

Figure 1

The terminating module is designed to be used with the modular plug dual terminator (shown in Figure 1) terminates the modular plugs listed in Figure 2 to create a cable assembly. During termination, terminators 1320840-1 and 1320840-2 are capable of testing the cable assembly for electrical circuit continuity. Terminator 1320840-3 will not provide electrical circuit continuity testing. Read these instructions completely before using the module.



**NOTE**

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

For detailed information about the modular plug dual terminator, refer to customer manual 409-10010.

For information on modular interconnection system products, refer to Catalog 82066.

Refer to the applicable application specification for cable stripping and module plug crimp requirements:

114-6016 Modular Plug Connectors (Standard and Small Conductor)

114-6053 High Performance Modular Plug Connectors

When reading this document, pay particular attention to DANGER and CAUTION statements.



**DANGER**

Denotes an imminent hazard which may result in moderate or severe injury.



**CAUTION**

Denotes a condition which may result in product or equipment damage.

Reasons for re-issue of this instruction sheet are provided in Section 7, REVISION SUMMARY.

**1. DESCRIPTION**

These terminating modules fit interchangeably into the modular plug dual terminator. Each module features dual nest areas for positioning the modular plugs, inserters for terminating the contacts, and stuffers for terminating the primary and secondary strain reliefs. Since each feature is independently adjustable, crimp heights can be adjusted to meet FCC specifications.

**2. INSTALLATION**

1. Install the modular plug dual terminator according to 409-10010.

TERMINATING MODULE 856196	MODULAR PLUG			CABLE					
	POSITION	DESCRIPTION	BASE PART NUMBER	TYPE	STYLE	CONDUCTOR OUTSIDE DIAMETER mm [in.]	STRIP LENGTH mm [in.]		
-1	2	Line	641333	Stranded	Flat Oval	0.89-0.99 [.035-.039]	6.35-7.14 [.25-.28]		
			737743						
			737746						
-3	4	Handset	556200	Solid	Flat Oval	0.89-0.99 [.035-.039]	6.35-7.14 [.25-.28]		
			641334	Stranded					
			737628						
			737629						
			737344						
			737335						
-1	4	Line	556384	Solid	Flat Oval	0.74-0.86 [.029-.034]	6.35-7.14 [.25-.28]		
			641335	Stranded					
			737336						
			737742						
			737345						
			737745						
	Blue—Small Conductor	557965	Solid	Flat Oval	0.74-0.86 [.029-.034]	6.35-7.14 [.25-.28]			
		557967	Stranded						
-2	4	8x4 Long	556586	Stranded	Flat Oval	0.89-0.99 [.035-.039]	12.7-14.2 [.50-.56]		
-1	6	Line	555042	Solid	Flat Oval	0.89-0.99 [.035-.039]	6.35-7.14 [.25-.28]		
			641337	Stranded					
			554710	Stranded	Round				
			737744	Stranded	Flat Oval				
			737747						
		Blue—Small Conductor	557970	Solid	Flat Oval	0.74-0.86 [.029-.034]	6.35-7.14 [.25-.28]		
			557971	Stranded					
-5	6	Offset	555238	Stranded	Round	0.89-0.99 [.035-.039]	6.35-7.14 [.25-.28]		
			555236	Solid	Flat Oval				
			555237	Stranded					
-4	6	Long—Unshielded	555426	Solid	Flat Oval	0.89-0.99 [.035-.039]	14.2 [.56]		
			555176	Stranded	Flat Oval				
			555177		Round				
		Long—Shielded	555174	Stranded	Flat Oval				
-2	8	Line	554720	Solid	Flat Oval	0.89-0.99 [.035-.039]	12.7-14.2 [.50-.56]		
			554739	Stranded					
			557315	Solid	Round				
			554169	Stranded					
		Blue—Small Conductor	557972	Solid	Flat Oval			0.74-0.86 [.029-.034]	12.7-14.2 [.50-.56]
			557973	Stranded					

