

● UK WI-FI GUIDE · JUNE 2026

MESH VS EXTENDERS

Monday, 8 June 2026

# Weak Wi-Fi Upstairs or in the *garden office.*

Mesh or a Wi-Fi extender? How to fix a weak signal in a far room, upstairs or a garden office, what each option really costs, and why wiring beats wireless for the garden.

**~50%**

**SPEED A BASIC EXTENDER  
LOSES**

*Single-radio models*

**~90%**

**SPEED A GOOD MESH KEEPS**

*Tri-band or wired backhaul*

**Cat6**

**GARDEN OFFICE GOLD  
STANDARD**

*A wired run beats wireless*

Written by **Dr Alex J. Martin-Smith**

Reviewed by **Adrian James**

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## SECTION 01 · WHY IT WEAKENS

# Why Wi-Fi fades with distance

**IN SHORT**

Wi-Fi is radio, and it weakens with distance and through walls. The faster bands carry less far: **2.4GHz reaches furthest, 5GHz is faster but shorter range, and 6GHz is faster still but shortest of all.** A garden office is hard because it stacks distance on top of two external walls.

That speed-versus-range trade-off is the key to every decision in this guide. A far room or a garden office sits where the fast bands no longer reach well, so the fix is either to carry the signal closer or to wire past the problem entirely.

## What blocks Wi-Fi worst

MATERIAL	EFFECT ON SIGNAL
Plasterboard, wood, glass	Low; signal passes fairly easily
Brick and stone	Moderate; noticeable drop per wall
Concrete and metal	Severe; includes foil-backed insulation
Water and people	Moderate; a full room absorbs signal

*Foil-backed insulation and metal-coated energy-efficient glass are common surprises, since they can turn a modern garden room into a near-sealed box for Wi-Fi. A typical home router only reaches usefully around 20 to 30 metres outdoors before walls cut it down.*

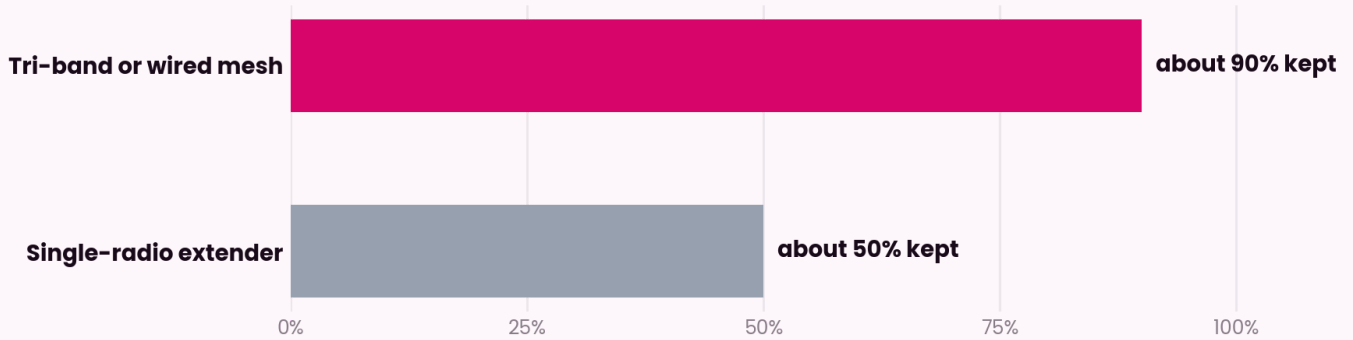
**TRY THIS FIRST, FOR FREE**

Before buying anything, move your router into the open, up high and central, away from cupboards, thick walls and metal. Placement alone often recovers a weak room, and it costs nothing.

SECTION 02 · THE CORE CHOICE

# Mesh versus extenders

The two common fixes work very differently. An extender rebroadcasts your existing signal; a mesh replaces your Wi-Fi with a team of nodes acting as one network. The performance gap is large.



Share of speed kept on the far node (typical; varies by product and placement)

Share of speed kept on the far node. A single-radio extender typically loses about half; a tri-band or wired-backhaul mesh keeps most. Figures are typical and vary by product and placement.

## How they compare

FEATURE	RANGE EXTENDER	MESH SYSTEM
<b>Network name</b>	Often a second one	One, seamless
<b>Moving around</b>	May need reconnecting	Roams automatically
<b>Speed on the far end</b>	Can halve	Mostly kept
<b>Best for</b>	One stubborn dead spot	Whole-home coverage
<b>Cost</b>	Low	Higher

### THE SIMPLE RULE

For a single dead spot on a budget, an extender is a fair fix. For whole-home coverage, seamless roaming or a fast line you do not want to throttle, choose mesh, and if you can run a network cable between the nodes, that wired backhaul gives you the best speed of all.

