

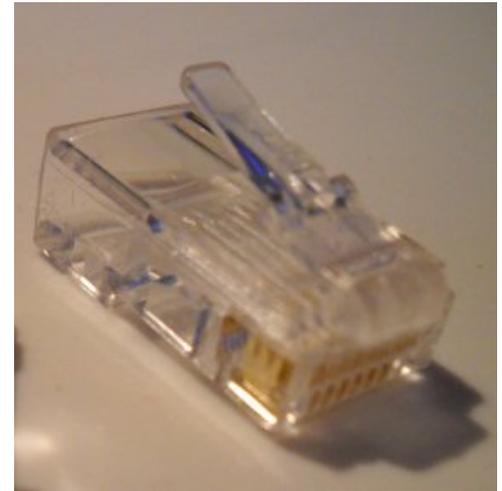
Making a Network Patch Cable

March 10, 2011

Making a Standard Network Cable

We begin to make a standard Category 5e patch cable by measuring the length from the client computer to router or switch. Add another 25% to the length, so we can move equipment around the office without having to make a new cable. We will need Category 5e cable, two RJ45 connectors and a RJ45 Crimping tool. Most crimping tools have the ability to cut cables, strip outside insulation and crimp the connectors.

We will assemble the RJ45 connectors on each end. Then, we will test the cable and finally use it to connect to the Internet or local network.



Strip the End of the Cable

We begin making a Category 5e cable by stripping away 2 inches of the outside blue insulation. Then, we separate the four twisted pairs into a star pattern, wht-org, org to the bottom, wht-brn, brn to the top, wht-blu, blu to the left and wht-grn, grn to the right.

Color abbreviations:

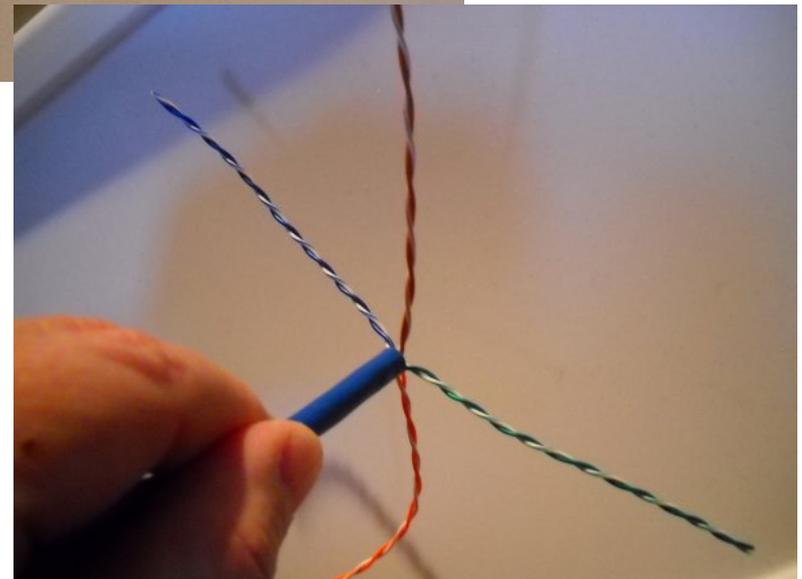
Blue – blu

Green – grn

White – wht

Orange –org

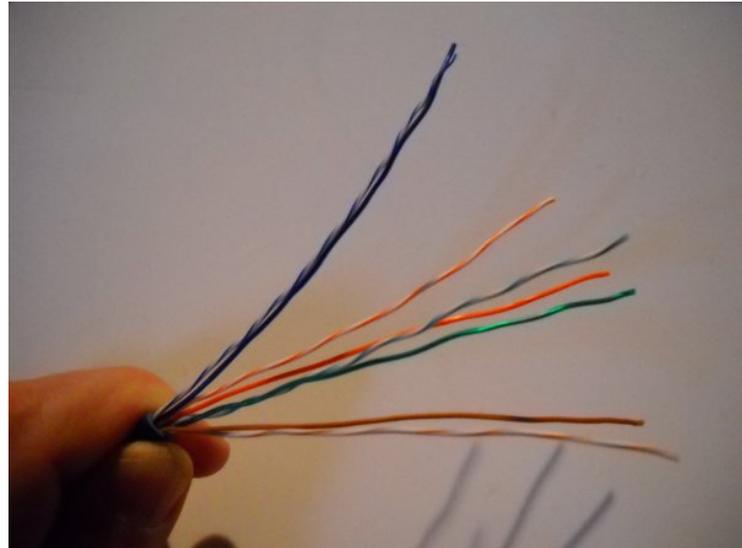
Brown – brn



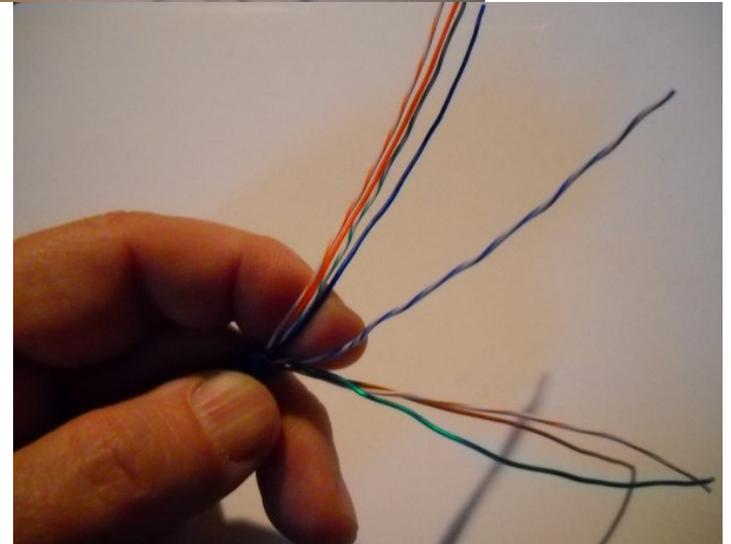
Placing the Colored Wires in Order

Next, we untwist the pairs as shown at the top and then we begin to feed the wires to the left hand in a precise order for the standard network cable. The order is wht-org, org, wht-grn, blu, wht-blu, grn, wht-brn, and brn.

We can hold the cable firmly with our thumb and index finger and use our other hand to feed the colored wires in order. For those who are left handed, we reverse the order.



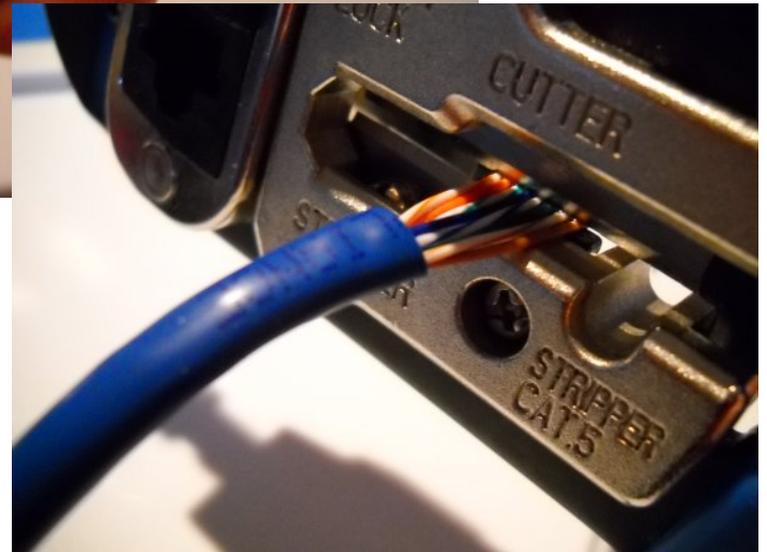
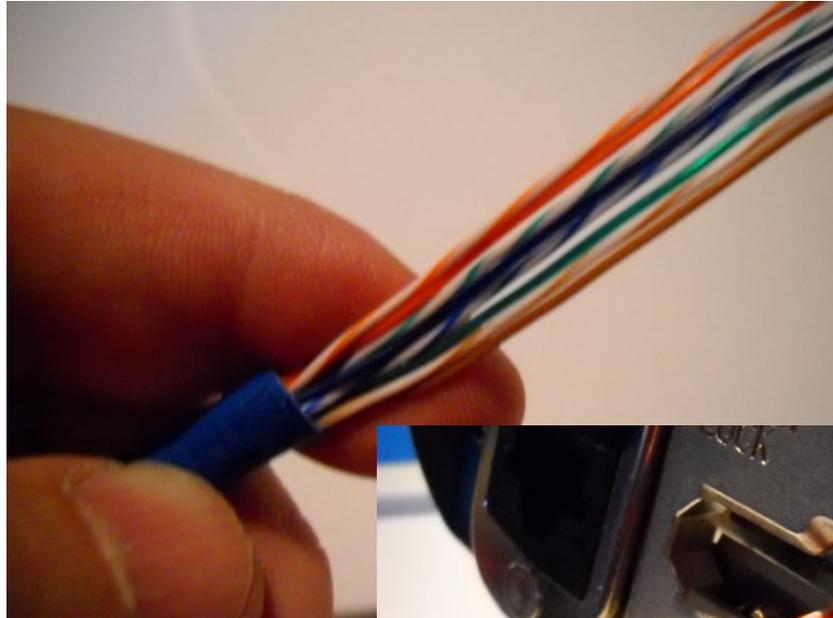
Order
wht-org
org
wht-grn
blu
wht-blu
grn
wht-brn
brn



