trovaprezzi.it

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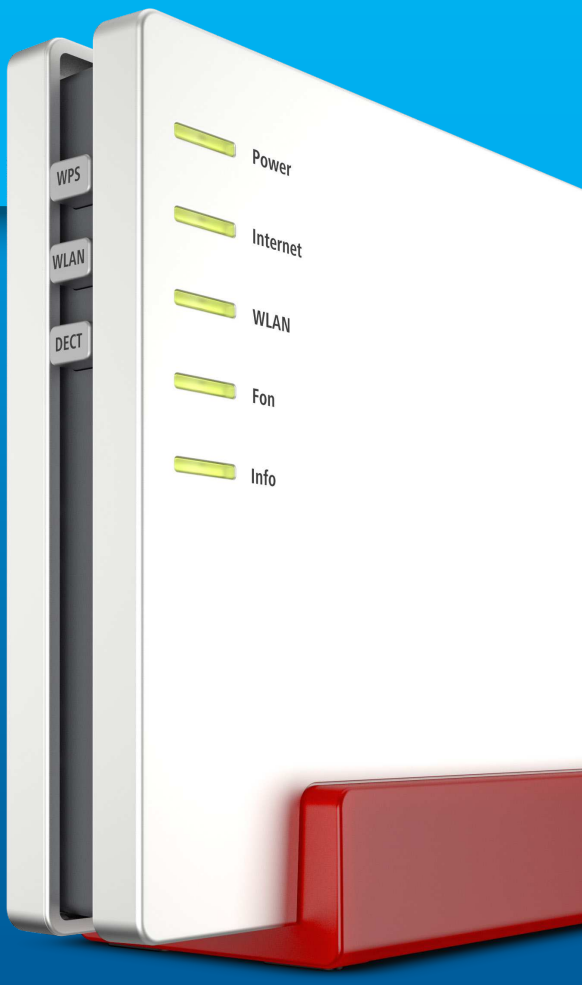

FRITZ!Box 7583

Configuration and Operation

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Safety Instructions

Overview

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

Fires and Electrical Shocks

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

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

Overheating

Heat accumulation can lead to overheating of the FRITZ!Box and subsequently damage the FRITZ!Box.

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

Power Surges Caused by Lightning

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

- Do not install the FRITZ!Box during an electrical storm.

Moisture, Liquids and Vapors

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

- Only use the FRITZ!Box indoors.

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

Improper Cleaning

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

- Please refer to the information about how to clean your FRITZ!Box, see page 276.

Improper Opening and Repairs

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

- Do not open the FRITZ!Box housing.
- If the FRITZ!Box needs to be repaired, please take it to a specialized vendor.

Internet Security

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

en.avm.de/guide

Radio and Electromagnetic Interference

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

- Do not use the FRITZ!Box in places where the use of radio devices is prohibited.
- Follow any instructions to switch off radio devices – especially in hospitals, outpatient treatment centers, medical practices and other medical facilities – in order to prevent interference with sensitive medical equipment.

- Consult your doctor and the manufacturer of your medical device (pacemaker, hearing aid, electronically controlled implant, etc.) to find out whether it could be affected by interference from your FRITZ!Box.
- If applicable, maintain the recommended minimum distance of 15 cm recommended by the manufacturers of medical devices in order to prevent malfunctions of your medical device.

Potentially Explosive Environments

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

- Do not install and operate your FRITZ!Box in the vicinity of explosive environments, flammable gases, areas in which the air contains chemicals or particles like grain, dust or metal powder, or in the vicinity of detonation grounds.
- In locations with potentially explosive atmospheres, and in the vicinity of detonation grounds, follow the instructions to switch off electronic devices in order to prevent interference with detonation and ignition systems.

Instructions and Help

Media

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

The latest information on products, important developments or updates is presented in the social media.

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

Medium	Contents	Location
Manual	FRITZ!OS version status	en.avm.de/service/manuals
	Connecting, configuration and operation	
	Range of functions of your FRITZ! device	
	Technical specifications	
Quick guide	Connecting and configuration	Is provided in print with your FRITZ!Box
Online help	Instructions on configuration and operation	http://fritz.box / ?
	Help on the functions and settings options in the user interface	
Knowledge base	Solutions for common problems during connection, configuration and operation	en.avm.de/service

Medium	Contents	Location
Social media	The latest about the FRITZ!Box and your FRITZ!Box home network	Facebook
		Instagram
		Twitter
		YouTube

Symbols Used

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

Device Data on the Type Label

Overview

Important device data on your FRITZ!Box, such as the preconfigured network key, the FRITZ!Box password and the serial number, are presented on the type label on the rear panel. The network key is required in order to safely connect computers and other devices with the FRITZ!Box. The FRITZ!Box password is needed to open the user interface. The serial number should be provided when submitting support requests.

Device Data on the Type Label

No.	Meaning
1	Product name
2	Address of the user interface
3	Name of wireless radio network (SSID)
4	Password of the user interface
5	Network key (wireless LAN password)
6	Power adapter specification
7	Serial number
8	Article number

Package Contents

Package contents

No.	Supplied Part	Details
1	FRITZ!Box 7583	
1	Power adapter	white
1	Network cable	also “LAN cable”, yellow
1	DSL cable	Y cable, also suitable for bonding connections
1	RJ45/2xRJ45 adapter	black
1	Quick guide	Connecting the FRITZ!Box

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Functions

Internet Router

- VDSL2 line with vectoring, also bundled (bonding)
- VDSL2 line with supervectoring, also bundled (bonding)
- G.fast line, also bundled (bonding)

Telephone System

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

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

- 6 cordless (DECT) telephones
- 2 analog devices (telephones, answering machines, door intercoms)
- 8 ISDN telephones or 1 ISDN telephone system
- 10 IP telephones (FRITZ!App Fon, for instance)

Up to five integrated answering machines can be used to save voice messages and, upon request, send them to you by email. Via the integrated fax function you can also send and receive faxes without an external fax machine.

Wireless Access Point

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

- Notebooks
- Tablets
- Smartphones
- Wireless printers

DECT Base Station

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

- up to 6 cordless (DECT) telephones
- up to 10 FRITZ!DECT 200/210 outlet switches
- up to 12 FRITZ!DECT 301/300/Comet DECT radiator controls
- up to 10 FRITZ!DECT 400 switches
- up to 10 Smart Home devices via HAN FUN

Hub in the Home Network

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

- A media server for transmission of music, pictures and video to playback devices in the home network
- MyFRITZ!, for access to your own FRITZ!Box over the internet from anywhere
- FRITZ!NAS, for easy access to all files in the network

USB Ports

The FRITZ!Box has two USB 3.0 ports 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 hubs

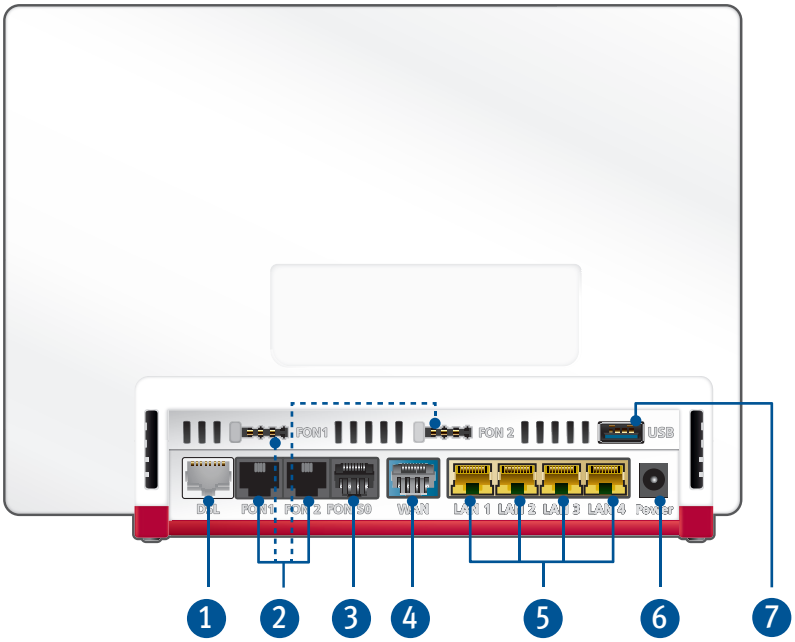
Smart Home

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

Type of Device	Number	Features
Smart plugs • FRITZ!DECT 200 • FRITZ!DECT 210	up to 10	• Control the power supply to connected devices • Measure the power consumption of connected devices
Radiator control • FRITZ!DECT 300 • FRITZ!DECT 301 • Comet DECT	up to 12	• Control the room temperature automatically and save energy costs
Button • FRITZ!DECT 400	up to 10	• Switch smart plugs
Smart Home devices via HAN-FUN	up to 10	• Connect Smart Home devices from other manufacturers with the FRITZ!Box • Switch smart plugs

Connection Sockets

Connector Panel



No.	Name	Function
1	DSL	Socket for connecting to the VDSL or G.fast line
2	FON 1 and FON 2	R11 and TAE sockets for connecting analog telephones, answering machines, fax machines, and door intercom systems You can use one of the FON 1 jacks and one of the FON 2 jacks, but not all jacks at the same time.

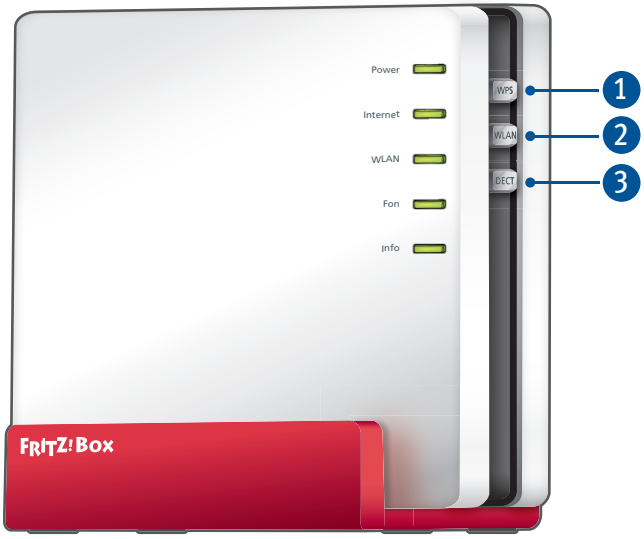
No.	Name	Function
3	FON S_0	RJ45 port for connecting ISDN telephones and telephone systems (PBXs)
4	WAN	RJ45 socket for connecting to a modem or a router for internet access. If the socket is not used for the internet connection, then it is an additional gigabit Ethernet port for connecting computers and other network-compatible devices.
5	LAN 1 to LAN 4	Ports for connecting computers and other network-compatible devices like hubs and game consoles
6	Power	Socket for plugging in the power supply
7	USB	USB 3.0 port for connecting USB devices like printers or storage media

Connectors on the Sides: USB

No.	Name	Function
1	USB	USB 3.0 port for connecting USB devices like printers or storage media

Buttons

Button Functions



No.	Button	Function
1	WPS	Register wireless devices with the FRITZ!Box via WPS; see page 47
2	WLAN	Switch wireless LAN on and off; see page 170
3	DECT	• Register cordless telephones with the FRITZ!Box; see page 48 • Find misplaced cordless phones (paging call)

LEDs

Meaning of the LEDs

No.	LED	Condition	Meaning
1	Power	off	The device has no electric power
		flashing	Device has electric power and connection to DSL is being established or is interrupted
		on	Device has electric power. The connection to DSL is being established. The FRITZ!Box is ready for operation
2	Internet	on	Connected to internet

No.	LED	Condition	Meaning
2	Internet	flashing	There is an active connection to a modem or router, but the internet connection is not enabled or is being established now.
3	WLAN	off	Wireless LAN is switched off
		on	Wireless LAN is switched on
		lit up	Registration of a wireless, DECT, Smart Home or powerline device successful
		flashing	• Applying changes to the wireless LAN settings. • Switching wireless LAN function on or of • WPS in progress: Registration procedure for a WiFi, DECT, Smart Home or powerline device in progress
		flashing fast	WPS procedure aborted: More than two devices are performing WPS at the same time; repeat WPS procedure.
4	Fon	off	No calls in progress
		on	Telephone connected via landline network
		flashing	Messages in your voice mail/email inbox This feature must be supported by your telephony provider.
5	Info	off	None of the following processes active

No.	LED	Condition	Meaning
		on	• Adjustable; see Selecting Signaling of the “Info” LED, page 193 • AVMStick & Surf with FRITZ!WLAN USB Stick is concluded
		flashing	• FRITZ!OS Updating • Adjustable; see Selecting Signaling of the “Info” LED, page 193 • AVM Stick & Surf for FRITZ!WLAN USB Stick in progress
		on or flashing red	Error: • Open the user interface, see page 57. • Follow the instructions on the “Overview” page in the user interface.

Requirements for Operation

Requirements

- For an internet connection via DSL:
  - VDSL connection or
  - G.fast connection
- For an internet connection via cable:
  - cable connection with cable modem
- For an internet connection via fiber optic:
  - fiber optic connection with fiber optic modem
- For an internet connection via mobile network:
  - USB modem with mobile internet access
- For an internet connection via another access device
  - any internet connection with a modem or router
- Computer with network connection (to establish a connection with the internet connection of the FRITZ!Box via LAN cable)
- Computer, tablet or smartphone with support for wireless LAN (to establish a wireless connection with the internet connection of the FRITZ!Box)
- An up-to-date web browser

For comprehensive technical information about your FRITZ!Box, see page 268.

Connecting

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Overview: Connecting the FRITZ!Box

Overview

Connecting the FRITZ!Box entails the following steps:

	Instructions
	Place or hang up the FRITZ!Box in a suitable location.
	Connect the FRITZ!Box to the power supply.
	Connect the FRITZ!Box with your VDSL or G.fast connection.
	Connect your computers and network devices to the FRITZ!Box.
	Connect your telephones to the FRITZ!Box.

Placement

Overview

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

For ideal operating conditions, we recommend mounting the FRITZ!Box on a wall.

Rules for Setting Up the FRITZ!Box

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

Rules for Optimum Wireless LAN Reception

Radio wave propagation during wireless LAN operation is strongly dependent on the position of your FRITZ!Box. Keep the following rules in mind for good reception:

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

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

By slightly shifting the position of the FRITZ!Box it is often possible to improve the wireless connection significantly. If reception is still unsatisfactory, note our recommendations; see Extending Wireless LAN Range, page 75.

Instructions: FRITZ!Box Placement

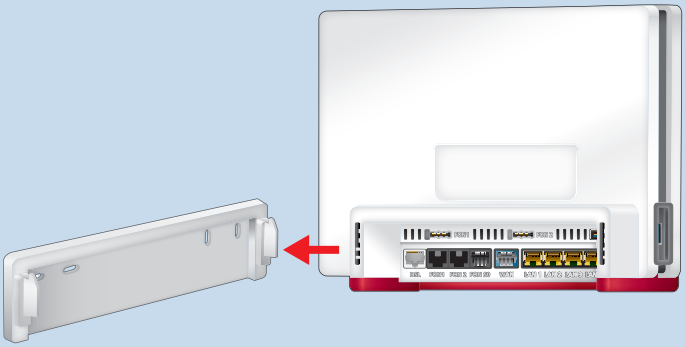
1. In compliance with the rules mentioned above, select a suitable location for the FRITZ!Box.
2. Place the FRITZ!Box in this location.

Instructions: Mounting FRITZ!Box on the Wall

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

1. In compliance with the rules mentioned above, select a suitable location for mounting the FRITZ!Box on the wall.
2. Mark the spots for drilling at the desired location using the wall mount included in the package.

3. Mount the wall mount on the wall.
4. Place the FRITZ!Box on the wall mount:



Connecting to Electrical Power

Overview

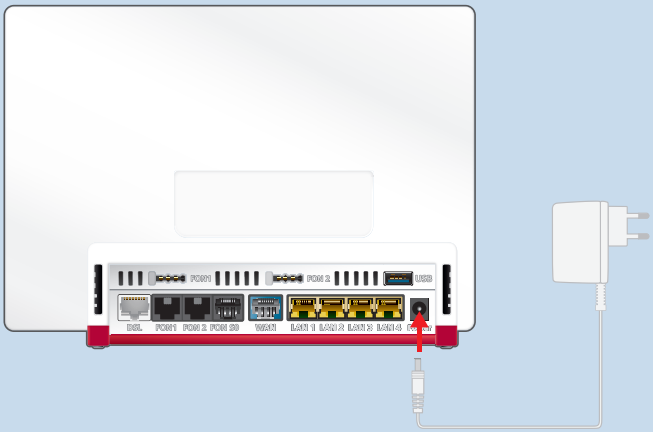
Connect the FRITZ!Box to the power supply.

Rules

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

Instructions: Plugging In to Electric Power

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



3. Plug the other end into a power outlet.

The “Power” LED begins flashing after a few seconds to indicate that the FRITZ!Box is ready for operation.

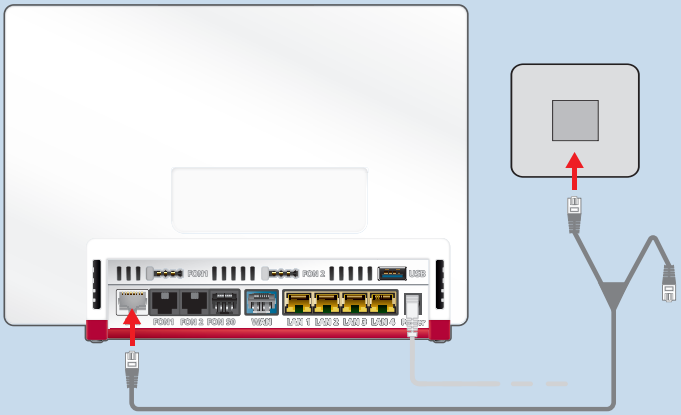
Connecting with the Internet via VDSL or G.fast connection

Overview

If you have a VDSL or G.fast connection, then connect the FRITZ!Box directly to the telephone jack. Use the connecting cable included with delivery.

Instructions: Connecting to the VDSL or G.fast connection

1. Insert the long end of the cable into the “DSL” socket on the FRITZ!Box.

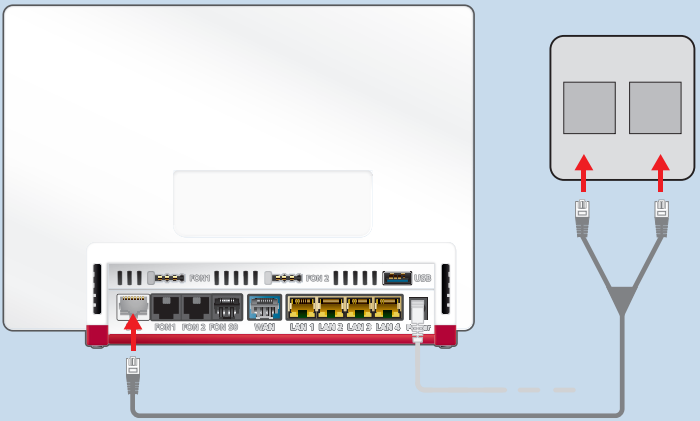


2. Insert one of the short ends of the cable into the telephone jack.

   After a short time the “Power” LED on the FRITZ!Box lights up.

Instructions: Connecting to the Bonding Line

1. Insert the long end of the cable into the “DSL” socket on the FRITZ!Box.



2. Insert the short ends of the cable into the two sockets on the telephone jack.

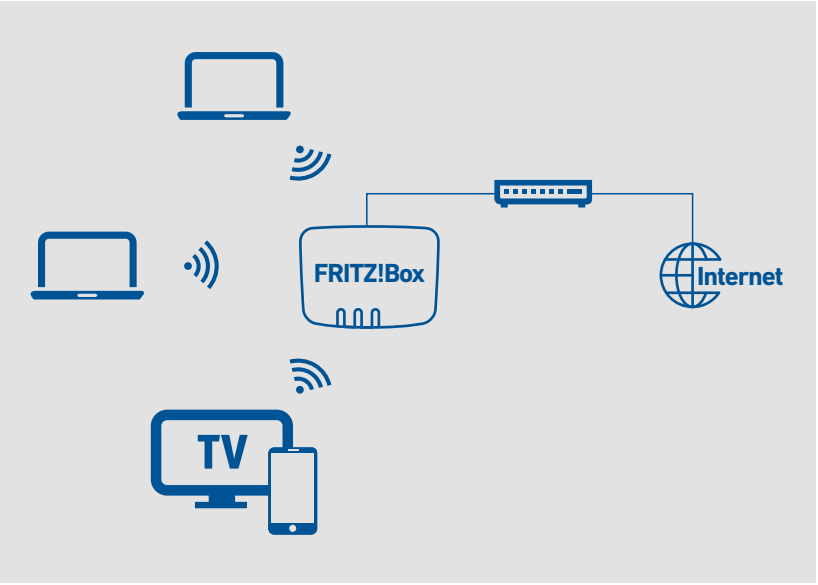
   After a short time the “Power” LED on the FRITZ!Box lights up.

