BILL'S HOME TECH
Home & Small Business Tech Solutions

BILL'S COMPLETE MANUALS

Outdoor & Floodlight Cameras

Placement, power, solar, Wi-Fi, motion zones and Ohio winters — explained in plain English, one step at a time

A plain-English guide for homeowners and families

Take your time — and stay safe on the ladder

Written for you by Bill — Bill's Home Tech

(330) 200-8042 · BillsHomeTech.com

For any brand of outdoor camera · facts current November 2026

What's Inside

This is your outdoor camera manual. Read it in any order and at your own pace — there is no test. It doesn't matter which brand you have: Ring, Google Nest, Arlo, Blink, Wyze, eufy and the rest all follow the same basic ideas, and every chapter explains what a choice or setting actually does *for you*, with slow, step-by-step directions. Where a job involves a tall ladder or house wiring, this guide says so plainly and tells you when to bring in help. Apps change their menus from time to time, so if a screen looks a little different on yours, the idea is still the same.

Part 1 — Getting Started

1 A Note from Bill
2 What Outdoor Cameras Do & the Kinds You'll See
3 A Walk-Around Plan Before You Buy

Part 2 — Placement: Where & How High

4 Where to Put Your Cameras
5 How High to Mount & Which Way to Aim
6 Sun, Glare & Night Vision
7 Ladder Safety First

Part 3 — Powering Your Cameras

8 Choosing How a Camera Gets Power
9 Living with Battery Cameras
10 Solar Panels: What to Expect in Ohio
11 Plug-In Cameras & Outdoor Outlets
12 Hardwired Cameras & Floodlight Wiring

Part 4 — Wi-Fi That Reaches the Yard

13 Testing the Wi-Fi Signal Where the Camera Goes
14 2.4 GHz, 5 GHz & Stretching Wi-Fi Outdoors

Part 5 — Floodlights, Motion & Alerts

15 Floodlight Cameras & Their Light Settings
16 Motion Zones & Sensitivity
17 Cutting Down False Alarms
18 Where Your Recordings Are Kept

Part 6 — Weather & the Seasons

19 Ohio Winters & Cold Batteries
20 Weatherproof Ratings & a Twice-a-Year Checkup

Part 7 — Privacy, Security, Fixes & Help

21 Privacy & Being a Good Neighbor
22 Account Security & Scams Aimed at Camera Owners
23 Common Problems & Quick Fixes
24 When to Call Bill
25 Your Outdoor Camera Cheat-Sheet

PART 1

Getting Started

What an outdoor camera can and can't do for you, the different kinds you'll see in the store, and a simple walk-around plan before you buy anything. Start here.

CHAPTER 1

A Note from Bill

Hello, and welcome. Maybe you've been thinking about a camera over the garage or by the back door. Maybe your children bought you one and it's still in the box. Or maybe you already have a camera outside, and it keeps going offline, the battery dies every cold snap, or it sends you an alert every time a car drives by. Whichever it is, this guide is for **you**.

I'm Bill. I help people in Portage County feel at home with their technology, and I've written this guide the way I'd explain things standing in your driveway with you: plainly, patiently, and without the salesman talk. It doesn't matter which brand you have. Ring, Google Nest, Arlo, Blink, Wyze, eufy and the rest all follow the same basic ideas, and those ideas are what this guide teaches.

WHAT THIS DOES FOR YOU

What this guide does for you

A camera that's in the right spot, has steady power and a good Wi-Fi signal, and only alerts you about things that matter is a real comfort. You can see who's at the side door, check on a delivery, or look at the driveway after a storm, all from your phone. A badly placed camera does the opposite: it nags you, misses things, and ends up ignored.

You can't break it by exploring

Camera apps have a lot of settings, but changing a motion setting or a light setting won't hurt anything. If you don't like a change, you can change it back. The two places where I do want you to slow down are **ladders** and **electrical wiring**. Both get their own careful sections in this guide (Chapter 7 and Chapter 12), and I'll tell you honestly when a job belongs to an electrician.

What's in this guide

- **Planning and placement**: where cameras do the most good, how high to mount them, and how to deal with sun, glare and night vision (Parts 1 and 2).
- **Power**: batteries, solar panels, plug-in cameras and hardwired floodlights (Part 3).
- **Wi-Fi**: making sure the signal reaches the yard (Part 4).
- **Floodlight cameras**: what they do and how to set the lights so they help you without bothering the neighbors (Part 5).

- **Motion and alerts**: motion zones, fewer false alarms, and where your videos are kept (also Part 5).
- **Ohio weather**: cold batteries, snow, rain and a twice-a-year checkup (Part 6).
- **Privacy, security and scams**, plus fixes for common problems (Part 7).

GOOD TO KNOW

Using a particular brand?

This guide covers what all outdoor cameras have in common. For step-by-step help with one brand's app, Bill's Complete Manuals also include separate guides for Ring Doorbells & Cameras, Google Nest Cameras, Arlo, Blink and Wyze, plus Camera Subscriptions, Mesh Wi-Fi, Reolink & Wired Camera Systems and Rural Property Security.

And I'm only a phone call away

If you get stuck, you're never stuck alone. Call me at **(330) 200-8042**. No question is too small, and no one will make you feel silly for asking. Let's take a walk around the outside of your home.

— Bill

CHAPTER 2

What Outdoor Cameras Do & the Kinds You'll See

An **outdoor security camera** is a small, weatherproof video camera that connects to your home internet, usually over Wi-Fi. When it notices movement, it can send an alert to your phone, record a short video clip, and let you look and listen live. Many can also let you talk through a small speaker.

What it does well

- **Lets you check without going outside.** Who's in the driveway? Did the package arrive? Is the garage door closed? A glance at your phone answers it.
- **Records what happened.** If something goes missing from the porch or a car scrapes the mailbox, you may have a clip to show the police or your insurance company.
- **Lights the way.** Floodlight and spotlight cameras turn on bright lights when someone walks up, which helps you see your steps and makes a dark yard less inviting to a prowler.
- **Gives family peace of mind.** A grown child far away can be given access to check that all is well.

WHAT THIS DOES FOR YOU

What this does for you

Fewer trips to the window at night, fewer worries while you're away, and a record of what happened if something ever does. For many people the biggest benefit is simply knowing.

What it can't do

- **It isn't an alarm system** by itself. It tells *you* something is happening; it doesn't call the police. Some companies sell monitoring plans for that, at extra cost.
- **It only sees what it's pointed at.** One camera covers one area, not the whole property.
- **It needs power and Wi-Fi.** If the power goes out, the internet drops, or the battery runs flat, it stops working until that's fixed.
- **It may not keep video without a plan.** Many brands only save recordings in the cloud if you pay a monthly subscription. Chapter 18 explains your choices.
- **It won't recognize faces from far away.** Video gets fuzzy at a distance and at night. A camera that covers the whole yard won't show a face clearly at the far fence.

HEADS UP

Be careful with "you'll never need to worry again"

Advertising can make cameras sound like a force field. They're a helpful tool, not a guarantee. Good locks, outdoor lighting and neighbors who look out for each other still matter just as much.

The four things every camera needs

Need	Why it matters
A good spot	High enough to be out of reach, aimed at where people actually walk (Chapters 4 and 5).
Steady power	A battery you keep charged, a solar panel, an outlet, or house wiring (Part 3).
A strong Wi-Fi signal	Outside walls weaken Wi-Fi. Test before you mount (Chapter 13).
Sensible settings	Motion zones and alerts tuned so it tells you what matters (Part 5).

The Kinds of Outdoor Cameras

Walk down the camera aisle and you'll see a dozen shapes and sizes. They sort into a few simple types. Knowing the type tells you most of what you need to know about power, installation and cost.

