

NOVA High Density (HD) Fiber Panel

Installation Manual



NOVA High Density (HD) Fiber Panel

Installation Manual



Table of Contents

Application.....	3
Description.....	3
Technical Specifications.....	3
Tie-Plate Top Protection Cover.....	4
Panel Mounting.....	5
Front, Rear and Top Protection.....	5
NOVA Cassette Installation and Removal.....	6
Cable Mounting.....	7
Plug-and-Play and Patch-Only Config Slack Management.....	8
In-Cassette Splicing Config Slack Management.....	8
Tie-Plates.....	9
Installing Jumpers & Scoping Adapters.....	10
Connector Cleaning Procedure.....	11
Standard Warranty.....	16
Proprietary Notice.....	17
Technical Support.....	17

Are you?

**CLEARFIELD
CERTIFIED**



Clearfield College Product Training

Clearfield's Certified Partnership Training Program (CPTP) is open to customers and contractors with the desire to become a Clearfield partner.

SIGN UP TODAY to learn the proper installation techniques for Clearfield products.

A NO-CHARGE Service Offered by Clearfield

www.seeclearfield.com/training/clearfield-college/certified-partnership-training.html



NOVA High Density (HD) Fiber Panel

Installation Manual

Application

The NOVA High Density (HD) Fiber Panel provides interconnect or cross-connect capability for up to 384 LC high-density ports, delivering a scalable fiber management platform for enterprise networks, data centers, and central office deployments. The NOVA HD Panel accepts NOVA Cassettes, including versions with integrated optical components and NOVA Tie modules, to support a wide range of network architectures and deployment strategies.



Description

NOVA HD Panel is a high-density panel with a low real estate footprint. The NOVA HD Panel is available in three sizes; 1RU with capacity for 96 LC ports (1.75"), 2RU with 192 LC ports (3.5"), and 4RU 384 with LC ports (7"). Building from the legacy Clearfield cassettes the NOVA™ HD Panel utilizes the NOVA Cassette providing the user with superior fiber access, strain relief options, and clear port labeling. Panels are designed for 19in mounting or 23in mounting option.

Technical Specifications

NOVA HD Panels			
Port Density	96 ports LC 4 NOVA™ Cassettes	192 ports LC 8 NOVA™ Cassettes	384 ports LC 16 NOVA™ Cassettes
Panel Heights	1RU 1.75" H (44.45mm)	2RU 3.5" H (88.90mm)	4RU 7" H (177.8mm)
Dimensions	18.87" Width x 17.535" Depth		
Cassette Types Supported	NOVA Cassette, NOVA Tie Module		
Connector Types	SC/UPC, SC/APC, LC/UPC, LC/APC, MPO		
Connectivity	Supports industry standard SC, LC, and MPO/MPT singlemode and multimode connectors		
Splice Capacity	12 or 24 splice configurations in each NOVA Cassette		
Material	Powder-coated metal base and Polycarbonate top, rear, front protection		

