



# FRITZ!Box 7430

Configuration  
and Operation



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# Table of Contents

- Safety Instructions ..... 8
- Conventions in the Manual ..... 10
- 1 The FRITZ!Box 7430 ..... 11
- 2 Ports, Interfaces, Buttons and LEDs ..... 12
  - 2.1 Ports and Interfaces..... 12
  - 2.2 Buttons..... 13
  - 2.3 LEDs ..... 15
- 3 Before You Connect the FRITZ!Box ..... 17
  - 3.1 Contents of the FRITZ!Box Package..... 17
  - 3.2 Requirements for Operation ..... 17
  - 3.3 Handling the FRITZ!Box ..... 18
- 4 Connecting the FRITZ!Box..... 19
  - 4.1 Connecting to Electrical Power ..... 19
  - 4.2 Connecting to the Internet..... 19
- 5 Connecting a Computer with a Network Cable ..... 22
  - 5.1 Connecting to the Computer ..... 22
  - 5.2 Connecting a Network Hub or Switch ..... 23
- 6 Connecting Devices with the FRITZ!Box over Wireless LAN ..... 24
  - 6.1 Establishing a Wireless LAN Connection Using WPS ..... 24
  - 6.2 Entering the Network Key on the Wireless Device ..... 26
  - 6.3 Connecting to Mobile Devices Wirelessly Using the QR Code..... 27



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<b>7</b>	<b>The FRITZ!Box User Interface</b>	<b>28</b>
7.1	Opening the User Interface	28
7.2	Overview: FRITZ!Box at a Glance	28
7.3	Standard View and Advanced View	30
7.4	Assigning FRITZ!Box a Name	31
7.5	Tips for Passwords	31
<b>8</b>	<b>Password Protection: Using FRITZ!Box Safely</b>	<b>33</b>
8.1	FRITZ!Box Password and FRITZ!Box Users	33
8.2	Configuring a FRITZ!Box Password	34
8.3	Using FRITZ!Box Users	35
8.4	Forgotten Password: What To Do	42
8.5	“No login” Mode	43
<b>9</b>	<b>Configuring an Internet Connection in the FRITZ!Box</b>	<b>44</b>
9.1	Internet Connection for DSL	44
9.2	Internet Connection for Cable	45
9.3	Configuring the Internet Connection for a Mobile Network	45
9.4	Internet Connection over LAN 1: FRITZ!Box as a Router	47
<b>10</b>	<b>Connecting Telephones and Other Terminal Devices</b>	<b>49</b>
10.1	Registering FRITZ!Fon and Other Cordless (DECT) Telephones	49
10.2	Registering an iPhone or Android Smartphone	49
10.3	Connecting an IP Telephone	51
10.4	Connecting a Door Intercom System	51
<b>11</b>	<b>Configuring the FRITZ!Box for Telephone Calls</b>	<b>52</b>
11.1	Configuring Your Telephone Numbers	52
11.2	Configuring Telephones and Other Terminal Devices in the FRITZ!Box	53

<b>12</b>	<b>FRITZ!Box as an Internet Router</b>	<b>54</b>
12.1	Parental Controls: Access Profiles for Internet Use	54
12.2	Port Forwarding: Making Computers Accessible from the Internet.	63
12.3	Dynamic DNS: Name Instead of IP Address	65
12.4	Access from the Internet via HTTPS, FTP and FTPS.	66
12.5	Prioritization: Right of Way for Internet Access	67
12.6	VPN: Remote Access to the Home Network	70
12.7	Freely Selectable DNS Servers	72
12.8	DNSSEC: Security for DNS Queries	72
12.9	IPv6: The New Internet Protocol	73
12.10	Mobile Network: Replacing Faulty DSL	75
12.11	LISP: FRITZ!Box as a LISP Router.	76
<b>13</b>	<b>FRITZ!Box as a Wireless Access Point</b>	<b>80</b>
13.1	Switching the Wireless Radio Network On and Off by Schedule.	80
13.2	Extending a Wireless LAN Network.	81
<b>14</b>	<b>FRITZ!Box as a Telephone System</b>	<b>83</b>
14.1	Telephone Book	83
14.2	Call List	85
14.3	Answering Machine	87
14.4	Fax Function	90
14.5	Call Diversion	91
14.6	Dialing Rules for Outgoing Calls	92
14.7	Dial Around Service Using Dialing Rules	93
14.8	Blocking Telephone Numbers and Callers	95
14.9	Do Not Disturb	96
14.10	Alarm	96
14.11	Baby Monitor	97
14.12	Making Telephone Calls with Convenience Functions.	99
<b>15</b>	<b>Configuring FRITZ!Box on the Telephone</b>	<b>103</b>
15.1	Alarm	103
15.2	Do Not Disturb	104
15.3	Call Diversion	104
15.4	Switching the Wireless Network On and Off.	107
15.5	Loading Factory Settings	107

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<b>16</b>	<b>FRITZ!Box as a DECT Base Station</b>	<b>108</b>
16.1	Paging Cordless Telephones	108
16.2	Registering a Cordless Telephone	108
16.3	Deregistering a Cordless Telephone	108
16.4	Enabling DECT Eco	109
<b>17</b>	<b>FRITZ!Box Connects Network Devices</b>	<b>110</b>
17.1	Network Settings in the FRITZ!Box	110
17.2	Obtaining an IP Address Automatically	117
<b>18</b>	<b>Connecting USB Devices to the FRITZ!Box</b>	<b>119</b>
18.1	Power Supply for USB Devices	119
18.2	USB Devices on the FRITZ!Box	119
18.3	Using USB Devices Safely	120
18.4	Configuring Access Rights	121
18.5	Accessing USB Memory	121
18.6	Enabling Energy-saving Mode for USB Hard Drives	122
18.7	Sharing a USB Printer	123
<b>19</b>	<b>Managing Memory with FRITZ!NAS</b>	<b>129</b>
19.1	Requirements for FRITZ!NAS	129
19.2	Starting FRITZ!NAS	129
19.3	FRITZ!NAS Password Protection	129
<b>20</b>	<b>Extending the Scope of Functions with Smart Home</b>	<b>130</b>
<b>21</b>	<b>Configuring Internet Access for Guests</b>	<b>131</b>
21.1	Requirements	131
21.2	Wireless Guest Access: Private Hotspot	131
21.3	Configuring Guest Access on the LAN 4 Port	133
<b>22</b>	<b>MyFRITZ!: Accessing the FRITZ!Box from Anywhere</b>	<b>134</b>
22.1	Configuring MyFRITZ!	135
22.2	Using MyFRITZ!	136
22.3	Security with MyFRITZ!	139

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<b>23</b>	<b>Push Services: Using Notification Services.....</b>	<b>140</b>
23.1	Available Push Services .....	140
23.2	Enabling Push Services .....	141
23.3	Configuring Push Services.....	141
<b>24</b>	<b>Diagnostics: Checking Function and Security.....</b>	<b>142</b>
24.1	Checking FRITZ!Box Functions.....	142
24.2	Checking the Security of the FRITZ!Box .....	142
<b>25</b>	<b>Saving and Restoring Settings.....</b>	<b>144</b>
25.1	Saving Settings .....	144
25.2	Restoring Settings .....	145
25.3	Restarting the FRITZ!Box .....	146
<b>26</b>	<b>Update: Updating FRITZ!OS .....</b>	<b>147</b>
26.1	Updating FRITZ!Box Automatically .....	147
26.2	Performing an Update with the Wizard.....	148
26.3	Updating the Firmware Manually .....	149
<b>27</b>	<b>Taking FRITZ!Box Out of Operation.....</b>	<b>152</b>
27.1	Deleting User Settings.....	152
27.2	Uninstalling Supplementary Software .....	153
<b>28</b>	<b>Help in Case of Errors .....</b>	<b>155</b>
28.1	DSL Connection Not Established .....	155
28.2	The User Interface Does Not Open .....	155
28.3	Cannot Establish a Wireless LAN Connection .....	159
28.4	Wireless LAN Connection Interrupted.....	160
<b>29</b>	<b>Technical Specifications.....</b>	<b>162</b>
29.1	Ports and Interfaces.....	162
29.2	Router Functions .....	162
29.3	User Interface and Display .....	163
29.4	Tones .....	163
29.5	Device Properties.....	163
29.6	Cable.....	164

---

<b>30</b>	<b>Customer Service</b> .....	<b>166</b>
30.1	FRITZ!Box Help .....	166
30.2	Information in the Internet .....	166
30.3	Feedback on FRITZ!Box .....	167
30.4	Assistance from the Support Team .....	168
	<b>Legal Notice</b> .....	<b>169</b>
	Legal Notice .....	169
	Manufacturer's Warranty .....	170
	Declaration of CE Conformity .....	170
	Disposal Information .....	170
	<b>Drilling Template</b> .....	<b>171</b>
	<b>Index</b> .....	<b>173</b>

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## Safety Instructions

Before connecting the FRITZ!Box 7430, observe the following security instructions in order to protect yourself and the FRITZ!Box from harm.

- The FRITZ!Box has no on/off switch. Therefore it must always be possible to disconnect the FRITZ!Box from the power supply.
  - Insert the power supply unit of the FRITZ!Box into an electrical outlet that is easy to reach.
- Overloaded outlets, extension cords and power strips can lead to 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.
- Damage to electric wiring or gas or water pipes during drilling can present a significant danger.
  - Before mounting the FRITZ!Box on the wall, make sure that there are **no** electrical 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.
- 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 a carpet or on upholstered furniture.
  - Do not cover the FRITZ!Box.



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- The base of the FRITZ!Box can heat up during normal operation. This heat can cause damage to heat-sensitive surfaces.
    - Do not place the FRITZ!Box on heat-sensitive surfaces.
  - During electrical storms, lightning and electrical surges present a danger to connected electrical devices.
    - Do **not** install the FRITZ!Box during an electrical storm.
    - During a storm, disconnect the FRITZ!Box from the power supply and from the DSL or VDSL line.
  - Moisture and liquids 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.
  - The FRITZ!Box 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.
  - Dust, moisture and vapors as well as caustic cleaners or solvents can damage the FRITZ!Box.
    - Protect the FRITZ!Box from dust, moisture and fumes.
    - Remove FRITZ!Box from the mains before cleaning.
    - Clean the FRITZ!Box with a slightly moist, lint-free cloth.

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## Conventions in the Manual

This manual uses the following symbols and emphases:



This symbol marks useful hints and tips.



This symbol indicates important instructions that must be observed to avoid malfunctions.

- Quotation marks designate elements and features in the user interface and paths.

**Example**

Select “System/Push Service” and click “Sender”.

- Pointed brackets mark wild cards.

**Example**

To edit the device called <Name>, click the “Edit” button.

- Bold type in the text emphasizes important words.

**Example**

Do **not** leave the page without saving.

- Blue font in the text designates links and references within this manual and addresses to be entered in the browser.

**Example**

See also the information on [page 10](#).

## 1 The FRITZ!Box 7430

Welcome! We are pleased you decided on a FRITZ!Box. The FRITZ!Box 7430 is the hub of your home network, connecting your computers and network devices with the Internet. You can operate the FRITZ!Box as an Internet router on a DSL or VDSL line.

The FRITZ!Box is equipped with ports to connect computers, USB devices and a telephone, an answering machine or a fax machine. Additionally, the FRITZ!Box supports the radio technologies wireless LAN and DECT. You can use the FRITZ!Box as a wireless LAN access point for wireless devices like notebooks, tablets or smartphones and as a DECT base station for your cordless telephones.

A connected telephone uses the FRITZ!Box as a PBX.

The FRITZ!Box integrates connected computers and network devices into your private home network. The devices can exchange data with each other and enjoy shared access to USB hard drives, USB printers and other USB devices. The FRITZ!Box transmits music, video and image files to suitable playback devices in the home network.

You can expand the scope of functions of your FRITZ!Box with AVM smart home devices for home automation.

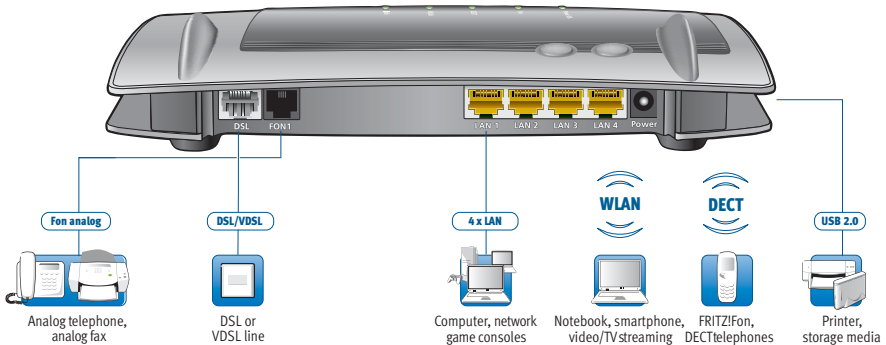
Settings for the FRITZ!Box and for your private network are configured in an easy-to-use user interface. The user interface can be opened in any web browser. Wizards guide you step by step through the setup of the most important FRITZ!Box functions, and comprehensive Help is available on all functions.

This manual assists you in connecting, configuring and operating your FRITZ!Box. Its purpose is not only to introduce to you the many functions of the FRITZ!Box, but also to familiarize you with some of the technical context.


## 2 Ports, Interfaces, Buttons and LEDs

This chapter describes the ports, interfaces, buttons and LEDs of the FRITZ!Box.

### 2.1 Ports and Interfaces



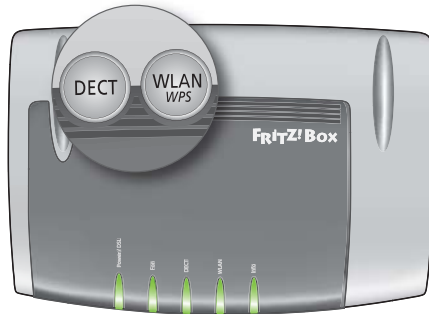
Possibilities for connecting the FRITZ!Box

- **DSL/TEL**  
Socket for connecting to ADSL2+ and VDSL
- **FON 1**  
one RJ11 socket for connecting an analog telephone or another analog terminal device
- **LAN 1—LAN 4**  
4 Ethernet ports (10/100 Base-T) for connecting computers and other network devices like game consoles and network hubs
- **USB**   
USB 2.0 port for connecting USB devices like printers or storage media
- **Wireless access point**  
Integrated wireless access point for connecting to wireless LAN devices that use the radio standard IEEE 802.11b, IEEE 802.11g or IEEE 802.11n in the 2.4-GHz frequency band

- **DECT base station**  
Integrated DECT base station for connecting up to 6 cordless telephones that use the DECT standard

## 2.2 Buttons

The FRITZ!Box has two buttons on the top of the housing.



FRITZ!Box buttons

### Button Functions

#### “WLAN” Button

- Switches wireless LAN on and off
- Establishes a wireless LAN connection using WPS, see [Establishing a Wireless LAN Connection Using WPS](#) from [page 24](#)

#### “DECT” Button

- Registers cordless telephones, see [page 49](#)
- Pages cordless telephones, see [page 108](#)

## Locking the Buttons on the FRITZ!Box

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.

### Example

With the “WLAN” button the wireless network of the FRITZ!Box can be switched off at the touch of a button. If this happens by accident, in some cases it may take some time before the cause is found and the wireless LAN radio network can be restored to all FRITZ!Box users in the home network.

The button lock is configured in the FRITZ!Box user interface, under “System / Buttons and LEDs” on the “Keylock” tab.

## 2.3 LEDs

The FRITZ!Box 7430 has five LEDs, which flash or light up to display various connection statuses and events.

For the “Info” LED you can assign any event desired in addition to the preset events. For more information, read [Assigning Any Event to the “Info” LED on page 16](#).

### Meaning of the LEDs

LED	Condition	Meaning
Power / DSL	on	Device has electrical power and the DSL line is ready for operation
	flashing	Device has electrical power and the connection to DSL is being established or has been interrupted
Fon	on	Telephone connection to the Internet is active
	flashing	Messages in your voice mail or e-mail inbox This function must be supported by your telephony provider
DECT	on	DECT function is enabled
	flashing	Registration procedure for a DECT device in progress
WLAN	on	Wireless LAN is enabled
	flashing	<ul style="list-style-type: none"> <li>• Switching wireless LAN function on or off</li> <li>• Applying changes to the wireless LAN settings</li> <li>• Performing WPS</li> <li>• WPS procedure aborted: More than two wireless LAN devices are performing WPS at the same time. Repeat the WPS procedure.</li> </ul>

LED	Condition	Meaning
Info	on	<ul style="list-style-type: none"> <li>Stick &amp; Surf procedure with FRITZ!WLAN USB Stick from AVM concluded</li> <li>The LED signals an event specified in the user interface under “System / Buttons and LEDs / “Info” Display”</li> </ul>
	flashing	<ul style="list-style-type: none"> <li>Updating FRITZ!OS</li> <li>Stick &amp; Surf procedure with FRITZ!WLAN USB Stick from AVM in progress</li> <li>Signals an event specified in the user interface under “System / Buttons and LEDs / “Info” Display”</li> </ul>
	flashing red	<p>Error:</p> <ul style="list-style-type: none"> <li>Open the FRITZ!Box user interface; see <a href="#">page 28</a></li> <li>Follow the instructions under “Overview” in the user interface</li> </ul>

### Assigning Any Event to the “Info” LED

The “Info” LED on the upper panel of the FRITZ!Box signals various events. Some events for which the “Info” LED flashes or lights up are preset in the FRITZ!Box. You also have the option of assigning any other event to the “Info” LED.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Under “System/Buttons and LEDs”, click the ““Info” Display” tab.
3. In the “Freely Selectable Options” area, select from the ““Info” LED” list the additional event which is to be assigned to the LED.
4. Then click the “Apply” button.

The “Info” LED now flashes not only for the preset events, but also for the event you selected.



## 3 Before You Connect the FRITZ!Box

- Read the security instructions on [page 8](#).
- Check the contents of your FRITZ!Box package. See [page 17](#) to find out what is included in the package.
- Make sure that the requirements for operating the FRITZ!Box have been met; see [page 17](#).
- Read the handling instructions for your FRITZ!Box on [page 18](#).
- Note the tips for passwords on [page 31](#).

### 3.1 Contents of the FRITZ!Box Package

- FRITZ!Box 7430
- one power supply unit
- one network cable
- one DSL cable
- one quick guide

### 3.2 Requirements for Operation

In order to operate the FRITZ!Box, you must have the following:

- an up-to-date web browser  
Some of the FRITZ!Box functions can be used only with a web browser that supports HTML5, for instance Firefox version 17 or higher, Internet Explorer version 9 or higher, or Google Chrome version 23 or higher.
- a connection to the Internet
  - DSL line with or without splitter: ADSL/ADSL2/ADSL2+ (also IP-based, Annex J), or alternatively ITU G.992.1, ITU G.992.3 or ITU G.992.5 (Annex B or J)
  - or VDSL2 (also IP-based) or ITU G.993.2
  - or an Internet cable access with cable modem

- or a USB modem for mobile Internet access (UMTS/HSPA)
  - or another Internet connection
- for the wireless LAN connection to tablets, smartphones and computers:

Tablets, smartphones or computers that support wireless LAN compliant with IEEE 802.11n, IEEE 802.11g or IEEE 802.11b. Computers that do not have wireless LAN integrated can be equipped with wireless LAN support by installing a wireless LAN device, like a FRITZ!WLAN USB Stick, for instance.
- for connecting computers using network cables:

computer with a network port (network adapter standard Ethernet 10/100 Base-T)

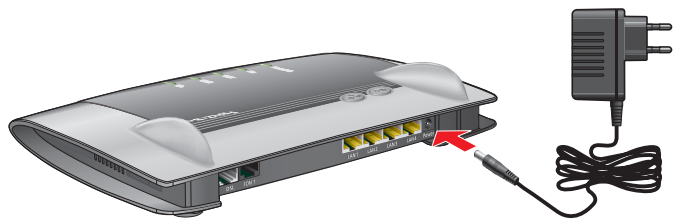
### 3.3 Handling the FRITZ!Box

- Read the [Safety Instructions](#) from [page 8](#).
- You can place the FRITZ!Box on a horizontal surface or mount it on a wall. For a drilling template to mount the FRITZ!Box on a wall, see [page 171](#).
- Place or hang the FRITZ!Box in a dry location that is free of dust and protected from direct sunlight.
- For ideal operating conditions, mount the FRITZ!Box on a wall with the cables connected on the bottom.
- When connecting the FRITZ!Box to your computer using a network cable, keep in mind that the cable can be no longer than 100 m.
- If you would like to establish wireless connections between the FRITZ!Box and the computer, position the FRITZ!Box at a central location.
- Make sure to keep sufficient distance from potential sources of interference like microwave devices or electric devices with large metal housings.

## 4 Connecting the FRITZ!Box

- Before you connect the FRITZ!Box, read the instructions on [Safety Instructions](#) from [page 8](#).
- Connect the FRITZ!Box to the power supply.
- Connect the FRITZ!Box to your Internet connection.

### 4.1 Connecting to Electrical Power



Connecting to the power supply

1. Pick up the power supply unit included in the FRITZ!Box package.  
Use only this power supply unit for connecting to electrical power.
2. Connect the power supply unit to the socket on the FRITZ!Box labeled “Power”.
3. Plug the other end into an AC power outlet.

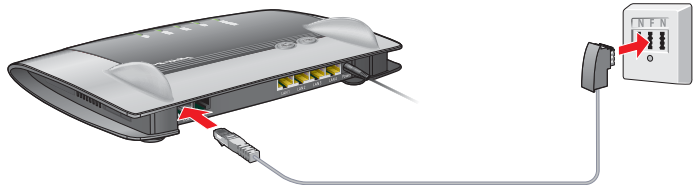
The “Power / DSL” LED begins flashing after a few seconds to indicate that the FRITZ!Box is ready for operation.

### 4.2 Connecting to the Internet

The FRITZ!Box can be connected using various types of Internet connections:

- DSL/VDSL line
- Internet cable access using a cable modem
- Internet via mobile network
- Internet connection of another router

## Connecting to the DSL Line



Connecting to a telephone socket

1. Insert the DSL cable (gray) into the “DSL/TEL” socket on the FRITZ!Box.
2. Insert the free end of the cable into the socket on the DSL splitter labeled “DSL”.

After a short time the “Power / DSL” LED on the FRITZ!Box lights up. The FRITZ!Box is ready to connect to the Internet.

If the “Power / DSL” LED continues flashing, read [DSL Connection Not Established](#) on [page 155](#).

## Connecting to the Cable Junction

With an additional cable modem you can also use your FRITZ!Box 7430 on a cable connection. Use a network cable.