Type	What it is	Best for
Battery camera	A small camera with a rechargeable battery. No wires; mounts with a few screws.	Spots with no outlet nearby; renters; trying a location before committing.
Plug-in camera	Runs from a normal outlet through a weatherproof cord.	Near an outdoor outlet or a garage outlet; no batteries to charge.
Hardwired camera	Connected to your home's electrical wiring, often where an old light was.	Permanent installs; never thinking about power again.
Spotlight camera	A camera with a small built-in light. Comes in battery, solar, plug-in and wired versions.	Side doors, sheds and paths that need a little light.
Floodlight camera	A camera built into bright floodlights, usually replacing an existing outdoor light fixture.	Driveways, garages and back yards that need real light at night.
Video doorbell	A camera in a doorbell button.	The front door (covered in its own guide).

Wi-Fi cameras, base stations and wired systems

Most cameras sold today connect straight to your home Wi-Fi. Some brands instead use a small **base station** or **hub** that plugs into your router; the cameras talk to the hub, and the hub talks to the internet. A third kind, often called a **wired system** or **NVR system**, runs a network cable to each camera and records to a box in your house. That's a bigger project, and it's covered in Bill's separate guide, Reolink & Wired Camera Systems.

TIP

Not sure which you have?

Look on the back or bottom of the camera, or on the box, for the model name. Then open the camera's app and look in the device settings; most apps show the model and whether it's on battery or wired power. Write the model on the cheat-sheet in Chapter 25.

What about cameras with cellular service?

A few cameras use a cell-phone signal instead of Wi-Fi, which can help at a barn, a cabin or a gate far from the house. They usually need their own data plan. If that's your situation, Bill's guide to Rural Property Security goes into it in more depth.

WHAT THIS DOES FOR YOU

Why the type matters

Picking the right type up front saves you from the two most common regrets: a battery camera you're forever recharging, or a wired camera that needed an electrician you didn't plan for.

CHAPTER 3

A Walk-Around Plan Before You Buy

The best camera setups start with a slow walk around the outside of the house, not with a purchase. Ten minutes with a notepad will tell you how many cameras you need, what kind of power each spot has, and whether your Wi-Fi will reach. Here's how I'd do it with you.

The walk-around, step by step

1. Pick a dry, daylight hour and bring your phone and something to write on.
2. Start at the front door and walk the way a visitor would: driveway, walk, porch.
3. At each door (front, side, back, garage), stop and ask: *What would I want to see here?* A face at the door? A car in the driveway? A package on the step?
4. Look up. Is there an outdoor light fixture, an eave or a soffit about 8 to 10 feet up where a camera could go?
5. Look around for power: an outdoor outlet, a light fixture, a garage outlet near a wall, or open sky for a solar panel.
6. Check Wi-Fi: open a web page or video on your phone standing at each spot. If it stalls, note it (Chapter 13 shows a better test).
7. Notice what's beyond your property in each view: a neighbor's window, their yard, the street.
8. Write down a short list: spot, what you want to see, power available, Wi-Fi OK or weak.

WHAT THIS DOES FOR YOU

What this does for you

You'll buy the right number and kind of cameras the first time, and you'll know before you open a box which spots need a solar panel, an electrician or a Wi-Fi boost.

How many cameras?

Most homes are well served by covering the **doors people use** and the **driveway**. Start with the one or two spots that matter most to you. It's easy to add a camera later, and you'll learn a lot from living with the first one for a few weeks.

Questions to answer before you buy

Question	Why it matters
Will I pay a monthly plan?	Many brands need one to save video. Some record to a memory card or a home base instead. See Chapter 18 and Bill's Camera Subscriptions guide.
Do I want it to match what I have?	Sticking with one brand keeps everything in one app.
Who will charge or maintain it?	Battery cameras on a high eave mean a ladder trip whenever they run low. Be honest about that.
Will I need an electrician?	Floodlight and hardwired cameras usually mean working with house wiring (Chapter 12).
Does anyone else need access?	A spouse, a grown child or a neighbor who checks on things.

SCAM ALERT

Watch for too-good-to-be-true camera deals

Ads on social media for "military-grade" cameras at a fraction of normal prices are a common trick. Buy from stores and websites you already know, and be wary of brands with no customer-support page or app you can look up first.

PART 2

Placement: Where & How High

Where cameras do the most good, how high to mount them, how to keep the sun and glare from ruining the picture, and how to stay safe on a ladder.

CHAPTER 4

Where to Put Your Cameras

A camera in the wrong place is just a gadget on the wall. A camera in the right place shows you faces, cars and packages clearly. The secret is simple: **point cameras at the paths people actually use**, not at the whole yard.

The spots that usually matter most

Spot	What you want to see	Tips
Front door	Faces and deliveries	A video doorbell often covers this; a camera above can see the whole porch.
Driveway	Cars coming and going, anyone walking up	Aim along the driveway, not straight across the street.
Back or side door	Anyone using the less-visible entrances	Often the most useful camera of all.
Garage	The garage door and anyone near it	A floodlight camera here also lights your way in.
Gate or side yard path	Who walks between the houses	Narrow paths are easy to cover well.

WHAT THIS DOES FOR YOU

What this does for you

When the camera watches the path, nearly everyone who comes to your home walks toward it, face first. That's the clip you'd want to show someone if you ever needed to.

Good habits for any spot

- **Aim along the path, not across it.** People walking toward a camera stay in view longer and are easier to recognize than people crossing quickly from side to side.
- **Keep the main subject in the middle third** of the picture, not at the edge where wide-angle lenses stretch things.
- **Mind the distance.** Faces are clearest close to the camera. A camera covering a long driveway will show cars well but faces only up close, so a second camera by the door helps if faces matter.
- **Under an eave is better than open sky.** An overhang keeps rain and snow off the lens and helps with glare.

- **Avoid aiming at bright lights**: streetlights, the rising or setting sun, a neighbor's porch light (Chapter 6).
- **Think about the neighbors.** Try to keep their windows and back yard out of the picture (Chapter 21).

Test before you drill

1. Charge the camera (if it has a battery) and set it up in its app first, indoors, following the maker's instructions.
2. Have a helper hold it, or set it on a sturdy step, roughly where it will go.
3. Open the app's live view on your phone and walk the path yourself. Can you see your face? The door? The car?
4. Check that the live view loads quickly and doesn't freeze. That tells you Wi-Fi is good enough (Chapter 13).
5. Only then mark the screw holes and mount it.

> **TIP**
>
> **Try it at night too**
>
> If you can, check the live view after dark before you make the spot permanent. A porch light shining straight into the lens or a white wall right beside it can wash out the night picture.

CHAPTER 5

How High to Mount & Which Way to Aim

Height is a balancing act. Too low, and anyone can reach up and knock the camera off or cover it. Too high, and you see the tops of heads instead of faces, and the motion sensor can miss people. Each maker gives a recommended height in the instructions, and those are worth following.

A good rule of thumb

For outdoor cameras, many makers recommend somewhere around **8 to 10 feet** off the ground, tilted slightly down. Ring, for example, says its outdoor cameras are designed to be mounted 8 to 10 feet up with about a 20-degree downward tilt, and that mounting too high, too low or facing a window can make motion detection inconsistent. Video doorbells are different: Ring recommends about 48 inches (4 feet) for its doorbells.

> **GOOD TO KNOW**
>
> **Check your own camera's instructions**
>
> Different brands and models have different sweet spots, especially floodlight cameras, which are often designed for a particular height range. The paper guide in the box or the brand's help website will tell you. When the maker's number and this rule of thumb disagree, go with the maker.

Aiming it

1. Mount the bracket loosely first so you can still adjust the camera.
2. Open live view in the app.
3. Tilt the camera down until the ground near the door or path is in the lower part of the picture and a little sky or roofline at most shows at the top.
4. Have someone walk the path while you watch. Their whole body should be visible from a few steps away.
5. Tighten the bracket once you're happy. Recheck live view after tightening; brackets sometimes shift.

WHAT THIS DOES FOR YOU

What this does for you

A camera aimed slightly down shows faces instead of hats, cuts glare from the sky, and keeps motion alerts focused on your property instead of the street.

