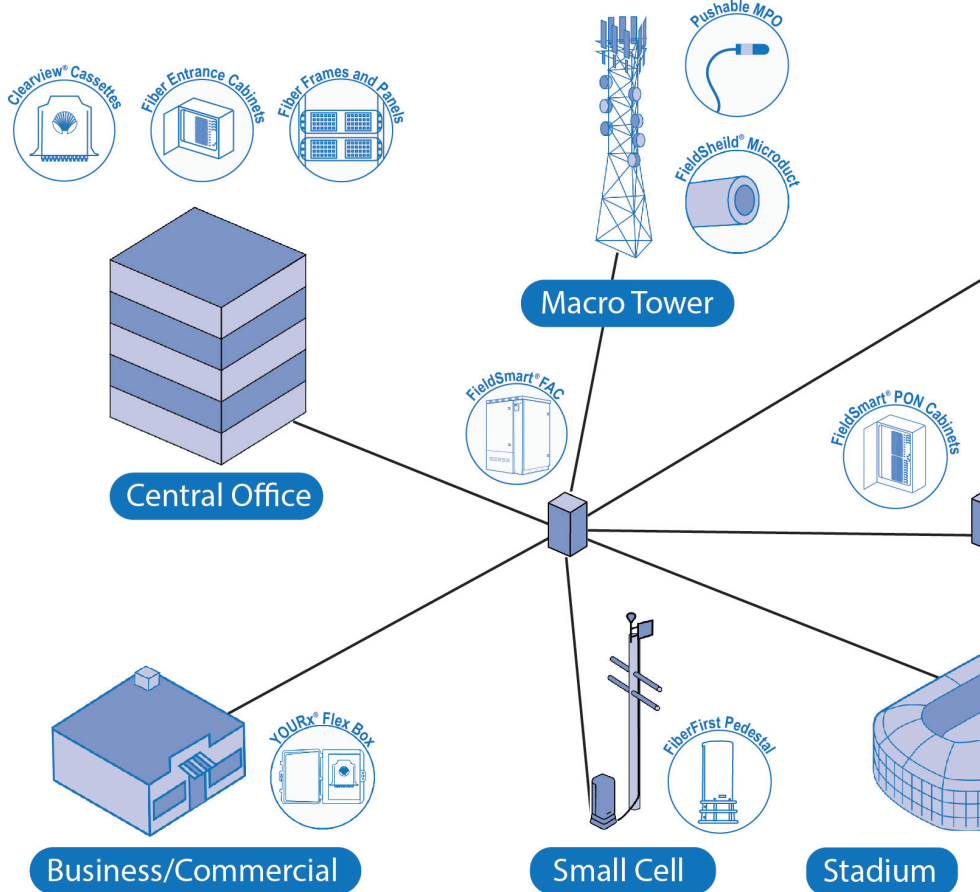




Enabling The Lifestyle That **Better Broadband** Provides

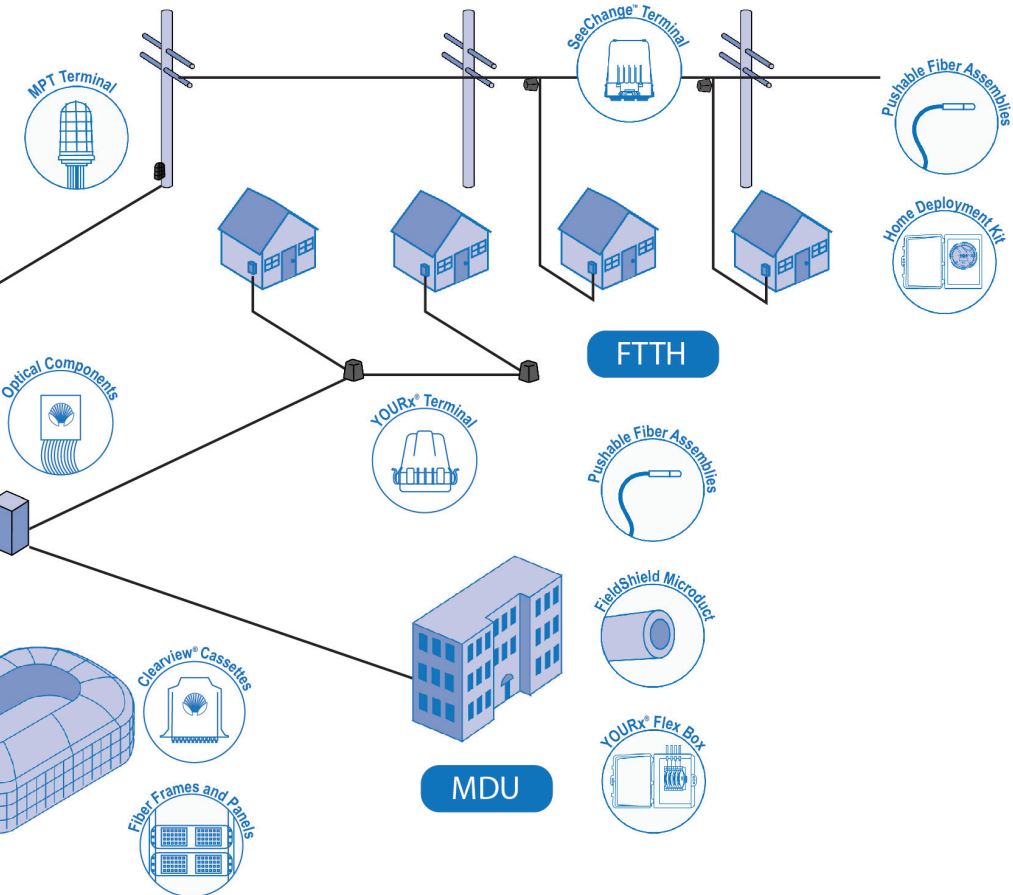


FIBER TO ANYWHERE



Throughout the fiber deployment journey from the Inside Plant (ISP) to the Outside Plant (OSP), into the Access Network and all the way to the fiber connection at the home, Clearfield® Labor Lite solutions solve your fiber network design and installation challenges. Labor Lite methodologies provide easy to engineer and easy to install solutions that take the mystery out of deploying fiber networks.

Leveraging factory terminated single fiber and multi-fiber plug-and-play connectors, homes passed and homes connected metrics can be greatly increased. The speed to turn up the entire network is maximized, while guaranteeing superior optical performance achieved by using low-loss connectors, terminated in the factory.



Whether inside a cabinet or at the home, innovative slack storage spools and deploy reels reduce the dependence on making exact cable measurements. This enables the deployment of double-ended, standard cable lengths rather than relying on highly engineered, built to order cable assemblies or multiple field splicing events.

Providing craft-friendly, innovative, end-to-end fiber network elements is the foundation of Clearfield's mission. Solutions driven by listening to the feedback and input from our customers has resulted in a portfolio of best in class solutions to fit any fiber network.



ANY APPLICATION ENVIRONMENT

The appetite for high-speed broadband communications has never been greater and shows no sign of letting up. This continues to drive fiber deployments deeper into every corner of society and across all market segments including traditional large telco carriers, independent telcos, cable MSO's, wireless 5G carriers, utilities and municipalities. It's clear that fiber delivers the foundation for growth and future flexibility. This underscores the importance of establishing reputable, trusted fiber suppliers.

Clearfield is committed to enabling deployment success by providing craft-friendly, pre-connectorized plug-and-play fiber assemblies, fiber management and pathway products to speed deployments and provide the lowest total cost of ownership for our customer's networks.

With the innovation of forward-thinking products, a 100% plug-and-play platform and **FastPass™** methodologies, Clearfield is enabling the lifestyle that better broadband provides.



