (FON)	
	
Wait for acknowledgment tone	
	

Instructions: Enabling outside line access for the FON connection

Phone without call button	Phone with call button
	
Enable outside line access: #11*1* (FON)	
	
Wait for acknowledgment tone	
	

Instructions: Switching on call diversion for all calls

Call diversion automatically diverts incoming calls to a previously specified external phone number. If your phone 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 phone rates.

Phone without call button	Phone with call button
	

Phone without call button	Phone with call button
Configure immediate call diversion to destination call number <DCN>:	
21<DCN>*#	
Configure call diversion after 20 seconds to destination call number <DCN>:	
61<DCN>*#	
Configure call diversion on busy to the destination call number <DCN>:	
67<DCN>*#	
	
Wait for acknowledgment tone	
	

Instructions: Switching off call diversion for all calls

Phone without call button	Phone with call button
	
Switch off immediate call diversion: *21**# Switch off delayed call diversion: *61**# Switch off call diversion on busy: *67**#	
	
Wait for acknowledgment tone	
	

Instructions: Switching on call diversion for one phone number

If you have multiple phone numbers, you can configure a call diversion setting that applies to only one specified phone number (PN). Calls for your other phone numbers will not be diverted.

Phone without call button	Phone with call button
	
Switch on immediate call diversion to destination call number <DCN>: *21*<DCN>*<PN>#	
Switch on call diversion after 20 seconds to destination call number <DCN>: *61*<DCN>*<PN>#	
Switch on call diversion on busy to the destination call number <DCN>: *67*<DCN>*<PN>#	
	
Wait for acknowledgment tone	
	

Instructions: Switching off call diversion for one phone number

Phone without call button	Phone with call button
	
Switch off immediate call diversion: *21**<PN># Switch off delayed call diversion: *61**<PN># Switch off call diversion on busy: *67**<PN>#	
	
Wait for acknowledgment tone	
	

Instructions: Switching on call diversion for the FON port

Phone without call button	Phone with call button
	
Switch on immediate call diversion for the FON port without ringing to destination call number <DCN>: #411* <DCN>* Switch on immediate call diversion for the FON port with ringing to destination call number <DCN>: #451* <DCN>* Switch on call diversion for the FON port after 20 seconds to destination call number <DCN>: #421* <DCN>* Switch on call diversion for the FON port on busy to the destination call number <DCN>: #431* <DCN>* Switch on immediate call diversion for FON on busy, otherwise delayed, to the destination call number <DCN>: #441* <DCN>*	
	
Wait for acknowledgment tone	
	

Instructions: Switching off call diversion for the FON port

Phone without call button	Phone with call button
	
Switch off call diversion for the FON port: #401**	
	
Wait for acknowledgment tone	
	

Instructions: Configuring a phone as a baby monitor

You can configure a phone 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 phone then automatically calls a previously specified phone number, for instance, your mobile phone.

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

Phone without call button	Phone with call button
	
Press the following keys: # 4 <level> * <PN> # <Level> specifies the sensitivity. Permitted values: 1 (highest) – 8 (lowest) <PN> is the internal or external phone 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 phone.

Phone without call button	Phone with call button
	
Switch Wi-Fi on: #96*1*	
	
Wait for acknowledgment tone	
	

Instructions: Switching Wi-Fi off

Phone without call button	Phone with call button
	
Switch Wi-Fi off: #96*0*	
	
Wait for acknowledgment tone	
	

Operating on the phone

Instructions: Operating the answering machine with the phone

You can operate the answering machine with the phone 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:

Phone without call button	Phone with call button
	
Establish a connection to the answering machine:	
**600 (answering machine 1)	
**601 (answering machine 2)	
**602 (answering machine 3)	
**603 (answering machine 4)	
**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	
	5 Delete message	
	7 To previous message	
	9 To next message	

Main menu (Level 1)	Level 2	Level 3
➊ Delete all messages		
➋ Answering machine on/off		
➌ Record a greeting	➊ Greeting message ➋ Greeting for announcement mode ➌ Closing message	➊ Listen to all greetings, select greeting with ➋ ➌ Delete greeting/announcement ➍ Record greeting, end with ➊
➍ Enable recording/announcement mode (no messages recorded in announcement mode)		

Instructions: Picking up a call from the answering machine or phone

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

- 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 phone (the other phone rings).