1. Connect the free end of the network cable to the LAN (Ethernet) port on the cable modem.
2. Connect the other end of the network cable to the socket on the FRITZ!Box labeled “LAN 1”.
3. Connect a computer with the FRITZ!Box either via wireless LAN or using a network cable; see [Connecting a Computer with a Network Cable](#) from [page 22](#) and [Connecting Devices with the FRITZ!Box over Wireless LAN](#) from [page 24](#).
4. Set up the Internet connection for connections via cable in the FRITZ!Box; see [page 45](#).

## Connecting to the Internet via the Mobile Network

The FRITZ!Box can also connect to the Internet via the mobile communications network. A mobile telephone and a SIM card from a mobile communications network provider are required for this. The following kinds of connections and mobile communications standards are supported:

- **LTE/UMTS/HSPA:** The FRITZ!Box supports USB mobile communications dongles for LTE/UMTS/HSPA.
- **USB tethering:** The FRITZ!Box supports USB tethering. Mobile communications dongles and smartphones that support USB tethering can be used to connect to the Internet via the mobile communications network.

### Using a Mobile Communications Dongle

1. Insert the mobile communications dongle into the USB port on the FRITZ!Box.
2. Configure the Internet connection via the mobile communications network; see [page 45](#).

### Using a Smartphone with USB Tethering

1. Use a USB cable to connect the smartphone with the FRITZ!Box.
2. Configure the Internet connection via the mobile communications network; see [page 45](#).

## Connecting to a Router or a Network

You can use the FRITZ!Box at an already existing Internet access. To do this the FRITZ!Box is connected to the router or network.

A network cable is required to connect the FRITZ!Box to a router.

1. Insert one end of the cable into the socket on the FRITZ!Box labeled “LAN 1”.
2. Insert the other end of the cable into a network socket on the router or in the network.

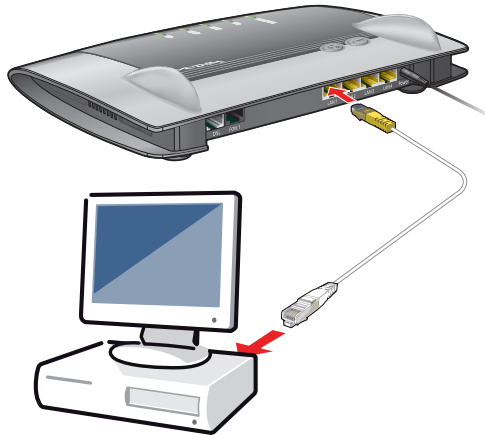
Once you have connected a computer to the FRITZ!Box, you can configure the Internet connection, see [Internet Connection over LAN 1: FRITZ!Box as a Router](#) on [page 47](#).

## 5 Connecting a Computer with a Network Cable

You can connect computers and other network devices with the FRITZ!Box using a network cable.

### 5.1 Connecting to the Computer

One computer or other network device can be connected to each LAN port of the FRITZ!Box.



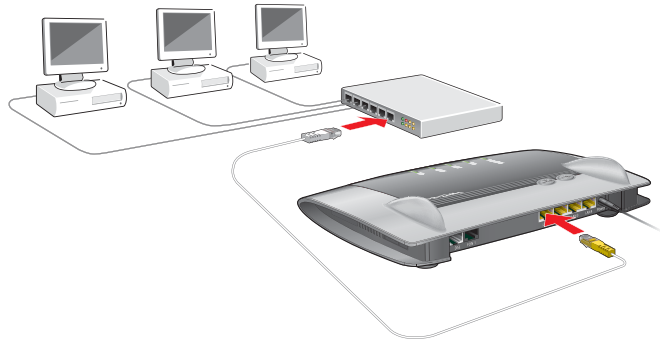
Connecting a computer using a network cable

1. Insert the network cable included in the package into the LAN port of the computer.  
You can also use any other network cable. For more information, see [page 164](#).
2. Insert the free end of the cable into a LAN socket on the FRITZ!Box.

Now the FRITZ!Box and the computer are connected with each other.

## 5.2 Connecting a Network Hub or 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.  
You can also use any other network cable. For more information, see [page 164](#).
2. Insert the free end of the cable into a LAN socket on the FRITZ!Box.

The FRITZ!Box and the network hub are now connected with each other.

## 6 Connecting Devices with the FRITZ!Box over Wireless LAN

Computers and other devices with wireless LAN, for instance smartphones and network printers, can be connected wirelessly with the FRITZ!Box.

You can establish the wireless LAN connection using WPS or by entering the FRITZ!Box network key on the wireless device.

Mobile devices with a camera, like smartphones or tablets, can scan the QR code of the network key to establish a wireless LAN connection.

### 6.1 Establishing a Wireless LAN Connection Using WPS

WPS is a procedure for establishing secure wireless LAN connections. With WPS, connecting a wireless device with the FRITZ!Box is quick and easy.

#### Requirements

The wireless device must support WPS.


#### Establishing a Connection on a Windows Computer Using WPS

Here is how to establish a wireless connection with WPS on a computer with Windows 8.1, 8, 7 or Vista:

1. If the “WLAN” LED on the FRITZ!Box is off, press the “WLAN” button briefly.

The wireless radio network of the FRITZ!Box will be switched on.

2. Open the wireless LAN software on the computer.

In Windows 8.1, 8 and 7, for instance, click the wireless LAN icon  in the task bar.

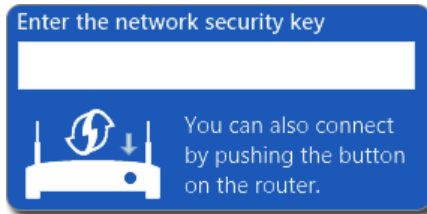
3. Select the wireless radio network of the FRITZ!Box.

The preconfigured name of the wireless radio network (SSID) consists of “FRITZ!Box 7430” and two capital letters, and is printed on the bottom of the housing.

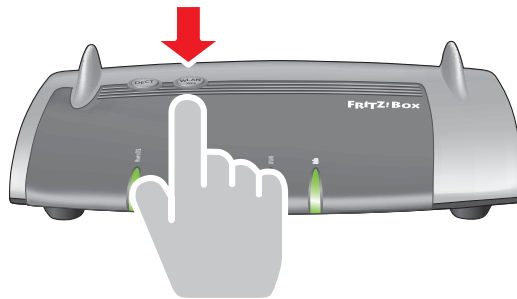


4. Click “Connect”.

The field for the network key appears, along with the information that you can establish the connection by pressing a button on the router:



5. For this step you have two minutes: Press the “WLAN” button on the FRITZ!Box and hold it down until the “WLAN” LED begins flashing.



The wireless LAN connection will be established.

### Connecting on Other Wireless Devices Using WPS

Here is how to establish a wireless connection with WPS on a wireless LAN device without Windows:

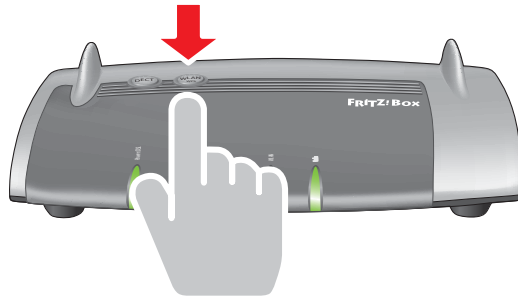
1. If the “WLAN” LED on the FRITZ!Box is off, press the “WLAN” button briefly.

The wireless radio network of the FRITZ!Box will be switched on.

2. Use your wireless device to search for wireless networks in the vicinity.

See the documentation of the wireless LAN device for instructions on how to do this.

3. Select the wireless radio network of the FRITZ!Box and start connecting with WPS.
4. For this step you have two minutes: Press the “WLAN” button on the FRITZ!Box and hold it down until the “WLAN” LED begins flashing.



The wireless LAN connection will be established.



## 6.2 Entering the Network Key on the Wireless Device

You can establish a wireless LAN connection by entering the FRITZ!Box network key on the wireless device.

The preset network key is printed on the bottom of the housing on the FRITZ!Box. A new network key can be entered in the user interface.

1. If the “WLAN” LED on the FRITZ!Box is off, press the “WLAN” button briefly.

The wireless radio network will be switched on.

2. Open the wireless LAN software on your wireless device. In Windows 8.1, 8 and 7, do this by clicking the wireless LAN icon   in the task bar.

3. Select the wireless radio network of the FRITZ!Box.

The preconfigured name of the wireless radio network (SSID) consists of “FRITZ!Box 7430” and two capital letters, and is printed on the bottom of the housing.

4. Click “Connect”.

5. Enter the network key of the FRITZ!Box in the wireless LAN software.
6. Start the connection procedure.

### 6.3 Connecting to Mobile Devices Wirelessly Using the QR Code

With mobile devices that have a camera and a QR code reader (app), like smartphones and tablets, you can connect wirelessly by reading a QR code.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “WLAN / Radio Network”.
3. Read the QR code with your mobile device’s QR code reader, directly from the monitor or from a printout.

The mobile device automatically establishes a secure wireless connection to the FRITZ!Box.

## 7 The FRITZ!Box User Interface

The FRITZ!Box has a user interface you can open in a web browser on your computer.

In the user interface you can configure the FRITZ!Box, enable or disable functions and receive information on the FRITZ!Box and on your connections.

### 7.1 Opening the User Interface

The FRITZ!Box user interface can be opened on any computer connected with the FRITZ!Box.

1. Start a web browser on your computer.
2. Enter <http://fritz.box> in the address field of your web browser.



Entering the address <http://fritz.box> in the browser

3. Follow the instructions on the screen and enter your FRITZ!Box password.

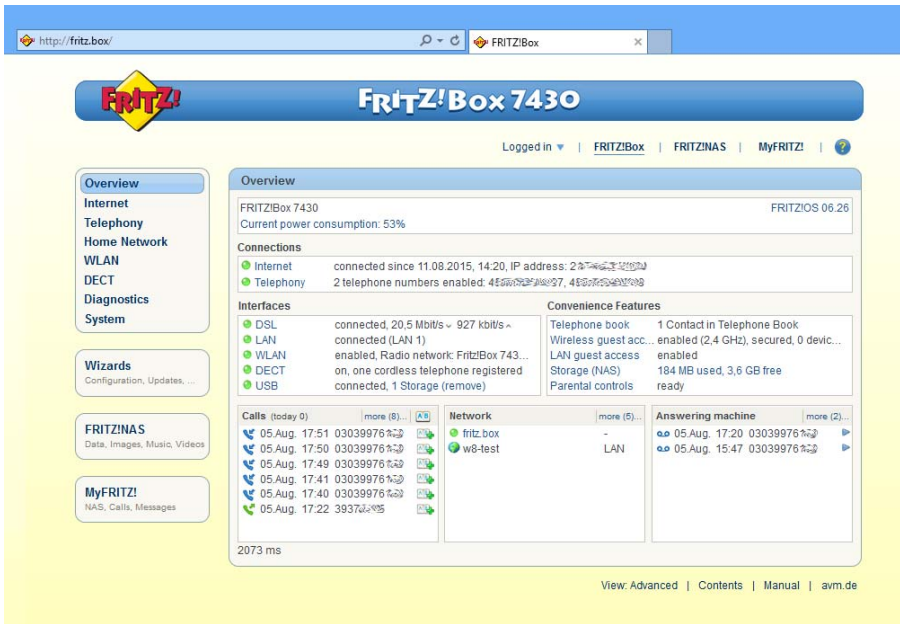
The preset network key is printed on the bottom of the housing of the FRITZ!Box.

If the user interface is **not** opened, read the instructions starting from [page 155](#).

### 7.2 Overview: FRITZ!Box at a Glance

All important information about the FRITZ!Box is displayed under “Overview” in the FRITZ!Box user interface.

By clicking the linked entries or “more...” you can jump from the “Overview” page to the corresponding menus and configure settings there.



The “Overview” page of the FRITZ!Box

In the **upper** area of the window the complete name of your FRITZ!Box model is displayed, along with the currently installed version of FRITZ!OS, and its current energy consumption.

Depending on your settings, the following information is displayed here:

- the name you assigned for your FRITZ!Box; see [page 31](#)
- the availability of a new FRITZ!OS version for your FRITZ!Box; see [page 147](#).

The **middle** area of the window presents information about connections and interfaces.

The **lower** area of the window presents the last calls made, any answering machine messages received, the devices connected in the home network and the enabled convenience features.

### 7.3 Standard View and Advanced View

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



Enable the advanced view in the “Internet” and “Home Network” areas only if you have advanced network expertise. Erroneous combinations of settings in these areas can produce a situation in which the user interface of the FRITZ!Box can no longer be opened.

Upon delivery, the FRITZ!Box interface is set to display the standard view. In the standard view all of the settings required for daily operation of the FRITZ!Box are at your disposal. Some pages and areas of the FRITZ!Box user interface are not displayed.

In the advanced view additional settings options appear under various menus and commands. The expanded menu items contain settings for advanced users and are not required for daily FRITZ!Box operation.

#### Fast Switching between the Views

The “View” link in the link list of the FRITZ!Box allows you to switch immediately between the standard view and the advanced view.



“View” link in the user interface

## 7.4 Assigning FRITZ!Box a Name

You can assign an individual name for your FRITZ!Box in the FRITZ!Box user interface. The name is set up under “Home Network / FRITZ!Box Name” and appears in the following areas of your home network display:

- name of the wireless radio network (SSID)
- name of the guest radio network (SSID)
- Name of the working group released for home network sharing
- name of the media server
- Individualized FRITZ!Box name for MyFRITZ!
- name of the DECT base station
- Push service sender name

## 7.5 Tips for Passwords

Passwords are assigned at various places in the user interface to protect your settings and data in the FRITZ!Box. The FRITZ!Box assists you in assigning secure passwords, for instance when creating new users or configuring MyFRITZ!: A graphic display indicates how secure the password is. Note the following:

- Use a password rated as highly secure.
- Select a password with at least twelve characters, which includes capitals and lower-case letters as well as numerals and special characters.
- Under the search term “Characters for Passwords” the Help of the FRITZ!Box user interface contains more information about which characters you can use.
- Be sure to keep your passwords in a safe place!
- Configure the “Forgot Password” push service. This notification service sends you an access link at regular intervals, with which you can access the FRITZ!Box user interface even if you have forgotten your password. See [Push Services: Using Notification Services](#) from [page 140](#).

- If you lose your password for the user interface, you will have to restore the factory settings to the FRITZ!Box and, for reasons of security, reconfigure all of your personal settings for your Internet connection, your telephone system and your home network. See [Forgotten Password: What To Do](#) on [page 42](#).



## 8 Password Protection: Using FRITZ!Box Safely

This section describes how to set up password protection for the FRITZ!Box user interface.

In the security overview of the user interface you can check at any time whether the password protection and the settings of your FRITZ!Box are secure; see [Checking the Security of the FRITZ!Box](#) on page 142.

### 8.1 FRITZ!Box Password and FRITZ!Box Users

The FRITZ!Box offers two ways to configure password protection:

- FRITZ!Box password
- FRITZ!Box user

The two login methods have the following properties:

Property	FRITZ!Box Password	FRITZ!Box User
FRITZ!WLAN Repeater Password	You define a password that is used to open the FRITZ!Box user interface.	There are user accounts. Every FRITZ!Box user receives her or his own password for opening the user interface.
Scope of access	With the FRITZ!Box password, access to all contents and settings in the FRITZ!Box is permitted.	For each FRITZ!Box user, in the user account you define which contents and settings of the FRITZ!Box the given 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. Access from the Internet is not possible.	A FRITZ!Box user can log in to the FRITZ!Box user interface from the home network and—with the appropriate user rights—from the Internet.

## 8.2 Configuring a FRITZ!Box Password

Users who know the FRITZ!Box password can access all of the contents and settings in the FRITZ!Box user interface.

### Preset Password

From the start the user interface is protected with a password. The preset network key is printed on the bottom of the housing of the FRITZ!Box.

### Configuring a Password

Here is how to set up a new FRITZ!Box password:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “System / FRITZ!Box Users / Login to Home Network”.
3. Select the option “Login with the FRITZ!Box password”.
4. Enter a password.

For more information on the characters you can use for the password, see the Help on the FRITZ!Box user interface.

5. Click “Apply”.

You will be directed to the welcome screen of your FRITZ!Box.

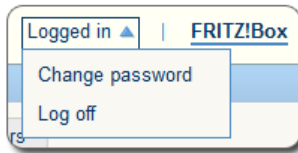
6. Enter your user name to log in to the user interface of your FRITZ!Box.



With the FRITZ!Box password it is not possible to access the FRITZ!Box from the Internet. For users who require access to the FRITZ!Box via Internet, you must also set up an account as a FRITZ!Box user; see [page 35](#).

### Quick Access: Logging off and Changing the Password

If you are logged in with the FRITZ!Box password, the upper navigation bar will display the entry “Logged in”:



Here you can change the FRITZ!Box password and log off the user interface. Log off before you surf the web with your browser. If you do not click on the user interface for a period of longer than 60 minutes, you will be logged off automatically.

## 8.3 Using FRITZ!Box Users

Configure FRITZ!Box users in the following cases:

- You would like to access your FRITZ!Box from the Internet.
- Multiple users with different rights are to have access to the FRITZ!Box.

### Configuring Users

First you must set up at least one FRITZ!Box user with the right “FRITZ!Box Settings”. Then you can configure more users.

You can configure up to 18 user accounts.

#### Configuring Users with the “FRITZ!Box Settings” Right

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “System / FRITZ!Box Users / Users”.
3. Click the “Add User” button.
4. Enter a user name, a valid e-mail address and a password for the new user.

For more information on the characters you can use for the password, see the Help on the FRITZ!Box user interface.

5. Specify whether or not the new FRITZ!Box user is allowed to access from the Internet the FRITZ!Box contents for which she or he has access rights.

Keep in mind that in order to access the FRITZ!Box from the Internet, a corresponding service must also be enabled in the FRITZ!Box. For information on how to do this, see the section [Accessing the FRITZ!Box from the Internet](#) from [page 39](#).

6. In the “Rights” area, specify which contents each FRITZ!Box user is allowed to use.

For a user to be able to configure settings on the FRITZ!Box, the user must have at least the “FRITZ!Box Settings” right.

For more information on rights, see the section from [page 38](#).

7. Save your entries by clicking “OK”.

The FRITZ!Box user account has been configured.

If you would like to use user accounts to log into the FRITZ!Box from the home network as well, also perform the following two steps:

8. Switch to the “Login to the Home Network” tab. Select the option “Login with FRITZ!Box user name and password” and click “Apply”.



You will be directed to the welcome screen of your FRITZ!Box.

9. Select your user name and enter your password.

Now you can set up more users.

### Setting Up More FRITZ!Box Users

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “System / FRITZ!Box Users / Users”.

A list of the FRITZ!Box user accounts is displayed. The user accounts can be edited or deleted using the buttons  or  behind the list entries.

3. Click the “Add User” button.
4. Enter a user name, a valid e-mail address and a password for the new user.

For more information on the characters you can use for the password, see the Help on the FRITZ!Box user interface.

5. Specify whether or not the new FRITZ!Box user is allowed to access from the Internet the FRITZ!Box contents for which she or he has access rights.

Keep in mind that in order to access the Internet, a corresponding service must also be enabled in the FRITZ!Box. For information on how to do this, see the section [Accessing the FRITZ!Box from the Internet](#) from [page 39](#).

6. In the “Rights” area, specify for each FRITZ!Box user which FRITZ!Box contents she or he is allowed to use.

For more information on rights, see the section from [page 38](#).

7. Click “OK”.

The FRITZ!Box user account has been configured.



Do not create any user accounts for temporary users (like weekend guests, for example) whom you would like to grant Internet access over your FRITZ!Box temporarily. Use the guest access of the FRITZ!Box over wireless LAN instead; see [page 131](#).

## Rights for FRITZ!Box Users

The rights define which contents of the FRITZ!Box a FRITZ!Box user is allowed to access.

The rights checked in the user account are granted to the FRITZ!Box user for access from the home network and—if enabled—also for access from the Internet; see [page 39](#).

You can grant the following rights:

- **FRITZ!Box settings**

A user with these rights can open the <http://fritz.box> or <http://myfritz.box> view of the FRITZ!Box user interface. Here she or he can see and edit all settings. **Configuration rights** automatically include the right to access voice messages, faxes, FRITZ!App Fon and the call list as well as the right to control smart home devices.

A registered user cannot revoke these rights herself or himself and cannot disable her or his own account.

- **Voice messages, faxes, FRITZ!App Fon and call list**

A user with these rights can open the <http://myfritz.box> view. There she or he can view faxes, the call list, FRITZ!App Fon, and listen to voice messages.

- **Access to NAS contents**

A user with this right can open the FRITZ!Box user interface <http://fritz.nas>. Here she or he can view the contents for which she or he has read rights and—if she or he has write rights as well—edit these contents.

Access to NAS contents can be granted for all storage media available on the FRITZ!Box or for one selected directory.

- **Smart home**

If you also deploy AVM devices for home automation in your FRITZ!Box network, a FRITZ!Box user with these rights can use the MyFRITZ! access for the remote control of up to 10 switchable outlets.

- **VPN**

A user with this right can use her or his mobile device or computer to establish a safe VPN connection to the FRITZ!Box and its home network.

### Accessing the FRITZ!Box from the Internet

To be able to access your FRITZ!Box from the Internet, the following conditions must be fulfilled:

- You have set up an account with the MyFRITZ! service; see [page 135](#). Your FRITZ!Box is registered with this MyFRITZ! account.
- The option “Access from the Internet allowed” is enabled in your user account.
- The option “Internet access to the FRITZ!Box via HTTPS enabled” is selected in the “Internet / MyFRITZ!” menu, or enabled in the “Internet / Permit Access / FRITZ!Box Services” menu.

When the MyFRITZ! service is enabled this check mark is set automatically.

A FRITZ!Box user who has been granted Internet access can use the MyFRITZ! service ([myfritz.net](http://myfritz.net)) to access the corresponding FRITZ!Box from any location. From the Internet she or he can reach only those FRITZ!Box contents she or he can also access from the home network.

Check at regular intervals whether a FRITZ!Box user still requires access to the FRITZ!Box from the Internet, and if not, disable this feature in the properties of the user. For reasons of security we recommend disabling Internet access to the FRITZ!Box via HTTPS whenever no more FRITZ!Box users require access to the user interface of your FRITZ!Box from the Internet.

For more information about MyFRITZ!, see the chapter [MyFRITZ!: Accessing the FRITZ!Box from Anywhere](#) from [page 134](#).

For more information about HTTPS, see the chapter [Access from the Internet via HTTPS, FTP and FTPS](#) from [page 66](#).