Figure 2 (Cont'd)

TERMINATING MODULE 856196	MODULAR PLUG		CABLE				
	POSITION	DESCRIPTION	BASE PART NUMBER	TYPE	STYLE	CONDUCTOR OUTSIDE DIAMETER mm [in.]	STRIP LENGTH mm [in.]
-2	8	Keyed	555417	Solid	Flat Oval	0.89-0.99 [.035-.039]	12.7-14.2 [.50-.56]
			554743	Stranded	Flat Oval		
			554170	Stranded	Round		
		Shielded	569530	Solid	Round	0.89-0.99 [.035-.039]	14.2 [.56]
			569532	Stranded	Round		
			569542	Stranded	Flat Oval		
			569531	Solid	Round		
		Shielded—Keyed	569543	Stranded	Flat Oval		
1- -1	8	Line—High Performance	558530	Stranded	Round	0.89-0.99 [.035-.039]	Refer to 114-6053
			569278	Solid			
		Shielded—High Performance	569552	Stranded			
			569550	Solid			
1- -2	8	Modular Plugs Without Secondary Strain Relief Other than CommScope Call the number at the bottom of page 1 to ensure capability.					
-6	10	Line	557963	Stranded	Round	0.89-0.99 [.035-.039]	12.7-14.2 [.50-.56]
-7	Allows Operator to Use 2 Different Modules Simultaneously (For Example: terminate product used on module 856196-2 on Left Side and terminate product used on module 856196-1 on Right Side)						

Figure 2 (End)

2. Disconnect the air supply.



**DANGER**

To avoid personal injury, always **disconnect the air supply** before attempting to install or remove the module from the terminator. A lockout valve has been provided in the air line.

3. Remove the plastic guard from the module by removing four screws and two terminals from the limit switch (refer to the module customer drawing for location).
4. For terminators -1 and -2 (only), refer to Figure 3, and:
  - a. Connect the cable from the automatic circuit tester to the back of the module, and tighten the screws to secure cable.
  - b. Check that the two single-wire terminations on the limit switch to the left of the tester cable (viewing from the back of the module) are firmly connected to the limit switch at the top-most and bottom-most terminals (normally-closed position). Verify that the green wire of the tester cable is connected to the terminator and to a suitable ground on an AC outlet.
  - c. Set up the automatic circuit tester according to 409-10010.
5. Position the module so that the T-slot at the top will slide onto the arm of the terminator so that the module rests on the base plate of the terminator. Tighten the screws at the bottom front of the module, securing the module to the base plate.
6. Re-connect the air supply to the terminator (regulated air supply of 551 to 689 kPa [80 to 100 psi] at 0.47 liters/sec [1.0 scfm]).
7. Re-install the plastic guard onto the module.
8. Run samples according to 409-10010 to inspect the crimp height and strain reliefs of each modular plug.

