# 96 & 144 Port PON Pedestal







# Installation Manual ——————



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### FieldSmart 96 Port PON Pedestal

## **Application**

The FieldSmart Fiber Delivery Point (FDP) 96 Port in PON Pedestal Insert Kit or Direct Bury provides splice or interconnect functionality in industry standard pedestals for drops to the home in the last mile of the access network. Additionally, it provides up to 96-homes served in PON environments.

## **Description**

Accepting up to nine Clearview Cassettes and three 1 x 32 splitters used throughout the Clearfield FieldSmart product line, the insert will scale up to 96-homes served for PON applications. Providing for the ultimate in future-proof flexibility, the FDP Pedestal Insert can be deployed today as a drop only pedestal and easily converted to a distributed PON solution when placing a larger PON cabinet is not desired or cost effective.

The FieldSmart Fiber Delivery Point (FDP) Pedestal Insert incorporates field-tested designs to provide a solution that is easily installed and modified. Whether your environment calls for splice only drops or demands the sophistication of a Clearview Cassette solution, a FieldSmart (FDP) Pedestal Insert can be configured to support any access point configuration. Compatible with a variety of RUS listed pedestals, the insert provides splicing and/or interconnect connectivity with slack-storage for drop cable scenarios or mid-span and ring-cut functionality for up to a 288 OSP fiber sheath.



## **Technical Specifications**

FieldSmart Fiber Delivery Point 96 Port PON in Pedestal Insert Kit or Direct Bury	
Dimensions (for insert only)	22.41" H x 12.96" W x 11.18" D
Port Density	96
Feeder/Express Ports	12
Cassette Types Supported	Clearview <sup>®</sup> Blue and Clearview Classic
Connector Types	SC/UPC, SC/APC, LC/UPC, LC/APC
Cable Types	Indoor/Outdoor, Outdoor (Riser/Non-Rated), Outdoor Armored (Riser/Non-Rated)
Splice Capacity	12 splices in each Clearview Cassette
Splitter Slots	3
Material	14 gauge cold rolled steel with almond powder coating

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### FieldSmart 144 Port PON Pedestal

### **Application**

The FieldSmart Fiber Delivery Point (FDP) 144 Port in PON Pedestal Insert Kit or Direct Bury provides splice or interconnect functionality in industry standard pedestals for drops to the home in the last mile of the access network. Additionally, it provides up to 144-homes served in PON environments.

### **Description**

Accepting up to 13 Clearview Cassettes and five 1 x 32 splitters used throughout the Clearfield FieldSmart product line, the insert will scale up to 144-homes served for PON applications. Providing for the ultimate in future-proof flexibility, the FDP Pedestal Insert can be deployed today as a drop only pedestal and easily converted to a distributed PON solution when placing a larger PON cabinet is not desired or cost effective.

The FieldSmart Fiber Delivery Point (FDP) Pedestal Insert incorporates field-tested designs to provide a solution that is easily installed and modified. Whether your environment calls for splice only drops or demands the sophistication of a Clearview Cassette solution, a FieldSmart (FDP) Pedestal Insert can be configured to support any access point configuration. Compatible with a variety of RUS listed pedestals, the insert provides splicing and/or interconnect connectivity with slack-storage for drop cable scenarios or mid-span and ring-cut functionality for up to a 288 OSP fiber sheath.



