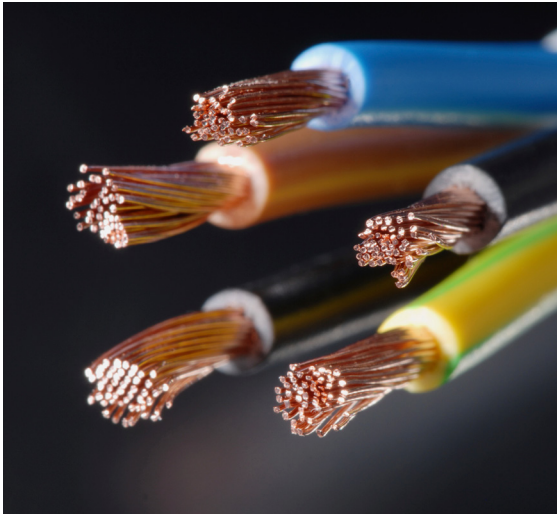
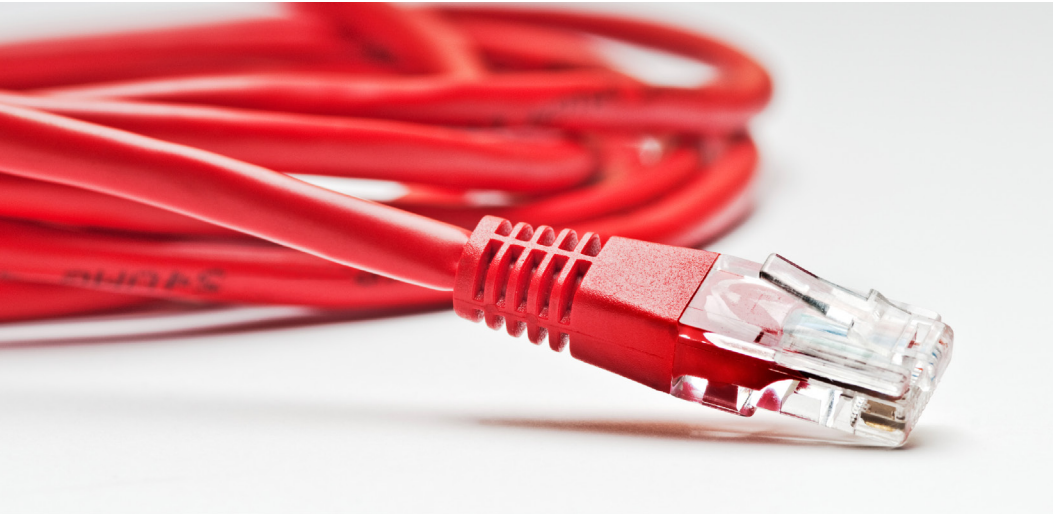


Wiring Basics

for existing homes
& new construction



This guide provides information about basic wiring for a home under construction or for a retrofit as a prerequisite to installing home automation.

Proper wiring of a home, new or existing

Whether you're building a new home or planning on automating your current one, proper wiring is an essential first phase to installing a home automation system and configuring the devices so they can all communicate with each other seamlessly. If done correctly, proper wiring can save money, time and frustration.

The type of wiring required for a home automation system is called structured wiring. Structured wiring is a general term that refers to a whole-house network of audio, video, data, telephone, home automation components or security signals. There are several advantages to structured wiring including the network speed, configurability, ability to troubleshoot and consistent signal quality.

New construction versus retrofit

How does wiring for an existing home differ from that of a home being constructed?

Homes that are being built require a different type of structured wiring than homes that have already been built. In new construction, plans can be made in advance so that wiring takes place before the wallboard is installed.

In existing homes, the installer doesn't want to cut any more holes in the walls than are necessary. Planning to wire an existing home is just as important as planning to wire a new home.