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With today's accelerated demand for broadband access, labor shortages can make or break your planned deployment. Clearfield is your resource to address this shortage of skilled labor - innovating fiber solutions that are fast and easy to install and delivering extensive fiber training resources available to customers and contractors.

Clearfield's training programs provide the knowledge needed to deploy faster, tailoring training to suit customer deployments by simplifying and supporting your work in the field. In addition, certification and training boosts workforce satisfaction and improves first installation success.

Training Opportunities include

- Free, self-paced learning programs via Clearfield College
- Certified Partnership Training designed specifically for contractors
- Industry Certification via online or on-site multiple day training sessions that pave the way to gaining FOA Certified Fiber Optics Technician (CFOT) status
- Online installation videos



Scan here for more information on
Clearfield Training opportunities.



• Clearview for FieldSmart

BUILDING BLOCK ARCHITECTURE

Clearview is at the heart of every product within the FieldSmart fiber management system.

With Clearview®, the rules of fiber management have changed. The service provider no longer needs to consider fiber management within the network layout - it's already built into the solution. This integrated fiber management system based on multiples of 12 fibers, can be utilized whenever and wherever it is required in the network. Within the cassette, all fibers from the sub-assembly are slack stored, bend-radius protected and secured against physical damage from handling. The transparent housing allows for quick and easy first step troubleshooting of unacceptable light conditions.

Designed to handle the toughest operating environments, Clearview provides flexibility, as well as reliable performance within the inside plant, outside plant and access networks.

Clearview is the core building block of every product within the FieldSmart fiber management system. Clearview's configuration options support tool-less installation, in-cassette buffer tube/ribbon slack storage as well as front access-only designs. The small footprint reduces real estate costs and improves density without compromising critical design elements of access, bend-radius protection, physical fiber protection and route path diversity.

All types of fiber cable construction can be integrated within the cassette to support all patch only, patch and splice (in-cassette splicing), passive optical component

hardware and plug-and-play scenarios.



