Single-Band Router User Guide

Set up, secure and fix your 2.4 GHz Wi-Fi router

Connect | Log in | Wi-Fi | Internet | Security | Troubleshooting

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About this guide

This guide shows you how to set up and use a **single-band router**, which is a Wi-Fi router that works on the 2.4 GHz band only. It covers connecting the hardware, logging in, setting up Wi-Fi and the internet connection, connecting devices, keeping the router secure, and fixing common problems.

Routers from different brands use different menu names and screens. The steps here use the common names, so look for the closest match on your router. Your router's label and manual always come first if they differ from this guide.

Contents

No.	Chapter	Page
1	Know your router	3
2	Connect the hardware	4
3	Log in to the router	5
4	Set up Wi-Fi	6
5	Set up the internet connection	7
6	Connect your devices and improve the signal	8
7	Security and maintenance	9
8	Troubleshooting and quick reference	10

Before you start: Do not change settings you do not understand, especially the internet connection settings. Before you change anything, write down the original values. If something goes wrong, you can return to them or reset the router (chapter 7).

What you will need

- Your router and its power adapter, plus one network cable (usually supplied).
- Your internet source: a modem, fibre ONT or a wall socket from your provider.
- A phone, tablet or computer for setup.
- Your internet account details if your provider gave you a username and password.
- The label on the bottom of the router. It shows the default Wi-Fi name, the login address and sometimes the default password.

1 Know your router

A single-band router sends Wi-Fi on one frequency band, 2.4 GHz. A dual-band router adds a second band, 5 GHz.

	Single band (2.4 GHz)	Dual band (2.4 + 5 GHz)
Range	Longer. Signal passes through walls better.	5 GHz is shorter range, 2.4 GHz is the same as single band.
Speed	Lower. Typical routers are rated 150 or 300 Mbps; real speeds are often much lower.	Higher on the 5 GHz band.
Crowding	More interference from neighbours, microwaves, Bluetooth and cordless phones.	5 GHz is usually quieter.
Compatibility	Works with almost every Wi-Fi device.	Some devices only use one band.
Price	Lower.	Higher.

Is a single-band router right for me?

- **Yes** if you want basic browsing, video calls, messaging and streaming for a few devices, in a house or office where range matters more than top speed.
- **Maybe not** if many people stream HD video or play online games at the same time, or if your internet plan is faster than about 100 Mbps. A single band cannot carry that much and a dual-band router will feel faster.

Front panel lights

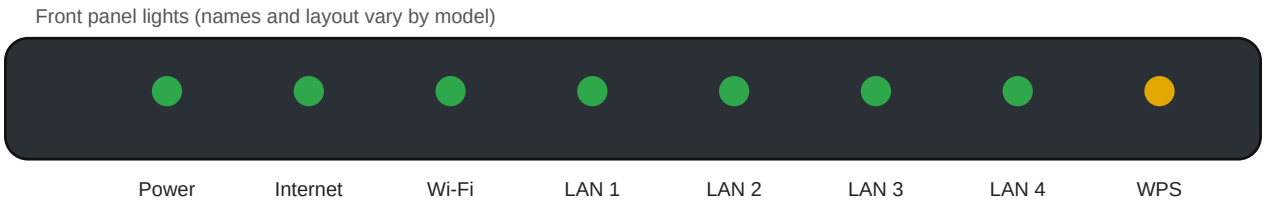


Figure 1: Typical front lights. Your model may have fewer or differently named lights.

Light	Normal behaviour	What it tells you
Power	Solid on	The router has power. If it is off, check the adapter and socket.
Internet / WAN	Solid or blinking	The router has an internet link. If it is off or red, there is no internet from the source.
Wi-Fi / WLAN	Blinking	Wireless is on and sending data. If off, Wi-Fi may be switched off.
LAN 1-4	On or blinking	A device is connected to that port by cable.
WPS	Off or blinking	Blinks while pairing with a device using WPS.

