

Bluetooth, Explained

Why your earbuds cut out, why the car won't connect,
and what to do about each.



The short answer

Bluetooth is a short-range radio. It links your phone to earbuds, speakers, watches and your car. When the sound cuts out, one of three things is usually to blame.

Something in the way

Often it's you. Your body sits between the phone in your pocket and the earbud in your ear.

A crowded band

Bluetooth shares its radio space with Wi-Fi. On a busy train, lots of radios take turns.

A stale pairing

Cars and earbuds remember old phones. Old entries cause many car troubles.

A word on the words

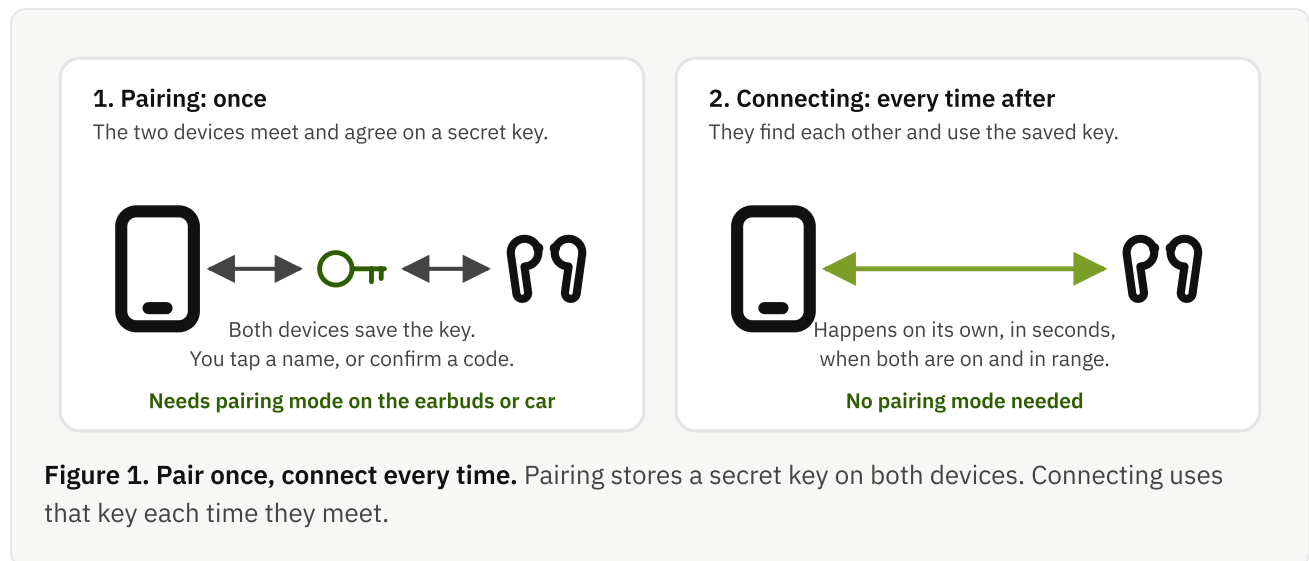
Pairing is the one-time introduction between two devices. **Connecting** is what they do every time after that. **CarPlay** puts iPhone apps on the car's screen. **Android Auto** does the same for Android phones.

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Pairing and connecting

People use these two words as if they mean the same thing. They are two steps. Knowing which one failed tells you what to do.



- **It never shows up in the list?** Pairing failed. Put the other device in pairing mode. Its manual says how.
- **It's saved, but won't connect?** Turn Bluetooth off, wait a few seconds, and turn it back on. Then restart both devices.
- **It connects, but the sound cuts in and out?** The pairing is fine. Something is in the way (pages 5 and 6).

HOW IT WORKS

One band, shared with Wi-Fi

Bluetooth uses the same radio band as a lot of Wi-Fi. Microwave ovens use it too. Everyone takes turns in the same small space.

