BILL'S HOME TECH
Home & Small Business Tech Solutions

BILL'S COMPLETE MANUALS

Slow Internet?

Speed tests, simple fixes, and knowing who to call — explained in plain English

Speed Tests & Fixes for a calmer connection

Take your time — you can't break it

Written for you by Bill — Bill's Home Tech

(330) 200-8042 · BillsHomeTech.com

For any home internet, phone, computer or TV · facts current November 2026

What's Inside

This is your slow-internet manual. When the movie keeps spinning, the video call freezes, or web pages crawl, it's natural to blame the internet company. Sometimes that's right, and often it isn't. This guide shows you how to run a speed test, read the numbers, work out whether the trouble is one device, your Wi-Fi or the line into your home, and fix the common causes yourself. Read it in any order; there's no test, and nothing here can break your internet.

Part 1 — Understanding Speed

1 A Note from Bill
2 What "Slow" Really Means
3 Speed Words: Mbps, Download, Upload & Ping
4 How Much Speed a Home Needs

Part 2 — Running a Speed Test

5 Your First Speed Test
6 Testing the Right Way
7 Reading Your Results
8 Comparing with What You Pay For
9 Testing on a TV

Part 3 — Finding Where the Problem Is

10 One Device, or Everything?
11 Wi-Fi, or the Internet Line?
12 Is There an Outage?
13 The Restart Routine

Part 4 — Fixing Wi-Fi Slowdowns

14 Where the Router Sits
15 Things That Interfere with Wi-Fi
16 Too Many Devices at Once
17 The Two Lanes: 2.4 GHz and 5 GHz
18 Far Rooms & Dead Zones
19 When the Equipment Is the Problem

Part 5 — Devices, Data & Your Provider

20 A Slow Phone or Tablet
21 A Slow Computer
22 TV Buffering & Streaming
23 Smoother Video Calls

24 Data Caps & Slowed-Down Plans
25 Calling Your Internet Company
26 Speed Scams

Part 6 — When to Call Bill & Your Cheat-Sheet

27 When to Call Bill
28 Your Slow-Internet Cheat-Sheet

PART 1

Understanding Speed

What "slow" really means, the handful of words a speed test uses, and how much speed a home actually needs.

CHAPTER 1

A Note from Bill

Hello, and welcome. If the movie keeps stopping to "buffer," the grandkids' faces freeze on video calls, or a web page takes forever to open, this guide is for **you**. Slow internet is one of the most common frustrations in any home, and it's also one of the most fixable.

I'm Bill. Helping folks feel at home with their technology is what I do every day, and I wrote this guide the way I'd explain it sitting beside you at your kitchen table: slowly, in plain English, with nothing taken for granted. If I use a word you don't know, I'll stop and explain it right there.

What you'll be able to do

- Run a free **speed test** in under a minute, and understand what the numbers mean.
- Tell whether the problem is **one device**, your **Wi-Fi**, or the **internet line** into your home.
- Do the simple **restart routine** that fixes a surprising number of slowdowns.
- Check whether there's an **outage** in your area.
- Know how much speed your household really needs, so you don't overpay.
- Call your internet company with the facts in hand, and spot the scams that pose as "speed help."

Nothing here can break your internet

Running a speed test is like checking the water pressure at the kitchen tap. It just measures; it doesn't change anything. Restarting the router is safe too. The one button I'll ask you *not* to press without a good reason is the tiny **Reset** pin-hole on the router, and I'll explain why when we get there.

WHAT THIS DOES FOR YOU

Why this matters

When you can measure your internet, you stop guessing. You'll know whether a new router, a better spot for the old one, a quick restart or a call to the company is the real fix, and you'll avoid paying for a faster plan that wouldn't have helped.

And if you get stuck, call me at **(330) 200-8042** and we'll sort it out together, with no judgment. So let's find out what's slowing you down.

— Bill

CHAPTER 2

What "Slow" Really Means

"The internet is slow" can mean several different problems, and each one has a different fix. Before you test anything, take a moment to notice *what kind* of slow you're seeing.

What you notice	What it often points to
Everything is slow on every device, all at once	The internet line, the modem or router, or an outage
Only one phone, tablet or computer is slow	That device: its software, storage, or its Wi-Fi signal
Fast near the router, slow in the far bedroom	Wi-Fi reach: distance, walls or interference
Fine in the morning, slow every evening	Busy hours on the provider's network, or a busy household
Only one app or website is slow	That app or service, not your internet
Video calls freeze but movies play fine	Upload speed or latency (Chapter 3 explains both)
Nothing loads at all	An outage, or the modem or router needs a restart

TIP

Jot down when it happens

A few notes on a pad, like "Tuesday 7 p.m., TV buffering, kitchen laptop fine," make the cause much easier to find. They're also gold if you end up calling your internet company.

Your internet comes in two pieces

It helps to picture your internet as two pieces joined together:

- **The line into your home.** Cable, fiber, a phone line, a cellular "home internet" box or a satellite dish brings the internet from your provider to a **modem**. This is the part you pay for each month.
- **The Wi-Fi inside your home.** A **router** (often combined with the modem in one box, called a **gateway**) turns that connection into a Wi-Fi signal for your devices.

A slowdown can live in either piece. Much of this guide is about working out which one, because the fix for each is different, and only the first piece is the internet company's job.