Phone without call button	Phone with call button
	
Press the following keys: * 0 9	
	

Instructions: Making internal calls

You can conduct free internal calls between connected phones.

Phone without call button	Phone with call button
	
Enter an internal phone number from the FRITZ!Box phone book	
	

Instructions: Starting a broadcast call

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

Phone without call button	Phone with call button
	
Press the following keys for a broadcast call: 	
	
All phones on the FRITZ!Box ring. You will be connected to the phone that picks up the call first.	

Instructions: Transferring calls with consultation

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

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

Phone without call button	Phone with call button
During the call with party 1, press the hold button:	
	
The call is on hold.	
Enter the phone number of party 2. This can be an external phone number or an internal number from the FRITZ!Box phone book.	
When party 2 accepts the call, you can consult with others in the room.	
Connect party 1 and party 2 with each other:	
	On cordless phones:
	 4
	Others:
	
	or  4
If party 2 cannot be reached or does not wish to speak with party 1, go back to party 1:	
 1	

Instructions: Transferring calls without consultation

With the Call Transfer feature you can forward (transfer) a call to another connected phone or to an external phone number.
For transferring a call on a phone without a hold button, see the manual of the phone.

Phone without call button	Phone with call button
During the call with party 1, press the hold button:	
	
The call is on hold.	
Enter the phone number of party 2. This can be an external phone number or an internal number from the FRITZ!Box phone book.	
	On cordless phones:
	 
Others:	
	

Instructions: Picking up from call waiting

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

Phone without call button	Phone with call button
During a call:	
Pick up from call waiting: R 2	
Reject waiting call: R 0	
If you pick up the waiting call, you can:	
Switch between call 1 and call 2 (alternate): R 2	
End the active call and continue the other call: Hang up, wait until your phone rings, and pick up	

Instructions: Suppressing the phone number once

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

Phone without call button	Phone with call button
	
Press the following keys:	
✱ 3 1 #	
Enter the external phone number	
	

Instructions: Setting up a three-party conference call

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

Phone without call button	Phone with call button
During the call with party 1, press the hold button: R ① Call 1 is on hold.	
To establish the call with party 2, enter an internal or external phone number.	
When party 2 accepts the call, establish the three-party conference: R ③	
If party 2 cannot be reached, go back to party 1: R ①	
During the three-party conference call you can: Interrupt the conference (you speak with party 1, call 2 is on hold): R ② Switch back and forth between parties 1 and 2 (alternate): R ② Restore an interrupted conference: R ③ End call 2 and continue with call 1: R ① End the active call and continue the other call: Hang up, wait until your phone rings, and pick up	

Instructions: Holding/Consultation/Toggling

During a phone 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.

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

Instructions: Using keypad shortcuts

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

Phone without call button	Phone with call button
	
Press the following keys (<Seq> is the keypad shortcut): *#<Seq>	
	

Instructions: Enabling an alarm

You can use connected phones as an alarm clock. 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 phone keys.

Phone without call button	Phone with call button
	
Switch on the alarm: #881**	
	
Wait for acknowledgment tone	
	

Instructions: Disabling an alarm

Phone without call button	Phone with call button
	
Switch alarm off: #881#	
	
Wait for acknowledgment tone	
	

Restoring factory settings by phone

You can restore factory settings to the FRITZ!Box by phone. 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. Contents on FRITZ!NAS, messages on the answering machine, and received faxes will be discarded.
- The preconfigured FRITZ!Box password is restored.
- The preconfigured Wi-Fi network key and the preconfigured name of the Wi-Fi network (SSID) are reactivated.
- The preconfigured IP configuration is restored.

Instructions: Loading factory settings

Phone without call button	Phone with call button
	
Restore factory settings to FRITZ!Box: #991*15901590*	
	
Wait for acknowledgment tone	
	

Malfunctions

Troubleshooting procedures..... 248

Troubleshooting chart..... 249

Opening the user interface with the fallback IP address..... 252

Knowledge Base..... 253

Support..... 254

Troubleshooting procedures

Where can I find help?