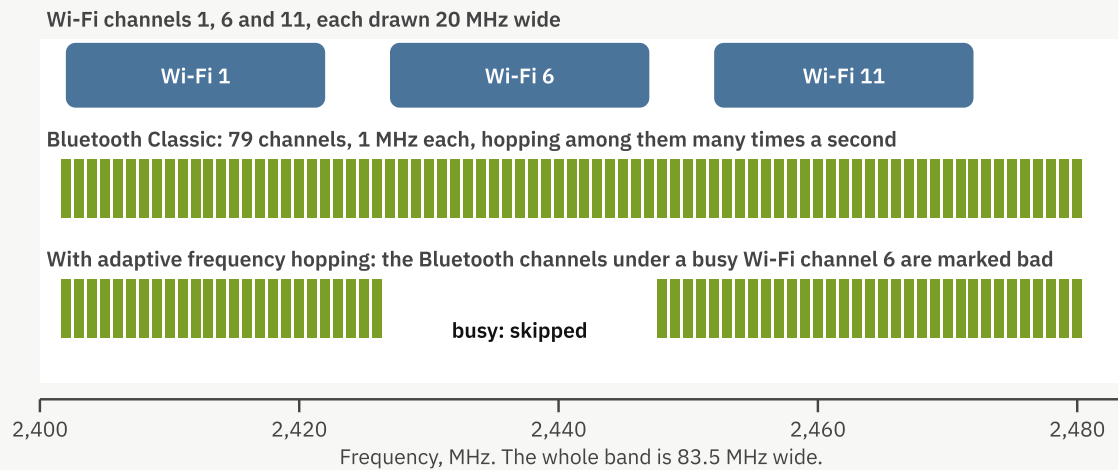


Figure 2. One small band, lots of users. Bluetooth hops between many tiny channels, many times a second. It learns which ones are busy and skips them.

Hopping works well until the whole band is busy. Then there's nowhere quiet left to hop to.

The free fix at home

If your router offers 5 GHz Wi-Fi, put the devices that can use it there. That leaves more room for your earbuds, keyboard and mouse.

WHY IT CUTS OUT

Your body is the wall

You may have heard Bluetooth reaches about 10 m (33 feet). Yet the sound breaks up with the phone in your back pocket. The difference is what's in the way.

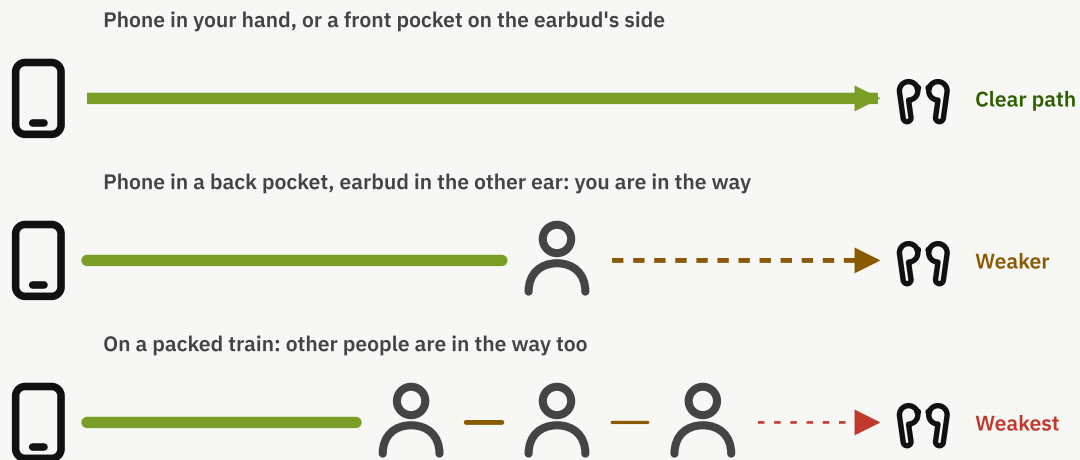


Figure 3. Bodies get in the way. Every person between your phone and your earbud weakens the signal. Thicker lines mean a stronger signal.

You are mostly water. Water soaks up this kind of radio signal. And you're standing right next to both radios.

