

Data Center Cross-Connect

Cross-connect with H-Series and SpiderWeb Ribbon® (SWR®) Cable

This application note shows how the H-Series and SpiderWeb Ribbon (SWR) Cable can be utilized for a cross-connect in a colocation data center environment.

Colocation and service providers such as hyperscale, cloud, telecom, or enterprise companies require physical layer solutions that reduce latency and downtime while simultaneously increasing connectivity density and bandwidth capability to deal with growing data management requirements from new and existing colocation customers. If not properly maintained, a colocation fiber network can quickly become difficult to manage. This can be prohibitive for colocation customers seeking to connect to new service providers.

From the service provider to the colocation data center's Main Distribution Area (MDA), it makes commercial sense to bring in more fiber than what today's networks demand. This means networks can scale seamlessly and additional cable runs do not need to be added, meaning more space is left available in ducts and fiber raceways. In this scenario, service providers can decide between a number of wall- or rack-mounted connectivity solutions and run 1728F flame-retardant Wrapping Tube Cable (WTC) with SpiderWeb Ribbon (SWR) into the MDA.

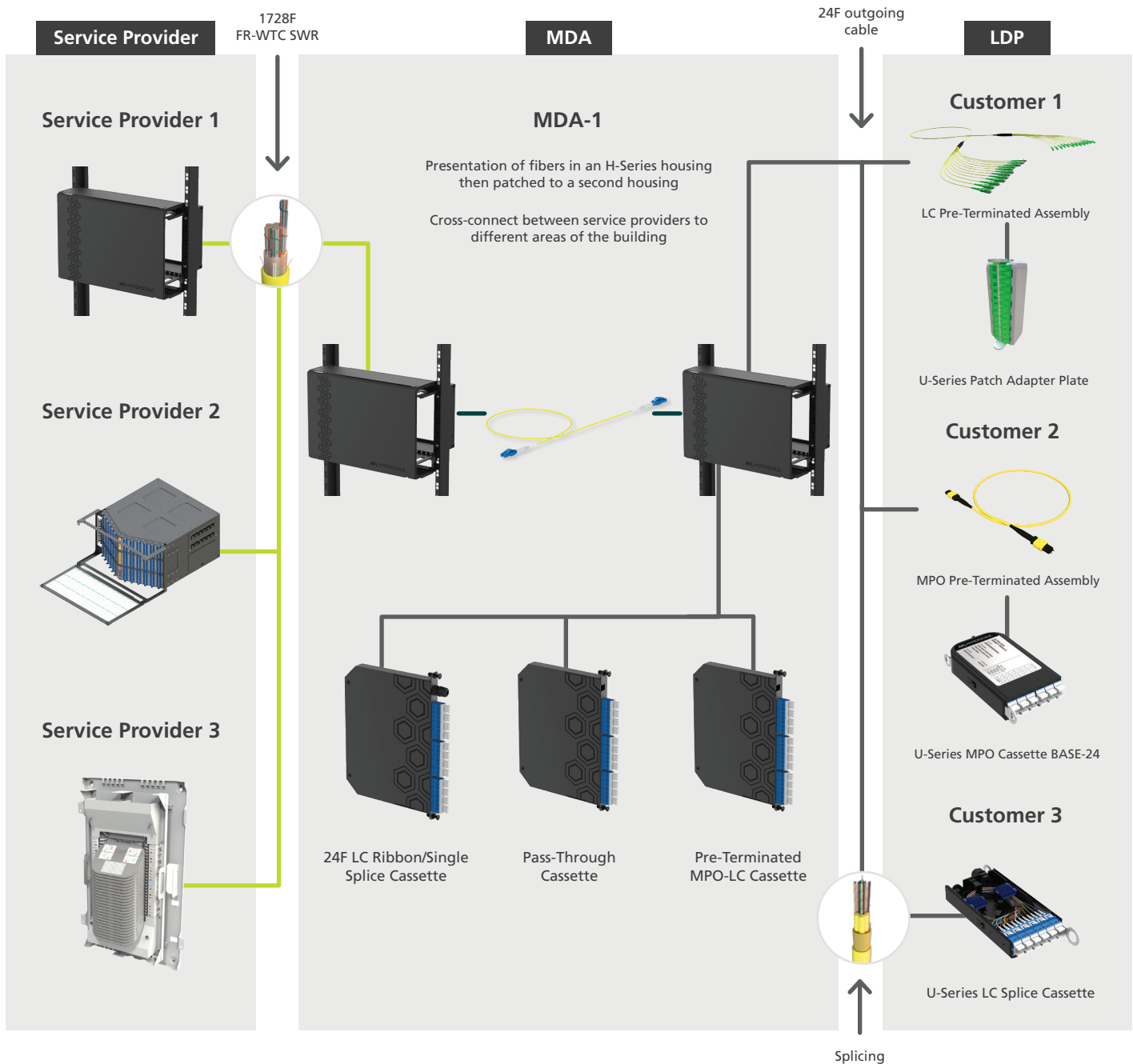
In the MDA, the H-Series provides a shallow-depth, front-access only housing that, when used with certain frames, can be bayed side-to-side, back-to-back, or against a wall – saving valuable floor space and leaving more room for customers.

