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**Amateur Radio Products  
FALL/WINTER 2010**

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**Your Favorite DX Sells the Best!**



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The Better RF Company

**iPolyPhaser**

**Cushcraft** Amateur Radio Antennas



**MFJ**

**Tigertronics**



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## digital HF DSP

Icom's pioneering work in Digital Signal Processing lets today's ham isolate weak signals without needing to buy expensive optional filters

your **hobby.** your **life.** your love for **ham radio.**



### IC-7800 HF + 6M

200 Watt Output (50W AM),  
Built-in Power Supply  
RX: 0.030–60.000MHz\*  
Four 32 Bit IF-DSPs + 24 Bit  
AD/DA Converters  
2 Completely Independent Receivers  
+40dBm 3rd Order Intercept Point  
3 Roofing Filters  
Selectable, "Build Your Own"  
IF Filter Shapes



### IC-7700 HF + 6M

200 Watt Output (50W AM),  
Built-in Power Supply  
RX: 0.030–60.000MHz\*  
Two 32 Bit IF-DSPs + 24 Bit  
AD/DA Converters  
Single Receive  
+40dBm 3rd Order Intercept Point  
3 Roofing Filters  
Selectable, "Build Your Own"  
IF Filter Shapes



### IC-7600 HF + 6M

100 Watt Output (30W AM)  
RX: 0.030–60.000MHz\*  
USB Port for Ci-V Format  
PC Control and Audio In/Out  
Dual Receive  
+30 dBm 3rd Order Intercept Point  
3 Roofing Filters  
Selectable, "Build Your Own"  
IF Filter Shapes

**you can't work 'em if you can't hear 'em**

  
**ICOM**

\*Frequency coverage may vary. Refer to owner's manual for exact specifications.  
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# NEW from Your "Favorite DX"

**New!** **ICOM** Base Stations

## IC-7600 High Performance HF/50 MHz All Mode Transceiver



This unit has the latest DSP technologies used in the IC-7800/7700 transceivers plus Icom's 45 years of analog circuit expertise to give you a pronounced performance advantage. Power Requirement: 13.8 Vdc @ 23A. Dimensions: 13.4" W x 4.5" H x 11" D. Weight: 25 lbs.

- Covers 160-6 meter transmit bands and 30 KHz-60 MHz receive
- Two x 100 watt output for SSB, CW, FM, RTTY, PSK31
- One 30 watt output for AM
- 101 scannable memory channels
- Separate DSP units for transmitter/receiver and spectrum scope
- Three built-in 1st IF (roofing) filters: 3, 6 and 15 KHz
- Double conversion receiver with image rejection mixer to improve in-band IMD
- Two SO-239 antenna connectors with automatic antenna selector
- Widescreen 5.8" (400 x 240 pixel) display
- High-resolution real-time scope using a dedicated DSP unit
- USB connectors for keyboards, flash memory drives, and PCs
- Built-in PSK and RTTY operation with a USB keyboard—PC not required
- DC power cable, spare fuses, CW key plug, HM-36 hand mic, carrying handle

ICOM-IC-7600 High Performance Transceiver .....CALL/WEB

## IC-7800 Deluxe HF/50 MHz Transceiver



The ultimate fusion of 45 years of analog RF circuit development and cutting-edge digital technology.

You get dual receivers with an astonishing 110 dB dynamic range, +40 dB 3rd order intercept point in HF, and many other features. No other transceiver comes close! Dimensions: 16.6" W x 5.9" H x 17.1" D. Weight: 55 lbs.

- Covers 160-6 meter transmit bands and 30 KHz-60 MHz receive
- Five x 200 watt output (5 x 50 watt AM)
- USB, LSB, CW, RTTY, PSK-31, AM, FM, SSB DATA modes
- 101 scannable memory channels
- Four 32-bit floating point DSP units and 24-bit AD/DA converters
- Built-in power supply (85-265 Vac)
- Ultra high stability oscillator
- Main and sub receivers, separate 50 MHz preamp and mixer
- Digital twin passband tuning
- 7" color TFT LCD with spectrum scope S-meter and RTTY/PSK31 decode messages
- 16-step variable DSP noise reduction
- Multi-function adjustable electronic memory keyer (DSP waveform shaping)
- Digital RF speech compressor, voice synthesizer, mic equalizer
- RTTY/PSK-31 without PC connection
- CF memory card for setting storage
- Digital voice recorder (200 second RX/99 second TX memory)
- 50 CTCSS tone encode/decode
- UTC/local clock and timer function
- Optical digital in/output, CI-V interface capability
- External CRT display connector, four antenna connectors
- Includes 64MB CF memory card and rack mount handles

ICOM-IC-7800 Deluxe HF/6M Transceiver .....CALL/WEB

## IC-7700 HF/50MHz All Mode Transceiver



The top performance, Contest and DX chasing transceiver! It features the latest technology including two independent IC-7800-type DSP units (one for the transmitter/receiver, one for the spectrum display). Dimensions: 16.7" W x 5.9" H x 17.1" D. Weight: 52.9 lbs.

- 40 dBm third order intercept point
- Typical 134 dB@5 kHz dynamic range
- Selectable 3, 6 and 15 kHz roofing filters
- Exceptional out-of-band signal rejection
- Automatic tracking preselector and relay-switched front end
- Push-pull 48 Vdc MOSFET amplifiers—200 watts at full duty cycle
- Built-in switching power supply
- 7" color TFT (800 x 480 pixel) LCD
- Accepts external VGA monitor
- Built-in RTTY/PSK31 mode—requires only an external keyboard
- Rear-panel I/O allows interface of a second Icom transceiver
- Digital voice recorder, DSP noise blanker, USB flash drive socket

ICOM-IC-7700 All Mode Transceiver .....CALL/WEB

## IC-718 HF Base Station Transceiver



The most practical DSP rig you'll ever own! Covers 160 to 10 meters (except 60 meter) in CW, RTTY and AM modes. Power Requirement: 13.8 Vdc @ 20A. Dimensions: 9.4" W x 3.75" H x 9.4" D. Weight: 8.5 lbs.

- Five x 100 watts adjustable output power
- 101 scannable memory channels
- IF shift control
- RF gain control, RF attenuator/preamp
- Electronic CW keyer, VOX voice operation
- High frequency stability
- Front facing speaker
- Two x 40 watts AM
- 0.03-30 MHz RX coverage
- Mic compressor
- Auto-notch filter
- Digital S/Rf meter
- Optional filter selection
- Hand mic included

ICOM-IC-718 HF Transceiver/SW Receiver .....CALL/WEB

## IC-7200 HF/50MHz Portable Base Station Transceiver



This entry-level transceiver has advanced digital features like IF DSP technology higher class transceivers have. It is built tough and water-resistant for outdoor use. Power Requirement: 13.8 Vdc @ 22A. Dimensions: 9.5" W x 3.3" H x 11" D. Weight: 12.1 lbs.

- Covers 160-6 meter transmit bands and 0.03-60 MHz receive bands
- Two x 100 watt output on SSB, CW, RTTY (one x 40 watt on AM)
- IF DSP filtering (51 passband widths)
- Digital IF filter, twin passband tuning (PBT) and noise reduction
- 201 scannable memory channels
- Manual notch filter
- Dual VFOs
- ±0.5 ppm frequency stability
- LCD backlight (hi/lo/off), front facing speaker, voice synthesizer
- CI-V interface
- Rear bumper protects rear panel connectors while transporting
- USB port for PC control
- Water intrusion protection similar to Icom Marine radios
- Hand mic, DC power cable and spare fuses

ICOM-IC-7200 Portable HF/6M Transceiver .....CALL/WEB

**See DXEngineering.com for available  
transceiver accessories.**

## IC-7000 All-Band Multi-Mode Mobile Transceiver

This mobile transceiver has features normally found only in the top base stations, like 41 filter bandwidths with sharp or soft filter shape. The variable twin PBT allows you to narrow the IF passband or shift the entire passband to eliminate QRM. The 2.5 inch (diagonal) color TFT screen supports a two-mode band scope. Includes backlit remote microphone, spare fuses, key plug, DC power cable, and remote mounting package. Power Requirement: 13.8 Vdc @ 22A. Dimensions: 6.56" W x 2.59" H x 7.09" D. Weight: 5.1 lbs.

- Covers HF/6M/2M/440 MHz bands with .03-199 MHz RX coverage
- Power: 100 watts (HF+6M), 50 watts (2M), 35 watts (440 MHz)
- 503 alpha tag memories
- Internal 4-memory CW keyer
- Detachable control head
- Digital RF speech processor
- S/PWR/SWR meter
- Preamp and attenuator
- RTTY demodulator
- Adjustable SSB TX bandwidth
- DTMF memory
- VOX plus full break-in CW with adjustable pitch



IC-7000 All-Band Transceiver .....CALL/WEB

## IC-2820H 2M/400 Analog Dual Band Mobile Transceiver

Covers 144-148 MHz and 430-450 MHz transmit. Left band receive: 118-549.95 MHz wideband. Right band receive: 118-173.995/375-549.995/810-990.990 MHz cellular blocked. Inputs for two antennas allow diversity reception (compares signal strength from the two antennas, automatically selects the strongest signal) in the 127/136/146/375/440/500 MHz bands. V/V and U/U simultaneous receive antennas required. Includes a full-function backlit remote DTMF hand microphone, mounting bracket, DC power cable, separation cables, and spare fuses. Power Requirement: 13.8 Vdc @ 13A. Dimensions: 5.9" W x 1.65" H x 7.4" D. Weight: 3.3 lbs.

- D-STAR/GPS and DV (digital voice) upgradeable with optional UT-123 Receiver
- Selectable Power: 50/15/5 watts on both bands
- 522 memory channels
- Weather Alert
- CTCSS/DCS encode/decode
- PC compatibility
- Removable front panel
- Selectable (amber/green) display
- Packet ready (9600 BPS/6-pin DIN)



IC-2820H Analog Dual Band Transceiver .....CALL/WEB

## IC-2200H 2M Single Band Mobile Transceiver

Covers 144-148 MHz transmit with 118-174 MHz receive. Large selectable (amber or green) LCD display with four levels of brightness, backlit keys, and a large oversized tuning dial. Includes remote control microphone, DC power cable, and mobile mounting bracket. Power Requirement: 13.8 Vdc @15A. Dimensions: 5.5" W x 1.6" H x 5.25" D. Weight: 2.75 lbs.

- Receive covers AM aircraft band and weather channel with alert
- Selectable transmit power levels: 65 /25/10/5 watts
- Choice of FM Narrow mode
- 207 alpha tag memories w/call channel
- Dynamic Memory Scan
- 50 CTCSS and 104 x 2 DTCS encode/decode, tone scan function, pocket beep
- 24 DTMF autodial memories
- Squelch delay
- NMEA GPS compatible (GPS not supplied)
- Add D-Star operation with optional UT-118 Digital Unit



IC-2200H 2M Single Band Transceiver .....CALL/WEB

## IC-V8000 2M Single Band High Power Mobile Transceiver

Covers 144-148 MHz transmit with 118-174 MHz receive. User selectable power (75/25/10/5 watts, 75 watts maximum). Includes remote control microphone, DC power cable, and mounting bracket. Power Requirement: 13.8 Vdc @ 15A. Dimensions: 5.9" W x 2" H x 5.9" D. Weight: 2.22 lbs.

- 207 alpha tag memories with Call Channel and priority watch
- Transceiver to transceiver or PC to transceiver cloning
- Weather channel scan and alert
- DMS scan system
- CTCSS/DTCS tones
- Customized memory banks
- DTMF encode and pager
- 10 DTMF memory channels
- One-piece, die-cast aluminum chassis
- Front facing speaker
- Selectable display (amber or green)



IC-IC-V8000 2M High Power Transceiver .....CALL/WEB

## IC-208H 2M/440 Dual Band Mobile Transceiver

Covers 144-148 MHz and 440-450 MHz transmit, 118-173/230-549/810-999 MHz (cell blocked) wide band receive. Operate with control head attached or remote-mounted with included 11.5 ft. separation cable. Includes remote control microphone, DC power cable, and mounting bracket. Power Requirement: 13.8 Vdc @ 12A. Dimensions: 5.56" W x 1.56" H x 7.3" D. Weight: 2.7 lbs.

- Maximum power: 55 watts/2M, 50 watts/440 MHz
- Selectable bank scanning
- CTCSS/DTCS tone squelch
- 10 memory banks with up to 100 channels/band
- Selectable (amber/green) display and buttons
- 500 6-character alpha tag memories
- 9600bps data connector
- Weather channel and alert
- Pocket beep and tone scan
- Auto repeater function
- TMF memories



IC-IC-208H 2M/440 Dual Band Transceiver .....CALL/WEB

## ICOM Accessories

IC-AH-4	Wire-Fed Antenna Auto-Tuner 80-6 meter.....	CALL/WEB
IC-AT-180	Coax-Fed Antenna Auto-Tuner HF plus 6 meter.....	CALL/WEB
IC-CR-282	High Stability Crystal Unit for IC-706 MKIIG.....	CALL/WEB
IC-CR-338	High Stability Crystal Unit for IC-718 Transceiver.....	CALL/WEB
IC-CT-17	Level Converter for PC Interface.....	CALL/WEB
IC-FL-52A	500 Hz/455 kHz IF CW Filter.....	CALL/WEB
IC-FL-100	500 Hz/9 MHz IF CW Filter.....	CALL/WEB
IC-FL-101	250 Hz/9 MHz IF CW Filter.....	CALL/WEB
IC-FL-103	2.8 kHz/9 MHz IF SSB Filter.....	CALL/WEB
IC-FL-222	1.9 kHz/455 kHz IF SSB Filter.....	CALL/WEB
IC-FL-232	350 Hz/9 MHz IF CW/RTTY Filter.....	CALL/WEB
IC-FL-257	3.3 kHz/455 kHz IF SSB Filter.....	CALL/WEB
IC-HM-154T	TTP Mic for IC-703/706/7000.....	CALL/WEB
IC-MB-23	Carrying Handle for IC-718 and R75.....	CALL/WEB
IC-MB-62	Mounting Bracket 706/7000 Main Unit.....	CALL/WEB
IC-MB-72	Carrying Handle for IC-706 Series Transceiver.....	CALL/WEB
IC-MB-105	Remote Head Bracket for IC-7000.....	CALL/WEB
IC-OPC-025D	DC Power Cable for 706/718/746/756.....	CALL/WEB
IC-OPC-478	PC Control RS232C Cable.....	CALL/WEB
IC-OPC-478U	PC Control USB Cable 478UC.....	CALL/WEB
IC-OPC-581	11.5 ft. Separation Cable for 706 Series.....	CALL/WEB
IC-OPC-587	16 ft. Separation Cable for 706 Series.....	CALL/WEB
IC-OPC-589	8-Pin Mic Jack Adapter Cable.....	CALL/WEB
IC-OPC-599	7+8-Pin to 13-Pin Adapter.....	CALL/WEB
IC-OPC-742	13-Pin Cable 703/706MKII+G/7000.....	CALL/WEB
IC-OPC-1443	11.5 ft. Remote Cable for IC-7000.....	CALL/WEB
IC-OPC-1444	16 ft. Remote Cable for IC-7000.....	CALL/WEB
IC-OPC-1457	DC Power Cable for IC-7000/7200/7600.....	CALL/WEB
IC-PS-125	25A Switching Power Supply.....	CALL/WEB
IC-PS-126	25A 4-Pin Switching Power Supply.....	CALL/WEB
IC-PW1	Amplifier 160 to 15+6 Meter with Auto-Tuner.....	CALL/WEB
IC-RMK-706	Sep Kit Package MB-62/MB-63/OPC-581.....	CALL/WEB
IC-RMK-7000	Sep Kit Package MB-62/MB-105/OPC-1443.....	CALL/WEB
IC-SM-50	Dynamic Desk Microphone.....	CALL/WEB
IC-SP-10	Slim-Line External Speaker.....	CALL/WEB
IC-SP-20	Speaker w/Audio Filters.....	CALL/WEB
IC-SP-23	Speaker w/Audio Filters.....	CALL/WEB
IC-UT-102	Voice Synthesizer.....	CALL/WEB



**These MFJ and Ameritron switching power supplies are clean! Your buddies won't hear any RF hash on your signal...and you won't hear any from your receiver either. Some other competing power supplies may generate RF hash in your transmitted and received signal. The MightyLite Switching Power Supplies meet all FCC Class B regulations.**

**AMERITRON®**  
**New! MFJ**

**No RF Hash!**

### MFJ-4125 25 Amp Compact Switching Power Supply

The smallest and lightest power supply in ham radio! This unit weighs only 2.9 pounds and measures just 5 1/2" W x 2" H x 5 3/4" D. It is ideal for portable or temporary operation of a full 100 watt HF transceiver.

The five-way binding posts are for high current radio connects; a pair of speaker type push-on terminals is for low current accessories. Over-voltage and over-current protection modes. A whisper-quiet internal cooling fan generates tremendous airflow to help keep components cool.

Switchable AC Input Voltage: 110 Vac at 47-62 Hz, 220 Vac at 47-63 Hz

Super Regulation: Works with 85-135 Vac or 170-260 Vac AC input

MFJ-4125 Compact Switching Power Supply, 25 Amp, 13.8 Vdc .....\$84.50



### AMR-SPS-75 75 Amp Switching Power Supply

With 75 amps continuous output, this unit is perfect for Ameritron's ALS-500M 500 watt solid state amplifier. It has less than 100 mV peak-to-peak ripple under a full 75 amp load. Load regulation is better than 1.5% under full load. Other features include reverse polarity protection, brownout input protection, over-current/over-temperature protection, and a thermal-controlled quiet fan. Output Boost steps up the output from 13.8 to 14.2 Vdc to compensate for line loss. This unit can also charge a car battery.

Dimensions: 6 1/2" W x 3 1/2" H x 10" D, Weight: 7.8 lbs.

Input: 108-132 Vac, 50/60 Hz

Current Draw: 11 Amps

AMR-SPS-75 Switching Power Supply, 75 Amp, 13.8 Vdc .....\$349.95



### MFJ-4225MV MightyLite 25 Amp Switching Power Supply

This unit features a front panel voltage control that allows you to vary output voltage from 9 to 15 Vdc and gives you a highly regulated voltage output, including 12 Vdc and 13.8 Vdc! The front panel also has five-way binding posts for heavy-duty use and a cigarette lighter socket for mobile accessories.

Large, brightly illuminated 3" dual meters make it easy to monitor load voltage and current. A whisper-quiet internal fan efficiently cools your power supply.

MFJ-4225MV MightyLite Switching Power Supply, 25 Amp, 13.8 Vdc .....\$99.50



### MFJ-4035MV 30/35 Amp Regulated Linear DC Power Supply

A massive 19.2 pound transformer makes this heavy duty power supply ideal for powering your entire station, including your 100 watt transceiver and all accessories. It delivers 35 amps maximum/30 amps continuous with load regulation better than 1%. Ripple voltage is less than 30 mV. No RF hash!

The unit has over-voltage, foldback short circuit, and over-temperature protection systems. Cooling fan speed increases as load current increases to keep components cool. Front panel voltage adjustment (1 to 14 Vdc) with a convenient detent set at 13.8 Vdc. Front panel meters let you monitor voltage and current. Three sets of output terminals include a pair of heavy-duty, five-way binding posts for HF/VHF rigs. Two pairs of quick-connects for accessories, covered cigarette lighter socket, and front panel fuse holder included. Unit plugs into any 110 Vac wall outlet. Dimensions: 9 1/2" W x 6" H x 9 3/4" D.

MFJ-4035MV Linear Power Supply, 35 Amp, 13.8 Vdc .....\$139.95



### MFJ-4245MV MightyLite 45 Amp Switching Power Supply

Fits in the palm of your hand—and powerful enough to run your HF or 2M/440 MHz radio and accessories! This 45 amp MightyLite weighs just 5.5 lbs., seven times lighter than an equivalent conventional power supply. No more picking up and hauling around heavy, bulky supplies.

MFJ-4245MV MightyLite Switching Power Supply, 45 Amp, 13.8 Vdc .....\$149.50



### DC Power Strips

#### MFJ-1117 High Current DC Multiple Outlet Strip

This power strip lets you power four HF/VHF radios—two at 35 amps each and two at 35 amps combined—from your transceiver's main 12 Vdc power supply.

The strip has four pairs of heavy duty, 35 amp five-way binding posts for your transceivers. Each pair is fused, RF bypassed, and spaced for standard dual banana plugs. Heavy-duty aluminum housing. Six feet of eight gauge color-coded cable with ring tongue terminals included.

MFJ-1117 High Current Multiple Outlet Strip, 35 Amps Total.....\$64.95



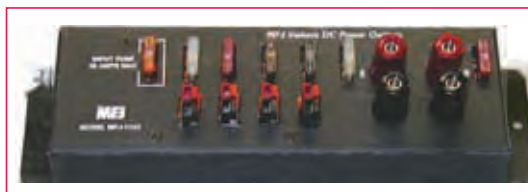
#### MFJ-1124 PowerPole® Power Distribution Strip

This heavy duty power distribution strip has a total of six outlets.

Outlets 1-4 are

Anderson PowerPole, each rated at 40 amps. Outlets 5 and 6 are 35 amp, high current binding posts. You can fuse each outlet as needed to protect your accessories or transceiver. The strip uses widely available ATC/ATO automobile fuses that plug in from the outside. The fuses can be used for 6, 12, and 24 Vdc systems. The built-in, eight gauge DC input cable is six feet long with 5/16 ring terminals. The RF-tight aluminum cabinet has mounting ears and a ground post with wing nut. Installed fuses: one each 1 amp, 5 amp, and 40 amp (main), two each 10 amp and 25 amp. Four pairs of 40 amp PowerPole contacts and five fuses (1 amp, 5 amp, 25 amp, and two 10 amp) included.

MFJ-1124 PowerPole Power Distribution Strip.....\$64.95



### MFJ-11C06 Anderson PowerPole® 40 Amp Connectors

You can install PowerPole connectors on your wires by either soldering or crimping, as long as you make sure you have good, solid connections. Wires smaller than 12 gauge must be soldered to the terminals. Use a MFJ-7602 Crimper to make your own Anderson PowerPole cables with these connectors.

MFJ-11C06 Anderson PowerPole Connectors, 6 pairs .....\$6.95

MFJ-7602 Anderson Connector Crimping Tool .....\$14.95



**For more Tools and Supplies  
turn to pages 35-36.**

# Digital Communications Made Easy! RTTY, PSK-31, CW, SSTV, & More

## SignalLink™ PC/Radio Sound Card Interface

The all-new SignalLink USB combines the legendary performance of the original SignalLink SL-1+ with a state of the art, built-in low-noise sound card. All sound card digital and voice modes are supported by the SignalLink USB. This includes traditional modes such as RTTY, SSTV and CW as well as today's hottest new modes like PSK-31, MT-63 and EchoLink®. The front panel controls let you adjust your Transmit Audio, Receive Audio, and Transmit Delay on the fly.

The SignalLink USB needs just one USB connection to the computer and one connection to the radio (in most cases). Convenient front panel controls make setup and operation very easy. The SignalLink USB is fully isolated and is compatible with all radio Mic, Data, and Accessory ports. The SignalLink USB allows you to use your computer's sound card for other functions while enjoying digital communications.

Just order the correct, fully-assembled interface cable for your radio(s) and simply "plug and play." Cables are available for a Mic connector interface or rear DIN plugs on radios so equipped. Makes a neat, clean installation!

- Easy to set up
- Just plug in two cables
- Software included
- Built-in sound card
- Works with all radios
- Powered through USB cable
- Easy hookup to Macintosh or PC
- Comprehensive, easy-to-follow instructions

TIG-SL-USB SignalLink USB unit.....\$86.95

**Any Cable only \$12<sup>95</sup>\* (except special Elecraft k3 cable)  
when ordered with TIG-SL-USB.  
Order one cable for each radio.**

## SignalLink™ Radio Interface Cables

Pick the correct radio interface cable for either a Mic connector interface or rear DIN plugs on radios so equipped. Some radios do not have the "RX Audio" signal on the Mic connector and will require a mono cable to be installed between the SignalLink USB and the radio. This is never an issue if you attach the SignalLink to your radio's Data or Accessory port.

TIG-SL-CAB4R	4-Pin Round Mic Connector Interface Cable.....	\$14.95
TIG-SL-CAB8R	8-Pin Round Mic Connector Interface Cable.....	\$14.95
TIG-SL-CABRJ1	RJ-11 Mic Connector Interface Cable.....	\$14.95
TIG-SL-CABRJ4	RJ-45 Mic Connector Interface Cable.....	\$14.95
TIG-SL-CAB5PD	5-Pin DIN Interface Cable.....	\$14.95
TIG-SL-CAB8PD	8-Pin DIN Interface Cable.....	\$14.95
TIG-SL-CAB13I	13-Pin DIN Icom Interface Cable.....	\$19.95
TIG-SL-CAB13K	13-Pin DIN Kenwood Interface Cable.....	\$19.95
TIG-SL-CAB6PM	6-Pin Mini-DIN Interface Cable.....	\$14.95
TIG-SL-CABNC	Unterminated Cable Interface Cable.....	\$7.95
TIG-SL-CABK3	Special Elecraft K3 Interface Cable.....	\$24.95
TIG-SL-HEAD	Header Plug for Radio Programming.....	\$5.00

## Preprogrammed "Plug and Play" Radio Jumper Modules

TIG-SL-MOD13I	Jumper Module, ICOM 13-pin accessory port.....	\$7.95
TIG-SL-MOD13K	Jumper Module, Kenwood 13-pin accessory port.....	\$7.95
TIG-SL-MOD6PM	Jumper Module, 6-pin mini-DIN.....	\$7.95
TIG-SL-MOD8PD	Jumper Module, 8-pin DIN.....	\$7.95



## MFJ SWR/Wattmeter, 1.8-30 MHz

The world's largest HF SWR/wattmeter with a giant 6 1/2" (diagonal) meter scale! You get ultra-fine resolution with big high-contrast numbers to make reading a breeze, even across your shack. MFJ's exclusive TrueActive™ peak reading circuit captures true peak or average forward and reflected power readings. The 20/200/2,000 watt ranges make this meter valuable for QRP or QRO operation. Measures 7" W x 5 1/2" H x 5" D.

MFJ-868	HF SWR/Wattmeter .....	\$149.50
MFJ-1312D	Power Supply, 12 Vdc/500 Milliamp .....	\$15.50



## MFJ Auto Ranging SWR/Wattmeter, 1.8-60 MHz

**New!**

This auto ranging, microprocessor-controlled wattmeter has a giant 6 1/2" (diagonal) meter scale. It has 20/200/2,000 watt ranges with true peak, average forward, and reflected power modes plus fully automatic SWR readings. Other features include an amplifier bypass control and control relay for high SWR, field-upgradeable firmware, and high SWR audio and visual alarms. Measures 7" W x 5 1/2" H x 5" D.

MFJ-869	Auto Ranging SWR/Wattmeter.....	\$219.95
MFJ-1312D	Power Supply, 12 Vdc/500 Milliamp .....	\$15.50



## MFJ-121B Dual Time Zone Atomic Clock

Read both UTC and local time at a glance with this dual atomic clock. It displays 12 and 24 hour time simultaneously—each can be independently set. Daylight savings time can be disabled. Automatic backlight is activated daily at your preset time and stays on for 8 hours. The display has huge 2" tall by 1" wide LCD numerals, an exclusive UTC zone, and a running seconds display. 11 3/8" W x 7 1/4" H x 1" D, wall- or desk-mountable. Runs on four 'AA' batteries (not included).

MFJ-121B	Dual Time Zone Illuminated Atomic Clock .....	\$79.95
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## MFJ-130RC Calendar/Time/Temp Atomic Clock

**New!**

Metallic blue/silver clock has a giant 8 1/2" x 9" LCD display with 2 1/4" tall time digits with month/date/day and indoor temperature displayed below. Auto daylight savings time can be turned off when setting clock for UTC. Running seconds display. Temperature displayed in Fahrenheit. 10 3/4" W x 6" H x 3/4" D, wall- or desk-mountable. Runs on two 'AA' batteries (not included).

MFJ-130RC	Calendar/Time/Temp Clock .....	\$28.95
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## MFJ-133RC Compact Dual Time Zone Atomic Clock

**New!**

Compact (4" W x 3" H x 3/4" D) clock folds up and slides in your shirt pocket. Lets you read any two time zones in 12 or 24 hour format. Atomic-controlled for absolute pin-point accuracy. Large 1 1/8", high-contrast LCD numerals are easily read from 6 feet away.

MFJ-133RC	Compact Dual Time Zone Atomic Clock .....	\$34.95
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**About Dummy Loads** The dummy load is a device used in place of an antenna when testing a radio transmitter. Also known as a dummy antenna, it is substituted for an antenna so the transmitter does not interfere with other radio transmissions. The dummy load absorbs transmitter power and presents the proper load to the transmitter output to prevent damage or incorrect adjustment. The dummy load should be a pure resistance, representing the ideal impedance of the antenna or transmission line that is used with the transmitter—50  $\Omega$  for amateur use. This will provide a standing wave ratio (SWR) of 1:1. The energy absorbed by the dummy load is converted to heat. That means you need a dummy load that is rated to safely handle the amount of power that is delivered by the transmitter.

### Ameritron Oil-Filled Dummy Load, 1.5 kW

- SWR under 1.2:1 to 30 MHz and low SWR to 400 MHz • Heavy-duty 50  $\Omega$  resistor
- 7 1/2" H x 6 5/8" D

AMR-ADL-1500	Oil-Filled Dummy Load, 1.5 kW.....	\$67.95
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### Vectronics Fan-Cooled Dummy Load, 2,500 Watts, 0-150 MHz

- SWR of less than 1.3:1 at 30 MHz • Resistor Type: Dispersed carbon particles fired in a ceramic matrix

VEC-DL-2500	Fan-Cooled Dummy Load, 2,500W, 0-150 MHz.....	\$194.96
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### Vectronics Air-Cooled Dummy Load, 1,500W, 0-650 MHz

- SWR: <1.3:1 DC-300MHz; <1.5:1 300-650MHz; <2.0:1 650-1,000MHz
- Resistor Type: Dispersed carbon particles fired in ceramic matrix

VEC-DL650M	Air-Cooled Dummy Load, 1,500W, 0-650 MHz .....	\$79.95
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### MFJ Air-Cooled Dummy Loads

MFJ-260C	Dummy Load, 0-650 MHz, 300 watt .....	\$39.95
MFJ-264	Dummy Load, 0-650MHz, 1.5 kW.....	\$74.95
MFJ-264N	Dummy Load, 0-650 MHz, 1.5 kW, N-connector.....	\$84.95
MFJ-267	Dummy Load/SWR Wattmeter, 0-54 MHz, 1.5 kW.....	\$159.95





## Microphones and Headsets

**Microphones**—Famous Heil microphones are for the enthusiast who appreciates professional sound. The PRO series with broadband elements is ideal for the latest audio equalizers and processors.

HEI-PR781	Dynamic Cardioid Studio Quality Mic, 3-Pin XLR .....	<b>\$169.00</b>
HEI-GM-4	GOLDLINE 2-Element Mic, HC4 Element .....	<b>\$129.00</b>
HEI-GM-5	GOLDLINE 2-Element Mic, HC5 Element .....	<b>\$129.00</b>
HEI-GM-V	Hi-Impedance GM for Vintage Rigs .....	<b>\$135.00</b>
HEI-HM-4	Handi-Mic Hand Mic, HC4 Element .....	<b>\$79.00</b>
HEI-HM-5	Handi-Mic Hand Mic, HC5 Element .....	<b>\$85.00</b>
HEI-HM-IC	Handi-Mic/Electret Element, Icom .....	<b>\$85.00</b>
HEI-HM-10-DUAL	Desk Mic, HC4 and HC5 Elements .....	<b>\$119.00</b>
HEI-HM-PRO	Handi-Mic with Broadcast Element .....	<b>\$85.00</b>
HEI-ICM	Desk Mic for Icom, 8 ft. 8-Pin Cable Attached .....	<b>\$99.00</b>
HEI-PR20	PRO Broadcast Cardioid Mic, 3-Pin XLR .....	<b>\$150.00</b>
HEI-PR40	PRO Wide Range Cardioid Mic, 3-Pin XLR .....	<b>\$325.00</b>

**Headsets**—Headsets combine comfort and great sound. The boomsets feature the famous Heil microphone elements.

HEI-BM-10-4	Boom Mic/Headset, HC4 Element .....	<b>\$89.00</b>
HEI-BM-10-5	Boom Mic/Headset, HC5 Element .....	<b>\$89.00</b>
HEI-BM-10-IC	Boom Mic/Headset/Adapter, Icom Electret .....	<b>\$99.00</b>
HEI-PROSET-4	PRO Boom Mic/Headset, HC4 Element .....	<b>\$125.00</b>
HEI-PROSET-5	PRO Boom Mic/Headset, HC5 Element .....	<b>\$125.00</b>
HEI-PROSETIC	PRO Boom Mic/Headset/Adapter, Icom Electret .....	<b>\$139.00</b>
HEI-PROSETPLUS	PRO Boom Mic/Headset, HC4 and HC5 Elements .....	<b>\$189.00</b>
HEI-PROSETPLUSIC	PRO Boom Mic/Headset, HC4 for ICOM .....	<b>\$199.00</b>
HEI-HTSS	Single Side TRAVELER Headset .....	<b>\$75.00</b>
HEI-HTDS	Dual Side TRAVELER Headset .....	<b>\$89.00</b>
HEI-HQPP	Quietphone Pro Noise Canceling Headset .....	<b>\$170.00</b>
HEI-PSE-6	PROSET Elite Boom Mic/Headset, HC6 Element .....	<b>\$165.00</b>
HEI-PSE-IC	PROSET Elite Boom Mic/Headset, HC-6 Element, Icom Electret .....	<b>\$175.00</b>
HEI-MB1-4	QPP Boom Mic Kit, HC-4 Element .....	<b>\$74.00</b>
HEI-MB1-5	QPP Boom Mic Kit, HC-5 Element .....	<b>\$79.00</b>
HEI-MB1-6	QPP Boom Mic Kit, HC-6 Element .....	<b>\$79.00</b>
HEI-MB1-IC	QPP Boom Mic Kit, Icom Condenser Element .....	<b>\$79.00</b>

**Cables and Adapters**—Rugged HeilWire assemblies allow connection of Heil Sound devices to transceivers. Visit [DXEngineering.com](http://DXEngineering.com) and look up your specific mic or headset and its "Suggested Parts" link to confirm compatibility.

### Cables/Adapters for Icom

HEI-AD-1-I	PROSET 8-Pin Adapter Cable .....	<b>\$19.00</b>
HEI-AD-1-IM	PROSET Modular Adapter Cable .....	<b>\$19.00</b>
HEI-AD-1-IC	PROSET 8-Pin Adapter Cable .....	<b>\$19.00</b>
HEI-AD-1-ICM	PROSET Modular Adapter Cable .....	<b>\$19.00</b>
HEI-CC-1-I	XLR4 to 8-Pin Mic Cable .....	<b>\$29.00</b>
HEI-CC-1-IM	XLR4 to Modular Mic Cable .....	<b>\$34.00</b>
HEI-CC-1-IXLR	3 to 8-Pin Mic Cable .....	<b>\$34.00</b>
HEI-CH-1-I8	XLR4 to 8-Pin Mic Coil Cable .....	<b>\$23.00</b>
HEI-CH-1-IM	XLR4 to Modular Mic Coil Cable .....	<b>\$23.00</b>

## MFJ-616 Speech Intelligibility Enhancer

*"As I got older, my high frequency hearing loss was destroying...ham radio for me..." Martin F. Jue, K5FLU/President and Founder of MFJ Enterprises, Inc.*

Developed by Martin Jue to compensate for his hearing loss, this enhancer significantly increases speech energy above 500 Hz where 83% of intelligibility is concentrated, and reduces speech energy below 500 Hz where only 4% of intelligibility lies. Amateur radio communications limit audio to about 300 to 2700 Hz. The enhancer splits the audio band into four overlapping octave ranges centered at 300, 600, 1200, and 2400 Hz. You can boost or cut each range by nearly 20 dB to maximize speech intelligibility for most kinds of frequency loss.

