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Introduction

This guide will explain the preparation of the most popular types of coaxial cable with *solder on* type PL-259 and *solder on* Type N connectors using the various specialized tools manufactured by DX Engineering. These specialized tools were designed by DX Engineering and made in the USA to make the task of preparing coaxial cable easy, fast and safer than older methods.

DE Engineering has four different coaxial cable preparation tool kits. Each kit has a variety of the special tools with the **DXE-UT-KIT4** being the most complete kit. Also, the individual tools are available from DX Engineering separately. A complete list of the kits and tools it at the end of this guide and can be viewed and ordered from DX Engineering online at [www.DXEngineering.com](http://www.DXEngineering.com) or by phone to DX Engineering: 800-777-0703

General Information

DX Engineering Coax Cable Stripping Tools provide a new way to prepare your 50 ohm coax cable for the installation of *solder on* type PL-259 (UHF-male) or 2-piece Type N connectors. These handy coax cable strippers work on foam or solid dielectric cables with a precision, 2-step operation. DX Engineering strippers are made with premium, long-lasting, tool steel, cutter blades for clean coaxial cable preparation.

There are two different colored DX Engineering Coax Cable Stripping Tools for the two most popular sizes (outside diameter) of coaxial cable:

The **RED** model **DXE-UT-8213** prepares 0.405 inch OD coaxial cables: **DXE-213U, DXE-8U, DXE-11U**, **RG-213, RG-8, Belden 8267, 8214 and 8237**.

The **GREEN** model **DX-UT-808X** prepares smaller coaxial cables such as **DXE-8X, RG-8X (mini 8)** and Belden 9258.
Coaxial Cable Information for the DXE-UT-8213

The **DXE-UT-8213** cutter blades (**DXE-UT-RB-HD**) are designed to cut through the more rigid jacket materials such as PVC (polyvinyl chloride) or PE (polyethylene) encountered with high quality coaxial cables having an OD of 0.405 inch.

There are some coaxial cable types on the market which use a jacket (outer insulation) material which is soft and spongy, claiming ultra flexibility. These soft jacketed materials are sometimes described as "thermoplastic elastomer" (found in UF Ultraflex types of coaxial cable) and are characterized by their ability to be stretched and twisted free from the shield braid. As a result, the **DXE-UT-8213** cutter blade will twist the jacket and cutting action will stop - jamming the tool. These unusually soft-jacketed cables demand to be stripped the old fashioned way. For these cables, use the "finger stripper" model **DXE-15035**.

The following cables have been successfully stripped using the **DXE-UT-8213** with our DX Engineering Cutting Blades:

- **DXE-213U**
- **DXE-8U**
- **DXE-11U**
- Belden 8213 RG11/U
- Belden 8214 RG-8 foam
- Belden 8237 RG-8/U
- Belden 8267* RG-213/U

* Belden 8267 and Belden 9913F7: Some cable labeled as Belden 9913F7 (and also Belden 8267) which has a very "squirm"y" jacket and is easy to bend into all shapes without rebounding has proven very challenging to strip easily. The jacket material seems different than the Belden (9913F7 and 8267) samples we had on hand from earlier lots that were used to test the **DXE-UT-8213**. Belden was contacted concerning this and a sample of the suspect 9913F7 was sent for testing. Belden informed us this was their cable (not a suspected counterfeit) and this is a known tolerance in their manufacturing process of this type coaxial cable jacket. Therefore, the **DXE-UT-8213** may, or may not, work properly with some Belden 9913F7 or Belden 8267.

**DXE-400MAX, Davis Bury Flex, Belden 9913, Times Microwave LMR-400** and **LMR-240** are **not** recommended to be prepared using these DX Engineering tools. These coaxial cable types have an extra foil shield which is not suitable for soldering. DX Engineering, Amphenol Connex and Time Microwave have crimp type connectors that should be used with coaxial cable having foil shield.

Some coaxial cable center insulation may adhere to the center conductor more than others. In this case when prepping the cable, the center insulation may not come off cleanly and will require a sharp knife to completely remove it.

Please check the DX Engineering web site:  [http://www.dxengineering.com](http://www.dxengineering.com)  for the latest coaxial cable information and instructional videos.
Using the DXE-UT-8213 and the DXE-UT-80P

The DXE-UT-8213 has been designed and manufactured to properly cut coaxial cable for use with DXE-PL259 PL-259, Silver Plated, PTFE Insulation PL-259 connectors or the DXE-N1001-S Type N Male, Silver Plated, PTFE Insulation two-piece Type N connector (requires a slight additional trimming of the cable center conductor length - see text in this guide).

The following instructions show typical operation using DX Engineering DXE-213U coaxial cable.

