



CABLEExpress®

A DIVISION OF CXTEC

DATA CENTER GUIDE

**RESPECT
LAYER ONE**



The CABLEExpress Experience

CABLEExpress, a division of CXtec, manufactures high-performance cabling, data center infrastructure products, and structured cabling solutions. We help you implement a cabling infrastructure that provides the quality and performance to make all your technology investments worthwhile.

CABLEExpress began more than 40 years ago working to solve problems for mainframes in the data center. Our cabling expertise is guided by our experience with enterprise accounts, schools, financial institutions, retail, and medical facilities.

We understand that hardware investments need to be optimized to meet the business goals of your company. We want to become your true partner, providing insight for the future, knowledge of current best practices, and personal assistance in data center design in every interaction you have with us.

The award-winning CABLEExpress Multi-Path™ System handles multiple cabling light path solutions resulting in little disruption or added cost. Our Skinny-Trunk® Solution is a high-density, fiber optic product line that helps you maximize business value and prepare for future generations of upgrades.

We serve on the Telecommunications Industry Association (TIA) Telecommunications Cabling Systems Engineering Committee (TR-42), which develops and maintains standards for optical fiber, balanced twisted-pair copper and other telecommunications and data cabling systems and components.

We bring an in-depth understanding of current data center standards, such as the ANSI/TIA-568.3-E, Optical Fiber Cabling and Components Standard, ANSI/TIA-942-C, BICSI 002 and others.

Protect your critical assets with the highest-quality product, best service, optimum performance, and industry-leading innovation you can only get from CABLEExpress.

High-performance cabling, data center infrastructure products, and structured cabling solutions

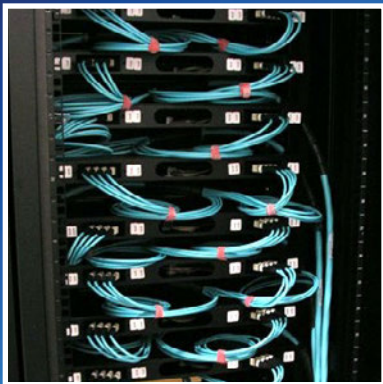
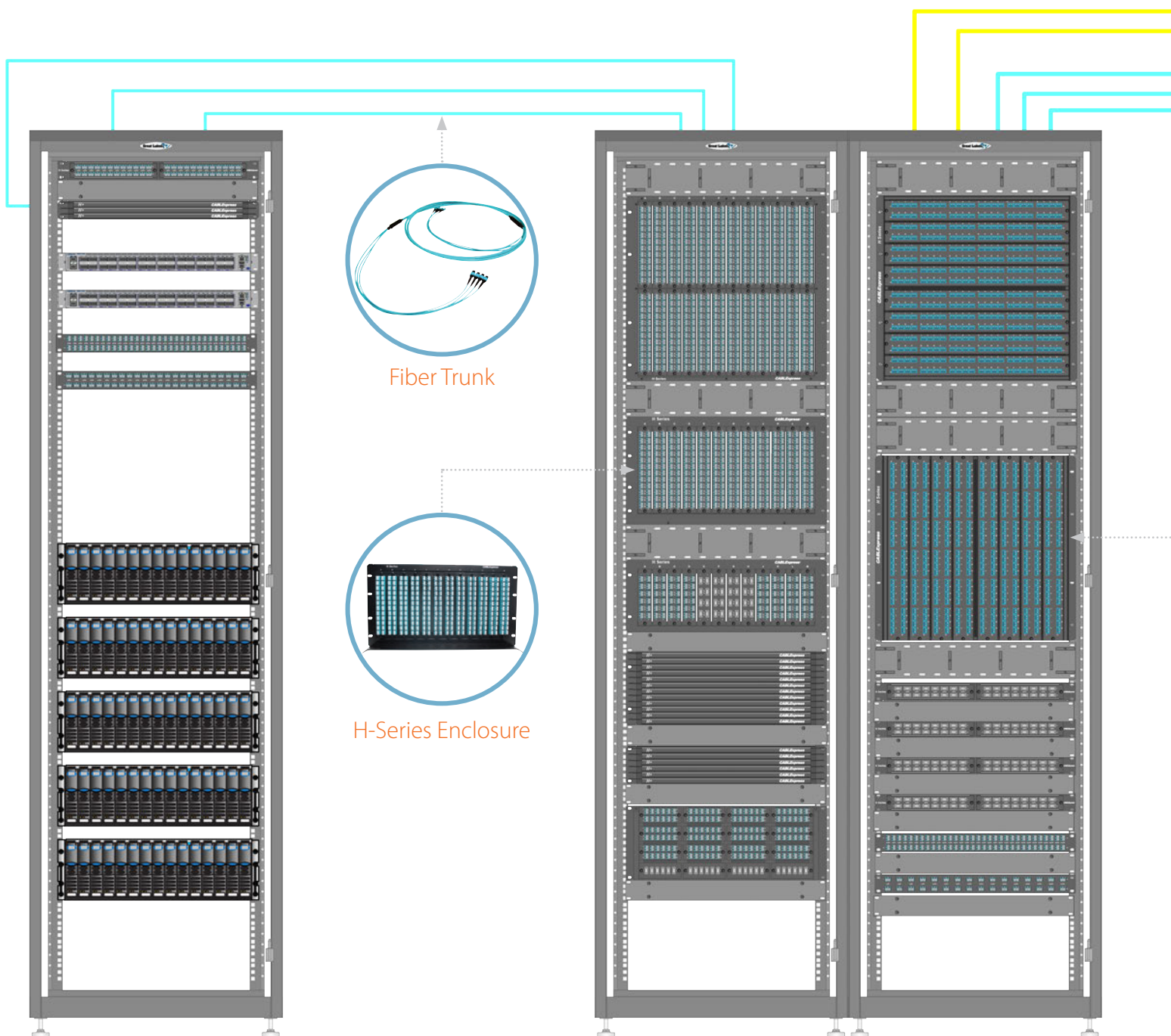


