

# RIVO MULTITRADE OPTICAL SYSTEMS

## How to connect a dual-port fiber optic panel SC



### Overview

A basic fiber optic panel is typically a metal enclosure that encloses the adapter panels and fiber splice trays.

### Key Takeaways

To connect a fiber optic panel with dual SC ports, use duplex SC patch cables or pre-terminated fiber cables, ensuring each fiber is properly aligned and terminated with SC connectors. Understanding SC Ports and Duplex Connections

SC (Subscriber Connector) ports are square-shaped fiber optic connectors that use a push-pull mechanism for secure connections and precise alignment of the fiber core, minimizing signal loss . A dual SC port setup typically refers to duplex SC ports, which consist of two fibers—one for transmitting (TX) and one for receiving (RX)—allowing full-duplex communication .

#### Required Cables

- Duplex SC Patch Cables: These cables have two fibers in a single jacket, each terminated with SC connectors. They are ideal for connecting dual SC ports on patch panels or network devices .



- **Pre-terminated Fiber Cables:** For longer runs or structured cabling, pre-terminated cables with SC connectors on both ends save time and reduce installation errors .
- **Connection Procedure**
- **Identify TX and RX Ports:** Ensure you know which port is for transmitting and which is for receiving. Duplex SC cables are usually color-coded or labeled to match TX to RX.
- **Use Proper Adapters if Needed:** If connecting to a different connector type (e.g., LC to SC), use an SC adapter or coupler to maintain alignment and minimize insertion loss .
- **Connect the Duplex Cable:** Insert the SC connectors into the corresponding ports on the fiber panel. The push-pull mechanism ensures a secure fit.
- **Maintain Fiber Integrity:** Avoid bending the fiber sharply and ensure the connectors are clean to prevent signal degradation.
- **Test the Connection:** Use an optical power meter or OTDR to verify signal strength and confirm low insertion loss.

#### Number of Fibers

For a single duplex connection between two devices, two fibers are required—one for TX and one for RX. If connecting multiple devices or switches through patch panels, multiply the number of connections by two fibers per duplex link . For example, connecting two switches with duplex SC ports requires four fibers in total between the panels.

#### Best Practices

- Always match connector types (SC/APC to SC/APC or SC/UPC to SC/UPC) to avoid high insertion loss or damage .
- Use protective covers on unused ports to prevent contamination.
- Plan for extra fibers in the cable for future expansion or redundancy . By following these steps and using the correct duplex SC cables, you can ensure a reliable, low-loss connection between fiber optic panels with dual SC ports.

## Article Content

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