- The Clearview Blue, Clearview Black and
- Clearview xPAK are available in patch and splice (in-cassette splicing), patch only, MPO, optical component and plug-and-play configurations.



FieldSmart Fiber Frames

MODULARITY. HIGH DENSITY.

Designed for density on the frame and for the reduced footprint it provides on the floor, the FieldSmart® Fiber Crossover High Density (FxHD) Distribution System maximizes your real estate investment, providing for lower total cost of ownership (TCO) in high density environments. Lower cost of ownership is realized not only in real estate savings, but also in installation and service turn-up time, troubleshooting and restoration.

The frame is designed for all front access, providing instant accessibility to all cassettes, adapters and jumpers. The front-only access feature expands placement options within a cage of data center colocation environments, back-to-back or against a wall. When against a wall, no back aisle space is needed. The result? Without sacrificing access, eliminating the need for rear access to the frame provides a 40% reduction in floor space requirements over a standard frame.

With the same 18" x 36" footprint, the FxHD easily integrates alongside existing FieldSmart FxDS or other industry-standard frame systems, yet with up to 2,016-ports of SC connectivity, provides industry leading port density.

The FieldSmart Fiber Crossover Distribution System (FxDS) provides a system of modular and scalable fiber bulkhead panels that deliver industry-leading scalability and fiber protection without jeopardizing density or increasing cost. Scaling easily from 12-ports to a full rack of 1,728 SC ports, the FieldSmart FxDS requires only 4 unique SKU's to

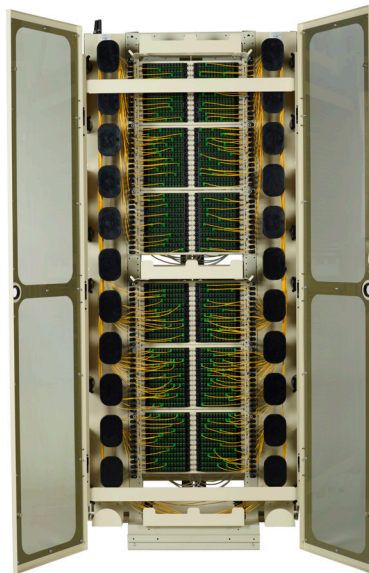
configure initial deployment. Bulkhead panels are available from 24-ports in a 1RU to an industry leading 288-ports in only 11" of rack space. Panels are also available in 72 and 144-port options.

Optional SmartRoute Troughing builds upon the cable management functionality of traditional troughs with a sleek method of providing a continuous channel for bay-to-bay routing in a safe and efficient manner – without increasing jumper lengths.

Symmetrical in product design, route diversity is maximized, reducing the risk of cable pile up.



FieldSmart FxHD Frame

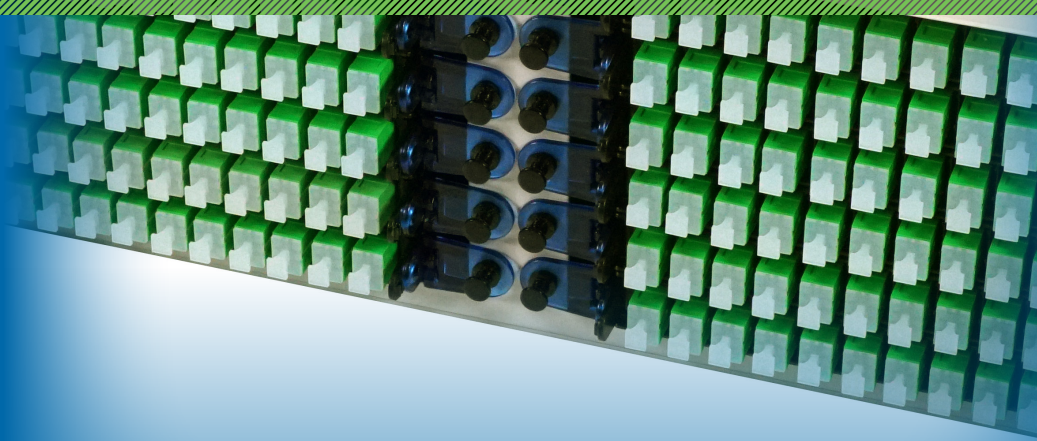


FieldSmart FxDS Frame Kit



FieldSmart Fiber Panels

FIBER MANAGEMENT



By utilizing the Clearview Cassette, service providers can integrate patch only, patch and splice (Clearfield's in-cassette splicing solution), as well as optical component modules into the same chassis, allowing plug-and-play integration based upon the configuration requirements of the application.

When landing a small number of fibers, the FieldSmart SCD 1RU Rack-Mount Panel provides a way to rack mount up to two Clearview devices: the 12-port Clearview Cassette or the 2-port, 4-port or 6-port Clearview xPAK in a single rack unit.