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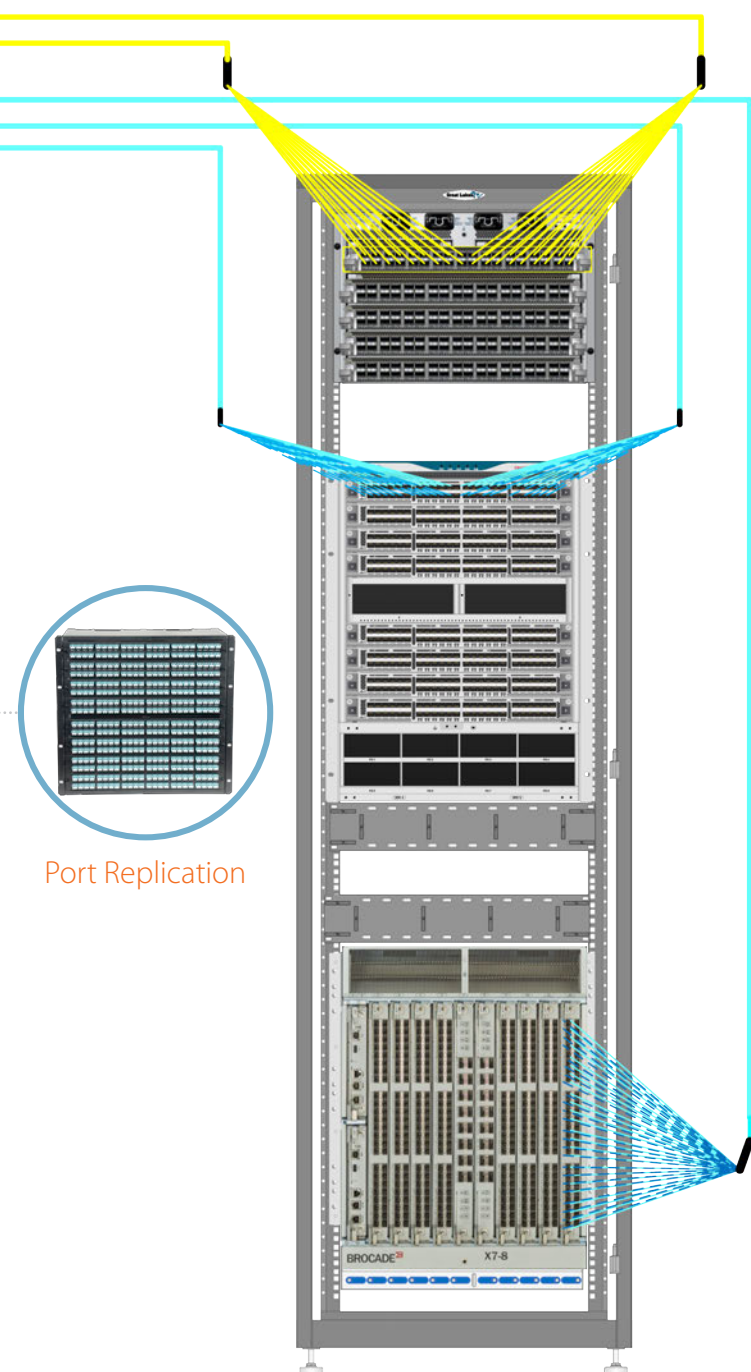
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Skinny-Trunk® Solution

Designed with performance and manageability in all aspects of its product set, the Skinny-Trunk® Solution is the best way to ensure your equipment will achieve optimum performance.



RESPECT[®] LAYER ONE



Multi-Path[™] System

Increasing data speeds have created challenges for data center managers designing fiber cabling topologies, such as polarity (light path). This dilemma led us to design a new way to deliver a simple, effective system that handles multiple paths with very little disruption or added cost.

The CABLExpress Multi-Path[™] system simplifies the cabling migration process and reduces the need for multiple transition components. The CABLExpress Multi-Path[™] system is also the ANSI/TIA-568.3-E new "universal" polarity method, U1.

Learn more at: www.cablexpress.com/multipath

Performance

Designed to meet and exceed your loss budgets and have high repeatability, so your cables work the first and the 500th time you plug in.

Manageability/Scalability

High-density yet easy to work with, featuring organized cable management and modular designs for easy swap outs.

Flexibility

Overall cabling can decrease by 70%.

Time Savings

Plug-and-play technology.