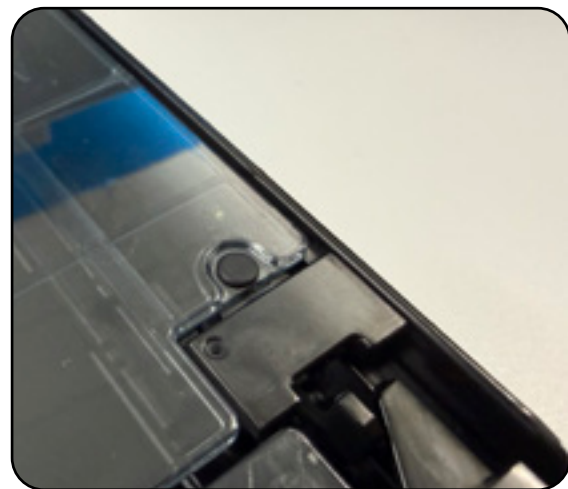
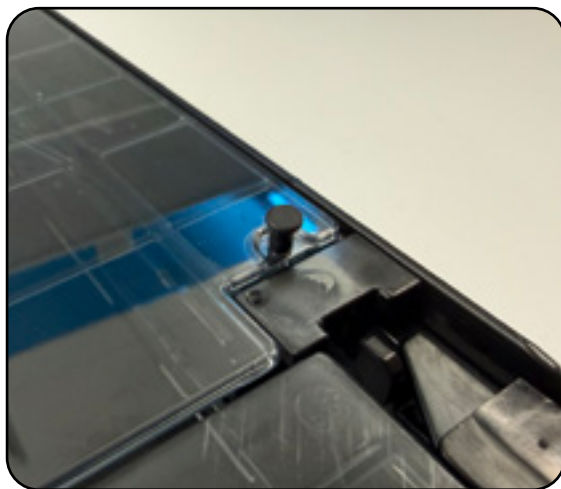
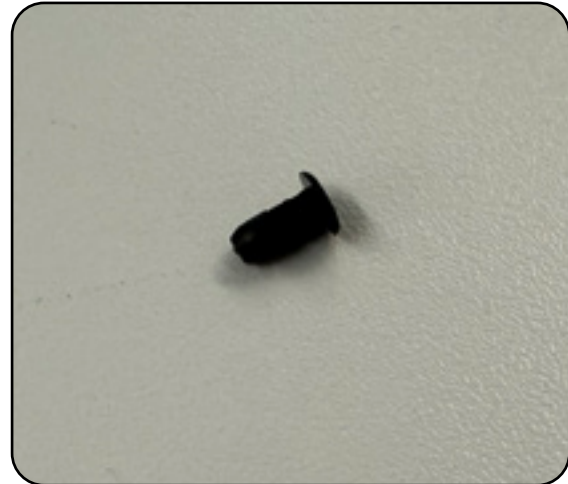
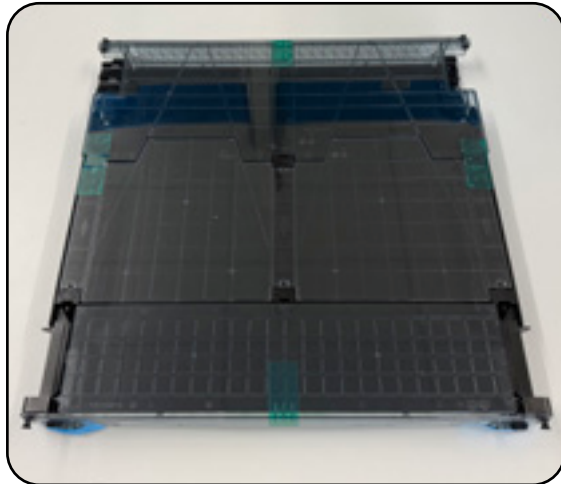
NOVA High Density (HD) Fiber Panel

Installation Manual



Tie-Plate Top Protection Cover

The Nova HD Panel will ship with the tie-plate top protection in place. If utilizing tie-plates instead of cassettes in the NOVA HD Panel, this cover can be secured in place with the included plastic rivets. Push them through the 6 holes located across the cover. If installing cassettes into the panel, this cover can be discarded.





NOVA High Density (HD) Fiber Panel

Installation Manual

Panel Mounting

NOVA HD Panels ship with reversible mounting brackets, configurable for both 19 inch and 23 inch mounting. Using the provided screws, secure the mounting ears in the desired configuration at the locations shown below. 4RU NOVA HD Panels utilize two mounting brackets per side. Mount the panel to the rack with the provided screws.



19" Mounting



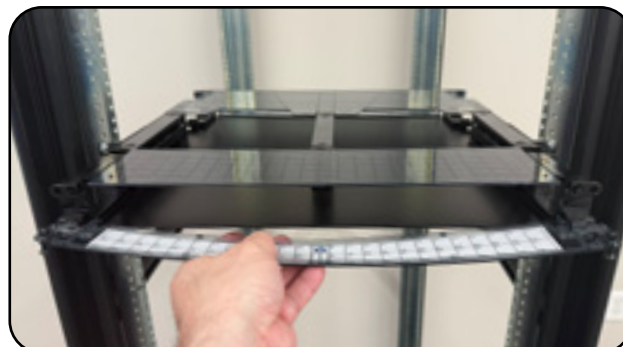
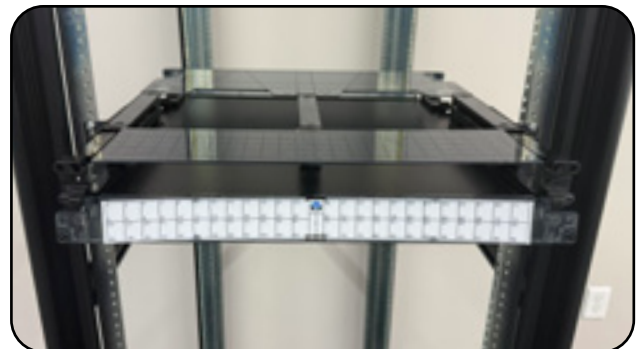
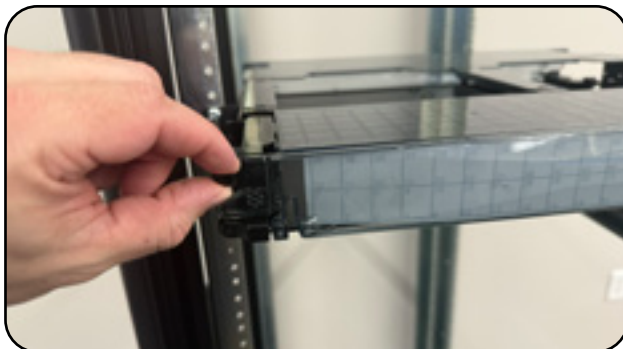
23" Mounting