2 Connect the hardware

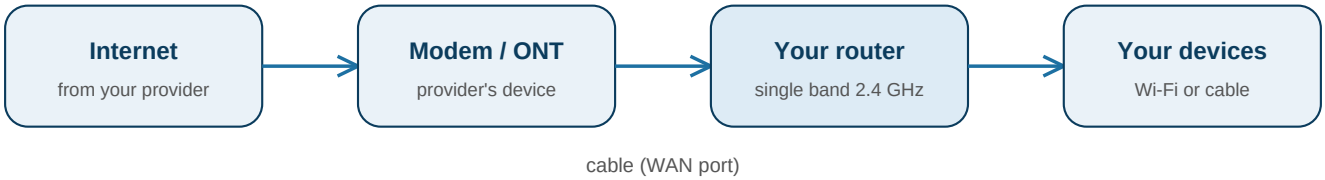
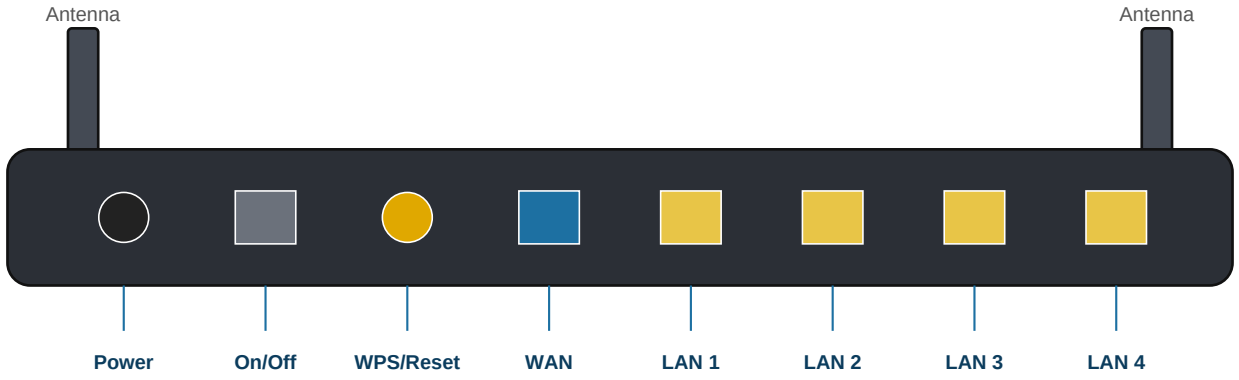


Figure 2: How the router fits between your internet source and your devices.

Steps

1. Place the router in a central, open spot (see chapter 6 for placement tips). Screw on or raise the antennas if they are separate.
2. Switch off the modem or ONT. If it has a backup battery, leave it for now.
3. Plug one end of a network cable into the router's **WAN** port (usually blue, sometimes labelled Internet).
4. Plug the other end into the modem or ONT's LAN port. If the modem has several ports, use the one your provider told you to use.
5. Switch the modem on and wait about two minutes until its lights are steady.
6. Plug the router's power adapter into the router and a socket, then switch it on.
7. Wait one to two minutes. The Power light should be steady and the Internet and Wi-Fi lights should come on.



Back panel (simplified). The blue WAN port connects to your internet source; yellow LAN ports connect your devices.

Figure 3: Back panel. Port positions and names vary by model.

Tip: Connect your computer to a yellow LAN port with a cable for the first setup if you can. A cable keeps working even if you change Wi-Fi settings, so you will not lose the connection halfway.

Caution: Use only the power adapter that came with the router. A wrong adapter can damage it or cause random restarts.

3 Log in to the router

All settings are changed from the router's admin page, which you open in a web browser.

Open the admin page

1. Connect your phone or computer to the router. Use the default Wi-Fi name and password on the router's label, or use a LAN cable.
2. Open a web browser such as Chrome or Safari.
3. Type the login address from the router's label into the address bar and press Enter. Common addresses are listed below.
4. Enter the admin username and password from the label or manual.

Common login addresses	Notes
192.168.1.1	Used by many brands.
192.168.0.1	Used by many brands.
192.168.1.254	Common on provider-supplied routers.
A name such as tplinkwifi.net	Some brands print a web name on the label instead of numbers.

Type the address in the address bar at the top of the browser, not in the search box. If the page does not open, see "Cannot open the admin page" in chapter 8.

Change the admin password first

Many routers ship with the same simple admin login (for example admin for both username and password). Anyone who connects to your Wi-Fi could change your settings if you leave it.

1. Open **Administration**, **System** or **Maintenance** (the name varies), then **Change password**.
2. Enter the old password, then a new one. Use at least 10 characters with letters and numbers.
3. Save. You may be asked to log in again.

Important: Write the new admin password down and keep it somewhere safe. If you lose it, the only way back in is to reset the router, which also erases your Wi-Fi and internet settings.

Make sure the language, region and time are right

- Set the **region or country** correctly. It controls which Wi-Fi channels are allowed.
- Set the **time zone** so logs and any schedules show the correct time.

4 Set up Wi-Fi

Open **Wireless**, **Wi-Fi** or **WLAN Settings** (2.4 GHz) in the admin page.