- Ensures your equipment will achieve optimum performance
- Allows for flexibility and scalability with all your growth needs
- Save on space, labor and cooling

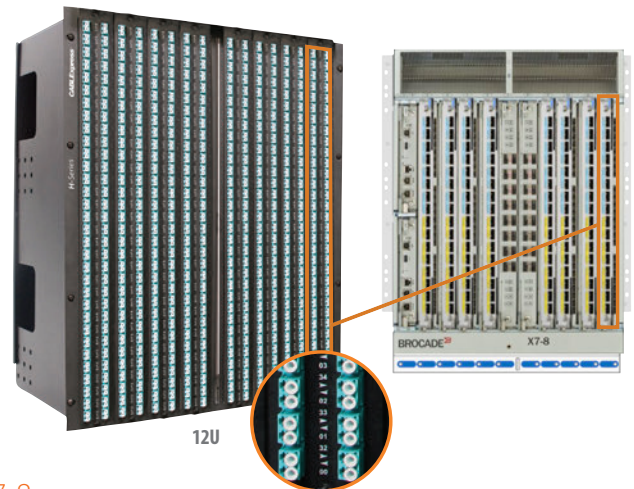
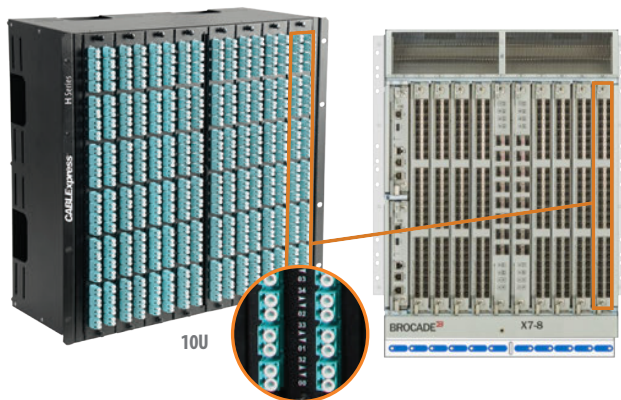
Port Replication

Port replication is a patching system that mirrors (duplicates) the active electronics in a passive environment.

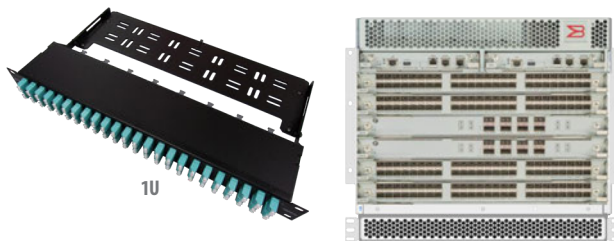
This reduces cable management issues, decreases opportunities for patch errors and reduces wear and tear on the active ports.

H-Series enclosures are designed specifically to replicate high-density director class switches.

This allows full replication in a Main Distribution Area (MDA) as recommended in the TIA-942 Data Center Standard. 48- and 32-port modules are also available to offer full replication for any density.



Brocade X7-8



Brocade X7-4 with
FC64-48 port Line Cards



Brocade X7-4 with
FC32-64 port QSFP Line Cards

H-Series 10U and 12U enclosures have modules designed specifically to replicate 32-, 48- and 64-port director class switches. Available in vertical and horizontal orientations. We can match your switch port numbering exactly.

Easy Access (EA) Series Patch Panels

Developed to eliminate unnecessary obstructions and allow data center managers to easily access patch cabling in the front and rear of the patch panels.

The EA Series allows you to easily access patch cabling in the front and the rear of the patch panel. There is no top, or sides, to get in your way when accessing the fiber ports. This makes installation and any moves, adds, and changes much easier in congested racks or cabinets.

- **Port Density** – Up to 48 duplex LCs or 32 MPO ports per RMU
- **Scalable** – Faceplate options of (4) 12-port duplex LC modules per rack unit, or (2) 24-port duplex LC modules per rack unit
- **Space Savings** – The complete system takes up 1U of space with a depth of 11"
- **Modular Cable Management** – Ability to add front cable manager as needed
- **Low-Loss Components** – Ensure your cabling solution will meet current, and future optical loss budgets
- **Labeling Card** – Viewable and removable when you open the front door
- **Rear Cable Manager** – Multiple tie-down slot positions make cable routing and cable management easy to accomplish



1U 4-Slot RSD Series
Easy Access with rear manager



1U 2-Slot H-Series
Easy Access with rear manager



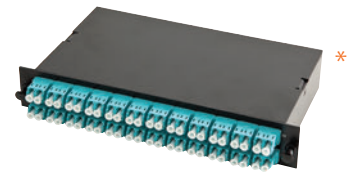
Optional front cable manager

H-Series Enclosures

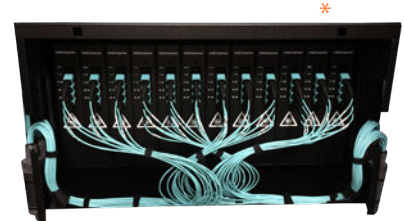
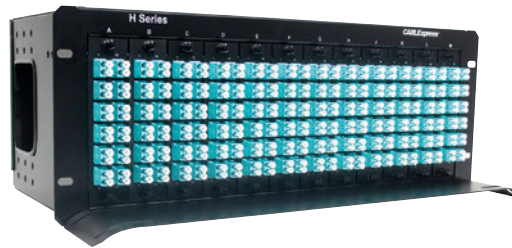
Our H-Series fiber enclosure solutions are available in both vertical (4U, 6U, 10U, 12U) and horizontal (1U, 10U) mounting configurations, allowing users to choose port orientation to mirror high-density switches.

