GENERAL

This instruction sheet provides procedures for mounting and routing fiber in the LPST-Type Multi-Access Modular Unit (MAMU).

Type	Comcode	Description
LPST-S-SCUU-AR-864-63	108 617 481 848 444 824	Used for terminating 864 fibers and storing up to 72 mass fusion splices using six LT2A* splice organizers for a total of 864 splices.
LPST-S-SCUU-AR-432-49	108 298 829	Used for terminating 432 fibers and storing up to 36 mass fusion splices using six LT2A* splice organizers for a total of 432 splices.
LPST-W-SCUU-AR-864-63	108 736 968 848 526 851	Used the same as LPST-S-SCUU-AR-864-63 except it is used for **AllWave**™ applications.
LPST-W-SCUU-AR-432-49	108 736 976 848 526 877	Used the same as LPST-S-SCUU-AR-432-49 except it is used for **AllWave**™ applications.

*LT2A MASS FUSION SPLICE ORGANIZERS WILL BE AVAILABLE WHEN THE INVENTORY OF LT1A MASS FUSION SPLICE ORGANIZERS IS DEPLETED.

CUSTOMER SERVICES

- Report missing or damaged parts to Customer Service in Omaha, NE: (402) 691-4916
- For technical assistance, contact:
  - Your local Lucent Technologies Network Cable Systems Account Representative
  - Lucent Technologies Network Products Group Technical Support in Atlanta, GA: (770) 798-3655.

REFERENCES

- LT1A/LT2A Splice Organizer Installation, 636-299-103-15
- 12A3L Cable Clamp Kit Installation, 636-299-103-48 (LPST-S-SCUU-AR-864-63 and LPST-W-SCUU-AR-864-63 only).

TOOLS REQUIRED

- Screwdriver (Blade or Phillips head).

CHECK PARTS AND INSTALL LABELS AND GROMMETS (LPST-S-SCUU-AR-864-63)

(This product is intended for indoor use.)

- (Six) LST1U-144/9 Termination Shelf (equipped with mounting brackets and bend limiters)
- (One) LSSIU-864/9 Splice Shelf (equipped with mounting brackets)
- (Six) LT2A-MF/MF Splice Organizer (installed in splice shelf)
- (Two) 12A3L Cable Clamp Kit (cable clamp bracket removed from kit and installed on splice shelf).

CHECK PARTS AND INSTALL LABELS AND GROMMETS (LPST-W-SCUU-AR-864-63)

(This product is intended for indoor use.)

- (six) LST1W-144/9 Termination Shelf (equipped with mounting brackets and bend limiters)
- (One) LSSIU-864/9 Splice Shelf (equipped with mounting brackets)
- (Six) LT2A-MF/MF Splice Organizer (installed in splice shelf)
- (Two) 12A3L Cable Clamp Kit (cable clamp bracket removed from kit and installed on splice shelf).