Setting	Recommended	Why
Wi-Fi name (SSID)	A name you will recognise, without your full name or address.	Anyone nearby can see it.
Security mode	WPA2-PSK (AES). Use WPA2/WPA3 mixed if available.	Older modes such as WEP and WPA with TKIP are easy to break.
Wi-Fi password	12 or more characters, mixed letters and numbers.	A long password is much harder to guess.
Mode	802.11 b/g/n mixed.	Lets old and new devices connect.
Channel width	20 MHz in crowded areas, 20/40 MHz if you live alone and want speed.	Wider is faster but picks up more interference.
Channel	1, 6 or 11 (or Auto).	These three do not overlap each other.
Transmit power	High, unless the router is next to where you sit.	Controls the range.
Hidden network (SSID broadcast)	Leave broadcast on.	Hiding the name gives no real protection and makes connecting harder.

Steps

1. Enable wireless (2.4 GHz) if it is switched off.
2. Enter your Wi-Fi name and choose WPA2-PSK (AES).
3. Type your Wi-Fi password and set the channel and width.
4. Click **Save** or **Apply**. The router may restart Wi-Fi and disconnect your device. Reconnect using the new name and password.

Picking a good channel

The 2.4 GHz band is crowded. Only channels 1, 6 and 11 avoid overlapping each other. If your neighbours are all on channel 6, try 1 or 11. A free phone app that shows Wi-Fi channels can help you find the quietest one.

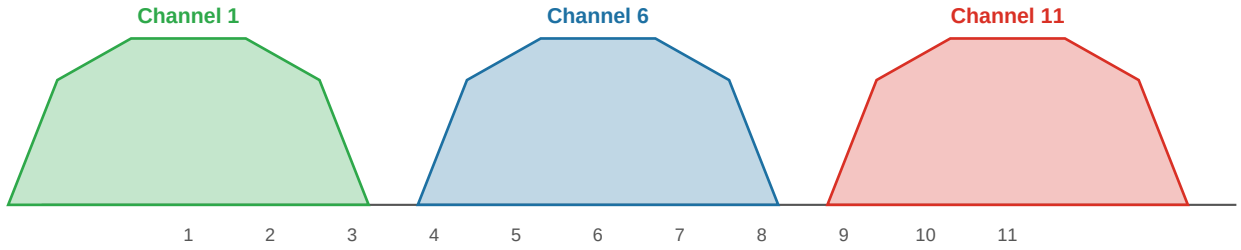


Figure 4: Channels 1, 6 and 11 sit apart. Using the middle channels (such as 3 or 8) overlaps two of them.

5 Set up the internet connection

Open **Internet**, **WAN** or **Network** in the admin page. Your provider tells you which connection type to use. Many routers detect it automatically.

Connection type	Use when	What you enter
Dynamic IP (DHCP)	The modem or ONT gives your router an address automatically. Common with cable and many provider-supplied devices.	Nothing. Select the type and save.
PPPoE	Your provider gave you a username and password (common with DSL and fibre).	Provider username and password. Leave other settings on automatic.
Static IP	Your provider gave you a fixed address.	IP address, subnet mask, gateway and DNS from your provider.

Steps

1. Open the internet or WAN page and select the connection type your provider told you.
2. Enter any details your provider gave you.
3. Save and wait about a minute. The status should change to Connected and the Internet light should come on.
4. Open a website to test the connection.

DNS

DNS turns website names into addresses. Leave it on automatic unless your provider says otherwise. If websites load slowly or some will not open, you can try a public DNS service in the DNS fields, then save.

If you already have a modem-router from your provider

Two routers in a row can cause problems called double NAT, such as trouble with games or remote access. Two ways to avoid it:

- Ask your provider to put their device in **bridge mode**, so your router does the routing.
- Or set your router to **Access Point** mode and connect it by cable to the provider's device. Its LAN port is used, not the WAN port.

> **Tip:** Do not guess PPPoE details. Several wrong login attempts can lock the account at some providers. Ask your provider if unsure.

6 Connect your devices and improve the signal

Connect a phone, tablet or laptop

1. Open the device's Wi-Fi settings and turn Wi-Fi on.
2. Choose your network name from the list.
3. Enter the Wi-Fi password and wait for it to connect.

If your device only sees 5 GHz networks, it cannot connect to a single-band router. This is rare and mostly affects some very new devices.

WPS (push-button connect)

WPS lets a device join without typing the password. Press the router's WPS button, then start WPS on the device within about two minutes. Use the button method only. Turn off the WPS PIN option in the admin page, because it can be guessed.

