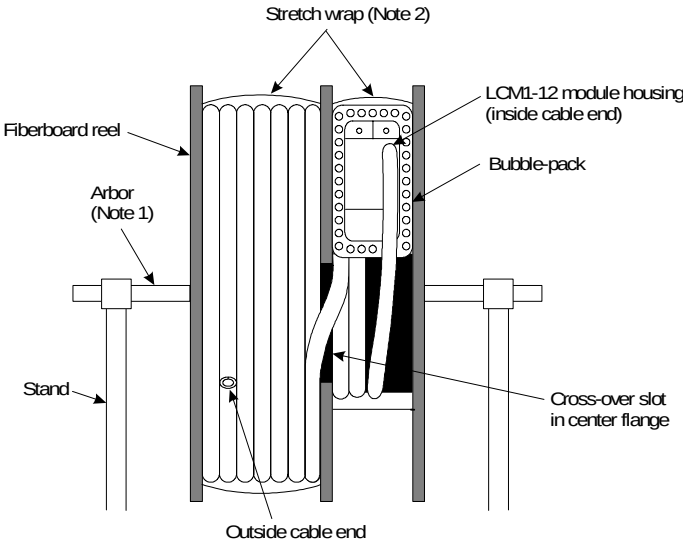
1.1.1.1.1 STEP 1—Remove Loose Parts and Reel Containing LCM1-12 From Carton

Verify loose parts bag against parts list. Fiber optic build-outs, when required, are ordered separately.

Loose Parts Furnished With Connector Module	
Quantity	**Description**
4	***Nylatch**** plungers
4	***Nylatch*** grommets
1	Retainer fastener
2	Label/Module connector panels

The LCM1-12 is shipped on a fiberboard reel. For ease of handling, it is recommended that a locally obtained stand and arbor be used to support the reel and to facilitate cable routing.



Notes: 1. Diameter of reel arbor hole is 2 inches (5.08 cm).
2. The module housing and cable (on both sides of reel) are protected with stretch wrap.

Two types of LST1U termination shelves are available for use in the ***LGX***® frames. A new termination shelf with slotted-out cable ports and the old termination shelf with enclosed cable ports.

STEPS 2-4: Contains installation instructions for an old termination shelf with enclosed rear cable ports.

STEPS 2A-4A: Contains installation instructions for a new termination shelf with slotted rear cable ports.

Note: The older bulkhead panels of the LST1U-type termination shelves contain two ribs which permit the mounting of only three 12-pack connector modules (positions 2, 4, and 6). See page 3.
The following options are recommended to improve the fill of modules in the shelf:
1) Remove panel from the shelf. Using a metal type saw, cut the two ribs off flush with panel opening. File any sharp corners. Replace panel in shelf. Positions 2 through 6 may be filled.
2) Order new bulkhead panel. This panel has a wider opening and contains no ribs. Replace old bulkhead panel with new panel. All positions may be filled.

STEP 2—Route Connector Module Cable (Old Terminal Shelf With Enclosed Rear Cable Ports)

