Higher Efficiency—Better Mobile Signal!

DX Engineering Mobile Antennas and accessories provide the highest efficiency under the less-than-optimium environment presented by a mobile antenna installation. Generally speaking, a standard passenger vehicle does not provide an adequate ground plane for HF band operation. It is also a potential noise generator thanks to its multiple electrical systems and computers. Any steps that can be taken to maximize RF current flow in the vertical radiator will pay handsomely in improved signals and more pleasurable mobile operation. Noise reduction will greatly improve receiving as well.

Hustler Standard and Super Resonators and Parts

Individual Hustler Resonators are available for 10, 12, 15, 17, 20, 30, 40, 75, and 80 meters. The standard resonators can handle 400 watts Peak Envelope Power (PEP). The Super Resonators can handle 1 kW PEP and have slightly more bandwidth. They are available for 40 and 80 meters.

Use these resonators with Hustler’s mounts, mobile masts, and other accessories to build a custom mobile antenna. Use DX Engineering Hot Rodz™ capacity hats and other accessories with these resonators to improve antenna efficiency.

HSR-RM-10 10 Meter Hustler HF Resonator, 150-250 kHz $15.75
HSR-RM-12 12 Meter Hustler HF Resonator, 100-150 kHz $15.75
HSR-RM-15 15 Meter Hustler HF Resonator, 100-150 kHz $15.75
HSR-RM-17 17 Meter Hustler HF Resonator, 120-150 kHz $21.75
HSR-RM-20 20 Meter Hustler HF Resonator, 80-100 kHz $21.75
HSR-RM-30 30 Meter Hustler HF Resonator, 50-60 kHz $24.75
HSR-RM-40 40 Meter Hustler HF Resonator, 40-50 kHz $24.75
HSR-RM-40S 40 Meter Super HF Resonator, 50-80 kHz $35.75
HSR-RM-80 80 Meter Hustler HF Resonator, 25-30 kHz $28.75
HSR-RM-80S 80 Meter Super HF Resonator, 50-60 kHz $48.75

Fittings are available to add resonators or a Hot Rodz™ Capacity Hat system. Visit DXEngineering.com for complete details.

DXE-MM-1 Antenna Auto-Transformer $28.95
DXE-MM-2 Heavy-Duty Stainless Steel Ball Mount, 2” diameter $28.95
DXE-MM-3 Stainless Steel Spring, 3” $26.95
DXE-LS-14-144 12’ RG-58/PL-259 to Lugs, coax to ball mount $12.00
DXE-VP-1 Tri-Band Adaptor for HF Mobile Antenna $6.95
DXE-QD-2 Stainless Steel Quick Disconnect, 3/8” x 24 threads $21.35
DXE-RSS-2 Stainless Steel “Resonator” Impact Spring $12.95
DXE-MBM Super Magnetic Mount, 16” coax, 3/8-24 antenna $21.50

Aluminum Masts and Couplers

DX Engineering 1/2 inch O.D., 0.084 inch wall aluminum masts are available in lengths from 24 to 72 inches. Both ends are tapped to standard 3/8-24 threads to fit common accessories. Couple two masts together with our fittings to make your ideal length.

Fittings are available to add resonators or a Hot Rodz™ Capacity Hat to the top of the antenna.

DXE-MT-24 24” Aluminum Mast $19.95
DXE-MT-36 36” Aluminum Mast $23.95
DXE-MT-48 48” Aluminum Mast $27.95
DXE-MT-60 60” Aluminum Mast $31.95
DXE-MT-72 72” Aluminum Mast $35.95

DXE-SMTCF-1 Coupler, 3/8” x 24 at both ends, hex center $5.95
DXE-SMTHRF-1 Coupler, 3/8” x 24 at both ends, hex center with shoulder $6.95
HSR-QD-2 Hustler Stainless Steel Quick Disconnect, 3/8” x 24 $21.35
HSR-MO-2 Hustler 54” Folding Mast for fender/bumper mount $31.75

Use the HSR-QD-2 Quick Disconnect to quickly disconnect one mast from another. The HSR-MO-2 Folding Mast allows quick change of Hustler resonators.

RFI Suppression Beads

DX Engineering has selected the best RFI suppression beads for reducing cable-conducted ignition, fuel injector, or other electrical noise in your mobile HF installation. We have observed a 3 S-unit improvement in many cases using these beads. The beads snap around wire or cable, and are useful in your home installation as well. The combo pack has four of the 0.275 inch diameter beads and two of each of the 0.525 inch and 0.750 inch diameter beads.

DXE-CSB-COMBO RFI Suppression Beads Combo Pack $35.95
DXE-CSB-275P 0.275” RFI Suppression Beads, pack of 10 $23.25
DXE-CSB-525P 0.525” RFI Suppression Beads, pack of 5 $22.25
DXE-CSB-750P 0.750” RFI Suppression Beads, pack of 5 $25.80

Mobile Antenna Mounts

HSR-SSM-2 Heavy-Duty Stainless Steel Ball Mount, 2” diameter $28.95
HSR-SSM-3 Stainless Steel Spring, 3” $26.95
HSR-L-14-144 12’ RG-58/PL-259 to Lugs, coax to ball mount $12.00
HSR-VP-1 Tri-Band Adaptor for HF Mobile Antenna $6.95
HSR-QD-2 Stainless Steel Quick Disconnect, 3/8” x 24 threads $21.35
HSR-RSS-2 Stainless Steel “Resonator” Impact Spring $12.95
HSR-MBM Super Magnetic Mount, 16” coax, 3/8-24 antenna $21.50

Hot Rodz™ Capacity Hat for Hustler Mobile Antennas

This fully adjustable system attaches directly to your Hustler HF antenna. Hot Rodz improves efficiency, allowing the use of a smaller loading coil for a given frequency band. Other benefits include wider bandwidth and the ability to use a single coil on multiple bands. The Hot Rodz Capacity Hat comes with a precision-machined 6061-T6 aluminum hub with stainless steel set screws and six each of 6 inch, 12 inch, and 24 inch stainless steel rods with slide-on ends that reduce wind-generated static.

DXE-HR-1P Hot Rodz Capacity Hat for Hustler mobile antennas $79.95

Hot Rodz™ Capacity Hat for Screwdriver Antennas

This fully adjustable system attaches directly to any screwdriver antenna. Hot Rodz allows you to remove the long whip from your antenna while increasing efficiency, so you can use less coil for any given frequency. The Hot Rodz Capacity Hat comes with a 22 inch tall mast, and six each of the 6 inch, 12 inch and 24 inch stainless steel rods with slide-on ends that reduce wind-generated static.

DXE-HR-2P Hot Rodz Capacity Hat for Screwdriver Antennas $99.95

Hot Rodz™ Capacity Hat Components

Increase the efficiency of your own shortened antenna by building your own Hot Rodz Capacity Hat system. Visit DXEngineering.com for complete details.

DXE-HRHUB-1P Hot Rodz Hub, smooth bore with set screws $27.50
DXE-HRHUB-2P Hot Rodz Hub, threaded bore $28.95
DXE-RD00-48P Hot Rod 48” Stainless Steel Rods $29.95
DXE-RD00-36P Hot Rod 36” Stainless Steel Rods $23.75
DXE-RD00-60P Hot Rod 60” Stainless Steel Rods $31.25
DXE-RD00-72P Hot Rod 72” Stainless Steel Rods $34.95

MM-1 Auto-Transformer Antenna Auto-Transformer

This unbalanced to unbalanced (UNUN) impedance transformer matches a 50 Ω to 25 Ω or 12.5 Ω connection. Use it to get a better match between a feedline and a typical mobile antenna. It works well with Hot Rodz™ Capacity Hat-equipped antennas.

DXE-MM-1 Antenna Auto-Transformer $109.95

Exhaust System Grounding Kit

Many modern vehicles have separate fuel injectors and spark coils for each cylinder. These units can create substantial pulses on the vehicle wiring. Because the exhaust system is bolted directly to the engine and supported by insulated mounts, it can be excited just like an antenna and radiate pulse noise. By using one of our Exhaust Grounding Kits, you may eliminate that last bit of stubborn noise in your mobile installation. The kit includes a stainless steel saddle clamp and stainless steel hardware.

DXE-EGK-200 Grounding Kit for 2” exhaust pipe $20.95
DXE-EGK-225 Grounding Kit for 2.25” exhaust pipe $22.95
DXE-EGK-250 Grounding Kit for 2.5” exhaust pipe $26.95
DXE-EGK-300 Grounding Kit for 3” exhaust pipe $28.95

Mail: P.O. Box 1491, Akron, OH 44309 E-Mail: DXEngineering@DXEngineering.com Web: DXEngineering.com
**Aluminum Tubing**

Custom-made for DX Engineering, this high strength Type 6063-T832 seamless drawn aluminum tubing is available in 3 and 6 foot lengths—ideal for your antenna projects. Type 6063 alloy provides good resistance to general corrosion, including stress corrosion cracking, and has excellent surface appearance.

