INSTALLATION INSTRUCTIONS

LIGHTLINK LL-550 OPTICAL SPLICING

AND DISTRIBUTION ENCLOSURE

TABLE OF CONTENTS:

GENERAL

The LightLink (LL) 550 Optical Splicing and Distribution Enclosure provides for organizing, splicing and interconnecting fibers in broadband, distribution and building entrance applications. The splice tray panel is equipped with LGX® 118 footprint snaps so various types of connectors may be installed. The enclosure features a scratch resistant powder coated base and a fully gasketed hinged cover. The internal interconnect tray and back-plate may be removed from the enclosure and brought to a splicing table to complete splicing, fiber routing and fiber management. The cable entry base allows for the installation of cable through a grommet system, and can be coupled to either a fixed 12 inch slack storage skirt or a telescoping 24 to 36 inch skirt.

SPECIFICATIONS

Parameter	Value
Material - Housing	16 Gauge Aluminum
Coating	Electrostatically Applied Power Paint
Color	Beige
Dimensions - (LxWxD) in.	18" x 9" x 5.25" (total length 22" including mounting brackets)
Weight - lbs	7.5
Adapters	up to (48) SC
Splice	Connectorized: Up to (2) LL-4808 L-R up to 72 single fused fibers or 24 mass fusion sleeves
	Splice-only: Up to (4) LL-4808 L-R up to 144 single fused fibers or 48 mass fusion sleeves

PACKAGE CONTENT

A. LL-550 Enclosure Base

B. LGX Interconnect Tray with 2 Splice Trays *or*

C. LL-550 Blank Splice Plate with 2 Splice Trays

REQUIRED TOOLS

216 style Socket Tool

Wire Cutter for Strength Member

Splicers Scissors

Splice Equipment and Sleeves

Cable Stripper

Cable Splicer Knife

9" Lineman's Pliers

ADD-ON COMPONENTS

Interconnect Tray with Splice Trays

Splice Only Interconnect Cover Plate

Splice Trays

Fixed Conduit Skirt

Telescoping Skirt

ENCLOSURE PREPARATION – DOOR REMOVAL

1. Using a standard 216 style tool, or similar, loosen both the top and bottom locking screws. Do not remove these screws from the door assembly.

2. Lift up on the enclosure door to release it from the hinge pins.

BASE PLATE OR SKIRT INSTALLATION

The LL-550 enclosure allows for multiple cable entry configurations which are determined by the base plate.

✳ **Note: If 2" conduit fittings will be used, a fixed conduit skirt is needed. A 2" conduit cannot be installed in the base enclosure of the LL-550.**

1. The LL-550 comes with the pre-installed grommet baseplate. Use local engineering practices to determine if the fixed conduit skirt and or telescoping skirt will be added. **(Figure 1)**

2. If no additional skirt is needed, only the 2 screws of the base plate cover must be removed to install cables. **(Figure 2)**

3. If either skirt is to be installed, the existing base plate will be remaining in place. If needed, attach the fixed skirt base plate to the base plate of the enclosure starting with the center screw. Do not completely tighten the center screw.

4. Install the remaining hex-head screws loosely until all of the screws have engaged the threads. Note: It may be easier to install the base plate bolts if the back plate of the fixed skirt or the routing ring is temporarily removed.

5. Secure the fixed skirt plate to the enclosure over the existing plates by completely tightening all screws. **(Figure 3)**

| Figure 1 | Figure 2 | Figure 3 |

INSTALLING THE TELESCOPING SKIRT BRACKET

1. Remove side retention bolts on the upper skirt bracket of the telescoping skirt kit.

2. Remove the out (4) bolts on the base plate, leaving the center bolt tight.

3. Add the Telescoping Skirt mounting bracket over the existing plates and replace the (4) mounting bolts. Once all 4 are in place completely tighten the mounting bolts
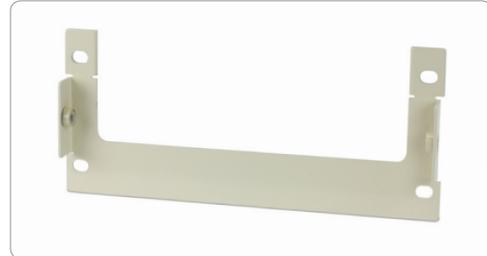
ENCLOSURE MOUNTING–WALL