Using Terminators -1 and -2 Only

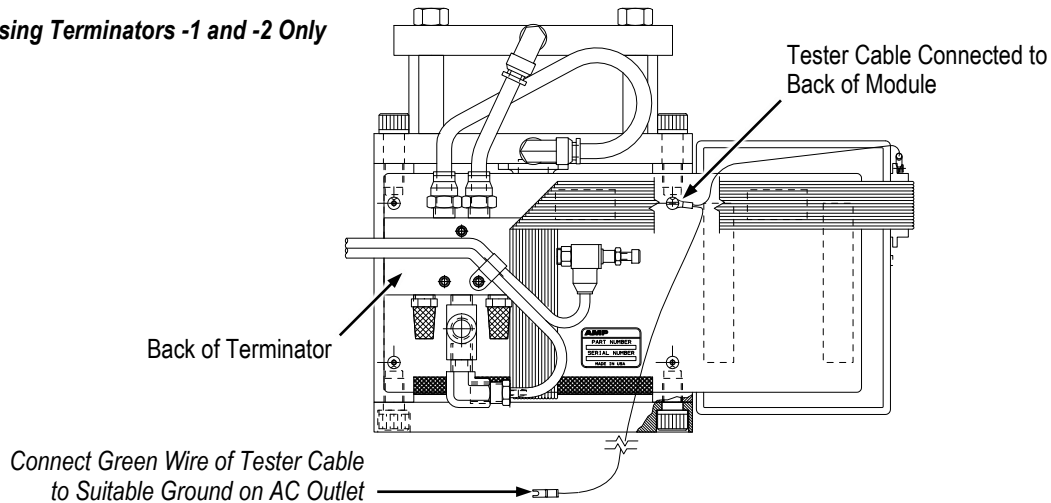


Figure 3

9. Adjust the contact inserters (for proper crimp height measurement) and strain relief stuffers as follows (refer to the applicable application specification for crimp height):
  - a. Lift the module ram mechanism off the module for ease in making adjustments.



**NOTE**

If adjustments must be made after module installation, first remove the module, and then remove the ram. See Figure 4.

- b. Slightly loosen the two 8-32 socket head cap screws at the front of the ram (inserters and stuffers are held to the ram by these screws) so that adjustments can be made.
10. Set the crimp height as follows:
  - a. Loosen the locking setscrews at the back of the ram head, and loosen the back-up setscrews *counterclockwise* at least one full turn (one full turn equals approximately 0.18 mm [.007 in.]).
  - b. Rotate the contact inserter adjustment screws *clockwise* to adjust the inserter downward until the inserters are at the correct crimp height for the modular plug. One full turn equals approximately 0.18 mm [.007 in.]. Refer to the application specification for the crimp height.
  - c. Tighten the locking setscrews and back-up setscrews.

