



Smartphone Thermal Cameras for Finding Drafts

Turn cold air you can feel into blue streaks you can finally see

————— An Extended Guide · No. 902 · NO. W2-03 —————

Tech Made Simple. Service Made Personal.

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WELCOME

1.! Read this first — it sees heat, not through walls

A thermal camera shows you how warm or cold a surface is, painted in colors. It does NOT see through walls, spy on neighbors, or read anything private — it just reveals where your warm house is leaking heat out into an Ohio January. Used for that, it's a genuinely useful little gadget. That's all it does, and all we'll use it for. Find the drafts you can feel but can't see. A small camera that plugs into your phone turns cold drafts into bright blue streaks you can actually point at — around windows, doors, outlets, and up in the attic. I'm Bill, from Bill's Home Tech here in Portage County, Ohio, where a drafty house in winter is a local sport. For years, finding leaks meant a wet hand and a guess. Now a \$150-to-\$400 gadget that clips onto your phone shows them plainly, and it's become one of my favorite seasonal tools. This guide explains what these cameras are, which kind fits your phone, how to read the colorful picture, and exactly how to hunt for drafts so you can seal them before the cold bills arrive. No engineering degree required. Want me to bring mine and scan your house? You don't have to buy one to benefit. I can bring a thermal camera, walk your home, and show you where the heat's escaping. Call or text me at (330) 200-8042.

THE SHORT VERSION

2. The short version

If you just want the gist before the details.

- A thermal camera clips onto your phone and shows surface temperature in color.
- Buy the version made for YOUR phone — Apple or Android, matching the charging port.
- Scan on a cold day (or hot) when inside and outside differ a lot.
- Cold-blue streaks around windows, doors, and outlets are your drafts.
- Seal what you find with caulk, weatherstripping, and outlet gaskets.
- You can rent, borrow, or have someone scan for you instead of buying.
- The bigger the temperature gap, the clearer the picture. These cameras shine when it's genuinely cold or hot out. A mild 60-degree day shows almost nothing; a 20-degree morning lights up every leak.

WHAT IT IS

3. What a thermal camera actually shows

Heat, turned into colors you can see.

Everything gives off heat, and a thermal camera reads that heat and paints it as color — typically warm things in reds and yellows, cold things in blues and purples. Point it at an inside wall in winter and a warm room glows; a cold draft sneaking under a door shows up as a blue finger creeping across the floor. It is not an X-ray. It cannot see through a wall or a door; it only reads the surface facing it. But that's exactly what you want for drafts: the cold air leaking in chills the surface around a gap, and the camera makes that cold patch obvious. Think "surface thermometer that takes pictures" That's the honest description. It tells you how warm or cold each spot on a surface is, all at once, in a photo. Nothing spookier than that.

THE TWO KINDS

4. Phone add-on vs. standalone camera

For home drafts, the little phone clip-on is plenty.

Thermal cameras come two ways. The affordable, popular kind is a small module that plugs into your phone's charging port and uses your phone's screen and storage — brands like FLIR One, Topdon, and Seek make these, roughly \$150 to \$400. The other kind is a standalone handheld unit with its own screen, which costs more and is aimed at tradespeople. For finding household drafts, the phone add-on is the sweet spot: cheaper, pocket-sized, and it saves the images right to your phone so you can show a contractor or compare before-and-after. Unless you're doing this professionally, you don't need the expensive standalone.

WATCH OUT

Resolution matters, but don't overthink it Cheaper cameras have a coarser heat image than pricey ones. For spotting drafts and missing insulation, even an entry-level model is plenty — you're looking for obvious cold patches, not fine detail.

MATCH YOUR PHONE

5. Buy the one that fits your phone

The single most important thing to get right.

These cameras plug into the phone's port, and that port differs. Newer iPhones and most recent Android phones use USB-C; older iPhones use the Lightning connector. Makers sell different versions for each — buy the one that matches your exact phone, or it simply won't connect. You'll also install the camera maker's free app, which turns the heat data into the colorful picture and saves your images. Check that the app supports your phone's operating system before you buy. If you're unsure which port or system you have, that's a two-minute thing to confirm or ask about. Write down your phone's exact model first. Before ordering, note your phone's model and whether it has USB-C or Lightning. Matching that is the difference between a useful tool and a return trip to the store.