Output audio is split into left and right channels with separate 2.5 watt amplifiers; a balance control lets you equalize the perceived loudness to each ear. The enhancer works with SSB, FM, AM, CW or any voice mode on ham, marine, aircraft, and CB bands.

MFJ-616	Speech Intelligibility Enhancer.....	<b>\$189.95</b>
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## MFJ-392B Communications Headphones

These headphones are perfect for amateur radio and shortwave listening in all modes—SSB, FM, AM, data, and CW in mono or stereo. Each earphone has an individual volume control. The padded headband and ear-cushioned design make listening extremely comfortable. The headphones handle 450 mW and have 100-24,000 Hz frequency response. Impedance: 16  $\Omega$  at 1 KHz. Sensitivity: 102dB/mW.

MFJ-392B	Communications Headphones.....	<b>\$24.75</b>
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# Heil Sound



**New!**



Station Equipment

### Cables/Adapters for Icom Cont.

HEI-HSTA-IC8	TRAVELER Adapter, Icom 8-Pin .....	<b>\$23.00</b>
HEI-HSTA-IM	TRAVELER Adapter, Icom Modular .....	<b>\$23.00</b>

### Cables/Adapters for Kenwood

HEI-AD-1-K	PROSET 8-Pin Adapter Cable .....	<b>\$19.00</b>
HEI-AD-1-KM	PROSET Modular Adapter Cable .....	<b>\$19.00</b>
HEI-CC-1-K	XLR4 to 8-Pin Mic Cable .....	<b>\$34.00</b>
HEI-CC-1-KM	XLR4 to Modular Mic Cable .....	<b>\$34.00</b>
HEI-CC-1-XLR-K	XLR3 to 8-Pin Mic Cable .....	<b>\$34.00</b>
HEI-CH1-K8	XLR4 to 8-Pin Mic Coil Cable .....	<b>\$23.00</b>
HEI-CH-1-KM	XLR4 to Modular Mic Coil Cable .....	<b>\$23.00</b>
HEI-HSTA-K8	TRAVELER Adapter, Kenwood 8-Pin .....	<b>\$23.00</b>
HEI-HSTA-KM	TRAVELER Adapter, Kenwood Modular .....	<b>\$23.00</b>

### Cables for Ten-Tec

HEI-CC-1-Y	XLR4 to 4-Pin Mic Cable .....	<b>\$34.00</b>
HEI-CC-1-T	XLR4 to 4-Pin Mic Cable .....	<b>\$34.00</b>

### Cables/Adapters for Yaesu

HEI-AD-1-Y	PROSET 8-Pin Adapter Cable .....	<b>\$19.00</b>
HEI-AD-1-YM	PROSET Modular Adapter Cable .....	<b>\$19.00</b>
HEI-CC-1-Y	XLR4 to 8-Pin Mic Cable .....	<b>\$34.00</b>
HEI-CC-1-YM	XLR4 to RJ-45 Modular Mic Cable .....	<b>\$34.00</b>
HEI-CC-1-XLR-Y	XLR3 to 8-Pin Mic Cable .....	<b>\$34.00</b>
HEI-CH-1-Y8	XLR4 to 8-Pin Mic Coil Cable .....	<b>\$23.00</b>
HEI-CH-1-YM	XLR4 to Modular Mic Coil Cable .....	<b>\$23.00</b>
HEI-AD-100	Adapter, Yaesu 8-Pin Round to 6-Pin Modular .....	<b>\$19.00</b>
HEI-ADMY-817	Adapter, Yaesu 8-Pin Mic To FT-817 Modular .....	<b>\$25.00</b>
HEI-HSTA-YM	TRAVELER Adapter, Yaesu 8P Modular RJ45 .....	<b>\$23.00</b>

### Accessories

HEI-CB-1-PTT	CLASSIC Base with PTT/Cough Switch .....	<b>\$70.00</b>
HEI-SB-2	Small Adjustable Mic Boom .....	<b>\$55.00</b>
HEI-PL2T	Topless PROLINE Boom .....	<b>\$109.00</b>
HEI-SM-1	Shock Mount for 1" Stem Dia. Mic, GM/PR20 .....	<b>\$59.00</b>
HEI-SM-2B	Black Shock Mount for 2" Stem Dia. Mic, PR40 .....	<b>\$95.00</b>
HEI-TM-1	Tri-Mount Mic Adapter .....	<b>\$14.00</b>
HEI-FS-2	Dual Switch Foot Switch .....	<b>\$40.00</b>
HEI-HS-2	Ergonomic Pistol Grip Hand Switch .....	<b>\$29.00</b>
HEI-BAG1	Leatherette Travel Bag for PROSET .....	<b>\$25.00</b>
HEI-BAG2	Leatherette Travel Bag for QPHONE/BM/TRAV .....	<b>\$20.00</b>

## MFJ-434B Contest Voice Keyer™

Let this microprocessor-controlled Contest Voice Keyer call CQ, send your call, and do contest exchanges for you in your own natural voice!

You can record and play back five natural-sounding messages in a total of 75 seconds. EEPROM technology stores messages for up to 100 years with no battery backup needed.

You can repeat messages continuously and vary the repeat delay from 3 to 500 seconds. A receive audio jack lets you record and play back off-the-air signals—no more "please repeat". Makes a great voice beacon too. Keyer requires a 9 volt battery, 9-15 Vdc power source, or 110 Vac with optional MFJ-1312D Wall Adapter. Uses 8-pin modular or 8-pin round microphone plug.

MFJ-434B	Contest Voice Keyer.....	<b>\$199.95</b>
MFJ-1312D	Power Supply, 12 Vdc/500 Milliamp .....	<b>\$15.50</b>

## MFJ-281 ClearTone Communications Speaker

Plug in the ClearTone speaker and bring out communication speech fidelity that you never knew existed. It restores the smooth sound of sinewaves that CW naturally generates and makes it easy to copy. The ClearTone speaker improves speech intelligibility in the 600 to 4,000Hz frequency range while reducing undesirable noise, static, and hum. Has a 6 ft. cord and 3.5mm mono plug. Output: 8 watts. Impedance: 8  $\Omega$ . Dimensions: 3 3/4" H x 3" W x 2 1/4" D.

MFJ-281	ClearTone Communications Speaker .....	<b>\$12.75</b>
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**New!**



**New!**

## Ameritron Power Amplifiers

### AL-811 600 Watt HF Amplifier, Three 811A Tubes

The AL-811 gives you 600 watts PEP output—nearly 2 full S-units over your barefoot rig. That could mean the difference between hearing “you’re Q-5 armchair copy” and “Sorry can’t copy you, too much QRM.” Now you won’t have to stand aside while the “big guns” steal your DX—you’ll be able to log some of those stations first. Going from 600 watts to the full legal limit (1,500 watts) gives you less than one S-unit increase and can cost three or four times more money. Get this amplifier and you’ll get a powerful punch at a price that’s easy on your wallet.

AMR-AL-811 US version ..... **\$679.00**  
AMR-AL-811XCE Export only version..... **\$729.00**



### AL-811H 800 Watt HF Amplifier, Four 811A Tubes

This amplifier gives you 800 watts PEP output for that extra punch you need to be heard when a 100 watt transceiver isn’t enough. Only Ameritron gives you four fully neutralized 811A transmitting tubes. You get absolute stability and superb performance on higher bands that can’t be matched by un-neutralized tubes.

AMR-AL-811H US version ..... **\$819.00**  
AMR-AL-811HXCE Export only version..... **\$869.00**  
AMR-AL-811HD US version, heavy duty ..... **\$1,069.00**  
AMR-AL-811HDXCE Export only version, heavy duty..... **\$1,245.00**



### AL-572 1,300 Watt HF Amplifier, Four 572B Tubes

The Ameritron AL-572 is a 1,000 watt CW/1,300 watt PEP (nominal output power) linear amplifier that operates on all amateur bands from 160 through 15 meters (and WARC bands and ten meters with reduced performance). It uses four 572B tubes in a class AB2 grounded grid circuit. The amplifier is factory wired for 120 volt, 50/60 Hz AC line voltage. It easily converts to other supply voltages between 90 and 250 volts AC.

AMR-AL-572 **Free UPS Ground Shipping!** ..... **\$1,679.00**



### AL-80B 1 kW HF Amplifier, One 3-500Z Tube

You get up to a full kilowatt PEP output and nearly 70% efficiency from this whisper-quiet desktop linear amplifier. It covers all bands from 160 through 15 meters, including WARC and MARS. You get up to 1,000 watts output on SSB, 800 watts output on CW, and 500 watts output on RTTY. Other features include an extra heavy-duty power supply, a genuine 3-500 tube, tuned input, Pi/Pi-L output, inrush current protection, multi-voltage transformer, dual cross-needle meters, and QSK compatibility. Made in the USA, two year warranty. Modification instructions for operation on 10 and 12 meters are available with proof of a valid amateur radio license.

AMR-AL-80B ..... **\$1,329.00**



### AL-800 1.25 kW HF Amplifier, One 3CX800 Tube

The AL-800 is a 1,200 watt PEP output linear amplifier that operates from 160 through 15 meters. It uses a single 3CX800A7 tube in a class AB2 grounded grid circuit. The AL-800 is factory-wired for 120 volt, 50/60 Hz AC line voltage. It is easily converted to other supply voltages between 90 and 250 volts AC. Modification instructions for operation on 10 and 12 meters are available with proof of a valid amateur radio license.

AMR-AL-800 **Free UPS Ground Shipping!** ..... **\$2,349.00**



### AL-800H 1.5kW+ HF Amplifier, Two 3CX800 Tubes

The AL-800H is a 1,500 watt output linear amplifier that operates from 160 through 15 meters. It uses a pair of 3CX800A7 tubes in a class AB2 grounded grid circuit. The AL-800H is factory wired for 240 volt, 50/60 Hz AC line voltage. It is easily converted to other supply voltages between 90 and 250 volts AC. Modification instructions for operation on 10 and 12 meters are available with proof of a valid amateur radio license.

AMR-AL-800H **Free UPS Ground Shipping!** ..... **\$3,549.00**



### AL-1200 1,500 Watt HF Amplifier, One 3CX1200A7 Tube

The AL-1200 is a 1,500 watt output linear amplifier that operates from 160 through 15 meters. It uses a single 3CX1200A7 tube in a class AB2 grounded grid circuit. CW FM and RTTY efficiency is improved by shifting the bias deeper into class B. The heavy-duty power supply and RF components, combined with a forced air system using chimneys, provide long service life. The AL-1200 is factory wired for a 240 volt, 50/60 Hz line voltage. It features a super heavy-duty power supply that loafs at full legal power—it can deliver more than 2,500 watts PEP two tone output for a half-hour!

AMR-AL-1200 **Free UPS Ground Shipping!** ..... **\$2,999.00**



### ALS-500MR 500 Watt HF Mobile Amplifier/Remote Combo

The ALS-500MR combines the ALS-500M amplifier with the ALS-500RC remote control unit. It is a 500 watt PEP output, solid state linear amplifier that uses rugged, conservatively rated bipolar RF devices in the power output section.

AMR-ALS-500MR ..... **\$779.00**



### ALS-1300 1200 Watt Solid State Amp with AC Power Supply

The Ameritron ALS-1300 is a 1,200 nominal watt output, solid state, linear amplifier which provides continuous frequency coverage from 1.5 through 22 MHz (160 through 15 meters) with no tuning adjustments. An AMR-MOD-10MK modification kit is available to extend operation up to 30 MHz with a copy of a valid amateur license. The matching separate power supply, ALS-1300SPS, is shipped factory wired for 220 volt, 50/60 Hz power mains and is easily converted to 110 volts.

AMR-ALS-1300 **Free UPS Ground Shipping!** ..... **\$2,499.00**



### AL-82 High Power HF Amplifier, Two 3-500Z Tubes

The AL-82 is designed to give you years of trouble-free service at the full legal output power limit. It features a 1,800 watt continuous, commercial rated Hypersil transformer with heavy duty rectifiers and computer capacitors in a full wave bridge supply. Two bias settings allow either high efficiency RTTY and CW operation at 1,500 watts of output at nearly 70% plate efficiency, or low distortion 1,500 watts PEP, SSB, or SSTV output. The tuning capacitors and bandswitch have a 35% safety factor to virtually eliminate tank circuit component failures, even under adverse operating conditions.

The cooling system keeps the components and tubes safely below the manufacturer’s ratings, even while operating at 1,500 watts output with a steady carrier. The filament supply has inrush current limiting to ensure maximum tube life. Shielding and bypassing help prevent TVI and RFI at high power levels.

AMR-AL-82 **Free UPS Ground Shipping!** ..... **\$2,459.00**



*Free UPS Ground Shipping applies to Domestic United States only.*



**New!****AMERITRON®**

# The BetterRF Company

## AL-1500 High Power HF Amplifier, One 3CX1500/8877 Tube

The AL-1500 will deliver 1,500 watts CW output with only 65 watts drive. It features the Herculean Eimac 3CX1500/8877 tube for continuous, full legal output with minimum exciter wear. The AL-1500 also features time delay starting to protect the tube and over-current shut off to remove the drive if mistuned. A commercial-grade, die-cast ball bearing blower provides quiet operation at full rated airflow to maximize tube life.

AMR-AL-1500 **Free UPS Ground Shipping!** ..... **\$3,299.00**



## ALS-500M 500 Watt HF Mobile Amplifier, Remote Ready

The ALS-500M is a 500 watt PEP output, solid state linear amplifier that uses rugged, conservatively rated bipolar RF devices in the power output section. The ALS-500M operates at full power with continuous frequency coverage from 1.5 through 21.6 MHz (160 through 15 meters). This amplifier requires no tuning adjustments. The amplifier is set up for use with Ameritron's ALS-500RC remote control unit. A modification kit (AMR-MOD-10M) is available to extend operation to 30 MHz with proof of a valid amateur radio license.

AMR-ALS-500M..... **\$739.00**



## ALS600 600 Watt HF Amplifier with AC Power Supply

The ALS-600 is a 600 nominal watt output, solid state linear amplifier that features state-of-the-art, high voltage, RF TMOS FET devices in the power output section. The ALS-600 provides continuous frequency coverage from 1.5 through 22 MHz (160 through 15 meters) with no tuning adjustments.

The matching AC power supply is factory wired for 120 volt, 50/60 Hz line voltage and is easily converted to other supply voltages between 100 and 240 volts. A modification kit (AMR-MOD-10M) is available to extend operation to 30 MHz with proof of a valid amateur radio license.

AMR-ALS600..... **\$1,269.00**



## ALS-600S 600 Watt HF Amplifier with Switching AC Power Supply

The ALS-600S is a 600 nominal watt output, solid state linear amplifier that features state-of-the-art, high voltage, RF TMOS FET devices in the power output section. The ALS-600S provides continuous frequency coverage from 1.5 through 22 MHz (160 through 15 meters) with no tuning adjustments. Broadband five-pole low pass filters provide output harmonic suppression in excess of all FCC requirements.

The matching switching AC power supply is factory wired for 120 volt, 50/60 Hz line voltage and is easily converted to other supply voltages between 90-130 and 185-260 volts. A modification kit (AMR-MOD-10M) is available to extend operation to 30 MHz with proof of a valid amateur radio license.

AMR-ALS-600S ..... **\$1,369.00**



## Ameritron Power Amplifier Accessories

### Amplifiers

AMR-ARB-704 Universal Amplifier Buffer, for all transceivers ..... **\$57.95**

AMR-ARB-704I2 Amplifier Interface for Icom 706/7000 ..... **\$57.95**

### Interface Cables

AMR-PNP-13D 704 to IC-706/7000 ..... **\$16.95**

AMR-PNP-5M 704 to FT-847 Yaesu ..... **\$16.95**

AMR-PNP-7D 704 to TS-440/690/450/180/140/950/130/870 and Kenwood ..... **\$16.95**

AMR-PNP-8D 704 to FT-1000/900/767/920/990/747 Yaesu ..... **\$16.95**

AMR-PNP-8M 704 to FT-890/840/817 Yaesu ..... **\$16.95**

AMR-PNP-8MK 704 to 8-Pin Mini, TS-480 Kenwood ..... **\$16.95**

### Accessories

AMR-QSK-5 QSK Amplifier Switch ..... **\$324.00**

AMR-MOD-10M\* 10 Meter Mod Kit for ALS-600/600S/ALS-500M ..... **\$27.95**

AMR-MOD-10MB\* 10 Meter Mod Kit for ALS-600/600S, serial number 12522 & up ..... **\$27.95**

AMR-MOD-10MK 10 Meter Mod Kit for ALS-1300 ..... **\$37.95**

AMR-SPS-75 Switching Power Supply, 75 amp continuous, 13.6 Vdc ..... **\$349.95**

DXE-DCB-36 Dual Shielded Cable with RCA connectors, 3 ft ..... **\$3.99**

DXE-DCB-72 Dual Shielded Cable with RCA connectors, 6 ft ..... **\$5.99**

\* Requires proof of Amateur License

## i-Mate Memory Control

The i-Mate allows external selection of pre-recorded voice and keyed messages for the Icom IC-7600/7700/7800, IC-756 PROII/III, and IC-7000 transceivers, and keyed CW messages for the IC-746 PRO transceiver. It eliminates the need for shifting the display from operating mode to memory select mode just to transmit a pre-recorded message. Four buttons allow direct access to your messages. The i-Mate has a pulsed sine wave oscillator for tuning amplifiers and antenna tuners. An alternate audio input is provided for a second microphone or boomset. Connection and power from a single microphone jack.

- Works with CW and voice
- Send memories while keeping the spectrum scope on the display
- Easier access to memories with less hand movement
- Heil Pro-Set plugs directly into the i-Mate without an adaptor
- Separate PTT switch to key transceiver for digital modes
- Auxiliary input can be used for digital modes
- MIC 1 switch allows switching between standard 8 pin microphone connector and MIC 2 auxiliary input
- 30 wpm pulsed oscillator for tuning—save finals in the amplifier, 50% duty cycle while tuning
- Adjust pulsed oscillator with a small screwdriver

BET-I-MATE Icom Memory Control ..... **\$74.99**

ICO-OPC-589 Microphone adapter for IC-7000 transceiver ..... **\$39.99**

**New!**

## 7000 Tune Control

This control lets you use the Tune/Call button on your Icom IC-7000 transceiver for an external manual tuner. The SWR is displayed on the radio as you tune an antenna, amplifier, or external tuner. Cable included to connect to the CI-V jack and motorized antenna control. Output: Constant 30 watts out or pulsed (50% duty cycle) at user selectable power.

BET-7000TUNE ..... **\$54.99**

**New!**

## 7000 Screwdriver Control

This control lets you use any screwdriver antenna with an Icom IC-7000 transceiver. All tuning is done with the existing IC-7000 controls—no extra buttons or speakers required. No RF connections or radio/antenna modifications needed. An Icom 7000 Tune Control is required.

BET-7000SCR ..... **\$84.99**

**New!**

## Yaesu Tune Control

This control lets you use the Tune button function on your Yaesu FT-100, FT-857, or FT-897 transceiver to provide a low power output for tuning, adjusting an antenna, checking SWR, etc. no matter what mode you are using. It provides interface between your Yaesu transceiver and Icom type-accessories (such as antenna tuners), tuners from other manufacturers, and screwdriver antenna controllers. No radio modification required. Can be used on Yaesu FT-450 and FT-950 transceivers with easy modifications. Interface cable included.

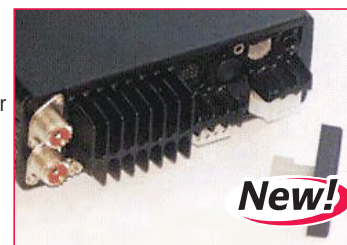
BET-YAETUNE ..... **\$44.99**

**New!**

## 706 Tune Control

Use the Tune/Call button on your Icom IC-706 (all models) and IC-718 transceiver to tune your antenna, an antenna tuner, or to check SWR. Push the button once and the transceiver emits 10 watts, steady carrier and sidetone through an internal or external speaker.

BET-706TUNE ..... **\$32.99**

**New!**

Station Equipment

## MFJ Antenna Tuners

### 200 Watt MightyMite IntelliTuner™

At just 6.5" x 2.15" x 8.25", the MightyMite complements today's compact HF transceivers like the IC-706MKIIG, IC-7000, FT-857D, DX-70TH and TS-50S. It can also be used as a stand-alone automatic antenna tuner for any transceiver that has an output power of 2 to 200 watts SSB/CW from 1.8-30 MHz, with antenna impedances from 6 to 1,600  $\Omega$ .

MFJ-925 .....\$169.95



### 200 Watt Automatic IntelliTuner™ with Weather Protection

This unit lets you rapidly tune any unbalanced, single-wire or aluminum vertical antenna automatically. The tuner features a highly efficient switching L-network with wide matching capability, 1.8 to 30 MHz coverage, a radio interface port, and heavy-duty 10 amp/1,000 volt relays. It is rated at 200 watts SSB/CW. The tuner is part of the cost-effective DXE-MBV-ATU-1 Remote Tuner Package, with is perfect for automatic bandswitching of popular 43 foot multi-band vertical antennas.

MFJ-927 200 Watt Automatic IntelliTuner™ with Weather Protection.....\$249.95

MFJ-926 200 Watt Automatic Antenna Tuner for HF SSB.....\$389.95



MFJ-927

### 200 Watt IntelliTuner™

The IntelliTuner™ lets you rapidly tune any antenna—unbalanced or single-wire—automatically. It is a comprehensive automatic antenna tuning center with SWR/wattmeter and antenna switch for two antennas. The tuner includes a highly efficient switching L-network with wide matching capability, 1.8 to 30 MHz coverage, a radio interface port, and heavy-duty 10 amp/1,000 volt relays. It is rated at 200 watts SSB/CW.

MFJ-929 .....\$209.95



### 1.8 to 30 MHz Artificial Ground

This artificial RF ground resonates a random length of wire thrown along the floor and produces a tuned counterpoise. This ground effectively places your rig near actual earth ground potential even if the rig is on the second floor or higher with no earth ground possible. It reduces the electrical length of the ground connection wire to virtually zero by tuning out its reactance. The artificial ground connects between your rig and a random length of wire or a connecting ground wire. It's tuned for maximum ground current using the built-in RF ammeter.

MFJ-931 .....\$104.95



### 300 Watt Antenna Tuner/Artificial Ground

This unit combines a versatile antenna tuner with an artificial ground. It turns a random wire into an effective antenna that works. It's great for traveling, emergency use, or as a makeshift antenna. The 300 watt, general purpose antenna tuner covers 1.8 to 30 MHz. It features a two range, lighted cross-needle meter that lets you read SWR, forward and reflected power all at a glance, and a 4:1 balun for balanced lines. You also get an efficient airwound inductor, a special high-current/voltage 12 position inductor switch, and two 1,000 volt air-variable capacitors. It tunes all types of antennas and feedlines including random wire, coax and balanced lines.

MFJ-934 .....\$194.95



### 300 Watt Antenna Tuner

This 300 watt RF output power antenna tuner will match any transmitter or transceiver to virtually any antenna. Peak or average forward and reflected power plus SWR can be read on the illuminated cross-needle meter. The tuner uses a "T" matching network and covers all bands between 160 and 10 meters. This network will tune dipoles, inverted-vees, verticals, mobile whips, beams, random wires, and many other antenna types. The tuner has rear panel connectors for coaxial, single wire or two wire feedlines. A built-in 4:1 balun allows the use of balanced open wire, twinlead, or twin-axial feedlines.

MFJ-949E .....\$154.95



### HF 1,500 Watt Antenna Tuner with Wattmeter & Antenna Switch

This tuner handles 1,500 watts PEP SSB amplifier input power (800 watts PEP SSB amplifier output power)—ideal for use with Ameritron's best-selling 800 watt AL-811H or 600 watt AL-811 amplifiers! The ultra-compact (10.75" x 4" x 10.875") tuner features an aluminum-skirted knob set with a weighted deluxe spinner knob and a scratch-proof, multi-colored Lexan front panel. Two transmitting tuning capacitors and MFJ's exclusive AirCore roller inductor gives you precise control to get your SWR down to an absolute minimum.

MFJ-962D .....\$259.00



### 300 Watt Roller Inductor Antenna Tuner

This tuner's AirCore Roller Inductor, gear-driven turns counter, and spinner knob gives you exact inductance control for absolute minimum SWR. You get the widest matching range, ultra-high-Q, the lowest loss, highest efficiency and highest power handling of any roller inductor in ham radio. Other features include a full size lighted cross-needle SWR/wattmeter that reads true peak forward power, QRM-Free PreTune, eight-position antenna switch, built-in 50  $\Omega$  dummy load, and a heavy-duty 4:1 balun, all enclosed in a tough, attractive cabinet.

MFJ-969 .....\$184.95



### 1,500 Watt Fully Balanced Antenna Tuner

This is a full legal limit, fully balanced antenna tuner. You get superb balance, very wide matching ranges (12-2,000  $\Omega$ ), and continuous 1.8 to 30 MHz coverage including all WARC bands! It handles a full 1,500 watts SSB and CW. You can tune any balanced lines including 600  $\Omega$  open wire line, 450/300  $\Omega$  ladder lines, and 300/72  $\Omega$  twin lead—shielded or unshielded. You can also tune random wires and coax-fed antennas.

MFJ-976 .....\$479.00



### 1,500 Watt Antenna Tuner with Dummy Load

This roller inductor tuner is a CW antenna tuner rated to the US amateur legal limit of 1,500 watts. It is designed to match 50  $\Omega$  output amplifiers, transmitters, or transceivers to virtually any antenna. Peak and average forward power, reflected power, and SWR are displayed on the illuminated cross-needle meter. The roller inductor "T" matching network continuously tunes all frequencies from 1.8 through 30 MHz. You can match dipoles, inverted-vees, verticals, mobile whips, beams, random wires and many other antenna types. The tuner has rear panel connectors for coaxial, single wire or two wire feedlines. A built-in 4:1 balun allows the use of balanced open wire, twinlead, or twin-axial feedlines.

MFJ-989D .....\$319.00



### Dual 300/150 Watt IntelliTuner™ Automatic Antenna Tuner

This tuner lets you rapidly tune any antenna—balanced, unbalanced, or single-wire—automatically. The tuner is a comprehensive automatic antenna tuning center with SWR/wattmeter, antenna switch for two antennas, and a 4:1 current balun for balanced lines. Other features include a highly efficient switching L-network with wide matching capability, 1.8 to 30 MHz coverage, cross-needle power meters, backlight LCD display, a port for an accessory remote control, a radio interface port, and heavy-duty 16 amp/1,000 volt relays. The tuner is rated at 300 watts to match 6 to 1,600  $\Omega$  antennas (SWR up to 32:1) or 150 watts to match wider range of 6 to 3,200  $\Omega$  (SWR up to 64:1).

MFJ-993B .....\$239.00





## Easy Tuner Selector Chart

	200W	300W	600W	1500W	2500W+
Manual		934 949E 969		962D 976 989D	9982 ATR-30
Automatic	925 926 • 927 929	993B	994B	998	

To help find the right tuners for your application, simply select a power rating and tuner type (manual or automatic), then use the matrix above to look at the exact specifications of the tuners at your power level. If the desired features don't exist at your power level, just move up a level and check again.

### 600 Watt IntelliTuner™ Automatic Antenna Tuner

This tuner lets you rapidly tune any antenna—unbalanced, single-wire or balanced (with an external balun) automatically. The tuner includes a highly efficient switching L-network with wide matching capability, 1.8 to 30 MHz coverage, cross-needle power meters, a port for an accessory remote control, a radio interface port, and heavy duty 16 amp/1,000 volt relays. It is rated at 600 watts PEP SSB and 300 watts CW.

Mfj-994B .....\$320.00

### 1,500 Watt IntelliTuner™

This automatic antenna tuning center has an SWR/watt meter and an antenna switch for two antennas. It lets you rapidly tune almost any unbalanced or single-wire antenna automatically. Balanced feedlines may be used with an external 4:1 balun connected to the tuner's antenna output. The tuner features Mfj's exclusive Amplifier Bypass Control™. It fully protects your amplifier during tuning and will even take your amplifier off-line if SWR increases above a user-defined, pre-set limit. The tuner includes a highly efficient switching L-network with wide matching capability, 1.8 to 30 MHz coverage, cross-needle power meters, backlight LCD display, a radio interface port, and heavy-duty 16 amp/1,000 volt relays. It is rated at 1500 watts SSB/CW and will match impedances from 12 to 1,600  $\Omega$  antennas (SWR up to 32:1).

Mfj-998 .....\$639.00

### 2,500 Watt Continuous Carrier Tuner

This high power antenna tuner operates at power levels up to 2,500 watts SSB or CW. It uses an edge wound roller inductor in a matching "T" network to continuously tune loads between 1.8 and 30 MHz. The tuner also features a true peak or average reading SWR/wattmeter. It will match dipoles, inverted-vees, verticals, mobile whips, beams, random wires, and many other antenna types. There are rear panel connectors for coaxial and single wire or balanced feedlines. The balanced feedlines are isolated from the tuner chassis with a fiberglass panel to reduce capacitive coupling, withstand high voltages, and handle high currents. The tuner is designed to match 50  $\Omega$  output amplifiers, transmitters or transceivers to virtually any antenna with an impedance ranging from 12.5-2,000  $\Omega$  on 3.5-30 MHz. It will match loads ranging from 12.5-800  $\Omega$  on 1.8-3.5 MHz. An internal six-position antenna selector switch selects a built-in 50  $\Omega$  dummy load, two coaxial line outputs, or a single wire/balanced line output.

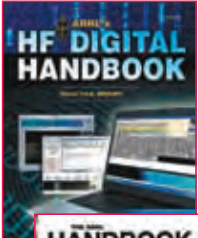
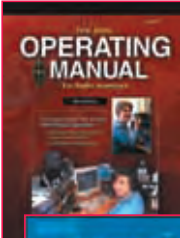


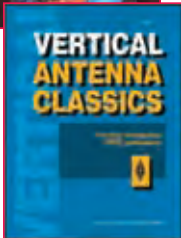
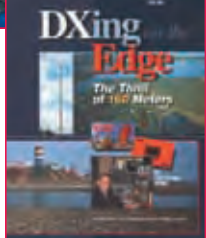
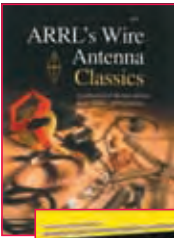
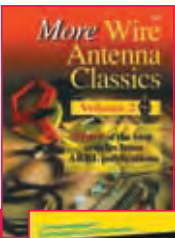

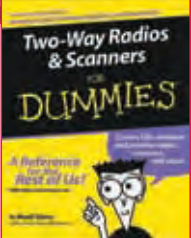
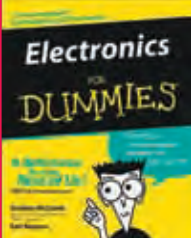

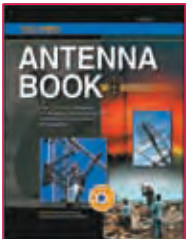
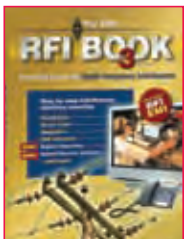
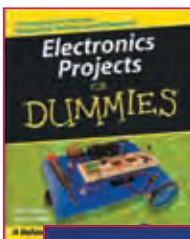
Mfj-9982 .....\$629.00

### Ameritron 3 kW Edge Roller Antenna Tuner

This high power antenna tuner has a roller inductor "T" matching network that continuously tunes all frequencies from 1.8 through 30 MHz. It also features a built-in 3 kW peak or average detecting directional power meter. There are rear panel connectors for coaxial and wire feedlines. A heavy-duty, high-voltage insulated, current-type balun allows use with balanced feedlines.

AMR-ATR-30 .....\$549.00

## ARRL Publications

ARR-1034	ARR-1093	ARR-1220
		
ARR-0953	ARR-5218	ARR-6354
		
ARR-7075	ARR-7709	ARR-9392
		
ARR-9696	ARR-9704	ARR-9795
		
ARR-9876	ARR-0915	ARR-9944
		
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.		
ARR-1034	ARRL HF Digital Handbook .....	\$19.95
ARR-1093	ARRL Operating Manual .....	\$29.95
ARR-1220	ARRL VHF Digital Handbook .....	\$19.95
ARR-0953	ARRL Handbook 2011 .....	\$49.95
ARR-5218	ARRL Vertical Antenna Classics .....	\$12.00
ARR-6354	ARRL DXing on the Edge .....	\$19.95
ARR-7075	ARRL Wire Antenna Classics .....	\$14.00
ARR-7709	ARRL More Wire Antenna Classics .....	\$17.95
ARR-9140	ARRL ON4UN's Low Band DXing .....	\$39.95
ARR-9392	ARRL Ham Radio for Dummies .....	\$21.99
ARR-9696	ARRL Two-Way Radio & Scanners for Dummies .....	\$21.99
ARR-9704	ARRL Electronics for Dummies .....	\$21.99
ARR-9795	ARRL More Vertical Antenna Classics .....	\$17.95
ARR-9876	ARRL Antenna Book .....	\$44.95
ARR-0915	ARRL RFI Book 3rd Edition .....	\$29.95
ARR-9944	ARRL Electronic Projects for Dummies .....	\$24.99
ARR-9994	NEW! ARRL Basic Antennas .....	\$29.95

# Outstanding Results— Maximum Protection!

## Surge Protection Products

A power surge can arrive by way of any conductor entering your home. One way is a strike to the AC power line somewhere outside your home, creating a surge which travels to your equipment via the power line. Another is a direct strike to an antenna or tower, or a voltage-inducing near strike where energy is coupled into your antenna system and transmission line. A surge can also enter via the telephone line. While these sources seem to be independent, they all share ground return paths which can co-mingle the effects of a surge on any one of them. These sources need to be addressed to provide maximum protection for your electronic equipment.

DX Engineering provides an extensive line of lightning and surge protection products.

## Alpha Delta Transi-Trap Broadband Coaxial Surge Protectors

These gas surge arresters are designed to protect sensitive electronic equipment from damage due to excess voltage or current generated by lightning or static buildup. The 50  $\Omega$ , DC voltage pass-through design makes the protectors ideal for applications requiring the coaxial cable to carry both RF and DC voltage, such as remote antenna switches that use coaxial cable for both RF and DC switching. The protectors have a 1/4"-20 stud for easy mounting and effective grounding.

The Transi-Trap surge protectors use a replaceable ARC-PLUG™ cartridge that can be changed in the field without tools and without removing the surge protector from the circuit.

The Defense Logistics Agency (DLA) has assigned National Stock Number (NSN) 5920 01 5470278 to the Model TT3G50 Coax Surge Protector and NSN 5325 01 5466841 to the 3G50 ARC-PLUG™ Cartridge for use in all U.S. Military and NATO applications worldwide.

ALP-ATT3G50	Protector with N-connector, 3 GHz/200 watts.....	<b>\$59.95</b>
ALP-ATT3G50HP	Protector with N-connector, 3 GHz/2 kW .....	<b>\$59.95</b>
ALP-ATT3G50U	Protector with SO-239, 500 MHz/200 watts .....	<b>\$49.95</b>
ALP-ATT3G50UHP	Protector with SO-239, 500 MHz/2 kW .....	<b>\$49.95</b>
ALP-3G-ARCPLUG	Replacement ARC-PLUG, 200 watts .....	<b>\$14.95</b>
ALP-3G-ARCPLUGHP	Replacement ARC-PLUG, 2 kW .....	<b>\$14.95</b>

## Broadband Coaxial Lightning Protectors, 50 $\Omega$ , DC Blocked

These broadband protectors are for general, single transmitter use in the 1.5 to 400 MHz frequency range. The lightning protectors are either bulkhead or flat surface (flange) mount. The units use a DC blocked gas tube design that has no DC continuity between the center pins. PolyPhaser's DC blocked products are designed to pass RF frequencies and block all DC. The protectors appear as a DC open between surge and protected ports and offer the best protection in the industry.