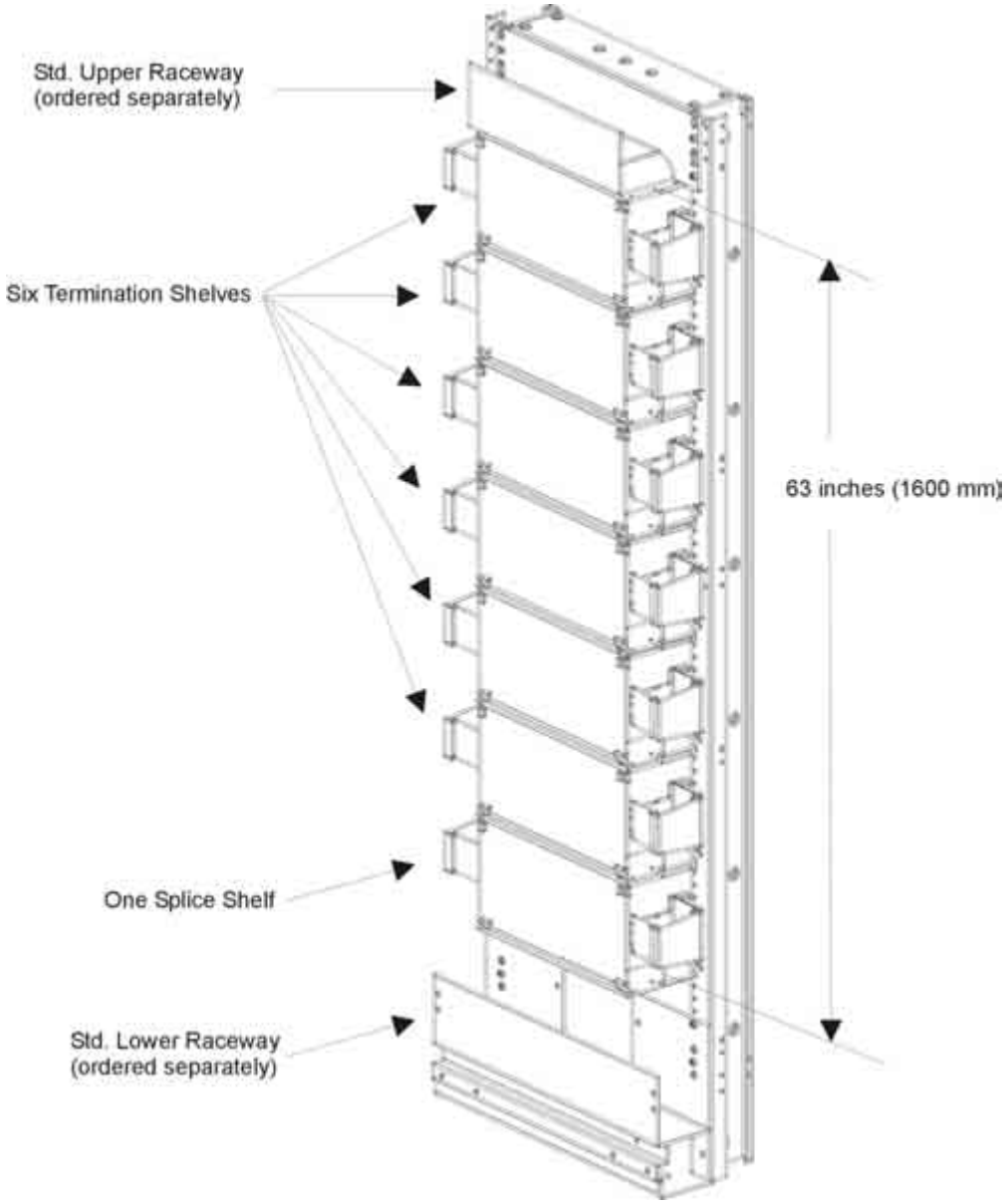


Figure 1. LPST-S-SCUU-AR-864-63 or LPST-W-SCUU-AR-864-63 MAMU in Standard 23-inch (584 mm) Frame

INSTALL LPST-S-SCUU-AR-864-63 OR LPST-W-SCUU-AR-864-63 MAMU TO STANDARD 23-INCH (584 MM) FRAME

Install the MAMU to frame using mounting screws provided in the clear plastic bag from each shelf (four screws per shelf, two per side).

Refer to Figure 1 and Figure 2 for proper MAMU positioning in frame.

INSTALL CABLE TO SPLICE SHELF CABLE CLAMP BRACKET

1. Install cable to splice shelf cable clamp bracket using the 12A3L Cable Clamp Kit. (Provided)
2. Follow 12A3L cable clamp installation instruction (636-299-103-48).

