

# SmartRoute

## Fiber Panel with Integrated SmartRoute Spool Technology

### Installation Manual

1RU SmartRoute Panel

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## Table of Contents

Proprietary Notice .....	3
Technical Support .....	4
Standard Warranty .....	5
Warranty Claim Procedure .....	5
Limitations of Warranty .....	5
Other Limitations .....	5
Product Overview .....	6
SmartRoute Panel .....	6
Application .....	6
Description .....	6
Technical Specifications .....	6
Product Packaging .....	7
Panel Packaging .....	7
Cable and Connector Packaging .....	7
SC and LC Breakout Packaging Removal .....	8
Panel Installation .....	10
Adjustable Mounting Brackets .....	10
Panel and Fiber Installation .....	11
SmartRoute Extended Wheel .....	16
Fiber Installation Procedure using the Deploy Reel .....	16
Panel Cover and Extended Wheel Installation .....	17

## Proprietary Notice

### ***About SmartRoute Product Line Application***

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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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## 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 five (5) 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 at Clearfield, the product will be returned to the Customer and the customer billed for freight in both directions.*

### 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

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

## Product Overview

### SmartRoute Panel



#### Application

Designed to simplify and speed up fiber installations when landing 24 to 48 fibers in a 1RU fiber panel in any interconnect or cross-connect environment, while providing unmatched savings in installation time, labor costs and performance. Clearfield's SmartRoute Panel combines micro distribution cable, spooling technology and MPO connectorization in a single panel to help relieve cable congestion, simplify ordering and eliminate incorrect cable lengths for IFC/OSP cable assemblies while saving labor and installation costs.

#### Description

Clearfield's SmartRoute Panel combines micro distribution cable, spooling technology and MPO connectorization in a single panel to help relieve cable congestion, simplify ordering and eliminate incorrect cable lengths for IFC/OSP cable assemblies while saving labor and installation costs. The SmartRoute Panel contains two internal spools that can hold up to 200 ft. each of 3mm, 12 fiber micro cable or Clearfield's FieldShield Cable. The panel can provide 24 SC or 48 LC connections in front and MPO, stub or SC/LC on the cabled or far end.

#### Technical Specifications

Characteristic	Specification
Height	1RU (1.75 Inches)
Mounting Options	19 or 23 Inch Mountable
Depth	12 Inches
Front Plates	Front Panel SC/UPC or SC/APC = 24 Ports
Front Plates	Front Panel LC/UPC or LC/APC = 48 Ports
Far-end or Cabled End	MPO, Stub, Breakouts with SC or LC
Two Internal Cable Spools Individual Spools Hold:	200 Feet or 3mm 12 Fiber Micro Cable 125 Feet of 4mm 24 Fiber Micro Cable

## Product Packaging

1RU SmartRoute panels come boxed individually with the appropriate mounting hardware and technical documentation. Depending upon the far-end cable configuration, connectors are either bubble wrapped and taped or pigtails zip-tied to the rear of the panel for shipping.