1. Determine the mounting position of the enclosure on the wall.

2. Mark the three mounting points to be pre-drilled for enclosure placement. **(Figure 4)**

✳ **Note: If the application requires the enclosure skirt be utilized, first install the fixed skirt onto the enclosure and then mark the three mounting points. (Figure 5)**

3. Using local accepted practices and approved hardware, insert a lag screw into each of the three pre-drilled mounting holes. Screw the lag screws half-way into the wall.

✳ **Note: For best practice, it is recommended that the lag screws hex head is wider than the key slots of the enclosure mounts. Also, ensure that the shaft of the screws is smaller than the actual mounting slots for ease of installation.**

4. Mount the enclosure over the pre-installed lag screws.

5. Secure the enclosure to the wall by tightening the three lag screws. Before the lag screws are completely tightened a level may be used to ensure that the enclosure is in the desired position.

Top of the LL-550	*Bottom of the LL-550*	*Bottom of the Conduit Skirt*
Figure 4	**Figure 5**	**Figure 6**

CABLE PREPARATION

⚠ **Caution: Fiber optic cable is susceptible to damage from excessive bending, pulling or crushing forces. At every stage of the installation process ensure that the loose buffer tubes or ribbon fibers are free from unintentional cuts, knick or bends to avoid potential fiber damage.**

1. Mark the cable to have a 137" (348.0 cm) opening.

2. Use accepted local practice to remove the cable sheath.

3. Using wire cutters cut the central strength member to 2" (50.8 mm) from the cable sheath.

137" (348.0 cm)

Cable Sheath — ROL — Cable Sheath

63.5" (174 cm)   63.5" (174 cm)
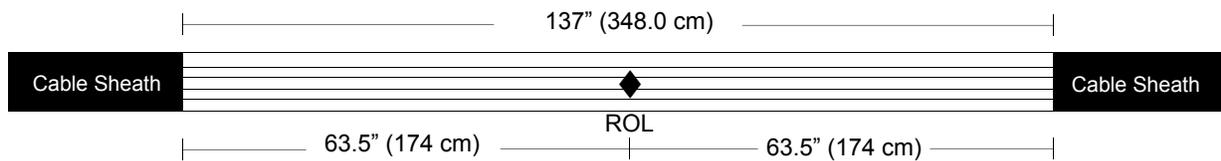
✳ **Recommendation: When opening loose tube cable, center the sheath opening on the cables reverse (ROL) or switchback oscillation point. This will eliminate loose tube crossovers and help with separating the individual loose buffer tubes. For best practice, mark the cable so that the opening is centered on the ROL with 63.5" (174 cm) in each direction.**

4. If grounding is required, use the rip cord to create a tab 1.5" (38.1 mm) past the edge of the cable sheath.

5. Using 9" Lineman's pliers attach the ground clamp to the tab ensuring that the bond strap is positioned with the spurs against the cable armor. **(Figure 7 & 8)**
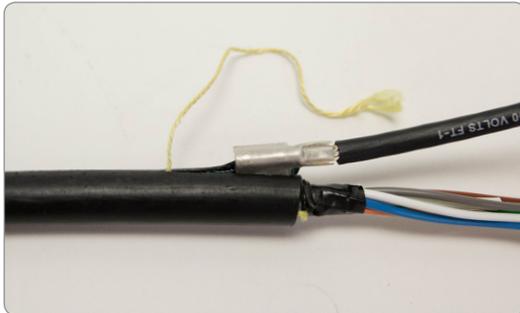
Figure 7
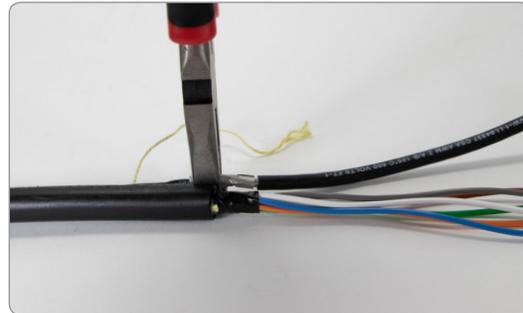
Figure 8