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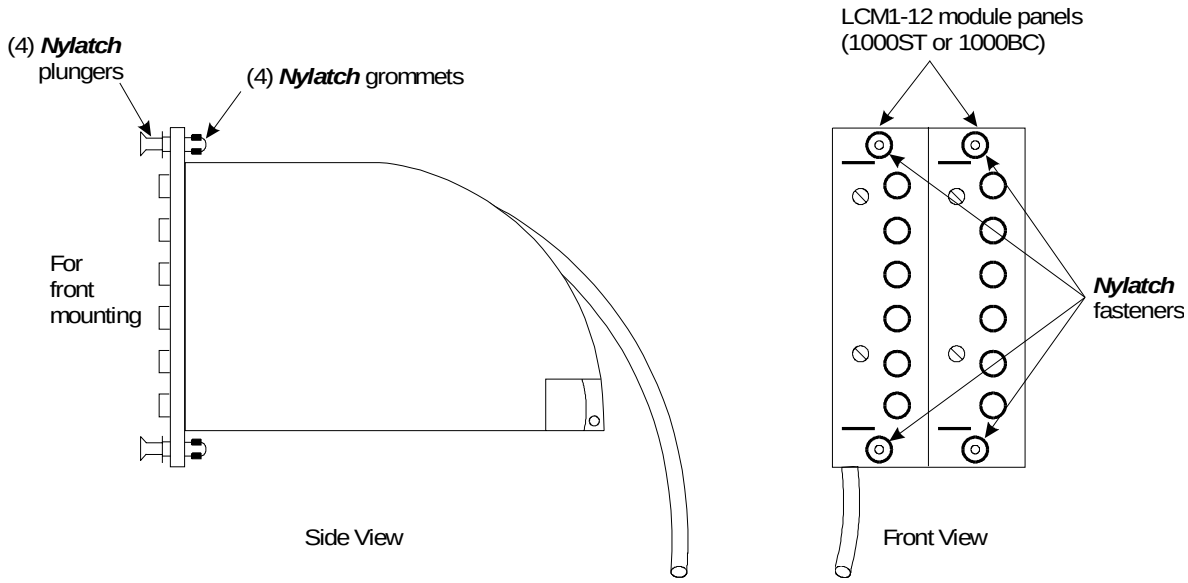
The outside end of the connector module cable is positioned on the left side of the reel (see figure on page 1). This end of the cable is for routing to the vault or other splicing areas for outside plant. The recommended installation of the LCM1-12 is from the front of the termination shelf.

The LCM1-12 connector modules mount to the termination shelf 6-pack type bulkhead panel. **The modules will not mount to the 3-type fanout bulkhead panel.**

1. Place the stand and reel near the termination shelf and ***LGX*** frame.
2. Cut and remove the stretch wrap covering the cable on the outside cable end side of the reel **(Care should be taken not to damage the cable).**
3. Open and remove front and rear doors of the termination shelf.
4. Remove label bracket and ring stand from front of shelf.
5. Install grommets in rear cable ports (see figure on page 3).
6. Pull the outside cable end from the reel and route the cable through the front of the shelf, through the bulkhead panel, and then out through the rear cable port. The cable may then be routed to the splicing area.
7. Remove the arbor from the reel and place the reel on its side, module side up, on a bench or table.
8. Carefully cut and remove the remaining stretch wrap on the module side of the reel.
9. Remove the wrapping from the module.
10. While holding the module, carefully unwind the cable from the reel. Do not allow the cable to support the module. Exercise caution when removing the cable from the crossover slot in the reel. **Note:** Approximately 1 to 2 feet (0.3 to 0.6 m) of cable is needed to route inside termination shelf.

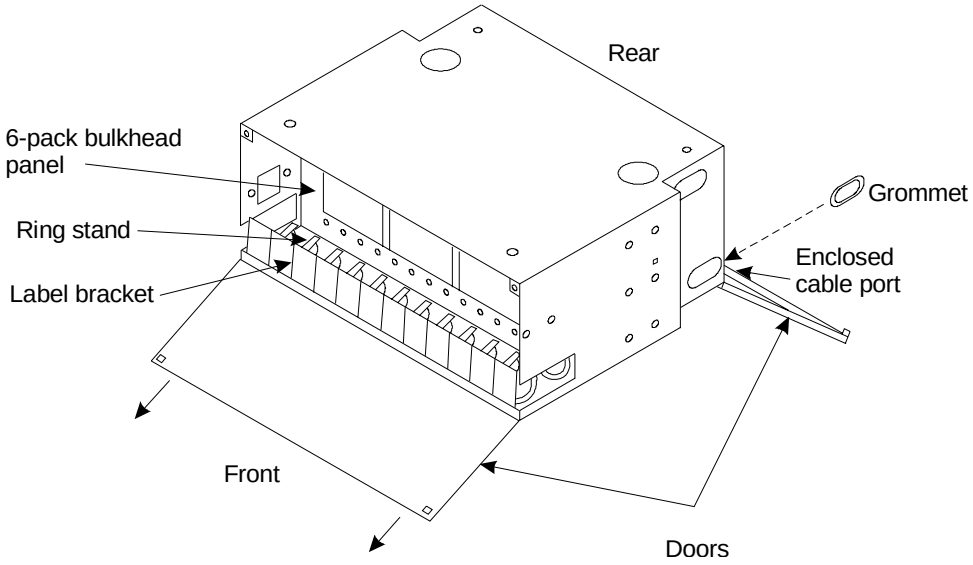
STEP 3—Install *Nylatch* Fasteners in LCM1-12 Module Panels

