HOMEOWNER REPAIR GUIDE

SMART HOME AUTOMATION & HOME SECURITY

Workshop handout — 21st century living in a 20th century home

Everything here works in an older home. Prices and services are current as of September 2026 — this field changes quickly, so confirm details before you buy.

WHAT IS HOME AUTOMATION?

Home automation is everyday equipment that can **sense** what is happening, **decide** what should happen next, and **act**. Older systems needed the internet for everything; many devices sold today also work locally, so lights and locks keep working when the internet is down.

A LITTLE HISTORY

Home automation is older than the internet: a Stuttgart stairwell light switched itself off with Paul Schwenk's **time switch in 1921**, and **photocells** have run dusk-to-dawn porch lights since the 1940s. In **1975**, Scotland's Pico Electronics introduced **X10**, which sent commands over the house wiring itself — sold at RadioShack and Sears, with no encryption whatsoever. Then came The Clapper (mid-1980s), Nest (2011), the Echo and HomeKit (2014), **Matter** (2022) and AI assistants (2026).

WHAT HAS CHANGED RECENTLY

Matter is a shared standard backed by Apple, Google, Amazon, Samsung and hundreds of manufacturers: a Matter device can be set up once, used in more than one app, and much of it works without the internet. **Thread** is the low-power network many Matter devices use; each plugged-in Thread device strengthens it, and many newer speakers and displays act as the “Thread border router.”

SUBSCRIPTIONS AND SECURITY LABELS

The purchase price is no longer the whole cost: saved video, AI descriptions of what a camera saw and searching your own footage are increasingly monthly services. Meanwhile the federal **U.S. Cyber Trust Mark** label, new rules on routers sold here, and debate over camera sharing and facial recognition have all made news. On the box, look for the **Matter** logo, “Built on Thread,” the Cyber Trust Mark shield and a stated number of years of security updates.

CHOOSING AN ECOSYSTEM

Start with what you already own: iPhones point to Apple Home, Android to Google Home, mixed phones or existing Echo speakers to Alexa. Matter makes the choice less permanent — one device can belong to more than one system.

	Apple Home	Google Home	Amazon Alexa
Best if you…	Use an iPhone or iPad	Use Android or Google services	Have mixed phones, or shop with Prime

Assistant and cost	Siri, AI upgrade expected late 2026; no subscription	Gemini for Home; basic voice free, Home Premium about $10 or $20 a month	Alexa+; included with Prime, about $19.99 a month without
Strengths	Privacy focus; no fee for the basics	Natural conversation; Nest cameras and thermostats	Widest device selection; inexpensive hardware
Watch-outs	Fewer devices; needs Apple hardware	Has retired older products; premium features cost extra	Voice requests processed in the cloud

Each system needs a hub to run automations while you are away — an Apple TV or HomePod, a Nest Hub or Google speaker, or an Echo device.

WHERE TO START: PLUGS AND LIGHTING

Smart plugs ($10–$25) are the easiest first device: plug one into the outlet, plug a lamp, fan or coffee maker into it, and it runs on a schedule or switches off from anywhere. Lamps on a schedule make a house look lived-in while you travel.

Smart lighting comes two ways. *Smart bulbs* ($10–$50) screw in with no wiring and add dimming and color, but the wall switch must stay on. *Smart switches and dimmers* ($20–$60) replace the switch, control every bulb on the circuit using ordinary bulbs, and still work for guests — usually the better choice in a room with several fixtures.

> **CAUTION**
> Check the rating stamped on a smart plug. Do not use one with a space heater, air conditioner or other high-draw appliance unless the plug is rated for it.

> **OLDER-HOME TIP**
> Many switch boxes in older homes have no neutral wire, which most smart switches require. Look for models marked “no neutral required,” use smart bulbs instead, or have a licensed electrician check the box before you buy.

THERMOSTATS AND PROTECTIVE SENSORS

An ENERGY STAR certified smart thermostat saves roughly **8%** on heating and cooling bills, learns your routine and sets back the temperature when everyone leaves. Confirm it works with your system: many need a “C-wire” or the included adapter, and electric baseboard heat requires a line-voltage model. Ask your utilities about rebates. The least expensive devices here, though, prevent repairs:

Water leak sensors ($15–$40) go under sinks and beside the water heater, washer and sump pump; pair them with an automatic shut-off valve. **Freeze sensors** ($15–$40) warn you when a basement or vacant house gets cold enough to burst pipes. **Smart smoke and CO alarms**, or “listeners” that hear your existing alarms ($35–$130), send those warnings to your phone.

> **IMPORTANT**
> Smart alerts add to — they never replace — working smoke and carbon monoxide alarms. Test your alarms monthly.

HOME SECURITY: DETER, DETECT, RESPOND

Security works in layers. **Deter** with motion lighting, lamps on timers, visible cameras and trimmed shrubs. **Detect** with door, window, motion and glass-break sensors and cameras that tell a person from a passing car. **Respond** with phone alerts, live video, sirens, two-way talk or a monitoring service.

Start with the hardware, though: solid doors, good deadbolts and strike plates fastened with 3-inch screws that reach the stud are the cheapest security upgrade there is. Smart devices add to good hardware; they do not replace it.

