THADOMAL SHAHANI TSEC ENGINEERING COLLEGE

EXPERIMENT NO. 1

Aim :- Use of Crimping Tool for RJ45.

Theory :-

Cables can transmit information along their length. To actually get that information where it needs to go, you need to make right connections to a RJ45 connector. Your cable run needs to terminate into a connector, and that connector needs a jack to plug into.

Registered Jack 45 (RJ45) is a standard type of physical connector for network cables. RJ45 connectors are commonly seen with Ethernet cables and networks.

Modern Ethernet cables feature a small plastic plug on each end of the cable. That plug is inserted into RJ45 jacks of Ethernet devices. The term "plug" refers to the cable or "male" end of connection while the term "jack" refers to the port or "female" end.

T568A and T568B are the two colour codes used for writing eight-position modular plugs. Both are allowed under the ANSI/TIA/EIA wiring standards. The only difference between the two color codes is that orange and green pairs are interchanged. There is no transmission differences between T568A and T568B cabling schemes. North America's preference is for T568B. Both ends must use the same standard. It makes no difference to transmission characteristics of data.

STEP 1 :

Using a Crimping Tool, trim the end of the cable you're terminating, to ensure that ends of conducting wires are even.

STEP 2 :

Being careful not to damage inner conducting wires, strip off approximately 1 inch of cable's jacket, using a modular crimping tool or a UTP cable stripper.

STEP 3 :

Seperate 4 twisted wire pairs from each other, and then unwind each pair, so that you end up with 8 individual wires. Flatten wires out as mush as possible, since they'll need to be very straight for proper insertion into connector.

STEP 4 :

Holding cable with the wire ends facing away from you. Moving from left to right, arrange the wires in a flat, side-by-side ribbon formation, placing them in following order : white / orange, solid orange, white / green, solid blue, white / blue, solid green, white / brown, solid brown.

STEP 5 :

Holding RJ45 connector so that its pins are facing away from you and the plug-clip side is facing down, carefully insert the flattened, arranged wires into the connector, pushing through until wire ends emerge from the pins. For strength of connection, also push as much of the cable jacket as possible into the connector.

STEP 6 :

Check to make sure that wire ends coming out of connector's pin side are in the correct order; if not, remove them from connector, rearrange into proper formation, and re-insert. Remember, once the connector is crimped onto the cable, it's permanent. If you realize that a mistake has been made in wire order after termination, you'll have to cut the connector off and start all over again!

STEP 7 :

Insert prepared connector/cable assembly into RJ45 slot in your crimping tool. Firmly squeeze the crimper's handles together until you can't go any further. Release the handles and repeat this step to ensure a proper crimp.

STEP 8 :

If your crimper doesn't automatically trim the wire ends upon termination, carefully cut wire ends to make them as flush with connector's surface as possible. The closer wire ends are trimmed, better your final plug-in connection will be.

STEP 9 :

After first termination is complete, repeat process on the opposite end of your cable.

Conclusion :-

Hence, we have implemented RJ45 and CAT cabling and connection using crimping tool.

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