4RU Panel

Front, Rear and Top Protection

NOVA HD Panels feature swinging removable front and rear protection doors. A designation card is located inside the front protection door. To remove these doors, pull on the two push/pull grommets, located at the top corners of the doors, until a click is heard and they disengage. Then flex the door until the hinges pop out of their sockets and lift away. Repeat the process in reverse to reinstall the front and rear protection doors.

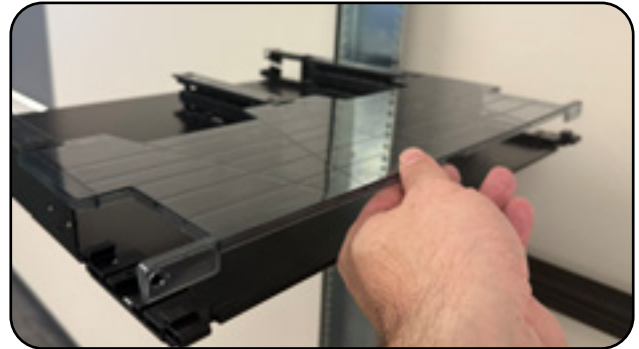
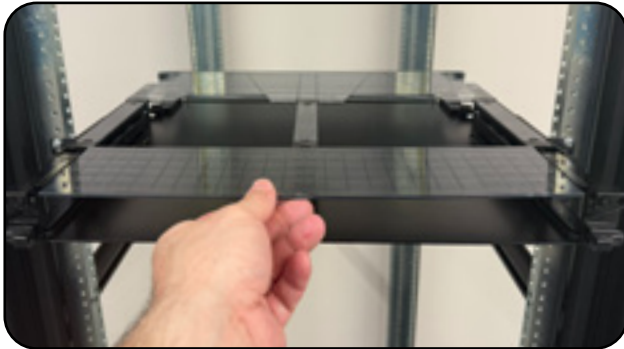


NOVA High Density (HD) Fiber Panel

Installation Manual



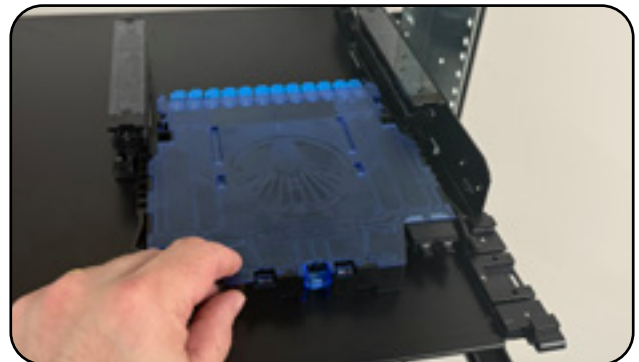
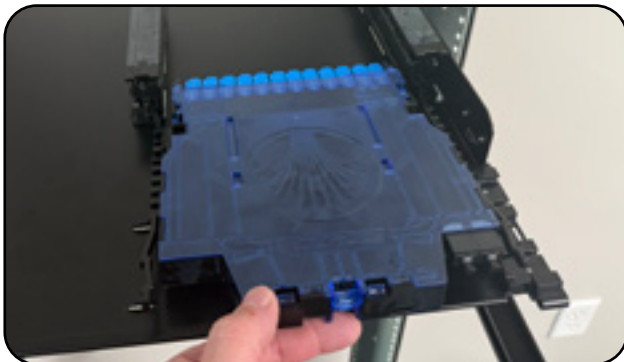
To remove the top protection pieces in both the front and rear, slide them straight out. Slide back in to place after cassette and cable installation is complete.