END-OF-ROW/EDGE SWITCH REPLICATION

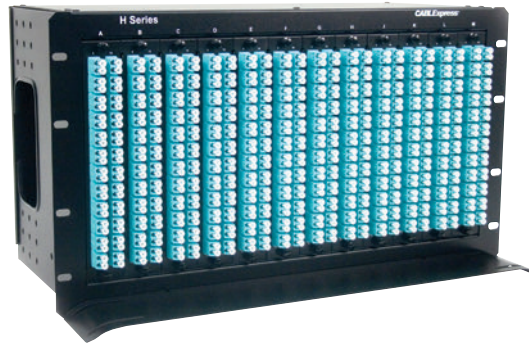
1U with up to 48 duplex LC ports



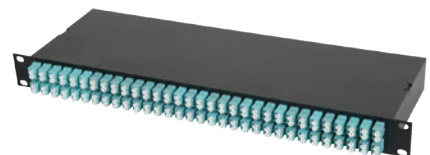
4U with up to 144 duplex LC ports



6U with up to 288 duplex LC ports



16-port options available



1U with up to 32 duplex LC ports

1U with up to 48 duplex LC ports

1U with up to 64 duplex LC ports

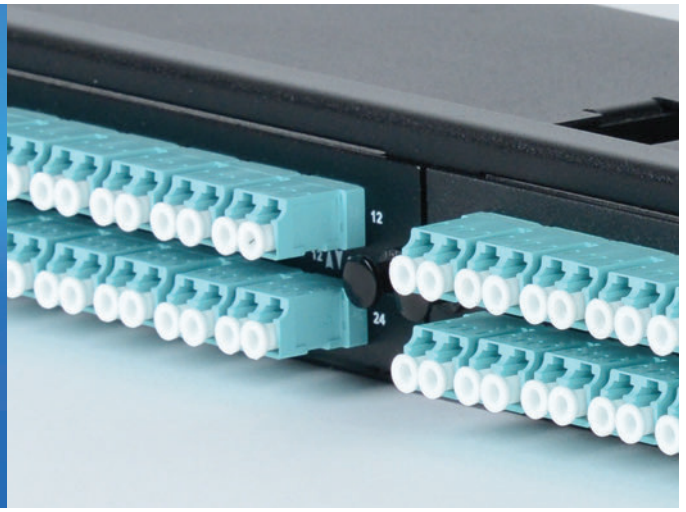
1U Rack Mount Modules

Our 1U rack mount modules allow you to deliver port replication on a smaller scale, such as replicating a 4U chassis.

This allows you to maximize your rack space usage and still receive the myriad of benefits that port replication provides!

*Full density shown. Also available half-density LC or with MTP® feed-through adapter panels.

RESPECT[®] LAYER ONE



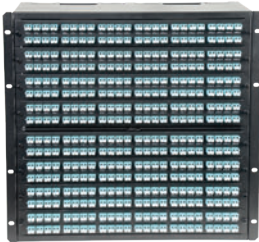
ENTERPRISE/CORE SWITCH REPLICATION

10U 8-slot with up to
384 duplex LC ports

Vertical



Horizontal



48-
Port



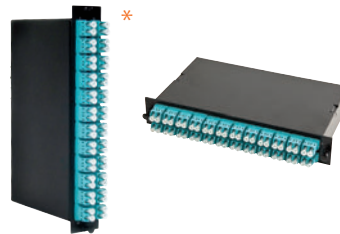
64-
Port

10U 24-slot with up to
576 duplex LC ports

Vertical



Horizontal



12U with up to 512 duplex
LC ports



ENCLOSURE	NUMBER OF SLOTS	MAX LC DUPLEX PORT COUNT	ORIENTATION
1U	2	48	Horizontal
4U	12	144	Vertical
6U	12	288	Vertical
10U 8-slot	8	512	Both
10U 24-slot	24	576	Both
12U	8	512	Vertical

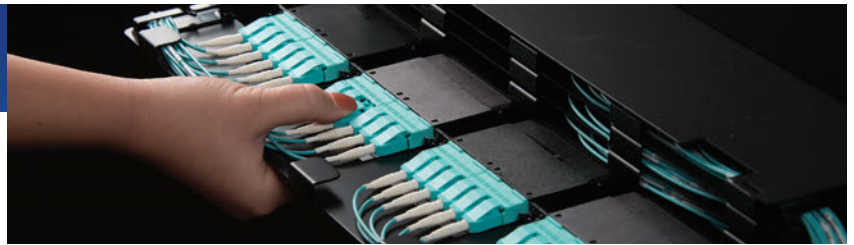
H+ Enclosures

CABLExpress® H+ enclosures provide maximum scalability, allowing you to customize your layer one cabling infrastructure to your unique business needs.

Each sliding tray houses four modules, and each module contains six LC duplex ports. H+ enclosures provide optimal usability and manageability to allow for a seamless transition as you continue to migrate to higher speeds.

Featuring the highest port density for fiber optic cabling currently offered in the marketplace, H+ enclosures accommodate up to 288 duplex LC ports in a 4U, 144 in a 2U, and 72 in a 1U configuration.

Their unique design allows easy access to all ports and comes with integrated cable management features for a clean installation, while their front door provides protection for your cabling.