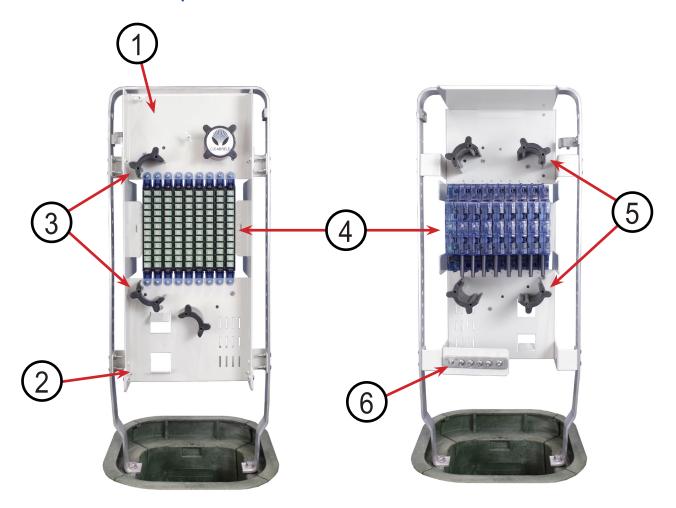
## **Technical Specifications**

FieldSmart Fiber Deliver Point 144 Port PON in Pedestal Insert Kit or Direct Bury		
Dimensions (for insert only)	23.78" H x 12.75" W x 10.86 D	
Port Density	144	
Feeder/Express Ports	12	
Cassette Types Supported	Clearview <sup>®</sup> Blue	
Connector Types	SC/UPC, SC/APC, LC/UPC, LC/APC	
Cable Types	Indoor/Outdoor, Outdoor (Riser/Non-Rated), Outdoor Armored (Riser/Non-Rated)	
Splice Capacity	12 splices in each Clearview Cassette	
Splitter Slots	Up to 5 - with High Density Splitter (KE series)	
Material	14 gauge cold rolled steel with almond powder coating	



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## **96 Port PON Pedestal Components**

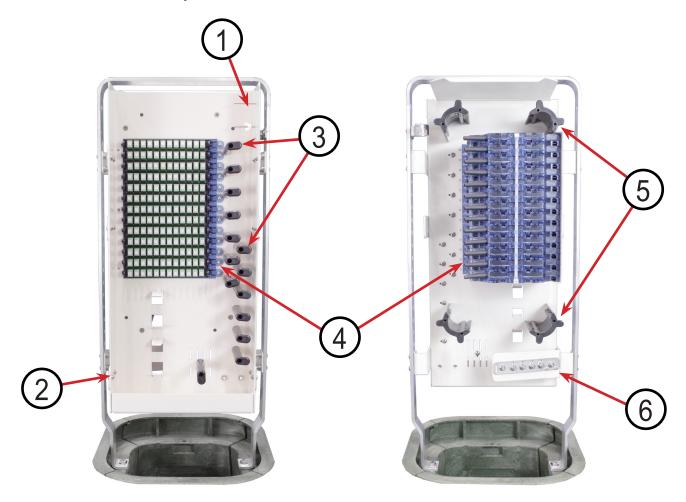


- PON Splitter Storage
- 2. Staging Plate Bracket
- 3. Splitter Leg Radius Limiting Spools
- 4. Feeder and Distribution Clearview **Blue Cassettes**
- 5. Buffer Tube Radius Limiting Spools (Slack Management)
- 6. Grounding Bar
- 7. Cover/Designation Card (Not Pictured)

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## **144 Port PON Pedestal Components**



- 1. PON Splitter Storage
- 2. Staging Plate Bracket
- 3. Splitter Leg Radius Limiting Fingers
- 4. Feeder and Distribution Clearview **Blue Cassettes**
- 5. Buffer Tube Radius Limiting Spools (Slack Management)
- 6. Grounding Bar
- 7. Cover/Designation Card (Not Pictured)



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### **Pedestal Installation**

These instructions provide general information useful for pedestal installation. This guide cannot anticipate all situations that could develop in the field. Rather, it represents information applicable to common installation conditions.

### **Site Preparation:**

Ensure that national/local electrical and building codes, as well as OSHA and company safety work rules, are observed and provisions made for street flags, barricades, and cones. Secure permits as required by the city and company.

### WARNING: Buried Telecommunications Cables - Call Before Digging

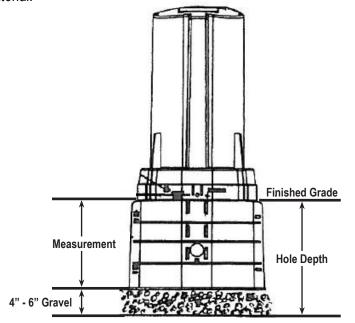
#### **Excavation:**

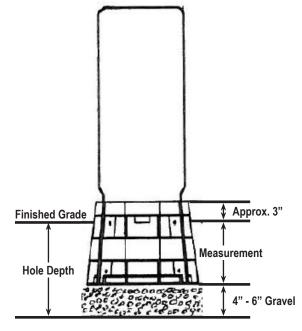
Measure the pedestal base from the bottom to the underside of the top ring of the pedestal base (shown here). You will want almost all of the top ring of the pedestal above ground level when installation is complete. Measure the diameter of the pedestal base. Excavate a hole with the depth you measured plus 4-6 inches, as well as the diameter plus 8 inches, to give 4 inches of room to work with on each side. **Confirm the excavation floor is level.** 