NOVA Cassette Installation and Removal

NOVA Cassettes install into the NOVA HD Panel using integrated sliding rails on each side of the cassette. Align the rails on each side of the cassette with desired slot in the panel and push until the cassette clicks into place. To remove the cassettes, grab the tabs on the end of both rails and squeeze to release the cassette, then pull it out of the slot.

Note: Rear loaded cassettes must be installed prior to the attachment of the cable mounting bracket. Additionally, if cables have been mounted to the panel and cassettes need to be removed, the cassette mounting bracket will need to be detached prior to cassette removal (see next section).





NOVA High Density (HD) Fiber Panel

Installation Manual

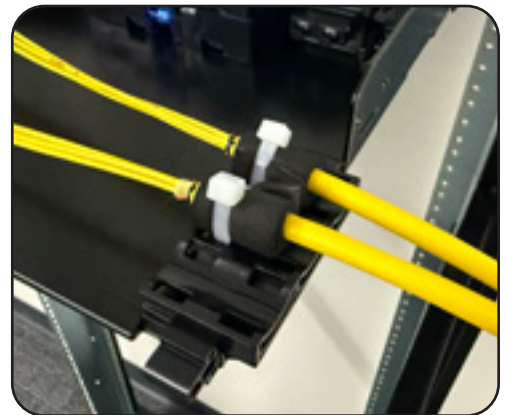
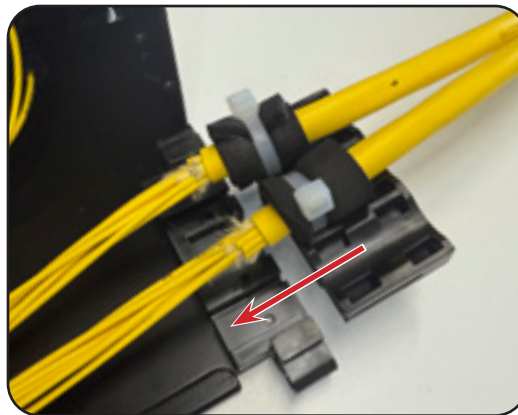
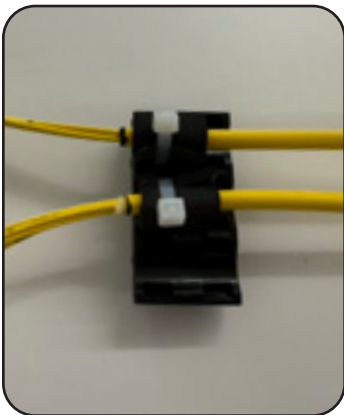
Cable Mounting

Note: In order to comply with your cable's minimum bend radius, cables may need to be tied off at the frame rather than the cable mounting bracket. After securing the cable at the frame, loosely tie off your cable to the cable mounting bracket, protecting buffer tubes with grommet tape and ribbon with furcation tubing.

Cables mounted to the NOVA HD Panel will be secured to the cable mounting bracket with cable ties. Identify the forward edge of the bracket by locating the guide rails present on the underside of front edge. Choose one of the cable securing points on the bracket, and insert a cable tie through the channel until it passes out the other side.



Wrap cables in grommet tape and secure to the bracket with the cable ties. Then secure the bracket to the panel by aligning the guide rails of the bracket with the channels on the back of the panel. Push into place until you hear a click.



To remove the cable mounting bracket, feel underneath for the release tab. Press on the release tab and slide the bracket from its mounting place. Image shows view from below panel.

Note: Cassette mounting bracket must be detached from panel to remove cassettes from the rear of the panel.