### How to Use FRITZ!Box User Accounts

- As a FRITZ!Box user with all rights, you can control and configure your FRITZ!Box at home from anywhere, and also view contents and download what you need.
- If you set up a FRITZ!Box user account for every member of the family, with at least the rights to access voice messages, faxes, FRITZ!App Fon and the call list, the entire family can check the answering machine or view the call list even when they're away from home.
- With a FRITZ!Box user account that has only the right to access a certain area of the NAS, you can grant your friends Internet access to your latest vacation pictures, for instance.
- As a FRITZ!Box user with the “Smart home” right, you can switch your lamps or aquarium pumps on and off from anywhere in the world. The prerequisite is that you connect them to smart home devices from AVM (like FRITZ!DECT 200, for instance) which are integrated in the home network of your FRITZ!Box. You can remote control up to 10 switchable outlets over your MyFRITZ! access.

### Preconfigured FRITZ!Box User: ftpuser

The first time you open the overview of user accounts under “System / FRITZ!Box Users / Users”, the user “ftpuser” is already listed.

This is because the FRITZ!NAS service, in which the storage media connected with the FRITZ!Box are summarized, can also be accessed over the protocols SAMBA and FTP. If you access FRITZ!NAS via Windows file sharing or an FTP client, your users must be authenticated by entering “ftpuser”.

The preconfigured user account ensures smooth access to FRITZ!NAS over SAMBA and FTP. Therefore it is important not to delete or rename this user.

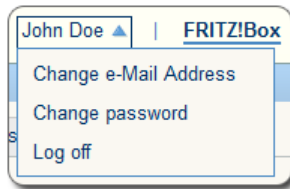
If you use only the login method with FRITZ!Box user name and password to access your FRITZ!Box, you can also set up a user account with NAS access rights.



You can delete the preconfigured “ftpuser” account only if you **always** use your FRITZ!Box user account to access the FRITZ!Box, be it from home or via the Internet. In every other case deleting this user account will make it impossible to use the NAS services of the FRITZ!Box, or allow only restricted use.

### Quick Access to Your Own User Account

The upper navigation bar of the FRITZ!Box shows the name of the FRITZ!Box user account with which the user is currently logged in to the user interface.



Click the user name to control basic functions of this user account:

- **Changing the e-mail address**  
Select the “Change e-mail Address” entry to assign a different e-mail address to the current user account.
- **Changing the password**  
With the “Change Password” entry you can change the password of the current user account.
- **Logging off**  
Click “Log Off” here to leave the FRITZ!Box user interface.

Log off of the FRITZ!Box user interface before you surf the web with your browser. If you do not click on the FRITZ!Box user interface for a period of longer than sixty minutes, you will be logged off automatically.

## Disabling FRITZ!Box Users

You can disable a user account without deleting it. The owner of a disabled account can no longer access the FRITZ!Box contents.

You can neither delete nor disable the user account with which you are currently logged in to the user interface of your FRITZ!Box.

1. In the FRITZ!Box user interface, open the “System / FRITZ!Box Users / User” menu.
2. Click the “Edit” button for the user account to be disabled.
3. In the “User” area, remove the check mark in front of the “User account enabled” option.
4. Apply the change by clicking “OK”.

The user account has been disabled.

## 8.4 Forgotten Password: What To Do

If you have forgotten your password for the user interface, for reasons of security, you have to restore the factory settings to your FRITZ!Box; see [Deleting User Settings](#) from [page 152](#).

You can avoid this by enabling the “Forgot password” push service when you configure your FRITZ!Box; see the section [Push Services: Using Notification Services](#) from [page 140](#).

## 8.5 “No login” Mode

From within the home network you can operate the FRITZ!Box user interface without enabling password protection. This means that every user who accesses the interface of your FRITZ!Box can view and change all information and settings.

In the “No login” mode, your private information is not sufficiently protected from malicious programs or unwelcome activities. Therefore we urgently advise against using the FRITZ!Box without password protection!



Protect your FRITZ!Box by defining a password for the FRITZ!Box user interface. To do this, go to the “System / FRITZ!Box Users / Login to the Home Network” menu and select one of the password protection methods.

For comprehensive information about logging in to the FRITZ!Box with a password, see the sections [Using FRITZ!Box Users](#) from [page 35](#) and [Configuring a FRITZ!Box Password](#) from [page 34](#).

## 9 Configuring an Internet Connection in the FRITZ!Box

Once you have connected the FRITZ!Box to your Internet connection, you must configure the Internet connection in the FRITZ!Box user interface so that the FRITZ!Box can establish the connection to your Internet service provider and connect to the Internet.

The sequence and number of steps required to configure your Internet connection depend on the kind of connection, the desired operating mode, and the Internet service provider.

### 9.1 Internet Connection for DSL

Enter the Internet account information you received from your DSL/Internet service provider. These data are required to configure the Internet connection.

Your Internet service provider also supplied information about the configuration of your Internet connection. Always perform the Internet connection setup as described by your provider.

#### Configuring Your Internet Connection Automatically

If your Internet service provider arranges for the service of automatically configuring your Internet connection, the automatic configuration will be performed right after the FRITZ!Box is connected. No additional settings for the Internet connection have to be configured in the FRITZ!Box. To start automatic configuration, some providers require that you enter a start code.

#### Configuring Your Internet Connection Using the Wizard

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Wizards” entry in the menu.
3. Click the “Check Internet Connection” Wizard and follow the instructions.

When the Wizard is finished, your Internet connection has been configured.

### Configuring Your Internet Connection Without the Wizard

Choose this method if the FRITZ!Box is connected to a DSL modem or a DSL router, or integrated into an existing network.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Switch to the advanced view; see [page 30](#).
3. Select the “Internet / Account Information” menu and enter your account information.
4. Click “Apply” to save your entries.

In the Help of the FRITZ!Box user interface you can find detailed instructions.

## 9.2 Internet Connection for Cable

With an additional cable modem you can also use your FRITZ!Box 7430 on a cable connection. The Internet connection then will be established and controlled by the FRITZ!Box. In this operating mode all FRITZ!Box functions (like Internet telephony, firewall) are available without restriction.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Wizards” entry in the menu.
3. Click the “Check Internet Connection” Wizard and follow the instructions.

## 9.3 Configuring the Internet Connection for a Mobile Network

The FRITZ!Box can also connect to the Internet via the mobile communications network; see also [Connecting to the Internet via the Mobile Network](#) on [page 21](#). 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.

### Mobile Communications Dongle or Smartphone on the USB Port

1. Insert the mobile communications dongle in the USB port of the FRITZ!Box or connect the smartphone with the FRITZ!Box using a USB cable.
2. Open the FRITZ!Box user interface; see [page 28](#).
3. Select the “Internet / Mobile Communications” menu.  
The “Mobile Communications” menu is not available until a mobile communications device is connected to the USB port on the FRITZ!Box.
4. Select the setting “Mobile connection enabled”.
5. Configure the settings for your Internet connection over the mobile communications network. In the Help of the FRITZ!Box user interface you can find detailed instructions.

When the mobile communications function is used, the FRITZ!Box user interface presents information about network availability, connection status and throughput.



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 forwarding, 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.

## 9.4 Internet Connection over LAN 1: FRITZ!Box as a Router

You can use the FRITZ!Box at an already existing Internet access via the LAN 1 socket. To do this the FRITZ!Box is connected to the router or network. For this kind of connection the FRITZ!Box can be configured as an independent router or as an IP client in the existing network.

### Configuring FRITZ!Box as a Router

You can configure the FRITZ!Box to work as an independent router to provide a network with its own network address range.

1. Connect the FRITZ!Box to the router or network with a network cable; see [Connecting to a Router or a Network on page 21](#).
2. Open the FRITZ!Box user interface; see [page 28](#).
3. Select the “Internet / Account Information” menu.
4. Select the “Existing connection over LAN” entry from the “Internet service provider” drop-down list.
5. 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 FRITZ!Box as an IP Client

You can configure the FRITZ!Box such that it is integrated into the existing network as an IP client and shares the existing Internet connection in the network.

1. Connect the FRITZ!Box to the router or network with a network cable; see [Connecting to a Router or a Network on page 21](#).
2. Open the FRITZ!Box user interface; see [page 28](#).
3. Select the “Internet / Account Information” menu.
4. Select the “More Internet service providers” entry from the “Internet service provider” drop-down list.

5. Select the “Other Internet service provider” entry from the second drop-down list.
6. From the “Connection” area, select the “External modem or router” option.
7. In the “Operating Mode” area, select the setting “Share existing Internet connection in the network (IP client mode)”.

The FRITZ!Box is integrated into the existing network as an IP client. The FRITZ!Box and the connected network devices receive an IP address from the IP address range of the existing network. The FRITZ!Box and the connected network devices are thus part of this network.



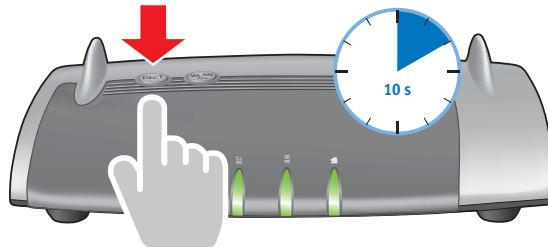
## 10 Connecting Telephones and Other Terminal Devices

This chapter describes how to connect telephones, fax machines, answering machines and telephone systems (PBXs) to the FRITZ!Box.

### 10.1 Registering FRITZ!Fon and Other Cordless (DECT) Telephones

Up to six cordless DECT telephones can be registered on the FRITZ!Box.

1. Start the registration of your cordless telephone with a base station.
2. Press and hold down the “DECT” button on the FRITZ!Box until the “DECT” LED on the FRITZ!Box flashes.



3. If you are asked on your cordless telephone for the PIN of the base station, enter the PIN of the FRITZ!Box.  
The preset value is 0000. The PIN is listed in the FRITZ!Box user interface under “DECT / Base Station”.  
The cordless telephone is registered with the FRITZ!Box.
4. Configure the cordless telephone in the FRITZ!Box; see [page 53](#).

### 10.2 Registering an iPhone or Android Smartphone

With FRITZ!App Fon you can use your Android smartphone or iPhone as a cordless telephone registered with the FRITZ!Box.

#### Requirements

- iPhone iOS 4 or later, or Android smartphone with Google Android 2.1 or later

## How FRITZ!App Fon Works

Once it has been set up on your smartphone, FRITZ!App Fon remains active in the background. Whenever the smartphone is connected with the FRITZ!Box over wireless LAN, the following applies:



- Outgoing calls are dialed using your landline at home rather than the mobile network.
- You can accept calls to your Internet telephone numbers on your smartphone.
- The smartphone can still be reached at the mobile telephone number.

## Registering a Smartphone with FRITZ!Box

1. Establish a wireless LAN connection to the FRITZ!Box on your smartphone; see [page 24](#).
2. Install FRITZ!App Fon on your smartphone.  
FRITZ!App Fon is available at the [Google Play Store](#) and in the [Apple App Store](#).
3. Start the FRITZ!App Fon.

## The Icon in the FRITZ!App Fon Title Bar

The icon in the title bar of FRITZ!App Fon indicates whether you are making calls with the smartphone via FRITZ!Box:

Icon	Meaning
	Active wireless LAN connection between smartphone and FRITZ!Box.
	You are making calls with the smartphone via the FRITZ!Box.

## Assigning Telephone Numbers

Assign telephone numbers to the smartphone for calls over the FRITZ!Box:

1. In the FRITZ!App Fon select “More / FRITZ!Box”.  
The “Telephony device” display shows the name used to register the smartphone with the FRITZ!Box.
2. Configure the smartphone in the FRITZ!Box; see [page 53](#).

## 10.3 Connecting an IP Telephone

An IP telephone is a telephone with which you can make telephone calls over the Internet.

You can also connect an IP telephone directly to the Internet connection without a telephone system (FRITZ!Box). This is not possible with other telephones.


### Connecting via LAN or Wireless LAN

1. Connect the IP telephone to the FRITZ!Box using a network cable or wireless LAN.  
The preconfigured wireless network key of the FRITZ!Box is printed on the underside of the FRITZ!Box.
2. Configure the IP telephone in the FRITZ!Box; see [page 53](#).

## 10.4 Connecting a Door Intercom System

Door intercom systems with an a/b interface can be connected to the FRITZ!Box.

Read more in the FRITZ!Box Help:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Click the Help button .
3. Enter “door intercom system” in the search field.

## 11 Configuring the FRITZ!Box for Telephone Calls

This chapter describes how to configure your FRITZ!Box for making telephone calls.

### 11.1 Configuring Your Telephone Numbers

Configure your Internet telephone numbers in the FRITZ!Box.

#### Automatic Configuration

Some telephony providers configure the Internet telephone numbers in the FRITZ!Box automatically. This procedure is also known as “remote configuration”.

Remote configuration starts right after the FRITZ!Box is connected to the Internet or right after the FRITZ!Box user interface is opened.

The configured Internet telephone numbers are located in the user interface under “Telephony / Telephone Numbers”.

#### Configuring Telephone Numbers with the Wizard

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Wizards / Manage Telephone Numbers”.
3. Click “Add Telephone Number” and follow the Wizard’s instructions.


## 11.2 Configuring Telephones and Other Terminal Devices in the FRITZ!Box

Configure your telephones and other terminal devices in the FRITZ!Box. To do this, for each terminal device define:

- the internal name to be displayed in the call list of the FRITZ!Box.
- the telephone number the terminal device uses for outgoing calls to the public telephone network
- Numbers for incoming calls:  
Should the terminal device ring for every call (telephone) or pick up (fax machine, answering machine)? Or only for calls to previously defined telephone numbers?

### Configuring Terminal Devices

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Telephony Devices”.
3. Click “Configure New Device”.

To change the settings of a device that has already been configured, click the  button.

## 12 FRITZ!Box as an Internet Router

The FRITZ!Box connects computers in your home network with the Internet. This chapter explains the possibilities presented by using the FRITZ!Box as an Internet router and how to take advantage of them.

### 12.1 Parental Controls: Access Profiles for Internet Use

Using access profiles you can control the use of the Internet by devices in your network.

#### Access Profiles

##### Settings for Internet Use

The following settings for Internet use are defined in an access profile:

Setting	Description
Online time	The online time specifies when and for how long Internet access is permitted.
Permitted websites	Using filter lists you can specify which websites may be accessed.
Internet access through network applications	You can specify which network applications are allowed to communicate over the Internet.

##### Preconfigured and Own Access Profiles

- In the FRITZ!Box there are four preconfigured access profiles.
- You can create and configure many access profiles of your own.

### No Network Device without Access Profile

- Network devices that log in to the home network for the first time are automatically assigned the preconfigured “Standard” access profile. As soon as a network device is registered in the home network you can assign a different access profile.
- Network devices that log in to the FRITZ!Box guest network are automatically assigned the “Guest” access profile. This is the only access profile possible in the guest network.

### Preconfigured Access Profiles

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

#### The “Standard” Access Profile

Property	Description
Limitations	In the factory settings the “Standard” profile is allowed to do everything. There are no restrictions on time or activity.
Changeable	The “Standard” profile can be changed.
Automatic assignment	Network devices that register with the FRITZ!Box for the first time are automatically assigned the “Standard” profile.
Standard	Unknown network devices can only receive the “Standard” profile. Unknown network devices are devices that have not registered with the FRITZ!Box, but should already have been configured in the FRITZ!Box and have parental controls configured.
No budget	No shared budget can be configured in the “Standard” profile.

### The “Guest” Access Profile

Property	Description
Limitations	The profile has the following settings configured upon delivery: <ul style="list-style-type: none"> <li>• There are no time restrictions.</li> <li>• HTTPS queries are permitted.</li> <li>• Surfing and mail are allowed. Web access is blocked for all other network applications.</li> </ul>
Changeable	The “Guest” profile can be changed.
Automatic assignment	Network devices that are connected with the FRITZ!Box via the guest access receive the “Guest” profile.
Single access profile	This is the only access profile available for the guest access.
No budget	No shared budget can be configured in the “Standard” profile.

### The “Unlimited” Access Profile

Property	Description
Limitations	This profile allows unrestricted use of the Internet.
Changeable	The “Unlimited” profile cannot be changed.

### The “Blocked” Access Profile

Property	Description
Limitations	This profile blocks Internet use.
Changeable	The “Blocked” profile cannot be changed.



### Online Time

The online time is defined as follows:

Setting	Description
Period	On a timetable you define when the Internet connection may be used.
Online time	For each day of the week you define how long the Internet is allowed to be used.
Shared budget	You decide and define whether all network devices that use the same access profile must share this online time limit. For the preconfigured “Standard” and “Guest” access profiles, no budget sharing is permitted.

Example:

For a child you can configure an access profile to be assigned to all of the child’s network devices. The online time in the access profile could look something like this example:

Monday and Wednesday	from 2 pm to 9 pm; no more than 3 hours each day
Tuesday, Thursday and Friday	from 6 pm to 9 pm; no more than 3 hours each day
Saturday and Sunday	from 10 am to noon; and from 4 pm to 10 pm; no more than 5 hours each day
Shared budget	yes  all devices (computer, game console, smartphone, etc.) share the online time

### Permitted Websites

Access to websites with inappropriate content can be blocked using filters. The following filtering options are available:

- Prevent HTTP queries: You can prevent HTTPS queries. HTTPS is used, for instance, to open Facebook, Gmail and online banking.
- Permit websites with a whitelist:
  - The whitelist is a filter list that should be used when access should be limited to just a few websites.
  - Access to web pages entered in the whitelist is permitted.
  - When a whitelist is used, only those websites included in the list can be opened, and no others.
- Block websites with a blacklist:
  - The blacklist is a filter list that should be used when access to most websites is to be permitted, and the number of blocked websites is relatively small.
  - Access to web pages entered in the blacklist is blocked.
  - If the blacklist is used, no website can be opened by entering its IP address. This is also true for websites that are not included in the blacklist.
  - For applications that address websites only directly via the IP address, for instance virus scanner update software, the relevant IP addresses can be released for access by entering them in the exception list of “Permitted IP addresses”.

### Internet Access by Network Applications

You can list network applications for which you would like to block communication with the Internet. For instance, you can prohibit file sharing programs or online games from communicating over the Internet.

## Configuring Parental Controls

### Requirements

The “Internet / Filters” menu is available only if you have configured the FRITZ!Box and already established an Internet connection.


### Limitations

The “Internet / Filters” menu is **not** available if you have configured the FRITZ!Box as an IP client. In this case, use the corresponding functions of the router whose Internet connection is being shared.

### Preparations

- Configure the access profiles required for the members of the home network; see [Configuring an Access Profile](#) on [page 59](#).
- Prepare the filter lists if you would like to use filter lists; see [Editing Filter Lists](#) from [page 60](#).
- If desired, add the list of network applications; see [Adding Network Applications](#) from [page 61](#).

### Configuring Parental Controls for Network Devices

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Internet / Filters” menu.
3. Select a network device on the “Parental Controls” tab.
4. Click the  button.
5. Select the access profile to be applied to the network device and then click “OK”.

### Configuring an Access Profile


#### Requirements

The “Internet / Filters” menu is available only if you have configured the Internet connection in the FRITZ!Box and already established an Internet connection.

### Limitations

The “Internet / Filters” menu is **not** available if you have configured the FRITZ!Box as an IP client. In this case, use the corresponding functions of the router whose Internet connection is being shared.

### Configuring an Access Profile

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Internet / Filters” menu.
3. Select the “Access Profiles” tab.
4. Click .
5. Configure the settings for the access profile in the “New Access Profile” window. Use the FRITZ!Box Help.

### Editing Filter Lists


#### Requirements

The “Internet / Filters” menu is available only if you have configured the Internet connection in the FRITZ!Box and already established an Internet connection.

#### Limitations

The “Internet / Filters” menu is **not** available if you have configured the FRITZ!Box as an IP client. In this case, use the corresponding functions of the router whose Internet connection is being shared.

#### Editing a Filter List

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Internet / Filters” menu.
3. Select the “Lists” tab.
4. Click the  button.
5. Select the list you would like to edit and then click “Edit”.
6. Edit the list in the window that opens.

## Adding Network Applications

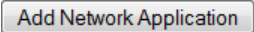
### Requirements

The “Internet / Filters” menu is available only if you have configured the FRITZ!Box and already established an Internet connection.

### Limitations

The “Internet / Filters” menu is **not** available if you have configured the FRITZ!Box as an IP client. In this case, use the corresponding functions of the router whose Internet connection is being shared.

### Adding a Network Application

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Internet / Filters” menu.
3. Select the “Lists” tab.
4. Click .
5. In the “Network Application” window, enter the network application you would like to add to the list.

## AVM FRITZ!Box Parental Controls for Windows Users

In the Windows operating systems (Windows 8 and Windows 7), parental controls can be also configured for each individual Windows user.

You will need the “AVM FRITZ!Box Parental Controls” software if multiple Windows users with different rights in the Internet are sharing a single computer. The “AVM FRITZ!Box Parental Controls” software detects the various Windows users.

### AVM FRITZ!Box Parental Controls


- The AVM FRITZ!Box software can be downloaded free of charge from the AVM website.
- The AVM FRITZ!Box parental control software must be installed on every Windows computer on which users are configured who are to be protected by parental controls.

- AVM FRITZ!Box parental controls are installed on the computer as a service. The service must be enabled at all times. If it is not enabled, the FRITZ!Box will not detect the user accounts. Windows users that are not detected are treated like user accounts without any parental controls.

### Downloading AVM FRITZ!Box Parental Controls from the AVM Website

1. Open the AVM website: [en.avm.de](http://en.avm.de).
2. Select “Service”.
3. Scroll to the “Further Services Information” area.
4. Click “FTP Server”.  
This will take you to AVM’s FTP server.
5. Select “fritz.box”.
6. Select “tools”.
7. Select “kindersicherung”.
8. Select “english”.
9. Click the exe file and save the program on your computer.

### Configuring Parental Controls for Windows Users

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Internet / Filters” menu.
3. Select a Windows user on the “Parental Controls” tab.
4. Click the  button.
5. Select the access profile to be applied to the Windows user and then click “OK”.

## 12.2 Port Forwarding: Making Computers Accessible from the Internet

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 for other Internet users.

### Port Forwarding

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

The following port forwarding methods are possible in the FRITZ!Box:

PING	IPv4: The FRITZ!Box responds to ping inquiries from the Internet addressed to the IPv4 address of the FRITZ!Box.
	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	IPv4: Within IPv4 networks you can open the FRITZ!Box firewall for the protocols TCP and UDP when entering the port range. One port can be opened for exactly one computer.
UDP	IPv6: Within IPv6 networks you can open the FRITZ!Box firewall for the protocols TCP and UDP when entering the port range. One port can be opened for each computer in the network.

ESP	IPv4:
GRE	Within IPv4 networks you can open the firewall for the two protocols ESP and GRE, which do not use ports.
Exposed host (Open firewall completely)	IPv4: Within IPv4 networks you can open the firewall completely for one computer. This computer is then no longer protected by the FRITZ!Box firewall. If individual ports are already open for other computers, then data packets for these ports are not forwarded to the exposed host, but to the other computer instead.
	IPv6: Within IPv6 networks you can open the firewall completely for each computer. These computers are then no longer protected by the FRITZ!Box firewall.

