TECH TIP - Explanation of the TIA568A and TIA568B Wiring Protocol

Both the TIA-568A and TIA-568B wiring schemes are widely used for terminating pairs in network infrastructure within category 5 and 6 cabling systems.

When designing and installing a network, one scheme should be selected and consistency maintained throughout for ease of maintenance and the prevention of errors. TIA-568B, the AT&T configuration, is the preferred system because of its consistency with most installed telecom infrastructures. Under the TIA-568B standard, the maximum allowable horizontal cable distance is 90m of installed cabling, whether fiber or twisted-pair, with 100m of maximum total length including patch cords. No patch cord should be longer than 5m.That said, a combination of TIA-568A or TIA-568B is possible provided any given cable is not started with one system and ended with another.

Each pair has two strands of conductors known as the Tip and the Ring. On our diagram, T and R are used to denote Tip and Ring. According to the color scheme, each pair has a wire of solid color and a wire with a white stripe. The Tip wire has the stripe, the Ring solid coloration. When the conductors terminate in a jack, pins are assigned according to the diagram associated with the TIA568A or TIA568B template. See the diagrams below for graphical representation of the wiring diagram.

TIA/EIA 568A
(More common in jumpers)

TIA/EIA 568B
(AT&T Configuration- More common for installed wiring)
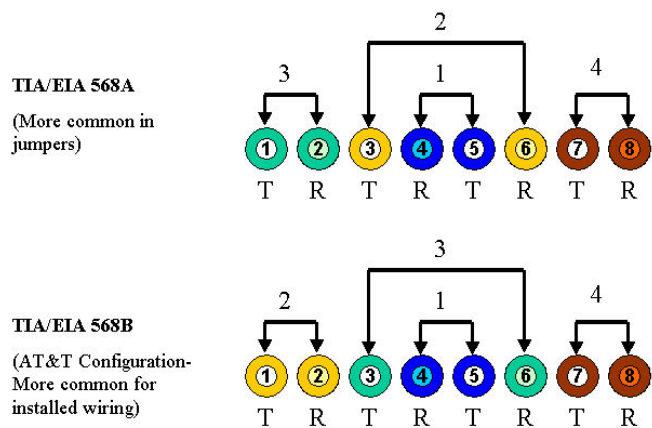
EIA/TIA-568A and 568B pinouts

Pin	T568A Pair	T568B Pair	1000BASE-T Signal ID	Wire	T568A Color	T568B Color	Pins on plug face (socket is reversed)
1	3	2	DA+	tip	white/green stripe	white/orange stripe	
2	3	2	DA-	ring	green solid	orange solid	
3	2	3	DB+	tip	white/orange stripe	white/green stripe	
4	1	1	DC+	ring	blue solid	blue solid	
5	1	1	DC-	tip	white/blue stripe	white/blue stripe	
6	2	3	DB-	ring	orange solid	green solid	
7	4	4	DD+	tip	white/brown stripe	white/brown stripe	
8	4	4	DD-	ring	brown solid	brown solid	