#### Installation:

Tamp and level the floor of your excavated hole. Clearfield highly recommends the installation of a vapor barrier, which will go below the crushed rock floor of the excavated area. Once the vapor barrier is installed, place 4"-6" of crushed rock and level, then place the pedestal. Proceed to backfilling around the outside of the pedestal, tamping and leveling the earth once backfill is completed. Finally, fill the base of the pedestal with at least 6 inches of crushed rock.

**Note:** Base material shall be crushed rock 3/4" and smaller, and not "river rock" or "round stone." Desired compaction and equivalent resistance to lateral loading will not be achieved with round stone. The rock should be free of soil and organic material.





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### **Vault Installation**

These instructions provide general information useful for vault installation. This guide cannot anticipate all situations that could develop in the field. Rather, it represents information applicable to common installation conditions.

#### **Site Preparation:**

Ensure that national/local electrical and building codes, as well as OSHA and company safety work rules, are observed and provisions made for street flags, barricades, and cones. Secure permits as required by the city and company.

### WARNING: Buried Telecommunications Cables - Call Before Digging

#### **Excavation:**

Plan excavation approximately twelve to sixteen inches (12" - 16") longer and wider than the actual dimesnions of the vault to be installated. Similarly, excavate six to eight inches (6" - 8") deeper than the overall dimensions of the vault with the cover in place.

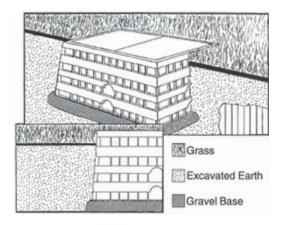
**Note:** Vault size is generally defined by the approximate cover dimensions. The vault actual measurements will differ. The dimensions above for determining the size of the excavation provide sufficient volume for accommodating the maximum recommended select backfill. The volume of excavation would be reduced if a lesser volume of backfill material were chosen. Excavate the hole to appropriate dimensions with a mechanical excavator or hand dig as appropriate. **Confirm the excavation floor is level.** 

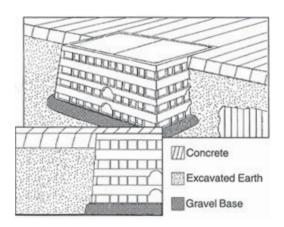
#### Installation:

Clearfield highly recommends the the installation of a vapor barrier beneath the crushed rock floor of the excavated area. It is recommended to use a minimum of three to six (3" - 6") inches of crushed rock to prevent subsidence over time. Gravel is the recommended material because of its drainage characteristics. The compacted material should be leveled so the top of the vault is flush to the grade.

**Note:** Base material shall be crushed rock 3/4" and smaller, and not "river rock" or "round stone." Desired compaction and equivalent resistance to lateral loading will not be achieved with round stone. The rock should be free of soil and organic material.

Install the vault with the cover and support beams in place. Backfill the extra excavated material into the gaps around the vault and compact by hand.







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## **Vault Mounting Options**

Using a Clearfield FieldSmart 24 x 36 vault, with split lid and a 12" x 12" Pencell Pedestal cover, the PON in a PED provides PON access from above, incorporating slack cable storage directly below in the vault. Also available in Channel vault and pedestal variations.

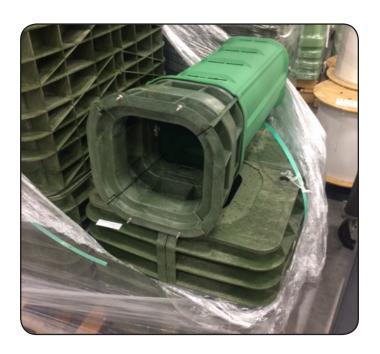




### Tall and Short Pedestal Base Mounting (10"x10" and 12"x12")

In vault/ped combos, an area on half of the split lid will be milled out in the shape of the ped base. 4 pre-drilled holes will be located on the ped base, as well as 4 corresponding holes on the vault lid. Mounting bolts and nuts will be included with the ped base. Install the bolts through the ped base, through the vault lid, and secure with nuts below.

