

Choosing the right network cable for a California home sounds mundane until you live with the wrong decision for a decade. I have walked through beautiful, modern houses in Los Angeles and San Jose where the owners were stuck at 100 Mbps because the builder saved a few dollars and pulled outdated cable. Upgrading later cost ten times what a smarter choice during construction would have.

On the flip side, I see people talked into data-center grade cabling that their home gear will never use, or outdoor-rated cable stuffed inside walls where it is not even allowed by code.

Getting this right is less about memorizing acronyms and more about matching three things: how you live, what your internet provider can actually deliver, and what your house and local codes will tolerate.

This guide walks through that decision, with a focus on California conditions and building practice.

What “cabling” really does in a home network

People often ask, what does cabling do, if everything is “wireless” now? Wi-Fi is just the last hop. The wired cabling in your house carries the real load: from your router to your office, to your TV niche, to your access points.

At a practical level, cabling in a home network does three jobs.

It moves data. Ethernet cabling carries your internet traffic at a specific rated speed and bandwidth, from basic 1 Gbps up to 10 Gbps or more for some categories. If the cable is too old or too noisy, your devices will negotiate down to slower rates or drop packets.

It provides stability. A hardwired computer, TV, or gaming console gets a consistent connection that is not affected by your neighbor’s Wi-Fi, a microwave, or a concrete wall. This matters in homes with lots of devices or high-density neighborhoods common up and down the California coast.

It extends Wi-Fi properly. The best home Wi-Fi systems in larger houses are wired mesh or wired access points. The cabling runs to those ceiling or wall locations so each access point gets a full-speed backhaul. Wireless mesh alone cannot match that in tough floor plans or multistory construction.

From an installer’s perspective, cabling is not just the wire itself. When professionals talk about “structured cabling,” they usually mean three primary components working together: the cable, the connecting hardware, and the pathway or support that carries everything neatly and safely.

Cabling vs wiring: same thing or not?

The terms get mixed constantly. People ask, is cabling the same as wiring, when they are planning a remodel.

In conversation, most homeowners use them interchangeably. Technically, there is a useful distinction:

Cabling, in the networking world, usually refers to low-voltage data and communication media. Think Ethernet (Cat6), coax for TV or cable internet, and fiber. These fall under low-voltage codes, they do not power devices directly, and the voltages and currents are small.

Wiring usually means power circuits, the 120/240 volt conductors that feed receptacles, lights, and appliances. Those follow different sections of the National Electrical Code and California Electrical Code, and carry enough energy to start a fire or injure someone if done incorrectly.

From the standpoint of “who does the work,” this matters. Many electricians also do low-voltage cabling, but some do not. Many AV and network contractors handle only data cabling and leave power to a licensed electrician.

So when you talk to trades, be specific: you want category network cabling for data and maybe coax or fiber for internet, not just “more wiring.”

The main types of cabling you will see in a California house

If you strip a modern California home down to studs, you will usually find three types of cabling related to internet and media:

Coaxial cable for cable TV or cable internet, usually RG-6.

Twisted pair Ethernet cable, such as Cat5e or Cat6, for data networking.

Fiber, in certain builds, either as a single drop from the street or, in high-end projects, a fiber backbone between floors or buildings.

That answers the question many people phrase as, what are the three types of cabling. There are countless variations, but in residential work those three dominate.

If you stretch the definition, you can easily describe five types of cable that matter in home networks:

1. Unshielded twisted pair (UTP) Ethernet, the usual blue or gray Cat5e, Cat6, or Cat6a.
2. Shielded twisted pair (STP or F/UTP), used in noisy environments or dense commercial work, less common in normal homes.
3. Coaxial, for cable internet and TV distribution.
4. Fiber optic, for certain ISP drops or high-end internal runs.
5. Low-voltage specialty cables, such as HDMI-over-category extenders, speaker wire, or security system cabling.

For internet inside the house, your real decision revolves around which Ethernet category to install and where.