WHEN TO SCAN

6. Pick the right day to scan

Thermal cameras need a temperature difference to work.

The camera reveals leaks by showing where a surface is colder (or warmer) than it should be. That only shows up when inside and outside temperatures differ a lot. Here in Ohio, a cold winter morning is perfect: crank the heat, step through the house, and the drafts glow cold. A hot, sunny summer afternoon works the same way in reverse. A good trick: before a winter scan, run your furnace for a while and maybe close up the house, so the contrast between your warm rooms and the cold leaks is at its sharpest. The bigger the gap, the more obvious every problem becomes. No big temperature gap, no useful picture. Don't try to scan on a mild spring day and conclude you have no drafts — you just picked a day the camera can't show them. Wait for real cold or real heat.

READING THE PICTURE

7. How to read the colorful picture

Blue is cold, red is warm — mostly.

Most apps default to a palette where cold is blue or purple and warm is red, orange, or white, with a little scale on the screen showing the actual temperatures. In winter, hunt for the cold colors indoors: a blue halo around a window, a cold stripe under a door, a chilly rectangle where an outlet sits on an outside wall. Those are your leaks. Move slowly and let the image settle. You're looking for patterns that don't belong — a cold patch in the middle of a warm wall often means missing or settled insulation behind it. Save a photo of anything suspicious so you can find it again when you've got the caulk gun out. Compare, don't chase exact numbers. You don't need to trust the precise temperature readings. What matters is the contrast — which spots are notably colder than the wall around them. That relative difference is what points to a leak.

WHERE TO HUNT

8. The usual suspects to scan

A route through the house that catches most leaks.

- Windows and doors: around the frames, the sashes, and the thresholds — the most common offenders.
- Electrical outlets and switches on exterior walls — cold air pours through the gaps behind them.
- Attic hatch and recessed lights — warm air escaping up, cold air dropping down.
- Where walls meet ceilings and floors, and around baseboards.
- Plumbing and cable entries, dryer vents, and where pipes pass through outside walls.
- Whole wall sections — a large cold area can mean missing insulation.
- Start where you feel the draft. If a room always feels chilly, scan it first. The camera usually confirms your instinct and shows you precisely where the cold is getting in.

FIXING WHAT YOU FIND

9. Sealing up what the camera reveals

Most fixes are cheap, simple, and do-it-yourself.

The beauty of a draft hunt is that the fixes are usually small and inexpensive. Gaps around window and door frames take a bead of caulk; moving parts get weatherstripping; drafty outlets on outside walls take foam gasket inserts that cost pennies. A door sweep handles the cold stripe under an exterior door. Bigger findings — a whole wall or ceiling reading cold — point to missing or settled insulation, which is a job for an insulation contractor rather than a caulk gun. The camera's value there is proof: you can show the contractor exactly where the problem is, and scan again afterward to confirm the fix worked. Not sure what's a DIY fix and what isn't? I can scan with you and sort the ten-minute caulk-and-foam fixes from the things worth calling an insulation pro for — and I won't push you toward work you don't need. Call (330) 200-8042.

BUYING ONE OR BORROWING ONE

10. Two ways people come to this — and both are fine

Some folks love a gadget and want their own; others just want the drafts found once. Both are sensible. If you want your own camera You'll use it across seasons and like having before-and-after proof.

- Buy the version that matches your phone's port and operating system.
- An entry-level model is plenty for drafts — don't overspend on resolution.
- Save your scans so you can compare after you seal things up. If you'd rather not buy one You want the leaks found without owning another gadget.
- Many public libraries and tool-lending libraries rent thermal cameras — ask yours.
- A home-energy audit (sometimes offered through your utility) includes a professional scan.
- Or have someone like me bring one and walk the house with you once. Buy, borrow, or let me bring mine There's no wrong path here. If you just want the drafts found and a short list of fixes, I'm glad to bring the camera to you. Call (330) 200-8042.

WHAT IT CAN'T DO

11. Honest limits — what it won't do

Knowing the boundaries keeps your expectations right.