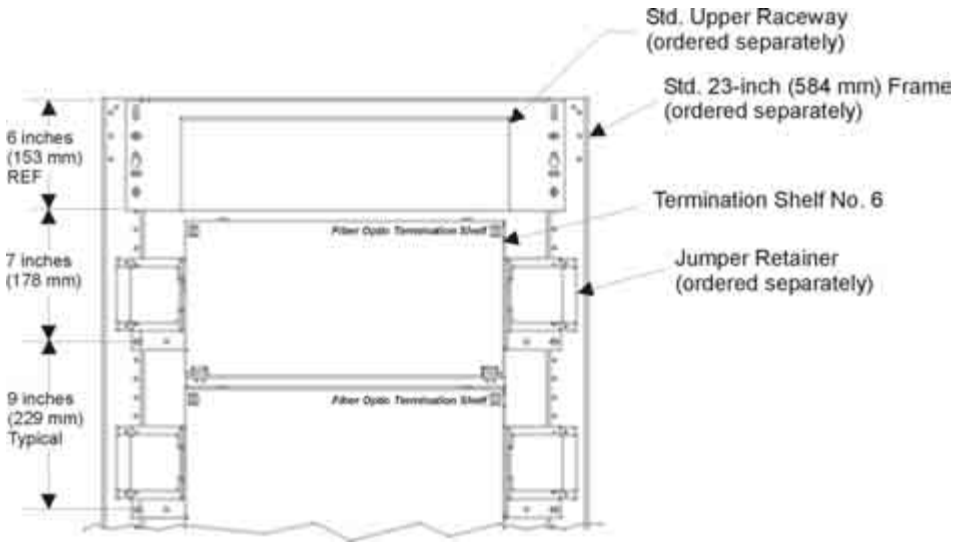


Figure 2. Locating Mounting Holes for LPST-S-SCUU-AR-864-63 or LPST-W-SCUU-AR-864- 63 MAMU in Standard 23-inch (584 mm) Frame

CHECK PARTS AND INSTALL LABELS AND GROMMETS (LPST-S-SCUU-AR-432-49)

(This product is intended for indoor use.)

- (Six) LST1U-072/7 Termination Shelf (equipped with mounting brackets and bend limiters)
- (One) LSSIU-144/7 Splice Shelf (equipped with mounting brackets)
- (Six) LT2A-MF/MF Splice Organizer (installed in splice shelf)
- (Two) 12A1 Cable Clamp Kit (cable clamp bracket installed on splice shelf).

CHECK PARTS AND INSTALL LABELS AND GROMMETS (LPST-W-SCUU-AR-432-49)

(This product is intended for indoor use.)

- (Six)LST1W-072/7 Termination Shelf (equipped with mounting brackets and bend limiters)
- (One) LSSIU-144/7 Splice Shelf (equipped with mounting brackets)
- (Six) LT2A-MF/MF Splice Organizer (installed in splice shelf)
- (Two) 12A1 Cable Clamp Kit (cable clamp bracket installed on splice shelf).