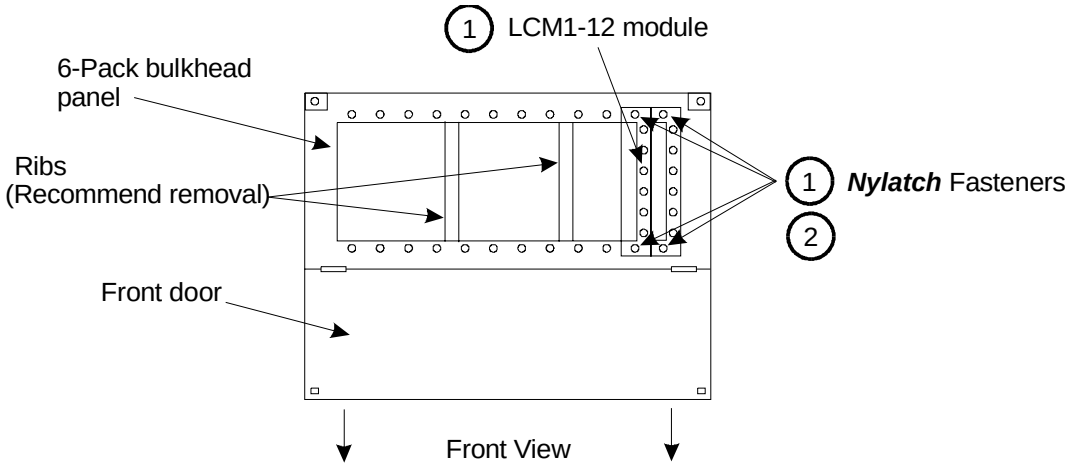


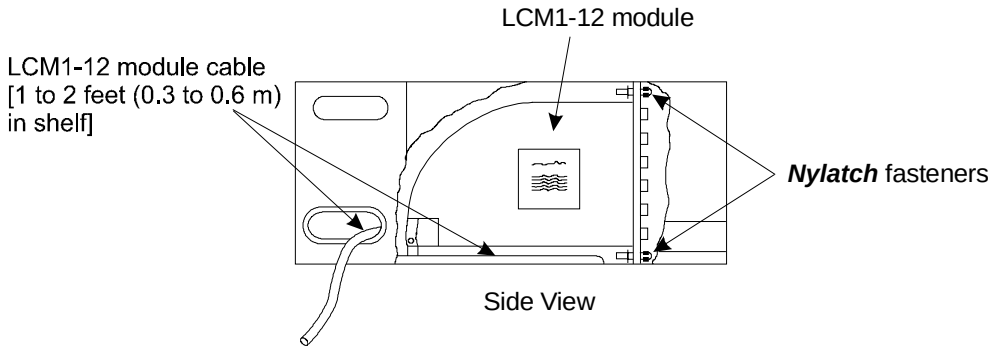
1. Insert plungers into grommets.
2. Snap plungers and grommets into the four holes in the bulkhead panel (as shown above) for the recommended mounting from the front of the termination shelf.

STEP 4—Install LCM1-12 Module (Enclosed Rear Cable Port)

1. Position the LCM1-12 module on the front of the 6-pack bulkhead panel so that ***Nylatch*** fasteners are positioned in the holes of the bulkhead panel.
2. Press the plungers, locking the module onto the panel.
3. Proceed to **STEP 5** on page 6.







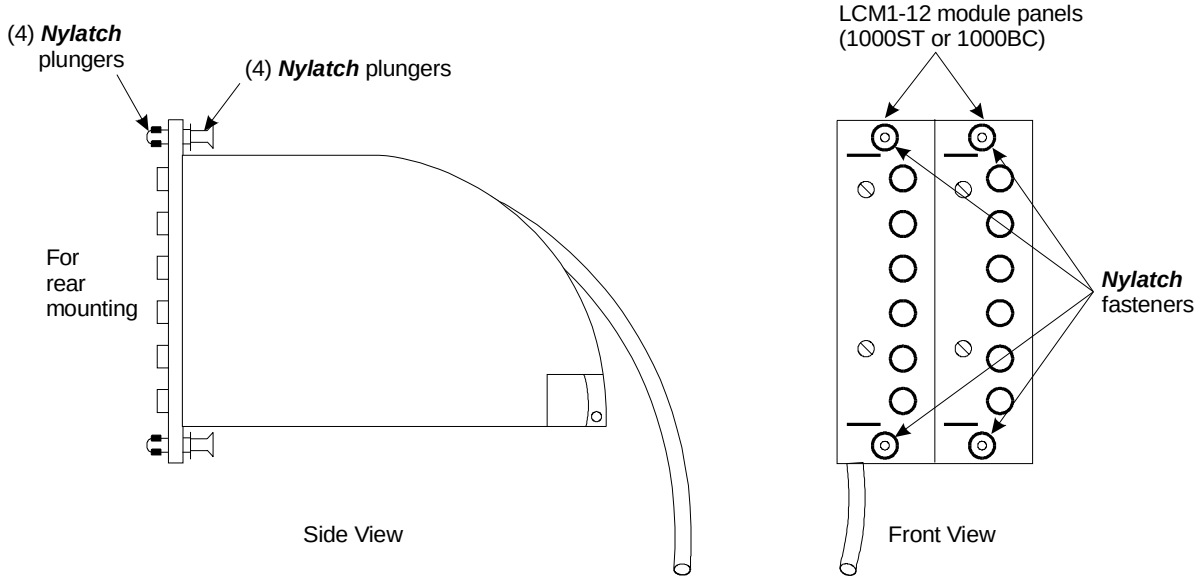
STEP 2A—Route Connector Module Cable (Terminal Shelf With Slotted Rear Cable Ports)

The outside end of the connector module cable is positioned on the left side of the reel (see figure on page 1). This end of the cable is for routing to the vault or other splicing areas for outside plant. The recommended installation of the LCM1-12 in a termination shelf with slotted rear cable ports is from the rear of the termination shelf.

The LCM1-12 connector modules mount to the termination shelf 6-pack type bulkhead panel. Up to six modules can be mounted in a termination shelf. **The modules will not mount to the 3-type fanout bulkhead panel.**

1. Place the stand and reel near the termination shelf and ***LGX*** frame.
2. Cut and remove the stretch wrap covering the cable on the outside cable end side of the reel **(Care should be taken not to damage the cable).**
3. Pull the cable end from the reel and route it to the splicing area. **If the modules are to be mounted from the front of the termination shelf, the cable must be routed through the front of the shelf, through the bulkhead panel, and then out the rear of the shelf to the splicing area. The label bracket and ring stand must also be removed from front of shelf.**
4. Remove the arbor from the reel and place the reel on its side, module side up, on a bench or table.
5. Carefully cut and remove the remaining stretch wrap on the module side of the reel.
6. Remove the wrapping from the module.
7. While holding the module, carefully unwind the cable from the reel. Do not allow the cable to support the module. Exercise caution when removing the cable from the crossover slot in the reel.
   Note: Approximately 1 to 2 feet (0.3 to 0.6 m) of cable is needed to route inside termination shelf.

STEP 3A—Install *Nylatch* Fasteners in LCM1-12 Module Panels



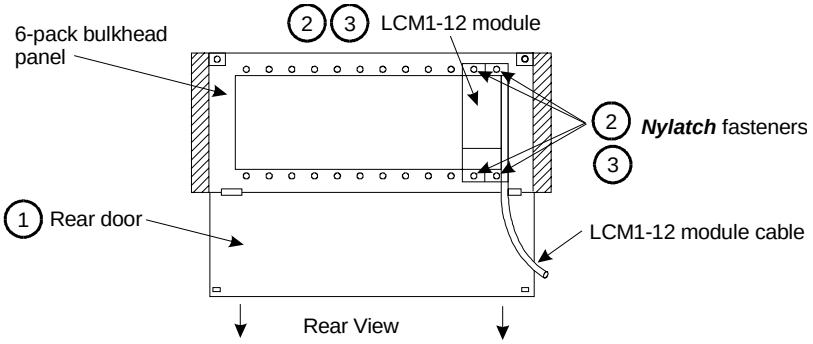
1. Insert plungers into grommets.
2. Snap plungers and grommets into the four holes in the bulkhead panel (as shown above) for the recommended mounting from the rear of the termination shelf. For **front mounting** of the module, the ***Nylatch*** plungers and grommets must be installed from the front of the module panel.

