

**Meta title:** How to get 1 gig internet speed | Switchful

**Meta description:** A gigabit internet plan is just the beginning. To fully use that speed, you probably need new networking gear too. Find out what you need to get 1 gig speed.

# How to get 1 gig internet speed

Although 1 gig internet speeds are increasingly common, actually using all that speed isn't so simple. Everything between you and your internet provider needs to be dialed in for 1 gig speed. If even one thing in the chain is a bottleneck, you'll never see all that speed.

Unfortunately, most of the world isn't ready for this much bandwidth. Getting all [the right equipment](#) is challenging, and it's probably more work and more expensive than it's worth for most people. But if maximizing your gig-speed internet plan is your goal, here's what you need to use all that speed.

## [H2] What is gig speed, and what can you do with it?

Gig speed internet is any plan that delivers 940 Mbps to 1,000 Mbps bandwidth. You can do *a lot* with that, and [most households don't need it all](#). Even the most speed-intensive activities don't usually eat up more than 25–50 Mbps. But you might need close to a gig of speed if you're doing several high-bandwidth activities—and so are all nine of your housemates.

You'll see the most significant benefit of high speeds when downloading large files like high-quality movies or video game patches. With gig-speed internet, you can download a 40 GB video game patch in under six minutes instead of 36 minutes—which is how long it would take with a 250 Mbps plan. If you don't download many big files like this, paying extra for a 1 gig plan might not be worth it.

For most families, 250 Mbps will feel blazing fast. So before you go down this gig-getting rabbit hole, make sure you genuinely need such fast speeds. See [how much speed you actually need](#).

If you're sure you want the full gig, let's get every element between you and the internet gig-speed ready—starting with the right internet plan.

## [H2] Your internet plan

Many providers advertise 940 Mbps plans as gig plans, so if you absolutely want a whole gig, read the fine print in your plan. Often, providers cap their speed at 940 simply because the modem they provide maxes out at 940 Mbps. We'll help you pick a modem capable of delivering an entire gig. But if you're not starting with a true 1 gig plan, then no gear list on Earth will get you full gig speeds.

You're most likely to find 1 gig plans in heavily populated urban centers. While some lucky communities have a small local provider dedicated to building internet infrastructure in their area, most rural areas have only lower speed options like [satellite](#), [DSL](#), or slower (4G LTE)

[fixed wireless](#) internet. Usually, the only internet providers offering a 1 gig plan are [fiber](#) and [cable](#).

We recommend getting a fiber plan if it's available to you because it's the best way to reliably get the full 1 gig bandwidth to your home all day, every day. With cable internet, you may face slower speeds during peak hours.

Although Verizon 5G fixed wireless is technically capable of providing 1 gig speeds, the likelihood of you actually receiving 1 gig at your house is super tiny for a ton of reasons. With 5G fixed wireless, you'll face similar congestion issues as cable, but worse—you'll compete with internet *and* cell phone users. Plus, you'll face potential interference from poor weather, distance, and obstacles between you and the signal tower—all things that neither cable nor fiber customers deal with.

### [H3] Providers with 1 gig plans

Company	Internet type	1 gig price/mo.
<a href="#">AT&amp;T</a>	Fiber	\$80
<a href="#">Google Fiber</a>	Fiber	\$70
<a href="#">Verizon Fios</a>	Fiber	\$90
<a href="#">Frontier</a>	Fiber	\$80
<a href="#">Xfinity</a>	Cable or fiber	\$75
<a href="#">Spectrum</a>	Cable or fiber	\$65
<a href="#">Optimum</a>	Cable or fiber	\$80
<a href="#">Cox</a>	Cable or fiber	\$100
<b>Verizon 5G</b> (limited availability)	Fixed wireless	\$70

[Zip CTA]

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## [H2] Your modem

Once you have an internet plan capable of 1 gig, start building your home network to accommodate this speed. The first stop your internet signal makes is your [modem](#)—if you have a cable connection—or your [ONT](#)—if you have a fiber connection.

## [H3] Getting the right cable modem

A cable modem translates your provider's cable internet signal into an ethernet signal that your router can understand. That means you need a modem that can both accept and pass along the full gig.