CHAPTER 3

Speed Words: Mbps, Download, Upload & Ping

A speed test shows a few numbers with unfamiliar labels. Here's what each one means, in plain terms.

Word	What it means
Mbps	"Megabits per second." The unit for internet speed, like miles per hour for a car. Bigger is faster. 1,000 Mbps is also called 1 **Gbps** (a gig).
Download	How fast information comes *to* you: movies, web pages, photos people send you. This is the big number most plans advertise.
Upload	How fast information goes *from* you: your face on a video call, photos you send, backups. Usually much smaller than download on cable plans.
Ping or latency	How long a tiny message takes to make the round trip, in milliseconds (ms). Lower is better. It matters most for video calls and games.
Jitter	How much the ping jumps around. Low jitter means a steady connection, which keeps calls smooth.
Packet loss	Bits of information that never arrive. Even a little causes choppy calls.

GOOD TO KNOW

Megabits and megabytes aren't the same

Internet speed is measured in mega**bits** (Mbps). File sizes are measured in mega**bytes** (MB). One byte is eight bits, so a 100 Mbps connection downloads about 12 megabytes each second. You don't need to do this math; just don't be surprised when the numbers don't match.

A water-pipe way to picture it

Think of your internet as a water pipe. **Download and upload speed** are how wide the pipe is: a wider pipe fills the bathtub faster. **Ping** is how long it takes the water to start flowing after you turn the tap. For a movie, a wide pipe matters most. For a video call, a quick, steady start matters just as much.

CHAPTER 4

How Much Speed a Home Needs

Internet companies love to sell bigger numbers. But most households need less than the fastest plan, and a slow experience is often caused by Wi-Fi or a device rather than the plan itself. Here's a realistic picture.

The government's yardstick

In 2024 the Federal Communications Commission (FCC) raised its definition of home "broadband" to **100 Mbps download and 20 Mbps upload**, up from the old 25/3. That's a sensible baseline for a modern home with a few people streaming and calling at once.

Checked against the FCC's 2024 Section 706 Report on November 13, 2026.

What common activities use

Activity	Speed it needs (per screen or call)	Source
Netflix in HD (720p)	3 Mbps or higher	Netflix Help Center
Netflix in Full HD (1080p)	5 Mbps or higher	Netflix Help Center
Netflix in 4K	15 Mbps or higher	Netflix Help Center
Zoom group call in 720p HD	About 1.8 Mbps down and 2.6 Mbps up	Zoom
Zoom group call in 1080p HD	About 3.0 Mbps down and 3.8 Mbps up	Zoom
Email, web, news, banking	Very little; a few Mbps is plenty	General guidance

Checked against the Netflix Help Center and Zoom's bandwidth guide on November 13, 2026.

Adding it up for your home

Add up what might happen *at the same time* on a busy evening, then leave plenty of room to spare. Two TVs in 4K (about 30 Mbps), a video call (a few Mbps each way), phones and a laptop browsing, and background updates still fit comfortably inside 100 Mbps. A household of one or two people who mostly browse, email and stream on one TV rarely needs more.

HEADS UP

A faster plan won't fix weak Wi-Fi

If your speed test is fast next to the router but slow in the bedroom, paying for a faster plan won't help the bedroom. That's a Wi-Fi reach problem (Part 4). Test before you upgrade.

GOOD TO KNOW

Upload matters more than it used to

Video calls, home security cameras that store video online, and phone photo backups all *upload*. Cable plans often have small upload speeds, while fiber usually offers matching upload and download. If video calls are your main frustration, look at the upload number.

PART 2

Running a Speed Test

Free tests you can run in a minute, how to test the right way, and how to read and compare what you see.

CHAPTER 5

Your First Speed Test

A speed test sends and receives a little data for about 30 seconds and tells you how fast it went. They're free, they don't need an account, and running one changes nothing on your network. Here are three easy ones; any of them is fine.

The quickest: Fast.com

Fast.com is a speed test run by Netflix. It starts the moment the page opens, and Netflix's own help pages point people to it.

1. On a phone, tablet or computer, open the web browser (Safari, Chrome, Edge or similar).
2. Type **fast.com** in the address bar at the top and press **Go** or **Enter**.
3. Wait. A big number counts up; that's your **download** speed.
4. Tap or click **Show more info** to see your **upload** speed and **latency**.

Checked against Fast.com and the Netflix Help Center on November 13, 2026.

Right from a Google search

1. Open a browser and go to **google.com**.
2. Search for **internet speed test**.
3. A box appears at the top of the results. Tap or click **Run Speed Test**.
4. In about 30 seconds you'll see download speed, upload speed and latency.

Google runs this test with a research group called **Measurement Lab (M-Lab)**. Google's help page notes that your internet address (your IP address) is shared with M-Lab, which publishes test results for internet research, but no other personal information.

Checked against Google Search Help on November 13, 2026.

The well-known app: Speedtest by Ookla

Speedtest, made by a company called Ookla, is the most widely used speed test. You can use it at **speedtest.net** in a browser or install the free **Speedtest** app from the App Store or Google Play. Tap the big **Go** button. It shows ping, download and upload, and keeps a history of past results, which is handy for spotting patterns.

HEADS UP

Stick to the well-known tests

Search ads sometimes lead to look-alike "speed test" sites that push downloads, "optimizer" software or a phone number to call. A real speed test never asks you to install anything on a computer or call anyone. Type **fast.com** or **speedtest.net** yourself, or use Google's built-in test.