CABLE INSTALLATION

1. Using the hose clamp provided with the base plate, attach the cable to the cable mounting bracket. Place the central strength member stop between the hose clamp and the cable sheath. The cable's central strength member must be positioned into the housing of the central strength member stop. Ensure that the spurs of the central strength member stop are pointed into the cable sheath and tighten the hose clamp completely. **(Figure 9)**

2. Use accepted local practice to ground each armored cable to the grounding bracket located at the bottom right side of the enclosure. A common ground will be established.

Figure 9

ENCLOSURE PREPARATION – FIBER ROUTING

⚠ **Caution: In order to avoid micro bends or fiber damage do not over-tighten the tie wraps around the fiber bundles.**

1. Loosen the pin-in-hex tamper resistant screw located at the top of the interconnect tray. **(Figure 10)** Do not remove this screw from the interconnect tray.

2. Using local engineering practices determine which fibers will be expressed and separate the bundles from the fibers that will be routed to the splice tray.

2. Route the expressed buffer tubes through the lower fiber management rings with three loops. **(Figure 11)**

3. When working with ribbon cable, route the expressed ribbon fibers through the outer fiber management rings with three loops. A protective spiral wrap, not required, may be placed around the expressed ribbon bundle.

4. Cut the remaining, non-express, buffer tubes or ribbon fiber to be spliced.

5. From the signal side, cut the buffer tubes or ribbon fiber to be spliced to approximately 102" (259.8cm).

6. Route the cut buffer tubes through the lower fiber management rings with two loops before entering the splice tray, approximately 70".

7. When working with ribbon cable, route the cut ribbon fiber through the lower fiber management rings before entering

7. When working with ribbon cable, route the cut ribbon fiber through the lower fiber management rings before entering the splice tray. Use local accepted practice or install transportation tubing over any bare or ribbon fibers to secure fibers routed to the splice tray. **(Figure 12)**

8. Mark the buffer tubes 1.0" (25.4 mm) past the splice tray retention point.

9. Use local accepted practice to expose and clean the 250 µm fibers.

10. Place one wrap of foam spacer around the buffer tube at the 1.0" (25.4 mm) mark. Use two tie wraps to secure the buffer tube to the splice tray retention point. The foam spacer is not necessary when securing transportation spiral wrap to the splice tray.
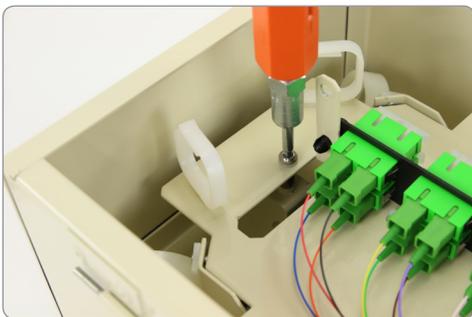
Figure 10

Figure 11
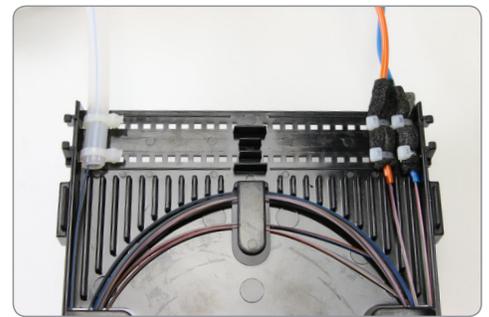
Figure 12

SPLICE ONLY

1. When using the Splice Only adapter plate, it will raise the capacity of the LL 550 to storing up to 4 LL 4808 splice trays.

2. Only the lower fiber management rings are available for use. **(Figure 13)**

Figure 13

ENCLOSURE PREPARATION
FIBER ROUTING (CONT.)

Additional information on securing and routing fiber in the splice tray can be found in the splice tray instruction sheet (FC000634).