To accept 1 gig speeds, your modem must be capable of DOCSIS 3.1, which is the standard cable companies use to deliver you your 1 gig connection. Modems capable of DOCSIS 3.1 are relatively easy to find.

To pass along 1 gig speeds, it's a little more complicated. Although it sounds like overkill, you need a modem capable of 2.5 gig ethernet, not just 1 gig ethernet. Here's why: ethernet protocol adds a bit of overhead to the data packets your provider sends to you from the internet. Internet overhead will take up roughly 60–70 Mbps of your 1 gig bandwidth. If you want your whole gig of speed delivered to your router—and then onto your devices—you have to give your data packets some headroom. The next speed up from 1 gig is 2.5 gig ethernet.

Think of data overhead like a suitcase and the data itself like everything you pack for travel. When an airline limits your checked luggage to 55 lbs, that includes around 10 lbs for your bag—the overhead—and only 45 lbs of clothes, toiletries, and souvenirs. If you want to take the full 55 lbs of stuff, you have to pay the overweight bag fee. Getting a 2.5 gig modem is like paying that extra baggage fee.

If you sign up for a true 1 gig plan—not a 940 gig one—your provider will probably set you up with a modem with both DOCSIS 3.1 and 2.5 gig ethernet ports. But if it doesn't, you may have to buy your own. Always check your provider's list of compatible modems before buying your own.

Here are a few gig speed-ready modems that we like:

- [Motorola MB8611 DOCSIS 3.1 Multi-Gig Cable Modem](#)
- [ARRIS Surfboard S33 DOCSIS 3.1 Multi-Gigabit Cable Modem](#)
- [NETGEAR Nighthawk Multi-Gig Cable Modem CM2000](#)

### [H3] Getting the right fiber ONT

An ONT translates a fiber optic signal into an ethernet signal to send to your router. Most fiber internet companies don't let you pick your own ONT. The good news is you don't have to worry about it being compatible with DOCSIS 3.1 because fiber doesn't use this standard. The bad news is you still have to make sure your provider gives you an ONT that's capable of 2.5 gig ethernet. And that might not happen.

It didn't happen when Ben Wachman, a [Google Fiber](#) customer and tech enthusiast, signed up for a 1 gig plan. The technician installed an ONT with a 1 gig ethernet port, stifling his speed to around 940 Mbps as soon as the signal entered his home. Wachman decided 940 Mbps was enough for his household—especially since upgrading some of the other gear in his home network would cost more than he's willing to spend right now. But you may need to get clever if you want your entire gig from Google Fiber.

Here at Switchful headquarters, we started out with Google Fiber's 2-gig plan, then quickly realized that upgrading our network equipment wasn't worth the expense for a team of our size. When we downgraded to a 1-gig plan, Google Fiber left our 2.5 gig ethernet-capable ONT installed.

While we stumbled upon this trick by accident, it might work for other providers too—but watch out if your plan requires a contract. Google Fiber doesn't, so you can downgrade your plan at any time without penalty. Not all providers let you do this without a fee.

### [H2] Your ethernet cables

After your internet signal passes through your modem, it goes to your router via an ethernet cable. And if you plug any devices directly into your router, you'll use ethernet cables for that too. Unfortunately, not all ethernet cables can handle 1 gig speeds.

Choose an ethernet cable that's a CAT 5e or better—like a CAT 6, CAT 6A, or even a CAT 8. New ethernet cables will be clearly labeled when you buy them. If you have an ethernet cable lying around, make sure it's labeled CAT 5e or better. If it's not, better ethernet cables are the least expensive part of a 1 gig internet network.

You can get the cables you need on Amazon—like this [10ft CAT 6A](#)—but we like Monoprice because you can usually get quality cables—like this [other 10ft CAT 6A](#)—at a much lower cost.

### [H2] Your router

What kind of router you need depends on how you want to get gig speeds to your devices: Wi-Fi, plugged directly into your router, or both. We recommend getting a router that lets you do both, which means it'll need 2.5 gig ethernet ports and Wi-Fi 6e.