Items Used:

1. DXE-UT-8213 Coaxial Cable Stripping Tool
2. DXE-213U Coaxial Cable
3. DXE-PL-259 Coaxial Cable Connector
4. CNL-911 Coaxial Cable Cutter
5. DXE-170M Precision Shear Side Cutters
6. DXE-CGH-8U Coaxial Cable Gripper
7. Scissors
8. DXE-UT-80P Connector Assembly Tool for PL-259/RG-213-size Cable
9. TES-2155 Temflex™ 2155 Rubber Splicing Tape - Used for weatherproofing
10. TES-06132 Scotch® Super 33+ Vinyl Electrical Tape - Used for weatherproofing
A. Cut the end of the coaxial cable with the **CNL-911 Coax Cable Cutter** to get a good flush cut.

B. You want the coaxial cable to be round and not oval when viewed from the end. If the coaxial cable is slightly oval, gently use the **CNL-911** to round out the end of the coaxial cable.

C. Place the prepared coaxial cable end into the body of the **DXE-UT-8213** labeled "**1ST CUT**".

D. Firmly grip the coaxial cable and the **DXE-UT-8213**, turn the **DXE-UT-8213** in a clock wise direction while applying steady and slightly firm pressure. Grip the coaxial cable between your thumb and first finger, **close to the tool**.
To better hold the coaxial cable straight and make the coaxial cable easier to grip, use the DX Engineering Hinged Cable Gripper tool (DXE-CGH-8U). This patent pending two-piece red hinged cable gripper is custom made to fit and help you hold RG-213 or 8U sized coaxial cable when using the DXE-UT-8213 coaxial cable prep tool. The surfaces that contact the coaxial cable have horizontal grippers and on the outside of the tool, the knobby finish helps you maintain a sure grip on the coaxial cable being prepared. The two halves are connected together with a spring hinge to keep the tool in the right position and allow a sure grip every time.

Additionally, if the outer covering is older and dried out, it may stick inside the DXE-UT-8213. One suggestion is to put a very light coating of cooking oil or other similar lubricant on the coaxial cable outer covering for about 1", then insert it into the DXE-UT-8213.

Take care to keep the oil away from the exposed coaxial cable end.

Do not use any silicone based lubricant since the silicone may interfere with soldering.

E. As you turn the tool clockwise, the DXE-UT-8213 will begin cutting. Keep turning the tool in a clockwise direction until it will not cut anymore, the tool will eject the cut parts and stop cutting at the proper length.

Remove the coaxial cable from the DXE-UT-8213.
F. Turn the **DXE-UT-8213** around for the second cut. Insert the coaxial cable into the tool again.

![Image of DXE-UT-8213](image1.png)

G. Grip the cable between your thumb and first finger **close to the tool** and turn the tool in a clockwise direction. The **DXE-UT-8213** will begin cutting as you turn it. Keep turning the tool in a clockwise direction until it will not cut anymore. As you turn the tool, the tool will eject the cut outer insulation and stop cutting at the proper length.

![Image of DXE-UT-8213 in use](image2.png)

Remove the coaxial cable. Clean any excess cable cuttings from the tool.

H. You may want to trim back some of the braid on the coaxial cable slightly using the **DXE-170M** precision shear side cutters prior to installing the **DXE-PL259** PL-259 connector.

![Image of DXE-170M precision shear side cutters](image3.png)

I. Place the **PL-259 Collar** on the coaxial cable and slide it out of the way. Gently install the **PL-259** on the prepared coaxial cable ensuring the center conductor strands go into the center conductor of the **PL-259**.

![Image of PL-259 installation](image4.png)
J. Screw the patented *(US Patent No. 8,701,278 B2)* **DXE-UT-80P** Connector Assembly Tool onto the PL-259. Grip the coaxial cable firmly and turn the **DXE-UT-80P** Assembly Tool clockwise. The tool will assist in screwing the PL-259 onto the coaxial cable. When the center conductor is visible at the end of the PL-295 as shown below, the PL-259 is completely installed.

K. Remove the **DXE-UT-80P** Connector Assembly Tool and you're ready to solder the PL-259. This combination of DX Engineering tools allows perfect and easy connector installation every time.
Special Trimming when using the Two Piece Type N Connector

If you are using the **DXE-N1001-S** DX Engineering 2-piece Type N Connectors, you will need to trim the center conductor to a length of approximately 0.441”. This will allow the center conductor to seat properly in the gold center pin of the 2-piece Type N Connector.

Using the DXE-UT-80N with a two piece Type N Connector

Properly prepare the coaxial cable with the **DXE-UT-8213** Cable Stripping Tool and trim the center conductor as described above.

Place the prepared coaxial cable end into the body of the two piece Type N connector (**DXE-N1001-S**) and make sure all the strands of the center conductor of the cable are inserted into the center pin. Hold the coaxial cable and turn the **DXE-UT-80N** (US Patent No. 8,701,278 B2) clockwise to thread the Type N connector body onto the stripped cable end.