## SECTION 03 · THE GARDEN OFFICE

# Getting Wi-Fi down the garden

## THE GOLD STANDARD

For a garden office, the best answer is almost always to **run a network cable**. An outdoor-grade Cat6 Ethernet cable from your router to an access point or mesh node in the office gives full speed and rock-solid reliability that no wireless option down the garden can match.

Wireless options struggle in the garden because the signal must cross your home's external wall, the open ground, and the office's own wall. Wiring sidesteps all three. Here are the realistic options, best first.

- ✓ **A wired Ethernet run (best).** Outdoor or armoured Cat6, up to 100 metres, ideally buried in protective conduit and laid at the same time as the power cable. Feed an access point or mesh node at the far end.
- ✓ **An outdoor access point.** A weatherproof unit mounted outside, wired back to the router, designed to throw a strong signal across the garden.
- ✓ **A point-to-point Wi-Fi link.** A pair of units with clear line of sight between house and office; unlike an extender, it does not halve your speed.
- ✓ **Powerline, or mobile.** Powerline adapters can work if the office shares the house wiring; a 4G or 5G router is a good backup where wiring is impractical.

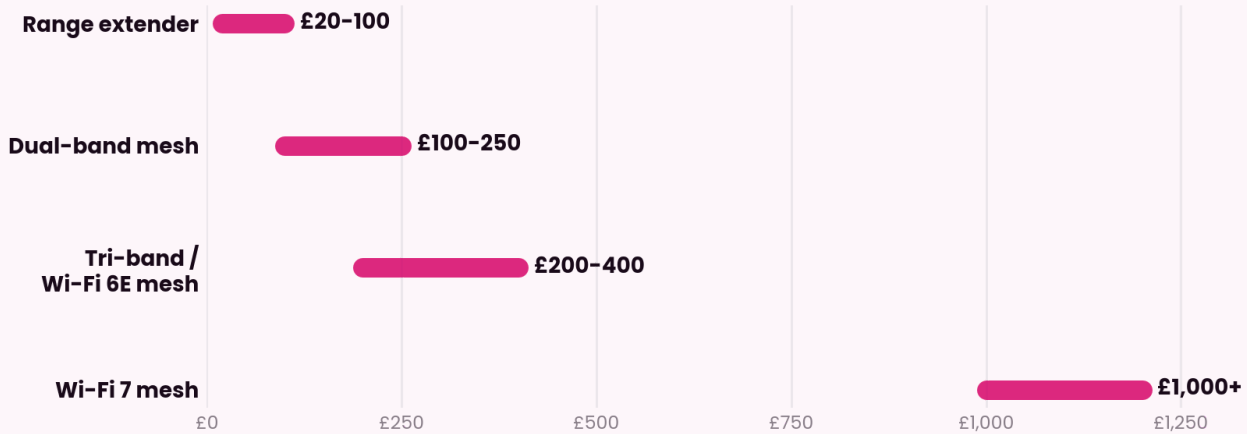
## DO NOT RELY ON YOUR ISP'S WI-FI GUARANTEE HERE

Every major ISP whole-home Wi-Fi guarantee covers the main house only. Gardens, sheds and outbuildings are explicitly excluded, so a garden office is on you to wire or cover with your own outdoor kit.

## SECTION 04 · WHAT TO BUY

# What to buy, and what it costs

You can rent whole-home Wi-Fi from your provider or buy your own. Provider kit is cheap or included on top tiers and is fine for the main house; buying your own gives the best performance and no monthly fee.



Indicative UK price, one-off purchase (June 2026; check current retail)

Indicative one-off UK prices, June 2026. These move quickly, so always check current retail before buying.

## What the big providers offer

PROVIDER	WHOLE-HOME WI-FI	GUARANTEE
Virgin Media	WiFi Max, up to 3 pods	30 Mbps per room or £100 credit
BT	Complete Wi-Fi, up to 3 discs	Signal in every room or £100 back
Sky	WiFi Max, up to 3 pods	Guaranteed speed per room or money back

All three guarantees cover the main home only, not gardens or outbuildings. Prices and exact terms vary by tier and change often, so check the provider before signing up.

Sorting your Wi-Fi but stuck on a slow line? See what full fibre deals reach **your postcode** first.

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## SECTION · REFERENCES

# References and sources



Written by **Dr Alex J. Martin-Smith** (CMgr, MBA, LL.M, DBA), Lead Editor. Reviewed by **Adrian James**.  
Published 8 June 2026, next review within 90 days. Every figure is sourced below and logged in our public corrections process.

Every figure in this guide is backed by a publicly verifiable source, listed in APA 7th edition format. Wi-Fi standards are confirmed against the Wi-Fi Alliance; provider Wi-Fi terms and prices are the providers' own published figures and change over time.

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## REMEMBER

Move the router first, it is free. For one dead spot an extender will do; for the whole home, choose mesh; and for a garden office, run a cable. If your underlying line is slow, check full fibre at [broadbandswitch.uk/compare](https://broadbandswitch.uk/compare).

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