

# MEDION®

## Wireless WIFI Extender

MEDION® E85029 (MD 87119)

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## Instruction manual

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# 1. Notes on how to use these instructions



Read the safety instructions carefully before use. Note the warnings on the device and in the operating instructions.

Always keep the operating instructions close to hand. The operating instructions are part of this product. If you sell the device or give it away, make sure you also hand over these instructions and the warranty card.

## 1.1. Symbols and key words used in these instructions







***DANGER!***

***Warning: immediate mortal danger!***

***WARNING!***

***Warning: possible mortal danger and/or serious irreversible injuries!***

	<p><b>BEWARE!</b>  <i>Please follow the instructions to prevent injuries and property damage!</i></p> <p><b>ATTENTION!</b>  <i>Please follow the guidelines to avoid property damage!</i></p>
	<p><b>NOTE!</b>          Additional information on using the device.</p>
	<p><b>NOTE!</b>          Please follow the guidelines in the operating instructions!</p>
	<p><b>WARNING!</b>  <b><i>Warning: danger of electric shock!</i></b></p>
<ul style="list-style-type: none"> <li>•</li> </ul>	<p>Bullet point/information on operating steps and results</p>
<ul style="list-style-type: none"> <li>▶</li> </ul>	<p>Tasks to be performed</p>

## **2. Proper use**

This is an information electronics device.

This device is designed to amplify the signal in a Wi-Fi network. The amplification of the signal also increases the range of the Wi-Fi network. In addition, the device can be used as an access point for devices that communicate wirelessly or as a client for connected devices which do not have their own Wi-Fi adapter. Never use the device for any other purpose. Only use the device indoors.

This device is only designed for private use and is not suitable for commercial purposes.

### **3. Safety instructions**

Please read the instructions carefully before first use. The instructions will help you to operate the device reliably and help increase its service life.

Always keep these operating instructions near at hand to the device, but store them safely so that you can pass them on to a new owner should you sell the device. Should you have any problems with the device, please only contact our authorised service partners.

#### **3.1. Operating safety**

- This device is not intended for use by people (including children) with reduced physical, sensory or mental abilities or by those without experience and/or knowledge, unless they are supervised by a person responsible for their safety or they have been instructed in its use by that person. Children should be supervised to ensure they do not play with this device.

- Keep the plastic packaging out of the reach of children as it can cause suffocation!
- Always follow the user instructions of the devices that you connect to the Wi-Fi repeater.
- Do not place liquid-filled containers, such as vases, on or near the device. The container may tip over and the liquid may impair the electrical safety of the device.
- Keep the device away from moisture and from water in droplet or spray form. Avoid knocks, dust, heat and direct sunlight in order to prevent malfunction. The operating temperature is 5-35° C.
- Never open the housing of the device. This invalidates the warranty and may render the device unusable.
- Do not modify the device without our consent.
- the socket-outlet shall be installed near the equipment and shall be easily accessible



- The minimum distance between the user and/or any bystander and the radiating structure of the transmitter is 20 cm.
- After transporting the device, wait until it has reached room temperature before switching it on. Major fluctuations in temperature or humidity can lead to condensation which could cause an electrical short-circuit.
- The device is intended to be connected to computers with power supply fuse protection (limited power source according to EN60950)
- Position the cable so that it cannot be stepped on or tripped over.
- Do not place any objects on the cables to avoid damaging them.
- To avoid static charges, you should not operate the device in extremely dry conditions.
- In circumstances where there are electrostatic discharges, the device could malfunction. In this case, the device must

be reset to the factory settings.

- Do not place any open flames (candles or similar) on or near the device.
- Do not insert anything into the device through the slots and openings. This could result in an electric shock to the user, an electric short-circuit or even ignite a fire which will damage your device.
- If you hear any unusual noises during operation of the device or notice any smells or smoke, disconnect the repeater immediately from the electrical outlet and contact the service department.
- Never touch the device with wet hands; there is a risk of electric shock.
- The slots and openings on the product are for ventilation purposes. Do not cover these openings as this could cause the device to overheat.

### **3.2. Data backup**

We do not accept any liability for claims for compensation due to loss of data or any

damages that are incurred. Always backup your data onto an external storage device (e.g. CD-R) before updating it.

### **3.3. Power supply**

- To disconnect the power supply to the device or to isolate the product entirely from voltage sources, disconnect the device from the mains completely by unplugging it from the mains socket.
- Operate the Wi-Fi repeater only on an easily accessible and properly earthed AC 100–240 V~ 50 Hz power outlet so that the Wi-Fi repeater can be quickly disconnected from the mains network in a potentially hazardous situation.

### **3.4. Declaration of conformity**

Medion AG hereby declares that product MD 87119 conforms to the following European directives and standards:

- R&TTE Directive 1999/5/EC
- EMC Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC
- Ecodesign Directive 2009/125/EC
- RoHS Directive 2011/65/EU.

Full declarations of conformity are available at <http://www.medion.com/conformity>.

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Please be sure to read these operating instructions carefully and follow all instructions given. The instructions will help you to operate the device reliably and help increase its service life. Always store these instructions near the appliance. Keep these operating instructions so that you can pass them on with the appliance if you sell it.



## Before use

### 3.5. Check package contents

Please check your purchase to ensure that all items are included. If anything is missing, please contact us within 14 days of purchase.