GOOD TO KNOW

Your internet company may have its own test

Many providers offer a speed test in their app or on their website, and some routers can test the speed coming into the house. Those are useful too, especially because they measure right at the modem, before Wi-Fi can slow anything down.

CHAPTER 6

Testing the Right Way

One quick test can mislead you. A few minutes of careful testing gives you numbers you can trust, and numbers your internet company will take seriously.

A fair test, step by step

1. **Pause the big users.** Stop movies on other TVs and ask the household to hold off on video calls or game downloads for a few minutes.
2. **Start close.** Stand or sit in the same room as the router, with a clear view of it, and run a test.
3. **Then test where it's slow.** Move to the room where you have trouble and run the same test again.
4. **Test with a cable, if you can.** A computer plugged into the router with an **Ethernet** cable skips Wi-Fi entirely and shows what the line itself delivers.
5. **Run each test two or three times**, a minute apart, and note the middle result.
6. **Test at different times of day**, especially at the time it usually feels slow.
7. **Write the results down**: date, time, room, device, download, upload and ping.

A simple speed log

Date and time	Room	Device	Wi-Fi or cable	Down	Up	Ping
_____	_____	_____	_____	____	____	____
_____	_____	_____	_____	____	____	____
_____	_____	_____	_____	____	____	____
_____	_____	_____	_____	____	____	____

TIP

Use a recent device for the test

An older phone, tablet or laptop may not be able to go as fast as your plan, even when the internet is perfectly fine. If an old tablet shows 40 Mbps and a new phone in the same spot shows 300, the tablet is the limit, not the internet.

GOOD TO KNOW

Why a cable test matters

Wi-Fi always loses some speed through the air, through walls and with distance. A plugged-in test is the fairest measure of what you're paying for. Many routers have spare Ethernet ports on the back, and many laptops need a small adapter for the cable.

CHAPTER 7

Reading Your Results

You've got your numbers. Here's a plain-English way to judge them for everyday home use.

Number	Comfortable	Workable	Likely to cause trouble
Download	100 Mbps or more	25 to 100 Mbps	Under 25 Mbps for a busy home
Upload	20 Mbps or more	5 to 20 Mbps	Under 5 Mbps if you make video calls
Ping (latency)	Under 50 ms	50 to 100 ms	Over 100 ms, or jumping around a lot

These bands are a rule of thumb, built around the FCC's 100/20 yardstick and what streaming and video calls use (Chapter 4). A single person who browses and streams on one TV can be perfectly happy with the "workable" column.

What the patterns tell you

- **Fast near the router, slow far away:** a Wi-Fi reach problem. See Part 4.
- **Slow everywhere, even on a cable:** the modem, router or internet line. Restart first (Chapter 13, *The Restart Routine*), then call your provider.
- **Fast on one device, slow on another in the same spot:** the slow device is the problem. See Part 5.
- **Good speed but high or jumpy ping:** calls and games will stutter even though movies play. Restart, move closer, or use a cable for the computer you call from.
- **Fine in the day, slow every evening:** neighborhood congestion or a busy house. Note the times; your provider needs to hear about a repeating pattern.

GOOD TO KNOW

Speed tests vary a little every time

Results bounce around from one test to the next. A swing of 10 or 20 percent is normal. Look for big, repeated differences, not small wobbles.

CHAPTER 8

Comparing with What You Pay For

Your plan has a name like "Internet 300" or "1 Gig." That number is the speed the company advertises, usually *up to* that much, measured at the modem with a cable. It's fair to compare your plugged-in speed test with it.

Find your plan's real numbers: the broadband label

Since 2024, internet companies have had to show a **broadband label**, a standard box that looks like a food nutrition label, wherever they sell a plan. It lists the monthly price, any introductory rate, fees, any **data cap**, and the plan's **typical** download speed, upload speed and latency. The FCC updated the label rules in July 2026 to make them simpler, but the price, data and speed facts are still required.

1. Sign in to your provider's website or app, or search for the provider's name plus **broadband label**.
2. Find the label for **your** plan.
3. Look at **Typical Download Speed**, **Typical Upload Speed** and **Typical Latency**.
4. Compare those with your plugged-in speed test results (Chapter 6).

Checked against the FCC's Broadband Consumer Labels pages on November 13, 2026.

TIP

What counts as a real shortfall

If a *plugged-in* test, after a restart, keeps coming in well below the label's typical speed at several times of day, that's worth a call to your provider. A low result over Wi-Fi in a far room isn't their fault, and they'll tell you so.

GOOD TO KNOW

The companion manual

Choosing an Internet Plan & Reading the Bill covers broadband labels, promotional prices that expire, and fees in much more detail.

CHAPTER 9

Testing on a TV

When the TV is the thing that's buffering, it helps to test the TV itself, since it may be on a weaker Wi-Fi signal than your phone. The Netflix app has a network check built in.

Check your network in the Netflix app

1. Open Netflix on the TV and go to the home screen.
2. Press the **Back** button on your remote to open the menu.
3. If the menu is at the top: select your **profile icon** at the top left, then **Get Help**, then **Check your Network**.
4. If the menu is on the left: go to the bottom of the menu, select **Get Help**, then **Check your Network**.
5. If the check fails or shows an error, the TV usually isn't connected to the internet at all.

Checked against the Netflix Help Center on November 13, 2026.