KEITH'S NOTE, FROM *FIX YOUR OWN WI-FI*

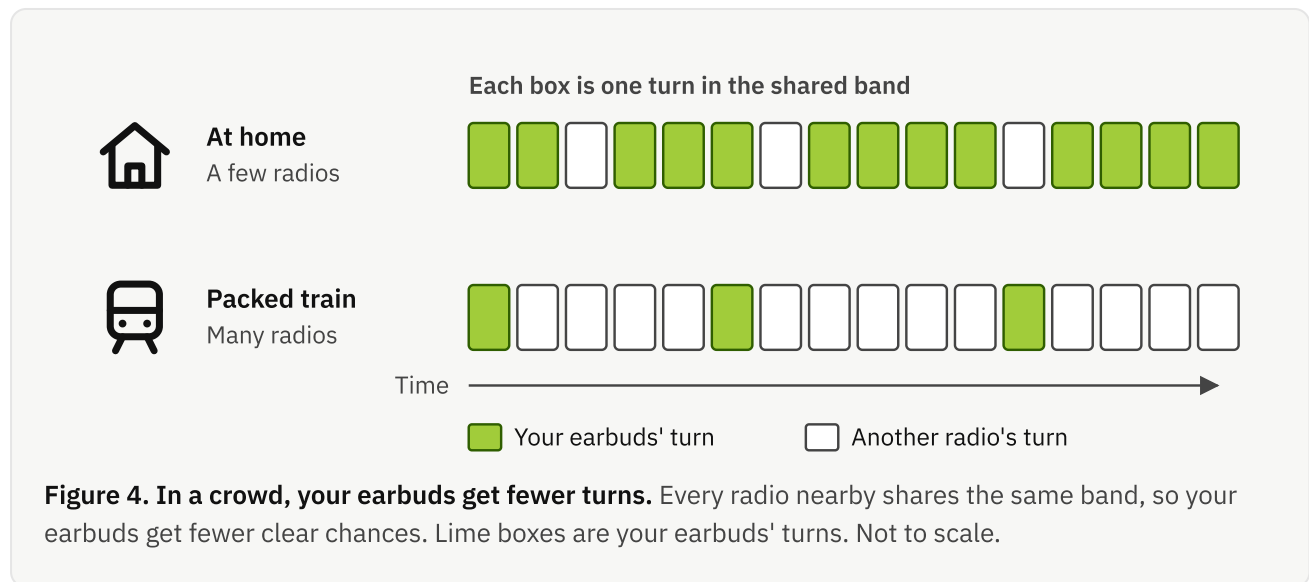
"Water and metal are usually the ones that surprise people, which is one reason kitchens and bathrooms turn up as dead spots so often, though your house is its own experiment and the only way to know is to read it."

Why it can be worse outdoors

Indoors, walls bounce the signal around, so some of it finds a way around your body. Outside there's less to bounce off. Your body blocks more of what's left.

Crowds, trains and calls

Earbuds that are fine at home often stutter on the train or at the airport. There are more bodies in the way, and more radios sharing the band.

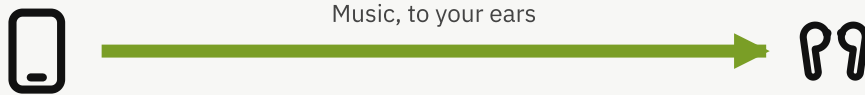


What you can do

- 1 **Move the phone.** Put it in a front pocket, on the same side as the ear that drops out. Or hold it.
- 2 **Test with downloaded music.** If it plays cleanly but streaming stutters, the problem is your internet, not Bluetooth.
- 3 **Pick "stable connection."** Some earbud apps offer it. It sends less data, so there's less to lose.

Why calls sound thinner than music

Music goes one way



A call goes both ways

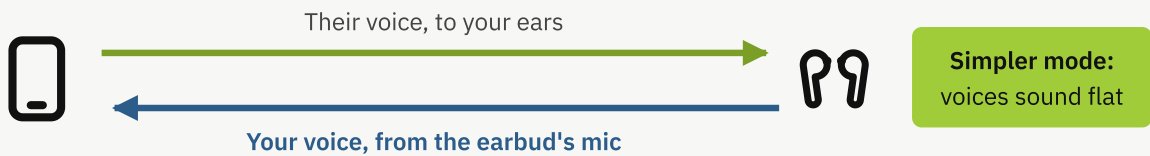


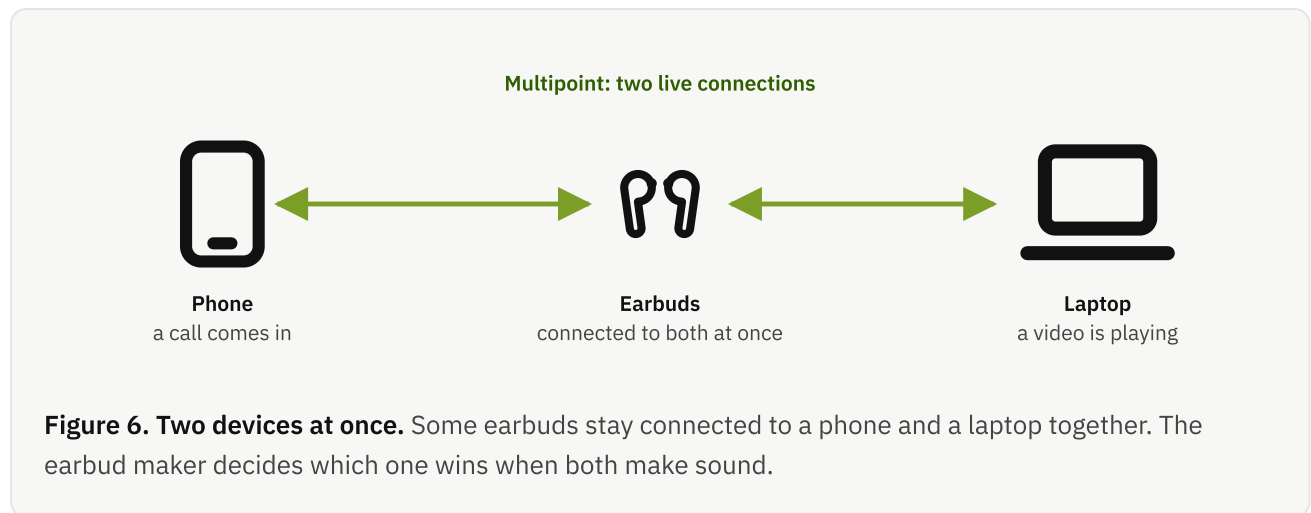
Figure 5. Music goes one way. A call goes both ways. Lime is sound coming to your ears. Blue is your voice going back to the phone.

