

FieldSmart® FxDS Frame

Installation Manual



CLEARFIELD



FieldSmart® FxDS Frame

Installation Manual



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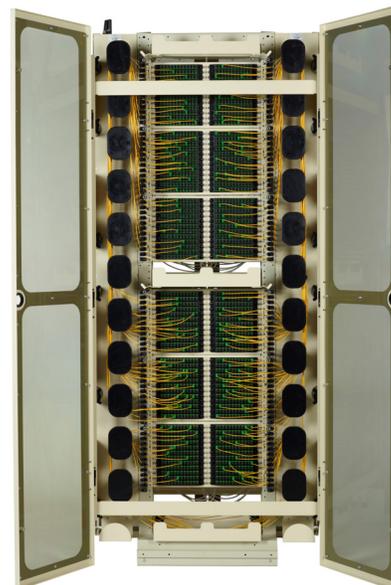
Application

The FxDS Frame Kit is a fully contained fiber management system for the inside plant. The seven foot seismic frame is provided along with full length front and rear doors that provide protection for termination fields, incoming distribution cables and interbay routed jumpers. When used in conjunction with the FxDS panels, ultimate density and protection is offered at “grow-as-you-go” cost.

Description

The FieldSmart Fiber Crossover Distribution System (FxDS) provides a system of modular and scalable building blocks to configure a frame system that delivers industry-leading scalability and fiber protection without jeopardizing density or increasing cost.

The FxDS system easily configures for panel placement and scales simply from 12 ports to a full rack of 1,728 ports as needed. The FieldSmart FxDS requires only four unique building blocks (SKUs) to configure initial deployment. The user then adds into the frame whatever is needed as subscriber take rates dictate. The FxDS Frame Kit is an industry standard 7' x 19" seismic frame that is easily assembled with a set of vertical interbay slack management panels, upper and lower crossover troughs and a set of removable doors.



SmartRoute Troughing builds upon the cable management functionality with a sleek method of providing a continuous channel for bay-to-bay routing in a safe and efficient manner without increasing jumper lengths. SmartRoute Troughing allows the service provider to carry the distance and weight of thousands of jumpers on a horizontal plane. This spreads the pile up and eliminates the risk of micro and macro bends. When used across multiple frames, up to three continuous channels are created allowing bay-to-any-bay routing in a safe and efficient manner. Front route troughs are available when the frame is deployed with a PON Kit or for environments where interbay routes are not anticipated.

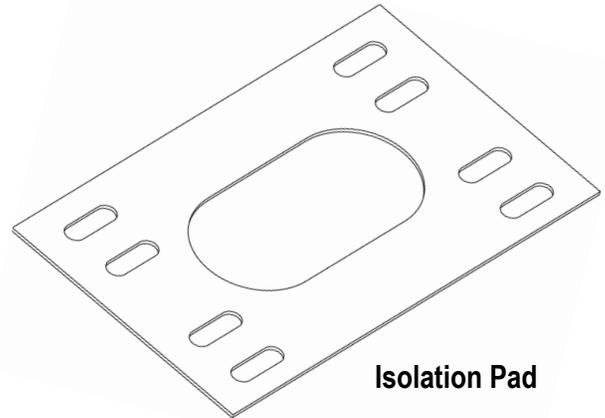
Technical Specifications

FieldSmart FxDS Frame Kit	
Dimensions	7' H x 36" W x 18" D
Ratings	Compliant to Telcordia GR-449
Port Density	1,728 SC or 3,456 LC
Cassette Types Supported	Clearview® Blue
Connector Types	SC/UPC, SC/APC, LC/UPC, LC/APC, MPO (additional options available upon request)
Cable Types	Indoor Riser, Indoor Plenum, Indoor/Outdoor, Outdoor (Riser/Non-Rated), Outdoor Armored (Riser/Non-Rated), FieldShield®
Splice Capacity	12 or 24 splices in each Clearview Cassette
Storage Capacity	One meter of 900 µm fiber
Cable Entry Compatibility	Top and bottom (floor) entry
Cable Entry Clamp Location	On-frame cable clamps (Note: On-frame cable clamps included with FxDS Patch Panels)
Recommended Jumper Length	Three meters, plus two meters for each additional frame
Material	Steel with almond powder coating

Tools and Optional Materials

Tools:

- Sockets (1/2", 3/4" and 15/16")
- Ratchet with Extension
- Phillips Screwdriver
- 1/8" Allen Wrench
- Hammer/Rotary Drill
- 5/8" Masonry Drill Bit
- Blowout Air Bulb or Vacuum with Small Diameter Tube



Isolation Pad

Materials (ordered separately):

Standard Frame:

- Isolation Pad (19" Frame P/N FMA-L1Z-SUB)

Floor Mounting:

- Floor Mounting Kit (P/N 009106)

Raised Floor Mounting:

- Raised Floor Mounting Kit (P/N 011236)

Patch and Splice Panels:

- Radius Limiter Brackets for Buffer Tube Slack Storage (P/N 010600)

Ribbon Fiber Protection:

- High Density Ribbon Breakout Kit (P/N 010475)
- Ribbon Fanout Kit (P/N FMA-MZZ)



Radius Limiter Bracket



Breakout Kit



Fanout Kit

Packaging

Note: Floor mounting hardware is NOT included with the standard frame. Hardware is sold as a separate line item (Clearfield P/N 009106).

1. The FxDS Frame Kit will come in a wood packaging crate (88" long x 28" wide x 29" high).



2. Open the crate by removing the 6 screws and removing the lid. The screws are called out by black circles.

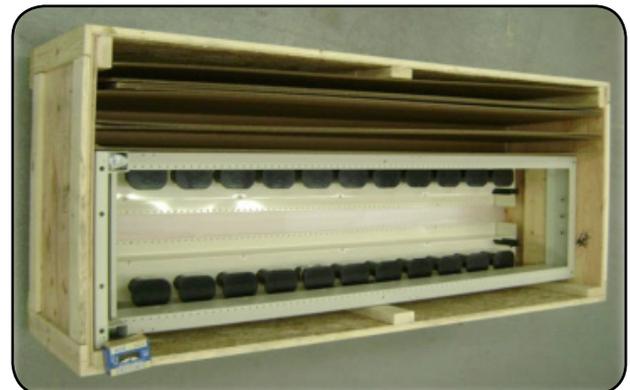


3. Carefully remove the contents. This includes:

One (1) frame and isolation pad, (4) doors, (2) interbays, (2) end guards, a trough kit usually containing (3) troughs, a grounding bar and miscellaneous hardware for securing the hinges to the doors and end guards as well as for mounting the frame to the floor.

Note: The FxDS Frame system comes in a variety of configurations so the above bill of materials will vary.

4. This is what the crate will look like while unpacking. Once you confirm all the parts and hardware are available, it is time to install the frame.



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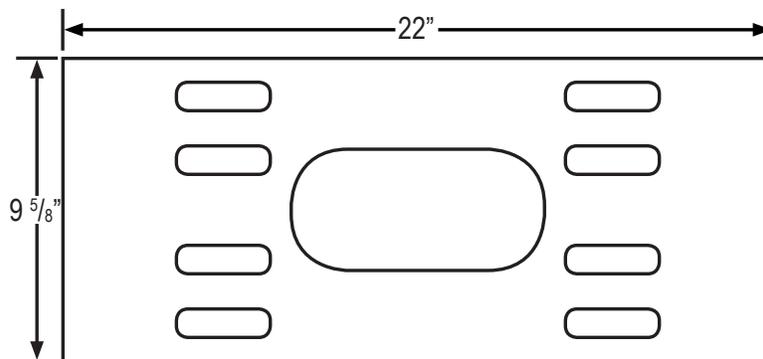
Floor Installation

IMPORTANT: If your frame is to be mounted next to a wall, or there are multiple frames in a line-up, you **MUST** install the interbay management and end guards (including the female hinge pieces for the end guard support bars) **BEFORE** mounting the frame to the floor.

Tools:

- Hammer (or rotary) drill (with depth gauge recommended)
- 5/8" masonry drill bit
- Socket wrench set
- Blowout air bulb or vacuum with small diameter tube

1. Determine where the frame is going to be installed. Using the isolation pad as a template, mark the 4 holes where frame will be secured to the floor.



19" Frame

2. Using a 5/8" masonry bit, drill the four required holes to a minimum depth of 2" (approx. 50mm).

Note: If for some reason you have trouble drilling the 5/8" hole, we recommend first drilling a 1/4" pilot hole before drilling out to 5/8".