Connecting to the Internet Access: Cable Connection

Overview

If you have a cable connection with a cable modem, you can connect the FRITZ!Box to the cable modem, from where it interfaces with the cable connection. Use a network cable.

Example Configuration



Instructions: Connecting to a Cable Modem

1. Connect the one end of the network cable to the LAN (Ethernet) port on the cable modem.
2. Insert the other end of the network cable into the “WAN” port on the FRITZ!Box.

3. Connect a computer with the FRITZ!Box, see page 42 or see page 44.
4. Set up the internet connection for connections via cable in the FRITZ!Box; see Configuring Internet Access via Cable Modem, page 68.

Connecting to the Internet Access: Fiber Optic Modem

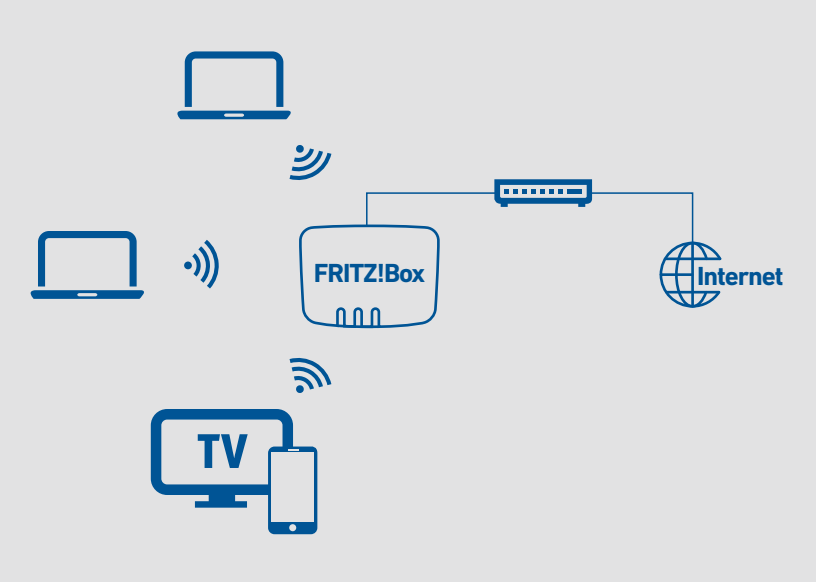
Overview

You can connect your FRITZ!Box to a fiber optic modem (FTTH-ONT).

Requirements

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

Example Configuration



Instructions: Connecting to a Fiber Optic Modem

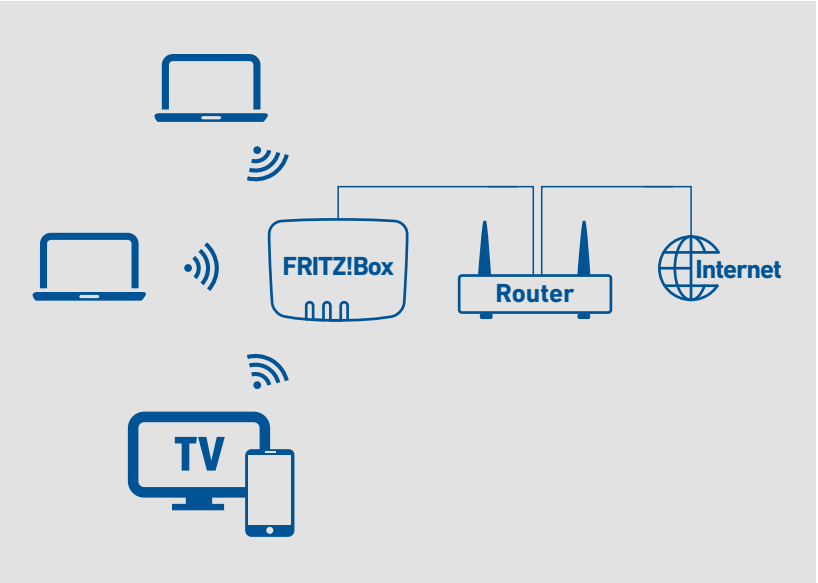
1. Insert one end of the network cable into the “WAN” port on the FRITZ!Box.
2. Insert the other end of the network cable into the LAN (Ethernet) port on the fiber optic modem.

Connecting to the Internet Access: Existing Router

Overview

You can use the FRITZ!Box at an already existing internet access. To do this, connect the FRITZ!Box to the existing internet router.

Example Configuration



Instructions: Connecting to the Router with a Network Cable

1. Insert the one end of the network cable into the “WAN” port on the FRITZ!Box.
2. Insert the other end of the cable into a network socket on the internet router.

Connecting to the Internet Access: Mobile Network

Overview

The FRITZ!Box can connect to the internet via the mobile communications network.

Supported Devices and Mobile Communications Standards

The FRITZ!Box supports the following devices and mobile communications standards:

- USB mobile communications dongles for LTE/UMTS/HSPA
- Mobile communications dongles and smartphones that support USB tethering
- Smartphones configured as wireless LAN hotspots

Requirements

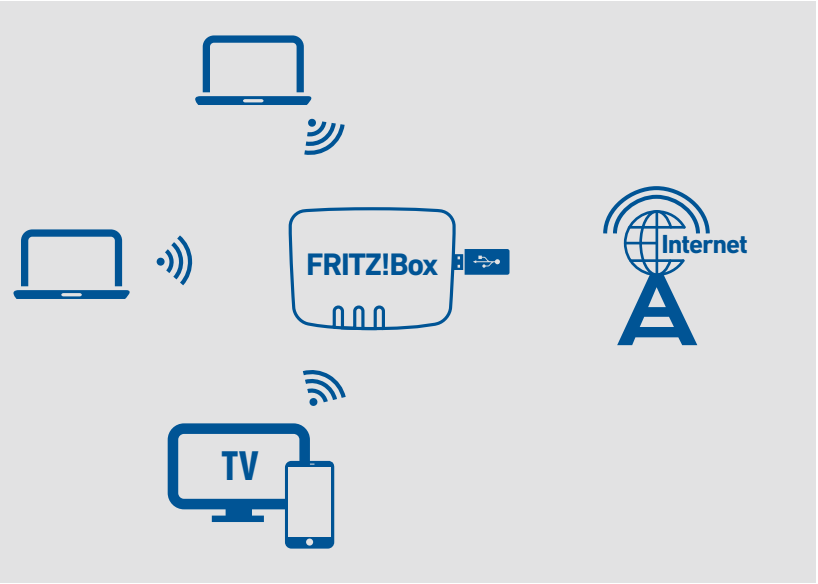
You need the following:

- a mobile communications device for internet access via LTE, UMTS or HSPA
- a SIM card from a mobile communications network provider

Restrictions by the Mobile Communications Network Provider

Due to technical limitations on the part of the mobile communications network providers, some limitations may arise for internet telephone calls and for applications requiring an incoming connection. This is also true for using port sharing, releasing USB storage media for sharing, remote maintenance over HTTPS, Dynamic DNS and VPN. Contact your network provider for details on any restrictions that may apply.

Example Configuration



Instructions: Connecting the Mobile Broadband Dongle

1. Insert the mobile broadband dongle into a USB port of the FRITZ!Box.

Instructions: Connecting with the Smartphone via USB

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

Connecting with the Smartphone via Wireless LAN

You can establish the connection to the smartphone via wireless LAN; see Configuring Internet Access via a Wireless Device, page 73.

Connecting a Computer with a Network

Overview

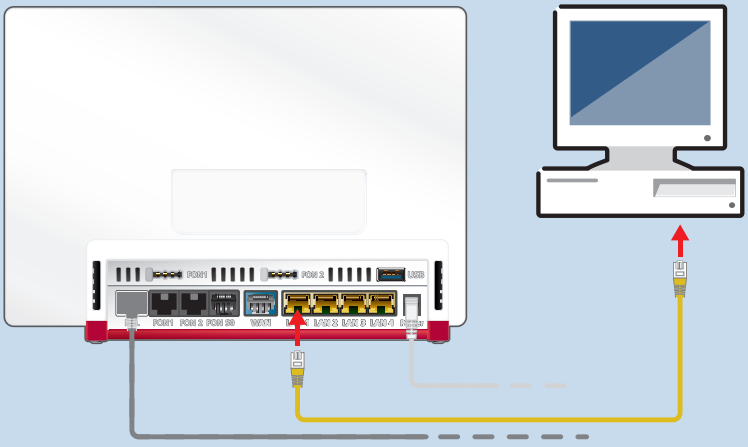
You can connect computers and other network devices with the FRITZ!Box using a network cable. This is recommended especially for the initial configuration of your FRITZ!Box. The way a computer is connected to the FRITZ!Box is the same regardless of the operating system on the computer. Open the user interface of the FRITZ!Box in an up-to-date web browser (see page 57).

Rules

- The network cable used to connect the computer and other network devices to the FRITZ!Box must be no more than 100 m in length.

Instructions: Connecting the Computer Using a Network Cable

1. Insert the network cable into the network (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

You can connect a network hub or network switch to the FRITZ!Box.

1. Insert the network cable included in the package into the uplink port of the network hub or network switch.
2. Insert the free end of the cable into a LAN port on the FRITZ!Box.

Connecting the Computer via Wireless LAN

Overview

You can connect computers and other network devices to the FRITZ!Box without cables via wireless LAN.

Secure Wireless Connections

Wireless connections can be secured using encryption. Two things are required for encryption:

- an encryption technique
- a key

An encryption technique and a network key are preconfigured in the FRITZ!Box. A network device that would like to connect with the FRITZ!Box must register with the FRITZ!Box using the network key.

The network key can be made known to a network device in the following ways:

- by entering the network key manually
- by transmitting the network key via WPS

As soon as the network key is known, a secure wireless connection is established.

Encryption

WPA encryption with WPA2 mode is preconfigured in the FRITZ!Box. WPA2 mode is more secure than the older WPA mode.

The more up-to-date the encryption mode, the more secure the wireless connection:

Encryption	Mode	Protocol	Security
WPA	WPA2	CCMP	Very secure
	WPA	TKIP	Secure
non-encrypted	–	–	Very insecure, not recommended

The encryption method and mode must be supported by the network devices. Set the encryption mode in the FRITZ!Box according to the following table:

Mode	Use
WPA2	This mode is preconfigured in the FRITZ!Box. This mode is suitable if you use only network devices that support WPA2. Most up-to-date wireless devices support this mode.
WPA + WPA2	Set this mode if you would also like to use older network devices that do not support WPA2. With this setting, the FRITZ!Box automatically uses the WPA mode most suitable for your connections.

Network devices that do not support WPA can establish only non-encrypted wireless connections to the FRITZ!Box. You should avoid using such devices if at all possible.

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

en.avm.de/guide/security

Requirements

Wireless LAN must be enabled in the FRITZ!Box. Wireless LAN is enabled when the "WLAN" LED is lit up.

Instructions: Entering the Network Key Manually

1. Start the wireless LAN software on your wireless device.
2. Search for wireless networks in the environment (see the documentation of your wireless device) and select the wireless network of the FRITZ!Box.

   The preconfigured name of the FRITZ!Box's wireless network is composed of "FRITZ!Box 7583" and two random letters (for instance, "FRITZ!Box 7583 XY"), and is printed on the type label on the rear panel.
3. Click "OK".
4. Enter the network key of the FRITZ!Box. The network key is printed on the rear panel of the FRITZ!Box; see Device Data on the Type Label, page 14.

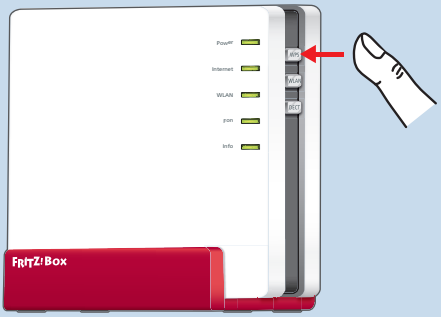
The wireless LAN connection will be established.

Instructions: Transferring the network key using WPS

With WPS (Wi-Fi Protected Setup) you can connect a wireless device with the FRITZ!Box quickly and easily without entering the wireless network key of your FRITZ!Box. This key is transmitted to the wireless device automatically.

1. Start the wireless LAN software on your wireless device.
2. Search for wireless networks in the environment on the wireless device (see the documentation of your wireless device) and select the wireless network of the FRITZ!Box.

   The preconfigured name of the FRITZ!Box's wireless network is composed of "FRITZ!Box 7583" and two random letters (for instance, "FRITZ!Box 7583 XY"). The name is printed on the type label on the rear panel.
3. Start the connection procedure via WPS (see the documentation of your wireless device).
4. On the FRITZ!Box: Press the "WPS" button briefly.



The "WLAN" LED on the FRITZ!Box flashes while the wireless connection is being established.

Connecting Telephones

Overview

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

Up to six cordless telephones like FRITZ!Fon can be registered with the integrated DECT base station.

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

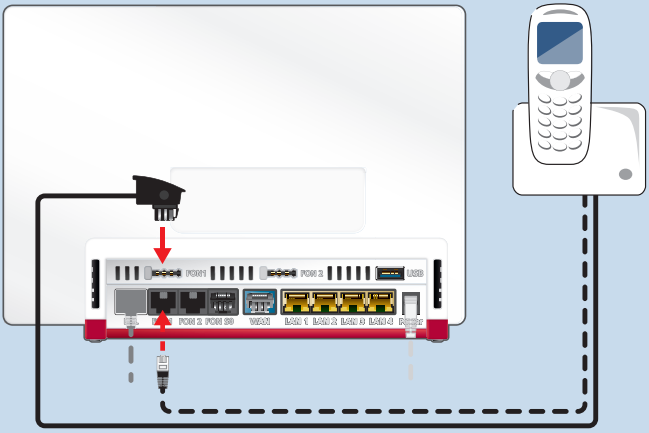
Instructions: Registering a Cordless Telephone

1. On a cordless telephone: Start registration with a base station.
2. On the FRITZ!Box: Hold the “DECT” button down until the “Info” LED starts flashing.

3. On a cordless telephone: Enter the PIN of the FRITZ!Box on the telephone (preset value: 0000).
4. In the user interface of your FRITZ!Box: Configure the telephone; see Configuring Telephones, page 79.

Instructions: Connecting an Analog Telephone

1. Connect the telephone, the answering machine or the fax machine to a “FON 1” port. The other “FON 1” port must remain free.



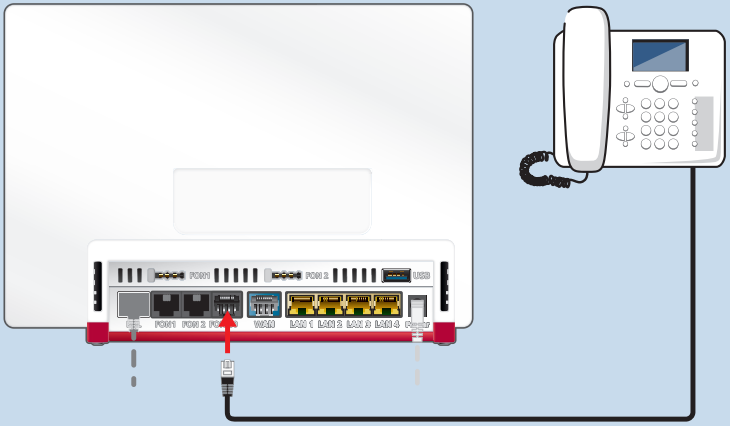
2. In the user interface of your FRITZ!Box: Configure the connected device; see Configuring Telephones, page 79.

Instructions: Connecting a Second Analog Telephone

1. Connect the telephone, the answering machine or the fax machine to a “FON 2” port. The other “FON 2” port must remain free.
2. In the user interface of your FRITZ!Box: Configure the connected device; see Configuring Telephones, page 79.

Instructions: Connecting an ISDN Telephone

1. Connect the telephone to the “FON S_0” port.



2. In the user interface of your FRITZ!Box: Configure the telephone; see Configuring Telephones, page 79.

Connecting Multiple ISDN Devices

You can connect up to eight ISDN devices to the FRITZ!Box. The FRITZ!Box can provide power to one ISDN device, but the other ISDN devices must use their own power supply. Multiple ISDN devices can be connected in the following ways:

- with an ISDN distributor (available from vendors)
- by having a technician install a S_0 bus, which is connected to the “FON S_0” port. Note for the technician: The “FON S_0” port is terminated. Two terminating resistors are included in the FRITZ!Box.

Connecting a ISDN Telephone System for 4 B Channels (Hunt Group)

With the RJ45/2xRJ45 adapter included with delivery you can connect an ISDN telephone system that supports point to point connections with 4 B channels (hunt group).

Instructions: Connecting an IP Telephone

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

1. Connect the IP telephone to the FRITZ!Box using a LAN cable or wireless LAN.
2. In the user interface of your FRITZ!Box: Configure the telephone; see Configuring Telephones, page 79.

Connecting Smartphones

Overview

You can register your iPhone or Android smartphone with the FRITZ!Box using the FRITZ!App Fon. Then you can make calls with the your smartphone at home, using the telephone numbers configured in the FRITZ!Box. The smartphone can also be reached at your mobile telephone 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 / Home Network Overview / Network Settings”)

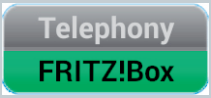
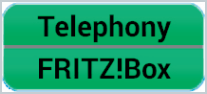
Instructions: Connecting a Smartphone

1. Establish a wireless LAN connection to the FRITZ!Box on your smartphone.
2. Install FRITZ!App Fon on your smartphone. FRITZ!App Fon is available from the Google Play Store and the Apple App Store.
3. Start the FRITZ!App Fon.

   FRITZ!App Fon is automatically configured as an IP telephone in the FRITZ!Box.
4. In the user interface of your FRITZ!Box: Configure the IP telephone “FRITZ!App Fon”; see Configuring Telephones, page 79.

Connection Status of FRITZ!App Fon

The icon in the FRITZ!App Fon title bar shows the state of the connection with the FRITZ!Box.

Symbol	Meaning
	The wireless connection to the FRITZ!Box is active.
	You can make calls via the FRITZ!Box with your smartphone.

Connecting a Door Intercom System

Overview

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

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

Supported Door Intercom Systems

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

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

1. Connect the door intercom system to a “FON 1” or “FON 2” jack. Note: one of the “FON 1” sockets and one of the“FON 2” sockets have to remain free (not allocated).
2. In the user interface of your FRITZ!Box: Configure the door intercom system; see Configuring a Door Intercom System, page 81.

Instructions: Connecting an IP Door Intercom System

1. Connect the IP door intercom system to the FRITZ!Box using a LAN cable or wireless LAN.
2. In the user interface of your FRITZ!Box: Configure the door intercom system; see Configuring a Door Intercom System, page 81.

User Interface

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Opening the User Interface

Overview

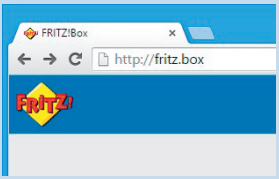
The FRITZ!Box has a user interface you can open in a web browser on your computer or on mobile devices like a tablet or smartphone. In the user interface you configure the FRITZ!Box, enable or disable functions, and receive information on connections, interfaces, and on the entire home network. You can also configure whether and how you would like to use the AVM services for diagnostics and maintenance of your FRITZ!Box.

Requirements

- Your computer, tablet or smartphone is connected with the FRITZ!Box by wireless LAN or with the network cable.