A thermal camera can't see through walls, can't detect gas leaks, and can't read anything inside a closed box or pipe — it only shows surface temperature. It won't magically find every problem, and on a mild day it shows almost nothing. It's a draft-and-insulation finder, not a do-everything inspector. It's also not a medical or security device. The marketing on some cheap models oversells them; for home drafts, ignore the fancier claims and use it for the one job it does well — showing you where warm meets cold on the surfaces of your home.

WATCH OUT

Beware the "sees through walls" sales pitch Any listing claiming a thermal camera sees through walls is wrong or dishonest. It reads surfaces only. Buy from a known brand and judge it on that honest job.

BEYOND DRAFTS

12. Other handy jobs around the house

Once you have one, it earns its keep in small ways.

- Finding a radiant-floor loop or a warm water line under tile.
- Spotting an overheating outlet or breaker — a hot spot can signal a wiring problem worth an electrician's look.
- Checking for a water leak — damp spots often read cooler than dry surroundings.
- Seeing which freezer or fridge seal is failing by the cold leaking out.
- Confirming your furnace vents are actually pushing warm air.
- A hot electrical spot is a call-a-pro moment If an outlet, switch, or breaker panel shows up unusually hot, don't poke at it — that can mean a loose or overloaded connection. Note it and have an electrician check it.

USING THE APP

13. Getting the app working

A few settings make the picture far more useful.

After you plug the camera in, open its app and give it a moment to connect. Two settings are worth knowing: the color palette (try the default "iron" or a plain blue-to-red scale for drafts) and the temperature range, which some apps set automatically. Letting it auto-range usually gives the clearest contrast indoors. Tap to save photos of anything interesting; the app stores them in your phone's pictures so you can email them to a contractor or keep them for a before-and-after. Some apps also blend the heat image with a normal photo, which makes it much easier to tell exactly which window or outlet you're looking at. The blended view is the clearest. If your app offers a mode that mixes the heat colors over a regular photo, use it — it's far easier to point at "that outlet" when you can see the outlet and the cold patch together.

COMMON MISTAKES

14. Common mistakes

Avoid these and your scan will actually tell you something.

- Scanning on a mild day and deciding you have no drafts — you just had no temperature gap.
- Buying the wrong connector for your phone so it won't plug in.
- Chasing exact temperatures instead of looking at contrast between spots.
- Expecting it to see through walls — it reads surfaces only.
- Not saving the images, so you can't find the spots again or prove the fix.
- Let the camera acclimate. Bring the camera to room temperature before scanning and give it a minute after plugging in. A camera that's just come in from the cold car will read oddly until it settles.

IS IT WORTH IT

15. Is it worth the money?

It depends on how drafty — and how curious — you are.

A phone thermal camera runs roughly \$150 to \$400. If your house is genuinely drafty and your heating bills sting, the sealing it leads you to can pay that back over a winter or two — and you keep the camera. If you just want the leaks found once, borrowing or a one-time scan makes more sense than buying. Prices and models change often, so treat those numbers as a ballpark and check current pricing. Whatever you pay, remember the camera doesn't save you money by itself — it only shows you where to act. The savings come from the caulk and weatherstripping you actually apply. The gadget finds it; you fix it. A thermal camera is a flashlight, not a repair. Budget a little for the cheap sealing supplies too — that's where the comfort and the savings actually come from.

HELPING A RELATIVE

16. Scanning a parent's home

A warm, cheaper winter is a lovely thing to give.

An older parent in a drafty house often just turns the heat up and pays for it. A thermal scan on a cold afternoon can find the leaks for them, and many of the fixes — outlet gaskets, a door sweep, a bead of caulk — are quick things you can do on the same visit. It's a practical, caring afternoon. Save the images so you can show them what you found and what you sealed, and note anything bigger — a cold whole wall — that might warrant a call to an insulation contractor or an inquiry about a utility energy audit. A warmer, cheaper-to-heat home is a real gift. I'll bring the camera to them. If your folks are here in Portage County, I'll scan their home, do the easy sealing on the spot, and flag anything bigger — plainly and without upselling. Call (330) 200-8042.

