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Common Network Setup Mistakes and How to Avoid Them

Written by Kat Cox, Technology Writer

You've decided to set up your network in your home or small business -- great! Setting up your n...
yourself can give you great insight into how it works and help you be able to fix it in the future. But a...

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experts in network cable management, we've seen a few common mistakes in DIY network setup that can cripple your network later on, leading to maintenance issues and hidden costs.

Here are a few common network setup mistakes and how you can avoid them.

Not Planning Ahead

You may be chomping at the bit to get your network up and running now, but planning ahead can save you a number of headaches in the future. You need to ensure that you have the right types of cables, the right number of cables, and adequate space for those cables to function properly and be in a good position in the future (see below). The time and labor you spend setting up cable is going to be the most expensive part of your project, and if you have to re-do it, you'll be wasting that money and time. Get a floor plan and a measuring wheel, and really get to know the space you're working in, including where the electrical wiring is, where there could be interference, and where there could be bends or turns as well as slope. Don't rush your network set-up, no matter how desperate you are to have it up and running. Spend a few hours ahead of time doing valuable planning, and you'll be much better off in the long run.

Not Doing Your Research

You know what your network needs to function, right? If you haven't done your research, you could be dead wrong. There are dozens of types of cable available, and without the right guidance, you could choose the wrong ones, costing you time and money later on. Ethernet is, of course, the most common type of cable you'll need, but there are different types of Ethernet. You may need shielded Ethernet to avoid electromagnetic interference (EMI) or direct burial-rated Ethernet (https://www.truecable.com/collections/outdoor-ethernet-cables) for outdoor installations that need to withstand UV radiation or precipitation. You should know about safety codes (https://www.truecable.com/blogs/cable-academy/etl-listed-vs-ul-listed), too, because that will affect what types of cable you're allowed to install where. There are other considerations to creating a home or business network, too. Do you need shielding? (https://www.truecable.com/blogs/cable-academy/shielded-vs-unshielded-cable) Can you buy your cables in bulk? Will your cable run through the plenum (HVAC) space? Don't skimp on research and you can rest assured you'll have the right kind of cable and the best plan for getting your network set up.

Disorganized Cable Management

Once again, you may want to set up your network as quickly as possible, but ignoring good cable management rules can lead to major problems later on. If you have a server room, rack-based cable management can help immensely in future maintenance, from avoiding damage to your cables to helping you add or remove cables as you use your network. However, rack mounting can also take up valuable floor space and run you a pretty penny. Wall-mounted racks may be better for small businesses and home networks, especially if you're not planning on growing too much in the future. Label all of your cables now and sort them so that you don't have a nest of tangled, unrecognizable cables to deal with down the line. Cable management and organization should be a very obvious part of that plan you spent so much time on.

Ignoring Distance Limits

In spite of thoughts to the contrary, Ethernet and other cabling technology are still limited by physics, and distance limits can greatly affect your network's ability to function. Cable speed and reliability are impacted by exceeding the length limits of the ANSI/TIA 568 standards. Certain Categories of cable function at higher speeds up to a point, so you may lose out if you don't pay attention to the Category of cabling you're using. Of course, if you've planned ahead and done your research, you'll have no problem knowing if you need Cat6 or Cat6A for your network (https://www.truecable.com/blogs/cable-academy/cat6-vs-cat6a).

Lack of Consideration for Space

In order for your network to work into the future, you need to take space into account now. Remember that you're going to need to have enough room to change those cables out quickly, and at any time. You also need to make sure your cables are far enough away from interference-causing devices, like anything that emits a magnetic or electrical signal. This means ensuring your Ethernet cables aren't run parallel to electrical cables, as counter-intuitive as that may seem. You should leave space to grow too, because your network probably will over time as you add more machines. You'll also need to consider where the cables connect and if they need to fit through any openings such as conduits or holes.

Not Paying Attention to Ambience

Like most technology, cables need a proper environment to function properly. One major aspect of proper ambience for cables is temperature. Indoor cables need to stay at their rated operating temperature and dry or they could not only fail, but put people at risk. Don't drape your new cables over motors, electrical panels, hot water pipes, or anything you personally would have an issue laying on for any length of time. At the same time, you need to make sure that the cable environment is free of those pesky interference-causing devices listed above.

Not Testing Your Cables

The last thing you should do before you release your network into the wild is test, test, test. Verify the length and cable specifications across your network, and ensure that every cable is suitable for its intended use. This way, you can catch any errors you may have missed, and you can ensure that your network not only runs properly, but is safe for use. A recently published white paper not only addresses how to test 10 Gigabit networking over copper on a budget, but the same principles apply to 1 Gigabit speeds as well. Give it a look [here (https://www.truecable.com/blogs/cable-academy/free-whitepaper-testing-10-gigabit-ethernet)](https://www.truecable.com/blogs/cable-academy/free-whitepaper-testing-10-gigabit-ethernet).

Not Asking for Help When You Need It

Yes, setting up your network by yourself is not only possible, it's also extremely satisfying. But you should never be too deep into your DIY project to ask for help. This could be part of your research and planning, but it shouldn't stop there. Get a second set of eyes -- preferably belonging to an expert -- to double check your work. A licensed electrician can help out immensely to ensure your work is up to code, too. And you can always [call trueCABLE for help (https://www.truecable.com/pages/contact-us)](https://www.truecable.com/pages/contact-us) with questions about what type of cable is right for you.

Avoiding these issues can mean the difference between a network that works into the future and one that frustrates you. At trueCABLE, we love helping customers with their DIY cable projects. Get in touch to learn more about our products!

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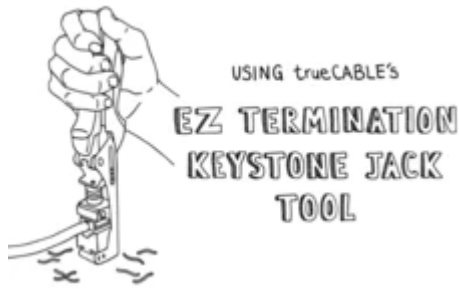(/blogs/cable-academy/slaying-the-dragon-rj45-termination-of-cat6-shielded-direct-burial-
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