3. Thoroughly clean the dust from each hole, using a vacuum or blowout air bulb.

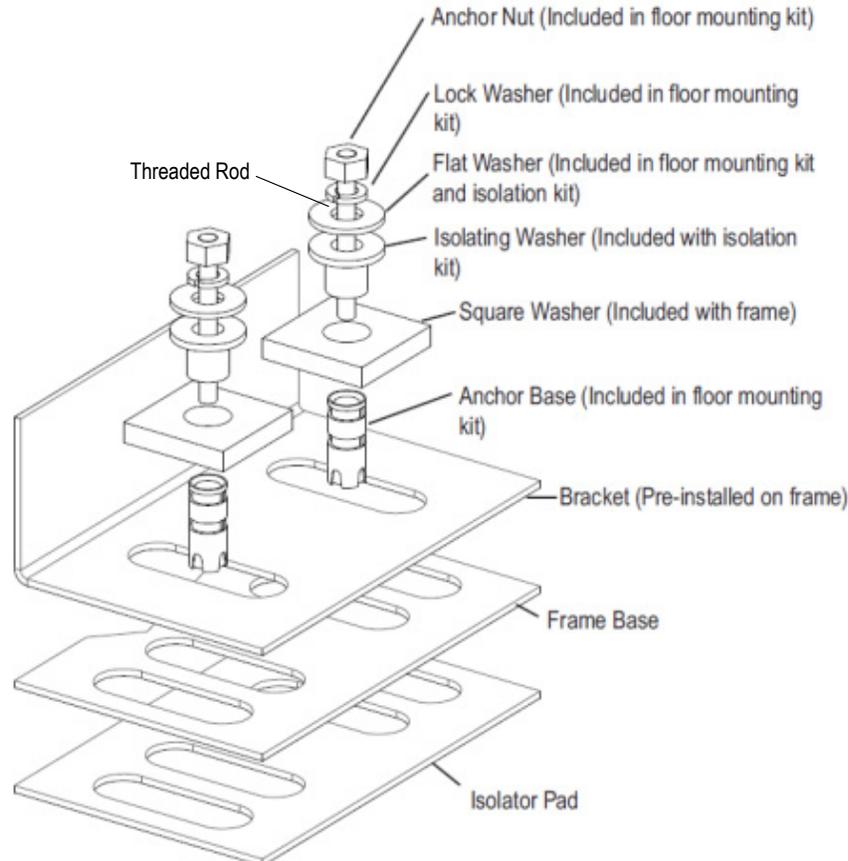


Note: To not degrade the anchor's installed performance, any unused anchor holes (or other nearby holes) in the concrete within 3" must be filled with an epoxy filler (pour stone) or equivalent. Filled holes must be fully cured before anchors are installed and torqued.

4. Place the isolation pad in position over the predrilled holes and align as necessary. Lift the frame onto the isolation pad and line up with holes.
5. Ensure that the anchor's expansion shield is not expanded. Place the end of the anchor into the predrilled hole. Repeat for the other drilled holes. Make sure the anchor is fully embedded in the concrete.
6. Align the edges of the 2" square washer parallel with the slots in the frame base to obtain the maximum material overlap. Once aligned, tap each anchor/washer assembly until it is seated firmly in the hole against the 2" square washer.
7. Pre-tighten each anchor with a socket wrench or box-end wrench; do not use an open-end wrench (which could easily slip off and cause injury). Before final tightening, ensure that the frame is properly aligned (in the row and with any adjacent frames). Torque each anchor to 60 ft-lbs.

Note: When using the break-off type anchor, a torque wrench is not required. The anchor's (red) torque cap shears off at a predetermined torque value (approximately 60 ft-lbs.), leaving a green seal on the bolt head, indicating proper tightening.

8. The anchoring line up should look like this:



Note: Square washers will be packaged in base of frames

Raised Floor Installation

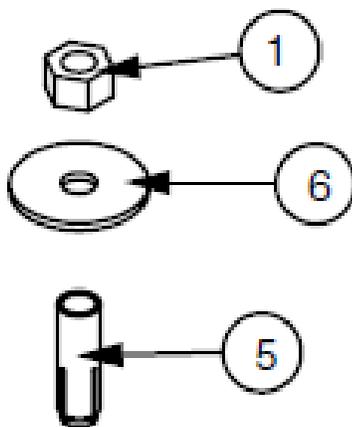
IMPORTANT: If your frame is to be mounted next to a wall, or there are multiple frames in a line up, you **MUST** install the interbay management and end guards (including the female hinge pieces for the end guard support bars) **BEFORE** mounting the frame to the floor.

Tools:

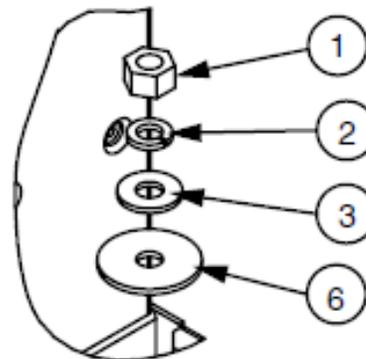
- Hammer (or rotary) drill (depth gauge recommended)
- 5/8" masonry drill bit
- Socket wrench set
- Blowout air bulb or vacuum with small diameter tube

Also required is a raised floor mounting kit (Clearfield P/N 011236).

1. 1/2-13 Hex Nut (Qty 8)
2. 1/2 Lock Washer (Qty 4)
3. 1/2 Flat Washer (Qty 4)
4. 1/2-13 x 30 Threaded Rod (Qty 4)
5. Hilti HDI 1/2" Anchor (Qty 4)
6. 1/4 x 2" Flatwasher .515 Hole (Qty 8)
7. Split Tubing 30" (Qty 4)



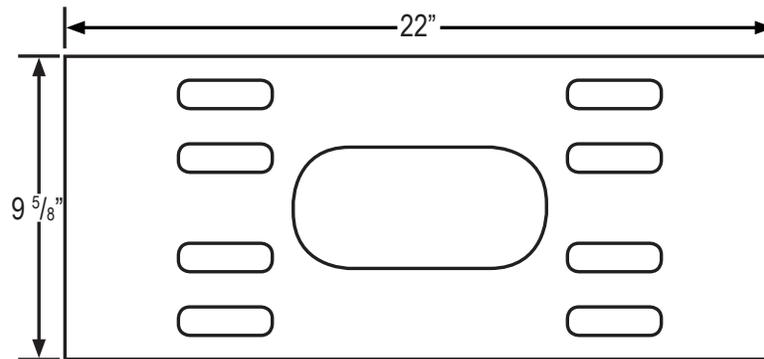
Screw Sequence for Floor



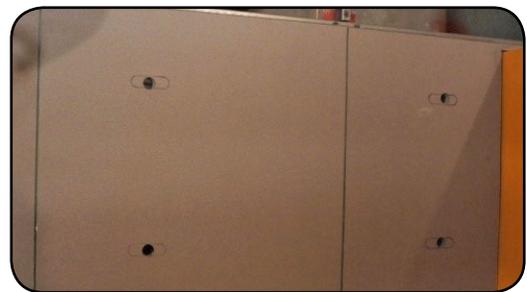
Screw Sequence for Frame

Note: Clearfield recommends installing the anchors directly into the concrete floor.

- Using the isolation pad as a template, mark on the panel(s) of the raised floor the 4 holes where the frame is going to be secured to the floor. Using a 5/8" drill bit, drill a hole through each of the oblong marks you made with the isolation pad.



19" Frame



- Take the threaded rods from the raised floor mounting kit and slide one through each of the holes. Using a hammer and holding them perpendicular to the floor, tap on the end firmly. The goal is to make a "mark" on the concrete floor visible enough to see where the 4 holes should be drilled.
- Once the concrete floor is marked, remove the threaded rods and floor panels. Using a 5/8" masonry bit, drill the four required holes to a minimum depth of 2" (approx. 50mm).

Note: If for some reason you have trouble drilling the 5/8" hole, we recommend first drilling a 1/4" pilot hole before drilling out to 5/8".

- Thoroughly clean the dust from each hole, using a vacuum or blowout air bulb.

Note: To not degrade the anchor's installed performance, any unused anchor holes (or other nearby holes) in the concrete within 3" must be filled with an epoxy filler (pour stone) or equivalent. Filled holes must be fully cured before anchors are installed and torqued.



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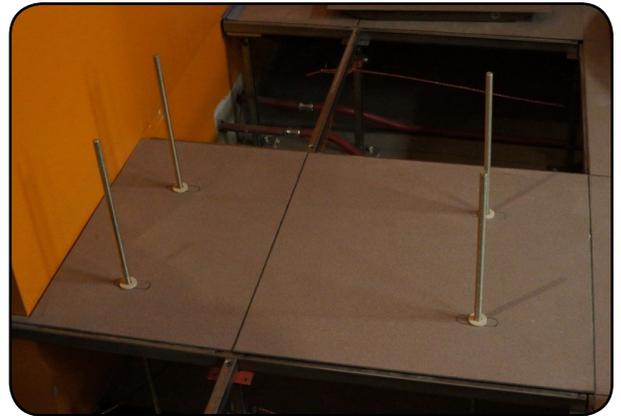
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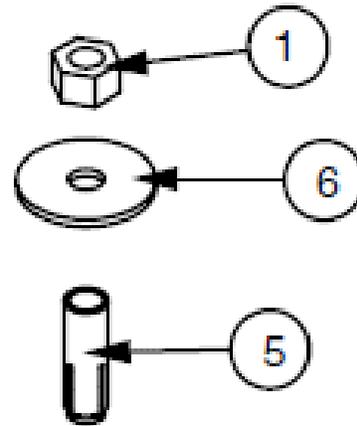
5. Install anchors into the floor. Replace raised floor panels and insert threaded rods through the four holes.