THE BIGGER PICTURE

17. How it fits a whole-home energy plan

Draft-sealing is step one of a comfier, cheaper house.

Finding and sealing air leaks is usually the cheapest, highest-payback thing you can do for comfort and heating costs — it's where the pros start too. A thermal camera makes that first step visible and satisfying. Once the obvious leaks are sealed, the next levers are insulation levels and the efficiency of the furnace itself. Your utility may offer a home-energy audit, sometimes free or discounted, that includes a professional thermal scan and a report of recommended fixes. The phone camera is a great way to start the hunt yourself and decide whether a full audit is worth booking. Seal first, then insulate. There's little point adding insulation over big air leaks. Seal the drafts the camera shows you first; it makes everything you do afterward work better.

BUYING SMART

18. Where to buy, and what to skip

Stick to known brands from real stores.

Buy a thermal camera from an established brand — FLIR, Topdon, Seek and a few others are the names that come up — through the maker's site or a reputable retailer. Their apps are maintained and their support is real. Watch out for ultra-cheap no-name modules on marketplace sites; the hardware may be flimsy and the app abandoned. Match the connector to your phone, check the app supports your system, and don't pay for professional-grade resolution you don't need. An entry-level model from a known brand is the right buy for almost every homeowner.

WATCH OUT

A maintained app matters as much as the camera. These cameras are useless without their app. A no-name model whose app has been dropped from the store becomes a paperweight. Buy a brand that keeps its app current.

CHECKLIST

19. Your draft-hunt checklist

Run down this list for a scan that actually finds things.

- Camera matches your phone's port and operating system.
- Scan on a cold (or hot) day with a big inside/outside gap.
- Furnace run first so rooms are nicely warm for contrast.
- Walk windows, doors, outlets, attic hatch, and wall/ceiling joints.
- Save a photo of every cold spot you find.
- Seal the easy ones: caulk, weatherstripping, outlet gaskets, door sweep.
- Flag big cold areas for an insulation pro; re-scan to confirm fixes.
- Before and after is the satisfying part Scan a problem spot, seal it, and scan again.
Watching the cold blue vanish is oddly delightful — and proof your afternoon paid off.

COMMON QUESTIONS

20. Common Questions

The questions I hear most about these little cameras.

Q: Can a thermal camera see through walls? No. It reads surface temperature only. It's great at showing a cold patch where a draft chills the wall, but it can't see what's behind the surface. Q: Which one should I buy? An entry-level model from a known brand (FLIR, Topdon, Seek and others) that matches your phone's port and supports your operating system. You don't need professional resolution for finding drafts. Q: When is the best time to scan for drafts? On a day with a big temperature difference inside versus out — a cold Ohio winter morning is ideal. On a mild day the camera shows almost nothing, which doesn't mean you have no drafts. Q: Do I have to buy one? No. Some libraries and tool-lending programs rent them, a utility energy audit includes a professional scan, or someone like me can bring one and scan your home once. Q: What do I do with what I find? Seal the easy leaks yourself with caulk, weatherstripping, and outlet gaskets. For a whole cold wall — likely missing insulation — get a contractor, and use the images as proof of where to work. Want the drafts found without the shopping? I'll bring a camera, scan your home, and leave you a short list of fixes. Call or text (330) 200-8042.

QUICK RECAP

21. The quick recap

The whole guide in one glance.

- A thermal camera shows surface heat in color — blue is cold, red is warm.
- It does NOT see through walls; it finds drafts and cold spots.
- Buy the version that fits your phone's port and app.
- Scan on a day with a big inside/outside temperature gap.
- Hunt windows, doors, outlets, attic, and wall joints for cold streaks.
- Seal the easy leaks cheaply; call a pro for big cold areas.
- You can borrow or have someone scan instead of buying.
- See the cold, then stop it The gadget's job is to make the invisible visible. The warmth and the savings come from the sealing you do once you can finally see where to aim.

22. Shiny Surfaces Can Fool the Camera

Why a reading sometimes looks wrong, and the simple cure.