---

### Configuring Port Forwarding in the FRITZ!Box

- IPv4:
  - Port forwarding is configured in the “Internet / Permit Access” menu, on the “Port Forwarding” page.
- IPv6:
  - Enable the advanced view.
  - Port forwarding is set up in the “Internet / Permit Access” menu, on the “IPv6” page.

### Determining the IPv4 Address for Accessing the FRITZ!Box

If you have enabled ports for forwarding in the FRITZ!Box, other Internet users can access your computers at the IP address assigned to your FRITZ!Box by the Internet service provider. This is a public IPv4 address.

Here is how to determine the public IPv4 address of the FRITZ!Box:

1. Open any Internet page in order to establish an Internet connection.



2. Open the FRITZ!Box user interface.
3. Enable the advanced view.
4. The FRITZ!Box's public IPv4 address is displayed on the "Overview" page in the "Connections" area.

#### [Can Always Be Reached, Even When the IP Address Changes](#)

Every time the Internet connection is interrupted, the Internet service provider re-assigns the IP address. The IP address may change in the process. Therefore it is a good idea to use MyFRITZ! or dynamic DNS so that the IP address can always be reached under the same name. For more information about MyFRITZ!, see the chapter [MyFRITZ!: Accessing the FRITZ!Box from Anywhere](#) on [page 134](#). For more information about dynamic DNS, see the section [Dynamic DNS: Name Instead of IP Address](#) on [page 65](#).

### 12.3 Dynamic DNS: Name Instead of IP Address

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, even though the public IP address changes.

Dynamic DNS can be used as an alternative to MyFRITZ!. Both services can be used in parallel.

You must register with a dynamic DNS provider to use this service. When you register, you agree on the fixed name (domain name) at which your FRITZ!Box should be accessible from the Internet. You also define a user name and password.

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.

#### [Configuring Dynamic DNS in the FRITZ!Box](#)

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the "Internet / Permit Access" menu.

4. Select the “Dynamic DNS” page and set up dynamic DNS. See the Help available in the FRITZ!Box user interface for more information.

## 12.4 Access from the Internet via HTTPS, FTP and FTPS

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

### Requirements for Access over the Internet

- 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.

### HTTPS, FTP and FTPS

The protocols HTTPS, FTP and FTPS are used for access over the Internet.

- 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.

#### Enabling HTTPS, FTP and FTPS in the FRITZ!Box

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “Internet / Permit Access” menu.
4. Select the “FRITZ!Box Services” page and enable the protocols you need. See also the Help on the user interface.

## 12.5 Prioritization: Right of Way for Internet Access

Prioritization is a function you can use to specify that network applications and network devices be treated with higher or lower priority when they access the Internet connection. For example, you may wish to ensure that applications like Internet telephony, IPTV and video on demand are always treated with higher priority than other applications. You can also specify that file-sharing applications like eMule and BitTorrent always have to wait behind online games.

### Categories for Prioritization

There are three categories for prioritization: “Real-time applications”, “Prioritized applications” and “Background applications”.

Network applications and network devices are assigned to the categories using rules.

#### Real-time Applications

This category is suitable for applications with high demands on transmission rates and reaction times (for example, Internet telephony, IPTV, video on demand).

- Network applications of this category always have priority over other applications accessing the Internet at the same time.

- When the Internet connection is working at full capacity, the network packets of the applications of this category will always be sent first. In this case data from network applications assigned to other categories will be transmitted later.
- If multiple network applications are assigned to this category, then they must share the available capacity.
- Whenever Internet telephony is included in this category, this application always has the highest priority, even over other real-time applications.

### Prioritized Applications

This category is suitable for applications that require a fast reaction time (for example, company access, terminal applications, games).

- For network applications prioritized in this category, 90% of the FRITZ!Box's upload bandwidth is available, as long as no application from the "Real-time applications" category requires bandwidth. The remaining 10% of the upload bandwidth is available for applications that are prioritized in lower categories or not prioritized at all.
- If multiple network applications are assigned to the "Prioritized applications" category, then they must share the available capacity.

### Background Applications

This category is suitable for applications that do not require any high transmission rates and which are not time-critical (for example, peer-to-peer services or automatic updates).

- Network applications assigned to this category are always treated with the lowest priority when the Internet connection is working at full capacity. So whenever an application from a different category or a non-prioritized application requires the entire bandwidth, all background applications must wait until bandwidth capacity becomes available again.

- If no other network applications are active, then the background applications receive the entire bandwidth.

### Prioritization Method in the FRITZ!Box

The following techniques are used in the FRITZ!Box to send data packets according to their prioritization:

- Change in the order in which packets are sent to the Internet (upstream direction)

The order of the packets the FRITZ!Box receives from the Internet (downstream direction) cannot be changed.

- Discard low-priority packets in order to ensure the transmission of higher-priority packets. This technique is used whenever more packets are supposed to be sent to the Internet than the upstream transmission rate of the Internet connection allows.
- As long as no packets are being sent from higher-priority applications, the full transmission rate of the Internet connection is available for low-priority packets.

### Configuring Prioritization in the FRITZ!Box

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Configure prioritization in the “Internet / Filters / Prioritization” menu.

## 12.6 VPN: Remote Access to the Home Network

Via a VPN (Virtual Private Network) a secure remote access to the network of the FRITZ!Box can be established.

### VPN in the FRITZ!Box

IPSec	VPN in the FRITZ!Box is based on the IPSec standard.
Computer—LAN	Computer-LAN linkup: VPN connections can be configured for individual remote computers.
LAN—LAN	LAN-LAN linkup: VPN connections can be configured for remote networks.
Eight simultaneous connections	FRITZ!Box supports a maximum of eight simultaneous VPN connections.
Configuration software	The configuration files for the VPN connections are created using a separate program. The program is provided free of charge and can be downloaded from the AVM website.
FRITZ!Box user	For FRITZ!Box users who have the right to access the FRITZ!Box via VPN, no further settings must be configured. All required VPN settings are included in the user account.
VPN client	A free VPN client for individual computers can also be downloaded from the AVM website.

The AVM website offers a service page which presents comprehensive information on VPN in general and in connection with the FRITZ!Box. Visit this page to obtain more detailed information.

[en.avm.de/service/vpn/overview](http://en.avm.de/service/vpn/overview)

### Configuring VPN in the FRITZ!Box

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “Internet / Permit Access” menu.
4. Select the “VPN” page.

See also the Help available in the FRITZ!Box user interface for assistance with configuring VPN.

### Supplementary Software for VPN

All of the information required for a VPN is saved in a configuration file. The terminals involved in any VPN must receive this file.

Individual computers that are networked over a VPN require a VPN client.

- The “Configure FRITZ!Box VPN Connection” Wizard  
AVM provides the “Configure FRITZ!Box VPN Connection” software for creating configuration files. This program is a Wizard that takes you step by step through the VPN configuration. All of the necessary VPN settings, like the encryption method and access rules, are set automatically. The resulting configuration files must be imported to the terminals of the VPN tunnel. At the terminal with the FRITZ!Box the configuration file is then imported to the FRITZ!Box. The VPN parameters in these files can be adjusted manually to connect to products by other manufacturers.
- The “FRITZ!VPN” VPN client  
AVM offers the “FRITZ!VPN” software as a VPN client.

Both the Wizard and the client can be downloaded free of charge from the VPN Service page on the AVM website:

[en.avm.de/service/vpn/overview](http://en.avm.de/service/vpn/overview)

## 12.7 Freely Selectable DNS Servers

DNS servers are preset in the FRITZ!Box for IPv4 and IPv6.

These are the DNS servers assigned by the Internet service provider.

For both IPv4 and IPv6, the preset DNS server can be replaced by a free DNS server. Free DNS servers include, for instance, OpenDNS and Google DNS.

Here is how to change the DNS server entry:

The “DNSv6” page is displayed only if you enabled IPv6 support for the FRITZ!Box on the “IPv6” page.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. In the “Internet / Account Information” menu, select the “DNS Server” page.
4. Change the settings for the DNS servers.

## 12.8 DNSSEC: Security for DNS Queries

DNSSEC is short for Domain Name System Security Extensions. As the name says, this is an extension of DNS, the domain name system.

DNSSEC ensures that both the DNS server and the information returned by the DNS server are authentic, or genuine.

### Security with DNSSEC

When a home user surfs the web, she or he sends queries to the Internet by entering URLs in the address field of the browser. A URL is the name of a website that is easy to remember, for instance [en.avm.de](http://en.avm.de). Every query is sent to the DNS server first. The DNS server resolves the URL into the corresponding IP address. There is one unique IP address for every URL.



The home user relies on the authenticity of the IP address returned by the DNS server. Authentic means that the response is the IP address of the desired website, and not a faked IP address that leads to a fake website. DNSSEC can ensure that the returned addresses are authentic.

### Support with the FRITZ!Box

The FRITZ!Box supports DNSSEC queries over UDP.

The FRITZ!Box has a DNS proxy. The computers in the home network use the FRITZ!Box as a DNS server. The FRITZ!Box forwards DNSSEC queries from the home network to the Internet. The FRITZ!Box forwards DNSSEC responses from the Internet to the home network. The DNSSEC information must be validated on the computer in the home network. For this DNSSEC must be supported in the operating system.

## 12.9 IPv6: The New Internet Protocol

IPv6 stands for Internet protocol version 6 and is the successor to IPv4.

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

- IPv6 support can be switched on in the FRITZ!Box user interface.
- For simultaneous use of IPv6 and IPv4, the FRITZ!Box supports Dual Stack and Dual-Stack Lite. This means that the FRITZ!Box can communicate with both IPv4 and IPv6 domains in the Internet.
- The FRITZ!Box supports native IPv6 and IPv6 with a tunnel protocol. Native IPv6 means that your Internet service provider supports IPv6 directly on your line.

### 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 up-stream 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 server
- Automatic provisioning (TR-064)

### IPv6-Capable Services in the Internet

- FRITZ!NAS access via FTPS
- Completely closed firewall to protect against unwanted 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 and namemaster.de

### Configuring IPv6 in the FRITZ!Box

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “Internet / Account Information” menu.
4. Select the “IPv6” page and configure IPv6 in the FRITZ!Box. See the Help available in the FRITZ!Box user interface for more information.

### Configuring IPv6 on the Computer

You can establish connections in the IPv6 range of the Internet only if IPv6 is installed and enabled on the computers in your home network.

- IPv6 is already installed and enabled in the Windows 8, Windows 7 and Windows Vista operating systems.
- IPv6 has been available in the Mac OS X operating systems since Mac OS 10.

## 12.10 Mobile Network: Replacing Faulty DSL

Internet access over the mobile telephone network can be set up so that the mobile telephone connection is established automatically whenever the DSL connection fails. This guarantees Internet access even when the DSL connection fails. A USB modem for mobile Internet access (LTE/UMTS/HSPA) and a SIM card from a mobile communications provider are required for this.

Here is how to set up the mobile telephone connection as a substitute upon DSL failure:

1. Insert the USB modem in the USB port on the FRITZ!Box.
2. Open the FRITZ!Box user interface; see [page 28](#).

In the “Internet” menu, the sub-menu “Mobile Communications” is displayed.



The “Mobile Communications” menu is not available until the UMTS/HSPA modem has been connected to the USB port of the FRITZ!Box.

3. Select the setting “Automatically enable the mobile connection when the DSL connection is disrupted”.
4. Configure the settings for your Internet connection over the mobile communications network. In the Help of the FRITZ!Box user interface you can find detailed instructions.

Access to the Internet is now guaranteed, even when the DSL connection fails.

As soon as the DSL connection is stable and available for at least 30 minutes, the connection will be switched back to DSL.

## 12.11 LISP: FRITZ!Box as a LISP Router

LISP is a routing architecture which separates information about location and identity. There are two IP addresses: one for the location and one for the identity.

The FRITZ!Box can be configured as a LISP router.

- This chapter address system administrators.
- It presents a short introduction to LISP.
- You receive an overview about the possibilities for using LISP.
- This section includes instructions on how to configure the FRITZ!Box as a LISP router.

### Definition and Components

#### LISP: Definition

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#### LISP: Locator/Identifier Separation Protocol

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IP protocol	LISP is a protocol for the transmission of IP packets.
IP address pair	<p>LISP uses IP address pairs:</p> <ul style="list-style-type: none"> <li>• One IP address for identification, which is called the EID (Endpoint Identifier). The EID can be the IP address of a host or an entire IP subnet.</li> <li>• One IP address for the location, known as the RLOC (Routing Locator). The RLOC is the IP address of the LISP router.</li> </ul>
Tunnel protocol	<p>LISP is a tunnel protocol.</p> <p>A LISP packet consists of an internal IP packet and an additional external header. The header of the internal packet contains the EID; the external header contains the RLOC.</p>

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### Properties of RLOC and EID

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RLOC	<ul style="list-style-type: none"><li>• specifies the location where the addressed network (network segment or network device) is located</li><li>• is assigned by the Internet service provider</li><li>• is a public IP address</li><li>• is contained in the external header of the LISP packet</li><li>• can be an IPv4 address</li><li>• can be an IPv6 address</li></ul>
EID	<ul style="list-style-type: none"><li>• identifies a network (network segment or network device)</li><li>• is assigned by the LISP provider</li><li>• is contained in the internal header of the LISP packet</li><li>• can be an IPv4 address</li><li>• can be an IPv6 address</li><li>• can be a public IP address</li><li>• can be a private, non-public IP address</li></ul>

---

## Components of a LISP System

Mapping system	The mapping system is responsible for allocating the EIDs to the RLOCs.
ETR (Egress Tunnel Router)	The ETR accepts IP packets whose destination IP address contained in the external header is the ETR's own RLOC. ETR unpacks the LISP packets.
ITR (Ingress Tunnel Router)	The ITR accepts IP packets from members of the local IP network (EID network) and packs them into LISP packets. The external header of the LISP packet contains the RLOC of the destination network (remote EID network) as the destination address.
PETR (Proxy ETR)	A PETR (Proxy ETR) is required for communication between LISP sites and non-LISP sites. On the LISP side it works like a LISP router; on the non-LISP side it works like a native IP router.
PITR (PROXY ITR)	A PITR (Proxy ITR) is required for communication between LISP sites and non-LISP sites. On the LISP side it works like a LISP router; on the non-LISP side it works like a native IP router.
xTR	xTR is what we call a component that is both ETR and ITR. xTR is also known as a tunnel endpoint or encapsulation endpoint.

## Possible Uses

- LISP is useful if technical or organization reasons make it preferable to keep the same IP addresses, even when you switch Internet service providers.

Mobility example: When you change locations, devices do not lose their identity (host devices, VM).

- LISP is suitable for communication between IPv4 and IPv6 networks.
- Transport of address families: IPv4 via IPv4, IPv4 via IPv6, IPv6 via IPv6, IPv6 via IPv4

Example: The encapsulation of IPv6 packets in IPv4 headers allows IPv6 web sites to be connected over IPv4.

## Configuring FRITZ!Box as a LISP Router

### FRITZ!Box as a LISP Router

- The FRITZ!Box can be configured as a LISP router.
- As a LISP router the FRITZ!Box is an xTR (ETR and ITR).

### Preparations

You need a LISP provider.

➔ Register with a LISP provider.

All of the information you need to configure the FRITZ!Box as a LISP router is supplied by the LISP provider.

### Configuring a LISP Router

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “Internet / Account Information” menu.
4. Select the “LISP” tab.
5. Enable the setting “LISP support enabled”.
6. Enter in the fields the information you received from the LISP provider.

## 13 FRITZ!Box as a Wireless Access Point

The FRITZ!Box is a wireless access point for wireless devices like notebooks, tablets or smartphones. The FRITZ!Box can establish wireless LAN connections compliant with the fast Wireless N standard. The FRITZ!Box is preconfigured with encryption using today's safest method WPA2. This encryption method is supported by most of the latest wireless devices. The FRITZ!Box supports wireless LAN convenience functions like night service and WPS Quick Connection.

### 13.1 Switching the Wireless Radio Network On and Off by Schedule

You can configure a schedule for times at which the wireless network of the FRITZ!Box is to be turned on and off automatically. This reduces the power consumption of the FRITZ!Box.

The FRITZ!Box schedule also affects any other AVM products connected in the network, the FRITZ!WLAN Repeater, for instance: the radio network of these devices is also switched on and off for the specified times.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Open the "WLAN / Schedule" menu.
3. Enable the schedule for the wireless radio network.
4. Configure the settings for the schedule:
  - With the options "Switch off wireless LAN daily" and "Switch off wireless LAN according to schedule" you define the intervals for switching.
  - You can also enable the option "The radio network cannot be switched off until no more wireless LAN devices are active".
5. Click "Apply" to save your settings.

Now the schedule of the FRITZ!Box is enabled and configured.



In the Help of the FRITZ!Box user interface you can find detailed instructions.



## Switching Wireless LAN On and Off

You can switch the wireless radio network of the FRITZ!Box on and off at any time, even when the device is hibernating.

- Press the “WLAN” button on the FRITZ!Box briefly  
or
- Switch on the wireless LAN radio network using a connected telephone

wireless LAN on **#96\*1\***

wireless LAN off **#96\*0\***

## 13.2 Extending a Wireless LAN Network

The range of a wireless radio network is not fixed. It depends on

- the wireless devices you are using for your wireless LAN connections
- interference in the vicinity of your wireless radio network
- the structural conditions where you operate the wireless radio network
- the number of wireless devices in the vicinity of your FRITZ!Box that work in the same frequency range

You can extend the range of your wireless radio network with a wireless LAN repeater.

Or you can set up a second FRITZ!Box as a wireless LAN repeater.

## Extending a Wireless Radio Network with a Wireless LAN Repeater

You can extend your wireless radio network with a wireless LAN repeater. In combination with the FRITZ!Box the AVM FRITZ!WLAN Repeater is especially suitable. All models of the FRITZ!WLAN Repeater series can be integrated into your wireless radio network and your home network by WPS Quick Connection. Find out more in the Internet at:

[en.avm.de/products/fritz wlan](http://en.avm.de/products/fritz wlan)

## Using an Existing FRITZ!Box as a Repeater

You can extend the wireless LAN radio network of your FRITZ!Box with an additional FRITZ!Box you already have. To extend your wireless LAN, configure the repeater function in this device.

You can configure a FRITZ!Box as a repeater by working through the following steps:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “WLAN / Repeater” menu and follow the instructions displayed on the screen.

In the Help of the FRITZ!Box user interface you can find detailed instructions.

## 14 FRITZ!Box as a Telephone System

This chapter describes how to use the FRITZ!Box as a telephone system.

### 14.1 Telephone Book

#### How Can I Use the Telephone Book?

##### On FRITZ!Fon Cordless Telephones

The telephone book is available in the menu of your FRITZ!Fon cordless telephones.

You can configure a separate telephone book for each FRITZ!Fon, see [page 84](#).

##### Quick-Dial

With quick-dial numbers you can conduct calls on all telephones. You assign quick-dial numbers in the telephone book entries.

##### Click to Dial

With Click to Dial you can place calls by just clicking telephone book entries with the mouse, see [page 85](#).

#### Creating a New Telephone Book Entry

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Telephone Book”.
3. Click “New Entry”.
4. Enter the information on the contact.

In the first telephone book you can also enter a quick-dial number.

In the Help of the FRITZ!Box user interface you can find detailed instructions.

5. Save with “OK”.

### Creating a New Telephone Book for FRITZ!Fon

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Telephone Book”.
3. Click the “New telephone book” link.
4. Select “Create as new”.
5. Under “Telephone Assignment”, select all FRITZ!Fon cordless telephones on which you would like to use the telephone book.
6. Save with “OK”.

The telephone book is available in the menu of your selected FRITZ!Fon cordless telephones.

### Configuring Online Telephone Books (for Instance, Google Contacts)

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Telephone Book”.
3. Click the “New telephone book” link.
4. Select “Use the telephone book of an e-mail account”.
5. Select a provider and enter the e-mail address and password.
6. Under “Telephone Assignment”, select all FRITZ!Fon cordless telephones on which you would like to use the telephone book.
7. Save with “OK”.
8. For Google contacts you can also select contact groups.  
In the Help of the FRITZ!Box user interface you can find detailed instructions.

The telephone book is available in the menu of your selected FRITZ!Fon cordless telephones.

## Synchronizing Online Contacts

The FRITZ!Box synchronizes the configured online telephone books with the telephone book of your e-mail account every 24 hours.

You can also synchronize the telephone books with the click of a button. In the Help of the FRITZ!Box user interface you can find detailed instructions.

## Configuring Click to Dial

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Telephone Book / Click to Dial”.
3. Enable click to dial and select a telephone.
4. Save with “OK”.





You can use click to dial. In the Help of the FRITZ!Box user interface you can find detailed instructions.

## 14.2 Call List

The call list contains your telephone conversations and calls you missed.


### Symbols in the Call List

The symbol in front of a call shows the kind of call concerned:

Icon	Meaning
	Outgoing call
	Incoming call
	Missed call (call that was not picked up)
	Rejected call The call was rejected by pressing a button on the telephone or automatically through a call block.

## Saving New Telephone Numbers in the Telephone Book

New telephone numbers can be saved to the telephone book with a mouse click:

1. In the call list, click the “Add to Telephone Book” button .
2. Select an option:  
Create new: Create a new telephone book entry  
Add to: Add a telephone number to an entry
3. Click “Next”.

## Saving the Call List in a CSV File

You can save the call list in a CSV file on your computer. CSV files can be opened and processed in spreadsheet programs.

1. Click the “Save” button in the call list.
2. Select “Save” or “Save File”. What to do next depends on the web browser you are using.

## FRITZ!App Ticker for Android Smartphones

FRITZ!App Ticker shows the call list and new messages on the answering machine on your Android smartphone.

For more information, read [en.avm.de/products/fritzapps](http://en.avm.de/products/fritzapps).

## 14.3 Answering Machine

You can use the FRITZ!Box as an answering machine without connecting any additional devices.

If you have several telephone numbers, you can configure up to five different answering machines.

### Features

- **Voice to mail:** If desired you can receive any new messages automatically by e-mail.
- **Schedule:** You can define times for the answering machine to switch on and off on different days of the week.
- **Remote playback:** You can check the answering machine from on the go.

### Configure answering machine

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Answering Machine”.
3. Click the “Settings” button to configure the first answering machine.

To configure a new answering machine, click the “Another answering machine” link.

In the Help of the FRITZ!Box user interface you can find detailed instructions.

### Picking Up a Call from the Answering Machine

You can pick up on your telephone a call that has already been accepted by the answering machine:

1. Press the keys **+09** on the telephone.
2. Pick up the handset.

You are connected with the caller.

## Operating the Answering Machine on FRITZ!Fon

You can operate the answering machine in the menu of your FRITZ!Fon cordless telephones.

For comprehensive instructions, see the current FRITZ!Fon manual on [en.avm.de/service/manuals/fritzfon](http://en.avm.de/service/manuals/fritzfon).

