



Fact sheet

Mesh Wi-Fi

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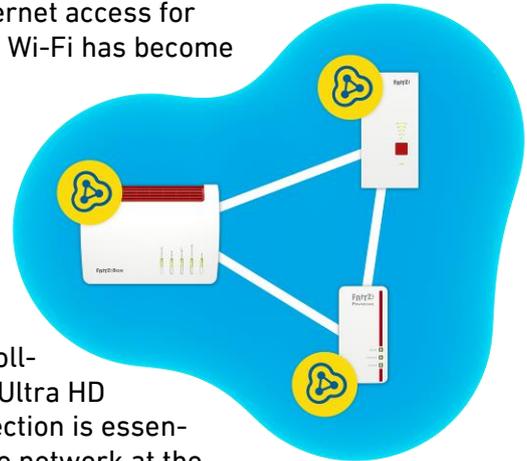


Mesh Wi-Fi explained

Wi-Fi is elementary. Today's consumer takes wireless internet access for granted, be it for streaming or other services in the home. Wi-Fi has become a necessity, like electricity, gas or water.

The fact that maximum transmit power for Wi-Fi is limited by law, together with the growth in devices and apps creating more demand on domestic Wi-Fi networks, means there is a growing need for comprehensive Wi-Fi solutions.

It's not just the number of devices that's increasing, but also the demand on data rates. Internet connections are rolling out ever higher speeds and new technologies such as Ultra HD streaming require higher data rates. A reliable, fast connection is essential, especially when several users are accessing the home network at the same time.



What is a Mesh Wi-Fi system?

Mesh Wi-Fi is a system consisting of multiple access points spread around your house, generating a single, meshed network. The Mesh Wi-Fi system from FRITZ! is self-optimizing and exchanges information, improving the range and performance of the Wi-Fi for all devices in a household.

Mesh Wi-Fi by FRITZ!

A Mesh system such as the FRITZ! home network ensures users have fast, stable Wi-Fi, wherever they are at home or in the office. The communication between FRITZ! products (FRITZ!Box, Wi-Fi repeaters, powerline adapters) is improved, meaning settings can be synchronized and the performance of terminal devices optimized. The whole thing happens automatically. The FRITZ!Box is the "Mesh Master". It provides access to the internet and serves as a powerful wireless access point, and ensuring the best possible Wi-Fi reception. A Mesh network is a great option for large houses or old apartments, and with FRITZ! products it's easy to set it up and in a way that's tailored to the user's home and devices.

FRITZ! products have supported mesh networking since FRITZ! 6.90, and starting with FRITZ!OS 7 it's possible to use additional FRITZ!Boxes as Mesh Repeaters. This means that telephony and Smart Home, alongside Wi-Fi, also support Mesh. All of the central FRITZ!Box's telephone functions are available for each FRITZ!Box that has been integrated as a Mesh Repeater, as well as for the telephones connected to the respective FRITZ!Boxes (Mesh telephony). The Smart Home products from FRITZ! also benefit from a FRITZ!Box that functions as a Mesh Repeater, as it makes it possible to use more DECT Smart Home devices (Smart Home Mesh).

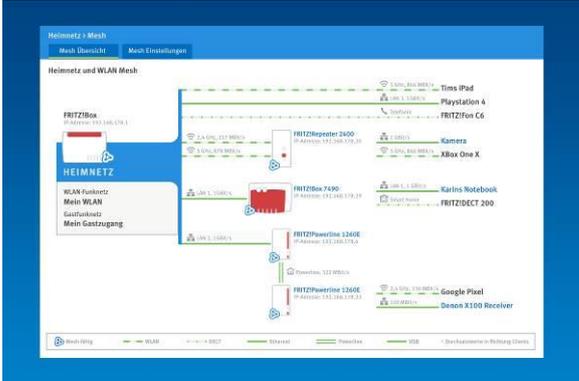


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Benefits of Mesh Wi-Fi by FRITZ!