PPC-IS-50UX-C0	UHF Female, Flange, 2 kW HF, 1.5-400 MHz.....	<b>\$62.70</b>
PPC-IS-50UX-C1	UHF Female, Flange, 375W, 50-700 MHz.....	<b>\$62.70</b>
PPC-IS-50NX-C0	N Female, Flange, 2 kW HF, 1.5-400 MHz.....	<b>\$62.70</b>
PPC-IS-B50LN-C1	N Female, Bulkhead, 375W, 50-700 MHz.....	<b>\$65.50</b>
PPC-IS-B50LN-C0	N Female, Bulkhead, 2 kW HF, 1.5-400 MHz.....	<b>\$65.50</b>
PPC-IS-B50LU-C1	UHF Female, Bulkhead, 375W, 50-700 MHz.....	<b>\$65.50</b>
PPC-IS-B50LU-C0	UHF Female, Bulkhead, 2 kW HF, 1.5-400 MHz .....	<b>\$65.50</b>
PPC-IS-B50-HU-C1	UHF Female, Bulkhead, 500W VHF, 50-700 MHz.....	<b>\$76.00</b>
PPC-IS-B50HU-C0	UHF Female, Bulkhead, 3 kW HF, 1.5-400 MHz .....	<b>\$76.00</b>

## Broadband Coaxial Lightning Protector, 75 $\Omega$ , Baseband, DC Passing

The PPC-IS-75BB/6 is intended for low frequency/high frequency receive only, Local Area Network (LAN), and closed circuit video.

Connectors:				
Model	Female	Mounting	Receive Only, DC Pass	Price
PPC-IS-75BB/6	BNC	Flange	6 Vdc Pass, DC to 30 MHz	<b>\$114.00</b>

## Rotor Control Line Protector

The PPC-IS-RCT is a lightning protector for up to 8 line rotor controllers. It protects the controllers by preventing strike energy from entering the premises. Use J1 or J2 clamps to mount the PPC-IS-RCT to tower legs or ground rods.

### Features

- Multi-strike capability
- Faster than gas tube
- Shunt type device for up to 8 lines

### Specifications

- Number of Wires: up to 8
- Operating Voltage: +/- 70 Vdc
- Maximum Surge Current: 6.5 kA
- Turn-on Voltage: +/- 82 V

PPC-IS-RCT	Rotor Control Protector.....	<b>\$133.00</b>
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- Maximum Operating Current: 2A
- Let Through Voltage: 230 Vpk
- Turn-on Time: 4 ns
- Temperature Range: -40° to +85° C

## Data/Phone Line Lightning Protector

The PPC-IX-1T is a lightning protector for two-wire telephone trunks. It is a weatherized, modular high speed digital data/DC line protector. It incorporates 1 T-board for use in high speed network and DC voltage applications. The unique design of this device allows it to be used in a variety of different voice and data applications.

- Fast response times
- Lower differential voltages and harmonic energies than gas tubes
- Application: Telco Trunks, POTS
- Data Rate: up to 25 Mbps
- Max Holding Current: 400 mA @ +20° C
- Operating Temperature: -40° to +65° C
- Turn-On Voltage: + or -210 volts typical



PPC-IX-1T	Data/Phone Line Protector, one twisted pair .....	<b>\$57.00</b>
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## AC/DC Power Protectors

Protecting your equipment from incoming lightning surge energy is accomplished at two levels. Both levels require a single point ground (SPG) system.

**First:** install an AC power shunt protector on the incoming power mains. It is important that the AC shunt protector is located at the SPG entry point. **Second:** have the equipment connected to an AC series protector, which is also tied to the SPG. Keeping all equipment plugged into the same outlet and grounded to the same point allows them to rise and fall in potential at the same time with no other paths to a lower potential.

### AC Shunt Protectors

For residential applications, you should use PolyPhaser's PPC-IS-PM240-BP AC shunt protector at the AC main box. This works on AC main installations that consist of two hot, a neutral and a ground coming from a single, center-tapped transformer, typical of most U.S. residential installations.

The AC shunt protector takes the surge energy on each hot lead to ground rather than the neutral line. Each hot lead is protected and includes a resettable circuit breaker on the path to ground. The AC shunt protector also includes a dry contact alarm indicator.

### Features

- Surge energy is shunted to ground, not to neutral
- Protectors on their own circuit breakers—won't interrupt load power
- Protection blocks/circuit breakers are replaceable if needed
- Remote/local status dry contacts

### Specifications

- Max Surge Current: 40 kA
- Turn-on Time: 25 ns
- Phase Quantity: 2
- Operating Temperature: +5° to +40° C
- Remote Status Capable: Yes
- Turn-on Voltage: 205 Volts
- Operating Voltage: 120/208 Volts
- Voltage Configuration: Bi-phase
- Local Status Indicator: Yes



### AC Series Protectors

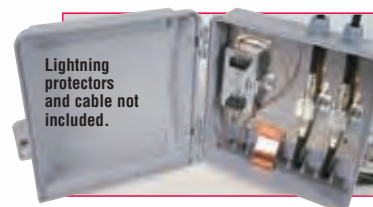
Use the PLDO line of protectors in-line to protect sensitive equipment. The unit has a master on/off switch and circuit breaker for added protection. It is capable of handling multiple strikes. Mount the housing on the PPC-CU-SPGP grounding plate and tie the plate to your single point ground.

Model	Description	Price
PPC-IS-PM240-BP	Protector, AC Shunt, Power Mains	<b>\$437.00</b>
PPC-PLDO-240US-15A	Protector, AC Series, 240 Vac, 15 A	<b>\$250.00</b>
PPC-PLDO-120US-20A	Protector, AC Series, 120 Vac, 20 A	<b>\$229.00</b>
PPC-PLDO-120US-15A	Protector, AC Series, 120 Vac, 15 A	<b>\$209.00</b>



## Utility Enclosure

This weather-resistant, high impact thermo-plastic enclosure is perfect for outdoor installations of lightning protectors and other equipment. The enclosure measures 12 1/4" H x 12" W x 5 1/4" D and features a removable, self-latching hinged cover. This utility enclosure includes wall mounting hardware, an aluminum plate to mount lightning protectors, plate mounting hardware, two weather-tight coax feedthrough adapters, and drilling template. The coax feedthrough adaptors will fit coax sizes from RG8X to LMR400. The enclosure can be mounted to a post, pipe or tower leg using optional element clamps.



DXE-UE-1P	Utility Enclosure Package .....	<b>\$49.95</b>
DXE-CFT-1P	Coax Feedthrough, 6-pack.....	<b>\$14.95</b>

## Low Voltage AC 2-Wire Protector

The PPC-IS-SPTV is designed to protect two-wire low voltage AC applications, such as closed circuit TV cameras, from lightning damage. It features fast response time and lower differential voltage and harmonic energies than gas tubes.

PPC-IS-SPTV	Protector, CCTV power, 24 Vac, 5A max .....	<b>\$75.05</b>
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## ECLS-Series Band Clamps with Stud

The ECLS-Series clamps feature a 3/4 inch long, 10-24 welded stud for easy connection of feed wire, baluns, current chokes, etc. to tubular elements. Stainless steel hardware included. Sold in packs of 2. **See Page 40 for complete application list.**

**New!**



## Copper Strap to Tower

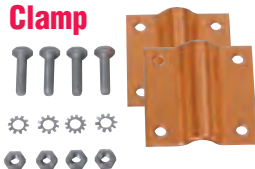
The PolyPhaser TK clamp series has a stainless steel plate to go between the copper strap and galvanized tower leg to prevent corrosion due to dissimilar metals. Use for tower leg diameters of 5/8 inches to 3 1/4 inches.

PPC-TK-1	Strap to Tower Leg Ground Clamp, 5/8" to 1 1/4" .....	<b>\$8.55</b>
PPC-TK-2	Strap to Tower Leg Ground Clamp, 1 1/4" to 2 1/4" .....	<b>\$8.55</b>
PPC-TK-3	Strap to Tower Leg Ground Clamp, 2 1/4" to 3 3/4" .....	<b>\$11.40</b>
PPC-TK-4	Strap to Tower Leg Ground Clamp, 3 1/2" to 5" .....	<b>\$11.40</b>

## Copper Strap to Copper Ground Rod Clamp

This clamp bonds a 5/8 inch ground rod to copper strap. 18-8 stainless steel hardware included.

PPC-58R-112S	Strap to Copper Ground Rod Clamp .....	<b>\$30.40</b>
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## Ground Wire to Copper Ground Rods

The PolyPhaser J series clamps are used to connect ground wire to copper ground rods sized from 1/2 inch to 2 1/4 inches. They accept wire ranging from #2 stranded to #10 solid. These clamps are made of cast bronze and include 18-8 stainless steel hardware.

PPC-J-1	Wire to Rod Transition Clamp, 1/2" to 1 1/3" .....	<b>\$14.25</b>
PPC-J-2	Wire to Rod Transition Clamp, 1 1/2" to 2 1/4" .....	<b>\$19.00</b>



## Copper Strap

Use copper strap to achieve a low inductance ground system. Copper strap has a larger surface area and lower inductance per foot than equivalent cross-section wire. Use ground strap to tie equipment back to a common ground point. Copper strap should also be used to make a non-resonant counterpoise for towers mounted on mountain-tops or other rocky terrain. All copper strap is 2 inches wide and 0.011 inches thick.

DXE-CS2-25	Copper Strap, 2" by 25' .....	<b>\$54.95</b>
DXE CS2-50	Copper Strap, 2" by 50' .....	<b>\$96.95</b>
DXE CS2-100	Copper Strap, 2" by 100' .....	<b>\$184.95</b>



## Copper Strap to Copper Strap Clamp

If you need to bond two copper straps together, for extending an existing run or to add drops to equipment, the PolyPhaser PPC-MSC-3 bonding clamp is ideal. The PPC-MSC-3 accepts ground straps from 1 1/2 to 3 inches and includes 18-8 stainless steel hardware.

PPC-MSC-3	Multi-Strap Clamp.....	<b>\$14.25</b>
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## Copper Cleaning Kit

Proper preparation of the copper surfaces and application of copper joint compound prior to bonding is essential to maintain the low resistance properties of the strap connection. The copper cleaning kit has everything needed to establish the bond. Included are a non-abrasive scrub pad, copper joint compound and complete instructions.

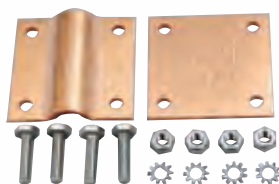
PPC-CCK	Copper Cleaning Kit .....	<b>\$28.50</b>
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## Copper Strap to Copper Wire Clamps

These PolyPhaser wire bonding clamps provide a convenient way to bond heavy gauge copper wire to copper grounding straps. These clamps handle from 6 AWG to 6/0 AWG, depending on the model. 18-8 stainless steel hardware is included.

PPC-1C-112S	Copper Wire to Strap Bonding Clamp, 6 to 1 AWG .....	<b>\$31.35</b>
PPC-10C-112S	Copper Wire to Strap Bonding Clamp, 1/0 to 6/0 AWG .....	<b>\$37.05</b>



## Coax Shield Ground Kits

These kits provide a low inductance path for proper ground contact between a round member made from copper, brass, aluminum, tin or steel to corresponding copper, brass, aluminum, tin or steel grounding material. Examples: grounding the coax shield as the coax leaves the tower or connecting a round tower leg to the ground system. Three kits are available for various combinations of shield material to grounding material and fit coax shield or tower leg diameters from 1/4 inch to 2 1/8 inches. These kits include a perforated strap, an adjustable angle, 24 inch long tail strap, a weatherproofing kit and all stainless steel brackets and hardware.

PPC-UNI-KIT-2CC	Copper to Copper Ground Kit.....	<b>\$47.50</b>
PPC-UNI-KIT-2CT	Copper to Aluminum Ground Kit.....	<b>\$47.50</b>
PPC-UNI-KIT-2TC	Aluminum to Copper Ground Kit.....	<b>\$47.50</b>
PPC-UNI-KIT-2TT	Aluminum to Aluminum Ground Kit.....	<b>\$47.50</b>



## Weatherproofing Kit

Use PolyPhaser's Weatherproofing Kit PPC-WK-1 when mounting lightning protectors or making ground connections outdoors. The kit prevents moisture ingress and easily handles extreme temperatures, the sun's UV rays and salt spray.

PPC-WK-1	Weatherproofing Kit.....	<b>\$8.55</b>
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## Ground Braid Assemblies

DX Engineering Ground Strap is available preassembled with lugs for both #10 and 1/4 inch bolt sizes. A grounding strap is ideal for grounding a rig, amp, etc. to a copper strip running behind the desk; the strip becomes the central ground point for the equipment. This central ground can be routed away with heavy copper strap to join any other similarly protected branches for single point grounding (SPG) lightning protection.

Other possible uses include noise reduction by grounding a vehicle exhaust, establishing a connection between a radial plate, balun, and a vertical antenna to keep current off of the feedline, and any custom grounding application where a reliable connection is needed.

Assemblies with 1/2 Inch Wide Braided Strap		Assemblies with 1 Inch Wide Braided Strap	
DXE-TCB05-RT01	#10 ring lugs, 1' ..... <b>\$8.50</b>	DXE-TCB10-RT01	1/4" ring lugs, 1' ..... <b>\$9.45</b>
DXE-TCB05-RT03	#10 ring lugs, 3' ..... <b>\$9.50</b>	DXE-TCB10-RT18I	1/4" ring lugs, 18" ..... <b>\$9.50</b>
DXE-TCB05-RT05	#10 ring lugs, 5' ..... <b>\$10.75</b>	DXE-TCB10-RT24I	1/4" ring lugs, 2' ..... <b>\$9.95</b>
DXE-TCB05-RT10	#10 ring lugs, 10' ..... <b>\$12.50</b>	DXE-TCB10-RT03	1/4" ring lugs, 3' ..... <b>\$10.95</b>
DXE-TCB05-RT18I	1/4" ring lugs, 18" ..... <b>\$8.45</b>	DXE-TCB10-RT05	1/4" ring lugs, 5' ..... <b>\$12.95</b>
DXE-TCB05-RT24I	1/4" ring lugs, 2' ..... <b>\$8.75</b>	DXE-TCB10-RT10	1/4" ring lugs, 10' ..... <b>\$17.95</b>
DXE-TCB05-RT36I	1/4" ring lugs, 3' ..... <b>\$9.35</b>		
3/4 Inch Wide Braided Strap			
DXE-TCB075-RT18I	1/4" ring lugs, 18" ..... <b>\$9.95</b>		
DXE-TCB075-RT24I	1/4" ring lugs, 2' ..... <b>\$10.75</b>		
DXE-TCB075-RT03	1/4" ring lugs, 3' ..... <b>\$11.95</b>		



DXE-TCB05-RT03

DXE-TCB10-RT03



## Coaxial Cable Grounding Brackets

The CGB-Series Coax Grounding Brackets are a versatile solution for additional grounding of coaxial cable shields. The stainless steel bracket is supplied with a stainless steel V-bolt and hardware in your choice of two sizes for a solid connection to the tower leg. Each bracket has holes for use with DXE-363-SST bulkhead connectors, or chassis mount SO-239 connectors, or DXE-1023 for N connectors.

The Grounding Bracket is an ideal junction point for the coax pigtailed that form the rotor loop to connect to the downleads. The bracket can also be used at the base of the tower to provide a solid grounding point before the coax cable is routed away from the grounded tower. The bracket has serrated teeth to bite through paint and corrosion. Additional fasteners are supplied if you wish to extend a ground braid or copper strap for secure grounding.

DXE-CGB-150	Coaxial Cable Grounding Bracket, fits 1/2" to 1 1/2" O.D. tube .....	<b>\$14.95</b>
DXE-CGB-200	Coaxial Cable Grounding Bracket, fits 1" to 2" O.D. tube.....	<b>\$14.95</b>

**New!**



## Ground Strap

DX Engineering offers quality tinned copper braid in 5 widths for grounding applications. It is sold per foot to accommodate almost any project. Very long per-foot lengths may not be continuous—contact Customer Service to discuss your length needs if continuous length is required. The strap is available in these sizes:

DXE-TCB-038	3/8" wide x 1/32" thick .....	per foot <b>\$0.45</b>
DXE-TCB-050	1 1/2" wide x .030" thick .....	per foot <b>\$0.60</b>
DXE-TCB-063	5/8" wide x .030" thick .....	per foot <b>\$0.80</b>
DXE-TCB-075	3/4" wide x .040" thick .....	per foot <b>\$1.10</b>
DXE-TCB-100	1" wide x .045" thick .....	per foot <b>\$1.25</b>

## Maximum Isolation—Minimum Noise!

An often overlooked aspect of antenna relay systems is port-to-port isolation. Poor isolation manifests itself as receive noise being coupled from any unused antennas to the single selected antenna. For example, if you are using Antenna #1 but Antenna #7 is receiving a lot of noise, poor isolation will allow the noise to bleed over into your selected antenna port. This affects your ability to receive weak signals.

The DX Engineering RR8A Series Antenna Switches arrange the relays in a star pattern to select one or more of eight output ports when voltage is applied from a 9-wire control line. The RF-rated relays provide greatly improved power handling and SWR over conventional switches and allows port-to-port connections between any of the eight output ports. The port-to-port isolation is the best available—you will get no signal from unselected antennas! Our switches offer virtually no loss at HF and excellent low-loss performance up to 50 MHz (DXE-RR8A-SD) and 150 MHz (DXE-RR8A-HP).

### Ameritron RCS-4 Remote Antenna Switch

**New!**



The Ameritron RCS-4 is a Four Position Remote Antenna Switch which is powered through the coax cable. The relay switch box may be tower, mast or wall mounted—the control console is located at your operating position. Bright LED indicators, steel enclosure, 50 ms switching time, SO-239 connectors. Uses three heavy duty 10 ampere contact relays on a rugged G-10 fiberglass circuit board. The RCS-4 operates from 120 Vac power source, covers 1.8 to through 30 MHz at 1,500 watts.

AMR-RCS-4 1.5 kW Four Position RF Switch ..... **\$149.95**



### Manual Antenna Switches

**New!**

Alpha Delta antenna switches have precision-machined, low loss components for reliable service. Grounded unselected antenna ports and ARC-PLUG™ lightning surge protectors provide the final line of protection.

ALP-DELTA-2B	2-Position Coax Switch, SO-239 connector.....	<b>\$59.95</b>
ALP-DELTA-2B/N	2-Position Coax Switch, N-connector .....	<b>\$75.95</b>
ALP-DELTA-4B	4-Position Coax Switch, SO-239 connector.....	<b>\$89.95</b>
ALP-DELTA-4B/N	4-Position Coax Switch, N-connector .....	<b>\$99.95</b>
ALP-ASC-4B	4-Position Desk Console Switch, SO-239 connector .....	<b>\$149.95</b>
ALP-ASC-4B/N	4-Position Desk Console Switch, N-connector .....	<b>\$159.95</b>
ALP-D4	Replacement ARC-PLUG .....	<b>\$9.95</b>
<b>MFJ Manual Antenna Switches</b>		
MFJ-1702	2-Position Antenna Switch .....	<b>\$19.95</b>
MFJ-1702C	2-Position Antenna Switch with grounding.....	<b>\$39.75</b>
MFJ-1704	4-Position Antenna Switch with grounding.....	<b>\$79.50</b>
MFJ-2702	1GHz/2kW 2-Position Antenna Switch, SO-239 connector.....	<b>\$32.95</b>
MFJ-2702N	3GHz/2kW 2-Position Antenna Switch, N-connector .....	<b>\$42.95</b>

## DX Engineering's Symmetrical Design—Highest Reliability and Performance!

### Remote Antenna Switches

Installation of these remote antenna switches is hassle-free! No need to remove the cover to install the control cable—it plugs in with an external connector. You can use inexpensive CAT-5 cable to connect between the relay switch and the controller at the operator position.

The DX Engineering RF Switch also provides great SWR and superior port-to-port isolation. Why is port-to-port isolation important? When you select an antenna with your RF switch you expect to hear all of the signals on that antenna—and that is all you want to hear! You don't want to hear signals from other antennas.

Port-to-port isolation is the property of the RF switch that keeps you from hearing signals from other antennas. If you have more noise than you would expect when you listen on a band, you may have less port-to-port isolation than you should.

There is a lot of RF out there; your antennas are immersed in RF all of the time. When you listen to 80m, for instance, your 40m antenna is still picking up the RF from the 40m band, 160m band, AM broadcast band, etc. Your other antennas are doing the same thing. Sometimes, the signals from two or more antennas can mix to give you even more interference issues. If the port-to-port isolation of your RF switch is lacking, you are going to hear some amount of noise that the other antennas are picking up.

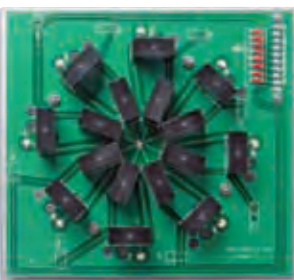
This raises the noise floor of your location and makes it difficult to hear the station that you are trying to work.

DX Engineering RF Switches have a port-to-port isolation of greater than 60 dB for all ports, not just the best port. This is the best port isolation of all coax switches that we have tested—and we have tested ALL of the major brands. Some of the switches that we have tested from a major manufacturer have tested as low as 30 dB! None of the tested switches have a port-to-port isolation as high as the DX Engineering RF Switches.

**This is one component in your station that should be the very best!**

### Features

- Fully RF-shielded with high strength, UV-resistant cover, stainless steel mounting bracket and hardware
- Lightning protection standard
- Solderless, removable plug for easy installation of control line with no disassembly
- Can be wired without disassembly
- Can select individual or multiple ports for stacking and phased array applications
- Safe 12-volt relay operation
- Unused antenna ports can be jumpered for open or shorted to ground



**DXE-RR8A-HP**  
**5 kW Key-Down**  
**RF Switch**

- Highest isolation
- 5 kW rating
- Usable to 150 MHz



**DXE-RR8A-SD**  
**10 kW Key-Down**  
**RF Switch**

- 10 kW rating
- Usable to 60 MHz
- Excellent isolation

The **DXE-RR8A-HP** uses 16 relays (2 per port) in a star arrangement to provide greater than 70 dB of port-to-port isolation. It is designed to switch coaxial lines in RF systems operating up to 5 kW continuous duty. The **DXE-RR8A-SD** is the largest switch in the RR8A series, designed to switch coaxial lines in high power RF systems up to 10 kW continuous duty.

### Specifications

- Port Isolation (Worst Case): 70 dB (RR8A-HP), 60 dB (RR8A-SD)
- Sealed RF Relays: 20 amps (HP), 25 amps (SD)
- Power Rating (<2:1 SWR at 30 MHz): 7 kW ICAS/5 kW CCS (HP), 10 kW ICAS/CCS (SD)
- Control Voltage: 10-14 Vdc/100 mA (HP), 10-14 Vdc/160 mA (SD)
- Loss (HP): <0.03 dB below 60 MHz, <0.25 dB below 150 MHz
- Loss (SD): <0.03 dB below 30 MHz, <0.16 dB below 60 MHz
- Impedance: 50  $\Omega$
- Control Line: 8-wire plus ground, #24 up to 1,000 ft. (DXE-CW9S)

### CC-8A Controller

This controller can be used with any RR8A series RF switch, the RFS-1 or other products using 1-of-8 or BCD control. The unit features a metal case with rubber feet and has a built-in power supply. Unlike some other controllers, the CC-8A stays in place while you are switching. The control cable is attached via a modular plug. If you need to rearrange your shack, just unplug the connector! LED brightness is adjustable by a potentiometer on the rear panel.

DXE-RR8A-HP	5 kW Key-Down RF Switch.....	<b>\$349.00</b>
DXE-RR8A-SD	10 kW Key-Down RF Switch.....	<b>\$415.00</b>
DXE-CC8A	Deluxe Control Console, 8-position .....	<b>\$159.95</b>
DXE-RR8A-HP-P1	5 kW Key-Down RF Switch Package, includes standard control console .....	<b>\$449.00</b>
DXE-RR8A-SD-P1	10 kW Key-Down RF Switch Package, includes standard control console .....	<b>\$515.00</b>
<b>Accessories</b>		
AMR-RCS-12C	Ameritron Automatic Antenna Switch Controller.....	<b>\$234.95</b>
AMR-DB-13D	Cable, RCS-12C to Icom 706, 7000, 718 .....	<b>\$23.95</b>
AMR-DB-7DI	Cable, RCS-12C to Icom ACC2 .....	<b>\$23.95</b>
AMR-DB-7DK	Cable, RCS-12C to Kenwood TS-2000, 570, 870 .....	<b>\$23.95</b>
AMR-DB-8DY	Cable, RCS-12C to Yaesu 8-PIN CAT .....	<b>\$23.95</b>
AMR-DB-8MK	Cable, RCS-12C to Kenwood TS-480 .....	<b>\$23.95</b>
DXE-CW8	Control Wire, 8-conductor.....	per foot <b>\$0.48</b>
DXE-CW8-HD	Control Wire, 8-conductor heavy duty .....	per foot <b>\$0.98</b>
DXE-CW9	Shielded Control Wire, 9-conductor .....	per foot <b>\$0.29</b>
DXE-CW9S	Control Wire, 9-conductor-stranded .....	per foot <b>\$0.36</b>



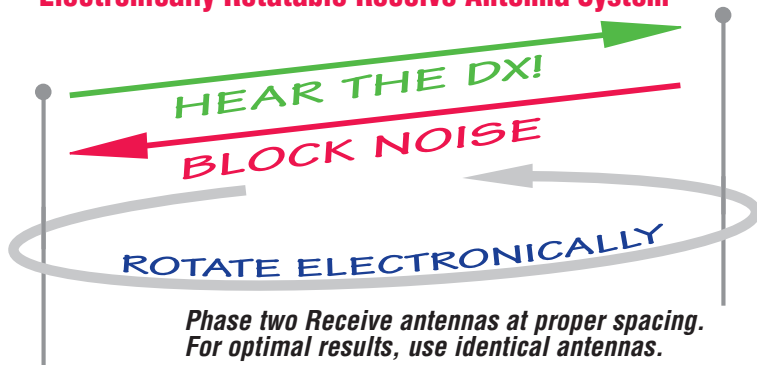
## Receive Antenna Variable Phasing Controller

Allows control of signal level and phasing of two receive antennas—see specifications below. It is available separately for those who want to design their own variable receive antenna system.

DXE-NCC-1 Receive Antenna Variable Phasing Controller .....\$599.95  
See NCC-1 specifications below.



## Electronically Rotatable Receive Antenna System



Phased receive-only antenna systems are used to create a directional pattern which can peak desired signals and remove interfering signals. Variable phase nulling allows an operator to improve reception by electronically reducing a stronger interfering signal arriving from a different direction.

This system includes two Active Receiving Vertical Antennas and the DXE-NCC-1 Receive Antenna Variable Phasing Unit. It combines the two verticals to produce a steerable directional array. The system improves your reception of weak DX by:

- Combining two omni-directional antennas to produce an adjustable directional pattern
- Reducing overload from a strong signal in a different direction
- Reducing interference from distant signals or noise in a different direction
- Nulling directional strong signals to hear weak stations on the same frequency

### Features

- Vertical antenna elements only 102 inches long
- Ideal for Amateur Radio or Shortwave listening
- Antenna elements are grounded when power is turned off
- Use with DXE-TVSU-1 sequencer for best protection before transmitting

### NCC-1 Phasing Unit Specifications

Usable Frequency Range: 300 kHz to 30 MHz

Optimum Performance Range: 500 kHz to 15 MHz

Third Order Output Intercept: +32 dBm each input, +38 dBm both inputs combined

Gain Flatness: +/- 1 dB over complete phase rotation

Gain: Adjustable from 0 dB to -40 dB

Available Phase Rotation: >360 degrees between 500 kHz and 15 MHz

Power: NCC-1 +13 Vdc nominal @ 1A minimum (2A recommended)

Antenna Port Power: 10-30 Vdc @ 300 mA maximum, TX muting available

DXE-AAPS-1P Active Antenna Phasing System .....\$1,099.95

## MFJ 1.5-30 MHz Deluxe Noise Canceller

This unit is designed to reduce noise or interference—or improve desired signals—before the noise affects sensitive receiver circuits. Unlike conventional noise blankers, it is effective on all types of noise, including interference (QRM) from unwanted signals.

You can adjust both phase and amplitude while combining two antenna inputs. The antenna inputs can be from two external antennas, or an external antenna and the unit's internal whip antenna. The signal output for the receiver is the vector addition or subtraction of signals from the two separate antennas. This removes unwanted noise and enhances desired signals.

The Deluxe Noise Canceller is optimized over the range of 1.8 to 30 MHz and has the interface circuitry necessary for operation with most modern HF transceivers.

MFJ-1026 1.5-30 MHz Deluxe Noise Canceller .....\$179.95



## RTR-1 Receive Antenna Interface for Transceivers

Now you can add a dedicated receive antenna to HF transceivers which lack a separate RX antenna input port! The DX Engineering RTR-1 Receive Antenna Interface is a unique, multi-purpose switch unit which automatically or manually switches the RF output antenna connector on any HF transceiver between reception using a separate receiving antenna system and transmitting with a standard transmitting antenna.

The RTR-1 enables operators to enjoy the improved reception that a low noise receiving antenna system offers. Connection to a Beverage, receive four-square, active receive antenna, and other receiving antennas and accessories is now possible.

- Stainless steel enclosure
- 200 watt switching capability
- Supports CW full break-in
- Switches out active receive antennas for close proximity to transmit antennas
- Allows use of RF preamp with single antenna
- Main antenna has SO-239 connector
- Receive outputs use RCA phono and Type F connectors
- Safe switching—transmit antenna is always connected to transceiver on power-off
- Hot switching lockout disables receive antenna during transmit mode

DXE-RTR-1 Receive Transmit Relay Switch .....\$159.95



## Receive Four-Square System

- W8JI design
- Excellent directivity in a small space for better signal-to-noise ratio
- Switchable in four 90 degree spaced directions
- Reduced susceptibility to high angle signals compared to EWE, Flag, Pennant, or K9AY arrays
- Operates from 100 kHz to 30 MHz
- Each complete system package includes four active vertical antennas, RFS-2 switch, CC-8A controller, 1,000 feet of F6 flooded cable, connectors and tools
- TVSU-1 Time Variable Sequencer Unit included to protect active antennas installed as close as 1/10 wavelength from transmitting antenna

DXE-RFS-TS2P Receive Four-Square System .....\$1,650.00

System components also available individually.

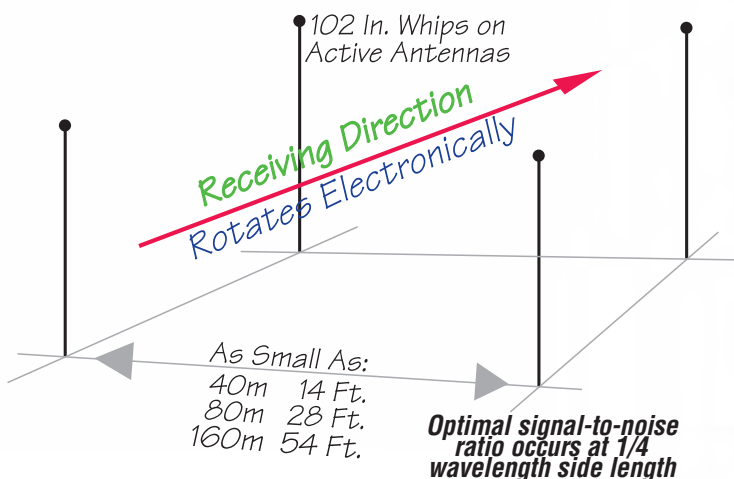


## Complete Electronically Steered Receiving System

- More than 5 S-units of front-to-back on optimized systems
- Works best on 160m, 80m & 40m
- Like having a rotatable Beverage antenna
- Fits in YOUR yard!
- Easily installed—no radials required

Want to know what people are saying about this system?  
Visit: [www.eham.net/reviews/detail/5336](http://www.eham.net/reviews/detail/5336)

## Four-Square Receiving System



# Maximum Signal—Minimum Noise!

How often have you heard the old saying "If you can't hear 'em, you can't work 'em"? This is never truer than when you are in the pileup calling that rare contact that you need, wondering "Did he come back to me?"

DX Engineering provides all the tools you need to construct fabulous receiving antennas—the kind that let you work stations that others can't even hear! These W8JI-designed

amplifiers and antenna controllers are known worldwide for their unequalled performance. Record-breaking DXpeditions—like VP6DX Ducie Island—know and use DX Engineering receiving equipment. You should follow their lead and enjoy hearing those weak stations like you have never heard them before.

## Single Direction Beverage Feed System

The DXE-BFS-1 is a single-wire Beverage Feed System. This W8JI design is immune to strong signal overload and core saturation common in multi-transmitter contesting environments, and is used by winning contest stations and low-band DXers. The unit uses an isolated-winding, matching transformer system to significantly increase the signal-to-noise ratio in Beverage and other high impedance antennas.

The DXE-BFS-1 works with antenna impedances from 400-500  $\Omega$ . Included with the DXE-BFS-1 is a 470  $\Omega$ , 2-watt non-inductive resistor that withstands nearby lightning strikes significantly better than hard-to-find carbon composition resistors.

Feedline impedance on the DXE-BFS-1 is designed for 75  $\Omega$ , although it will work with 50  $\Omega$  coax. The DXE-BFS-1 uses an industry standard CATV type F connector. DX Engineering sells quality 75  $\Omega$  coax and type F connectors for outdoor installations.

### Benefits

- 100 kHz to 30 MHz operating range
- Spark gaps minimize damage from lightning
- Wing nut terminals eliminate soldering
- Metal housings used for superior shielding and improved life
- Flange-mount holes for easy mounting
- Ground isolated secondary essential for building beverage arrays

DXE-BFS-1	Beverage Feed System .....	<b>\$49.95</b>
DXE-ECM-R470-2	470 $\Omega$ , 2-watt resistor, lightning damage-resistant, pack of 10 .....	<b>\$20.00</b>

## Reversible Beverage System

The DXE-RBSA-1P allows two Beverage antennas receiving in opposing directions to share the same space. With the DXE-RBSA-1P, you can build a 2-wire reversible Beverage antenna system with superior signal-to-noise ratio, most useful at 40, 80 and 160m bands. The W8JI design consists of a Feedpoint System and Reflection Transformer. You can operate and even confirm the F/R ratio of this antenna at any time from the operating position.

This system is immune to strong signal overload and core saturation common in multi-transmitter contesting environments, and is used by winning contest stations and low-band DXers.

The DXE-RBSA-1P has two antenna ports. The standard configuration of the DXE-RBSA-1P has one port terminated (termination included) so both antennas share a common feedline. Applying 10 to 18 Vdc to the feedline switches between the antennas, and the direction of reception. For simultaneous reception from opposing directions, each of the two feedlines connect to a separate receiver.

While the DXE-RBSA-1P is optimized to use 450  $\Omega$  ladder line for the antenna element, the system will work with any 300-600  $\Omega$  2-wire line. 450  $\Omega$  ladder line is available from DX Engineering, sold separately. DX Engineering also sells quality 75  $\Omega$  coax and Type F connectors for outdoor installations.

