

Terminating RG-8 Cable with LA-128

Introduction:

The purpose of this tech note is to take you through the process of terminating an RG-8 cable with the LA-128 50Ω BNC connectors (screw and solder type). This process takes place internally when a custom length RG-8 cable has been ordered with terminations. The process detailed below was created with the cable carried by Listen as LA-113. Other RG-8 cabling may not have the same specifications.

Items:

- Multi-Meter
- Tape Measure
- Wire Cutters
- Pliers
- (2) 5/8" Wrenches
- Tweezers
- Razor Blade
- LA-128 BNC Connector
- RG-8 Cable
- Soldering Iron
- Solder
- Table Vice (optional)

Process:

1. Cut the RG-8 cable to the length required for installation using the wire cutters.
2. Remove the threaded cylinder, metal washer, and rubber washer from LA-128 package.
3. Place them in the below pictured order on the cable and slide them down the cable and out of the way for the following steps.



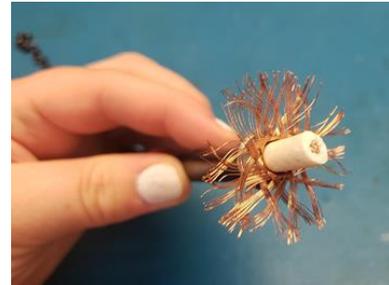
4. Measure 1/2" from the end of the cable and strip the outer black plastic covering as shown below. (Do not damage the copper braid as seen below).



5. Place the angled washer over the braid so that it sits flat against the black plastic coating as shown below.



6. Spread the braid evenly around the cable as shown to the right.



7. Trim the edges of the braid back until they are approximately $\frac{1}{4}$ " long. The length of the braid itself does not affect functionality. It is important that you trim it short enough that it does not extend below the bottom of the angled washer when bent down around it as shown to the right.



8. Trim the end of the cable so that it is not longer than $\frac{1}{2}$ inch from the top of the angled washer and copper braid.
9. Using the razor blade, gently strip the inner white plastic insulation layer. Do not damage or cut the inner copper conductor.



10. The inner copper conductor is made up of seven strands of solid copper wire. Pull back three of those strands in a circular pattern as shown to the right



11. Cut those three strands as close to the edge of the inner white plastic as shown. If they are not cut properly then they could cause the cable to fail.



12. On the four additional inner copper conductors, spin them together tightly using the pliers as shown. Make sure the length of the inner copper conductor fits snugly inside the center pin and is seated as far down as possible. There should only be a little bit of the inner copper conductor visible between the bottom of the pin and the top of the white insulation.



13. Place the cable into the table vice. Remove the center pin and apply some flux and tin the copper conductor sparingly. The fit inside the center pin can be very snug. Too much solder can make it difficult to place the center pin over the copper conductor again.

14. Apply heat with the soldering iron if needed while inserting the copper conductor inside the center pin. You can add some additional solder if needed via the small hole on the side of the center pin. Ensure a good connection while taking care not to heat the tip of the cable so much that you damage the plastic insulators.



15. Now use the outer BNC connector from the LA-128 package and slide it over the center pin and cable, ensuring the center pin's tip does not extend beyond the end of the BNC connector. You want to be able to feel the tip when you press it with your finger, but you do not want it to stick far enough out that it can be blunted and damaged with use.



16. Slide the rubber washer, metal washer and threaded cylinder back up the cable and into the outer BNC connector.
17. Use the (2) 5/8" wrenches to tighten the threaded cylinder into the BNC connector as shown below.



18. Now that the BNC is terminated, it is time to test the connector using the multi-meter.
19. Set the meter to test for continuity (look for a symbol like this on your meter ). If you have a range to select, please set your meter to 400.0Ω. The beep will indicate if the resistance between your two test points is 40Ω or less. That would indicate there is continuity. If there is not continuity there will be no beep.

20. Test for continuity between the tip of the center pin and the sleeve (you can use the outside of the outer BNC connector). There should not be a beep. If there is a beep when testing between tip and the sleeve, then you will need to redo the LA-128 termination.
21. Once you have completed steps 1-20, you may repeat those steps on the other end of the cable.
22. After the cable is terminated on both ends it is time to test continuity between each end of the cable. Check to make sure there is a beep when testing tip to tip, and there should also be a beep when testing from sleeve to sleeve. Check to ensure there is no beep when testing either tip to either sleeve.
23. After you have verified the cable passes continuity tests then it is functional and ready for use.

Please contact Listen Technologies with additional questions at support@listentech.com or 1-800-330-0891.