BladeHD™ Rackmount Panel

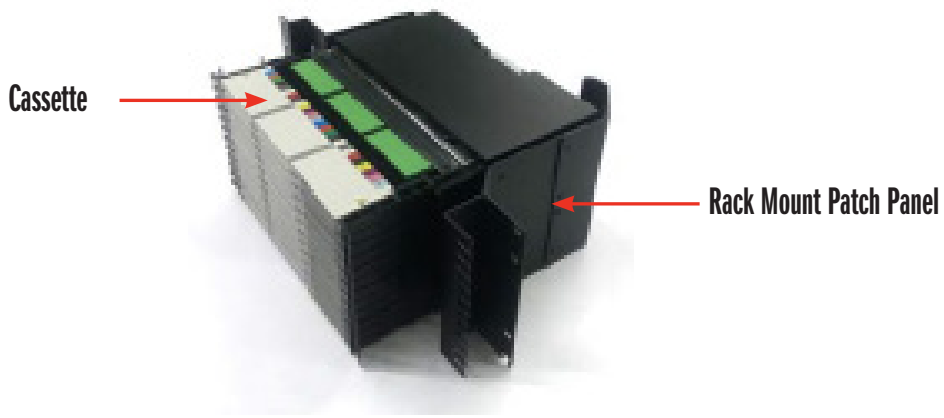
Installation Manual

202301.03

Product Description

Providing a large splicing area and storage in a small space, the BladeHD® Rack Mount Patch Panel supports up to 72 SC fiber for every 1U space. Built-in cable management includes front and rear entry points and left and right waterfalls. Ideal for your CO, headend, and FTTx deployment.

This user manual describes rackmount patch panel installation.



Tools and Materials Required

The following tools and materials are required to complete this installation:

- Double-sided adhesive tape
- Ethyl alcohol
- Low lint cleaning cloth
- Fiber cutter
- Fiber stripper
- Pipe cutter
- Electrical cutter
- Combination pliers
- Scewdriver
- Scissors
- Fusion Splicing Machine
- OTDR
- Provisional splicing tools
- Electrical or Rugged Tape

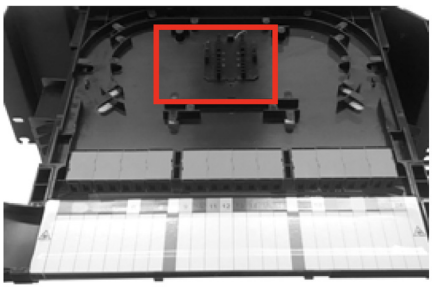
Note: The above-mentioned tools and testing instruments should be provided by the operator themselves.

Patch Panel Application

⚠ WARNING: Do not install telecommunications equipment or work with telephone wiring during a lightning storm. Telephone lines can carry high voltages from lightning causing electrical shock resulting in severe injury or death.

⚠ CAUTION: The wearing of cut-resistant safety gloves to protect your hands from accidental injury when using sharp-bladed tools and armored cable is strongly recommended. Use extreme care when working with severed armor. There will be a sharp edge where armor is cut. To minimize the chance of injury from sharp-bladed tools, always cut away from yourself and others. Dispose of used blades and armor scrap properly.

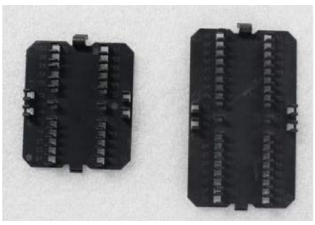
1.0 Preparation



(Figure 1)

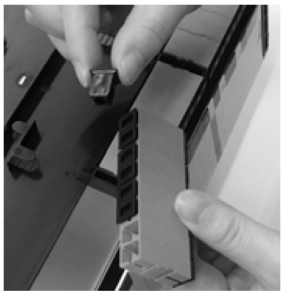
If your cassette was purchased preloaded, skip to Section 2: Patch Panel Installation and Cable Inlet.

Step 1: Retrieve splice cassette and prepare to install fiber (figure 1). Splice plates included, (figure 2).