Use the 3 foot lengths for fast taper, low wind resistance applications. The 6 foot slow taper lengths afford the greatest bandwidth. Most sizes are slit on one end for use with DX Engineering Stainless Steel Element Clamps. If unslit ends are required for your application, merely insert the slit end into the next larger size in the stack and use your own attachment method.

The 0.058 inch wall tubing is available in 1/8 inch increments from 3/8 inch to 2 1/8 inch O.D. It is ideal for a free, yet solid telescoping fit from size to size for vertical or Yagi elements. Some larger sizes are available in 0.120 inch wall, 6061-T8 aluminum, which assures maximum strength at very long assembly lengths.

- High strength Type 6063 seamless aluminum tubing—drawn, not extruded
- Ideal for telescoping antenna elements, support masts, and booms
- Available in unslit and pre-slit lengths
- Use DX Engineering Stainless Steel Element Clamps to assemble lengths of slit tubing

### 6061-T8 Aluminum Tubing, 0.120" Heavy Wall, Unslit—Ideal for Booms and HD Element Designs!

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DX Engineering Has Stainless Steel Element Clamps for Exact Tubing Sizes! See DXEngineering.com for specs and additional tubing.

### Telescoping Aluminum Antenna Kit

- Eleven telescoping sections from 2" to 7/8" O.D.
- Stainless steel element clamps

#### DX-ATK6S Telescoping Aluminum Antenna Kit
- $194.50

#### DX-VE-BASE Vertical Antenna Fixed Base Assembly
- $99.50

#### DX-VA-BASE Vertical Antenna heavy-duty Tilt Base Assembly
- $159.50

### DX Engineering Fiberglass Tubing

DX Engineering 1/8" wall extruded fiberglass tubing is available in telescoping lengths. The strong 8 foot lengths are ideal for building your own antenna support, like quad spreaders and insulated UHF stacking frames—even push-up masts! The optional slit ends are ideal for clamping without drilling (drilling weakens the tubing). Don’t forget DX Engineering Stainless Steel Element Clamps for a final, long-lasting assembly or easy-to-assemble portable installation.

**Telescoping Fiberglass Tubing**

- 1/8" nominal wall x 8 feet long

#### Unslit Tubing

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#### Tubing with 1 End Silt

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**50 Ft. Telescoping Fiberglass Tubing Mast Kit**

- Custom-made tubing for DX Engineering
- Smoothly telescoping sections
- Neutral light gray color
- Includes DX Engineering Stainless Steel Element Clamps to assemble silt lengths

<table>
<thead>
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<th>Price</th>
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**DX Engineering 1/8" Wall Aluminum Tubing**

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**DX Engineering 1/4" Wall Aluminum Tubing**

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**DX Engineering Stainless Steel Element Clamps**

- HD Element Designs!

<table>
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<tr>
<th>Model</th>
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<tbody>
<tr>
<td>DXE-ATK6S</td>
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<tr>
<td>DXE-VE-BASE</td>
<td>$99.50</td>
</tr>
<tr>
<td>DXE-VA-BASE</td>
<td>$159.50</td>
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</table>
Stainless Steel Element Clamps

Typical elements are built using 0.058 inch wall tubing, which allows successive sizes to slide together with good contact. These clamps are used to hold the telescoping tubing in place at the length that you have chosen. Our clamps are marine grade—they are made entirely of stainless steel, unlike the normal hardware store variety. The high nickel alloy stainless steel meets the demands of severe corrosive environments.

- DXE-ECLS-150 Band Clamps with Stud, 1.500” O.D. tube ................pack of 2
- DXE-ECLS-325 Band Clamps with Stud, 3.250” O.D. tube ...............pack of 2
- DXE-ECLS-125 Band Clamps with Stud, 1.250” O.D. tube ...............pack of 2
- DXE-ECLS-087 Band Clamps with Stud, 0.875” O.D. tube ...............pack of 2
- DXE-ECLS-225 Band Clamps with Stud, 2.250” O.D. tube ...............pack of 2
- DXE-ECLS-075 Band Clamps with Stud, 0.750” O.D. tube .................pack of 2
- DXE-ECLS-050 Band Clamps with Stud, 0.500” O.D. tube .................pack of 2

Assembly of components, attachment of signs, etc. Threaded for electrical connections (including grounding) or for mechanical fastening to round or odd-shaped members. The clamps can be used entirely of stainless steel, unlike the normal hardware store variety. The high nickel alloy stainless steel meets the demands of severe corrosive environments.

ECLS-Series Band Clamps with Stud

The ECLS-Series clamps are marine grade stainless steel with a stainless steel meets the demands of severe corrosive environments.

- DXE-ECL-44SS Clamp for 3.25” max tube...................
- DXE-ECL-40SS Clamp for 2.875” and 3.000” tube.......
- DXE-ECL-36SS Clamp for 2.625” and 2.750” tube.......
- DXE-ECL-32SS Clamp for 2.375” and 2.500” tube.......
- DXE-ECL-20SS Clamp for 1.625” and 1.750” tube.......
- DXE-ECL-16SS Clamp for 1.375” and 1.500” tube.......
- DXE-ECL-10SS Clamp for 1.00” tube...........................
- DXE-ECL-060 Clamp for 0.750” and 0.875” tube.......
- DXE-ECL-040 Clamp for 0.625” tube.........................
- DXE-ECL-020 Clamp for 0.500” and smaller tube.....

Stainless Steel Element Clamps

DXE-ECL-050 Clamp for 0.500” and smaller tube..............

Hardware is included. They’re sold in packs of two.

Black Vinyl Caps

These black vinyl caps are designed to fit over the end of tubing or pipe to keep moisture out. Open vertical tubing serves as a collection point for rain water. By keeping water out of the tube end, you reduce corrosion and prevent any collected water from bursting the tubing when it freezes. They are also perfect for sealing off booms and Yagi antenna elements. Made from a strong UV-rated material, our caps will withstand the abuse of nature and keep your installation safe and looking good for years.

- DXE-VC-3000 For 3” O.D. tube, 2 per pack........................................................
- DXE-VC-2750 For 2 3/4” O.D. tube, 2 per pack .................................................
- DXE-VC-2375 For 2 3/8” O.D. tube, 2 per pack .................................................
- DXE-VC-2125 For 2 1/8” O.D. tube, 2 per pack .................................................
- DXE-VC-1875 For 1 7/8” O.D. tube, 4 per pack .................................................
- DXE-VC-1650 For 1 1/2” O.D. tube, 6 per pack ..............................................
- DXE-VC-1375 For 1 3/8” O.D. tube, 10 per pack ............................................
- DXE-VC-1312 For 1 5/16” O.D. tube, 10 per pack. ...........................................
- DXE-VC-1250 For 1 1/4” O.D. tube, 10 per pack ............................................
- DXE-VC-1125 For 1 1/8” O.D. tube, 10 per pack ............................................
- DXE-VC-1000 For 1” O.D. tube, 10 per pack ..................................................
- DXE-VC-0750 For 3/4” O.D. tube, 10 per pack ..................................................
- DXE-VC-0625 For 5/8” O.D. tube, 20 per pack ..................................................
- DXE-VC-0500 For 1/2” O.D. tube, 20 per pack ..................................................
- DXE-VC-0375 For 3/8” O.D. tube, 20 per pack ..................................................
- DXE-VC-0250 For 1/4” O.D. tube, 20 per pack ..................................................
- DXE-VC-0125 For 1/8” O.D. tube, 20 per pack ..................................................

Software enables you to analyze your designs and determine if the materials you have selected are up to the task. Call it good design to prevent regular failures and repairs. Call it peace-of-mind at an affordable price. We call it Yagi Mechanical!

Yagi Mechanical is a Windows® program, so the graphic user interface should be very familiar.

- DXE-SOF-YAGIMECH Yagi Mechanical® Antenna Design Software.............$39.95
- DXE-SOF-YMIKEY Yagi Mechanical® Key Code Only. .........................$39.95
- DXE-SOF-YMIDISC Yagi Mechanical® Backup CD only......................$20.95

FREE trial version at DXEngineering.com!

If you are interested in Yagi Mechanical, you can download a trial version FREE! The save, print, and update functions are disabled, but the rest of the program is fully functional, allowing you to try everything before you buy.