### Benefits

- Broad operating range, 0.2 to 30 MHz
- Fully isolated grounds used to prevent common-mode noise and unwanted signals
- 75  $\Omega$  design enables the use of high quality, low cost cable
- Metal housings used for superior shielding and improved life

DXE-RBSA-1P	Reversible Beverage Feed System .....	<b>\$199.95</b>
DXE-TB-5P	Tilt Base .....	<b>\$19.95</b>



## Active Receive Antenna Systems

DX Engineering's Active Receive Antenna Systems offer excellent receiving performance using a 102 inch whip antenna. The unique design is vastly superior to traditional active antennas in both signal handling and feedline decoupling. You get significantly better weak signal reception.

Available in vertical or horizontal dipole configurations, the systems include a non-conductive mounting plate, clamps, active matching system, and the 102 inch stainless steel whip elements. The horizontal dipole element uses two 102 inch whips for an overall length of 210 inches; the vertical configuration uses a single whip. Whip antennas have excellent wind survival and are very inconspicuous.

**When space is limited, use the DXE-ARAV2-1P or DXE-ARAH2-1P in conjunction with the DXE-TVSU-1 to provide for operation within 1/10-wavelength of a transmit antenna. The active antennas have relay protection to prevent overload of the transmit signal. The DXE-TVSU-1 sequencer controls switching times to ensure the receive system is protected before transmit power is applied. Use the DXE-ARAV2-4P, DXE-TVSU-1 and DXE-RFS-2 to provide four-square operation within 1/10-wavelength of a transmit antenna.**

The vertical configuration can be used as a single element or in combination with DX Engineering's RFS-2 Receive Four-Square Antenna System to build a broadband directional array that can be switched in four directions to peak the signal or null out noise. Vertical configurations are for suburban or rural locations with low levels of ground wave propagated noise. The dipole configuration makes a very sensitive, horizontally polarized receiving antenna. Horizontal polarization can greatly reduce ground wave propagated noise in congested urban environments. Light weight and low wind resistance reduces support requirements. The output connector is a Type F, allowing use of readily available high performance CATV feedlines and connectors (see page 33).

### Features

- Sensitive—weak signal sensitivity rivaling full size antennas
- Wide bandwidth—100 kHz to 30 MHz
- Excellent strong signal handling—outstanding third order intercept of +30 dBm
- Reduced noise—quiet FET followers and high feedline shield isolation
- Easy mounting and installation—pre-drilled mounting plate and universal clamps

DXE-ARAH2-1P	Active Receive Antenna, horizontal configuration with relay .....	<b>\$349.95</b>
DXE-ARAV2-1P	Active Receive Antenna, vertical configuration with relay .....	<b>\$289.95</b>

## 2-Port Receiving Antenna Switch

Select one of two output ports (generally connected to different receiving antennas) from one feedline using the DXE-RLS-2. Install the DXE-RLS-2 with two DXE-RBS-1P Reversible Beverage Antenna Systems and select four directions using a single main feedline. Install one or more DXE-RLS-2s to expand larger Beverage arrays and share the feedline back to the operating position.

Applying a nominal 12 Vac or DC control voltage through the feedline activates transfer to port 2. Use DX Engineering's DXE-FVC-1 Voltage Coupler to supply the control voltage through the feedline.

### Benefits

- Metal housings used for superior shielding and improved life
- High quality components
- Reliable CATV type F connectors standard
- Broad 0.3 to 30 MHz operating range with 75  $\Omega$  systems
- Jumper-selectable—control voltage pass-through to the selected port

DXE-RLS-2	Receiving Antenna Switch .....	<b>\$79.95</b>
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## Splitter/Combiner

Use the DX Engineering DXE-RSC-2 to combine two receiving antennas to form an array or to split the signal from an antenna to feed two receivers. The DXE-RSC-2 reduces problems and performance shortfalls caused by impedance errors in less-than-perfect antenna systems.

### Benefits

- High quality components
- Reliable weathertight connectors
- Broad, 0.3 to 30 MHz operating range
- Metal housings used for superior shielding and improved life
- Economical solution to potential impedance errors
- Spark gaps minimize damage from lightning

### Combining

Use the DXE-RSC-2 to combine, with negligible loss, two antenna systems into a single feedline. Some examples are two antennas forming an in-phase (broadside) receiving array, Cross-fire Echelon Beverage array, or any type of array with fixed phasing.

There are a number of advantages of using the DXE-RSC-2 for combining antenna systems over a standard parallel connection.

- The DXE-RSC-2 matches the entire antenna system to the cable impedance
- Unlike quarter wave matching sections that only work on one band, the DXE-RSC-2 has an extremely wide bandwidth
- With antennas connected directly in parallel, if either one develops a high impedance open, becomes shorted, falls down or has a feedline problem, the entire antenna system may become unusable. By using the DXE-RSC-2, only the problem antenna is unusable—the antenna on the other port can still be used. Due to the built-in isolation and balancing, the DXE-RSC-2 limits the total signal loss to approximately 6 dB
- The DXE-RSC-2 provides very high isolation between ports 1 and 2. This prevents either antenna from interfering with the other during normal operation

### Splitting

Use the DXE-RSC-2 to split an antenna signal in two, typically to feed two receivers.

Typical signal level reduction through the DXE-RSC-2 when used as a splitter is just over 3 dB per port. This is because each port receives half the available input power, and the DXE-RSC-2 has some very small additional loss in internal components.

As with any system, losses are based on source and load impedances being equal. The DXE-RSC-2 normally provides equal power, voltage, and current to matched loads on ports 1 and 2.

The primary advantage of the DXE-RSC-2, when feeding multiple receivers from one antenna, is each individual receiver will not seriously affect the signal level of the other receiver. This prevents receiver band filters attached to one port from “shorting” or loading the signal of another receiver tuned to a different band. In addition, any spurious signals generated in one receiver are greatly attenuated by the other DXE-RSC-2 before reaching the second receiver.

DXE-RSC-2 2-Port Splitter and Combiner .....\$49.95



## Receive Feedline Current Choke

The Receive Feedline Current Choke (RFCC) is the most effective solution to common-mode noise or unwanted signal ingress in receiving systems available. It provides thousands of ohms isolation between the input and output coaxial shield connections while passing desired signals, including DC or low frequency AC control signals. The RFCC has extremely high isolation impedance, which effectively blocks common-mode noise or unwanted signals, even in the presence of very poor grounding. The RFCC is effective from 300 kHz to 30 MHz. It comes with standard type F female connectors, although it can be used in any 50 to 75  $\Omega$  receiving system.

DXE-RFCC-1 Receive Feedline Current Choke, 50/75  $\Omega$ , 0.3-30 MHz .....\$64.95



## Feedpoint Voltage Coupler

- Inject control voltages onto feedline
- Injects +/- 12 Vdc or 12 Vac
- For use with DXE-RBS-1P Reversible Beverage System or Remote 2-Position Switch DXE-RLS-2
- AC supply included

DXE-FVC-1 .....\$84.95



## Time Variable Sequence Unit

Protect your active antennas, transmit/receive relays and other equipment with the DX Engineering Sequencer. You have full control of the timing between your rig and amplifier.

This microprocessor-controlled device provides 0-30 milliseconds of delay in 2 millisecond steps to as many as five outputs tied to the key-in line. You can sequence the switching of critical devices such as the transmit/receive relay, amplifier and exciter.

In addition, the DXE-TVSU-1 has an internal side tone generator for CW. You listen to what you are keying while it is being held in the bucket brigade delay for transmit after the programmed delay. The side tone is adjustable from 300 to 1,000 Hz in 50 Hz steps.

### Benefits

- Control timing on PTT turn-on, hang delay of PTT, hang delay of amplifier, hang delay of antenna relay, and turn-on delay of auxiliary output
- Dip switch settable delays of 0-30 milliseconds in 2 millisecond steps
- Side tone generator that follows input of keyer or hand key not transmitter
- Side tone can be programmed for 300-1,000 Hz in 50 Hz steps, adjustable volume
- Supports CW full break in
- Allows use of our Active Receive Antennas in close proximity to transmit antennas

DXE-TVSU-1 Time Variable Sequence Unit.....\$199.95



## Receiver Preamplifier

This is the best HF low noise amplifier available. The DXE-RPA-1 is optimized for a 0.3-35 MHz operating range. The push-pull amplifier design and robust components enable it to withstand high signal levels and operate when you need it most. The dynamic range of the DXE-RPA-1 is better than most receivers.

The DXE-RPA-1 is suitable for indoor or outdoor installation, with the option of being powered through the coaxial feed. The metal housing provides shielding and improved lifespan. The unit uses an RCA type phono jack and a Type F connector for the input and output connections, and has a relay that automatically bypasses the amplifier when DC power is removed.

### Benefits

- Push-pull operation eliminates harmonic distortion
- High quiescent current increases ability to handle strong signals without distortion or overload
- Meticulous craftsmanship and durable components provide superior dynamic range
- RCA type phono jack and type F connector ease installation
- Simplified switching—automatic bypass relay eliminates gain when DC power is off
- 10-18 Vdc power through coaxial feed or separate supply jack
- 10-18 Vdc through coax enables remote operation at antenna

### Specifications

- Gain: 16 dB, 0.3-35 MHz (+1.5/-1.5 dB over this range)
- Output Third Order Intercept: 43 dBm
- Noise Figure: 3.5 dB
- One dB Compression: +26 dBm (~0.4 W output)
- 500 Hz BW IM3 Dynamic Range: 110 dB or greater
- Power Requirement: 10-18 Vdc @ 140 mA maximum
- Dimensions: 5.75 x 3.875 x 1.375 inches (WxDxH)

DXE-RPA-1 Receiver Preamplifier, 0.3-35 MHz.....\$119.95



**See page 34 for  
75  $\Omega$  flooded cable and connectors!**

## DX Engineering Transmit Four-Square Hybrid Controller— 4 Directions plus Omni

DX Engineering's TFS4 Series Four-Square Controllers combine a high level of engineering excellence with attention to operator convenience and ease of installation. The controllers are available for 160, 80/75, and 40 meters. They allow the operator to receive or transmit with 5.5 dB gain in any one of four directions with 20+ dB front-to-back ratio for interference reduction from unwanted directions. You can also switch to a single omni-directional pattern with the push of a single button.

This combination permits you to listen "all-around"—unhindered by pattern nulls—and then select the best direction for signal reception and noise rejection.

The TFS4 controllers are designed for use with a four monoband vertical antenna array spaced at the corners of a square that is 1/4-wavelength on a side. The vertical antennas must be ungrounded and resonant in the desired band, and should be directly base-fed by coaxial cable phasing lines from the centrally located controller. DX Engineering has vertical antennas that are well suited for this application. Above all, a properly designed and installed radial system is necessary for top antenna performance, whether a single vertical or a full array.

DX Engineering strongly recommends our optional QWC Series 1/4-wavelength cables. They are constructed of the highest quality Belden 8213, an RG-11/U foam dielectric cable with a velocity factor of 84% (0.84). These cables are cut to a precise electrical length based on your choice of center operating frequency. They are terminated with hand-soldered Silver-Teflon PL-259 connectors and weather-sealed with shrink tubing. Finally, each cable is tested for high voltage breakdown for maximum reliability and power handling.

If you already have a Four-Square array with a hybrid controller (such as COMTEK SYSTEMS, etc.) and would like to upgrade to improved performance and the Omni feature, the DX Engineering TFS4 Series is a direct transplant. BCD logic switching allows the use of a four-wire control cable to perform the necessary switching functions when powered by the included DXE-CC-4SQR Control Console.

### Features

- Classic Hybrid Design—easy to install
- 5 kW CW Power Rating—high reliability
- Hot Switching Lock-Out—disables amplifier while switching
- Drop-In Replacement for COMTEK SYSTEMS—easy upgrade
- Proven DX Engineering RF Relays—high performance
- Stainless Steel Weatherproof Housing—unique protection

DXE-TFS4A-160-P 160 Meter Four-Square Controller with Control Console.....**\$609.00**

DXE-TFS4A-80-P 80 Meter Four-Square Controller with Control Console.....**\$599.00**

DXE-TFS4A-40-P 40 Meter Four-Square Controller with Control Console.....**\$589.00**

**DX Engineering Customer Support personnel will be happy to help you select all the components necessary for a complete installation.**

**Contact Us for New Antenna Products  
and System Recommendations!**



### Accessories

DXE-QWC75-160-4P	Quarter Wave Cable, Belden 75 $\Omega$ , 160m, set of 4.....	<b>\$645.00</b>
DXE-QWC75-80-4P	Quarter Wave Cable, Belden 75 $\Omega$ , 80m, set of 4.....	<b>\$370.00</b>
DXE-QWC75-40-4P	Quarter Wave Cable, Belden 75 $\Omega$ , 40m, set of 4.....	<b>\$215.00</b>
VEC-DL650M	Vectronics DL650M Dummy Load .....	<b>\$79.95</b>
DXE-PSW-12D1A	AC Adapter, 12 Vdc/1000 mA .....	<b>\$19.99</b>
DXE-CC-4SQR	Control Console, Four-Square .....	<b>\$199.95</b>
COM-CW4	Control Wire, 4-conductor .....	per foot <b>\$0.28</b>
DXE-CW9	Shielded Control Wire, 9-conductor.....	per foot <b>\$0.29</b>

**New!**



## COMTEK SYSTEMS ACB-4 Phased Array Systems for 2- or 4-Element Vertical Arrays

COMTEK SYSTEMS uses state of the art design and technology to produce the most advanced antenna systems possible. These Phased Array Systems are affordable, simple to install, and easy to use. A phased array consists of two or more elements fed in a phase relationship and power ratio to obtain a directional pattern. COMTEK SYSTEMS' phased array switchboxes can be used with 2- or 4-element horizontal or vertical arrays to provide the greatest directivity.

We offer the ACB-4 for all amateur bands from 10 meters to 160 meters. The ACB-4 is band specific—you cannot use an 80 meter ACB-4 for any band other than 80 meters.

### Power Supply/Switch Control

- One amp (1A @ 12.6VCT) transformer for reliable 115 Vac operation
- 200 PIV full wave bridge rectifier
- Primary and secondary voltages fused
- Heavy duty one amp diodes with Sprague RF bypass caps
- Custom USA-made switch permits 360° rotation in either direction with no stops
- Current limiting resistor protection for each LED
- Chassis and cover custom manufactured to COMTEK SYSTEMS specifications
- Lexan label for recording favored directions
- Compact size: 2" H x 6" W x 4 5/8" D



### 90 Degree Hybrid-Relay Matrix

- 15 amp gold-plated contact relays with dust covers
- Belden Teflon® silver stranded wire over 3M Fiberglass tape-wound toroids
- Sprague 5% balanced temperature, frequency, and voltage stable capacitors
- Laboratory analyzed for improved performance
- Double-sided printed circuit board
- 2 kW conservative rating for Amateur Radio Service
- Harris MOVs for lightning surge protection with Sprague RF bypass caps
- Brushed aluminum Z-chassis and cover with riveted seams
- Size: 4" H x 6" W x 8 1/2" D



COM-ACB-160-1	160m Phased Array Switch/Controller, 115 Vac .....	<b>\$459.95</b>
COM-ACB-160-2	160m Phased Array Switch/Controller, 230 Vac .....	<b>\$474.95</b>
COM-ACB-80-1	80m Phased Array Switch/Controller, 115 Vac .....	<b>\$449.95</b>
COM-ACB-80-2	80m Phased Array Switch/Controller, 230 Vac .....	<b>\$464.95</b>
COM-ACB-40-1	40m Phased Array Switch/Controller, 115 Vac .....	<b>\$439.95</b>
COM-ACB-40-2	40m Phased Array Switch/Controller, 230 Vac .....	<b>\$454.95</b>
COM-ACB-30-1	30m Phased Array Switch/Controller, 115 Vac .....	<b>\$429.95</b>
COM-ACB-30-2	30m Phased Array Switch/Controller, 230 Vac .....	<b>\$444.95</b>
COM-ACB-20-1	20m Phased Array Switch/Controller, 115 Vac .....	<b>\$419.95</b>
COM-ACB-20-2	20m Phased Array Switch/Controller, 230 Vac .....	<b>\$434.95</b>
COM-ACB-15-1	15m Phased Array Switch/Controller, 115 Vac .....	<b>\$409.95</b>
COM-ACB-15-2	15m Phased Array Switch/Controller, 230 Vac .....	<b>\$424.95</b>
COM-ACB-10-1	10m Phased Array Switch/Controller, 115 Vac .....	<b>\$364.95</b>
COM-ACB-10-2	10m Phased Array Switch/Controller, 230 Vac .....	<b>\$379.95</b>

### Accessories

COM-H11-160-P	RG-11 Hybrid Array Phasing Cable, 160m, set of 4 .....	<b>\$439.95</b>
COM-H11-80-P	RG-11 Hybrid Array Phasing Cable, 80m, set of 4 .....	<b>\$259.95</b>
COM-H11-40-P	RG-11 Hybrid Array Phasing Cable, 40m, set of 4 .....	<b>\$169.95</b>
COM-H11-30-P	RG-11 Hybrid Array Phasing Cable, 30m, set of 4 .....	<b>\$144.95</b>
COM-H11-20-P	RG-11 Hybrid Array Phasing Cable, 20m, set of 4 .....	<b>\$129.95</b>
COM-H11-15-P	RG-11 Hybrid Array Phasing Cable, 15m, set of 4 .....	<b>\$119.95</b>
COM-H11-10-P	RG-11 Hybrid Array Phasing Cable, 10m, set of 4 .....	<b>\$114.95</b>
COM-CW4	4-Conductor Control Cable .....	per foot <b>\$0.28</b>
COM-VFA-1	Vertical Feedpoint Assembly.....	<b>\$15.95</b>
COM-VFA-4	Vertical Feedpoint Assembly, set of 4.....	<b>\$56.95</b>
DXE-RADP-1P	Stainless Steel Radial Plate with 20 bolt sets.....	<b>\$49.50</b>
DXE-SSVC-2P	V-Saddle Clamp, fits 1" to 2" tube.....	<b>\$11.95</b>



## The Experts in Phased Antenna Systems!

COMTEK SYSTEMS Hybrids are used worldwide by serious contesters, DXers, and hams. With properly installed arrays and our hybrid couplers, you can achieve gain and impressive F/B at a lower cost than most low band beams at proper heights.

Vertical antenna arrays offer inherently better DX performance than common horizontal antennas. COMTEK SYSTEMS knows how to provide optimum performance from phased antenna arrays. Stacked horizontal arrays can be combined for selective vertical angle switching. Combined with DX Engineering quality and technical support, you are assured that your engineered system will deliver top results.



## COMTEK SYSTEMS PVS-2 Two-Element Phased Vertical Systems

For those who do not have space for a Four-Square phased vertical array, COMTEK SYSTEMS offers the superior PVS-2 two-element phased vertical system. Quality components are used throughout, yet the system is very affordable.

- Three direction switching includes selectable end-fire and broadside directions
- Typical 18 dB front-to-back rejection and 3 dB gain
- Rated at 3 kW continuous Amateur Service duty
- <.05 dB insertion loss
- Includes a custom, in-house wound UNUN and a 90 degree toroid
- Includes MOVs for maximum ESD protection
- Amphenol silver tip SO-239s and Potter & Brumfield relays
- A 4-conductor control line is required

COM-PVS-160-1	160m Phased Vertical System, 115 Vac.....	<b>\$333.95</b>
COM-PVS-160-2	160m Phased Vertical System, 230 Vac.....	<b>\$348.95</b>
COM-PVS-80-1	80m Phased Vertical System, 115 Vac.....	<b>\$333.95</b>
COM-PVS-80-2	80m Phased Vertical System, 230 Vac.....	<b>\$348.95</b>
COM-PVS-40-1	40m Phased Vertical System, 115 Vac.....	<b>\$333.95</b>
COM-PVS-40-2	40m Phased Vertical System, 230 Vac.....	<b>\$348.95</b>
COM-PVS-30-1	30m Phased Vertical System, 115 Vac.....	<b>\$333.95</b>
COM-PVS-30-2	30m Phased Vertical System, 230 Vac.....	<b>\$348.95</b>
COM-PVS-20-1	30m Phased Vertical System, 115 Vac.....	<b>\$333.95</b>
COM-PVS-20-2	30m Phased Vertical System, 230 Vac.....	<b>\$348.95</b>

### Accessories

COM-P213-160-P	RG-213 Phasing Cable, 160m, set of 2 .....	<b>\$189.95</b>
COM-P213-80-P	RG-213 Phasing Cable, 80m, set of 2 .....	<b>\$119.95</b>
COM-P213-40-P	RG-213 Phasing Cable, 40m, set of 2.....	<b>\$89.95</b>
COM-P213-30-P	RG-213 Phasing Cable, 30m, set of 2 .....	<b>\$69.95</b>
COM-P213-20-P	RG-213 Phasing Cable, 20m, set of 2.....	<b>\$59.95</b>
COM-CW4	4-Conductor Control Cable .....	per foot <b>\$0.28</b>



**For more COMTEK SYSTEMS Products  
visit [www.comteksystems.com](http://www.comteksystems.com)**

## COMTEK SYSTEMS Antenna Switches

### STACK-2 Yagi Antenna Switch

New, affordable, 2-high stack switch for tribanders, log periodics, or monobanders from 40 to 10 meters. Amphenol silver tip connectors, MOVs (a COMTEK SYSTEMS standard since 1994), Potter & Brumfield relays, and a 2.4" O.D. UNUN provide reliability at 3 kW maximum power levels. Simply run two equal lengths of 50  $\Omega$  coax from the switch to each antenna and a 3-conductor control line and enjoy increased performance in contests or chasing DX.

COM-STACK-2-1	2-Stack Antenna Switch System, 115 Vac.....	<b>\$259.95</b>
COM-STACK-2-2	2-Stack Antenna Switch System, 230 Vac.....	<b>\$269.95</b>
COM-CW4	4-Conductor Control Cable.....	per foot <b>\$0.28</b>



### Stack-3 Stacked Yagi Switch

Based on K3LR's design, the SYS-3 is designed for monoband 3-stack Yagis. You can select any one antenna, all antennas, or any combination of two antennas. Indicator lights for each antenna tell you at a glance which antennas are selected. Features include a double-sided printed circuit board, Amphenol SO-239s, and MOV protection for all six control cable lines. The SYS-3 incorporates the same USA-made, gold-plated DPDT relays used in COMTEK SYSTEM's ACB-4 Series Hybrid Phasing Systems, proven in hundreds of systems since 1990.

COM-STACK-3-1	3-Stack Yagi Switch System, 115 Vac .....	<b>\$399.95</b>
COM-STACK-3-2	3-Stack Yagi Switch System, 230 Vac .....	<b>\$414.95</b>
COM-CW6	6-Conductor Control Cable .....	per foot <b>\$0.36</b>

### 50 and 75 $\Omega$ Choke Baluns

Choke baluns ensure that RF does not flow on the outside shield of feedlines, phasing lines, etc. COMTEK SYSTEMS' baluns feature 100 Amidon beads on a length of RG-400 Teflon® double-shielded silver coax terminated with Silver Teflon PL-259 UHF connectors. Assembled baluns are covered with 3M heat shrink tubing. RF bead kits are available if you wish to assemble your own chokes.



COM-CFC-50	50 $\Omega$ Balun, assembled .....	<b>\$93.90</b>
COM-CFC-50K	50 $\Omega$ Balun, kit .....	<b>\$72.85</b>
COM-CFC-75	75 $\Omega$ Balun, assembled.....	<b>\$95.90</b>
COM-CFC-75K	75 $\Omega$ Balun, kit .....	<b>\$74.85</b>
COM-RFB-160	RF Choke Bead Kit, 160m.....	<b>\$124.90</b>
COM-RFB-80	RF Choke Bead Kit, 80m.....	<b>\$64.80</b>
COM-RFB-40	RF Choke Bead Kit, 30 and 40m.....	<b>\$47.95</b>
COM-RFB-20	RF Choke Bead Kit, 10, 15 and 20m .....	<b>\$38.95</b>

### Accessories

DXE-RADP-1P	Stainless Steel Radial Plate with 20 bolt sets.....	<b>\$49.50</b>
DXE-SSVC-2P	V-Saddle Clamp, fits 1" to 2" tube.....	<b>\$11.95</b>

## VFA-1 Vertical Feedpoint Assembly

The VFA-1 Vertical Feedpoint Assembly for vertical antennas eases the task of attaching a coaxial cable to your aluminum tubing. Silver SO-239s and stainless hardware ensure long life and reliability. The assembly is available in a set of four for 4-square arrays.

COM-VFA-1	Vertical Feedpoint Assembly ....	<b>\$15.95</b>
COM-VFA-4	Vertical Feedpoint Assembly, set of 4 .....	<b>\$15.95</b>

### Accessories

COM-CW3	Control Wire, 3-conductor .....	per foot <b>\$0.25</b>
COM-CW4	Control Wire, 4-conductor .....	per foot <b>\$0.28</b>
COM-CW6	Control Wire, 6-conductor .....	per foot <b>\$0.36</b>



# DX Engineering Verticals— High Performance/Low Cost!

Introducing a new series of high-performance HF vertical antennas with DX Engineering THUNDERBOLT™ antenna technology! Models include monoband and multi-band verticals utilizing both fast taper 3-foot tubing sections for lowest wind resistance and slow taper 6-foot tubing sections for greatest bandwidth.

**Designed with corrosion-resistant 6063 aluminum tubing and stainless steel hardware, these antennas are both durable and attractive. The fast taper models can be shipped affordably via postal service.**

The DX Engineering Multi-Band HF antennas are high-performance vertical antenna systems designed with engineering excellence and performance in mind. Three models are available to operate over the entire 160 through 10 meter range, or 80 through 10 meters with an optional DX Engineering UNUN and your wide range antenna tuner.

Various monoband models are available to operate over an entire band with an SWR of less than 1.5:1. They can be made multi-band-capable with optional DX Engineering accessories. Our antennas offer fullsize quarter wave performance! All models feature the market's strongest Estren® insulator that won't crack, peel, splinter, or fail.

DXE-MBVE-1-3ATP



**AUTO TUNE  
43 FEET  
90 MPH  
NO GUYS**

**\$679<sup>00</sup>**  
Includes  
Auto-Tuner



## 60 Meter Full Size

- Slow taper, 43 ft. vertical radiator
  - Thick stainless steel tilt base
  - Full 60 meter coverage with SWR of 1.5 or less
  - No coils or linear loading elements
  - Easily upgradeable to DXE-80VA-3 for 75/80 meter monoband operation
  - Includes impedance matching network
  - 6063 T832 corrosion-resistant aircraft aluminum tubing and stainless steel hardware
- |                                 |                 |
|---------------------------------|-----------------|
| DXE-60VA-1P .....               | <b>\$349.50</b> |
| DXE-GUY400-KIT Guying Kit ..... | <b>\$54.95</b>  |

## THUNDERBOLT™ Multi-Band High Performance Vertical Antenna (Tuner Required)

### 160 to 10 Meters

- Slow taper, heavy duty tubing—optimal 43 ft. vertical radiator
- 6063 T832 corrosion-resistant aircraft aluminum tubing and stainless steel hardware
- Easy tuning design
- No coils or linear loading elements
- Thick stainless steel tilt base
- 5 kW continuous/10kW CW/SSB rating
- Includes special DXE-UN-43 UNUN for multi-band use with your wide range tuner
- Easily upgradeable to DXE-80VA-3 for 75/80 meter monoband operation

DXE-MBVA-1UP .....	<b>\$449.50</b>
DXE-GUY400-KIT Guying Kit .....	<b>\$54.95</b>

## THUNDERBOLT™ Dual Band High Performance Vertical Antennas

### 80/40 Meters

- Full band coverage on 40 and 300 kHz on 80 meters with SWR under 2:1—no outboard tuner needed
- Tunable above and below 7 MHz range for MARS and CAP frequencies
- Maximum legal power handling
- Optimum 53 ft. overall height
- Self-supporting design withstands 50 MPH wind without guying—easy raising and lowering with optional winch kit

DXE-8040VA-1	Antenna .....	<b>\$899.00</b>
DXE-VRW-1	Manual Winch Kit .....	<b>\$169.99</b>
DXE-7580-THK	CW Optimizer Capacity Hat .....	<b>\$59.95</b>
DXE-8040-30AOK*	30 Meter Add-On Kit .....	<b>\$129.95</b>

\*\$99.95 if purchased with antenna

### 40/30 Meters

- Full band coverage on 40 and 30 meters with SWR under 1.5:1—no tuner needed
- 40m bandwidth greater than 750 kHz with SWR under 2:1
- Tunable above and below 7 MHz range for MARS and CAP frequencies
- Maximum legal power handling
- Optimum 30 ft. overall height
- Self-supporting design withstands 60 MPH wind without guying

DXE-4030VA-1 .....	<b>\$299.50</b>
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## THUNDERBOLT™ Single Band High Performance Vertical Antennas

### 80/75 Meters

- 300 kHz bandwidth with SWR under 2:1—no outboard tuner needed
- Tunable for CW or SSB—change base coil tap for segment
- Maximum legal power handling
- Optimum 53 ft. overall height
- Self-supporting design withstands 50 MPH wind without guying—easy raising and lowering with optional winch kit

DXE-7580VA-1	Antenna .....	<b>\$799.00</b>
DXE-VRW-1	Manual Winch Kit .....	<b>\$169.99</b>
DXE-7580-THK	CW Optimizer Capacity Hat .....	<b>\$59.95</b>

### 80 Meter with Performance-Enhancing Top Hat

- Slow taper, 43 ft. vertical radiator
- 6063 T832 corrosion-resistant aircraft aluminum tubing and stainless steel hardware
- 12 ft. diameter capacity hat—resonant on 3.5-4.0 MHz
- Thick stainless steel tilt base
- 300 kHz wide below 2:1 SWR
- No coils or linear loading elements
- 5 kW continuous/10kW CW/SSB rating
- Includes impedance matching network

DXE-80VA-3 .....	<b>\$499.50</b>
DXE-GUY400-KIT Guying Kit .....	<b>\$54.95</b>

**80/40 DUAL BAND  
55 FEET—NO GUYS  
BIG SIGNAL**



**5KW TRAP**

Dual Band  
**\$899<sup>00</sup>**

75/80 Meter  
**\$799<sup>00</sup>**





# The Experts in Phased Antenna Systems!

## Standard Multi-Band High Performance Vertical Antennas (Tuner Required)

### 2 1/8" to 3/8" Fast Taper, 160 to 10 Meters

- 43 ft. optimal length vertical radiator
  - Easy tuning design—correct length and taper
  - Thick stainless steel tilt base
  - No coils or linear loading elements
  - Requires DXE-UN-43 UNUN Balun for multi-band use with your wide range tuner
- DXE-MBVE-1.....\$249.00  
DXE-GUY400-KIT Guying Kit.....\$54.95

### 2" to 1/2" Fast Taper, 80 to 10 Meters

- 33 ft. vertical radiator
  - Thick stainless steel tilt base
  - Easy tuning design—correct length and taper
  - No coils or linear loading elements
  - Requires DXE-UN-43 UNUN Balun for multi-band use with your wide range tuner
- DXE-MBVE-2.....\$279.50

## 43 Foot Multi-Band Vertical/Remote Tuner Package

Includes DXE-MBVE-1 (above) plus:

- MFJ-927 Remote IntelliTuner™—200 watts
- DXE-FCC050-H05-A Feedline Current Choke
- DXE-SSVC-2P Stainless Steel Mounting V-Clamp
- Custom laser cut stainless steel bracket for tuner and FCC
- Bias tee power injector for 12 Vdc
- RG-8X 2 ft. coaxial cable with PL-259 connectors
- 2 tinned copper braids, 1" wide for connection to your optional radial plate
- Feedline wire—14 gauge insulated stranded copper with ring terminal attached

DXE-MBVE-1-3ATP Antenna/Tuner Package.....\$679.00  
DXE-MBV-ATU-1 Add-On Tuner Kit Only.....\$399.00

## Standard Monoband High Performance Vertical Antennas

### 2 1/8" to 3/8" Fast Taper, 60 Meter

- 43 ft. vertical radiator
  - Thick stainless steel tilt base
  - Full 60 meter coverage with SWR of 1.5 or less
  - No coils or linear loading elements
  - Includes impedance matching network
- DXE-60VE-1P.....\$349.50

### Rugged High Performance 40 Meter

- High strength, self-supporting vertical element
  - Operates over the entire 40 meter band with an SWR of less than 1.5:1
  - Less than 24 feet high
  - No coils or linear loading elements
  - Easily configured to operate on the 30 meter band
- DXE-40VA-1.....\$249.50

### 2" to 1/2" Fast Taper, High Performance 40 Meter

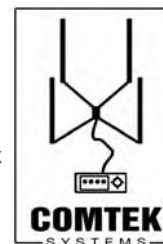
- 33-35 ft. tall vertical element
  - Operates over the entire 40 meter band with an SWR of less than 1.5:1
  - Full length—no coils or linear loading elements
  - Easily configured to operate on the 30 meter band
  - Perfect for four-square or phased arrays
- DXE-40VE-1.....\$259.50

### 2" to 1" Fast Taper, High Performance 30 Meter

- 24 ft. tall vertical element
  - Operates over the entire 30 meter band with an SWR of less than 1.5:1
  - Full length—no coils or linear loading elements
  - Perfect for four-square or phased arrays
- DXE-30VE-1.....\$229.50

## COMTEK SYSTEMS Vertical Antennas and Arrays

These rugged, affordable quarter wave antennas are designed to be used in sets to provide top performance with phased vertical array systems like the Comtek PVS 2-antenna systems or Comtek and DXE Four Square array controllers. The COM-20VA antenna can be used on any single band—20, 17, 15, 12 or 10 meters—by adjusting its length.



Constructed from 6063 aircraft-spec aluminum tubing, these antenna taper from a huge base section. High strength, UV-resistant EXTREN® insulators and a heavy aluminum plate mounting base ensure long lasting, reliable performance under adverse conditions. The antennas come with V-saddle clamps for installation to your ground-mounted pipe; 2" O.D. pipe is recommended, but the clamps will accept any size from 1" to 2". Stainless steel hardware included. Light guying is always recommended for phased systems to keep spacing precise and minimize swaying.

COM-20VA	20 Meter Vertical Antenna .....	\$129.95
COM-20VA-2P	20 Meter Vertical Antenna, set of 2 .....	\$249.95
COM-20VA-4P	20 Meter Vertical Antenna, set of 4 .....	\$489.95
COM-30VA	30 Meter Vertical Antenna .....	\$199.95
COM-30VA-2P	30 Meter Vertical Antenna, set of 2 .....	\$389.95
COM-30VA-4P	30 Meter Vertical Antenna, set of 4 .....	\$779.95
COM-40VA	40 Meter Vertical Antenna .....	\$229.95
COM-40VA-2P	40 Meter Vertical Antenna, set of 2 .....	\$444.95
COM-40VA-4P	40 Meter Vertical Antenna, set of 4 .....	\$879.95

See page 29 for Radial Plates and Radial Wire Kits to complete your antenna installation.



**New!**



**For more COMTEK SYSTEMS products visit [www.comteksystems.com](http://www.comteksystems.com)**

## Cushcraft • Hy-Gain • Hustler



CUS-R6000



CUS-MA160V

## Cushcraft Vertical Antennas

## CUS-MA160V 160 Meter 36 Ft.

## Vertical Antenna with Radial Kit

This antenna is a compact, efficient vertical designed for working top-band DX from an average-size house lot. A low launch angle and deep overhead null combine to pull in distant stations while rejecting local QRM.

CUS-MA160V .....\$299.00

## CUS-R6000 20-6 Meter 6-Band, 19 Ft. Vertical Antenna

This is a 6 through 20 meter, no-ground radial antenna. No traps are used on 6, 10 and 15 meters for maximum efficiency and power handling.