### Panel Packaging

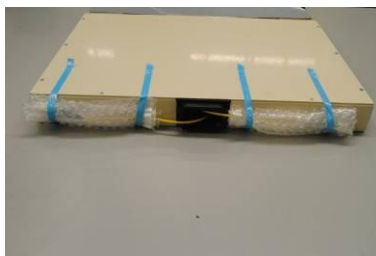


### Cable and Connector Packaging

#### Patch and Splice (Blunt/Pigtail)



#### MPO Connectors



#### SC and LC Breakouts



#### Pulling Eye Breakouts



## SC and LC Breakout Packaging Removal

**Step 1:** Cut the zip tie holding the foam insulation to the breakout (**Figure 1**).



**Figure 1**

**Step 2:** Unwrap the packaging tape (**Figure 2**).



**Figure 2**

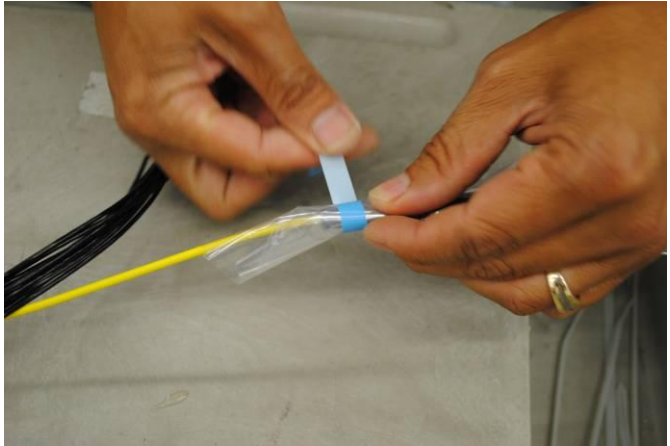


**Step 3:** Carefully, remove the connector breakout from the foam insulation (**Figure 3**).



**Figure 3**

**Step 4:** Remove the tape just below the breakout transition (**Figure 4**), then slide the clear bag over the breakout.



**Figure 4**

## Panel Installation

### Adjustable Mounting Brackets

The 1RU SmartRoute panel is designed to accommodate various rack and cabinet mounting scenarios, including EIA Wide hole spacing. The mounting brackets are adjustable and can be recessed to depths 1", 2", 3", 4", or 5" from the front of the panel.

### Installation Procedure

**Step 1:** Use the included hardware to attach the adjustable 19" mounting brackets to the panel (**Figure 1**).

**Note:** When mounting the panel in a 23" wide rack, attach the extension brackets to the 19" mounting bracket using the additional four machined screws.

#### Mounting Dimensions

Bracket Recess	Depth of Panel
1"	11"
2"	10"
3"	9"
4"	8"
5"	7"



**Note:** The adjustable mounting brackets and hardware are placed in a bag in the bottom corner of the panel box.

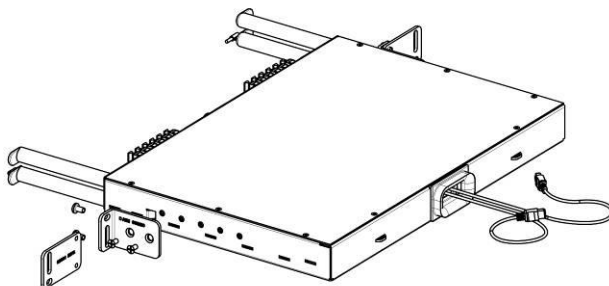


Figure 1

## Panel and Fiber Installation

All SmartRoute panels regardless of cable and spool configuration are mounted and secured to the frame in the same manner. Once mounted, cables can be routed through the appropriate ladder racks and secured to the frame.

### Panel Installation Procedure

**Step 1:** Before mounting the panel to the frame, remove the plastic top cover and front protection (**Figure 1**).

Then, mount the panel to the frame using the provided 12-24 x 1/2" thread cutting screws. It is recommended that two screws are used on each side. In order to help align the panel. Do not deploy the fiber until the panel is securely mounted into place.

**Note:** The front protection protects jumper cables from accidental damage. Removing the front protection provides better access to panel.

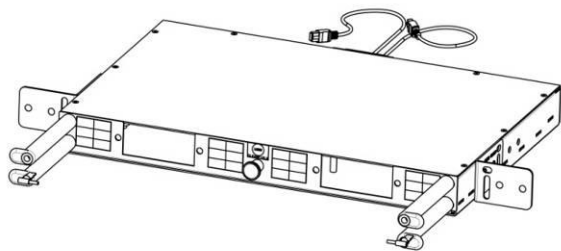
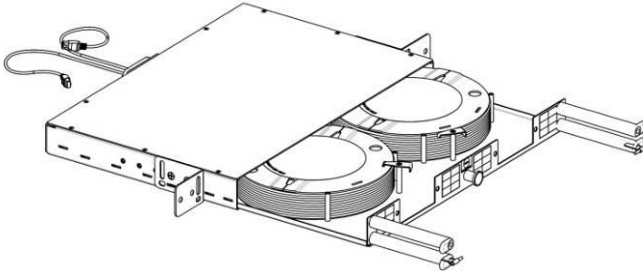


Figure 1

**Step 2:** Once the panel is installed, open the drawer and unlock the spool (**Figure 2**).

**Note:** Spools can be deployed independently or pulled at the same time. Do not remove the label until after the fiber is installed.



