

Choosing wire for a home in California is not just a technical decision. It affects fire safety, how fast your internet feels, whether your solar system passes inspection, and how much you pay an electrician. I have walked into plenty of beautiful remodels that were held up for weeks, or ripped open again, because the wrong cable or conductor was pulled a few months earlier.

If you understand a few core ideas about wire types, California code, and how different systems share space in your walls, you can make cleaner decisions, ask better questions, and avoid the most expensive mistakes.

## **Cabling vs wiring: getting the language right**

Homeowners use “cabling” and “wiring” as if they are the same thing. Professionals usually make a small distinction.

Wiring usually means electrical conductors that carry power, measured in volts and amps. Think branch circuits for outlets and lights, 120/240 volt runs to ranges and dryers, or the feeders from a panel to a subpanel.

Cabling often means signal or data paths. That includes coax for cable TV, twisted pair for networking or phones, fiber in some newer homes, and low-voltage control lines for alarms or thermostats. When someone asks “What does cabling do?” in a residential context, they usually mean how data, voice, and video get from the service entry to the rooms where they are used.

In practice the terms blur. Many electricians will say they “ran cable” when they mean NM-B electrical cable. Low voltage contractors may talk about “structured wiring.” What matters for you is knowing that the power wiring lives under one code framework, and low-voltage cabling under a slightly different set of rules and standards.

## **Code context in California: NEC, CEC, and local amendments**

California does not invent its electrical rules from scratch. The state adopts the National Electrical Code (NEC) with amendments in the California Electrical Code (CEC), and local jurisdictions frequently add their own twists.

For a typical single-family home or small multifamily building, a few code realities shape what wire is “best”:

California generally requires copper conductors for branch circuits in residences. Aluminum is still used for certain feeders and service conductors, but inspectors look closely at terminations, antioxidant compounds, and connector ratings when aluminum appears.

Nonmetallic sheathed cable (NM-B, commonly called Romex) is allowed in wood framed residential construction of usual height. Some mid-rise or mixed-use buildings fall under commercial rules that limit NM-B and push you toward metal-clad (MC) cable or conduit with THHN/THWN conductors.

The state is very aggressive on energy codes (Title 24) and increasingly focused on electrification. That shows up as more EV chargers, larger heat pump loads, and pre-wiring for future electric appliances. All of that means your home’s wiring needs to handle not just today’s loads, but realistic near-future loads as well.

Fire risk and seismic risk are part of every inspector’s mental checklist, even when they do not mention it. Secure support, proper staples and straps, and correct protection where cables pass through framing are not small details, they are fundamental safety measures.

Because of this backdrop, the “best wire for home use” in California is less about a single brand or product and more about a set of characteristics: copper, correctly sized, rated for the environment it passes through, and installed in a way that matches both code and the realities of the structure.

# The three primary components of cabling in a house

When pros talk about structured cabling, they often break it into three primary components. Even if you never pull a cable yourself, understanding these pieces helps you plan a cleaner system.

First, the cable itself: the physical medium, such as CAT6 twisted pair, RG-6 coax, multi-conductor thermostat cable, or NM-B electrical cable. Each has a specific voltage rating, insulation type, and use case. Buying something “close enough” is a fast way to draw a red line on an inspector’s checklist.

Second, the connecting hardware: jacks, keystone inserts, patch panels, outlets, switches, breakers, and terminations. Poor quality terminations are one of the most common hidden problems. A name brand CAT6 cable punched into a cheap or mismatched jack will still give you flaky gigabit ethernet. A correctly sized copper conductor landed under the wrong screw on a breaker can run hot or come loose over time.

Third, the pathways and spaces: conduits, raceways, cable trays in larger buildings, cavities in walls and ceilings, and the equipment rooms or enclosures where cables land. This component gets ignored in many homes. I have seen beautiful low-voltage systems crammed into a shallow plastic “media box” the size of a cereal box. A year later, nobody wants to touch the mess. Planning pathways with some extra space, pull strings, and a little separation between power and data makes every upgrade cheaper and faster.