The FieldSmart Fiber Crossover Multi-Purpose (FxMP) Panel provides an interconnect or cross-connect environment for up to 288 SC ports or

576 LC ports of high density fiber for inside plant environments and outside FDH deployments.

Utilizing the Clearview Cassette, FieldSmart FxMP Panels are intelligently designed to provide the user with superior fiber access and craft-friendly, radius protected, fiber management for routing and deploying fiber jumpers.

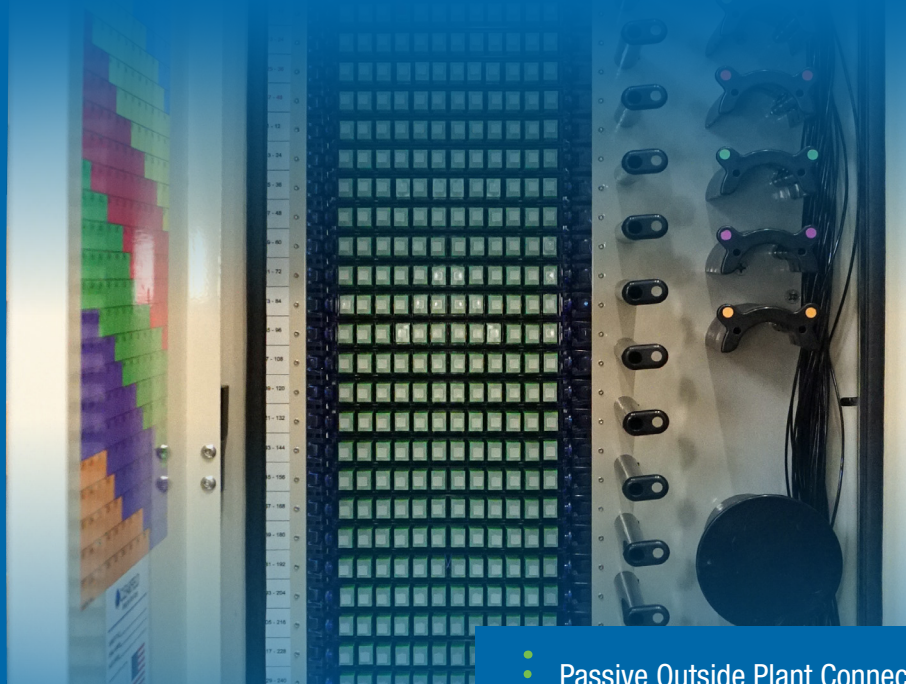
The Clearview Cassette revolutionizes on-frame splicing as the system supports a whopping 1,728-ports of on-frame patch and splice. Because FieldSmart Panels are designed with the field engineer in mind, port density does not come at the expense of slack storage — a slack basket is offered for the rear of the panel or if the customer chooses, simply a rear cover.



FieldSmart FxMP Rack Mount Panel - 6"

FieldSmart FxMP Rack Mount Panel - 6" in Black

FieldSmart SCD Rack-Mount Panel



• Passive Outside Plant Connectivity

HARSH ENVIRONMENT RELIABILITY

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Clearfield Outside Plant Enclosure Systems set the bar for fiber access, protection and density among OSP cabinets – scaling from 96 to 1,728 SC ports in centralized split or cross-connect fiber networks. Ruggedized splitters ship with legs pre-parked for easy and rapid deployment in PON environments. Equally attractive in a cross-connect configuration, FieldSmart OSP Cabinets

support a user-defined feeder-to-distribution ratio. With the Clearview Cassette at its foundation, FieldSmart OSP Cabinets use the same components as the FieldSmart FxDS. This enables service providers to standardize on a single building block, allowing a single fiber management component to be deployed in both environments.

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In a PON configuration, the cabinet accommodates up to 96 fibers in a pole mount design, 144 fibers in a compact 16 x 16 x 32" footprint or 1,152 fibers in a 64 x 33 x 16" design. In a cross-connect environment, a user-defined feeder-to-distribution ratio provides up to 1,728-ports without real estate penalty. All cabinets are designed for housing optical splitters.

These cabinets set the bar for fiber access, protection and density in outside plant cabinets for PON, cross-connect and hub collapse environments. Technicians have the ease of working with a single fiber management platform regardless of inside or outside plant deployment – saving training and installation time.

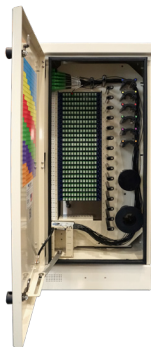
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•• 864-Port Cross-Connect Cabinet



•• 96-Port Pole Mount (Strand mount also available)



•• 288-Port PON Cabinet



•• 144-Port FDH Cabinet



• Active Outdoor Enclosure Systems

ULTIMATE HOUSING FOR FIBER AND POWER

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Clearfield's FieldSmart® active fiber optic cabinets are designed to meet the rigorous demands of outside plant powered cabinet deployment scenarios. The fiber-first design simplifies and optimizes cable management while providing reliable power and cooling and generous rack space for active electronics. The configurable, modular designs deliver unmatched flexibility, scalability and space utilization.