CUS-R6000 .....\$429.00

## CUS-R8 40-6 Meter 8 Band, 28.5 Ft. Vertical Antenna

This multi-band design provides 8-band coverage encompassing the 6, 10, 12, 15, 17, 20, 30, and 40 meter bands. The antenna provides 360 degree (omni) coverage on the horizon and a low radiation angle in the vertical plane for a better DX.

CUS-R8 .....\$529.00

CUS-R8GK 3-Point, Non-Conductive  
Guy System for R8 .....\$56.00



CUS-R8

Hustler  
BTV Verticals

The Hustler BTV antenna series delivers good performance, easy assembly, and the best reliability of any multi-band vertical on the market. These antennas offer 2:1 SWR or better at the band edges and up to a 100 kHz bandwidth on 75/80m (5BTV and 6BTV only). Hustler's exclusive trap design offers the lowest loss possible.

Hustler BTV series antennas are a quarter wave-trapped vertical design. The antenna should be ground-mounted with radials or elevated-mounted with tuned radials. Visit DXEngineering.com for more information about radials for quarter wave vertical antennas.

The sealed cover on the traps assures stable tuning in all kinds of weather. There is a wide tuning range designed in the antenna to accommodate differing ground plane conditions. All antenna sections are 1.25 inch heavy wall, high strength aluminum. The traps use a solid 1 inch fiberglass form for optimum electrical and mechanical stability. The base uses an extra heavy duty aluminum mounting bracket with low loss, high strength insulators.

The new, economical DX Engineering High Performance BTV packages include a stainless steel tilt base and radial plate, radial wire installation kit, direct coax feed add-on kit, bulkhead coax connector, low loss RG-8/U jumper cable, and stainless steel V-clamps.

## Antenna Packages

DXE-HUS-4BTV-P	4BTV High Performance Package.....	\$379.00
DXE-HUS-5BTV-P	5BTV High Performance Package.....	\$419.00
DXE-HUS-6BTV-P	6BTV High Performance Package.....	\$454.00

## Antenna Only

HUS-4BTV	BTV-4 Band Antenna.....	\$124.95
HUS-5BTV	BTV-5 Band Antenna.....	\$159.95
HUS-6BTV	BTV-6 Band Antenna.....	\$189.95



## Hy-Gain Vertical Antennas

## AV-640 Patriot HF 8-Band, No-Radials Vertical

Hy-Gain's new AV-640 Patriot HF is the best built, best performing, and best priced multi-band vertical available today. Make full use of your sunspot cycle with the Patriot's low angle signal. The AV-640 uses quarter wave stubs on 6, 10, 12, and 17 meters and efficient end loading coil and capacity hats on 15, 20, 30, and 40 meters. An effective counterpoise system replaces radials and grounding. Instead of typical lossy can traps, the AV-640 resonators are placed in parallel—not in series. End loading of the lower HF bands allows efficient operation with a manageable antenna height. Maximum Power: 1,500 watts. Overall Height: 25.5 feet.

HYG-AV-640 .....\$389.95

## DX-77A 7-Band Vertical

The Hy-Gain DX-77A is an omni-directional, self-supporting, automatic-bandswitching vertical radiator. It operates on the 10, 12, 15, 17, 20, 30 and 40 meter Amateur bands. No ground radials are required with the DX-77A. Its design is based on an off-center-fed dipole, sometimes called a "Windom" antenna. High efficiency high-power traps are used to isolate the active sections of the antenna.

The DX-77A uses a heavy duty, tiltable mast clamp that accepts masts up to 2 1/8" O.D. The entire antenna can be easily raised and lowered for tuning purposes and for use on recreational vehicles (RVs). The DX-77A's overall length of 29 feet (8.8 meters) contributes to exceptional bandwidths on 40 and 20 meters. Maximum Power: 750 watts average, 1,500 watts PEP.

HYG-DX-77A .....\$439.95

## AV-18HT Hy-Tower 5-Band, 50 Foot Vertical

The AV-18HT Hy-Tower is an omni-directional, self-supporting vertical radiator which operates on 10 through 80 meters. 160 meter operation is possible with the addition of a loading coil. The use of stub decoupling systems allows band switching on 10, 15, 20, 40, and 80 meters. The stubs isolate various sections of the vertical antenna so that an electrical 1/4 wavelength (or odd multiple of 1/4 wavelength) exists on all bands. On 20 meters, the 80 meter section acts as a 3/4 wave radiator.

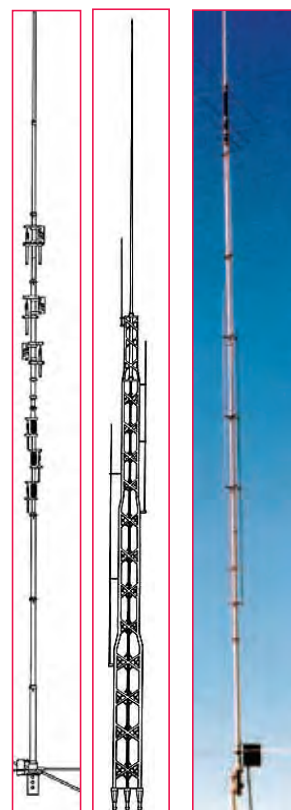
The tilting base of the Hy-Tower allows the antenna to be completely assembled on the ground before it is raised into position. It is light enough for one person to assemble and for two people to erect. The Hy-Tower is supplied with stainless steel hardware. Maximum Power: 1 kW AM, 2 kW PEP. Overall Height: 53 feet.

The Hy-Tower is drop-shipped via motor freight directly from Hy-Gain to you. DX Engineering will e-mail you a shipping quote when you place your order.

HYG-AV-18HT .....\$899.95

HYG-MK-160A 160 Meter Add-On kit for AV-18HT .....\$119.95

hy-gain.



hy-gain.

AV-14AVQ and AV-18AVQII  
Multi-Band Trap Verticals

New!

The 4-band Hy-Gain AV-14AVQ and 5-band AV-18AVQII use the same trap design as the famous Hy-Gain Thunderbird beams. Separate air dielectric Hy-Q traps with oversize coils give superb stability and 1/4 wave resonance on all bands. Their 18-foot overall length fits well in most urban environments. The 14-AVQ covers the 10, 15, 20 and 40 meter bands while the 18-AVQII adds the 80 meter band to the mix.

All Hy-Gain multi-band vertical antennas are entirely self supporting—no guys required. They offer remarkable DX performance with their extremely low angle of radiation and omnidirectional pattern.

Hy-Gain vertical antennas handle 1,500 watts PEP SSB, have low SWR and automatic bandswitching. Heavy duty, slotted, tapered swaged aircraft quality aluminum tubing with full circumference compression clamps is used for radiators.

All Hy-Gain verticals feature a two year limited warranty.

HYG-AV-14AVQ.....\$169.95

HYG-AV-18AVQII.....\$239.95





# Directional Antennas

## DX Engineering Vertical Antenna Matching Network

Without a means of adjusting feedpoint impedance, achieving the best SWR on 80 meters on some vertical antenna installations with excellent radial systems may be difficult. The Vertical Antenna Matching Network lets you tune a low impedance antenna to the minimum SWR in the user-selected portion of the 80 or 160 meter band without affecting operation on the other, higher frequency bands (if applicable). The Vertical Antenna Matching Network can also be used on 160 meter Inverted-L and Tee-Top wire verticals. The #12 AWG coil wire is tin-nickel plated for high power handling, corrosion resistance, ease of soldering, and long-term reliability.

DXE-VMN-1 Vertical Antenna  
Matching Network .....\$44.95

## DX Engineering Coil Tap Clips

These silver-plated Coil Tap Clips provide adjustable attachment points to uninsulated coils including homebrew, Miniductor™ and Airdux™. They also are useful for making flying connections to uninsulated wire in non-RF applications without soldering or cutting. These clips will accommodate wire sizes from #20 to #10 AWG.

DXE-CLIP-P Coil Tap Clips, pack of 5 .....\$9.95

**See page 32 for  
coaxial cable with connectors!**

DXE-AOK-80M



DXE-AOK-12M



DXE-AOK-DCF



DXE-AOK-17M



DXE-AOK-60M



HUS-30-MTK



## DX Engineering Add-On Kits for Hustler BTV Verticals

DX Engineering offers add-on kits that provide additional frequency band coverage or installation and operating convenience to the popular Hustler BTV vertical antenna family. Simply add the kit, make some minimal tuning adjustments, and you're on the air with an additional band. The stainless steel DXE-AOK-DCF allows simple connection of coaxial cable with a PL-259 connector.

DXE-AOK-12M	12 Meter Add-On Kit for Hustler BTV Verticals .....	\$59.95
DXE-AOK-17M	17 Meter Add-On Kit for Hustler BTV Verticals .....	\$69.95
HUS-30-MTK	30 Meter Add-On Kit for Hustler 4BTV and 5BTV Verticals .....	\$46.95
DXE-AOK-60M	60 Meter Add-On Kit for Hustler BTV Verticals .....	\$74.95
DXE-AOK-80M	80 Meter Add-on Kit for Hustler 4BTV Verticals .....	\$59.95
DXE-AOK-DCF	Direct Coax Feed for Hustler BTV Verticals .....	\$22.95

**New!**



## NEW from DX Engineering!

**New!**

### A Very Stealthy Auto Tuned Stealth Antenna (ATSA) System

Thanks to the revolutionary SMBA system, our new Auto Tuned Stealth Antenna (ATSA) design allows Amateur Radio operators in HOA-controlled areas to easily get on the air. The unique ATSA MatchBox™ module allows the lowest possible SWR with any length wire. You can be on all bands from 40 meters and up with a short 26 foot wire antenna—and on all bands from 80 to 10 meters with just 45 feet of wire!

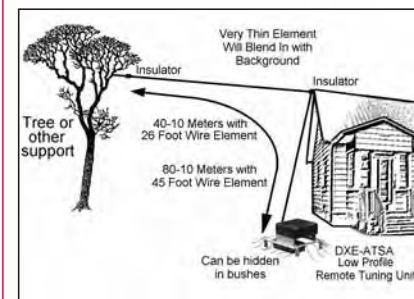
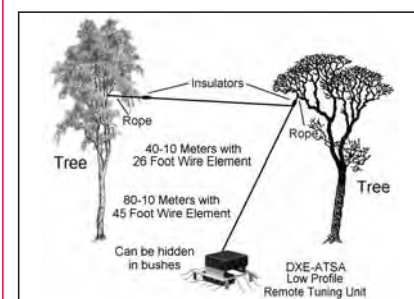
Most small, physically short antennas exhibit narrow bandwidth, limiting your operating frequency range on the lower bands to 50 to 100 kHz with acceptable SWR. The ATSA's integral auto tuner always delivers the lowest SWR at any operating frequency with no operator adjustments necessary. Just change bands and the ATSA antenna will follow you!

The very low profile Remote Tuning Unit (RTU) is easily hidden. Just "plant" it in foliage with the supplied spikes and lay out the minimum length radials and the near-invisible antenna wire. You can further camouflage the controller with a plastic boulder or other items available at most landscaping stores.

The ATSA is a complete system including the tuner, stainless steel radial plate, the radial wire, antenna wire, two insulators, and all necessary hardware. The system is completely self-contained; even the required 12 Vdc power is carried by the coax. The ATSA will automatically match your coax to the antenna at any HF frequency within seconds.

- Automatic bandswitching—tunes for lowest SWR
- Handles 200 watts SSB/CW
- Connect 12 Vdc power and RF through single coax feedline
- Stainless steel mounting plate and hardware
- Great for EMCOMM—just assemble and deploy in minutes!

DXE-ATSA-1 Auto Tuned Stealth, Multi-Band HF Antenna System .....\$459.00



**Special  
Introductory  
Price!**

# Roof Antenna Mounts

## Heavy Duty Tripod Roof Mount

This five foot tall, commercial-strength mount is an ideal support for medium size antennas such as the DX Engineering HEXX Beam. The mount is also a good choice for small HF or VHF Yagi or tri-band antennas as well as HF and VHF vertical antennas.

The tall tripod configuration allows peak mounting on a variety of pitched or flat roofs. The 1 1/2" O.D. steel legs have two 10 inch long mounting feet each. Each mounting foot is secured with five lag bolts. Thirty lag bolts are supplied, along with tar strips for weatherproofing under each foot.

A five foot long, 2" O.D. steel antenna/rotor mounting mast is also furnished for easy mounting of rotors such as the Hy-Gain CD-45II and HAM-series.

RON-1011 Heavy Duty 5 ft Tripod Roof Mount...**\$149.95**



## Rotor-Ready Heavy Duty Chimney Roof Mount

Use this ready-to-install package for chimney mounting medium size antennas with rotors (such as the DX Engineering HEXX Beam) and small HF or VHF Yagis and tri-banders. The mount is also ideal for HF and VHF vertical antennas with no rotors.

Two sections of 1 1/2" O.D., 16 gauge steel mast are supplied. The 42" long section is preassembled with chimney corner brackets for fastening to the chimney and antenna/rotor mounting. The 24" long section is for mounting the antenna to the upper bracket of a rotor such as the Hy-Gain CD-45II and HAM-series.

The four chimney corner brackets are 1 1/2" wide 11 gauge steel. The stainless steel fastening straps are 24 feet long, more than long enough for multiple-flue residential and even commercial chimneys. Shipped partially assembled for quick installation.

RON-3324 Heavy Duty Chimney Roof Mount ....**\$149.95**



## Hy-Gain Antenna Rotators

### HAM-IV Rotator

The HAM-IV is the most popular rotator in the world! It is designed for medium-size communications arrays of up to 15 square feet wind load area.

- Normal operation down to -30° F
- Dual 98-ball bearing race for load bearing strength
- Electric locking steel wedge brake
- Ferrite beads on potentiometer wires reduce RF susceptibility
- Cinch plug connector plus 8-pin plug at control box—no screwdriver required
- N or S center of rotations scale on meter
- Low voltage control
- Handles masts up to 2 1/16" O.D.
- Power requirement: 110V, 60Hz

HYG-HAM-IV.....**\$594.95**

### AR-35 Light Beam/TV Rotator

This rotator is designed to turn and accurately position even the largest TV antenna, and most small VHF and UHF ham radio beams. Rotation of the drive unit is synchronized by synchronous motors with the position of the moving dot of the control unit. The operating cycle is activated by turning the control knob.

HYG-AR-35 .....**\$89.95**

### HAM-V Rotator with DCU-1 Pathfinder Digital Control

The HAM-V is designed for medium-size communications antenna arrays of up to 15 square feet wind load area. The innovative DCU-1 Pathfinder Control Unit is included. The DCU-1 gives you automatic operation of your brake and rotor, features computer control with RS-232 passthrough, and is compatible with many logging and contest programs. It has 6 presets, 1 degree heading accuracy, automatic 8-second brake delay, and 360 degree choice for center of rotation.

- Low temperature grease permits normal operation down to -30° F
- Ferrite beads on potentiometer wires reduce RF susceptibility
- Cinch plug connector plus 8-pin plug at control box—no screwdriver required
- N or S center of rotations scale on meter
- Handles masts up to 2 1/16" O.D.
- Power requirement: 110V, 60Hz

HYG-HAM-V .....**\$919.95**

### CD-45II Metered Rotator with Friction Brake

The CD-45II handles 8.5 square feet when mounted inside a tower, or 5 square feet with a mast adapter.

- Low temperature grease good to -30° F
- Bell rotator design gives complete weather protection
- Dual 24-ball bearing race for load bearing support
- North center scale, dual lighted directional meter indicator
- 8-pin plug/socket on control unit, snap-action control switches, low voltage control
- Handles masts up to 2 1/16" O.D.
- MSLD light duty lower mast support adapter included
- Power requirement: 110V, 60Hz

HYG-CD-45II .....**\$419.95**

### HDR-300A Heavy Duty Rotator with Digital Readout

The HDR-300A Heavy Duty Rotator is for king-sized antenna arrays with up to 25 square feet wind load area. It features a control cable connector, a hardened stainless steel output shaft, North or South centered calibration, ferrite beads on potentiometer wires to reduce RF susceptibility, and a longer output shaft keyway for added reliability. Heavy duty, self-centering steel mast clamp and hardware included. The digital display is accurate to one degree.

HYG-HDR-300A.....**\$1,339.95**

# hy-gain®

### T-2X Tailtwister Series II Rotator

Designed for medium-size communications antenna arrays of up to 20 square feet wind load area.

- Normal operation down to -30° F
- Dual 138-ball bearing race
- Electric locking steel wedge brake prevents wind-induced antenna movement
- Ferrite beads on potentiometer wires reduce RF susceptibility
- Weatherproof AMP connectors plus 8-pin plug at control box
- N or S center of rotations scale on meter
- Handles masts up to 2 1/16" O.D.
- Power requirement: 110V, 60Hz

HYG-T-2X .....**\$689.95**

### Accessories

DXE-CW8	Control Wire, 8-conductor.....per ft.	<b>\$0.48</b>
DXE-CW8-HD	Heavy Duty Control Wire, 8-conductor.....per ft.	<b>\$0.98</b>
DXE-UBK-HYG-1	Replacement U-Bolt (single) Kit for Hy-Gain HAM-Series/CD-45 ....	<b>\$4.50</b>
DXE-UBK-HYG-2	Replacement U-Bolt (single) Kit for Hy-Gain T2X Rotor .....	<b>\$5.50</b>



# Directional Antennas



## Cushcraft Yagi Antennas

**Cushcraft**  
Amateur Radio Antennas

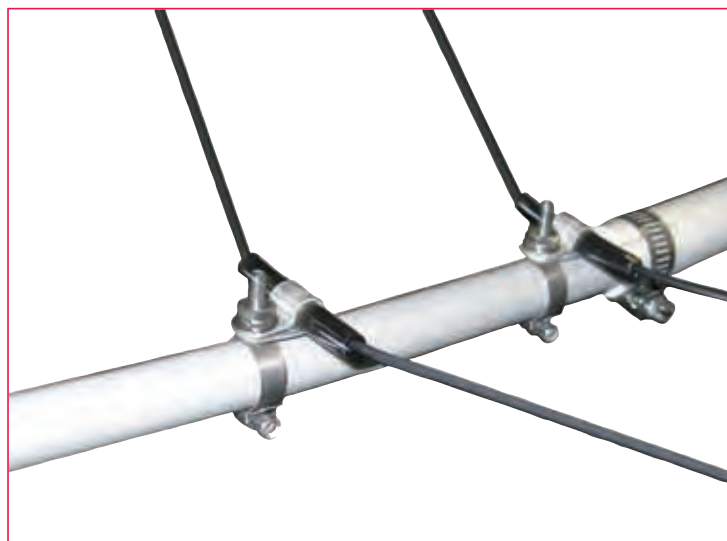
CUS-A3S	3-Element Triband Beam, 8 dB, 14 ft. boom.....	<b>\$599.00</b>
CUS-A3WS	3-Element WARC Beam, 17/12 meter, 8 dB, 14 ft. boom.....	<b>\$499.00</b>
CUS-A4S	4 Element Triband Beam, 8.9 dB, 18 ft. boom .....	<b>\$699.00</b>
CUS-MA5B	20-10 meter 5-Band Mini Beam .....	<b>\$499.00</b>
CUS-X7	7-Element Triband Beam, 12.5/13 dB.....	<b>\$1,099.00</b>
CUS-XM240	40 Meter 2-Element Beam, 6 dB, 22 ft. boom .....	<b>\$999.00</b>
CUS-TEN3	10 Meter 3-Element Beam, 8 dB, 8 ft. boom .....	<b>\$299.00</b>
CUS-A503S	6 Meter 3-Element Beam, 8 dB, 6 ft. boom .....	<b>\$139.00</b>
CUS-A505S	6 Meter 5-Element Beam, 10 dB, 12 ft. boom .....	<b>\$199.00</b>
CUS-A506S	6 Meter 6-Element Beam, 11 dB, 20 ft. boom .....	<b>\$399.00</b>

### Add-on Kits

CUS-A743	40/30 Meter Add-on Kit for CUS-A3 and A3S.....	<b>\$199.00</b>
CUS-A103	30 Meter Add-on Kit for CUS-A3WS.....	<b>\$199.00</b>
CUS-A744	40/30 Meter Add-on Kit for CUS- A4 and A4S.....	<b>\$199.00</b>
CUS-X740	40 Meter Add-on Kit for CUS-X7.....	<b>\$369.00</b>

### Rotatable Dipole Antennas

CUS-D3	20/15/10 Meter Triband.....	<b>\$369.00</b>
CUS-D3W	30/17/12 Meter WARC .....	<b>\$369.00</b>
CUS-D40	40 Meter .....	<b>\$399.00</b>



## Hy-Gain Yagi Antennas

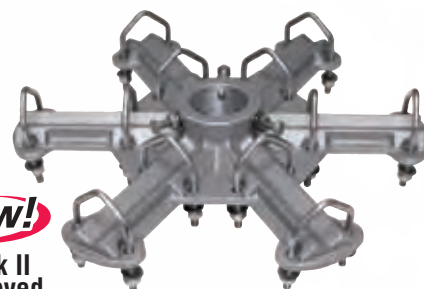
Triband models cover 20, 15 and 10 meter bands. Check your antenna wind load square foot specifications and select the proper rotator when ordering.

HYG-TH-3JRS	3-Element HF Triband Beam, 600 watts .....	<b>\$359.95</b>
HYG-TH-3MK4	3-Element HF Triband Beam, 1,500 watts .....	<b>\$469.95</b>
HYG-TH-5MK2	5-Element HF Triband Beam, 1,500 watts .....	<b>\$759.95</b>
HYG-TH-7DX	7-Element Super Thunderbird Broadband HF Triband Beam .....	<b>\$869.95</b>
HYG-LJ-103BA	10 Meter Long John HF Monobander, 3 Elements.....	<b>\$159.95</b>
HYG-LJ-153BA	15 Meter Long John HF Monobander, 3 Elements.....	<b>\$209.95</b>
HYG-LJ-203BA	20 Meter Long John HF Monobander, 3 Elements.....	<b>\$329.95</b>
HYG-BN-86	Balun for Yagi, 3-30 MHz, SO-239 .....	<b>\$79.95</b>
HYG-BN-4000B	Balun for Yagi, 1-54 MHz, 4 kW, SO-239 .....	<b>\$109.95</b>



## DX Engineering HEXX Antenna Kits and Components

**New!**  
**Mark II Improved**



Build a G3TXQ Broadband Design Hexxagonal Beam antenna with a cost-effective DX Engineering Antenna Kit! The complete kits provide a quick, economical way to build the hottest new version of the hex antenna. Kit components are also available separately.

**The HEXXAGONAL BEAM kits include the new, patented\* DX Engineering Stainless/Teflon® Rigid feed point system.** Unlike unbalanced coaxial feeder methods that require special weatherproofing, the DX Engineering feedpoint system provides balanced 50  $\Omega$  connections to the wire elements. It is also available separately to easily retrofit other hex beam designs.

DXE-HEXX-5TAP-2	5-Band Total Antenna Kit, Mark II .....	<b>\$599.95</b>
DXE-HEXX-1TAP-2	1-Band Total Antenna Kit, Mark II .....	<b>\$359.95</b>
DXE-HEXX-5FFP	5-Band Rigid Feedpoint System.....	<b>\$194.95</b>
DXE-HEXX-1HBP	Hub Kit .....	<b>\$99.95</b>
DXE-HEXX-5WRP-2	5-Band Precut Wire Element and Guide Kit, Mark II .....	<b>\$149.95</b>
DXE-HEXX-1WRP-2	1-Band Wire Element and Guide Kit, Mark II .....	<b>\$75.95</b>
DXE-HEXX-1SCP-2	Spreader and Center Post Kit, Mark II .....	<b>\$199.95</b>

\*US Patent D624,060

Wide-Band Performance • Highest Gain • Factory Adjusted—No Tuning Required • UPS Shippable  
High Wind Rating • Fiberglass Radome • DC Grounded • Stainless Hardware • Mounts & U-Bolts Included

Phased  
A430S10

A144S5



A502HB

**Yagi Antennas**

- High gain
- Quality construction
- Easy assembly
- Ideal for base or portable use
- Factory adjusted—no tuning required

**Yagi Antennas**

MODEL	BAND (MHz)	GAIN (dB)	WATTS (PEP)	CONN.	BOOM LENGTH	ELEMENT PHASING
A502HB	50	6.3	400	UHF	2.6'	2 element
A144S5	144	9	100	UHF	37.5"	5 element
A430S10	432	13	100	UHF	43"	10 element
A430S15	432	14.8	100	UHF	89"	15 element

**Ruggedized Base/Repeater Antennas****X500HDM**

Diamond Antenna's best base station repeater antenna. It is pretuned to achieve maximum gain in both the 2 meter and 70 centimeter amateur bands and has a wide frequency bandwidth. Features include a heavy-duty fiberglass radome, overlapping outer shells for added strength, stainless steel mounting hardware and radials, and waterproof joint couplings.

- Frequency: 144-148 MHz/2 meter, 440-450 MHz/70 centimeter
- Gain: 8.3 dB/2 meter, 11.7 dB/70 centimeter
- Power Rating: 200 watts maximum
- Wind Rating: 90 MPH (no ice)
- Height: 17.8 feet

DIA-X500HNA .....\$299.95

**X50NA**

An excellent choice where ruggedness is required in a medium-gain, dual-band, base/repeater application. Features include a wide frequency bandwidth, heavy-duty fiberglass radome, stainless steel mounting hardware and radials, and a Type-N cable connection. Compact 5.6 foot height for easy mounting and installation.

- Frequency: 144-148 MHz/2 meter, 440-450 MHz /70 centimeter
- Gain: 4.5 dB/2 meter, 7.2 dB/70 centimeter
- Power Rating: 200 watts maximum
- Wind Rating: 135 MPH (no ice)

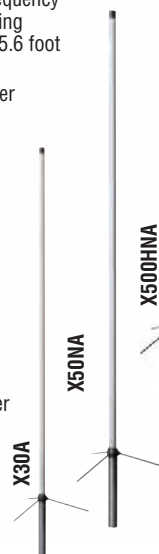
DIA-X50NA .....\$99.95

**X30A**

The X30A works well in areas where height and/or antenna restrictions are an issue. Features include a wide frequency bandwidth, heavy-duty fiberglass radome, stainless steel mounting hardware, and a UHF cable connection. Compact 4.5 foot height for easy installation.

- Frequency: 144-148 MHz/2 meter, 440-450 MHz/70 centimeter
- Gain: 3.0 dB/2 meter, 5.5 dB/70 centimeter
- Power Rating: 150 watts maximum
- Wind Rating: 135 MPH (no ice)

DIA-X30A .....\$69.95



*You've seen the rest...  
now own the best!*

**BB7V Multi-Band  
HF Vertical Antenna**

This lightweight (4.5 lb.) antenna provides coverage from 2 MHz to 30 MHz without radials. The BB7V has six telescoping sections that nest in each other—collapsed length is 5 feet, extends to 22 feet when fully deployed. The sections are self locking (no hardware to lose) and can be raised or lowered in less than a minute. For permanent use, each section can be locked in place with a single screw. Ideal for users with antenna restrictions or travelers wanting a quick and easy wideband antenna solution.

DIA-BB7V Multi-Band HF Vertical Antenna .....\$399.95

**Vertical Antennas** Mast requirement: 1.4"-2.4"

MODEL	FREQ (MHz)	IMPED	WATTS (PEP)	CONN.	BOOM LNTH.	WEIGHT
BB7V	2-30 (W/TUNER)	50Ω	250	UHF	60"/22'	4.5 lbs.

**Mono-Band Base/Repeater Antennas**

MODEL	BAND (MHz)	GAIN (dB)	WATTS#	CONN.	HT. FT.	RATED WIND MPH (No Ice)
CP22E 1	144	6.5	200	UHF	9.0	70

**Dual-Band Base/Repeater Antennas**

MODEL	BAND (MHz)	GAIN (dB)	WATTS#	CONN.	HT. FT.	RATED WIND MPH (No Ice)
X30A	144/440	3.0/5.5	150	UHF	4.5	135
X50A	144/440	4.5/7.2	200	UHF	5.6	135
X50NA	144/440	4.5/7.2	200	N	5.6	135
X300A	144/440	6.5/9.0	200	UHF	10.5	112
X300NA	144/440	6.5/9.0	200	N	10.5	112
X510HDM	144/440	8.3/11.7	330/250	UHF	17.2	90

**Tri-Band Base/Repeater Antennas**

MODEL	BAND (MHz)	GAIN (dB)	WATTS#	CONN.	HT. FT.	RATED WIND MPH (No Ice)
V2000A 3,5	52/144/440	2.1/6.2/8.4	150	UHF	8.3	110
X3200A 4	146/222/440	6.0/7.8/8.0	100/200	UHF	10.5	112
X6000A	144/440/1240	6.5/9.0/10.0	100/60	N	10.5	112

**MX2000****MX62M**

CALL/WEB for  
current prices.

MODEL	MX2000			MX62M	
FREQUENCY	LPF	BPF	HPF	LPF	HPF
BAND (MHz)	1.6-60	110-170	300-950	1.6-56	76-470
PWR CW (ICAS)					
WATTS P.E.P.	800	800	500	600	
THRU LOSS/dB	0.15	0.2	0.25	0.2	0.3
ISOL		60dB		50dB	
VSWR		1.2:1		1.2:1	
CONNECTOR COMPLEMENT					
CONNECTOR		12" Cable w/PL259			12" Cable w/PL259

NOTES: 1) Heavy duty aluminum construction. 2) X510NJ: 144-147/430-440 MHz. 3) 1/4I rated in dBi. 4) 2m: 146-148; 100 watts 5) 52-54 MHz only. Tunable. 6) Tunable for 10MHz BW. 7) 1.25 Bandwidth. 8) Tunable 144-174 with cutting chart. 9) 500W P.E.P./200W FM BAND: 144=144-148 MHz, 222=222-225 MHz, 420=420-430 MHz, 430=430-440 MHz, 440=440-450 MHz, 1240=1240-1300 MHz. # Power rating should be reduced in repeater service.



# VHF/UHF & HF/VHF Mobile Antennas

**New!**

Maximum Performance Without Compromise

**DIAMOND**  
ANTENNA

## HV7A Mobile Antenna System

Designed for new HF/VHF transceivers such as the Icom IC706 & IC7000 Series, the HV7A has five band capability (70 centimeter, 2 meter, 6 meter, and two HF bands) through the use of loading coils. The foldover feature allows for easy access into low overhead buildings. Some radios may require a duplexer.

- Bands Supplied: 10/6/2 meter, 70 centimeter
- Power, PEP: 120 Watts/HF, 200 Watts/VHF
- SWR: 1.5:1 Nominal
- Length: 54"
- Mount Connection: UHF

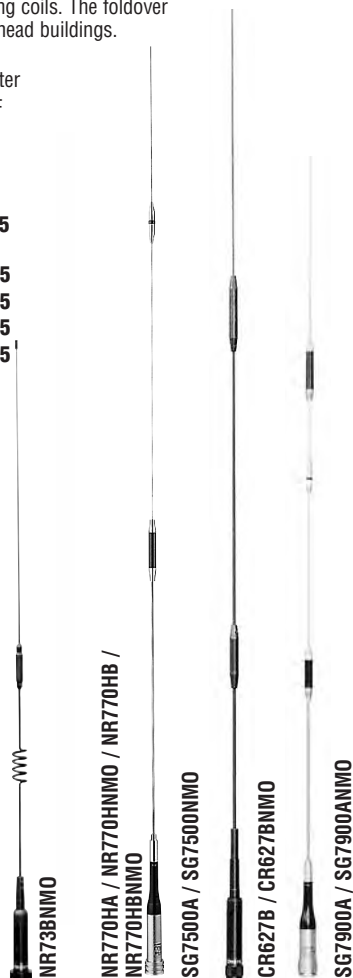
DIA-HV7A Mobile Antenna System; **\$119.95**

### Loading Coils

DIA-HVC7	40 meter.....	<b>\$44.95</b>
DIA-HVC14	20 meter.....	<b>\$37.95</b>
DIA-HVC18	17 meter.....	<b>\$37.95</b>
DIA-HVC21	15 meter.....	<b>\$37.95</b>



Recommended Antenna Mounts:  
K400C, K400S, K600S or K600M



MODEL	BAND (MHz)	GAIN (dB)	WATTS (PEP)	CONN	HT. IN.	ELEMENT PHASING 1/4I rated in dBi.
NR73BNMO	2m/70cm	2.15/5.3	100	NMO	33.5	1/2I, 1-5/8I
NR770HA <sup>7</sup>	2m/70cm	3.0/5.5	200	UHF	40.2	1/2I, 2-5/8I
NR770HNMO <sup>8</sup>	2m/70cm	3.0/5.5	200	NMO	38.2	1/2I, 2-5/8I
NR7900A*	2m/70cm	3.7/6.4	300/250	UHF	57	1/4+1/2I, 3-5/8I
SG7000A* <sup>6</sup>	2m/70cm	2.15/3.8	100	UHF	18.5	1/4I, 6/8I
SG7500A	2m/70cm	3.5/6.0	150	UHF	40.6	1/2I, 2-5/8I
SG7500NMO	2m/70cm	3.5/6.0	150	NMO	41.0	1/2I, 2-5/8I
SG7900A*	2m/70cm	5.0/7.6	150	UHF	62.2	7/8I, 3-5/8I
SG7900ANMO*	2m/70cm	5.0/7.6	150	NMO	62	7/8I, 3-5/8I
CR320A* <sup>6</sup>	2m/1-1/4m/70cm	2.15/3.8/5.5	200/100/200	UHF	37.4	1/4I, 1/2I,
CR320BNMO* <sup>6</sup>	2m/1-1/4m/70cm	2.15/3.8/5.5	200/100/200	NMO	38	2-5/8I
NR2000NA	2m/70cm/23cm	3.15/6.3/9.7	100	N	39	1/2I, 2-5/8I, 5-5/8I
CR627B* <sup>6,9</sup>	6m/2m/70cm	2.1/4.5/7.2	120	UHF	60	1/4I, 1/2I+1/4I

## Premium Antenna Mounts

### K400 Series Hatchback/Door/Trunk Lid Antenna Mounts

These heavy-duty mounts are two-axis adjustable and have a 4" wide mounting base with four set screws for maximum strength. Recommended for high gain VHF/UHF antennas. Will support ATAS 120, Tarheel II, High Sierra Sidekick & Outbacker.

DIA-K400C	SO-239 base, 6.5 ft. RG-316/B cable, PL-259 connector .....	<b>\$73.95</b>
DIA-K400CNMO	NMO base, 6.5 ft. RG-316/B cable, PL-259 connector .....	<b>\$73.95</b>
DIA-K400-3/8C	3/8-24 base, 6.5 ft. RG-316/B cable, PL-259 connector .....	<b>\$73.95</b>

### K540 Mirror/Luggage Rack Antenna Mount

This mount accepts 1/2" to 7/8" tubing and fits most mirrors and utility racks. The position adjusting knob allows the antenna to fold over and lock into a horizontal position. Recommended for antennas under 45".

DIA-K540KM	SO-239 base, 13 ft. RG58/U cable, PL-259 connector .....	<b>\$59.95</b>
DIA-K540	Mount only .....	<b>\$35.95</b>

### K600 Variable Angle Trunk Antenna Mount

This aerodynamic trunk mount can be adjusted vertically from 0°-9°. The mounting base is 4" wide with four set screws for maximum strength. Recommended for high gain VHF/UHF antennas.

DIA-K600M	SO-239 base, 16.5 ft. two-step RG-188 Teflon® cable plus 10" 5D cable, PL-259 connector .....	<b>\$59.95</b>
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### K702M Deluxe Low Profile Magnet Antenna Mount

Magnet mount provides high holding power for VHF/UHF antennas up to 50" high. Measures 3/4" high x 6 3/8" diameter. Includes thin Mylar protective sheet to enhance grip and protect paint. SO-239 base, 13 ft. RG58A/U cable with PL-259 connector.

