

CAT 5 Patch/Crossover Cable Creation Guide

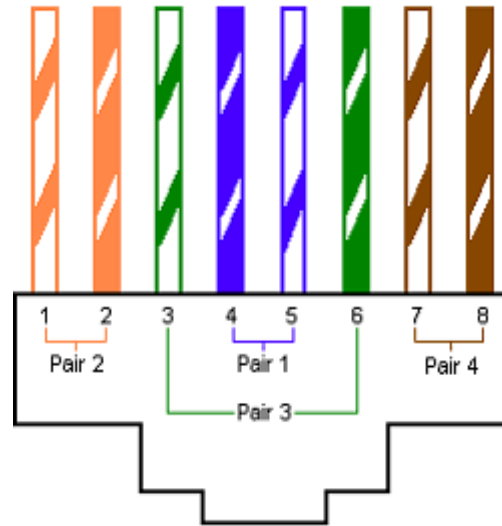
Before you begin creating your CAT 5 patch and/or crossover cable, it's important to point out that the method outlined here is only one method. It is by no means the only or best method. Also, make sure you have all the necessary tools and materials before you begin. You will need a length of CAT cable, several RJ-45 connectors, and a crimp tool.

1. Most crimp tools have two blades: one designed to cut completely through a cable and the other designed to strip the cable jacket/insulation. Using the latter blade, strip the cable jacket/insulation back about an inch, so all the wires inside are exposed. Be careful not to cut the inside wires when stripping the cable's insulation.
2. With the jacket/insulation removed, you'll find eight wires and a string inside the CAT 5 cable. Cut the string off, and untwist the wires back to within one-eighth inch of the jacket.
3. Fan the wires out from left to right in the order they are to be crimped. The crimping order depends on the type of cable you are making. For this guide, we will be wiring the cable to CAT 5 EIA 568B specifications. This is the configuration for a standard CAT 5 patch cable (See **Table 1** and **Figure A**).

Table 1: How to wire a CAT 5 (EIA 568B) Patch Cable	
Connector #1	Connector #2
White/Orange	White/Orange
Orange/White	Orange/White
White/Green	White/Green
Blue/White	Blue/White
White/Blue	White/Blue
Green/White	Green/White
White/Brown	White/Brown
Brown/White	Brown/White

Note: The first color listed in the color pair is the dominant color of the wire. In other words, White/Orange is a white wire with orange stripes.

Figure A: Standard EIA/TIA T568B Wiring Diagram



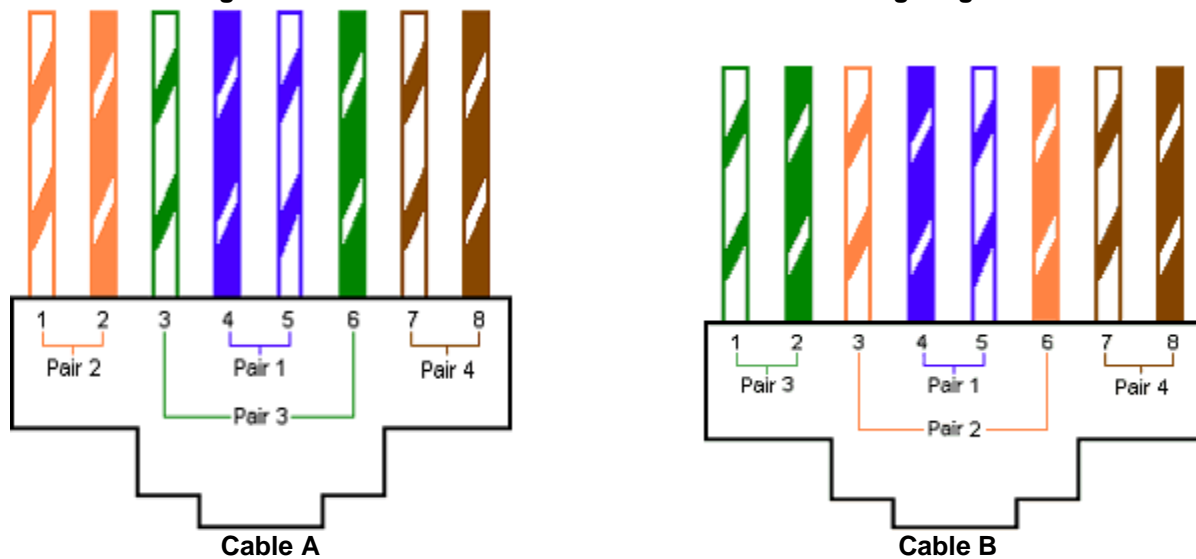
4. Grasp the wires firmly between your fingers and flatten them to remove their curliness. The wires must lay flat and together, aligned as closely as possible. Try not to get them out of order.
5. While holding them firmly, cut off about a half-inch of the exposed wires, so they are all the same length.
6. Slide the RJ-45 connector onto the wires, making sure the wires stay lined up. The connector has eight slots, one for each wire. Try to make each wire reach the end of its slot. The cable jacket/insulation should reach just beyond the end of the crimp point. If the insulation doesn't reach far enough inside the connector or if the wires don't reach the end of their slots, cut the wires off a bit more. If the cable jacket/insulation reaches too far past the crimp point, simply trim off a little more jacket/insulation.
7. Next, verify all the wires are in the correct order, and insert the connector into the crimping tool. Crimp it! This requires a little bit of strength, and you may need to use two hands.
8. Now repeat steps 1 through 7 for the opposite end of the patch cable, and you're finished.

Creating a crossover cable

Crossover cables are used to connect two machines without the use of a hub, switch, or router. While similar to a standard CAT 5 cable, the wiring in a crossover cable is actually quite different. Instead of following the same wire pattern on both ends of the cable, one end is exactly opposite of the other, as seen in **Table 2** and **Figure B** below.

Connector #1	Connector #2
White/Orange	White/Green
Orange/White	Green/White
White/Green	White/Orange
Blue/White	Blue/White
White/Blue	White/Blue
Green/White	Orange/White
White/Brown	White/Brown
Brown/White	Brown/White

Figure B: Standard and Crossover EIA/TIA T568B Wiring Diagram



Note: Remember that these instructions are only a general guide. Your actual experience will depend on the tools and materials you are using.

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