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Wired vs. wireless home security systems

🔗 **Researched by**[Tony Carrick](#) | Contributing Writer🔗 **Reviewed by**[Eric Paulsen](#) | Content Manager

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Table of contents

- Wired security systems
- Wireless systems
- Hybrid systems
- Which type is best for my property?
- Conclusion

One of the many factors to consider when choosing a home security system is whether to go with a wired or wireless system. Wireless home security systems are popular due to their ease of installation and compatibility with smart devices, whereas wired home security systems offer better protection from hackers, faster data transfer for cameras, and greater range for large properties. In this article, we'll examine the good and the not-so-good for each type of security system, so you can choose the right system to protect your property.

Wired security systems

Wired security systems have wires that run through your home to connect the control panel or central hub to the sensors, motion detectors, and cameras that make up the system. These systems rely on your home's electrical system for power instead of batteries (most wired security systems also have a battery backup that keeps the home security system online for up to 24 hours in the event of a power outage). Some wired systems may also require a landline, which it uses to communicate with the monitoring service in the event of a break-in or fire.

Cameras on a wired security system will typically record data to a digital video recorder (DVR). You can connect the DVR to your home's Wi-Fi network, allowing you to view it remotely. You can also attach a monitor to the DVR to view live or recorded footage.

There are professionally installed and [DIY security systems](#). Security companies such as ADT and Brinks offer professionally installed wired security systems that come with a monitoring service and usually require the homeowner to sign a contract of three or more years.

There are also DIY wired security cameras sold by such companies as [Lorex](#), [Reolink](#), and [Night Owl](#). These companies focus on providing security through an advanced camera system. These kits usually include between four and eight cameras and come with a DVR, which connects to the camera via coaxial cable. It's important to note that Lorex, Reolink, and Night Owl only sell hardware and do not offer professional monitoring—so you'll be tasked with [monitoring your system yourself](#).

Pros of a wired security system

Is harder to hack

Since a wired security system transfers data through wires, as opposed to a Bluetooth or Wi-Fi connection that uses radio waves, wired systems also aren't as vulnerable to jamming (blocking the signals between components in a security system). They're also less susceptible to incidental radio interference caused by your neighbor's Wi-Fi network, baby monitors, walkie talkies, radios, and microwaves.

Works better for large properties

Wired systems don't have the same range limitations as wireless sensors and cameras, making them a better choice for securing large properties.

Allows for multiple control panels

Wired systems allow you to install multiple control panels in different locations throughout the home for added convenience and control.

Doesn't require battery changes

Cameras and sensors on a wired system have a constant power source, so there's no need to change or recharge camera and sensor batteries periodically.

Costs less

Many wired components, including security cameras, are usually cheaper than wireless hardware.

Has free in-house data storage

Most wired systems have a DVR, which allows you to save footage on hardware located in your home, eliminating the need to pay a monthly subscription fee for a cloud service to store and access camera footage.

Offers more camera functionality

Since a wired system uses a coaxial or ethernet cable to transfer data, it can better support the high data demands of a high-definition 4K camera than a wireless connection, reducing lag and ensuring good picture quality. And, since wired security systems have a constant power source and ample space for data storage, it's possible to have surveillance cameras that take round-the-clock video.

Is immune to network problems

A wired security system doesn't rely on a router to transfer data, so it can still record camera footage even when your network is down.

Cons of a wired security system

Requires complex installation

Due to the complexity of running wire through a home and hardwiring the system's components to a power source, most wired systems require professional installation, which can add to the overall cost of the system. This design also makes it more difficult to add more sensors or cameras at a later date.

Doesn't offer remote access

Some wired systems have a control panel located in the home that serves as the only means of controlling the system. You won't be able to control the system via a mobile app.

Hard to uninstall

Since this type of security system requires the installer to hardwire it to the home, you won't be able to remove it easily. If you move, you probably won't be able to take the system with you.

Can be hard on your home

Installing a wired system in a preexisting home will require the installer to drill holes in your walls in order to run wires. While professional installers know how to minimize the impact of a wired security system installation, they probably won't be able to conceal all the wires, creating an eyesore.

Lacks remote access features

Unless the wired security system has a hub that can connect to your home's Wi-Fi network, you won't have many of the features that come with a wireless system, including the ability to arm and disarm it, receive alerts, or monitor camera footage from a smartphone. Most wired systems also don't support advanced features found on wireless systems, such as two-way talk that allows you to communicate with visitors via a doorbell camera.

Dependent on your home's power

Since a wired system relies on the home's electrical system to power it, a power outage can disable the system unless it has a battery backup. Some wired systems also require you to have a landline in order for the system to communicate with the monitoring service.

Comes with a contract



Since more wired security systems with monitoring require professional installation, you'll more than likely have to commit to a multi-year contract when you purchase one unless you choose to go with a DIY wired security system.

Wireless systems

Wireless security systems transfer data from battery-powered wireless sensors, motion detectors, and cameras to the central hub or home network via wireless technology. Some wireless systems use Z-Wave or Zigbee, which are two different types of wireless technologies smart devices use to communicate with each other. Both require a central hub, which is similar in size and looks to a router, to set up and control a smart home network. Other smart home devices have components that can connect directly to your home's router via Wi-Fi technology, effectively using your router as the hub.

While a wireless system's sensors, cameras, and motion detectors typically use batteries for power, you'll need to plug the hub or control pad into a standard electrical outlet. Nearly all of the major security companies offer wireless systems, including [Ring](#), [Vivint](#), [SimpliSafe](#), Brinks, and ADT.

Pros of a wireless security system

Is easy to install



Since a wireless security system doesn't involve running wire from a base unit to each piece of hardware, installation is usually very easy. In fact, many homeowners can typically install their whole system in under an hour. Wireless sensors and motion detectors are usually peel-and-stick for easy installation, and wireless security cameras come with easy-to-install mounting hardware. These simple installation methods also make it easy to expand the security system.