Note: You are not installing the rods at this point. We are measuring the rods to be cut to the appropriate length.

6. Measure the rods 2.5" above the floor and mark with a permanent marker. Remove the rods and cut each rod at the mark. Remove the floor panels.



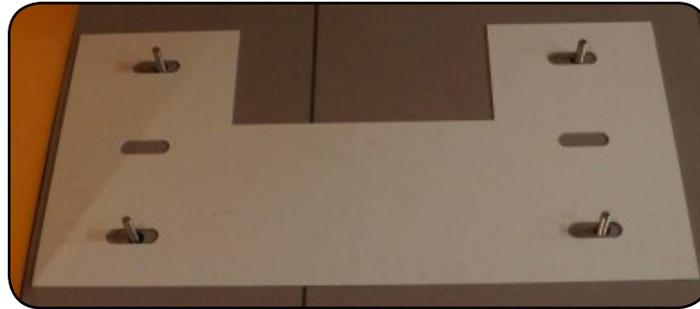
7. Before installing rods back into the floor, place a nut and then a washer on the threaded rods. Take the rod and install it into the anchor installed in the floor.



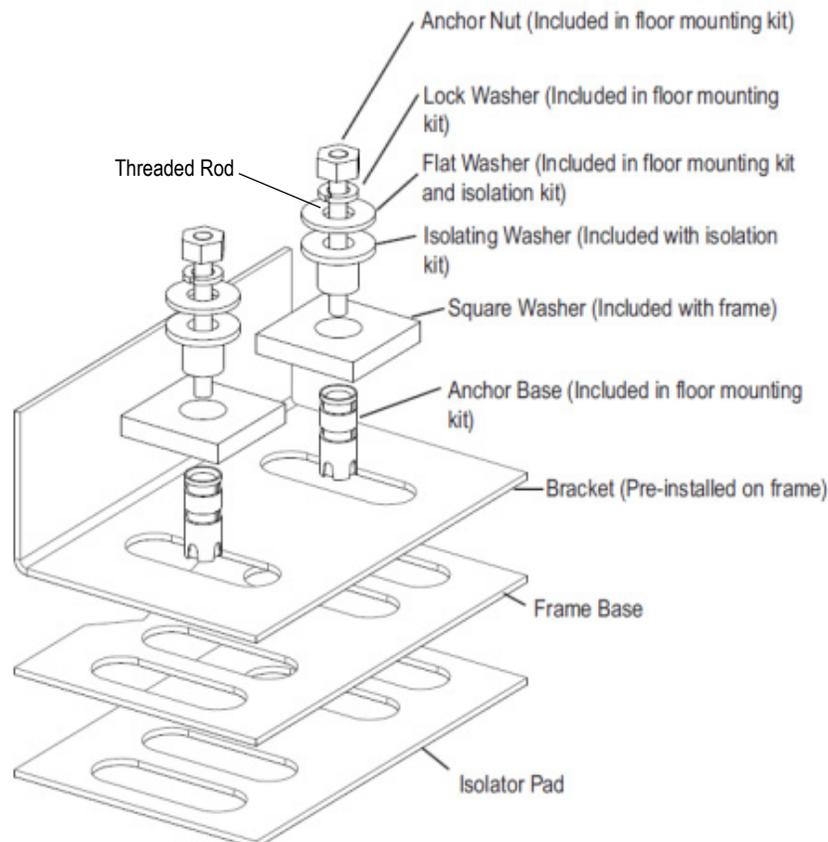
8. Tighten the nut down to secure the rod into the floor. Tighten each bolt to 65 ft-lbs., +10, -0 ft-lbs. The anchor will expand and secure itself to the floor.
9. Once all four rods are secure, thread another hex nut, then washer on each rod. Make sure the nut and washer are approximately 1/2" below the raised floor level. This hardware will be tightened down AFTER the frame is set into place but BEFORE securely bolting the frame to the floor.



- Place the floor panels into position, and tighten the previously installed nuts below the raised panel until they make contact with the panel. Put the isolation pad into place (isolation pad may look different than example).



- Lift the frame into place.
- Place the square washers onto each rod. Align the edges of the 2" square washer parallel with the slots in the frame base to obtain the maximum material overlap. Install the isolation washers (packaged with the isolation pad) onto each rod.
- Install the remaining hardware (washers, nuts, etc) from the raised floor installation kit.



Note: Square washers will be packaged in base of frames

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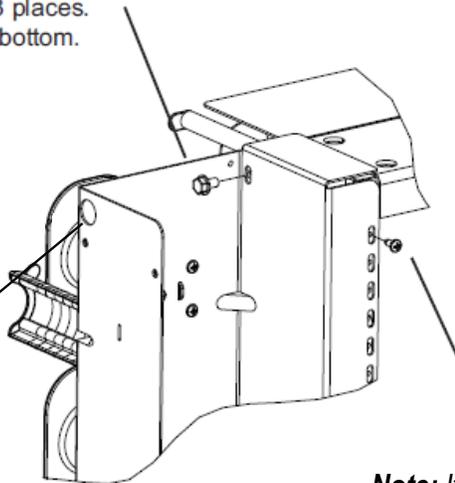
FxDS Frame Kit Installation

Interbays and End Guards

1. Hang the interbay from the top of the frame as shown below, and attach with the included hardware. The interbay has a “flanged” top to support itself during installation. This should help when building the frame by yourself.

5/16"-18 x 1/2" Hex head screw. Install in 3 places. Top, middle and bottom.

Access holes are provided to allow a socket wrench to tighten the 5/16" x 1/2" bolts.



12-24 x 1/2" Pan head thread cutting screw. Install as needed up to 10 per side.

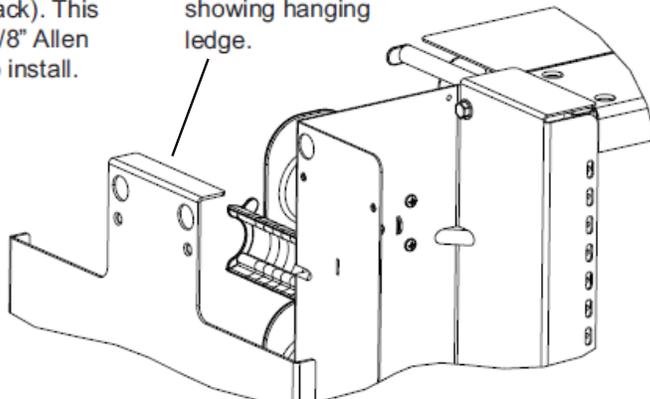
Note: If installing SmartRoute Troughs, leave top 4 screw holes open in order to install the top trough.

Note: Wait to tighten these 1/2" bolts until pan heads (10 per side) are installed

2. Once the interbay has been installed, the end guards can be installed. The end guard also has a “flanged” top for supporting itself on the interbay during installation. 5 pairs of screws will be used down the middle of each end guard.

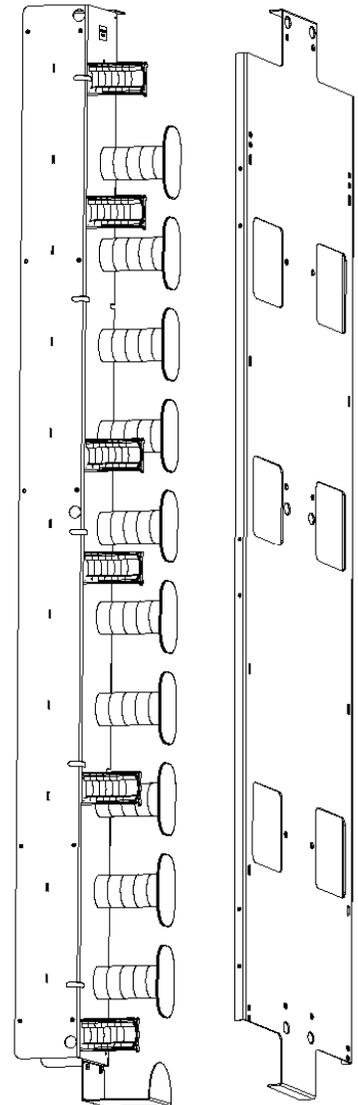
12-24 1/2" Flat Head Socket Screw (black). This requires 1/8" Allen Wrench to install.

Endguard Plate with top side up showing hanging ledge.