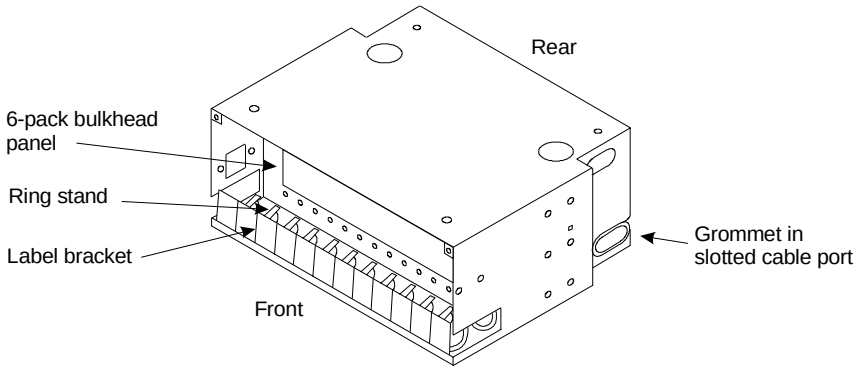
STEP 4A—Install LCM1-12 Module (Slotted Rear Cable Port)

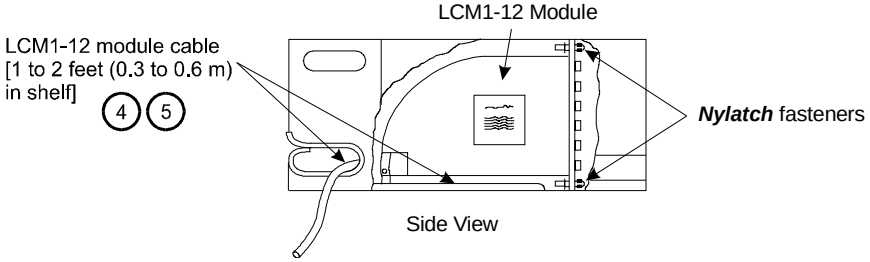
Note: When connector modules are to be installed from the rear (as recommended), it may be easier to install the identification labels prior to mounting the connector module to the bulkhead panel. If the fiber information is available at this time, mark the information on the labels before installing them on the connector module. Peel off the backing of the labels and stick them to the connector module panels (see **STEP 8** for illustration) and proceed with the following steps to install the module in the termination shelf.

LCM1-12 connector modules are typically mounted on the rear side of the bulkhead panel.

1. For typical rear mounting, open and remove rear door of the termination shelf.
2. Position the LCM1-12 module on the rear side of the shelf so that the ***Nylatch*** fasteners are positioned in the holes of the bulkhead panel.
3. Using a screwdriver, lock the module onto the panel by pressing the ***Nylatch*** plungers.
4. Place 1 to 2 feet (0.3 to 0.6 m) of cable in the shelf under the module.
5. Insert the cable through the grommet slot and into position inside the grommet.
6. Proceed to **STEP 5** on page 6.