Category cables explained in plain language

The “Cat” in Cat5e, Cat6, Cat6a describes a performance category defined by standards bodies like ANSI/TIA, not by marketing teams. Each step up the ladder offers better bandwidth (how much frequency range the cable can carry) and usually higher rated speeds over given distances.

Here is how I explain the common categories to homeowners sitting at a kitchen table with a floor plan.

Cat5e

The workhorse of the early 2000s. Rated to 1 Gbps up to 100 meters. Cheap, easy to terminate, widely supported. In many existing California houses wired between 2000 and 2015, this is what you have. It still works fine for basic gigabit networking, but it gives you little room for [Cabling Services Provider California](#) multi-gigabit upgrades over longer runs.

Cat6

A refinement over Cat5e with tighter twists and better noise handling. Officially rated to 1 Gbps up to 100 meters and 10 Gbps up to 55 meters under typical conditions. Costs slightly more than Cat5e, but the price gap has narrowed so much that I rarely spec Cat5e for new work anymore. For most California homes built or remodeled now, Cat6 is the practical default.

Cat6a

The “augmented” version of Cat6. Rated to handle 10 Gbps up to 100 meters. Thicker jacket, larger diameter, and more separation between pairs, which makes it stiffer and a bit harder to pull and terminate. Excellent for long runs, home offices that may need 10 Gbps in the future, or small home studios that move large files around. Slightly more expensive in both materials and labor.

Higher categories (Cat7, Cat8)

These start to leave the realm of typical residential work. Cat7 is not an officially recognized ANSI/TIA standard and often uses shielded construction and different connectors in its pure form. Cat8 is targeted at short-distance data center environments, supports very high frequencies, and has strict length limits. In practice, using Cat7 or Cat8 for a normal California home rarely makes sense. The cost, stiffness, and termination complexity create more trouble than value.

When clients ask what is the most common type of cabling used in networks, the answer depends on era. In existing homes, Cat5e is still common. In current new builds and remodels, Cat6 has become the default for structured cabling, with Cat6a appearing in higher-end or future-proofed designs.

So what is the best wire for home use in California?

If I had to pick a single answer for most California homes starting fresh today, it would be this: high-quality solid-copper Cat6, riser rated (CMR) for wall runs, with Cat6 patch panels and jacks, and outdoor or direct-burial variants only where they are truly needed.

That choice balances several realities specific to the state.

Internet speeds. In many California cities, fiber providers already offer 1 to 5 Gbps to the home, and cable providers are pushing higher downstream speeds as well. Cat6 comfortably handles gigabit and supports 2.5 or 5 Gbps on many shorter runs, with 10 Gbps possible within 55 meters.

Construction and heat. California homes range from drafty older bungalows to ultra-tight new construction. Attic temperatures in inland areas can climb well over 120°F in summer. Cat6 from reputable brands tolerates this reliably when installed correctly and rated appropriately.

Regulations and fire spread. Inside walls or vertical chases, use at least riser rated (CMR) cable. In any air return plenum, like a commercial office ceiling or some custom homes with shared air spaces, use plenum rated (CMP) cable, which has a stricter fire and smoke standard. California inspectors look for these ratings if permits are involved.

Cost versus benefit. The price jump from Cat5e to Cat6 is modest. The jump from Cat6 to Cat6a in both labor and [Cabling Services Provider California](#) hassle is noticeable, especially in dense retrofit work with lots of bends. For most single-family homes up to about 3,000 square feet, a smart Cat6 layout with good Wi-Fi is a better value than overspending on cable categories.

There are, however, cases where I recommend mixing in Cat6a or even fiber.

For instance, in a three-story San Francisco renovation where the homeowner runs a home-based video post-production business, I specified Cat6a for the core runs from the equipment rack to an office and studio, and Cat6 elsewhere. That allowed clean 10 Gbps links to the workstations and storage, while keeping the rest of the house simple and cheaper.