Mounting surfaces

Surface	What to know
Wood siding or trim	Easiest. Use the screws that came with the camera.
Vinyl siding	Use a siding mount or mounting block made for vinyl so you don't crack it or trap water.
Brick or stone	Needs a masonry bit and anchors. Drill into the mortar line when you can; it's easier to patch.
Gutters or eaves	Some brands sell gutter mounts. Make sure it's solid and won't shift in wind.

STAY SAFE

Before you drill

Don't drill near where wires might run inside a wall, such as straight above or below an outlet or light fixture. If you're not sure, ask someone who knows the house or call an electrician.

CHAPTER 6

Sun, Glare & Night Vision

A camera that looks perfect at noon can be useless at sunset or midnight. Light is the most common reason a camera picture disappoints, and most of the fixes are free: a different angle, a few inches higher or lower, or one setting in the app.

How night vision works

Most outdoor cameras see in the dark with **infrared** (IR) light, a kind of light your eyes can't see. Small IR lights around the lens light up the scene, and the camera shows it in black and white. Some cameras also have **color night vision**, which uses a spotlight or very sensitive sensor to keep the picture in color. Floodlight and spotlight cameras switch on their lights when they detect motion, so you often get a color picture at night.

Common light problems and fixes

What you see	Likely cause	What to try
Picture washed out or white at night	IR light bouncing off a nearby wall, eave or window	Move the camera a few inches away from the wall or angle it out from the surface.
Bright spot or halo	Porch light, streetlight or the sun in the picture	Tilt down or to the side so the light is out of frame.
Dark faces in daytime	Strong light behind the person (backlight)	Look for an HDR or similar setting in the app; move the camera so it isn't facing the sky.
Spider webs glowing at night	Spiders love the warmth and the IR glow	Wipe the camera and bracket; check it as part of your seasonal checkup (Chapter 20).

Pointing a camera through a window

It's tempting to put an indoor camera on a windowsill and aim it outside. In daylight that can work. At night it usually doesn't: the camera's own infrared light bounces off the glass straight back into the lens, and you see a white haze or your own room reflected. Camera makers suggest turning off the camera's IR (night vision) light, putting the lens right up against clean glass, and keeping lamps and TV screens out of the reflection. Some motion sensors also can't detect movement through glass. A proper outdoor camera is usually the better long-term answer.

WHAT THIS DOES FOR YOU

What this does for you

A few minutes spent on light means the clip you need at 2 a.m. actually shows something useful, instead of a white glare and a shadow.

TIP

Use the floodlight to your advantage

If your camera has a light, the picture at night is often much better in color with the light on. Chapter 18 explains how to set the light so it helps the camera without lighting up the neighbors' bedroom.

CHAPTER 7

Ladder Safety First

Most outdoor cameras go up high, and that means a ladder. Falls from ladders are a real danger, especially as we get older. I'd much rather you call a younger relative, a handyman or me than climb when you're not steady. There's no shame in it, and no camera is worth a fall.

STAY SAFE

If you're unsure, don't climb

If you have balance problems, take medicine that makes you dizzy, are home alone, or the ground is wet, icy or uneven, please don't go up a ladder. Wait for help. Battery cameras that need regular charging are a good reason to think hard about where you mount them.

The basic rules

- **Three points of contact.** Always keep two hands and one foot, or two feet and one hand, on the ladder. Carry tools in a pouch or have a helper hand them up.
- **The 4-to-1 rule** for extension ladders. For every 4 feet of height to where the ladder rests, set the feet 1 foot out from the wall.
- **Let it stick up.** An extension ladder should reach at least 3 feet above the edge you're stepping onto or leaning against.
- **Not the top rungs.** Don't stand on the top rungs of an extension ladder or the top step or cap of a stepladder.
- **Lock it.** Make sure stepladder spreaders are fully open and locked, and extension ladder locks are engaged, before you climb.
- **Don't lean out to reach.** If the spot is too far to the side, climb down and move the ladder.

Before you go up

1. Check the ladder for loose rungs, cracks or missing feet.
2. Set it on firm, level ground. Clear away leaves, snow or ice.
3. Have someone hold the base and stay nearby the whole time.
4. Put your phone in your pocket so you can call for help if you need to.
5. Bring everything you'll need in one trip: the camera, bracket, screws, drill and the app open on the helper's phone.

TIP

Make fewer trips up

Do as much as you can on the ground: set the camera up in the app, attach the bracket to the camera to see how it fits, and charge the battery fully. Then the ladder trip is only for mounting and aiming.

FROM BILL

This is a fine reason to call

Mounting cameras up high is one of the most common jobs I'm asked to help with. If you'd rather keep your feet on the ground, call (330) 200-8042.

PART 3

Powering Your Cameras

Battery, solar, plug-in or hardwired: the honest pros and cons of each, how to keep batteries going, how solar panels really work in Ohio, and when a job belongs to a licensed electrician.

CHAPTER 8

Choosing How a Camera Gets Power

Power is the decision that shapes everything else: where a camera can go, how often you'll climb a ladder, and how reliable it will be. There's no single right answer. Here's the plain comparison.

Power	Good points	Trade-offs
Battery	Mounts anywhere. No wiring. Easy to move.	Needs recharging, sometimes often. Cold weather shortens battery life and can stop charging (Chapter 19).
Battery + solar panel	Tops up the battery on its own when there's enough direct sun.	Needs a sunny spot. Ohio winters bring short, cloudy days, so expect some manual charging.
Plug-in	Steady power, no batteries to charge.	Needs an outlet within reach of the cord, and the cord should be tidy and protected.
Hardwired	Always on, nothing to charge, neat look. Floodlights usually need this.	Works with house wiring. Unless you're qualified, that's a job for a licensed electrician.

WHAT THIS DOES FOR YOU

What this does for you

Choosing power to match the spot means fewer dead batteries, fewer ladder trips and fewer times you open the app to find the camera offline.

A simple way to decide

1. Is there an outdoor light fixture where you want the camera? A wired floodlight or a wired camera may fit there (Chapter 12).
2. Is there an outdoor or garage outlet within reach? A plug-in camera is the low-fuss choice (Chapter 11).
3. Is the spot easy to reach from a short stepladder, or does it get several hours of direct sun? A battery camera, with or without a solar panel, can work (Chapters 9 and 10).
4. Is the spot high, shady and far from power? Think again about the location, or plan for an electrician.

GOOD TO KNOW

Some cameras can use more than one

Many battery cameras can also accept a solar panel or a plug-in power adapter sold separately. If you already own a battery camera that's running down too fast, check the maker's accessories before you replace it.

TIP

Power outages

Even a wired camera stops if your power or internet goes out. If that matters to you, ask about a battery backup for the router and modem. A battery camera will keep running in an outage, but it can't send video if the Wi-Fi is down.

CHAPTER 9

Living with Battery Cameras

Battery cameras are the easiest to install, which is why they're so popular. Their one big chore is keeping the battery charged. How long a charge lasts depends far more on how you use the camera than on the number printed on the box.

What drains a battery fastest

- **Lots of motion.** A camera aimed at a busy street, a tree that sways in the wind, or a flag will wake up and record over and over.
- **Long recordings.** Longer clips use more battery.
- **Live view.** Watching live is one of the biggest drains. Check in, then close the app.
- **A weak Wi-Fi signal.** The camera works harder to send video when the signal is poor.
- **Cold weather.** Batteries hold less charge in the cold and drain faster (Chapter 19).
- **High video quality and bright night lights**, on cameras that offer them.

Settings that stretch a charge

Google, for example, suggests turning on **Automatic Battery Saver** for its battery cameras, choosing a shorter **maximum event length**, setting **wake-up sensitivity** to Low, turning off event types you don't need, and using fewer, smaller activity zones. Other brands have similar settings with different names. Look in your camera's settings for words like *battery*, *power*, *clip length* or *sensitivity*.