Yagi Mechanical®
Antenna Design Software

Yagi Mechanical® is a tool for anyone who designs their own antennas or is interested in modeling an antenna they already own. Electrical design is the first and foremost in crafting a useful antenna, but the mechanical side of things is also critical. After all, what good is a great performing antenna if the wind is going to break the elements when you put it up on a tower?

DX Engineering’s Yagi Mechanical® Antenna Design Software enables you to analyze your designs and instantly see where a failure could occur. Whether you use it to find weak points in old designs or to start brand new designs with robust mechanical properties, Yagi Mechanical will provide you with the tools you need to test your elements for wind and ice, to balance weight and torque on the boom, and determine if the materials you have selected are up to the task.

Call it good planning for the kind of stress your antennas are going to see. Call it smart design to prevent regular failures and repairs. Call it peace-of-mind at an affordable price. We call it Yagi Mechanical!
DX Engineering is famous for its Saddle Clamps—the ones with stainless steel U-bolts or V-bolts and matching cast aluminum saddles. Our U-bolts are the exact size for inch-sized tubing O.D.; the saddles feature an as-cast roughness that keeps the tube from sliding.

Our Super Duty Saddle Clamps are designed for applications where maximum torque is needed to control large or unbalanced antenna arrays, or for other applications where other torque control products have proven inadequate.

DX Engineering U-Bolt Saddle Clamps

Our U-Bolt Saddle Clamps are ideal for use with round tubing. Unlike common hardware store clamps that are sized to fit pipe, our clamps are designed and sized to fit tubing. The U-Bolt Saddle Clamps come with high strength, 18-8 grade stainless steel U-bolts that are long enough to attach tubing or components to thick mounting plates. The U-bolts are available in 1/4 inch, 5/16 inch and 3/8 inch as listed. Note that the 2 inch, 2.5 inch and 3 inch clamps are available with either 5/16 inch or 3/8 inch U-bolts.

The U-Bolt Saddle Clamps are cast from high strength 535 aluminum, which has superior anti-corrosion properties. Unlike stamped or machined types, the saddles’ rippled surface grips tubing closely for a secure fit.

The U-Bolt Saddle Clamps are designed for use with mounting plates, which are available separately. The clamps are sold only as a set with aluminum saddle, stainless steel U-bolts, nuts, flat washers and lock washers.

The use of a lubricant and sealant, such as Never-Seez®, is highly recommended to achieve proper torque and prevent galling.

DX Engineering U-Bolt Saddle Clamps Have 100s of Uses—DX Engineering U-Bolt, V-Bolt, and Band Clamps are very versatile. For example, we’ve seen the ECLS Studded Band Clamps used to fasten merchandise display signs to upright tubing. Have you used DX Engineering clamps for other, non-antenna projects? We’d love to know about it—drop us a note and send pictures if you have them!

DX Engineering V-Bolt Saddle Clamps

Our V-Bolt Saddle Clamps are sized to fit ranges of tubing. The V-bolts are long enough to attach tubing or components to thick plates and are highly corrosion-resistant. The V-Bolt Saddle Clamps are designed for use with a backing plate or mounting plate to retain the bolt spacing. The saddles’ rippled surface will clamp tubing securely to a flat surface.

Features
- 18-8 stainless steel V-bolts with nuts, flat washers and lock washers
- Cast aluminum saddles with rippled surface
- Available in a number of size ranges

Tubing Recommendations
- DXE-CAVS-1P: fits 1/2 inch to 1 3/4 inch O.D. tubing, 1/4-20 bolt
- DXE-CAVS-1P: fits 1 inch to 1 3/4 inch O.D. tubing, 5/16-18 bolt
- DXE-CAVS-2P: fits 1 inch to 2 inch O.D. tubing, 5/16-18 bolt
- DXE-CAVS-3P: fits 2 inch to 3 inch O.D. tubing, 3/8-16 bolt

Saddle clamps must be used on a flat surface or customer supplied backing plate. Personal injury and property damage can occur without proper installation. Always use a lubricant such as Never-Seez® or Anti-Seize to prevent the stainless steel hardware from seizing. XML referenced for each clamp and bracket type at www.DXEngineering.com.

Suggested Hole Size: 0.266” is letter “H” drill bit, 0.332” is letter “Q” drill bit, and 0.397” is letter “X” drill bit.

Saddle clamp recommendations for each clamp and bracket type at www.DXEngineering.com.

DX Engineering is famous for its Saddle Clamps—the ones with stainless steel U-bolts or V-bolts and matching cast aluminum saddles. Our U-bolts are the exact size for inch-sized tubing O.D.; the saddles feature an as-cast roughness that keeps the tube from sliding.

Our Super Duty Saddle Clamps are designed for applications where maximum torque is needed to control large or unbalanced antenna arrays, or for other applications where other torque control products have proven inadequate.

DX Engineering U-Bolt Saddle Clamps

Our U-Bolt Saddle Clamps are ideal for use with round tubing. Unlike common hardware store clamps that are sized to fit pipe, our clamps are designed and sized to fit tubing. The U-Bolt Saddle Clamps come with high strength, 18-8 grade stainless steel U-bolts that are long enough to attach tubing or components to thick mounting plates. The U-bolts are available in 1/4 inch, 5/16 inch and 3/8 inch as listed. Note that the 2 inch, 2.5 inch and 3 inch clamps are available with either 5/16 inch or 3/8 inch U-bolts.

The U-Bolt Saddle Clamps are cast from high strength 535 aluminum, which has superior anti-corrosion properties. Unlike stamped or machined types, the saddles’ rippled surface grips tubing closely for a secure fit.

The U-Bolt Saddle Clamps are designed for use with mounting plates, which are available separately. The clamps are sold only as a set with aluminum saddle, stainless steel U-bolts, nuts, flat washers and lock washers.

The use of a lubricant and sealant, such as Never-Seez®, is highly recommended to achieve proper torque and prevent galling.

DX Engineering U-Bolt Saddle Clamps Have 100s of Uses—DX Engineering U-Bolt, V-Bolt, and Band Clamps are very versatile. For example, we’ve seen the ECLS Studded Band Clamps used to fasten merchandise display signs to upright tubing. Have you used DX Engineering clamps for other, non-antenna projects? We’d love to know about it—drop us a note and send pictures if you have them!

DX Engineering V-Bolt Saddle Clamps

Our V-Bolt Saddle Clamps are sized to fit ranges of tubing. The V-bolts are long enough to attach tubing or components to thick plates and are highly corrosion-resistant. The V-Bolt Saddle Clamps are designed for use with a backing plate or mounting plate to retain the bolt spacing. The saddles’ rippled surface will clamp tubing securely to a flat surface.

Features
- 18-8 stainless steel V-bolts with nuts, flat washers and lock washers
- Cast aluminum saddles with rippled surface
- Available in a number of size ranges

Tubing Recommendations
- DXE-CAVS-1P: fits 1/2 inch to 1 3/4 inch O.D. tubing, 1/4-20 bolt
- DXE-CAVS-1P: fits 1 inch to 1 3/4 inch O.D. tubing, 5/16-18 bolt
- DXE-CAVS-2P: fits 1 inch to 2 inch O.D. tubing, 5/16-18 bolt
- DXE-CAVS-3P: fits 2 inch to 3 inch O.D. tubing, 3/8-16 bolt

Saddle clamps must be used on a flat surface or customer supplied backing plate. Personal injury and property damage can occur without proper installation. Always use a lubricant such as Never-Seez® or Anti-Seize to prevent the stainless steel hardware from seizing. XML referenced for each clamp and bracket type at www.DXEngineering.com.

Suggested Hole Size: 0.266” is letter “H” drill bit, 0.332” is letter “Q” drill bit, and 0.397” is letter “X” drill bit.

Saddle clamp recommendations for each clamp and bracket type at www.DXEngineering.com.

DX Engineering is famous for its Saddle Clamps—the ones with stainless steel U-bolts or V-bolts and matching cast aluminum saddles. Our U-bolts are the exact size for inch-sized tubing O.D.; the saddles feature an as-cast roughness that keeps the tube from sliding.

Our Super Duty Saddle Clamps are designed for applications where maximum torque is needed to control large or unbalanced antenna arrays, or for other applications where other torque control products have proven inadequate.

DX Engineering U-Bolt Saddle Clamps

Our U-Bolt Saddle Clamps are ideal for use with round tubing. Unlike common hardware store clamps that are sized to fit pipe, our clamps are designed and sized to fit tubing. The U-Bolt Saddle Clamps come with high strength, 18-8 grade stainless steel U-bolts that are long enough to attach tubing or components to thick mounting plates. The U-bolts are available in 1/4 inch, 5/16 inch and 3/8 inch as listed. Note that the 2 inch, 2.5 inch and 3 inch clamps are available with either 5/16 inch or 3/8 inch U-bolts.