When the coaxial cable is fully seated, remove the tool. Check to see that the coaxial cable is fully seated in the connector by ensuring the shield is visible through the larger holes and the center strands are visible in the small hole of the center pin. If all is okay, you’re ready to solder the connections.
Using the DXE-UT-808X

The DXE-UT-808X has been designed and manufactured to properly prepare RG-8X sized coaxial cable for use with DXE-PL259 - PL-259 Silver Plated, PTFE Insulation PL-259 connectors and reducers, or the DXE-N1001-S - Type N Male, Silver Plated, PTFE Insulation two-piece Type N connector (requires a slight additional trimming of the cable center conductor length) and reducers.

The DXE-UT-808X has been tested with: DXE-8X, Belden 9258 RG-8/X

It is **not** intended for use with RG-8X look-a-like cables with soft 'squirmy' outer jackets or coaxial cable that has a second aluminum shield.

*The following instructions show typical operation using DXE-RG-8X coaxial cable.*

Items Used:

1. **DXE-UT-808X** Coaxial Cable Stripping Tool
2. **DXE-8X** Coaxial Cable
3. **DXE-PL-259** Coaxial Cable Connector with a DXE-UG176S - RG-8/X Reducer for PL-259
4. **CNL-911** Coaxial Cable Cutter
5. **DXE-170M** Precision Shear Side Cutters
6. Scissors
7. **TES-2155** Temflex™ 2155 Rubber Splicing Tape - Used for weatherproofing
8. **TES-06132** Scotch® Super 33+ Vinyl Electrical Tape - Used for weatherproofing
A. Cut the end of the coaxial cable with the **CNL-911 Coax Cable Cutter** to get a good flush cut.

![Image of CNL-911 Coax Cable Cutter and cut cable]

B. You want the coaxial cable to be round and not oval when viewed from the end. If the coaxial cable is slightly oval, gently use the **CNL-911** to round out the end of the coaxial cable.

![Image of CNL-911 Coax Cable Cutter and rounded cable]

C. Install the **PL-259 shell and the Reducer** on the coaxial cable and slide them out of the way.

![Image of PL-259 shell and Reducer]

D. Place the prepared coaxial cable end into the body of the **DXE-UT-808X labeled "1ST CUT"**.

![Image of DXE-UT-808X labeled "1ST CUT"]
E. Firmly grip the coaxial cable and the DXE-UT-808X, turn the DXE-UT-808X in a clockwise direction while applying steady and slightly firm pressure. Grip the coaxial cable between your thumb and first finger, keeping close to the tool.

If the outer covering is older and dried out, it may stick inside the DXE-UT-808X. One suggestion is to put a very light coating of cooking oil or other similar lubricant on the coaxial cable outer covering for about 1", then insert it into the DXE-UT-808X.

Take care to keep the oil away from the exposed coaxial cable end.

Do not use any silicone based lubricant since the silicone may interfere with soldering.

DX Engineering Hinged Coaxial Cable Grippers (DXE-CGH-8X) are available to help hold the coaxial cable and aid in keeping it straight when performing the cable preparation. This patent pending two-piece hinged green cable gripper is custom made to fit and help you hold 8X (sometimes called Mini 8) coaxial cable when using the DXE-UT-808X coaxial cable prep tool. The surfaces that contact the coaxial cable have horizontal grippers and on the outside of the tool, the knobby finish helps you maintain a sure grip on the coaxial cable being prepared. The two halves are connected together with a spring hinge to keep the tool in the right position and allow a sure grip every time.

F. As you turn the tool clockwise, the DXE-UT-808X will begin cutting the outer insulation. Ensure you are feeding the coaxial cable straight into the tool, not at an angle. Keep turning the tool in a clockwise direction until it will not cut anymore. As the tool is rotated clockwise, the tool will eject the cut outer insulation and stop cutting at the proper length.

Remove the coaxial cable from the DXE-UT-808X.
G. Fold the shield back over the outer insulation.

H. Turn the **DXE-UT-808X** around for the second cut. Insert the coaxial cable into the **DXE-UT-808X** tool.

I. Firmly grip the cable between your thumb and first finger **close to the tool** and turn the tool in a clockwise direction while applying steady and slightly firm pressure. Ensure you are feeding the coaxial cable straight into the tool, not at an angle. The **DXE-UT-808X** will begin cutting as you turn it. Keep turning the tool in a clockwise direction while applying steady and slightly firm pressure until it will not cut anymore. As you rotate the tool clockwise the tool will eject the cut center insulation and stop cutting at the proper length.

Remove the coaxial cable. Depending on the center insulator material, you may have to trim excess insulator material with a sharp knife. Clean any excess cable cuttings from the tool using a wooden or plastic tooth pick.
J. Slide the reducer up the coax to the end of the cut off outer insulation. Fold back the shield over the reducer as shown.

K. Using the **DXE-170M** precision shear side cutters, trim the shield even with the first thread on the reducer as shown below.

L. The PL-259 is now ready for installation. Gently screw the PL-259 on the reducer ensuring the center conductors go into the center conductor of the PL-259. The assembly is now ready to be soldered. This combination of DX Engineering tools allows perfect and easy connector installation every time.