After unpacking, ensure that the following parts have been supplied:

- Wi-Fi repeater
- RJ-45 network cable
- Software CD
- Operating instructions and guarantee documents



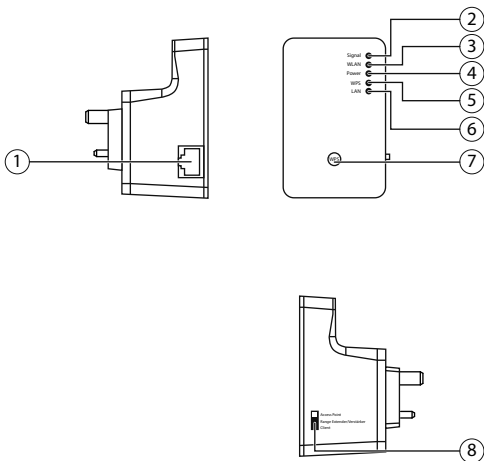
**DANGER!**

***Keep the plastic packaging out of the reach of children as it can cause suffocation!***

### 3.6. System requirements

- LAN connection or Wi-Fi card that supports the Wi-Fi standard 802.11b/g/n
- Microsoft Windows®: Microsoft® Windows® 8, Windows® 7 SP1, Windows® Vista SP2, Windows® XP SP3
- CD-ROM drive
- 100 MB free space on the hard drive

## 4. Overview of the device



- 1) LAN port (RJ45)
- 2) Wi-Fi signal strength LED
- 3) Wi-Fi LED
- 4) Power LED
- 5) WPS LED
- 6) LAN LED
- 7) WPS button/reset button
- 8) Mode selector (access point; range extender/  
amplifier; client)

## 4.1. Overview of the LED displays

LED	Colour	Status	Description
Wi-Fi signal strength LED	Orange	Permanently lit	Good reception (signal strength 100–50%)
		Flashes	Normal reception: Flashes slowly (50–25%) Poor reception: Flashes quickly (< 25%)
		Off	No reception or LED Off mode has been selected
Wi-Fi	Green	Flashes	Connection to a wireless router or AP (access point) is active (data are being transmitted)
		Off	The wireless network is switched off or the LED Off mode has been selected

LED	Colour	Status	Description
POWER	Green	Permanently lit	The repeater is activated. In LED Off mode all LEDs are deactivated apart from the POWER LED Via the web interface, the LED Off mode can also be set so the POWER LED is also deactivated.
		Flashes slowly	The device can be reset to the factory settings.
		Off	The repeater is disconnected from the mains or the LED off mode has been activated.



LED	Colour	Status	Description
WPS	Green	Permanently lit	Once a WPS connection has been successfully made, the WPS LED lights up for 5 minutes.
		Flashes slowly	A WPS connection is being established or the device is waiting for the WPS signal from another device. The WPS LED flashes for 2 minutes while the connection is being established
		Flashes quickly	Error during WPS connection
		Off	No WPS connection active or the LED Off mode has been selected

<b>LED</b>	<b>Colour</b>	<b>Status</b>	<b>Description</b>
LAN	Green	Permanently lit	A connection via the LAN port has been established
		Flashes	The connection via the LAN port is active (data are being transmitted)
		Off	No LAN connection or the LED Off mode has been selected

## 5. Start of operation

### 5.1. Setting the operating mode

Use the mode switch on the Wi-Fi repeater to switch the device to the operating mode that you wish to use. The usage possibilities are described in the following chapter.

## 6. Operating mode

### 6.1. Installation as a repeater

Use the repeater mode in order to utilise the Wi-Fi repeater to extend the range of your wireless network. This will reduce the data transmission rate of the wireless network by half as the repeater must also communicate with the clients and the wireless access point.



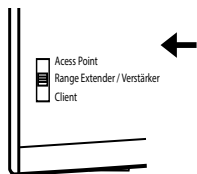
#### **NOTE!**

When using the device as a repeater for the first time, place the repeater as close as possible to the access point to which it is to be connected. After successful installation, you can reposition the repeater where the signal is to be amplified.

## 6.1.1. How to set up the Wi-Fi repeater for operation as a repeater:

Set the mode selection switch to **RANGE EXTENDER/AMPLIFIER**.

- ▶ Connect the repeater only to an easily accessible mains socket. The **POWER LED** lights up.



### **NOTE!**

Before you start making settings, the device should be connected to the mains outlet for about 1 minute until the repeater/amplifier is fully booted.

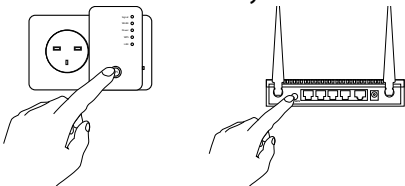
## 6.1.2. Installation as repeater via the WPS button

The quickest, easiest and most secure way of establishing a wireless connection between the repeater and the Wi-Fi router is by using the WPS button.



### NOTE!

This connection method presupposes that both devices have a WPS button. To do this, refer to the manual of your router.



- ▶ Press and hold the WPS button on the repeater for 3 seconds. The WPS LED starts to flash slowly.
- ▶ Now press the WPS button on the device that you wish to connect to the repeater. This step must be carried out within two minutes. The connection is established and the network information is exchanged.

- ▶ Once the connection has been established, the WPS LED lights up for 5 minutes.
- ▶ If the WPS LED flashes quickly, there has been an error during connection. Wait two minutes until the LED goes out and restart the connection process.
- ▶ After the connection has been completely set up, the signal LED will indicate the quality of the connection.
- ▶ To make further settings after the successful establishment of a WPS connection or to set up the WPS connection manually after a failed attempt, use the web interface (see Page 46).

### **6.1.3. Manual installation as a router via the web interface**

#### **Wi-Fi repeater basic settings in repeater mode**

- Before the Wi-Fi repeater is configured via the web interface, DHCP for wireless and LAN is activated.
- The SSID is set to “repeater” and no encryption is set.
- After the Wi-Fi repeater has been set up via the Quick Setup menu and connected to the home router, the Wi-Fi repeater restarts.
- Following the restart, DHCP is deactivated on the

Wi-Fi repeater. The Wi-Fi repeater now receives the IP addresses from the router and passes them on to the devices connected to the Wi-Fi repeater.

## Installation

- ▶ Connect the LAN port on your computer with the LAN socket on the repeater using the supplied LAN cable.

OR

You can use the Wi-Fi interface on your computer instead. Search for the network “repeater” in the Available Wireless Networks and click on **CONNECT** and follow the instructions provided by your computer.



### NOTE!

The Tool Finder helps you to establish the connection to the configuration menu via Wi-Fi.