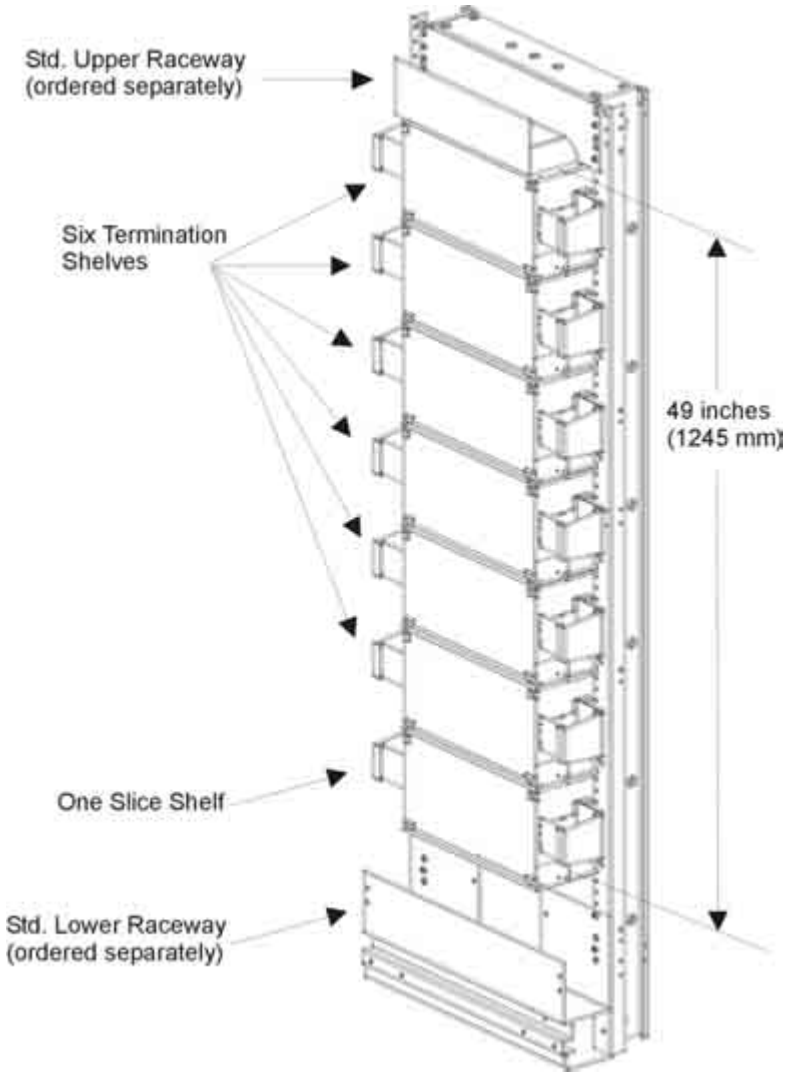


Figure 3. LPST-S-SCUU-AR-432-49 or LPST-W-SCUU-AR-432-49 MAMU in Standard 23-inch (584 mm) Frame

INSTALL LPST-S-SCUU-AR-432-49 OR LPST-W-SCUU-AR-432-49 MAMU TO STANDARD 23-INCH (584 MM) FRAME

Install the MAMU to frame using mounting screws provided in the clear plastic bag from each shelf (four screws per shelf, two per side).

Refer to Figure 3 and Figure 4 for proper MAMU positioning in frame.

INSTALL CABLE TO SPLICE SHELF CABLE CLAMP BRACKET

1. Install cable to splice shelf cable clamp bracket using the 12A1 Cable Clamps. (Provided)

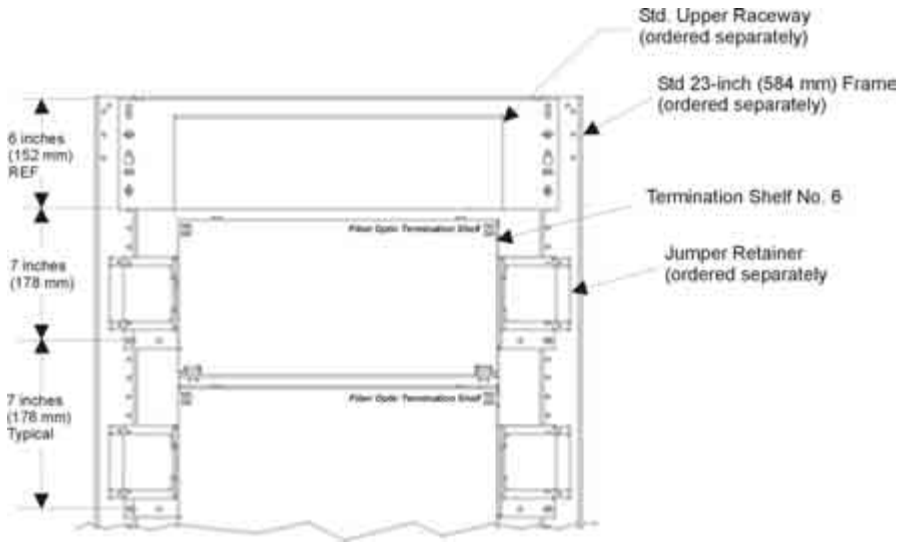


Figure 4. Locating Mounting Holes for LPST-S-SCUU-AR-432-49 or LPST-W-SCUU-AR-432-49 MAMU in Standard 23-inch (584 mm) Frame

CLEANING CONNECTOR AND COUPLING

Clean End of Connector Tip

Clean the end and sides of the connector ferrule with a wipe dampened with isopropyl alcohol.