DIA-K702M	Low Profile Magnet Antenna Mount .....	<b>\$49.95</b>
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### SPM Duty Magnet Mounts

Recommended for antennas under 45", these 2.2 lb., 4" magnet mounts are rated at 25-500 MHz. 13 ft. of RG58A/U cable with PL-259 connector included.

DIA-SPM35	Mount with SO-239 base .....	<b>\$44.95</b>
DIA-SPMNMO	Mount with NMO base .....	<b>\$49.95</b>



K400



K540



K600



K702M



SPM35



C101



C110

## C101 Cable Assemblies

Ideal cable assemblies for trunk mount radios.

DIA-C101	SO-239 base, 6.5 ft. RG-316 Teflon® cable, PL-259 connector .....	<b>\$37.95</b>
DIA-C101NMO*	NMO base, 6.5 ft. RG-316 Teflon® cable, PL-259 connector .....	<b>\$37.95</b>
DIA-C213SMA	SO-239 base, 13.5 ft. RG-316 Teflon® cable, SMA/PL-259 connector .....	<b>\$44.95</b>
DIA-C213SNMO	NMO base, 13.5 ft. RG-316 Teflon® cable, PL-259 connector .....	<b>\$44.95</b>
DIA-C101-3/8C	3/8-24 base, 6.5 ft. RG-316 Teflon® cable, PL-259 connector .....	<b>\$34.95</b>

\*For use with Diamond's K-Series mounts.

## C110 Extensions for C101 Cable Assemblies

Used to extend cable for front-mount radio installations.

DIA-C110	Extension with 10 ft. RG8X cable, mini UHF connector .....	<b>\$19.95</b>
DIA-C110BNC	Extension with 10 ft. RG316 Teflon® cable, BNC-male connector .....	<b>\$29.95</b>
DIA-C110SMA	Extension with 10 ft. RG316 Teflon® cable, SMA-male connector .....	<b>\$29.95</b>
DIA-C211	Kit with C101 Cable Assembly and C110 Extension, 16.5 ft. total length .....	<b>\$49.95</b>

**Maximum Power Transfer—Optimum Balance!****Maxi-Core™ Baluns**

DX Engineering Baluns with Maxi-Core™ Technology let your antenna perform to its full potential and reduce the stresses on your equipment. Check out these features:

- Allow a better match from the coax impedance to the impedance of the antenna for lowest SWR
- Force equal currents for maximum efficiency and better patterns
- Exhibit an increased operating bandwidth over other baluns
- Allow use of an antenna tuner and maximum power amplifier without damage (DXE "T" Baluns only)
- Convenient mounting holes
- Reduce transmit RFI and receive noise
- Unbalanced output uses Teflon®/Silver SO-239 connector
- Handle high power (up to 10 kW per published spec) with minimum energy loss
- Mounted in sturdy aluminum boxes designed for outdoor use
- Perform at the highest levels of efficiency in transmit or receive applications
- Balanced input uses ceramic insulators with stainless hardware

Only DX Engineering Baluns will deliver the power to your antenna with minimum loss and perform a perfect transition from balanced to unbalanced. This will result in the strongest signal your antenna is capable of producing consistent with the lowest SWR under given conditions. This will result in less stress on your transmitter so components will last longer and operate better.

DX Engineering Baluns exhibit far wider bandwidths over conventional baluns because more of the flux is confined to the immediate vicinity of the core. This results in much more energy going to your antenna. Extremely high efficiency is achieved over the entire frequency range.

Pick the correct model for your application and desired impedance transformation.

Part Number & Case*	Price	Ratio	Power ICAS/Cont.	Freq. MHz	Applicaton
DXE-BAL050-H05-A	<b>\$94.95</b>	1:1	2/5 kW	1.8-30	Dipole, Yagi
DXE-BAL050-H10-A	<b>\$109.95</b>	1:1	5/10 kW	1.8-30	Dipole, Yagi
DXE-BAL050-H11-C	<b>\$139.95</b>	1:1	10+ kW	1.8-30	Dipole, Yagi
DXE-BAL100-H11-C	<b>\$149.95</b>	2:1	10+ kW	1.8-30	Vertical Loop
DXE-BAL200-H10-A	<b>\$119.95</b>	4:1	5/10 kW	1.8-30	Yagi, LPDA, Horizontal Loop
DXE-BAL200-H11-C	<b>\$144.95</b>	4:1	10+ kW	1.8-30	Yagi, LPDA, Horizontal Loop
DXE-BAL300-H10-A	<b>\$139.95</b>	6:1	5/10 kW	1.8-30	Folded Dipole
DXE-BAL450-H10-A	<b>\$139.95</b>	9:1	5/10 kW	1.8-30	450 $\Omega$ Antenna
DXE-BAL600-H10-A	<b>\$139.95</b>	12:1	5/10 kW	1.8-30	Terminated Loop
<b>Special Applications for Use with Antenna Tuner</b>					
DXE-BAL050-H10-AT	<b>\$119.95</b>	1:1	5/10 kW	1.8-30	Multi-Band Dipole
DXE-BAL050-H11-CT	<b>\$144.95</b>	1:1	10+ kW	1.8-30	Multi-Band Dipole
DXE-BAL200-H10-AT	<b>\$129.95</b>	4:1	5/10 kW	1.8-30	Multi-Band Vert/OCF
DXE-BAL200-H11-CT	<b>\$149.95</b>	4:1	10+ kW	1.8-30	Multi-Band Vert/OCF
DXE-BAL450-H10-B-P+	5kW Low-Loss Line Transformer, Pair .....				<b>\$299.95</b>

\*Case Style Definitions +See Page 33 for description

A or AT: Lightweight formed aluminum enclosure for outdoor use

C or CT: Cast aluminum gasketed enclosure for severe environments

Contact DX Engineering Customer Support to Discuss Your Application or for Recommendations.

**Feedline Current Chokes**

If your SWR is already low and you wish to reduce feedline radiation (RFI) and improve reception, a Feedline Current Choke is recommended. DX Engineering Chokes have significantly higher common mode impedance and a larger effective core area than competing line isolators, including conventional enameled wire or bead baluns.

**Advantages of using DX Engineering Feedline Current Chokes:**

- Prevent unwanted RFI by eliminating feedline current and radiation
- All power goes to the antenna, improving efficiency
- Reduce noise or unwanted signals picked up by the feedline
- Overcome a less than optimal ground system

The DXE-FCC050-H05-A Feedline Current Choke, using Maxi-Core® technology, prevents unwanted RFI by eliminating feedline current and radiation in 50  $\Omega$ , coaxially fed HF antenna systems. The choke is also an effective line isolator. It is rated at 2 kW. The DXE-VFCC Vertical Feedline Current Chokes are designed for use with coaxially fed, 50  $\Omega$  HF vertical antennas including 1/4-wavelength verticals, ground-mounted vertical antennas such as DX Engineering monoband verticals, and the Hustler BTV series. These chokes come with an insulated mounting plate, hardware, and 16 inch lengths of tinned copper braid used to make feedpoint connections.

DXE-FCC050-H05-A	Feedline Current Choke, 2 kW, 50 $\Omega$ coaxial antennas.....	<b>\$84.95</b>
DXE-VFCC-H05-A	Vertical Feedline Current Choke, 2/5 kW, HF verticals.....	<b>\$134.95</b>
DXE-VFCC-H10-A	Vertical Feedline Current Choke, 5/10 kW, HF verticals.....	<b>\$179.95</b>

**Cable Strain Relief Brackets**

These assemblies from DX Engineering support the cable hanging from your balun or wire antenna center-T, relieving the stress on the cable connection. Available for RG-8X and RG-213/U cable. Hardware included.

DXE-CSR8X-1	Cable Strain Relief Assembly, RG-8X.....	<b>\$9.50</b>
DXE-CSR213-1	Cable Strain Relief Assembly, RG-213/U.....	<b>\$9.50</b>

**4:1 High Power UNUN for Non-Resonant Verticals****New!**

This DX Engineering UNUN is specifically designed for applications using non-resonant multi-band antennas. The UNUN will help your antenna and transmission line/tuner installation work at maximum efficiency, minimizing additional transmission line losses caused by SWR. It can be added to any existing 43 foot antenna installation, and is an ideal replacement for an older UNUN.

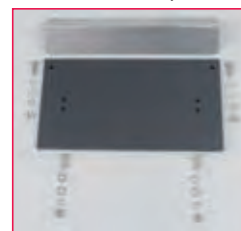
- 1.8–30 MHz operating range to cover popular amateur bands
- Handles rated power with minimal energy loss—no thermal-related failure

DXE-UN-43	4:1 High Power UNUN, for use with non-resonant verticals.....	<b>\$104.95</b>
DXE-UN-BRKT	UNUN Mounting Kit for multi-band HF verticals.....	<b>\$22.95</b>
DXE-TCB-UNFK	Feed Point Connection Kit, UNUN to vertical antenna.....	<b>\$9.50</b>
DXE-UN-43R	Complete Kit (UN-43, BRKT, UNFK).....	<b>\$129.95</b>

**Balun or Choke Mounting Kit**

This is the same mounting kit supplied with our Vertical Feedline Current Chokes. It consists of a stainless steel bracket and insulated shelf, which allows you to mount any DX Engineering Balun or the Feedline Current Choke at the base of any vertical antenna. The polymer mounting plate is isolated from the rest of the vertical ground system for best performance and decoupling. No clamps are necessary if you are mounting to a 4x4 or 6x6 wooden post—simply use two wood screws. A clamp will be needed if you choose to mount your bracket to a ground pipe—our DXE-CAVS-2P V-Saddle Clamp is recommended for clamping to 1 inch to 2 inch O.D. pipe.

DXE-VFCC-BRKT	Balun or Choke Mounting Kit.....	<b>\$19.95</b>
DXE-SSVC-2P	V-Saddle Clamp, 1" to 2" O.D. ....	<b>\$11.95</b>

**Balun Dipole Adaptor Bracket**

This mounting kit allows you to mount a DX Engineering Balun, Feedline Current Choke, or Vertical Feedline Current Choke in a wire dipole situation. To suspend a formed aluminum DX Engineering Balun with the Dipole Adaptor Bracket between two points, we recommend Synthetic Textiles Inc. double-braided polyester rope, found in the Wire Antenna section on page 30.

DXE-BDAB-1P	Balun Dipole Adapter Kit.....	<b>\$24.95</b>
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**Balun Mounting Bracket Kits**

Use one of these Balun Mounting Bracket Kits to mount your DX Engineering Balun to the boom of a Yagi, antenna mast or a tower leg. The kits include:

- Aluminum bar mounting bracket
- Stainless steel bracket hardware kit
- Stainless steel round member clamps

These kits will work with any of our baluns in a formed aluminum enclosure.

DXE-BMB-1P	Balun Mounting Kit, .750" to 1.50" clamps.....	<b>\$24.95</b>
DXE-BMB-2P	Balun Mounting Kit, 1.56" to 2.25" clamps.....	<b>\$24.95</b>
DXE-BMB-3P	Balun Mounting Kit, 2.31" to 3.00" clamps.....	<b>\$24.95</b>





## Vertical Feedline Current Choke

When quarter wave antennas are constructed over a good radial system, they have a feedpoint impedance of about 36  $\Omega$  and currents are equal between the vertical section and the radial system. If the radial system is less than ideal—due to short radials, too few radials or poor soil conductivity—the antenna system will try to use the feedline shield as part of the radial system. This leads to a loss in the efficiency and a higher take-off angle. Often the current introduced on the shield of the feedline causes RFI at the operator position.

Placing a vertical feedline current choke (VFCC) at the base of the quarter wave antenna forces the currents to equalize between the vertical section and the radial system, even if the radial system is less than ideal. The balanced terminals of the VFCC should be connected directly to the base of the antenna and radial plate with appropriate lengths of low-inductance tinned copper braid.

The DX Engineering VFCC is supplied with an insulated mounting shelf to isolate the feedline shield from ground. Purchase the optional V-Saddle Clamp for mounting the VFCC to pipe up to 2 inches O.D.

- Equalizes vertical and ground currents
- Improves signal efficiency
- Lowers radiation angle

DXE-VFCC-H05-A	Vertical Feedline Current Choke Kit, 2/5 kW, HF .....	<b>\$134.95</b>
DXE-VFCC-H10-A	Vertical Feedline Current Choke Kit, 5/10 kW, HF .....	<b>\$179.95</b>
DXE-SSVC-2P	V-Saddle Clamp, for 1" to 2" O.D. pipe .....	<b>\$11.95</b>

## Tilt Base

No more climbing ladders or removing a bracket from the support post. You can now make repairs or tune your vertical easily with a DX Engineering Tilt Base. One person can easily lift the antenna, tilt it to the side and walk it down. The optional DXE-AOK-TB1193 Wing Nut Kit makes for a no-tools fastening of the tilt base. Precision-cut from 3/16 inch 304 stainless steel, the Tilt Base is virtually indestructible and conveniently mounts to the same mast that you use for the antenna and radial plate. The Tilt Base is great for installations that need to accommodate CC&R, or for taking down antenna during severe weather.

Use DXE-TB-3P for Hustler BTV models, DXE-TB-4P for Butternut, GAP, Hy-Gain & DXE Verticals, and use DXE-TB-6P for HyGain 14AVQ. The DXE-TB-4P Tilt Base is intended for quarter wave verticals that have a minimum of 0.5 inch and a maximum of 2 inch O.D. base, weigh up to 20 pounds, and have a height of no more than 28 ft. Vertical antennas up to 43 ft. must be adequately guyed, and extra precautions should be taken when raising or lowering the antenna to avoid undue lateral stress on the tilt mechanism.

If you are mounting your Tilt Base to a ground mounted pipe, you will need two DXE-CAVS-2P V-Bolt Saddle Clamps to complete the installation.

DXE-TB-3P	Tilt Base Kit for Hustler BTV model antennas .....	<b>\$62.50</b>
DXE-TB-4P	Tilt Base Kit for antennas other than Hustler BTV .....	<b>\$87.50</b>
DXE-TB-6P	Tilt Base Kit for Hy-Gain 14AVQ .....	<b>\$0.00</b>
DXE-AOK-TB1193	Wing Nut No-Tools Kit, pack of 2 .....	<b>\$7.95</b>
DXE-SSVC-2P	V-Saddle Clamp, 1" to 2" O.D. applications .....	<b>\$11.95</b>

## Wing Nut No-Tools Kit for DX Engineering Tilt Base

Use these wing nut knobs for tool-less quick release of the DX Engineering DXE-TB Tilt Bases—handy for lowering the antenna for tuning or daily stealth operation. Simply remove the existing hex nuts and thread on the wing nuts. The old hex nuts store on the tilt base for future use. Purchase two sets to allow tightening of the lower mounting hardware without tools and for extended periods of upright installation and use.

DXE-AOK-TB1193	Wing Nut No-Tools Knobs, pack of 2 .....	<b>\$7.95</b>
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## Guying Kits

Many locations experience winds that can be damaging to antennas. These kits provide 4 ground anchors and plenty of 260 pound, 3/32 diameter rope to provide the guying necessary to protect your vertical antenna. The black rope is UV-protected to last for years.

DXE-GUY100-KIT	BTV Guying Kit, 100' of rope .....	<b>\$29.95</b>
DXE-GUY200-KIT	BTV Guying Kit, 200' of rope .....	<b>\$37.95</b>
DXE-GUY400-KIT	Vertical Guying Kit, 400' of rope .....	<b>\$54.95</b>
DXE-GUY1000-KIT	HD Vertical Guying Kit with 1,000' of rope .....	<b>\$89.95</b>

## Accessories for Vertical Antennas

DXE-SSVC-2P	V-Saddle Clamp, 1" to 2" O.D. ....	<b>\$11.95</b>
DXE-AOK-TB1193	Wing Nut Tilt Base Add-On Kit, 2 per pack .....	<b>\$7.95</b>
DXE-AOK-DCF	Direct Coax Feed .....	<b>\$22.95</b>
DXE-CBC-8XU2	Low Power DCF Jumper Cable, 2' .....	<b>\$18.99</b>
DXE-CBC-008U002	High Power/Low Loss DCF Jumper Cable, 2' .....	<b>\$24.95</b>
DXE-VFCC-H05-A	Vertical Feedline Current Choke .....	<b>\$134.95</b>



## Radial Plate

DX Engineering's patented Radial Plate provides a neat, easy, and effective way to connect essential radial wires and feedline to your quarter wave vertical antenna. The plate can be attached easily and rigidly to a 4x4 or 6x6 post, steel or aluminum pipe up to 3 inches O.D., a fence post, or whatever is supporting your antenna. Purchase the optional V-Saddle Clamp for mounting the plate to pipe up to 3 inches O.D.

The plate assembly has been drilled for an optional SO-239 panel mount or bulkhead mount connector, available from DX Engineering. This will ground the shield of your feedline to the radial plate before it goes to the antenna, allowing maximum transfer of ground current directly into your radial system.

- Provides attachment for coaxial cable shield
- Square to allow most radial attachment points
- Stainless steel plate won't dissolve like aluminum
- Stainless steel hardware

DXE-RADP-3	Radial Plate, complete with 20 stainless steel bolt sets .....	<b>\$54.50</b>
DXE-RADP-1HWK	Hardware Set, includes 20 sets of 1/4" stainless hardware .....	<b>\$7.50</b>
DXE-SSVC-2P	V-Saddle Clamp, 1" to 2" O.D. applications .....	<b>\$11.95</b>
DXE-SSVC-3P	V-Saddle Clamp, 2" to 3" O.D. applications .....	<b>\$14.95</b>
DXE-112-KIT	SO-239, Teflon/Silver, chassis mount with hardware .....	<b>\$5.90</b>
DXE-363-SST	SO-239, Teflon/Silver, bulkhead fitting with hardware .....	<b>\$6.95</b>
DXE-81343	Anti-Seize Compound, 1 oz. squeeze tube .....	<b>\$2.99</b>
DXE-225RT-20	Ring Terminals, 1/4" hole, for 14/16 gauge wire, 20 pack .....	<b>\$4.95</b>

**New!**

## Radial Wire Staples

There is no need to bury your radials for performance. DX Engineering Radial Wire Staples are perfect for fastening radials on the ground below the grass to eliminate the risk of damaging your radials during lawn maintenance. The radials disappear into the lawn within weeks!



DXE-STPL-100BD



Radial Wire Metal Staple

The low-cost metal staples now have a biodegradable counterpart! The "BD" suffix indicates a pack of 3 inch biodegradable anchors made from recycled PLA (Polylactide Resin). Depending on weather conditions, they will degrade in a year or two. They are easily installed and will hold radial wires in place until lawn roots overtake them—and then the staples disappear. Ecologically friendly!

DXE-STPL-100BD	Radial Wire Biodegradable Staple, 3", 100 pack .....	<b>\$16.00</b>
DXE-STPL-100P	Radial Wire Metal Staple, 6", 100 pack .....	<b>\$16.00</b>
DXE-STPL-300P	Radial Wire Metal Staple, 6", 300 pack .....	<b>\$44.00</b>

## Radial Wire Kits

### Bulk Radial Wire Kits

You should install as many radials as possible to achieve optimal performance with a ground-mounted vertical. All our radial wire kits use #14 stranded insulated copper wire that is UV-resistant, hard to see and lays down easily without a preset helix.

DXE-RADW-500K	Radial Kit, 500', ring terminals, wire staples .....	<b>\$61.90</b>
DXE-RADW-500KBD	Radial Kit, 500', ring terminals, biodegradable staples .....	<b>\$61.90</b>
DXE-RADW-1000K	Radial Kit, 1,000', ring terminals, wire staples .....	<b>\$123.95</b>
DXE-RADW-1000KBD	Radial Kit, 1,000', ring terminals, biodegradable staples .....	<b>\$123.95</b>
DXE-900031	Wire Stripper/Crimper/Cutter Tool .....	<b>\$17.95</b>

### Pre-Assembled Radial Wires

Packages of twenty pre-cut radial wires include 1/4" ring terminals machine crimped on one end for quick, easy attachment to the radial plate.

DXE-RADW-20RT	20' Radial Wire with 1/4" Ring Terminals, 20 pack .....	<b>\$79.95</b>
DXE-RADW-32RT	32' Radial Wire with 1/4" Ring Terminals, 20 pack .....	<b>\$104.95</b>
DXE-RADW-65RT	65' Radial Wire with 1/4" Ring Terminals, 20 pack .....	<b>\$179.95</b>

### Pre-Cut Radial Kits

DX Engineering offers pre-cut radial wire kits for the 10, 15, 20, 40 and 80 meter bands, complete with wire connection hardware for elevated radial installations. Just strip the wire ends, crimp and solder. Each radial is slightly longer than a quarter wave to allow tuning as necessary.

DXE-RADW-1K	Radial Wire Kit for 10, 15 and 20m .....	<b>\$24.95</b>
DXE-RADW-40MK	Radial Wire Kit for 40m .....	<b>\$20.95</b>
DXE-RADW-80MK	Radial Wire Kit for 80m .....	<b>\$37.95</b>
DXE-900031	Wire Stripper/Crimper/Cutter Tool .....	<b>\$17.95</b>



# Rugged Construction—Maximum Reliability!



DXE-UWA8X-KIT



DXE-UWA-KIT



DXE-UWA213-KIT

## Universal Wire Antenna Kits

DX Engineering's three Universal Wire Antenna (UWA) Kits offer the right combination of parts and hardware to create a wide variety of antenna designs. You can create any type of wire antenna, including single band, multi-band, multi-frequency and folded dipole, doublet and inverted-vee, off-center fed, Windom, Zepp, long wires, rhombic, vee beam, and loop antennas.

The kits feature the new EZ-BUILD™ Center-T insulator and end insulators. The insulators have a unique patented design that features a serpentine wire grip for insulated DX Engineering Antenna Wire and DX Engineering's high strength, high power 300 Ω ladder line. The serpentine wire connection grip is strong enough to support the antenna wires without looping or wrapping the wire ends. This allows fast and easy field adjustments of antenna length without soldering!

The insulators are made of a light weight, high strength, UV-protected material. The center-T insulator is designed to serve as a feedpoint and strain relief for antennas made with either wire or ladder line, which may be fed with either ladder line or coaxial cable. The Center-T insulator can be the main support point for the antenna feedpoint by using the top center hole to attach a support rope. It also serves as the mounting and support point for any DX Engineering Balun.

The DXE-UWA8X-KIT and DXE-UWA213-KIT kits include a new strain relief bracket and P-clamps with neoprene cushions that grip the coaxial cable without deforming it, taking the weight of the hanging cable off of the connector. Each kit also includes crimp-on ring terminals for ladder line and antenna wire and connection hardware.

DXE-UWA-KIT	Universal Wire Antenna Kit.....	<b>\$17.95</b>
DXE-UWA8X-KIT	Universal Wire Antenna Kit for RG-8X .....	<b>\$29.95</b>
DXE-UWA213-KIT	Universal Wire Antenna Kit for RG-213.....	<b>\$32.95</b>
DXE-UWAEND-KIT	End Insulators, Package of 8.....	<b>\$12.95</b>

## Antenna Support Rope

Synthetic Textile Industries' double-braided Dacron/Polyester ropes are not weakened by decay or mildew and provide excellent resistance to abrasion. The color-sealed, black polyester yarn used in the braided jacket also protects the cord from damage due to ultra-violet light. It is available in a variety of diameters and lengths.



STI-DBR-187-100



STI-DBR-94-100

STI-DBR-94-100	3/32" diameter rope, 100' roll.....	<b>\$9.95</b>
STI-DBR-94-1000	3/32" diameter rope, 1,000' roll.....	<b>\$69.95</b>
STI-DBR-125-100	1/8" diameter rope, 100' roll.....	<b>\$11.95</b>
STI-DBR-187-100	3/16" diameter rope, 100' roll.....	<b>\$14.95</b>
STI-DBR-187-350	3/16" diameter rope, 350' roll.....	<b>\$49.95</b>
STI-DBR-187-500	3/16" diameter rope, 500' roll.....	<b>\$69.95</b>
STI-DBR-312-100	5/16" diameter rope, 100' roll.....	<b>\$26.95</b>
STI-DBR-312-500	5/16" diameter rope, 500' roll.....	<b>\$129.95</b>
STI-DBR-437-500	7/16" diameter rope, 500' roll.....	<b>\$229.95</b>

See page 28 for Baluns, Chokes, Brackets, and additional items!



DXE-WA-070

## Ladder Fed Dipole Antennas

The DX Engineering multi-band dipoles are rugged yet lightweight. Each model resonates at the low end of the band specified. They are usable to 30 MHz with a wide range tuner and come complete with the wire elements, ladder feedline, center-T support and end insulators.

- Elements: 14 AWG copper, PVC jacket for flexibility and strength
- Feedline: 100 feet, 18 AWG, 300 Ω ladder line, UV-resistant, 0.88 VF
- Hardware: stainless steel
- Center-T support and end insulators: High impact, UV-resistant material, black
- Power Rating: 1500W

DXE-WA-260	Antenna, 260' long for 160m and up .....	<b>\$59.95</b>
DXE-WA-135	Antenna, 135' long for 80m and up .....	<b>\$49.95</b>
DXE-WA-070	Antenna, 70' long for 40m and up .....	<b>\$49.95</b>

## Hy-Gain Center Insulator for Multi-Band Doublets with SO-239

This weatherproof, lightweight, high strength center insulator is used for connecting coaxial feedline to a doublet-type antenna. The insulator can be hung from a supporting mast. It has an SO-239 connector to attach to coaxial cable with a matching PL-259 connector.



HYG-C-1C	Center Insulator for multi-band doublets .....	<b>\$28.95</b>
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## Premium Copper Antenna Wire

Use DX Engineering antenna wire to achieve top performance and long-life, trouble-free operation. This insulated copper wire is UV-resistant and lays out easily, unlike the wire that is commonly available at the "big box" stores which coils and kinks. It will last much longer in contact with the environment than bare wire. It is available in pre-cut lengths for easy dipole assembly, or in bulk lengths of 500 and 1,000 feet.

- Heavy #14 AWG stranded copper antenna wire
- UV-resistant insulation
- Reduces precipitation static
- Long, reliable life



DXE-ANTW-75	#14 Insulated Antenna Wire, 40m & up, 75' .....	<b>\$10.95</b>
DXE-ANTW-150	#14 Insulated Antenna Wire, 80m & up, 150' .....	<b>\$19.95</b>
DXE-ANTW-300	#14 Insulated Antenna Wire, 160m & up, 300' .....	<b>\$37.95</b>
DXE-ANTW-500	#14 Insulated Antenna Wire, multiple antennas, 500' .....	<b>\$56.95</b>
DXE-ANTW-1000	#14 Insulated Antenna Wire, multiple antennas, 1,000' .....	<b>\$112.95</b>





## Alpha Delta Wire Antennas

### Multi-Band Dipole Wire Antennas

These complete resonant antennas include DELTA-C center insulator and end insulators, ISO-RES coils, and separate wires for different bands. All wires are attached to the center insulator. An ARC-PLUG™ static electricity protector is built in. Stainless steel hardware and 12 gauge solid copper wire ensure long life. Antennas are shipped fully assembled. No antenna tuners are necessary except for 15 meter band with DX-CC.

ALP-DX-CC	80-10 Meter Parallel Dipole.....	<b>\$159.00</b>
ALP-DX-DD	80-40 Meter Single Dipole.....	<b>\$129.00</b>
ALP-DX-EE	40-10 Meter Parallel Dipole.....	<b>\$139.00</b>
ALP-DX-LB	160-80-40 Meter Single Wire Dipole.....	<b>\$159.00</b>
ALP-DX-LBPLUS	160-10 Meter Parallel Dipole.....	<b>\$189.00</b>
ALP-SEP	Replacement ARC-PLUG protector.....	<b>\$15.95</b>

### Multi-Band Sloper Wire Antennas

These antennas provide good DX performance for limited space installations by combining the tremendous DX firepower of a quarter-wave sloper with the wide bandwidth of a 1/2-wave dipole antenna. A built-in ARC-PLUG™ static electricity protector is included. Because the installation of sloper antennas depends on your available mounting circumstances, the use of a wide range antenna tuner is recommended for best performance.

ALP-DX-A	Twin Sloper, 160-80-40 Meter.....	<b>\$99.00</b>
ALP-DX-B	Sloper, 160-80-40-30 Meter.....	<b>\$109.00</b>
ALP-SEP	Replacement ARC-PLUG protector.....	<b>\$15.95</b>

### SWL Antennas

Fully assembled for fast, easy installation, these antennas are optimized to provide best broadband receiving performance from the AM broadcast band through 30 MHz. The antennas include ISO-RES inductors, solid copper wire elements and the exclusive DELTA-C center insulator with a built-in ARC-PLUG™ static electricity protector. Stainless steel hardware and 12 gauge solid copper wire ensure long life.

ALP-DX-SWL	SWL Sloper Antenna, 60 ft.....	<b>\$119.00</b>
ALP-DX-ULTRA	SWL Parallel Dipole, 80 ft.....	<b>\$159.00</b>
ALP-SEP	Replacement ARC-PLUG protector.....	<b>\$15.95</b>



## MFJ Wire Antennas

### G5RV All-Band HF Antenna

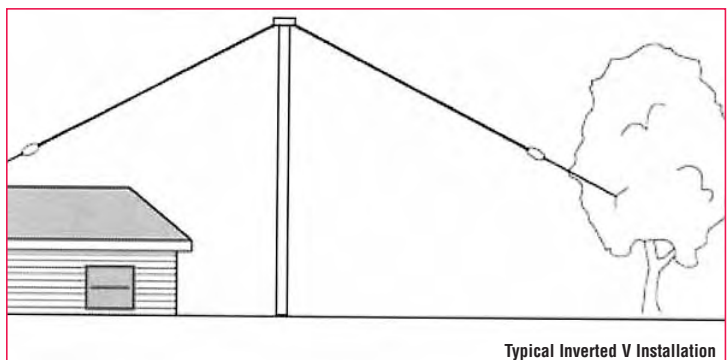
The world-famous G5RV antenna is a multi-band center-fed dipole with a 1,500 watt capacity. Designed as a 3/2 wavelength antenna for 14 MHz, it provides reasonable performance on many other bands. The antenna covers all bands from 160 to 10 meters when used with an antenna tuner. At 102 feet long, the G5RV is shorter than an 80 meter dipole.

MFJ-1778 G5RV All-Band HF Antenna ..... **\$44.75**

### OCFD 40/20/10/6 Meter Dipoles

These antennas are CAD designed and engineered for low SWR, high efficiency, wide bandwidth, and frequency agility on all four of amateur radio's most interesting DX bands! The antennas are cut to length and preassembled—just connect your feedline. Lightweight and easy to install.

MFJ-2010	OCFD UltraLite Dipole, 300 watts.....	<b>\$59.95</b>
MFJ-2012	OCFD PowerLite Dipole, 1.5 kW.....	<b>\$79.50</b>



Typical Inverted V Installation



ALP-DELTA-C

## Antenna Insulator Kit with Surge Protection

This kit contains one center insulator, antenna connection hardware, one ARC-PLUG static electricity protector, and two end insulators. The antenna hardware is molded of Deltalloy™, an extremely tough and durable plastic specifically blended to withstand sunlight and extreme weather conditions. An SO-239 connector is provided for direct connection to your coaxial cable. A ladder line balanced feedline may be connected directly to the dipole wire ends.



ALP-DELTA-CIN



ALP-SEP

ALP-DELTA-C	Antenna Insulator Kit.....	<b>\$29.95</b>
ALP-DELTA-CIN	Replacement End Insulator.....	<b>\$1.95</b>
ALP-SEP	Replacement ARC-PLUG protector.....	<b>\$15.95</b>

# Cable Assemblies

All DX Engineering cable assemblies use high quality coaxial cable. Each assembly is 100% Hi-Pot high-voltage tested to guarantee a quality cable assembly you can count on in the most severe operating environments.

RG-8/U cable is protected by a PVC jacket and is normally recommended for indoor applications or protected areas where ultraviolet contamination is unlikely to occur.

Please be aware that RG-8/U is no longer a government MIL-spec cable, which means cable construction can vary by manufacturer. When in doubt, use RG-213/U cable. It has a non-contaminating PVC jacket for long life in most outdoor applications.

**Custom Lengths Available—Call for Details**



## Premium-Grade 50 $\Omega$ Cable Assemblies

These *premium* DX Engineering cable assemblies use high quality Belden coaxial cable with Silver/Teflon® PL-259 (UHF) connectors or male N connectors installed at each end.

The PL-259 connector is Silver/Teflon with a silver plated center conductor. The N connector is Silver/Teflon with a gold center conductor. Connectors are soldered rather than crimped, and adhesive-lined shrink tubing is used to form a weather-resistant bond between the connector body and the coax.

**Belden 8267 RG-213/U Coax —.405 Inch O.D., Black Non-Contaminating PVC Jacket**

DXE-CBC-213U3	Cable with PL-259 connectors, 3'	<b>\$26.95</b>
DXE-CBC-213U6	Cable with PL-259 connectors, 6'	<b>\$28.99</b>
DXE-CBC-213U12	Cable with PL-259 connectors, 12'	<b>\$39.99</b>
DXE-CBC-213U25	Cable with PL-259 connectors, 25'	<b>\$49.99</b>
DXE-CBC-213N6	Cable with N connectors, 6'	<b>\$35.99</b>
DXE-CBC-213N12	Cable with N connectors, 12'	<b>\$48.99</b>
DXE-CBC-213N25	Cable with N connectors, 25'	<b>\$58.99</b>
DXE-CBC-213UN6	Cable with PL-259 and N connectors, 6'	<b>\$32.49</b>
DXE-CBC-213UN25	Cable with PL-259 and N connectors, 25'	<b>\$55.49</b>

**Belden 8214 RG-8/U Foam Coax —.403 Inch O.D., Black PVC Jacket**

DXE-CBC-008U002	Cable with PL-259 connectors for BTV DCF kit, 2'	<b>\$24.95</b>
DXE-CBC-008U003	Cable with PL-259 connectors, 3'	<b>\$26.95</b>
DXE-CBC-008U006	Cable with PL-259 connectors, 6'	<b>\$28.99</b>
DXE-CBC-008U012	Cable with PL-259 connectors, 12'	<b>\$39.99</b>

**Belden 9258 RG-8X Coax —.242 Inch O.D., Black PVC Jacket**

DXE-CBC-8XU2	Cable with PL-259 connectors for BTV DCF kit, 2'	<b>\$18.99</b>
DXE-CBC-8XU3	Cable with PL-259 connectors, 3'	<b>\$19.99</b>
DXE-CBC-8XU6	Cable with PL-259 connectors, 6'	<b>\$21.99</b>
DXE-CBC-8XU12	Cable with PL-259 connectors, 12'	<b>\$25.99</b>
DXE-CBC-8XU25	Cable with PL-259 connectors, 25'	<b>\$29.50</b>
DXE-CBC-8XN3	Cable with N connectors, 3'	<b>\$29.50</b>
DXE-CBC-8XN6	Cable with N connectors, 6'	<b>\$28.99</b>
DXE-CBC-8XN12	Cable with N connectors, 12'	<b>\$32.99</b>
DXE-CBC-8XUN3	Cable with PL-259 and N connectors, 3'	<b>\$24.50</b>
DXE-CBC-8XUN6	Cable with PL-259 and N connectors, 6'	<b>\$25.49</b>

**Contact DX Engineering Customer Support for special length requirements.**



## Bulk Coaxial Cable

High quality cable is manufactured to rigid specifications. It has high braid coverage and a rugged long life jacket. We can cut the cable to your specified length, or you can purchase a full spool.

