

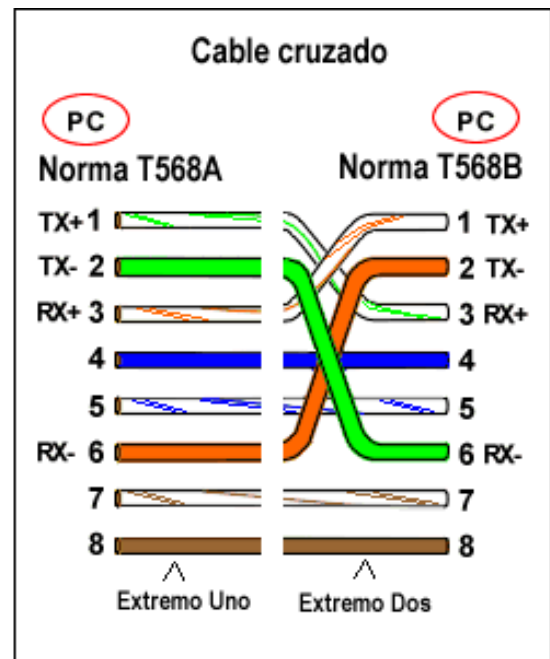
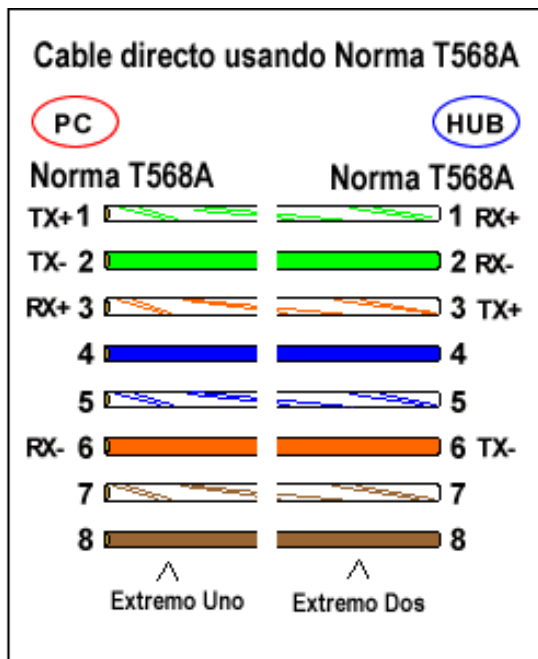
Practice 1: Network cables (Ethernet and crossover)

- A **direct network (ethernet) cable** connects two different devices to each other, such as a PC and a switch.
- A **crossover cable** is used to connect two devices of the same type, such as a PC to another PC or a switch to another switch.

Materials

- X meters of category 5 UTP cable.
- 4 RJ45 plugs.
- Ethernet wire cable crimper.

Connection diagrams



Direct cable procedure

- 1) Connect end one to the Ethernet port of the laptop or PC.
- 2) Connect end two to a LAN port on the switch, modem or router.

Crossover cable procedure

- 1) Connect end one to the Ethernet port of the laptop or PC 1.
- 2) Connect end two to the Ethernet port of the laptop or PC 2.
- 3) On both computers, disable the firewall on both public and private networks.
- 4) On both computers, access the control panel → Network and Internet → Network and Sharing Center → Change adapter settings → Properties (Ethernet-Network Cable) → Enable Internet Protocol version 4 (TCP/IP) → Properties → Use the following IP address.
- 5) Write to PC 1 the IP 192.168.1.1 and subnet mask 255.255.255.0.
- 6) Write to PC 2 the IP 192.168.1.2 and subnet mask 255.255.255.0.
- 7) On both computers, access Advanced Options → WINS → Enable NetBios over TCP/IP → OK.
- 8) Open CMD on both PCs and type "ping 192.168.1.2" on PC1 and "ping 192.168.1.1" on PC2. If no packet is lost and it does not say "timed out", the connection was successful.