

TECHNICAL BULLETIN

SIGNAMAX™ EXPERTS ADVISE

Crossover equipment cords

Standards require that for balanced twisted-pair cabling links, all connections should be straight-through with no crossovers between pairs or conductors. When crossovers are required for a certain twisted-pair application, they shall be implemented outside of the structured cabling system. For these purposes so called application-specific equipment cords or adapters are usually used. The most popular devices are crossover equipment cables or cords. Per BICSI definition (BICSI ITS Dictionary, 3rd Edition) “crossover cable – a cable for reversing transmit and receive at each end used to enable two network devices to communicate between each other.”

There can be two basic types of crossover cords – two-pair crossover cord and full crossover cord (four-pair crossover cord) (see Figure 1 below). Sometimes the difference between them leads to confusion among end-users. The confusion is caused by the habit to use traditional crossover cables with orange and green (Ethernet) pairs crossovered (two-pair applications)

Two-pair crossover cords are suitable for telecommunications applications transmitting over two pairs (e.g., 10BASE-T, 100BASE-TX, TR, TP-PMD, ATM, etc.) Four-pair crossover cords as the name suggests can be used with four-pair applications, as well they can support two-pair applications (backward compatibility). This backward compatibility is important when there is a need to support both two- and four-pair applications, which can be done with the same four-pair crossover cord.

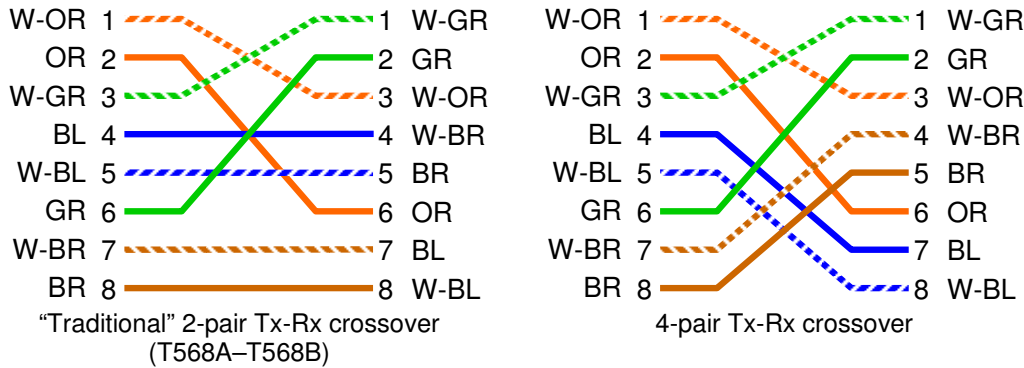


Figure 1. Two- and four-pair crossover wiring schemes

The wiring scheme of Signamax C5EX-112RD cords is four-pair. C5EX-112RD cords provide more flexibility in covering four-pair applications such as, for example, Gigabit Ethernet requiring complete crossover (see Figure 2).

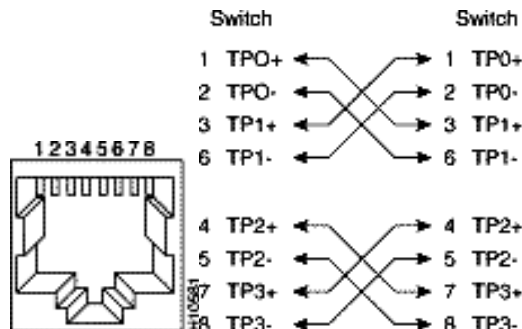


Figure 2. Cisco 10/100/1000 crossover cable pinout

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