This document is a compilation of Extron's instructions, together with copies of AMP® Instruction booklets that are provided with each of the AMP tools included in this kit.

1 • Extron Mini-High-Res Cable-to-BNC Instructions

Parts included in Kit • Pre-cut Heat shrink insulation:
- Red 3/8” diameter
- Green 3/8” diameter
- Blue 3/8” diameter
- Yellow 3/8” diameter
- Black 3/8” diameter

3 • AMP® Coaxial Cable Stripper Instructions (4100-0632)

5 • AMP® 75-Ohm BNC Plug Instructions (408-9088)

Parts included in Kit • BNC connectors for cable ends:
- Male plug bodies
- Center contacts
- Tube for insulation
- Step-down Ferrule

7 • AMP® Pro-Crimper II Hand Tool & Die Assembly Instructions (408-4218)
8 • AMP® Pro-Crimper II Hand Tool Application & Maintenance (408-9930)

10 • AMP® Series BNC Solder Receptacle Jacks (IS 2858)
Introduction

Use these instructions to install BNC connectors on Extron’s 75 ohm Super High-Resolution coax cable. The kit includes the following required tools:

- AMP® Coaxial Cable Stripper
- AMP® Pro-Crimper (with dies to crimp both center contacts and the ferrules)
- Wire Cutters/Strippers

Before using each of the AMP tools, go to the appropriate section of this document for instructions.

Cable-Stripping Procedure

Use the AMP Coaxial Cable Stripper and the copy of the instruction sheet provided on pages 3 and 4 to make the three-step strip. One blade cuts the outer jacket, the next one cuts the jacket and wire braid and the third blade cuts the jacket, the wire braid and the insulation (dielectric). It may be necessary to try some sample cuts and adjust the tool to get the proper depth for each cut.

Use the illustration to the right to identify the cable parts and dimensions of each cut.

Installation Procedure

When the cable has been stripped and ready to install the BNC connector, use the illustration on the facing page and these steps as a guide for installing the connector. Additional instructions can be found on pages 5 and 6.

1. Identify the parts required. Cut 1.5 inches of the chosen colored heat shrink insulator and slip it over the cable far enough to be out of the way of other components.

2. Slide the small end of the ferrule over the cable, pushing it back from the end. (The large end will go toward the BNC connector.) Slide the plastic tube over the insulating dielectric, but under the wire braid. When finished, the wire braid will make contact with BNC body, but NOT with the center conductor. (The braid may appear to be bare wire strands.)

3. Push the center contact over the center conductor. When the center conductor slides all the way into the hole, it should no longer be exposed.

4. Use the AMP® Pro-Crimper tool to crimp the center contact onto the conductor. Check that the connection is secure. (Detailed instructions for using this tool are included on pages 5 and 6.)

5. Push the plug body over the center contact and over the dielectric insulator – with the plastic sleeve inside the wire braid.

6. Push the ferrule against the plug body. It should cover the exposed wire braid and part of the outside insulation.

7. Crimp the ferrule in place. Trim any exposed wire braid if necessary.

8. Slide the Color-Coded Heat Shrink sleeve toward the connector, covering the Ferrule. Use a heat source to shrink the sleeve tightly in place.

Repeat this procedure for each BNC cable connector.

When fully inserted, the center contact should extend into the plug body, as shown at the bottom of the next page.

The illustration to the right shows the parts of the coaxial cable, with the Ferrule and Tube added.
BNC Connector Installation

1. Plug Body
2. Ferrule
3. Center Contact
4. Crimp
5. Plug Body
6. Ferrule
7. Crimp
8. Color-Coded Heat Shrink

Insert Tube
**AMP® COAXIAL CABLE STRIPPER**

**NEW INSTRUCTIONS PLEASE READ**

AMP INCORPORATED, HARRISBURG, PA.

PART NOS.
603995-1
603995-2
603995-3
603995-5
603995-6

Follow these steps when stripping with the AMP® COAXIAL CABLE STRIPPER:

A. **ADJUST SLIDE** to position 4 or 5

B. **OPEN TOOL** by rotating locking latch downward. (Fig. 3)

C. **MARK JACKET** of cable for center conductor length.

D. **HOLD THE TOOL** with the handle towards you and insert coax from left into the groove position. Locate mark on cable over the righthand blade, then close and latch tool. (Fig. 4 and 5)

E. **PUSH SLIDE FORWARD** to appropriate start position (see Fig. 6). Make sure proper V-Block is installed.

F. **ROTATE TOOL** around coax about 5 times (Fig. 7). Push slide forward to next position in sequence. Rotate tool again. Then push slide forward to final position and rotate tool final 5 times.