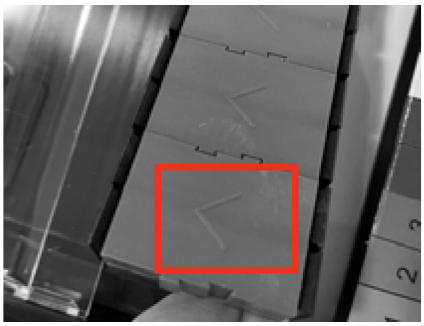
SC (24) LC (36)

(Figure 2)



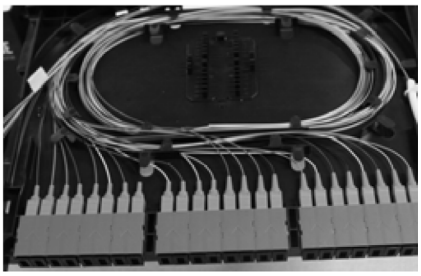
(Figure 3)

Step 2: Take out one strip of adapters from the slot. Take off dust caps (figure 3).

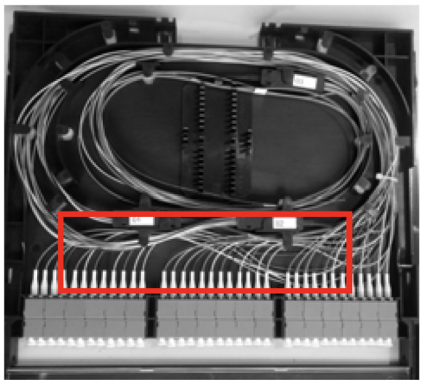


(Figure 4)

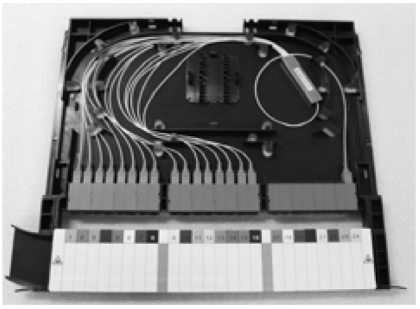
Step 3: Insert the adapter into the slot with the arrow facing the splicing area (figure 4), then insert the connectors into the adapters.



(Figure 5)



(Figure 6)



(Figure 7)

(Figure 8)

Step 4: Install the required fiber products into the cassette. Route optical fibers in the cassette.

Splice cassettes support three different items below.

Type A: Bundle pigtails

Type B: Ribbon pigtails

Type C: Mini-type splitter

Type A:

Install the bundle pigtails into the splice cassette orderly according to the optical fiber numbers and colors sequence (figure 5).

blue - 1, orange - 2, green - 3, brown - 4, gray - 5, white - 6, red - 7, black - 8, yellow - 9, purple - 10, pink - 11, aqua - 12.

The color is consistent with the color of the sticker on the cassette.

Type B:

Install the ribbon pigtails into the splice cassette orderly according to the optical fiber numbers and colors sequence (figure 6).

blue - 1, orange - 2, green - 3, brown - 4, gray - 5, white - 6, red - 7, black - 8, yellow - 9, purple - 10, pink - 11, aqua - 12.

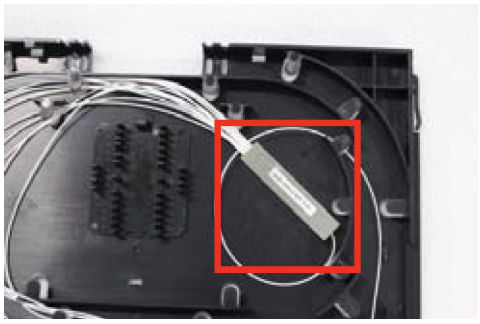
The color is consistent with the color of the sticker on the cassette.

IMPORTANT: Pay attention to the size of fan-out kit for ribbon pigtails. The width up to 12mm, and height up to 10mm.

Type C:

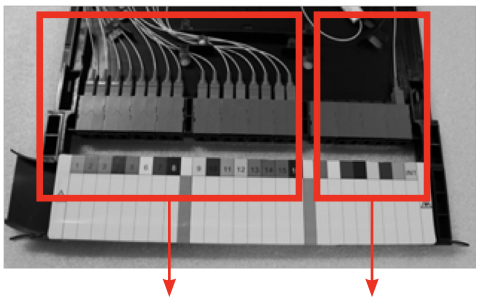
Installl the mini-type splitter into the splice cassette orderly (figure 7).