TIP

Other TVs and streaming sticks

Roku, Fire TV, Apple TV, Google TV and most smart TVs have a network or connection check in their **Settings** menu, usually under **Network**. Many show the Wi-Fi signal strength too. A weak signal on the TV but a strong one on your phone in the same room points to the TV's spot or its Wi-Fi hardware.

GOOD TO KNOW

A cable helps TVs too

Most smart TVs and many streaming boxes have an Ethernet port. If the router is near the TV, a cable often ends buffering for good. Where it isn't, the companion manual **Wi-Fi Extenders & Dead Zones** covers mesh systems, powerline and MoCA adapters that carry the connection through your walls.

PART 3

Finding Where the Problem Is

One device or everything? Wi-Fi or the line into the house? An outage? And the restart routine that fixes more than you'd expect.

CHAPTER 10

One Device, or Everything?

This is the single most useful question in the whole guide. It takes two minutes and points you straight at the right fix.

1. On the slow device, try a couple of different websites or apps. If only one site is slow, that site is having trouble, not you.
2. Pick up a second device (another phone, a tablet, a laptop) in the **same spot** and try the same thing.
3. Run a speed test on both, one after the other (Chapter 5).

What you find	Where to go next
Only one device is slow	Restart that device, then see Part 5 for phones, computers and TVs
Every device is slow in one room only	Wi-Fi reach and placement: Part 4
Every device is slow everywhere	Check for an outage (Chapter 12, *Is There an Outage?*), then the restart routine (Chapter 13, *The Restart Routine*)
Nothing connects at all	Check the lights on the modem and router, then Chapter 12, *Is There an Outage?*

TIP

Turning Wi-Fi off on a phone is a quick clue

On a phone, turn Wi-Fi off for a moment so it uses the cellular network, and try the slow website again. If it's suddenly fine, the trouble is on the home side (Wi-Fi or the internet line), not the website or the phone. Turn Wi-Fi back on afterward so you don't use up your cellular data.

CHAPTER 11

Wi-Fi, or the Internet Line?

When every device is slow, the next question is whether the trouble is your **Wi-Fi** (inside the house) or the **internet line** (from the provider to the modem). The cleanest way to tell is a plugged-in test.

The comparison

1. Plug a laptop or computer into the router with an Ethernet cable, and turn its Wi-Fi off.
2. Run a speed test two or three times.
3. Unplug the cable, turn Wi-Fi back on, sit in the same spot, and test again.

Result	What it means
Plugged-in is fast, Wi-Fi is slow	The internet line is fine. The trouble is Wi-Fi: placement, interference, an old router, or too many devices (Part 4).
Both are slow	The trouble is the line, the modem or the router itself. Restart (Chapter 13, *The Restart Routine*), check for an outage, then call your provider (Chapter 25, *Calling Your Internet Company*).
Both are fast, but it still feels slow	The trouble is probably a particular device or app (Part 5).

GOOD TO KNOW

No computer with a cable port?

Then use the speed test in your provider's app or your router's app, if it has one. It measures right at the box. Or test with your phone held a few feet from the router; that's the next-best thing.

Look at the lights

Modems and routers have small status lights. Every brand is different, but in general a steady white, blue or green light means "all good," while a red, orange or blinking light on the internet or "online" light means the box isn't getting a signal from your provider. The box's label, its app, or your provider's help pages explain what each light means for your model.

CHAPTER 12

Is There an Outage?

Sometimes the problem isn't in your house at all. A cut cable down the road, a storm or maintenance work can slow down or knock out a whole neighborhood. Checking for an outage first can save you an hour of restarting things that aren't broken.

How to check

1. Use your phone on **cellular data** (turn Wi-Fi off), since your home internet may be down.
2. Open your **internet company's app** and sign in. Most show an outage notice on the front screen, or under a heading like **Service status** or **Outages**.
3. Or visit the provider's website and search for **outage**. Many have an outage map you can check by your address.
4. Many providers will also tell you about outages by text message if you sign up for alerts in their app.

GOOD TO KNOW

Crowd-reported outage sites

Sites such as **Downdetector** collect reports from other customers. They can show that "lots of people near you are having trouble right now," which is a useful clue. They're not run by your provider, though, so treat them as a hint rather than official news, and ignore any ads on them for "support" phone numbers.

SCAM ALERT

Outages bring out the scammers

During a big outage, fake texts and search ads offering "outage refunds" or "internet support" multiply. Use only the app you already have, or the phone number on your bill.

If there's an outage

- There's nothing to fix at home. Leave the modem and router plugged in and powered on.
- Check back in an hour or two, or wait for the provider's "restored" text.
- Once it's restored, if things are still slow, restart the modem and router (Chapter 13, *The Restart Routine*).
- If an outage lasted a long time, it's reasonable to ask your provider for a credit on your bill.

CHAPTER 13

The Restart Routine

Restarting the modem and router clears out tangles that build up over weeks of running. It's safe, it takes about five minutes, and it fixes a surprising number of slowdowns. Do it in the right order.

Restart in order

1. Find the modem and the router. (If you have one box from your provider, a **gateway**, it's both. If you have a mesh system, the main unit is the one connected to the modem.)
2. Unplug the **power cord** from the modem (and from the router, if it's a separate box). Leave the other cables alone.
3. Wait a full **30 seconds**. Count it out; this pause matters.
4. Plug the **modem** back in first. Wait until its lights settle, usually 2 to 5 minutes.
5. Then plug the **router** back in, and give it another 2 minutes.
6. Run a speed test again (Chapter 5) and compare with your earlier result.