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The FieldSmart FiberFlex 2000 is designed, tested and certified to Telcordia GR-487-CORE. The FieldSmart FiberFlex 3000 is designed to comply to Telcordia GR-487-CORE. Both Clearfield designed active fiber cabinets are the ideal solutions for the harshest outdoor conditions, providing a sealed internal environment where external air and humidity are completely isolated from the electronic equipment.

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FieldSmart FiberFlex 2000



FieldSmart FiberFlex 3000



CraftSmart FiberFirst Pedestal

BRINGING FIBER TO SMALLER SERVING AREAS



The CraftSmart® FiberFirst Pedestal is the industry's first pedestal designed to support fiber-only networks. Deployable in any outdoor environment, the FiberFirst Pedestal is ideal for operators looking to provide broadband in rural serving areas.

Purpose-built to support a wide variety of service network designs, the pedestal eliminates the need for multiple, specialty pedestals. The free-breathing, twelve-inch modular design utilizes a waffle backplane to support a variety of mounting options within the enclosure.

The FiberFirst Pedestal **PON option** is a cost-effective solution to service up to 144 homes with up to twelve Clearfield 12-fiber cassettes for distribution ports and with a splitter compartment housing up to five splitters.

The FiberFirst Pedestal **Splice-Only option** includes up to 12 craft-friendly, universal splice trays. Each splice tray supports 12 individual fusion splices or a single mass fusion splice.

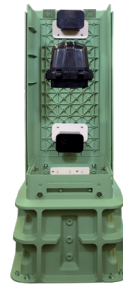
The FiberFirst Pedestal **Access Terminal options** provide a cable management and mounting bracket kit that supports the deployment of all Clearfield Access Terminals.



•• PON Option



•• Splice-Only Option



•• Access Option - YOURx®-Terminal



•• Access Option - Multi Purpose Terminal



•• Access Option - SeeChange Terminal

* PON inserts also sold for select industry standard 12" pedestals



• Outside Plant Access Terminals

COMPLETE DROP CABLE FLEXIBILITY



Clearfield's fiber terminal enclosure options are designed to ensure every service provider has the freedom of choice to match drop cable configuration and technology with the needs of their environment and first-cost priorities.

SeeChange™ Terminal

Small footprint with limited strategic configurations to reduce SKUs. Off-the-shelf availability with up to 4 drop ports, daisy chain MPO input/output ports and is optical component enabled.



YOURx® Multi-Purpose Terminal (MPT)

Designed to offer cable mid-span and internal splicing capabilities. Includes up to 8 drops, daisy chain MPO input/output ports and is optical component enabled.



YOURx®-Terminal

Designed to provide the greatest flexibility for design configurations. The internal cartridge is upgrade-capable and allows up to 16 drop ports, daisy chain MPO input/output ports and is optical component enabled.



•• MPO Terminal



•• Splitter Terminal



EPZ-012-C1F-SUB
S/N: 2117183021

ST0021156-1
08181015756

D23-012-CCA-Z21-03001 9M					
Part	SCAPC 12 Fiber Splice On Ribbon Patch panel 1.03A				
Type	1.03A				
Length	1.03M				
SN	2117183021				
Part A	1370mm		650mm		
	TL	RL	TL	RL	TL
BLUE	0.05	0.2	0.13	0.15	0.15
ORANGE	0.03	0.2	0.09	0.09	0.09
GREEN	0.06	0.2	0.03	0.03	0.03
BROWN	0.07	0.2	0.05	0.05	0.05
SLATE	0.03	0.2	0.03	0.03	0.03
WHITE	0.08	0.05	0.08	0.08	0.08

• Wall Boxes

A WALL BOX FOR EVERY ENVIRONMENT

The FieldSmart Wall Box line is ideal for both business class and residential environments. Choices range from plastic, lockable, NEMA 4-rated enclosures to swinging bulkheads for rear access in the harshest OSP environments.

Intentionally designed to provide fast, easy fiber jumper routing and ease of access to all circuits, the FieldSmart Wall Boxes are craft-friendly, keeping the installer's needs for quick deployment, intuitive use and ease-of-maintenance a top priority.

Design features, such as field-deployed knock-outs on both the rear and bottom of some units for conduit entry, allow field personnel to reduce installation time without jeopardizing immediate or long-term reliability.

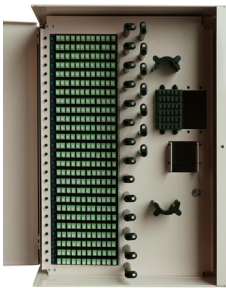
Whether you are looking for a small count enclosure for as little as two fibers, up to 48-ports for the outdoor model or up to 288-ports for the indoor model, users can easily scale their networks using the same, consistent Clearview Cassette deployment strategy.