G. **MOVE SLIDE BACK ONE POSITION.** Then pull cable out carefully while squeezing tool (Fig. 8). If there is too much resistance or strip is imperfect, go to step "H".

**FIGURE 1**

**FIGURE 2**

**FIGURE 3**

**FIGURE 4**

**FIGURE 5**

**FIGURE 6**

**FIGURE 7**

**FIGURE 8**
BNC Connector Installation

ADJUSTING THE AMP® COAXIAL CABLE STRIPPER

H. INSPECT YOUR FIRST STRIP. Determine how deeply each blade has scored the cable.

I. ADJUST BLADE DEPTH to match your cable size by turning allen screws at base of tool (Fig. 9).

TIPS:
If a blade is NEAR its proper position, turn its set screw approx. ± 90°.
If a blade is a LITTLE FAR off from its proper position, turn its set screw ± 270° to 360°.

NOTE: Adjust tool so that the appropriate slide progression works (see Fig. 6). If your cable size does not appear in Fig. 6, develop your own 2- or 3-stage sliding sequence.

J. TRY STRIPPING AGAIN, following steps A through G. If strip is still not acceptable, adjust blades one more time, following instructions H and I.

SOLUTIONS TO TYPICAL PROBLEMS:

If braid is twisting too much, turn set screw for braid-cutting blade + 90° and turn set screw for jacket-cutting blade -90°.
If, after repeated adjustment, most of braid will not cut properly, your blade set is probably worn out. Reverse cassette to try new blade set.
With RG 174 or other very thin cable, VERY FINE ADJUSTMENT is needed. Expect to make several adjustments (±30°) to reach proper blade depth. Use a FRESH BLADE SET. Use only HIGH QUALITY thin cable.

3-STEP STRIP WITH 2-BLADED CASSETTE:

(This procedure is recommended only for those who own only the 2-step stripping tool. If you make 3-step strips often you should purchase the 3-step stripping tool.)

A. Mark jacket of cable for center conductor length.
B. Turn tool around or bring cable from opposite side of tool.

C. Lay cable in tool with mark on cable over blade, then close tool.
D. Push slide to no. 1 position.
E. Rotate tool around cable and remove dielectric and braid. Open and clear tool of insulation.

Stripping result after Pos. E.

F. Mark on cable determines length of exposed dielectric
G. Push slide to no. 3 position.
H. Lay cable in tool as shown under B, then close tool.
I. Rotate tool around cable approx. 5 times.
J. Squeeze tool as cable is pulled from tool.

Stripping result after Pos. J.

K. Open and clear tool of insulation.

OTHER FEATURES:

V-BLOCKS
Select proper V-block by O.D. of wire (see Fig. 10).

<table>
<thead>
<tr>
<th>V-BLOCK PART NO.</th>
<th>DIA. RANGE</th>
<th>RG #</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>603997-1</td>
<td>.12&quot;-.20&quot;</td>
<td>195</td>
<td>Red</td>
</tr>
<tr>
<td>603997-2</td>
<td>.20&quot;-.25&quot;</td>
<td>58,59</td>
<td>Blue</td>
</tr>
<tr>
<td>603997-3</td>
<td>.25&quot;-.30&quot;</td>
<td>Belden 8281</td>
<td>Yellow</td>
</tr>
<tr>
<td>603997-4</td>
<td>.10&quot;-.12&quot;</td>
<td>174,182</td>
<td>White</td>
</tr>
</tbody>
</table>

TO CHANGE V-BLOCK, pull block as far forward as possible with thumb and forefinger. Do not let spring snap back. Slip replacement block behind old block and allow springs to slip into grooves in replacement block. (With WHITE V-BLOCK, you must position springs in holes).

CASSETTES
Each cassette contains 4 sets of cutting edges. Cassette can be reversed each time a blade set wears out. Numbers 1 to 4 are printed inside cassette to determine usage. (see Fig. 2)

TO CHANGE OR REVERSE CASSETTE, move locking latch in direction of arrow, then push cassette out of tool (by inserting wrench through hole in bottom of tool) (Fig. 11).

NOTE: When placing a 3-blade cassette in tool, use blade sets 1 and 2 first (see imprinted numbers on cassette). When using blade sets 3 and 4 in a 3-blade cassette, the "B" and "C" dimensions of the strip (Fig. 1) will be reversed from their proper order.