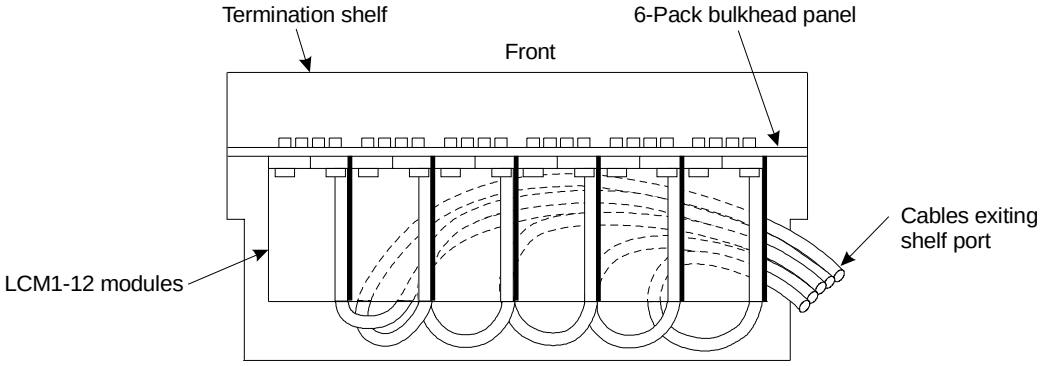






STEP 5—Route Module Cable in Termination Shelf

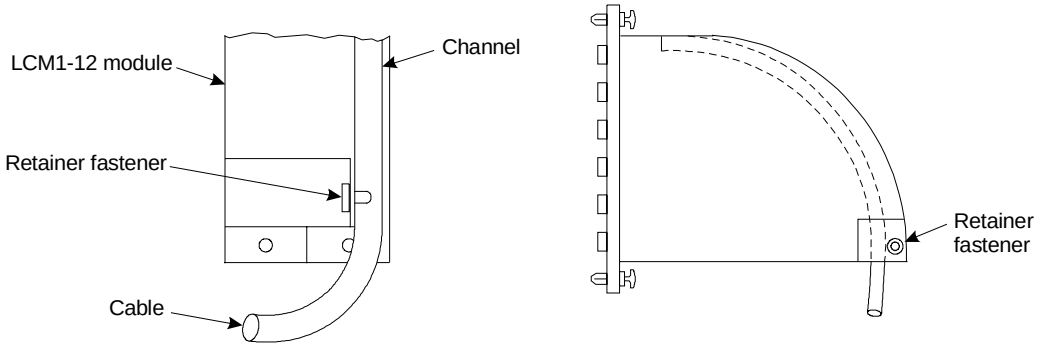
1. Form cable loops in the bottom of the shelf as shown in figure below.
2. Route cables so that they exit the shelf through the rear cable port on either side.



Top View

STEP 6—Install Cable Retainer Fastener

1. Ensure module cable is formed in bottom of shelf as described in **STEP 5**.
2. Press the cable into the module housing channel.
3. Secure cable with retainer fastener.