Music only goes one way, to your ears. A call goes both ways, because your voice travels back from the earbud's microphone. Most earbuds switch to a simpler mode for that, so voices sound flat. That's normal, not a fault.

Your phone and earbuds also squeeze the sound to fit it over the air. They pick the method on their own. You rarely need to think about it.

One set of earbuds, two devices

You paired your earbuds with your phone and your laptop. Sometimes they follow you from one to the other. Sometimes they stay on the wrong one.



When the earbuds go to the wrong device

- 1 Pick the earbuds from the Bluetooth or sound menu on the device you want.
- 2 If two devices keep grabbing them, turn off Bluetooth on the one you're not using.

Bluetooth in your car

To your phone, the car is just another Bluetooth device. What makes cars harder is that they're shared, and they remember.

A full memory

Cars keep a list of every phone they've met, including rental drivers and the last owner. Delete phones nobody uses.

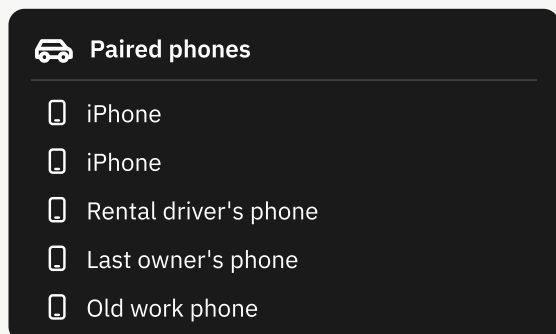
Look-alike names

Two phones both called "iPhone" confuse the car. Give yours its own name in your phone's settings.

Two phones aboard

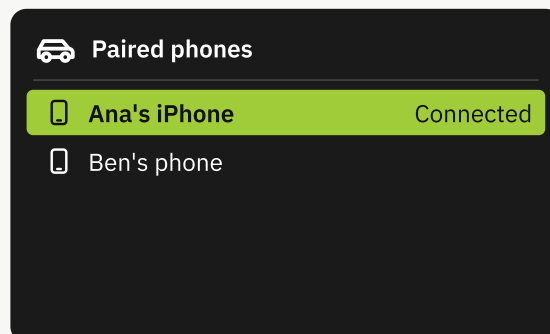
With two paired phones in the car, the car connects to one of them, not always the one you wanted. Most cars let you choose the phone on the car's screen.

Before: years of old phones



Two phones named iPhone.
The car may pick the wrong one.

After: cleaned up



Only phones still in use,
each with its own name.

Figure 7. A short, clear list helps the car find your phone. Left, the list a car builds up over the years. Right, the same list cleaned up.

Pairing with a car

- 1 Park first. Setup means looking at the screen.
- 2 Start pairing from the car's screen. Look for Phone, Bluetooth or Connections.
- 3 On your phone, open Bluetooth settings and pick the car's name.
- 4 If a code shows on both screens, check that they match, then confirm.

Wireless CarPlay and Android Auto

Most people think wireless CarPlay is all Bluetooth. It isn't. Bluetooth finds the car. Wi-Fi carries the screen and the sound.

