

Cameras, Doorbells and Baby Monitors, Explained

A camera is the rare gadget in your home that sends more than it receives. Make yours record when it matters, and keep strangers out of it.



The short answer

Most gadgets in your home pull things in. A camera pushes video out, often all day.

That one fact explains most camera trouble. Clips start late. Live video spins. The doorbell drops offline. Each usually comes down to three things: how much your internet can send, how well the camera hears your Wi-Fi, and where the video ends up.

The one idea to remember

A camera is judged by what it can send, from the spot where it hangs.

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A word on the words

The box means whatever your camera talks to over the air: your router, or the nearest unit of a mesh system. **Camera** covers security cameras, video doorbells and Wi-Fi baby monitors. They all send video the same way.

THE BIG IDEA

The camera sends

Your internet line runs two ways. Download is what comes to you. Upload is what you send.

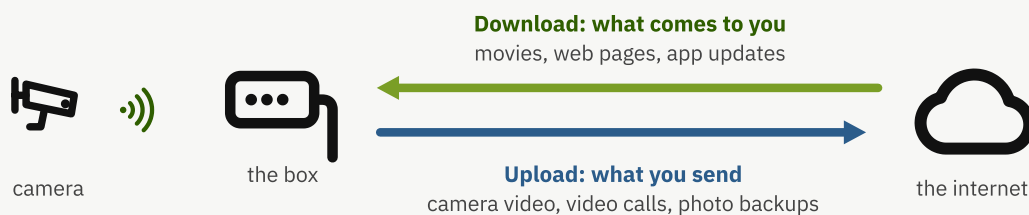


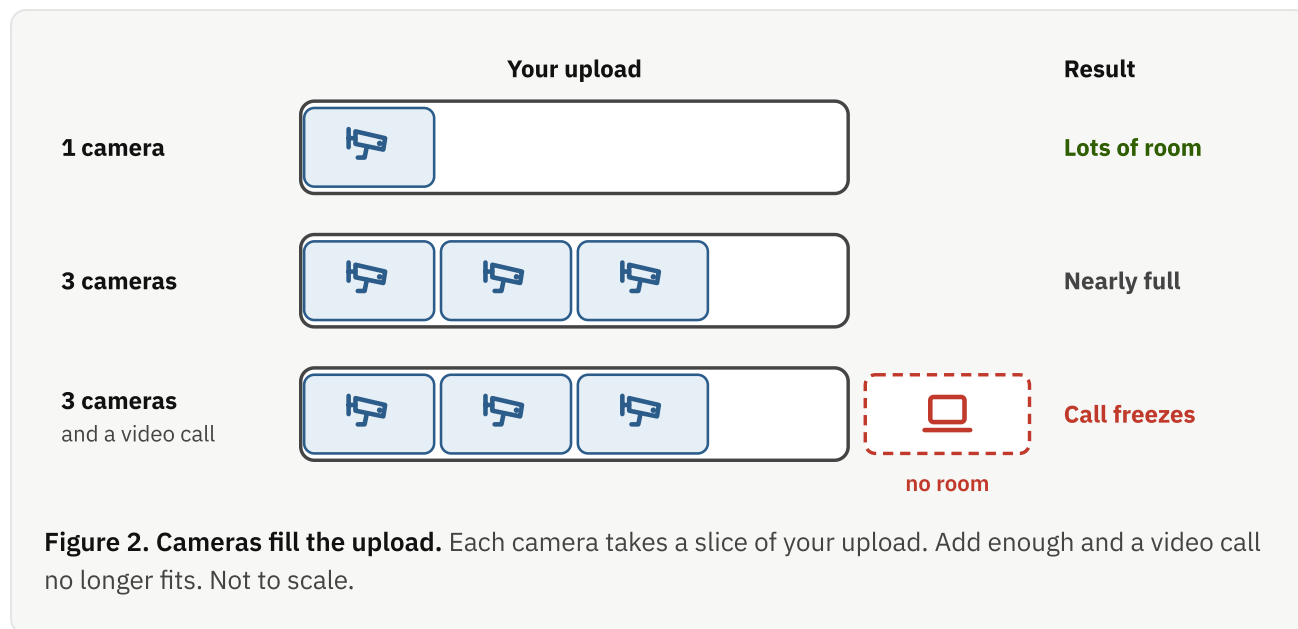
Figure 1. Two directions. A camera's video leaves your home on the upload side. The big download number on your bill says little about it.