The H-Series has a range of cassettes for an innovative, easy-to-install solution that enables high fiber counts of 288F 2 mm round duplex LC patch cords to be efficiently distributed and maintained, meaning your network can change and scale quickly as customer demand continues to grow.

Between the MDA and the Local Distribution Point (LDP), a wide range of 24F cable or assemblies can be deployed including cassette splicing, MPO for fast, plug-and-play installation, or pre-terminated cassettes for low-latency connections. The U-Series 2RU and 1RU housings are modular, meaning networks are configurable and scalable with 24 LC ports on the front of the U-Series cassettes.

Data Center Network Topology

Cross-connect with H-Series and SpiderWeb Ribbon® (SWR®) cable

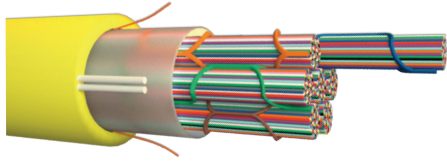


Service Provider

MDA - Main Distribution Area

LDP - Local Distribution Point

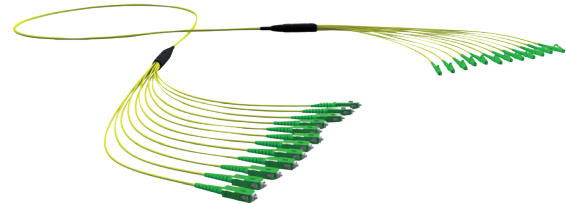
Cable and Assemblies



Flame-Retardant Wrapping Tube Cable with SpiderWeb Ribbon®

- Available in a number of flame-retardant or CPR ratings
- Compact cable construction to save duct and fiber raceway space
- Rollable ribbon construction for cable flexibility
- Suitable for mass-fusion and single-fiber splicing – fibers can be connectorized with single-fiber connector or MPO pigtail

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LC Pre-Terminated Assemblies

- Compact, small dimension, flexible MicroCable, customizable to any length and tail fanout/stagger
- Available OM3, OM4 and OS1/OS2, and G.657A1 types
- 12 and 24 cores standard (high core counts up to 144 fibers available)
- 2 mm ruggedized tails (900 µm tails available)
- LSZH, OFNP, and ONFR cable jacket
- Factory-terminated and tested

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MPO Pre-Terminated Assembly

- Compact, small dimension, flexible MicroCable, customizable to any length and tail fanout/stagger
- Available OM3, OM4 and OS1/OS2, and G.657A1 types
- 12 and 24 cores standard (high core counts up to 144 fibers available)
- LSZH, OFNP and ONFR cable jacket
- Factory-terminated and tested

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LC Duplex Polarity Reversible Uniboot Patch Cord

- Polarity reversal without the use of tools and without twisting or movement of the optical fiber
- Full duplex in a single 2.4 mm or 2.0 mm diameter cable for space saving and flexibility
- Enhanced optical performance to meet tight data center power budgets
- Available in OM3, OM4, G657A1 or A2 fiber types
- LSZH, OFNP and OFNR cable jacket
- Factory-terminated and tested

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Connectivity



3456F Mass-Fusion Splice Wall Cabinet

- Available for mass-fusion splicing of 6912F, 3456F or 288F ribbon cables
- Easy, one-person wall or rack mount installation
- Space-saving and cost-effective