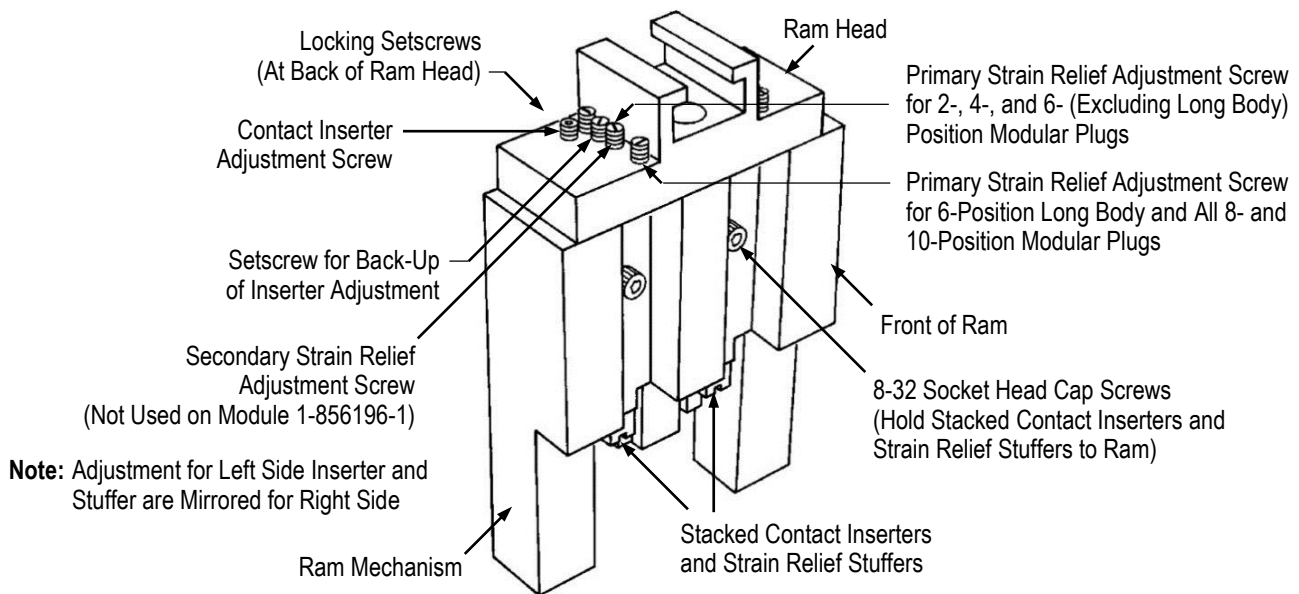


Figure 4

11. Adjust the primary strain relief stuffers as follows:
  - a. Loosen the 8-32 socket head cap screws enough to make the required adjustments.
  - b. Rotate the applicable primary strain relief adjustment screws (refer to Figure 4) *clockwise* to adjust the primary strain relief stuffers downward. One rotation equals approximately 0.64 mm [.025 in.].
12. Adjust the secondary strain relief stuffers as follows:
  - a. Loosen the secondary strain relief adjustment screws enough to make the required adjustments.
  - b. Rotate the screws *clockwise* to adjust the secondary strain relief stuffers downward. One rotation equals approximately 0.64 mm [.025 in.].
  - c. Hold **all** strain relief stuffers in their up-most position, and tighten the 8-32 socket head cap screws (that hold the indenters and stuffers in place).
  - d. Re-position the ram on the module.

### 3. TERMINATING, TESTING, AND INSPECTING MODULAR PLUG

1. Strip the cable insulation outer jacket to the dimension given in Figure 2. Do not strip the insulation from the individual conductors. Refer to the applicable application specification for shielded cable stripping requirements.
2. Insert stripped cables into the modular plugs, and insert the cables and modular plugs into the module nests. Make sure of the following:
  - the cable conductors are oriented to the applicable contact slots before inserting the conductors into the modular plugs,
  - the cable conductors are bottomed in the contact slots of the modular plugs, and that they remain bottomed throughout the cycling of the terminator, and
  - the modular plugs bottom in the module nests; the modular plug release tab must snap firmly into place.
3. Press the foot switch to cycle the terminator.
4. When termination is complete:

For terminators -1 and -2 (only), the tester will automatically examine the cable assembly and respond with either a short tone or a long tone (refer to Figure 5). After the cable assembly is tested, hold the cable assembly release down, and remove the cable assembly from the module.



#### CAUTION

*Removing the cable assembly before a tone has sounded may cause good terminations to test as failures.*



#### NOTE

*Any coupled cable assembly may be tested or re-tested by inserting and latching the modular plugs into the nest areas and pressing the TEST pushbutton.*

For terminator -3, hold the cable assembly release down, and remove the cable assembly from the module.

5. Inspect the crimps on the modular plugs using an indicator with a 0.25-mm [.010-in.] diameter needle-point probe. Refer to the application specification for crimp height and other terminated modular plug criteria.

Problems associated with bad cable assemblies should be recorded to aid in troubleshooting. Check for the source of recurring problems in the following order:

  - a. Check the settings against the test cable.
  - b. Check that the correct combination of cable and plugs is being terminated.
  - c. Check crimp height and strain relief settings. If necessary, make corresponding adjustments to the module.
  - d. Check that the spring plungers are all correctly resting on the contact probes.
  - e. Inspect and replace any defective mechanical tooling parts.

