

PRACTICAL-1.

Aim:- colour code for crimping LAN (Cat 5/6/7) cable:

(a) study of different color code.

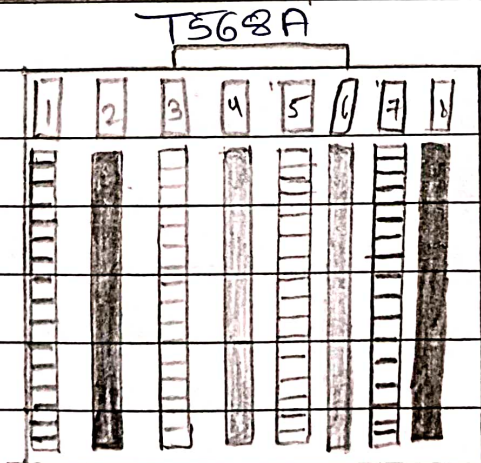
RT45 Connector:

- This connector RT45 is also known as an ethernet cable or LAN cable. It is available in two standards i.e. T568A and T568B.

- These cables works as pin IN and pin out for ethernet cable to perform data transfer. The only difference between these two cable is the wiring of green and orange pairs.

1. RT45 cable Pin out color code T568A:

| Pin | wire color | Signal | Description |
|-----|--------------|--------|---------------------------|
| 1. | white/Green | TX1+ | Transmit + |
| 2. | Green | TX1- | Transmit - |
| 3. | white/orange | RX+ | Receive + |
| 4. | Blue | TX2+ | Bi-directional Transmit + |
| 5. | white/Blue | TX2- | Bi-directional Transmit - |
| 6. | orange | RX- | Receive - |
| 7. | white/Brown | TX3+ | Bi-directional Transmit + |

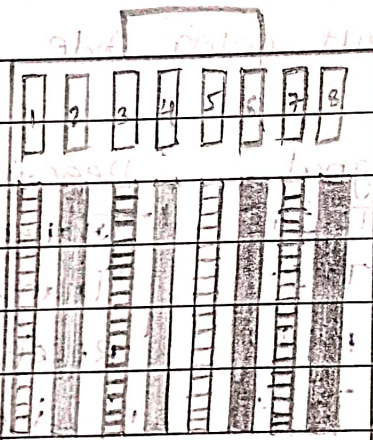


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2. RJ45 cable pin out color code T568B :-

| Pin | wire color | signal | Description |
|-----|----------------|--------|---------------------------|
| 1. | white / orange | TX1+ | Transmit + |
| 2. | orange | TX1- | Transmit - |
| 3. | white / Green | Rx+ | Receive + |
| 4. | Blue | TX2+ | Bi-Directional Transmit + |
| 5. | white / Blue | TX2- | Bi-Directional Transmit - |
| 6. | Green | Rx- | Receive - |
| 7. | white / Brown | TX3+ | Bi-Directional Transmit + |

T568B



+ transmit
- transmit
+ receive
- receive

white/green
orange
white/orange
blue
white/blue
green
white/brown

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(c) Crimping LAN Cable:

What is a crimping LAN cable?

- Crimping LAN/Ethernet cable is the process of attaching Connector to the ends of Ethernet cables. This process is also called 'RJ45 Crimping' because RJ45 is the name of the connectors that are used for LAN/Ethernet cables.

Why crimping is done?

- Setting up networks involves setting up long Ethernet cable connections between different devices. Instead of buying premade Ethernet cables of varying lengths (e.g. 5ft, 10ft, 50ft, etc.), it's more practical to just have a big spool of cabling that we can roll out and cut to the exact length we need.

- Therefore, we need to be able to attach RJ45 connectors to the ends of these cut cables so that we can actually plug them in!

Crimping Kit:

Step to perform crimping of LAN cable

Step 1: strip the cable

(a) use cable stripper tool to make an event cut around the plastic shield

(b) Remove the plastic cover and unwrap the blue-foil shielding to uncover the twisted wire pairs.

(c) push the copper wire to the side it is useful for ground connection

Step 2: Organize the wires:

(a) untwist the twisted wire and straighten them

(b) Then arrange them as per the order given below.

— The ordering for wire is:

(1) striped orange

(2) solid orange

(3) striped green

(4) solid blue

(5) striped blue

(6) solid green

(7) striped brown

(8) solid brown

1. Connect RJ45 Connector

Step 3: Connect RJ45 Connector:

- (a) Twist the wires evenly to about 1/2 inch in length using scissors at the blade. Keep enough length for the wires to reach the end of the RJ45 connector.
- (b) Insert these 8 wires into the RJ45 connector and keep the chip side away from you.
- (c) Then use the crimping tool to fix the connector on wire.
- (d) Connect the RJ45 boot over the connector for better grip.
- (e) Repeat this process for the other end of LAN cable.

Step 5:

- (a) Insert the both the end of LAN wire into the testing tool and turn it ON.
- (b) If it's working, all 8 numbers should be flashing green.