Coaxial Cable Preparation Tools Guide

DXE-UT-PREP-TOOLS-GUIDE-Revision 0

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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 type two piece Type N connectors using the various specialized tools manufactured by DX Engineering. These 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.

General Information

DX Engineering Coax Cable Stripping Tools provide a new way to prepare your 50 ohm coax cable for the installation of solder 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, DXE-400MAX, RG-213, RG-8, Belden 8267, 8214 and 8237, and LMR-400.**

The **GREEN** model **DX-UT-808X** prepares smaller coaxial cables such as **DXE-8X, RG-8X (mini 8), Belden 9258 and LMR-240.**
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 LMR-400UF Ultraflex) 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**
- **DXE-400MAX**
  - Belden 8213 RG11/U
  - Belden 8214 RG-8 foam
  - Belden 8237 RG-8/U
  - Belden 8267* RG-213/U
  - Belden 9913 low-loss RG8 type (spiral dielectric material)
  - Belden 9913F7* low-loss RG8 type, high-flex
  - Davis RF "Bury Flex"
  - LMR 400 Times Microwave

* Belden 8267 and Belden 9913F7: Some cable labeled as Belden 9913F7 (and also Belden 8267) which has a very "squirmy" 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.

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. Golf Glove
7. Scissors
8. **DXE-UT-80P** Connector Assembly Tool for PL-259/RG-213-size Cable
9. **DXE-3M2155** Temflex™ 2155 Rubber Splicing Tape - Used for weatherproofing
10. **TRM-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.

   This is especially important when preparing DXE-400MAX - the coaxial cable must be round and tight. If not, the center strands will not fit properly into a PL-259 center conductor and will bend and may short to ground.

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.
If your coaxial cable is older, your grip is not good, or the outer insulation is slightly larger in diameter, a golf glove may help you get a better grip on the coaxial cable.

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.

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.

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.

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**.
J. Screw the patent pending **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.

![DXE Engineering tool images](image)

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.

![DXE Engineering tool close-up image](image)
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 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, LMR-240

It is **not** intended for use with RG-8X look-a-like cables with soft 'squirmy' outer jackets.

*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. **DXE-3M2155** Temflex™ 2155 Rubber Splicing Tape - Used for weatherproofing
8. **TRM-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. Install the PL-259 shell and the Reducer on the coaxial cable and slide them out of the way.

D. Place the prepared coaxial cable end into the body of the **DXE-UT-808X** labeled "**1ST CUT**".
E. Firmly grip the coaxial cable and the **DXE-UT-808X**, turn the **DXE-UT-808X** in a clock wise direction while applying steady and slightly firm pressure. Grip the coaxial cable between your thumb and first finger, **keeping close to the tool**.

![Image of DXE-UT-808X tool](image1)

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.**

![Image of DXE-UT-808X tool](image2)

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.

![Image of DXE-UT-808X tool](image3)

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. Clean any excess cable cuttings from the tool.
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** (customer supplied 7/64” Allen Wrench required).
Information about Times Microwave LMR-240

When using the DXE-UT-808X coaxial cutting tool with LMR-240, the tool may leave a bit of insulation on the inner conductor. If this occurs, gently trim the inner insulation as needed. The more you practice, the better your final results will be.
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 pretty good, 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:

DXE-3M2155 - 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 TRM-06132.

TRM-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 **DXE-3M2155 - 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 **DXE-3M2155 - 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 **DXE-3M2155 - 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 **DXE-3M2155** - 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

![Stretched while overlapping wraps](image)

Stretched while overlapping wraps

D. While keeping the **DXE-3M2155** - 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.

![DX Engineering](image)

This completes the first layer wrap. **DXE-3M2155** - 3M Temflex™ 2155 Rubber Splicing Tape requires an added wrap of **TRM-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 TRM-06132 - Scotch® Super 33+ tape. While wrapping, over lap 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 DXE-3M2155 - 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.
On-Line Instructional Videos

DX Engineering has a number of instructional videos that you can view on-line that show products used in this guide as well as other informative videos.