## Operating the Answering Machine Using the Voice Menu

Using a voice menu you can operate the answering machine on any telephone connected with the FRITZ!Box.

Audio prompts in the voice menu guide the user through operation. Use the telephone keys to select functions.

1. Press the following keys on the telephone:

For ...	Keys
Answering machine 1	* * 6 0 0
Answering machine 2	* * 6 0 1
Answering machine 3	* * 6 0 2
Answering machine 4	* * 6 0 3
Answering machine 5	* * 6 0 4

2. Pick up the handset.
3. Follow the audio prompts in the voice menu.

You can also simply press a key on the telephone without waiting for the prompts.

An overview of the voice menu is presented on [page 89](#).



## Overview of the Voice Menu

### Main Menu

Key	Function
<b>1</b>	Play back messages
<b>2</b>	Delete all messages
<b>3</b>	Switch the answering machine on and off
<b>4</b>	Record a greeting
<b>5</b>	Enable recording mode (callers can leave messages) or announcement mode (answering machine does not record any messages)

### The “Listen to Messages” Menu

Key	Function
<b>3</b>	Return caller’s call
<b>5</b>	Delete message
<b>7</b>	To previous message
<b>9</b>	To next message

### The “Record Greeting” Menu

Key	Function
<b>1</b>	Greeting for recording mode
<b>2</b>	Greeting for announcement mode
<b>3</b>	Closing message at end of recording length
<b>1</b>	Listen to greetings > Select greeting with <b>2</b>
<b>5</b>	Delete greeting/announcement
<b>8</b>	Start recording > End recording with <b>1</b>

### In All Menus

Key	Function
<b>0</b>	Listen to messages in current menu from the beginning
<b>#</b>	Back to main menu

## 14.4 Fax Function

With the FRITZ!Box you can receive faxes without a fax machine. The FRITZ!Box can be configured to forward received faxes by e-mail.

### Configuring the Fax Function

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Telephony Devices”.
3. Click “Configure New Device”.
4. Under “Integrated in the FRITZ!Box”, select the “Fax function” option and confirm by clicking “Next”.
5. Enter the fax ID in the following format:  
+49 30 12345 (country code, area code without 0, your fax number)
6. Define whether the FRITZ!Box forwards incoming faxes by e-mail or saves them.

You can also enter multiple e-mail addresses. Use a comma to separate the individual addresses.

7. Click “Next”.
8. Select your fax number. Please note:  
The fax function accepts all calls to the selected number, including telephone calls.  
If you would like to take telephone calls at this number, too, you can set up automatic fax detection.
9. Click “Next” and “Apply”.

The fax function is configured.

## Configuring Automatic Fax Detection

Here is how automatic fax detection works:

The answering machine checks each incoming call to see whether it is a telephone call or a fax. Callers can leave a message, and faxes are forwarded to the fax function.

Here is how to enable automatic fax detection:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Configure the fax function; see [page 90](#).
3. Select “Telephony / Telephony Devices”.
4. Click the “Edit” button to open the settings of the fax function:



5. Click the “Help” button.

The Help on the fax function contains instructions on how to configure automatic fax detection.

## 14.5 Call Diversion

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

### Which Calls Can I Divert?

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
- If you have multiple telephone numbers: all calls **for** a certain telephone number or a certain telephone
- All anonymous calls in which the caller does not transmit a telephone number

## Where Can I Divert Calls to?

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

## Configuring Call Diversion

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “Telephony / Call Handling / Call Diversion” menu.
3. Click “New Call Diversion”.
4. Define which calls should be diverted.  
In the Help of the FRITZ!Box user interface you can find detailed instructions.
5. Define the destination and the type of call diversion.
6. Click “OK” to save the settings.

## 14.6 Dialing Rules for Outgoing Calls

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 the mobile network or abroad.

Example: You have a telephone number with which you can save on calls to foreign numbers. Then configure a dialing rule so that calls to foreign countries will be conducted with this telephone number.

## Configuring Dialing Rules

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Call Handling / Dialing Rules”.
3. Click the “New Dialing Rule” button.

4. Define the range of telephone numbers or the telephone number to which the dialing rule should apply.
5. Select a telephone number from the “Connect via” drop-down list.
6. Click “OK” to save the settings.

## 14.7 Dial Around Service Using Dialing Rules

If you would like use a dial around service number for certain calls, set up a dialing rule in the FRITZ!Box.

A dialing rule can specify, for example, that the FRITZ!Box automatically dials all international using a dial around service.

### Entering a Dial Around Number

First enter all of the dial around service numbers you would like to use in dialing rules:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Click the “View: Standard” link to switch on the advanced view:



3. Select “Telephony / Call Handling”.
4. Switch to the “Carrier Prefixes” tab.  
  
If the tab is not available, the FRITZ!Box does not support the use of Dial Around service on your connection type.
5. Under “Other Provider Prefixes”, enter all of the Dial Around service numbers you would like to use in dialing rules.
6. Click “Apply”.

### Configuring Dialing Rules

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Call Handling”.
3. Switch to the “Dialing Rules” tab.
4. In the “Area” list, choose for which outgoing telephone calls the dialing rule applies.

Number Range	Numbers Starting With
Mobile telephone network	015, 016 or 017
Local area network	2, 3, 4, 5, 6, 7, 8 or 9
Long-distance calls	0
International	00
Premium numbers	0900, 0190 or 0180
Directory assistance	118

5. Select the desired dial around service number from the “Connect using...” list.
6. Click “OK” to save the dialing rule.

### Example: Configuring Dialing Rules for International Calls

If you would like to conduct all international calls using a dial around service, configure the dialing rules as follows:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Call Handling”.
3. Switch to the “Dialing Rules” tab.
4. Select from the “Range” list the “International” entry.
5. Select the desired dial around service number from the “Connect using...” drop-down list.
6. Click “OK” to save the dialing rule.

Now whenever you call a telephone number that begins with 00 (2 zeroes) with the FRITZ!Box the call will be dialed using the dial around service number defined in the dialing rule.

## 14.8 Blocking Telephone Numbers and Callers

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

### How Does a Call Block Work?

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, for instance, mobile networks, can also be blocked.
Incoming calls	The FRITZ!Box will not accept calls from the blocked telephone number.  However, the call block only works if the caller allows transmission of her or his telephone number.
Anonymous callers	The FRITZ!Box will not accept any calls from callers who suppress their telephone number.

### Configuring a Call Block

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Call Handling / Call Blocks”.
3. Click the “New Blocking Rule” button.
4. Select whether the call block is to apply to incoming or outgoing calls.
5. Enter a range of telephone numbers or a telephone number.
6. Click “OK” to save the settings.

## 14.9 Do Not Disturb

Do Not Disturb keeps a telephone from ringing at specified times. Calls you miss then appear in the FRITZ!Box call list.

### Configuring Do Not Disturb

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Telephony Devices”.
3. Click the “Edit” button to open the settings of a telephone:



4. Switch to the “Do Not Disturb” tab and configure the Do Not Disturb settings.
5. Click “OK” to save the settings.

## 14.10 Alarm

When you configure an alarm, your telephone rings at the specified time.

### Configuring the Alarm

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Telephony / Alarm”.
3. Enable the alarm and enter a time.
4. Select which telephone should ring at the specified time.
5. Define here whether the alarm should be repeated.
6. Click “Apply” to save the settings.

The alarm is configured and enabled.



## 14.11 Baby Monitor

The following telephones can be configured as a baby monitor:

- FRITZ!Fon cordless telephones
- Telephones connected to the “FON 1” socket on the FRITZ!Box


### How Does a Telephone Work as a Baby Monitor?

You configure the telephone as a baby monitor by entering a telephone number at which you can be reached.

Now when the volume in the room reaches a certain level, the telephone will call the specified telephone number.

Incoming calls to the telephone are signaled silently.

### Configuring a FRITZ!Fon Cordless Telephone as a Baby Monitor

1. Press the menu key on your FRITZ!Fon.
2. Select “Suppl. services” and then press “OK”.
3. Select “Baby monitor” and then press “OK”.
4. Select “Destination no.” and then press “OK”.
5. Enter an external telephone number, an internal telephone number or  for an internal broadcast call.

The internal numbers of the telephones you have connected are listed in telephone book of the FRITZ!Box user interface.

6. Press “OK”.
7. Select “Activation” and “OK”.
8. Set the sensitivity.

The baby monitor is enabled. The display of your FRITZ!Fon shows the text “Baby monitor enabled”.

To disable the baby monitor, exit the “Baby Monitor Enabled” menu.

## Configuring a Telephone at the FON Port as a Baby Monitor

Here is how to configure a telephone at the “FON 1” port:

1. Press the following keys on the telephone:

This Is Where the Baby Monitor Should Call	Keys
Another telephone or mobile number	*41* <telephone number>#
Internal telephone number, see <a href="#">page 99</a>	*41* <internal telephone number without **>#
All other telephones connected to the FRITZ!Box (broadcast call)	*41*9#

2. The baby monitor is enabled. Place the handset near the child to be monitored.
3. If the baby monitor is too sensitive, set it to a lower sensitivity. The third button defines the sensitivity. Eight levels are available:

Sensitivity	Keys
Highest	*41* <telephone number>#
	*42* <telephone number>#
	...
Lowest	*48* <telephone number>#

To disable the baby monitor, hang up the handset.

## 14.12 Making Telephone Calls with Convenience Functions

This chapter describes convenience functions you can use when placing and making telephone calls, for instance internal calling, forwarding calls, alternating between calls and three-party conferences.

### Making Internal Calls

You can conduct free, internal calls between telephones connected to the FRITZ!Box.

1. Enter an internal telephone number on the telephone.  
The internal numbers of the telephones you have connected are listed in telephone book of the FRITZ!Box user interface.
2. Pick up the handset.

### Group Call

A group call or broadcast call is an internal call that is signaled on all telephones connected with the FRITZ!Box. The call is conducted with the party who picks up the telephone first.

1. Press the keys **\* \* 9** on the telephone.
2. Pick up the handset.

### Transferring: Forwarding Calls Internally

Here is how to transfer a call to a different telephone:

1. While you are conducting the call, press the Hold button **R**.  
The call is on hold.
2. Enter an internal number.  
The internal numbers of the telephones you have connected are listed in telephone book of the FRITZ!Box user interface.  
When the called party accepts the call the second call is connected.
3. Hang up to connect the two external parties with each other.

## Calling Line Identification Restriction (CLIR) Once for FON 1

For outgoing calls on the line “FON 1” you can restrict identification of your calling line once (for one call).

1. Press the keys **\*31#** on the telephone.
2. Enter the telephone number you would like to call.
3. Pick up the handset.

For this call your telephone number will not be transmitted to the other caller.

## Three-Party Conference Call

### Making a Three-Party Conference Call

1. Connect the first call: Call someone or pick up their call.
2. Press the Hold button **R**.

Call 1 is on hold.

3. Connect the second call: Enter an internal or external telephone number.

When the called party accepts the call the second call is connected.

4. Press the keys **R3**.

The three-party conference is set up.

Any party can hang up. The two other parties remain connected.

### Interrupting a Three-Party Conference Call

1. Press the keys **R2**.
2. You are speaking with party 1 and holding call 2.
3. Press the following keys on the telephone:

Function	Keys
Ending call 2 and switching to call 1	<b>R 1</b>
Switching between call 1 and call 2 (alternating)	<b>R 2</b>
Making a three-party conference call	<b>R 3</b>

## Accepting or Rejecting Waiting Calls on FON 1

### Requirements

- The “Call waiting” feature must be enabled for the individual telephone in the FRITZ!Box. The telephone settings can be edited in the user interface of the FRITZ!Box under “Telephony / Telephony Devices”.

### Rejecting a Waiting Call

➔ Press the keys **R 0**.

### Accepting a Waiting Call and Holding Call 1

1. Press the keys **R 2**.
2. Press the following keys on the telephone:

Function	Keys
Switching between call 1 and call 2 (alternating)	<b>R 2</b>
Ending call 2 and switching to call 1	<b>R 1</b>

### Accepting a Waiting Call and Ending Call 1

1. Hang up.  
Call 1 is ended and your telephone rings.
2. Pick up the handset.  
You are connected with the waiting caller.

## Holding, Consultation and Alternating

You can put a call on hold in order to call another party and establish a second call (consultation).

You can alternate between the two calls as often as you like.

### Holding and Consultation

1. While you are conducting the call, press the Hold button **R** on the telephone.

Call 1 is on hold.

2. Enter an internal or external telephone number.

When the called party accepts the call the second call is connected.

### Alternating Between Calls

Here is how to switch from the active to the held call:

- ➔ Press the keys **R2**.

The call that was just active is put on hold and you continue the other call.

### Ending the Active Call—Continuing the Call on Hold

1. Hang up the handset.

The active call is ended. Your telephone rings.

2. Pick up the handset.

You are speaking with the party that was on hold.

### Using Keypad Shortcuts

Keyboard shortcuts are commands consisting of multiple characters and numerals. They can be used to control services and features in the telephone network.

For information about which keypad sequences you can use, contact your carrier.

1. Press the keys **\*#<Seq>**. <Seq> stands for a keyboard sequence.
2. Pick up the handset.

## 15 Configuring FRITZ!Box on the Telephone

Various functions can be configured using a telephone connected to the FRITZ!Box.

### 15.1 Alarm

#### Requirements

You set up an alarm in the FRITZ!Box; see [Alarm](#) on [page 96](#).

#### Can I Switch More than One Alarm On and Off?

No. With the telephone keys you always switch the first alarm on or off.

The second and third alarm can be switched on and off here:

- in the FRITZ!Box user interface; see [Alarm](#) on [page 96](#)
- in the menu of a FRITZ!Fon cordless telephone

#### Switching the Alarm On and Off

1. Press the following keys on the telephone:

Function	Keys
Alarm on	#881**
Alarm off	#881#

2. Pick up the handset and hang it up again.

## 15.2 Do Not Disturb

You can enable the Do Not Disturb feature for the line “FON 1”.



In the FRITZ!Box user interface you can also configure the Do Not Disturb function for other telephones; see [Do Not Disturb](#) on [page 96](#).

### Turning Do Not Disturb On/Off

1. Press the following keys on the telephone:

Function	Keys
Do Not Disturb enabled	#811*0*
Do Not Disturb disabled	#811*1*

2. Pick up the handset and hang it up again.

## 15.3 Call Diversion

Call diversion automatically diverts incoming calls to a previously specified external telephone number.

If your telephony provider supports this, calls will be diverted by your provider. Otherwise the FRITZ!Box establishes a second connection. In either case, extra charges will accrue according to your contracted telephone rates.

### Enabling: Call Diversion for All Calls

Here is how to configure call diversion to an external number (destination number) that applies to all incoming calls:

1. Press the following keys on the telephone:

Type of Call Diversion	Keys
Immediately	*21* <destination phone number> *#
delayed (after 20 seconds)	*61* <destination phone number> *#
only when busy	*67* <destination phone number> *#



2. Pick up the handset.  
Wait for the second-long positive acknowledgment tone.
3. Hang up the handset.

### Disabling: Call Diversion for All Calls

1. Press the following keys on the telephone:

Type of Call Diversion	Keys
Immediately	*21**#
delayed (after 20 seconds)	*61**#
only when busy	*67**#

2. Pick up the handset.  
Wait for the second-long positive acknowledgment tone.
3. Hang up the handset.

### Enabling: Call Diversion for Own Telephone Number

You can configure call diversion that applies only for all calls that arrive for a certain telephone number. Calls for your other telephone numbers will not be diverted.

Here is how to configure call diversion to an external number (destination number):

1. Press the following keys on the telephone:

Type of Call Diversion	Keys
Immediately	*21* <destination phone number> * <own number> #
delayed (after 20 seconds)	*61* <destination phone number> * <telephone number> #
only when busy	*67* <destination phone number> * <telephone number> #

2. Pick up the handset.  
Wait for the second-long positive acknowledgment tone.
3. Hang up the handset.

## Disabling: Call Diversion for Own Telephone Number

1. Press the following keys on the telephone:

Type of Call Diversion	Keys
Immediately	*21* *own telephone number#
delayed (after 20 seconds)	*61* *own telephone number#
only when busy	*67* *own telephone number#

2. Pick up the handset.  
Wait for the second-long positive acknowledgment tone.
3. Hang up the handset.

## Enabling: Call Diversion for FON 1

1. Press the following keys on the telephone:

Type of Call Diversion	Keys
immediately without ringing	#411* <destination phone number*>
immediately with ring	#451* <destination phone number*>
delayed (after 20 seconds)	#421* <destination phone number*>
only when busy	#431* <destination phone number*>

2. Pick up the handset.  
Wait for the second-long positive acknowledgment tone.
3. Hang up the handset.

### Disabling: Call Diversion for FON 1

1. Press the keys **\*401#\*\*** on the telephone.
2. Pick up the handset.  
Wait for the second-long positive acknowledgment tone.
3. Hang up the handset.

## 15.4 Switching the Wireless Network On and Off

1. Press the following keys on the telephone:

Function	Keys
Wireless LAN on	<b>#96*1*</b>
Wireless LAN off	<b>#96*0*</b>

2. Pick up the handset and hang it up again.

## 15.5 Loading Factory Settings



All settings you made in the FRITZ!Box will be deleted.

1. Press the keys **#991\*15901590\***.
2. Pick up the handset and hang it up again.

The factory settings are loaded. Then the FRITZ!Box will restart.

## 16 FRITZ!Box as a DECT Base Station

The FRITZ!Box is equipped with a DECT base station, on which you can register and configure a total of up to six cordless telephones.

### 16.1 Paging Cordless Telephones

If you have misplaced a cordless telephone, you can find it by using a paging call:


1. Briefly press the “DECT” button of the FRITZ!Box. All cordless telephones registered on the FRITZ!Box will ring.
2. To end the paging call press the “DECT” button on the FRITZ!Box again, or any button on your cordless telephone.

### 16.2 Registering a Cordless Telephone

- ➔ Read [Registering FRITZ!Fon and Other Cordless \(DECT\) Telephones](#) on [page 49](#).

### 16.3 Deregistering a Cordless Telephone

Deregister from the FRITZ!Box the cordless telephones you no longer use.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “DECT”.
3. To deregister a cordless telephone, click the “Delete”  button.

The cordless telephone will be deregistered from the FRITZ!Box and deleted from the user interface.

## 16.4 Enabling DECT Eco

DECT Eco allows the DECT radio network to be switched off during standby operation.

### How Does DECT Eco Work?

When all registered cordless telephones are in standby operation, the DECT radio network of the FRITZ!Box and the telephones is switched off.

When a call arrives or you press a key on a cordless telephone, the DECT radio network is switched back on.

A telephone is on standby operation when you are not making any calls, not using any other features, and not pressing any buttons.

### Requirements

- In the user interface (see [page 28](#)), the option “DECT Eco supported” must be displayed for each cordless telephone under “DECT / DECT Monitor”.
- The FRITZ!Box must be configured as a DECT base station: The setting “DECT enabled” must be enabled under “DECT / Base Station” in the user interface.
- The following devices may **not be registered with the FRITZ!Box**: FRITZ!DECT 200, FRITZ!DECT Repeater, FRITZ!Box in DECT repeater mode.

### Enabling DECT Eco in the FRITZ!Box

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “DECT / Base Station” menu.
3. Enable the “DECT Eco” option and define when DECT Eco should be active.
4. Click the “Apply” button to save the settings.
5. Register all of the cordless telephones on the FRITZ!Box again.

## 17 FRITZ!Box Connects Network Devices

All network devices connected with the FRITZ!Box comprise a network. Network devices include, for instance, computers, game consoles and smartphones. The devices can be connected with the FRITZ!Box by cable or wirelessly. This chapter describes the network settings in the FRITZ!Box and how you can change them. You will also learn how you can change the IP settings for the computer in the most common operating systems.

### 17.1 Network Settings in the FRITZ!Box

The FRITZ!Box is delivered with preconfigured network settings. According to these settings, all network devices connected with the FRITZ!Box are located in a single network.

The network settings can be changed and adapted to your conditions and needs. But you should do so only if you are well versed in networking technology.

#### Network Overview

All of the devices and users connected with the FRITZ!Box are displayed in a table on the “Devices and Users” tab in the “Home Network / Network” menu.

- For each user and each network device, you find an entry in the network overview.
- If you use FRITZ!Powerline devices in your network, these will be displayed in the network overview. All of the network devices connected to the FRITZ!Powerline will also be displayed.
- If you use FRITZ!WLAN Repeater in your network, these will be displayed in the network overview. Network devices connected via a repeater will also be displayed.
- The network overview is divided into the areas “Active Connections”, “Guest Network” and “Idle Connections”.

### Accessing Network Devices by Mouse Click

Network devices that can be reached over the HTTP protocol can be accessed within the home network with a the click of the mouse. The name of the network device. Clicking the device name opens the user interface of the HTTP application.

### Network Devices: Settings

The settings described in the following section can be configured for each network device individually.

#### Always Assigning the Same IP Address

For network devices there is the setting “Always assign this network device the same IP address”.

This setting has the effect that the DHCP server of the FRITZ!Box will assign the same IP address to the device every time it connects to the network.

#### Starting the Computer—Wake on LAN

Wake on LAN is a function that allows a computer in the local network to be started when it is accessed from the Internet. For instance, you can access a computer using remote maintenance software, without wasting electricity by keeping the computer switched on permanently.

The FRITZ!Box supports Wake on LAN both for IPv4 and for IPv6 connections.

#### Requirements:


- The computer must support Wake on LAN.
- The computer must be connected with the FRITZ!Box via network cable or via a FRITZ!Powerline device.
- For access from the Internet, the computer must be in standby operation.

There are two ways to start the computer:

- The “Start Computer” button  
Using this button you can start the computer every time it is accessed from the Internet.
- Starting automatically  
With the “Start this computer automatically as soon as it is accessed from the Internet” option the computer is started automatically when it is accessed from the Internet.

### Configuring Settings

The settings are configured in the detailed view of the individual network devices:

1. Select the “Home Network / Network” menu.
2. Select the “Devices and Users” tab.
3. Select the computer and click the “Edit” button: .

The detailed view for the computer will be opened.

### IPv4 Settings in the FRITZ!Box

#### Factory Settings

The following IPv4 settings are preconfigured in the FRITZ!Box upon delivery:

Setting	Preconfigured Value
IPv4 address	192.168.178.1
Subnet Mask	255.255.255.0
DHCP server	enabled

The following IP addresses can be derived from the IP address and the subnet mask:

IP Addresses	Value
Network address	192.168.178.0
Entire IPv4 address range for the computers	192.168.178.2— 192.168.178.254



### Reserved IP Addresses

The following IPv4 addresses cannot be assigned because they are reserved for certain purposes:

IP Address / Purpose	Value
This IP address is used by the FRITZ!Box itself	192.168.178.1
This IP address is the broadcast address used to send messages into the network	192.168.178.255

The entire IP network 192.168.180.0 in the FRITZ!Box is reserved for internal purposes.