The "SLIDE" is the most unique and important part of the stripper. The slide allows you to ease the blades into the cable, reducing friction on the braid and dielectric as you strip.

ALWAYS USE YOUR SLIDE WHEN YOU STRIP!

RECOMMENDED SLIDE PROGRESSIONS

<table>
<thead>
<tr>
<th>Coax</th>
<th>V-Block</th>
<th>Slide Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG 58</td>
<td>Blue</td>
<td>3, 2, 1</td>
</tr>
<tr>
<td>RG 59</td>
<td>Blue</td>
<td>5, 4, 3</td>
</tr>
<tr>
<td>RG 174,182</td>
<td>White</td>
<td>4, 3</td>
</tr>
<tr>
<td>Belden 8281</td>
<td>Yellow</td>
<td>5, 4</td>
</tr>
<tr>
<td>RG 195</td>
<td>Red</td>
<td>4, 3, 2</td>
</tr>
</tbody>
</table>

Adjust your tool so that the appropriate slide progression works. If your cable size does not appear in this table, develop your own 2- or 3-stage sliding sequence.

ALWAYS STEP BACK 1 POSITION ON SLIDE BEFORE PULLING CABLE OUT OF TOOL.

3-step tool is not recommended for most styles of RG 62, nor for many cable styles with cellular polyethylene or other soft dielectrics. Use 2-step tool instead.

DO NOT USE STRIPPER ON COAX CABLES WITH DRAIN WIRES.

WARNING
Use Safety Glasses
To Avoid Eye Injury
1. INTRODUCTION

This instruction sheet covers the assembly of AMP 75–Ohm BNC Plug Dual Crimp Connectors 221185–[ ]. The connectors are applied either with AMP Hand Tool 354940–1 or with AMP Pneumatic Tool 69365–3. Both tools accept interchangeable crimping dies, using different die sizes (and part numbers) according to the cable type being used with the connector. For information on die set part numbers, cable sizes, and connector part numbers, refer to AMP Catalog 82074.

**NOTE**

All dimensions on this sheet are in millimeters [with inch equivalents provided in brackets]. Figures and illustrations are for identification only and are not drawn to scale.

Reasons for reissue are provided in Section 4, REVISION SUMMARY.

2. DESCRIPTION (Figure 1)

Each connector features a center contact, a plug body, and a ferrule. The center contact is crimped to the cable’s center conductor, and the ferrule is crimped onto the back of the connector, over the cable braid, to secure the cable to the plug body.

**NOTE**

The ferrules differ with connector selection. Some connectors come with straight ferrules, while others use step-down ferrules.

Some connectors are supplied with a plastic bushing and a brass tube. The plastic bushing and brass tube are slipped over the cable dielectric before the center contact is crimped. In this use, the bushing and tube compensate for small diameter cable dielectrics.
3. ASSEMBLY PROCEDURE

1. Determine the cable type for your application, then select an appropriate connector. Refer to AMP Catalog 82074.

2. Slide the ferrule over the cable end.

3. Strip the cable according to these dimensions:

   NOTE: Do not scale from illustration.

4. Crimp the center contact.

   NOTE: Plugs 221185–8, 1–221185–2, and 2–221185–0 come with a plastic bushing and a brass tube. The bushing and tube must be slipped over the cable dielectric (flared end first) BEFORE the center contact is crimped.

5. Insert the center contact into the plug body with the braid over the support sleeve of the plug body.

6. Slide the ferrule over the braid and support sleeve.

7. Crimp the ferrule using the appropriate tooling.

4. REVISION SUMMARY

Since the previous release of this sheet, the following changes were made:

Per EC 0220–0150–95:
- Added plastic bushing, brass tube, and step-down ferrule to Figure 1.

Per EC 0990–0734–95:
- AMP Hand Tool 220190–1 superseded by 354940–1 in Section 1, INTRODUCTION.
- Added statements clarifying plastic bushing, brass tube, and step-down ferrule to Section 2, DESCRIPTION.
- Deleted Plug 1–22184–4 in note on page 2 because it is an incorrect part number.
- Updated format.
- Changed revision level from A to B.
1. INTRODUCTION
AMP-PROCRIMP II Hand Tool Assembly 318450-1 contains either Die Assembly 318450-3 or PRO-352 Die Frame 294500-1. This 75 Ohm termination kit is used with Coaxial 50 Ohm Male, BNC, and N-Connector Commercial Connectors 227079, 314168-1, 414171-1, and 414172-1 with 200 Ohm coaxial or RG59 cables.