Each tray houses four modules - each module contains six LC duplex ports



For best cable management results, we highly recommend using the H+ enclosure with CABLExpress® Skinny-Trunk® 2mm round fiber jumpers



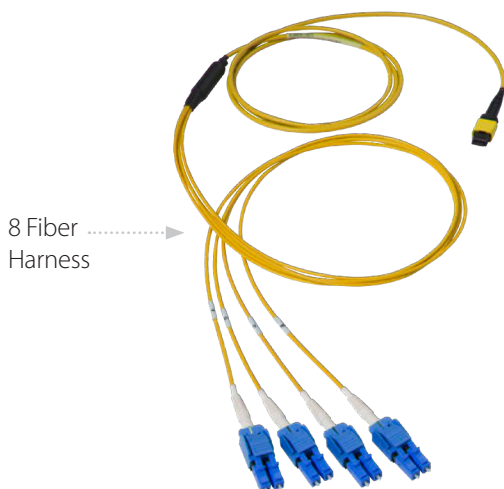
Available in 1U, 2U and 4U

ENCLOSURE	MAX LC DUPLEX PORT COUNT
1U	72
2U	144
4U	288

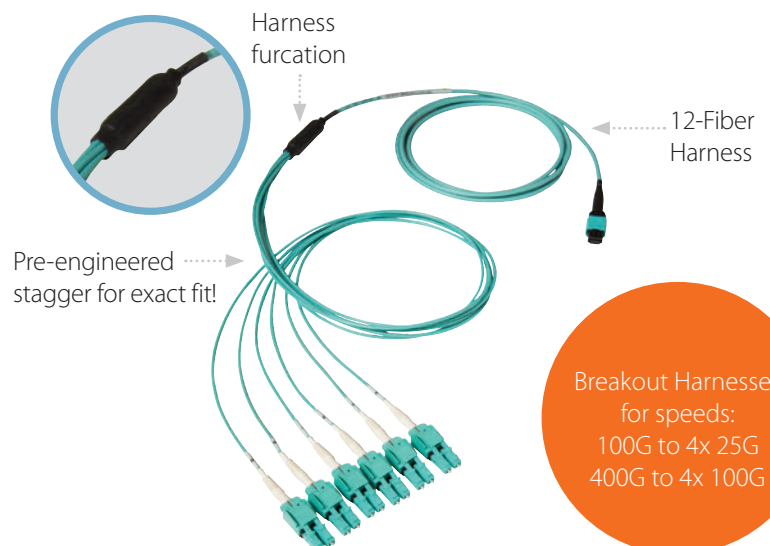
Harnesses

Our Skinny-Trunk® harnesses solve the problem of cable management in high-density fiber switches. Their revolutionary design eliminates cabling bulk, and staggers to fit your switch ports perfectly.

- Can reduce bulk by more than 60%
- Pre-engineered and customizable staggering provides neat and clean installation into your switches for optimum cable management
- Round fiber cordage on LC legs allows for maximum routing flexibility
- Far exceed industry dB loss performance standards
- Come in 6-to-1 and 4-to-1 plug-in factors from MTP® to LC, which save valuable install time



8 Fiber Harness



Pre-engineered stagger for exact fit!

Harness furcation

12-Fiber Harness

Breakout Harnesses for speeds:
100G to 4x 25G
400G to 4x 100G

Ladder Rack Enclosures

The Skinny-Trunk® ladder rack enclosure is the first copper and fiber enclosure specifically designed to mount directly to overhead conveyance.

- Stay in compliance with TIA-942 standards
- Easy, one person mounting saves time and money on install
- Accepts 16 modules or feed-through adapter panels

Can hold up to 192 LC duplex ports or 96 copper ports (or a combination of the two)



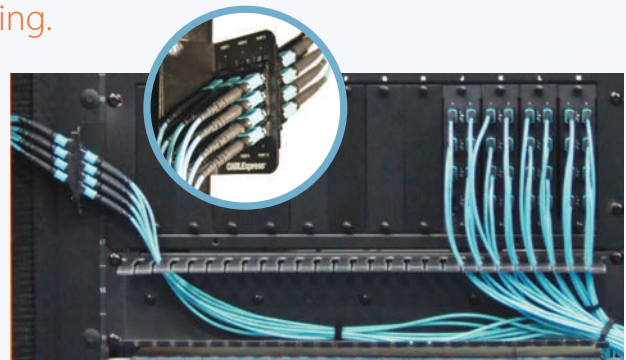
Available in multiple sizes



Z-Mount® Brackets

When you just don't have rack space, the Z-Mount® bracket and the ladder rack enclosure are the solution. The Z-Mount® bracket fits all racks and cabinets, regardless of manufacturer, with industry-standard spacing.

- The unique design allows you to mount to the outside of the rack, using no horizontal rack space and ensuring the maximum use of your conditioned space.
- Available in 4-, 8-, and 12-port MTP® (left and right) so you can distribute up to 144 fibers from just one Z-Mount. Also available in LC and RJ45 for server rack applications.
- Fits all racks and cabinets with industry-standard EIA 510D spacing.



Also available with LC and copper ports

RSD Series Enclosures

Our RSD Series 1U, 2U and 4U fiber enclosures provide high-density, low dB loss connections. They're ideal for structured cabling environments, open racks in telecom closets or any areas where the front protection might be needed.