## What are the three types of cabling?

If you open walls in a modern California home, you usually find three broad families of cabling:

Power wiring is the obvious one. NM-B cable, MC cable, or conductors in conduit feed outlets, lights, appliances, and equipment. This wiring runs at 120 or 240 volts and must follow CEC requirements closely.

Communications cabling carries voice, data, and video. That includes coaxial cable (typically RG-6 for satellite and cable TV), ethernet cables (CAT5e, CAT6, and in some new builds, CAT6A), and sometimes fiber. This is where bandwidth and future-proofing matter most.

Low-voltage control and signaling cable links doorbells, thermostats, security sensors, cameras, irrigation controllers, audio systems, and similar devices. These cables might be 18-2 or 22-4 alarm wire, thermostat cable, or specialized audio and control bundles. They are usually under 30 volts, but they still benefit from thoughtful routing and protection.

Within each family, there are subtypes. If you ask a purist “What are the 5 types of cable?” they might get very specific: coaxial, twisted pair, multi-conductor, fiber optic, and power cable as separate categories. For a homeowner, what matters is recognizing which kind lives where, and who is qualified to touch it.

## What is the most common type of cabling used in networks?

In California homes, the workhorse network cable is still CAT5e or CAT6 unshielded twisted pair (UTP). Newer or higher end builds lean more toward CAT6, sometimes CAT6A where very long runs or multi-gigabit service is expected.

CAT5e comfortably supports 1 Gbps up to 100 meters, which is fine for many homes. CAT6 is rated to handle 10 Gbps over shorter distances and does a better job rejecting interference, especially in crowded conduit or pathways.

Some luxury homes or heavy tech households are starting to use fiber from the network core to a few strategic locations. That is still the exception, not the rule, and usually lives alongside copper, not in place of it.

If your contractor suggests running only coax and skipping ethernet because “Wi-Fi has gotten so good,” push back. For stationary devices like office computers, streaming boxes, and gaming consoles, a hard-wired ethernet run is still the most reliable option. Wi-Fi is a great complement, not a replacement.

## What is the best wire for home use?

There is no single product that wins in every scenario. Instead, there are best choices for each job. For basic branch circuits in a wood framed California home, 12-2 and 14-2 copper NM-B cable from [Method Technologies Cabling Services Provider California](#) a reputable manufacturer is still the standard choice. It is cost-effective, code-compliant, and works well when properly installed.

For circuits exposed to moisture, heat, or mechanical damage, MC cable or individual THHN/THWN conductors in conduit perform better. Garages, exterior runs, and accessory dwelling units often use these methods, especially when local amendments are more restrictive about NM-B in certain spaces.

For low-voltage networking, CAT6 solid copper (not copper-clad aluminum) with a verified performance rating is a solid baseline. Pre-terminated cheap patch cables are fine from the wall jack to your router, but for in-wall runs, you want proper plenum or riser rated cable depending on the application.

For coax, RG-6 quad shield from a known brand remains a good baseline for satellite and cable TV, as well as for some broadband providers.

A helpful way to think about “best” is to look at three dimensions together: safety, performance, and future flexibility. Wire buried inside walls is expensive to change. Spending a little extra on copper instead of marginal aluminum for marginal savings, or on CAT6 instead of bargain CAT5e, often makes sense over a 15 to 20 year lifespan.

## What are the 5 types of cable you are likely to touch at home?

For a typical California homeowner or small property manager, five types of cable come up repeatedly.

1. NM-B electrical cable for standard branch circuits feeding outlets and lighting.
2. MC cable or conduit with THHN/THWN conductors in garages, accessory structures, or where protection is needed.
3. CAT6 ethernet cable for home networking and smart devices.
4. RG-6 coax for TV, some broadband connections, and certain antenna systems.
5. Low-voltage multi-conductor cable for thermostats, doorbells, alarms, cameras, and control systems.