Internet plans are sold by their download number. A camera lives on the upload side, and upload is usually much smaller.

Some cameras send all the time. Others send only when something moves. Your camera's help page says which kind you have.

How many cameras your line can carry

Cameras add up. Each one takes a slice of your upload.



One maker's help page says its best-quality camera sends about 3 megabits a second. A typical home upload is only a few times that.

When the upload fills, a video call freezes or a clip arrives late. Some cameras quietly switch to blurrier video instead.

Find your own upload number

Open the free WLAN Pros Toolbox, tap Network Quality, and read the upload row. Leave room for everything else you send.

Signal at the door

Your router usually sits at the back of the house. Your doorbell sits outside the front wall.

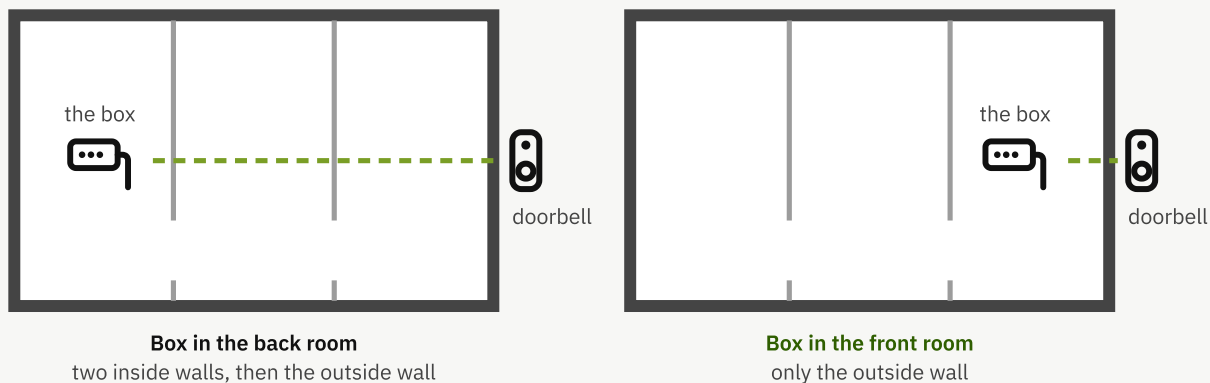


Figure 3. Same house, same doorbell. The dashed line is the Wi-Fi path. Moving the box, or adding a unit near the front, takes walls out of the way.

The outside wall is the hardest one for Wi-Fi to cross. Brick, stone and stucco take a lot of the signal. Metal siding is worse.

A camera with one bar sends slowly. It keeps the Wi-Fi busy for everyone else too. Check its signal in the camera's app, with the door shut.

Fixes, gentlest first

- 1 Move the box toward the front of the house, up off the floor.
- 2 Add a mesh unit or access point inside, near the front wall.
- 3 Run a cable to the camera, or to an access point near the door.

Which Wi-Fi lane?

Home Wi-Fi runs in separate lanes, called 2.4 GHz and 5 GHz.

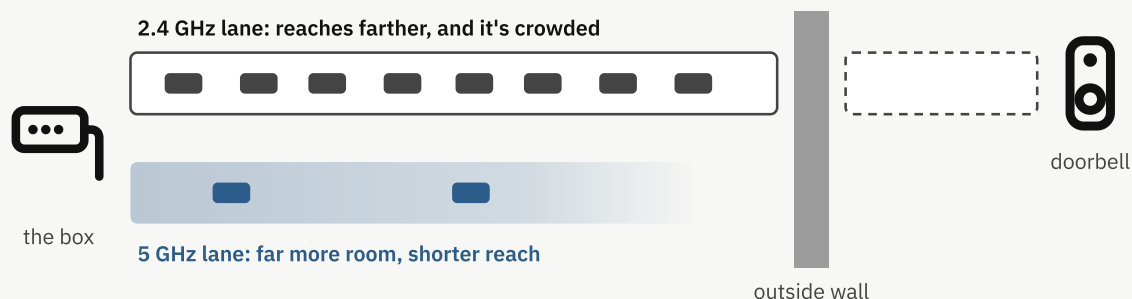


Figure 4. Two lanes to the door. The 2.4 GHz lane reaches farther through walls but is busier. The 5 GHz lane carries more but gives up sooner.