NOVA High Density (HD) Fiber Panel

Installation Manual

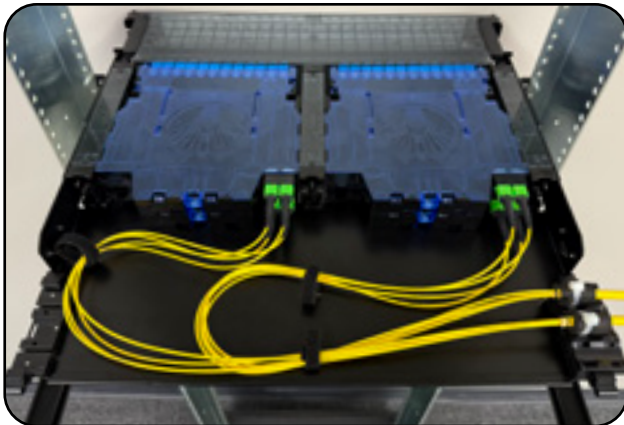


Plug-and-Play and Patch-Only Config Slack Management

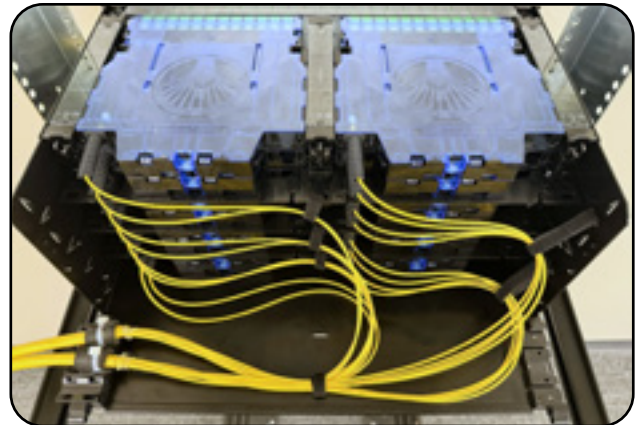
Multiple bridge lances are located throughout the rear slack storage area of the NOVA HD Panel. To dress up the slack of pre-terminated MPO plug-and-play assemblies, as well as patch only (pigtail) cassettes, use pieces of hook and loop strips to loosely hold the fibers in place.

Central bridge lances, located in the base of the panel and the center of each shelf, should be used to support cables running to cassettes on the side of the panel nearest the cable entrance. Outer bridge lances, located on the vertical walls of the panel, should use extra large hook and loop strap pieces to support the cables running to cassettes on the far side of the panel. Examples shown below.

Note: Cables should enter cassettes on the same side of the panel that the cable enters the panel.



1RU Plug-and-Play

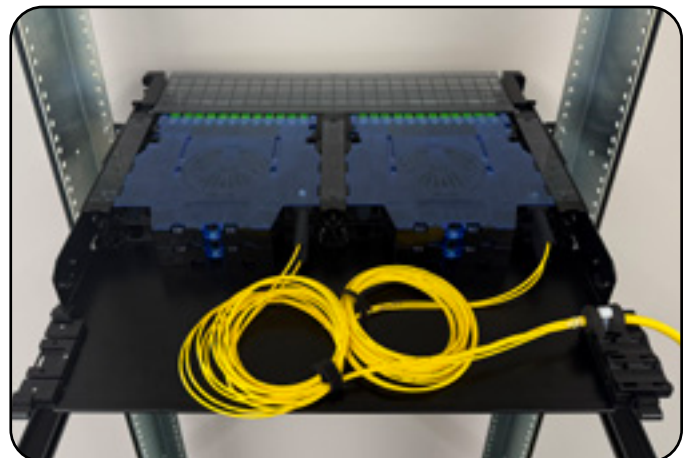


4RU Patch-Only

In-Cassette Splicing Config Slack Management

When installing in-cassette splicing (patch and splice) configured NOVA Cassettes into the NOVA HD Panel, Clearfield recommends storing no more than 8ft of a high-density micro cable.

After splicing has been completed (refer to the NOVA Cassette Installation Manual if needed) and the cassettes have been installed into the panel, cables should be stored into the back of the panel. Secure via hook and loop strap pieces through the bridge lances, located in either the center of the base of the panel or on the vertical outer walls.



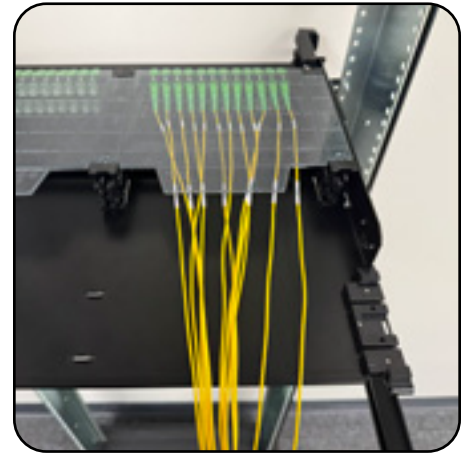
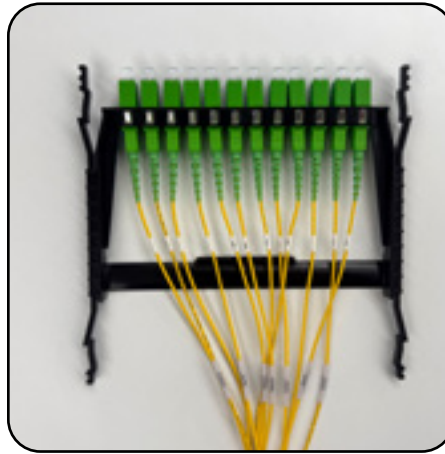


NOVA High Density (HD) Fiber Panel

Installation Manual

Tie-Plates

NOVA HD Panel Tie-Plates install into the NOVA HD Panel using integrated sliding rails on each side of the tie-plate. After loading the adapters of the tie-plate from the rear, align the rails on each side of the tie-plate with desired slot in the panel and push until the tie-plate clicks into place. Store slack using pieces of hook and loop strap through the bridge lances in the rear of the panel. Collections of jumpers can be gently wrapped in grommet tape and loosely held in place with a cable tie.