The U-Bolt Saddle Clamps are cast from high strength 535 aluminum, which has superior anti-corrosion properties. Unlike stamped or machined types, the saddles’ rippled surface grips tubing closely for a secure fit.

The U-Bolt Saddle Clamps are designed for use with mounting plates, which are available separately. The clamps are sold only as a set with aluminum saddle, stainless steel U-bolts, nuts, flat washers and lock washers.

The use of a lubricant and sealant, such as Never-Seez®, is highly recommended to achieve proper torque and prevent galling.

DX Engineering U-Bolt Saddle Clamps Have 100s of Uses—DX Engineering U-Bolt, V-Bolt, and Band Clamps are very versatile. For example, we’ve seen the ECLS Studded Band Clamps used to fasten merchandise display signs to upright tubing. Have you used DX Engineering clamps for other, non-antenna projects? We’d love to know about it—drop us a note and send pictures if you have them!

DX Engineering V-Bolt Saddle Clamps

Our V-Bolt Saddle Clamps are sized to fit ranges of tubing. The V-bolts are long enough to attach tubing or components to thick plates and are highly corrosion-resistant. The V-Bolt Saddle Clamps are designed for use with a backing plate or mounting plate to retain the bolt spacing. The saddles’ rippled surface will clamp tubing securely to a flat surface.

Features
- 18-8 stainless steel V-bolts with nuts, flat washers and lock washers
- Cast aluminum saddles with rippled surface
- Available in a number of size ranges

Tubing Recommendations
- DXE-CAVS-1P: fits 1/2 inch to 1 3/4 inch O.D. tubing, 1/4-20 bolt
- DXE-CAVS-1P: fits 1/2 inch to 1 3/4 inch O.D. tubing, 5/16-18 bolt
- DXE-CAVS-2P: fits 1 inch to 2 inch O.D. tubing, 5/16-18 bolt
- DXE-CAVS-3P: fits 2 inch to 3 inch O.D. tubing, 3/8-16 bolt

Saddle clamps must be used on a flat surface or customer supplied backing plate. Personal injury and property damage can occur without proper installation. Always use a lubricant such as Never-Seez® or Anti-Seize to prevent the stainless steel hardware from seizing. XML referenced for each clamp and bracket type at www.DXEngineering.com.

Suggested Hole Size: 0.266” is letter “H” drill bit, 0.332” is letter “Q” drill bit, and 0.397” is letter “X” drill bit.

Saddle clamp recommendations for each clamp and bracket type at www.DXEngineering.com.
DX Engineering
Super Duty Saddle Clamps

Our Super Duty Saddle Clamps are designed for applications where maximum clamping ability is needed. Super Duty Saddle Clamp Kits are constructed of two corrosion-resistant A356-T6 cast aluminum saddles with a cast stainless steel reinforcement plate. These clamps are the correct size to fit tubing closely and their rippled surface will grip the aluminum tubing for a secure fit that resists the ravages of weather.

Due to the wide variety of clamping applications where a Super Duty Saddle Clamp would be beneficial, we do not include mounting hardware, but we do offer armor-coated bolt sets separately. Super Duty Saddle Clamps are made to fit 3 sizes of tubing: 2 inch O.D., 2.5 inch O.D. and 3 inch O.D.

The use of a lubricant and sealant, such as Never-Seez®, is highly recommended to achieve proper torque and prevent galling.

Clamps

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Dimensions in Inches</th>
<th>Reinforcement Plate Required</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-SDS-200P</td>
<td>2 x 3.640</td>
<td>2.000</td>
<td>2.000</td>
</tr>
<tr>
<td>DXE-SDS-250P</td>
<td>2 1/2 x 4.150</td>
<td>2.250</td>
<td>2.900</td>
</tr>
<tr>
<td>DXE-SDS-300P</td>
<td>3 x 4.650</td>
<td>2.500</td>
<td>3.400</td>
</tr>
</tbody>
</table>

Bolt and Nut Sets

Armor-Coated Bolt Sets are available in 5 different bolt lengths (4.5 inch, 5 inch, 5.5 inch, 6 inch and 6.5 inch). They include Grade 8 hex head bolts (2), split washers (2), flat washers (2) and nuts (2).

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Dimensions in Inches</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-SDSBOLT-4-5</td>
<td>4.5&quot; Bolts</td>
<td>$5.25</td>
</tr>
<tr>
<td>DXE-SDSBOLT-5</td>
<td>5.0&quot; Bolts</td>
<td>$5.50</td>
</tr>
<tr>
<td>DXE-SDSBOLT-5-5</td>
<td>5.5&quot; Bolts</td>
<td>$5.75</td>
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<tr>
<td>DXE-SDSBOLT-6</td>
<td>6.0&quot; Bolts</td>
<td>$6.00</td>
</tr>
<tr>
<td>DXE-SDSBOLT-6-5</td>
<td>6.5&quot; Bolts</td>
<td>$6.25</td>
</tr>
</tbody>
</table>

DX Engineering
Stainless Steel V-Clamps

Our stainless steel V-clamps are ideal for mounting accessories to steel pipe. The V-saddle has serrations that bite into the tube or pipe surface, providing a strong, secure hold. For this reason, these clamps are not recommended for aluminum tubing or pipe. The bolts supplied are long enough to attach tubing to thick plates and have anti-corrosive properties for long life. Some clamps are available with a tab and 1/4" hardware for adding grounding wires.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Dimensions in Inches</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-SSVC-1P</td>
<td>Stainless Steel V-Clamp for 1/2&quot; to 3/4&quot; O.D. pipe</td>
<td>$6.95</td>
</tr>
<tr>
<td>DXE-SSVC-1PG</td>
<td>Stainless Steel V-Clamp with ground lug for 1/2&quot; to 3/4&quot; O.D. pipe</td>
<td>$7.95</td>
</tr>
<tr>
<td>DXE-SSVC-150P</td>
<td>Stainless Steel V-Clamp for 1&quot; to 1 1/2&quot; pipe</td>
<td>$9.95</td>
</tr>
<tr>
<td>DXE-SSVC-2P</td>
<td>Stainless Steel V-Clamp for 1&quot; to 2&quot; pipe</td>
<td>$11.95</td>
</tr>
<tr>
<td>DXE-SSVC-3P</td>
<td>Stainless Steel V-Clamp for 2&quot; to 3&quot; pipe</td>
<td>$14.95</td>
</tr>
</tbody>
</table>

ECLS-Series Band Clamps with Stud

The ECLS-Series clamps are marine grade stainless steel with a 10-24 stud welded to the band. They are ideal for mechanical fastening to round or odd-shaped members. The clamps can be used for electrical connections (including grounding) or for mechanical assembly of components, attachment of signs, etc. Threaded hardware is included. They’re sold in packs of two.

<table>
<thead>
<tr>
<th>Band Clamps with Stud</th>
<th>Pack of 2</th>
<th>Band Clamps with Stud</th>
<th>Pack of 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-ECLS-050</td>
<td>0.500&quot; O.D. tube</td>
<td>$9.99</td>
<td></td>
</tr>
<tr>
<td>DXE-ECLS-062</td>
<td>0.625&quot; O.D. tube</td>
<td>$9.99</td>
<td></td>
</tr>
<tr>
<td>DXE-ECLS-075</td>
<td>0.750&quot; O.D. tube</td>
<td>$9.99</td>
<td></td>
</tr>
<tr>
<td>DXE-ECLS-087</td>
<td>0.875&quot; O.D. tube</td>
<td>$10.99</td>
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<tr>
<td>DXE-ECLS-100</td>
<td>1.000&quot; O.D. tube</td>
<td>$10.99</td>
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</tr>
<tr>
<td>DXE-ECLS-100</td>
<td>1.000&quot; O.D. tube</td>
<td>$10.99</td>
<td></td>
</tr>
<tr>
<td>DXE-ECLS-000</td>
<td>3.000&quot; O.D. tube</td>
<td>$11.99</td>
<td></td>
</tr>
</tbody>
</table>

DX Engineering
Resin Support Block Clamps

Our Resin Support Block Clamps are ideal for securing mounting brackets or plates to tubing, while also providing electrical insulation. That makes the clamps a good choice for electronic components. The clamps are sturdy and provide a strong, well-insulated mounting that is easy to construct. They are available in many sizes for most any project you might have—see chart below.

The Resin Support Block is shown with an optional stainless steel reinforcement plate. These plates provide additional stiffness and can also be used as sturdy hole-drilling templates.