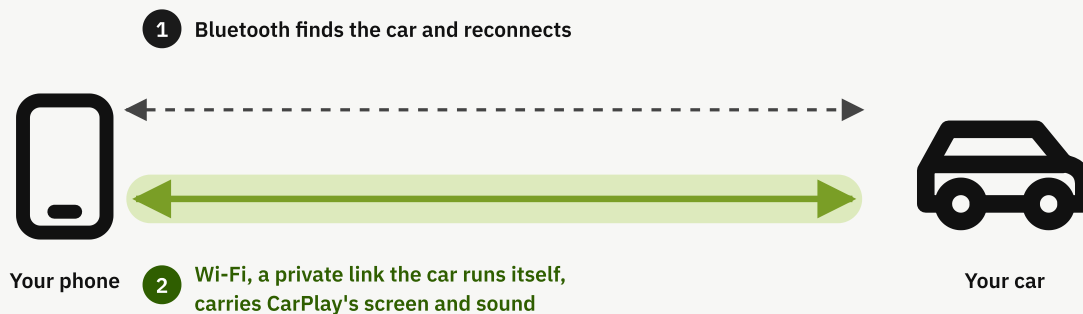


Figure 8. Two radios, two jobs. Bluetooth finds the car and reconnects. Wi-Fi carries the maps, music and messages to the car's screen.

So both radios have to be on. If you switch Wi-Fi off to save battery, wireless CarPlay stops working.

If your car has a USB port for CarPlay

Plug in with a cable. If the problem goes away, the wireless link was the trouble. Use a cable that carries data, not just charge.

When the car won't connect

Easiest first. Stop as soon as it works.

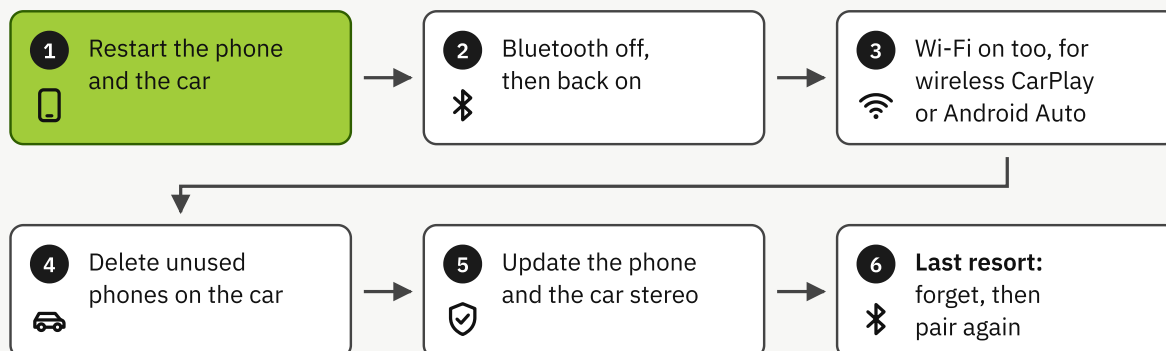


Figure 9. Fix the car connection in this order. Start at the lime box. Stop as soon as it works.

Do these while parked.

- 1 Restart your phone. Turn the car fully off and on again.
- 2 Turn Bluetooth off on the phone, wait a few seconds, and turn it back on.
- 3 For wireless CarPlay or Android Auto, check that Wi-Fi is on too.
- 4 On the car's screen, delete phones nobody uses any more.
- 5 Update your phone. Ask the car maker about a stereo update too.
- 6 Last: forget the car on your phone, delete your phone on the car, and pair again from the car's screen.

Before a road trip in a rental

Pair from the car's screen before you pull out, and delete your phone from the car's list when you return it, so the next driver doesn't see your contacts or recent calls.

Four things people get wrong

MYTH Bluetooth reaches 10 m (33 feet), so a phone in my pocket should be perfect.

FACT Range depends on what's in the way. Your own body is often the problem.

MYTH Wireless CarPlay is just Bluetooth.

FACT Bluetooth finds the car. Wi-Fi carries the screen and sound. Turn off Wi-Fi and it stops.

MYTH Forgetting and pairing again fixes everything.

FACT It fixes a broken pairing. It does nothing for a body or a crowd in the way.

MYTH My earbuds sound bad on calls, so they're broken.

FACT Calls use a simpler two-way mode made for voices. Thin sound on calls is normal.

When to forget and pair again

Won't connect at all



Worked before, now won't connect, even after a restart.

Or the earbuds were reset or replaced.

Forget and pair again

Connects, but cuts in and out



The pairing is fine.

Something is in the path.

Pairing again won't help

Figure 10. Pairing again fixes a broken pairing, not a blocked path. Left, when to forget and pair again. Right, when it won't help.

SOURCES

Where these facts come from

Checked against each company's own pages in September 2026. Menus and car support change with software updates.

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