IPv4 addresses from this network may **not** be assigned to the FRITZ!Box.

### Changing the IPv4 Address

In most home networks it is not necessary to change the IPv4 settings.

Yet there are situations in which it makes sense to adjust the IPv4 settings of the FRITZ!Box. For instance, in the following case:

- You have an existing local IPv4 network, one subnet with several computers.
- Fixed IPv4 addresses are registered in the network settings of the computer, and you do not want to or are not permitted to change these addresses.
- You want to connect the FRITZ!Box to the local IPv4 network in order to make the FRITZ!Box features available to all of the computers in the IPv4 network.

### IPv4 Address in Case of Emergency

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

Emergency IPv4 address	169.254.1.1
------------------------	-------------

For instructions about how to handle the emergency IPv4 address, see the section [Opening the User Interface Using an Emergency IP Address](#) from [page 158](#).

### DHCP Server for IPv4

The FRITZ!Box has a DHCP server for the IPv4 range. The DHCP server is enabled by default in the factory settings. The following range of IP addresses is reserved for the DHCP server in the factory settings:

IP address range reserved upon delivery	192.168.178.20— 192.168.178.200
---	------------------------------------

#### How the DHCP Server Works

Every time a network device connected with the FRITZ!Box is started, the DHCP server assigns it an IPv4 address from the IP address range of the DHCP server.

Only one DHCP server may be active within any network.

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 IPv4 settings of the network devices must have the “Obtain an IP address automatically” option enabled. This is the only way to receive the IP address from the DHCP server. For more information, see the chapter [Obtaining an IP Address Automatically](#) from [page 117](#).

#### Fixed IPv4 Addresses When the DHCP Server Is Enabled

If you would like to configure fixed IPv4 addresses on individual computers connected with the FRITZ!Box even though the DHCP server is enabled, please note the following:

- The IPv4 addresses must be from the IPv4 network of the FRITZ!Box.
- The IPv4 addresses may not come from the address range of the DHCP server.
- Each IPv4 address can be assigned only once.

### Changing the IP Address Range of the DHCP Server

If the DHCP server does not have enough IP addresses, you can expand the address range.

### Disabling the DHCP Server

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

- If you use a different DHCP server in your home network, you must disable the DHCP server of the FRITZ!Box.
- If you want to manage the IP address assignments of all devices in the home network yourself, you can disable the DHCP server of the FRITZ!Box.

Please note that the FRITZ!Box must be located in the same IP network as all of the device connected with it. Integrate the FRITZ!Box in your network by adjusting the IP address of the FRITZ!Box to your home network.

### IPv6 Settings in the FRITZ!Box

The following settings options for IPv6 are found in the advanced view in the “Home Network / Network” menu on the “Network Settings” page.

#### Additional IPv6 Routers in the Home Network

- IPv6 prefixes from other IPv6 routers

You can allow the network devices connected to the FRITZ!Box to receive IPv6 prefixes announced by other IPv6 routers in the local network.

- Also announce DNSv6 server via router advertisement

With this setting you specify that the FRITZ!Box announces the local DNSv6 server in the local network via router advertisement. Alternatively, the network devices can identify the local DNSv6 server via DHCPv6.

### IPv6 Settings

Click the “IPv6 Addresses” button to configure settings for the IPv6 addresses in the local network.

### Unique Local Addresses

Communication within the local network takes place via the Unique Local Addresses (ULA). If no IPv6 Internet connection is established, the network devices do not have a ULA and communication between them is restricted. For this case you can set the FRITZ!Box such that the network devices receive the ULA from the FRITZ!Box.

### DHCPv6 Servers in the Home Network

The FRITZ!Box is equipped with its own DHCPv6 server. The DHCPv6 server of the FRITZ!Box is switched on by default.

The DHCPv6 server assigns the network devices their IPv6 settings. These settings are used instead of the data in the router advertisement messages. The DNS server, IPv6 prefixes or IPv6 addresses can all be assigned by DHCPv6. Define which IPv6 settings should be assigned by the DHCPv6 server.

### Changing Network Settings

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “Home Network / Network” menu.
4. Select the “Network Settings” page.
5. Click the “IPv4 Addresses” or “IPv6 Addresses” button, depending on the address range you would like to change.

Note that changes to the network settings in the FRITZ!Box may make it necessary to adjust the network settings of your computers so that you can continue to access the FRITZ!Box user interface.

## 17.2 Obtaining an IP Address Automatically

The FRITZ!Box has its own DHCP server, which assigns IP addresses to the connected computers. The connected computers must be configured such that they can receive their IP addresses automatically. The steps for checking and adjusting this option differ among the operating systems. See the relevant section for your operating system.

If FRITZ!Box is operated in a network, no other DHCP server may be activated in this network.

### Obtaining an IP Address Automatically in Windows

1. In Windows 7 and Vista click “Start”.  
In Windows 8 and 8.1, press the Windows key and the Q key at the same time.

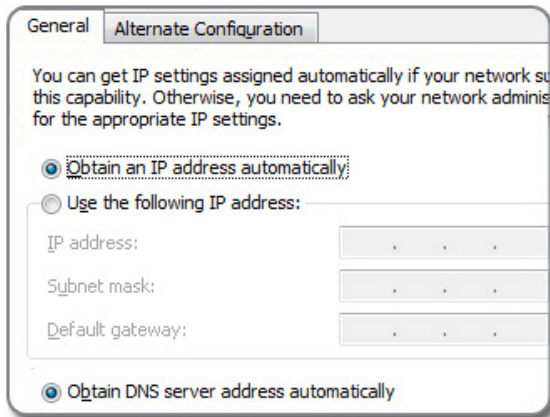
In Windows 7 and Vista, the Start menu with the “Search” field appears. In Windows 8 and 8.1 the “Search” menu for apps appears.

2. Enter “ncpa.cpl” in the search field and press Enter.



Entering “ncpa.cpl” in Windows 8

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 computer 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 the “Network” icon.
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 computer now 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](http://www.tldp.org/HOWTO/NET3-4-HOWTO-5.html)

## 18 Connecting USB Devices to the FRITZ!Box

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

This chapter describes how to share a printer in the network, which USB devices can be used in your FRITZ!Box home network, and how to use these devices safely.

### 18.1 Power Supply for USB Devices

You can connect USB devices with the following properties to the FRITZ!Box:

- Some USB devices require more than one USB port for operation, for instance, hard drives with a USB Y cable. Connect this type of USB device to the FRITZ!Box using a USB hub with its own power supply.
- The total current consumption of connected USB devices without their own power supply may not exceed 500 mA. Check the rating plates of the connected USB devices.

USB devices that exceed the total current consumption of 500 mA can be connected to the FRITZ!Box using a USB hub with its own power supply.

### 18.2 USB Devices on the FRITZ!Box

These USB devices can be connected to the FRITZ!Box:

- You can connect up to four USB storage media like hard disks, USB flash drives or card readers.
- USB storage media must use the file systems EXT2, FAT, FAT32 or NTFS. On storage media with the FAT and FAT32 file systems you can use files up to a size of 4 GB. In the EXT2 and NTFS file systems there is no limit to the size of files that can be used.

- You can connect **one** standard USB printer or **one** all-in-one device with scanner and fax function.

The complete range of functions available in all-in-one printers is guaranteed only with the USB remote connection of the FRITZ!Box; see [Sharing a USB Printer](#) on [page 123](#).

- You can connect a USB hub to the FRITZ!Box and use up to four USB devices at this hub.

You can use USB hubs with or without a separate power supply. We recommend deploying a USB hub with its own power supply if the USB devices to be connected exceed a total current consumption of 500 mA; see [Power Supply for USB Devices](#) on [page 119](#).

- You can connect a USB modem. With a USB modem the FRITZ!Box can establish the Internet connection via the mobile communications network (LTE/UMTS/HSPA); see [Configuring the Internet Connection for a Mobile Network](#) on [page 45](#).

### 18.3 Using USB Devices Safely

Follow the instructions below about how to use USB devices on your FRITZ!Box.

- The FRITZ!Box can not defend the USB memory from external influences. This means that voltage spikes or drops, like those that occur during electrical storms, may lead to data losses on connected USB storage media. We recommend making regular backups of the USB memory contents to avoid any losses.
- Whenever you want to remove USB devices from the FRITZ!Box, go to the “Home Network / USB Devices” area in the FRITZ!Box user interface to remove them safely and avoid any loss of data.



## 18.4 Configuring Access Rights

You can protect the data on your USB storage from unauthorized access by securing the user interface of your FRITZ!Box with a password. In the “System / FRITZ!Box Users” menu you can

- configure a shared password that is requested every time anyone in your home network accesses the FRITZ!Box and the connected USB storage media.
- configure various FRITZ!Box users. You can configure a password for each FRITZ!Box user and then specify which connected USB storage media each user is allowed to access.

A USB storage medium connected to the FRITZ!Box can be reached in the home network by entering the shared FRITZ!Box password. From the Internet you can reach the USB storage medium only by logging in with your individual user name and password.

Information on the user controls of your FRITZ!Box is presented in the section [Password Protection: Using FRITZ!Box Safely](#) from [page 33](#).

## 18.5 Accessing USB Memory

The participants in the home network have various possibilities for accessing the various storage media of the FRITZ!Box.

- Home network members can access the contents of connected USB memory and all other memory of the FRITZ!Box especially conveniently with FRITZ!NAS. For this FRITZ!NAS offers a graphic interface. Read the section [Managing Memory with FRITZ!NAS](#) on [page 129](#) for more information.

- Participants in the home network can use FTP software like FireFTP to exchange files among the FRITZ!Box storage media and workplaces.

Alternatively, you can enter <ftp://fritz.box> in the address line of your Internet browser to access the storage media.

If you would like to use FTP software, see the documentation of the software as well as the instructions in the Help on the FRITZ!Box user interface.

- For access to media data like music, images and videos available on the memory or on storage media of the FRITZ!Box you can enable the FRITZ!Box media server. Suitable playback devices like TV sets, web radios, smartphones and the Windows Media Player can then call up the data from the media server for streaming.

Playback devices to be used in connection with the media server must support the UPnP AV standard. The term “DLNA” is often used to designate this support.

Enable the “Media Server enabled” function in the FRITZ!Box user interface under “Home Network / Media Server”.

## 18.6 Enabling Energy-saving Mode for USB Hard Drives

In the FRITZ!Box you can enable an energy-saving function for USB hard drives connected to the FRITZ!Box. When the energy-saving function is enabled, connected USB hard drives will be switched off when they are idle—as long as the hard drives support the energy-saving function.

Enable the energy-saving function in the “Home Network / USB Devices” menu in the FRITZ!Box user interface. You can also test here whether your USB hard disk supports the energy-saving function.

## 18.7 Sharing a USB Printer

You can connect a USB printer to the FRITZ!Box to make it available to all participants in your home network.

You can either release the printer for sharing as a network printer or use the FRITZ!Box USB remote connection software to connect it with a computer.

### Using a USB Printer as a Network Printer

Configure the USB printer as a network printer on the FRITZ!Box if

- the participants in the home network are to be able to use the printer jointly and simultaneously.
- the printer is to be used by computers that use an operating system other than Windows.

For information about how to configure a USB printer as a network printer, see the section [Configuring a USB Printer as a Network Printer](#) on [page 124](#).

### Using a USB Printer with FRITZ!Box USB Remote Connection

Configure the USB printer on the FRITZ!Box with the FRITZ!Box USB remote connection if

- the USB printer is an all-in-one device (fax/printer/scanner) and the entire range of functions is to be used.
- the USB printer is equipped with convenience features like ink level display and you would like to use these.
- the USB printer uses bidirectional data exchange. In other words: Not only does the computer send data to the printer, the printer also sends status messages to the computer. This communication in both directions is typical of the “Windows printers” or “GDI printers” that work only with special Windows device drivers.

For information about how to configure a USB printer with the USB remote connection, continue reading from the section [Configuring a USB Printer with FRITZ!Box USB Remote Connection](#) on [page 127](#).

## Configuring a USB Printer as a Network Printer

Connect the USB printer to the USB port of the FRITZ!Box.

### Preparing Configuration

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “Home Network / USB Devices” menu.
4. Select the “USB Remote Connection” tab.
5. Disable the option “printers (including all-in-one printers)”.
6. Save your settings by clicking “Apply”.
7. Connect the USB printer to the FRITZ!Box.

This concludes the preparations. Continue reading in the section for your operating system.

### Configuring a USB Printer in Windows 8, Windows 7 and Vista

1. Click “Start / Control Panel” and select the printer category of your operating system:
  - “Hardware and Sound / Devices and Printers” (Windows 8, Windows 7)
  - “Printers” (Windows Vista)
2. Click the printer icon with the right mouse button and select “Properties” or “Printer properties”.



If the printer is not displayed, you must first install the printer drivers for this device. Consult the documentation of your printer for instructions.

3. Switch to the “Ports” tab.
4. Click “Add” or “Add Port...”.
5. Click the “Standard TCP/IP Port” entry and click “New Port”, then “Next”.
6. Enter <http://fritz.box> in the “Printer Name 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 within the network.

7. Enter any name you wish in the “Port name” field and click “Next”.
8. Select the “Custom” option and click “Settings...”.
9. Enable the “Raw” option.
10. Enter “9100” in the “Port Number” field and click “OK”.
11. Click “Next” and confirm with “Finish” and “Close”.
12. In the “<Printer name> Properties” window, switch to the “Ports” tab.
13. Disable the “Enable bidirectional support” option and click “Apply”.

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

#### Configuring a USB Printer in Windows 8.1 or 8

1. Press the keyboard shortcut “Windows key+X” and select “Control Panel” from the context menu.
2. Click “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. In the “Hostname or IP address” field, enter:  
<http://fritz.box>.



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 within 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.

### Configuring a USB Printer in Mac OS X Version 10.5 or Higher

1. In the dock, click “System preferences”.
2. Click “Print & Fax”.
3. Click the “+” sign.
4. Click “IP Printer”.
5. In the “Protocol:” drop-down list, select the entry “HP Jet Direct – Socket”.
6. Enter <http://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 the FRITZ!Box can be reached within the network.

7. In the “Print Using:” drop-down 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 “Add” or “Add Port...”.

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

### Configuring a USB Printer in Other Operating Systems



The names of entries or menus in operating systems not described above may be slightly different than the terms we use here.

- As the port type, select “Raw TCP”.
- Enter “9100” as the port.
- Enter <http://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 the FRITZ!Box can be reached within the network.

### Configuring a USB Printer with FRITZ!Box USB Remote Connection

If you are using an all-in-one device or would like to use the convenience features of a USB printer connected to the FRITZ!Box, we recommend installing the FRITZ!Box USB remote connection software. The FRITZ!Box USB remote connection program can be installed on computers with Windows 8, Windows 7 or Vista (32- and 64-bit).

#### Installing FRITZ!Box USB Remote Connection

Install the program for FRITZ!Box USB remote connection on all of the computers with which you want to use the connected USB device.

1. Connect the USB printer to the USB port of the FRITZ!Box.
2. Open the FRITZ!Box user interface; see [page 28](#).
3. Enable the advanced view.
4. Select the “Home Network / USB Devices / USB Remote Connection”.
5. Click the “USB remote connection software” link.
6. In the “USB Remote Connection” window, click “Download”.
7. Download the file “fritzbox-usb-fernanschluss.exe”.
8. Double-click the file and follow the instructions on your screen.

The FRITZ!Box USB remote connection software is now installed on your computer. Repeat the steps in these instructions for all other Windows users who wish to use the USB remote connection on this computer.

### Enabling the FRITZ!Box USB Remote Connection

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select the “Home Network / USB Devices / USB Remote Connection”.
4. Enable the USB remote connection for printers and select the option “printers (including all-in-one printers)”.


For an all-in-one printer with a memory function, also enable the “USB storage media” option.

For an all-in-one printer with a scanner function, also enable the “others (e.g. scanner)” option.

5. Click “Apply”.

The FRITZ!Box USB remote connection is enabled.

### Using a USB Printer with FRITZ!Box USB Remote Connection

1. Open the FRITZ!Box USB remote connection by clicking the  icon in the Windows task bar.
2. Enter the FRITZ!Box password in the “My FRITZ!Box” area.
3. Click “Refresh”.
4. Click the USB printer in the “Devices” area.

The USB printer is being connected to the computer.



Do not conduct any firmware updates for USB devices that are connected with the computer via the FRITZ!Box USB remote connection.



## 19 Managing Memory with FRITZ!NAS

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.

### 19.1 Requirements for FRITZ!NAS

In order to use FRITZ!NAS, your computer must have a web browser installed that supports HTML5 (for instance, Internet Explorer version 9 or higher, Firefox version 17 or higher, or Google Chrome version 23 or higher).

### 19.2 Starting FRITZ!NAS

1. Open a web browser.
2. Enter “fritz.nas” in the address field.

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

### 19.3 FRITZ!NAS Password Protection

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. In the “System / FRITZ!Box Users / Login to Home Network” menu you can

- configure a shared password that is requested every time anyone in your home network accesses the FRITZ!Box and FRITZ!NAS.
- configure various FRITZ!Box users. You can configure a password for each FRITZ!Box user and then specify which FRITZ!NAS contents each user is allowed to access.

FRITZ!NAS can be reached in the home network by entering the shared FRITZ!Box password. From the Internet you can reach FRITZ!NAS only by logging in with your individual user name and password.

Information on the password protection of your FRITZ!Box is presented in the section [Password Protection: Using FRITZ!Box Safely](#) from [page 33](#).

## 20 Extending the Scope of Functions with Smart Home

You can expand the scope of functions of your FRITZ!Box with AVM smart home devices for home automation.

A smart home device that is especially easy to integrate in your home network is FRITZ!DECT 200. FRITZ!DECT 200 is a switchable socket that lets you control the power supply to connected devices, and measure, record and evaluate their power consumption. FRITZ!DECT 200 is integrated with your FRITZ!Box via DECT radio transmission and can then be controlled with the computer, smartphone or tablet, from home or anywhere else with Internet access.

Comprehensive information on Smart Home solutions is presented in the “Guide” area on the AVM website.

[en.avm.de/guide](http://en.avm.de/guide)

## 21 Configuring Internet Access for Guests

With the FRITZ!Box you can provide houseguests with an Internet connection of their own. At this guest access they can surf the web with their own devices, but cannot access the contents of your home network.

### 21.1 Requirements

The guest access in the FRITZ!Box can be configured and provided only if the FRITZ!Box establishes the Internet connection itself.

If the FRITZ!Box is operated as an IP client, no guest access can be configured.

### 21.2 Wireless Guest Access: Private Hotspot

For your guests you can configure a wireless guest access. The wireless guest access is your private hotspot.

#### Features of the Wireless Guest Access

- At the wireless guest access your guests can log in with their own smartphones, tablets, laptops or other network devices.
- Guest devices can surf the Internet.
- Guest devices have no access to your home network.
- The guest access can be disabled automatically.
- The guest access can use push service to notify you about all devices registering and deregistering.
- The access profile “Guest” is set for the wireless guest access. This access profile can be edited in the “Internet / Filters” menu on the “Access Profiles” tab.

#### Configuring Wireless Guest Access

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “WLAN / Guest Access” menu and enable guest access.

3. Assign a name for the guest wireless network (SSID) and enter a network key under “Security”.

This concludes the configuration of your guest access. Now guests can register their wireless devices with the FRITZ!Box.

#### Manually Registering a Wireless Device with the Wireless Guest Access

1. Your guest starts the wireless LAN software of her or his wireless device and searches for the guest network.
2. Your guests authorize themselves using the network key you assigned.

The wireless LAN connection will be established.

#### Registering a Wireless Device with the Wireless Guest Access via QR Code

1. Print out the QR code for your guest.
2. Your guest starts the QR code reader on his or her wireless device and reads in the QR code of the wireless network.

The wireless LAN connection will be established.

#### Registering a Wireless Device with the Wireless Guest Access via WPS

1. Your guest starts WPS on his or her wireless device.
2. In the “WLAN / Guest Access” menu, click the “Start WPS” button.

The wireless LAN connection will be established.

## 21.3 Configuring Guest Access on the LAN 4 Port

For guests you can configure the network port “LAN 4” as a guest access.

### Features of the LAN Guest Access

- Guests can connect their laptops to the guest access with a network cable.
- Guest devices can surf the Internet.
- Guest devices have no access to the home network.
- The access profile “Guest” is set for the LAN guest access. This access profile can be edited in the “Internet / Filters” menu on the “Access Profiles” tab.

### Configuring Guest Access

Set up the guest access as follows:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. In the “Home Network / Network” menu, select the “Network Settings” tab.
3. In the “Guest Access” area, check the box in front of the “Guest access enabled for LAN 4” option.
4. Click “Apply”.

## 22 MyFRITZ!: Accessing the FRITZ!Box from Anywhere

MyFRITZ! is a service from AVM, with which you can access your FRITZ!Box from anywhere. This section describes what MyFRITZ! does and how to configure MyFRITZ!.

### Why MyFRITZ!?

Using an active Internet connection on any computer, tablet or smartphone, with MyFRITZ! accessing your FRITZ!Box from anywhere is safe and simple. The following areas of your FRITZ!Box are accessible:

- **FRITZ!NAS:** Photographs, music and documents located on the storage media connected to the FRITZ!Box are available anywhere via MyFRITZ!.

With MyFRITZ! and FRITZ!NAS your FRITZ!Box offers a “personal cloud service” in which all of your data are located safely at home. Data transmission is encrypted; see [page 139](#).

- **Call list:** With MyFRITZ! you can view the call list on the FRITZ!Box from anywhere in the world.
- **Answering machine:** With MyFRITZ! you can listen to the messages on the answering machine of the FRITZ!Box from anywhere in the world.
- **FRITZ!Box user interface:** With MyFRITZ! you can open the user interface of your FRITZ!Box from anywhere and configure settings.
- **Smart Home:** AVM devices for home automation that are connected with your FRITZ!Box can be switched on and off from anywhere with MyFRITZ!. In MyFRITZ! you can also display how much electricity a device connected to a smart home outlet is using.

Exactly which data are available to you depends on the rights set in your FRITZ!Box user account; see [page 38](#).

## 22.1 Configuring MyFRITZ!

The MyFRITZ! service can be used only with a MyFRITZ! account. Register your FRITZ!Box with this MyFRITZ! account.

Once your FRITZ!Box is registered with your MyFRITZ! account, the FRITZ!Box determines the public IP address each time it is changed and conveys it to the MyFRITZ! account. The FRITZ!Box can be reached at this IP address in the Internet from anywhere in the world. When you log in to MyFRITZ! you will be forwarded to the FRITZ!Box using the IP address.

### Creating a MyFRITZ! Account

To set up a MyFRITZ! account, use a computer that fulfills the following requirements:

- The computer is connected with the Internet.
- You can access your e-mail on this computer.