In large hillside homes with detached offices or ADUs, a single outdoor-rated fiber link between buildings often makes sense, with copper Cat6 on each side. Fiber is immune to lightning and ground potential differences and eliminates some electrical concerns that come with very long copper runs between structures.

The three primary components of a solid cabling system

When you look at structured cabling as a system rather than just “some cables,” you start to think in terms of three primary components that all must be right.

First is the cable itself. This includes the category, the rating (plenum, riser, general purpose, outdoor, direct-burial), the conductor material (solid copper versus copper-clad aluminum, which you should avoid), and the shielding, if any. A bad choice here cannot be “fixed” later with settings in your router.

Second is the connecting hardware and terminations. This covers the wall jacks, keystone inserts, patch panels, and the RJ45 terminations themselves. A great Cat6 cable punched down poorly or paired with cheap, off-spec connectors behaves like a lower category. Clean, consistent terminations matter as much as the jacket stamp.

Third is the pathway and installation practice. This means how the cable runs through the house: in conduit, along framing, through fire blocks, and into boxes. It includes bend radius, separation from power wiring, support intervals, and compliance with fire stopping requirements. This is often where DIY jobs fall short, not in the choice of cable but in how it is handled.

When these three elements line up, you get a network that just quietly works at its rated speed for years.

How much does cabling cost in a California home?

The honest answer: it depends heavily on timing and access. Pulling cable in open framing during a new build is dramatically cheaper than fishing it through finished walls in a 1970s split-level with stubborn fire blocks.

For materials, as of recent projects, you can expect ballpark prices like these in California:

Cat6 riser rated solid copper: often in the range of \$150 to \$250 for a 1,000-foot box, depending on brand and supply conditions.

Cat6a riser: commonly \$250 to \$400 per 1,000-foot box.

Connectors, keystones, and patch panels: from a few dollars per jack for decent brands to more for specialty angled or shielded hardware.



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Labor is the big swing factor. For low-voltage cabling work in California, experienced installers typically land somewhere between \$75 and \$150 per hour, sometimes quoted as a per-drop price instead. A “drop” means one run from the central location to a wall jack, with terminations.

For a typical single-story, 2,000 square foot home in reasonably accessible condition, a basic structured cabling package with 8 to 12 data drops might run:

A few hundred dollars in materials for Cat6 cable, jacks, and a small patch panel.

One to two days of labor for pulling, terminating, labeling, and testing.

So total project costs could range from around \$1,000 on the low end (simple, new construction, small system) up to \$3,000 or more for complex retrofits, older homes, or higher-end Cat6a work with lots of paths and terminations.

If someone quotes dramatically less, ask what corners are being cut. If they quote dramatically more, ask for a breakdown. Both conversations are useful.

Who actually installs cable outlets, and do electricians do this work?

The question “Do electricians install cable outlets?” comes up a lot. The realistic answer is, sometimes.

Traditional licensed electricians primarily handle power circuits. Many of them also pull coax and Ethernet, especially in smaller markets or for builders who want a single contractor. Others prefer to stay out of low-voltage and refer that work to specialists.

Low-voltage contractors and AV integrators focus on structured cabling, home theaters, and networks. They usually have better test equipment and more experience with the details that matter in high-performance cabling:

maintaining twist pairs, avoiding kinks, testing links, and documenting runs.

In California, both groups operate under specific licensing categories, and some municipalities require permits for extensive low-voltage work, especially in multi-unit buildings. For a few new drops in a single-family home, permitting is more relaxed, but always check your local jurisdiction if you are doing a full-house retrofit or remodel.

My experience: if your main concern is internet and networking performance, a reputable low-voltage or network cabling contractor is usually the best starting point. If you are already working with an electrician you trust on a remodel, and they are comfortable with data cabling and current standards, it can be efficient to have them do both under one scope of work.

Is cabling difficult for a homeowner to tackle?

People ask bluntly, is cabling difficult, and whether they can do it themselves. The answer lies in your expectations and the scope.