VXHOME\_WIMAX

repeater

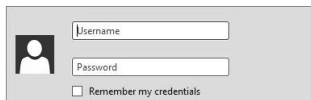
WLBARN23-00-0A-79-C5-CC-E8

tnr



**(image similar)**

- ▶ Then open your web browser and enter either "**http://repeater.setup**" or the IP address "**192.168.66.254**".
- ▶ The repeater's login window appears. Enter the default user name "**admin**" and the default password "**1234**". Click on "**OK**".



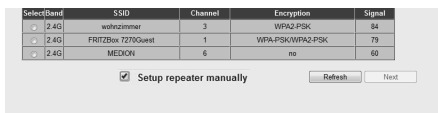
Username

Password

Remember my credentials

**(image similar)**

- ▶ The Quick Setup menu appears. All available wireless access points are listed. Select the access point with which the repeater should be connected and click on "**NEXT**".



SelectBand	SSID	Channel	Encryption	Signal
2.4G	wohnzimmer	3	WPA2-PSK	84
2.4G	FRITZBox 7270Guest	1	WPA-PSK/WPA2-PSK	79
2.4G	MEDION	6	no	60

Setup repeater manually

Refresh Next

**(image similar)**





## NOTE!

If the desired access point is not listed, ensure that it is active and move the repeater closer to the access point. Then click on "**UPDATE**" to update the list of available wireless access points.

If the desired access point is not listed (because it is a hidden network) place a check in the box "Set up repeater manually" and in the next window enter the SSID, encryption and network key.

- ▶ The login window for the selected access point appears.

Enter the network key and click on "**NEXT**".

Security

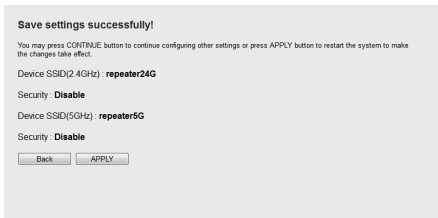
Please input wireless security key of your connected Access Point.

KEY \*\*\*\*\*

Back Next

**(image similar)**

- ▶ The repeater now displays the connection information. If all of the connection data are correct, click "**APPLY**".



**(image similar)**



## **NOTE!**

The “Device SSID” is the network call sign of the repeater and, as default, is set to the same SSID as the access point to which the repeater is connected. However, you can enter a different SSID here if desired.

- ▶ Wait a few seconds while the repeater restarts. After the restart is complete, you can connect the computer to the repeater’s access point via the list of available networks.



## **NOTE!**

After configuration, the repeater’s DHCP server is deactivated and the DHCP server of the access point whose signal is being amplified by the Wi-Fi repeater is used instead.

#### 6.1.4. After the configuration

- ▶ You can remove the LAN cable from the Wi-Fi repeater.



#### NOTE!

You can also connect a LAN cable to the LAN port on the Wi-Fi repeater to connect with the network of the access point whose signal is being amplified by the Wi-Fi repeater.

- ▶ You can now reposition the repeater in any location within the range of the access point (home router). Please pay attention to the status of the Wi-Fi LED (lights up when reception is good, flashes for poor reception).
- ▶ Clients (other computers or Wi-Fi-capable devices) within the range of the repeater can now be connected to the Wi-Fi repeater (by entering the network key or via the WPS button).



#### NOTE!

To call up the Quick Setup menu again at any time, press down the **WPS** button for about 10 seconds, until the **POWER LED** flashes. The repeater is now reset to the factory settings and you can carry out the installation again.

## 6.2. Installation as client

Use the client mode to use the Wi-Fi repeater as a Wi-Fi adapter. This allows you to register devices that only have a LAN port (e.g. set-top boxes, printers ...) to the network via Wi-Fi.



### **NOTE!**

The “Device SSID” is the network call sign of the repeater and, as default, is set to the same SSID as the access point to which the repeater is connected. However, you can enter a different SSID here if desired.

### 6.2.1. Wi-Fi repeater basic settings in client mode

- Before the Wi-Fi repeater is configured via the web interface, DHCP for Wi-Fi and LAN is activated.
- After the Wi-Fi repeater has been set up via the Quick Setup menu and connected to the home router, the Wi-Fi repeater restarts.
- After the restart, DHCP for LAN and Wi-Fi is deactivated on the Wi-Fi repeater. The Wi-Fi repeater now receives IP addresses from the router.

### 6.2.2. Connecting as a client to a wireless AP (Wi-Fi router) using the WPS button

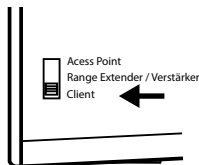
The quickest, easiest and most secure way of establishing a wireless connection between the repeater (in client mode) and a router is by using the WPS button.



#### **NOTE!**

This connection method presupposes that both devices have a WPS button or WPS function in their menu.

- ▶ Set the mode selection switch to **CLIENT**.

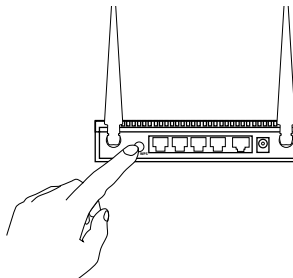
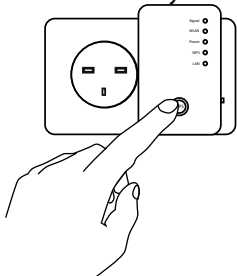


- ▶ Connect the repeater only to an easily accessible mains socket. The **POWER LED** lights up.



### NOTE!

Before you start making settings, the device should be connected to the mains outlet for about 1 minute until the repeater/amplifier is fully booted.



**(image similar)**

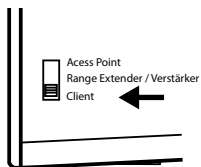
- ▶ Press and hold the WPS button on the repeater for 3 seconds. The WPS LED starts to flash slowly. If an error occurs during connection, the LED flashes

rapidly.