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H-Series 7RU Housing

- 7RU housing can accommodate 24 H-Series cassettes and a total of 576 LC ports
- Front-access only housing
- Slim-depth housing is ideal for shallow-rack environments
- Easy access makes adding, removing or swapping cassettes simple and straightforward
- Available unloaded allowing you to add cassettes as your network grows
- Housing is robust but made out of lightweight aluminum alloy, enabling one-person installation

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H-Series 24f LC Ribbon/Single Splice Cassette

- Pre-loaded pigtails reduce on-site installation time
- Cassette is wider than many other cassettes on the market, facilitating easier splicing/fiber routing
- Slim cassette with single row adapter design allows easy access
- Available in tight buffer single strand pigtail and ribbon pigtail options
- Available in single-mode and multimode fiber types
- Gland fit for 2.5-6 mm diameter cable

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U-Series MPO Cassette BASE-24

- Plug-and-play cassette with 24-fiber ferrule MPO connector
- SM and MM (OM3/OM4) versions
- Polarity A, B or C
- Up to 24 x fibers per cassette – 24 LC

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Connectivity



H-Series Pass-Through Cassette

- LC pass-through cable solution with no splicing work required
- Lower insertion losses vs. MPO-LC cassette
- Slim cassette with single row adapter design allows easy access
- Available in single-mode and multimode fiber types
- Best paired with AFL Hyperscale pre-terminated cable with 24 x 600 μ m breakout kit in 600 μ m 360 mm tails

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U-Series 0RU Housing

- Kit for outside rack space U-Series cassette installation
- Single U-Series 0RU kit accepts single cassette
- Multiple kits can be stacked to create a multiple-cassette outside rack space housing system
- Front and rear cassette installation
- 2-point cassette locking position
- Compatible with U-Series MPO, pre-terminated and splice cassettes

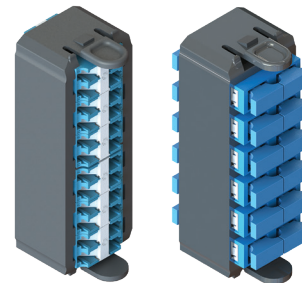
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U-Series 2RU Pass-Through Patch Panel

- U-Series 2RU panel scales up to 12 x U-Series Patch Adapter Plates
- Up to 288 LC/144 SC ports in 2RU
- Up to 288 LC/144 using an MPO/MTP interface
- Compact size for installation in shallow-depth racks
- Shallow depth improves rear adapter port access
- Facilitated patch cord installation
- Cable management accessories

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U-Series Patch Adapter Plate

- SC/LC interface
- Up to 24 x LC or 12 x SC ports in a single adapter plate
- Up to 288 x LC and 144 x SC ports in a 2RU space
- Compact in size
- LC quad shuttered adapters (24F LC)
- Secure installation with easy lock-and-release tab
- Easy front and rear adapter plate access
- Facilitated patch cord installation

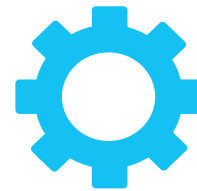
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Your Data Center Connectivity Partner



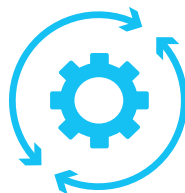
Global reach

Global support and manufacturing capabilities, with fast delivery worldwide.



Innovative technology

Across fiber density, connectivity automation, splicing capability and emerging bandwidth speeds, we are at the forefront of optical fiber innovation.



End-to-end solutions

From outside the data center to inside, we provide scalable easy-to-use, fast-to-install, high-performance network solutions.



Comprehensive customer support

From product and installation training and installer certification to network warranties, network layouts and product design, we offer the most comprehensive customer support in the industry.

We pride ourselves on being a dependable partner for many of the world's largest cloud companies, social media platforms and colocation providers – enabling them to grow and innovate – faster than any other cabling or connectivity manufacturer.

Our world-class technical team is available to assist both in the field and back office, supported by proactive global account management and highly responsive local support (in more than 25 languages). Wherever you are in the world, we are here to help.



Data Center Cabling and Connectivity Experts

The data center is the heart of your operation. Regardless of how or where you deploy your infrastructure, AFL has an end-to-end solution to support your growing network.

With its vertically-integrated operations, AFL has the expertise to maximize the performance and scalability of your data center. As the technology leader in fiber optic cabling and connectivity systems, AFL helps deliver modularity, density and flexibility of design for your network infrastructure. AFL can supply every piece of the puzzle, providing control over quality, reliability and performance.

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