Configure the MyFRITZ! account in the FRITZ!Box user interface:

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Internet / MyFRITZ!”.
3. Select “Create a new MyFRITZ! account”.
4. Enter your e-mail address.

If you have already configured a user account under “System / FRITZ!Box Users / Users”, see [page 35](#) and enter the e-mail address specified for your user account.

5. Assign a MyFRITZ! password that’s easy for you to remember. Also note the additional password tips on [page 31](#).

Note: When a password is defined it is displayed in clear text. Once it has been saved, every time it is entered it will be displayed encoded.

6. If you do not have an account for a “FRITZ!Box user” yet, you will be prompted to set one up by assigning a user name and an additional password.

If you already have a FRITZ!Box user account, follow the instructions in the FRITZ!Box user interface.

Note: For security reasons, access to the FRITZ!Box from the Internet is possible as a FRITZ!Box user. This means you need a password-protected user account to use MyFRITZ! from the Internet; see [page 33](#).

7. Once you have entered your e-mail address, you will receive an e-mail from MyFRITZ! containing a registration link. If possible, open the e-mail on the computer on which you began setting up the account. Click the registration link.
8. You are forwarded to the MyFRITZ! website, where you are prompted to read the terms of use and activate the account.

Once the account has been activated successfully, you will end up back on your FRITZ!Box user interface.

Now the FRITZ!Box is registered with your MyFRITZ! account. On the MyFRITZ! page of the FRITZ!Box user interface the options “MyFRITZ! enabled for this FRITZ!Box” and “Internet access to the FRITZ!Box via HTTPS enabled” are selected.

Click “Refresh status” if the status of your MyFRITZ! account is marked with a red icon.

## 22.2 Using MyFRITZ!

As soon as you have created a MyFRITZ! account and registered your FRITZ!Box with the account, you can begin using the MyFRITZ! service to access your FRITZ!Box directly.

You can reach your FRITZ!Box from anywhere by opening the [myfritz.net](http://myfritz.net) website in any web browser.

If you use a smartphone or a tablet, the MyFRITZ!App from AVM offers you simple access to your FRITZ!Box at home.



### MyFRITZ! in the Web Browser

1. Open the [myfritz.net](http://myfritz.net) website.
2. Log in with your e-mail address and your MyFRITZ! password.
3. Click the “To My FRITZ!Box” button.
4. To register with your FRITZ!Box, enter the data of your FRITZ!Box user account.

You will be directed to the MyFRITZ! page of your FRITZ!Box.

Here you have access to the FRITZ!Box contents that are released for sharing in your FRITZ!Box user account; see [page 38](#).

### MyFRITZ! over a Smartphone or Tablet

With the MyFRITZ!App from AVM you can use the MyFRITZ! service on the following devices:

- Android smartphones or Android tablets with Google Android 2.2 or later
- iPhone, iPod touch or iPad with iOS 5.0 or later

The MyFRITZ!App is available in the [Google Play Store](#) and the [Apple App Store](#).

For more information on the apps from AVM, go to [en.avm.de/products/fritzapps](http://en.avm.de/products/fritzapps).

During configuration, your smartphone or tablet must be connected with the FRITZ!Box over wireless LAN. After setup you can use the MyFRITZ!App no matter whether you're at home or on the go.

1. Load the MyFRITZ!App to your device.
2. Connect your smartphone or tablet with your FRITZ!Box via wireless LAN.
3. Open the MyFRITZ!App.

4. To register with your FRITZ!Box, enter the data of your FRITZ!Box user account. These are your e-mail address or your FRITZ!Box user name plus the corresponding password.

You will be directed to the MyFRITZ! page of your FRITZ!Box.

Here you have access to the FRITZ!Box contents that are released for sharing in your FRITZ!Box user account; see [page 38](#).

### MyFRITZ! in the Home Network

MyFRITZ! can also be used over the web browser of any device in the home network that is connected with the FRITZ!Box.

1. Enter <http://myfritz.box> in the address field of your web browser.
2. Log in to your FRITZ!Box.

Depending on the login method you set for the home network, you must enter the FRITZ!Box password, or the user name and the password of the FRITZ!Box user account.

You will be directed to the MyFRITZ! page of your FRITZ!Box. In this case no login to MyFRITZ! is required.

If you logged in with the FRITZ!Box password, you now have access to all of the contents stored on your FRITZ!Box.

If you logged in using the information for your FRITZ!Box user account, the MyFRITZ! page will show those contents of your FRITZ!Box to which you have access rights.

## Multiple FRITZ!Boxes

You can register multiple FRITZ!Boxes with one MyFRITZ! account.

- Every FRITZ!Box is registered with the MyFRITZ! account over its own user interface.

From the “Internet / MyFRITZ!” menu, select the setting “Register the FRITZ!Box with an existing MyFRITZ! account”.

- When you log in to MyFRITZ!, all registered devices will be displayed.

## 22.3 Security with MyFRITZ!

For the following MyFRITZ! activities the HTTPS security protocol is used:

- setting up a MyFRITZ! account with [myfritz.net](https://myfritz.net)
- registration of the FRITZ!Box with the MyFRITZ! account
- accessing the MyFRITZ! page of your FRITZ!Box over [myfritz.net](https://myfritz.net)
- accessing the user interface of the FRITZ!Box over [myfritz.net](https://myfritz.net) and over the MyFRITZ!App.

The FRITZ!Box generates its own HTTPS certificate. Because this certificate does not come from a certification authority preconfigured in common browsers, you have to confirm in your web browser or in the MyFRITZ!App that the connection should be established nevertheless. Firefox and Internet Explorer will remember your confirmation and refrain from showing any further warnings.

The HTTP protocol is used to update the IP address with the MyFRITZ! web service each day. The password is never transmitted as clear text.

For further details on the HTTPS and HTTP protocols, see the section [Access from the Internet via HTTPS, FTP and FTPS](#) from [page 66](#).

## 23 Push Services: Using Notification Services

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 e-mail sent to you at regular intervals informing you about the latest connections, usage and configuration of your FRITZ!Box.

Various push services are available in the user interface under “System / Push Service”. There you can select the push service interesting for you and specify which events in the FRITZ!Box you would like to be informed about, how often these e-mails should be sent, and to which e-mail address.

### 23.1 Available Push Services

You can request push service mails about the following FRITZ!Box areas and activities:

Push Service	Information
FRITZ!Box info	Sends you regular e-mail messages with data on FRITZ!Box usage and connections.
Answering machine	Forwards recorded messages on the FRITZ!Box answering machines to the specified e-mail address.
Calls	Sends you e-mail when calls arrive—either only for missed calls, or for all calls.
Wireless guest access	Sends you a message whenever devices register with or deregister from the wireless guest access.
Fax function	Forwards your faxes by e-mail and also saves them to a storage location you defined.
New FRITZ!IOS	Notifies you whenever a new FRITZ!IOS is available for your FRITZ!Box.

Push Service	Information
Save settings	The settings of your FRITZ!Box are saved automatically and sent to the specified e-mail address before every update and each time the factory settings are restored.
Forgot password	Sends you an access link to the specified e-mail 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.

### 23.2 Enabling Push Services

A wizard is available in the FRITZ!Box user interface to guide you step by step through the configuration of push services.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Wizards”.
3. Start the “Configure Push Service” Wizard.

The wizard guides you through the menus and dialogs to enable the push services.

### 23.3 Configuring Push Services

You can adjust the push services to your needs, and also disable any or all push services.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “System / Push Service / Push Services” menu.
3. To configure a push service, click the “Edit” button.
4. Configure various settings in the details.

The Help of the FRITZ!Box user interface presents comprehensive information on the settings of each push service.

5. Click “OK” to save your settings.

In the Help of the FRITZ!Box user interface you can find detailed instructions.

## 24 Diagnostics: Checking Function and Security

In the “Diagnostics” area the FRITZ!Box offers you the possibility of checking the status of functions and security-relevant settings of your FRITZ!Box. This ensures safe operation of the FRITZ!Box and makes sure that it is kept up with the latest technical developments.

### 24.1 Checking FRITZ!Box Functions

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

#### Starting the Function Diagnosis

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “Diagnostics / Function”.
3. Click “Start” to start the diagnostics.

The diagnostics run through the various test areas.

For more information on test areas and test items, as well as on the icons and information in the result of the diagnostics, see the Help on the FRITZ!Box user interface.

#### Canceling Diagnostics

You can end diagnostics in progress without losing any data.

➔ To end a diagnostics run, click “Cancel”.

The results obtained up to that point remain visible.

### 24.2 Checking the Security of the FRITZ!Box

In the “Security” overview the FRITZ!Box offers you a list of all security-relevant settings that control access to the FRITZ!Box from the Internet or from the home network. This shows, for instance, which ports are open, which users are logged in on

or off the FRITZ!Box, which wireless devices are connected with the FRITZ!Box and whether the latest FRITZ!OS is installed.

The “Security” overview also offers the following functions:

- It indicates configured settings that the security diagnostics classify as insecure.
- From the test entries in the “Security” overview you can navigate directly to the relevant settings.
- Help is available for each test entry.
- You can print the results of the security diagnostics.

The “Security” overview is located in the “Diagnostics / Security” menu in the FRITZ!Box user interface.

Comprehensive information on the subject of “Security” is presented in the “Guide” area on the AVM website:

[en.avm.de/guide](http://en.avm.de/guide)

## 25 Saving and Restoring Settings

All of the settings you configure in the FRITZ!Box can be saved in a backup file. With this file you can restore your settings at any time:

- in the **same FRITZ!Box** or **another FRITZ!Box of the same model**
- in a different **FRITZ!Box model**

In this case you can select which settings are to be applied to the FRITZ!Box.

### 25.1 Saving Settings



Backup files that are not protected by assigning a password are a security risk. Protect your backup file with a password to avoid security problems.

A wizard is available in the FRITZ!Box user interface to assist you in saving your FRITZ!Box settings, which guides you through the process step by step.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. On the “Overview” page, select the “Wizards” menu.
3. Start the “Save and Restore Settings” Wizard.
4. In the next window, select the “Save settings” option and then click “Next”.

The wizard guides you through the menus and dialogs to save your settings.



## 25.2 Restoring Settings

With the “Restore” function in the “System / Backup” you can have all settings from a backup file you created with this or another FRITZ!Box loaded to your FRITZ!Box. Your current FRITZ!Box settings will be overwritten by this function.

You can use the following backup files to restore settings:

- Backup files created with the same FRITZ!Box.  
If you apply settings from a backup file created with the same FRITZ!Box, all settings will be restored in full.
- Backup files created with a different FRITZ!Box of the same model.  
If you apply settings from a backup file that was created with a different FRITZ!Box of the same model, you can restore all settings if the backup file was protected with a password.
- Backup files created with a different FRITZ!Box model.  
If you apply settings from a backup file that was created with a FRITZ!Box of a different model, then you can restore several selected settings to your FRITZ!Box.

A wizard is available in the FRITZ!Box user interface to assist you in restoring your FRITZ!Box settings, guiding you through the process step by step.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. On the “Overview” page, select the “Wizards” menu.
3. Start the “Save and Restore Settings” Wizard.



Your current FRITZ!Box settings will be overwritten by the settings in the backup file.

4. In the next window, select the “Restore settings” option and then click “Next”.

The wizard guides you through the menus and dialogs to restore your settings.

## 25.3 Restarting the FRITZ!Box

You can restart the FRITZ!Box via the user interface or on the device. A restart may be necessary if the FRITZ!Box no longer reacts, or if Internet connections can no longer be established for no apparent reason. All components of the FRITZ!Box are reinitialized and the event messages deleted.



The FRITZ!Box settings and any messages saved on the internal memory of the FRITZ!Box will not be deleted upon restarting.

### Restarting from the User Interface

1. In the “System / Security” menu, click the “Restart” tab.
2. Click the “Restart” button.

Restarting the FRITZ!Box takes about 2 minutes. During this time, you cannot access the FRITZ!Box user interface.

After the restart you will be automatically redirected to the “Overview” page of the FRITZ!Box.

### Restarting on the Device

If you cannot open the FRITZ!Box user interface, it is also possible to restart directly on the FRITZ!Box device.

1. Remove the power supply of the FRITZ!Box from the electrical outlet.
2. Wait 5 minutes.
3. Plug the power supply back in to the outlet.

Restarting the FRITZ!Box takes about 2 minutes. During this time, you cannot access the FRITZ!Box user interface.

After the restart and logging back in to the FRITZ!Box you will be automatically redirected to the “Overview” page of the FRITZ!Box.

## 26 Update: Updating FRITZ!OS



Always install the latest version of FRITZ!OS 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.

AVM provides regular free FRITZ!OS updates for your FRITZ!Box. FRITZ!OS is the operating system of the FRITZ!Box and controls all functions and settings of your FRITZ!Box. FRITZ!OS updates provide for maximum security in your home network, contain further developments of existing FRITZ!Box functions and often also introduce new features for your FRITZ!Box.

### 26.1 Updating FRITZ!Box Automatically

With the “Automatic Update” feature you have the option of installing updates automatically whenever a new FRITZ!OS version becomes available. For the “Automatic Update” function you can select among various methods:

Procedure	Description
Notify about new FRITZ!OS versions	<p>The FRITZ!Box indicates that a new version of FRITZ!OS is available on the start page.</p> <p>You start the update yourself; see <a href="#">page 148</a>.</p>
Notify me about new versions of FRITZ!OS and install necessary updates automatically (recommended)	<p>The FRITZ!Box indicates that a new version of FRITZ!OS is available on the start page. You start the update yourself; see <a href="#">page 148</a>.</p> <p>Updates which AVM regards as necessary for continued secure and reliable operation (for instance, security updates) will be installed automatically.</p> <p>The FRITZ!Box selects a suitable time for the update, generally at night.</p> <p>During the installation all Internet and telephony connections will be interrupted briefly.</p>

Procedure	Description
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 start 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 interrupted briefly.

### Configuring Automatic Update

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select the “System / Update” menu and click the “Automatic Update” tab.
3. Select the desired auto-updating option.
4. Click on “Automatic Update”.

This concludes the configuration of the auto-update feature.



You can also request notification about new updates by e-mail; see [Push Services: Using Notification Services](#) from [page 140](#).

## 26.2 Performing an Update with the Wizard

A wizard is available in the FRITZ!Box user interface to assist you in updating your FRITZ!Box. The wizard checks whether an update of the FRITZ!OS is available for your FRITZ!Box and guides you step by step through installation.

### Performing the Update

1. Open the FRITZ!Box user interface; see [page 28](#).
2. On the “Overview” page, select the “Wizards” menu.

3. Start the “Update” wizard.

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

If the Wizard finds an update, it displays the version number of the new FRITZ!OS. Click the link under the FRITZ!OS version to view information about further developments and new functions contained in the FRITZ!OS update.



Interrupting the 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.

4. To transfer the FRITZ!OS update to the FRITZ!Box, click “Start Update Now”.

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

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

## 26.3 Updating the Firmware Manually

In some cases it is not possible to perform an automatic update, for instance when the FRITZ!Box is not connected to the Internet. Then you have the option of performing an update manually.

### Downloading the FRITZ!OS File

Before you can perform a manual update, you must download an up-to-date FRITZ!OS file from the Internet (using your neighbor’s or friend’s computer, or at an Internet café) and save it on your computer or on a connected storage medium.

1. Enter the address <ftp://ftp.avm.de/fritz.box/> in your web browser.

2. Switch to the folder for your FRITZ!Box model, then to the sub-folder “firmware”, and then to the folder named “english”.

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.

The currently installed version of FRITZ!OS is displayed on the “FRITZ!OS File” tab and on the “Overview” page. The version number of the FRITZ!OS you downloaded and saved is included in the name of the “\*.image” file. Perform an update only if the downloaded FRITZ!OS is a newer version than the FRITZ!OS currently installed.

Now you can copy the FRITZ!OS file to the computer that is connected to the FRITZ!Box, for instance using a USB flash drive.

#### Perform a FRITZ!OS update

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Enable the advanced view.
3. Select “System / Update / FRITZ!OS File”.
4. 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.

5. Click the “Browse...” button and choose the file with the new FRITZ!OS you already downloaded and saved on your computer.



Interrupting the 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.

6. Click the “Start Update” button.

The new FRITZ!OS is transmitted to your FRITZ!Box.

The update is complete when the “Info” LED stops flashing.

## 27 Taking FRITZ!Box Out of Operation

In this chapter you receive tips and recommendations for taking the FRITZ!Box out of operation.

### 27.1 Deleting User Settings

To delete all individual user settings you've configured in your FRITZ!Box, use the "Load Factory Settings" function. When the factory settings are restored to the FRITZ!Box, all of the settings in the FRITZ!Box are restored to their condition upon delivery.

Restoring the factory settings is recommended if you would like to pass the FRITZ!Box on to another user. By restoring the factory settings you can delete incorrect settings that prevent the FRITZ!Box from functioning properly.

Resetting the FRITZ!Box has the following effects:

- All settings you made in the FRITZ!Box will be deleted.
- The network key of the factory settings will be activated again.
- The IP configuration of the factory settings will be restored.

You have the option of restoring the factory settings using the FRITZ!Box user interface or a telephone connected with the FRITZ!Box. The [page 152](#) section describes how to restore the factory settings with the user interface. How to restore them using a telephone is described in the [Loading Factory Settings](#) on [page 107](#) section.

#### Preparing to Load Factory Settings

Before loading the factory settings of your FRITZ!Box, save your settings.

#### Saving FRITZ!Box Settings

Before loading the factory settings, save all of the settings you made in your FRITZ!Box to a backup file. With this backup file you can restore your settings to the FRITZ!Box at any time



or load them to another FRITZ!Box. For more information on this, see the section [Saving and Restoring Settings](#) from [page 144](#).

### Loading the Factory Settings



Before loading factory settings, we recommend saving the settings configured on your FRITZ!Box in a backup file; see [page 144](#).

1. In the FRITZ!Box user interface, select the “System / Backup” menu.
2. Select the “Factory Settings” tab.
3. Click the “Load Factory Settings” button.

The FRITZ!Box is reset to its factory settings. All settings made during operation will be overwritten.

## 27.2 Uninstalling Supplementary Software

Additional software for the FRITZ!Box is available on the web pages of AVM at [en.avm.de/service/downloads](http://en.avm.de/service/downloads).

If you have installed supplementary programs on one or more computers, uninstall this software using the control panel of your Windows operating system.

### Uninstalling Programs in Windows 8.1 or 8

1. Press the Windows key  and the X key at the same time.

A menu is opened that contains all of the important functions of Windows 8 or 8.1, respectively.

2. Click the “Programs and Features” entry.

The “Uninstall or change a program” list shows all of the programs installed on your computer.

3. Mark the AVM program you want to remove in the list.
4. Click the “Uninstall” button.

The program will be removed.

### Uninstalling Programs in Windows 7

1. Open “Start / Control Panel / Programs”.
2. Under “Programs and Features”, click “Uninstall a program”.
3. Mark the AVM program you want to remove in the list.
4. Click the “Uninstall/Change” button.

The program will be removed.

### Uninstalling Programs in Windows Vista

1. Open “Start / Settings / Control Panel / Programs and Functions”.
2. Mark the AVM program you want to remove in the list.
3. Click the “Uninstall/Change” button and confirm with “Continue”.

The program will be removed.

## 28 Help in Case of Errors

Here you can find assistance if no DSL connection is established, if the FRITZ!Box cannot be opened, or if errors occur with wireless LAN connections.

For more help, see the AVM Knowledge Base in the Internet: [en.avm.de/service](http://en.avm.de/service)

### 28.1 DSL Connection Not Established

If the “Power / DSL” LED keeps flashing, the FRITZ!Box cannot establish a DSL connection. Make sure the correct DSL variant (annex) is set in your FRITZ!Box.

#### Setting the DSL Variant (Annex)

1. Contact your Internet service provider to find out whether the DSL variant “Annex A” or “Annex B” is used on your DSL line.
2. Connect a computer to the FRITZ!Box; see [page 22](#).
3. Open the FRITZ!Box user interface; see [page 28](#).
4. Switch to the advanced view and choose “Internet / DSL Information / Line Settings”.
5. Under the “Annex Settings” select the DSL variant used on your DSL line and click “Apply”.

The FRITZ!Box restarts and establishes the DSL connection. The connection has been established when the “Power / DSL” LED lights up.

### 28.2 The User Interface Does Not Open

If the FRITZ!Box user interface cannot be opened, this can have various causes.

Work through the following steps in sequence until the error has been resolved.

## Entering <http://fritz.box> in the Web Browser

Enter <http://fritz.box> in your web browser instead of “fritz.box”.

Google Chrome, for instance, performs a Google search if the address of the FRITZ!Box is not known or was entered incompletely.

## Restarting the FRITZ!Box

1. Disconnect the FRITZ!Box from the power supply.
2. Wait about five seconds before reconnecting to the power supply.
3. Wait until the LEDs “Power / DSL” and “WLAN” (only if wireless LAN is switched on) light up.

The FRITZ!Box is ready for operation again.

## Clearing the Cache of your Web Browser

If the web browser shows only a blank, white page, empty the cache:

### Firefox

1. Click the “Menu” button and select “History / Clear Recent History...”.  
Or click “History” in the menu bar and select “Clear Recent History...”.
2. In the “Clear Recent History” dialog, select “Everything”, and under “Details”, check only the “Cache” option.
3. Click “Clear Now”.

### Internet Explorer

1. Click the “Tools” button and select “Internet options”.
2. On the “General” tab, click the “Delete...” button in the “Browsing history” area.
3. Enable the “Temporary Internet files and website files” option and click “Delete”.

### Google Chrome

1. Click the Chrome menu (“Customize and control Google Chrome” button) and select “History / Clear browsing data...”.
2. Select “the beginning of time”, and below it only the option “Cached images and files”.
3. Click “Clear browsing data”.

### Other Web Browsers

If you use a different web browser, see the Help for your browser for instructions on how to clear the cache.

### Checking the Proxy Settings of the Web Browser

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.

### Firefox

1. Click the orange Firefox button and select “Options / Options”.  
Or click “Tools” in the menu bar and select “Options”.
2. Select “Advanced / Network”.
3. Under “Connection”, click the “Settings...” button.
4. If the option “Manual proxy configuration:” is enabled, enter <http://fritz.box> in the “No Proxy for:” field and then click “OK”.

If the manual proxy configuration is not enabled, click “Cancel”.

### Internet Explorer

1. Click the “Tools” button and select “Internet options”.
2. Switch to the “Connections” tab and click the “LAN settings” button.

3. If the “Use a proxy server for your LAN” option is enabled, click “Advanced”. Under “Exceptions” enter the address <http://fritz.box> and click “OK”.

If no proxy server is used, click “Cancel”.

### Google Chrome

Check whether the use of a proxy server is enabled. If so, enter <http://fritz.box> as an exception in the proxy server settings.