FROM KEITH'S BOOK

"The old outer lane is named 2.4. It reaches farther than the others, and it is also the most crowded road in the neighborhood, because every old gadget in every house nearby is crammed into it alongside yours. The middle lane is named 5. It does not reach quite as far, but there is far more room in it, and that room is what you actually feel as speed."

Keith Parsons, *Fix Your Own Wi-Fi*, chapter 3

Some cameras only use 2.4 GHz. If yours can use either and hangs far from the box, 2.4 GHz often holds better. Close by, 5 GHz gives it more room.

Wired cameras and doorbells

"Wired" can mean two different things on a camera box.

- ☐ **Wired for power.** A plug-in camera, or a doorbell on your old doorbell wires. Its video still goes out by Wi-Fi.
- ☐ **Wired for video.** An Ethernet camera. One network cable can carry both power and video, so there's no radio link at all. Most routers can't send power down the cable, so it may need a small power box.

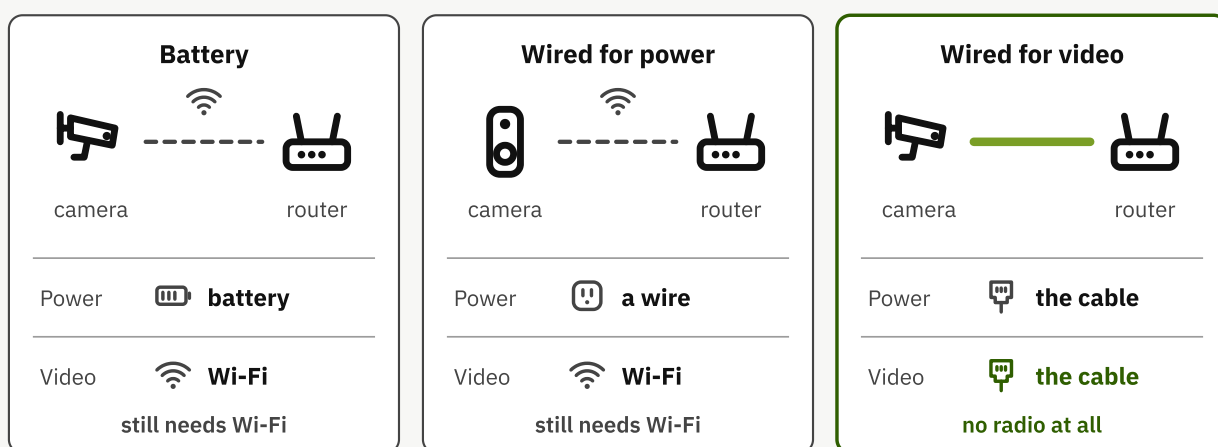


Figure 5. What the wire carries. Only the one on a network cable sends its video without Wi-Fi. The other two still need a good Wi-Fi signal.

A battery camera is the easiest to mount anywhere. It needs charging, and weak Wi-Fi drains it faster.

Why the cable wins, where you can run one

A cable has no walls to cross and no neighbors in the same lane. An Ethernet camera works the same on the busiest evening as it does in the middle of the night. It's the best choice for the camera that watches your door.

Can't run a cable to the camera? A cable to an access point just inside the front wall does most of the same good.

RECORDING

Where the video goes

Every camera saves its video somewhere: in the cloud, or in your home.

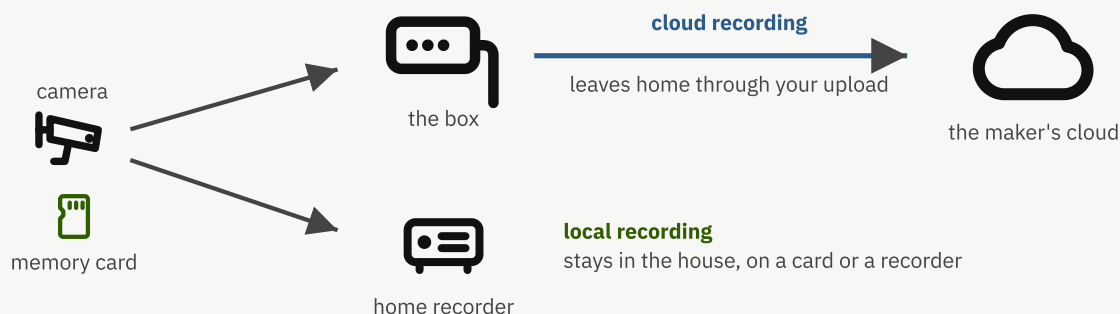


Figure 6. Two places to keep video. Many cameras can do both.