Flattening and Trimming

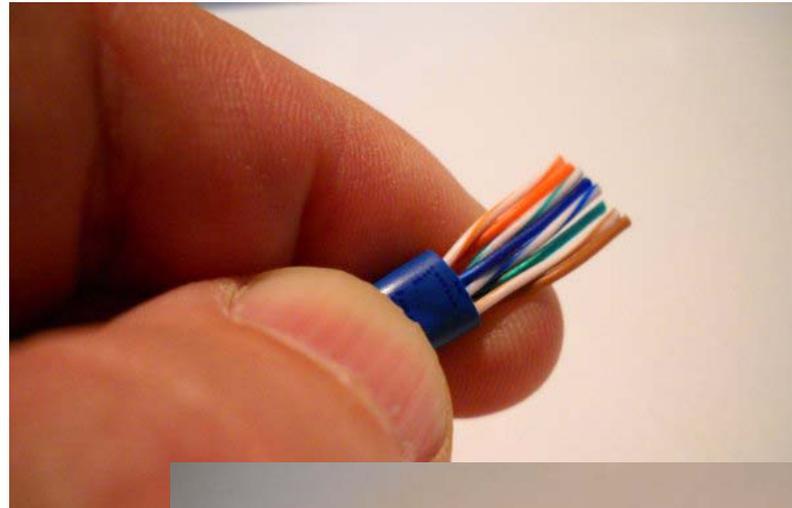
We can bend the copper wire easily to form a perfect ribbon as shown at the top.

Now, we take the cable and place the ribbon in the cutter and trim the wires perpendicular to the length of the cable.

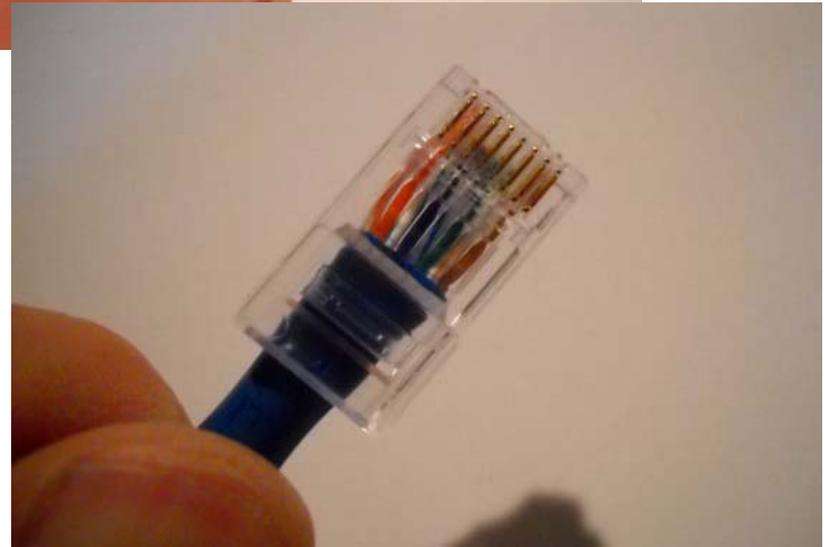


Inserting the Cable into the RJ45 Connector

After trimming the eight ribboned wires perpendicular to the length of the cable. Insert the wires into the RJ45 connector. The wires should go all the way to the end of the connector and the blue insulation should be under the stress relief bar as shown.