If you identify these correctly, you are already ahead of many remodelers. You will also have clearer conversations when you ask, for example, “Do electricians install cable outlets?” because you can specify whether you mean a coax TV jack, a data jack, or a standard electrical receptacle.

## Do electricians install cable outlets and data cabling?

Most licensed electricians in California will install coax outlets and sometimes ethernet jacks, especially in new construction or full gut remodels. That said, their comfort level with structured cabling varies. An electrician who spends most of the week doing service upgrades and heavy power work may not optimize data pathways, grounding for coax, or patch panel layouts.

Low-voltage contractors, by contrast, focus on communications cabling, audio-video, alarms, and networking. They live in the world of CAT6 terminations, signal loss, and equipment racks. On many high-end projects in California, you see both trades on site: an electrician handling panels, feeders, branch circuits, and basic coax, and a low-voltage team building the network and integrating everything.

If you ask “Is cabling difficult?” the honest answer is that it depends. Pulling cable through open studs with no insulation is simple physical work. Getting cable to the right locations, sizing it correctly, following bend radius limits, staying away from sources of interference, labeling everything, and landing it cleanly in an enclosure is more of a craft. The difference shows up when you need to troubleshoot a mystery glitch three years after move-in.

## **What are the three types of cabling in structured home networks?**

People sometimes use another “three types” model specifically for home networking and media.

Backbone cabling refers to the main runs that link your service entry, core network equipment, and any secondary distribution points. In a large home, that might be a CAT6A or fiber run from the main utility room to a structured media panel on another floor.

Horizontal cabling is what most homeowners think about. These are the runs from a central patch panel or switch out to each room: behind the TV, to the desk in your office, to access points on the ceiling.

Work-area cabling is what you can see and touch. Patch cords from the wall jack to your computer, short coax jumpers from the wall to your cable modem, and HDMI or speaker cables inside the room. This is the easiest to change, so you usually spend more planning energy on the backbone and horizontal pieces that get buried inside walls.

When you hear someone ask “What are the three types of cabling?” in a networking meeting, they are often referring to some version of this breakdown.

## **How much does cabling cost for a California home?**

Costs swing widely with labor markets, existing conditions, and project scope, but a few realistic ranges help set expectations.

For new construction where walls are open and the electrician or low-voltage contractor can work efficiently, basic low-voltage cabling (CAT6 to a handful of locations, a couple of coax runs, doorbell and camera provisions) might add a few thousand dollars to the electrical contract on a modest home. The materials themselves are not the main expense; the labor, planning, and coordination carry more of the weight.

For retrofit work in an existing finished home, a single new electrical circuit pulled from a main panel to a garage or bedroom commonly lands in the 400 to 1,200 dollar range depending on length, wall access, and patching. Running new ethernet or coax to one or two rooms might cost a few hundred dollars if the paths cooperate, or significantly more if there is plaster, limited attic access, or fire blocking to deal with.

Whole-house structured cabling during a major remodel, with dozens of drops, a proper rack or media panel, and clean terminations, often sits in the mid four figures to low five figures for labor and materials.

When you search “How much does cabling cost?” you will see numbers all over the place. The most honest way to look at it is by thinking in three buckets: simple single runs, clustered work in a single area, and full-house or multi-room systems. The more walls are open and coordinated with other trades, the cheaper each drop becomes.

## Is cabling the same as wiring when it comes to safety?

Electrically, no. Low-voltage data cabling does not carry the same shock or fire risk as 120 or 240 volt wiring, though careless placement can still create problems, especially when data cables run too close to high-current power lines.



The advertisement for Method Technologies Managed IT Services Company California features a cartoon character of a network switch wearing a hard hat and a tool belt. The text includes the company name, address, phone number, website, and a QR code.