<table>
<thead>
<tr>
<th>Support Block</th>
<th>Dimensions in Inches</th>
<th>Reinforcement Plate Required</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-RSB-I10000</td>
<td>1 x 1</td>
<td>1.394</td>
<td>1.910</td>
</tr>
<tr>
<td>DXE-RSB-I11250</td>
<td>1 1/8 x 1 1/8</td>
<td>1.665</td>
<td>2.258</td>
</tr>
<tr>
<td>DXE-RSB-I12500</td>
<td>1 1/4 x 1 1/4</td>
<td>2.292</td>
<td>2.760</td>
</tr>
<tr>
<td>DXE-RSB-I13400</td>
<td>1 3/4 x 1 3/4</td>
<td>2.674</td>
<td>3.394</td>
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<tr>
<td>DXE-RSB-I12250</td>
<td>2 1/4 x 2 1/4</td>
<td>2.904</td>
<td>3.394</td>
</tr>
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</table>

Reinforcement Plates

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Dimensions in Inches</th>
<th>Price Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-RSB-DF-1</td>
<td>0.275</td>
<td>0.119</td>
</tr>
<tr>
<td>DXE-RSB-DF-2</td>
<td>0.275</td>
<td>0.119</td>
</tr>
<tr>
<td>DXE-RSB-DF-3</td>
<td>0.275</td>
<td>0.119</td>
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<tr>
<td>DXE-RSB-DF-4</td>
<td>0.275</td>
<td>0.119</td>
</tr>
<tr>
<td>DXE-RSB-DF-5</td>
<td>0.275</td>
<td>0.119</td>
</tr>
<tr>
<td>DXE-RSB-DF-6</td>
<td>0.275</td>
<td>0.119</td>
</tr>
</tbody>
</table>

Cushioned P-Clamps

DX Engineering P-Clamps are ideal for providing strain relief of coaxial cable connections. The rubber insert grips the cable jacket securely without nicking or cutting the jacket, preventing water entry.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Dimensions in Inches</th>
<th>Price Each</th>
</tr>
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<tbody>
<tr>
<td>DXE-CPC-250</td>
<td>2.250</td>
<td>2.250</td>
</tr>
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</table>

DX Engineering
Antenna Components

DXE-SSVC-3P Stainless Steel V-Clamp for 2" to 3" pipe .................................. $14.95
DXE-SSVC-150PG Stainless Steel V-Clamp with ground lug, 1 1/2" x 2" plate............. $7.95
DXE-RSB-DP-6 Stainless Steel Support Block Plate ........................................... $3.05

Insulated Boom-to-Element Brackets

DX Engineering offers insulated boom-to-element brackets to fit 1.75 inch, 2 inch and 3 inch booms. The non-metallic brackets electrically insulate the elements from the boom, which virtually nullifies the shortening effect that the boom and the normal metallic boom-to-element plates have on element length. This means the element lengths determined through the use of commonly available antenna design programs like YO, EZNEC and others will correspond more closely to the actual lengths needed. In most cases, the cost of the boom-to-element brackets will be less than using a metallic plate and the necessary saddle clamps.

**DXE-BEB-1**
The DXE-BEB-1 is used to replace KLM or equivalent boom-to-element brackets or for any other application where insulated elements are desired. This patented DX Engineering bracket is made from a much stronger material and has a vastly improved design. It is 5 times as strong as the original brackets and allows use of up to 1.25 inch O.D. element tubing. Use the DXE-ELA-1-2 Element Adaptors to use a 2 inch diameter element with the DXE-BEB-1. The DXE-BEB-1 is designed to use DX Engineering’s Gorilla Grip™ stainless steel boom clamps that will end all of your concerns about elements rotating on the boom. DX Engineering offers two hardware kits. The standard kit is a direct KLM hardware replacement with #10 fasteners for the elements. It includes Gorilla Grip™ stainless steel boom clamps, stainless steel bolts with nuts and washers to attach clamps to the DXE-BEB-1 element bracket, and stainless steel bolts with nuts and washers to attach elements or adaptors to the element brackets. The nuts have nylon inserts and are vibration-resistant. The heavy-duty kit uses 1/4 inch bolts and hardware, so it is not a direct replacement for KLM brackets, but is similar in all other respects to the standard hardware kit.

**These boom-to-element brackets are made for 3 inch O.D. booms only. For 2 inch booms, please use DXE-BEB-2.**

- **DXE-BEB-1 Insulated Boom-to-Element Bracket, 3’ boom** $54.95
- **DXE-BEB-1HKW KLM Direct Replacement Hardware Kit** $25.95
- **DXE-BEB-1HKW-2 Hardware Kit with 1/4’ Bolts** $25.95
- **DXE-ELA-1-2 Element Adaptors, 1.25” to 1”, for DXE-BEB-1** $9.95

**DXE-BEB-2**
The DXE-BEB-2 is made from an extremely strong polymer that is also highly UV-resistant. When bolted to your 2 inch boom with our hardware kit, it will easily support a split 20 meter element without a fiberglass centerpiece. It is a convenient, low-cost method for the insulated attachment of elements when building Yagi, LPDA or other antennas on 2 inch booms. It accepts up to a 7/8 inch element, which is suitable for antennas built for 6 meters up to 20 meters with reasonable wind survivability. For larger antennas, please use our DXE-BEP-4B Boom-to-Element Bracket.

The DXE-BEB-2 comes in 2 pieces and bolts together with a DXE-BEB-2HKW Stainless Steel Hardware Clamp Kit that also holds it securely to the boom. The hardware kit includes four stainless steel bolts, washers and lock nuts that securely clamp the element halves together, and a Gorilla Grip™ stainless steel boom clamp with the stainless steel bolts, nuts and washers that attach it to the element bracket. Nuts are vibration-resistant with nylon inserts. DXE-BEB-2HKW Hardware Kit for the DXE-BEB-2 Bracket is sold separately. Larger antennas that experience high winds will require the boom clamp to be attached to the boom.

- **DXE-BEB-2 Insulated Boom-to-Element Bracket, 2’ boom** $16.95
- **DXE-BEB-2HKW Hardware Kit for DXE-BEB-2** $13.95

**DXE-BEB-3**
Great for 6 meter Yagi antennas! The DXE-BEB-3 Insulated Boom-to-Element Bracket is the convenient, low cost way to mount elements to smaller (1 inch to 1 3/4 inch) booms. The bracket accepts elements up to 3/4 inches. Use the DXE-SEI-1 Split Element Insulator for 3/4 inch O.D. aluminum tube used for the driven element. The insulator allows the element to be securely clamped without crushing the tube.

- **DXE-BEB-3 Insulated Boom-to-Element Bracket, 1” to 1 7/8” boom** $4.49
- **DXE-SEI-1 Split Element Insulator** $6.49

Boom-to-Element Plates

Boom-to-element plates are similar in function to insulated boom-to-element brackets, in that they each attach the elements to the boom. The primary advantage of plates over brackets is that it is a simple mechanical arrangement. The main disadvantage is that the plate does not insulate the element from the boom, which means that the element dimensions that you bring from your antenna design program (YO, AD, EZNEC and others) will be incorrect unless you make some length adjustment for the width of the plate and boom.

**DXE-BEP-4B**
Fabricated from alloy 6061-T6 aluminum, the DXE-BEP-4B is primarily for the smaller 6 meter, 10-12 meter and 17-15 meter beam. This plate can also be used to mount smaller VHF/UHF antennas to a mast using appropriate clamps. The dimensions of the DXE-BEP-4B are 8 inch x 3.5 inch x 0.25 inch. This plate comes pre-drilled for DX Engineering Saddle Clamps.

- For mounting a 2 inch boom use (2) DXE-SAD-200A Clamps
- For mounting a 1 1/2 inch boom use (2) DXE-SAD-150A Clamps
- For mounting a 1 1/4 inch grounded element use (2) DXE-SAD-125A Clamps
- For mounting a 1 inch grounded element use (2) DXE-SAD-100 Clamps
- For mounting a 3/4 inch grounded element use (2) DXE-SAD-075 Clamps

**DXE-BEP-5B**
Fabricated from alloy 6061-T6 aluminum, the DXE-BEP-5B is for the larger 17-15 meter and 20 meter beams. This plate can also be used to mount smaller VHF/UHF antennas to a mast using appropriate clamps. The dimensions of the DXE-BEP-5B are 8 inch x 3.5 inch x 0.25 inch. The plate comes pre-drilled for DX Engineering saddle clamps.