The premium cutting blades supplied with the **DXE-UT-808X** will last a long time. If replacements are needed, order **DXE-UT-RB-HD** (7/64" Allen Wrench required).
Weatherproofing

Over the years many different methods have been used to weatherproof coaxial cable connections. Some worked, some did not. Once water or condensation enters your coaxial cable, it will ruin the coaxial cable or worse yet, cause shorting or high SWR conditions which could lead to permanent damage to your transmitter.

One type of coaxial connector sealing material is a gummy tar like substance that you wrap around the coaxial connector. This gummy substance works well, except when you try to remove it for maintenance or coaxial cable replacement, it can cause further problems. The gummy substance just doesn't come off cleanly and small bits of it may remain in the threads of PL-259's or SO-239's. These small bits of material are mini-insulators, and could cause intermittent operation.

The method described here uses a combination of two types of tape which not only protect your coaxial connection, but also allow easy removal for future maintenance.

The two products, available from DX Engineering, used are:

TES-2155 - 3M Temflex™ 2155 Rubber Splicing Tape.

Conformable self-fusing super stretchy rubber electrical insulating tape. It is designed for low voltage electrical insulating and moisture sealing applications. For outdoor use, it should be protected from UV deterioration with an overwrap of TES-06132

TES-06132 - Scotch® Super 33+.

Highly conformable tape for all weather applications. This tape provides flexibility and easy handling for all around performance. It also combines PVC backing with excellent electrical insulating properties to provide primary electrical insulation for splices up to 600V and protective UV resistant jacketing.

These tapes can be used indoors or outdoors. When used outdoors the temperature should be above freezing, and if it's raining, keep the assembly you are wrapping covered and dry while applying the tapes. Any airborne moisture such as fog, rain and snow may cause the tape to not stick properly, so take adequate precautions to protect the assembly you are weatherproofing.

Additionally, the coaxial cable and connectors should be clean and free of any moisture, dirt or other residues.
The only tool you will need for this procedure is a pair of scissors. The following example uses two pieces of coaxial cable with PL-259 connectors that are joined together with a short UHF barrel connector. This same method may be used on any connection you are weatherproofing.

A. Cut a piece of **TES-2155 - 3M Temflex™ 2155 Rubber Splicing Tape** long enough to complete the job you are doing. If the length you cut is too short, that's okay. You can add more where needed and it will not compromise the weatherproofing.

In this example a 15" length of the **TES-2155 - 3M Temflex™ 2155 Rubber Splicing Tape** was used to weatherproof two PL-259's tightly connected together with a short UHF barrel connector.

B. The **TES-2155 - 3M Temflex™ 2155 Rubber Splicing Tape** has a protective backing material so the tape will not stick to itself when on the roll. As shown below, peel this protective backing off of the length that you cut from the roll.
C. Starting at one end, hold the end of the cut length of **TES-2155** - 3M Temflex™ 2155 Rubber Splicing Tape in place about one inch before the end of the PL-259 and stretch it out until the width of the tape is about 50% as shown below.

![Starting](image)

**Starting**

D. While keeping the **TES-2155** - 3M Temflex™ 2155 Rubber Splicing Tape stretched, wrap the tape around the assembly and overlap the previous wrap by about 50%. Keep going until the complete assembly is covered, and go an extra inch beyond.

If the length you cut is too short for the entire assembly, that's okay. You can add more starting where the one piece ended (overlap it) and then continue on in the same manner described above.

![Stretched while overlapping wraps](image)

**Stretched while overlapping wraps**

This completes the first layer wrap. **TES-2155** - 3M Temflex™ 2155 Rubber Splicing Tape requires an added wrap of **TES-06132** - Scotch® Super 33+ tape for UV protection.
E. Starting about one inch before the previously installed 3M Temflex™ 2155 Rubber Splicing Tape start a wrap of the TES-06132 - Scotch® Super 33+ tape. While wrapping, overlap the previous wrap by about 50%. Use firm pressure while wrapping to ensure the tape is on flat and there are no wrinkles or open spots.

Keep wrapping the Scotch® Super 33+ tape until you are about an inch past the end of the previously installed 3M Temflex™ 2155 Rubber Splicing Tape. Use the scissors to cut the tape rather than stretching and breaking the tape.

Using these quality products and this method, the completed weatherproofing will be complete and reliable.
Removal of Weatherproofing

There comes a time when you have to separate the previously weatherproofed coaxial cable connections for maintenance or some other reason. This is when you will be glad you used the above method and DX Engineering supplied products to put on the weatherproofing!

A. Carefully cut the weatherproofing as shown. Be careful not to cut the coaxial cable, or your fingers. Peel the weatherproofing off and the assembly will look like new.