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From an installation practice point of view, they share some habits. Support cables at proper intervals, respect bend radius, keep conductors protected from sharp edges, use grommets where you pass through metal, and avoid crushing or kinking.

The key mistake I see in DIY jobs is mixing low-voltage and line-voltage systems in ways that violate code or good practice. Running CAT6 and NM-B in the same unpartitioned box, landing low-voltage terminations in a panel meant for power circuits, or sharing raceways without rated separation all create inspection and safety headaches.

If in doubt, separate power and communications physically and treat each with respect for its particular rules.

## What does cabling do beyond “making the internet work”?

Modern home cabling does several jobs at once. It brings the outside world into your house through service entrances: electrical service from the utility, coax or fiber from an internet or cable provider, and sometimes dedicated lines from solar systems or battery storage.

Inside the house, cabling connects systems so they can work together. Smart thermostats use low-voltage cable to speak with air handlers and heat pumps. Security systems rely on structured cabling to link keypads, sensors, and cameras. Audio systems use special cables to feed speakers without noise.

Increasingly, cabling also provides both power and data. Technologies like Power over Ethernet (PoE) let a single CAT6 cable feed an access point, camera, or even a thin display without a separate power supply at the device. That can simplify installations and keep low-voltage loads away from line-voltage circuits.

When you think beyond “Wi-Fi and TV,” it becomes easier to see why planning pathways and capacity for cabling early in a California home project is money well spent.

## **Who is the cheapest cable provider, and does that matter to your wiring?**

People often ask about the “cheapest cable provider” when they are really comparing internet and TV bundles. From a wiring standpoint, the provider matters far less than the physical infrastructure you own.

If you have good quality CAT6 and coax pulled to the rooms where you actually use services, switching providers down the road is mostly a matter of moving a few patch cables at the demarcation point and swapping hardware. If your house only has one coax jack in a corner of the living room, with no ethernet runs anywhere, you are locked into certain layouts and equipment choices no matter who offers the lowest monthly rate.

Focus first on building flexible in-home wiring that could support a fiber handoff, cable modem, or fixed wireless gateway in a few reasonable locations. Then you can play the “who is cheapest” game every couple of years without tearing open walls.

## **Is cabling difficult for a careful homeowner?**

Some homeowners in California do light low-voltage work legally under their own permits or under exemptions that allow minor additions. Running a short ethernet cable through an interior wall, adding a doorbell transformer, or replacing a coax jumper can be straightforward if you are patient.

Where people get into trouble is assuming that because the materials look simple, the design and code questions must be simple as well. Sizing conductors, protecting cables from physical damage, avoiding overheating where multiple cables share space, and respecting box fill and derating rules are not optional.

If you are asking “Is cabling difficult?” and you plan to touch any line-voltage wiring, assume that you at least need to read the relevant codes, pull appropriate permits, and be ready for inspection. When projects move beyond a very modest scope, hiring a licensed electrician or low-voltage contractor is usually cheaper than correcting half-finished or unsafe work later.

## **A practical checklist for choosing the right wire in a California home**

Use this short checklist when you are about to approve a bid, buy materials, or sign off on a design.

1. Confirm copper conductors for branch circuits unless there is a very specific, code-supported reason for aluminum feeders, and that all terminations are rated accordingly.
2. Match cable type to environment: NM-B only where allowed; MC or conduit with THHN/THWN in garages, outdoor, or exposed locations; plenum or riser ratings where required.
3. Prioritize CAT6 for new ethernet runs, using solid copper cable and quality terminations to support at least gigabit networking.
4. Plan extra low-voltage runs to likely future locations for access points, cameras, EV chargers needing data, and possible solar or storage controls.

5. Keep power and data separate in pathways and enclosures, with appropriate boxes, bushings, and clear labeling for every run.

If you work through those five points before anyone pulls a single cable, you are far more likely to end up with a California home that is safe, fast, and friendly to whatever technology you bring into it over the next couple of decades.