DX Engineering also has an area on YouTube where videos are posted.

You can view the videos at the DX Engineering website in the Technical Support section at this link:

http://www.dxengineering.com/techarticles/miscinfo/dx-engineering-videos

In the Technical Support section of the DX Engineering website you'll find the following videos that will help you to better understand the use of the tools described in this guide:

- **DXE-11U Coaxial Cable being prepared using the DXE-UT-8213 Coaxial Cable Preparation Tool.**
- **DXE-213U Coaxial Cable being prepared using the DXE-UT-8213 Coaxial Cable Preparation Tool.**
- **DXE-400MAX Coaxial Cable being prepared using the DXE-UT-8213 Coaxial Cable Preparation Tool.**
- **DXE-8U Coaxial Cable being prepared using the DXE-UT-8213 Coaxial Cable Preparation Tool.**
- **DXE-8X Coaxial Cable being prepared using the DXE-UT-808X Coaxial Cable Preparation Tool.**
- **DXE-UT-80N - 2 piece N Connector Installation Tool**
- **DXE-UT-80P - PL-259 Installation Tool**
- **DXE-UT-8213 - Coaxial Cable Prep Tool**
- **Replacing Blades in the DXE-UT-808X and DXE-UT-8213 Coax Prep Tools.**
- **Weatherproofing Coaxial Connectors**
Tool Kit Combinations and Tools available from DX Engineering

**DXE-UT-KIT2-D - 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-UT-808X** - Stripping tool for RG-8/X 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
- **DXE-UT-CASE** - Custom made carry case with foam insert fitted with a precut foam insert with a specific position for each tool

**DXE-UT-KIT1-D - DX Engineering Basic Coax Cable Tool Kit**
This cost-saving DX Engineering Basic Coax Cable Tool Kit provides a handsome, convenient carrying case furnished with three of the most-used 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 Basic Coax Cable tool kit perfect for helping you keep track of your DX Engineering tools, but it also makes it 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-UT-80P** - PL-259 assembly tool
- **CNL-911** - Coaxial cable shears
- **DXE-UT-CASE** - Custom made carry case with foam insert fitted with a precut foam insert with a specific position for each tool

**DXE-UT-CASE - DX Engineering Coax Cable Prep Tool Case**
If you already own one or several of our cable prep tools, you can store them in this DX Engineering Coax Cable Prep Tool Case. It will hold all of your DX Engineering coaxial cable prep tools and is fitted with a precut foam insert with a specific position for each tool.
**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 0.405 inch OD cables: DXE-213U, DXE-8U, DXE-11U, DXE-400MAX, LMR-400, RG-213, RG-8, Belden 8267, 8214 and 8237. 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), Belden 9258 and LMR-240. 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-UT-80P - Connector Assembly Tool for PL-259/RG-213-size Cable - patent pending**

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**, **DXE-400MAX**, RG-8/U, RG-213/U, LMR-400 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 - patent pending**

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**, **DXE-400MAX**, RG-8/U, RG-213/U, LMR-400 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)

TRM-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 DXE-3M2155 rubber splicing tape in RF connector weatherproofing.

DXE-3M2155 - 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 TRM-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-UGI75 reducer
  To fit RG8X coax, utilize this connector with a DXE-UGI76S 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

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, 400MAX, 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.
DX Engineering Coaxial Cable

DX Engineering 400MAX Low-Loss 50 ohm Coaxial Cable

<table>
<thead>
<tr>
<th>DXE-400MAX</th>
<th>DXE-400MAX - Bulk Cable - No Connectors - Sold by the foot</th>
<th>DXE-400MAX Low-Loss Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-400MAX-500</td>
<td>DXE-400MAX - Bulk Cable - No Connectors - 500 foot length</td>
<td>Low-loss, gas-injected foam polyethylene dielectric bonded tape foil covered by a braided copper shield</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.405&quot; low-density polyethylene jacket is UV resistant, ideal for outdoor use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct bury</td>
</tr>
</tbody>
</table>

DX Engineering 400MAX is premium, low-loss, 50 ohm bulk cable with a special Type III-A, UV-resistant polyethylene jacket that is ideal for outdoor applications, particularly direct-bury. With its larger 10 AWG stranded copper center conductor, 400MAX is specially suited for high-power amateur stations, providing a lower loss solution for long cable runs at any power level. The high-quality construction continues with a gas-injected foam polyethylene dielectric, followed by the highest level of shielding from bonded aluminum tape covered by a tinned copper shield braid. DX Engineering 400MAX Low-Loss 50 ohm Bulk Coaxial Cable uses standard PL-259 or N connectors.