**Figure 2**

To unlock the spool, press down next to the lock and turn the tab a quarter turn (**Figure 3**).



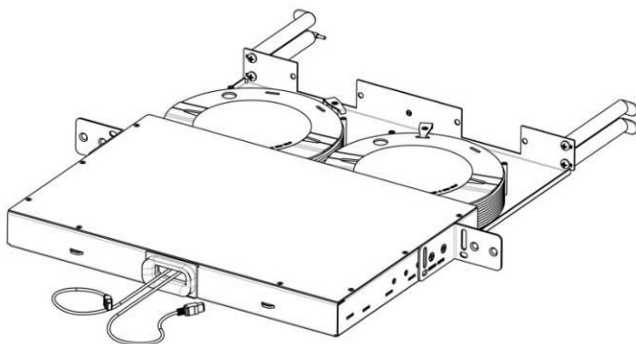
**Figure 3**

**Step 3:** With the drawer open, pull the fiber to the installation destination (**Figure 4**). An indicator mark is placed 20 feet from the end of the cable.

**Note:** Clearfield recommends installing the fiber using a two man team, with one person pulling the cable to place, while the other deploys the fiber from the rear of the panel.



**Warning:** Due to different cable construction types, do not exceed the maximum installation tension of 20 foot lbs.



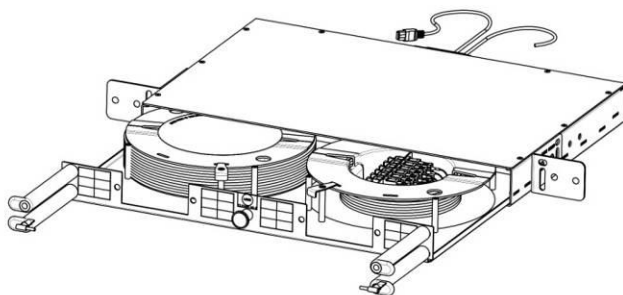
**Figure 4**

**Step 4:** After the fiber has been deployed, lock the spool in place and remove the label to access the front connector plates (**Figure 5**).

**Note:** Slack cable can be recoiled if too much cable was deployed during installation. To recoil, simply insert your finger into the exposed access hole and spin the spool counter to the cable installation direction.

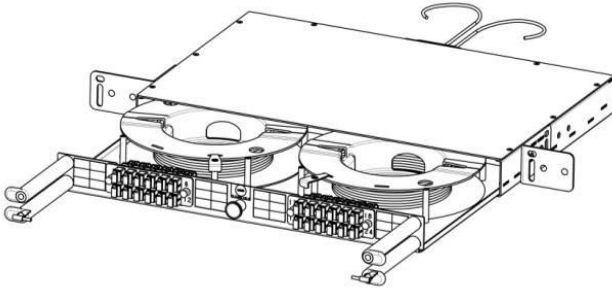
**Cable Re-spooling Direction:**

- Left Spool: Clockwise
- Right Spool: Counter-Clockwise



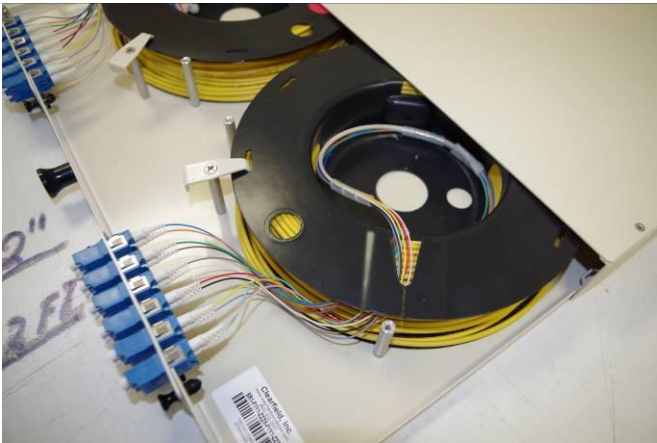
**Figure 5**

- Step 5:** Remove the front connector plate and snap it into place using the push/pull pins (Figure 6).