The following tips apply to either a new home or an existing home. If you're a "do-it-yourselfer," you may want to run the wires yourself. Otherwise, you can hire a professional, including your Control4 dealer, to take care of the wiring for you. At the least, you'll have a basic understanding about what needs to be done:



Wiring Tips

1 Consider a 10-year plan.

Will the wiring that you install now still work for you in 10 years? Try to think about the devices that you may want to add to your house through the years.

2 Start with a floor plan.

From the floor plan, figure out and pencil in where your devices will be installed and what devices you want in each room. For example, you may want to install more devices and have more power in the family room and the master bedroom so you can play music and watch videos. You may want more functionality in the kitchen also, so you can control all devices from a central location.

3 Mark your wiring and outlets.

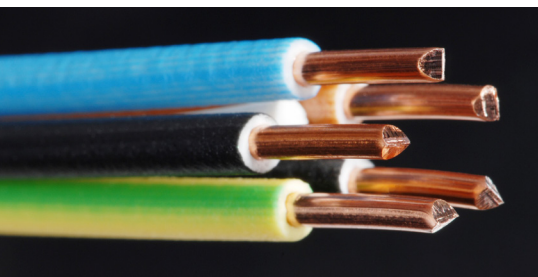
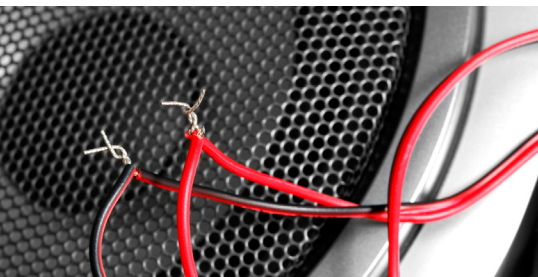
On the floor plan, mark where the wires will run and where the wall outlets are in the rooms you will be automating. Which devices will require an Ethernet cable, and which will require a coaxial cable? Which devices will be wireless? Where will those devices reside? You may need to ask your dealer to help you answer some of these questions.

4 Run speaker wires to each room that will receive music.

Speaker wires should be a minimum of 16-gauge wire and no more than 300 feet in length. Be careful not to run the wires too close to power wires to avoid electrical noise coupling (interference).

5 Run all wires consistently to each room in the home.

At a minimum, the “structured” wiring consists of two pairs of unshielded twisted pair CAT5 or CAT6 cables for Ethernet connections, and two coax cables. The coax cables provide downstream and upstream signals for cable and satellite channels. The Ethernet cables support up to 100 Mbps for your networking devices. As you work with the cables, be careful not to twist, dent or change the shape of the cable.



Retrofits

You may wonder whether you can have a home automation system installed in an existing home without tearing into walls. The answer is yes.

Follow these guidelines for existing homes:

- 1 Ethernet and coax cables will need to be run to each applicable device. The Ethernet cable needs to be attached to devices that require a network connection. For example, Control4 Home Controllers, Touch Screens and Door Stations need an Ethernet connection, but thermostats and lighting can use the existing wires of the thermostat and lighting models they are replacing. For alarm systems, you or your dealer may need to consult with the alarm company. Automated locks, motion sensors and several other devices use a wireless connection.
- 2 The coax cable needs to be attached to a TV or other device that require this cable type. For speaker wiring, if running speaker wires throughout the house is not an option, wireless speakers can be used. Also, if speakers will be installed in a room that doesn't have an Ethernet connection, a wireless Control4 Speaker Point device can be used.

New Construction

Follow these guidelines for new homes:

- 1 The best place to start wiring the home is in an equipment closet where a patch panel can be installed and cables can be terminated and organized neatly from that location.
- 2 You may want to consider installing an equipment rack in the same location.
- 3 Run cables straight up and down from the ceiling into an attic or crawl space. Secure them with J hooks and place them high so no one will stumble over them.
- 4 All of the previous suggestions are applicable at this point as well.

These are general guidelines to help you with your structured wiring project, however each structure is different and may require additional guidelines. Luckily, your Control4 dealer is an expert with structured wiring and is always available as a resource to help.

