

Patent for Integrated Fiber Optic Patch Cord Components

Article Overview

Patents exist for integrated fiber optic patch cord systems, including intelligent patch panels, robotic patching mechanisms, and modular electronic components for efficient fiber management.

Key Patents and Technologies

- o Fiber Patch Cord System with Robotic Arm U.S. Patent Application US20160209597A1 describes a fiber patch cord system designed for FTTX networks, where a port panel and robotic arm are integrated inside a fiber distribution terminal. The system allows automated patching, insertion, and pulling of optical fibers across a two-dimensional port panel. The robotic arm moves to specified adapter ports to perform maintenance tasks, improving accuracy, timeliness, and simplicity compared to manual patching. The design addresses challenges of column changes and non-telescopic arm limitations, which affect terminal volume .
- o Intelligent Patch Panels European Patent EP3301946NWA1 discloses a patch panel assembly with a sliding space for electronic modules, enabling upgrades from "dumb" to "intelligent" patch panels. This allows port monitoring and electronic component insertion without disassembling racks or disturbing existing cabling. The system improves accessibility and reduces the risk of damage during retrofitting .
- o Fiber-Optic Connector and Patch Cord Patents U.S. Patent Nos. 11,733,466; 11,808,994; 11,906,794; 11,880,075; 11,385,415; and 10,495,823 cover fiber-optic connectors, adapters, jump cables, and patch cords. These patents were involved in a U.S. International Trade Commission investigation regarding importation and sales of infringing products, highlighting the commercial and legal significance of integrated fiber optic components .

Additional Resources

- o The USPTO patent search portal allows users to search for existing patents, published applications, and patent assignments, which is useful for identifying prior art or filing new patents in fiber optic technologies .
- o Companies like Fujikura maintain patent listings for telecommunication systems, which can provide insight into proprietary innovations in fiber optic patch cord components .

Summary

Integrated fiber optic patch cord components are covered by patents that focus on automation, modularity, and intelligent monitoring. Key innovations include robotic patching systems, sliding electronic modules for patch panels, and fiber-optic connectors and adapters. These patents aim to improve efficiency, accuracy, and maintainability in high-density fiber optic networks, particularly in FTTX deployments. Understanding these patents is essential for network equipment manufacturers, system integrators, and IP professionals working in optical communications.



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Fiber-optic cable and method of manufacture Abstract A fiber-optic cable with low buffer insertion force, significant kink resistance,

CERTAIN FIBER-OPTIC CONNECTORS, ADAPTERS, JUMP Inv. No. 337-TA-1399 CABLES, PATCH CORDS, PRODUCTS

KOC offers high performance and an extensive line of fiber optic patch cords for use in all types of fiber optic networks. The patch

The complaint alleges violations of section 337 of the Tariff Act of 1930 in the importation into the United States and

The patch cords provide flexible interconnection to active equipment, passive optical devices and cross

Learn about Fiber Optic Patch Cords in our comprehensive guide, including the main components and application of

This page includes the patent name, patent number, legal status, invention/applicant, technical efficacy and accompanying drawings

The patents are for a hybrid optical fiber and copper conductor cable assembly (patent No.10-215934) and

Description The patch cord can be used in interconnect or cross-connect path connecting the incoming fibers to the elec-tronic

Disclosed are an optical connector, a fiber-optic pigtail, a fiber-optic patch cord, an optical communication device and a system,

Ensure reliable connectivity with Innoptical's durable fiber optic patch cords. Get custom lengths, various fiber types, and connector

Search for Optical Fiber Patents and Patent Applications (Class 359/341.1) Filed with the USPTO

The fibre-optic jack may be adapted to receive standardized fibre-optic plugs or connectors, e.g. SC or LC type fibre

The embodiments of the present invention are used to pull and insert a fiber patch cord.

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A Technical Overview by TARLUZ Fiber Optics Fiber optic patch cords are essential components in modern optical

Devices of different types (e.g., a switch connected to a computer, or a switch to a router) are connected with patch cords. A method

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