Interbay

End Guard

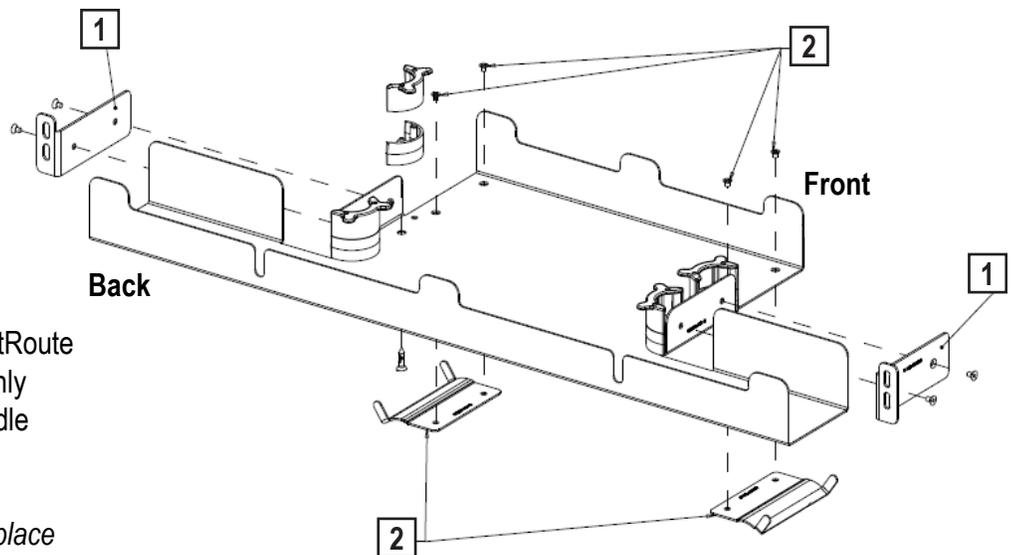


SmartRoute Troughs

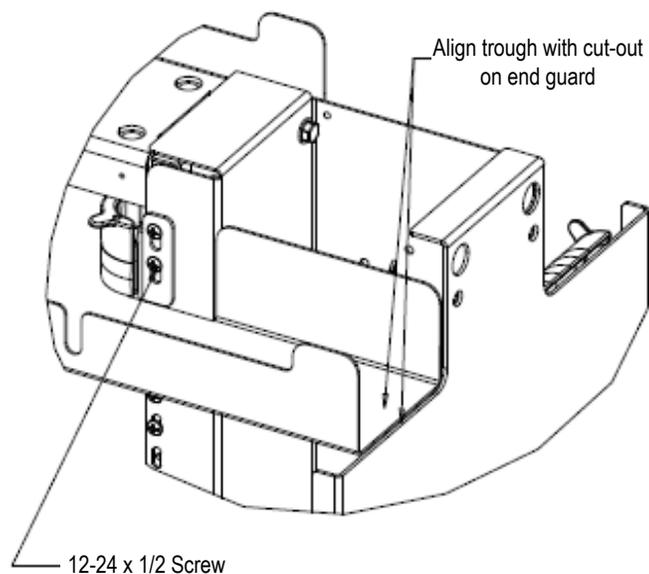
The FxDS Frame system comes in multiple configurations. Though the troughs shown below may differ from the version purchased, installation is essentially the same.

Note: Standard troughs can be easily installed at anytime, and are mounted on the front of the frame. If installing SmartRoute Troughs, they **MUST** be installed before installing the panels.

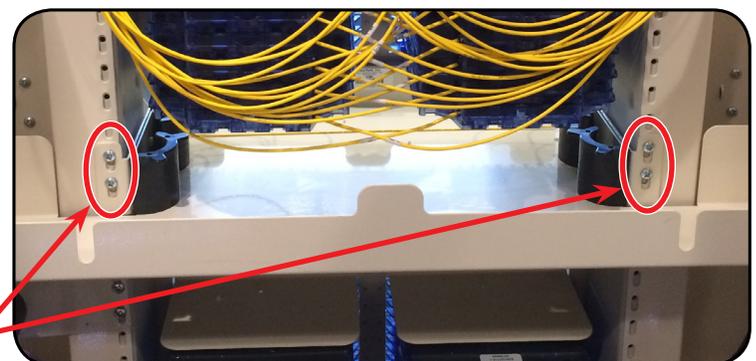
1. SmartRoute Troughs will be attached to the frame by left and right mounting brackets (marked with flag 1) in the back of the frame.
2. Radius brackets (marked with flag 2) must be installed by customer. If utilizing 3 SmartRoute Troughs, radius brackets will only be attached to the top and middle troughs.



Note: For ease of installation, place these parts after installing the trough on the frame



Front



Mounting Screws

Back

FieldSmart® FxDS Frame

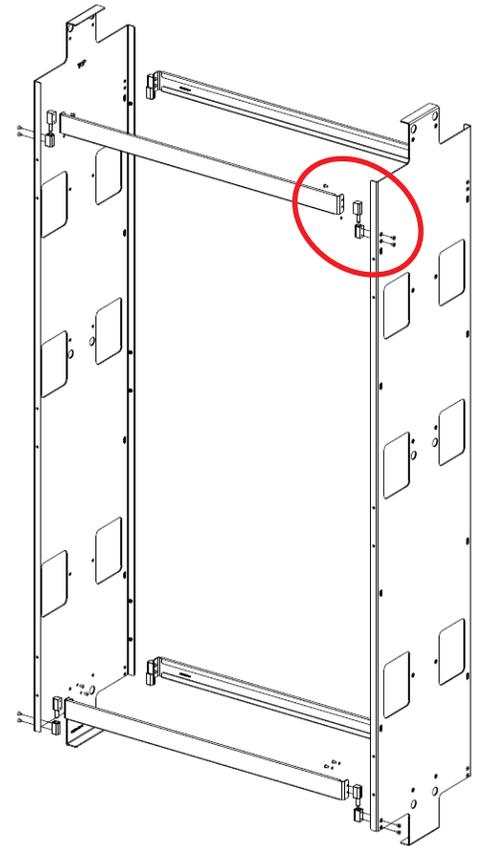
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End Guard Support Bars

1. Once the interbays and end guards are mounted you can add the end guard supports bars. These may also be called crossover or stabilizing bars.
2. These are held in place by a female hinge piece which must be installed in the inside of the end guard, and a male hinge piece which comes pre-installed to the support bar.
3. The support bars will be installed at the top and bottom of the front and back of the end guards.

Note: To install the female hinge piece, you must have access to the outside of the end guards. If the frame is to be installed with the end guard against a wall or another frame, these must be installed prior to floor mounting.