JSC-3030	RG-8 Foam Coaxial Cable	.....per foot	<b>\$0.89</b>
JSC-3030-500	RG-8 Foam Coaxial Cable, 1,000 ft. spool		<b>\$389.99</b>
JSC-3060	RG-8X Coaxial Cable, .....	per foot	<b>\$0.40</b>
JSC-3060-1000	RG-8X Coaxial Cable, 1,000 ft. spool		<b>\$294.99</b>
JSC-3780	RG-213 Coaxial Cable, .....	per foot	<b>\$0.87</b>
JSC-3780-500	RG-213 Coaxial Cable, 500 ft. spool		<b>\$397.99</b>



## Performance-Grade 50 $\Omega$ Cable Assemblies

These DX Engineering cable assemblies use high quality JSC coaxial cable with Amphenol PL259 crimp/soldered connectors installed on each end. Adhesive-lined shrink tubing is used to form a weather-resistant bond between the connector body and cable jacket.

**JSC-3030 RG-8U Coax—.405 Inch O.D., Black Vinyl Jacket**

DXE-CBC-008JU002	RG-8U Cable with PL-259 connectors, 2'	<b>\$20.99</b>
DXE-CBC-008JU003	RG-8U Cable with PL-259 connectors, 3'	<b>\$21.99</b>
DXE-CBC-008JU006	RG-8U Cable with PL-259 connectors, 6'	<b>\$24.99</b>
DXE-CBC-008JU012	RG-8U Cable with PL-259 connectors, 12'	<b>\$30.99</b>
DXE-CBC-008JU025	RG-8U Cable with PL-259 connectors, 25'	<b>\$36.99</b>
DXE-CBC-008JU050	RG-8U Cable with PL-259 connectors, 50'	<b>\$54.99</b>
DXE-CBC-008JU075	RG-8U Cable with PL-259 connectors, 75'	<b>\$72.99</b>
DXE-CBC-008JU100	RG-8U Cable with PL-259 connectors, 100'	<b>\$97.99</b>
DXE-CBC-008JU125	RG-8U Cable with PL-259 connectors, 125'	<b>\$114.99</b>

**JSC-3780 RG-213 Coax—.405 Inch O.D., Black Non-Contaminating Vinyl Jacket**

DXE-CBC-213JU003	RG-213 Cable with PL-259 connectors, 3'	<b>\$21.99</b>
DXE-CBC-213JU006	RG-213 Cable with PL-259 connectors, 6'	<b>\$23.99</b>
DXE-CBC-213JU012	RG-213 Cable with PL-259 connectors, 12'	<b>\$35.99</b>
DXE-CBC-213JU025	RG-213 Cable with PL-259 connectors, 25'	<b>\$43.99</b>
DXE-CBC-213JU050	RG-213 Cable with PL-259 connectors, 50'	<b>\$68.99</b>
DXE-CBC-213JU075	RG-213 Cable with PL-259 connectors, 75'	<b>\$90.99</b>
DXE-CBC-213JU100	RG-213 Cable with PL-259 connectors, 100'	<b>\$111.99</b>
DXE-CBC-213JU125	RG-213 Cable with PL-259 connectors, 125'	<b>\$138.99</b>
DXE-CBC-213JU150	RG-213 Cable with PL-259 connectors, 150'	<b>\$165.99</b>

**JSC-3060 RG-8X Coax—.240 Inch O.D., Black Vinyl Jacket**

DXE-CBC-8XJU002	RG-8X Cable with PL-259 connectors, 2'	<b>\$13.99</b>
DXE-CBC-8XJU003	RG-8X Cable with PL-259 connectors, 3'	<b>\$14.99</b>
DXE-CBC-8XJU006	RG-8X Cable with PL-259 connectors, 6'	<b>\$16.99</b>
DXE-CBC-8XJU012	RG-8X Cable with PL-259 connectors, 12'	<b>\$19.99</b>
DXE-CBC-8XJU025	RG-8X Cable with PL-259 connectors, 25'	<b>\$23.99</b>
DXE-CBC-8XJU050	RG-8X Cable with PL-259 connectors, 50'	<b>\$33.99</b>
DXE-CBC-8XJU075	RG-8X Cable with PL-259 connectors, 75'	<b>\$43.99</b>
DXE-CBC-8XJU100	RG-8X Cable with PL-259 connectors, 100'	<b>\$53.99</b>

## 300 and 450 $\Omega$ Ladder Line

DX Engineering's 300 and 450  $\Omega$  Ladder Line is rated for full legal transmit power. The 300  $\Omega$  ladder line is constructed of 18 gauge conductors with 19 strands of copper clad steel wire, resulting in a velocity factor of 0.88. It is ideal for use with multi-band dipoles or other multi-band antennas, and is recommended when using DX Engineering Baluns. This is the same line we use with our Multi-Band Dipole Antennas.

The 450  $\Omega$  ladder line is constructed of 16 gauge conductors with 19 strands of copper clad steel wire. It is ideal for use with our Reversible Beverage Antenna system DXE-RBS-1P. The wire makes the line strong enough for long horizontal runs between supports, such as the DXE-LL-INS. Actual impedance is a nominal 400  $\Omega$  with a nominal velocity factor of 91%.

### 300 $\Omega$ Ladder Line

DXE-LL300-1C	100'	<b>\$41.00</b>
DXE-LL300-2C	200'	<b>\$75.00</b>
DXE-LL300-3C	300'	<b>\$115.00</b>
DXE-LL300-4C	400'	<b>\$147.00</b>
DXE-LL300-5C	500'	<b>\$169.00</b>

### 450 $\Omega$ Ladder Line

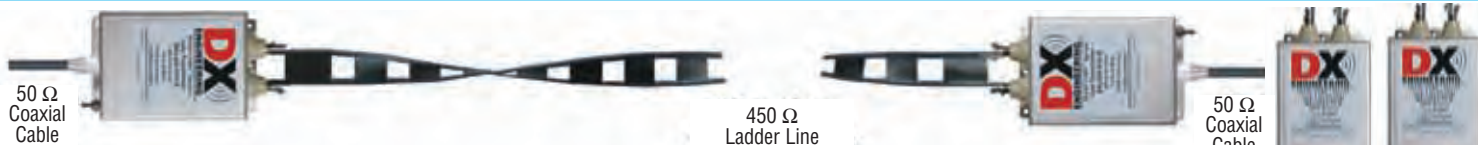
DXE-LL450-5C	Ladder Line, 500' spool	<b>\$245.00</b>
DXE-LL450-1K	Ladder Line, 1,000' spool	<b>\$449.99</b>
DXE-LL-INS	Ladder Line Supports for 450 $\Omega$ line, 25 per pack	<b>\$8.85</b>
DXE-LLC-1P	Ladder Line Coupler for 450 and 300 $\Omega$ ladder line	<b>\$3.99</b>

**See the Tools Section for cable preparation and connector installation tools.**



DXE-LLC-1P





## Low-Loss Long Line Transformer Kit

**At last—an ultra-low loss, cost effective,** long line feedline system for 50  $\Omega$  HF antennas! This transmission line alternative is designed to be used over long runs where coaxial cable losses and cost become prohibitive. The kit consists of a pair of special high power 450  $\Omega$  balanced to 50  $\Omega$  unbalanced line transformers that can be used at each end of any length of 450  $\Omega$  parallel wire transmission line. This allows you to create a cost-effective, low-loss, very long feedline to connect a 50  $\Omega$  HF transmitter or transceiver to a distant matched 50  $\Omega$  HF antenna system.

**Typical system loss over 1,000 feet is 1 dB or less at 10 MHz!**

The special Maxi-Core™ high power matching transformers include internal current chokes. They provide exceptional common mode current isolation between their 450  $\Omega$  balanced line terminals and their unbalanced

50  $\Omega$  coaxial cable connections over a wide frequency range. High common mode isolation from internal chokes, along with the carefully balanced matching transformers, significantly reduces stray signal reception and feedline radiation when compared to other less sophisticated matching methods.

- 1.8 MHz through 30 MHz—broadband for the widest range of applications
- 5 kW continuous/10 kW intermittent power rating for maximum dependability
- Top quality Teflon® SO-239 connectors
- Ceramic insulators with stainless steel connection hardware for the 450  $\Omega$  ladder line
- Transmission line available separately

**New!**

DXE-BAL450-H10-B-P	Special Line Transformer, pair.....	<b>\$299.95</b>
DXE-LL450-5C	450 $\Omega$ Ladder Line, 500' spool .....	<b>\$245.00</b>
DXE-LL450-1K	450 $\Omega$ Ladder Line, 1,000' spool .....	<b>\$449.99</b>
DXE-LL-INS	Ladder Line Supports, 25 per pack .....	<b>\$8.85</b>
DXE-LL-1P	Ladder Line Coupler .....	<b>\$3.99</b>

## Coaxial Connector Adapters

DX Engineering has a selection of assorted adapters for connecting cables with different type connectors when the correct connectors are unavailable or not necessary.

### UHF Right Angle Adapter

DXE-532.....**\$4.95**

### UHF Tee Adapter

DXE-533.....**\$6.25**

### UHF Female Barrel Adapter

DXE-536.....**\$2.39**

### N Tee Adapter, All Female

DXE-1011-1.....**\$10.15**

### N Right Angle Adapter

DXE-1012-1.....**\$10.75**

### N Double Female Barrel Adapter

DXE-1013-1.....**\$6.85**

### N Male to UHF Female Adapter

DXE-1035-1.....**\$7.45**

### N Female to UHF Male Adapter

DXE-1036-1.....**\$4.95**

### N Male to BNC Female Adapter

DXE-1037-1.....**\$7.10**

### N Double Female Bulkhead Adapter

DXE-1023.....**\$7.95**

### BNC Double Female Barrel Adapter

DXE-1134.....**\$2.50**

### BNC Female to F Male Adapter

DXE-1144.....**\$3.95**

### BNC Male to UHF Female Adapter

DXE-1136.....**\$5.20**

### BNC Female to UHF Male Adapter

DXE-1137.....**\$4.40**

### BNC Male to F Female Adapter

DXE-1155.....**\$2.95**

### F Double Female Bulkhead Adapter

DXE-1477.....**\$0.95**

### N Female to BNC Male Adapter

DXE-1038-1.....**\$6.95**

**New!**

## Silver/Teflon® Coax Connectors

This superior PL-259 connector uses silver plated outer and inner conductors and a Teflon insulator. The connector has very low loss and high electrical breakdown. It fits directly on RG-8, RG-213, LMR-400, 9913 and other cables with a nominal .400 inch O.D. jacket size.

Use a DXE-UG175 reducer with this connector to fit RG-58A/U and/or LMR195 coax, and a DXE-UG176S reducer to fit RG-8X coax.

DXE-PL259	PL-259 Connector .....	<b>\$2.75</b>
DXE-N1001-S	N Male Connector, 2-piece .....	<b>\$6.95</b>
DXE-UG176S	RG-8X Reducer for PL-259, silver plated .....	<b>\$0.75</b>
DXE-UG175S	RG-58 Reducer for PL-259, silver plated .....	<b>\$0.75</b>

## Chassis Mount SO-239 Connectors

DX Engineering offers Amphenol and non-Amphenol brand SO-239 chassis mount connectors. The connectors come with the correct bolts, flat washers, star washers and Nylok locking nuts. These will fit the DX Engineering Radial Plate perfectly.

DXE-112-KIT	SO-239 with silver plating and Teflon® insulation .....	<b>\$5.90</b>
DXE-83-798-KIT	Amphenol SO-239 with Teflon insulation .....	<b>\$7.90</b>
DXE-83-1R-KIT	Amphenol SO-239 with PBT insulation .....	<b>\$4.90</b>
DXE-VC-0612	Black Vinyl Cap for SO-239, pack of 20 .....	<b>\$5.75</b>
DXE-T001	Installation Tool Kit for SO-239/bulkhead connectors .....	<b>\$9.95</b>

## Female Bulkhead Connector

This high-quality bulkhead connector uses silver plated outer and inner conductors and a Teflon® insulator. The connector has very low loss and high electrical breakdown. It comes with two nuts to secure the connector to our Radial Plate or other flat surface. The connector ensures the radial ground system, the antenna ground, and the feedline shield are common. It can also be used for joining two pieces of coax with male PL-259s together.

DXE-363-SST	Bulkhead Connector with SO-239 socket .....	<b>\$6.95</b>
DXE-T001	Installation Tool Kit for SO-239/bulkhead connectors .....	<b>\$9.95</b>

# About RF Connectors

Many different types of coaxial RF connectors are used in laboratory and radio-communications applications. The connectors listed here are the most common types used by Amateur Radio operators:

**Type N**—This cable connector is found in many UHF and higher applications up to about 10 GHz. It is designed to present constant impedance from end-to-end of a length of transmission line. Most transmit and receive communications applications use the 50  $\Omega$  version to

match the impedance of commonly used RF coaxial cables and equipment. The Type N has a threaded outer coupling to ensure it mates positively and securely.

**UHF**—One of the first coaxial connectors, this is also known as a PL-259 (a carry-over from an old military designation). The UHF designation has been applied since the days when 30 MHz was considered UHF. The connector has an SO-239 socket and a threaded outer coupling to ensure that it mates positively and securely.

The perceived drawback of the UHF connector is that it is not a true 50  $\Omega$  connector, allowing a non-constant impedance connection. While this limits its use to frequencies up to about 300 MHz, the UHF connector is an ideal, low cost solution for HF applications. Because the basic junction is simple, many low-cost, low quality versions are available.

DX Engineering has selected the best silver plated, Teflon® insulated connectors to assure the best performance for your HF, VHF, and UHF applications.

## 75 $\Omega$ Flooded Cable

We recommend using a high quality 75  $\Omega$  "flooded" F6 type coax. Flooded style cables can automatically seal small accidental cuts or lacerations in the jacket. Flooding also prevents shield contamination and allows the cable to be direct-buried. This low-loss cable features dual shields and an 85% velocity factor. We recommend the use of Snap-N-Seal connectors to ensure a high quality and weather-resistant feedline connection. The proper tool must be used to install these connectors.

DXE-F6-1000 F6 Flooded Cable,  
1,000' spool.....**\$149.95**

*Custom Cable Assemblies available—call for details.*



## Snap-N-Seal Watertight Connectors

DXE-SNS6-25

Snap-N-Seal is an environmentally sealed Type F coax connector system. Designed for harsh environments, the connectors have a unique, 360 degree radial compression system that offers the signal leakage protection required for high performance receive systems.

The quad sealed system prevents moisture from migrating into the connection, and 360 degree radial compression provides superior RF integrity (-95dB typical, 60% bonded foil cable).

- Easy cable preparation
- Connector to cable retention: 40 lbs. minimum
- Superb impedance match to 1 GHz
- Manufactured of high quality 360 brass, cadmium plated with iridescent clear chromate coating for maximum corrosion resistance
- UV-resistant plastic and O-rings provide a reliable environmentally sealed connector

**Normal crimping tools or pliers will not work on Snap-N-Seal connectors—an installation tool like DX Engineering's DXE-SNS-CT1 is required.**

DXE-SNS6-25 Snap-N-Seal Connector for F6 cable,  
25 pieces.....**\$25.50**

DXE-SNS-CT1 Compression Tool for Snap-N-Seal  
Connectors.....**\$52.00**

DXE-CPT-659 Coax Cable Stripper for RG-6  
and RG-59.....**\$24.30**

## Pigtail Cable

This cable is the simplest way to connect Hustler BTV antennas to 50  $\Omega$  coax. Just use DX Engineering's DXE-363-SST Bulkhead Connector on a DXE-RADP-1P Radial Plate to mate the pigtail to your feedline. This pigtail is not required if you order the optional DXE-VFCC-H05-A Vertical Feedline Current Choke for connection to the base of a Hustler BTV series antenna, or if you use the DXE-AOK-DCF SO-239 Add-On Kit for direct connection of your coaxial cable feedline to the BTV antenna.

DXE-8X19-RT Pigtail Cable, 19' long .....**\$16.95**

***DX Engineering has selected  
hand tools to aid  
in construction and assembly  
of antennas. They are  
the best value and quality  
for the job.***

## 300 and 450 $\Omega$ Ladder Line

DX Engineering's 300 and 450  $\Omega$  Ladder Line is rated for full legal transmit power. The 300  $\Omega$  ladder line is constructed of 18 gauge conductors with 19 strands of copper clad steel wire, resulting in a velocity factor of 0.88. It is ideal for use with multi-band dipoles or other multi-band antennas, and is recommended when using DX Engineering Baluns. This is the same line we use with our Multi-Band Dipole Antennas. The 450  $\Omega$  ladder line is constructed of 16 gauge conductors with 19 strands of copper clad steel wire. It is ideal for use with our Reversible Beverage Antenna system DXE-RBS-1P. The wire makes the line strong enough for long horizontal runs between supports, such as the DXE-LL-INS. Actual impedance is a nominal 400  $\Omega$  with a nominal velocity factor of 91%.

**300  $\Omega$  Ladder Line**

DXE-LL300-1C Ladder Line, 100' .....**\$41.00**

DXE-LL300-2C Ladder Line, 200' .....**\$75.00**

DXE-LL300-3C Ladder Line, 300' .....**\$115.00**

DXE-LL300-4C Ladder Line, 400' .....**\$147.00**

DXE-LL300-5C Ladder Line, 500' .....**\$169.00**

**450  $\Omega$  Ladder Line**

DXE-LL450-5C Ladder Line, 500' spool .....**\$245.00**

DXE-LL450-1K Ladder Line, 1,000' spool .....**\$449.99**

DXE-LL-INS Ladder Line Supports for  
450  $\Omega$  line, 25 per pack .....**\$8.85**

DXE-LLC-1P Ladder Line Coupler for  
450 and 300  $\Omega$  Ladder Line .....**\$3.99**



DXE-LLC-1P

## Connector Assembly Tools

These assembly tools allow simple threading of connector sleeves onto the vinyl jacket of RG-8/U, RG-213/U, LMR-400 and other similar size cables. The DXE-UT-80P assembly tool is for PL-259 connectors, and the DXE-UT-80N assembly is for two-piece Type N connectors. Assembly is simple. Strip the cable with the DXE-UT-8213 Cable Stripping Tool, then use the appropriate connector assembly tool and thread the connector body onto the stripped cable end. A visual guide at the end of the tools allows easy viewing of the cable center conductor for proper depth. You get a perfect and easy connector installation every time!

DXE-UT-80P Connector Assembly Tool  
for PL-259 Connectors .....**\$22.95**

DXE-UT-80N Connector Assembly Tool for  
2-piece Type N Connectors ...**\$22.95**

## Coax Cable Strippers for 50 $\Omega$ Cable

These DX Engineering strippers prepare 50  $\Omega$  coax cable for installation of a PL-259 connector.

- Works on foam or solid dielectric cable
- Precision, two-step operation
- No nicks or scratches to conductor
- Premium, long-lasting cutter blades

DXE-UT-8213 Coax Cable Strippers for RG-8,  
RG-213, 9913, LMR400,  
and similar size cable .....**\$39.95**

DXE-UT-808X Coax Cable Strippers for RG-8X  
and Belden 9258 cable .....**\$39.95**

DXE-UT-RB-HD\* Heavy Duty Replacement Blades,  
2 per pack.....**\$18.95**

\*Also fits Cablematic UT-8000



## Coax Cable Prep Kits

These kits package the most commonly used coax cable prep tools together. The rugged cases have foam inserts precut for the tools plus extra compartments for other tools, connectors, etc. The case is also available separately.

### Basic Prep Kit

- Stripping tool for RG-213 cable
- Assembly tool for PL-259 connectors
- Coaxial cable shears
- Case

DXE-UT-KIT1 Basic Prep Kit .....**\$99.95**



### Complete Prep Kit

- Stripping tool for RG-213 cable
- Stripping tool for RG-8X cable
- Assembly tool for PL-259 connectors
- Assembly tool for 2-piece N connectors
- Coaxial cable shears
- Precision braid trimmers
- Replacement blades for stripping tools
- Case

DXE-UT-KIT2 Complete Prep Kit .....**\$174.95**

DXE-UT-CASE Case Only for Coax Tools .....**\$22.95**

DXE-SW-CASE Case Only with plain  
soft foam insert.....**\$19.95**

## F-Connector 75 $\Omega$ Cable Prep Tool Kit

- Stripping tool for F6 cable
- Snap-N-Seal watertight F connectors (25 total)
- SNS connector compression tool
- Coaxial cable shears
- F-connector tightening tool
- Case

DXE-UT-KITF Prep Kit for F6 Cable.....**\$149.95**

DXE-F6-CASE Case only.....**\$22.95**



## SO-239 Connector Installation Tool Kit

This versatile tool kit will help you install chassis or bulkhead mount SO-239 coax connectors. It includes a special stainless steel wrench. One end has a 3/4 inch semi-box wrench with a pass-through for coaxial cable—perfect for tightening the large nut used to mount bulkhead connectors. The other end is a 3/16 inch box wrench for tightening mounting nuts with SO-239 hardware. Also included is a multi-purpose 6-in-1 screwdriver/nutdriver tool with the following bits:

- 1/4 inch nutdriver
- 5/16 inch nutdriver
- 1/4 inch flathead
- #1 Phillips
- 3/16 inch flathead
- #2 Phillips

DXE-T001 SO-239 Connector Installation  
Tool Kit .....**\$9.95**





## 7-Piece Professional Screwdriver Set

This set has all of the screwdrivers you need to handle most jobs. It includes the following:

- 3/8 x 8 inch flathead
- 3/16 x 6 inch flathead
- #2 x 4 inch Phillips
- 1/4 x 4 inch flathead
- 1/8 x 4 inch flathead
- #1 x 3 inch Phillips
- Electrician's flat thin wall

DXE-W80007 Professional Screwdriver Set .....**\$6.95**



## 6-Piece Lighted Ratcheting Screwdriver Set

This screwdriver features 3-way ratcheting action, a magnetic telescoping arm to help you retrieve loose nuts and bolts, two built-in lights to help you work in poorly lit areas, and a black rubber hand grip for comfort. The screwdriver comes with three flathead bits and three Phillips head bits.

DXE-W937 Ratcheting Screwdriver Set .....**\$9.95**



## 7-Piece Lighted Screwdriver Set

This lighted screwdriver will make things a whole lot easier when you're working on your mobile or base station. It features a magnetic telescoping arm to help you retrieve loose nuts and bolts, two built-in lights to help you work in poorly lit areas, and a black rubber hand grip for comfort. The screwdriver comes with three flathead bits, three Phillips head bits, and a magnetic bit extension.

DXE-900300 Screwdriver Set .....**\$4.95**



## Step Drill Bits

These drill bits use a stepped, single cutting-edge design to penetrate sheet materials more smoothly than traditional twist-type drill bits. The bits are designed to eliminate the need to center punch holes, greatly reduce drill vibration and chatter, and automatically deburr the hole as it's drilled. The bits are made from high speed steel with sizes laser-etched into the bit. They work on plastic, metal, and fiberglass up to 1/8 inches thick.

### 1/8 Inch to 1/2 Inch Step Drill Bit, 3/8" Drive Size

- Drill bit tapered sizes: 1/8 in., 3/16 in., 1/4 in., 5/16 in., 3/8 in., 7/16 in., 1/2 in.

DXE-900025 .....**\$17.95**

### 1/4 Inch to 3/4 Inch Step Drill Bit 3/8", Drive Size

- Drill bit tapered sizes: 1/4 in., 5/16 in., 3/8 in., 1/2 in., 9/16 in., 5/8 in., 11/16 in., 3/4 in.

DXE-900026 .....**\$20.95**

### 3/4 Inch to 1 3/8 Inch Step Drill Bit, 1/2" Drive Size

- Drill bit tapered sizes: 3/4 in., 13/16 in., 7/8 in., 15/16 in., 1 in., 1 1/16 in., 1 1/8 in., 1 3/16 in., 1 1/4 in., 1 5/16 in., 1 3/8 in.

DXE-900029 .....**\$29.95**



## Convuluted Tubing

- Protect and organize your wiring
- Slit for easy wire insertion
- Made from flexible black polyethylene

DXE-38000 Convuluted Tubing Assortment (1/4", 3/8", 1/2", 3/4"), 10' long .....**\$14.69**

DXE-38180 3/8" Convuluted Tubing, 7' long .....**\$3.88**

DXE-38580 1/2" Convuluted Tubing, 7' long .....**\$3.88**

DXE-38780 3/4" Convuluted Tubing, 7' long .....**\$3.88**



## DX Engineering Gift Certificates!

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



## CHANNELLOCK Coax Cable Cutters

These high-quality CHANNELLOCK cable cutters have blades designed to cut coaxial cable cleanly. They will not crush the cable like diagonal side cutters—the cut end of the cable is cleanly cut, ready for stripping and connector assembly. The cutters are made from polished, high carbon drop forged steel, and are carefully balanced with broader handles for better leverage and extra comfort. The cutters can handle aluminum up to 4/0 gauge and soft copper cable up to 2/0 gauge.

DXE-CN1-911 CHANNELLOCK Coax Cable Cutters .....**\$23.75**



## Klein Tools Klein-Kurve Wire Stripper/Cutter

The Klein-Kurve wire strippers are ideal for stripping solid (10-18 AWG) and stranded (12-20 AWG) wire cleanly and easily. The 7 1/8 inch strippers also have precise shear-type blades to neatly cut copper wire, easy-to-read markings on both sides, and extra-soft grips and curved handles for comfort.

DXE-11055 Klein-Kurve Wire Stripper/Cutter .....**\$18.95**



## Klein Tools 9 3/4 Inch Crimping/Cutting Tool

This Klein crimping and cutting tool crimps insulated and non-insulated connectors. The crimping die is marked for insulated and non-insulated solderless terminals and connectors, and accommodates 10-22 AWG wires. The tool has a specially hardened wire cutter in the nose, a tapered nose design for working in confined spaces, a hot-riveted joint for smooth action, and plastic-dipped, cushioned handles for comfort.

DXE-1005 Klein Crimping/Cutting Tool .....**\$27.95**



## Automatic Wire Stripper/Crimper/Cutter

Our DX Engineering Wire Stripper uses a spring-loaded design to make quick work of wires ranging from 24 to 10 gauge. Just insert the wire, squeeze the handle, and listen for the click. That's the sound of another perfect wire stripping job performed in about 2 seconds—a fraction of the time it takes your pocket knife to do the same job. An adjustable wire length guide helps you make uniform strips, and the built-in wire cutter and crimper help you complete your wiring job.

DXE-900031 Automatic Wire Stripper/Crimper/Cutter .....**\$17.95**



## Mill/Taper/Half Round File Set

These heat-treated carbon steel files are great for shaping, smoothing, and sharpening all metal surfaces. The half-round file is especially useful for helping deburr the inside of cut tubing ends. This set includes two durable rubber handles with plastic inserts for comfort and convenience.

Files included:

- 6 inch mill file
- 6 inch taper file
- 8 inch half-round file
- 8 inch mill file

DXE-W5390 File Set .....**\$9.95**



## Ridgid Tubing Cutter

This high quality cutter will make clean, smooth edges in tubing sections that require minimal deburring. The tool can cut aluminum, copper, and brass tubing as well as thin-wall conduit.

- Adjustable from 1/4 inch to 1 1/8 inch O.D.
- Telescoping feed screw design keeps the cutter at the same length regardless of tubing diameter—ideal in tight spaces
- Enclosed feed screw eliminates clogging and jamming
- Grooved rollers for close-to-flare cuts
- Fold-away reamer
- X-CEL knob and pin for quicker cutting and cutter wheel replacement
- Spare cutter wheel included

DXE-31622 Ridgid Tubing Cutter .....**\$37.50**



## Loctite All-Purpose Spray Adhesive

This spray adhesive bonds lightweight, porous and non-porous surfaces. It allows you to reposition your work and creates a permanent bond when dry. Loctite adhesive dries clear and fast, won't shrink or bleed, and resists water and humidity. Suggested applications include attaching cloth, carpeting, floor mats, insulation, and kick and silencer pads to metal, wood, or KB board.

LCT-30544 Loctite All-Purpose Spray Adhesive,  
10.5 oz spray can .....**\$3.75**  
*Hazardous, limited to domestic UPS Ground shipping only.*



## Plasti-Dip Multi-Purpose Rubber Coating

- Flexible synthetic coating
- Durable—resists weather, chemicals, impact and abrasion
- Provides safe non-slip comfort and control
- Available in 11 oz. spray can or 14.5 oz. dipping can

PLD-11201-6 Red Plasti-Dip, 11 oz. spray can.....**\$6.99**  
PLD-11207-6 White Plasti-Dip, 11 oz. spray can.....**\$6.99**  
PLD-11203-6 Black Plasti-Dip, 11 oz. spray can.....**\$6.99**  
PLD-11209-6 Clear Plasti-Dip, 11 oz. spray can.....**\$6.99**  
PLD-11601-6 Red Plasti-Dip, 14.5 oz. dipping can.....**\$7.99**  
PLD-11603-6 Black Plasti-Dip, 14.5 oz. dipping can.....**\$7.99**  
PLD-11604-6 Blue Plasti-Dip, 14.5 oz. dipping can.....**\$7.99**  
PLD-11609-6 Clear Plasti-Dip, 14.5 oz. dipping can.....**\$7.99**  
*Hazardous, limited to domestic UPS Ground shipping only.*



## Never-Seez and Anti-Seize— a Must for Stainless

- Prevents galling and galvanic corrosion
- Protects metal parts against rust, corrosion and seizure
- Available in 8 oz. brush top, 1 oz. squeeze tube and 8.5 oz. aerosol

DXE-NSBT8 Never-Seez, 8 oz. brush top.....**\$12.95**  
DXE-NMCBT8 Never-Seez, marine grade,  
8 oz. brush top.....**\$14.95**  
DXE-81343 Anti-Seize, 1 oz. squeeze tube.....**\$2.99**  
DXE-81464 Anti-Seize, 8.5 oz. aerosol can.....**\$10.99**  
*Hazardous, limited to domestic UPS Ground shipping only.*



## Penetrox A

- Keeps parts from seizing
- Helps create a substantial electrical connection between metal parts
- For aluminum-to-aluminum or aluminum-to-copper connections

DXE-P8A Penetrox A, 8 oz. squeeze tube.....**\$13.95**  
*Hazardous, limited to domestic UPS Ground shipping only.*



## Permatex Neutral Cure RTV Sealant

Have you ever sealed a piece of electronic gear with ordinary RTV sealant, only to open it later to find that the component had become corroded? It wasn't moisture that caused the corrosion—it was the RTV. Ordinary RTV gives off acetic acid when it cures (that's the vinegar smell); it's the acid that causes the corrosion. DX Engineering has located a Neutral Cure RTV that is non-corrosive and safe for sealing baluns and other electronic gear that will be out in the weather. Applies just like "normal" RTV, dries in one hour and cures in 24 hours at 70 degrees F.

DXE-RTV598335 Permatex Neutral Cure RTV Sealant, 3.35 oz. tube, black.....**\$6.95**  
*Hazardous, limited to domestic UPS Ground shipping only.*



## Scotch® Super 33+ Vinyl Electrical Tape

Scotch Super 33+ is highly conformable and stretchable, suitable for all weather applications. The tape combines a PVC backing with excellent electrical insulating properties to provide primary electrical insulation for splices (up to 600V) as well as protective jacketing. It is recommended as a protective overwrap for 3M Tremflex™ Rubber Splicing Tape when used for RF connector weatherproofing.

DXE-33PLUS Scotch Super 33+ Vinyl Electrical Tape.....**\$5.95**



## 3M Tremflex™ 2155 Rubber Splicing Tape

3M Tremflex 2155 Rubber Splicing Tape is a conformable, self-fusing rubber electrical insulating tape. Designed for low voltage electrical insulating and moisture sealing applications, the rubber-based tape is capable of operating in temperatures up to 80 degrees C. It is compatible with synthetic cable and wire insulations and is not corrosive to aluminum or copper conductors. For outdoor use, the tape should be protected from UV deterioration with an overwrap of Scotch Super 33+ Vinyl Electrical Tape.

DXE-3M2155 3M Tremflex 2155 Rubber Splicing Tape.....**\$5.95**



## Liquid Electrical Tape

- Rubberize, insulate and seal your electrical connections
- A dielectric coating which seals out moisture and other contaminants
- Supplied in a 4 oz. brush top can

PLD-LET14Z03 Black Liquid Tape.....**\$6.99**  
PLD-LET14Z07 White Liquid Tape.....**\$6.99**  
PLD-LET14Z01 Red Liquid Tape.....**\$6.99**  
*Hazardous, limited to domestic UPS Ground shipping only.*



***DX Engineering has selected Accessory Items  
to aid in construction and assembly of antennas.  
They are the best value and quality for the job.***

## Drill Guide Kit

This easy-to-use drill guide locates exact drilling centers and guides drill bits perfectly perpendicular to the work piece, including round, spherical, and corner edges. It is ideal for making clean, accurate holes in aluminum tubing for mounting hardware. The kit includes 3/16 inch, 1/4 inch, 5/16 inch, 3/8 inch, 7/16 inch, and 1/2 inch drill bushings, a locating pin, and drill bit guide.

DXE-D3206 Drill Guide Kit.....**\$14.95**



## Battery Box Kit

- Ideal for a trunk-mounted second battery
- Kit includes cables and hardware

DXE-G1200A Battery Box Kit.....**\$79.95**  
DXE-G1210 Battery Box only.....**\$15.90**



## Battery Charging System and Monitoring Gauge

The electronic battery charger will recharge a battery more quickly than conventional chargers. It will not over-charge the battery—the charger converts to float charger when it detects the battery is fully charged. The monitoring gauge is an analog voltage gauge. It is ideal for monitoring secondary battery voltage.

DXE-1202CC Supercharger Plus Battery Charger, 12V, 1 amp.....**\$41.95**  
DXE-1206CC Supercharger Plus Battery Charger, 12V, 3 amp.....**\$51.95**  
DXE-1214CC Supercharger Plus Battery Charger, 12V, 7 amp.....**\$69.95**  
DXE-G2939 Analog Voltmeter Gauge, 10-18 Volts, 2 5/8".....**\$20.99**





## Higher Efficiency—Better Mobile Signal!

DX Engineering Mobile Antennas and accessories provide the highest efficiency under the less-than-optimum 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.

HUS-RM-10	10 Meter Hustler HF Resonator, 150-250 kHz	<b>\$15.75</b>
HUS-RM-12	12 Meter Hustler HF Resonator, 100-150 kHz	<b>\$15.75</b>
HUS-RM-15	15 Meter Hustler HF Resonator, 100-150 kHz	<b>\$15.75</b>
HUS-RM-17	17 Meter Hustler HF Resonator, 120-150 kHz	<b>\$21.75</b>
HUS-RM-20	20 Meter Hustler HF Resonator, 80-100 kHz	<b>\$21.75</b>
HUS-RM-30	30 Meter Hustler HF Resonator, 50-60 kHz	<b>\$24.75</b>
HUS-RM-40	40 Meter Hustler HF Resonator, 40-50 kHz	<b>\$24.75</b>
HUS-RM-40S	40 Meter Super HF Resonator, 50-80 kHz	<b>\$35.75</b>
HUS-RM-80	80 Meter Hustler HF Resonator, 25-30 kHz	<b>\$26.75</b>
HUS-RM-80S	80 Meter Super HF Resonator, 50-60 kHz	<b>\$49.75</b>
HUS-3774-4	Replacement Ferrules for Hustler Resonators	<b>\$4.95</b>
HUS-377HDW	Replacement Nut and Ferrules for Hustler Resonators	<b>\$4.95</b>
HUS-49-04-40S	Whip Replacement for DXE-RM-40S Super Resonator	<b>\$5.75</b>
HUS-49-04-80S	Replacement Whip/Corona Ball for 75 and 80 Meter Super Resonators	<b>\$15.75</b>

## 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	<b>\$19.95</b>
DXE-MT-36	36" Aluminum Mast	<b>\$23.95</b>
DXE-MT-48	48" Aluminum Mast	<b>\$27.95</b>
DXE-MT-54	54" Aluminum Mast	<b>\$28.95</b>
DXE-MT-60	60" Aluminum Mast	<b>\$31.95</b>
DXE-MT-72	72" Aluminum Mast	<b>\$35.95</b>
DXE-5MTHRF-2	Coupler, 3/8" x 24 at both ends	<b>\$5.95</b>
DXE-5MTCF-1	Coupler, 3/8" x 24 at both ends, hex center	<b>\$5.95</b>
DXE-MTBF-1	Coupler, 3/8" x 24 at both ends, hex center with shoulder	<b>\$6.95</b>
DXE-5MTHRF-1	Coupler, 3/8" x 24 end and smooth end	<b>\$4.95</b>
HUS-QD-2	Hustler Stainless Steel Quick Disconnect, 3/8" x 24	<b>\$21.35</b>
HUS-MO-2	Hustler 54" Folding Mast for fender/bumper mount	<b>\$31.75</b>

Use the HUS-QD-2 Quick Disconnect to quickly disconnect one mast from another. The HUS-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 each of the 0.525 inch and 0.750 inch diameter beads.