WHAT THIS DOES FOR YOU

What this does for you

Ten minutes in the settings can mean charging every few months instead of every few weeks, and far fewer trips up the ladder.

Charging, step by step

1. Check the battery level in the app. Most apps show a battery icon on the camera's tile or in its settings, and many send a low-battery alert.
2. Take the battery or the whole camera down, following the maker's directions (some batteries pop out; others charge through a port on the camera).
3. Bring it indoors. In winter, let a cold battery warm to room temperature before charging.

4. Charge it with the cable and plug the maker recommends until the light or app says it's full.
5. Put it back, open live view and make sure the picture comes back.

TIP

A spare battery makes life easier

If your camera has a removable battery, a second one means you can swap in a charged battery and be done in one trip. Buy spares from the camera's maker or a store you trust.

STAY SAFE

Treat batteries with respect

Use the charger and cable meant for the camera. Don't charge a battery that's swollen, cracked or very hot. Contact the maker about a damaged battery instead of using it.

CHAPTER 10

Solar Panels: What to Expect in Ohio

A small solar panel can keep a battery camera topped up so you rarely take it down. It's a wonderful add-on in the right spot. But it helps to know exactly what a camera solar panel does, so you're not disappointed in January.

How camera solar panels work

The panel doesn't run the camera directly. It **trickle-charges the battery**, and the camera runs from the battery. On a sunny day the panel puts back some or all of what the camera used. On cloudy days and short winter days it may put back very little.

How much sun it needs

Makers differ. Ring's installation guide asks for at least **four to six hours of direct sunlight** a day for its solar panels, angled about 45 degrees toward the sky, and says filtered or indirect light through clouds won't provide a charge. eufy's help pages say 1 to 2 hours of direct sun a day can keep one of its cameras going. Both agree on the main point: the panel needs **direct** sun, with nothing casting a shadow on it, such as an overhang, a tree or a bush. And in long cloudy or winter stretches, Ring notes you may need to charge the battery by hand more often.

Placing a solar panel

1. Find a spot near the camera that gets the most direct sun. In Ohio that usually means a south-facing wall or roofline.
2. Watch it for a day if you can. Note when shadows from trees, the roof or the house next door cross it.
3. Remember winter: the sun sits lower, and trees without leaves cast thinner shadows, but evergreens and buildings cast longer ones.
4. Mount the panel using the maker's bracket and angle it toward the sky as the instructions say.
5. Route the cable neatly and use the clips provided so wind can't tug it loose.
6. In the app, check that the camera shows it's charging from solar (many apps show a sun icon or a charging message).

HEADS UP

Solar can't charge a frozen battery

Many camera batteries refuse to charge below freezing to protect themselves. Google and Arlo both say their batteries won't charge below 32°F (0°C), and eufy lists the same lower limit for its solar charging. On a sunny but frozen January day, the panel may be doing nothing at all. That's normal (Chapter 19).

WHAT THIS DOES FOR YOU

What this does for you

In a good spot, a solar panel can cut your ladder trips down to the occasional winter recharge. Knowing that ahead of time means a low battery in February is a small chore, not a surprise.

CHAPTER 11

Plug-In Cameras & Outdoor Outlets

A plug-in camera runs from an ordinary outlet, so there's no battery to charge and no house wiring to touch. The catch is getting power safely from the outlet to the camera, outdoors, in all kinds of weather.

Using an outdoor outlet safely

- **Use a GFCI-protected outlet** outdoors. GFCI stands for *ground-fault circuit interrupter*. It's the outlet with the **Test** and **Reset** buttons, and it cuts power in a split second if electricity starts going where it shouldn't, such as through water or a person.
- **Use only cords and adapters made for outdoor use**, and the cable that came with the camera when possible. Outdoor cords are labeled for outdoor use.
- **Don't plug one extension cord into another**, and don't treat an extension cord as a permanent solution. If a camera needs a cord forever, it needs an outlet closer to it.
- **Replace any cord that's cracked, frayed or damaged.** Keep cords out of standing water and snow.

STAY SAFE

Cover the outlet while it's in use

An outdoor outlet with something plugged into it all the time should have a **while-in-use** cover, sometimes called a bubble cover, which stays closed over the plug. An ordinary flip cover can't close with a cord in it, so rain gets in. An electrician can install one quickly.

Test your GFCI outlet

1. Plug a lamp or a radio into the outlet and turn it on.
2. Press **Test**. The lamp should go off.
3. Press **Reset**. The lamp should come back on.
4. If it doesn't turn off when you press Test, or won't reset, stop using it and call an electrician.

TIP

Camera went offline after a storm?

A GFCI outlet that tripped in heavy rain is a common culprit. Check the outlet, and the one in the garage or bathroom that may protect it, and press **Reset**. If it trips again right away, leave it off and call an electrician.

Running the cable neatly

- Use the clips or cable staples the maker supplies; don't staple through the cable.
- Leave a small **drip loop**: let the cable dip down a little before it reaches the outlet or camera so rainwater drips off the bottom of the loop instead of running into the plug.
- Keep cables out of reach where you can, so they can't be yanked down easily.

CHAPTER 12

Hardwired Cameras & Floodlight Wiring

Floodlight cameras and many wired cameras connect straight to your home's electrical wiring, usually in place of an existing outdoor light. Once installed, you never charge anything. But this is 120-volt house wiring, and it can kill. I want to be very plain about what that means.

STAY SAFE

Wiring is a job for a licensed electrician

Unless you are trained and comfortable with electrical work, please hire a licensed electrician to install a hardwired or floodlight camera. Camera makers say the same: Ring's installation guides tell you to turn the power off at the breaker first, note that local codes may require permits and professional installation, and say to contact a licensed electrician if there's no existing junction box or the wires aren't clearly marked.

What the installer will look for

- **An existing outdoor light or junction box** where the camera will go. A **junction box** is the electrical box in the wall behind a light fixture. Some floodlight cameras need a particular size and type of weatherproof box; Ring, for example, calls for a 4-inch round, UL-listed weatherproof box for some models.
- **The right wires**: usually hot (black), neutral (white) and ground (green or bare copper).
- **A switch** inside that controls the fixture. If one does, the camera only has power while that switch is on, so it needs to stay on.
- **Weather sealing** where the camera meets the wall, often with outdoor silicone sealant.
- **Height** that fits the maker's recommendation (Chapter 5).

Getting ready for the electrician

1. Choose and buy the camera first, so the electrician can read its installation guide.
2. Set the camera up in its app beforehand if the maker allows it, or have your phone ready for setup right after it's mounted.
3. Know your Wi-Fi name and password (Chapter 13 shows how to check the signal at that spot).
4. Find the light switch that controls the old fixture, and think about putting a label or a switch guard on it so nobody turns the camera off by accident.

5. Ask the electrician about permits and about a while-in-use cover for any outdoor outlet.

WHAT THIS DOES FOR YOU

What this does for you

A professionally wired floodlight camera is the most "set it and forget it" option there is: no batteries, no cords, bright light when you need it, and peace of mind that the wiring was done right.

SCAM ALERT

Watch for unlicensed "installers" at the door

Be cautious of anyone who knocks on your door offering a cheap camera installation today only, or who wants cash up front. Hire a licensed electrician you've looked up yourself, get the price in writing, and never pay in gift cards.

FROM BILL

Where I fit in

I don't do electrical wiring, but I'm glad to work alongside your electrician: choosing the camera, getting it onto your Wi-Fi, setting motion zones and the light schedule, and teaching you the app.

PART 4

Wi-Fi That Reaches the Yard

Outdoor cameras live at the edge of your Wi-Fi. How to test the signal where a camera will go, what 2.4 GHz and 5 GHz mean, and how to stretch Wi-Fi outdoors.

CHAPTER 13

Testing the Wi-Fi Signal Where the Camera Goes

Most camera problems that look like "the camera is broken" turn out to be a weak Wi-Fi signal. Outdoor cameras are often at the far edge of the house, with brick, siding, insulation and sometimes foil-backed walls between them and the router. Checking the signal *before* you mount saves a lot of frustration.