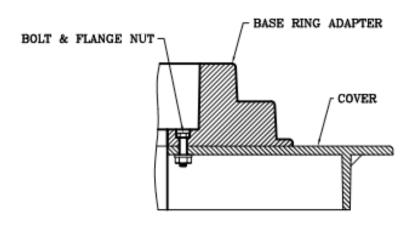


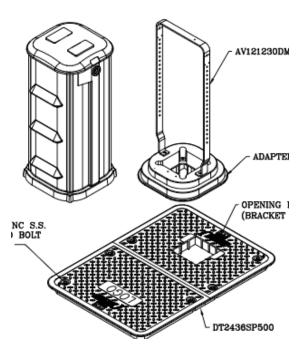


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## **Pedestal Insert Mounting Options**

The pedestal insert can be ordered pre-installed in the pedestal direct from Clearfield or as a stand-alone item to be installed in either a pre-existing pedestal or one from the end users existing supply. The 96 Port PON Pedestal Insert fits into select Channell, Pencell, Emerson metallic BD7, and ProFORM 12 pedestals, while the 144 Port PON Pedestal Insert fits into select Channell and Pencell pedestals.

### Pencell

The insert is installed by using the included screws through the hoop frame of the pedestal. There are two brackets on each side of the insert.



### **Channel Pedestal**

The insert is installed by using the included screws through the hoop frame of the pedestal. There are two brackets on each side of the insert.



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#### **Emerson BD7 Pedestal**

First, locate the black support bars and related screws from the ship along materials and install the black support bar in the 5th hole from the top of the pedestal (Figures 1 & 2). Next, move the grounding support bar to the lowest available position (Figures 3 & 4).









Figure 1

Figure 2

Figure 3

Figure 4

The insert can now be loosely secured at the top using the included hardware (Figure 5). The bottom of the insert can then be attached using the included hardware. After installing the bottom hardware and aligning the insert to be straight, then tighten all mounting hardware to ensure a secure fit (Figure 6).



Figure 5



Figure 6



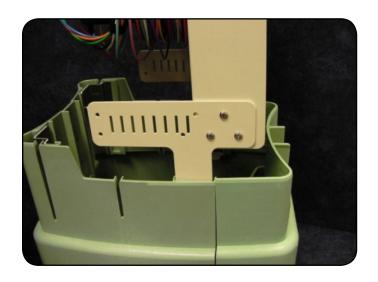
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### Proform 12" Pedestal

Push the insert into the slots until the assembly clicks into place, then verify the spring clips have engaged over the plastic railing. The assembly can be removed by pulling on the spring clip and lifting the insert.



Align the mounting tabs with the corresponding slots in the base of the pedestal. Make sure that the front of the insert faces the smaller shorter side of the pedestal.





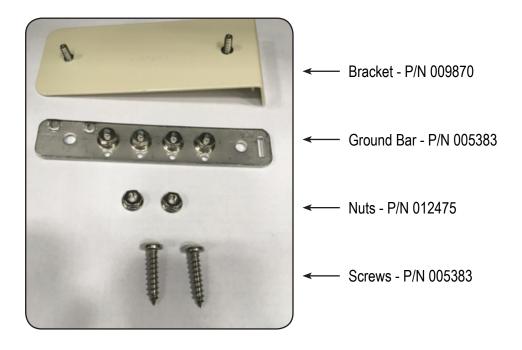
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## **Optional Pedestal Ground Bar**

An optional pedestal ground bar (ground bar kit P/N FPP-GROUND KIT) can be installed in cases where the PON ped insert will not be used. This includes FPP pedestals with YOURx-Terminal applications and others. Simply install the ground bar onto the two threaded studs of the bracket, and secure with the provided nuts. The bracket can then be screwed directly into the base of the pedestal with the provided screws.









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## **Removing the Cover**

The cover can be removed by tilting the cover away from the bottom of the insert and sliding the tab out of the provided latching hole. This will provide access to the front of the insert and the designation card inside the cover.