VIDEO DOORBELLS AND CAMERAS

A video doorbell ($60–$280) lets you see, hear and speak to anyone at your door and doubles as a camera. Battery models install on any door; wired ones never need charging but may need a stronger transformer in an older home. On cameras, look for 2K resolution or better, night vision, person and package detection, and activity zones that ignore the sidewalk and your neighbors' property.

Where the video is stored	Cloud	Local (memory card or base station)
Monthly cost	Usually $4–$20 a month	None after the purchase
If the internet drops	Usually stops recording	Often keeps recording

Do the math: a $10 monthly plan is $120 a year and $600 over five years — often more than the camera itself. Ask what a camera still does with no subscription at all.

SMART LOCKS AND ALARM SYSTEMS

Smart locks replace the deadbolt or, in retrofit form, only the inside thumb-turn so your keys still work. Look for automatic locking, guest codes limited by day and hour, an activity log and early low-battery alerts. Always keep a physical key backup.

> ### FIX THE DOOR FIRST
>
> If you have to lift, push or pull the door to throw the deadbolt, correct the hinges and strike plate before installing a smart lock. A misaligned bolt drains batteries and jams the motor.

Alarm systems you install yourself use the same parts as traditional ones: entry, motion and glass-break sensors, a siren, a keypad, and often leak and smoke sensors. Choose one with battery and cellular backup so it keeps working during a power or internet outage.

Self-monitoring costs nothing to $10 a month but depends on you seeing the alert. **Professional monitoring**, typically $20–$60 a month, adds a 24-hour center that can dispatch police or fire — worthwhile for travelers and older adults, and often good for an insurance discount. Watch for long contracts.

KEEPING YOUR SMART HOME SECURE

Most “hacked camera” stories are not sophisticated attacks — they are stolen or reused passwords. Six steps prevent nearly all of it:

1. **Use a unique password for every account** — the password manager in your phone or browser makes this practical.
2. **Turn on two-factor login** — the best single defense against account takeovers.
3. **Keep everything updated** — turn on automatic updates for devices and apps.
4. **Replace an aging router** — one that no longer receives updates is an open door.
5. **Put smart devices on a guest network**, away from your computers.
6. **Reset devices before you pass them on** — and remove them from your account.

PRIVACY: YOURS, YOUR FAMILY'S AND YOUR NEIGHBORS'

- ✔ Aim cameras at your own property; use privacy zones to block neighbors' windows and yards.
- ✔ Turn off audio where it is not needed — recording conversations is more restricted than video.
- ✔ Review sharing and “community” features — some are on by default — and decide deliberately about facial recognition.

- ✔ Tell guests, caregivers and family about indoor cameras, use home/away modes, and re-check privacy settings every few months — policies change.

YOUR WI-FI FOUNDATION

A single router in a central, elevated spot is usually enough for a smaller, single-floor home. For multiple floors, plaster-and-lath or masonry walls, or a camera in the garage, a **mesh** system — a main router plus nodes, roughly one per floor — gives a steady signal everywhere.

Wi-Fi 6 is plenty for most homes; Wi-Fi 7 is current, with budget mesh two-packs around $180–$300. Leave the 2.4 GHz band on — most plugs, bulbs and cameras still need it, and a device that refuses to finish setup is usually waiting for it.

GETTING STARTED

1. **Pick your ecosystem** — start with the phone you already use — and walk the house to find Wi-Fi dead spots.
2. **Solve one real problem first** — leaks, the front door, a dark house.
3. **Secure the account the day you create it** — unique password, two-factor login.
4. **Add as you go**, choosing Matter-certified devices so everything keeps working together.

Starter kit	**About $150–$250**	Smart speaker or display, two smart plugs, a battery video doorbell, two leak sensors.
Security-focused	**About $500–$850**	DIY alarm kit with hub, sensors and keypad; a smart lock; a doorbell; two outdoor cameras.
Whole home	**About $1,200–$2,500**	Everything above, plus a smart thermostat, mesh Wi-Fi, smart switches, freeze sensors, a router battery backup.

Typical 2026 retail ranges before sales and rebates; monitoring and cloud plans are extra.

BEFORE YOU BUY

- ✔ Is it Matter-certified, and does it work with my ecosystem?
- ✔ What works without a subscription, and what does a plan cost per year?
- ✔ Does it keep working if the internet goes down?
- ✔ How many years of security updates are promised, and does the account support two-factor login?
- ✔ Does it suit my house — wiring, neutral wire, door condition, Wi-Fi reach?
- ✔ Established brand, with a good return policy?

WHERE TO LEARN MORE

consumer.ftc.gov — consumer advice on smart devices and online security · **ic3.gov** — FBI Internet Crime Complaint Center, to report a compromised device · **fcc.gov/CyberTrustMark** — the federal security label program · **energystar.gov** — certified thermostats and rebates · **csa-iot.org** — Matter-certified product listings · **consumerreports.org** — privacy-setting guides for camera brands

Home Repair Resource center

Home Repair Resource Center empowers homeowners to maintain their homes for sustainable and diverse communities.

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