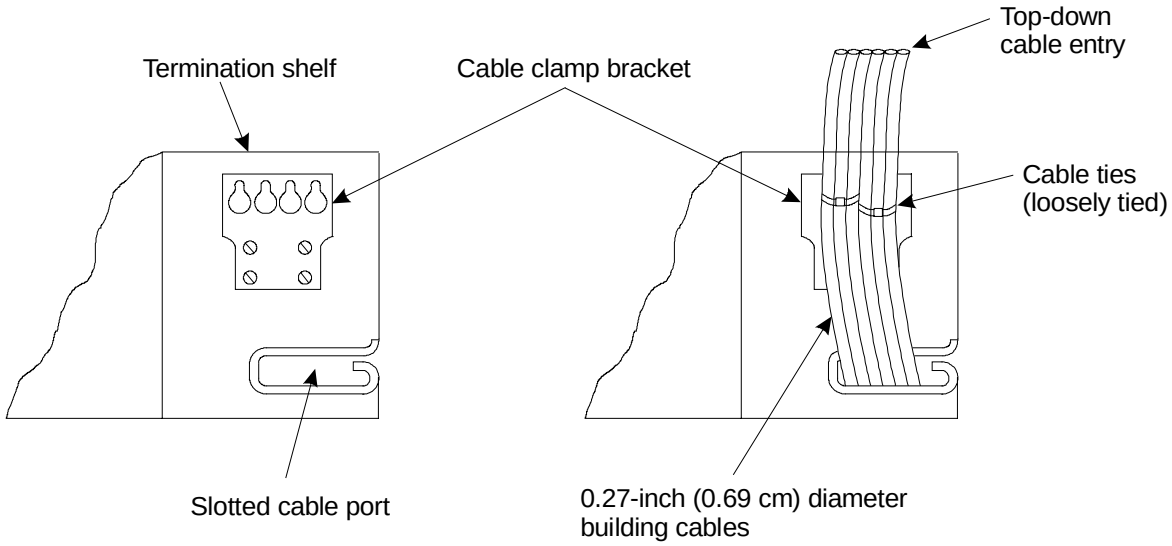


Rear View Side View

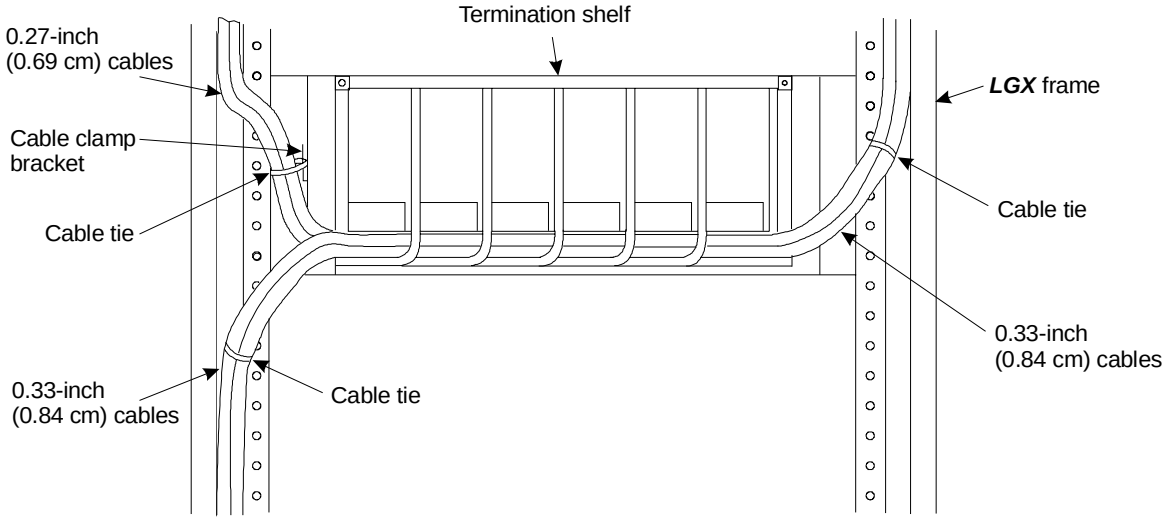
Note: Should a LCM1-12 ever need to be removed from the shelf panel, it is recommended to first remove the retainer fastener from the housing BEFORE unlatching the ***Nylatch*** fasteners and removing the modules. The fasteners may be removed by pressing with a flat blade screwdriver.

STEP 7—Secure Module Cables

LCM1-12 modules are provided with either 0.27-inch (0.69 cm) diameter LGBC type cables or 0.33-inch (0.84 cm) diameter ***AccuRibbon***® interconnect cables. The smaller [0.27-inch (0.69 cm)] cables may be routed out of the shelf cable port and loosely secured to the cable clamp bracket on the side of the shelf with cable ties for top-down cables or secured to ***LGX*** frame for bottom-up cables.



The larger [0.33-inch (0.84 cm)] cables may be routed out of the shelf cable port and secured to the ***LGX*** frame with cable ties. To maintain proper bend radius, **do not** secure the cables to the clamp bracket on the side of the shelf.

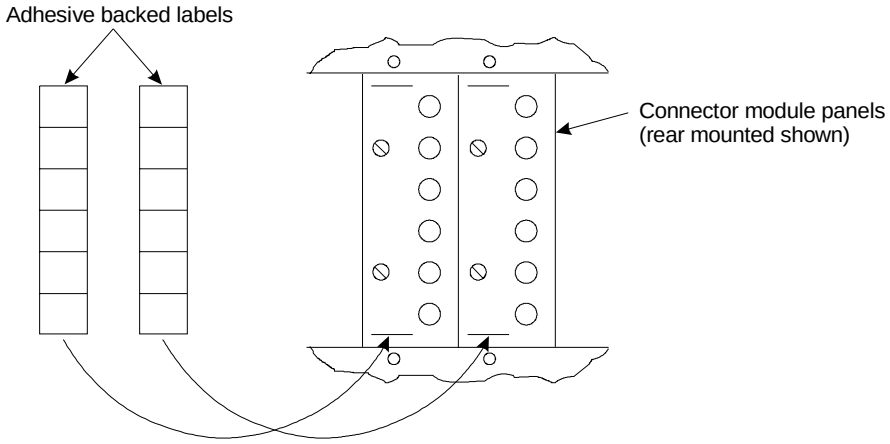


Install and close the rear door of the termination shelf. The LCM1-12 module cables are ready for splicing. The shipping reels should be disposed of locally.