✳ **Recommendation: Application dependent, either a protective spiral wrap may be used to route the ribbon fiber to the splice tray for mass fusion splicing or a router kit may be installed for single fiber splicing.**

OPTIONAL – ENCLOSURE PREPARATION: INTERCONNECT TRAY REMOVAL

1. Splice trays may be removed from the base by unstrapping the hook and loop band. Use caution with this assembly as the fiber ribbons are pre routed through the attached transition tube. **(Figure 14)**

2. With the interconnect tray in the down position, gently press the tab to expand the side walls allowing the interconnect tray to be removed. **(Figure 15)**
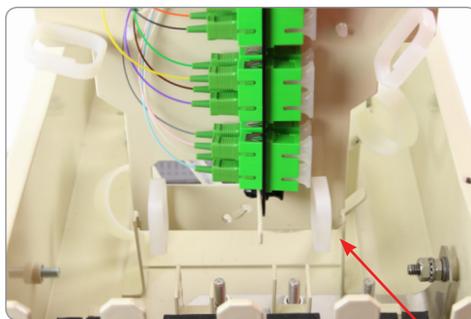
Figure 14
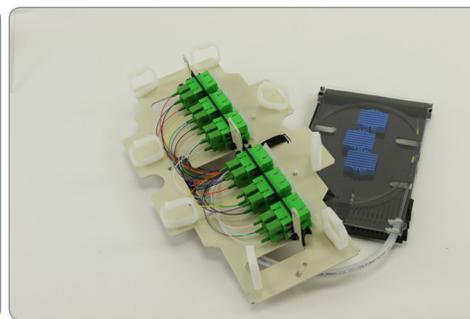
Figure 15

SPLICING

1. Prior to splicing, ensure that adequate slack for both the expressed fiber and the pigtail fiber is stored within the splice tray. Mark fibers for splicing.

2. Clean the individual fiber per accepted local practice using an approved fiber cleaner.

3. Follow accepted local practice for preparing and splicing express fibers and pigtail fibers.

4. Once all splicing is complete, route the exposed fibers inside the splice tray.

✳ **Note: Thick foam pads may be used to help organize loose tube bare fibers within the splice tray.**

5. Replace the splice tray cover. **(Figure 16)**

Figure 16

DROP CABLE SPLICE INSTALLATION

1. Using a standard 216 style tool, or similar, remove the two screws from the upper flash-plate of the enclosure base plate assembly. **(Figure 17)**

2. Remove the multi-port drop grommet from the base plate.

3. Mark the drop cable to have a 102" (259.8cm) opening.

4. Use accepted local practice to remove the drop cable sheath to expose the buffer tube.

5. Slit the bottom port of the multi-port drop grommet to the conical in the rear of the grommet.

✳ **Note: For best practice it is recommended, that the drop cable be added to the bottom port of the multi-port drop grommet first working up with each additional drop cable. (Figure 18)**
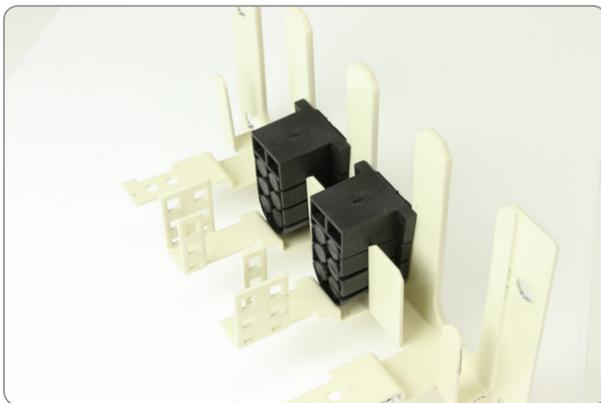
Figure 17
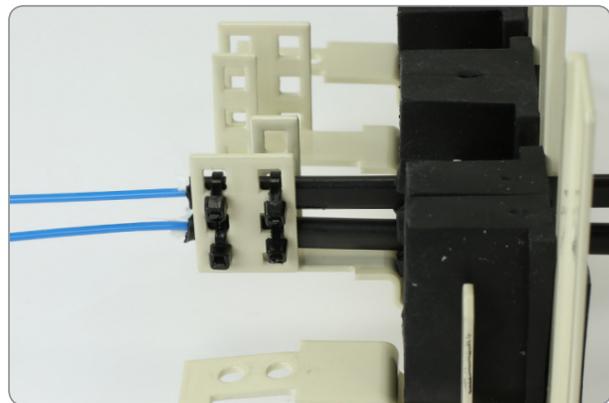
Figure 18