- **Fast, stable Wi-Fi – wherever you are:** The main advantage of Mesh Wi-Fi by FRITZ! is how it efficiently distributes data in the entire Mesh network. It doesn't matter where in the house the user is, or which access point they are connected to: the access points are all part of a single Wi-Fi network, meaning they share the same SSID and password. Users can measure their Wi-Fi signal strength with the free FRITZ!App WLAN.
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- **Everything in one place:** The FRITZ!Box is the "Mesh Master". With the graphical Mesh Overview users can see their network speed, find out which devices are connected and adjust settings and updates.
 - **Individual and modular:** Every home is different. FRITZ! knows this, which is why it offers the most versatile Mesh Wi-Fi on the market. Customers can decide for themselves how they want to set up their Mesh network. In the majority of cases the combination of a FRITZ!Box and FRITZ!Repeater is the best option. A Mesh Wi-Fi system consisting of a FRITZ!Box and a FRITZ!Powerline device with Wi-Fi functionality is a great solution for homes with thick walls. It's also possible to combine two FRITZ!Box models. You can also use network cabling to connect FRITZ! products that have LAN ports to the Mesh network.
 - **Push and play:** With FRITZ!, setting up a Mesh network is a breeze. All it takes is the touch of a button, on the FRITZ!Box itself and on the device that should be connected to the network.
 - **Peace of mind:** The comprehensive security concept of Mesh Wi-Fi by FRITZ! keeps users' data safe. Thanks to the WPA security standard, the FRITZ! products communicate with each other in an encrypted and secure manner. In addition to the widely used WPA2 encryption, FRITZ! products with the current FRITZ!OS also support the latest WPA3 standard. Regular free updates provide additional features and security.
 - **Free for many FRITZ! products:** Unlike most other manufacturers, AVM provides a number of FRITZ! products, including older ones, with Mesh functionality via free-of-charge updates. FRITZ! products that have FRITZ! 6.90 or later installed support Mesh and can be used as part of any Mesh Wi-Fi system.



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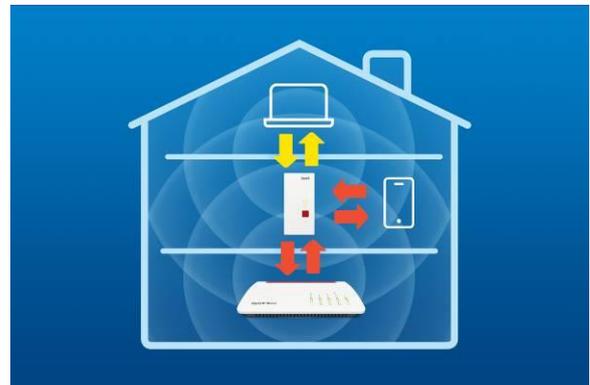


The technology behind Mesh Wi-Fi

FRITZ! products (FRITZ!Box, Repeater, Powerline/Wi-Fi) are connected in the Mesh network via their own communication channel at protocol level. This kind of communication was developed in-house by AVM. The backbone for this kind of communication is either a Wi-Fi frequency band, a powerline connection or LAN cabling. For certain, individual features, the communication falls back to standardized protocols, such as 802.11v/k for band steering.

Additional Mesh Wi-Fi technologies from FRITZ!

- **Band steering:** Wireless devices with dual band support automatically connect to the less crowded frequency band.
- **Intelligent crossband repeating:** FRITZ!Repeaters always use the Wi-Fi band with the fastest connection. Data is forwarded without any loss of speed.
- **Beamforming:** Antennas transmit directly towards the terminal devices – for even greater coverage and speed.
- **Self-healing function:** If a connection is lost – for example if a repeater is reconnected – FRITZ! products automatically search for a new connection after 20 minutes.
- **Auto channel selection:** The FRITZ!Box automatically selects the best possible Wi-Fi channel.



AVM and Wi-Fi

AVM has been committed to Wi-Fi since the first FRITZ!Box was released in 2004. The focus, then as now, is on how to best transmit data from the FRITZ!Box to the terminal devices via Wi-Fi. The pace of Wi-Fi development has been fast: From the first FRITZ!Box with data throughput rates of up to 11 Mbit/s to the latest model, the FRITZ!Box 7590 AX, which has data throughput rates of up to 3,600 Mbit/s. In line with this, additional FRITZ! products for fast data transmission have been developed over the years. In 2008 AVM was the first company to introduce a Wi-Fi repeater for wall sockets, joined in 2011 by the first Powerline product. AVM has been offering wireless products with crossband repeating since 2013, allowing data to be sent and received simultaneously. Since 2017, FRITZ! products support Mesh Wi-Fi. Further information can be found at en.avm.de/mesh.

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