Step 1: Apply double-sided adhesive tape (not included) on the back of the PLC module (figure 8).



(Figure 9)

Step 2: Place the PLC module in the position shown in the sample pictures (figure 9). Pay attention to the bend radius of the splitter while fixing it to avoid breakage.

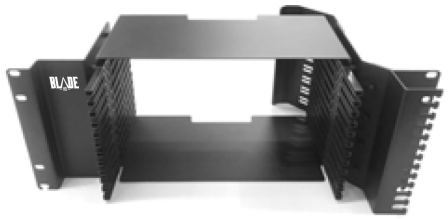


(Figure 10)

Step 3: Install the fibers orderly according to the number and colors sequence. blue - 1, orange - 2, green - 3, brown - 4, gray - 5, white - 6, red - 7, black - 8, yellow - 9, purple - 10, pink - 11, aqua - 12.
The color is consistent with the color of the sticker on the cassette (figure 10).The inlet fiber should be installed on the right side and the outlet fibers should be installed on the left side.

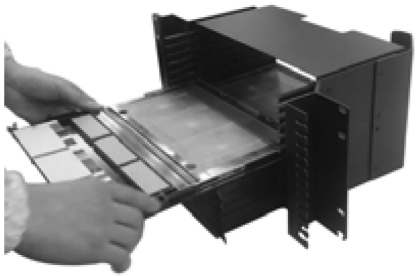
IMPORTANT: The SC splice cassette is able to accomodate n : 18, n : 16, and the LC splice cassette n : 18, n : 16, and n : 32.

2.0 Patch Panel Installation and Cable Inlet



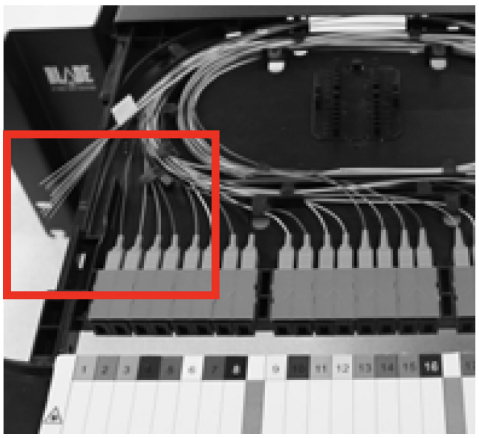
(Figure 11)

Step 1: Install the rackmount panel in 19" rack (figure 11).



(Figure 12)

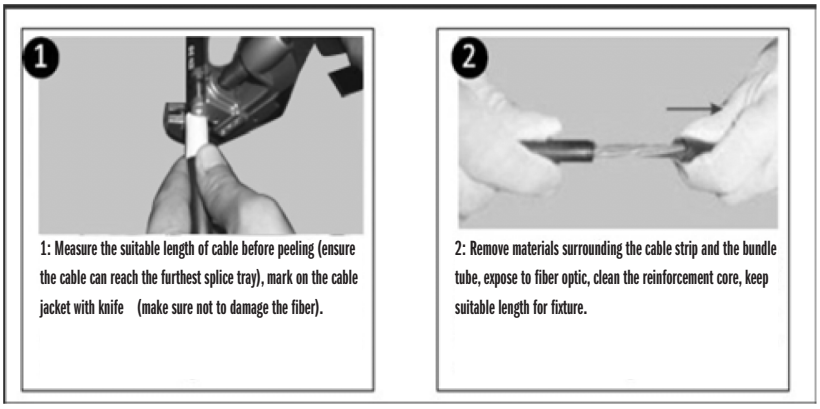
Step 2: Install the splice cassettes into the panel in an orderly manner starting from the bottom to the top (figure 12).



(Figure 13)

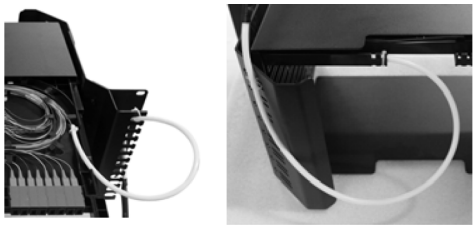
Step 3: Pull one splice cassette out of the panel and place it on a work surface and remove the cover for preparation. We recommend using the Optional Prep Shelf (FPP-BH-PREP, figure 14). Reserve enough length of fiber cable to be spliced (figure 13).