Signs the signal is too weak

- Live view takes a long time to start, freezes or shows a spinning circle.
- Video is blocky or blurry even in daylight.
- The camera goes **offline** in the app now and then, especially in bad weather.
- Alerts arrive late, or recordings are missing the first few seconds.
- A battery camera drains much faster than expected.

Three ways to test

1. **The phone test.** Stand where the camera will go, turn off cellular data on your phone so it uses Wi-Fi only, and play a short online video. If it stalls, the camera will struggle too.
2. **The app's signal check.** Many camera apps show a signal reading for each camera, often under **Device Health**, **Device Info** or **Network** in the camera's settings. Some show bars or words like *Good* and *Weak*; others show a number.
3. **The live-view test.** Hold the camera in place (with a helper) and open live view for a minute. Smooth video means you're in good shape.

GOOD TO KNOW

Reading a signal number

Some apps show signal strength as a negative number called **RSSI**. Closer to zero is stronger. Ring, for example, says readings from 0 to about -60 are best for its devices, and numbers further from zero mean a weaker connection.

Upload speed matters too

Cameras **send** video out of your house, so they depend on your internet's **upload** speed, which is often much lower than the download speed your provider advertises. Google recommends at least 2 Mbps of upload speed per camera for 1080p video, and more for higher-resolution video. If you have several cameras on a slow plan, they can crowd each other out. Bill's guide Choosing an Internet Plan explains how to check your speeds.

WHAT THIS DOES FOR YOU

What this does for you

Five minutes of testing tells you whether a spot will work before you drill holes, buy a solar panel or pay an electrician.

TIP

Small moves make big differences

Moving a camera a few feet, from the far corner of the garage to the side nearest the house, or from behind a downspout to the open wall, can turn a weak signal into a good one.

CHAPTER 14

2.4 GHz, 5 GHz & Stretching Wi-Fi Outdoors

Most home Wi-Fi routers broadcast on two "bands": **2.4 GHz** and **5 GHz**. You don't need to know the science. You only need to know how they differ, because many outdoor cameras can only use one of them.

Band	Strength	Weakness
2.4 GHz	Travels farther and goes through walls better.	A bit slower and more crowded.
5 GHz	Faster, less crowded.	Shorter range; weakens more through walls.

Because outdoor cameras sit far from the router and behind outside walls, many are built for **2.4 GHz only**. Wyze, for instance, says its Cam v4 supports only 2.4 GHz, because 2.4 GHz works better over long distances and through walls. Blink says its cameras need a 2.4 GHz connection. Some newer cameras can use either band. Your camera's box or help pages will say which it supports.

Why setup sometimes fails

Many routers combine both bands under one Wi-Fi name. Usually that's fine: the camera simply joins the 2.4 GHz side. Occasionally, especially if your phone is on the 5 GHz side during setup, a 2.4 GHz-only camera won't connect. If setup keeps failing:

1. Stand close to the router for setup, then move the camera to its spot afterward.
2. Double-check the Wi-Fi password. It's case-sensitive: capital and small letters matter.
3. Restart the camera (or remove and reinsert its battery) and try again.
4. If it still won't join, your router's app or settings may let you temporarily separate the two bands or name them differently. Your internet provider or I can help with that.

WHAT THIS DOES FOR YOU

What this does for you

Knowing about the two bands turns a baffling "can't connect" message into a problem you can actually solve, or at least describe clearly to whoever helps you.

HEADS UP

Don't change your Wi-Fi name or password casually

Every camera, doorbell and smart device in the house remembers your Wi-Fi name and password. If you change them, each one has to be reconnected, often with a ladder trip. If you must change them, plan an afternoon for it.

Stretching Wi-Fi to the Outdoors

If your tests show a weak signal where you need a camera, you have several options, from free to more involved. Try them roughly in this order.

Free fixes first

- **Move the router** to a more central, higher spot, out of cabinets and away from the floor. Routers tucked behind the TV in a basement corner rarely reach the far side of the garage.
- **Restart the router** now and then.
- **Move the camera** a little, as Chapter 13 suggested.

Mesh Wi-Fi

A **mesh Wi-Fi** system replaces or adds to your router with two or three matching units placed around the house. They work together as one network, with one name and password. Putting one unit near the side of the house that faces your cameras is often the cleanest fix. Bill's Mesh Wi-Fi guide walks through choosing and setting one up.

Extenders and camera-brand boosters

A **Wi-Fi extender** plugs into an outlet partway between the router and the camera and repeats the signal. They're less expensive than mesh but can be fussier. Some camera brands sell their own: Ring's Chime Pro, for example, is a plug-in chime that also extends Wi-Fi to Ring devices. Place an extender about halfway, where it still gets a good signal from the router.

Base stations and wired options

Some camera systems use a **base station** or **sync module** that plugs into the router or an outlet; the cameras talk to it. Moving the base station closer to the cameras can help. For the most reliable connection over long distances, cameras with a network cable (often **PoE**, Power over Ethernet, which carries power and internet on one cable) avoid Wi-Fi altogether; Bill's Reolink & Wired Camera Systems guide covers those.

WHAT THIS DOES FOR YOU

What this does for you

Fixing the Wi-Fi once often fixes several problems at the same time: cameras that go offline, batteries that drain, slow live view, and even the weak signal on the back porch when you're on your phone.

TIP

A detached garage or barn?

Wi-Fi rarely crosses a driveway well. Outdoor-rated mesh units, a network cable, or a cellular camera can bridge the gap. This is a good time to ask for help planning; see Rural Property Security for longer distances.

PART 5

Floodlights, Motion & Alerts

What floodlight cameras do, what to look for, and how to set the lights so they help you see without lighting up the whole neighborhood.

CHAPTER 15

Floodlight Cameras & Their Light Settings

A **floodlight camera** is a camera built into a pair (or a panel) of bright outdoor lights. When it detects motion after dark, the lights snap on and the camera records, usually in color because the scene is now lit. It replaces an ordinary outdoor light fixture, so most are hardwired (Chapter 12). Some brands also make plug-in or battery-and-solar versions with smaller lights.

Why people love them

- **Light for you.** Coming home after dark, taking the trash out, letting the dog out: the yard lights up as you walk.
- **A better picture.** Video at night is clearer with real light than with infrared alone.
- **A deterrent.** A sudden bright light makes most people think twice.
- **Extras.** Many include a speaker so you can talk, and some include a loud siren you can sound from the app.

WHAT THIS DOES FOR YOU

What this does for you

One device replaces two: the old motion light and a separate camera. Fewer things to maintain, and the light and the camera always work together.

What to look for

Feature	Why it matters
Brightness	Measured in **lumens**; more lumens, brighter light. Brighter isn't always better near neighbors.
Adjustable lights	Light heads you can aim, plus a brightness setting in the app.
Light schedule	The option to have lights come on at dusk or at set times, not only on motion (see below).
Motion zones	So the lights and alerts respond to your path, not the street (Chapter 16).
Mounting	Wall or eave mounting, and whether it fits your existing junction box (Chapter 12).
Recording plan	Whether saving video needs a subscription (Chapter 18).

GOOD TO KNOW

The lights and the camera may sense motion differently

On some models, the lights turn on from a heat-sensing motion sensor while the camera uses its own video analysis. That's why, now and then, the light comes on and the camera doesn't record, or the reverse. Your brand's help pages explain how its model works.

STAY SAFE

Mounted high, wired in

Floodlight cameras are heavier than ordinary cameras and are usually wired into a 120-volt circuit. Use a licensed electrician, and keep ladder safety in mind (Chapter 7).

Light Settings, Schedules & the Neighbors

A floodlight that blazes into a neighbor's bedroom every time a cat walks by won't win you friends. The good news is that floodlight cameras let you control when the lights come on, how bright they are, and for how long. A few minutes in the app makes a big difference.