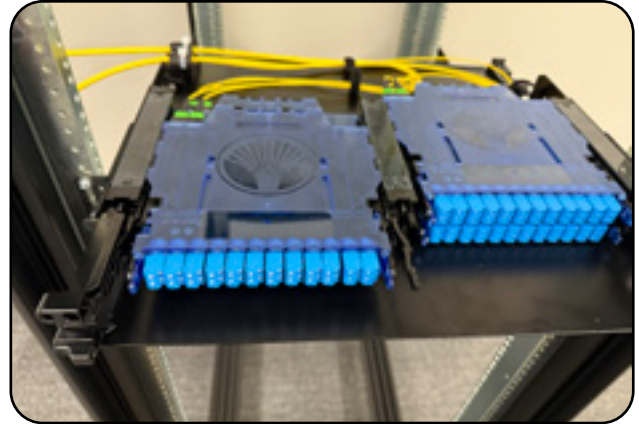
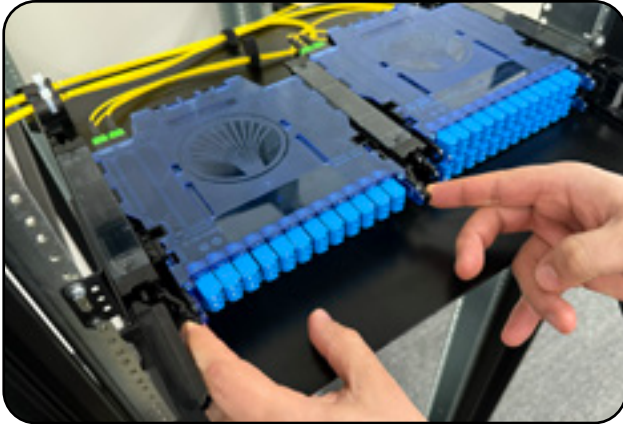
NOVA High Density (HD) Fiber Panel

Installation Manual

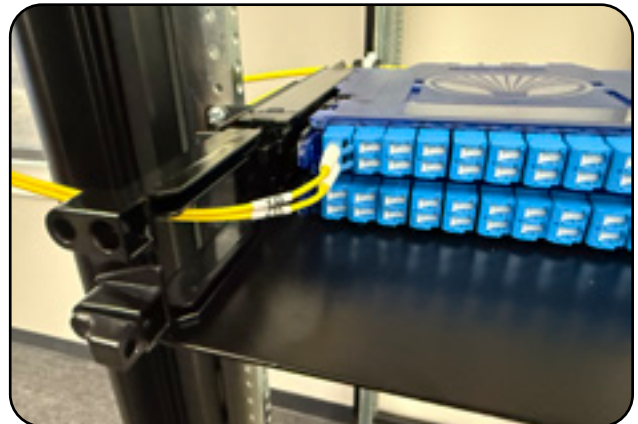
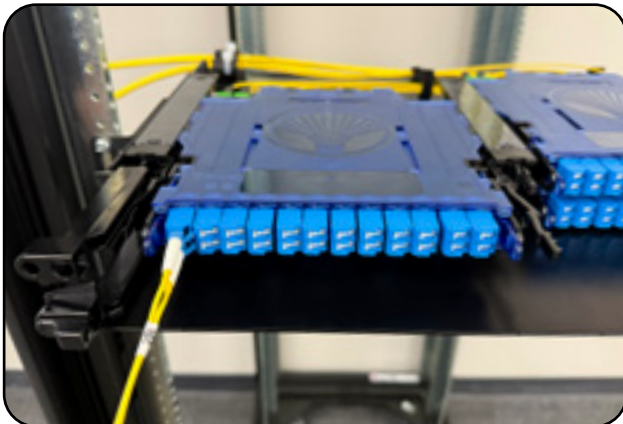


Installing Jumpers & Scoping Adapters

When installing jumpers into the NOVA HD Panel, or scoping adapters, increased hand access is possible by sliding the individual cassette forward. Grab the tabs at the end of the cassette's rails, squeeze to release the cassette and pull forward about two inches until you feel a gentle stop.