- For mounting a 3 inch boom use (2) DXE-SAD-300A Clamps
- For mounting a 2 inch boom use (2) DXE-SAD-200A Clamps
- For mounting a 1 1/2 inch grounded element use (2) DXE-SAD-150A Clamps
- For mounting a 1 1/4 inch grounded element use (2) DXE-SAD-125A Clamps
- For mounting a 1 inch grounded element use (2) DXE-SAD-100 Clamps

**DXE-BEP-48**
Great for 6 meter Yagi antennas! The DXE-BEP-48 Universal Mounting Plate for 1 3/4”, 2” or 3” booms is available for 1 inch, 1 1/4 inch, 2 inch, and 3 inch O.D. tubing or pipe. Visit www.DXEngineering.com for the clamps recommended for use with each specific plate.

- **DXE-U1M Universal Mounting Plate for 1 3/4” Saddle Clamp** $15.00
- **DXE-U2M Universal Mounting Plate for 2” Saddle Clamp** $15.00
- **DXE-MMP-P1 Non-Conductive Polymer Plate with pre-drilled mounting holes, 1/4” x 3 3/4” x 8”** $8.00
- **DXE-MMP-P2 Non-Conductive Blank Polymer Plate, 1/4” x 7 1/2” x 11 1/2”** $7.50
- **DXE-MMP-P3 Non-Conductive Blank Polymer Plate, 1/4” x 7 1/2” x 16”** $9.90

Multi-purpose Mounting Plates

These universal mounting plates can be used for many applications. They are available in aluminum or non-conductive black polymer and come blank or pre-drilled to accept our standard DXE-CAVS-1P V-Saddle Clamps, which can accommodate tubing or pipe from 1/2 inch to 3/4 inch O.D. If you are looking for larger sizes, one of our Boom-to-Mast Plates may work. They are available for 1 3/4 inch, 2 inch, and 3 inch O.D. tubing or pipe. Visit www.DXEngineering.com for more details!

- **DXE-UMP-1 Universal Mounting Plate for 1 3/4” Saddle Clamp** $15.00
- **DXE-UMP-2 Universal Mounting Plate for 2” Saddle Clamp** $15.00
- **DXE-MMP-P1 Non-Conductive Polymer Plate with pre-drilled mounting holes, 1/4” x 3 3/4” x 8”** $8.00
- **DXE-MMP-P2 Non-Conductive Blank Polymer Plate, 1/4” x 7 1/2” x 11 1/2”** $7.50
- **DXE-MMP-P3 Non-Conductive Blank Polymer Plate, 1/4” x 7 1/2” x 16”** $9.90

Boom Support Systems

As antennas become larger, booms become longer, or the wind speed becomes higher, our 3 inch Boom Support Systems will keep the boom straight. Your antenna will look better, perform better, and survive storms in better shape. Many of the individual pieces in these systems are available separately so you can design and build your own support systems.

**2 Inch Boom Support Components**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>DXE-ATB-2</td>
<td>$18.75</td>
</tr>
<tr>
<td>DXE-TCS-1</td>
<td>$23.50</td>
</tr>
</tbody>
</table>

**3 Inch Dual Boom Support System and Components**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXE-ATB-3</td>
<td>$12.75</td>
</tr>
<tr>
<td>DXE-TCS-1</td>
<td>$23.50</td>
</tr>
</tbody>
</table>

See DXEngineering.com for more details!
**Keep Your Antenna Secure—Select the Correct Clamp!**

- Why do we suggest so many boom clamps? To give great clamping power without crushing the boom in the process. Always insist on genuine DX Engineering SAD-series saddle clamps—competitors’ guillotine-type “muffler clamps” were never intended for this type of application!

**Boom-to-Mast Plates**

**DXE-BMP-1C**
If your antenna is greater than 40’ long you need this plate to keep the boom from flexing in the middle (even if you have a boom truss), and to ensure the integrity of the boom-to-mast connection necessary in a large antenna installation.

The BMP-1C is fabricated from 1/4” alloy 6061-T651 aluminum and measures 18” tall by 30” wide. It will allow you to mount the antenna directly to the side of a Rohn 55 Tower or it will attach to a 2’ mast.
- Undrilled to allow your custom designs
- Recommended for a 3’ boom
- For mounting to Rohn 55 use (6) DXE-SAD-150A Clamps
- For mounting to a 3’ mast use (5) DXE-SAD-300A Clamps
- For mounting to a 2’ boom use (10) DXE-SAD-300B Clamps

DXE-BMP-1C  Boom-to-Mast Plate, undrilled ........................................................... $74.50

**DXE-BMP-3C**
The BMP-3C is fabricated from 1/4” thick 6061-T651 aluminum. Measures 18” tall by 24” wide. It will allow you to mount the antenna directly to the side of a Rohn 55 Tower or it will attach to a 2’ mast.
- Undrilled to allow your custom designs
- Recommended for a 2’ or 3’ boom
- For mounting to Rohn 55 use (6) DXE-SAD-150A Clamps
- For mounting to a 2’ boom use (8) DXE-SAD-300B Clamps
- For mounting to a 3’ mast use (5) DXE-SAD-300B Clamps
- For mounting to a 2’ mast use (2) DXE-SAD-200B Clamps

DXE-BMP-3C  Boom-to-Mast Plate, undrilled ........................................................... $54.50

**DXE-BMP-2B**
This plate is fabricated from 1/4” thick 6061-T651 aluminum. The plate measures 8” tall by 10” wide, giving the boom great stability on the mast. The DXE-BMP-2B comes pre-drilled for our saddle clamps, and will accommodate 1 1/2”, 2”, and 3” booms and 1 1/2”, 2”, and 2 1/2” masts. The plate comes pre-drilled for DX Engineering Saddle Clamps—follow these recommendations:
- For mounting antenna to a 1 1/2” boom use (2) DXE-SAD-150A Clamps
- For mounting antenna to a 2” boom use (2) DXE-SAD-200B Clamps
- For mounting antenna to a 3” boom use (2) DXE-SAD-300B Clamps
- For mounting antenna to a 1 1/2” mast use (2) DXE-SAD-150A Clamps
- For mounting antenna to a 2” mast use (2) DXE-SAD-200B Clamps
- For mounting antenna to a 3” mast use (2) DXE-SAD-300B Clamps

DXE-BMP-2B  Boom-to-Mast Plate, dr illed ........................................................... $34.75

**Hairpin-Style Driven Element Matching Kits**

Most Yagi antennas have a feedpoint impedance of about 25 Ω. Obviously, this will not allow a connection to a 50 Ω feedline without a serious mismatch. There are various ways to match the driven element to the feedline successfully. Gamma, T-Match, and the Hairpin (aka Beta Match) are favorites.

The Gamma match is an unbalanced system that typically distorts the antenna pattern. The T-Match is basically two Gamma match systems on either side of the boom, which corrects the imbalance but is a mechanical nightmare and difficult to tune correctly.

The DX Engineering Hairpin is balanced and easy to tune. It has the correct electrical and mechanical design to allow it to be easily installed and tuned in 10 minutes, and has enough capacity for almost any Yagi design.

- For use with BEB-2 Insulated Boom-to-Element Brackets
  - 3” Boom ........................................................... $34.95
- For use with BEB-3 Insulated Boom-to-Element Brackets and an SEI split element insert
  - DXE-HMS-2P  1” to 3 1/4” Boom.......................... $36.95
- For use with BEB-1 Insulated Boom-to-Element Brackets
  - DXE-HMS-4P  3” Boom ........................................... $39.95

**HF/VHF Antenna Analyzer**

This compact, battery-powered RF impedance analyzer combines four basic circuits: a 1.8-170 MHz variable frequency oscillator, a frequency counter, a 50 Ω RF bridge, and an eight-bit microcontroller. The analyzer makes a wide variety of useful antenna or impedance measurements, including coaxial cable loss and distance to an open or short.

Primarily designed for analyzing 50 Ω antenna and transmission line systems, the unit also measures RF impedances between a few Ω and several hundred Ω. It also functions as a signal source and frequency counter. The frequency range is 1.8 to 170 MHz in six overlapping bands.

Requires 10 “AA” batteries for portable operation (not included).

MFJ-259B  HF/VHF Antenna Analyzer ............................................................... $237.50

MFJ-99  Accessory Pack—Includes Dip Meter Coil (MFJ-66), AC adapter (MFJ-1312D), and carrying pouch (MFJ-29C) ................................. $57.95

**HF/VHF/UHF Antenna Analyzer**

This compact battery-powered RF impedance analyzer combines six basic circuits: a variable oscillator, frequency counter, frequency multiplier, 50 Ω RF bridge, a twelve-bit A-D converter, and microcontroller. This unit performs a wide variety of useful antenna and RF impedance measurements, including coaxial cable loss and electrical distance to an open or short. Primarily designed for analyzing 50 Ω antenna and transmission line systems, the unit also measures RF impedances between a few ohms and several hundred ohms. An easily accessed, user-controlled 20 setting in the function menu allows changing SWR and other SWR functions (return loss, reflection coefficient, match efficiency, etc.) to any normalized impedance value between 5 and 600 Ω.