- ▶ Now press the WPS button on the router with which you would like to connect the repeater. This step must be carried out within two minutes. The connection is established and the network information is exchanged.
- ▶ Once the connection has been established, the WPS LED lights up for 5 minutes.
- ▶ If the WPS LED flashes, there has been an error during connection. Wait two minutes until the LED goes out and restart the connection process.
- ▶ After the connection has been completely set up, the signal LED will indicate the quality of the connection. See “Overview of the LED displays” on page 16.
- ▶ To make further settings after the successful establishment of a WPS connection or to set up the WPS connection manually after a failed attempt, use the web interface (see Page 46).
- ▶ After the repeater has been successfully configured via the WPS button, you can use the LAN cable to connect the repeater to the LAN port on the device which is to be connected via Wi-Fi to the network.
- ▶ Bear in mind the range of the access point (home router). The Wi-Fi LED lights up when reception is good and flashes for poor reception.

### 6.2.3. Installation as client via the web interface

- ▶ Set the mode selection switch to **CLIENT**.
- ▶ Connect the repeater only to an easily accessible mains socket.  
The **POWER LED** lights up.



- ▶ Connect the LAN port on your computer with the LAN socket on the repeater using the supplied LAN cable.



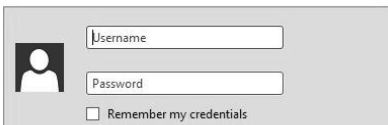
#### **NOTE!**

Your computer's LAN connection needs to be set to "Obtain IP addresses automatically via DHCP".

- ▶ Open your web browser and enter either "**http://repeater.setup**" or the IP address "**192.168.66.253**".



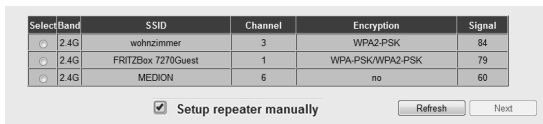
- ▶ The repeater's login window appears. Enter the default user name "**admin**" and the default password "**1234**". Click on "**OK**".



A screenshot of a login window. On the left is a small icon of a person. To the right are two input fields: the top one is labeled 'Username' and the bottom one is labeled 'Password'. Below these fields is a checkbox labeled 'Remember my credentials'.

(image similar)

- ▶ The Quick Setup menu appears. All available wireless access points are listed. Select the access point with which the repeater should be connected and click on "**NEXT**".



Select	Band	SSID	Channel	Encryption	Signal
<input type="radio"/>	2.4G	wohzimmer	3	WPA2-PSK	84
<input type="radio"/>	2.4G	FRITZBox 7270Guest	1	WPA-PSK/WPA2-PSK	79
<input type="radio"/>	2.4G	MEDION	6	no	60

Setup repeater manually

(image similar)



## NOTE!

If the desired access point is not listed, ensure that it is active and move the repeater closer to the access point. Then click on "**UPDATE**" to update the list of available wireless access points.

If the desired access point is not listed (because it is a hidden network) place a check in the box "Set up repeater manually" and in the next window enter the SSID, encryption and network key.

- ▶ The login window for the selected access point appears.

Enter the network key and click on "**NEXT**".

Security

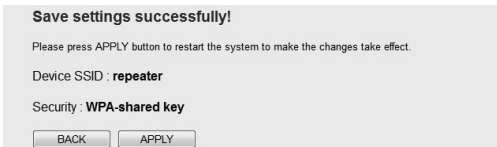
Please input wireless security key of your connected Access Point.

KEY: .....

Back Next

(image similar)

- ▶ The repeater now displays the connection information. If all of the connection data are correct, click "**APPLY**".



(image similar)

- ▶ Wait a few seconds while the repeater restarts. After the restart is complete, you can connect the computer via the repeater to an access point from the list of available networks.



### NOTE!

To call up the Quick Setup menu again at any time, press down the **WPS** button for about 10 seconds, until the **POWER LED** flashes. The repeater is now reset to the factory settings and you can carry out the installation again.

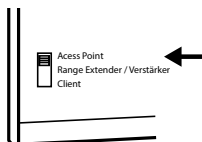
## **6.3. Installation as AP (access point)**

Select AP mode, if you want to operate the repeater as a wireless access point. In this operating mode, the repeater acts as a wireless interface for communication with the network. For example, you can connect the repeater to a network router that has no Wi-Fi interface so that devices can now access the network router via the repeater.

### 6.3.1. Configuration as AP

- ▶ Set the mode selection switch to AP.

- ▶ Connect the repeater only to an easily accessible mains socket. The **POWER LED** lights up.



#### NOTE!

Before you start making settings, the device should be connected to the mains outlet for about 1 minute until the repeater/amplifier is fully booted.

- ▶ Search in the available wireless networks for the unsecured network “repeater” and click on **“CONNECT”**.

VXHOME\_WIMAX

repeater ←

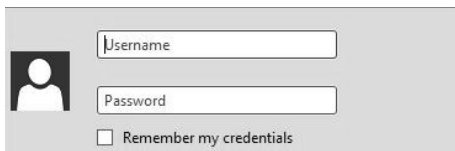
WLBARN23-00-0A-79-C5-CC-E8

tnr



(image similar)

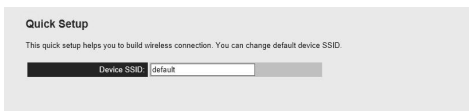
- ▶ Skip the suggestion from Windows to set up the network using the Windows Setup and select the entry "**VERBINDUNG MIT DEM NETZWERK HERSTELLEN, OHNE ES EINZURICHTEN**".
- ▶ Then open your web browser and enter either "**http://repeater.setup**" or the IP address "**192.168.66.1**".
- ▶ The repeater's login window appears. Enter the default user name "**admin**" and the default password "**1234**". Click on "**OK**".



A screenshot of a login window. On the left is a simple user icon. To its right are two input fields: the top one is labeled 'Username' and the bottom one is labeled 'Password'. Below these fields is a checkbox with the text 'Remember my credentials'.

**(image similar)**

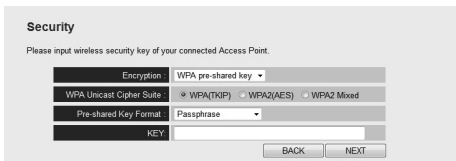
- ▶ The Quick Setup menu appears. Enter an SSID (network identification) by which the repeater can be identified as an AP in the network. Click on "**NEXT**". The default SSID is "repeater".