TESTING SUMMARY (Terminators -1 and -2 Only)		
1:1/1:N ORIENTATION		
TEST	CONDITION	TEST INDICATORS
The tester checks for open conductors.	There are one or more open conductors.	A long tone will sound and the OPEN LED will light. The wire position LEDs will also light, corresponding to the open conductors of the plug located in the right-hand nest. Note that if “opens” are found, the tester abandons further testing; therefore, shorts that may have also been present will not be indicated.
If there are no open conductors, the tester checks for short circuits.	The cable assembly has two or more shorted conductors.	A long tone will sound and the SHORT LED will light. The wire position LEDs will also light, corresponding to the shorted conductors of the plug located in the right-hand nest.
No “opens” or “shorts” are found.	The cable assembly is considered good.	The tester will sound a short tone and the GOOD LED will light.
CROSSED CONDUCTORS		
TEST	CONDITION	TEST INDICATORS
With the position selector switch in the Learn position, the tester compares the cable assembly against a “learned” cable pattern. When a cable assembly has a “learned” cable pattern, open conductors, as well as, crossed conductors, are noted.	Contacts that were “learned” as “open” are found to have continuity to other conductors in the cable assembly.	The tester will sound a long tone, light both the OPEN and SHORT LEDs, and light the wire position LEDs corresponding to the connected conductors of the plug located in the right-hand side of the nest.
If there are no connections where there should be “opens”, the tester will conduct the “opens” test.	The cable assembly has one or more open conductors.	The tester will sound a long tone, the OPEN LED will light, and the wire position LEDs will light, corresponding to the open conductors of the plug located in the right-hand side of the nest.
If there are no opens present, the tester performs the “shorts” test.	The cable assembly has two or more shorted conductors.	The tester will sound a long tone, the SHORT LED will light, and the wire position LEDs will light, corresponding to the open conductors of the plug located in the right-hand side of the nest.
The cable assembly passes all three tests.	The cable assembly is considered good.	Tester will sound a short tone and GOOD LED will light.

Figure 5

#### 4. MAINTENANCE, INSPECTION, AND TROUBLESHOOTING

It is recommended that each module be inspected immediately upon arrival to ensure that the module has not been damaged during shipping and at regularly scheduled intervals.

##### 4.1. Daily Maintenance

1. At the end of each shift, clean the foreign particles from the module using a soft, clean, lint-free cloth or brush. Make sure that the contact inserters and strain relief stuffers are secured in place. Check the area under the base plate for foreign matter and debris.
2. For terminators -1 and -2 only, inspect the module for secure engagement of the connectors and cable from the tester to the module and of the wires to the limit switch on the left at the back of the module.
3. Lubricate the module ram, if necessary, with a **thin** coat of high-pressure grease. **Do not** lubricate excessively. Store the module in a clean, dry place.
4. Make sure to keep the terminating areas of the stuffers and nest areas especially clean. **Do not** oil or grease the terminating areas of the stuffers or the contact slides.

## 4.2. Periodic Inspection

Personnel responsible for the module should perform regular inspections, record the results, and keep a record of inspections. It is recommended that inspections be performed at least once a month. Work environment, company standards, or amount of module use may dictate more frequent inspections.

**CAUTION**

*Failure to perform periodic inspection and cleaning can cause the module to make defective modular plug terminations leading to discontinuities on individual wire circuits.*

## 4.3. Troubleshooting

Refer to the troubleshooting section in 409-10010 (Modular Plug Dual Terminator Customer Manual).

## 5. REPLACEMENT AND REPAIR

Refer to the documentation package included with the module for a list of recommended customer-replaceable spare parts. To order replacement parts or for customer evaluation and repair service, call:

### Technical Support

Technical Assistance Center (TAC)

Tel.: 800.830.5056

Email: [TAC.Americas@commscope.com](mailto:TAC.Americas@commscope.com)

[www.commscope.com](http://www.commscope.com)

## 6. RESTRICTION ON HAZARDOUS SUBSTANCES (RoHS) INFORMATION

Information on the presence and location of any substances subject to RoHS can be found at <http://www.commscope.com/About-Us/Corporate-Responsibility-and-Sustainability/Environment/Product-Compliance/>

## 7. REVISION SUMMARY

Revisions to this instruction sheet include:

- Rebranded to **CommScope**
- Added terminator part numbers to text that applies to tester
- Replaced previous last 3 paragraphs of Section 2, step 1 of Section 3, Paragraph 5.1, and Figures 5 and 7 with reference to terminator customer manual
- Added steps 3, 4c, and 7 to Section 2, dimension to step 10a of Section 2, and steps 1 and 2 to Paragraph 4.1

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