**Figure 6**

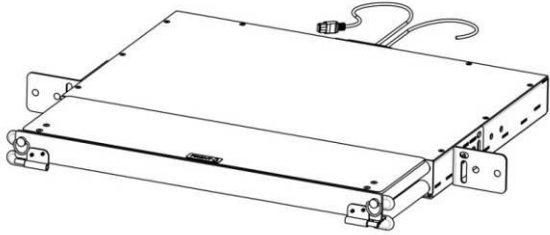
- Step 6:** Carefully route the fiber feeding the front connector plate through the available fiber access slot on the spool (Figure 7).



**Figure 7**

**Step 7:** Label port identification on the designation card on the front of the panel.

Once installation and/or maintenance are complete, reinstall the front protection and close the drawer (**Figure 8**).



**Figure 8**

## SmartRoute Extended Wheel

The SmartRoute Extended Wheel allows up to 1,000 feet total of 3mm micro cable to be deployed using the SmartRoute Panel, with 200 feet max being slack stored inside the panel. When installing the SmartRoute Extended Wheel, the FieldShield Deploy Reel provides a sturdy base and turn table to safely deploy the cable assembly while protecting the pre-terminated panel bulkhead during installation.

### Deploy Reel Part Numbers

Part Number	Description
FMA-XXX-100	Deploy Reel, Turn Table, Small, for Deploying FieldShield Products, 12" Base
FMA-XXX-101	Deploy Reel, Turn Table, Large, for Deploying FieldShield Products, 24" Base

### Fiber Installation Procedure using the Deploy Reel

**Step 1:** Remove the clear wrap packaging from the bottom spool of the extended wheel (Figure 1).

**Note:** You may need to use a razor blade to score the wrapping between spools.



Figure 1

**Step 2:** Set the Deploy Reel (or turn table alternative) on a flat surface, then load the stack of spools onto the turn table retention post (Figure 2).

**Note:** The retention post on the turn table should not exceed 4 inches in length.



Figure 2

**Step 3:** Carefully pull the fiber from the spool to deploy until you reach the end of the spool (Figure 3). Repeat the process for each remaining cardboard spool.

Once you reach the last spool, install the black plastic spool into the SmartRoute panel to complete the fiber installation.



Figure 3



## Panel Cover and Extended Wheel Installation

**Step 1:** To remove the panel cover, turn the two thumb screws on the back of the panel counter-clockwise (**Figure 1**).

**Note:** A flat head screw driver can also be used to loosen the cover screws.



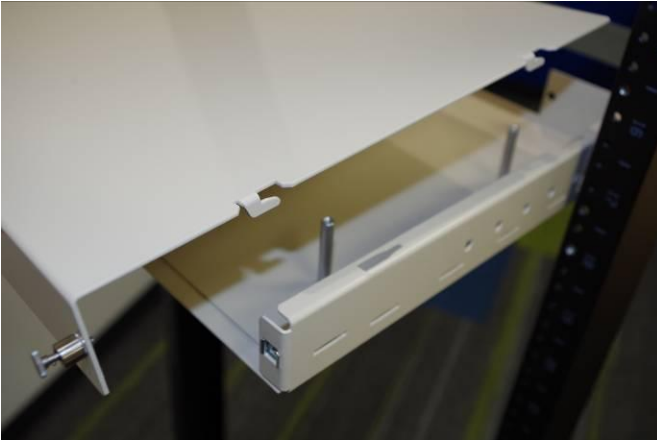
**Figure 1**

**Step 2:** Slide the cover towards the back of the panel (**Figure 2**).



**Figure 2**

**Step 3:** Lift the cover to remove (Figure 3).



**Figure 3**

**Step 4:** Once the cover has been removed, place the SmartRoute spool in between the four posts inside the panel (Figure 4). When loading the spool, make sure that the spool does not catch against the spool lock.

**Note:** Expansion wheels are configured for a specific side of the panel and spooled on either the left or right side accordingly.



**Figure 4**

- Step 5:** Route the cable through the slit on the rear cable entrance flute and reinstall the SmartRoute panel cover (Figure 5). Once the cover has been installed, follow the standard fiber and panel installation procedure to complete the installation.



Figure 5