Instructions: Opening the User Interface

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



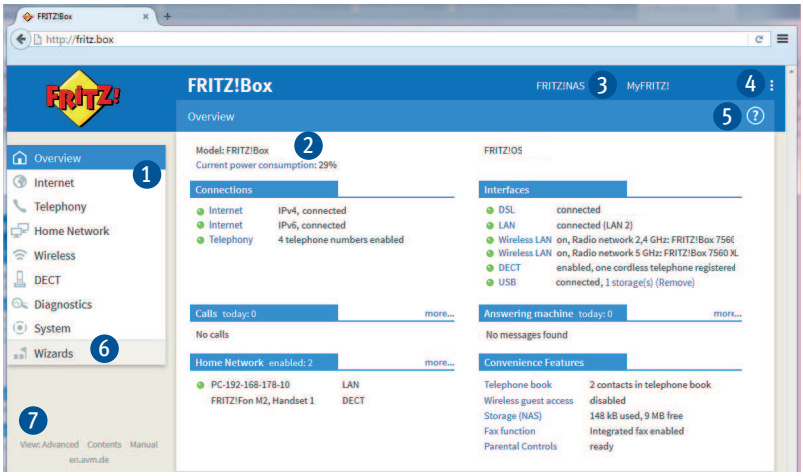
2. Enter the preset FRITZ!Box password and click “Log In”.

   The preset password is printed on the type label on the rear panel and on the FRITZ!Notes service card.

The FRITZ!Box user interface opens.

Areas of the User Interface

The following figure shows you the different areas of the user interface:



No.	Function / Display
1	The FRITZ!Box user interface menu
2	Functions and settings for the given menu command
3	Links to the MyFRITZ! and FRITZ!NAS areas
4	3 vertical dots menu • Log off the user interface • Change password • Switch between standard and advanced view • Links to the MyFRITZ! and FRITZ!NAS areas
5	Question mark symbol for opening the online help
6	Wizards for configuration of the FRITZ!Box

No.	Function / Display
7	Related links • View: Switches between standard and advanced view • Contents: Overview of all pages in the user interface • Manual: FRITZ!Box 7583 (PDF) • Tips & Tricks: Link to the FRITZ!Box Knowledge Base • en.avm.de: AVM web pages

Using the Wizard for Basic Configuration

Overview

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

Requirements

- The FRITZ!Box password has been supplied. The preset password is printed on the type label on the rear panel.
- The account information has been supplied by your internet service provider.
- The telephone numbers have been supplied by your telephony provider.

Instructions: Using the Wizard for Basic Configuration

To protect your private data, settings and account information, the wizard starts by prompting you to assign a password for access to the user interface.

You can also choose whether you would like to use the AVM services for diagnostics and maintenance of your FRITZ!Box; see Using AVM Services for Diagnostics and Maintenance, page 100.

1. Enter the preset FRITZ!Box password and click “Log In”. The preset password is printed on the type label on the rear panel.
2. Choose whether you would like to use the AVM services for diagnostics and maintenance. We recommend leaving this option enabled. You can change the setting later at any time.

3. Click “Next.”
4. Follow the wizard’s instructions.

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

The wizard can be restarted at any time via the FRITZ!Box user interface.

Logging Out of the User Interface

Overview

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

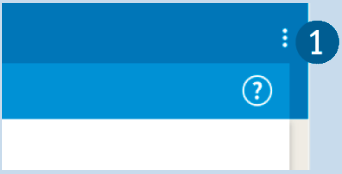
Use push services to have yourself notified each time someone logs into or out of your FRITZ!Box; see Configuring Push Services, page 191.

Automatic Logout when Idle

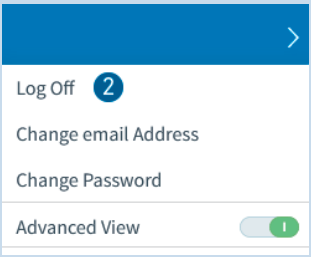
If you have not logged out of the FRITZ!Box user interface, and have not been active in the browser for 20 minutes, you will be logged off automatically. You must log in again to regain access to the FRITZ!Box user interface.

Instructions: Manual Logout

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



2. Click “Log Off” (2) in the menu.



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

Using the Standard View and Advanced View

Overview

The FRITZ!Box user interface offers two views: the standard view and the advanced view.

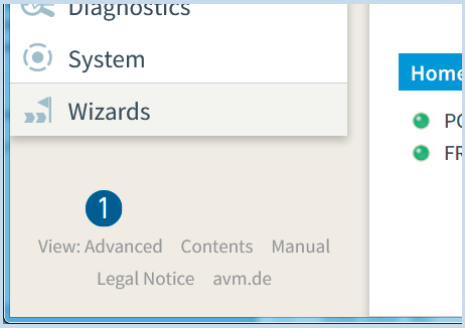
The standard view of the FRITZ!Box user interface includes all settings and functions that are needed for normal operation of the FRITZ!Box.

In the advanced view, additional settings options are offered for advanced users. These settings are not required for everyday operation of the FRITZ!Box.

Instructions: Switching between the Views

You should use the advanced view of the “Internet” and “Home Network” menus only if you have advanced network expertise. Combining various settings in these menus can produce a situation in which the user interface of the FRITZ!Box can no longer be opened.

1. Click on “View” in the area to the left under the menu (1) to switch back and forth between the “Standard” and “Advanced” views.



Configuring

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Overview: Configuring the FRITZ!Box

Overview

Configuration of the FRITZ!Box entails the following steps:

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

Requirements

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

Configuring an Internet Connection via VDSL or G.fast

Overview

The internet connection via your VDSL or G.fast connection is configured in the FRITZ!Box user interface. A wizard assists you in entering the account information from your internet service provider.

Requirements

- The account information has been supplied by your internet service provider.

Instructions: Configuring the Internet Connection

1. Open the user interface, see page 57.
2. The first time the user interface is opened, a wizard starts automatically to assist you in configuring the internet connection. If the wizard does not start automatically, select “Wizards” and click on “Configure Internet Connection”.
3. Follow the wizard’s instructions. This will guide you step by step through configuration of the internet connection.

Configuring Internet Access via Cable Modem

Overview

You can connect the FRITZ!Box to a cable modem which provides the internet connection.

Operating Mode of the FRITZ!Box

If the FRITZ!Box is connected with the internet access via cable modem, the following applies:

- 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 opens up its own IP network.
- The firewall of the FRITZ!Box is enabled.

Requirements

- The FRITZ!Box is connected to a cable modem, which is connected with the cable junction; see Connecting to the Internet Access: Cable Connection, page 36.

Instructions: Setting Up Internet Access on the Cable Connection

1. Open the user interface, see page 57.
2. Select the “Internet / Account Information” menu and the “Internet Connection” tab.
3. In the “Internet Service Provider” area, select the settings “More internet service providers” and then “Other internet service provider”.
4. In the “Connect via” area, select the option “Connection to a cable modem (cable connection)”.
5. For further settings, use the online help of the FRITZ!Box.

Configuring Internet Access via Fiber Optic Modem

Overview

You can connect the FRITZ!Box to a fiber optic modem which provides the internet connection.

Operating Mode of the FRITZ!Box

If the FRITZ!Box is connected with the internet access via fiber optic modem, the following applies:

- 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 opens up its own IP network.
- The firewall of the FRITZ!Box is enabled.

Requirements

- The FRITZ!Box is connected to a fiber optic modem, which is connected with the fiber optic connection; see Connecting to the Internet Access: Fiber Optic Modem, page 38.

Instructions: Setting Up Internet Access on the Fiber Optic Connection

1. Open the user interface, see page 57.
2. Select the “Internet / Account Information” menu and the “Internet Connection” tab.
3. Select your fiber optic operator from the “Internet Service Provider” area. If your fiber optic operator is not included in the list, select the “More internet service providers” and “Other internet service provider”.

4. When you have selected your fiber optic network operator in the “Internet Provider” area, then go to “Change connection settings” and select the “Via an external modem” option. If you selected “More internet service providers” and “Other internet service provider”, then go to the “Connect via” area and select the “Connection to an external modem or router” option.
5. For further settings, use the online help of the FRITZ!Box.

Configuring Internet Access via Another Router

Overview

You can connect the FRITZ!Box to a router which provides the internet connection.

Operating Mode of the FRITZ!Box

The following applies to this kind of internet connection:

- The FRITZ!Box receives an IP address from the upstream device via DHCP (default setting).
- The FRITZ!Box functions as its own router.
- The FRITZ!Box opens up its own IP network.
- The firewall of the FRITZ!Box is enabled.

Requirements

- The FRITZ!Box is connected with a router that provides the internet connection; see Connecting to the Internet Access: Existing Router, page 39.

Instructions: Setting Up Internet Access via WAN (as a Router)

1. Open the user interface, see page 57.
2. Select the “Internet / Account Information” menu and the “Internet Connection” tab.
3. In the “Internet Service Provider” area, select the settings “More internet service providers” and then “Other internet service provider”.
4. From the “Connect via” area, select the “Connection to an external modem or router” option.
5. For further settings, use the online help of the FRITZ!Box.

Configuring Internet Access via Another Router: IP Client

Overview

You can connect the FRITZ!Box as an IP client to a router which provides the internet connection.

Operating Mode of the FRITZ!Box

The following apply in IP client mode:

- The FRITZ!Box receives an IP address from the upstream router via DHCP (default setting).
- The FRITZ!Box becomes a part of the router's IP network.
- The network devices connected to the FRITZ!Box receive their IP addresses from the upstream router.
- The firewall of the FRITZ!Box is disabled.

Requirements

- The FRITZ!Box is connected with a router that provides the internet connection; see Connecting to the Internet Access: Existing Router, page 39.

Instructions: Setting Up Internet Access via LAN (as an IP Client)

1. Open the user interface, see page 57.
2. Select the "Internet / Account Information" menu and the "Internet Connection" tab.
3. In the "Internet Service Provider" area, select the settings "More internet service providers" and then "Other internet service provider".
4. From the "Connect via" area, select the "Connection to an external modem or router" option.
5. In the "Operating Mode" menu, select the "Share existing internet connection in the network (IP client mode)" setting.
6. For further settings, use the online help of the FRITZ!Box.

Configuring Internet Access via a Wireless Device

Overview

You can use the FRITZ!Box on an existing internet connection by connecting to it via wireless LAN. The FRITZ!Box can share the internet connection of another device via a wireless connection. The other device can be a router, for instance, or a smartphone configured as a hotspot.

The FRITZ!Box is connected with the radio network of other device. In this type of connection the FRITZ!Box works as an independent router to provide a network with its own network address range.

Requirements

- The radio network transmits in the 2.4-GHz frequency range.
- The connection is encrypted using WPA2.
- The radio network allows the FRITZ!Box to set up a wireless LAN connection.

Instructions: Configuring Internet Access via Wireless LAN

1. Open the user interface, see page 57.
2. Select the “Internet / Account Information” menu.
3. Select the “Existing connection over wireless LAN” entry from the “Internet service provider” list.

   A list of the radio networks in the vicinity is displayed.
4. Select the radio network you want to connect the FRITZ!Box with.
5. Enter the network key of the radio network in the “Network key” field in the “Security” area.
6. Click “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.

Configuring Internet Access via the Mobile Network

Overview

In the FRITZ!Box you can configure internet access via the mobile network.

Requirements

- A mobile broadband dongle or a smartphone with USB tethering enabled must be connected to the USB port of the FRITZ!Box; see Connecting to the Internet Access: Mobile Network, page 40.

Instructions: Setting Up Internet Access via the Mobile Telephone Network

1. Open the user interface, see page 57.
2. Select “Internet / Mobile Communications”.
3. For instructions, open the online help ?.

Extending Wireless LAN Range

Overview

In large apartments or houses the wireless LAN radio signal does not always reach into every corner. However, you can generally extend the range of your wireless network by placing your FRITZ!Box at a better location.

Extending the Wireless LAN Range by Optimizing the Location

When selecting the location of your FRITZ!Box, consider the following conditions. They will have a positive influence on the extension of your FRITZ!Box's wireless radio signal:

- Place the FRITZ!Box in a room located centrally.
- Put the FRITZ!Box on an elevated surface.
- Place the FRITZ!Box in an unobstructed location, and not, for instance, in a cabinet or behind a large object.
- Account for structural conditions such as thick concrete walls or ceilings.
- Eliminate sources of interference in the vicinity of your wireless radio network, for instance, microwaves, refrigerator or baby monitors.
- Make sure that the FRITZ!Box uses frequency ranges that are used by as few other devices as possible. To do this, open the FRITZ!Box user interface and select the “Wireless / Radio Channel” menu.

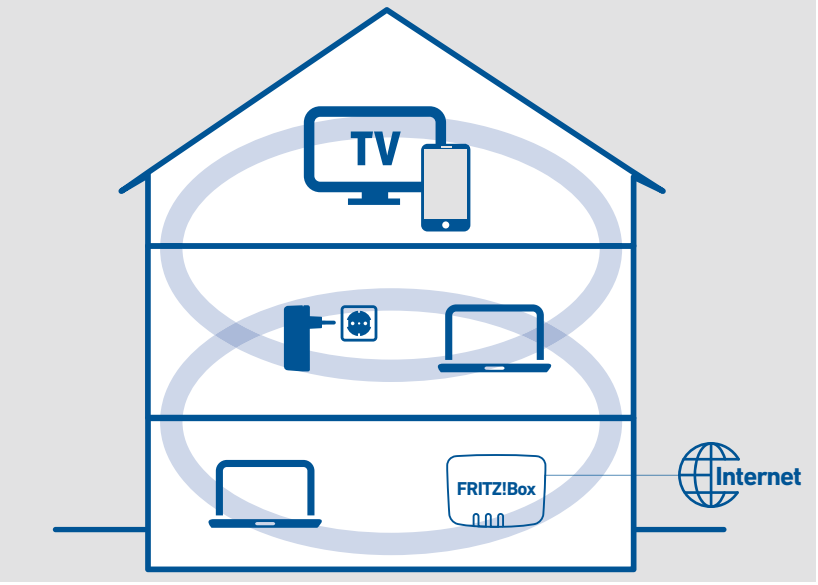
If these measures are not sufficient, then you can extend the range of your wireless radio network with a wireless repeater; see Expanding a Wireless Radio Network, page 76.

Expanding a Wireless Radio Network

Overview

If the FRITZ!Box is placed in a favorable location, but the WiFi signal still does not reach all of your rooms, then you can extend the range of your wireless radio network with a wireless repeater, a powerline device with WiFi function, or with an additional FRITZ!Box. In combination with the FRITZ!Box, FRITZ! devices are especially suitable.

Example Configuration: Using a FRITZ!Repeater



How a Wireless Repeater Works

With a wireless repeater you extend the range of your wireless radio network. The wireless repeater is connected to the wireless radio network of the FRITZ!Box and then it makes a further wireless network available, via which wireless devices like smartphones, tablets or game consoles can connect with your home network. The WiFi signal

of the FRITZ!Box is not amplified by a wireless repeater, but merely repeated.

To extend the wireless radio network of your FRITZ!Box you can use FRITZ! devices and wireless repeaters from other manufacturers. You can also deploy multiple wireless repeaters. Either the wireless repeaters are connected directly with the wireless router to increase the range in different directions, or they can be connected with each other (wireless cascading) to increase the range in a particular direction.

Extending the Wireless Network with a FRITZ! Device

If you use FRITZ! devices like the FRITZ!Repeater and FRITZ!Powerline with WiFi function to expand your wireless radio network, then you can integrate these devices in the Mesh of the FRITZ!Box. In the FRITZ!Box Mesh, all individual radio networks are woven together into one big wireless network with increased range and more stable data communication.

FRITZ! Device	Instructions
Extending the Wireless Network with a FRITZ!Repeater	see page 88
Extending the Wireless Network with FRITZ!Powerline with WiFi Function	see page 90
Extending the Wireless Network with an Additional FRITZ!Box	see page 92

Configuring Your Telephone Numbers

Overview

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

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

Instructions: Configuring Your Telephone Numbers

1. Open the user interface, see page 57.
2. Select “Wizards / Manage Telephone Numbers”.
3. Click “Add Telephone Number” and follow the wizard’s instructions.

Configuring Telephones

Overview

Once you have connected your telephones, answering machines and fax machines to the FRITZ!Box, configure these devices in the FRITZ!Box. For each device, specify:

- The telephone number for outgoing calls to the public telephone network
- How incoming calls should be handled: Should the device ring (telephone) or pick up (fax machine, answering machine) for every call, or only respond to calls for certain telephone numbers?
- The internal name of the device to be displayed in the call list of the FRITZ!Box
- Further settings that depend on the kind of device. For analog and DECT telephones, for instance, you can enable the “call waiting” function.

Requirements

- Your telephone numbers have been set up in the FRITZ!Box (see the previous section).

Instructions: Configuring Telephones and Other Devices

1. Open the user interface, see page 57.
2. Select “Telephony / Telephony Devices”.

3. If the device to be configured is not yet included in the list of telephony devices, click “Configure New Device”. Follow the wizard’s instructions.

   The wizard guides you through the assignment of telephone numbers and enters the device in the list.

4. To configure further settings for a device in the list, click the “Edit” button of the device .

   The kind of device determines which additional settings are available.

Configuring a Door Intercom System

Overview

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

Requirements

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

Instructions: Configuring a Door Intercom System

1. Open the user interface, see page 57.
2. Select “Telephony / Telephony Devices”.
3. Click “Configure New Device”. With the “Edit” button you can also change the settings of a door intercom system that has already been configured.

Saving Power with the FRITZ!Box

Overview

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

Viewing Information on Energy Consumption

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

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

Using Savings Potential

What	How to	Where
Wireless LAN	configure a schedule; see page 170	"Wireless / Schedule" menu
	switch off wireless LAN, see page 170	• "WLAN" button • "Wireless / Radio Network" menu
	reduce the maximum transmitter power	"Wireless / Radio Channel / Radio Channel Settings / Adjust Radio Channel Settings" menu
LAN	use the LAN port in energy-saving (Green) mode	"Home Network / Network / Network Settings / LAN Settings" menu

What	How to	Where
USB	use the USB port in energy-saving (Green) mode; see page 162	“Home Network / USB Devices / USB Settings”

Saving Power with Smart Home

With intelligent Smart Home devices like FRITZ!DECT, electrical appliances are integrated into the home network. This way they can be switched on and off by schedule. At the same time, they inform the FRITZ!Box about consumption, energy costs incurred, and the CO2 footprint.

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

1. Open the user interface, see page 57.
2. Select “Home Network / Smart Home”.
3. For instructions, open the online help ?.

Mesh with FRITZ!

Mesh in the Home Network of the FRITZ!Box 85
Updating the FRITZ!Box for Mesh 87
Integrating FRITZ!Repeater in the FRITZ!Box Mesh 88
Integrating FRITZ!Powerline into the Mesh of the FRITZ!Box 90
Deploying an Additional FRITZ!Box as a Mesh Repeater 92
Using Telephony in the Mesh 93

Mesh in the Home Network of the FRITZ!Box

Overview

Mesh is a networking concept that combines the individual wireless radio networks of your FRITZ! devices in the FRITZ!Box home network into a single powerful wireless radio network. Mesh requires FRITZ!OS version 7.00 or higher.

Only FRITZ! devices can be integrated into the FRITZ!Box Mesh. Devices from other manufacturers can be integrated into the FRITZ!Box home network, but not into the FRITZ!Box Mesh.

How Mesh Works

A Mesh always has a FRITZ!Box at its center. This central FRITZ!Box is the Mesh Master. Other FRITZ! devices like FRITZ!Repeaters, FRITZ!Powerline devices or other FRITZ!Box products adopt the settings of the Mesh Master – the first time they are configured, and every time these settings change. The FRITZ! devices also constitute wireless access points in the Mesh, where they thus function as Mesh Repeaters.

The FRITZ! devices in a Mesh coordinate with each other. For instance, all devices automatically use the best connection signal in order to achieve the fastest possible data transmission.

Benefits of Mesh

Combining all wireless radio networks into one big wireless radio network brings many benefits to the FRITZ!Box home network:

- Shared settings

  As Mesh Master, the FRITZ!Box transfers all wireless LAN settings to the Mesh Repeaters: wireless network name (SSID), network key, wireless guest access and wireless schedule. This way you only have to set up a single wireless connection on your smartphones, tablets, and notebooks to gain access to the home network and the FRITZ!Box's internet connection.

  Settings for push services, automatic updates and AVM services are also shared in the Mesh.

- Central home network overview

  The Mesh overview in the FRITZ!Box user interface shows you which devices in the home and guest network are active, how they are connected with each other, and which throughput rates are available over the individual connections.

  You can check in the Mesh Overview whether any updates are available for FRITZ! devices. Updates can be started directly in the Mesh Overview.