Settings to look for

- **Motion-activated lights**: on or off, and which motion zones trigger them.
- **Brightness**: often a slider. Try the lowest level that still lets you see your steps.
- **Light duration**: how long the lights stay on after motion stops.
- **Light schedule**: lights on at dusk and off at a set time (or at dawn), like a porch light on a timer.
- **Manual control**: a button in the app to turn the lights on or off right now.

An example: Ring light schedules

In the Ring app, light schedules are found in the camera's settings. Ring's steps: tap the camera, go to **Device Settings** > **Light Settings** > **Light Schedules**, then add a schedule with a name, a start and end time (such as dusk and dawn) and the days of the week. Turning the light on or off by hand in the app overrides the schedule. Other brands put similar settings under names like *Lighting*, *Light Schedule* or *Spotlight*.

WHAT THIS DOES FOR YOU

What this does for you

Lights that come on when you need them, a front walk that's lit when guests arrive, and neighbors who never have reason to complain.

Being a good neighbor with lights

1. Aim the light heads down at your own driveway or path, not out toward the street or next door.
2. Shrink motion zones so passing cars and the neighbor's yard don't set them off (Chapter 16).
3. Lower the brightness and shorten the duration until it's just enough.
4. Stand at the property line one evening and look. If the light shines in your eyes there, it shines in their windows.
5. If a neighbor mentions it, thank them and adjust. A friendly fix now avoids hard feelings later.

TIP

Lights and wildlife

Deer, raccoons and the neighbor's cat all trigger lights. If the light keeps coming on through the night, a smaller motion zone and a lower sensitivity usually help more than turning the light off.

CHAPTER 16

Motion Zones & Sensitivity

Out of the box, most cameras watch everything they can see. That means alerts for every passing car, every swaying branch and every neighbor walking their dog. **Motion zones** fix that. You draw the areas you care about on the picture, and the camera ignores the rest.

Motion zones and privacy zones are different

Term	What it does
Motion zone (also called activity zone or detection zone)	Where the camera *looks for* motion. Movement outside the zone doesn't trigger alerts or, on many cameras, recordings.
Privacy zone (also called privacy mask)	An area the camera *blacks out* in live view and recordings, such as a neighbor's window. Covered in Chapter 21.

Brands use these words a little differently, but the idea is the same. Arlo, for instance, describes **Activity Zones** as focusing motion detection on part of the picture, and **Privacy Zones** as hiding part of it in recordings and live view; you can use both together. Ring offers up to three motion zones per device and suggests pulling a zone back so it stops before the street if passing cars are setting off your camera.

Setting up a motion zone

1. Open your camera's app and choose the camera.
2. Open its settings (often a gear icon) and look for **Motion**, **Motion Settings**, **Detection** or **Zones**.
3. Choose to add or edit a zone. You'll see a still picture from the camera with a shape on it.
4. Drag the corners of the shape so it covers your path, porch or driveway. Leave out the street, the sidewalk and the neighbor's yard.
5. Save, then walk through the zone yourself to make sure you get an alert.
6. Walk just outside it, too. You shouldn't get an alert.

WHAT THIS DOES FOR YOU

What this does for you

When the camera only alerts you about your own walk and driveway, every alert means something again. You'll stop ignoring your phone, and you'll notice the alert that matters.

Sensitivity

Sensitivity controls how much movement it takes to trigger the camera. If you get too many alerts for small things, turn it down a notch or two and live with it for a few days. If the camera misses people walking up, turn it up. Change one thing at a time so you know what helped.

TIP

Battery cameras and zones

On some battery cameras, drawn motion zones only work when an advanced motion setting is turned on, and Google suggests that fewer, smaller activity zones help save battery. If your zone settings look grayed out, check the app for a note explaining why.

CHAPTER 17

Cutting Down False Alarms

A **false alarm** is an alert for something you don't care about: a shadow, a car's headlights, rain, a spider on the lens. A few are normal. Dozens a day mean something needs adjusting, and they drain batteries too.

Common causes and fixes

What triggers it	What to try
Cars on the street	Shrink the motion zone to stop short of the street; aim the camera a little more toward the ground.
Headlights sweeping across at night	Angle the camera away from where cars turn in; lower sensitivity.
Trees, bushes and flags moving in wind	Trim branches or cut them out of the zone.
Sun hitting the lens or moving shadows	Avoid aiming toward sunrise or sunset; mount under an eave.
Rain, snow, bugs and spider webs	Clean the lens and bracket; an overhang helps.
Heat sources such as dryer vents or air conditioners	Keep them out of the picture.

Smart alerts

Many cameras can tell the difference between a **person**, a **vehicle**, an **animal** and a **package**, and alert you only for the ones you choose. This can cut down alerts a great deal. On some brands it's included; on others it's part of a paid plan. Look in the camera's settings for *Smart Alerts*, *Smart Detection* or *Detection types*.

Schedules and modes

Most apps let you **snooze** alerts for a while (handy when the grandkids are playing in the yard) or set modes such as *Home* and *Away*, so outdoor cameras alert you only when you're out or overnight. Recording can usually continue even when alerts are snoozed; check your app's settings to be sure.

WHAT THIS DOES FOR YOU

What this does for you

Fewer pointless buzzes from your phone, longer battery life, and alerts you trust.

TIP

One change at a time

Change one setting, then give it a few days. If you change five things at once and it gets better (or worse), you won't know which change did it.

CHAPTER 18

Where Your Recordings Are Kept

When a camera records a clip, it has to save it somewhere. Where it goes affects how long you can look back, whether you pay a monthly fee, and what happens if someone takes the camera.

Where clips go	How it works	Worth knowing
Cloud	Clips upload to the company's servers; you watch them in the app.	Usually needs a monthly or yearly plan. Clips are safe even if the camera is stolen.
Memory card	A small card in the camera stores clips.	No monthly fee, but if the camera is taken, the card goes with it.
Base station or hub	Clips save to a box inside your home.	No fee on some brands; the box stays safe indoors.
Recorder (NVR)	Wired systems record to a box with a hard drive.	Covered in Reolink & Wired Camera Systems.

GOOD TO KNOW

No plan often means no saved video

With several popular brands, without a subscription you can still watch live and get alerts, but clips aren't saved. That surprises a lot of people the first time they go looking for one. Bill's Camera Subscriptions guide compares the plans and prices.

Saving and sharing a clip

1. Open the app's **History**, **Events** or **Timeline** for the camera.
2. Find the clip by date and time; tap it to play.
3. Look for a **Download**, **Save** or **Share** button to keep a copy on your phone.
4. If police or an insurer ask for it, download it first so it isn't deleted when the plan's storage period ends.

WHAT THIS DOES FOR YOU

What this does for you

Knowing where clips go means that if something does happen, you can find the video quickly instead of discovering it was never saved.

HEADS UP

Canceling a plan can delete recordings

If you cancel a cloud plan, saved clips may be deleted. Download anything important before you cancel.

PART 6

Weather & the Seasons

Ohio winters, summer storms and everything in between: what cold does to batteries, what weatherproof ratings mean, and a simple checkup twice a year.

CHAPTER 19

Ohio Winters & Cold Batteries

If your battery camera seems to lose its charge overnight in January, or the app says *charging paused*, the camera probably isn't broken. Lithium batteries, like the ones in phones and cameras, simply don't like the cold. Knowing how they behave makes winter much less frustrating.

What cold does to a camera battery

- **It drains faster.** Google says its battery cameras may discharge up to twice as fast in cold weather.
- **It won't charge below freezing.** Google and Arlo both say their camera batteries stop charging below 32°F (0°C) to protect themselves; the app may show *charging paused* or *charging slowly*. This happens even with a solar panel, and Google notes it happens even when a battery camera is connected to wired power.
- **It can still run** below freezing. Google and Arlo list -4°F (-20°C) as the lowest operating temperature for many of their cameras.

GOOD TO KNOW

Why the battery protects itself

Charging a lithium battery when it's below freezing can damage it permanently. The "charging paused" message is the camera looking after its battery. It isn't a fault.