Looking at the removed weatherproofing, you can see the TES-2155 - 3M Temflex™ 2155 Rubber Splicing Tape fully conformed to your connector assembly and fully protected the connectors when properly applied as described in this guide.
Tool Kit Combinations and Tools available from DX Engineering

DXE-UT-KIT4 DX Engineering Complete Coax Cable Tool Kit
This cost-saving DX Engineering Complete Coax Cable Tool Kit provides a handsome, convenient carrying case furnished with DX Engineering coaxial cable prep tools and accessories. It features a rugged, lockable enclosure that is fitted with a precut foam insert with a home for each tool. Not only is this DX Engineering Complete Coax Cable Tool Kit perfect for helping you keep track of your DX Engineering tools, but it also makes them easy for you to carry from job to job.

Kit includes:
- DXE-UT-8213 - Stripping tool for RG-213 or RG-8 size cable
- DXE-CGH-8U - Coaxial Cable Gripper for RG-213 size cable
- DXE-UT-808X - Stripping tool for RG-8/X size cable
- DXE-CGH-8X - Coaxial Cable Gripper for RG-8 size cable
- DXE-UT-80P - PL-259 assembly tool
- DXE-UT-80N - Two-piece Type N connector assembly tool
- CNL-911 - Coaxial cable shears
- DXE-170M - Precision braid trimmers
- DXE-UT-HD-RB - Heavy duty stripping tool replacement blades
- 7/64” Allen Wrench
- DXE-UT-CASE - Custom made carry case with foam insert fitted with a precut foam insert with a specific position for each tool

Four Coaxial Cable Prep Tool Kits are available from DX Engineering:

<table>
<thead>
<tr>
<th>Tool Part Number</th>
<th>Tool Description</th>
<th>DXE-UT-KIT4</th>
<th>DXE-UT-KIT3</th>
<th>DXE-UT-KIT2-D</th>
<th>DXE-UT-KIT1-D</th>
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<tbody>
<tr>
<td>DXE-UT-8213</td>
<td>Red Stripping tool for RG-213 or RG-8 size cable</td>
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<td>DXE-UT-808X</td>
<td>Green Stripping tool for RG-8/X size cable</td>
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<td></td>
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<tr>
<td>DXE-CGH-8U</td>
<td>Red Hinged Coaxial Cable Gripper for RG-213 size cable</td>
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<td>DXE-UT-80P</td>
<td>Solder type PL-259 Assembly Tool</td>
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<td>CNL-911</td>
<td>Coaxial Cable Shears</td>
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<td>DXE-170M</td>
<td>Precision Braid Trimmers</td>
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<td>DXE-UT-HD-RB</td>
<td>Heavy Duty Stripping Tool Replacement Blades</td>
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<td>Allen Wrench</td>
<td>7/64” Allen Wrench</td>
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<tr>
<td>CASE *</td>
<td>Custom made Carry Case with foam insert fitted with a precut foam insert with a specific position for each tool</td>
<td>X*</td>
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</tr>
</tbody>
</table>

* Kit 4 & Kit 3 cases have extra cut out areas for the Hinged Cable Gripper Tools
A replacement foam insert for the KIT1-D and Kit2-D is available (DXE-UT-CASE-FOAM) that has the extra cut outs for the Hinged Cable Gripper tools.

DXE-UT-8213 - DX Engineering Coaxial Cable Stripping Tool
The DX Engineering Coax Cable Stripping Tool provides a new way to prepare your 50 ohm coaxial cable for the installation of solder type PL-259 (UHF-male) or 2-piece solder Type N connectors. This handy coaxial cable stripper works on foam or solid dielectric cables with a precision, 2-step operation. The DX Engineering stripper is made with premium, long-lasting tool steel cutter blades for clean coaxial cable preparation. The RED model DXE-UT-8213 prepares RG-213 type 0.405 inch OD cables. Please see the DX Engineering website for the latest list of coaxial cables that work with the DXE-UT-8213.
**DXE-UT-808X - DX Engineering Coaxial Cable Stripping Tool**
The DX Engineering Coaxial Cable Stripping Tool provides a new way to prepare your 50 ohm coaxial cable for the installation of solder type PL-259 (UHF-male) or 2-piece solder Type N connectors. This handy coaxial cable stripper works on foam or solid dielectric cables with a precision, 2-step operation. The DX Engineering stripper is made with premium, long-lasting tool steel cutter blades for clean coaxial cable preparation. The **GREEN** model DXE-UT-808X prepares smaller coaxial cables known as DXE-8X, RG-8X (Mini 8) sized coaxial cables. Please see the DX Engineering website for the latest list of coaxial cables that work with the DXE-UT-808X.