- Powerful WiFi

  Mesh enables improved information exchange among the FRITZ! devices and thus provides for faster and more stable wireless connections. Better ranges are achieved by using the access points distributed through the Mesh.

Updating the FRITZ!Box for Mesh

Overview

In order to be able to use Mesh in the home network, your FRITZ!Box must have FRITZ!OS version 7.00 or higher. We recommend updating to the latest version of FRITZ!OS.

If you have an older FRITZ!Box which can no longer be updated to FRITZ!OS version 7.00 or higher, then you cannot use this FRITZ!Box for Mesh.

Updating Instructions: FRITZ!Box

1. Open the user interface, see page 57.
2. Click on “Update” in the “System” menu.
3. Click the “Find New FRITZ!OS” button.
4. Click on the “Start Update Now” button.

The FRITZ!OS is updated. The FRITZ!Box is now ready for Mesh.

Integrating FRITZ!Repeater in the FRITZ!Box Mesh

Overview

To expand your wireless radio network, you can integrate a FRITZ!Repeater into the Mesh of the FRITZ!Box. Mesh connects the individual wireless networks of your FRITZ! devices to form a combined wireless network.

Requirements

The FRITZ!Repeater is located in the home network of a FRITZ!Box with FRITZ!OS version 7.00 or higher.

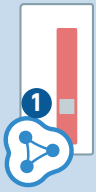
Enabling Instructions: Mesh for the FRITZ!Repeater

1. Open the FRITZ!Box user interface; see Instructions: Opening the User Interface, page 57.
2. Select “Home Network / Mesh”.

   The home network is displayed in a graphic overview. The FRITZ!Box is the Mesh Master and designated with the “Mesh enabled” icon: .
3. Make sure that the FRITZ!Repeater is marked with the “Mesh enabled” icon (1).

   If the symbol is displayed, then the FRITZ!Repeater was already successfully integrated into the Mesh.

   If the symbol is missing, continue with the next step.



4. If the “Perform Update” button is available next to the “FRITZ!Repeater” in the overview: Perform the update and wait until the message “Update was successful” appears.

   If no update is available, continue with the next step.
5. Start WPS on the FRITZ!Box. To do this, press the “WPS” button on the FRITZ!Box until the “Info” LED starts flashing.
6. Within 2 minutes, start WPS on FRITZ!Repeater. Press the “WPS” button briefly.

The FRITZ!Repeater is integrated into the Mesh of the FRITZ!Box. As soon as the procedure is concluded, the FRITZ!Repeater is displayed in the Mesh Overview of the FRITZ!Box with the “Mesh enabled” symbol: .

Integrating FRITZ!Powerline into the Mesh of the FRITZ!Box

Overview

To expand your wireless radio network, you can integrate a FRITZ!Powerline with WiFi function into the Mesh of the FRITZ!Box. Mesh connects the individual wireless networks of your FRITZ! devices to form a combined wireless network.

Requirements

The FRITZ!Powerline is located in the home network of a FRITZ!Box with FRITZ!OS 7.00 or higher.

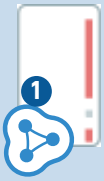
Instructions: Integrating FRITZ!Powerline into the Mesh

1. Open the FRITZ!Box user interface; see Instructions: Opening the User Interface, page 57.
2. Select “Home Network / Mesh”.

   The home network is displayed in a graphic overview. The FRITZ!Box is the Mesh Master and designated with the “Mesh enabled” symbol: .
3. Make sure that the FRITZ!Powerline is marked with the “Mesh enabled” symbol (1).

   If the symbol is displayed, then FRITZ!Powerline was already successfully integrated into the Mesh.

   If the symbol is missing, continue with the next step.



4. If the “Perform Update” button is available next to the FRITZ!Powerline in the overview: Perform the update and wait until the message “Update was successful” appears.

   If no update is available, continue with the next step.

5. Start WPS on the FRITZ!Box. To do this, press the “WPS” button on the FRITZ!Box until the “Info” LED starts flashing.
6. Within 2 minutes, start WPS on FRITZ!Powerline. To do this, press briefly on either the “Connect” or the “WLAN/WPS” button, depending on the model.

The FRITZ!Powerline is integrated into the Mesh of the FRITZ!Box. As soon as the procedure is concluded, FRITZ!Powerline is displayed in the Mesh Overview of the FRITZ!Box with the “Mesh enabled” symbol: .

Deploying an Additional FRITZ!Box as a Mesh Repeater

Overview

You can use another FRITZ!Box in the home network to improve the WiFi coverage in the home network. In this operating mode, a central FRITZ!Box is the Mesh Master, and the other FRITZ!Box is a Mesh Repeater. By integrating an additional FRITZ!Box as a Mesh Repeater you benefit from not only wireless repeating, but also from all other benefits of Mesh; see Benefits of Mesh, page 86.

Requirements

- The FRITZ!Box that is to serve as the Mesh Repeater was reset to its factory settings; see page .
- The FRITZ!Box that is to serve as the Mesh Repeater has FRITZ!OS version 7.00 or higher installed; see page 203.
- The FRITZ!Box that is to function as a Mesh Repeater is a network device (IP client) in the home network of the Mesh Master.

Instructions: Deploying an Additional FRITZ!Box as a Mesh Repeater

1. Open the user interface, see page 57.
2. Select “Home Network / Mesh / Mesh Settings”.
3. For instructions, open the online help ?.

Using Telephony in the Mesh

Overview

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

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

Requirements

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

Instructions: Setting up Telephony in the Mesh

1. Open the user interface, see page 57.
2. Select “Home Network / Mesh / Mesh Settings”.
3. For instructions, open the online help ?.

User Interface: Overview Menu

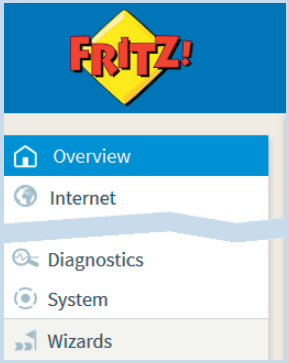
Overview Menu: Settings and Features 95

Overview Menu: Settings and Features

Overview

The “Overview” menu is the start page of the FRITZ!Box user interface. This page presents an overview of all FRITZ!Box features and components: energy consumption, connections, ports, calls, answering machine messages, convenience functions (parental controls, alarm, etc.) and all devices in the home network.

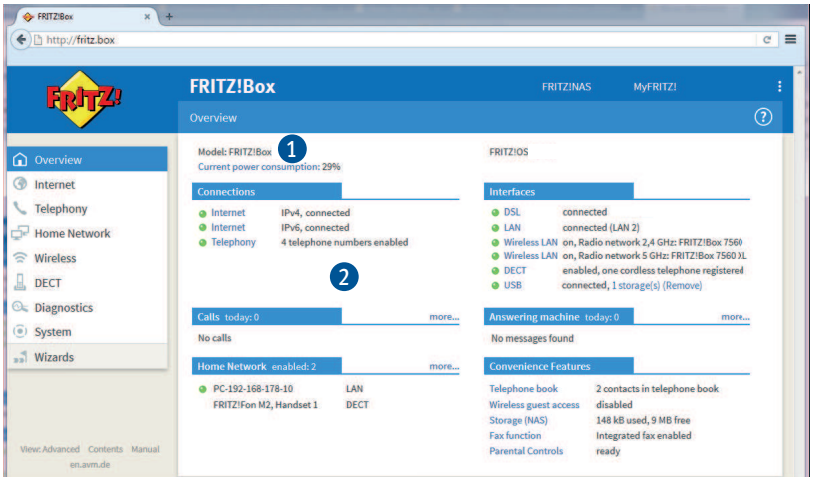
In addition to the overview, next to the FRITZ!OS version currently installed, you will also find notifications important for secure and reliable operation of your FRITZ!Box.



“Overview” menu

FRITZ!Box Status Information at a Glance

The following figure shows you the different areas of the user interface that present status information:



No.	Function / Display
1	System Information • Product name or individually assigned name of the FRITZ!Box • FRITZ!OS installed • Current power consumption • Important notifications for secure, reliable operation of your FRITZ!Box

No.	Function / Display
2	Information about connections and interfaces • Information on internet and telephony connections and on all FRITZ!Box interfaces • Information on telephone calls and voice messages on the integrated answering machine • Devices connected to the FRITZ!Box, such as computers, smartphones, network storage, printers, or Smart Home devices • Configured convenience features

For a comprehensive description of the FRITZ!Box user interface: see User Interface, page 56.

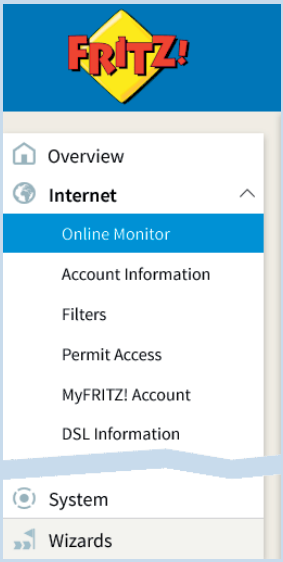
User Interface: Internet Menu

Internet Menu: Settings and Features 99
Using AVM Services for Diagnostics and Maintenance 100
Configuring Parental Controls 102
Creating and Assigning Access Profiles 104
Editing Filter Lists 106
Configuring Priorities for Internet Use 107
Configuring Port Sharing 109
Enabling Dynamic DNS 111
Remote Access to the FRITZ!Box 112
Configuring VPN Remote Access 114
Configuring IPv6 116
Configuring FRITZ!Box as a LISP Router 118

Internet Menu: Settings and Features

Overview

The “Internet” menu pools all of the features for the internet connection. Users of the FRITZ!Box interested in technology can read information on the DSL connection here.



“Internet” menu

Description of the Submenus

The online help of the user interface includes a detailed description of the submenus.

Using AVM Services for Diagnostics and Maintenance

Overview

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

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

AVM Services

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

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

Data Privacy

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

Instructions: Configuring AVM Services

1. Open the user interface, see page 57.
2. Select “Internet / Account Information / AVM Services”.
3. For instructions, open the online help ?.

Configuring Parental Controls

Overview

The parental controls feature allows you to control the use of the internet by network devices. For each individual network device, you can limit the duration and content of internet use.

Example

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

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

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

Profiles for Internet Use

The specifications for time- and content-related restrictions are generated and saved as profiles. These profiles are called access profiles. You can create multiple different access profiles; see Creating and Assigning Access Profiles, page 104. You can assign these access profiles to the network devices.

Requirements

- The FRITZ!Box establishes the internet connection itself, that is, it is not configured as an IP client.

Instructions: Configuring Parental Controls for a Network Device

1. Open the user interface, see page 57.
2. Select “Internet / Filters / Access Profiles”.
3. If there is no access profile with the restrictions you want, then create an access profile:

- For instructions, open the online help ?.

4. Select “Internet / Filters / Parental Controls”.
5. Assign to the network device the access profile with the desired restrictions:
   - For instructions, open the online help ?.

Creating and Assigning Access Profiles

Overview

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

Access Profile: Definition

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

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

Example

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

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

Preconfigured Access Profiles

In the FRITZ!Box there are four preconfigured access profiles.

Name	Properties
Standard	• Unrestricted use in the factory settings • Automatic access profile for network devices registering with the home network for the first time • Can be changed
Guest	• Automatic, exclusive access profile for network devices registering with the guest network • Can be changed
Unrestricted	• Unrestricted internet use • Cannot be changed
Blocked	• No internet use allowed • Cannot be changed

Creating an Access Profile

1. Open the user interface, see page 57.
2. Select “Internet / Filters / Access Profiles”.
3. For instructions, open the online help ?.

Assigning an Access Profile

1. Open the user interface, see page 57.
2. Select “Internet / Filters / Parental Controls”.
3. For instructions, open the online help ?.

Editing Filter Lists

Overview

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

Types of Lists

Access to websites with inappropriate content can be blocked using the blacklist or whitelist.

Filter List	Function and Use
Blacklist	• Access is blocked to websites included in the blacklist. • Use the blacklist if access to most websites is allowed and just a few are to be blocked.
Whitelist	• Access is allowed to websites included in the whitelist. • Use the whitelist if access to most websites is blocked and only a few are allowed to be accessed.

Requirements

- The FRITZ!Box establishes the connection itself, that is, it is not configured as an IP client.

Instructions: Editing Filter Lists

1. Open the user interface, see page 57.
2. Select “Internet / Filters / Lists”.
3. For instructions, open the online help ?.

Configuring Priorities for Internet Use

Overview

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

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

Prioritization Categories

There are three prioritization categories for network applications:

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

Reserving Bandwidth for the Home Network

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

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

Instructions: Configuring Priorities

1. Open the user interface, see page 57.
2. Select “Internet / Filters / Prioritization”.
3. For instructions, open the online help ?.

Configuring Port Sharing

Overview

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

Port Sharing

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

Port Sharing on Protocols

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

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

Protocol	Internet Protocol	Explanation
	IPv6	Within IPv6 networks you can open the FRITZ!Box firewall for the TCP and UDP protocols when entering the port range. One port can be opened for each computer in the network.
ESP 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 57.
2. Select “Internet / Permit Access / Port Sharing”.
3. For instructions, open the online help.

Enabling Dynamic DNS

Overview

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

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

Dynamic DNS and MyFRITZ!

MyFRITZ! can be used as an alternative to dynamic DNS. The two services can also be used in parallel. For more information on MyFRITZ!; see MyFRITZ!, page 217.

Requirements

- You are registered with a dynamic DNS provider and have set up a domain name.
- The advanced view is enabled in the FRITZ!Box user interface (see Using the Standard View and Advanced View, page 64).

Instructions: Enabling Dynamic DNS

1. Open the user interface, see page 57.
2. Select “Internet / Permit Access / DynDNS”.
3. For instructions, open the online help ?.

Remote Access to the FRITZ!Box

Overview

Over the internet it is possible to access the user interface of the FRITZ!Box. With a laptop, smartphone or tablet you can configure settings in the FRITZ!Box user interface.

HTTPS, FTP and FTPS

Protocol	Function
HTTPS (Hypertext Transfer Protocol Secure)	HTTPS is an internet protocol for bug-proof communication between the web server and the browser in the World Wide Web. Enable this protocol to allow access to the FRITZ!Box from the internet.
FTP (File Transfer Protocol)	FTP is a network protocol for transmitting files in IP networks. Enable this protocol to allow access by FTP to the FRITZ!Box storage media from the internet.
FTPS (FTP over SSL)	FTPS is a method for encrypting the FTP protocol. Enable this protocol to secure transmission over FTP.

Requirements

- Access to the user interface: Every user who would like to access the FRITZ!Box externally from the internet requires a FRITZ!Box user account which is authorized for access from the internet.

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

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

1. Open the user interface, see page 57.
2. Select “Internet / Permit Access / FRITZ!Box Services”.
3. For instructions, open the online help .

Configuring VPN Remote Access

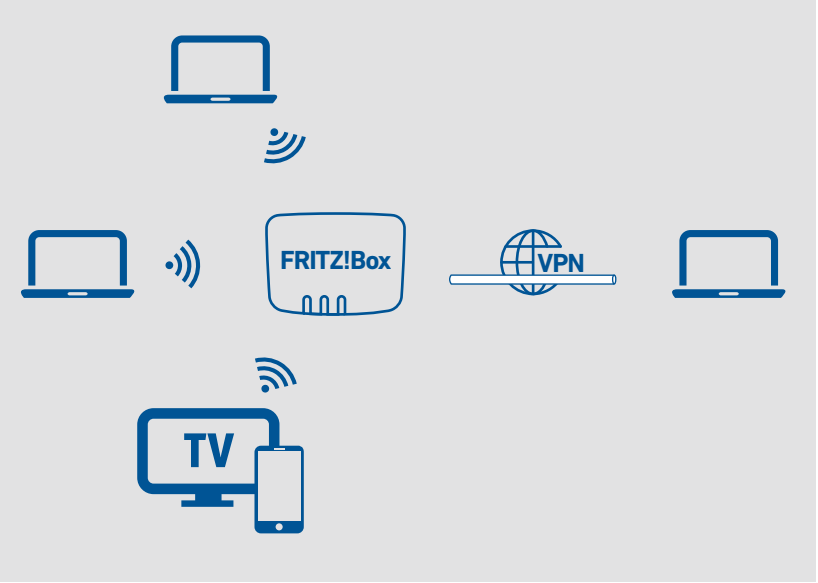
Overview

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

This section addresses system administrators.

That is why the settings for this function are enabled only in the advanced view of the FRITZ!Box user interface.

Example Configuration



Alternative

Setting up remote access via VPN can overwhelm the layman. It is easier to set up access from outside via MyFRITZ!. For more information, see MyFRITZ!, page 217.

VPN Service Portal

The AVM website offers a service page which presents comprehensive information on VPN in general and in connection with the FRITZ!Box. If you would like to find out even more, visit this page at:

en.avm.de/service/vpn

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

Instructions: Configuring VPN in the FRITZ!Box

1. Open the user interface, see page 57.
2. Select “Internet / Permit Access / VPN”.
3. For instructions, open the online help ?.

Configuring IPv6

Overview

IPv6 stands for internet protocol version 6. It is the successor to IPv4, which is to be replaced completely by IPv6 in the coming years. IPv6 is more powerful, and has more addresses and better security properties than IPv4.

The FRITZ!Box supports the new IPv6 internet protocol and can establish IPv6 connections:

Services that Support IPv6

Home Network / Internet	Services that Support IPv6
IPv6-capable services in the home network	• 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 wireless LAN, the home network and wireless guests are separated by IPv6 subnetworks. • UPnP, UPnP AV media servers

Home Network / Internet	Services that Support IPv6
IPv6-capable services in 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

Requirements

- IPv6 must be installed and enabled on the computers in your home network (standard in Windows since Windows Vista and Windows 7, in Mac OS X since macOS 10).
- The advanced view must be enabled in the FRITZ!Box user interface; see Using the Standard View and Advanced View, page 64.

Instructions: Configuring IPv6 in the FRITZ!Box

1. Open the user interface, see page 57.
2. Select “Internet / Account Information / IPv6”.
3. For instructions, open the online help ?.

Configuring FRITZ!Box as a LISP Router

Overview

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

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

Requirements

- You are registered with a LISP provider.
- The advanced view must be enabled in the FRITZ!Box user interface; see User Interface, page 56.

Instructions: Configuring FRITZ!Box as a LISP Router

1. Open the user interface, see page 57.
2. Select “Internet / Account Information / LISP”.
3. For instructions, open the online help .

User Interface: Telephony Menu

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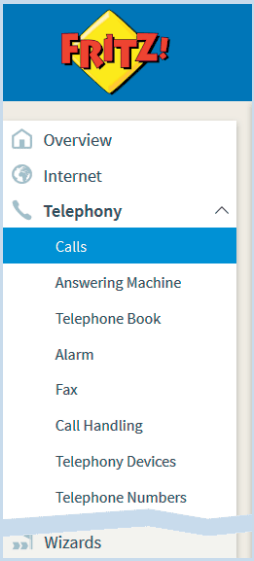
Configuring and Using the Answering Machine 123
Using the Fax Function 125
Configuring Call Diversion 126
Configuring Call Blocks 127
Configuring Do Not Disturb 129
Setting Up an Alarm 130
Configuring a Dialing Rule 131

Telephony Menu: Settings and Features

Overview

In the “Telephony” menu you configure your telephone numbers, telephones and other connected devices (for instance fax machine, door intercom system). You can also configure the FRITZ!Box answering machine, the internal fax function and various other features: the telephone book, alarm, call blocks, call diversion, call through and dialing rules.

The call list shows all of the calls you made, accepted or missed.



“Telephony” menu

Description of the Submenus

The online help of the user interface includes a detailed description of the submenus.

Configuring and Using the Telephone Book

Overview

How you can use the FRITZ!Box telephone book depends on the telephone used:

Telephone	Available Functions
FRITZ!Fon	• Telephone book available in the FRITZ!Fon menu • Option for separate telephone books for multiple FRITZ!Fon telephones • Quick-dial numbers • Click to Dial
Cordless telephone with CAT-iq 2.0 support	• Telephone book available in the telephone menu • Quick-dial numbers • Click to Dial
Others	• Quick-dial numbers • Click to Dial

Kinds of Telephone Books

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

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

Telephone Book	Description
Online telephone book	Online telephone books include Google Contacts and the contacts of email accounts with 1&1, GMX or WEB.DE. The online telephone book is available in the FRITZ!Box and synchronized with your telephone book in the internet at regular intervals.