The analyzer also functions as a non-precision signal source and frequency counter. The operating frequency range extends from 1.8 to 170 MHz in six overlapping bands, and includes SWR measurements on 415-470 MHz. Requires 10 “AA” batteries for portable operation (not included).

MFJ-269  HF/VHF/UHF Antenna Analyzer .......................................................... $329.00

MFJ-98  Accessory Pack—Includes Dip Meter Coil (MFJ-66), AC adapter (MFJ-1312D), and carrying pouch (MFJ-29C) ................................. $57.95

**HF/VHF/UHF Antenna Analyzer Accessories**

MFJ-1312D  AC Adapter ........................................................................................ $15.50

MFJ-66  Dip Meter Coil ...................................................................................... $23.95

MFJ-731  Tunable RFI Filter ............................................................................. $89.95

MFJ-29C  Carrying Pouch for MFJ-259B.......................................................... $23.95

MFJ-39G  Carrying Pouch for MFJ-269............................................................ $23.95

**Interface Cables for MFJ Tuners**

MFJ-5114I  Icom Rig Interface Cable for MFJ-998/929/927/925 .................. $18.95

MFJ-5114K  Kenwood Rig Interface Cable for MFJ-998/929/927/925 .......... $18.95

MFJ-5114Y  Yaesu Rig Interface Cable for MFJ-998/929/927/925 ............. $18.95

MFJ-5114Y3  Yaesu FT1000MP Rig Interface Cable for MFJ-929/998 .... $18.95

MFJ-5114Y4  Yaesu FT2000 Rig Interface Cable for 929/998 ... $18.95

MFJ-5124I  AutoTuner Radio Interface Cable for Icom ................................. $18.95

MFJ-5124K  AutoTuner Radio Interface Cable for Kenwood and compatibles $57.95

MFJ-5124Y  AutoTuner Radio Interface Cable for Yaesu and compatibles $57.95

Mail: P.O. Box 1491, Akron, OH 44309  E-Mail: DXEngineering@DXEngineering.com  Web: DXEngineering.com 51
**Featured New Products**

**Rohn Commercial Towers**

DX Engineering is now an Authorized Distributor of Rohn Commercial Towers and accessories. We have the Rohn products you need to solve your tower structural needs—contact us for technical information and availability!

**Rohn—the World Leader in Towers!**

Rohn has been the world leader in tower design and manufacturing for more than six decades. Rohn maintains one of the largest manufacturing and staging facilities in the industry—it is committed to supplying the best! Designed for areas where land cost or availability are not an issue, Rohn GT Series guyed towers provide one of the most cost effective solutions in the industry. Guyed towers install quickly and are often the choice of broadcast communications tower stations and backbone system providers.

All GT Series towers are built with high strength steel tubing that is hot-dip galvanized after fabrication. Rohn’s exclusive Zig-Zag® solid rod bracing provides exceptional strength. All Rohn towers, poles and masts must be installed and dismantled by trained personnel. See the Rohn specifications manuals and drawings for detailed information.

**25G Tower and Accessories**
The Model 25 originated at Rohn and the original still stands as the benchmark of lightweight guyed tower design quality. The 25G is available in the standard 10 ft. section length and in a special order, UPS-shippable 7 ft. length. The 25G uses double-bolted joints—proven to be the best method of joining tower sections for strength and dependability. The 25G stands 190 ft. tall.

- **Continuously hot-dip galvanized after fabrication**
- **Built on a stable 11 1/4” equilateral triangle design**
- **High strength tubular legs joined by Zig-Zag® crossmembers**
- **Each section length is shipped with all required nuts and bolts**

**45G Tower and Accessories**
The 45G is a true multi-use structure that provides excellent strength for applications up to 300 ft. tall.

- **Completely hot-dip galvanized after fabrication**
- **Built on a stable 16 3/4” equilateral triangle design**
- **High strength tubular legs joined by Zig-Zag® cross members**
- **Each section is shipped with all required nuts and bolts**
- **Continuous solid round steel bracing**

**55G Tower and Accessories**
The ROHN 55G can be lowered down to ground level so maintenance and replacements can be performed at a comfortable and safe working level without climbing to dangerous heights. When the work is complete, the tower is easily returned to the upright position and locked into place. You never have to leave the ground!

The ROHN 55FK design is based on 90 mph winds with no ice. 20’, 30’, 40’, and 50’ nominal heights. They are pre-galvanized for corrosion protection and come assembled with hardware. All masts must be guyed or bracketed; installation should be done by experienced professionals. Telescoping masts are not recommended for commercial, CB or beam antenna installations.

**Hy-Gain Super Penetrator**

10/12 Meter Vertical Antenna

The legend from the 1970s is back! This fantastic, true full-size 5/8-wave vertical antenna from Hy-Gain is the only antenna of its type to survive the test of time. With the steady increase in sunspot activity, 10 meters is back! This antenna will allow you to collect more 10-10 numbers, work more DX, and make ham radio more fun.

With the steady increase in sunspot activity, 10 meters is back! This antenna will allow you to collect more 10-10 numbers, work more DX, and make ham radio more fun.

**installation Accessories**

- **ROH-618 6-Strand 18GA. Wire, 1,000’ Reel ........................................... $110.00**
- **ROH-61820GPL 618/20 Wire Gripple ........................................... $6.40**
- **ROH-3-16EH3500 HDG Guy Wire, 3/16’ EHS x 1,000’ Coil ......................... $147.00**
- **ROH-3-16EH5000 HDG Guy Wire, 1/4’ EHS x 1,000’ Coil ......................... $282.00**
- **ROH-BG2142 Big Grip, 3/16’ with End Sleeve .......................................... $12.10**
- **ROH-BG2144 Big Grip, 1/4’ with End Sleeve .......................................... $14.30**
- **ROH-GAC3455TOP Anchor Rod, 3455, .75” dia. x 7 ft. .......................... $138.00**
- **ROH-GAR30 Anchor Rod, Eye, rated to 7,330 lbs. ................................. $43.00**
- **ROH-GAS604 Screw Anchor ............................................................ $72.00**
- **ROH-EP25343 Equalizer Plate Assembly, 25, 3-hole............................... $39.00**
- **ROH-EP25345 Equalizer Plate Assembly, 25, 5-hole................................ $55.00**
- **ROH-TB3 HD Thrust Bearing for 25G, 45AG, 55AG .............................. $179.00**
- **ROH-TB4 HD Thrust Bearing for 45AG, 55AG ........................................... $205.00**
- **ROH-25AJBK 25AG Joint Bolt Kit ...................................................... $3.20**
- **ROH-45JBK 45AG Joint Bolt Kit ...................................................... $4.68**
- **ROH-HBUTVRO Universal HD House Bracket, 18-36” standoff for 25G, 45G, 55G ...................................................... $260.00**
- **ROH-TRT36 Tripod Roof Tower, 3 ft. ............................................... $38.00**
- **ROH-TRT60 Tripod Roof Tower, 5 ft. .............................................. $61.00**
Phillystran® Non-Metallic Tower Guys

These insulator-free, non-metallic guys have been protecting the towers of knowledgeable amateur radio operators since 1973. Following their introduction, Phillystran Guys have been installed on more than one thousand commercial broadcast towers worldwide. Electrically transparent Phillystran tower guys are protected by an extruded jacket, providing excellent resistance to weather and abrasion.

Benefits include:
- Complete isolation of tower-guy system from the antenna field
- Improved signal coverage, eliminating distortion caused by re-radiated signals
- Quick, easy, maintenance-free tower installations
- A neat tower appearance, free of corroded steel guys and troublesome ceramic insulators (solving arcing white noise issues, too)
- No need to calculate guy lengths to avoid guyline resonance
- No insulators required
- None of the stretching or aging problems associated with conventional synthetic ropes
- Never again be bothered by zapping, snapping, and cracking across porcelain insulators

Phillystran® Big Grip Dead Ends
Phillystran has answered the call for field-installable, nonmetallic tower-guy systems with HPTG-I and PLP Big Grip Dead-Ends. Phillystran Big Grip Dead-Ends have a variety of unique features:
- Grip designed to match rope twist direction (RHL)
- Special-sized wires for ease of application
- Galvanized steel and "C" coat construction
- Color-coded for ease of identification
- Longer length to match Phillystran’s high performance

Forged steel galvanized wire rope clips are recommended for the small 3/16” Guy Line.