They support up to 96 fibers in 1U and 384 fibers in 4U, saving valuable space. Their modular design allows for multiple connector types within each enclosure, and their LC and SC couplers utilize state-of-the-art spring stabilizing for minimal coupler movement. Their slide out, tilt-down drawer provides easy access to modules. Plus, they come standard with a lifetime warranty.



RSD Series Modules

Check out these standard features:

- Low loss components allow flexibility in fiber network design
- 13-inch depth frees up room in rack
- Light weight allows for easier mounting
- Label card enables easy port identification
- Internal cable managers maintain proper bend radius
- Rugged design helps fiber to remain secure
- Designed to accept 4, 8 or 16 adapter panels and/or modules

10-Gig
Aqua
12-port LC



Single-mode
12-port LC



Available in
half-density
options



8-port
options
available



SHOWN WITH ADAPTER PANELS

Enclosures also accept modules

1U with up to 48 duplex LC ports



2U with up to 96 duplex LC ports



4U with up to 192 duplex LC ports



Adapter Panels



10-Gig Aqua 12-port LC



Multi-mode 6-port SC



Multi-mode 6-port ST



6-port RJ45



12-port MT-RJ



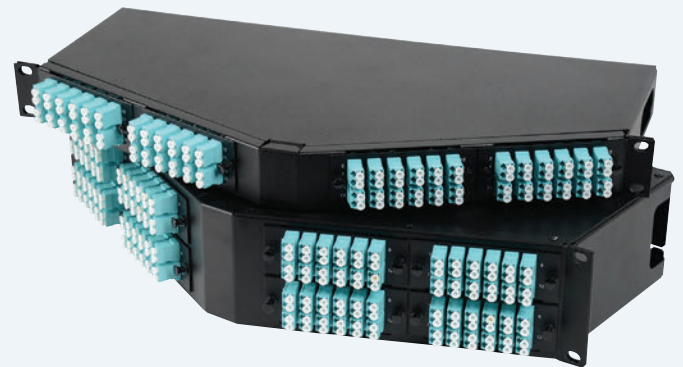
6-port MTP*

Angled Patch Panels

CABLExpress® angled patch panels feature a slanted design to route patch cords directly into vertical cable managers on either side of the panel. This enables faster installation and eliminates the need for horizontal cable management.

The 1U accepts four modules and/or adapter panels and holds up to 96 fibers. The 2U accepts eight modules and/or adapter panels and holds up to 192 fibers.