A screenshot of a 'Quick Setup' screen. At the top is the title 'Quick Setup'. Below it is a subtitle: 'This quick setup helps you to build wireless connection. You can change default device SSID.'. At the bottom, there is a label 'Device SSID:' followed by a text input field containing the word 'default'.

(image similar)

- ▶ The “**SECURITY**” window appears. Select a network encryption type. The possible encryption options are: WEP, WPA pre-shared key or WPA RADIUS.



The screenshot shows a 'Security' configuration window. At the top, it says 'Security' and 'Please input wireless security key of your connected Access Point.' Below this, there are several settings: 'Encryption' is set to 'WPA pre-shared key' with a dropdown arrow; 'WPA Unicast Cipher Suite' has three radio buttons: 'WPA(TKIP)' (selected), 'WPA2(AES)', and 'WPA2 Mixed'; 'Pre-shared Key Format' is set to 'Passphrase' with a dropdown arrow; and there is a 'KEY:' label followed by a text input field. At the bottom right, there are 'BACK' and 'NEXT' buttons.

(image similar)

- ▶ If all of the connection data are correct, click “**APPLY**”.



The screenshot shows a confirmation window titled 'Save settings successfully!'. It contains the text 'Please press APPLY button to restart the system to make the changes take effect.' Below this, it displays 'Device SSID : repeater' and 'Security : WPA-shared key'. At the bottom, there are 'BACK' and 'APPLY' buttons.

(image similar)

Wait a few seconds while the repeater restarts. After the restart has been completed, the repeater is available as a wireless access point.

**System Restarting! Please wait for a while !**

28%



**(image similar)**

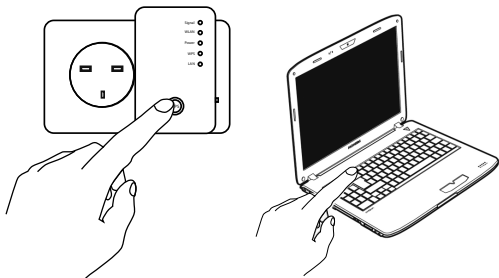
- ▶ Now connect the LAN port on the Wi-Fi repeater with the LAN port on the home router or a network socket for your home network using the supplied LAN cable.
- ▶ Clients (other computers or Wi-Fi-capable devices) within the range of the repeater can now be connected to the Wi-Fi repeater (by entering the previously defined network key or via the WPS button).



### 6.3.2. Connecting to the repeater's access point using the WPS button

The quickest, easiest and most secure way of establishing a wireless connection between the repeater and the device that is to be connected to the access point is by using the WPS button.

- ▶ To connect to the AP using the **WPS** button, proceed as follows:



**(image similar)**

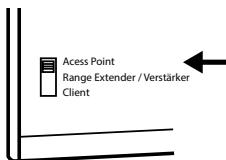
- ▶ Press the WPS button on the repeater twice in quick succession. The WPS LED starts to flash.
- ▶ Now press the WPS button on the device that you wish to connect to the repeater's AP. This step must be carried out within two minutes. The connection is established and the network information is exchanged.
- ▶ Once the connection has been established, the

WPS LED lights up for 5 minutes.

- ▶ If the WPS LED flashes, there has been an error during connection. Wait two minutes until the LED goes out and restart the connection process.
- ▶ After the connection has been completely set up, the signal LED will indicate the quality of the connection.
- ▶ To make further settings after the successful establishment of a WPS connection or to set up the WPS connection manually after a failed attempt, use the web interface (see Page 46).

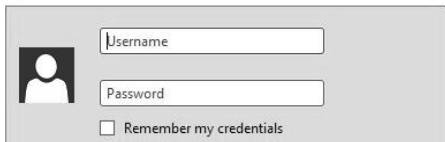
### 6.3.3. Configuring the repeater as an access point (AP) via a LAN connection

- ▶ Set the mode selection switch to AP.
- ▶ Connect the repeater only to an easily accessible mains socket.  
The **POWER LED** lights up.



- ▶ Connect the LAN port on your computer with the LAN socket on the repeater using the supplied LAN cable.
- ▶ Then open your web browser and enter either "<http://repeater.setup>" or the IP address "**192.168.66.1**".

- ▶ The repeater's login window appears. Enter the default user name "**admin**" and the default password "**1234**". Click on "**OK**".



**(image similar)**

- ▶ The Quick Setup menu appears. Enter an SSID (network identification) by which the repeater can be identified as an "Access Point" in the network. Click on "**NEXT**". The default SSID is "repeater".



**(image similar)**

- ▶ The "Security" window appears. Select a network encryption type. The possible encryption options are: WEP, WPA pre-shared key or WPA RADIUS.

**Security**

Please input wireless security key of your connected Access Point.

Encryption :	WPA pre-shared key ▾
WPA Unicast Cipher Suite :	<input checked="" type="radio"/> WPA(TKIP) <input type="radio"/> WPA2(AES) <input type="radio"/> WPA2 Mixed
Pre-shared Key Format :	Passphrase ▾
KEY:	<input type="text"/>

**(image similar)**

- ▶ If all of the connection data are correct, click **“APPLY”**.

**Save settings successfully!**

Please press APPLY button to restart the system to make the changes take effect.

Device SSID : **repeater**

Security : **WPA-shared key**

**(image similar)**

Wait a few seconds while the repeater restarts. After the restart has been completed, the repeater is available as a wireless access point.

## 7. The web interface

You can use the web interface to configure the repeater and set it up to suit your needs or, if the connection via WPS was not successful, to make a connection.

The appearance of the web interface will change for each selected mode, as options will be hidden or shown depending on whether they are required for the selected mode.

### 7.1. Calling up the web interface

After being configured, the repeater is only accessible via the management IP. The process for calling up the web interface differs according to the operating mode.

Access point: 192.168.66.1

Repeater/amplifier: 192.168.66.254

Client: 192.168.66.253



## **NOTE!**

If the repeater has already been configured, the transfer of the IP address of the PC via which you want to access the repeater must be set manually. See next section.