HEADS UP

Restart, don't reset

Many boxes have a tiny **Reset** button in a pin-hole. Holding it erases your Wi-Fi name, password and every setting, and every device in the house will need to be set up again. You don't need it for a restart. Unplugging the power cord is all a restart takes.

TIP

Restart the slow device too

After the router comes back, restart the phone, tablet, computer or TV that was slow. Devices that were connected during a problem sometimes hang on to a poor connection until they're restarted.

GOOD TO KNOW

Phone or landline through the same box?

If your home phone or a medical alert system runs through your internet box, it will be off for the few minutes of the restart. Pick a moment when that's all right.

If a restart helps, but only for a while

If you find yourself restarting every few days, that's a sign of an aging or overheating router, a struggling modem, or a line problem the provider should look at. Note how often it happens and see Chapter 19, *When the Equipment Is the Problem* and Chapter 25, *Calling Your Internet Company*.

PART 4

Fixing Wi-Fi Slowdowns

Where the router sits, what interferes, how many devices share it, the two radio lanes, far rooms, and when the equipment itself is the problem.

CHAPTER 14

Where the Router Sits

Wi-Fi is a radio signal. It weakens with distance and with every wall, floor, cabinet and appliance it passes through. Where the router sits can make more difference than any setting.

A better spot

- **Central:** as close to the middle of the home as the cables allow, rather than at one end.
- **Up high and out in the open:** on a shelf or TV stand, ideally around eye level, not on the floor.
- **Not boxed in:** out of closets, cabinets, drawers and the space behind the TV.
- **Away from metal and water:** refrigerators, mirrors, metal filing cabinets, fish tanks.
- **Away from other radios:** keep it a few feet from cordless phone bases, baby monitors and the microwave (Chapter 15, *Things That Interfere with Wi-Fi*).

Checked against Google Home and Nest Help on November 13, 2026.

TIP

Move it a little, test a lot

You don't have to rewire the house. Moving the router from the floor to a shelf, or out of a cabinet, can make a real difference. Run a speed test in your problem room before and after each change.

HEADS UP

Mind the cables

The modem has to stay connected to the wall outlet your provider installed. If the router is a separate box, a longer Ethernet cable lets you move it somewhere better. If you can't move it without moving the provider's outlet, ask your provider or call me rather than pulling on the line.

CHAPTER 15

Things That Interfere with Wi-Fi

Other gadgets in your home use the same radio airwaves as Wi-Fi, and some of them can drown it out, especially on the older 2.4 GHz lane.

Common culprits

- **Microwave ovens**, while they're running.
- **Cordless phones** and their base stations.
- **Baby monitors** and wireless video cameras.
- **Some fluorescent lights**.
- **Neighbors' Wi-Fi networks**, especially in apartments and close-together homes.

Checked against Apple Support and Google Home and Nest Help on November 13, 2026.

Finding the troublemaker

1. Notice when it's slow. Every time the microwave runs? Only in the evening when the neighbors are home?
2. Turn off or unplug nearby electronics one at a time, testing after each.
3. If one makes a difference, move it (or the router) a few feet farther apart. Google suggests keeping its devices at least 3 feet from routers, cordless phones and other radio gadgets.
4. Connect what you can to the **5 GHz** lane, which these gadgets bother much less (Chapter 17, *The Two Lanes: 2.4 GHz and 5 GHz*).

Checked against Google Home and Nest Help on November 13, 2026.

GOOD TO KNOW

Channels are usually automatic now

Wi-Fi is split into "channels," and a crowded channel slows things down. Most modern routers and mesh systems pick the least crowded channel automatically, so you rarely need to touch this setting. If yours has an "auto" channel option, leave it on.

CHAPTER 16

Too Many Devices at Once

Every phone, tablet, TV, speaker, camera and thermostat shares the same Wi-Fi. Most just sip a little, but a few heavy users at once can crowd everyone else out.

The heavy users

- Several TVs streaming at the same time, especially in 4K.
- Video calls.
- Big downloads: game consoles, computer updates, phone updates.
- Cloud backups of photos and computers, which upload constantly for a while.
- Security cameras that send video online all day.

What you can do

- **Look at the device list** in your router's or provider's app. Many show which devices are using the most right now.
- **Schedule big jobs for overnight:** most phones, computers and consoles can install updates at night.
- **Lower the video quality** on a TV that doesn't need 4K (Chapter 22, *TV Buffering & Streaming*).
- **Pause a device** in the router app while an important video call is on, if your router offers it.
- **Plug in what you can.** A TV or computer on an Ethernet cable leaves more Wi-Fi for everyone else.

TIP

A quick household agreement

If one person's doctor's video visit matters more than anything else that hour, a simple "no big downloads or 4K movies until three o'clock" often fixes it for free.

CHAPTER 17

The Two Lanes: 2.4 GHz and 5 GHz

Most routers offer two (sometimes three) radio "lanes." Knowing the difference helps you put each device in the right one.

Lane	Good at	Not so good at
2.4 GHz	Reaching farther and through walls; older and smart-home gadgets	Speed; it's crowded and easily interfered with
5 GHz	Speed, and much less interference	Reaching far or through many walls
6 GHz (newest routers)	Top speed with very little crowding, on newer devices	Range; older devices can't use it

Apple suggests connecting more of your Wi-Fi devices to the 5 GHz lane when your router offers both, because it's less crowded.