**We recommend:**

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### **Should I get a gateway (modem/router combo)?**

Wachman strongly recommends against it. “You’ll get better value by buying your modem and router separately. You’ll end up with better quality Wi-Fi on day one, plus you can upgrade or replace your Wi-Fi separately later. Modems last way longer than routers.”

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### **[H3] Plugging in your devices**

The best way to max out your gig is to plug your device directly into your router with—you guessed it—an ethernet cable that’s Cat 5e or better. Your router also needs ethernet ports that receive and send out a 2.5 gig ethernet signal.

To receive a 2.5 gig ethernet signal, you need a 2.5 gig ethernet WAN (Wide Area Network) port. This is the port that accepts internet signals from your modem or ONT. There should be only one WAN port, and it’s usually a different color or located away from the other ports.

To send out a 2.5 gig ethernet, you need at least one 2.5 gig ethernet LAN (Local Area Network) port. These ports should also be visually distinctive. Most gig-ready routers have just one or two 2.5 gig LAN ports. That means only a chosen few of your devices will get the full 1 gig speed, while any others you plug in will be capped at 940 Mbps. That’s still a perfectly respectable speed, but that’s not what we’re here for, right?

### **[H3] Connecting over Wi-Fi**

If you want to use Wi-Fi instead of plugging in, you need an 802.11ax router—also known as a Wi-Fi 6e router. If you get Wi-Fi 6 (802.11ax) instead, the highest speed you’ll get on any device will probably be 750 Mbps.

When you set up your Wi-Fi network, check your Wi-Fi 6e router’s settings. Make sure both 6 GHz and 160 Mhz wide channels are enabled. These settings will probably be enabled by default, but doublechecking helps minimize frustrations while troubleshooting later.

The best place to get your whole 1 gig of speed over Wi-Fi is to be as close as possible to your router, ideally in the same room. The further away you get, the worse your signal—and the lower your speed—will be.

Mesh networks, extenders, and boosters are great for getting better signal further away from your router, but they all become bottlenecks if you’re trying to get 1 gig to a single device. They’re fine if you want to get a total of 1 gig across multiple devices, but you won’t see a speed test with a 1 gig reading if you use them.

## [H2] Your devices

Now that you've set up the rest of your network to achieve 1 gig speeds, let's talk laptops, smartphones, tablets, and other devices.

### [H3] Plugging in your devices

Most of your devices—like smartphones, tablets, smart TVs, and other smart home devices—can connect only via Wi-Fi. But for some laptops and desktop computers, you'll also have the option to plug them in via ethernet. Of course, these devices will need—you guessed it again—a 2.5 gig ethernet port. The port should say "2.5G," but you can also [check in Windows](#).

Many devices don't have ethernet ports at all, so you might need a USB 3 port and a 2.5 gig ethernet adapter. Pretty much any 2.5 gig ethernet adapter you buy will have a USB 3.0 or better output, even though it may not say it on the box.

Identifying a USB 3.0 port on your laptop is much harder, but you might luck out. Look for a blue USB port or one that says SS followed by the USB symbol next to it. Unfortunately, most laptop makers don't color code or label their USB ports.

If you have a Retina Mac, you probably have USB 3.0 ports. Non-Retina Macs made after 2014 likely have them too. Other Macs, not so much.

If you have a PC with unlabeled USB ports, you may have to test them to be sure you have at least one USB 3.0 port. However, if other elements in your network are bottlenecking you, you may not get a definitive answer.

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### Testing for USB 3.0

You can test unlabeled USB ports to see if they're USB 3.0 or higher. Since USB 2.0 maxes out at 400 Mbps, getting higher speeds means you probably plugged into a USB 3.0 port. If you get speeds lower than 400 Mbps, you might be using a USB 2.0 port—or something else in your network could be bottlenecking you.

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### [H3] Connecting over Wi-Fi

Many devices like smartphones, smart TVs, and tablets can't connect to the internet by being plugged in, so you'll have to connect them via Wi-Fi. And most people want to connect a laptop or desktop computer to Wi-Fi at some point too. Your devices will need a fast enough Wi-Fi card. That means—you're getting good at this guessing game, aren't you?—Wi-Fi 6e.