A thermal camera reads the heat glowing off a surface, but not every surface reports its temperature honestly. Dull, flat materials - painted drywall, wood, fabric, brick - give you an accurate picture. Shiny and polished ones - bare metal, glass, mirrors, a glossy appliance, kitchen foil - act like a mirror for heat. They bounce back the warmth of whatever is in front of them, including you. Point the camera at a stainless refrigerator and you may be looking at your own warm reflection instead of the fridge. This is the most common reason a reading seems strange. For draft hunting it rarely trips you up, because you are mostly scanning painted walls, window frames, and trim, which all read true. But when you aim at something metal or glass and the numbers look odd, suspect a reflection before you believe the image.

- Honest readings: painted walls, wood trim, drywall, brick, and fabric
- Tricky readings: bare metal, glass, mirrors, and glossy appliances
- A shiny spot often shows a reflection of you or the room, not itself
- A piece of matte painter's tape stuck on the spot reads true
- For drafts you mostly scan honest surfaces, so this seldom matters

WATCH OUT

If a metal or glass surface shows a surprising temperature, do not trust it - you are probably seeing a reflection. Step to one side, or read a strip of matte tape pressed onto the spot instead.

23. Scanning in Summer for Cooling Leaks

The same gadget finds where your cool air escapes.

Most folks think of a thermal camera as a winter tool, but it works just as well in the heat of an Ohio July. In summer the job simply flips. Instead of hunting cold streaks sneaking in, you are looking for warm spots where the hot outdoor air is pushing into your cooled rooms - and where your paid-for cool air is leaking out. On a hot, sunny afternoon, with the air conditioning running a while, run the camera around the same places you would check in winter. Gaps around windows and doors, outlets on outside walls, the attic hatch, and recessed lights will show up as warm patches against your cooler walls. A ceiling that reads hot usually means heat pouring down from a baking attic through thin insulation.

- Run the air conditioning a while first, so indoor and outdoor differ
- Scan in the afternoon when the sun has heated the outside
- Warm patches now mark the same leaks you would seal in winter
- A hot ceiling points to attic heat and thin insulation above
- Sealing helps your cooling bill just as it helps your heating bill

GOOD TO KNOW

A leak is a leak in both seasons. The same gap that lets cold in during January lets your cool air out in July, so sealing it pays you back twice a year.

24. Spotting Leaky Ducts and Registers

Your heated air can escape before it ever reaches the room.

If your home has forced-air heating or cooling, the ductwork carrying that air is worth a look. Ducts run through attics, basements, and crawl spaces, and over the years their joints can loosen and leak. Air you paid to heat escapes into spaces you do not live in. With the system running, point the camera at the metal ducts in the basement or attic. A warm ribbon of air escaping from a seam or a loose connection often shows up plainly against the cooler surroundings. At the registers inside your rooms, you can check that warm air is actually flowing out, and scan the floor or wall around each register for leaks sneaking past the boot where the duct meets the room.

- Scan accessible ducts in the basement, attic, or crawl space
- Look for warm streaks at joints and connections while the system runs
- Check that each room register is pushing out warm air

- Leaks around a register boot show as odd warm or cool patches
- Duct leaks waste energy before the air ever reaches you

TIP

Loose duct joints are often fixed with foil-backed tape or mastic made for ducts - not ordinary cloth duct tape, which dries out and falls off. For big or hard-to-reach leaks, note them for a heating pro.

25. An Early Warning for Freezing Pipes

Cold spots in a winter wall can flag a pipe at risk.

In a hard Ohio cold snap, water pipes running through outside walls or unheated spaces can freeze and burst - an expensive, messy surprise. A thermal camera can give you a quiet heads-up. On a bitter day, scan the inside walls where you know plumbing runs, such as under a kitchen sink on an exterior wall or in a bathroom over an unheated garage. An unusually cold stripe or patch where a pipe sits means cold air is reaching it, and that is exactly where a freeze is most likely. Finding it early lets you act: open the cabinet doors to let warm room air reach the pipe, let a faucet drip in the worst cold, or add pipe insulation in that spot.