The following table offers recommendations about what do when problems arise:

Problem	Help
• LEDs not on • No access to the user interface • Wi-Fi connection cannot be established or is interrupted	Troubleshooting chart; see page 249
Problem with: • Connecting • Configuration • Telephony • Internet • Wi-Fi • etc.	Knowledge Base; see page 253
Troubleshooting chart and Knowledge Base do not offer a solution	Support, see page 254

Troubleshooting chart

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 adapter is connected properly. • Try plugging in a different device to make sure that the power socket is active.
Cannot establish a Wi-Fi connection	Wi-Fi switched off on the computer	Enable Wi-Fi on your computer. 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.
	Incorrect network key	Enter the correct Wi-Fi network key (Wi-Fi > Security).

Problem	Cause	Solution
User interface does not open	Address not correct	Enter the complete address in the browser: http://fritz.box If the user interface does not open, see Opening the user interface with the fallback IP address, page 252.
	Restart required FRITZ!Box has crashed	Disconnect the FRITZ!Box from electrical power and restart the FRITZ!Box again after about five seconds.
	Cache is full	Empty the cache of your web browser. 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. 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. 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 194).

Problem	Cause	Solution
Wi-Fi connection interrupted	Wi-Fi connection between FRITZ!Box and wireless device interrupted	• Do not set up the FRITZ!Box in the corner of a room. • Do not set up the FRITZ!Box directly next to or beneath an obstacle or a metal object (like a cabinet or radiator). • 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	Enable automatic configuration of the Wi-Fi channel settings under Wi-Fi > Wi-Fi Channel in the user interface. Then the FRITZ!Box automatically selects a Wi-Fi channel with as little interference as possible.

Opening the user interface with the fallback IP address

There is a 'fallback IP address' at which the FRITZ!Box user interface can always be reached.

Fallback IP address

The fallback IP address is **169.254.1.1** and cannot be changed.

Requirements

- This computer is not connected with the FRITZ!Box via LAN guest access.

Instructions: Opening the user interface with the fallback IP address

1. Enter the fallback address **169.254.1.1** in the browser.
2. If the FRITZ!Box user interface is not opened, make sure that there is no Wi-Fi connection between your computer and the FRITZ!Box.
3. Connect your computer to the **LAN 2** socket of the FRITZ!Box using a LAN cable.
4. Restart your computer.
5. Enter the fallback address **169.254.1.1** in the browser.
6. Log in to the FRITZ!Box user interface.

Knowledge Base

Help for resolving problems with FRITZ!Box is provided in our 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 FRITZ! Support; [see page 254](#).

Available 24/7

Our Knowledge Base is available online at:

fritz.com/service

Support

Our FRITZ! Support assists you in resolving any problems with your FRITZ! devices.

Preparations

Keep the following information handy for a support request:

- FRITZ!Box model
- Article number, [see page 19](#)
- FRITZ!OS version
- Internet service provider
- Error messages, if any

Instructions: Contacting FRITZ! Support

Contact FRITZ! Support via the FRITZ! website.

1. Open the fritz.com website.
2. Click on **Service** and then on **Support**.
3. Keep your information handy ([see Preparations, page 254](#)).
4. Contact our FRITZ! Support via email form, fax, or chat.

Important

Our email and chat support are not always available in all languages. Select another language for the website if needed.

Taking out of service and disposal

Taking out of service..... 256

Disposal..... 257

Taking out of service

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.

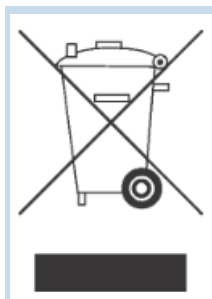
Delete your personal settings and personalized data from your FRITZ!Box device before taking it out of service and disposing of the device. To do this, restore the factory settings to the FRITZ!Box; [see page 194](#).