Important: If the connector tip is not thoroughly cleaned, the signal performance will be affected.

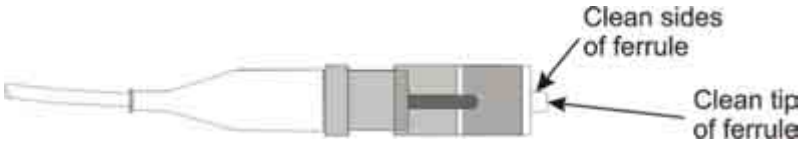
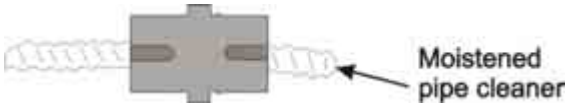


Figure 5. Cleaning Connector Tip

Clean Interior of Coupling

Clean the coupling using pipe cleaners saturated with isopropyl alcohol rotating the pipe cleaner to remove debris from the interior of the coupling. This should be done only if necessary. Using



canned air, remove any dust particles from the interior of the coupling.

Figure 6. Cleaning Coupling

Clean an Attenuator

1. Clean attenuator use only canned air.
2. Hold air nozzle 3 inches (76.2 mm) from attenuator end while cleaning.

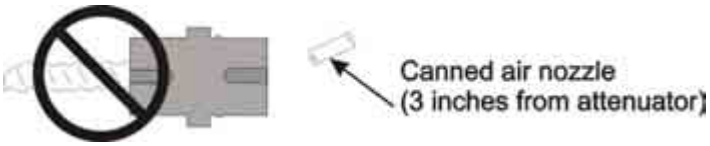


Figure 7. Cleaning an Attenuator

Installing Coupling on SC Connectors

1. Install the SC connectors onto the coupling by aligning the key on connector grip with the slot in the coupling. Complete the connection by pushing the connectors into the coupling.

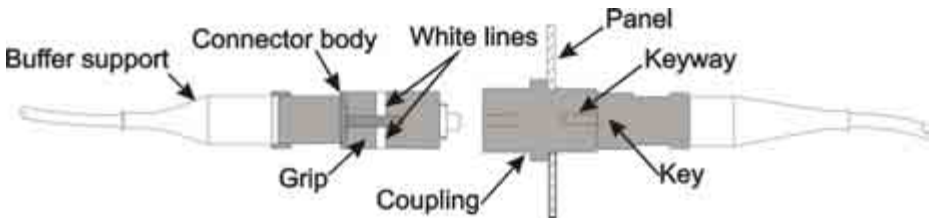


Figure 8. SC Connectors Coupled

2. If a high-loss condition exists, use canned air to clean the interior of the coupling, and reinstall the coupling as just described.

3. When doing rearrangements or reinsertion of a SC connector, blow any dust from the coupling using canned air. Clean the connector tip with a wipe dampened with isopropyl alcohol and push the connector onto the coupling.

SC PRETERMINATED PRODUCT FAMILY - SUMMARY OF REQUIREMENTS

The following requirements are for lightguide interconnection cables equipped with SC type plugs (reference A93AK1015).

Requirements	Connector Type Single Mode (8.3 Micron)	Procedure
Preshelf		
Insertion Loss 100% (1550 nm)	0.30 dB	EIA/TIA, FOTP-171
Return Loss 100% (1550 nm)	-55.0 dB	EIA/TIA, FOTP-107
End Face Finish 100%	Visual	Microscope – 200X magnification Min.
Fiber Protrusion (S) sample	0.1 Micron Max.	Bellcore GR-326
Fiber Recession (S) sample	0.1 Micron Max.	Bellcore GR-326
Fiber Radius (S) sample	10-25 mm	Bellcore GR-326
Fiber Dome Ecc (S) sample	<50 um	Bellcore GR-326
Assembled Shelf		
Crossover Check 100%		HeNe Laser
Continuity 100%		HeNe Laser

Table 1. SC Preterminated Product Family Requirements Summary

SPLICING PROCEDURE WITH SPLICE ORGANIZER INSTALLED IN SHELF

1. Obtain rotary/mechanical, fusion, or mass fusion splice materials as required per type of splice to be made.
2. Pull splice organizer tray out to “stop” position.
3. Splice fibers, place into holders, and coil two loose turns of fiber slack around cable drums in organizer tray. For mass fusion splices, splice fibers, place into holders, and coil one loose turn around cable drum in organizer tray.
4. Slide splice organizer tray into shelf.
5. Carefully coil and store excess fiber slack in bottom of shelf.