**DXE-UT-RB-HD - Premium Replacement Blades for DX Engineering and Cablematic Strippers**
This is a set of original equipment heavy duty, longer-lasting replacement blades for the DX Engineering DXE-UT-8213 and DXE-UT-808X coax cable strippers, and is a direct premium upgrade for the Cablematic UT-8000. The blades are held in place by a hex socket cap screw, no adjustment is needed. Use a customer supplied 7/64” Allen Wrench to change the blades.
- 2 blades per pack

**DXE-CGH-8U and DXE-CGH-8X - Hinged Coaxial Cable Grippers**
DX Engineering Hinged Coaxial Cable Grippers come in two versions. They are great new way to hold coaxial cable. The DXE-CGH-8U (Red color) innovative tool was designed to provide a dramatically improved grip on DXE-8U, DXE-400MAX, DXE-11U, DXE-213U or other RG-8 and 213 size coaxial cables. The DXE-CGH-8X (Green color) innovative tool was designed to provide a dramatically improved grip on DXE-8X, DXE-RG-6UQ, DXE-F6 cables and other RG-8X or RG-6 size coaxial cables. The Hinged Cable Grippers are ideal for use with the DXE-UT-8213 and the DXE-UT-808X Coaxial Cable Preparation Tools as well as the DXE-UT-80P and DXE-UT-80N Connector Installation Tools for two-piece solder on PL-259 and Type N Connectors. The patent pending two-piece Hinged Cable Grippers are custom made to fit and help you hold coaxial cable when using a wide variety of cable and connector tools as well as when soldering connectors. They are also excellent to use when installing crimp connectors. On the outside of the tools have a bumpy finish which you maintain a sure grip on the coaxial cable being prepared. Inside, their grooved surfaces grab the coaxial cable safely and allow a sure grip every time. The two halves are connected together with a spring hinge to keep the tool in the right position and allow a sure grip every time.

**DXE-UT-80P - Connector Assembly Tool for PL-259/RG-213-size Cable - (US Patent No. 8,701,278 B2)**
Originally introduced as the DXE-UT-80TN at Hamvention® 2008, this assembly tool allows simple threading of PL-259 sleeve onto the vinyl jacket of DXE-8U, DXE-11U, DXE-213U, RG-8/U, RG-213/U and other similar size cables. First strip the cable with the DXE-UT-8213 Cable Stripping Tool. Then, use this simple hand-gripped tool - forget about those pliers that scarred the connector and ripped off chunks of metal - and thread the connector body onto the stripped cable end. A visual guide at the end allows easy viewing of the cable center conductor for proper depth of installation. This tool allows a perfect and easy connector installation every time.

**DXE-UT-80N - Connector Assembly Tool for Type N/RG-213-size Cable - (US Patent No. 8,701,278 B2)**
This assembly tool allows simple threading of the two-piece Type N connector sleeve onto the vinyl jacket of DXE-8U, DXE-11U, DXE-213U, RG-8/U, RG-213/U and other similar size cables. First strip the cable with the DXE-UT-8213 Cable Stripping Tool and trim the center conductor length slightly to fit the center pin. Then, use this simple hand-gripped tool - forget about those pliers that scarred the connector and ripped off chunks of metal - and thread the connector body onto the stripped cable end. A visual guide at the end allows easy viewing of the cable center conductor for proper depth of installation. This tool allows a perfect and easy connector installation every time.
CNL-911 - Coax Cable Cutter
High quality CHANNELLOCK® cable cutters with blades designed to cut coaxial cable cleanly. The cut end of the cable is cleanly cut - ready for stripping and connector assembly.

DXE-170M - Precision Shear Side Cutters
After stripping coaxial cable, this is the perfect tool for trimming loose strands of copper braid or trimming individual strands of the center conductor - up to 20 AWG.
- Low profile, general-purpose cutter
- Superior blade by-pass shear cutting action
- Better cuts with half the effort
- Greatly reduced mechanical shock delivered to the work
- Features red grips
- Flush cuts soft wire up to 20 AWG (0.8 mm)

TES-06132 - Scotch® Super 33+ Vinyl Electrical Tape
Scotch® Super 33+ is highly conformable and super stretchy in all weather applications. This tape provides flexibility and easy handling for all around performance. It combines PVC backing with excellent electrical insulating properties to provide primary electrical insulation for splices up to 600V and protective jacketing. Recommended as a protective overwrap for TES-2155 rubber splicing tape in RF connector weatherproofing.

TES-2155 - Temflex™ 2155 Rubber Splicing Tape
3M Temflex™ 2155 Rubber Splicing Tape is a conformable self-fusing rubber electrical insulating tape. It is designed for low voltage electrical insulating and moisture sealing applications. For outdoor use, it should be protected from UV deterioration with an overwrap of TES-06132 Vinyl Electrical Tape.