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

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

1. Open the user interface, see page 57.
2. Select “Telephony / Telephone Book / New Telephone Book”.
3. For instructions, open the online help ?.

Instructions: Creating a New Telephone Book Entry

1. Open the user interface, see page 57.
2. Select “Telephony / Telephone Book”.
3. For instructions, open the online help ?.

Instructions: Enabling and Using “Click to Dial”

1. Open the user interface, see page 57.
2. Select “Telephony / Telephone Book / Click to Dial”.
3. For instructions, open the online help ?.

Configuring and Using the Answering Machine

Overview

In the FRITZ!Box you can configure an answering machine, making an additional device superfluous. If you have more than one telephone number, you can set up multiple answering machines (up to five).

Features

- Messages by email: If desired, you can receive new messages automatically by email.
- Schedule: You can define times to switch on and off on different days of the week.
- Remote playback: You can check the answering machine from on the go.

Requirements

- For each answering machine you configure, a telephone number is required.

Example

You have two telephones with different telephone numbers (for instance, one for personal calls and one for business calls). Then you can configure an answering machine for each telephone. Assign your personal telephone number to the first answering machine and your office number to the second one.

Instructions: Configuring the Answering Machine

1. Open the user interface, see page 57.
2. Select “Telephony / Answering Machine”.
3. For instructions, open the online help ?.

Operating Answering Machines by Telephone

Using a voice menu you can operate the answering machine on any telephone connected with the FRITZ!Box. You can listen to new messages, for instance, or switch the answering machine on and off. For more information, see page 240.

Picking Up a Call from the Answering Machine on the Telephone

Calls that have already been accepted by the answering machine can be picked up on your telephone. For more information, see page 242.

Instructions: Listening to the Answering Machine via Remote Playback

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

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

Using the Fax Function

Overview

With the FRITZ!Box you can send and receive faxes. Received faxes are forwarded by the FRITZ!Box by email or saved on a USB storage medium. Send the fax from the user interface. Graphic files in JPG or PNG format can be appended to any fax transmission.

Maximum Fax Length

A maximum of two A4 pages can be transmitted as a fax. When a fax with an appended graphic file is sent, the second page is reserved for the graphic file.

When sending a fax it is not always apparent whether the entire text was transmitted. You can check that a fax was sent completely after the fact. To do this, enable forwarding by email in the configuration of the fax function. Then the FRITZ!Box will automatically forward to your email address all faxes sent as well as those received.

Instructions: Configuring the Fax Function

1. Open the user interface, see page 57.
2. Select “Telephony / Telephony Devices”.
3. For instructions, open the online help ?.

Instructions: Sending Faxes

1. Open the user interface, see page 57.
2. Select “Telephony / Fax”.
3. For instructions, open the online help ?.

Configuring Call Diversion

Overview

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

Incoming calls

Call diversion can be set up for the following calls:

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

Destination Numbers

You can divert calls to:

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

Example

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

Instructions: Configuring Call Diversion

1. Open the user interface, see page 57.
2. Select "Telephony / Call Handling / Call Diversion".
3. For instructions, open the online help ?.

Configuring Call Blocks

Overview

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

Kinds of Call Blocks

You can configure various kinds of call blocks:

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

Example 1

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

Example 2

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

Instructions: Configuring a Call Block

1. Open the user interface, see page 57.
2. Select “Telephony / Call Handling / Call Blocks”.
3. For instructions, open the online help ?.

Configuring Do Not Disturb

Overview

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

Example

You do not want your telephone to ring between 11 pm and 6 am.

Instructions: Configuring Do Not Disturb

1. Open the user interface, see page 57.
2. Select “Telephony / Telephony Devices / Edit / Do Not Disturb”.
3. For instructions, open the online help ?.

Setting Up an Alarm

Overview

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

Example

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

Instructions: Configuring an Alarm

1. Open the user interface, see page 57.
2. Select “Telephony / Alarm”.
3. For instructions, open the online help ?.

Configuring a Dialing Rule

Overview

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

Example

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

Instructions: Configuring Dialing Rules

1. Open the user interface, see page 57.
2. Select “Telephony / Call Handling / Dialing Rules”.
3. For instructions, open the online help ?.

User Interface: Home Network Menu

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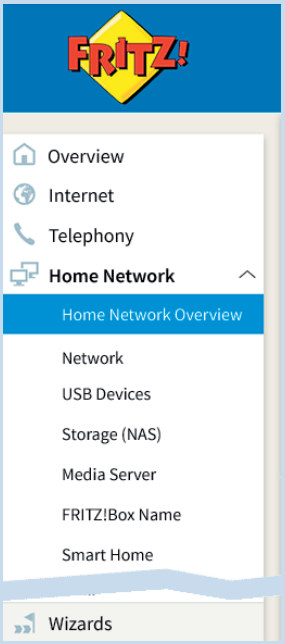
Home Network Menu: Settings and Features

Overview

Your home network consists of the FRITZ!Box and all of the devices connected to it. The FRITZ!Box is the hub in your home network. In the “Home Network” menu you can configure all of the settings relevant for your home network.

A graphic overview of your home network with all connected devices is presented in the “Home Network / Mesh” menu.



“Home Network” menu

Description of the Submenus

The online help of the user interface includes a detailed description of the submenus.

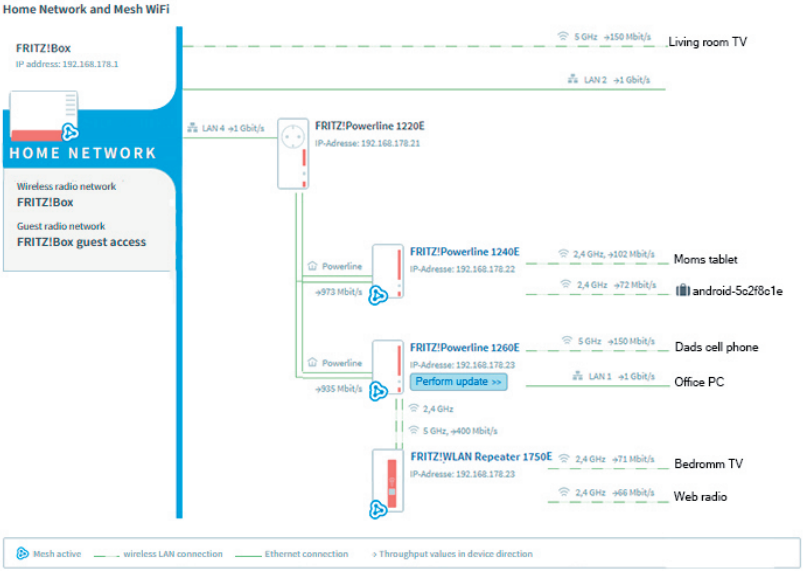
Managing the Home Network

Overview

The overview of your FRITZ!Box home network in the “Mesh Overview” menu notifies you which devices are currently active in the home and guest networks, how they are connected with each other, and what throughput rates are available over the individual connections. And from here you can update all FRITZ! products in your home network and integrate them into the FRITZ!Box Mesh.

Home Network and Mesh

An overview diagram shows all of the devices connected with the FRITZ!Box along with all Mesh Repeaters.



The overview diagram displays the following information:

- The FRITZ!Box: the IP address of the FRITZ!Box in the home network, the SSID of the wireless radio network and the SSID of the guest network, if it is enabled
- All devices that are connected with the FRITZ!Box
- “Mesh enabled”: this symbol marks the devices that are repeaters in the Mesh
- Perform update >> Update: This button indicates whether a new FRITZ!OS is available (only for FRITZ! products)
- Connection technology: wireless LAN, Ethernet cable, DECT, powerline, USB
- Connection path of the devices to the FRITZ!Box: direct connection or via a repeater or access point
- Throughput values in device direction
- Guest access: devices that are connected with the FRITZ!Box via the guest network

Active Connections and Current Software Version

All devices connected with the FRITZ!Box are displayed in the “Active connections in the home network and current software version” table:

- FRITZ!Box: the FRITZ!Box itself
- Network devices: all network devices connected with a network cable or via wireless LAN, for example: computers (PCs, laptops), mobile terminal devices (tablets, smartphones), wireless repeaters, TV sets
- Telephones: all of the telephones connected with the FRITZ!Box
- USB devices: all connected USB devices, for example USB storage media, USB printers, USB mobile broadband dongles
- Smart Home devices: Smart Home devices connected with the FRITZ!Box, for example, smart plugs or radiator controls

In the “Connection”, “Properties”, and “Update” columns you can click links to the connection settings or the device settings and perform updates:

Column Name	Contents / Advantages
Device / Name	The name or the designation with which the device is registered with the FRITZ!Box.
Connection	The connection technology with which the device is connected with the FRITZ!Box. Click the link to open the page with connection settings.
Properties	Information on the devices. For devices from FRITZ!, the current FRITZ!OS version will be displayed. For network devices there is a “Details” link with which you can open the detailed view for the given device.
Update	For FRITZ! products, the “Update” column displays whether the installed FRITZ!OS is the latest, or whether an update is available. If there is an update, you can install it directly from the table.

Managing Network Devices

Overview

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

Explanation of Terms: Network and Other Terms

Term	Explanation
Network device	Network devices are devices that are connected with the FRITZ!Box in one of the following ways: • with a network cable to a LAN port on the FRITZ!Box • via wireless LAN • via the internet with a VPN connection (see page 114)
Network	All network devices on the FRITZ!Box comprise a network.
Internet protocol (IP)	Communication within the network takes place using the internet protocol, IP for short. The internet protocol is the language that all network devices speak and understand.
IP network	A network based on the internet protocol is also known as an IP network. Connections within an IP network are known as IP connections.

Term	Explanation
Network interface	A network interface is the interface used to connect a network device with a network. It can be a wireless LAN radio module for wireless connections or a network port for cabled connections.

Properties and Benefits

The table with the network connections has the following properties that can be useful in organizing and keeping track of the IP network:

- Overview: The table offers an overview of the entire IP network of the FRITZ!Box.
- All connections: Every connection any network device has to the FRITZ!Box is displayed. A connection can be established with a network cable, via wireless LAN, or over VPN. A network device that is connected sometimes with a network cable, and sometimes via wireless LAN, has two entries in the table, one for each connection.
- Inactive connections: Even connections that are currently not active are displayed.
- Only shown here: VPN connections are displayed only in this table.
- Guest network overview: Connections to the guest network are displayed.
- Connection properties: Properties are displayed for every connection.
- Find devices quickly: Table columns can be displayed and hidden using the +/- button, and table columns can be sorted in ascending or descending order.
- Change connection properties: A detailed view can be opened for each connection. Connection properties can be changed in the detailed view.

Add Device

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

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

Example

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

Removing Devices

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

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

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

Changing IPv4 Settings

Overview

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

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

Application Scenario

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

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

In both cases the FRITZBoxes involved cannot have any identical IPv4 networks. The IPv4 address must be changed in at least one FRITZ!Box.

Requirements

- The IPv4 settings can be changed only when the advanced view is enabled in the FRITZ!Box; see page 64.

IPv4 Factory Settings

The following values are preconfigured in the FRITZ!Box:

IPv4 Setting	Preset Value
IPv4 address of the FRITZ!Box	192.168.178.1
Subnet mask	255.255.255.0

IPv4 Setting	Preset Value
IPv4 network address	192.168.178.0
Address range available for network devices	192.168.178.2 - 192.168.178.254
DHCP server	enabled
Address range of the DHCP server	192.168.178.20 - 192.168.178.200
Local DNS server	192.168.178.1

Reserved IPv4 Addresses

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

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

Emergency IPv4 Address

The FRITZ!Box also has a fixed IPv4 address that cannot be changed. The FRITZ!Box can always be reached at this IPv4 address.

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

For instructions for using the emergency IPv4 address, see Opening the User Interface with the Emergency IP Address, page 259.

IPv4 Network

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

Instructions: Changing the IPv4 Settings

1. Open the user interface, see page 57.
2. Select “Home Network / Home Network Overview / Network Settings”.
3. For instructions, open the online help ?.

Distributing IPv4 Addresses

Overview

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

IPv4 DHCP Server

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

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

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

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

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

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

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

Rules

Only one DHCP server may be active in a network.

Preparing Network Devices for DHCP

For the IP address to be assigned by the DHCP server, the “Obtain an IP address automatically” option must be enabled in the IPv4 settings of the network devices; see Obtaining an IP Address Automatically, page 150.

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 Assigning the Same IPv4 Address

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

Disabling the DHCP Server

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

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

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

Changing IPv6 Settings

Overview

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

Requirements

- The advanced view is enabled in the FRITZ!Box user interface; see page 64.
- The “IPv6 support enabled” setting is enabled under “Internet / Account Information / IPv6” in the FRITZ!Box user interface.

Factory Settings

The following settings for the IPv6 network of the FRITZ!Box are preset upon delivery:

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

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

Instructions: Changing the IPv6 Settings

1. Open the user interface, see page 57.
2. Select “Home Network / Network / Network Settings”.
3. For instructions, open the online help .

Configuring a Static IP Route

Overview

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

Application Scenario

Static IP routes are intended for the following situation:

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

How Static IP Routes Work

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

Requirements

- Static IP routes can be configured only when the advanced view is enabled; see Using the Standard View and Advanced View, page 64.

Instructions: Configuring a Static IPv4 Route

1. Open the user interface, see page 57.

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

Instructions: Configuring a Static IPv6 Route

1. Open the user interface, see page 57.
2. Select “Home Network / Network / Network Settings”.
3. For instructions, open the online help .

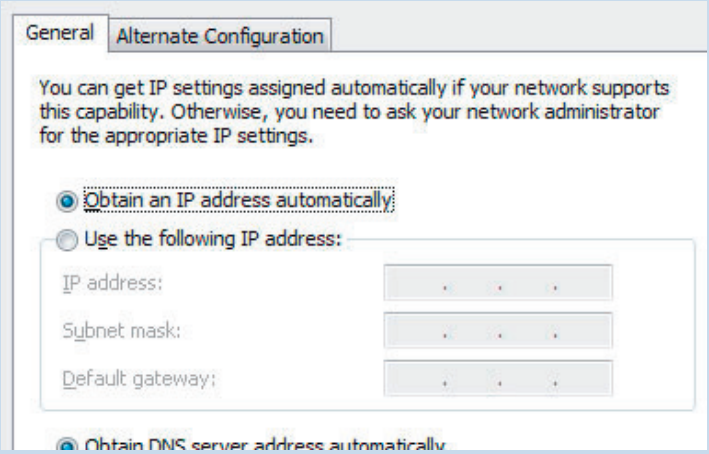
Obtaining an IP Address Automatically

Overview

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

Obtaining an IP Address Automatically in Windows

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



7. Click “OK” to save the settings.
8. Enable the options “Obtain an IP address automatically” and “Obtain DNS server address automatically” for the internet protocol version 6 (TCP/IPv6) as well.

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

Obtaining an IP Address Automatically in Mac OS X

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

Overview

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 a user account for temporary users. A guest access can also be made available wirelessly via wireless LAN.

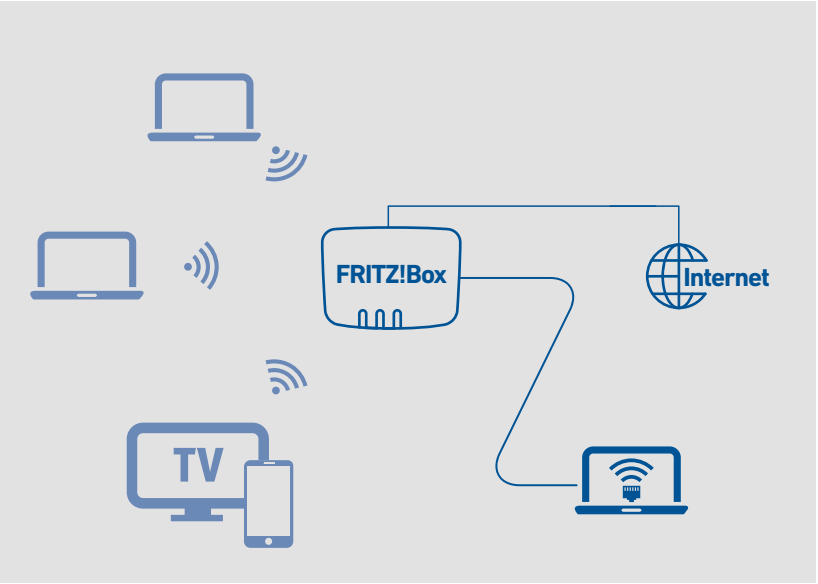
Criteria

Only the “Guest” access profile can be set for the LAN guest access. You can edit the “Guest” access profile in the “Internet / Filters / Access Profiles” menu.

The access profile allows or prohibits the following activities on the guest access:

Allowed	Prohibited
Surfing the web (according to the filters you specified)	Accessing the contents of the home network
Sending and receiving email	Configuring settings in the FRITZ!Box user interface

Example Configuration



Requirements

- The FRITZ!Box establishes the internet connection itself, that is, it is not configured as an IP client.
- You have a network cable at hand.

Instructions: Configuring LAN Guest Access

1. Open the user interface, see page 57.
2. Select “Home Network / Network / Network Settings”.
3. For instructions, open the online help ?.

Configuring Wake on LAN

Overview

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

Requirements

- The network adapter of the computer supports Wake on LAN.
- The computer is connected with the FRITZ!Box
  - via FRITZ!Powerline 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 57.
2. Select “Home Network / Network / Network Connections / Edit Device Details ”.
3. For instructions, open the online help ?.

Configuring USB Devices

Overview

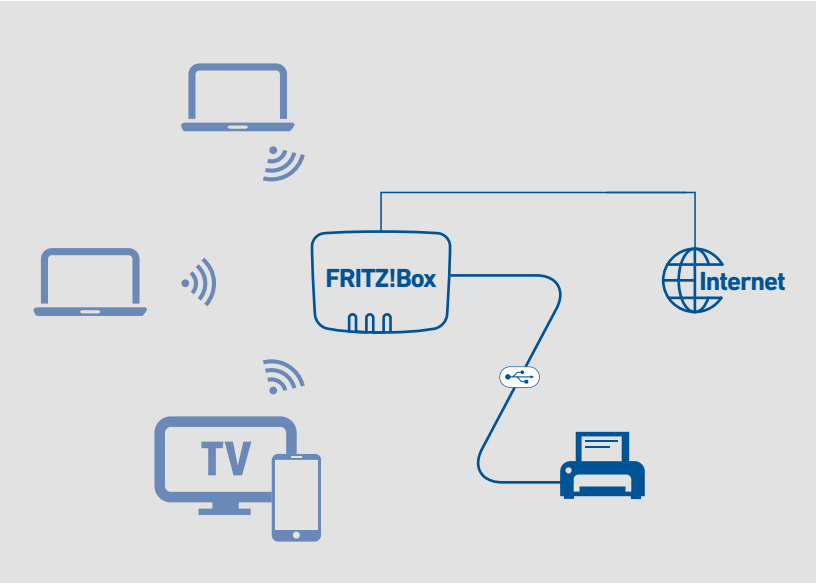
The FRITZ!Box has two USB ports to which you can connect various USB devices. All devices in the FRITZ!Box home network can use these USB devices jointly and simultaneously.

Suitable USB Devices

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

- USB storage media compatible with EXT2/3/4, FAT, FAT32 or NTFS
  - flash drives
  - external hard drives
  - card readers
- USB printers
- USB all-in-one printers
- USB scanners
- USB modems
  - UMTS/HSDPA dongles
  - LTE dongles
- USB hubs

Example Configuration



Rules

Follow the rules below for connecting USB devices to the FRITZ!Box:

- If more than one USB device without its own power supply is connected to the FRITZ!Box, the total current consumption may not exceed a value of 900 mA. Otherwise errors on the USB devices and even damage to the FRITZ!Box may occur.
- UMTS modems can have very high power consumption. For this reason, do not operate a UMTS modem directly on the FRITZ!Box, but on an active hub with its own power supply.
- Do not conduct any updates for USB devices that are connected with the computer via the FRITZ!Box USB remote connection.

- The FRITZ!Box can not defend connected USB storage media from external influences. Voltage peaks or drops during an electrical storm can result in the loss of data. Therefore you should back up the contents of the USB storage media on a regular basis.
- Place USB hard drives as far away from the FRITZ!Box as possible in order to prevent interference to wireless radio transmission.