Checked against Apple Support on November 13, 2026.

One name or two?

Many newer routers use one network name for all lanes and move each device to the best lane automatically (often called **band steering**). Others show two names, such as **Smith-Home** and **Smith-Home-5G**. If yours shows two, join the 5G one (meaning 5 GHz, nothing to do with 5G phone service) on phones, tablets, laptops and TVs that are reasonably close to the router, and leave far-away or smart-home gadgets on the other.

HEADS UP

Leave advanced radio settings alone

Routers have many radio settings: channel width, transmit power and more. The defaults suit almost every home. If someone has changed them and things got worse, it's a job for a careful hand, not trial and error.

CHAPTER 18

Far Rooms & Dead Zones

If the speed is fine near the router but poor in a bedroom, the basement, the back porch or an addition, you have a **weak spot** or **dead zone**. Moving the router (Chapter 14) is the free first try. If that isn't enough, there are good tools for the job.

Option	What it does	Good for
Mesh Wi-Fi system	Two or three matching units share one network across the home	Most whole-home coverage problems
Wi-Fi extender	One plug-in unit repeats the signal farther out	One trouble room, on a budget
Wired access point	A second Wi-Fi unit connected back by cable	Far rooms where a cable can reach
Powerline or MoCA adapters	Carry the connection over your electrical wiring or TV coax cable	Homes where running a new cable is hard

GOOD TO KNOW

The companion manual

Wi-Fi Extenders & Dead Zones explains each of these in detail, including where to put them and which kind suits which home. The **eero** manual covers one of the most common mesh systems.

TIP

Measure first

Run speed tests in each room and write them on a simple floor sketch. It shows exactly where the signal falls off, and it tells you whether you need one extra unit or several.

CHAPTER 19

When the Equipment Is the Problem

Modems and routers don't last forever. Technology moves on, and boxes that run all day, every day, wear out. Here are the signs that it's the equipment.

Signs of tired equipment

- You need to restart it every few days to keep things working.
- It's hot to the touch, or tucked somewhere with no air around it.
- It's many years old and your plan's speed has gone up since it was installed.
- A plugged-in speed test right at the router is much slower than your plan.
- Newer devices in the house support Wi-Fi 6 or Wi-Fi 7, but the router is much older.

Rented or owned?

- **If you rent it from your provider** (a monthly equipment fee on your bill), ask the provider to test it and replace it if it's outdated or faulty. Ask whether there's any charge before you agree.
- **If you own it**, check the maker's app or website for a **firmware update** (the box's own software). If it's very old, a new router or mesh system may be the fix.

HEADS UP

Before you buy a new router

Make sure the problem really is the equipment: do the plugged-in test (Chapter 11) and the restart routine first. A brand-new router can't fix a slow line from the provider, and a modem has to be one your provider supports. Ask them, or me, before you buy.

FROM BILL

A quick second opinion

This is one of the most common questions I'm asked. If you're weighing a new router or a mesh system, a short call can save you from buying the wrong one.

PART 5

Devices, Data & Your Provider

Speeding up a slow phone, computer or TV, smoother video calls, data caps, talking to your internet company, and the scams that pose as speed help.

CHAPTER 20

A Slow Phone or Tablet

If one phone or tablet is slow while others are fine, the fix is usually on the device itself. Work through these in order, testing as you go.

1. **Restart it.** Turn it fully off and back on. This clears up more than you'd think.
2. **Check which network it's on.** Open the Wi-Fi settings and make sure it's on your home network, not a neighbor's or a weak extender name, and on the 5 GHz name if you have one (Chapter 17, *The Two Lanes: 2.4 GHz and 5 GHz*).
3. **Forget and rejoin** the network if it keeps dropping: tap the network in Wi-Fi settings, choose **Forget This Network** (or **Forget**), then join again with the password.
4. **Update the software.** iPhone: Settings > General > Software Update. Android: Settings > System > Software update (Samsung: Settings > Software update).
5. **Free up storage.** A nearly full phone slows down at everything, including the internet.
6. **Check for a VPN or "data saver."** These can slow things down. See below.

GOOD TO KNOW

VPNs and "privacy relays"

A **VPN** sends your internet traffic through another company's computers first, which can slow it down. If you installed one (or a free "security" app that includes one) and things got slower, try turning it off for a test. iPhones with iCloud+ have a similar feature called **Private Relay** that some people notice on slower connections.

HEADS UP

Low Power Mode and Low Data Mode

Battery-saver and data-saver settings can quietly slow background downloads, photo backups and video quality. They're useful, just remember to check them when something seems slow.

CHAPTER 21

A Slow Computer

Computers have more going on behind the scenes than phones, and a slow computer can easily feel like slow internet.

Things to try

1. **Restart the computer**, not just close the lid. Updates often finish only after a restart.
2. **Close extra browser tabs.** Dozens of open tabs, especially with videos or news sites, use the connection and the computer's memory.
3. **Let updates finish.** Windows Update, Mac software updates and big app updates download in the background and can use a lot of the connection for a while. Check: Windows: Start > Settings > Windows Update. Mac: Apple menu > System Settings > General > Software Update.
4. **Check backups and cloud syncing.** OneDrive, iCloud, Google Drive and backup programs may be uploading a lot of photos. That slows other things, especially on cable plans with small upload speeds.
5. **Turn off a VPN** for a test if you use one.
6. **Try a cable** if the computer is near the router (Chapter 11, *Wi-Fi, or the Internet Line?*).