DXE-PL259 - PL-259, Silver Plated, PTFE Insulation
This superior PL-259 connector uses silver plated outer and inner conductors and a PTFE insulator. The connector has very low loss and high electrical break down.
- Silver plated
- PTFE insulated
- Very low loss
- High electrical break down

DXE-N1001-S - Type N Male, Silver Plated, PTFE Insulation
This superior Type N male connector uses a silver plated shell, PTFE insulation and a gold-plated center pin. The connector has very low loss and constant impedance. Its two-piece construction allows for the same easy cable installation as a soldered PL-259.
- Silver plated
- PTFE insulated
- Very low loss
- Constant impedance

To fit RG58A/U and/or LMR195 coax, utilize this connector with a DXE-UG175 reducer
To fit RG8X coax, utilize this connector with a DXE-UG176S reducer

DXE-UG175S - RG-58A/U and LMR-195 Reducer for PL-259, Silver Plated
This reducer is utilized in conjunction with a PL-259 connector to fit RG58A/U and/or LMR195 coax.
- Silver plated - High electrical break down - Very low loss

DXE-UG176S - RG-8X Reducer for PL-259, Silver Plated
This reducer is utilized in conjunction with a PL-259 connector to fit RG8X coax.
- Silver plated - High electrical break down - Very low loss
DX Engineering RG-213/U MIL-Spec 50 ohm Coaxial Cable 213U

**DXE-213U**
- **DXE-213 - Bulk Cable - No Connectors - Sold by the foot**
- **DXE-213U-500**
- **DXE-213 - Bulk Cable - No Connectors - 500 foot length**

- Solid Polyethylene Dielectric
- A05 Type II-A jacket is non-contaminating and UV-resistant, suitable for outdoor use
- Direct-bury
- Braided copper shield
- Direct-bury

DX Engineering RG-213/U is a low-loss, 50 ohm, MIL-spec bulk coaxial cable with a non-contaminating Type II PVC jacket. Specially manufactured for DX Engineering, RG-213/U cable is perfect for outdoor use due to its excellent UV resistance and durability in direct-bury applications. Specially suited for high-power amateur stations, RG-213/U provides a lower loss solution for long cable runs at any power level. Featuring a solid polyethylene dielectric, DX Engineering RG-213/U uses standard PL-259 and N connectors normally designed for RG-8 sized cables.

### Attenuation/Power Efficiency Table

<table>
<thead>
<tr>
<th>Attenuation/100 ft</th>
<th>Power Rating</th>
<th>Efficiency %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4 dB @ 5 MHz</td>
<td>4.9 kW</td>
<td>90 %</td>
</tr>
<tr>
<td>0.5 dB @ 10 MHz</td>
<td>3.4 kW</td>
<td>87 %</td>
</tr>
<tr>
<td>1.0 dB @ 30 MHz</td>
<td>2.0 kW</td>
<td>79 %</td>
</tr>
<tr>
<td>1.3 dB @ 50 MHz</td>
<td>1.5 kW</td>
<td>73 %</td>
</tr>
<tr>
<td>2.4 dB @ 150 MHz</td>
<td>0.9 kW</td>
<td>57 %</td>
</tr>
</tbody>
</table>

### Velocity Factor

- 66% (0.66)

Minimum Bend Radius: 5"

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DX Engineering 8U Low-Loss RG-8U 50 ohm Coaxial Cable

**DXE-8U**
- **DXE-8U - Bulk Cable - No Connectors - Sold by the foot**
- **DXE-8U-500**
- **DXE-8U - Bulk Cable - No Connectors - 500 foot length**

- Low-loss, gas-injected foam polyethylene dielectric
- A05" high-flex PVC jacket
- Low-loss foam dielectric
- Braided copper shield

DX Engineering RG-8/U bulk coaxial cable is a low-loss corrected 50 ohm coaxial cable with a black vinyl jacket and foam polyethylene dielectric. Specially suited for high-power amateur stations, RG-8/U provides a lower loss solution for long cable runs at any power level. High reliability and low loss are key points when considering this cable. DX Engineering RG-8/U uses standard PL-259 and N connectors.

### Attenuation/Power Efficiency Table

<table>
<thead>
<tr>
<th>Attenuation/100 ft</th>
<th>Power Rating</th>
<th>Efficiency %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3 dB @ 5 MHz</td>
<td>5.4 kW</td>
<td>93 %</td>
</tr>
<tr>
<td>0.5 dB @ 10 MHz</td>
<td>4.1 kW</td>
<td>90 %</td>
</tr>
<tr>
<td>0.9 dB @ 30 MHz</td>
<td>2.2 kW</td>
<td>81 %</td>
</tr>
<tr>
<td>1.2 dB @ 50 MHz</td>
<td>1.8 kW</td>
<td>77 %</td>
</tr>
<tr>
<td>2.2 dB @ 150 MHz</td>
<td>1.0 kW</td>
<td>60 %</td>
</tr>
</tbody>
</table>

### Velocity Factor

- 81% (0.81)

Minimum Bend Radius: 6" Repeated Bends

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DX Engineering 8X 50 ohm Coaxial Cable (RG8-X or Mini-8)

**DXE-8X**
- **DXE-8X - Bulk Cable - No Connectors - Sold by the foot**
- **DXE-8X-1000**
- **DXE-8X - Bulk Cable - No Connectors - 1000 foot length**

- Low-loss, gas-injected foam polyethylene dielectric
- Very flexible; ideal for short, in-shack jumper cables
- .242 Type II jacket is non-contaminating and UV-resistant, suitable for outdoor use
- Direct-bury

DX Engineering RG-8X 50 ohm bulk coaxial cable is a low-loss, foam-dielectric, braided shield cable intended for moderate-power HF stations or mobile applications where short runs and flexibility are key factors. Slightly larger than RG-58 cable, DX Engineering RG-8X offers better handling characteristics, good shielding, and low loss. RG-8X uses PL-259 connectors with reducing adapters (sold separately).