Guest network

If your router has a guest network, turn it on for visitors. Guests get internet but cannot see your other devices. Give it its own password and switch it off when not needed.

Get a stronger signal

- **Place it centrally and high,** on a shelf or table, not on the floor or inside a cupboard.
- **Keep it away from** microwave ovens, cordless phones, baby monitors, Bluetooth speakers, big metal objects, mirrors and fish tanks.
- **Do not hide it** behind a TV or in a corner.
- **Antennas:** point one up and angle another sideways so phones and laptops at different heights both get signal.
- **Use a cable** for heavy devices such as a TV, a desktop computer or a game console. This leaves Wi-Fi free for phones.
- **Reduce the load:** on a single band, every device shares the same airspace. Disconnect devices that are not in use.
- **Change the channel** if the signal is poor at night or when neighbours are online (chapter 4).

Real speeds

A speed printed on the box (such as 300 Mbps) is the best-case link rate between the router and a device in the same room. Real internet speed is usually much lower, and it is also limited by your internet plan, the distance and the number of devices.

7 Security and maintenance

Security checklist

Do this	Why
Change the admin password (chapter 3)	Stops others from changing your settings.
Use WPA2-PSK (AES) with a long Wi-Fi password	Keeps your network private.
Turn off WPS PIN	The PIN can be guessed by software.
Turn off remote management (web access from the internet) unless you need it	Prevents attacks on the admin page from outside.
Check the connected devices list now and then	Shows devices you do not recognise.
Keep firmware up to date	Fixes security problems and bugs.
Do not share the Wi-Fi password widely	Use the guest network for visitors.

Update the firmware

1. Find your router's exact model and hardware version on its label.
2. Download the firmware for that exact model from the manufacturer's official website, or use the router's built-in update option if it has one.
3. In the admin page, open **System** or **Administration**, then **Firmware upgrade**, choose the file and start.
4. Wait until it finishes and the router restarts. **Do not switch it off or unplug it during the update.**

Back up and restore settings

Look for **Backup** and **Restore** under System tools. Save the backup file after you finish setup, so you can restore your Wi-Fi and internet settings quickly later.

Restart and reset

Action	How	Effect
Restart	Switch the router off, wait 10 seconds, switch on. Or use Reboot in the admin page.	Clears small faults. Settings are kept.
Factory reset	With the router on, hold the small **Reset** button with a pin for about 10 seconds until the lights flash. Check your manual for the exact time.	Erases all settings, including Wi-Fi, admin password and internet login. The router goes back to its label values.

Warning: Before a factory reset, make sure you have your provider's internet login details. After a reset you will need to set up everything again.

8 Troubleshooting and quick reference

Problem	What to try
No internet, Internet light off or red	Check the cable between the modem or ONT and the router WAN port. Restart modem first, then router. Check the connection type in chapter 5. Ask your provider if the line is down.
Wi-Fi connected but no internet	Restart the router. Test with a cable. Check that the internet status says Connected. Try another DNS (chapter 5).
Cannot open the admin page	Use the exact address on the label. Make sure you are connected to this router, not mobile data. Type it in the address bar. Try another browser.
Cannot see the Wi-Fi network	Check the Wi-Fi light and the Wi-Fi switch or button. Move closer. Make sure SSID broadcast is on and the device supports 2.4 GHz.
Wrong Wi-Fi password	Forget the network on the device and reconnect. Check upper and lower case. Log in with a cable to see or change the password.
Slow Wi-Fi	Move closer, remove obstacles, change the channel (1, 6 or 11), disconnect unused devices, restart the router, and test with a cable to see whether the line or the Wi-Fi is the problem.
Wi-Fi keeps dropping	Change the channel, move the router away from interference, update the firmware, and check that the power adapter is the original one.
Forgot admin password	Reset the router (chapter 7) and set it up again.
Some devices cannot connect	Make sure the security mode is WPA2-PSK (AES) and the mode is 802.11 b/g/n mixed. Check the device is not set to 5 GHz only.

Quick reference

I want to...	Go to
Change the Wi-Fi name or password	Wireless, then Wireless settings
Change the admin password	Administration or System, then Password
Fix a poor signal	Wireless, then Channel (1, 6 or 11)
See who is connected	Connected devices, DHCP clients or Device list
Update the router	System, then Firmware upgrade
Save settings	System tools, then Backup

Support: If the problem continues, contact your internet provider's support. Have your router's model, the status of the lights and the steps you already tried ready.