SLANTED DESIGN ENABLES CABLE MANAGEMENT

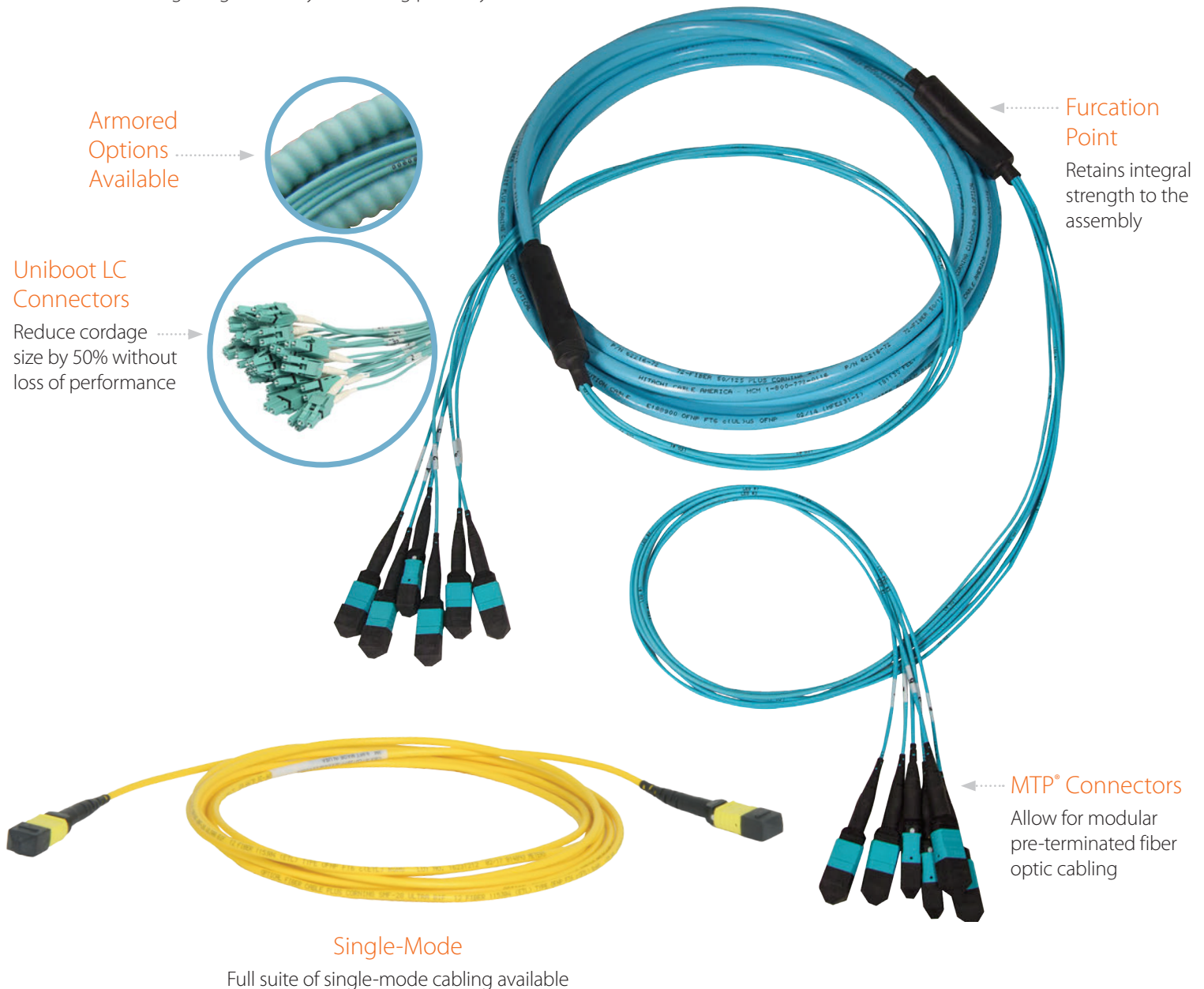


- Modular design is scalable to add modules as needed
- Allows for multiple connector types in each enclosure
- Can hold both fiber and copper
- Precision, stable spring couplers optimize performance and ensure network uptime
- Internal cable managers maintain proper bend radius
- Backed by a lifetime warranty
- Available with LC, SC, ST, MT-RJ, MTP or RJ45 adapters

Fiber Trunks

Fiber trunks are a convenient and economic alternative to running multiple jumpers through your data center. Trunks offer easy cable management as well as significantly reduced field installation times. They're easy to unplug, recoil, and reuse in the event of any moves, additions or changes.

- MTP® connector features the industry's highest-precision thermoplastic ferrule, designed to lower insertion loss allowing connections to be made while meeting or exceeding loss budgets
- Ultra-flexible 2mm MTP® breakout legs ensure critical airflow paths are not blocked in cabinets
- Trunking diameters are one-third of the competition, reducing congestion in your cabling pathways
- Highly customizable legs, lengths and breakouts
- Trunking options from 4- to 144-fiber count
- Up to 12-to-1 plug-in factor saves valuable install time
- Factory-terminated and tested ensuring performance
- Backed by a lifetime warranty

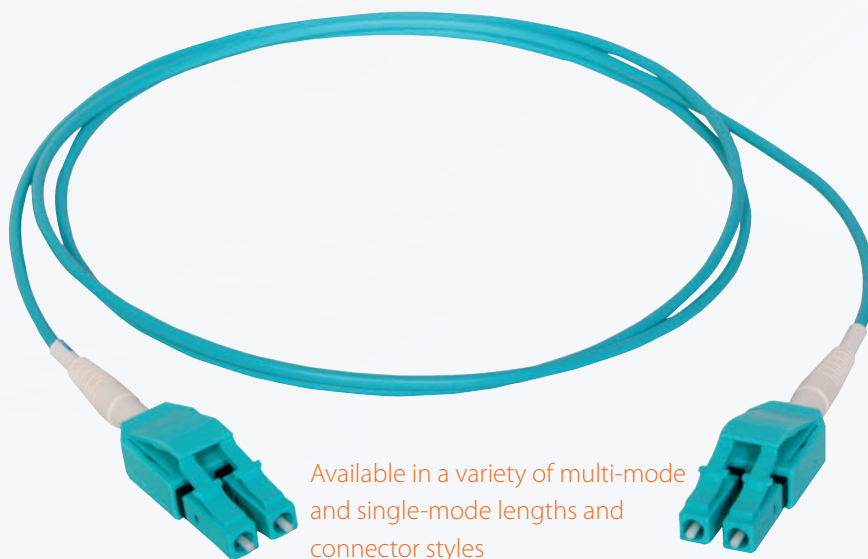


Skinny-Trunk® Fiber Jumpers

The key to achieving maximum performance in a high-quality structured data center cabling system is through fiber jumpers.

Our Skinny-Trunk® fiber jumpers meet and exceed the industry's most stringent requirements for data center solutions, designed specifically for the mainframe and high-end SAN switching environments.

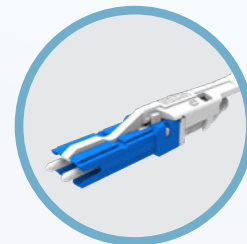
- Ideal for high-speed, mission-critical data center environments
- Available in a variety of multi-mode and single-mode lengths and connector styles
- Optimal Uniboot construction, allowing easier plug-in and unplugging and robust strain relief
- Designed for high performance – rigorously tested for repeatability and loss



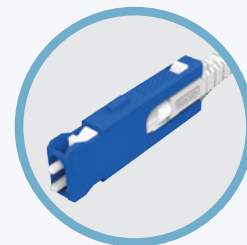
Available in a variety of multi-mode and single-mode lengths and connector styles



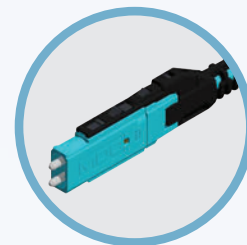
New VSFF
(very small form factor)



CS connector



SN® duplex connector



MDC duplex connector

Copper Trunking

Create a standards-based, flexible, and reliable copper platform in your data center.

CABLExpress® copper trunk cables are the highly customizable solution for your connectivity needs.

This assembly allows for easy moves, adds and changes.

The simplicity of its design allows existing staff to install the trunking system, thereby avoiding any potential security risks involved with bringing in outside personnel.

