

Ethernet cables

Most video servers will be connected to a computer network. This document describes how to make the cables that connect the server to the network.

What you will need

Tools:

1 x RJ45 crimp tool.

1 x Wirecutters etc.

1 x RJ45 cable tester (optional but an excellent time saving investment)

Cables:

1 x reel of CAT 5 ethernet network cable.

1 x quantity of RJ45 connector plugs

CAT 5 cable

CAT 5 cable consists of four pairs of wires. Each pair is twisted and consists of one solid colour and one similar colour striped with white. By convention the pairs are: Blue White/Blue, Orange White/Orange, Green White/Green and Brown White/Brown.

Distance considerations

CAT 5 cable will give reliable communication from video server to hub of up to 100 metres distance.

Wiring CAT 5 into RJ45 connectors

The standard cable that connects a video server to a network hub comprises of a length of CAT 5 cable with an RJ45 plug at either end.

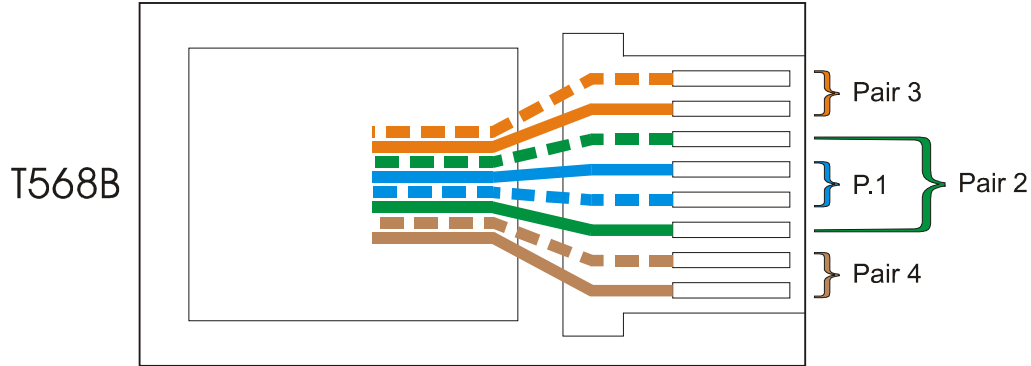
There are two ways to wire CAT 5 into RJ45 plugs, T568A and T568B. Provided both ends are wired as T568A or T568B the cable will connect a video server to a hub. If one end is wired as T568A and the other end wired as T568B the cable is a crossover type which could be used to connect a PC direct to a video server.

Care must be taken that the pairs are wired correctly, the standard cable is a pin for pin connection.

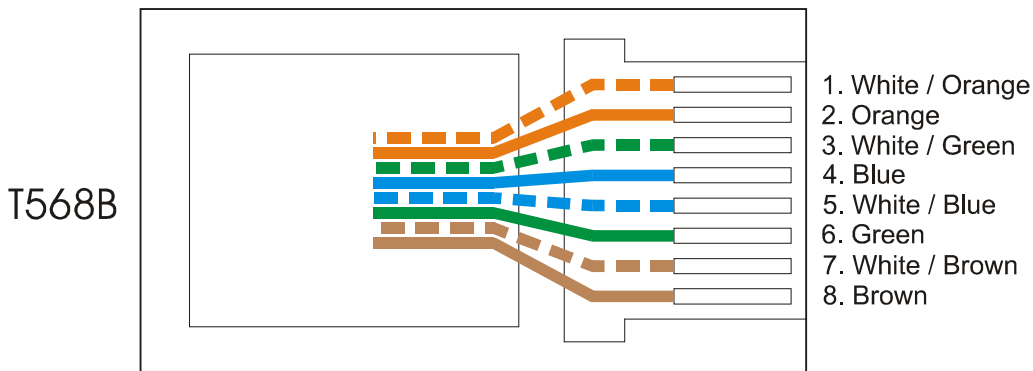
Whether you use T568A pinouts at either end or T568B pinouts at either end is not important. The cable will still work. It is best to decide on one format and stick with it, in our examples we will use T568B which seems to be the preferred standard.

T568B wiring

CAT 5 pairs are arranged in the RJ45 plug as in the diagram. Only pairs 2 and 3 are used by the network.



Colour coding inside the plug is as follows: (viewed from the connector side with the latch down)



A crossover cable is made by making up a T568B pinout RJ45 on one end of the cable and the following T568A pinout at the other end:

