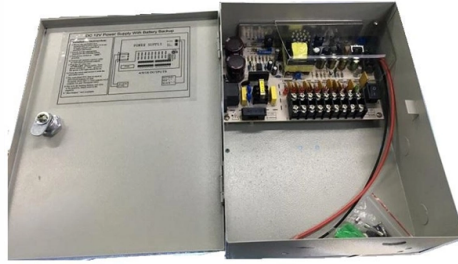


North Asia Optical Cable Product Introduction



Overview

Optical Cables < Product Introduction < Product LS Cable & System opens a happier, richer future through providing total solutions for optical RNAL — Groki.

Key Takeaways

North Asia optical cable systems, including RNAL and FNAL, are high-capacity, resilient submarine fiber-optic networks connecting Hong Kong, Taiwan, South Korea, and Japan, designed for ultra-high-speed data transmission. Overview of North Asia Optical Cables

North Asia optical cable systems are submarine fiber-optic networks that form the backbone of intra-Asia telecommunications. These systems are designed to provide high-capacity, low-latency, and resilient connectivity among major economic hubs in East Asia, supporting internet, voice, and data traffic. Key systems include the Reach North Asia Loop (RNAL) and the Flag North Asia Loop (FNAL), which together form a ring topology to ensure fault tolerance and continuous service in case of cable disruptions .

RNAL (Reach North Asia Loop)

- Length and Topology: RNAL spans approximately 10,000 km in a self-healing ring configuration, connecting Hong Kong, Taiwan, South Korea, and Japan .
- Capacity: Initially designed for 3.84 Tbps, upgraded in 2012 to 100G coherent optics to meet growing data demands .

- **Fiber Pairs:** The system consists of six fiber pairs, with the western leg covering 5,000 km from Hong Kong to Japan via South Korea, and the eastern leg connecting Hong Kong to Japan via Taiwan .
 - **Landing Stations:** Key landing points include Tong Fuk (Hong Kong), Toucheng (Taiwan), Pusan (South Korea), and Wada (Japan) .
 - **Technology:** Utilizes dense wavelength-division multiplexing (DWDM) for efficient bandwidth utilization and supports automatic rerouting for fault tolerance .
- FNAL (Flag North Asia Loop)
- **Integration with RNAL:** FNAL complements RNAL, forming part of the North Asian Loop system with a total length of approximately 9,800–10,000 km .
 - **Capacity and Upgrades:** FNAL has been upgraded to 40G and 100G networks, supporting 10G LAN PHY and OTN services for high-speed regional connectivity .
 - **Ownership and Development:** Jointly developed by FLAG Telecom (Reliance Globalcom) and PCCW Global, with each owning three fiber pairs .
 - **Resilience:** FNAL provides low-latency, redundant routes across North Asia, ensuring reliable intra-regional traffic flow .
- Optical Cable Products and Manufacturing

Manufacturers like LS Cable & System produce optical fibers, cables, and connection materials for these networks, offering solutions for ultra-high-speed multimedia communication . Modern optical cables are designed for robustness, cost-effectiveness, and ease of installation, often featuring stainless steel tube armor for protection in harsh submarine environments . Advanced systems employ high-count fiber pairs and wavelength-division multiplexing to maximize bandwidth and support millions of simultaneous data streams .

Applications and Significance

- **Regional Connectivity:** These optical cable systems enable efficient city-to-city links between Hong Kong, Seoul, Tokyo, and Taipei, reducing reliance on longer trans-oceanic routes .
- **High-Speed Data Transmission:** Supports internet backbone traffic, cloud services, and AI-driven applications across North Asia .
- **Resilience and Redundancy:** Ring topology ensures automatic rerouting in case of faults, maintaining uninterrupted service .
- **Economic Impact:** Forms a critical part of Asia's digital infrastructure, supporting international business, telecommunications, and data-intensive industries . North Asia optical cable systems like RNAL and FNAL represent state-of-the-art submarine network technology, combining high capacity, low latency, and resilient design to meet the growing demands of intra-Asia digital communication.

Article Content

RNAL — Grokipedia

The RNAL (Reach North Asia Loop) submarine cable system originated as a collaborative project between Level 3 Communications

FNAL/RNAL

The North Asian Loop cable system was jointly built by FLAG Telecom and Level 3 Communication. Level 3 Communications built its

Network in the Spotlight: FNAL

For our latest Network in the Spotlight we feature our Asian Cable System: FNAL which is a 100G enabled resilient loop system,

FLAG North Asia Loop/REACH North Asia Loop

The cable was one of the earliest dedicated regional cables built for the booming East Asian internet, originally operated by FLAG

Taihan Fiberoptics

As Taihan Fiberoptics has completed the vertical integration for preforms necessary for optical fiber manufacturing to optical cables,

Fibre Optic Cables | ScaleFibre Asia

These All-Dielectric Self-Supporting (ADSS) cables are designed to withstand wind and ice loading without the need for a separate

Top 24 Fiber Optic Cable Manufacturing Companies

Want to Find More Fiber Optic Cable Manufacturing Companies? If you want to find more companies that provide optical cables and

Fiber Optics Market Size, Share & Forecast Report, 2024 - 2032

In the context of the fiber optics industry, Corning has been a major player and a leading provider of optical communication solutions.

Asia Pacific Fiber Optics Market Size | Industry Report, 2030

Asia Pacific Fiber Optics Market Report Segmentation This report offers revenue growth forecasts at the country levels and provides

BASICS OF OPTICS AND OPTICAL FIBER COMMUNICATION

Fiber Optic Communication plays very important role in between the communication of various nations starting from Japan to Asia to

North Asia Fiber Optic Cable Global Manufacturers & Suppliers List ...

Find and discover international north asia fiber optic cable manufacturers & suppliers, featuring details on their shipment activities,

Optical Cable

The Duct Type Optical Cable is designed for installation in ducts or conduits, typically in underground or indoor environments. It's

Optical Fiber | Optical Fiber Products | Corning

Optical fiber broadband brings together a culture of innovation, quality, and manufacturing excellence to create life-changing products.

Fiber Optics Market Size Report 2024-2029 [234 Pages & 191 Tables]

Fiber optics players are focusing on leveraging new revenue sources such as FTTX, Data Center Interconnect (DCI), and subsea

The Operation of Cross-Border Terrestrial Fibre-Optic Networks

This working paper describes and analyses five case studies of cross-border terrestrial fibre-optic networks implemented by various

NKT | Cable Solutions

By adding first medium voltage cables (MV) and later high voltage cables (HV) to our portfolio of products, we have become a

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