Running a single Ethernet cable from your living room to a nearby office in an accessible crawl space is within reach for a careful DIYer. You can buy pre-terminated patch cables, snake them through, and neatly secure them. The main risks are minor: an ugly path, a cable too close to power lines, or damage from kinks.

A full structured cabling system across multiple floors, through fire-rated assemblies, with patch panels and dozens of terminations is a different project. That work demands an understanding of building construction, California fire and electrical code, and the subtle practices that preserve cable performance.

If you treat it as a weekend hobby, you might get something that passes data, but not reliably at 10 Gbps over longer runs. You might also inadvertently violate a fire break or stuff the wrong jacket type into a return air space.

So the difficulty is not in the basic idea of cabling, but in doing it to a standard that will hold up for the life of your home. Some homeowners split the difference: they handle simple pulls in accessible areas and hire a pro for terminations, testing, and the trickier runs.

The cable provider question: wiring vs monthly bill

Every so often, homeowners slip in a different question: who is the cheapest cable provider in California. They are trying to decide whether it even makes sense to wire the house if they plan to keep switching ISPs.

Prices and promotions in California shift constantly by region, building type, and competition. In some neighborhoods, a regional fiber provider like Sonic will undercut big national brands on symmetrical fiber. In others, the local cable company is the only realistic option, and promotions dominate long-term pricing.

What matters for cabling is that you design your internal network to be provider-agnostic. Whether the internet enters your house via fiber, coax, or fixed wireless, a solid structured cabling system inside will serve you no matter which logo appears on your bill.

So focus on category cabling inside your walls first. Then, shop for providers based on speed, reliability, and total cost over 2 to 3 years, not just teaser rates.

A practical approach to choosing your category cable

To anchor everything, here is a simple decision framework I use when helping California homeowners choose between Cat5e, Cat6, and Cat6a.

1. Look at your realistic internet horizon over 10 years.

If your neighborhood is already wired for fiber and you expect to move from 1 Gbps to 5 Gbps service during the life of the cabling, skip Cat5e. Cat6 at minimum, with Cat6a for long backbones, keeps your walls from becoming the bottleneck.

2. Study your floor plan and construction.

In a small, single-story condo where the longest cable run will be under 50 feet, Cat6 likely covers everything, even if you upgrade to 10 Gbps gear later. In a multi-story home with long vertical chases, Cat6a to key locations such as a home office, media rack, or wireless access point trunk makes more sense.

3. Weigh cost against hassle, not just dollars per foot.

The raw difference between Cat6 and Cat6a per foot is usually less than the difference in labor time and difficulty. If your installer warns that Cat6a will be painful in densely packed conduit or tight retrofit spaces, listen. Sometimes a mix of Cat6 for branches and Cat6a for short central trunks is the sweet spot.

4. Respect California codes and environmental realities.

Use riser or plenum rated cable where required. Choose outdoor or direct-burial rated cable only where the cable is actually outside or underground. Avoid copper-clad aluminum entirely; it is false economy and often non-compliant for PoE loads. Keep your attic runs short and out of direct contact with hot surfaces.

5. Plan terminations and testing as part of the project, not an afterthought.

Budget time and money for proper wall plates, patch panels, labeling, and certification testing if you expect 10 Gbps performance. This is part of the cabling cost, not optional garnish.

Final thoughts: build for stability, not just speed numbers

When people obsess over “the best wire for home use,” they usually fixate on maximum advertised speed. After doing this work across dozens of California homes, I care just as much about stability, future flex, and maintainability.

A balanced Cat6 or Cat6a design, installed cleanly, tested properly, and labeled well, turns your home network into quiet infrastructure. It lets you change internet providers, upgrade routers, and swap in faster switches without touching the walls again.

If you take nothing else from this, remember that the cable tucked behind your drywall will probably outlive your next three routers. Spend the thought and a bit of extra budget there. The monthly ISP promotions will come and go, but the right category cable, chosen and installed with care, simply keeps doing its job in the background while California weather and technology march on.