Getting through the winter

1. Before the first hard freeze, charge every battery camera to full.
2. Turn on any battery-saving setting and shorten clip length for the winter (Chapter 9).
3. When a battery runs low, bring it (or the camera) indoors and let it warm to room temperature before charging.
4. If you have a spare battery, keep it charged indoors and swap it in.
5. For a spot that keeps dying every winter, consider a plug-in or wired camera there instead.

WHAT THIS DOES FOR YOU

What this does for you

Knowing the cold-weather rules means a winter battery warning is a quick chore instead of a worry, and you won't replace a camera that was working exactly as designed.

STAY SAFE

Ice and ladders don't mix

Winter is the worst time for ladder work. If a high camera needs a battery swap on an icy day, wait for better weather or for help (Chapter 7). A camera that's offline for a few days is far better than a fall.

CHAPTER 20

Weatherproof Ratings & a Twice-a-Year Checkup

Outdoor cameras are built for weather, but some handle it better than others. The clue is the **IP rating** printed on the box or in the specifications.

What an IP rating means

IP stands for *ingress protection*, an international standard (IEC 60529) for how well a device keeps out dust and water. The first number is for dust; the second is for water. Higher is better.

Rating	What it means
IP65	Dust-tight and protected against low-pressure water jets. Fine under an eave or porch roof.
IP66	Dust-tight and protected against powerful water jets. A common choice for fully exposed spots.
IP67	Dust-tight and protected against brief immersion in water.

TIP

Weatherproof isn't waterproof forever

No outdoor camera is meant to sit in water. Mount it where water drains away, and keep ports and battery doors closed tightly.

Snow and ice

- Snow on the lens blocks the view; an eave or a small hood helps.
- Ice on a solar panel stops it charging. Let it melt; don't chip at it.
- Snow piled against a camera mounted low can trigger motion alerts as it melts and slides.

Heat and summer sun

Ohio summers are milder than winters for cameras, but a dark camera in full afternoon sun on a south wall gets hot. Heat is also hard on batteries. Shade from an eave helps in both seasons, and your camera's specifications list its highest operating temperature.

Storms and lightning

After a thunderstorm, a camera that's offline is most often a tripped GFCI outlet (Chapter 11) or a router that restarted. For wired cameras and floodlights, a whole-home surge protector installed by an electrician is worth asking about.

WHAT THIS DOES FOR YOU

What this does for you

Choosing the right rating and a sheltered spot means your camera lasts for years instead of fogging up after its first spring.

A Twice-a-Year Camera Checkup

A short checkup in the fall (before the cold) and in the spring (after it) keeps cameras working when you need them. Do what you can from the ground and from the app; save anything high for a day with help.

From the app (no ladder needed)

1. Open live view on each camera, day and night. Is the picture clear? Is it still aimed right?
2. Check battery levels and charge any that are low.
3. Look at the Wi-Fi or signal reading for each camera (Chapter 13).
4. Make sure the app and camera software are up to date. Most apps update cameras automatically; your phone's app store updates the app.
5. Review motion zones. Has a bush grown into the picture or a new fence gone up?
6. Check who has access to your cameras (Chapter 22) and remove anyone who no longer needs it.
7. If you pay for a plan, check the renewal date and price.

From the ground (or with a helper)

- Wipe the lens with a soft, dry microfiber cloth. Avoid harsh cleaners.
- Clear spider webs and wasp nests from the camera and bracket.
- Brush dirt, pollen and leaves off solar panels.
- Check that brackets are tight, cables are clipped down and cords aren't cracked.
- Test the GFCI outlet that powers any plug-in camera (Chapter 11).

WHAT THIS DOES FOR YOU

What this does for you

Twenty minutes twice a year catches the small problems (a dead battery, a dirty lens, a camera knocked askew) before the day you actually need the video.

TIP

Pair it with the clock change

An easy way to remember: do your camera checkup the same weekend the clocks change in spring and fall, when you're also checking smoke alarm batteries.

FROM BILL

Happy to do the checkup with you

If you'd like a second pair of eyes (and someone else on the ladder), a seasonal camera checkup is a perfectly good reason to call me at (330) 200-8042.

PART 7

Privacy, Security, Fixes & Help

Being a good neighbor, keeping strangers out of your camera account, spotting the scams aimed at camera owners, and quick fixes for common problems.

CHAPTER 21

Privacy & Being a Good Neighbor

Your cameras are for watching your own home. Most of the time, a little thought keeps everyone comfortable: you get the security you want, and your neighbors don't feel watched. It's also simply the kind thing to do.

Good-neighbor habits

- **Aim at your own property.** Some of the street or a neighbor's driveway may show at the edges; that's hard to avoid. A camera aimed at their windows or back yard is a different matter.
- **Use privacy zones** to black out a neighbor's windows, door or yard if they're in the picture.
- **Mind the floodlights** (Chapter 15).
- **Talk to them.** If a new camera will see part of their property, a friendly word ahead of time goes a long way. Offer to show them what it sees.
- **Think before you share.** Posting clips of neighbors, delivery drivers or passersby online can cause real hurt. Share clips with the police if there's a crime; otherwise keep them to yourself.

Privacy zones

A **privacy zone** blacks out part of the picture so it isn't shown in live view or saved in recordings. Ring shows them as black rectangles and allows up to two per device; Ring also notes that motion behind a privacy zone can still trigger a recording, so adjust your motion zones too. Arlo offers privacy zones on some newer models and warns that turning on its automatic zoom-and-tracking feature or changing the camera's view can delete them.

1. Open the camera's settings and look for **Privacy Zones**, **Privacy Mask** or **Privacy**.
2. Add a zone and drag it over the area you want hidden.
3. Save, then check live view to make sure the right area is covered.
4. Recheck after any firmware update or if you move the camera.

Audio recording

Many cameras record sound as well as video. Recording conversations is treated differently from recording video. Ohio law generally allows a conversation to be recorded when at least one person taking part in it agrees. A camera that picks up conversations between other people, such as neighbors chatting on the sidewalk, is a different situation. If a camera faces a sidewalk, a shared drive or next door, the simplest choice is to turn off **audio recording** for that camera in its settings. If you have a specific legal question, ask an attorney; I'm a tech helper, not a lawyer.

WHAT THIS DOES FOR YOU

What this does for you

Cameras set up with neighbors in mind keep the peace on your street, and if you ever do need a clip, no one can say you were spying.

GOOD TO KNOW

Sharing with police

Some camera apps include neighborhood features or ways for local police to request video. Sharing is your choice. Look in your app's privacy or community settings to see what's turned on.

CHAPTER 22

Account Security & Scams Aimed at Camera Owners

Your camera account is a window into your home. If someone else gets the password, they could watch live video, see when you're away, or change settings. A few simple steps keep that window closed. These are the same steps the Federal Trade Commission (FTC) recommends for internet-connected cameras.

The four essentials

1. **Use a strong, unique password** for your camera account, one you don't use anywhere else. A short phrase of several words is easier to remember and hard to guess.
2. **Turn on two-step verification** (also called two-factor authentication), if your camera brand offers it. After your password, you also type a code sent to your phone or email.
3. **Keep the app and camera software updated.** Updates fix security holes.
4. **Change any default password.** If a camera or recorder came with a preset username and password, change it during setup; default passwords can be public knowledge.

GOOD TO KNOW

Some brands require it

Ring requires a verification code after your password on every account. In the Ring app you can review it under the menu > **Control Center** > **Account Verification**. Other brands offer two-step verification in the app's account or security settings.

Sharing access the safe way

Never give family members your own password. Nearly every brand lets you **invite** other people with their own account (sometimes called shared users, household members or friends). You can remove them any time, and they can't change your password or lock you out.

1. In the app, look for **Shared Users**, **Household**, **Users**, **Members** or **Access**.
2. Invite the person by their email address.
3. Choose what they can do, if your app offers levels.
4. Twice a year, review the list and remove anyone who no longer needs access.