## **7.2. Manually setting up DHCP on a Windows PC**

In AP operation, the management IP address of the repeater is set to 192.168.66.1. Please ensure that the IP address of your PC is in the range 192.168.66.2~192.168.66.252.

To log in via the web interface, the IP address of your PC must be manually set to a value in this range. The procedure for this is described in the next section.

### **7.2.1. Setting the IP address in Windows XP**

- ▶ Click on the **START** button on the task bar and then **CONTROL PANEL**.
- ▶ Double-click on **NETWORK CONNECTIONS** and then click on **DISPLAY CONNECTION STATUS**.
- ▶ Select **LOCAL INTERNET SETTINGS**. The window **LOCAL AREA CONNECTION STATUS** appears. Click on properties.
- ▶ Select the entry **INTERNET PROTOCOL**

**(TCP/IP) – GENERAL** and then enter the IP address as described in the following:

- IP address: 192.168.66.x (whereby x can be a number between 2 and 200. If more than one computer is using this access point, each computer must use its own number)
- Subnet mask: 255.255.255.0
- ▶ To finish, click on **OK**.

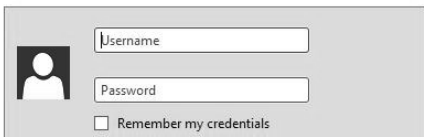
### 7.2.2. **Setting the IP address in Windows Vista/7**

- ▶ Click on the **START** button on the task bar and then **CONTROL PANEL**.
- ▶ Click on **NETWORK AND INTERNET**.
- ▶ Click on **NETWORK AND SHARING CENTER**.
- ▶ Right-click on **LOCAL AREA CONNECTION**.
- ▶ The window **LOCAL AREA CONNECTION PROPERTIES** appears. Select **INTERNET PROTOCOL VERSION 4 (TCP / IPV4)** and then click on Properties.
- ▶ Select the option "**USE THE FOLLOWING IP ADDRESS**" and then enter the IP address based on the following procedure:

- IP address: 192.168.66.x (whereby x can be a number between 2 and 200. If more than one computer is using this access point, each computer must use its own number)
- Subnet mask: 255.255.255.0
- ▶ To finish, click on **OK**.

### 7.2.3. Logging on to the web interface

- ▶ Enter the relevant management IP for the currently set operating mode in your browser.
- ▶ The repeater's login window appears. Enter the default user name "**admin**" and the default password "**1234**". Click on "**OK**".



The image shows a login form with a grey background. On the left side, there is a small black square icon containing a white silhouette of a person. To the right of this icon are two text input fields. The top field is labeled 'Username' and the bottom field is labeled 'Password'. Below these fields is a checkbox followed by the text 'Remember my credentials'.

**(image similar)**

- ▶ The start page of the configuration menu for the Wi-Fi repeater opens.



**Status and Information**

You can refer to following information to check the MAC address, runtime code, hardware version and its network configuration status of this device.

System	
Uptime	0day 0h 25m 25s
Hardware Version	Rev. A
Runtime Code Version	1.000
Wireless Configuration	
Mode	AP
ESSID	repeater
Channel Number	11
Security	Disabled
BSSID (MAC)	80:1f:02:42:1d:d0
Associated Clients	0 <input type="button" value="Show active Clients"/>
LAN Configuration	
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
MAC Address	80:1f:02:42:1d:d0

**(image similar)**

On the left margin, you will find four menu options for configuring the repeater. The contents of the individual menus differ depending on which mode the repeater is set to.

## 7.3. Home page

On the home page you will find all the information on the repeater and its settings.

### 7.3.1. System

#### Operating time

This shows the operating time since the unit was last switched on.

#### Device version

This shows the version of the device.

#### Firmware version

This shows the version of the firmware.

### 7.3.2. Wi-Fi settings

#### Mode

In the line **MODE** the selected mode on the device is shown: **AP; Universal Repeater** or **Station-Infrastructure** (client mode).

The information displayed is identical for all three modes.

#### ESSID

This shows the SSID that the Wi-Fi repeater has adopted from the Wi-Fi network.

## Channel

This shows the channel that the Wi-Fi repeater is transmitting on.

## Security

This shows what encryption method the Wi-Fi repeater is set to use. If no encryption has been set, the entry displays “Deactivated”.

## BSSID (MAC)

This shows the MAC address of the repeater’s Wi-Fi adapter.

## Attached clients

In client mode, the line **Associated Clients** does not appear and, instead, the line **State** is shown which shows the repeater’s connection status.

- ▶ To show a list of all attached devices, click on the button **Show Active Clients** to see a table of all active clients in a new window.



### NOTE!

If you are using a pop-up blocker, deactivate this first otherwise the window cannot be shown.

### **7.3.3. LAN settings**

#### **IP address**

This shows the Wi-Fi repeater's IP address.

#### **Subnet mask**

This shows the subnet mask which the Wi-Fi repeater is set to.

#### **Standard gateway**

This shows the standard gateway which the Wi-Fi repeater is set to.

#### **MAC address**

This shows the MAC address of the repeater's LAN adapter.

## **7.4. Quick setup**

### **7.4.1. Repeater and client mode**

- ▶ Start by selecting the access point to which you would like to connect the repeater.
- ▶ Then enter the network key for the selected access point.
- ▶ The next window displays the repeater's connection data.
- ▶ In repeater mode, you can set the SSID for the repeater in the next window. The SSID of the access

point is shown automatically.

- ▶ Click the **APPLY** button to finish the process. The data are saved and the repeater restarts.
- ▶ After the restart of the repeater is completed, the home page of the web interface will reappear. You can now close the browser.

### 7.4.2. Access Point mode

- ▶ Start by selecting an SSID for the access point.
- ▶ In the next step, you can make the security settings for the access point.
- ▶ Select the required method in the option **ENCRYPTION**.
- ▶ Depending on the encryption method selected, further input and selection fields will be displayed.
- ▶ Finish making your settings by clicking on the **NEXT** button.
- ▶ Check the selected settings and click on **APPLY** to finish the process. The data are saved and the repeater restarts.
- ▶ After the restart of the repeater is completed, the home page of the web interface will reappear. You can now close the browser.