**Note:** The cover is not included with the BD7 version of the insert. The desi-card is provided as a label to be applied to the inside door of the pedestal.





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## **Cable Preparation**

OSP distribution cables that are entering or exiting the pedestal can be prepped in either a ring cut/mid-span opening fashion or at the end of the cable.



Ring Cut/Mid-span



**Opening End of the Cable** 

The pedestal is designed to hold roughly 20 feet of buffer tube from a 144 OSP cable, but most manufacturers recommend not exposing more than 20 feet in an OSP environment. This rule is especially true for ring cut applications.

**Note:** 3 feet of fiber is needed inside the cassette for splicing, so be sure to include that in your total cable prep length.

In either cable prep method, a central strength member clamp (3M 2172 or equivalent) can be installed to secure the central strength member.



3M 2172



**Cable Clamp Installed** 



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If a shielded cable is to be used and grounded in this application, then a bonding clamp (3M 4460-D or equivalent) can be attached in addition to the strength member clamp.



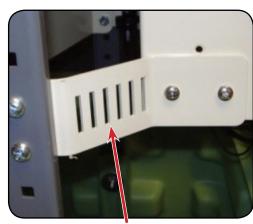
3M 4460-D



**Bonding Clamp Installed** 

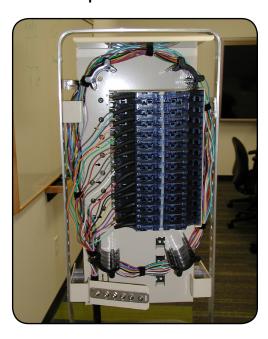
Cables to be installed can be secured to the side brackets of the pedestal using the zip tie mounts found on the bottom mounting brackets of the pedestal.

When attaching the cables to the back plate using zip ties, it is very important to not fully tighten the zip ties around the cable. Each zip tie should allow at least 1/8" of clearance on all sides. This is important as the cable will need to piston or freely move inside the zip tie independently from the pedestal in the case of ground heave.



Zip Tie Locations

If utilizing a ring cut/mid-span cable opening, the excess buffer tube should then be routed loosely around the radius limiters provided and secured loosely with velcro. This cable can then leave the other side of the pedestal and be secured in the same fashion as described above.



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### **Cassette Splicing and Installation**

- 1. Once you have the cable installed and secured to the pedestal insert, route the buffer tubes around the fiber management spools, storing your excess slack. (**Figure 1**)
- 2. Bring the buffer tubes up and around to the cassettes. (Figure 2)

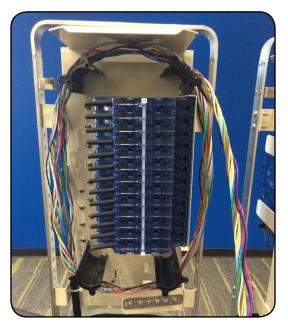


Figure 1

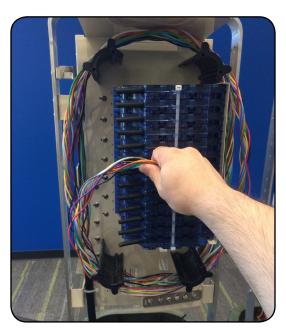
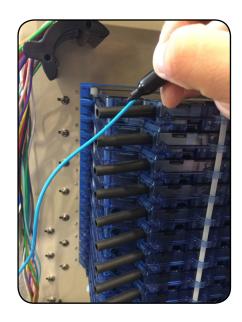
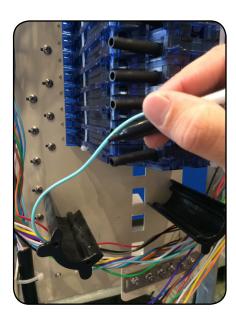


Figure 2

3. Mark the tubes at the cassettes with a permanent marker, being sure to leave 3 feet of buffer tube after the mark, which will be used for splicing inside the cassette.

**Note:** The required lengths for each buffer tube will be different, so be sure to mark each one individually at its respective cassette.