Disposal

Disposal of electronic devices and electronic components

In accordance with European regulations and the Waste of Electrical and Electronic Equipment Directive (in Germany), the FRITZ! device, and all 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. According to the criteria stipulated in § 17 par. 1 and par. 2 of the Waste of Electrical and Electronic Equipment Directive (for Germany), 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..... 259

Technical specifications

Device properties

Property	Value
Dimensions (W x H x D)	circa 200 x 45 x 152 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 (energy consumption)

Property	Value
Maximum active power (energy consumption)	18 W
Average active power (energy consumption)	6 W

Ports and interfaces

Connected via	Interface
DSL	DSL line •
FON	1 a/b port with a RJ11 and phone socket (TAE) for connecting an analogue terminal device
DECT	DECT base station for up to 6 cordless phones
LAN	4 LAN ports via RJ45 sockets (standard Ethernet, 10/100/1000 Base-T), 1 Gbit/s

Connected via	Interface
USB	1 USB host controller (USB version 3.0)
2.4-GHz Wi-Fi	• Wi-Fi 4 (IEEE 802.11n), transmission rates of up to 300 Mbit/s • Compatible with IEEE 802.11g
Wi-Fi 5 GHz	• Wi-Fi 5 (IEEE 802.11ac), transmission rates of up to 866 Mbit/s • Wi-Fi 4 (IEEE 802.11n), transmission rates of up to 400 Mbit/s (including 256QAM) • Compatible with IEEE 802.11a

Wi-Fi frequencies

Frequency	Frequency range	Max. trans- mitter 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 operation. 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(NI).

DECT radio frequencies

Frequency	Frequency range and transmitter power
DECT	• Frequency range: 1880 MHz – 1900 MHz • 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

Interfaces and protocols used with the FRITZ!Box

Information on interfaces and protocols from the FRITZ! product development can be found on the following FRITZ! web page (in German):

fritz.com/service/schnittstellen

Legal

Legal notice..... 263

Legal notice

Manufacturer's warranty

We, FRITZ! GmbH, Alt-Moabit 95, 10559 Berlin, as manufacturer of this original product 5 Jahre warranty 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. FRITZ! 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. FRITZ! bears the costs for returning the repaired or exchanged product. Claims other than the right to the

removal 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).

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FRITZ! Website: fritz.com

Declaration of CE conformity

FRITZ! GmbH declares herewith that the device is compliant with directive 2014/53/EU.

The full text of the declaration of EU conformity is available at en.fritz.com/service/declarations.

Declaration of UKCA conformity

FRITZ! declares herewith that the device is compliant with the Radio Equipment Regulations 2017 (S.I. 2017/1206).

The full text of the declaration of UK conformity is available at en.fritz.com/service/declarations.

Index

A

access profiles	91
active power	259
adjust time zone	190
alarm	116, 243
Android smartphone	74
answering calls	234
answering machine	109, 180, 232
apps	
FRITZ!App Fon	217
FRITZ!App Fon	74
Apps	216
auto update	196

B

baby monitor	230
block caller	113
blocking websites	93
broadcast call	235
busy signal	261
buttons	
functions	23
locking	187
overview	23

C

cable	
LAN cable	136
network cable	34
call	
holding	241
missed	180
picking up	234
picking up from call waiting	238
transfer	236, 237
call block	113
call diversion	
configuring	112, 223

for all calls	223
for FON port	228
for phone number	226
switching off	225, 227
call forwarding	112
call waiting	76
CE conformity declaration	267
change regional options	189
choice of location	29, 259
cleaning	9, 15
CLIR	239
codes for FRITZ!Box	261
condition upon delivery	
restoring	194
restoring by phone	245
conference call	240
configuration	
wizards	199
configuration by phone	219
configuration wizard	199
configuring	51
door intercom system	78
external answering machine	76
external fax machine	76
internet connection	52
phone number	56
push services	179
schedule	158
configuring network storage	141
configuring phone numbers	56
connect network device	
via USB	139
connecting	27
choice of location	29
computer	34
DECT phone	72
door intercom system	75
DSL	32

fax machine	71
hub/switch	34
IP phone	73
mobile network	48
network device	34
phone	71
registering cordless phone	72
smartphone	74
storage	139
to cable modem	45
to electrical power	31
to fibre optic modem	43
to router	39
to the DSL modem	41
USB devices	139
VDSL	32
connecting a computer	
via network cable	34
via Wi-Fi	35
wake on LAN	138
connecting a fax machine	71
connecting a smartphone	
via Wi-Fi	35
connecting door intercom system	75
connecting network devices	
IP address automatically	134
overview	124
via network cable	34
via Wi-Fi	35
connecting to VDSL	32
connection data	179
connection sockets	20
connector panel	20
consultation	241
contacts	107
conventions	12
copyright	267
corporate info	267
customer documentation	14
customer service	254