(Figure 14)

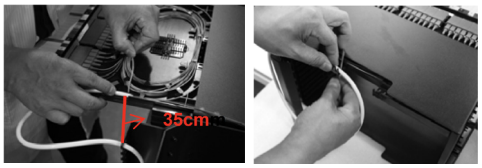


(Figure 15)

Step 4 (optional): Carefully remove the jacket of entry cable. Keep the reinforced core (subgroup) and cut off the unnecessary material (figure 15).

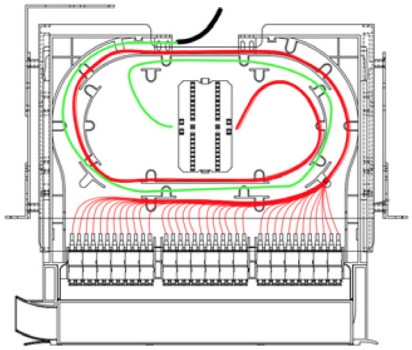


(Figure 16)



(Figure 17)

(Figure 18)



(Figure 19)

Step 5: Use protection tubes to protect the fiber and bring the protection tube into the panel (figure 16).

IMPORTANT:

Protection tubes are recommended to prevent fiber breaks.

Step 6: Determine the position to fix the entry cable.There are two optional positions reserved on the panel:

(a) Front/Right Entry

(b) Rear Entry

(Refer to figure 17).

Step 7: Put the protection tube into the slot and secure it on the panel close to the splice cassette with a cable tie (figure 17).Tighten the cable tie and cut off the excess.

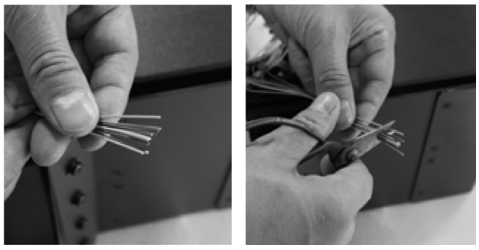
Step 8: Insert 24 fibers (SC) or 36 fibers (LC) inside one protection tube and guide one tube into splice cassette. One cassette supports one protection tube. Secure the protection tube on the panel on the other side with a cable tie.

Reserve a proper tube length between the two cable ties, recommended 35cm (14in.) to allow patch panel sliding.Then, tighten the cable tie and cut off the excess (figure 18).

Step 9: Route all input fibers and reserved fibers in the internal fiber routing area securely.

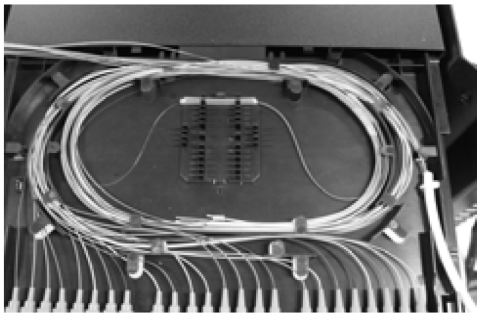
Step 10: Gather the input and pigtail fibers with all the input fibers to the inside of the pigtail. Bring all input fibers as a group into the internal fiber routing area in front of the pigtail fibers (figure 19).

3.0 Fiber Splicing



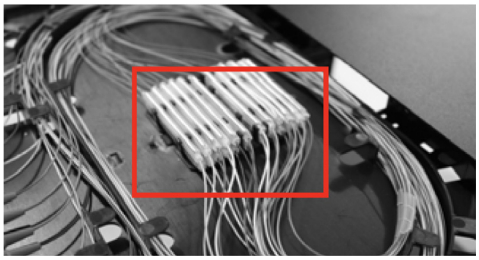
(Figure 20)

Step 1: Cut the fibers to make sure they are of same length for easy splicing (figure 20).



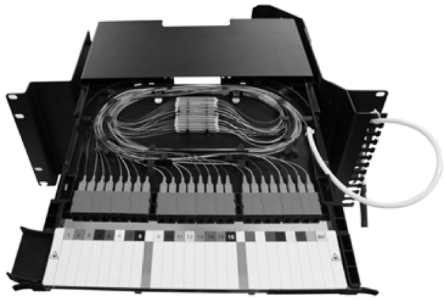
(Figure 21)

Step 2: Follow user manual of fusion splicing equipment to splice (figure 21).