Hinge Mounting
Screws



Female Hinge

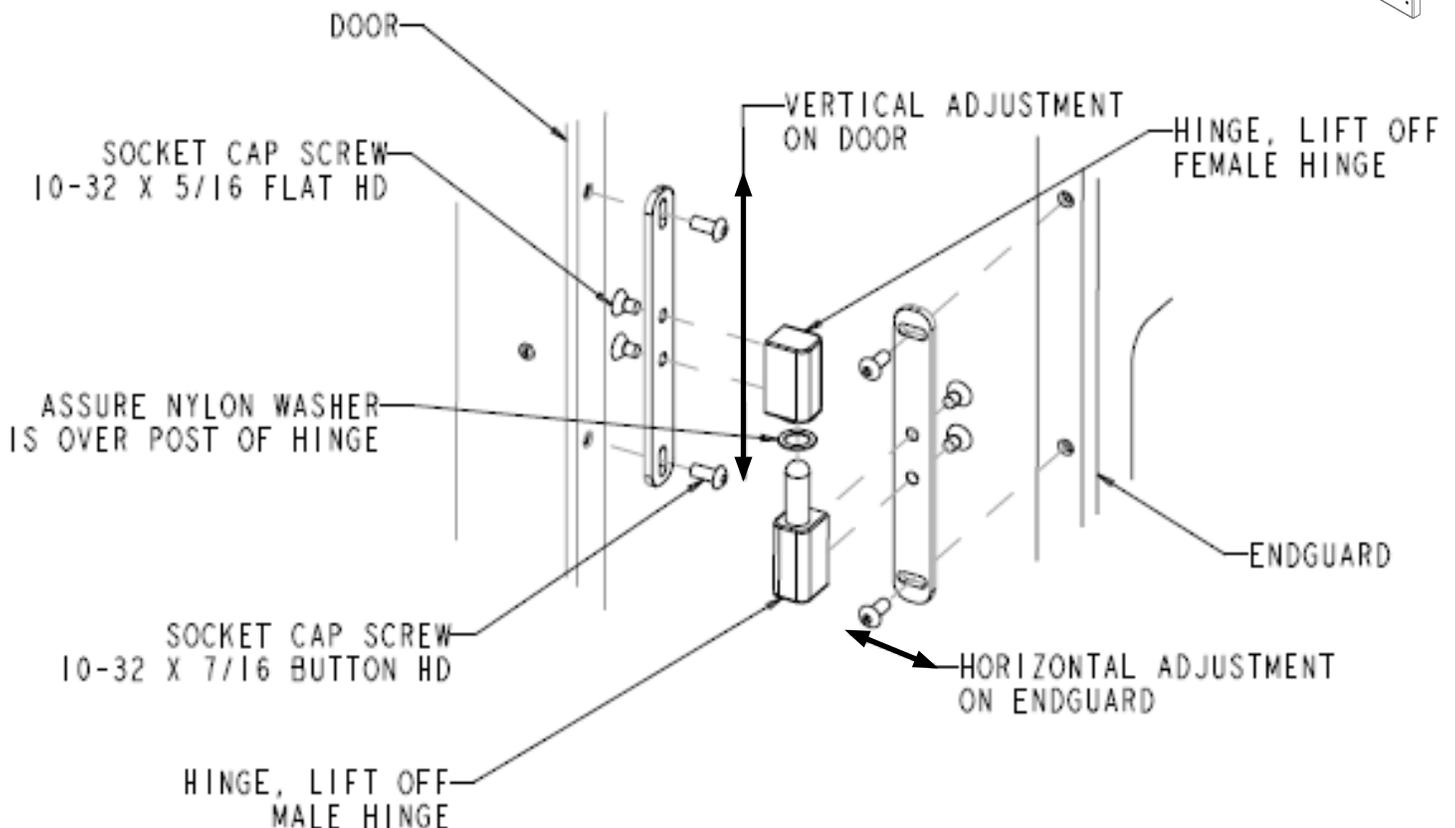
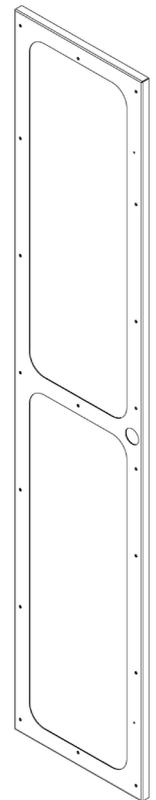
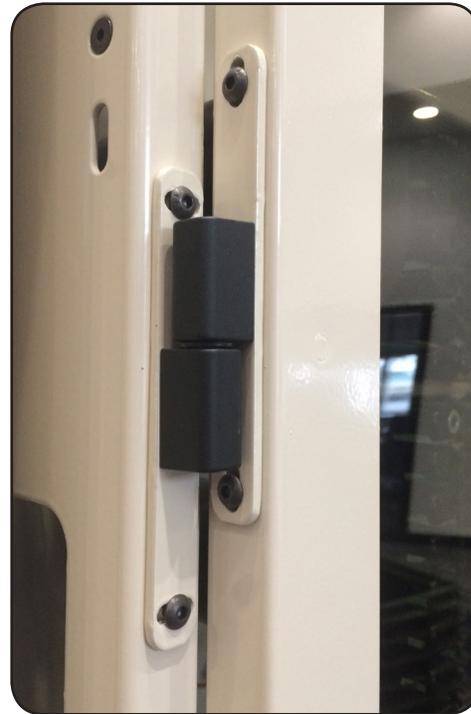
Male Hinge

Doors

1. Install the doors to the end guards as shown.
2. Install the hinge piece to the adjustment plate before attaching the adjustment plate to the end guard or door.
3. The adjustment plates with the horizontal slots and male hinges will be attached to the end guard, and the adjustment plates with the vertical slots and female hinge pieces will be attached to the doors.

Note: Make sure the female hinges are installed with the right orientation so that you end up with 1 left hand and 1 right hand door. The doors serve as your front protection.

4. Align all three hinges and hang the doors on the end guards.



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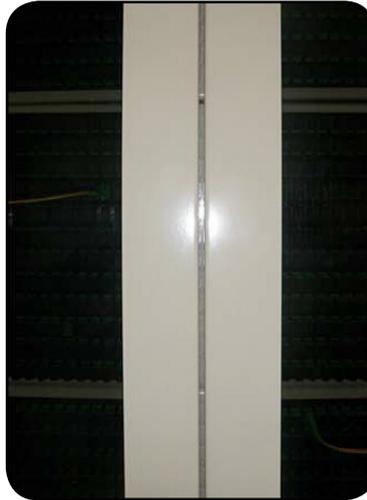
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Adjusting the Doors

1. Adjustment plates will allow you to ensure that an even spacing between the doors is maintained from top to bottom. Vertical adjustments will be made with the door adjustment plate, while horizontal adjustments will be made with the end guard plate.

2. To adjust the doors, first align the doors so that there is an even gap around 1/8" from the top of the doors to the bottom.



3. This can be done by adjusting the screws which hold the hinges to the end guards.

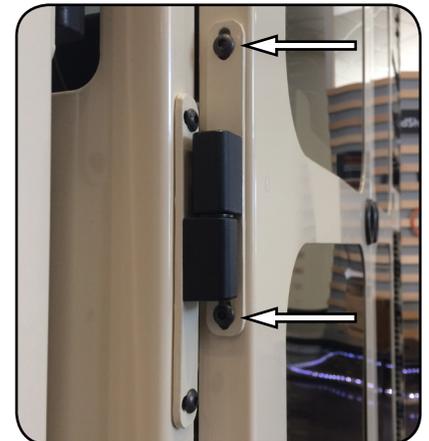


4. Start with the screw in the center of the slot as most applications will not need adjustment afterward.

5. After the horizontal adjustments have been made, adjust the doors to be even vertically.



6. This is done by locking down the higher door and then adjusting the lower door to match.



Grounding

Clearfield provides a ground bar with the FxDS which can be installed on the frame. Ground per your local rules and practices.

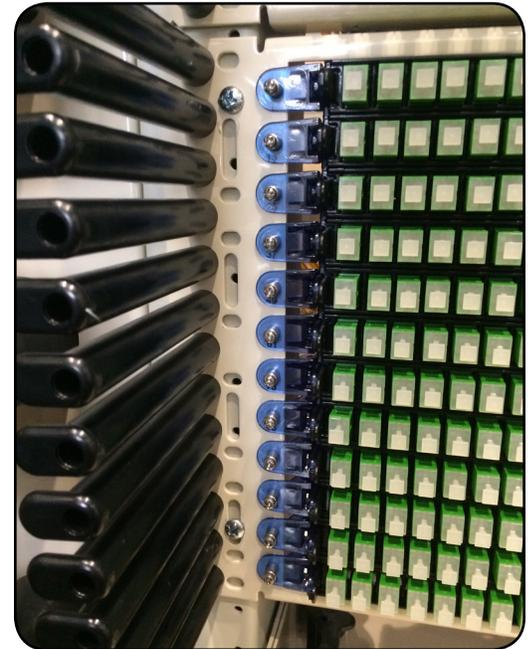


Panel Mounting

1. Now that the frames are mounted securely to the floor, they are ready for panels.

Note: All FieldSmart panels & troughs (patch & splice panels, patch only panels, tie panels, optical component chassis, crossover panels, crossover troughs, slack management troughs, etc) are all mounted and secured to the frame in the same manner.

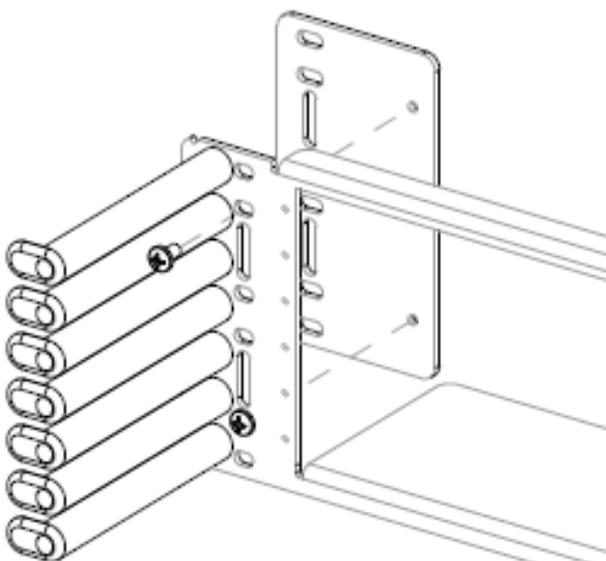
2. Panels come boxed individually with the appropriate mounting hardware. Panel bulkheads are designed for a 19" frame. Since the FxDS frame is a 19" frame, installation is quick and easy.
3. For mounting panels to a 23" standard frame, attach the provided "extender" brackets, which are secured to the ends of the panels using two 12-24 x 1/2" screws on each end. This will allow the panel to be mounted onto a 23" frame using the same method.
4. While supporting the panels in the desired rack location, screw in the four mounting screws (two 12-24 x 1/2" thread cutting screws per side) to secure the panel to the frame. In order to help align the panel, it is also recommended that vertical and horizontal holes are used on each side for mounting.