## 7.5. WPS settings

In the WPS settings menu, you can configure the repeater's WPS function.

- ▶ WPS functionality is activated by default. To deactivate this function, remove the tick from the box **WPS EINSCHALTEN**.

### 7.5.1. Wi-Fi protected setup information

You will find a list of WPS settings under the heading **Wi-Fi Protected Setup Information**.

- **WPS Status:** Shows the status of the security settings. If you have made no settings in Quick Setup, the notification **Unconfigured** will appear.
- **Self Pin Code:** Shows the WPS self pin code. This code is used during PIN-style WPS pairing mode: it must be provided for all wireless clients.
- **SSID:** This shows the Wi-Fi repeater's network password.
- **Authentication mode:** This shows the selected encryption mode.
- **Passphrase key:** Here you can see whether a network key is being used. If a network key has been set, this is shown by asterisks (\*\*\*) in place of the actual key.

## 7.5.2. Device configuration

Under the heading **Device Configuration**, you have the option to configure the WPS settings:

- Configuration mode: Here you can set the Wi-Fi repeater as either enrollee or registrar for WPS permissions on the network.
- Configuration via push button method: Here you can run the WPS function via the software. This button corresponds to the WPS button on the device.
- Enter client PIN code: This code is used in PIN-style WPS pairing mode. If you want to connect a device that is secured by PIN-style WPS, enter the PIN code of the device here.

## 7.6. Advanced settings



### **ATTENTION!**

*The advanced settings are only for experienced users with sufficient Wi-Fi knowledge. You should not change any of these settings if you do not know what effect this will have on the router. On the following pages you will find a list of menu items and their meaning:*

<b>Menu option</b>	<b>Meaning</b>
Fragment threshold	The fragment threshold setting is used for the transmission of fragmented data packets. The default value is 2346.
RTS threshold	This setting is used to define the RTS value. The default value is 2347.
Beacon interval	This setting defines the interval for sending out the beacon. The standard value is 100.
DTIM period	This setting defines the interval for sending out the DTIM signal. The standard value is 3.
Data rate	This setting defines the speed of data transmission.
N data rate	This setting defines the speed of data transmission.
Channel width	Channel width setting.
Preamble type	This setting defines the type of preamble signal.
Broadcast ESSID	This setting defines whether the ESSID is broadcast or not.
WMM	This setting defines whether the WMM function is activated or deactivated.



Menu option	Meaning
CTS protect	This setting defines the type of CTS signal.
TX power	This setting defines a value for regulating the transmitting power of radio systems.

- ▶ You can switch off the LEDs on the device. To do this, put a tick in the check box LED out mode.
- ▶ The two selection options allow you to define more precisely which LEDs are to be switched off.

### 7.6.1. MAC filter

If you want to use MAC address filtering, you can use this menu option to make the required settings.

### 7.6.2. Device settings

This menu option allows you to set the password for the web interface, configure the IP address and the DHCP functionality.

### 7.6.3. Configuration

This menu option allows you save the menu settings in a file so that you will not have to completely re-enter them following a restart of the device.

You can also update the Wi-Fi repeater's firmware or reset the device to the factory settings.



### **NOTE!**

The repeater can also be reset by pressing and holding the WPS button. To do this, hold down the WPS button for longer than 10 seconds.

## **8. Medion Finder Tool**



### **NOTE!**

The Tool Finder helps you to establish the connection to the configuration menu via Wi-Fi.

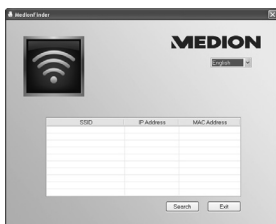
- ▶ On the supplied CD you will find a Finder Tool that will make access to the web interface easier. Double-click on the file **Medion-Finder.exe** to start the Finder Tool.



### **NOTE!**

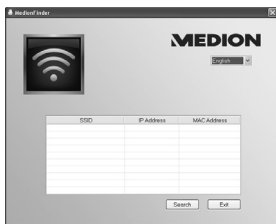
The repeater can only be found by the Finder Tool during the initial installation.

Your computer must be configured as DHCP client (“Obtain IP addresses automatically via DHCP”)



(image similar)

- ▶ Insert the CD-ROM in the correct drive on your computer. Double-click on the file **Medion-Finder.exe** to start the Finder Tool.



(image similar)

- ▶ If you do not want to use the Finder, open your web browser and enter either "**http://repeater.setup**" or the IP address corresponding to the selected mode.



## NOTE!

If the repeater is connected via a LAN cable, the Wi-Fi connection to the repeater still has to be established. The Finder Tool will help you to access the repeater's configuration menu.

## 9. Troubleshooting

Error	
<ul style="list-style-type: none"><li>No LED is lit</li></ul>	<ul style="list-style-type: none"><li>LED off mode active?</li><li>Power outlet defective?</li></ul>
<ul style="list-style-type: none"><li>No connection possible</li></ul>	<ul style="list-style-type: none"><li>▶ Check position of the mode selector switch</li></ul>
<ul style="list-style-type: none"><li>No access to the web Interface</li></ul>	<ul style="list-style-type: none"><li>▶ Check the IP address for the respective mode</li></ul>
<ul style="list-style-type: none"><li>Other malfunctions</li></ul>	<ul style="list-style-type: none"><li>▶ Disconnect the repeater from the mains for 10 seconds.</li><li>▶ Reset to factory settings.</li></ul>

## **10. Do you need more help?**

If the above suggestions did not solve your problem, please contact us. The following information would help us:

- What external devices are connected?
- When operating the product, at which step did the problem occur?
- What steps have you already taken to try and rectify the problem?
- Please provide your customer number if you have one.

## 11. Cleaning

Follow the instructions below to increase the service life of the product:

- Always unplug the mains adapter and disconnect all the cables before cleaning the product.
- Do not use solvents, corrosive agents or aerosol-based detergents to clean the device.
- Clean the device with a soft, lint-free cloth.