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4. Remove the cassettes from the pedestal insert by loosening the retaining screws on both sides of the cassettes (96 port), or one side (144 port), and remove the cassettes through the front of the pedestal insert.



5. Unwind the buffer tubes from the slack management and bring the tubes through the pedestal insert. Proceed to splicing.

See the Clearview Blue Cassette Installation Manual for splicing instructions, located under the Resources tab of the Clearfield website, www.seeclearfield.com.

#### Viewable here:

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

- 6. After splicing is completed, pull the slack back through the pedestal and guide the cassettes up to their places on the pedestal insert. Secure the cassettes into place with the retaining screws (if working in the 144 port PON ped, slide the t-rails of the cassettes into place in their respective slide rails first).
- 7. Re-store the extra buffer tube slack around the slack management spools. Use velcro to dress up the buffer tubes.



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### **PON Splitter Installation**

### 96 Port PON Pedestal

- Install the splitter body onto the two threaded rods at the top of the pedestal. Each threaded rod will slide through one of the holes on opposite corners of the splitter body.
- 2. Secure in place with the provided wing nuts.

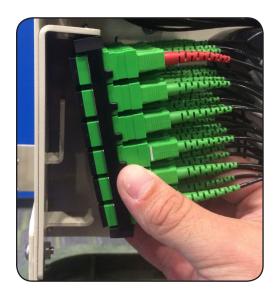




3. Route the splitter legs around the fiber management fingers.

**Note:** To install the staging plate, ensure the foam cradle has first been replaced with the provided foam strips on the ends of the staging plate.

- 4. Place the two tabs on the top of the staging plate into the two slots at the top of the mounting bracket.
- 5. Swing the bottom down and in, pushing until the bracket grabs the bottom of the staging plate.
- 6. Connect the feeder leg and distribution legs of the splitter as needed.









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### 144 Port PON Pedestal

- 1. Install the splitter body onto the two threaded rods at the top of the pedestal by first hooking the tab under the top rod.
- 2. Push the bottom of the splitter until it snaps into place on the lower rod.
- 3. Secure in place with the provided wing nuts.

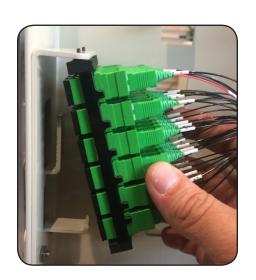


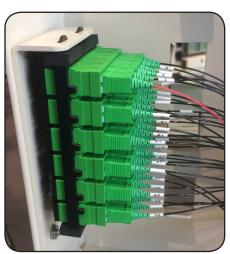


4. Route the splitter legs down and around the fiber management fingers.

**Note:** To install the staging plate, ensure the foam cradle has first been replaced with the provided foam strips on the ends of the staging plate.

- 5. Place the two tabs on the top of the staging plate into the two slots at the top of the mounting bracket.
- 6. Swing the bottom down and in, pushing until the bracket grabs the bottom of the staging plate.
- 7. Connect the feeder leg and distribution legs of the splitter as needed.







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### **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 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

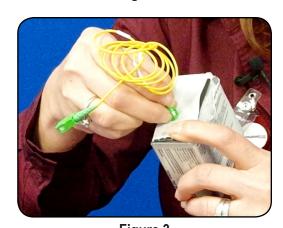


Figure 3



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### 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)

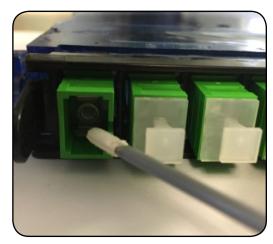


Figure 6

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### **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)

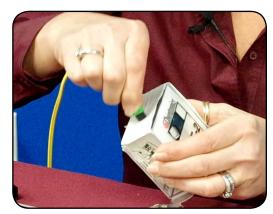


Figure 2

### **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)

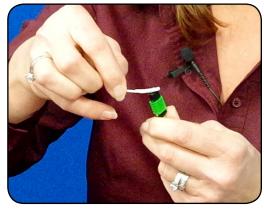


Figure 3



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### **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
- 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

Direct: 763.476.6866 • National: 800.422.2537 • www.SeeClearfield.com • techsupport@clfd.net

# 96 & 144 Port PON Pedestal

## Installation Manual ———



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## **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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