Cloud

A thief who takes the camera doesn't take the video already saved. It uses your upload, often needs a monthly plan, and stops saving if the internet drops.

In your home

A memory card or a home recorder keeps saving when the internet is down. But a card inside the camera leaves with the camera.

Baby monitors

A baby monitor is a camera with one job and one viewer. There are two kinds.

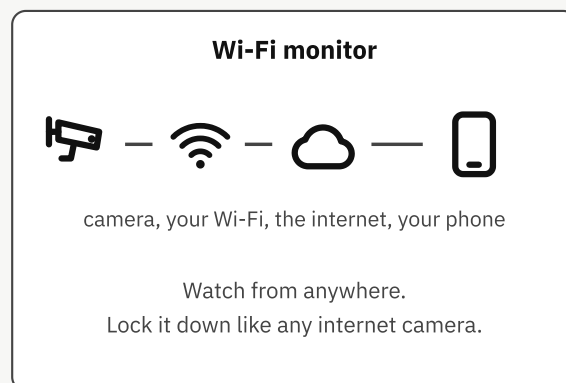
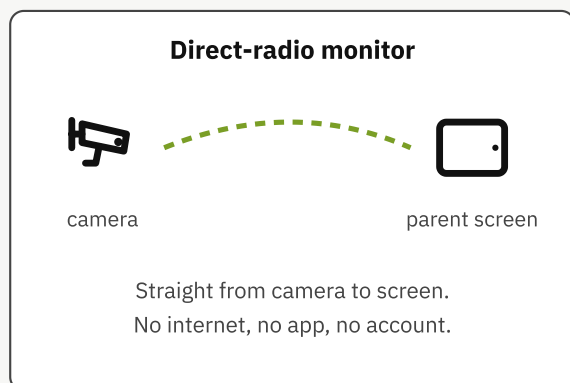


Figure 7. Two kinds of baby monitor. One talks straight to its own screen. The other goes through your Wi-Fi and the internet to your phone.

If you only need to watch from inside the house, a direct-radio monitor keeps the nursery off the internet. If you want to check in from work, a Wi-Fi monitor needs the same care as a front-door camera.

STOP

Keep the monitor and its cord out of reach

Baby monitor cords have strangled children. Keep the monitor and its cord at least 1 m (3 feet) from any part of the crib. Never put a monitor in the crib or on its edge.

Keep strangers out

A camera on the internet needs a lock. Four habits do most of the work.

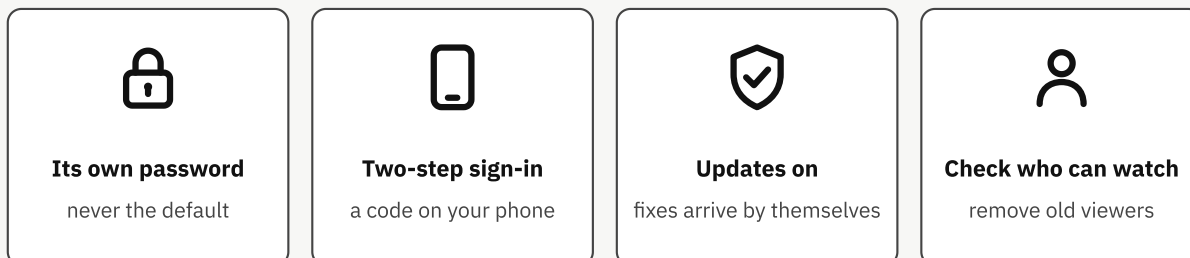


Figure 8. Four ways to lock a camera down. Do all four, starting with the password.

- 1 Give it its own password.** Never keep the one it came with, and don't reuse one from another account.
- 2 Turn on two-step sign-in.** A code on your phone stops someone who guesses the password.
- 3 Keep it updated.** Turn on automatic updates in the camera's app.
- 4 Check who can watch.** Remove anyone who no longer needs to see your cameras.