SPLICING PROCEDURE WITH SPLICE ORGANIZER REMOVED FROM SHELF

1. Obtain rotary/mechanical, fusion, or mass fusion splice materials as required per type of splice to be made.

2. Slide out splice organizer tray to “stop” position. Press down rear tabs on splice organizer tray and remove from intermediate slide.

3. Splice fibers, place into holders, and coil two loose turns of the fiber slack around cable drums in organizer tray. For mass fusion splices, splice fibers, place into holders, and coil one loose turn around cable drum in organizer tray.

4. Depress tabs on rear of splice organizer; insert organizer into intermediate slides and push into shelf.

5. Carefully coil and store excess fiber slack in bottom of shelf.

SPECIFICATION

All single mode SC fiber optic connectors in the shelf have been inspected visually using a 200x microscope to verify that there are no defects in the end face of the optical fiber. In addition, the flatness of the end face of the fiber was measured using an interferometer.

The return loss for all of the connectors measured prior to assembly into the back of the shelf, using a single mode optical time domain reflectometer (OTDR). The pass criterion for this measurement was –55 dB maximum.

The insertion loss for each connector was measured after assembly into the back of the shelf using the OTDR. The pass criterion for this measurement was 0.30 dB maximum.

A continuity test using a visible HE-NE Laser to verify proper assembly was also conducted after assembly after assembly into the shelf.

> **CAUTION:** Dry compressed air and isopropyl alcohol (91% 2-propanol +water) are approved cleaning agents for fiber optic components. Use of other agents may cause damage.

ACCESS PROCEDURE

CAUTION: Before entering the rear of the shelf for cleaning or maintenance of connectors, please read the following instructions.

1. To determine the correlation between the fiber number and the ribbon number, refer to the ribbon identification labels located on the cable above the cable clamp and on the far end of the cable.

2. Before entering the rear of the shelf to clean connectors in a system that utilizes buildouts, remove the buildouts from the front of the shelf, and clean both the buildouts and the connectors from the front side.

3. Whenever entering the rear of the shelf for any reason, exercise extreme caution not to disturb or damage surrounding fibers. Verify that the proper routing of the fibers is maintained, and that the recommended minimum bending radius for the fibers is observed.

TESTING PROCEDURE

1. Before testing the preconnetorized ***LGX***® shelf, be sure that the proper test jumper is being used, and that it meets all test jumper specifications.

2. Buildouts used for testing should never be modified by removing the locking tab.

3. Use canned air to clean the interior surface of the couplings and the end face of the connectors prior to testing.

4. If testing indicates that an open fiber or high loss condition exists, the following procedures are recommended to determine the cause of the problem.

Note: Unauthorized repairs, such as repolishing or replacing a connector, should never be attempted prior to contacting the Lucent Technologies Fiber Optic Technical Support personnel. These repairs may void the warranty for the shelf.

4.1 Carefully remove the connector from the coupling, and clean the connection (connector, coupling, test jumper) using lint free tissues, pipe cleaners, isopropyl alcohol, and canned air.

4.2 Examine the connector end face for damage with a microscope, if available.

Note: Do not view the connector end face with a microscope if the fiber is energized.

4.3 Move to the end of the cable and verify that all splices have been made properly.

5. After retest, if the open fiber or high loss condition remains and defect cannot be located using the above procedures, please call Lucent Technologies Fiber Optic Technical Assistance help line 1-770-798-2375. Please provide the shelf number, which is located inside the front of the shelf.