### Attenuation/Power Efficiency Table

<table>
<thead>
<tr>
<th>Attenuation/100 ft</th>
<th>Power Rating</th>
<th>Efficiency %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6 dB @ 5 MHz</td>
<td>3.0 kW</td>
<td>86 %</td>
</tr>
<tr>
<td>0.9 dB @ 10 MHz</td>
<td>2.2 kW</td>
<td>81 %</td>
</tr>
<tr>
<td>1.4 dB @ 30 MHz</td>
<td>1.2 kW</td>
<td>69 %</td>
</tr>
<tr>
<td>2.0 dB @ 50 MHz</td>
<td>0.9 kW</td>
<td>62 %</td>
</tr>
<tr>
<td>3.8 dB @ 150 MHz</td>
<td>0.4 kW</td>
<td>42 %</td>
</tr>
</tbody>
</table>

### Velocity Factor

- 82% (0.82)

Minimum Bend Radius: 2.4"
**DXE-VPC-0677 - Black Vinyl Cap for PL-259, (0.677 in. OD) 20 Pack, (PL-259 Protector)**

These black vinyl caps are designed to fit over the end of a PL-259 connector, covering the connector shell and the center pin. Made from a strong UV rated material, they will withstand the abuse of nature and can keep dust and dirt out of your connectors.

- Black Vinyl Material - UV Rated
- Great for outside installation
- Will stretch to fit securely over a PL-259 connector or a nominal 0.677 in. OD Tube
- Length: 1-7/16 in.
- 20 pcs per pack

**DXE-15035 - DX Engineering 15035 Coax Cable Stripper**

The DX Engineering DXE-15035 Coax Cable Stripper is designed for stripping RG-8, RG-213 and similar size cable when the cable will not work with the DXE-UT-8213 due to variables in the coaxial cable manufacturing. Simple to operate, this stripper is preset to strip for standard solder type PL-259 connectors. The stripper includes a hex wrench for adjusting blade position and depth, allowing different stripping dimensions to customize the cut for various regular and crimp style connectors. DX Engineering DXE-15035 Coax Cable Strippers are molded from high impact plastic for long life in general-purpose use.

**Guide Updates**

Every effort is made to supply the latest guide revision. Occasionally a guide will be updated between the time your DX Engineering product is shipped and when you receive it. Please check the DX Engineering web site (http://www.dxengineering.com) for the latest revision guide.

**Technical Support**

If you have questions about this product, or if you experience difficulties during the installation, contact DX Engineering at (330) 572-3200. You can also e-mail us at: DXEngineering@DXEngineering.com

For best service, please take a few minutes to review this guide before you call.

**Warranty**

All products manufactured by DX Engineering are warranted to be free from defects in material and workmanship for a period of one (1) year from date of shipment. DX Engineering’s sole obligation under these warranties shall be to issue credit, repair or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer for replacement of parts, adjustment or repairs, or any other work, unless such charges are authorized in advance by DX Engineering. If DX Engineering’s products are claimed to be defective in material or workmanship, DX Engineering shall, upon prompt notice thereof, issue shipping instructions for return to DX Engineering (transportation-charges prepaid by Buyer). Every such claim for breach of these warranties shall be deemed to be waived by Buyer unless made in writing. The above warranties shall not extend to any products or parts thereof which have been subjected to any misuse or neglect, damaged by accident, rendered defective by reason of improper installation, damaged from severe weather including floods, or abnormal environmental conditions such as prolonged exposure to corrosives or power surges, or by the performance of repairs or alterations outside of our plant, and shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer’s specifications. In addition, DX Engineering’s warranties do not extend to other equipment and parts manufactured by others except to the extent of the original manufacturer’s warranty to DX Engineering. The obligations under the foregoing warranties are limited to the precise terms thereof. These warranties provide exclusive remedies, expressly in lieu of all other remedies including claims for special or consequential damages. SELLER NEITHER MAKES NOR ASSUMES ANY OTHER WARRANTY WHATSOEVER, WHETHER EXPRESS, STATUTORY, OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, AND NO PERSON IS AUTHORIZED TO ASSUME FOR DX ENGINEERING ANY OBLIGATION OR LIABILITY NOT STRICTLY IN ACCORDANCE WITH THE FOREGOING.

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