

General Principles of Array Connector Polarity

Array connectors have two characteristics that enable them to change the path of optical signals (signal polarity). First, array connectors hold a group of fibers in fixed positions relative to some keying feature. Second, they can be used to construct patchcords in two different orientations, either key-up/key-up or key-up/key-down.

1. Key-up/Key-up Construction

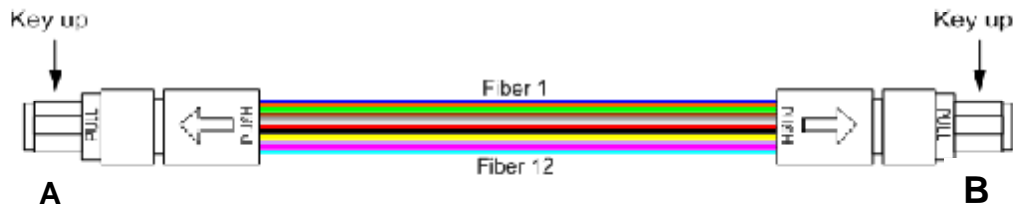


Figure A1: Key-up/Key-up Ribbon Patchcord

When a ribbon patchcord is constructed in a key-up/key-up configuration, the fiber arrangement on one connector is mirrored about the vertical axis on the other connector. For example, on connector A the blue fiber is to the left with the key up, while on connector B the blue fiber is to the right with the key up. Signals input on the left side of connector A will be output on the right side of connector B.



Figure A2: Key-up/Key-up Patchcords Mirror Signals About the Vertical Axis

The key-up/key-up configuration does not mirror signals about the horizontal axis. In multi-row connectors, signals input on the top row of connector A will be output on the top row of connector B.



Figure A3: Key-up/Key-up Patchcords Do Not Mirror About the Horizontal Axis

2. Key-up/Key-Down Construction

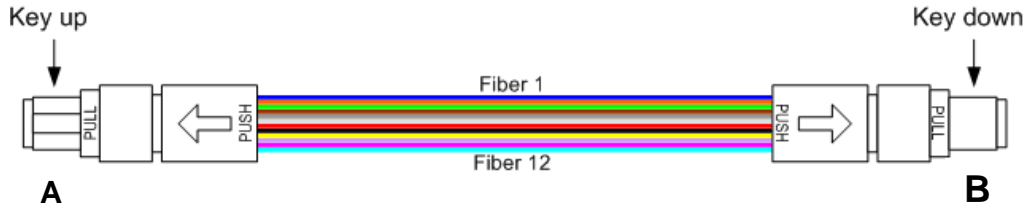


Figure A4: Key-up/Key-down Ribbon Patchcord

When a ribbon patchcord is constructed in a key-up/key-down configuration, the fiber arrangement on both connectors is identical about the vertical axis (the fiber arrangement is not mirrored). For example, on connector A the blue fiber is to the left with the key up, and on connector B the blue fiber is also to the left with the key up. Signals input on the left side of connector A will be output on the left side of connector B.



Figure A5: Key-up/Key-down Patchcords Do Not Mirror About the Vertical Axis

The key-up/key-down configuration does cause the fiber arrangement to mirror about the horizontal axis. This flip has no effect on connectors with a single fiber array, but does affect connectors with multiple rows of fibers. In multi-row connectors, signals input on the top row of connector A will be output on the bottom row of connector B.



Figure A6: Key-up/Key-down Patchcords Mirror Signals About the Horizontal Axis