(Figure 22)

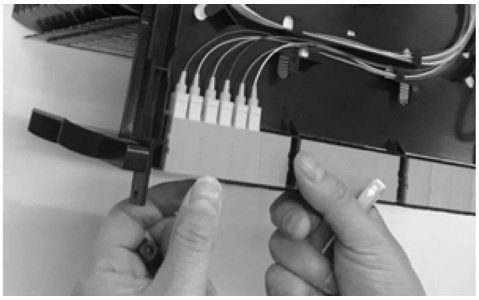
Step 3: Install heat shrink sleeve and house fibers orderly.The reserved splicing slots can store two layers of heat shrinkable protective sleeves (figure 22).



(Figure 23)

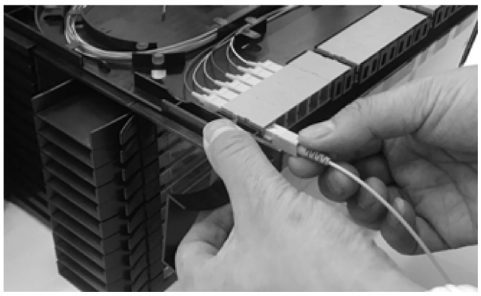
Patch Panel Installation & Cable Inlet and Fiber Splicing complete (figure 23). Repeat Cable Inlet and Fiber Splicing for each cassette.

4.0 Patch Cords Insertion



(Figure 24)

Step 1: Pull cassette out until adapters clear other cassettes. Fold down front cable management piece. Remove the dust caps of the adapters on the front side (figure 24).



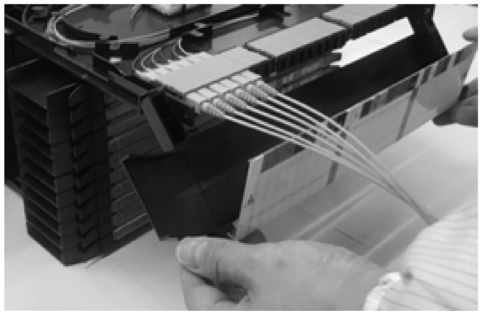
(Figure 25)

Step 2: Insert the patch code into the adapters according to the corresponding number to complete the connection between patch code and pigtails (figure 25).

Recommended diameter of patch cable

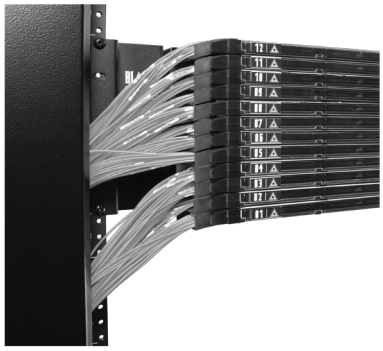
LC : 1.6mm or smaller

SC : 2.00mm or smaller



(Figure 26)

Step 3: Open the label panel and manage the patch cords in the slots (figure 26).

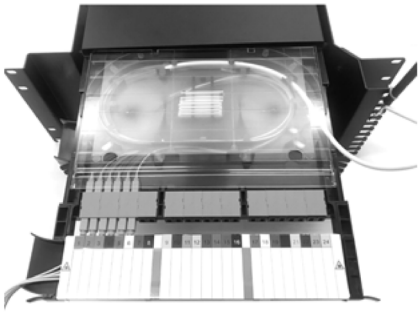


(Figure 27)

Step 4: Use waterfall cable management to manage the patch cords neatly (figure 27).

Step 5: Insert cassettes into the panel. Continue loading cassettes until the panel is full.

5.0 Comprehensive Check Up



Front/Right Entry
(Figure 28)

To ensure the fibers are installed properly, the following instructions must be followed:

1.The input fibers are spliced with pigtails in the panels orderly.

2.The exit patch cords are connected with pigtails correctly.

3.The curved diameter of fiber meets with the technical requirements.

4. Control the amount of splice fibers within a proper range.

Rear Entry
(Figure 29)