• Outdoor 48-Port Wall Box (Metal)



• Indoor 36-Port Wall Box (Metal)



• Indoor 288-Port Wall Box



• Indoor/Outdoor Small Box for Clearview xPAK



• Indoor/Outdoor Large Wall Box for Clearview Cassette

Carriers are faced with many challenges when cabling MDUs in both existing (brownfield) and new construction (greenfield). One such challenge is how to manage incoming duct, while supporting a varying number of subscribers and different slack management configurations while also reducing installation time. Clearfield's YOURx Flex Box addresses all these challenges.

The YOURx Flex Box is a secure, modular wall box with slide-in aggregator plate

that supports multiple entries for individual fiber cables, conduit and microduct in an organized manner. Installers simply push the duct into the aggregator plate and they are ready to pull fiber. Slack storage is provided for both incoming and outgoing fiber in separate areas to reduce service interruptions when turning up additional subscribers.

Fiber mounting options all provide the latest in spooling technology and fast, simple plug-and-play connectivity.



Flex Box with SmartRoute Plate

Flex Box with Clearview Blue Cassette

Flex Box with Drop Wheel Assembly

Slide-in aggregator plates eliminate the need for additional duct organizer.



Blank Plate

Combo Plate

Universal Plate

PON Plate



• FieldShield Fiber Delivery System

NON-INTRUSIVE, FAST FIBER DELIVERY

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The FieldShield® platform offers protected pathways and fiber options that suit the needs of any network deployment. Aimed at reducing the total cost of “last mile” fiber deployment with innovative fiber solutions.

Pre-connectorized, pushable fiber technology, and the industry’s only pushable MPO, build on Clearfield’s commitment to user-defined

configurability, enabling users to push or pull specially-designed hardened fiber cable assemblies through a series of ruggedized microducts, delivering fiber to even the hardest to reach environments. Installing fiber where you want it, when you want it, and doing it cost-effectively is the promise of the FieldShield optical fiber protection system.

FieldShield starts with a ruggedized microduct designed to support all aerial, direct bury and inside plant “last mile” needs. FieldShield Microduct is strong enough to be placed using traditional methods of boring and plowing, allowing you to leverage your existing conduit placement equipment. Using our small form factor fiber duct system also enables you to take advantage of less disruptive technologies such as micro-trenching or saw cutting. What’s more, due to its high column strength, FieldShield Microducts can be deployed as a rod directly within a

larger occupied duct that was previously thought exhausted. The lack of space and the costs associated with constructing new pathways through the riser space can be just as prohibitive as digging up city streets.

For aerial and buried environments in the OSP or plenum and riser-rated configurations in the inside plant, FieldShield Microduct provides a crush resistant, protected pathway to quickly deliver FieldShield pushable or pullable single fiber drop cables or multi-fiber drop cable assemblies.



FieldShield Drop Cables and Microducts, utilizing FlexPort technology, are designed to provide multi-media, same port connectivity.

FieldShield Cable Assemblies

Designed to simplify the deployment of fiber where single or multiple fibers are required, FieldShield SC, LC and MPO factory terminated and polished connector assemblies, pushable or pullable with a pulling sock, provide a tech-friendly, field-assembled connector that snaps together in seconds without jeopardizing fiber protection or optical reliability.

When being pushed or pulled through FieldShield Microduct or industry conduit or used as a building wrap to the termination point, the connector's protective sleeve is easily removed, and an outer housing is snapped into place. This creates an industry standard connector without mechanical or fusion splicing and no special tools required.

SeeChange Hardened Fiber Assemblies

SeeChange Hardened Fiber Assemblies are designed with either a multi-fiber MPO connector or a single fiber SC APC connector, and an integrated rear shell to provide a sealed connection to Clearfield's SeeChange Access Terminals for harsh environment OSP applications.

Offering toolless installation, single fiber SeeChange Hardened Drop Cables are available with FieldShield Small Form Factor (SFF) FLATdrop 900µm peelable subunit, configured with a pushable SC APC connector on one end, allowing for pushing or pulling through a conduit, in addition to the traditional deployments of direct bury or placing aurally. SeeChange MPO Assemblies are manufactured using industry standard, multifiber flat drop cable and can also be buried or placed aurally.



- Simplex and Duplex LC Assemblies



- MPO Assembly



- SC Assembly



- MPO Pushable Fiber in Duct



- SeeChange MPO and SC Assemblies



- FieldShield Drop Cables

DESIGNED FOR ANY NETWORK

No two networks are exactly alike, so effective drop cable solutions are those that give the customer the flexibility of configuration that best suits their build needs. Clearfield is the only company to deliver drop cable options for ANY first build desire.