- Scan interior walls where plumbing runs on cold days
- A cold patch over a pipe means cold air is reaching it
- Open cabinet doors so warm room air can reach the pipe
- Letting a faucet trickle in deep cold helps prevent a freeze
- Pipe insulation sleeves are cheap insurance for a chilly spot

WATCH OUT

The camera shows surface temperature, not whether a pipe is already frozen inside the wall. Treat a very cold reading as a warning to warm that area, not as a diagnosis. A burst or frozen pipe is a plumber's job.

26. Reflections and False Hot Spots

Not every bright or dark patch is really there.

Beyond shiny surfaces, a few other things can paint a picture that is not quite true, and knowing them keeps you from chasing ghosts. Sunlight warms a surface it has been shining on, so a windowsill that has had afternoon sun will read warm for a while even after the sun moves. A spot where you just rested your hand holds your body heat for a minute. A glass window can reflect the warmth of a radiator across the room. None of these are leaks - they are temporary marks that fade. The cure is patience and a second look. If a warm or cold spot seems out of place, come back to it a few minutes later from a slightly different angle. A true draft stays put and keeps its shape; a reflection or a sun-warmed patch shifts or fades.

- Afternoon sun leaves a surface warm after it has moved on
- Your own handprint warms a spot for a minute or two
- Glass can reflect the heat of a radiator or a person
- A real leak holds steady; a false reading drifts or fades
- Scan the same spot again from a new angle to be sure

TIP

Scan a room before strong afternoon sun has baked one wall, or on an overcast day, for the cleanest picture. Even light across the house means fewer sun-warmed spots to confuse you.

27. Getting the Distance and Focus Right

A few steps back often gives a clearer picture than leaning in.

These little cameras see a wide view, and like any camera they have a sweet spot for distance. Jam the camera right up against a wall and you get a blurry, confusing smear. Stand too far back and a small gap gets lost in the whole wall. A comfortable arm's length to a few feet away usually frames a window or a doorway nicely, showing the leak and enough of the surroundings to tell what you are looking at. Hold the phone steady, let the image settle for a second or two, and move slowly - sweeping too fast blurs everything. Some cameras have a focus adjustment; most set themselves. If your app shows a blended view, mixing the heat colors over a normal photo, that distance also matters for lining the two pictures up.

- Stand an arm's length to a few feet from what you are scanning

- Too close gives a blurry smear; too far loses small gaps
- Hold steady and let the picture settle before you judge it
- Move the camera slowly - fast sweeps blur the image
- Frame enough surroundings to tell what you are looking at

TIP

If you cannot tell which window or outlet a cold spot belongs to, back up a step to catch more of the room in frame, or switch on the blended view so the ordinary photo shows alongside the heat.

28. Keeping a Room-by-Room Draft Log

A short list turns a scan into a plan you can work through.

A thermal scan can turn up a dozen little leaks, and it is easy to forget half of them by the time you fetch the caulk gun. A simple log fixes that. As you walk the house, save a photo of each cold spot - most apps drop them straight into your phone's pictures - and jot a quick note of where it was and what you think it needs. Going room by room keeps you organized and makes sure you do not skip a corner. Later, you have a tidy to-do list: this window needs caulk, that outlet needs a gasket, the back door wants a sweep. You can tackle the easy ones yourself and hand the photos of bigger problems to a contractor as proof of exactly where to work.

- Save a photo of every cold spot as you find it
- Note the room and the likely fix beside each one
- Walk room by room so you do not miss a corner
- Your notes become a simple, satisfying to-do list
- Photos of big problems show a contractor exactly where to work

GOOD TO KNOW

The before-and-after photos are the best part. Scan a spot, seal it, and scan again - watching the cold blue disappear is proof your afternoon was worth it, and a record you can keep.

29. Scanning the House From Outside

A walk around the yard shows leaks from the other side.

Most of your hunting happens indoors, but a scan from outside on a cold evening adds a second point of view. From the yard, your heated house glows against the cold night, and the places where heat is pouring out light up warm - around windows and doors, along the roofline, where walls meet the foundation. A warm band under the eaves or along the roof can hint at heat escaping through the attic. An outside scan will not show you the exact gap the way an indoor scan does, but it is good for spotting the general trouble areas and for seeing the whole house at once. Do it after dark in winter, when the sun is not warming the siding and the contrast between your warm home and the cold air is at its sharpest.