When the Wi-Fi is cut on purpose

A jammer is a gadget that drowns out radio signals nearby. Police have warned about burglars using them to cut wireless cameras off.



Wireless, cloud recording only

While the link is down, nothing is saved.



Wireless, with a memory card

If it's set to record to its card, it keeps recording.



Wired, over Ethernet

No radio link to interrupt, while it has power.

Figure 9. When the radio link drops. The red X is any break in the Wi-Fi hop: a jammer, a box that's switched off, or plain weak signal.

Three defenses, strongest first

- 1 **Wire the cameras that matter.** A cable has no radio link to drown out.
- 2 **Record on a memory card too.** The camera keeps saving while its Wi-Fi is down.
- 3 **Turn on offline alerts.** The app can tell you when a camera goes quiet.

CAUTION

Jammers are illegal in the US

Using, selling or importing one is against the law, with fines and even prison. Ordering one online from overseas counts as importing. Don't buy one to test your own cameras.

Five things people get wrong

Each myth is followed by what's true.

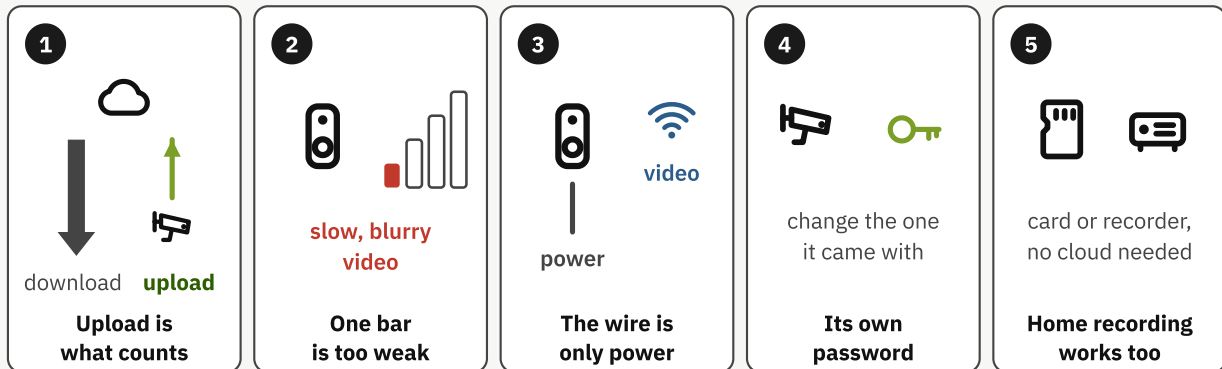


Figure 10. What's true, in pictures. Each numbered panel goes with the myth of the same number below.

MYTH A fast internet plan covers my cameras.

FACT Cameras send. The upload number is the one that counts, and it's usually much smaller.

MYTH One bar at the front door is fine.

FACT A camera that barely hears the box sends slowly, may blur its own video, and slows the Wi-Fi for everyone.

MYTH A "wired" doorbell sends its video over the wire.

FACT In most homes the wire only powers it. The video still goes out by Wi-Fi.

MYTH The default password is fine on my own network.

FACT Change it. The first rule for any camera is its own password.

MYTH Cloud recording is the only option.

FACT Memory cards and home recorders keep video in your house.

Do this now

Half an hour, one camera at a time. Start with the one at your door.

Check the upload

- 1 Look up each camera's upload on its maker's help page, and add them up.
- 2 In the free WLAN Pros Toolbox, tap Network Quality and read the upload row. Compare.