Instructions: Connecting and Configuring USB Storage Media

Click “Remove Safely” before removing a USB storage medium from the FRITZ!Box. This ensures that all data transmission has been completed.

1. Connect the USB storage device to the USB port on the FRITZ!Box.

   The USB storage medium will be re-indexed and you can access the stored contents.

Configuring Access Rights for USB Storage Media

Under “System / FRITZ!Box Users” in the FRITZ!Box user interface you can specify which contents on a connected USB storage media can be accessed by each user account.

Instructions: Configuring a USB Printer as a Network Printer (Windows 7)

A USB printer connected to the FRITZ!Box can be configured as a network printer in Windows 7:

1. Click “Start / Control Panel” and select the printer category of your operating system.
2. Click the printer icon with the right mouse button and select “Properties” or “Printer properties”.
3. Switch to the “Ports” tab and click “Add Port...”.
4. Double-click on the “Standard TCP/IP Port” entry.
5. Click “Next” and then enter “fritz.box” in the “Printer Name or IP Address” field.
6. Enter any name you wish in the “Port name” field and click “Next”.
7. Select the “Custom” option and click “Settings...”.
8. Enable the “Raw” option and enter “9100” in the “Port number” field.
9. Click “OK”, click “Next”, and confirm with “Finish” and “Close”.
10. In the “<Printer name> Properties” window, switch to the “Ports” tab.
11. Disable the “Enable bidirectional support” option and click “Apply”.

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

Instructions: Configuring a USB Printer as a Network Printer (Windows 8)

A USB printer connected to the FRITZ!Box can be configured as a network printer in Windows 8:

1. Press the keyboard shortcut “Windows key + X” and select “Control Panel” from the context menu.
2. Click on “Hardware and Sound” and select “Devices and Printers”.
3. In the menu bar, click “Add a printer”.
4. In the “Add Printer” window, select “The printer that I want isn’t listed” and then “Next”.
5. Enable the option “Add a printer using TCP/IP address or hostname” and click “Next”.
6. Enter 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.
7. Click “Next.”
8. Click “Next” and confirm with “Finish”.

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

Instructions: Configuring a USB Printer as a Network Printer (Windows 10)

A USB printer connected to the FRITZ!Box can be configured as a network printer in Windows 10:

1. Press the keyboard shortcut “Windows key + X” and select “Control Panel” from the context menu.
2. Click on “Hardware and Sound” and select “Devices and Printers”.
3. In the menu bar, click “Add a printer”.
4. Click “The printer that I want isn’t listed” in the window “Add Printer” window.
5. Enable the option “Add a printer using TCP/IP address or hostname” and click “Next”.
6. Enter 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.
7. Click “Next.”
8. Select the printer manufacturer and model, and click “Next”.
9. If the “Printer Sharing” window appears, select “Do not share this printer” and click “Next”.
10. Click “Finish”.

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

Instructions: Configuring a USB Printer as a Network Printer (Mac OS X 10.5 or Higher)

A USB printer connected to the FRITZ!Box can be configured as a network printer in Mac OS X version 10.5 or higher:

1. In the dock, click on “System preferences”.
2. Click on “Print & Fax”.
3. Click on the “+” sign.
4. Click on “IP”.
5. In the “Protocol:” list, select the entry “HP Jet Direct – Socket”.
6. Enter 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” or “Add Port...”.

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 Mac OS X, configure the following settings to set up a USB printer as a network printer:

1. As the port type, select “Raw TCP”.
2. Enter 9100 as the port.
3. Enter fritz.box as the printer name.

   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.

Configuring USB 2.0 and USB 3.0

For power saving operation of the FRITZ!Box, the “Home Network / USB Devices / USB Settings” menu in the user interface offers the following settings for the USB ports:

Power Mode (USB 3.0)	Green Mode (USB 2.0)
Full power: up to 3 times faster than USB 2.0	Reduced power
Increased power consumption	Reduced power consumption
Preset for the port on the back	Preset for the port on the side

Operating USB devices at a USB port in “Power Mode” may result in slower data transmission in the 2.4-GHz wireless network and poor voice quality in telephone calls with DECT cordless telephones.

The occurrence of interference depends on the quality of the USB cable used. To remedy interference, select “Green Mode” and/or switch to wireless LAN in the 5-GHz band.

Configuring and Using the Media Server

Overview

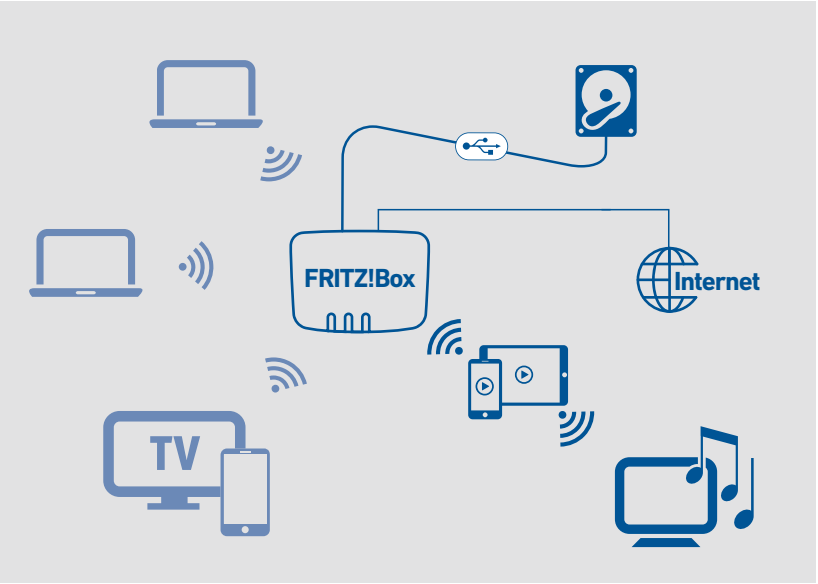
With the media server of the FRITZ!Box you can make photos, videos and music available to compatible playback devices. The media server can be expanded using USB storage media or USB hard disks. You can also use the media server of the FRITZ!Box to listen to web radio.

Criteria

The FRITZ!Box detects media files automatically and makes them available 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

- The playback devices must support the UPnP AV standard.

Instructions: Configuring and Using the Media Server

1. Open the user interface, see page 57.
2. Select “Home Network / Media Server / Settings”, “Home Network / Media Server / Web Radio” or “Home Network / Media Server / Podcast”.
3. For instructions, open the online help ?.

Assigning a FRITZ!Box Name

Overview

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

Changing the name may make it necessary to reconfigure your wireless connections and network links.

Consequences of Assigning a Name

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

- the wireless radio network (SSID)
- the guest radio network (SSID)
- the working group released for home network sharing
- the media server
- the DECT base station
- the push service sender name
- the display of your FRITZ!Box in the device overview in MyFRITZ!

Instructions: Assigning a FRITZ!Box Name

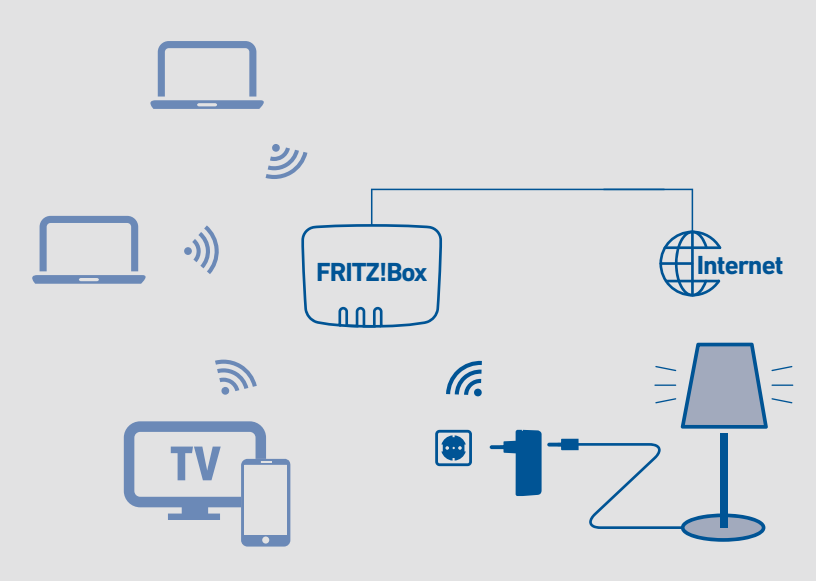
1. Open the user interface, see page 57.
2. Select “Home Network / FRITZ!Box Name”.
3. For instructions, open the online help ?.

Controlling Smart Home Devices

Overview

With Smart Home devices you integrate household appliances and home technology into the home network of your FRITZ!Box. This offers you the possibility of switching automated lamps and regulating the room temperature. All of the Smart Home devices can be configured and controlled in the FRITZ!Box via your computer, tablet or smartphone. With VPN remote access you can even control your Smart Home devices when you're away from home.

Example Configuration



Requirements

- At least one Smart Home device is registered with the FRITZ!Box.

Instructions: Configuring Automatic Switching

1. Open the user interface, see page 57.
2. Select “Home Network / Smart Home / Edit Smart Home Device / Automatic Switching”.
3. For instructions, open the online help ?.

Instructions: Setting Up a Group

1. Open the user interface, see page 57.
2. Select “Home Network / Smart Home”.
3. For instructions, open the online help ?.

User Interface: Wireless Menu

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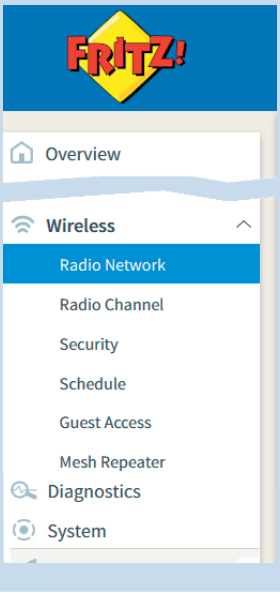
Switching the Wireless Radio Network On and Off 170
Selecting the Radio Channel 171
Configuring Wireless Guest Access 173

Wireless Menu: Settings and Features

Overview

In the “Wireless” menu you can configure and secure a wireless radio network and a separate wireless guest access. In this menu you can also set up a schedule for your wireless radio networks and change the operating mode of the FRITZ!Box so that it can be used as a wireless repeater if needed.



“Wireless” menu

Description of the Submenus

The online help of the user interface includes a detailed description of the submenus.

Switching the Wireless Radio Network On and Off

Overview

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

You can switch the wireless network on and off manually, and set up a schedule for times at which the wireless network is turned on and off automatically.

Instructions: Switching the Wireless Network On and Off Manually

You can switch the wireless network on and off in the following ways:

- with the “WLAN” button
- in the “Home Network / Wireless” menu of a connected FRITZ!Fon cordless telephone
- in the “Convenience Features / Wireless” menu of the MyFRITZ!App
- by keypad code using a connected telephone; see Instructions: Switching Wireless LAN On, page 238 and see Instructions: Switching Wireless LAN Off, page 239

Instructions: Switching the Wireless Network On and Off by Schedule

1. Open the user interface, see page 57.
2. Select “Wireless / Schedule”.
3. For instructions, open the online help ?.

The FRITZ!Box schedule can be transferred to other connected AVM devices, for instance FRITZ!Repeaters and FRITZ!Powerline adapters. By default, the AVM devices adopt the settings for the wireless switching schedule from the FRITZ!Box. You can also configure a separate wireless LAN switching schedule for the connected AVM devices.

Selecting the Radio Channel

Overview

Wireless LAN uses the frequency ranges at 2.4 GHz and 5 GHz for transmission. Generally the FRITZ!Box automatically checks the wireless environment and selects the optimum radio channel settings. In some cases it may be necessary to adjust these radio channel settings. in order to adapt the wireless radio network to the circumstances at your location.

Comparison of the Frequency Ranges

The following table compares the 2.4-GHz and 5-GHz frequency ranges:

	2.4 GHz	5 GHz
Advantages	Greater range – supported by older and newer clients	Less busy, therefore less interference
Disadvantages	Subject to heavy use, therefore often lots of interference	Lower range – only supported by newer clients
Recommendation	Use for applications that require a low to normal throughput rate (for instance, reading and writing email).	Use for applications that rely on a steady, high throughput rate (for instance, streaming).

Wireless Auto Channel

With the “Set radio channel settings automatically” (wireless auto channel) feature, the FRITZ!Box automatically searches for a channel subject to the least interference. This process takes into consideration adjacent wireless networks and other sources of interference (for instance baby monitors, microwave ovens). Should problems with

interference in your wireless LAN persist despite this function, try to identify the source of interference and eliminate it.

Switching Frequency Bands Spontaneously (Band Steering)

To improve data transmission, the FRITZ!Box can automatically switch the frequency band used by dual-band wireless devices. For this the registered wireless devices are controlled so that they log in to the less busy frequency band, and thus take better advantage of the wireless spectrum available on both frequency bands.

Instructions: Adjusting the Radio Channel Settings Manually

1. Open the user interface, see page 57.
2. Select “Wireless / Radio Channel”.
3. For instructions, open the online help ?.

Configuring Wireless Guest Access

Overview

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

Wireless Guest Access as a Private or Public Hotspot

The wireless guest access can be configured as a private or public hotspot.

With a private wireless guest access – a private hotspot – you can provide houseguests with an internet connection of their own. For this you assign the private hotspot its own wireless network key and guest wireless network name (SSID). You can provide the access information to your guests via QR code or print it out for them.

If you run a shop, a practice or other public premises, you can offer your guests the wireless guest access as a public hotspot. You can assign the public hotspot its own guest radio network name (SSID). Because access is not encrypted, no wireless network key is required.

The “Guest” Access Profile

Wireless devices that register with the wireless guest network are automatically assigned the “Guest” access profile.

The following activities are allowed or prohibited in the preconfigured “Guest” access profile:

Allowed	Prohibited
Surfing the web (independent of any configured filter lists: black-list or whitelist)	Accessing the contents of the home network
Sending and receiving email	Configuring settings in the FRITZ!Box user interface

The “Guest” access profile can be edited in the “Internet / Filters / Access Profiles” menu; see page 104.

The filters configured in the “Guest” access profile determine which websites your guests are allowed to visit. The filters can be edited in the “Internet / Filters / Lists”; see page 106.

Settings for the Wireless Guest Access

You can configure the following settings for the wireless guest access as a private or public hotspot:

Setting	Content and Function
FRITZ!Box push service	Notification by email about devices registering with and deregistering from your FRITZ!Box; see page 191.
Restrict use	Guests are restricted to surfing the internet, and sending and receiving email.
Captive portal	With a captive portal you can inform guests about the terms of use you defined and then route them to your website.

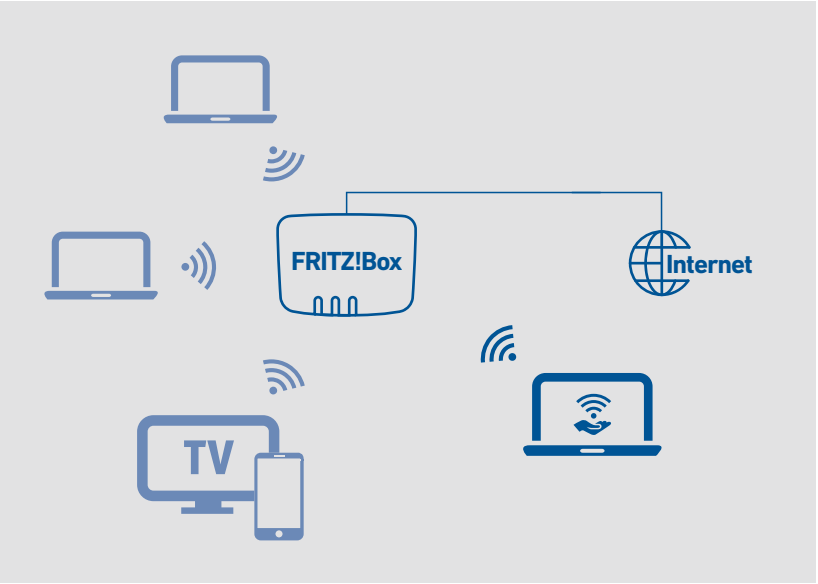
Setting	Content and Function
Visibility in the guest network	Specify whether or not the users' wireless devices can communicate with each other in the network of the wireless guest access.
Switch off automatically	The wireless guest access is disabled automatically after a time range you specify, or whenever the last guest has logged off.
QR Code	The FRITZ!Box automatically generates a QR code for the wireless guest access. Then your guests can log in conveniently by scanning this code.

Switching the Wireless Guest Access On and Off

The wireless guest access can be switched on and off in the following ways:

- by smartphone or tablet
  - MyFRITZ!App (iOS)
  - MyFRITZ!App 2 (Android)
  - FRITZ!App WLAN
- on FRITZ!Fon: “Home Network / Smart Home / Wireless” menu
- in the FRITZ!Box user interface
  - http://myfritz.box: “Convenience Features”
  - http://fritz.box: “Wireless / Guest Access” menu, or schedule in the “Guest” access profile

Example Configuration



Requirements

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

Instructions: Configuring Wireless Guest Access

1. Open the user interface, see page 57.
2. Select “Wireless / Guest Access”.
3. For instructions, open the online help ?.

User Interface: DECT Menu

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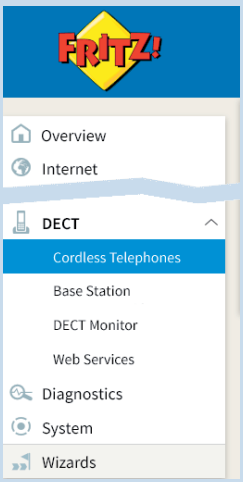
Allowing Non-encrypted Connections 180
Switching DECT On and Off 181

DECT Menu: Settings and Features

Overview

The “DECT” menu contains the settings to configure the DECT base station integrated in the FRITZ!Box.



“DECT” menu

Description of the Submenus

The online help of the user interface includes a detailed description of the submenus.

Enabling DECT Eco

Overview

DECT Eco allows DECT radio transmission to be switched off during standby operation. DECT Eco reduces DECT radiation, but does not save any electricity.

How It Works

A telephone is on standby operation when you are not making any calls, using any other features, or pressing any buttons. When all registered cordless telephones are in standby operation, the DECT radio network of the FRITZ!Box and the telephones is switched off. As soon as a call arrives or you press a key on a cordless telephone, the DECT radio network is switched back on.

Requirements

- In the user interface, the “DECT Eco supported” option must be displayed for each telephone under “DECT / DECT Monitor”.
- Folgende Geräte dürfen nicht an der FRITZ!Box angemeldet sein: FRITZ!DECT-Gerät, FRITZ!Box im DECT-Repeater-Modus

Instructions: Enabling DECT Eco

1. Open the user interface, see page 57.
2. Select the “DECT / Base Station” menu.
3. For instructions, open the online help ?.

Allowing Non-encrypted Connections

Overview

The FRITZ!Box is preconfigured to allow only authenticated and encrypted DECT connections. In order to use DECT repeaters from other manufacturers that do not allow encrypted connections, you can allow non-encrypted connections.

Consequences of Non-encrypted Connections

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

- registration of FRITZ!DECT Repeater or FRITZ!Box in DECT repeater mode
- DECT Eco
- HD telephony
- customized ring tones for FRITZ!Fon
- playback of web radio or podcasts with FRITZ!Fon
- display of background image or photos of callers on FRITZ!Fon
- rendering of audio files from the FRITZ!Box media server with FRITZ!Fon

Requirements

DECT settings can be changed only if the following prerequisite is met:

- At least one DECT cordless telephone is registered with the FRITZ!Box.

Instructions: Allowing Non-encrypted DECT Connections

1. Open the user interface, see page 57.
2. Select the “DECT / Base Station” menu.
3. For instructions, open the online help ?.

Switching DECT On and Off

Overview

DECT is switched on automatically whenever you register a DECT device with the FRITZ!Box and switched off when you deregister all DECT devices. You can also switch off DECT in the user interface. Then the registered DECT devices will lose their connections to the FRITZ!Box, but remain registered with it. When you switch DECT back on, the connections will be restored.

Instructions: Switching DECT On and Off

1. Open the user interface, see page 57.
2. Select the “DECT / Base Station” menu.
3. Enable or disable the “DECT base station enabled” checkbox.
4. Click “Apply”.