19" Frame Mounting



Extender Bracket



Extender Bracket

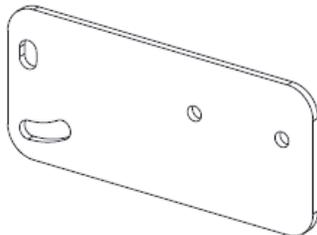


23" Frame Mounting

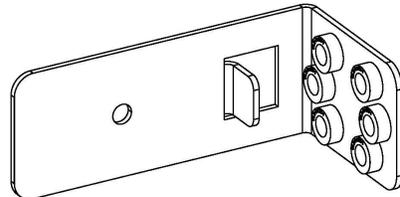
Cable Mounting and Routing

1. Each panel comes with two types of cable mounting brackets. One is used for applications where you have access to pre-drilled and tapped holes in the back of the frame, and one is for instances where these holes are not available.

Note: The standard frame Clearfield offers already has rear mounting holes.



Frames with rear mounting holes



Frames without rear mounting holes

2. Patch Only panels have tails which may need to be routed through the frame and up to the appropriate ladder racks or down into the raised floor before securing the cable to the frame.

3. Choose a green cable clamp that is close to the same size but slightly bigger than the cable you plan to mount. The difference in size can be made up by either wrapping the cable with some of the provided grommet tape, or laying a small strip of grommet tape in the bottom side of the cable clamp shell.

Note: The angle of cable mounting can be adjusted by pivoting the bracket on one of the mounting holes and securing it down with the other. A greater range of angles can be achieved by flipping the bracket to the other side.



4. If no rear mounting holes are available, the other bracket can be used. You will need to hold the bracket up to the frame and drill a pilot hole into the frame as shown. Then, you can mount the bracket using the self-tapping screw included with the panel.



5. The angle of the cable can be adjusted by using different sets of threaded holes in the bracket.



Patch and Splice Panels

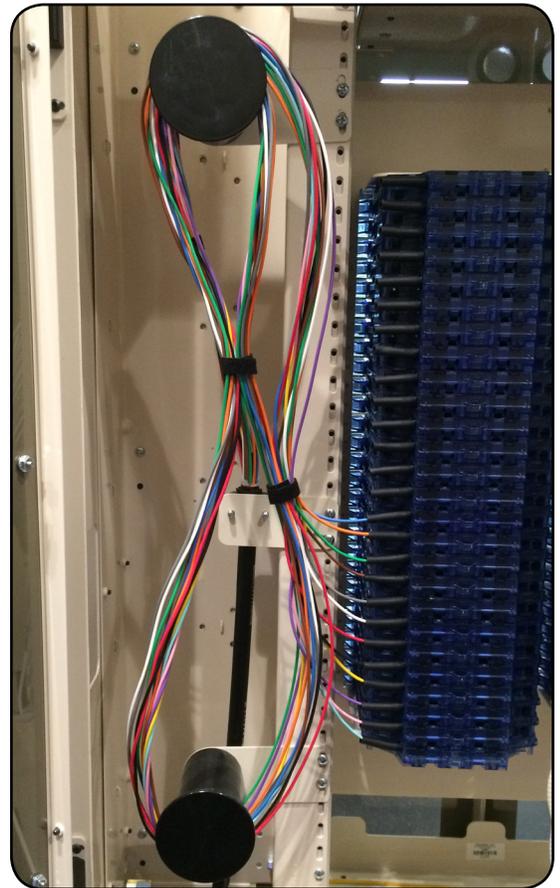
1. When bringing fiber to a patch & splice panel, to store the required slack, you should use radius limiter assemblies (P/N 010600) in pairs. This part number is ordered and shipped separately from the frame kit or panels.



2. Buffer tube storage on radius limiter assemblies shown here.

Note: Using the cable clamps, cables can be secured to either side of the the cable mounting brackets.

3. Once you have the desired slack stored (including an additional 3ft/1m of fiber for splicing), remove the cassettes from the panel.
4. Bring your fiber through the front of the frame and proceed to splicing in your cassettes
5. Re-store the slack and mount the cassettes back into the panel.



Note: Consult the Clearview Blue Cassette Installation Manual for splicing instructions. Viewable in the Installation Manual section, under the Resources tab, of the Clearfield website. Link here:

<https://www.seeclearfield.com/assets/documents/installation-manuals/clearview-blue-cassette-install-manual.pdf>

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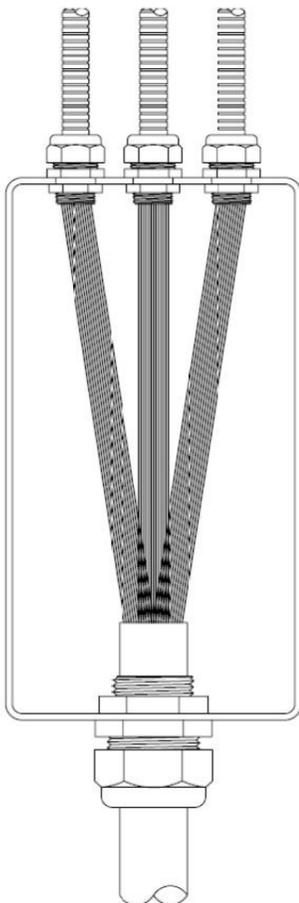
Routing Ribbon Fiber

The High Density Ribbon Breakout Kit and Ribbon Fanout Kit are both used to protect bare ribbon on a frame before the fibers enter the protection of a panel body or cassette. The High Density Ribbon Breakout Kit allows the user to breakout a high fiber count cable (864 fibers max) into manageable 144 fiber groups that can be further broken down with the use of the Ribbon Fanout Kit. Each Ribbon Fanout Kit breaks out ribbon stacks (max 12 ribbons) of 250 um fibers (max 12 fibers per ribbon) into color-coded breakout tubes. The breakout tubes with individual ribbons can then be routed to your cassettes and secured into the tray like a buffer tube.

The High Density Ribbon Breakout Kit can also accommodate a breakout of a 1728 SpiderWeb Ribbon cable. This will be used in conjunction with the round Ribbon Fanout Kit (P/N FMA-MZZ-ROUND) which can hold 24 fibers (2 subunits of 12 fibers) each.

Note: The installation manuals for both products are shipped with the kits. Examples shown below.

High Density Ribbon Breakout Kit



Ribbon Fanout Kit



Kits During Installation



Completed Installation



Cable Routing Examples

FxDS, Patch and Splice Panel with Slack Storage



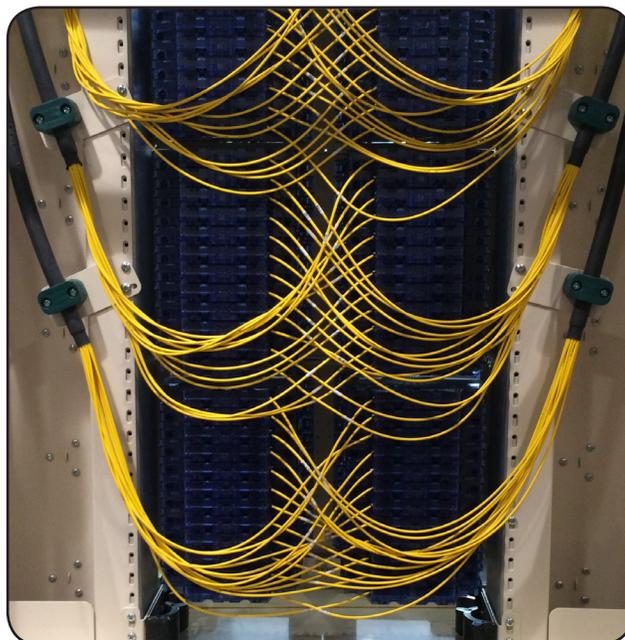
FxDS, Patch Only Panel, OSP Cable



HD Ribbon Breakout and Fanout Kits



FxDS, Patch Only Panels, IFC Cable



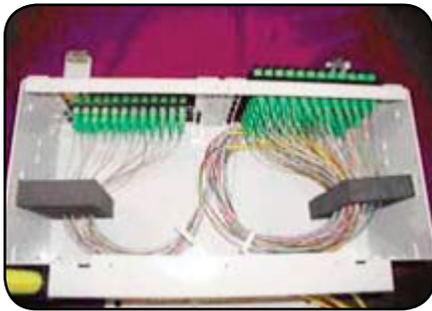
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Installation Manual



Tie Panels

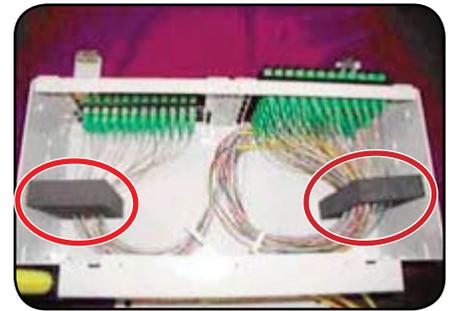
1. For the incoming multi-fiber bundle, slack storage is performed in the rear protection of the panel.