- Scan after dark in winter for the sharpest contrast
- Warm spots outside are heat escaping from inside
- Check around windows, doors, the roofline, and the foundation
- A warm roof edge can mean attic heat getting out
- Use it to find trouble areas, then confirm them from inside

WATCH OUT

Siding that caught afternoon sun will still read warm for hours, giving false warm spots. Wait until well after sunset, and keep clear of ladders and dark footing - safety first in the yard.

30. Basements, Garages, and Crawl Spaces

The forgotten corners where a lot of heat slips away.

We tend to scan the rooms we live in and forget the in-between spaces, yet basements, attached garages, and crawl spaces are where plenty of heat escapes. The rim joist - the band of framing where the basement wall meets the floor above - is a classic leaker, and it often shows a cold stripe all the way around on a winter scan. The wall shared with an unheated garage, the garage's own door and ceiling, and the hatch or vents into a crawl space all deserve a look. These spaces are usually unfinished, so the leaks are often easy to reach and seal with caulk, foam, or insulation once the camera points them out.

- Scan the rim joist where the basement meets the floor above
- Check the wall between the house and an attached garage
- Look at the garage ceiling and the door to the house
- Crawl space hatches and vents often leak badly
- Unfinished spaces make the leaks easy to reach and seal

TIP

The rim joist is one of the highest-payback spots in the whole house to seal, and it is usually wide open in an unfinished basement. If the camera lights it up cold, that is an afternoon well spent.

31. Weather That Helps or Hurts Your Scan

More than temperature shapes what the camera sees.

You already know a big temperature gap makes leaks show up. A few other weather conditions quietly help or hurt your results. Wind is a friend to the hunt: a blustery cold day drives drafts harder through every gap, making them easier to catch. Bright sun is a mixed blessing - it warms surfaces unevenly and can leave false warm patches, so an overcast cold day often gives a cleaner read. Rain and damp cool surfaces as the water evaporates, which can muddy the picture, so wait for a dry spell. The ideal draft-hunting day is cold, dry, overcast, and a little windy - common enough in an Ohio winter if you watch for it.

- Wind drives drafts harder and makes them easier to find
- Bright sun warms surfaces unevenly and causes false spots
- An overcast cold day gives the cleanest, most even picture
- Rain and damp cool surfaces and can muddy the readings
- The best day is cold, dry, a touch windy, and cloudy

GOOD TO KNOW

You do not need perfect weather. A plain cold day works fine. These are just small ways to get a slightly clearer picture if you have a choice of when to scan.

32. Warm Upstairs, Cold Downstairs - the Stack Effect

Why heat rises and pulls cold in at the bottom.

If your upstairs always feels stuffy and warm while the main floor stays drafty and cold, there is a tidy explanation called the stack effect. Warm air rises, so it collects at the top of the house and pushes out through any gaps up high - attic hatches, upper windows, recessed lights in the ceiling. As that warm air leaves at the top, it pulls cold air in at the bottom through low gaps - around baseboards, basement windows, and door thresholds. The whole house behaves a little like a chimney. A thermal camera lets you see both ends of it: warm leaks up high and cold leaks down low. Sealing the high leaks is especially worthwhile, because stopping the escape at the top eases the cold pull at the bottom too.

- Warm air rises and escapes through gaps high in the house
- That escaping air pulls cold air in through low gaps
- The house acts like a chimney, top to bottom
- Scan high spots - attic hatch, ceiling lights - and low ones alike
- Sealing the top leaks eases the cold draft at the bottom

TIP

If you can only seal a few things, start up high - the attic hatch and ceiling penetrations. Stopping the warm air from escaping at the top does the most to calm the cold draws down below.

33. Storm Windows and Heavy Curtains

Seeing whether your window extras actually help.

Older homes often have storm windows, and many of us hang heavy curtains in winter. A thermal camera can show you whether they are doing their job. Scan a window with its storm window closed and the curtain open, and you will see the glass reading cold on a winter day - glass is always a weak point. Now close the curtain and scan the room side of it: a good heavy curtain reads noticeably warmer, because it is holding your room heat back from the cold glass. If a storm window is loose or missing a pane, the camera will show cold air leaking around it. This helps you decide where a thermal curtain, a tighter storm window, or simple window film would make the most difference.