<table>
<thead>
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<th>Cable</th>
<th>Price per ft.</th>
<th>Big Grip</th>
<th>Price each</th>
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<tr>
<td>PHI-HPTG-1200I</td>
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<td>PHI-PLP-2738</td>
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<td>PHI-HPTG-11200I</td>
<td>$2.39</td>
<td>PHI-PLP-2558</td>
<td>$21.00</td>
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</table>

3/16” Wire Rope Clip
Forged steel galvanized wire rope clips are recommended for the small 3/16” Guy Line. Made from extra heavy-duty, galvanized, forged carbon steel, for 3/16” wire rope.

<table>
<thead>
<tr>
<th>Price (ea.)</th>
<th>End Cap</th>
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<tr>
<td>$0.49</td>
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Galvanized Thimbles

Vinyl End Caps

Accessory Items for Phillystran® Cable

Mail: P.O. Box 1491, Akron, OH 44309 • E-Mail: DXEngineering@DXEngineering.com • Web: DXEngineering.com 53
### DX Engineering T-Shirts

The perfect shirt to wear while building your antenna, DX-ing, or just doing nothing in particular! The 100% cotton shirts feature a full-color DX Engineering logo.

**Black T-Shirts**
- DXE-TMA-10016 Large ................... $12.95
- DXE-TMA-10017 X-Large ............... $12.95
- DXE-TMA-10018 2X-Large ............... $15.95

**White T-Shirts**
- DXE-TMA-10019 Large ................... $12.95
- DXE-TMA-10020 X-Large ............... $12.95
- DXE-TMA-10021 2X-Large ............... $15.95

### DX Engineering Ball Cap

You built your antenna with the best, now wear the best! Our black ball cap features a full-color DX Engineering logo on the front, and is adjustable to fit most everyone.

- DXE-TMA-10010 Ball Cap with DXE Logo........... $9.95

### ARRL Publications

ARRL Amateur Radio publications are known and respected worldwide and constantly reviewed and updated to reflect advances in technology. They are the cornerstone of every ham's technical library.

- **ARRL Handbook 2011**, softcover.............. $34.95
- **ARRL HF Digital Handbook**.................. $19.95
- **ARRL Operating Manual**...................... $29.95
- **ARRL VHF Digital Handbook**............... $19.95
- **ARRL Vertical Antenna Classics**............ $12.00
- **ARRL DXing on the Edge**.................... $18.95
- **ARRL Wire Antenna Classics**............... $14.00
- **ARRL More Wire Antenna Classics**......... $17.95
- **ARRL Small Antennas for Small Spaces**..... $25.95
- **ARRL 04UN's Low Band DXing, 5th Ed**........ $44.95
- **ARRL Ham Radio for Dummies**............ $21.99
- **ARRL Two-Way Radio & Scanners for Dummies** $21.99
- **ARRL Electronics for Dummies**............ $21.99
- **ARRL More Vertical Antenna Classics**....... $17.95
- **ARRL Antenna Book**......................... $39.95
- **ARRL RI Book 3rd Edition**.................. $29.95
- **ARRL Electronic Projects for Dummies**...... $24.99
- **ARRL Basic Antennas**....................... $29.95

### DX Engineering Gift Certificates!

The perfect way to give DX Engineering products to a fellow ham or spouse! DX Engineering Gift Certificates are available in any value—standard values of $25, $50 or $100 may be ordered online. Call Customer Support for other denominations.

### Watch Us Grow at DXEngineering.com!

- The Industry's Most Information-Packed Website
- Up-to-Date Product Specs and Pricing
- FREE Instruction Sheets and Tech Advice
- Fresh New Products
- Clearance and Web Specials
- Customer Feedback
How to Order

There are three ways to order from DX Engineering:

- Online at www.DXEngineering.com
- By Phone: 1-800-777-0703
- By Fax: 1-330-572-3279
- International Phone Orders: 1-330-572-3200

Please provide your e-mail address for most efficient correspondence and to receive order confirmation notices.

About Shipping

Order-By Times

We want you to get your order as quickly as possible. Order by 4:00 pm Eastern Time for same-day shipping of in-stock products, Monday through Friday. Orders received after the cutoff on Friday will ship on Monday. Shipping charges for all orders are non-refundable.

Please Note: We verify all credit card orders for your protection. In rare cases, this process may cause a slight delay in shipping.

Truck Freight Fees

Truck freight fees are charged for products too large or too heavy for regular ground service, as indicated online and in our catalogs. Truck freight will be charged at the time of ordering. You can have product delivered to the carrier's nearest distribution center or directly to your house. Call for quotes.

APO/FPO Orders

APO/FPO orders can only be shipped via U.S. Postal Service and must be paid by a check or credit card. Truck Freight, Hazardous Materials, and some oversize items cannot be shipped to APO/FPO addresses. Delivery and handling is non-refundable and based on your order subtotal.

International Shipping

International orders are classified as those shipping outside of the U.S. or U.S. territories. All international orders must be prepaid. Actual freight charges will be based on weight and billed at the time you place your order. We cannot ship hazardous materials to other countries. Due to additional documentation and possible credit card verification, international orders may not ship the same day the order is placed. International orders require extra processing time as additional information from you is needed by our Credit Card Verifications Department prior to shipping an order. We appreciate your understanding and we will ship your order as quickly as possible.

All items entering another country are subject to customs inspection and the assessment of duties and taxes in accordance with that country’s national laws. The invoice must reflect actual product prices for parts shipped and will not be altered. The shipping company will bill customs duties and taxes to you at the time of delivery.

Backorders

Domestic Customers

All in-stock items are shipped immediately. Most backordered items are shipped as they become available, which may result in multiple shipments for a single order. Customers’ credit cards will be charged for in-stock items only when they are shipped. If you are paying by PayPal, all charges are made at the time of the initial order.

International and APO/FPO Customers

You will be charged for the entire order at the time of shipment. Your order will not ship until all items are available. In the event of a backorder, we will hold your entire order until ALL items are in stock. This saves you additional shipping charges. If you wish to have the available items shipped and are willing to pay the additional charges please contact us after you place your order.

Returning an Item

DX Engineering does not have a trial or evaluation period for new equipment. If, within 10 days of receiving your purchase, you’re not satisfied, contact our Customer Service department. For new, unopened products, and after our inspection and verification, we will issue a full refund. Opened items will be inspected for missing parts, packaging and item appearance, and may be subject to a restocking or repackaging fee. Send returns postage-paid to the address below with a copy of your receipt and a note explaining the reason for the return. Items without documentation may be returned to you.

DX Engineering
ATTN: Returns Department
1200 Southeast Ave.
Tallmadge, OH 44278

No returns on special-order products, items drop-shipped from the manufacturer, books or computer software.

Repairs

We can, in most cases, perform repair service on out-of-warranty DX Engineering brand products. The cost of repairs is based on a labor rate of $60.00 per hour, and the total cost is estimated before repair work is started. Contact DX Engineering Customer Service to discuss the repairs needed and to receive shipping instructions.

Product Warranties

DX Engineering Products

All products manufactured by DX Engineering are warranted to be free from defects in materials and workmanship for a period of one (1) year from date of shipment. DX Engineering’s sole obligation under this warranty 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, adjustments or repairs, or any other work, unless DX Engineering authorizes such charges in advance.

Repairs to DX Engineering-produced items are warranted for a period of 90 days against defects in materials and workmanship. Repair or replacement is at DX Engineering’s discretion.

Other Manufacturers

Most manufacturers offer their own warranties. All warranties are included with your order. Some manufacturers require their products to be sent directly to them for warranty consideration—before returning any product from another manufacturer, contact us by e-mail or by phone at 1-800-777-0703. If you want to return any electrical products for warranty consideration, please e-mail us before shipping the items back. We will determine if a warranty claim is valid and where the part needs to be sent. You can also call 1-800-777-0703 to speak to a Customer Service representative.

Any item which, in our opinion, shows evidence of being used or installed contrary to manufacturer’s instructions, and/or subjected to improper handling, packaging, or shipping by the customer will not be eligible for exchange, refund, or warranty consideration. We reserve the right to charge a restocking fee or refuse any item. We cannot accept returns on custom-ordered parts. Software or publications cannot be returned for a refund once opened.

Liability Statement

DX Engineering’s liability for losses or damages, arising out of any cause whatever, is limited to full refund of the purchase price, or at our option, repair or replacement of the part(s). DX Engineering shall not be liable for any consequential or incidental damages. Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Prices are subject to change without notice. If you have any further questions, please send us an e-mail or contact us at 1-800-777-0703.