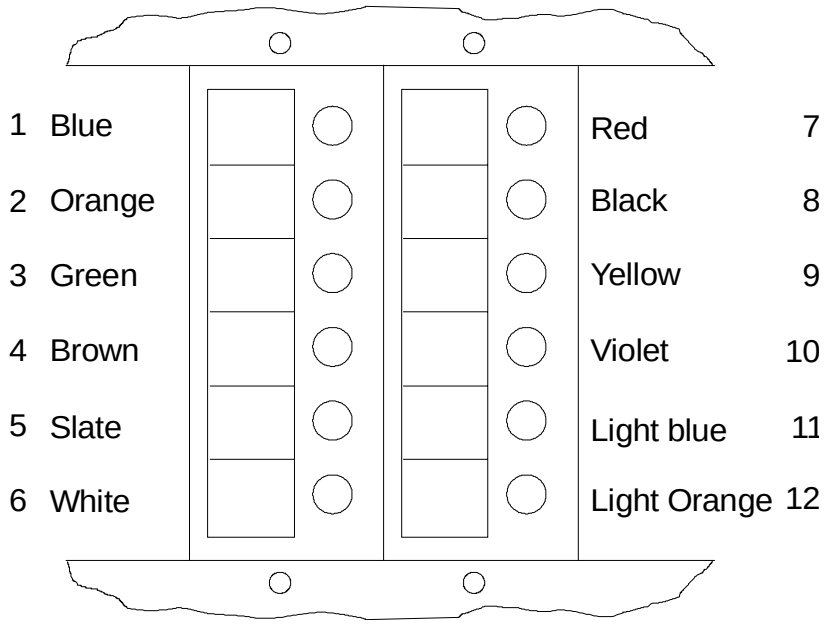
STEP 8—Complete Installation of Identification Labels

If the fiber information has not been marked on the connector module labels, that information should be marked on the labels at this time. If the labels have been previously installed on the connector module, then the information should be marked on the labels installed in the shelf. If the labels have not been installed, mark the information on the loose labels and follow the next steps to install the labels.

1. Open the front door of the terminal shelf to install the identification labels.
2. Peel off the backing of the labels and apply them to the connector module panels as shown below.
3. Close the front door of the termination shelf to complete the installation of the LCM1-12 connector.



Identification Label Positions for Connector Module Panels



Fiber Color Code Assignments for Connector Module Panels

STEP 9—Prepare Connector Module Cable End for Splicing

Note: For identification purposes, module cables contain a bar/date label secured to the jacket [located approximately 5 feet (1.5 m) from the end of the cable]. The label includes the same 5-character serial number as marked on the connector module housing.

0.27-Inch (0.69 cm) Diameter LGBC Cable

This type of cable contains 12 buffer-insulated (color-coded) fibers and one fiberglass strength member surrounded by ***Kevlar****** strands and a PVC jacket.

1. Mark the cable the proper distance from the end.
2. Using an R4366 tool, score the PVC jacket at the mark.
3. Flex and break the PVC jacket at the scored mark.
4. Slide the PVC jacket off the cable.
5. Trim ***Kevlar*** strands and strength member close to end of jacket.
6. Follow local procedures for splicing.

0.33-Inch (0.84 cm) Diameter ***AccuRibbon*** Interconnect Cable

This type of cable contains a single 12-fibers ***AccuRibbon*** surrounded by a PVC tube, two fiberglass strength members, and an outer PVC jacket.

1. Make two marks ¾-inch (1.91 cm) apart at the proper distance from the end of the cable.
2. Ring cut the outer PVC jacket down to the fiberglass strength member at both marks using an R2761 knife.
3. Strip away the PVC jacket between both marks to expose the strength members.
4. Cut the strength members in the end of the jacket cut-out furthest from the cable end.
5. At the end of the jacket cut-out furthest from the end of the cable, carefully ring cut the inner PVC tube. DO NOT CUT THE FIBERS INSIDE THE PVC TUBE.
6. Flex and break the inner PVC tube and slide the jacket off the ***AccuRibbon*** fibers.
7. Refer to 636-299-110 for instructions on preparing ***AccuRibbon*** fibers. Follow local procedures for splicing.

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