6.   Slide the drop cable into the slit in the multi-port grommet approximately 5" (12.7 cm) back from the sheath opening. Once the drop cable is seated in the grommet give the cable a slight twist to ensure that the grommet webbing completely overlaps the drop cable.

7.   After the cable is properly positioned within the grommet, slide the grommet assembly into the enclosure housing, ensuring that the grommet is fully seated.

8.   Using tie wraps, secure the drop cable to the retention bracket.

✳ **Note: The retention bracket allows for up to three drop cable to be secured on each side.**

9.   Route the drop cable buffer tubes to be spliced through the lower fiber management before entering the splice tray.

10.   Mark the buffer tubes 1.0" (25.4 mm) past the splice tray retention point.

11.   Use local accepted practice to expose and clean the 250 µm fibers.

12.   Place one wrap of foam spacer around the buffer tube at the 1.0" (25.4 mm) mark. Use two tie wraps to secure the buffer tube to the splice tray retention point. The foam spacer is not necessary when securing transportation spiral wrap the splice tray.

SECURE ENCLOSURE – RE-INSTALL INTERCONNECT TRAYING

1. Install the interconnect tray into the enclosure by sliding it onto the hinge openings located near the bottom of the enclosure.

2. Secure the splice tray into the base using the hook and loop band.

3. With the interconnect tray installed and in the down position finish routing any fiber slack, that may have been required to complete the splicing process, through the fiber management rings for storage. **(Figure 19)**

4. Place the interconnect tray to the upright position and secure the pin-in-hex tamper resistant screw.

DROP CABLE ROUTING

⚠ **Caution: Do not exceed the minimum bend radius while routing the flat drop cables into the terminal.**

1. Route the drop cable with one turn around the top side of the interconnect tray. Use the routing rings located on the outer edge of the tray to help manage the cable. **(Figure 19)**

2. Use locally-accepted practices to clean the connector end face.

3. Plug the connector into the appropriate adapter as specified by the local engineering practice.

4. Repeat steps 1 - 3 for all remaining drop cables.

Figure 19

Figure 20

SECURE ENCLOSURE – RE-INSTALL DOOR

1. Install the enclosure door over the appropriate hinge pins.

2. Using a standard 216 style socket tool, or similar, tighten both the top and bottom locking screws.

✳ **Note: A pad lock, not provided, may be utilized if additional security is desired**

ATTACHING THE TELESCOPING SKIRT

1. Attach the telescoping skirt with 2 side bolts to the LL 500 body. **(Figure 21)**

2. Attach wall mount brackets at the base and secure to wall.
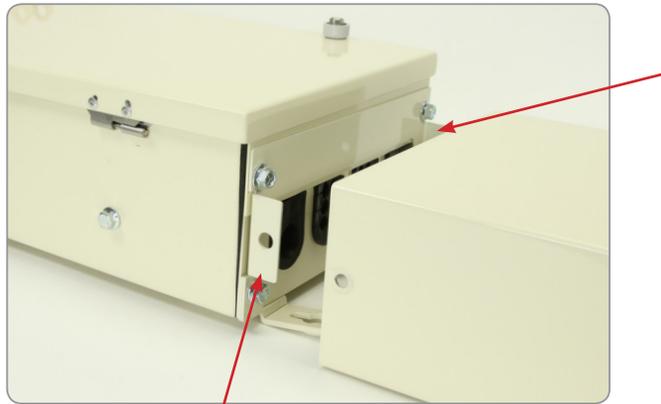
Figure 21

Instructions for the Accessory Kits will be included with the Accessory Kit and are available on the AFL website.

www.AFLglobal.com