Google Chrome uses the proxy settings of your operating system (Windows or Mac OS). For more information, go to Google Chrome Help and enter the keyword “network settings”.

### Other Web Browsers

Check whether the use of a proxy server is enabled. If so, enter <http://fritz.box> as an exception in the proxy server settings.

For more information on the proxy settings, see the Help for your web browser.

### Configuring the Computer’s Network Adapter

On your computer, enable the setting “Obtain an IP address automatically” for the network adapter used to connect to the FRITZ!Box. For instructions, see [page 117](#).

### Opening the User Interface Using an Emergency IP Address

The FRITZ!Box has an “emergency IP address” (169.254.1.1) at which it can always be reached. You can use this IP address as follows:

1. Connect your computer to the “LAN 2” port of the FRITZ!Box using a LAN cable.
2. If your computer is already connected with the FRITZ!Box over wireless LAN, clear the wireless connection.
3. Make sure that the computer obtains its IP address automatically; see [page 117](#).

4. Clear all other connections between your FRITZ!Box and other network devices.
5. In the web browser, enter the address [169.254.1.1](http://169.254.1.1).
6. When the FRITZ!Box user interface is displayed, enable the DHCP server of the FRITZ!Box:

In the user interface, select “Home Network / Network / Network Settings”. Click the “IPv4 Addresses” button, enable the option “Enable DHCP server” and click “OK”.

### 28.3 Cannot Establish a Wireless LAN Connection

If you cannot establish a wireless LAN connection between your computer and the FRITZ!Box, this may be due to a variety of causes.

Work through the following steps in sequence until the error has been resolved.

#### Switching On the Computer’s Wireless LAN Adapter

The wireless LAN adapter in your computer must be ready for operation. On many notebooks the built-in wireless LAN adapter can be switched on by pushing a button or entering a key combination.

For more information, see the manual of your computer.

#### Enabling the Wireless Radio Network of the FRITZ!Box

When the “WLAN” LED is off, press the “WLAN” button on the FRITZ!Box. Hold it down until the “WLAN” begins flashing.

The wireless network is switched on and the “WLAN” LED lights up.

#### Announcing the Name of the Wireless Radio Network

If the wireless LAN software on your computer cannot find the wireless radio network of the FRITZ!Box, configure the following setting in the FRITZ!Box:

1. Connect a computer to the FRITZ!Box with a network cable; see [page 22](#).

2. Open the FRITZ!Box user interface; see [page 28](#).
3. Select “WLAN / Radio Network”.
4. Enable the option “Name of the radio network visible”.
5. Click “Apply”.
6. Remove the network cable and establish a connection via wireless LAN.

### Entering the Correct Network Key

If you establish the wireless connection manually, enter the correct network key, which is found in the user interface of your FRITZ!Box:

1. Connect a computer to the FRITZ!Box with a network cable; see [page 22](#).
2. Open the FRITZ!Box user interface; see [page 28](#).
3. Select “WLAN / Security”.
4. Take note of the network key or click “Apply” and print out the wireless LAN security settings.

## 28.4 Wireless LAN Connection Interrupted

If the wireless LAN connection between your computer and the FRITZ!Box is disrupted, this may be due to a variety of causes. Work through the following steps in sequence until the error has been resolved.

### Positioning the FRITZ!Box and Wireless Devices Correctly

Often all that is needed is to position the FRITZ!Box and wireless devices in different locations to improve the wireless LAN connection:

- 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 your wireless devices so that there are as few obstacles between them as possible.



## Configuring Automatic Radio Channel Selection

Configure automatic selection of the radio channel in the FRITZ!Box. Then the FRITZ!Box will automatically select a radio channel with as little interference as possible.

1. Open the FRITZ!Box user interface; see [page 28](#).
2. Select “WLAN / Radio Channel”.
3. Enable the option “Set radio channel settings automatically (recommended)”.
4. Click “Apply”.

## 29 Technical Specifications

Facts worth knowing: Here you will find comprehensive technical data on your FRITZ!Box 7430.

### 29.1 Ports and Interfaces

- VDSL/ADSL modem for use with ADSL/ADSL2/ADSL2+ compliant with ITU G.992.1, ITU G.992.3, ITU G.992.5 (Annex A, B, J or M) or VDSL2 compliant with ITU G.993.2
- One a/b port with a RJ11 socket for connecting analog terminal devices
- DECT base station
- Four LAN ports via RJ45 sockets (standard Ethernet, 10/100 Base-T)
- One USB host controller (USB version 2.0)
- Wireless access point with support for wireless networks in the 2.4-GHz frequency band
  - IEEE 802.11b—11 Mbit/s
  - IEEE 802.11g—54 Mbit/s
  - IEEE 802.11n—450 Mbit/s

### 29.2 Router Functions

- Router
- DHCP server
- Firewall with IP masquerading/NAT
- IPv4 and IPv6
- Parental controls and filter lists
- Port Forwarding
- Dynamic DNS
- VPN

### 29.3 User Interface and Display

- Configuration and status messages via a web browser on a connected computer
- Five LEDs indicate the condition of the device

### 29.4 Tones

- Busy signal: 500 ms tone, 500 ms pause, +/- 20 ms
- Ring tone: 1 s tone, 4 s pause +/- 100 ms

### 29.5 Device Properties

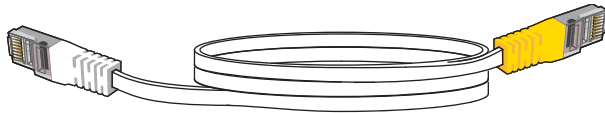
- Dimensions (W x D x H): circa 226 x 47 x 160 mm
- FRITZ!OS can be updated
- Conforms to CE standards
- Ambient conditions
  - operating temperature: 0 °C–+40 °C
  - storage temperature: -20 °C–+70 °C
  - relative humidity (operation): 10%–90%
  - relative humidity (idle): 5%–95%
- Supply voltage: 230 V / 50 Hz
- Maximum power consumption: 22 W
- Average power consumption: 8 W–11 W

The average power consumption was determined at room temperature (23 °C to 27 °C) with the following load:

- DSL connection active
- 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

## 29.6 Cable

### Network Cable (Yellow)



#### Use

The network cable is used to connect computers and network devices to the FRITZ!Box 7430.

- AVM recommends using a network cable no more than 100 meters long.
- Additional network cable is required if you would like to use all of the FRITZ!Box 7430 network ports.

#### Extension

You can extend one or both ends of the network cable. You will need the following components to extend the cable:

- Standard CAT-5 network cable
  - When components of a category smaller than Cat 5 are used, reduced transmission rates may result.
  - You can use both straight cables and crosslink cables.
- 1 standard RJ45 CAT-5 double coupling with a 1:1 pinout

All components are available from specialized vendors.

#### Replacement

The network cable is a standard cable.

- As a replacement, use a standard Cat-5 network cable. Replacement cable is available from specialized vendors.

## DSL Cable



### Use

The DSL cable is for connecting the FRITZ!Box to a DSL or VDSL line without a landline.

### Extension

You will need the following components to extend the length of the cable on the end with the RJ45 connector:

- Standard CAT-5 network cable
- Standard RJ45 CAT-5 double coupling

Both components are available from specialized vendors.

### Replacement

The DSL cable is a standard cable.

- As a replacement cable, use a DSL cable with one RJ45 connector and one RJ11 connector.

Replacement cable is available from specialized vendors.

## 30 Customer Service

Be it further product documentation, frequently asked questions, tips or support—this chapter presents information on all important service topics.

### 30.1 FRITZ!Box Help

In the FRITZ!Box user interface you can open the detailed Help by clicking the “Help” icon. The Help presents descriptions and instructions on all settings and functions of your FRITZ!Box. In addition to the page-sensitive Help call, the full text search makes it easy to find specific information quickly.

### 30.2 Information in the Internet

On its website AVM presents comprehensive information on your AVM product.

#### [AVM Service](#)

The Service area is the portal for all product-specific services from AVM: FRITZ! Clips, manuals, downloads and support requests. In the Service area you can also receive comprehensive information and useful tips on configuring and operating your FRITZ!Box.

[en.avm.de/service](http://en.avm.de/service)

#### [Videos on the FRITZ!Box](#)

Videos on many of the FRITZ!Box functions are available, showing animated demonstrations of how to set up the individual functions. The videos can be viewed at the following address:

[en.avm.de/service/fritz-clips/english-fritz-clips](http://en.avm.de/service/fritz-clips/english-fritz-clips)

### 30.3 Feedback on FRITZ!Box

In various places in the user interface, the FRITZ!Box offers you the opportunity to send concrete feedback to AVM. Your feedback helps us to continually improve the FRITZ!Box.

When you submit feedback, only the technical data and **no personal data** are transmitted to AVM. These data are used for the exclusive purpose of product improvement. A corresponding message appears in the Event Log, stating that the feedback was sent to AVM.

#### Automatically Sending Error Reports to AVM

In the case of serious errors, this service generates a report on the problem that occurred and automatically sends this error report to AVM. The error report helps improve the stability of FRITZ!OS.

The feature for automatically sending error reports is located on the “Contents / AVM Services” page of the FRITZ!Box user interface.

#### Evaluating the DSL Connection

On the “Internet / DSL Information / Feedback” page you can evaluate your DSL connection. This makes it possible to optimize your DSL performance with upcoming FRITZ!OS updates.

#### Evaluating the Wireless LAN Connection

On the “WLAN / Radio Network / Known Wireless LAN Devices / Feedback” page you can evaluate your satisfaction with the wireless LAN connection between the FRITZ!Box and the wireless device. This information helps AVM optimize the wireless LAN properties of the FRITZ!Box.

#### Evaluating the Voice Quality of Internet Calls

In the advanced view of the FRITZ!Box (see [page 30](#)), the “Telephony / Telephone Numbers / Voice Transmission” page offers you the opportunity to evaluate the quality of the Internet call. Your evaluation will help us continue to improve the quality of voice transmission in Internet calls made over the FRITZ!Box.

The contents of the call and numbers participating will not be transmitted to AVM.

## 30.4 Assistance from the Support Team

If you have problems with your FRITZ!Box, proceed as follows:

1. If you have questions about starting operation of your FRITZ!Box, please consult the following chapters:
  - [Before You Connect the FRITZ!Box](#) from [page 17](#)
  - [Connecting the FRITZ!Box](#) from [page 19](#)
  - [Connecting a Computer with a Network Cable](#) from [page 22](#)
  - [Connecting Devices with the FRITZ!Box over Wireless LAN](#) from [page 24](#)
2. If you have any problems, for instance in establishing connections, read the section [Help in Case of Errors](#) from [page 155](#).
3. Search for a solution in the AVM Knowledge Base.  
[en.avm.de/service](http://en.avm.de/service)

This site contains answers to questions frequently posed to our Support team.

### Support by e-mail

You can send us an English-language e-mail request at any time using the “Service” area of our website. You can reach the service area at [en.avm.de/service/support-request/your-support-request](http://en.avm.de/service/support-request/your-support-request).

1. Select the product group and your product for which you need support.  
You will receive a selection of FAQs.
2. If you need more help, click the “Submit support request” link to open the e-mail support form.
3. Fill out the form and send it to AVM by clicking the “Submit support request” button.

Our Support team will respond by e-mail as quickly as possible.



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### Legal Notice

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## 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.

Within the warranty period, we will remove defects to the product which are demonstrably due to faults in materials or manufacturing. Our warranty does not cover defects which occur due to incorrect installation, improper use, non-observance of instructions in the user manual, normal wear and tear or defects in the environment of the system (third-party hardware or software). We may, at our discretion, repair or replace the defective product. Claims other than the right to the removal of defects which is mentioned in these terms of warranty are not constituted.

We guarantee that the software conforms with general specifications, not, however, that the software meets your individual requirements. Delivery costs will not be reimbursed. Products which have been replaced revert to our ownership. Claims recognized under warranty entail neither an extension or recommencement of the warranty period. If we reject a warranty claim, this claim lapses no later than six months after being rejected by us.

This warranty shall be governed by German substantive law, to the exclusion of the United Nations Convention on Contracts for the International Sale of Goods (CISG).

## Declaration of CE Conformity

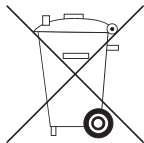
AVM declares herewith that the device is compliant with the basic requirements and the relevant rules in directives 2014/53/EU, 2009/125/EC and 2011/65/EU.

The declaration of CE conformity is available at [en.avm.de/ce](http://en.avm.de/ce).

## Disposal Information

In accordance with European regulations, the FRITZ!Box 7430, as well as all devices and electronic components contained in the package, may **not** be disposed with household waste.

After use, please dispose of FRITZ!Box 7430 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.

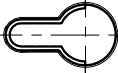


Symbol for the separate collection of electric and electronic devices

---

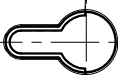
## Drilling Template

A drilling template is presented below. Use the drilling template as a guide to mark the holes needed to mount the FRITZ!Box on a wall.



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

178 mm



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# Index

## A

- access profiles ..... 54, 59
- alarm ..... 96, 103
- alternating ..... 102
- ambient conditions ..... 163
- views of the user interface
  - advanced view ..... 30
  - standard view ..... 30
- answering machine
  - connecting external ..... 49
  - using internal answering machine 87
- apps
  - FRITZ!App Fon ..... 49
  - FRITZ!App Ticker ..... 86
  - MyFRITZ!App ..... 137
- automatic error report ..... 167
- automatic updates ..... 147

## B

- baby monitor ..... 97
- blacklist ..... 54
- busy signal ..... 163
- button
  - DECT ..... 13
  - WLAN ..... 13

## C

- cable
  - DSL cable ..... 165
  - network cable ..... 164
- cable connection (broadband) ... 20, 45
- call block ..... 93
- call diversion ..... 91, 104
- call list ..... 38, 85
- call pickup ..... 87
- call waiting ..... 101
- CE conformity declaration ..... 170
- CLIR (calling line identification restriction) ..... 100
- configuration ..... 28
- connecting
  - answering machine ..... 49
  - behind modem ..... 20, 45
  - behind router ..... 21
  - computer ..... 22
  - door intercom system ..... 51
  - DSL ..... 20
  - fax machine ..... 49
  - mobile communications network . 45
  - mobile network ..... 21
  - smartphone ..... 49
  - telephone ..... 49
  - to electrical power ..... 19
  - to hub/switch ..... 23
  - USB devices ..... 119
- connecting IP telephones ..... 51
- consultation ..... 102
- conventions ..... 10
- copyright ..... 169
- cordless telephone
  - deregistering ..... 108
  - paging ..... 108
  - registering ..... 49
- customer service ..... 166

## D

declaration of CE conformity . . . . .	170
DECT base station . . . . .	13, 108
DECT button . . . . .	13
DECT cordless telephone	
deregistering . . . . .	108
paging . . . . .	108
registering . . . . .	49
DECT Eco . . . . .	109
device properties . . . . .	163
DHCP server (integrated) . . . . .	114
diagnostics . . . . .	142
function test . . . . .	142
security . . . . .	142
diagnostics of functions . . . . .	142
dial around service . . . . .	93
dialing rules . . . . .	92
disposal . . . . .	170
diverting calls . . . . .	91
DNS server . . . . .	72
DNSSEC . . . . .	72
Do not Disturb . . . . .	104
door intercom system . . . . .	51
drilling template . . . . .	171
DSL cable . . . . .	165
dynamic DNS . . . . .	65

## E

e-mail notifications . . . . .	140
electrical power	
connecting . . . . .	19
electricity	
FRITZ!Box consumption . . . . .	163
emergency IP address . . . . .	113
ending operation . . . . .	152
evaluating	
DSL connection . . . . .	167
voice quality . . . . .	167
wireless LAN connection . . . . .	167
events . . . . .	15
exposed host . . . . .	63

## F

factory settings	
DHCP server . . . . .	114
loading by telephone . . . . .	107
loading with FRITZ!Box . . . . .	152
fax	
forwarding by e-mail . . . . .	90
receiving . . . . .	90
fax machine connecting . . . . .	49
features . . . . .	99
feedback . . . . .	167
filters for Internet use	
blacklist . . . . .	54
editing list . . . . .	60
whitelist . . . . .	54
FRITZ!App Fon . . . . .	49
FRITZ!App Ticker . . . . .	86
FRITZ!Box password	
configuring . . . . .	34
forgotten password . . . . .	42
FRITZ!Box user account	
configuring . . . . .	35
disabling . . . . .	42
forgotten password . . . . .	42
ftpuser . . . . .	40
quick access . . . . .	41
rights . . . . .	38
FRITZ!NAS	
password protection . . . . .	129
requirements . . . . .	129
starting . . . . .	129
FRITZ!OS operating system . . . . .	147
FRITZ!OS update	
performing . . . . .	147
function test . . . . .	142

## G

guest access	
LAN 4 . . . . .	133
see guest network . . . . .	131
wireless LAN . . . . .	131
guest network	
configuring . . . . .	131

## H

### help

- customer service ..... 166
- online help ..... 166
- support team ..... 168
- videos ..... 166

### hibernation ..... 80

### holding ..... 102

### home network

- network devices ..... 110
- overview ..... 31
- storage (NAS) ..... 129
- USB devices ..... 119

### hotspot (wireless LAN) ..... 131

### HSPA

- Internet connection ..... 45

### HSPA (mobile network)..... 21, 75

### HTTPS..... 66

### hub

- LAN ..... 23
- USB ..... 118

## I

### imprint ..... 169

### information in the Internet

- service ..... 166
- videos ..... 166

### instructions

- handling ..... 18
- security ..... 8

### interfaces on the FRITZ!Box ..... 12, 162

### internal

- transfer ..... 99

### internal calls

- making ..... 99

### internal memory ..... 152

### Internet access ..... 39, 54, 66

### Internet connection

- configuring ..... 44
- configuring via DSL ..... 44
- over LAN 1 ..... 47
- via cable modem ..... 20, 45
- via mobile network ..... 21, 45

### Internet protocol version 6 ..... 73

### Internet router ..... 54

### Internet telephone numbers ..... 52

### Internet use

- blocking websites ..... 54
- time limits ..... 54

### IP address

- changing ..... 116
- emergency ..... 113
- in Linux ..... 118
- in Mac OS X ..... 118
- obtaining automatically ..... 117

### IPv4

- settings ..... 112

### IPv6 ..... 73

## K

### keyboard shortcuts ..... 103

### keylock ..... 14

### keypad shortcuts ..... 102

## L

### LAN

- connecting ..... 22
- guest access ..... 133

### LED

- reassigning ..... 16

### LEDs ..... 15, 15

### legal notice ..... 169

### LISP ..... 76

### LTE

- Internet connection ..... 45

## M

### manufacturer's warranty ..... 170

### media server ..... 121

### mobile network ..... 21, 45, 75

### MyFRITZ!

- Internet access ..... 39
- personal cloud service ..... 134
- security ..... 139
- setting up an account ..... 135
- using ..... 136

### MyFRITZ!App ..... 137

## N

NAS .....	38, 129
network	
changing settings .....	116
connecting .....	22
factory settings .....	112
hub/switch .....	23
IPv4 settings .....	112
network overview .....	110
network settings .....	110
prioritization .....	67
network applications	
blocking Internet access .....	54
list .....	61
network cable .....	164
network devices	
home network .....	110
overview .....	110
remote maintenance of computer .....	111
wake on LAN .....	111
network key .....	26
new start .....	146
night service .....	80
notice	
legal .....	169
notifications .....	140

## O

online help .....	166
operation requirements .....	17
overview FRITZ!Box .....	28

## P

package contents .....	17
paging call .....	108
parental controls .....	54
password for FRITZ!Box .....	33
password protection	
configuring FRITZ!Box users .....	35
forgotten password .....	42
FRITZ!Box password .....	34
method .....	33
personal cloud service .....	134
phone number	
suppressing .....	100
phone numbers	
configuring .....	52
picking up a call .....	87
pickup .....	87
port forwarding .....	63
port forwarding IPv6 .....	63
ports on the FRITZ!Box .....	162
power consumption .....	163
provider prefixes .....	93
push services .....	140

## R

reassigning "Info" LED .....	16
recycling .....	170
registering FRITZ!Fon .....	49
registering handset .....	49
remote access (VPN) .....	70
remote maintenance .....	66
requirements for operation .....	17
restarting .....	146
ring tone .....	163
room monitoring .....	97



---

## S

saving data .....	152
schedule .....	80
security	
.....	147
check.....	142
FRITZ!Box password .....	34
FRITZ!Box user account .....	35
installing and connecting .....	8
password protection .....	33
saving settings .....	144
VPN .....	70
security diagnostics .....	142
service .....	166
settings	
Internet access .....	39
IP address .....	117
network .....	112
protecting with a password .....	33
restoring .....	145
saving .....	144, 152
user interface .....	28
smart home .....	38
smartphone .....	49, 86, 137
software	
FRITZ!IOS .....	147
uninstalling .....	153
starting operation	
package contents .....	17
requirements .....	17
storage (NAS) .....	129
streaming.....	121
support	
by e-mail .....	168
information in the Internet.....	166
switch (LAN network) .....	23
symbols .....	10

## T

technical specifications .....	162
telephone	
connecting .....	49
using keyboard shortcuts .....	103
telephone book .....	83
telephone number	
suppressing .....	100
telephone numbers	
configuring .....	52
telephone system .....	83
telephones	
configuring .....	53
terminal devices	
configuring .....	53
connecting .....	49
three-party conference call .....	100
tips	
password protection .....	33
tones .....	163
transfer	
internal .....	99

---

## U

### UMTS

- Internet connection . . . . . 21, 45
- substitute connection . . . . . 75

uninstalling programs . . . . . 153

uninstalling supplementary software 153

update . . . . . 147

- auto-update . . . . . 147

usage data . . . . . 140

### USB

- accessing memory . . . . . 121

hub . . . . . 118

modem . . . . . 120

port . . . . . 12

printer . . . . . 123

storage media . . . . . 119

### USB devices

- device types . . . . . 119

home network . . . . . 119

### user account

- configuring . . . . . 35

disabling . . . . . 42

forgotten password . . . . . 42

ftpuser . . . . . 40

quick access . . . . . 41

rights . . . . . 38

### user interface

- opening . . . . . 28

overview . . . . . 28

password protection . . . . . 33

## V

videos . . . . . 166

### VPN

- client . . . . . 71

configuration wizard . . . . . 71

user account . . . . . 39

using remote access . . . . . 70

## W

wake on LAN . . . . . 111

warranty . . . . . 170

whitelist . . . . . 54

Windows users . . . . . 61

### wireless LAN

- access point . . . . . 12

connecting . . . . . 24

extending a radio network . . . . . 81

guest access . . . . . 131

network key . . . . . 26

range . . . . . 81

switching on and off . . . . . 13, 81, 107

WPS . . . . . 24

wireless LAN repeater . . . . . 81

wireless local area network . . . . . 80

WLAN button . . . . . 13

WPS (Wi-Fi Protected Setup) . . . . . 24