### Apple devices

If you're in the Apple ecosystem, we have some bad news. Only M2 Macbooks have Wi-Fi 6e. iPhones, iPads, and most other Apple devices can't handle more than 750 Mbps. If you're buying a new Mac, make sure its specs say it has an M2 chip. If you already have a Mac, you'll need to know the year and model to look up its specs.

### **Android phones**

Most flagship Android phones from 2021 or newer have Wi-Fi 6e. Samsung Galaxy S21 and newer phones have Wi-Fi 6e, and so do the Pixel 6 and 7.

### **PCs**

If you're buying a new PC, make sure its specs say it's Wi-Fi 6e capable. Unfortunately, finding out whether a PC you already have is Wi-Fi 6e capable is harder. PC makers often use multiple kinds of Wi-Fi cards, even in the same year and model. They might use a Wi-Fi 6e card for one batch of computers and Wi-Fi 5 for another.

You can do a speed test over Wi-Fi with your PC, which might tell you what kind of Wi-Fi card you have. If you see speeds higher than 750 Mbps, you have a Wi-Fi 6e card. If you see lower speeds, you might have an older Wi-Fi card—or you might have another bottleneck in your network.

Luckily, Wi-Fi 6e cards are inexpensive, so even if your testing is inconclusive, you can ensure you have Wi-Fi 6e for around \$20. That is, if your PC is upgradeable and you feel comfortable swapping out its hardware.

## **[H2] Your speed test**

As you build your home network, you should test it to ensure you're pulling your entire 1 gig of speed. And for that, you need an internet speed test—and not all speed tests are created equal. Different tests use different kinds of data, giving you different speed readings. The distance between you and the testing center also makes a difference.

Our advice? Use the same speed test every time you test. Do that, and you'll at least have consistent results. And don't be surprised if you see higher than 1 gig speeds, since most tests give you slightly inflated readings.

Popular speed tests:

- [Speedtest.net](https://www.speedtest.net)
- [Fast.com](https://www.fast.com)
- [Speedof.me](https://www.speedof.me)

## [H2] Getting 1 gig IRL

Now that you're all set to get a full 1 gig of speed, it's time to start using it. As it turns out, regularly using an entire gig of bandwidth might actually be the hardest part of maximizing your 1 gig internet plan.

The easiest way to max out your bandwidth is to download large files. If you buy a lot of digital copies of movies in 4K, you're set. Or if you play lots of online games and regularly download patches of 30 GB or more, you'll be grateful for your lightning-fast connection.

If you rarely download large files, it's harder to regularly use an entire gig of speed than you think. And if you live alone, it's nearly impossible. That's because the things most people do online, like browse the web, scroll social media, and check email, don't take much bandwidth. Even if you're a multitasker who likes to stream movies while taking a video conference call—or playing Fortnite while watching your favorite Twitch star—it's nearly impossible to use an entire gig of bandwidth on the regular.

Most of the daily online activities people do use just 3–50 Mbps. That means a fully utilized 1 gig plan can support 20 average users—or more. McMansions aside, most *houses* can't support this many residents. So unless you have a *huge* family or you're the head of IT for a small dormitory or nursing home, you almost certainly don't need a gig of speed.

## [H2] Is maximizing your 1 gig internet plan worth it?

For most people, the answer is no. Buying gig-ready equipment can cost you hundreds of dollars more than the gear most people use in their home networks. You might have to upgrade your laptop, tablet, smartphone, and other devices too.

You can probably achieve 600–750 Mbps with the devices you already have and the equipment your internet company provides. You might even reach 940 Mbps if you plug in your devices, even if you use that old ethernet cable in the back of your junk drawer. Those are great speeds for just about any household.

If you want our two cents—and we think you do, since you're here—don't spend any money on gig-speed internet unless you absolutely need to. If your current setup isn't fast enough, upgrade to the next fastest plan from your internet service provider. If you're already on a 750 Mbps plan or higher, start looking into getting better gear. But don't get too hung up on speed test results or getting the latest, greatest networking gear unless you have to.