

Wiring Standards - Registered Jacks (RJ)

USOC, Universal Service Order Codes -FCC, Part 68, Subpart F, Section 68.502.

RJ - denotes Registered Jack
 "C" - flush or surface mount jack
 "W" - wall-mounted jack
 "X" - complex multi-line or series type jack

EIA/TIA Category Specification

Category 1 = No performance criteria
 Category 2 = Rated to 1 MHz (used for telephone wiring)
 Category 3 = Rated to 16 MHz (used for Ethernet 10Base-T)
 Category 4 = Rated to 20 MHz (used for Token-Ring, 10Base-T)
 Category 5 = Rated to 100 MHz (used for 100Base-T, 10Base-T)

When terminating CAT5 UTP cable, it is important that the natural twist of each pair be carried through to the point of termination. EIA/TIA standards require that more than 1/2 inch be left untwisted for termination. 2 inch of untwisted cable will affect performance.



Straight-Through "Ethernet"

Wire	Becomes
1 Transmit + →	1 Transmit +
2 Transmit - →	2 Transmit -
3 Receive+ ←	3 Receive+
6 Receive - ←	6 Receive -

Power over Ethernet (PoE) – (referred to as **IEEE 802.3af**) provides **48 volts DC** over two out of four available pairs. The maximum current of 400 milliamps for a maximum load power of 15.4 watts. Only about 12.95 watts are available to the load. Switched power supplies will lose another 10-20% of the available energy.

In mode B, pins 4-5 (pair #1 in both TIA-568A and TIA-568B) form one side of the DC supply. Pins 7-8 (pair #2 in both TIA-568A and TIA-568B) provide the return; these are the "spare" pairs in 10BASE-T and 100BASE-TX. Mode A uses pins 1-2 and 3-6.

Crossed-Over "Ethernet"

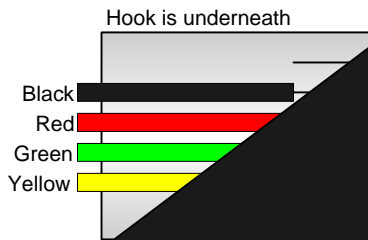
Wire	Becomes
1 Transmit + →	3 Receive +
2 Transmit - →	6 Receive -
3 Receive+ ←	1 Transmit+
6 Receive - ←	2 Transmit -

Switch to switch connections

Common types

- **RJ11C/RJ11W**: 6P2C, for one telephone line
6P4C with power on second pair)
- **RJ14C/RJ14W**: 6P4C for two telephone lines
- **RJ25C/RJ25W**: 6P6C, for three telephone lines
- **RJ45S**: 8P2C + keyed, for one data line w resistor

OSOC RJ11 Male
 (six position jack)
 6x4 Quad



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