For connector assembly and cable wiring procedures, refer to the instructions packaged with the connector. For additional information on the high quality tool frame, refer to 408-9200. Read these instructions thoroughly before using the hand tool assembly.

2. DESCRIPTION
The hand tool assembly features a tool frame with a stationary jaw and handle, a moving jaw, a moving handle, and an adjustable collar that ensures full connector crimping.

The tool frame holds a die assembly with two crimping chambers. The die assembly features a wire end, an insulation end, and a wire end, and an adjustable collar that ensures full connector crimping. Die retaining pins are used to position and secure the dies in the tool frame.

3. INSTALLATION AND REMOVAL OF DIE ASSEMBLY
Open the tool handles and remove the die retaining screws from the tool dies.

4. CRIMPING PROCEDURE

1. Insert the die retaining pins.
2. Insert the die into the tool handle until the tool handle releases.
3. Insert the connector into the crimping chamber.
4. Close the tool handles until the tool handle releases.

5. INSTRUCTION
5.1. Visual Inspection
The crimping die should be inspected on a regular basis to ensure that they have not become worn or damaged. Inspect the crimping chambers for burrs, chips, worn, or broken areas. If damage or damage to the workpiece is evident, the dies must be replaced. See Section 6, DIE REPLACEMENT.

5.2. Gaging the Crimping Chamber
This inspection requires the use of a plug gage to ensure the dimensions in Figure 5. AMP does not manufacture or market these gages. To gage the crimping chamber, proceed as follows:
1. Close the jaws until the dies have bottomed, then hold the handle firmly in place. Do not force the dies beyond initial contact.
2. Align the GO die with the crimping chamber. Pull the element straight into the crimping chamber without using force. The GO die element must pass completely through the crimping chamber.
3. Align the NO die element and try to insert it straight onto the same crimping chamber. The NO-60 die element may start entry, but must pass completely through the crimping chamber.
4. Repeat Step 2 and 3 for each crimping chamber in Figure 5.

5.3. INSTRUCTION
Insert the gage shown in Figure 5 into the crimping chamber. This gage is a three-dimension gage. The GO-60 gage will fit into the crimping chamber. The NO-60 gage will not fit into the crimping chamber.

5.4. CRIMPING HEIGHT ADJUSTMENT
The frame assembly features a mechanism that adjusts the height of the exposed section. If the crimp height is too low, adjust the crimping height as follows:
1. Remove the lockcap from the crimping adjustment wheel.
2. Move the lockcap clockwise to increase the height, or counter-clockwise to decrease the height.

6. WARNING
The die retaining pins must be in place or the connector may skew and jam.
AMP® Standard and Insulated Series BNC solder receptacle jacks are used in panel mount applications. They are available with the combinations of dielectric material and center contact platings shown in Figure 1.

The assemblies containing a solder tab on the lockwasher are used with coaxial cables. For installations requiring ground isolation, the use of the Insulated Receptacle is recommended. Ground isolation can also be obtained with the Standard Receptacles by use of the insulating bushings, shown in Figure 3.

Sealed BNC solder receptacle jacks are installed as described in paragraph 2 and Figure 4.

1. SOLDER RECEPTACLE JACKS LISTED IN FIGURE 1.

1.1 INSTALLATION PROCEDURE

(a) First determine mounting requirements; panel cut out dimensions are shown in Figure 2.

(b) Insert threaded portion of jack through cut-out.

(c) Slip on lockwasher; thread on and tighten nut.

(d) Solder wire to tab as required.

(e) Terminate tab:
   1. On solder terminal (lockwasher) where this assembly is used.
   2. On insulated receptacle when this style assembly is used.

1.2 INSTALLATION PROCEDURE USING PANEL INSULATING BUSHINGS

(a) For installation requiring insulating bushings, panel cut-out shown in Figure 3.

(b) Assemble one bushing on each side of panel.

(c) Insert threaded portion of jack through bushings.

(d) Slip on solder terminal (lockwasher); thread on tighten nut.

(e) Solder wire to tab.

(f) Terminate tab on solder terminal as required.
2. INSTALLATION PROCEDURE — SEALED BNC SOLDER RECEPTACLE JACKS

(a) First determine mounting requirements; panel cutout dimensions are shown in Figure 4.

(b) Assemble gasket to receptacle flange.

(c) Insert threaded portion of jack through cut-out.

(d) Slip on lockwasher; thread on and tighten nut.

(e) Solder wire to center contact solder cup as required.

(f) Terminate solder tab as required.