User Interface: Diagnostics Menu

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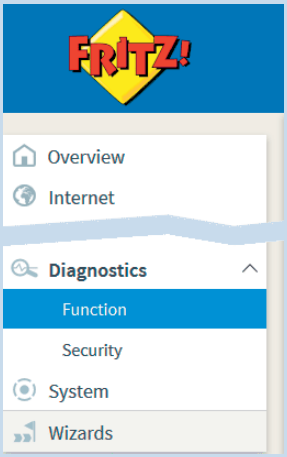
Diagnostics Menu: Settings and Features

Overview

The “Diagnostics” menu presents an overview of the functional status of your FRITZ!Box, your home network, and the connection to the internet. You also get an overview of all security-relevant settings of your FRITZ!Box. At a single glance it shows which ports are opened, which users are logged in and which wireless devices are connected.

In the case of an error, the results of the function and security diagnostics can be saved and sent to the AVM Support team.



“Diagnostics” menu

Description of the Submenus

The online help of the user interface includes a detailed description of the submenus.

Starting the Function Diagnostics

Overview

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

Areas of Diagnostics

The following areas are checked:

Area	Checkpoint / Status
FRITZ!Box 7583	• 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
Wireless LAN	• wireless LAN frequency band enabled/disabled with wireless function • number of wireless LAN 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

Area	Checkpoint / Status
Internet connection	• IPv4 connection active since/not active • IPv6 connection active since/not active • Current IP address
Telephone numbers	how many and which numbers assigned
MyFRITZ!	• MyFRITZ! activation status • 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
Wireless environment	wireless LAN frequency band, with number of wireless radio networks on the same or an adjacent channel

Instructions: Starting Function Diagnostics

1. Open the user interface, see page 57.
2. Select “Diagnostics / Function”.
3. For instructions, open the online help ?.

Using Security Diagnostics

Overview

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

Security Diagnostics Test Points

The following areas are checked:

Area	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!	• MyFRITZ! activation status • 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

Area	Checkpoint / Status
Wireless LAN	• properties and security-relevant settings for access to the wireless network and wireless guest access • names of registered and known wireless devices
Telephony	• 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 telephone settings: connected with the FRITZ!Box directly or via FRITZ!App Fon
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 at which the FRITZ!Box last logged in and the IP address it 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: Using Security Diagnostics

1. Open the user interface, see page 57.

2. Select “Diagnostics / Security”.
3. For instructions, open the online help ?.

User Interface: System Menu

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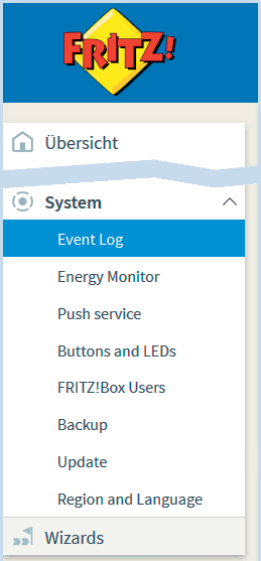
System Menu: Settings and Features

Overview

The “System” menu shows you all system-relevant events and presents an “Energy Monitor” showing information about the power consumption of your FRITZ!Box. Various notification services inform you about the activities of the FRITZ!Box and assist you in saving your passwords and FRITZ!Box settings. In addition to allocating rights in the user administration, the “System” menu entries also allow the settings of the FRITZ!Box to be saved and restored. In the “Update” menu you can also specify how the FRITZ!OS operating system is kept up to date.



“System” menu

Description of the Submenus

The online help of the user interface includes a detailed description of the submenus.

Configuring Push Services

Overview

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

Available Push Services

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

Push Service	Function
FRITZ!Box Info	Sends you regular email messages with data on FRITZ!Box usage and connections
Answering Machine	Forwards messages recorded on the FRITZ!Box answering machines to the specified email address
Calls	Sends you email when calls arrive – either only for missed calls, or for all calls
Smart Home	Sends you the status of a Smart Home device regularly or when important events occur
Wireless Guest Access	Sends a message whenever devices register with or deregister from the wireless guest access
Fax Function	Forwards your faxes by email and also saves them to a specified storage location

Push Service	Function
New FRITZ!OS	Notifies you whenever a new FRITZ!OS version is available for your FRITZ!Box
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
Forgot Password	Sends you an access link to the specified email address if you have forgotten your password
Current IP Address	Sends the IP address assigned by the internet service provider every time the internet connection is established
Change Notice	Sends you an email every time changes are made to a FRITZ!Box setting or when potentially security-relevant events occur.

Instructions: Enabling Push Services

1. Open the user interface, see page 57.
2. Select “Overview / Wizards”.
3. For instructions, open the online help ?.

Instructions: Configuring Push Services

1. Open the user interface, see page 57.
2. Select “System / Push Service”.
3. For instructions, open the online help ?.

Selecting Signaling of the “Info” LED

Overview

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

Example 1

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

Example 2

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

Instructions: Selecting the Signaling of the Info LED

1. Open the user interface, see page 57.
2. Select “System / Buttons and LEDs / "Info" Display.”
3. For instructions, open the online help ?.

Locking Buttons

Overview

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

Instructions: Locking the Buttons on the FRITZ!Box

1. Open the user interface, see page 57.
2. Select “System / Buttons and LEDs / Keylock”.
3. For instructions, open the online help ?.

Configuring FRITZ!Box Users and FRITZ!Box Password

Overview

When you open the user interface of your FRITZ!Box, you will be prompted to log in. This login serves to keep your FRITZ!Box secure and protects access to the user interface. You have two options for logging in to your FRITZ!Box:

- Login with a general FRITZ!Box password that grants general access to all areas of the FRITZ!Box. This login method is the default setting in the FRITZ!Box.
- Login with a personalized FRITZ!Box user account, with which access to the FRITZ!Box can be configured differently for each user.

FRITZ!Box Password

A general FRITZ!Box password is already configured for your FRITZ!Box upon delivery. The preconfigured FRITZ!Box password for your FRITZ!Box is printed on the FRITZ!Box service card “FRITZ!Notes” and on the type label on the rear panel of your FRITZ!Box.

With the FRITZ!Box password you can specify the following:

- Every user who logs in with the general FRITZ!Box password has the right to access all contents and settings on the FRITZ!Box.
- Login using the FRITZ!Box password is possible only within the FRITZ!Box home network.

FRITZ!Box users

In order to control access to your FRITZ!Box for each person individually, you can set up FRITZ!Box users. FRITZ!Box users are individual authorizations to access and use the FRITZ!Box, which are linked with a personalized user account.

A FRITZ!Box user account is set up with a user name and a password. An email address is not required for a FRITZ!Box user account, but is recommended for notifications.

With FRITZ!Box user accounts you have the following options:

- If you create a FRITZ!Box user account for a person, then that person is granted rights for selected areas and functions of the FRITZ!Box.
- Every FRITZ!Box user logs in with their own user name and a unique password.
- Login using a FRITZ!Box account is possible from the home network of the FRITZ!Box and, with the appropriate rights, also via the internet.
- You can set up as many as 18 FRITZ!Box user accounts.

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

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

FRITZ!Box Password or FRITZ!Box Users?

You can log in to the user interface of your FRITZ!Box with a FRITZ!Box password or via a FRITZ!Box user account. Here is an overview of the differences:

	FRITZ!Box Password	FRITZ!Box users
Login	For login you use a preconfigured FRITZ!Box password or specify a FRITZ!Box password yourself.	There are personalized user accounts. Every FRITZ!Box user logs in with their own user name and a unique password.
Scope of access	Every user who logs in with the FRITZ!Box password has the right to access all contents and settings on the FRITZ!Box.	The user account specifies which contents and settings of the FRITZ!Box each FRITZ!Box user is allowed to access.
Kind of access	Login to the user interface is permitted from devices located in the home network of the FRITZ!Box.	Login is possible from the home network of the FRITZ!Box and, with the appropriate rights, also via the internet.

Rules for User Names and Passwords

Comply with the following rules for creating user names and setting passwords:

- For FRITZ!Box users, select a user name that begins with a letter from a to z in upper or lower case and has a maximum of 32 characters; see Characters Allowed for Passwords and User Names, page 198.

- Select a password with at least twelve characters, which includes capitals and lower-case letters as well as numerals and special characters; see Characters Allowed for Passwords and User Names, page 198.
- Configure the “Forgot Password” push service. When you have forgotten a password, the FRITZ!Box sends an access link to the email address you specified. Using this link you can set a new password.

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

Characters Allowed for Passwords and User Names

Characters	Allowed for	Not Allowed for
Letters of the Latin alphabet (a-z) in lower case and upper case	user names, passwords	
Numerals (0-9)	user names, passwords	
Spaces	user names, passwords	
Umlauts (ä, ö, ü)		user names, passwords
The letter ß		user names, passwords

Characters	Allowed for	Not Allowed for
Special characters: - _ , .	user names, passwords	
Special characters: ! " # $ % & ' (*) + / : ; < = > ? @ [\ ] ^ ‘ { | } ~	passwords	user names
Special characters: § ´		user names, passwords

Instructions: Configuring a FRITZ!Box Password

1. Open the user interface, see page 57.
2. Select “System / FRITZ!Box Users / Login to Home Network”.
3. For instructions, open the online help ?.

Instructions: Configuring FRITZ!Box Users

1. Open the user interface, see page 57.
2. Select “System / FRITZ!Box Users / User”.
3. For instructions, open the online help ?.

Saving Settings

Overview

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

- You can restore the saved settings 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. For more information, see Saving FRITZ!NAS Storage, page 216.

Instructions: Saving Settings Automatically

1. Open the user interface, see page 57.
2. Select “System / Push Service / Push Services”.
3. For instructions, open the online help .

Instructions: Saving Settings Manually

1. Open the user interface, see page 57.
2. Select “System / Backup / Save”.
3. For instructions, open the online help .

Loading Settings

Overview

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

- You can restore settings saved in your current FRITZ!Box.
- You can load the saved settings into 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 chose whether to restore all settings, or only certain selected ones.

Instructions: Loading Settings

1. Open the user interface, see page 57.
2. Select “System / Backup / Restore”.
3. For instructions, open the online help ?.

Restarting the FRITZ!Box

Overview

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

Consequences of Restarting

Restarting the FRITZ!Box has the following consequences:

- 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 on the Device

1. Remove the power adapter of the FRITZ!Box from the electric outlet.
2. Wait 5 seconds.
3. Plug the power adapter back in to the outlet.

Restarting the FRITZ!Box takes about 2 minutes.

Instructions: Restarting the FRITZ!Box from the User Interface

1. Open the user interface, see page 57.
2. Select “System / Backup / Restart”.
3. For instructions, open the online help.

Updating FRITZ!OS

Overview

FRITZ!OS is the operating system of the FRITZ!Box. AVM regularly makes new versions of FRITZ!OS available for your FRITZ!Box free of charge. Updates contain further developments and often new features for your FRITZ!Box.

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

Instructions: Updating FRITZ!OS via Wizard

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

Perform the update as follows:

1. Open the user interface, see page 57.
2. On the “Overview” page, select the “Wizards” menu.
3. Start the “Update” wizard.
   The “System / Update / FRITZ!OS version” page is opened.

4. Click the “Find New FRITZ!OS” button.

   The wizard checks whether a FRITZ!OS update is available for your FRITZ!Box.

   If the wizard finds an update, the version number of the new FRITZ!OS is displayed. Click the link under the FRITZ!OS version to view information about further developments and new functions contained in the FRITZ!OS update.
5. To install an update, click the “Start Update” button.

   The FRITZ!OS update starts and the “Info” LED starts flashing.

   When the “Info” LED stops flashing, the FRITZ!OS update is finished.

Instructions: Updating FRITZ!OS Manually

In some cases it is not possible to perform an automatic update. Then you have the option of performing an update manually.

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

Perform a manual update as follows:

1. Enter the following address in the web browser: ftp.avm.de/fritz.box
2. Switch to the folder for your FRITZ!Box model, then to the subfolder “firmware”, and then to the folder with your language of choice. The complete model name of your FRITZ!Box is shown in the user interface on the “Overview” page and is also printed on the sticker on the underside of the housing.
3. Download the latest FRITZ!OS file for your FRITZ!Box with the file extension “.image” to the computer.
4. Open the user interface, see page 57.
5. Enable the advanced view; see page 64.
6. Select “System / Update / FRITZ!OS File”.

7. Click the “Save Settings” button to save the current settings of your FRITZ!Box on your computer and save the export file on your computer. Using this file you can restore the settings of your FRITZ!Box as needed.
8. Click the “Browse...” button and choose the file with the new FRITZ!OS you already downloaded and saved on your computer.
9. Click “Start Update”.

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

Information on the Automatic Update Function

FRITZ!Box searches for updates periodically. A new version of FRITZ!OS can contain improvements, bug fixes and important security updates, as well as significant new functions.

For secure, reliable use of your FRITZ!Box we recommend updating the FRITZ!OS regularly.

With the automatic update function you will never miss a software update for your FRITZ!Box and will be able to use new features right away. In the “System / Update / Automatic Update” menu you can specify whether every new version of FRITZ!OS should be installed automatically, or only critical updates, such as security updates, or whether you would rather just be informed about a new version of FRITZ!OS.

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

Procedure	Description
Notify me about new FRITZ!OS versions	• The FRITZ!Box indicates that a new version of FRITZ!OS is available on the "Overview" page. • You start the update yourself; see page 203.

Procedure	Description
Notify me about new versions of FRITZ!OS and install necessary updates automatically (recommended)	• The FRITZ!Box indicates that a new version of FRITZ!OS is available on the "Overview" page. You start the update yourself; see page 203. • Updates which AVM regards as necessary for continued secure and reliable operation (for instance, security updates) will be installed automatically. • The FRITZ!Box selects a suitable time for the update, generally at night. • During the installation all internet and telephony connections will be briefly interrupted.
Notify me about new versions of FRITZ!OS and install new versions automatically	• The FRITZ!Box indicates that a new version of FRITZ!OS is available on the "Overview" page. • Every new version of FRITZ!OS will be installed automatically. • The FRITZ!Box selects a suitable time for the update, generally at night. • During the installation all internet and telephony connections will be briefly interrupted.

Instructions: Configuring Automatic Updates

1. Open the user interface, see page 57.
2. Select “System / Update / Automatic Update”.
3. For instructions, open the online help ?.

Disabling Automatic Updates

1. Open the user interface, see page 57.

2. Select “Internet / Account Information / AVM Services”.
3. For instructions, open the online help .

User Interface: Wizards Menu

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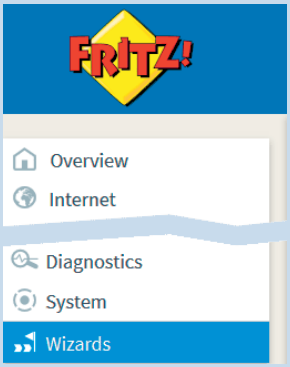
Using Wizards

Overview

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



"Wizards" menu

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

Range of Functions

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

Wizard	Function
Manage Telephony Devices	Connecting and configuring the following devices: • telephones • answering machines • fax machines • ISDN telephone systems (PBXs) • cordless (DECT) telephones

Wizard	Function
Manage Your Telephone Numbers	Adding and editing telephone numbers
Check the Status of the FRITZ!Box	Diagnostics of the functional status of your FRITZ!Box, its internet connection and the home network connection to the
Security	• Diagnostics of FRITZ!Box settings that regulate access to the FRITZ!Box from the internet or in the home network • Warnings about potentially insecure settings
Save and Restore Settings	Saving and restoring the FRITZ!Box settings
Update	Checks whether a new version of FRITZ!OS is available for your FRITZ!Box
Configure Push Service	Configuring push services (automatic email sent with status and usage data)

Instructions: Starting Wizards

1. Open a web browser.
2. Enter http://fritz.box in the address field.
3. Click the “Wizards” menu.
4. Start the wizard of your choice with a mouse click.
5. Follow the instructions the wizard displays on the screen.

FRITZ!NAS

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FRITZ!NAS Features

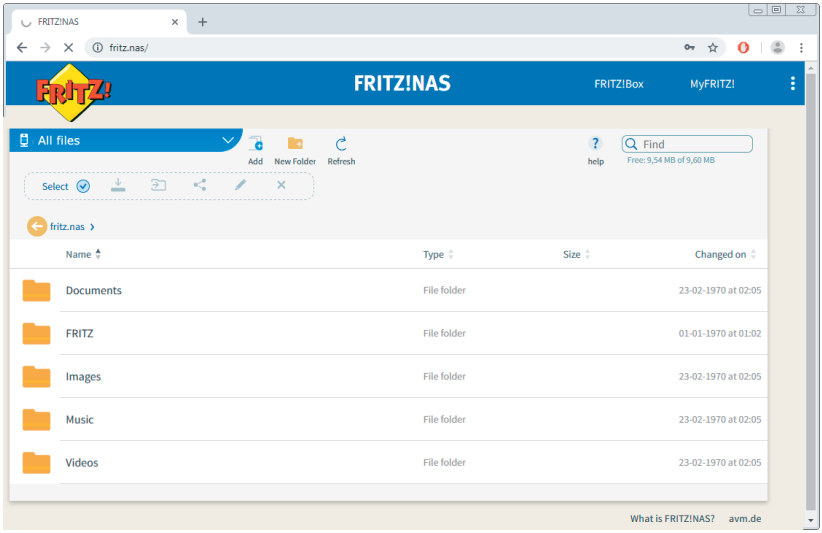
Overview

With FRITZ!NAS you can display the data on the storage media of your FRITZ!Box in a clearly arranged interface. All participants in the FRITZ!Box home network can start FRITZ!NAS in a web browser and use it as a platform to access music, images, videos and documents in the FRITZ!Box memory.

The FRITZ!Box storage is composed of:

- internal memory
- configured online storage
- connected USB storage media

Areas of the FRITZ!NAS User Interface



No.	Area	Function
1	Selection bar	• Enable selection and mark folders and files for editing • Upload and download files • Edit folders and folder contents • Permit access (folders and files released for sharing from the internet)
2	Search mask	Search for file names
3	Path	Path name
4	Display area	Display of all folders and folder contents

Requirements

- Web browser that supports HTML5, for instance Internet Explorer version 9 or higher, Firefox version 17 or higher, or Google Chrome version 23 or higher.

Instructions: Starting FRITZ!NAS in the Home Network

1. Open a web browser.
2. Enter “fritz.nas” in the address bar.
3. If password protection is configured: Log in to your FRITZ!Box.

FRITZ!NAS opens and displays the storage media enabled in the FRITZ!Box.

Instructions: Starting FRITZ!NAS in the Internet

1. Open a web browser.
2. Enter “myfritz.net” in the address bar of the browser.
3. Log in with your email address and MyFRITZ! password.
4. Click “FRITZ!NAS” in the user interface.

FRITZ!NAS opens and displays the storage media enabled in the FRITZ!Box.

Expanding FRITZ!NAS Storage

Overview

The FRITZ!Box storage is composed of:

- internal memory
- online storage
- USB storage media

Online storage can be configured with a provider. USB storage media can be connected to the FRITZ!Box. By combining these storage options, you can deploy the FRITZ!Box as high-performance network-attached storage.

Access Rights

Access to FRITZ!NAS and thus to the storage media of the FRITZ!Box can be protected by defining a password in the user interface. For user-oriented rights management, you can configure different FRITZ!Box users. You can set a password for each FRITZ!Box user and specify which FRITZ!NAS contents they are allowed to access.

Instructions: Configuring Online Storage

1. Open the user interface, see page 57.
2. Select “Home Network / Storage (NAS)”.
3. For instructions, open the online help ?.

Instructions: Configuring USB Storage Media

1. Open the user interface, see page 57.
2. Select “Home Network / USB Devices / Device Overview”.
3. For instructions, open the online help ?.

Displaying FRITZ!NAS in a File Manager

Overview

You can display the network-attached storage of your FRITZ!Box in the file manager of your computer. This section explains how.

Requirements

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

Instructions: Displaying FRITZ!NAS in Windows Explorer

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

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

Instructions: Displaying FRITZ!NAS in OS X Finder

1. Click the Finder icon with the right mouse button to open the context menu of the Finder.
2. Select the “Connect to Server…” option.
3. Enter the server address: smb://fritz.nas

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

Saving FRITZ!NAS Storage

Overview

You can save the data you have stored on the internal FRITZ!NAS storage to a file.

Instructions: Saving Data from Internal Memory

1. Open FRITZ!NAS.
2. Select the data you would like to save.
3. Click in the FRITZ!NAS toolbar the icon for downloading, select a storage location for the data, and save with “OK”.