Is also easy to remove



If you're a [renter](#) or plan on [moving in the near future](#), a wireless system is easy to remove and reuse in your home thanks to its wireless design and simple installation methods.

Greater home automation compatibility



Since these systems connect to a home's Wi-Fi network, it's generally easier to integrate them with other smart home hardware, including digital assistants, smart thermostats, lights, and locks.

Greater functionality



Wireless systems offer features that may not be available on wired systems, including the ability to arm and disarm the system, view video footage, and communicate via two-way talk remotely from a mobile device.

Cloud-based back-up 

Since wireless systems use cloud storage, they allow you to access footage online from anywhere you have an internet connection. Cloud storage also serves as a back-up for your camera footage.

Opt out of contracts or monitoring fees 

Many DIY home security systems don't require their customers to commit to contracts, and some give their customers the option to self-monitor.

Cons of a wireless security system

Needs periodic battery replacement 

Since wireless systems use batteries to power their various components, you'll need to periodically change or charge them. While this isn't much of an issue with sensors and motion detectors, which have batteries that last between five and 10 years, it's more of an issue with cameras, which can burn through batteries much more quickly. A wireless camera battery typically only lasts between three to six months before you need to replace or recharge it.

More vulnerable to hacking 

Since a wireless system uses radio signals to transfer data, it's easier for hackers to disable the system by jamming those signals. **Jamming** prevents sensors and motion detectors from alerting the security system's hub—and hence you—in the event of a break-in. It's important to note that most professionally installed and DIY wireless systems use anti-jamming algorithms that make their systems very difficult (though not impossible) to jam.

Limited distance 

There's a limit to how far a wireless sensor or camera can be from the security system's hub. The average range of a wireless camera, for example, is only about 150 feet once obstructions, such as walls and radio interference, are taken into account. While this range is adequate for small to mid-sized properties, it may not be enough for large properties.

Limited number of cameras 

Surveillance cameras are data hogs, which limits the number of cameras you can typically add to your wireless security system. While wired systems can support a dozen or more wired security cameras, wireless signals are slower, which can make it difficult to use multiple high-definition cameras on a wireless system.

Requires you to be more tech-savvy



Wireless systems typically require customers to use a smartphone app to access many of its features. This can make a wireless system feel complicated for someone who's used to entering a code into a keypad and may not be comfortable using smartphones and apps to control their security system.

Susceptible to router outages



Since your wireless security system relies on your router to communicate data, you may lose camera footage and the ability to receive alerts should your router go down.

Hybrid systems

Many security systems aren't completely wired or wireless. Some systems use a hub or keypad that's hardwired into your home's electrical system and may even connect to a landline. That keypad then communicates with door and window sensors as well as cameras via a wireless connection. This design is ideal for those who may want a touchscreen control panel that has the look and feel of a wired system and the convenience of wireless sensors and cameras.

Which type is best for my property?

Is privacy your top priority or do you need a system you can access with a smartphone? Do you live in a small lot in the suburbs or are you on a sprawling plot of land a mile away from your closest neighbor? Determining whether a wireless or wired system is the right choice for your home depends on where you live and how you plan to use it.

- **Your location.** Some [areas lack quality high-speed internet](#). If you live in a place where you can't get a reliable internet connection, you may want to consider going with a good wired security system.
- **Your concern for privacy.** While today's wireless security systems are very difficult to hack (given you take the proper measures to ensure your home network is secure), they're not unhackable. If concerns about hackers gaining access to your security system's cameras or using your system to hack into your home network are going to keep you up at night, choose a wired system, which is much harder to infiltrate.
- **Your living situation.** While drilling holes in your walls may be just fine with you, it may not be okay with your property owner. If you're renting, go with a wireless system that won't require you to damage the walls in order to install it.
- **You need remote access.** If you spend long hours at work and want a system that will allow you to check in on the pets and kids while you're away, go with a wireless system that will give you the best remote access to the security system.
- **You have a smart home.** If you are building a smart home complete with [smart lights, thermostats, and locks](#), you'll want to go with a wireless security system that can seamlessly integrate with those components.

Conclusion

The vast majority of security systems homeowners are installing nowadays are wireless. Their untethered design makes them easier to install and less obtrusive in your home. Wireless security systems also allow you to control the system, receive alerts, and view footage all from an app on your smartphone.

While these features make wireless security systems very attractive, there are situations when a wired system is the better choice. A wired security system is harder to hack, can better support multiple surveillance cameras, and works better for larger properties. By considering the above factors, you can decide which type of security system is best for your home.

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Contributing researcher



 **Researched by**

Tony Carrick | Contributing Writer

Tony Carrick is a full-time freelance writer who has contributed to a variety of publications, including Bob Vila, U.S. News and World Report, Field & Stream, Angi, Futurism, and Popular Science. Tony, who received a Bachelor of Arts in journalism from Elon University and Masters of Arts in English literature from Salisbury University, began his career as a reporter for local newspapers in North Carolina before spending seven years writing in the business-to-business space. He spent 13 years as an English teacher before transitioning into his current role as a full-time freelance writer covering home security, home improvement, lifestyle, outdoor recreation, and consumer electronics and technology.

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Contributing reviewer



 **Reviewed by**

Eric Paulsen | Content Manager

Eric Paulsen is a writer, editor, and strategist who has been creating content in the B2B, healthcare, FinTech, home security, and government sectors for more than five years. He holds an MFA in creative writing and lets everyone in his life hang that over his head. When he doesn't have his hands deep in some piece of content, he's either watching baseball or praying for the offseason to end quickly.

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