WHAT THIS DOES FOR YOU

What this does for you

A secure account means your cameras show *you* what's happening, and nobody else. Shared access lets family help keep an eye on things without anyone sharing passwords.

HEADS UP

Selling or giving away a camera

Before a camera leaves your home, remove it from your account in the app and reset it as the maker directs. Otherwise the next owner may have trouble setting it up, or your account may still be linked.

Scams Aimed at Camera Owners

Scammers know that people worry about their cameras being hacked, and they use that worry. The good news: the tricks follow a few patterns, and once you know them you'll recognize them.

"Your camera has been hacked" calls and pop-ups

A phone call, text, email or a scary pop-up on your computer claims your camera or account has been hacked or infected, and gives a number to call. The person who answers asks to connect to your computer, then wants payment for a "fix" or "protection." The FTC warns that these messages are a setup: the problem is made up, and the "solution" is the scam.

SCAM ALERT

The rules that never change

Real camera companies don't call you out of the blue about hacking. Never call a number from a pop-up or an unexpected message. Never let a stranger connect to your computer. And anyone who asks you to pay with a **gift card, wire transfer or cryptocurrency** is a scammer.

Fake customer support

If you search the web for your camera brand's phone number, the first results can be ads for fake support lines. They'll happily "fix" your camera for a fee, or ask for your password.

1. Get help through the camera's app (most have a **Help** or **Support** section) or by typing the brand's own web address yourself.

2. Never give anyone your camera password or a verification code. Real support doesn't need them.
3. If someone has already connected to your computer or you paid them, call your bank right away, and then call me.

Other tricks to watch for

- **Fake "subscription expired" or "payment failed" emails** with a link to update your card. Open the app yourself to check instead.
- **Door-to-door "free camera" or "security upgrade" offers** that lock you into long contracts.
- **Too-cheap cameras from unknown websites** that never arrive, or that come with no real app or updates.

WHAT THIS DOES FOR YOU

What this does for you

A minute's pause before you call a number or click a link protects your money, your computer and your camera account.

TIP

Report it

You can report scams to the FTC at **ReportFraud.ftc.gov**, even if you didn't fall for it. It helps protect others.

CHAPTER 23

Common Problems & Quick Fixes

Most camera problems come down to four things: power, Wi-Fi, settings or the weather. Work through the list calmly. You can't hurt anything by trying these.

Problem	Try this first
Camera shows **offline**	Check power: battery level, GFCI outlet, the light switch for a wired camera. Restart your router. Check the signal (Chapter 13).
Battery dies fast	Shrink motion zones, lower sensitivity, shorten clips, limit live view (Chapter 9). In winter, see Chapter 19.
Too many alerts	Motion zones and smart alerts (Chapters 16 and 17).
No alerts at all	Check that motion detection and app notifications are on, and that alerts aren't snoozed. Check your phone's notification settings for the app.
Can't find a recording	Check whether you have a recording plan or a memory card (Chapter 18).
Picture white or hazy at night	IR reflection or a light in view (Chapter 6). Clean the lens.
Floodlight won't turn on	Check the light switch inside, the light settings and schedule (Chapter 15).
Setup won't connect to Wi-Fi	Get close to the router, check the password, see 2.4 GHz (Chapter 14).
Solar panel not charging	Direct sun? Shade? Below freezing? (Chapters 10 and 19).

The universal fix, step by step

1. Close the camera app completely and open it again.
2. Restart your phone.
3. Restart the router: unplug it, wait 30 seconds, plug it back in, and wait a few minutes.
4. Restart the camera: many apps have a restart option; otherwise remove and replace the battery, or switch a wired camera off at its switch for 30 seconds.
5. Check the brand's status page or app for an outage notice.

WHAT THIS DOES FOR YOU

What this does for you

Most "my camera is broken" moments end at step three or four, with no cost and no ladder.

HEADS UP

Before you reset to factory settings

A factory reset erases the camera's settings, and you'll have to set it up again from the beginning, often on a ladder. Save it for last, or for when support tells you to.

STAY SAFE

Never open a wired camera with the power on

If a hardwired camera or floodlight needs anything beyond a restart, turn the breaker off before touching it, or better yet, call your electrician.

CHAPTER 24

When to Call Bill

I've written this guide so you can handle most of your outdoor cameras on your own. But part of being helpful is being honest about when a hand saves you time, money or a risky climb. Here's my plain advice.

Times it's worth a call

- **Planning**: walking the property with you, deciding how many cameras, which type and which power for each spot.
- **Mounting up high**, so you don't have to climb a ladder.
- **Wi-Fi that won't reach** the garage, the back yard or the barn.
- **Working alongside your electrician** on a floodlight camera: getting it online, setting motion zones and the light schedule.
- **Too many alerts, or none at all**, and getting the settings just right.
- **Setting up shared access** so a son or daughter can check in from afar.
- **Anything that feels like a scam**, or a call or message claiming your camera was hacked.

This guide pairs with my **Security Cameras** service, where I help choose, install and set up cameras and doorbells, and teach you the app at your own pace.

What working with me is like

I work at your pace, in your home here in Portage County or remotely over the phone and internet. I explain what I'm doing in plain words, I don't sell you gadgets you don't need, and I'll tell you honestly when a subscription isn't worth it. I bring more than 30 years of professional experience to every visit. I don't do electrical wiring; for that I'll tell you to call a licensed electrician.

FROM BILL

How to reach me

Call **(330) 200-8042** or book a time at **billshometech.com/book**. My help is **$49 remote · $99 in your home**. Bill's Home Tech serves Portage County, Ohio. No question is too small.

GOOD TO KNOW

You may meet Sophie

When you call or visit billshometech.com, you may be greeted by **Sophie**, my AI receptionist. She can answer quick questions and help you get on my schedule. The actual help always comes from me.

Thank you for reading. Take your time, stay off icy ladders, and remember I'm only a phone call away.

— Bill

CHAPTER 25

Your Outdoor Camera Cheat-Sheet

The whole guide, boiled down. Keep it with your other household papers or near the back door.

The essentials

Topic	Remember
Where to aim	Along the paths people use: doors, driveway, side gate. Keep neighbors' windows out.
How high	Follow the maker. Many outdoor cameras: about 8 to 10 feet, tilted slightly down.
Wi-Fi	Test at the spot before mounting. Many outdoor cameras use 2.4 GHz.
Too many alerts	Shrink motion zones, lower sensitivity, use smart alerts.
Cold weather	Batteries drain faster and won't charge below 32°F. Warm, then charge indoors.
Solar	Needs direct sun, no shade. Expect some manual charging in winter.
Plug-in	GFCI outlet, outdoor-rated cord, while-in-use cover. No chained extension cords.
Hardwired / floodlight	Licensed electrician. Breaker off before anything is touched.
Security	Strong unique password, two-step verification, updates, invite family instead of sharing passwords.

Write it down once

Item	Yours
Camera brand and app	_____
Account email	_____
Wi-Fi name	_____
Cameras and where they are	_____
Recording plan and renewal date	_____
Electrician	_____
Bill's Home Tech	(330) 200-8042 · billshometech.com/book

HEADS UP

Keep passwords private

Store your account password somewhere safe, such as a password manager, not on a list taped by the door. Never give it, or a verification code, to anyone who calls you.

When something's wrong, in order

1. Is it powered? Battery, outlet, switch, breaker.
2. Is the internet up? Restart the router.
3. Restart the app, the phone, then the camera.
4. Check the settings: motion zones, alerts, snooze, light schedule.
5. Is it the weather? Cold battery, ice, snow on the lens.
6. Someone calling about a "hacked camera"? Hang up. It's a scam.
7. Still stuck? Call Bill at (330) 200-8042.

FROM BILL

I'm here when you need me

Bill's Home Tech · (330) 200-8042 · billshometech.com/book · $49 remote · $99 in your home.