FieldShield FLEXdrop

FieldShield FLEXdrop® delivers flexibility and reduced cable memory. This is important for building wrap and shorter cable push/pulls in the outside plant, and for aggressive route paths inside the home. FieldShield FLEXdrop has a 3mm jacketed cable and is factory-terminated with a field-installable pushable SC or LC connector. The unique jacketing material reduces risk of kinking in tight slack storage areas. The OSP rated PVDF jacket is durable for the OSP, but also meets UL requirements for ISP plenum and riser environments where routing requires no duct. FieldShield FLEXdrop can be used with the Tap Box and Deploy Reels for connectivity to the terminal as well as final connectivity inside the premises.



FieldShield D-ROP

FieldShield D-ROP = Restorable One Pass. By pre-placing a fiber in the microduct, the traditional two-step process of placing microduct and pushing the fiber is now reduced to a single step. This pre-connectorized cable-in-conduit (CIC) presents the same footprint as a flat drop cable, but with the added advantage of being restorable. Slack storage challenges of flat drop are eliminated as the duct slack can be ring-cut and removed over the pushable connector, leaving only the small 2mm or 3mm fiber to store.

FieldShield D-ROP is available for direct bury, as well as indoor riser applications.



FieldShield FLATdrop

The FieldShield FLATdrop is the first connector assembly on the market to provide hardened environment performance on a flat drop cable without the added cost or dependency on expensive, bulky connectors. Sealing and securing flat drop into a sealed enclosure is not craft-friendly, which requires additional time, skill and expense. Pre-terminated with an industry standard connector of your choice, the FieldShield FLATdrop connector assembly (factory or field-installed) plugs directly into YOURx products to complete an air-tight, water-tight pathway.



FieldShield StrongFiber

Stronger than any other 900µm fiber in the industry, FieldShield StrongFiber is a durable, factory-terminated fiber cable assembly – suitable for use in both the ISP and OSP. When deployed from either a FieldShield Deploy Reel or Drop Wheel, installation times are reduced and the small form factor of the 900µm fiber means slack storage is minimal and easy to accommodate. When terminated with a FieldShield pullable connector, the high tensile strength StrongFiber is easily pulled through microduct to its termination point.



FieldShield Drop Cables and Microducts, utilizing FlexPort technology, are designed to provide multi-media, same port connectivity.



• Home Deployment Kits

SOLUTIONS FOR EVERY HOME

Because homes vary greatly in size and shape, FTTH deployments can pose many obstacles to the designer and the installer, but perhaps the most challenging of these is getting the fiber from the point where the feed drop is installed outside of the home (Demarc), to the customer equipment location. Technicians previously needed different types of fasteners to attach fiber. With a single SKU, Clearfield simplifies deployments to varying home scenarios by packaging a flexible solution in one convenient kit.

Home Deployment Kits are designed to streamline and ease the task of FTTH deployment, including everything you need to connect a home to fiber — all in one box. Clearfield's Home Deployment Kits can reduce install time by 30 minutes per install. For those consumers willing to take a do-it-yourself approach, the Home Deployment Kit enables a contactless installation keeping residents and fiber technicians at a safe distance.

In addition, every Home Deployment Kit includes a consumer-friendly CraftSmart Fiber Outlet for inside wiring, fiber patch

cords and FieldShield® drop fiber as needed. Configured with a Clearfield pushable connector, FieldShield simplifies entrance into the home. After installing the entrance fiber, the CraftSmart Fiber Outlet terminates the fiber inside the home.

The designer or installer can choose from options that best suit their needs whether splicing at the side of the home or utilizing Clearfield's fully connectorized options.

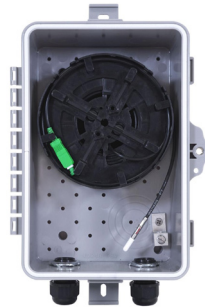
CraftSmart Splice-TAP

Choose the CraftSmart Splice-TAP HDK for NEMA 4 required environments where splicing or patch is needed and minimal slack storage is desired within the unit mounted outside the home.