<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>6.9 kW</td>
<td>93 %</td>
</tr>
<tr>
<td>0.5 dB @ 10 MHz</td>
<td>4.8 kW</td>
<td>90 %</td>
</tr>
<tr>
<td>0.8 dB @ 30 MHz</td>
<td>2.8 kW</td>
<td>83 %</td>
</tr>
<tr>
<td>1.1 dB @ 50 MHz</td>
<td>2.1 kW</td>
<td>79 %</td>
</tr>
<tr>
<td>1.8 dB @ 150 MHz</td>
<td>1.2 kW</td>
<td>65 %</td>
</tr>
<tr>
<td>3.3 dB @ 450 MHz</td>
<td>0.7 kW</td>
<td>47 %</td>
</tr>
</tbody>
</table>

Velocity Factor: 84% (0.84)
Minimum Bend Radius: 6" Repeated Bends
2.5" Fixed Install

**Gas-Injected Foam Won’t Absorb Water**

DX Engineering RG-213/U MIL-Spec 50 ohm Coaxial Cable 213U

<table>
<thead>
<tr>
<th>DXE-213U</th>
<th>DXE-213 - Bulk Cable - No Connectors - Sold by the foot</th>
<th>DXE-213U MIL-Spec Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-213U-500</td>
<td>DXE-213 - Bulk Cable - No Connectors - 500 foot length</td>
<td>Solid Polyethylene Dielectric</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.405 Type II-A jacket is non-contaminating and UV-resistant, suitable for outdoor use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct-bury</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Braided copper shield</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct-bury</td>
</tr>
</tbody>
</table>

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.

<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>0.6 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'
### DX Engineering 8U Low-Loss RG-8U 50 ohm Coaxial Cable

<table>
<thead>
<tr>
<th>DXE-8U</th>
<th>DXE-8U - Bulk Cable - No Connectors - Sold by the foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-8U-500</td>
<td>DXE-8U - Bulk Cable - No Connectors - 500 foot length</td>
</tr>
</tbody>
</table>

Gas-Injected Foam Won’t Absorb Water

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

<table>
<thead>
<tr>
<th>Attenuation/Power Rating/Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3 dB @ 5 MHz</td>
</tr>
<tr>
<td>0.5 dB @ 10 MHz</td>
</tr>
<tr>
<td>0.9 dB @ 30 MHz</td>
</tr>
<tr>
<td>1.2 dB @ 50 MHz</td>
</tr>
<tr>
<td>2.2 dB @ 150 MHz</td>
</tr>
</tbody>
</table>

Minimum Bend Radius: 6” Repeated Bends
2.5” Fixed Install

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.

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

<table>
<thead>
<tr>
<th>DXE-8X</th>
<th>DXE-8X - Bulk Cable - No Connectors - Sold by the foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-8X-1000</td>
<td>DXE-8X - Bulk Cable - No Connectors - 1000 foot length</td>
</tr>
</tbody>
</table>

Gas-Injected Foam Won’t Absorb Water

- 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

<table>
<thead>
<tr>
<th>Attenuation/Power Rating/Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6 dB @ 5 MHz</td>
</tr>
<tr>
<td>0.9 dB @ 10 MHz</td>
</tr>
<tr>
<td>1.4 dB @ 30 MHz</td>
</tr>
<tr>
<td>2.0 dB @ 50 MHz</td>
</tr>
<tr>
<td>3.8 dB @ 150 MHz</td>
</tr>
</tbody>
</table>

Minimum Bend Radius: 2.4’
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.

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