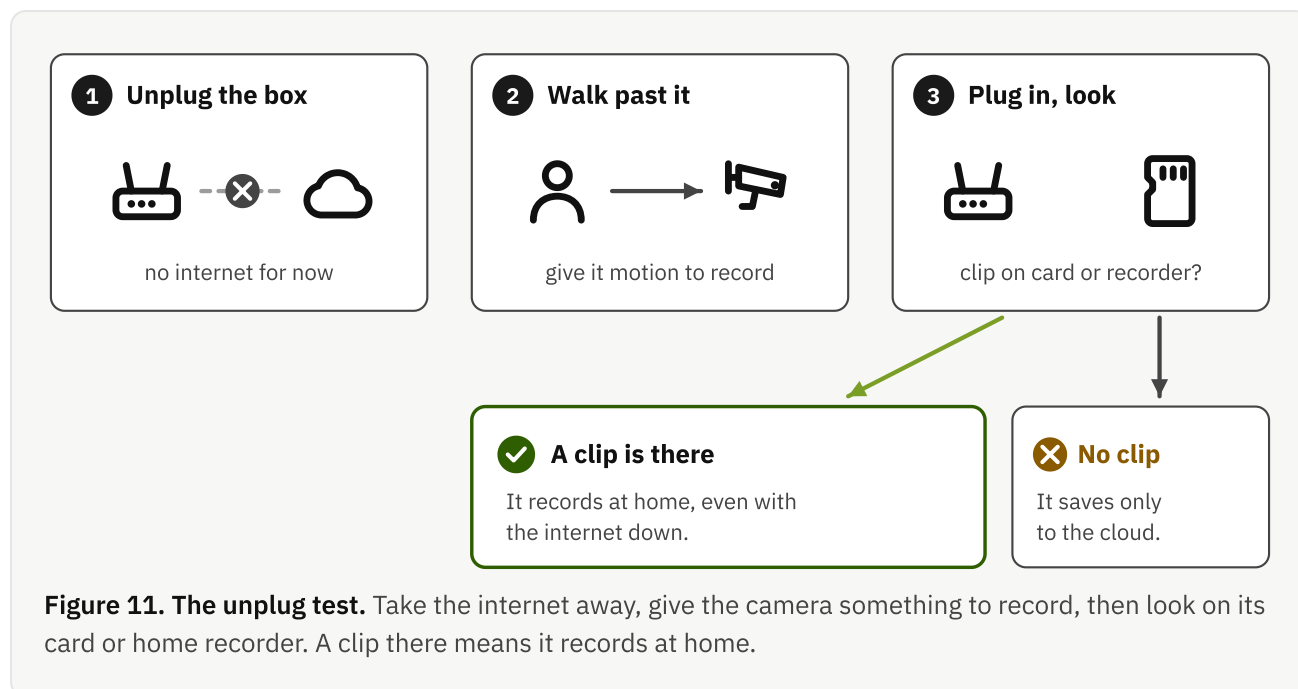
Check the signal where it hangs

- 1 Open the camera's app and find its signal reading, with the door shut.
- 2 If it's weak, work through the fixes on page 5.

Lock it down

- 1 Its own password, two-step sign-in and automatic updates on every camera.
- 2 Baby monitor and cord at least 1 m (3 feet) from the crib.

Do this now, continued



Test recording without the internet

- 1** When nobody needs the internet, unplug the internet line from the box for five minutes, and walk past the camera.
- 2** Plug it back in. If the clip isn't on the memory card or your home recorder, the camera saves only to the cloud.

SOURCES

Where this comes from

Checked in September 2026. Rules, plans and products change, so check the ones you rely on.

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- FTC Consumer Advice, "How To Secure Your Home Security Cameras," February 2023: consumer.ftc.gov/articles/how-secure-your-home-security-cameras
- FTC Consumer Advice, "Securing Your Internet-Connected Devices at Home," August 2022: consumer.ftc.gov/articles/securing-your-internet-connected-devices-home
- Google Nest Help, "Learn about internet bandwidth & speed requirements for Nest cameras": support.google.com/googlenest/answer/9245832
- US Consumer Product Safety Commission, OnSafety, "Baby Monitor Cords: 3 Feet from Baby," 11 July 2012: onsafety.cpsc.gov
- Police warnings, as reported: PCWorld, "Burglars are jamming Wi-Fi security cameras," 12 November 2024 (LAPD Wilshire Division, 2024); NBC Los Angeles, 17 March 2025 (LAPD Chief Jim McDonnell)
- Keith Parsons, *Fix Your Own Wi-Fi* (WLAN Pros, in preparation, 2026), chapter 3

About this guide

Written for people who aren't technical and want their cameras to work when it matters. The figures come from one maker's help page because it publishes per-camera upload numbers; they're one maker's numbers, not a rating, and no maker had a part in this guide. The guide is independent and isn't affiliated with any camera maker, provider or carrier.

About the author

Keith Parsons, CWNE #3, has designed, installed and troubleshooted Wi-Fi for over 25 years. He runs Wireless LAN Professionals and the WLPC conferences.