For the critical install, there's simply no better choice than the CABLExpress copper trunk assembly. You can minimize downtime, maximize productivity, and save money by deploying a reliable, easy-to-use copper trunking system.



Braided sleeve allows flexibility, while keeping cables in a manageable bundle



CAT6 couplers in our modular patch panels provide fast and reliable data connections

Standard and mini CAT6 available

CABLExpress EXP Series®

All the cabling you need, when you need it, at the price you want

EXP SERIES FIBER JUMPERS

CABLExpress EXP Series® fiber jumpers are 100% optically-tested and factory-terminated for superior performance. We stock a variety of multi-mode and single-mode lengths and connector styles ready to ship today, and custom assemblies are also available. We can build jumpers to your exact needs and requirements. Save money and get your cabling right away!



100% optically-tested and factory-terminated for superior performance

EXP SERIES COPPER PATCH CABLES

Our copper patch cables are the trustworthy, reliable way to carry all your data, voice and video signals. They're available with snagless boots for easy installation. Plus, with stock lengths and colors available for same-day shipping, there's simply no better way to future-proof your wiring infrastructure. Get competitively-priced cables ready to ship today!



With a diameter of just 0.148 inches, CABLExpress® mini Cat6 patch cables are smaller than standard Cat6 cables – using less critical space in your cabling infrastructure.



Cabinets and Racks

When it comes to housing your hardware, you need options that make your job easy and can accommodate any configuration you design.



CABINETS

We offer a wide variety of cabinets designed for high-density applications and side-to-side airflow equipment.

Our cabinets are available in multiple sizes and configurations, with numerous options for cable management. The cabinets are shipped fully

assembled and capable of handling high-density switch, server and cable management requirements.

These cabinets can be used separately or ganged together to create a Main Distribution Area (MDA), the central point of the data center structured cabling system.



Cable Management Fingers

- Fingers come in 7 RMU sections
- Finger openings align with RMUs for easy cable pathways
- Finger sections are repositionable



Horizontal Trough

- Route larger bundles from front to rear
- Can be placed in any vertical location



Baffle Kit

- Intake/exhaust kits for side-to-side airflow equipment
- Directs cool air in and exhaust air out of side-to-side airflow equipment

RACKS



Limitless possibilities for cabinet and rack configurations

You can save floor space and some money with our wide variety of easy-access rack options. Our CABLExpress® racks provide ample room for large cable bundles and come available with a number of cable management features.

Our racks are perfect for use in the Equipment Distribution Areas (EDA) of the data center.



Rack Mount Security Enclosure

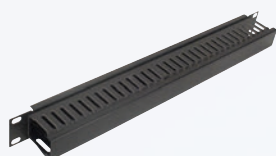
The CABLExpress Rack Mount Security Enclosure (RMSE) is designed to ensure maximum physical security for the equipment in your racks. It is ideal for use in highly secure data centers, shared spaces, co-location facilities, and other areas where physical security is critical. Its hinged, mesh doors add additional ventilation. Featuring two types of locks, the RMSE works in both racks and cabinets.

Cable Management

We have patch panels, jacks, faceplates and cable managers to help you with all of your structured cabling projects. On top of that, we also carry the cable management products to keep your cabling infrastructure organized and your structured cabling system performing at its peak:

- Duct style managers for 1U (best for fiber optic cabling) and 2U (great for copper patch cords)
- 1U, 2U and 3U D-ring managers for 24-, 48-and 96-port patch panels
- A wide variety of cable ties/wraps with Velcro® fasteners

CABLE MANAGERS



1U Duct Style



2U Duct Style



5 Ring



EA 1U Manager

PATCH PANELS

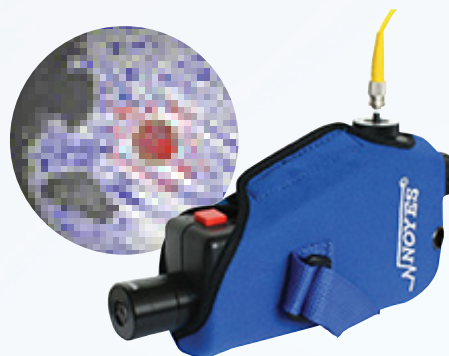


Optical Microscope

A majority of “defective” cables actually just have dirty end-faces!

We recommend inspecting the end-faces of cables before installation, and then cleaning them if necessary.

NOYES® OFS300-200C



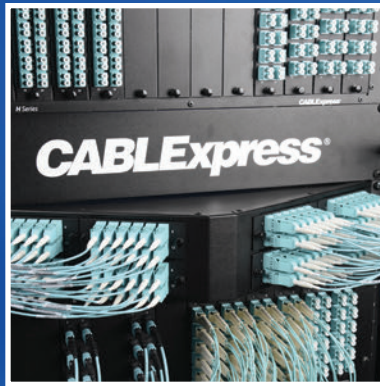
One-Click Cleaners

End-face contamination can cause catastrophic failure. Particulates, skin oils, clothing fibers and other contaminants can decrease performance and cause channel errors – even causing DOWNTIME!

These easy-to-use, one-click cleaners allow you to follow best practices without investing a lot of time. Remember to always inspect, clean, inspect and repeat if necessary.

US CONEC IBC™ BRAND CLEANERS





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— A DIVISION OF CXTEC —

P: 1.800.913.9465 | F: 315.455.1800 | info@cablexpress.com | www.cablexpress.com