- Window glass reads cold in winter - it is always a weak point
- A heavy curtain shows warmer on the room side when closed
- Cold leaking around a storm window means a loose or broken fit
- Use the picture to decide where curtains or film help most
- Window film and snug curtains are cheap comfort upgrades

GOOD TO KNOW

Curtains and film slow heat loss through the glass, but they do not seal the gaps around the frame. Scan both the glass and the frame edges - the frame is where caulk and weatherstripping do their work.

34. Caring for the Little Camera Module

A small lens and a small plug need a little looking after.

These phone cameras are small and mostly sturdy, but two parts deserve gentle care: the tiny lens and the connector that plugs into your phone. The lens is a small window the heat passes through, and a smudge or dust on it blurs every reading. Wipe it only with a soft, dry cloth or a lens cloth - never a rough paper towel or a household cleaner, which can scratch or cloud it. The connector is delicate too; plug and unplug it straight, without wiggling, so you do not bend a pin. Keep the camera in its little case or a padded pocket rather than loose in a drawer with keys and coins. And let it come to room temperature before scanning - a module just in from a cold car reads oddly until it settles.

- Wipe the lens only with a soft, dry cloth - never a rough towel
- Keep household cleaners away from the lens
- Plug and unplug straight to avoid bending the connector
- Store it in its case, not loose with keys and coins
- Let it warm to room temperature before you scan

TIP

Keep the little case it came in and use it. These modules are easy to lose in a drawer and easy to scratch, and a scratched lens cannot be fixed - it just blurs every picture from then on.

35. Phone Battery and Overheating

The camera leans on your phone, so mind its limits.

Because the camera borrows your phone's screen, storage, and power, a long scan leans on the phone in a few ways worth knowing. The screen staying on and the camera drawing power will drain the battery faster than usual, so start a draft hunt with a good charge or you may quit early. On some phones the camera plugs into the same port you charge from, which means you cannot always charge and scan at the same time - plan around that. A busy phone can also warm up during a long session; if it gets hot, give it a rest. And since the heat images save to your phone's pictures, a nearly full phone may balk at storing a big batch - clear a little room before you begin.

- Start with a well-charged battery - scanning drains it faster
- The camera may use your charging port, blocking charging meanwhile
- Give the phone a rest if it grows warm during a long scan

- Images save to your photos, so free up some storage first
- Close other apps so the phone has room to work smoothly

GOOD TO KNOW

A whole-house scan is usually a short job, well within a healthy battery. These cautions matter most for a long session or an older phone whose battery already tires quickly.

BILL'S HERE TO HELP

36. You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made finding and sealing the drafts in your home feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything. When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat \$99, and for the parts that don't need me on-site I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee. I'm a patient tech helper — not a mechanic, an electrician, or the manufacturer — so for repairs, wiring, or warranty work I'll help you understand your options and line up a trustworthy local pro. Bill's Home Tech — real help, close to home Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

AT A GLANCE

A Picture to Follow Along

What the Camera Shows You

Surface heat, painted in color

	On screen	Means
Blue / purple	Cold surface	A draft or leak
Red / orange	Warm surface	Your heat, staying
Cold halo	Around a window	Seal the frame
Cold wall patch	Mid-wall chill	Missing insulation

It reads surfaces only -- it cannot see through walls or anything solid.

AT A GLANCE

A Second Look



BEFORE YOU GO

A Note From Bill

A quick note from Bill. I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that results.



HOW I CAN HELP

Your Visit — and My Promise

In-home visit — \$99 flat for your first visit. No contracts and no surprise charges, and a 30-day follow-up is included.

Remote Support — \$49 for a screen-share session. I only connect with your permission, you watch the whole time, and you can end anytime. If I can't fix it over the screen-share, I refund the \$49 — and if it turns out you need me in person, that \$49 goes toward your visit. It's included free for Support Plan members (\$39/mo).

GOOD TO KNOW

My promise — If you're not 100% satisfied with your visit, I'll come back at no charge, or refund the full \$99. No questions, no awkwardness. That's how I'd want to be treated.

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