

# RIVO MULTITRADE OPTICAL SYSTEMS

## Why are mobile network cables often made with pigtails



### Overview

**Fiber Optic Pigtails: Uses & Differences from Patch Cords** They are the bridge between fiber optic cables in the field and the equipment or patch panels that.

### Key Takeaways

Mobile network cables are often pigtails because they simplify installation, maintain signal integrity, and allow flexible, reliable connections between field cables and network equipment.

#### Definition and Function

A pigtail connector is a short cable with a pre-installed connector on one end and a bare or stripped end on the other, designed to be spliced into a larger cable or system . In mobile networks, pigtails act as a bridge between the main feeder or distribution cable and the equipment, such as base station radios, patch panels, or optical distribution frames . This design allows the most delicate part of the connection—the factory-terminated connector—to be handled in a controlled environment, reducing the risk of damage or poor performance in the field .

#### Advantages in Mobile Networks

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**Simplified Installation:** Pigtails allow technicians to connect cables in tight spaces or complex setups without directly terminating the main cable, which can be stiff or difficult to handle .

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Signal Integrity: Factory-terminated connectors ensure low insertion loss and consistent performance, which is critical for RF signals in 4G/5G networks or high-speed fiber optic links .

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Flexibility and Modularity: Pigtailed enable modular network design. If a connector or cable segment fails, only the pigtail or a short section of cable needs replacement, avoiding disruption to the entire system .

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Cost and Time Efficiency: Using pigtailed reduces field labor, minimizes errors, and lowers the total cost of ownership for telecom operators by preventing repeated terminations and ensuring long-term reliability .

#### Applications

- Fiber Optic Pigtailed: Used in FTTH, 5G base stations, and data centers, where the bare fiber end is fusion-spliced to the main cable, and the connector end plugs into equipment or patch panels .
- RF/Coaxial Pigtailed: Connect antennas or radios to feeder cables while maintaining impedance control and minimizing signal loss .

#### Summary

Mobile network cables are pigtailed because they combine factory-quality connectors with field-splice flexibility, ensuring reliable, high-performance connections while simplifying installation, maintenance, and upgrades in complex telecom environments .

## Article Content

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