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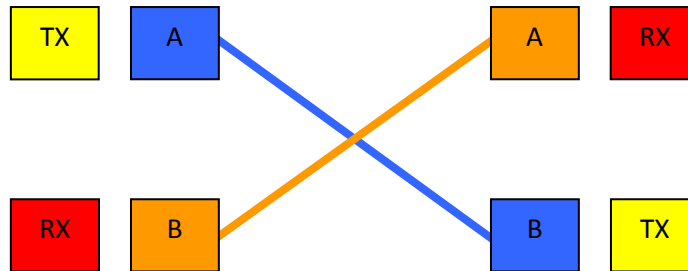
## Fiber Optic Polarity Explained

### Overview

Correct fiber polarity insures that light transmitted by a transceiver is received into the correct port on the opposite end of the circuit. Below details the 3 main polarity standards:

### Flipped:

Cables with individual connectors per fiber – Standard for patch cables, this polarity layout is seen in duplex assemblies. Light is transmitted in an A – B layout as seen below.



Cables with multifiber connectors - Commonly used in cassette to cassette, backbone to desktop applications where you have an ODD number of components. They maintain the numbering system of having fibers 1 through 12 on one side adhere to the Blue, Orange, Green, Brown, etc, scheme and having the connector on the other end be Orange, Blue, Brown, Green, etc. The pairs on one side are essentially "flipped" to maintain proper transmit/receive channels.

*(See Next Page for Diagram)*

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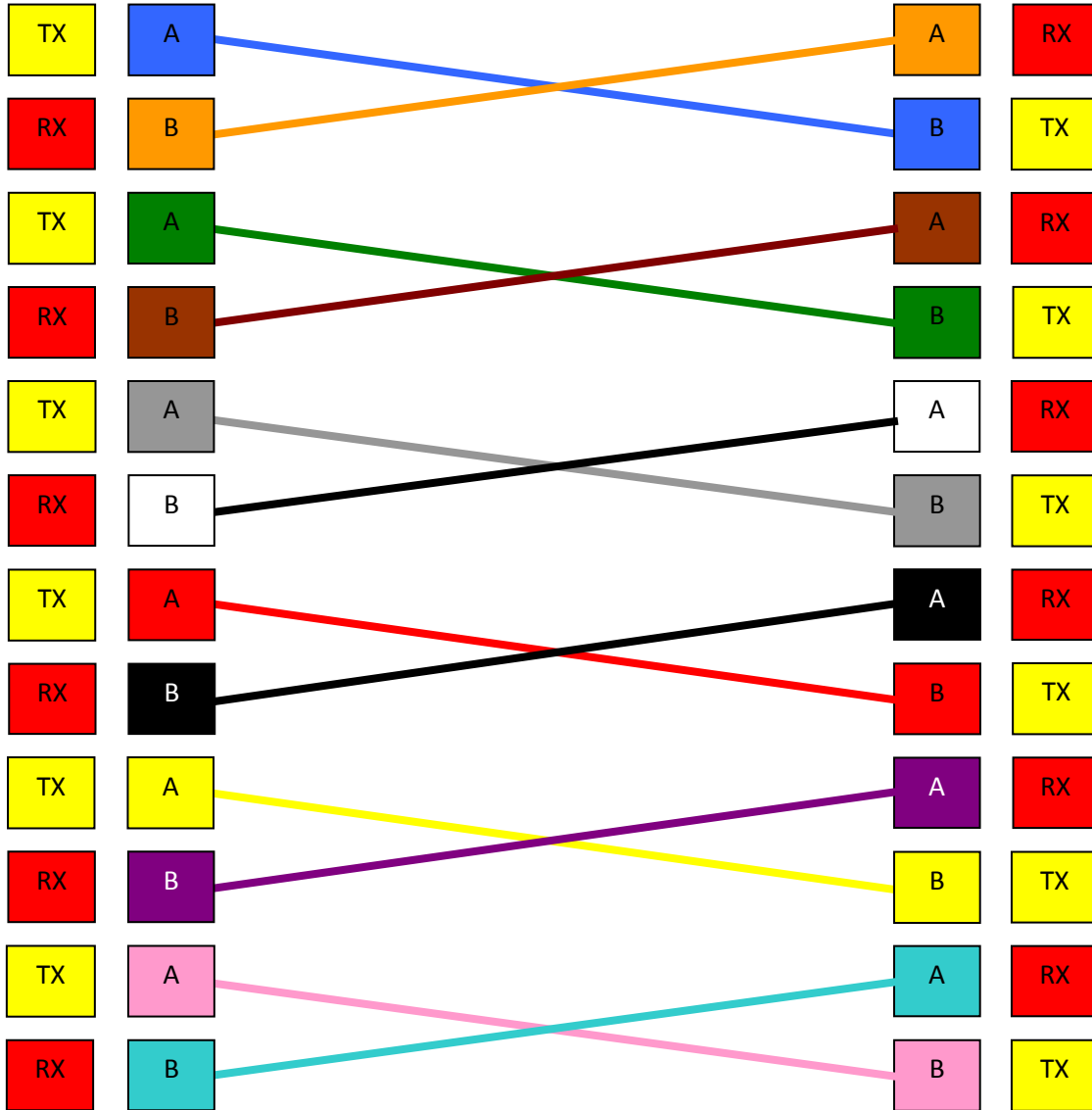
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## 12-Fiber "Flipped" Diagram:



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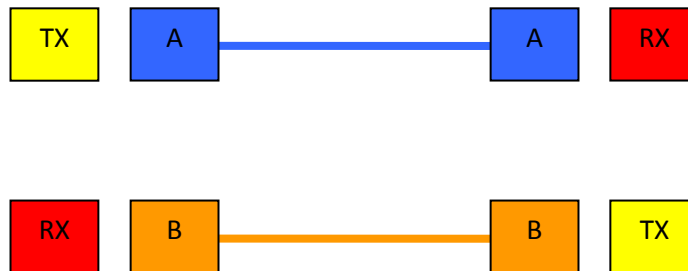
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## Straight-Through:

Cables with individual connectors per fiber – This polarity layout is seen in both duplex and simplex assemblies. In simplex connected assemblies, this means if you transmit through the blue strand of fiber, you would insert the blue fiber directly into the receive port on the opposite end of the circuit. In duplex assemblies, if you were to use this layout without any flipped assemblies, light would be directed into the transmit port on the other end of the circuit. This layout can be used in applications where an EVEN number of links is needed, but only as a single link in this application. Light is transmitted in an A – A layout as seen below.



Cables with multifiber connectors - Used in cases where Blue, Orange, Green, Brown, etc, must remain the same on each side. This layout can be used in applications where an EVEN number of links is needed, but only as a single link in this application.

*(See Next Page for Diagram)*

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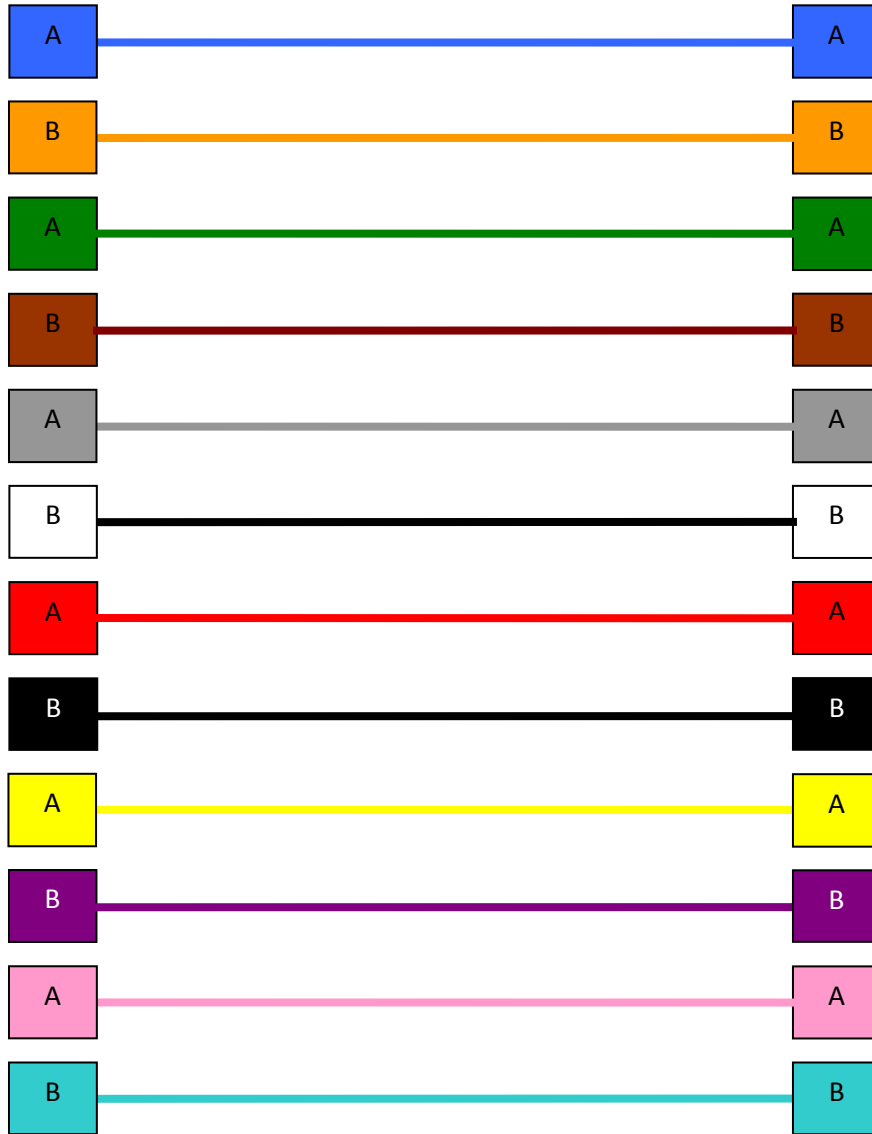
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## 12-Fiber "Straight-Through" Diagram:



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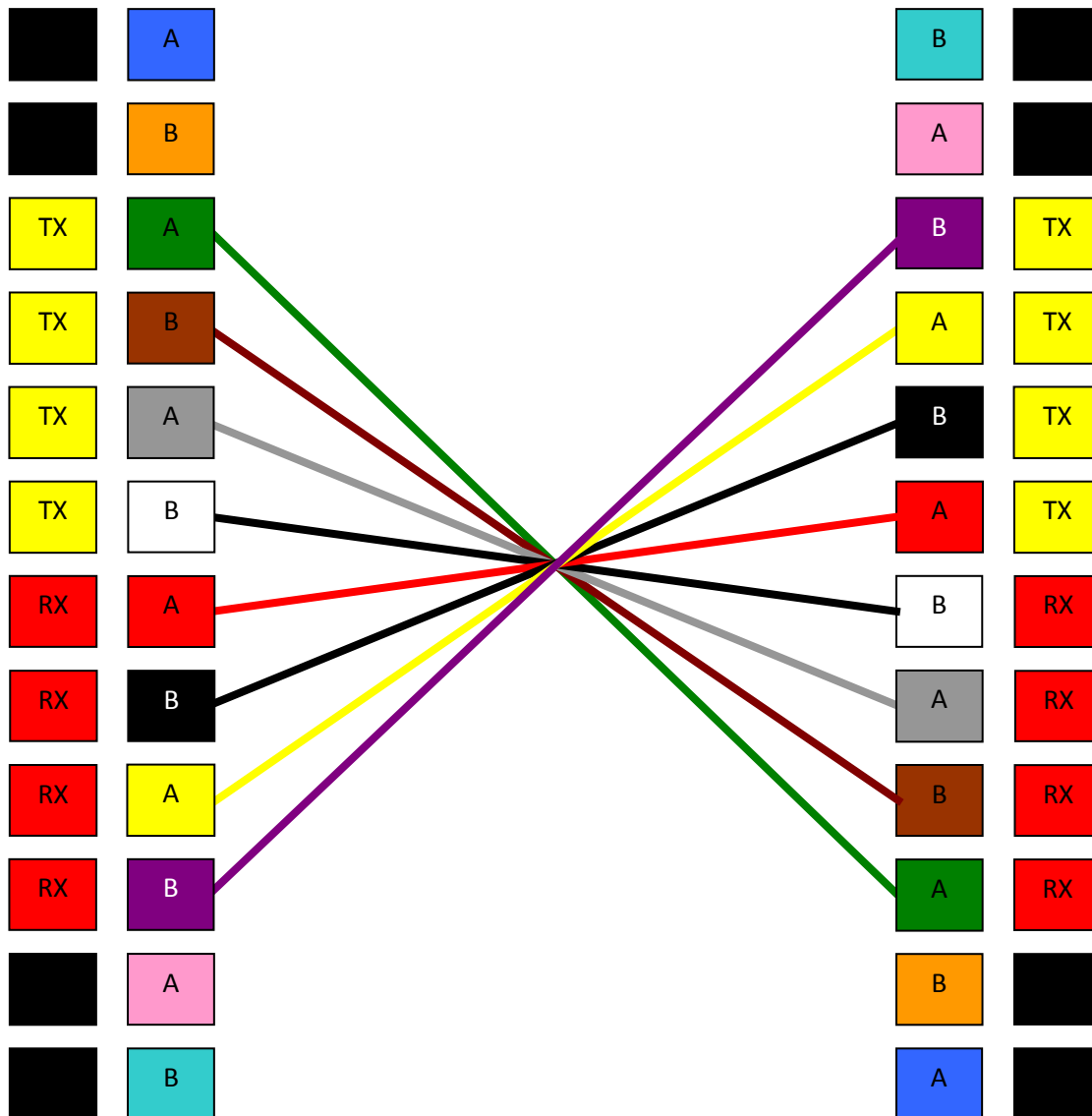
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## Rollover:

Cables with multifiber connectors - Used mainly in InfiniBand applications. The fibers on one end maintain the standard 1 through 12 scheme, and on the other end you have a mirror image of those fibers. In InfiniBand applications, fiber 1, 2, 11, and 12 are not used. The 8 fibers in the middle are then divided into two 4-fiber channels: A transmit and a receive. These transmissions are rolled over on the other side. This can be used in other applications, but InfiniBand is the most common.



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