2. Before bringing in the fiber, install the included self-adhesive foam separators and cable management clips. Trim the foam separators to the correct height for the panel that is being installed.



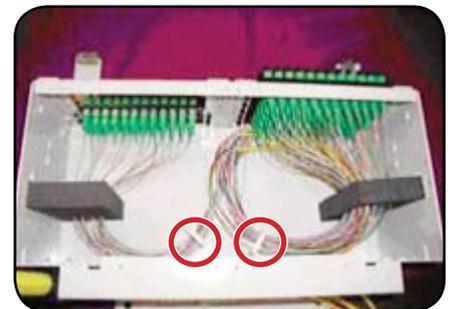
3. Remove the protective tape from the adhesive and install the separators on the edges of the panel approximately half-way from the front of the panel to the back.



4. The 1RU panel will NOT have the separators and the 288 panel will have four separators (two will be stacked on top of each other on each side).

Note: The adhesive is fairly aggressive so make sure you know where to place the pieces before removing the protective tape of the adhesive. Once installed let sit for a few minutes. Do not worry if they are not in the exact location as long as they are not too close to the tie plate.

5. Install the cable management clips in the locations indicated.



6. Once the cable management is set you can install and route the fiber into the panel. Clamping off the incoming multi-fiber bundle is the same method as our standard panels.

7. Use the included mounting screws to fasten the green clam shells and cable to the rear cable bracket. The cable should be mounted so that the breakout is slightly beyond the end of the clamp.

8. If bringing all the jumpers into the tie panel, the cables can either be bundled and wrapped in foam tape to clamp to the back of the panel, or tied to the provided bridge lances.

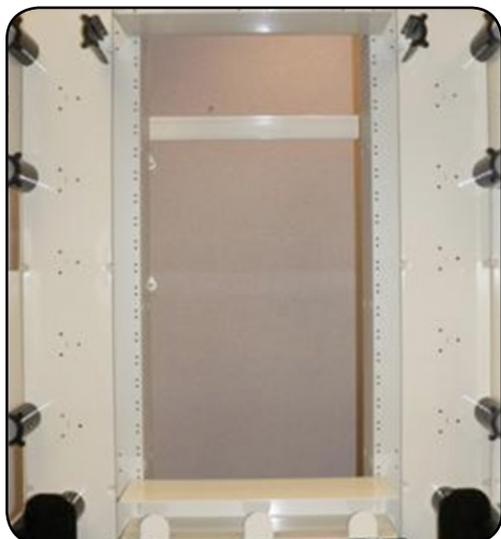
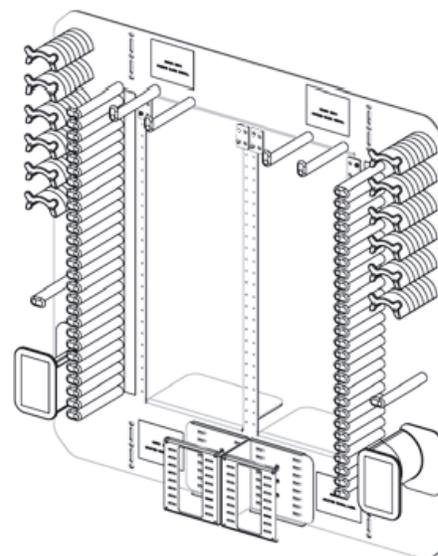


Note: If bringing in jumpers periodically it is recommended you use velcro and bridge lances to secure the jumpers. This will make it easier to unsecure and re-secure the jumpers when fiber is added.

FxDS PON Insert Kit

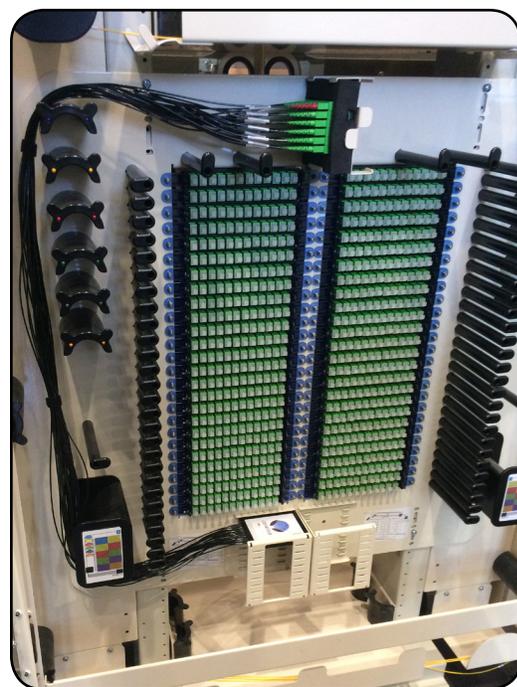
1. The FxDS PON Kit allows the user to install (18) 1x32 PON splitters onto an FxDS frame system. It is comprised of a 576 port bulkhead panel that is self contained with specialized fiber management for the 1x32 ruggedized splitters. Two FxDS Pon inserts can fit on one FxDS Frame.

Note: The PON insert is designed to only be used in a FxDS frame system.



2. There is a FxDS frame system configuration specially designed for the PON insert. Because of the PON insert width, the configuration does not have interbay management spools.
3. If you have a standard FxDS Frame you will need to remove the interbay spools on the frame that would interfere with the bulkhead (see picture).

4. The bulkhead panel can now be installed using the provided hardware. The bulkhead is very large and should be installed without any cassettes or fiber installed.
5. The top 24 ports on both sides are the feeder ports for their respective sides. Optionally, they can be tie plates with adapters for plugging jumpers from active gear into the back.

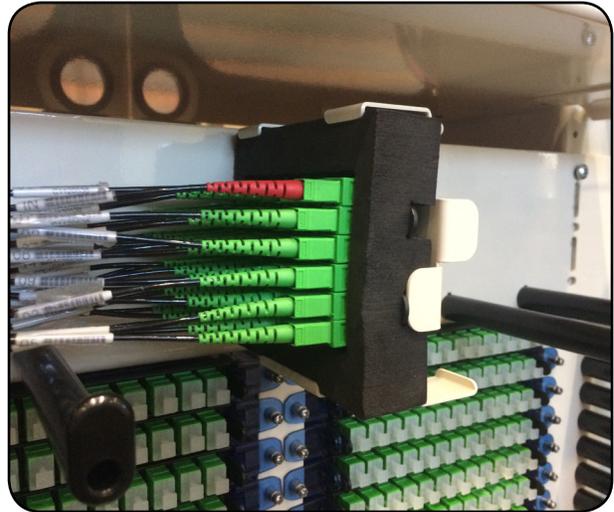


FieldSmart® FxDS Frame

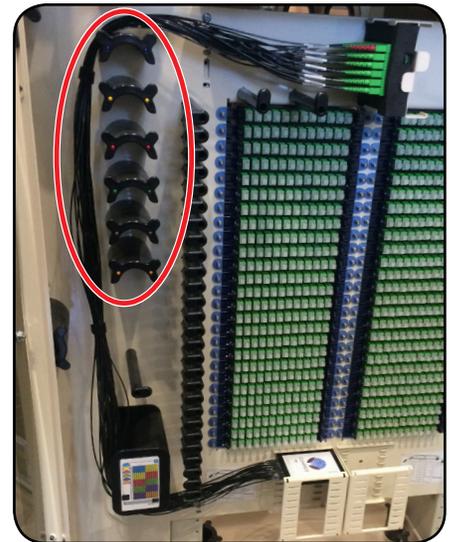
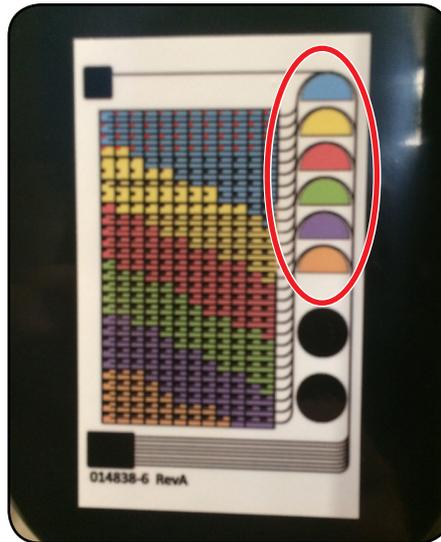
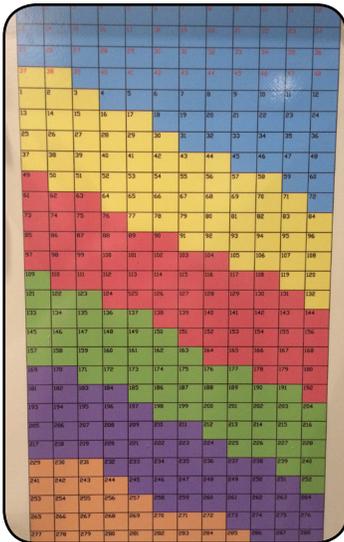
Installation Manual



- Optical splitters can be installed by first inserting the splitter into the top most available slot of the provided splitter cage, and routing around the outside of the panel to the top Staging Plate bracket.