Install jumpers (or scope adapters) as necessary, routing them to the outside of the panel through the gap in the radius rods. Return the cassette to its previous position when finished by pushing on it gently until you hear a click.





NOVA High Density (HD) Fiber Panel

Installation Manual

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

NOVA High Density (HD) Fiber Panel

Installation Manual



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**)

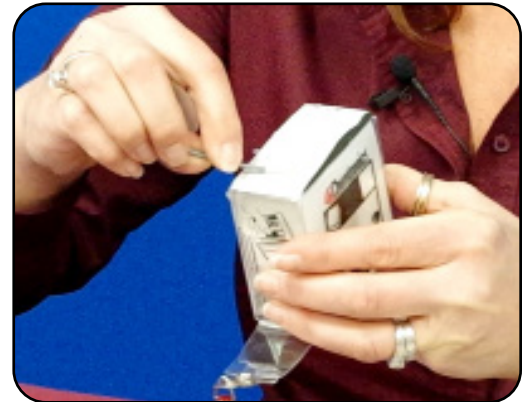


Figure 4

- 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**)

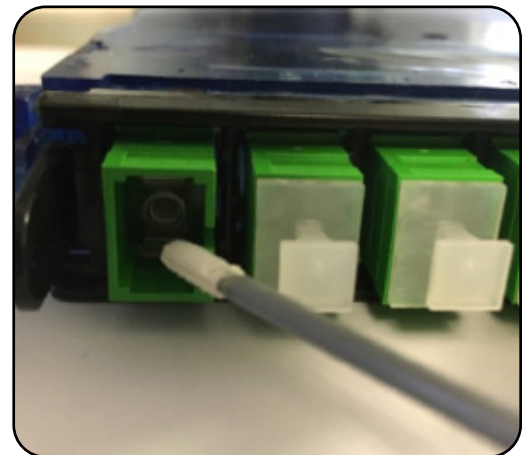


Figure 6



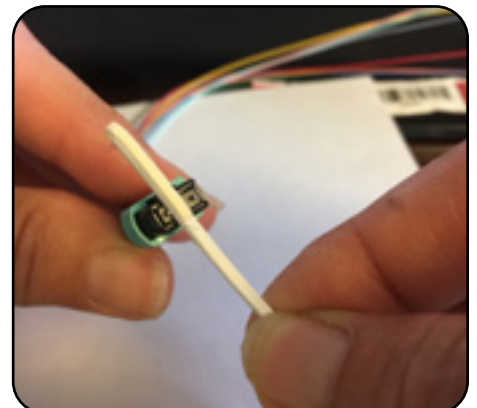
NOVA High Density (HD) Fiber Panel

Installation Manual

Cleaning an MPO/MTP Connector

Male Connector

- Use of Chemtronics MTP Connector Cleaning Swabs (CC505F) is recommended. Even after cleaning with a probe cleaner, you should always clean the pins with this (or an equivalent) type swab. Cleans ALL MTP/MPO connector end faces. This swab also cleans the “pins” of the male connector
- Lightly “spot” a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, the FiberWash or MX Pen.
- Lightly touch short side of the MTP/MPO Connector Swab to the wetted area (3-5 secs) to absorb some cleaning solution (DO NOT over saturate the swab).
- Wipe connector areas to be cleaned, sliding pad from bottom of pad across and forward to tip of swab, from 1 side to the other, turn over and use long side to dry in same movement.

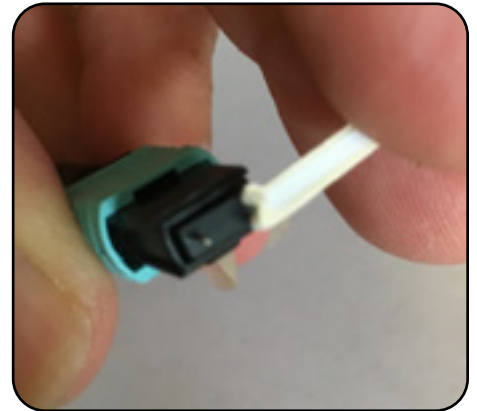
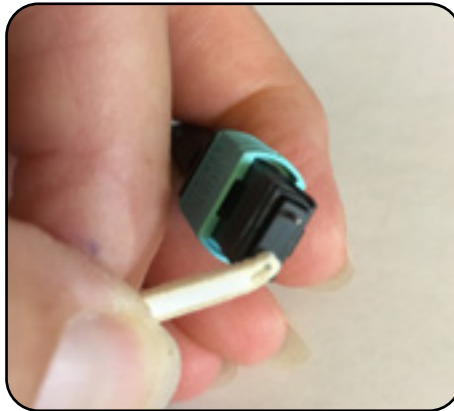