D

data	
push services	179
declaration of CE conformity	267
declaration of UKCA conformity	267
DECT	
encryption	120
radio frequencies	260
using repeaters	120
DECT base station	17, 72
deleting private data	256
device properties	259
devices	
in the guest network	122
in the home network	122
DHCP server	129
diagnostics	
function	170
security	172
diagnostics data	86
dial tone	261
dialling rule	117
disposal	257
Do Not Disturb	115
documentation	14
door intercom system	
configuring	78
DSL	
connecting	32
internet access	32
dynamic DNS	99

E

ECT	236, 237
electrical power	
connecting	31
email notifications	179
emergency IP address	127
energy consumption	176

F

factory settings	
restoring	194
restoring by phone	245
fallback IP address	127, 252
FAQs	253
fax function	111
features	16, 17
firmware	
push service	179
firmware version	12
forwarding calls	223
FRITZ! services	86
FRITZ!App Fon	74
FRITZ!Box Access	
with FRITZ!App Smart Home	216
FRITZ!Box access	
with MyFRITZ!	210
with FRITZ!App Fon	217
FRITZ!Box password	182
FRITZ!Box settings	202
FRITZ!Box name	156
FRITZ!Box password	182
FRITZ!Box web address	211
FRITZ!NAS	204
access by computer	207
backing up data from internal	
FRITZ!Box storage	208
cloud storage	205
display in the file manager	207
internal storage	205
USB storage	205
FRITZ!IOS	
FRITZ!Box name	156
loading settings	192
push service	179
restoring settings	192
saving settings	191
updating	197, 201
FRITZ!IOS version	12

FTP	100
FTPS	100
function diagnostics	170
functions	16, 17

G

green mode	153
guest access	160
LAN	136
wireless	179

H

handling	29
hazard warnings	9
help with problems	
Knowledge Base	14, 253
online help	14
support	254
hibernation	158
holding	241
home network	18
hotspot (Wi-Fi)	160
HSPA	48
HTTPS	100
hub	
LAN	34
USB	18
humidity	259

I

Info LED assignment	186
info mail	179
initial configuration	53
installation	29
instructions for use	14
interfaces	259
development support	261
open	261
standardized	261
internal calls	222, 235
internal storage	
data backup	208

FRITZ!NAS	205	Knowledge Base	14
internet access		L	
DSL	32	LAN	
IP client	67	connecting to	34
mobile network	48	guest access	136
VDSL line	41	LAN cable	136
via another router	63, 67, 69	LEDs	24
via cable modem	45, 61	LEDs flashing	24
via DSL modem	41, 57	legal notice	262, 264
via fibre optic modem	43, 59	log files	179
via other router	39	log information	179
via Wi-Fi	65	M	
internet connection		malfunctions	247
configuring	52	Knowledge Base	253
connection information	179	resolving errors	248
internet phone number	56	support	254
internet protocol		troubleshooting chart	249
version 6	131	manual	14
internet router	17	manufacturer's warranty	263
internet use		media server	154
blocking websites	88, 91	menus in the user interface	
filter lists	93	Diagnostics	169
prioritizing	95	Home Network	121
push service	179	Internet	85
time limits	88, 91	Smart Home	162
IP address		System	175
fallback IP	252	Telephony	106
fallback IP address	252	Wi-Fi	157
in Linux	135	Wizards	198
in Windows	134	Mesh	79
mac OS	135	Mesh Overview	122
obtaining automatically	134	mobile network	48
push service	180	internet access	48
IP phone	73	mounting	30
iPhone	74	MyFRITZ!	210
IPv6	104, 131	FRITZ!Box web address	211
K		MyFRITZ! Account	211, 213
keypad code	242	MyFRITZ! mobile	212
keypad codes	219	MyFRITZ!App	212
keypad shortcuts	242	MyFRITZ!Net	211