The selected data are copied to a ZIP file in the download folder you specified. This concludes the saving of your data from the internal memory of the FRITZ!Box.

MyFRITZ!

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What Is MyFRITZ!?

Overview

MyFRITZ! provides several additional functions for your FRITZ!Box, with which you can access various information saved on and features provided by your FRITZ!Box via the internet, from on the go with your mobile device, or from within the home network.

MyFRITZ! Components

MyFRITZ! includes the following components:

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

Using MyFRITZ! in the Internet: MyFRITZ! Account / myfritz.net

With the MyFRITZ! account you can log in to the FRITZ!Box overview page “myfritz.net” website and access your FRITZ!Box from there, for

instance, to retrieve information on calls, to access photo or music files, or to receive reports on the status of your FRITZ!Box devices.

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

FRITZ!Box Web Address

The MyFRITZ! account assigns the FRITZ!Box a web address accessible to the public.

If internet access to the FRITZ!Box is enabled and a FRITZ!Box user has been configured with the option “Access from the internet allowed”, then you can access your FRITZ!Box directly with a web browser, for instance via “myfritz.net”. You can also use the address to establish VPN connections to your FRITZ!Box or server services and network devices in the home network for which you configured port sharing in the FRITZ!Box; see Configuring Port Sharing, page 109.

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

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

Using MyFRITZ! from a Mobile Device: MyFRITZ!App

With the free MyFRITZ!App you can access your FRITZ!Box from anywhere using your mobile device:

- Messages: view the FRITZ!Box call list and listen to messages on the answering machine
- Home network: access the FRITZ!Box user interface and connected home network devices securely

- Smart Home: control smart plugs and radiator controls
- FRITZ!NAS: access connected USB storage media, for instance for photos, music and videos
- Convenience functions: control answering machines and call diversion settings

To use the MyFRITZ!App with iOS, a MyFRITZ! account and a FRITZ!Box user account must be configured; see page 195.

Using MyFRITZ! in the Home Network: myfritz.box

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

- Call list: view calls and listen to messages
- NAS: access photos, music, videos
- Convenience functions: display and switch WiFi, WPS, guest access, answering machines on and off
- Smart Home: switch and control smart plugs and radiator controls

Which functions you can access depends on the rights configured for the FRITZ!Box users logged in. If you logged in with the general FRITZ!Box password, you have access to all areas; see Configuring FRITZ!Box Users and FRITZ!Box Password, page 195.

Creating a MyFRITZ! Account

Overview

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

If you would like to use MyFRITZ! only via the MyFRITZ!App for Android (version 2), then you do not need a MyFRITZ! account.

MyFRITZ! Account and FRITZ!Box

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

Requirements

- The browser on your device is connected with the internet.
- You can access your email on the device used.

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

1. Open the user interface, see page 57.
2. Select “Internet / MyFRITZ! Account”.
3. For instructions, open the online help ?.

Configuring MyFRITZ!App: with Android

Overview

With the MyFRITZ!App (version 2) you can access your FRITZ!Box from anywhere using your Android device.

The MyFRITZ!App 2 from AVM can be downloaded free from the Google Play Store.

Requirements

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

Instructions: Configuring MyFRITZ!App

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

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

Configuring MyFRITZ!App: with iOS

Overview

With the MyFRITZ!App you can access your FRITZ!Box from anywhere using your Apple mobile device.

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

Requirements

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

Instructions: Configuring MyFRITZ!App

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

   The MyFRITZ!App connects with the FRITZ!Box.

Controlling FRITZ!Box with Keypad Codes

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Information on Keypad Codes

Overview

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

How It Works

Keypad codes are combinations of keys (for instance, ❯❯❽❶❶✪❶✪), which you enter on the telephone keypad.

Requirements

- Use a connected analog telephone, ISDN telephone or DECT telephone to enter keypad codes. (Keypad codes do not work with smartphones or IP telephones.)
- For analog telephones, ISDN telephones and DECT telephones with their own base station: The telephone is configured such that special characters (✪ and ❯❯) can be dialed; see the manual of your telephone.

Entering Keypad Codes

A keypad code can contain the following characters: ✪, ❯❯, the numerals ⓿ to ❾. Depending on the type of telephone, here is how to dial keypad codes:

Type of Telephone	Dial Keypad Code
Telephone without call button	• Pick up the handset. • Enter the keypad code. • Hang up.

Type of Telephone	Dial Keypad Code
Telephone with call button (usually green)	• Enter the keypad code. • Press the “Call” (“Connect”) button. • Press the end call key.

Configuration on the Telephone

Instructions: Disabling Automatic Outside Dialing for the FON 1 or FON 2 Port

If you make a lot of internal calls, you can disable automatic outside dialing on the “FON 1” and “FON 2” ports. Then you can enter internal numbers without the prefix ** (for instance, 1 instead of **1). Instead, you must dial the prefix 0 for outside calls (for instance, 0030399760 instead of 030399760).

Telephone without Call Button	Telephone with Call Button
Disable automatic outside dialing: #11*00 (FON 1) #12*00 (FON 2)	
Wait for acknowledgment tone	

Instructions: Enabling Automatic Outside Dialing for the FON 1 or FON 2 Port

Telephone without Call Button	Telephone with Call Button
Enable automatic outside dialing: #11*10* (FON 1) #12*10* (FON 2)	
Wait for acknowledgment tone	

Instructions: Switching On Call Diversion for All Calls

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

Telephone without Call Button	Telephone with Call Button
Configure immediate call diversion to destination call number <DCN>: ✪❷❶✪<DCN>✪# Configure call diversion after 20 seconds to destination call number <DCN>: ✪❻❶✪<DCN>✪# Configure call diversion on busy to the destination call number <DCN>: ✪❻❼✪<DCN>✪#	
Wait for acknowledgment tone	

Instructions: Switching Off Call Diversion for All Calls

Telephone without Call Button	Telephone with Call Button
Switch off immediate call diversion: ✱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 Telephone Number

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

Telephone without Call Button	Telephone with Call Button
Switch on immediate call diversion to destination call number <DCN>: ✪❷❶✪<DCN>✪<TN># Switch on call diversion after 20 seconds to destination call number <DCN>: ✪❻❶✪<DCN>✪<TN># Switch on call diversion on busy to the destination call number <DCN>: ✪❻❼✪<DCN>✪<TN>#	
Wait for acknowledgment tone	

Instructions: Switching Off Call Diversion for One Telephone Number

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

Instructions: Switching On Call Diversion for the FON 1 Port

Telephone without Call Button	Telephone with Call Button
Switch on immediate call diversion for the FON 1 port without ringing to destination call number <DCN>: #❹❶❶✱<DCN>✱ Switch on immediate call diversion for the FON 1 port with ringing to destination call number <DCN>: #❹❺❶✱<DCN>✱ Switch on call diversion for the FON 1 port after 20 seconds to destination call number <DCN>: #❹❷❶✱<DCN>✱ Switch on call diversion for the FON 1 port on busy to the destination call number <DCN>: #❹❸❶✱<DCN>✱ Switch on immediate call diversion for the FON 1 port on busy, otherwise delayed, to the destination call number <DCN>: #❹❹❶✱<DCN>✱	
Wait for acknowledgment tone	

Instructions: Switching Off Call Diversion for the FON 1 Port

Telephone without Call Button	Telephone with Call Button
Switch off call diversion for the FON 1 port: #401**	
Wait for acknowledgment tone	

Instructions: Switching On Call Diversion for the FON 2 Port

Telephone without Call Button	Telephone with Call Button
Switch on immediate call diversion for the FON 2 port without ringing to destination call number <DCN>: #❹❶❷✪<DCN>✪ Switch on immediate call diversion for the FON 2 port with ringing to destination call number <DCN>: #❹❺❷✪<DCN>✪ Switch on call diversion for the FON 2 port after 20 seconds to destination call number <DCN>: #❹❷❷✪<DCN>✪ Switch on call diversion for the FON 2 port on busy to the destination call number <DCN>: #❹❸❷✪<DCN>✪ Switch on immediate call diversion for the FON 2 port on busy, otherwise delayed, to the destination call number <DCN>: #❹❹❷✪<DCN>✪	
Wait for acknowledgment tone	

Instructions: Switching Off Call Diversion for the FON 2 Port

Telephone without Call Button	Telephone with Call Button
Switch off call diversion for the FON 2 port: #4022**	
Wait for acknowledgment tone	

Instructions: Configuring a Telephone as a Baby Monitor

You can configure a telephone on the “FON 1” or “FON 2” port as a baby monitor and use it to listen in on a room. As soon as a certain noise level is reached, the telephone then automatically calls a previously specified telephone number, for instance, your mobile telephone.

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

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

Instructions: Switching Wireless LAN On

The wireless radio network of your FRITZ!Box can be switched on and off using a connected telephone.

Telephone without Call Button	Telephone with Call Button
Switch wireless LAN on: #9641	
Wait for acknowledgment tone	

Instructions: Switching Wireless LAN Off

Telephone without Call Button	Telephone with Call Button
Switch wireless LAN off: #9640	
Wait for acknowledgment tone	

Operating on the Telephone

Instructions: Operating the Answering Machine with the Telephone

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

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

Telephone without Call Button	Telephone with Call Button
Establish a connection to the answering machine: ✪✪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
❶ Play back messages	❸ Return call ❺ Delete message ❼ To previous message ❾ To next message	
❷ Delete all messages		
❸ Answering machine on/off		
❹ Record a greeting	❶ Greeting message ❷ Greeting for announcement mode ❸ Closing message	❶ Listen to all greetings, select greeting with ❷ ❺ Delete greeting/announcement ❽ Record greeting, end with ❶
❺ Enable recording/announcement mode (no messages recorded in announcement mode)		

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

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

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

Telephone without Call Button	Telephone with Call Button
Press the following keys: ✪09	

Instructions: Making Internal Calls

You can conduct free internal calls between connected telephones.

Telephone without Call Button	Telephone with Call Button
Enter the internal telephone number (see the telephone book in the user interface)	

Instructions: Starting a Broadcast Call

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

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

Instructions: Transferring Calls

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

<table>
<tr><th>Telephone without Call Button</th><th>Telephone with Call Button</th></tr>
<tr><td colspan="2">During the call with the party 1, press the hold button:
R
The call is on hold.</td></tr>
<tr><td colspan="2">Enter the telephone number of party 2. This can be an external telephone number or an internal number (see the telephone book in the user interface).</td></tr>
<tr><td colspan="2">When party 2 accepts the call, connect party 1 and party 2 with each other:</td></tr>
<tr><td> </td><td>On cordless telephones:
*4
Others:
 </td></tr>
<tr><td colspan="2">If party 2 cannot be reached, go back to party 1:
R1</td></tr>
</table>

Instructions: Picking Up from Call Waiting

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

Telephone without Call Button	Telephone with Call Button
During a call: Pick up from call waiting: ®❷ Reject waiting call: ®⓿	
If you pick up the waiting call, you can: Switch between call 1 and call 2 (alternate): ®❷ End the active call and continue the other call: Hang up, wait until your telephone rings and pick up	

Instructions: Suppressing a Telephone Number Once

For a call on the “FON 1” or “FON 2” port you can suppress identification of your telephone number once (for one call). Then your telephone number will not be transmitted to the other caller during this call.

Telephone without Call Button	Telephone with Call Button
Press the following keys: ✱31#	
Enter the external telephone 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.

Telephone without Call Button	Telephone with Call Button
During the call with the party 1, press the hold button: R Call 1 is on hold.	
To establish the call with party 2, enter an internal or external telephone number.	
When party 2 accepts the call, establish the three-party conference: R3	
If party 2 cannot be reached, go back to party 1: R	
During the three-party conference call you can: Interrupt the conference (you speak with party 1, call 2 is on hold): R2 Switch back and forth between parties 1 and 2 (alternate): R2 Restore an interrupted conference: R3 End call 2 and continue with call 1: R1 End the active call and continue the other call: Hang up, wait until your telephone rings and pick up	

Instructions: Holding/Consultation/Alternating

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

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

Instructions: Using Keypad Shortcuts

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

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

Instructions: Enabling an Alarm

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

Telephone without Call Button	Telephone with Call Button
Switch on the alarm: #8810**	
Wait for acknowledgment tone	

Instructions: Disabling an Alarm

Telephone without Call Button	Telephone with Call Button
Switch alarm off: #8801#	
Wait for acknowledgment tone	

Restoring Factory Settings with the Telephone

Overview

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

Consequences of Resetting

- All of the settings you made in the FRITZ!Box will be 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 network key and the preconfigured name of the wireless radio network (SSID) are reactivated.
- The preconfigured IP configuration is restored.

Instructions: Loading Factory Settings

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

Malfunctions

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Troubleshooting Procedures

Overview

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

Error Scenario	Help
• LEDs not on • No access to the user interface • Wireless LAN connection cannot be established or is interrupted	Troubleshooting chart; see page 256
Problem with: • connecting • configuration • telephony • internet • wireless LAN • etc.	Knowledge Base; see page 261
Troubleshooting chart and Knowledge Base do not offer a solution.	Support, see page 262

Troubleshooting Chart

Overview

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

Troubleshooting Chart

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

Error Scenario	Cause	Solution
User interface does not open	Path name incorrect	Open the user interface by entering its complete address (http://fritz.box instead of fritz.box).
	FRITZ!Box has crashed	Remove the FRITZ!Box from the power mains and restart the FRITZ!Box again after about five seconds.
	Cache is full	Empty the cache of your web browser. 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.

Error Scenario	Cause	Solution
User interface does not open	Forgot FRITZ!Box password	Restore factory settings to the FRITZ!Box (see page).
	Combination of various settings in the “Internet” and “Home Network” menus.	Attempt to open the user interface with the emergency IP address; see page 259. If this does not work, restore factory settings to the FRITZ!Box (see page).
Wireless LAN connection interrupted	Wireless radio connection between FRITZ!Box and wireless device interrupted	Change the positions of the FRITZ!Box and the wireless devices: • 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.
	Radio channel with heavy interference	Configure automatic selection of the radio channel in the FRITZ!Box user interface. Then the FRITZ!Box will automatically select a radio channel with as little interference as possible (“Wireless / Radio Channel”).

Opening the User Interface with the Emergency IP Address

Overview

The FRITZ!Box has an emergency IP address at which it can always be reached. The emergency IP address can be useful if you can no longer access the FRITZ!Box user interface, for instance due to erroneous configurations.

Information on the Emergency IP Address

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

Requirements

- The computer from which you want to open the user interface with the emergency IP address must be connected by network cable to a LAN port of the FRITZ!Box.
- This computer is not connected with the FRITZ!Box via LAN guest access.

Instructions: Opening the User Interface with the Emergency IP Address

1. Clear all other connections between your FRITZ!Box and other network devices.
2. If your computer is connected with the FRITZ!Box over wireless LAN, clear the wireless connection.
3. Connect your computer to the “LAN 2” port of the FRITZ!Box using a LAN cable.
4. Restart your computer.
5. Enter the emergency IP address in the web browser on the computer: 169.254.1.1

6. If the user interface is protected with a password: Enter your password.
7. If the FRITZ!Box user interface is not displayed, you have to assign the IP address 169.254.1.2 to the network adapter connected with the FRITZ!Box. Instructions from the AVM Knowledge Base can be viewed by searching in Google for Configuring a network adapter to access the user interface with emergency IP address.

Knowledge Base

Overview

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

If the problem cannot be resolved using the Knowledge Base, then contact the Support team; see page 262.

AVM Knowledge Base

The AVM Knowledge Base is available online at:

en.avm.de/service

Support

Overview

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

Preparation

Keep the following device information handy:

- Model
- Serial number
- FRITZ!OS Version
- Country
- Internet Service Provider
- Information on the operating system, network (LAN or wireless LAN), any error messages displayed

Instructions: Support by email

1. Start a web browser on your computer, tablet or smartphone.
2. Enter the following address: https://en.avm.de/service.
3. Select from the “Service” area the FRITZ!Box model for which you need support.
4. Enter a keyword in the search field of the Knowledge Base or select an FAQ (frequently asked question).
5. If you need more help, click “Support request”.
6. Fill out the form and click “Submit support request”.

   Our Support team will respond by email within one working day.

Instructions: Support by Fax

Send a fax to the Support team. The Support team can be reached at the following fax number:

Country	Telephone Number
From Germany	030 39 00 43 90
From Austria	0043 1 267 56 02
From Switzerland	0041 44 242 86 04

Decommissioning and Disposal

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Decommissioning

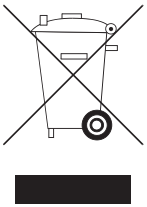
Restoring Factory Settings

Before you decommission your FRITZ!Box and perhaps dispose of it, you should restore the factory settings to the FRITZ!Box. This ensures that all of your personal settings and data are deleted. Read the instructions on how to do this at see %getreference, page %getreference.

Disposal

Disposal of Used Devices

In accordance with European regulations, the FRITZ!Box, as well as all devices and electronic components contained in the package, may not be disposed with household waste.



Comply with the symbol for the separate collection of electric and electronic devices on the type label of your FRITZ!Box (rear panel).

After use, please dispose of the FRITZ!Box and all electronic components and devices included with delivery at a collection point in your local community for the disposal of electric and electronic appliances.

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Technical Specifications

Device Properties

Property	Label
Dimensions (W x H x D)	circa 245 x 55 x 175 mm
Supply voltage	230 V / 50 Hz

Ambient Conditions

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

Active Power

Property	Label
Maximum active power	30 W
Intermediate active power, determined with the following load: • DSL Connection enabled • wireless LAN on; no devices registered via wireless LAN • DECT on; one telephone registered via DECT; no active calls • one network device connected to a LAN port; no data transfer; other LAN ports not in use	8 W – 11 W

Ports and Interfaces

Interface	Interface
WAN	WAN port via an RJ45 socket for connecting to a modem or a router
DSL	• VDSL modem for use with VDSL and ITU G.993.2/5 (also IP-based, also vectoring and supervectoring) • modem for use with G.fast compliant with ITU G.9701
FON	2 a/b ports with RJ11 and TAE sockets for connecting two analog terminal devices
FON S_0	1 $ISDN_0$ NT port that supports: • ISDN terminal equipment • CIP service language • telephony • Audio 3.1 • Fax G2/G3 • 4 B channels (hunt group)
DECT	DECT base station: • up to 6 handsets • up to 10 FRITZ!DECT 200/210 outlet switches • up to 12 FRITZ!DECT 300/301/Comet DECT radiator controls
LAN	4 LAN ports via RJ45 sockets (standard Ethernet, 10/100/1000 Base-T)
USB	2 USB host controllers (USB version 3.0)

Interface	Interface
Wireless LAN	Wireless access point with support for wireless LAN radio networks (wireless standard – data rate) • IEEE 802.11a – 54 Mbit/s • IEEE 802.11b – 11 Mbit/s • IEEE 802.11g – 54 Mbit/s • IEEE 802.11n – 800 Mbit/s (including 256QAM) • IEEE 802.11ac – 1733 Mbit/s

Wireless LAN Radio Frequencies

Frequency	Frequency Ranges	Maximum Transmitter Power
2.4 GHz	2400 MHz – 2483 MHz	100 mW
5 GHz	5150 MHz – 5350 MHz	200 mW
	5470 MHz – 5725 MHz	1000 mW

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

DECT Radio Frequencies

Frequency	Frequency Range and Transmitter Power
DECT	• Frequency range: 1880 MHz – 1900 MHz • 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 large safety margin in order to ensure the safety of all persons, regardless of their age and health.
- For devices mounted in a fixed position that have their own power connection, like the FRITZ!Box, compliance with the minimum distance of 20 cm defined in the ICNIRP guideline has been certified. The measurements were conducted in accordance with the European EN 50385 standard.

Audio Tones

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

Legal

Manufacturer's Warranty

We offer a manufacturer's warranty of 5 years on the hardware of this original product. The warranty period begins with the purchase date from the first end user. Compliance with the warranty period can be proven by submission of the original invoice or comparable documents. This warranty does not restrict your warranty rights based on the contract of sale or other statutory rights.

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Declaration of CE Conformity

AVM, declares herewith that the device is compliant with the basic requirements and the relevant rules in directives 2014/53/EU, 2009/125/EC and 2011/65/EU.

The long version of the declaration of CE conformity is available at en.avm.de/ce.

Information on Cleaning

Rules

Keep the following rules in mind for cleaning your FRITZ!Box:

- 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.

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