HEADS UP

"Speed booster" and "PC cleaner" programs

Ads promise to double your internet speed or "optimize" your PC. Most are useless, and some are harmful. Your computer already has the updates and tools it needs.

GOOD TO KNOW

The companion manual

If the whole computer is sluggish, not just the internet, **Speeding Up a Slow Computer** walks through the rest.

CHAPTER 22

TV Buffering & Streaming

Buffering, that spinning circle in the middle of a movie, means the TV isn't getting video fast enough. Here's how to calm it down.

1. **Test the TV's connection** (Chapter 9). If it's weak, the TV's spot or Wi-Fi is the problem.
2. **Restart the TV or streaming stick.** Unplug it from power for a minute, then plug it back in.
3. **Restart the modem and router** if other devices are slow too (Chapter 13, *The Restart Routine*).
4. **Use a cable** if the router is nearby, or move the router or streaming stick for a better signal.
5. **Update the TV or streaming device** from its Settings menu.
6. **Lower the picture quality** on a TV that doesn't need 4K. Lower quality needs less speed.

Lowering video quality in Netflix

Netflix suggests that if your internet provider limits your speed, changing your video quality setting can give a steadier picture. Each profile has its own setting:

1. On a computer, tablet or phone, open a web browser and go to **netflix.com/account**, and sign in.
2. Select **Profiles**, then choose the profile you watch on.
3. Select **Playback settings**.
4. Choose a data usage setting: **Low** (basic quality, up to 0.3 GB an hour), **Medium** (standard quality), **High** (best quality) or **Auto**. It saves automatically.

Checked against the Netflix Help Center on November 13, 2026.

GOOD TO KNOW

Live sports and big events

When millions of people stream the same game or show at once, buffering can come from the streaming service itself. If everything else in the house is fast, wait a few minutes or try again later.

TIP

Streaming sticks plugged behind the TV

A small stick tucked behind a TV against the wall can have a weak signal. Many come with a short extension cable that moves the stick a few inches out, which often helps.

CHAPTER 23

Smoother Video Calls

Video calls are fussy. They need a steady **upload** and a low, steady **ping**, not just a big download number. A call can freeze even when movies play fine.

Before an important call

1. Sit close to the router, or use a cable for the computer you call from.
2. Ask the household to pause 4K movies, game downloads and big uploads for the length of the call.
3. Close other apps and browser tabs.
4. Restart the device you'll call from, about 15 minutes ahead of time.
5. Run a speed test and check the **upload** and **ping** (Chapter 7).

What a call uses

Zoom estimates a group call in 720p HD uses about 1.8 Mbps down and 2.6 Mbps up, and 1080p HD about 3.0 Mbps down and 3.8 Mbps up. Showing everyone at once in **Gallery View** can use more.

Checked against Zoom's bandwidth guide on November 13, 2026.

TIP

If the call keeps freezing

Turning off your own camera for a moment frees up upload speed, and the audio usually keeps going smoothly. Doctors' offices and family understand.

GOOD TO KNOW

The companion manual

Video Calling covers Zoom, FaceTime, Google Meet and WhatsApp calls step by step.

CHAPTER 24

Data Caps & Slowed-Down Plans

Some internet plans include a monthly **data cap**: an amount of data you can use before the company charges extra or slows your connection. Cellular "home internet," satellite plans and some cable plans are the most likely to have one.

How to find out

- Look at your plan's **broadband label** (Chapter 8). It must say whether there's a data allowance and what happens if you go over.
- Check your provider's app or account page for a **data usage** meter.
- Look for words like "deprioritized," "reduced speeds after" or "data allowance" in your plan details.

Checked against the FCC's Broadband Consumer Labels pages on November 13, 2026.

If you're near your limit

- Lower the video quality on TVs and streaming apps. Video uses by far the most data in most homes.
- Set phones and computers to install big updates only on Wi-Fi at home overnight, which spreads them out.
- Ask your provider whether an unlimited option costs less than paying overage fees.

GOOD TO KNOW

"Slowed during busy times"

Some plans, especially cellular home internet, say your service may be slowed when the network is busy. That's not a cap; it means evenings can be slower. If your speed log (Chapter 6) shows this, it's a fair thing to weigh when comparing plans.

CHAPTER 25

Calling Your Internet Company

When your tests point to the line, the modem or the provider's network, it's time to call. A little preparation makes the call shorter and more likely to end with a real fix.

Before you call

- Do the restart routine (Chapter 13, *The Restart Routine*) and test again. They'll ask you to anyway.
- Have your **speed log** ready, especially plugged-in results and the times it's slow.
- Know your **plan name** and its typical speeds from the broadband label.
- Have your account number (on the bill) and the account holder's name and address handy.
- Use the phone number **on your bill** or in the provider's app, never one from a search ad.

What to say

Keep it simple and factual. For example: "My plan is Internet 300. After restarting the modem, a computer plugged in with a cable is getting about 40 Mbps, and it's been like that for a week, mostly in the evenings. Can you check the signal to my modem and the line to my house?"