N

NAS	204
network cable	34, 136
network connections	124
network key	35
network settings	
DHCP server	129
IPv4 addresses	129
IPv6	104, 131
static IP route	133
notifications	179

O

offline	
update	197
online help	14
open source	261
operating system	196, 197, 201
operating temperature	259
operation by phone	219
outside line access	222

P

package contents	13
parental controls	88
password	
characters allowed	185
password for FRITZ!Box	182
password forgotten	179
password protection	
forgot password	179
push service	179
phone	
alarm function	116, 243
connecting	71
connecting to	17
Do Not Disturb	115
keypad codes	242
room monitoring	230
phone book	107

phone call

broadcast call	235
conference call	240
diverting	112, 223
holding	241
missed	180
picking up from call waiting	238
transfer	236, 237

phone keypad codes

phone number

assigning	76
blocking	113
configuring	56
dialling rule	117
suppressing	239

phone system

phones

configuring	76
phone	76

picking up

picking up from call waiting

placing

port sharing

ports

positioning FRITZ!Box

power

FRITZ!Box consumption

power adapter

power consumption

power mode

prioritization of internet use

push services

Q

Quality of Service (QoS)

quick guide

R

radio frequencies

DECT

radio interference

reassigning 'Info' LED

recycling	257
registering DECT phone	72
registering handset	72
remote access	
MyFRITZ!	210
VPN	100
reserving bandwidth	95
reset	194
resetting	194
resolving problems	247
restarting	193
room monitoring	230

S

safety	
handling	29
safety instructions	9
saving electricity	178
saving energy	176, 178
automatic settings	177
saving power	176
schedule	158, 167
security	
check	172
info mail	180
push services	179
saving settings	191
update	196, 197, 201
VPN	100
security diagnostics	172
service	254
service card	14
setting language	188
setting up	51
settings	
loading	192
network	131
push service	179
restoring	192
saving	191

setup	
initial configuration	53
smart home devices	180
smartphone	74
software	
push service	179
software version	12
speed in the home network	95
starting operation	27
static IP route	133
storage temperature	259
streaming	154
structure	16
support	
by fax	254
instructions for use	14
Knowledge Base	14, 253
online help	14
switching FRITZ!Boxes	202
symbols	12

T

taking out of service	256
technical specifications	258
active power	259
ambient conditions	259
device properties	259
humidity	259
interfaces	259
ports	259
power consumption	259
temperature	259
tones	261
Wi-Fi frequencies	260
terminal devices	
configuring	76
connecting to	17
test	
function diagnostics	170
security diagnostics	172
three-party conference call	240

toggling	241
tones	261
transferring	236, 237
transferring settings	
to new FRITZ!Box	202
troubleshooting	247
documentation	14
type label	19

U

UKCA conformity declaration	267
UMTS	48
update	
automatic	196
manual	197
push service	179
wizard	201
wizards	201
updating FRITZ!OS	196
usage data	179
USB	
configuring mode	153
USB device	
connecting	139
USB port	18, 153
USB storage	
connecting	139
USB storage media	
configuring as network storage	141
integrating as network drive	142
user interface	
language setting	188
opening	54
remote access	100
usernames	
characters allowed	185

V

voice menu of answering machine	232
voice to mail	109
VPN	
remote access	102

W

wake on LAN	138
wall mounting	30
wand installation	29
warranty	263
Wi-Fi	
expanding a Wi-Fi network	79
frequencies	260
location for the FRITZ!Box	29
network key	35
password	35
QR code	35
reception	29
schedule	158
standards	259
switching on/off by button	158
switching on/off by phone	231
Wi-Fi channel	159
WPS	36
Wi-Fi access point	17
Wi-Fi frequencies	260
Wi-Fi frequency ranges	260
Wi-Fi guest access	160, 179
Wi-Fi Protected Setup	36
wizard	
perform update	201
wizards	199
range of functions	199
transferring settings to new	
FRITZ!Box	202
WPS	36