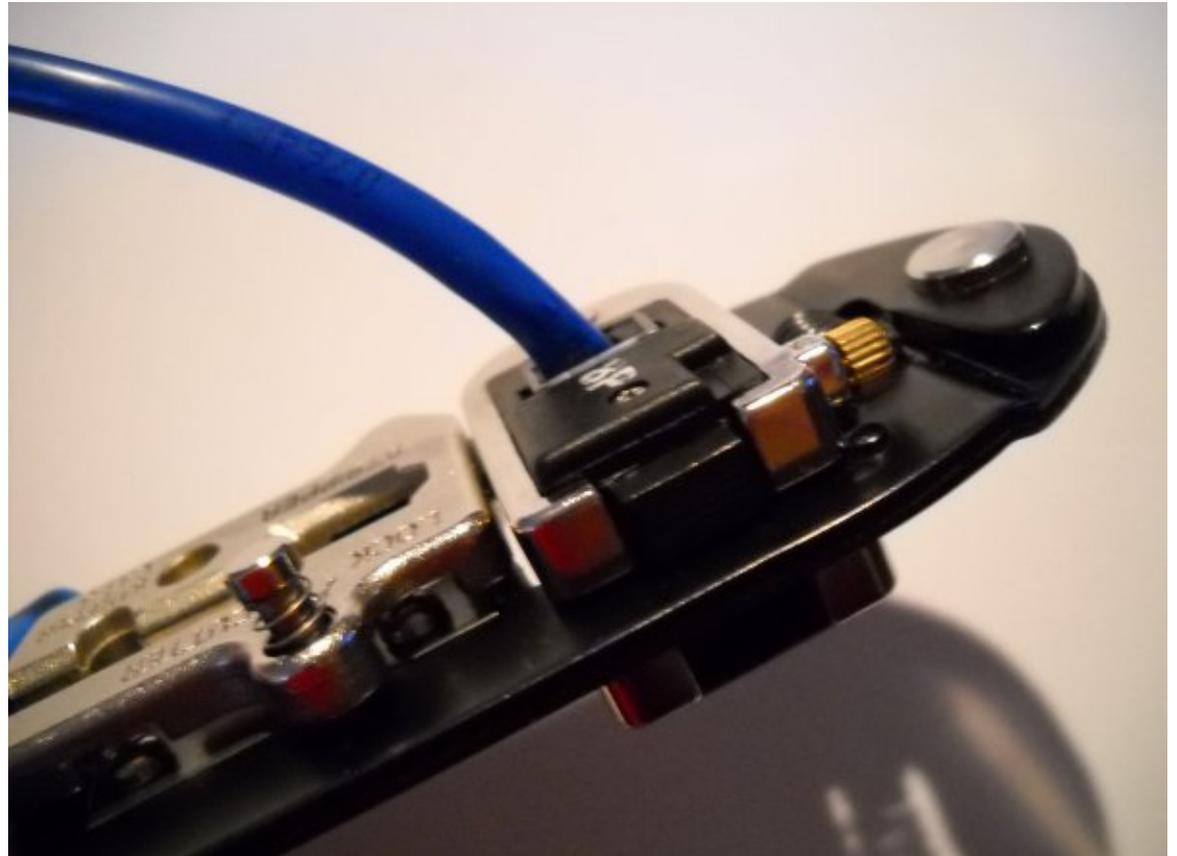
If the wires do not go all the way into the connector, the gold teeth may not cut make contact with the copper wire when we crimp the connection.



Crimping the Connection

To finish the one end, we place the RJ45 connector into the crimping die with the cable inserted. We press the tool's handles firmly together, so the gold teeth are tightly biting into the eight conductors. The stress bar will grasp the outside blue insulation.

Now, we will do the same steps on the other side of the cable.



Testing and Using the Cable

We can use a RJ45 cable tester to verify the cable is functional. Most technicians can make a standard network cable and place it into a LAN without testing, since they possess the skill to make cables.

To make a cable to lap link computers, see the lesson to make a cable with a 568A and 568B connection.