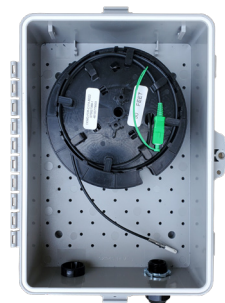
FieldSmart Mini-TAP

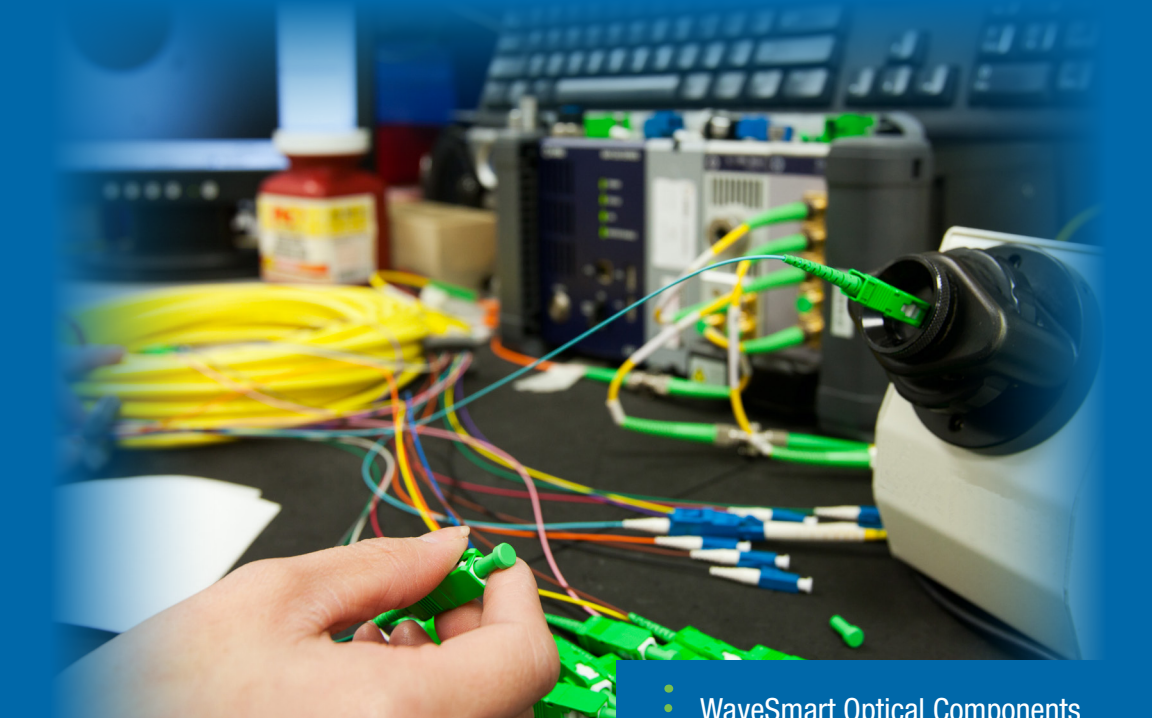
Choose the FieldSmart Mini-TAP HDK (NEMA 4) for environments where plug-and-play along with up to 50' of incoming internal slack storage is desired within the unit mounted outside the home.



FieldSmart SCD-TAP

Choose the FieldSmart SCD-TAP HDK (NEMA 4) for environments where plug-and-play along with internal slack storage up to 100' incoming/200' outgoing is desired within the unit mounted outside the home.





• WaveSmart Optical Components

CUSTOM CONFIGURED

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Key to the success of a fiber deployment is the performance and precision of the optical components deployed in the inside and outside plant environments. Clearfield leads the way with optical component technologies for PON splitting, coarse and dense wave division multiplexing (CWDM/DWDM) and optical circulators. These products are custom built to your unique split ratios, light requirements and interoperability needs.

In addition to our termination expertise, Clearfield designs optical component packaging with the appropriate materials to meet the performance needed in the uncontrolled environments of the OSP. We specialize in the manufacturing, termination and packaging of optical components to custom-build configurations.

A wide range of packaging options are available:

- Terminated assembly
- A discrete device
- Within a Clearview Cassette
- Traditional LGX
- Other chassis styles

WaveSmart Splitters

WaveSmart® Splitters are the standard splitter component of the FieldSmart OSP Cabinets. A Ruggedized version addresses environmental and human-handling issues that other standard splitters in the industry cannot combat. The Industry Standard version is upjacketed for both inside and outside plant cabinet environments.



HD Splitter

The WaveSmart High Density (HD) Splitter is designed for use in indoor and outdoor cabinets and terminals. Consistent with a simple yet innovative design methodology, the HD Splitter utilizes a 75% smaller package over earlier designed splitter packages.



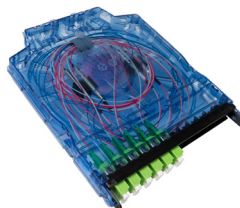
Inside Plant Splitters

Clearfield provides Planar Lightwave Circuit (PLC) and Fused Biconic Taper (FBT) Splitters in a variety of optical component packages for the network and application needed, allowing carriers the ability to provide uniform, fully passive signal splitting to multiple premises.



Wave Division Multiplexing (WDM)

Wavelength Division Multiplexing increases fiber capacity by combining (mux) and separating (demux) multiple input channels over a single fiber output. Clearfield provides WDMs for both singlemode fiber and multimode fiber applications.





[Learn more at www.SeeClearfield.com](http://www.SeeClearfield.com)

P: 800.422.2537

Clearfield, Inc. (NASDAQ: CLFD) designs, manufactures, and distributes fiber optic management, protection and delivery products for communications networks. Our “fiber to anywhere” platform serves the unique requirements of leading incumbent local exchange carriers (traditional carriers), competitive local exchange carriers (alternative carriers), and MSO/cable TV companies, while also catering to the broadband needs of the utility/municipality, enterprise, data center and military markets. Headquartered in Minneapolis, MN, Clearfield deploys nearly 10 million ports a year.

March 2023