NOVA High Density (HD) Fiber Panel

Installation Manual

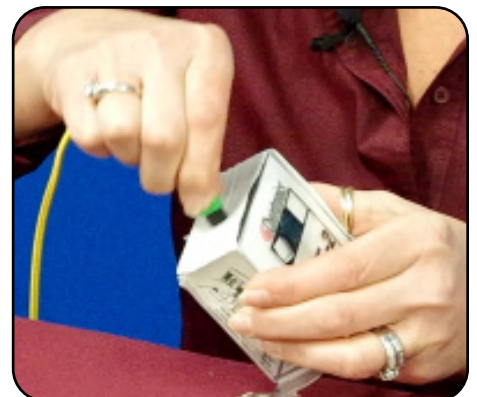


- Use the hole on end of pad to clean one alignment pin, then press the end of the swab into the other pin to clean.
- Check your work with a fiber scope. This can take several attempts to get the endface clean.



Female Connector (without pins)

- Cleaned like a single fiber connector, using a cleaning platform. The receptacles will be cleaned as long as you are using a combination cleaning process as recommended.
- Again, using a platen, moisten the platen with cleaning solvent on one end to accommodate 3 swipes of the MPO female endface.
- Holding the connector (If APC, slightly at an angle to accommodate for 8° angle) swiping with medium pressure, from the wet area into the dry area 3 times, without wiping over previous area.
- Inspect, and if clean, make the connection. If NOT, repeat above steps until clean or if determined that the end face is damaged (based on standards of 5 cleanings per connection), replace.



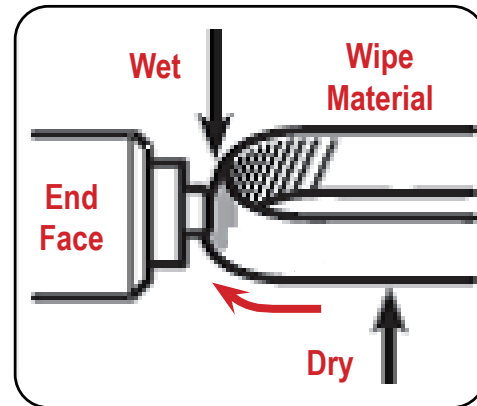


NOVA High Density (HD) Fiber Panel

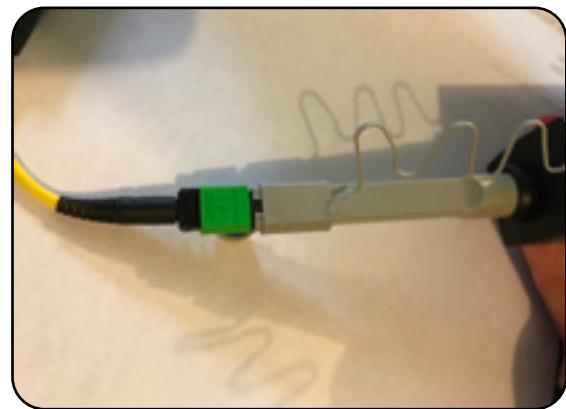
Installation Manual

Cleaning Using a Probe-Style Cleaning Tool

- The probe style cleaning tools are capable of cleaning a connector end face separately or through the adapter.
- Slightly engage probe by pulling back but do not allow to click. Lightly “spot” a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, this will help alleviate “over saturation” of the material.
- Lightly touch the tip of probe and release.



- Insert connector or insert probe through adapter and click 2-3 times to move past the wet area and allow material to dry wipe.



- Inspect connector, repeat if necessary (following standards)
- If cleaning a male connector, clean the pins (see above)

NOVA High Density (HD) Fiber Panel

Installation Manual



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



NOVA High Density (HD) Fiber Panel

Installation Manual

Proprietary Notice

Information contained in this document is copyrighted by Clearfield, Inc. and may not be duplicated in full or part by any person without prior written approval of Clearfield, Inc.

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.

Clearfield, Inc.
7050 Winnetka Ave N
Minneapolis, MN 55428

Toll Free: 800.422.2537
Phone: 763.476.6866
Fax: 763.475.8457

Customer Support: sales@seeclearfield.com
Technical Support: techsupport@seeclearfield.com