Store the packaging material in a safe place; only use this box to transport the device.



### **ATTENTION!**

*None of the parts inside the device require cleaning or maintenance.*

## 12. Disposal

### Packaging



Your appliance has been packaged to protect it against transportation damage. Packaging materials are raw materials and can therefore be reused or recycled.

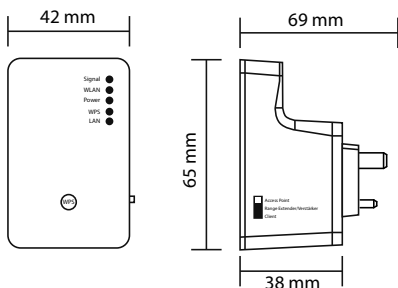
### Device



Old appliances should not be disposed of with the household waste.

As per Directive 2012/19/EU, the device must be properly disposed of at the end of its service life. This ensures that valuable resources contained in the device are recycled and do not pollute the environment. Bring your device to a waste collection centre for electric waste or a recycling centre. Contact your local waste disposal company or your local authority for more information on this subject.

Technical data Input:	AC 100 - 230 V ~ 50/60 Hz
Wi-Fi standard:	802.11 b/g/n
Frequency	2.4 GHz
Dimensions	see diagram



Consumption	
(LAN operation)	1.43 W
(Wi-Fi operation)	1.95 W
Standby	1.3 W
Encryption	WEP, WPA/WPA2
Range	max. 300 m outdoor areas max. 100 m indoors
Data transfer:	up to 300 Mbit/s
Total weight (approx.)	71 g
Operating temperature	5°C to 35°C



Humidity during operation: 5%–65%

**Subject to technical and optical changes as well as printing errors.**

**C € 0700**

## 13. Glossary

### **Access Point (AP), Wireless AP**

Also known as a base station, this is an electronic device that functions as an interface for wireless communications devices. End devices make a radio connection to the wireless access point via a wireless adapter. The access point can also be connected by cable to a permanently installed communications network.

### **Operating system**

Software with which the user and the other software installed on the system can communicate with the computer hardware and the hard drive.

### **BSSID (MAC)**

The basic service set identification (BSSID) corresponds to the MAC address of the wireless access point.

### **Client Mode**

Client mode is an operating mode of a wireless access point (here: the Wi-Fi repeater) in which the device behaves like a wireless adapter towards the higher level AP. Via an AP operated in client mode, individual computers can be connected to a higher level network without their own wireless adapter.

## **DHCP – Dynamic Host Configuration Protocol**

A protocol to assign an IP address to devices in the network. Dynamic addresses allow a device to have a different IP address each time it connects to a network. In some systems, the IP address changes automatically while the device is connected. DHCP also supports a combination of static and dynamic IP addresses. See also Protocol.

## **DNS – Domain Name Service**

A system used by a network name server to translate text host names into numerical IP addresses in order to uniquely identify a device connected to the internet.

## **Enrollee**

The device that searches via the WPS function after logging into a network. The enrollee always searches for a registrar.

## **Ethernet**

A standard method for connecting a computer to a local network (LAN).

## **ESSID**

By providing different network call signs, it is possible to operate various wireless LANs at the same location.

The SSID is set at the base station. To connect several base stations to the same network, they need to be set to the same SSID; this is then known as an ESSID (extended SSID).

## **Gateway**

The standard gateway is provided by the computer/router in the network in which all queries are made which have no address in the local network (queries in the Internet). It forwards these queries to a computer/router that may be able to answer these queries. Normally, you enter the IP address of your home router (DSL router) as the standard gateway.

## **IP address**

A binary 32-bit number that uniquely identifies any computer connected to the internet.

## **LAN – Local Area Network**

A system in which computer users are connected within a company or an organisation and are often also connected to central data collections stored on LAN servers.

## **MAC Address**

The MAC address (media access control address) is the hardware address of every individual network adapter. It serves as a unique identifier for the device in a computer network.

## **Passphrase Key**

The network key that is used for authentication on a WEP/WPA2 encrypted network.

## **Registrar**

The device that publishes and withdraws WPS permissions within a network. A registrar can be integrated into a wireless access point or be separate from the access point (AP).

## **Self Pin Code**

The PIN code that is provided by the registrar for completing a connection via the WPS function.

## **SSID**

By providing different network call signs, it is possible to operate various wireless LANs at the same location. The SSID is set at the base station. To connect several base stations to the same network, they need to be set to the same SSID; this is then known as an ESSID (extended SSID).

## **Subnet mask**

A subnet is a subordinate part of a network. It collates several consecutive IP addresses by means of a subnet mask.

## **TCP/IP**

Transmission Control Protocol/Internet protocol – a series of protocols used for communication via connected networks. The standard for data transmission via networks. See also Protocol.

## **WPS**

Wi-Fi Protected Setup (WPS) is a standard used to simply add devices to an existing network without the often laborious setting up of an adequate encryption. Your device supports the following WPS methods:

### **PIN entry:**

The device has a sticker or a display for a PIN that must be provided to the registrar (e.g. the access point) when connecting to a network.

**Push Button Configuration (PBC):** The access point and the devices to be connected to it all have a physical or virtual (software-based) button to set up a connection. When this is pressed, a two-minute phase starts in which the devices can join the network.

## 14. Licence information



### **NOTE!**

Dear customer,

The original English version of the GPL/LGPL licence document is included below for legal reasons. Translations into other languages are not necessarily authorised versions of the GPL approved by the FSF (Free Software Foundation).

An acquaintance with the GPL/LGPL licence is immaterial to the use of the product but its publication is mandatory in connection with the use of open-source software.

Anyone interested can download the source text of the relevant GPL/LGPL by following this link: <http://www.medion.com>. Please state the MD number or MSN number in the download centre. These numbers can be found on the product. For more information on GPL/LGPL licences please visit [www.gnu.org](http://www.gnu.org).



# 15. GNU General Public Licence

Version 2, June 1991

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MA 02110-1301, USA

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