Things worth asking for

- A **signal check** on your modem from their end.
- A **replacement** modem or gateway if yours is old or faulty.
- A **technician visit** if the signal is poor, and whether there's a charge for it.
- A **bill credit** for long outages or days of poor service.
- A **ticket or reference number**, and the name of the person you spoke with.

TIP

Write it down

Note the date, the person's name, what they did, and the reference number. If you have to call back, starting with "I called on Tuesday, reference number…" saves you from repeating everything.

HEADS UP

Upsells aren't always the answer

If the rep suggests a faster, pricier plan, ask whether your current plan is actually reaching its typical speed on a cable. If it isn't, a bigger plan won't fix the underlying problem.

CHAPTER 26

Speed Scams

Because slow internet is so frustrating, scammers use it as bait. These are the ones to know.

SCAM ALERT

The "speed boost" phone call

A caller claims to be from your internet company, or "the network department," and says your connection is slow because of a problem they can fix right now, or that you qualify for a faster speed. They ask for a payment, gift cards, your account password, or to install an app on your computer. Hang up. If you're curious, call the number on your bill yourself.

SCAM ALERT

The frightening pop-up

A browser window fills the screen, maybe with a loud voice, saying your network or computer is infected and slowing down, and to call a number. It's fake. Close the browser, or restart the device if it won't close. Never call the number.

SCAM ALERT

Fake support numbers in search results

Searching "internet company support" can bring up ads that look official but connect you to scammers. Use the number on your bill or in the provider's own app.

The rule that beats them all

A real company will never ask you to pay with gift cards, and won't call out of the blue to make your internet faster. If someone contacts you about your internet, hang up or close the message, and reach the company yourself using a number you already trust.

If you already gave something away

1. Stop talking to the caller. Don't call them back.
2. If you let someone onto your computer, turn it off and get help before using it for banking.
3. Change any password you shared, starting with your email.
4. If you paid with a card, call the number on the back of the card.
5. Report it at **ReportFraud.ftc.gov**.

FROM BILL

Call before you click

If a call or message about your internet gives you that "this doesn't feel right" feeling, stop and call me first. A few minutes of checking is always worth it.

PART 6

When to Call Bill & Your Cheat-Sheet

When a hand saves worry, and every everyday move on a single page.

CHAPTER 27

When to Call Bill

This guide will get you through most slowdowns on your own. But part of being helpful is being honest about when a hand saves you time and worry. Here's when I'd pick up the phone.

Good reasons to call

- You've tested, restarted and called your provider, and it's **still slow**.
- You're thinking about **buying a new router or mesh system** and want to get the right one.
- One part of the house has **weak or no Wi-Fi**.
- You'd like a **plugged-in test** done properly, or a TV or computer wired up.
- You want help reading your **broadband label** or deciding whether your plan is right.
- A caller, pop-up or message about your internet gives you that **"this doesn't feel right"** feeling.

Things you can handle yourself

Running a speed test, reading the results, checking for an outage, the restart routine, moving the router to a better spot, lowering TV video quality, and preparing for a call with your provider. These are all yours now. Keep this guide handy as your refresher.

FROM BILL

How I like to help

I'm Bill, and I bring 30+ years of professional experience to helping folks feel at home with their technology, right here in Portage County, Ohio. I don't rush, I don't talk down to anyone, and there's no such thing as a silly question. I can test and tune things with you over the phone or a screen share, or come to your home, test every room and fix what's slowing you down: $49 remote · $99 in your home. Call **(330) 200-8042** or book at **billshometech.com/book**. If I'm with another client, Sophie, my AI receptionist, will take your details so I can call you back.

Thank you for taking the time to learn this. Slow internet is one of those everyday irritations that feels mysterious until someone explains it. Now you know how to measure it, find it and fix it.

— Bill

CHAPTER 28

Your Slow-Internet Cheat-Sheet

Keep this handy. The everyday moves, all in one place.

When it's slow, in this order

1. Notice what's slow: one device, one room, or everything?
2. Run a speed test: **fast.com**, Google "internet speed test," or the Speedtest app.
3. Check for an outage in your provider's app (on cellular data).
4. Restart: unplug the modem and router, wait 30 seconds, modem first, then router.
5. Test again, near the router, and with a cable if you can.
6. Still slow on a cable? Call your provider with your speed log.
7. Only slow over Wi-Fi? Move the router, reduce interference, or add mesh or an extender.

The numbers

What	Rule of thumb
FCC broadband yardstick	100 Mbps download, 20 Mbps upload
Netflix HD / Full HD / 4K	3 / 5 / 15 Mbps or higher per TV
Zoom group call, 720p HD	About 1.8 Mbps down, 2.6 Mbps up
Comfortable ping	Under 50 ms

The safety rules

- Nobody legitimate calls out of the blue to boost your internet speed.
- A pop-up with a phone number is a scam. Close it; never call.
- Use the support number on your bill, not one from a search ad.
- Restart, don't reset. The pin-hole Reset button erases your settings.
- When something feels off, stop and ask.

Keep these handy

My internet details	
My internet company	_____
Support number (from my bill)	_____
My plan name and typical speed	_____
My account number	_____
Bill's Home Tech	(330) 200-8042 · billshometech.com/book

WHAT THIS DOES FOR YOU

You're in charge of your connection now

You can measure your internet, read the results, find where a slowdown lives and fix most of them yourself. When you do need your provider, you'll call with facts in hand. Keep this guide close, and enjoy a calmer connection.

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