- In the bottom left and right corner of the panel, you will find a routing guide to help determine the proper spool to route the splitter legs over when deploying. You will notice that the provided desi-card has corresponding color coded squares. Simply route the cable over the spool associated with the color of the port you intend to activate and the slack will be properly addressed.



- Splitters can only be routed and deployed on their respective side of the insert. Each half of the PON Insert holds (9) splitters. There are more feeder ports than (9), allowing for pass through/express ports if needed.

Connector Cleaning Procedure

Whether factory terminated or field spliced, clean connectors are essential for proper system operation. Even the smallest dust particle can cause transmission problems, so for optimal network performance inspect, and if necessary, clean connectors and adapters prior to mating.

Inspect Then Connect

These are Clearfield recommended products/applications. Use the product you feel will complete your cleaning procedures. Create a “best practice” for your company and follow those procedures.

The use of Chemtronics end face and bulkhead cleaning products and techniques ensures a clean end face, no matter the type of contamination.

Before cleaning any connector, be sure you know what type of contaminate you are cleaning (dry, fluidic, or combination). All the available products are good, it's the process that you need to be aware of. Using a dry cleaning method to clean “dirt” can lead to scratching of the end face. Learn the process of cleaning properly.

Note: It is **NOT** recommended to use isopropyl alcohol to clean the end face.

Cleaning an SC/LC Connector

Cleaning the End Face

- Place one wiping paper on QbE-2 FiberSafe™ Cleaning Platen. (Figure 1)
- Apply small amount of precision cleaner (about 1” in diameter) with Electro-Wash MX pen on to one end of the wipe. (Figure 2)
- Hold end face at a 90 degree angle. For APC connection, adjust by slightly tilting the container or end face. Angle is correct when no drag is felt on the end face. (Figure 3)
- Draw end face from wet to dry part of the wipe 3 times. Use just enough pressure to ensure complete contact between end face and the wipe.

Note: **DO NOT** retrace previous step.



Figure 1



Figure 2



Figure 3

Cleaning the Ferrule

- Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the swab, 1 side down to the wetted area and hold for a count of 1-2-3-4-5. **(Figure 4)**



Figure 4

- Insert swab into side of ferrule, wet side to the ceramic ferrule and circle around 2-3 times and remove. Turn swab to dry side and repeat. **(Figure 5)**



Figure 5

Cleaning the Mate Through an Adapter AND the Adapter Itself

- Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the tip of the swab onto the wetted area and hold for a count of 1-2-3-4-5.
- Insert the swab into the adapter to the connector, press lightly against the connector, twist 2-3 times, remove and discard.
- Dry with a second dry swab.
- Inspect, repeat cleaning if necessary, and test for signal strength.
- Use additional swabs to clean inside the actual adapter. Moisten swab, like above, and insert through hole and remove while twisting. **(Figure 6)**

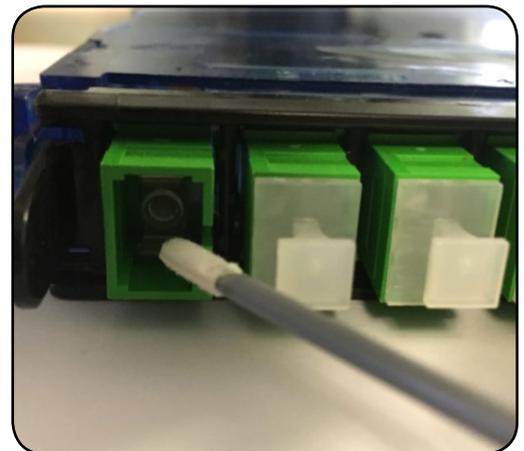


Figure 6

Cleaning an MPO/MTP Connector

Female Connector

- Place one wiping paper on QbE-2 FiberSafe™ Cleaning Platen and apply small amount of precision cleaner (about 1" in diameter) with Electro-Wash MX pen on to one end of the wipe. **(Figure 1)**



Figure 1

- Hold end face at a 90 degree angle. For APC connection, adjust by slightly tilting the container or end face. Angle is correct when no drag is felt on the end face. **(Figure 2)**

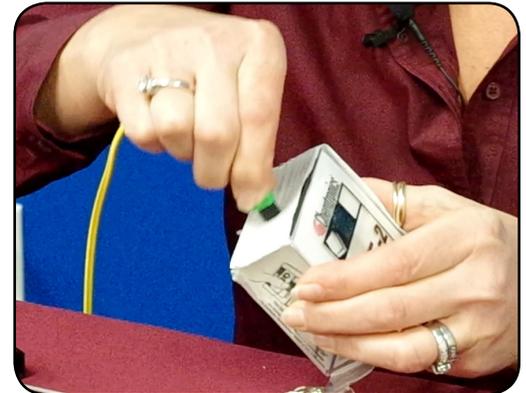


Figure 2

Male Connector

- Lightly moisten one side of the fiber optic swab (CC505F) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the swab, 1 side down to the wetted area and hold for a count of 1-2-3-4-5.
- Place swab, wet side down, at one end of connector end face and draw across in a diagonal sweep; i.e., from fiber 1 up and across to fiber 12. Turn swab over to dry and draw back from fiber 12 to fiber 1. **(Figure 3)**



Figure 3

Standard Warranty

Clearfield warrants to the original purchaser of the Product sold hereunder is free from defects in material and workmanship under normal use and service, subject to exceptions stated herein. Product purchased is warranted as follows: Clearfield designed and branded Products are warranted for three (3) years; Products manufactured by Clearfield to customer prints and/or specifications are warranted for one (1) year; and any Product Clearfield acquires from or through a third-party manufacturer or distributor and resells to Customer as the original customer will carry the manufacturer's pass-through warranty, if any. In all cases, the warranty period commences on the date of shipment to the original purchaser.

Warranty Claim Procedure

If any Product purchased from Clearfield is found defective under the above warranty, the following basic procedure must be followed:

1. Customer must contact Clearfield and obtain a Return Materials Authorization
2. Following authorization, the Customer ships the product-freight collect-to Clearfield's manufacturing facility
3. Clearfield shall repair or replace the defective Product at its sole option and discretion, and return the repaired or replacement Product to Customer's site, freight prepaid

Note: If the Product is not found to be defective by Clearfield, the product will be returned to the Customer and the customer billed for freight in both directions.

View our warranty policy here: <https://www.seeclearfield.com/warranty.html>

Limitations of Warranty

Correction of defects by repair or replacement, at the option of Clearfield Inc, shall constitute the exclusive sole remedy for a breach of this limited warranty. Clearfield shall not be liable under any circumstances for any special, consequential, incidental, punitive, or exemplary damages arising out of or in any way connected with the product or with agreement to sell product to buyer, including, but not limited to damages for lost profits, loss of use, or for any damages or sums paid by buyer to third parties. The foregoing limitation of liability shall apply whether the claim is based upon principles of contract, warranty, negligence or other tort, breach of statutory duty, principles of indemnity or contribution, the failure of any limited or exclusive remedy to achieve its essential purpose, or otherwise.

Clearfield will not be responsible for any labor or materials costs associated with installation or incorporation of Clearfield products at customer sites, including any costs of alteration, replacement or defective product, or any field repairs.

Other Limitations

Clearfield assumes no warranty liability regarding defects caused by:

1. Customer's modification of Product, excepting installation activities described in Clearfield documentation
2. Customer re-packaging of Product for shipment to third parties or destinations other than those originally shipped to by Clearfield, or any defects suffered during shipping where the Product has been re-packaged
3. Customer's installation or maintenance, excepting activities described in and performed in accordance with Clearfield documentation
4. Customer's improper or negligent use or application of Product
5. Other causes external to the Product, including but not limited to accidents, catastrophe, acts of God, government action, war, riot, strikes, civil commotion, sovereign conduct, or the acts or conduct of any person or persons not party to or associated with Clearfield
6. Environmental factors and weathering resulting in aging and damage not necessary or applicable to the function of the product



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Its purpose is to provide the user with adequately detailed documentation to efficiently install the equipment supplied. Every effort has been made to keep the information contained in this document current and accurate as of the date of publication or revision.

However, no guarantee is given or implied that the document is error free or that it is accurate with regard to any specification.

Technical Support

Clearfield, Inc. can be contacted for any issues that arise with the supplied product.

If you need to return the supplied product, you must contact the Clearfield, Inc. Customer Service Department to request a Returned Materials Authorization (RMA) number.

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