DXE-CSB-COMBO	RFI Suppression Beads Combo Pack	<b>\$35.95</b>
DXE-CSB-275P	0.275" RFI Suppression Beads, pack of 10	<b>\$23.25</b>
DXE-CSB-525P	0.525" RFI Suppression Beads, pack of 5	<b>\$22.25</b>
DXE-CSB-750P	0.750" RFI Suppression Beads, pack of 5	<b>\$25.80</b>

## Mobile Antenna Mounts

HUS-SSM-2	Heavy Duty Stainless Steel Ball Mount, 2" diameter	<b>\$28.95</b>
HUS-SSM-3	Stainless Steel Spring, 3"	<b>\$26.95</b>
HUS-L-14-144	12' RG-58/PL-259 to Lugs, coax to ball mount	<b>\$12.00</b>
HUS-VP-1	Tri-Band Adaptor for HF Mobile Antenna	<b>\$6.95</b>
HUS-QD-2	Stainless Steel Quick Disconnect, 3/8" x 24 threads	<b>\$21.35</b>
HUS-RSS-2	Stainless Steel "Resonator" Impact Spring	<b>\$12.95</b>
HUS-MBM	Super Magnetic Mount, 16' coax, 3/8"-24 antenna	<b>\$21.50</b>
DXE-VMB-1	"L" Shaped Vertical Antenna Mounting Bracket	<b>\$9.50</b>

## 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	<b>\$79.95</b>
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## 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	<b>\$99.95</b>
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## 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	<b>\$27.50</b>
DXE-HRHUB-2P	Hot Rodz Hub, threaded bore	<b>\$29.95</b>
DXE-RODZ-48P	Hot Rodz 48" Stainless Steel Rods	<b>\$29.95</b>
DXE-RODZ-36P	Hot Rodz 36" Stainless Steel Rods	<b>\$23.75</b>
DXE-RODZ-60P	Hot Rodz 60" Stainless Steel Rods	<b>\$31.25</b>
DXE-RODZ-72P	Hot Rodz 72" Stainless Steel Rods	<b>\$34.95</b>

## 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. Works well with Hot Rodz™ Capacity Hat-equipped antennas.

DXE-MM-1	Antenna Auto-Transformer	<b>\$109.95</b>
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## 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	<b>\$20.95</b>
DXE-EGK-225	Grounding Kit for 2.25" exhaust pipe	<b>\$22.95</b>
DXE-EGK-250	Grounding Kit for 2.5" exhaust pipe	<b>\$26.95</b>
DXE-EGK-300	Grounding Kit for 3" exhaust pipe	<b>\$28.95</b>

## Build Your Own Antennas!

### NEW! Heavy 0.120" Wall Tubing Available in Telescoping Sizes

#### DX Engineering Aluminum Tubing

DX Engineering offers high strength, attractive Type 6063 seamless drawn aluminum tubing in 3 and 6 foot lengths for your antenna construction projects. Type 6063 aluminum alloy is commonly used in seamless and structural tube and pipe. It provides good resistance to general corrosion, including stress-corrosion cracking. It also 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.

Our 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. Greater wall thickness in some larger sizes assures maximum strength at very long assembly lengths. DX Engineering ECL Series Element Clamps are available in a variety of sizes to assure snug, long-lasting connections when tightened over the slit ends.

- High strength Type 6063-T832 drawn aluminum tubing
- Sections with 0.058 and 0.120 inch wall thickness are perfect for telescoping antenna elements, support masts and booms
- Most smaller sizes are pre-slit on one end for element clamps
- Available in 3 and 6 foot lengths

#### Aluminum Tubing, 3 Foot Lengths, Telescoping

		Cost/Foot	
DXE-AT1240	0.375" x 0.058", no slit	\$2.90	\$0.90
DXE-AT1241	0.500" x 0.058", slit at 1 end	\$4.30	\$1.10
DXE-AT1242	0.625" x 0.058", slit at 1 end	\$4.55	\$1.20
DXE-AT1243	0.750" x 0.058", slit at 1 end	\$4.80	\$1.30
DXE-AT1244	0.875" x 0.058", slit at 1 end	\$5.05	\$1.40
DXE-AT1245	1.000" x 0.058", slit at 1 end	\$5.35	\$1.50
DXE-AT1246	1.125" x 0.058", slit at 1 end	\$5.80	\$1.65
DXE-AT1247	1.250" x 0.058", slit at 1 end	\$6.40	\$1.85
DXE-AT1248	1.375" x 0.058", slit at 1 end	\$7.05	\$2.05
DXE-AT1249	1.500" x 0.058", slit at 1 end	\$7.65	\$2.25
DXE-AT1250	1.625" x 0.058", slit at 1 end	\$8.60	\$2.55
DXE-AT1251	1.750" x 0.058", slit at 1 end	\$9.40	\$2.80
DXE-AT1252	1.875" x 0.058", slit at 1 end	\$10.20	\$3.05
DXE-AT1253	2.000" x 0.058", slit at 1 end	\$10.95	\$3.30
DXE-AT1255	2.000" x 0.125", no slit	\$14.85	\$4.95
DXE-AT1254	2.125" x 0.058", slit at 1 end	\$12.55	\$3.80

#### Aluminum Tubing, 6 Foot Lengths, Telescoping

		Cost/Foot	
DXE-AT1189	0.375" x 0.058", no slit	\$5.40	\$0.90
DXE-AT1205	0.500" x 0.058", slit at 1 end	\$6.60	\$1.10
DXE-AT1206	0.625" x 0.058", slit at 1 end	\$7.20	\$1.20
DXE-AT1207	0.750" x 0.058", slit at 1 end	\$7.80	\$1.30
DXE-AT1208	0.875" x 0.058", slit at 1 end	\$8.40	\$1.40
DXE-AT1209	1.000" x 0.058", slit at 1 end	\$9.00	\$1.50
DXE-AT1210	1.125" x 0.058", slit at 1 end	\$9.90	\$1.65
DXE-AT1211	1.250" x 0.058", slit at 1 end	\$11.10	\$1.85
DXE-AT1212	1.375" x 0.058", slit at 1 end	\$12.30	\$2.05
DXE-AT1213	1.500" x 0.058", slit at 1 end	\$13.50	\$2.25
DXE-AT1214	1.625" x 0.058", slit at 1 end	\$15.30	\$2.55
DXE-AT1215	1.750" x 0.058", slit at 1 end	\$16.80	\$2.80
DXE-AT1216	1.875" x 0.058", slit at 1 end	\$18.30	\$3.05
DXE-AT1217	2.000" x 0.058", slit at 1 end	\$19.80	\$3.30
DXE-AT1218	2.125" x 0.058", slit at 1 end	\$22.80	\$3.80

#### 6061-T8 Aluminum Tubing, 0.120" Heavy Wall, 6 Foot Lengths for Booms, Telescoping

DXE-AT1311	1.500" O.D., no slit	\$23.85
DXE-AT1312	1.750" O.D., no slit	\$28.20
DXE-AT1313	2.000" O.D., no slit	\$33.00
DXE-AT1314	2.250" O.D., no slit	\$37.45
DXE-AT1315	2.500" O.D., no slit	\$42.50
DXE-AT1316	2.750" O.D., no slit	\$46.95
DXE-AT1317	3.000" O.D., no slit	\$51.40
DXE-AT1325	3.000" O.D., no slit, 12 ft.	\$103.95

#### Telescoping Aluminum Antenna Kit

65 feet, tapering in 6 foot sections from 2" O.D. to 7/8" O.D. at the top

DXE-ATK65	Telescoping Aluminum Antenna Kit	\$194.50
DXE-VE-BASE	Vertical Antenna Fixed Base Assembly	\$99.50
DXE-VA-BASE	Vertical Antenna Heavy Duty Tilt Base Assembly	\$159.50



## 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-ECL-020	Clamp for 0.500" and smaller tube	\$1.90
DXE-ECL-040	Clamp for 0.625" tube	\$1.90
DXE-ECL-060	Clamp for 0.750" and 0.875" tube	\$1.90
DXE-ECL-10SS	Clamp for 1.00" and 1.125" tube	\$1.90
DXE-ECL-12SS	Clamp for 1.250" tube	\$1.90
DXE-ECL-16SS	Clamp for 1.375" and 1.500" tube	\$1.90
DXE-ECL-20SS	Clamp for 1.625" and 1.750" tube	\$1.90
DXE-ECL-24SS	Clamp for 1.875" and 2.000" tube	\$1.90
DXE-ECL-28SS	Clamp for 2.125" and 2.250" tube	\$1.90
DXE-ECL-32SS	Clamp for 2.375" and 2.500" tube	\$1.90
DXE-ECL-36SS	Clamp for 2.625" and 2.750" tube	\$1.90
DXE-ECL-40SS	Clamp for 2.875" and 3.000" tube	\$1.90
DXE-ECL-44SS	Clamp for 3.25" max tube	\$1.95



#### ECLS-Series Band Clamps with Stud

The ECLS-Series clamps feature a 3/4" long, 10-24 welded stud for easy connection of feed wire, baluns, current chokes, etc. to tubular elements. Stainless steel hardware included. Sold in packs of 2. **See Page 40 for complete application list.**

## 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 good-looking for years.



DXE-VC-0125	For 1/8" O.D. tube, 20 per pack	\$5.25
DXE-VC-0250	For 1/4" O.D. tube, 20 per pack	\$5.25
DXE-VC-0375	For 3/8" O.D. tube, 20 per pack	\$5.50
DXE-VC-0500	For 1/2" O.D. tube, 20 per pack	\$5.75
DXE-VC-0612	For SO-239, 20 per pack	\$5.75
DXE-VC-0625	For 5/8" O.D. tube, 20 per pack	\$6.00
DXE-VPC-0677	For PL-259, 20 per pack	\$6.50
DXE-VC-0750	For 3/4" O.D. tube, 10 per pack	\$5.25
DXE-VC-0875	For 7/8" O.D. tube, 10 per pack	\$5.50
DXE-VC-1000	For 1" O.D. tube, 10 per pack	\$5.75
DXE-VC-1125	For 1 1/8" O.D. tube, 10 per pack	\$6.25
DXE-VC-1250	For 1 1/4" O.D. tube, 10 per pack	\$6.50
DXE-VC-1312	For 1 5/16" O.D. tube, 10 per pack	\$6.75
DXE-VC-1375	For 1 3/8" O.D. tube, 8 per pack	\$6.25
DXE-VC-1500	For 1 1/2" O.D. tube, 6 per pack	\$6.50
DXE-VC-1625	For 1 5/8" O.D. tube, 4 per pack	\$5.00
DXE-VC-1750	For 1 3/4" O.D. tube, 4 per pack	\$5.50
DXE-VC-1875	For 1 7/8" O.D. tube, 4 per pack	\$5.75
DXE-VC-2000	For 2" O.D. tube, 2 per pack	\$4.50
DXE-VC-2125	For 2 1/8" O.D. tube, 2 per pack	\$4.75
DXE-VC-2250	For 2 1/4" O.D. tube, 2 per pack	\$4.88
DXE-VC-2375	For 2 3/8" O.D. tube, 2 per pack	\$5.00
DXE-VC-2500	For 2 1/2" O.D. tube, 2 per pack	\$5.25
DXE-VC-2750	For 2 3/4" O.D. tube, 2 per pack	\$5.50
DXE-VC-3000	For 3" O.D. tube, 2 per pack	\$5.75



## Deburring Tools

#### Adjustable Length Deburring Tool

Adjustable length (1/2 to 5 inches) blade holder allows access to burrs deep inside tubing or other hard-to-reach places. The blade can be inserted at 90° for deburring cross holes. One blade for aluminum and steel and one for cast iron and brass included.

DXE-22600	Deburring Tool	\$13.95
DXE-22110	Replacement Blades for aluminum/steel, pack of 10	\$7.99

#### Slim Grip Deburring Tool

This tool allows quick and easy removal of burrs left on cut or slit aluminum tubing. The slim-grip design allows deburring of aluminum or steel in hard-to-reach locations.

DXE-22166	Slim-Grip Deburring Tool	\$6.50
DXE-22110	Replacement Blades, pack of 10	\$7.99



## Highest Quality—Lasting Performance!

DX Engineering is famous for its Saddle Clamps—the ones with stainless steel U-bolts or V-bolts and matching cast aluminum saddles. The 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.

Our Resin Support Blocks are useful for securely mounting tubing to any flat surface while providing electrical insulation.

Whether you are building a Yagi from scratch, refurbishing a well-used “old friend”, or experimenting with a new antenna project, DX Engineering can supply the best hardware for your application. You can find useful tips and complete dimensions for each clamp and bracket type at [www.DXEngineering.com](http://www.DXEngineering.com).

## 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 Clamp saddles 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 sells replacement U-bolts with hardware kits.

Nominal Size	DXE Part Number	D	L	C	I	T	Suggested Hole Size	W	H	t	Price Each
0.50	DXE-SAD-050A	0.50	1.35	0.75	0.87	1/4-20	0.266 "H"	0.90	0.188	0.63	<b>\$4.95</b>
0.75	DXE-SAD-075A	0.75	1.81	1.00	0.87	1/4-20	0.266 "H"	1.13	0.188	0.75	<b>\$5.35</b>
1.00	DXE-SAD-100A	1.00	2.06	1.25	0.87	1/4-20	0.266 "H"	1.50	0.250	1.00	<b>\$5.70</b>
1.25	DXE-SAD-125A	1.25	2.37	1.50	0.87	1/4-20	0.266 "H"	1.75	0.250	1.00	<b>\$6.55</b>
1.50	DXE-SAD-150A	1.50	2.62	1.75	0.87	1/4-20	0.266 "H"	2.00	0.250	1.00	<b>\$7.40</b>
1.75	DXE-SAD-175A	1.75	3.00	2.00	1.00	1/4-20	0.266 "H"	2.31	0.250	1.00	<b>\$8.55</b>
2.00	DXE-SAD-200A	2.00	3.43	2.31	1.12	5/16-18	0.332 "Q"	2.62	0.375	1.00	<b>\$9.75</b>
2.00	DXE-SAD-200B	2.00	4.00	2.37	1.50	3/8-16	0.397 "X"	2.62	0.375	1.00	<b>\$10.95</b>
2.50	DXE-SAD-250A	2.50	4.18	2.81	1.25	5/16-18	0.332 "Q"	3.13	0.375	1.13	<b>\$11.75</b>
2.50	DXE-SAD-250B	2.50	4.75	2.87	1.75	3/8-16	0.397 "X"	3.13	0.375	1.13	<b>\$13.25</b>
3.00	DXE-SAD-300A	3.00	4.68	3.31	1.25	5/16-18	0.332 "Q"	3.62	0.375	1.25	<b>\$13.30</b>
3.00	DXE-SAD-300B	3.00	5.25	3.37	1.75	3/8-16	0.397 "X"	3.62	0.375	1.25	<b>\$14.90</b>
4.00	DXE-SAD-400A	4.05	5.56	4.43	1.50	3/8-18	0.397 "X"	4.80	0.438	1.50	<b>\$34.40</b>
4.50	DXE-SAD-450A	4.55	6.06	4.93	1.50	3/8-16	0.397 "X"	5.30	0.438	1.50	<b>\$39.90</b>

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. All U-Bolts are formed from premium 18-8 stainless steel. All Saddles are cast 535 aluminum. All Saddle Clamp Sets are supplied with 18-8 stainless steel nuts and lock washers. Dimensions shown are in inches. **Note:** These are NOT Automotive Muffler Clamps.

## 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 intended 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-11P: 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

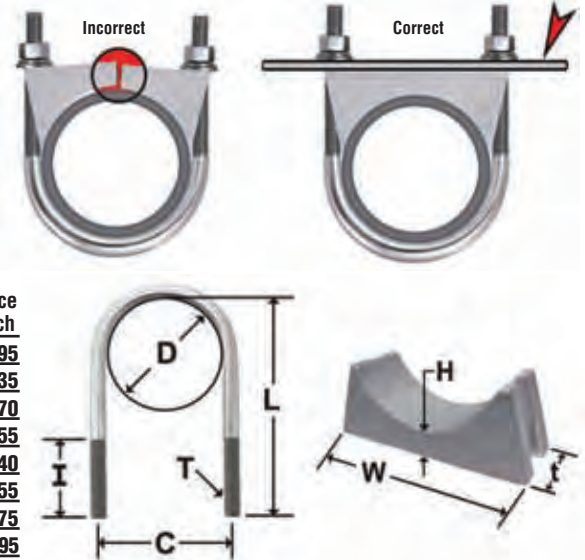
The clamps are sold only as a set with aluminum saddle, stainless steel V-bolts, nuts, flat washers and lock washers. The use of a lubricant and sealant, such as Never-Seez, is highly recommended to achieve proper torque and prevent galling.

For high torque load applications where the tubing is subjected to twisting motion, we recommend using our U-Bolt Saddle Clamps.

Nominal Size	DXE Part Number	D	L	C	I	T	Suggested Hole Size	W	H	t	Price Each
0.50 to 1.75	DXE-CAVS-1P	1.75	3.438	1.968	2.313	1/4-20	0.266 "H"	2.313	0.250	1	<b>\$9.95</b>
0.50 to 1.75	DXE-CAVS-11P	1.75	3.438	2.063	2.313	5/16-18	0.332 "Q"	2.313	0.250	1	<b>\$10.45</b>
1 to 2	DXE-CAVS-2P	2.00	3.438	2.313	2.000	5/16-18	0.332 "Q"	2.835	0.375	1	<b>\$11.95</b>
2 to 3	DXE-CAVS-3P	3.13	4.610	3.500	1.750	3/8-16	0.397 "X"	4.250	0.500	2	<b>\$14.95</b>

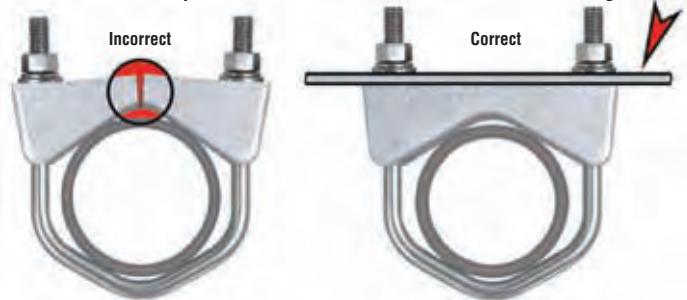
All dimensions are in inches. **Note:** DXE-CAVS-1/11/2P saddle material is cast 535 aluminum, DXE-CAVS-3P saddle material is cast 319 aluminum. Suggested Hole Size: 0.266" is letter "H" drill bit, 0.332" is letter "Q" drill bit, and 0.397" is letter "X" drill bit. **Note:** These are NOT Automotive Muffler Clamps.

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.

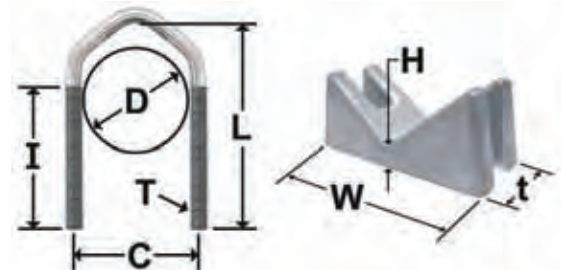


**DX Engineering Clamps Have 100s of Uses!**—DXE Engineering U-Bolt, V-Bolt, and Band Clamps are very versatile. For example, we've seen the ECLS Studded Band Clamps used to fasten merchandise display signs to upright tubing. Have you used DX Engineering clamps for other, non-antenna projects? We'd love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

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.



**See DXE-SSVC Stainless V-Clamps on page 36 for additional applications.**



## 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

Part Number	Tube O.D.	L	W	D	H	C	Price Each
DXE-SDS-200P	2	3.640	2.000	2.400	2.000	1.570	<b>\$32.00</b>
DXE-SDS-250P	2 1/2	4.150	2.250	2.900	2.500	1.820	<b>\$39.00</b>
DXE-SDS-300P	3	4.650	2.500	3.400	3.000	2.060	<b>\$49.00</b>

### 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).

DXE-SDSBOLT-4.5	4.5" Bolts.....	set	<b>\$5.25</b>
DXE-SDSBOLT-5	5.0" Bolts.....	set	<b>\$5.50</b>
DXE-SDSBOLT-5.5	5.5" Bolts.....	set	<b>\$5.75</b>
DXE-SDSBOLT-6	6.0" Bolts.....	set	<b>\$6.00</b>
DXE-SDSBOLT-6.5	6.5" Bolts.....	set	<b>\$6.25</b>

## DX Engineering Stainless Steel V-Clamps

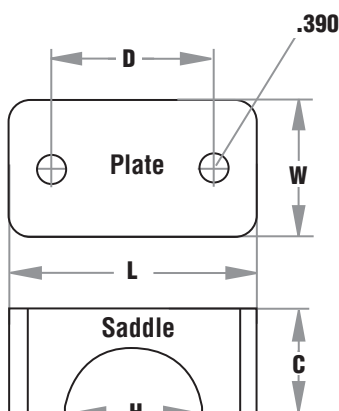
Our stainless steel V-clamps are ideal for mounting accessories to steel pipe. The V-saddle has serrations that bite into the tube or pipe surface, providing a strong, secure hold. For this reason, these clamps are not recommended for aluminum tubing or pipe. The bolts supplied are long enough to attach 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.

DXE-SSVC-1PG	Stainless Steel V-Clamp with ground lug for 1/2" to 3/4" O.D. pipe .....	<b>\$7.95</b>
DXE-SSVC-150P	Stainless Steel V-Clamp for 1" to 1 1/2" pipe .....	<b>\$9.95</b>
DXE-SSVC-150PG	Stainless Steel V-Clamp with ground lug, for 1" to 1 1/2" pipe .....	<b>\$10.95</b>
DXE-SSVC-2P	Stainless Steel V-Clamp for 1" to 2" pipe .....	<b>\$11.95</b>
DXE-SSVC-3P	Stainless Steel V-Clamp for 2" to 3" pipe .....	<b>\$14.95</b>

## 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 included. Sold in packs of two.

Band Clamps with Stud	Pack of 2	Band Clamps with Stud	Pack of 2
DXE-ECLS-050	0.500" O.D. tube..... <b>\$9.99</b>	DXE-ECLS-175	1.750" O.D. tube.... <b>\$11.49</b>
DXE-ECLS-062	0.625" O.D. tube..... <b>\$9.99</b>	DXE-ECLS-200	2.000" O.D. tube.... <b>\$11.49</b>
DXE-ECLS-075	0.750" O.D. tube..... <b>\$9.99</b>	DXE-ECLS-225	2.250" O.D. tube.... <b>\$11.49</b>
DXE-ECLS-087	0.875" O.D. tube.... <b>\$10.99</b>	DXE-ECLS-250	2.500" O.D. tube.... <b>\$11.99</b>
DXE-ECLS-100	1.000" O.D. tube.... <b>\$10.99</b>	DXE-ECLS-275	2.750" O.D. tube.... <b>\$11.99</b>
DXE-ECLS-1125	1.125" O.D. tube.... <b>\$10.99</b>	DXE-ECLS-300	3.000" O.D. tube.... <b>\$11.99</b>
DXE-ECLS-125	1.250" O.D. tube.... <b>\$11.49</b>	DXE-ECLS-325	3.250" O.D. tube.... <b>\$11.99</b>
DXE-ECLS-150	1.500" O.D. tube.... <b>\$11.49</b>		



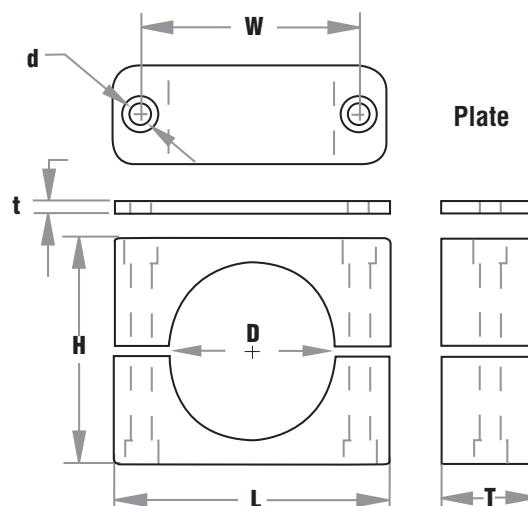
## DX Engineering Resin Support Block Clamps

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.



DXE-RSB-I11250



### Support Block

Part Number	Tube O.D.	D	H	T	L	W	Reinforcement Plate Required	Price Each
DXE-RSB-I02500	1/4	1/4	1.050	1.185	1.350	0.784	DXE-RSB-DP-1	<b>\$2.65</b>
DXE-RSB-I03125	5/16	5/16	1.050	1.185	1.350	0.784	DXE-RSB-DP-1	<b>\$2.65</b>
DXE-RSB-I03750	3/8	3/8	1.050	1.185	1.350	0.784	DXE-RSB-DP-1	<b>\$2.65</b>
DXE-RSB-I05000	1/2	1/2	1.290	1.192	1.595	1.024	DXE-RSB-DP-2	<b>\$2.90</b>
DXE-RSB-I06250	5/8	5/8	1.290	1.192	1.595	1.024	DXE-RSB-DP-2	<b>\$2.90</b>
DXE-RSB-I03400	3/4	3/4	1.394	1.186	1.910	1.301	DXE-RSB-DP-3	<b>\$3.05</b>
DXE-RSB-I10000	1	1	1.394	1.186	1.910	1.301	DXE-RSB-DP-3	<b>\$3.05</b>
DXE-RSB-I11250	1 1/8	1 1/8	1.665	1.189	2.258	1.575	DXE-RSB-DP-4	<b>\$4.70</b>
DXE-RSB-I12500	1 1/4	1 1/4	2.292	1.182	2.760	2.050	DXE-RSB-DP-5	<b>\$4.70</b>
DXE-RSB-I11500	1 1/2	1 1/2	2.292	1.182	2.760	2.050	DXE-RSB-DP-5	<b>\$4.70</b>
DXE-RSB-I11340	1 3/4	1 3/4	2.674	1.184	3.394	2.600	DXE-RSB-DP-6	<b>\$7.15</b>
DXE-RSB-I20000	2	2	2.678	1.184	3.394	2.600	DXE-RSB-DP-6	<b>\$7.15</b>
DXE-RSB-I22500	2 1/4	2 1/4	2.904	1.184	3.394	2.600	DXE-RSB-DP-6	<b>\$7.95</b>

### Reinforcement Plates

Part Number	d	t	W	Price Each
DXE-RSB-DP-1	0.275	0.119	0.784	<b>\$3.20</b>
DXE-RSB-DP-2	0.275	0.119	1.024	<b>\$3.55</b>
DXE-RSB-DP-3	0.275	0.119	1.301	<b>\$3.95</b>
DXE-RSB-DP-4	0.275	0.119	1.575	<b>\$4.25</b>
DXE-RSB-DP-5	0.275	0.119	2.050	<b>\$4.90</b>
DXE-RSB-DP-6	0.275	0.119	2.600	<b>\$5.65</b>

## 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.

DXE-CPC-250	Cushioned P-Clamp for RG-8X, RG-6, RG-59 cable, pack of 10 .....	<b>\$14.95</b>
DXE-CPC-375	Cushioned P-Clamp for RG-213, RG-8, RG-11 cable, pack of 10 .....	<b>\$14.95</b>



DXE-CPC-250

DXE-CPC-375



## 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 1 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 adapters to the element brackets. 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.....	<b>\$44.95</b>
DXE-BEB-1HWK	KLM Direct Replacement Hardware Kit.....	<b>\$25.95</b>
DXE-BEB-1HWK-2	Hardware Kit with 1/4" Bolts .....	<b>\$25.95</b>
DXE-ELA-1-2	Element Adaptors, 1.25" to 1", for DXE-BEB-1.....	<b>\$9.95</b>

### 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 thru 20 meters with reasonable wind survivability. For larger antennas, please use our DXE-BEB-1 Boom-to-Element Bracket.

The DXE-BEB-2 comes in 2 pieces and bolts together with a DXE-BEB-2HWK 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-2HWK Hardware Kit for the DXE-BEB-2 Bracket is sold separately. Larger antennas that experience high winds will require the boom clamp to be pinned to the boom.

DXE-BEB-2	Insulated Boom-to-Element Bracket, 2" boom .....	<b>\$16.95</b>
DXE-BEB-2HWK	Hardware Kit for DXE-BEB-2 .....	<b>\$13.95</b>

### DXE-BEB-3

Great for 6m 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 driver element. The insulator allows the element to be securely clamped without crushing the tube.

DXE-BEB-3	Insulated Boom-to-Element Bracket, 1" to 1.75" boom .....	<b>\$4.49</b>
DXE-SEI-1	Split Element Insulator.....	<b>\$6.49</b>

DXE-BEB-1



DXE-BEB-1HWK-2



DXE-BEB-2



DXE-SEI-1



## 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, AO, 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-4B	Boom-to-Element Plate, 1.5" or 2" booms.....	<b>\$19.45</b>
DXE-BEP-5B	Boom-to-Element Plate, 2" or 3" booms.....	<b>\$20.45</b>

## 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 1 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](http://www.DXEngineering.com) for the clamps recommended for use with each specific plate.

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

## 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. 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

DXE-ATBB-2	2" Boom Bracket.....	<b>\$10.75</b>
DXE-TCS-1	Truss Bracket.....	<b>\$23.50</b>

### 3 Inch Dual Boom Support System and Components

DXE-BSS-DUAL	3" Dual Boom Support System.....	<b>\$379.50</b>
DXE-ATBB-3	3" Boom Bracket.....	<b>\$12.75</b>
DXE-TCS-1	Truss Bracket.....	<b>\$23.50</b>

**See [DXEngineering.com](http://DXEngineering.com) for more details!**



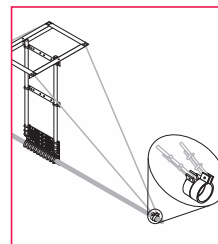
DXE-BEP-4B



DXE-UMP-1



DXE-UMP-2



## Boom-to-Mast Plates

These are the plates that attach the boom of your antenna to the mast of the tower. As a general rule, the bigger the antenna, the bigger the boom-to-mast plate needs to be in order to keep the antenna stable in the wind. Select the correct size for your application.

### DXE-BMP-1 18 Inch x 30 Inch Boom-to-Mast Plate

If your antenna is more than 40 feet long you need this plate to keep the boom from flexing in the middle, even if you have a boom truss and ensure the integrity of the boom-to-mast connection necessary in a large antenna installation.

The DXE-BMP-1 is fabricated from 1/4 inch thick 6061-T651 aluminum. It measures 18 inches tall by 30 inches wide and will accept a 3 inch boom. The plate allows you to mount the antenna directly to the side of a Rohn 55 tower or to a 3 inch mast. The plate comes pre-drilled for DX Engineering Saddle Clamps—follow these recommendations:

- For mounting antenna to Rohn 55 use (6) DXE-SAD-150A Clamps
- For mounting antenna to a 3 inch mast use (5) DXE-SAD-300A Clamps
- For mounting a 3 inch boom use (10) DXE-SAD-300A Clamps

Using a large number of boom clamps will provide great clamping power without crushing the boom in the process.

DXE-BMP-1 Boom-to-Mast Plate .....\$74.50

### DXE-BMP-2B 8 Inch x 10 Inch Boom-to-Mast Plate

This Boom-to-Mast Plate is fabricated from 1/4 inch thick 6061-T651 aluminum. The plate measures 8 inches by 10 inches, 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 inch, 2 inch, and 3 inch booms and 1 1/2 inch, 2 inch, and 3 inch masts. The plate comes pre-drilled for DX Engineering Saddle Clamps—follow these recommendations:

- For mounting antenna to 1 1/2 inch boom use (2) DXE-SAD-150A Clamps
- For mounting antenna to a 2 inch boom use (2) DXE-SAD-200B Clamps
- For mounting antenna to a 3 inch boom use (2) DXE-SAD-300B Clamps
- For mounting antenna to a 1 1/2 inch mast use (2) DXE-SAD-150A Clamps
- For mounting antenna to a 2 inch mast use (2) DXE-SAD-200B Clamps
- For mounting antenna to a 3 inch mast use (2) DXE-SAD-300B Clamps

DXE-BMP-2B Boom-to-Mast Plate .....\$34.75

## Hairpin-Style Driven Element Matching Kits

Most Yagi antennas have a feedpoint impedance of about 25  $\Omega$ .

Obviously, this will not allow a connection to a 50  $\Omega$  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 is 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

DXE-HMS-1P 2" Boom .....\$34.95

### For use with BEB-3 Insulated Boom-to-Element Brackets and an SEI split element insert

DXE-HMS-2P 1" to 1 3/4" Boom.....\$36.95

### For use with BEB-1 Insulated Boom-to-Element Brackets

DXE-HMS-4P 3" Boom .....\$39.95



DXE-HMS-1P

## 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 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!

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

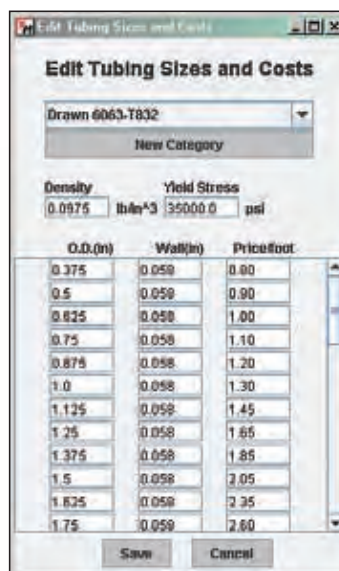
DXE-SOF-YAGIMECH30 Yagi Mechanical® Antenna Design Software .....\$39.95

DXE-SOF-YMKEY Yagi Mechanical® Key Code Only .....\$39.95

DXE-SOF-YMDISC Yagi Mechanical® Backup CD only .....\$20.95



Create and analyze mechanical design parameters.



Create and edit material details and costs.

**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.





## 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



## 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



## Warranty Statement

All products manufactured by DX Engineering are warranted to be free from defects in material and workmanship for a period of one (1) year from date of shipment. DX Engineering's sole obligation under these warranties shall be to issue credit, repair, or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer for replacement of parts, adjustments or repairs, or any other work, unless such charges are authorized in advance by DX Engineering.

If DX Engineering's products are claimed to be defective in material or workmanship, DX Engineering shall, upon prompt notice thereof, issue shipping instructions for return to DX Engineering (transportation charges prepaid by Buyer).

Every such claim for breach of these warranties shall be deemed to be waived by Buyer unless made in writing.

The above warranties shall not extend to any products or parts thereof which have been subjected to any misuse or neglect, damaged by accident, rendered defective by reason of improper installation, damaged from severe weather including floods, or abnormal environmental conditions such as prolonged exposure to corrosives or power surges, or by the performance of repairs or alterations outside of our plant, and shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer's specifications. In addition, DX Engineering's warranties do not extend to other equipment and parts manufactured by others except to the extent of the original manufacturer's warranty to DX Engineering. The obligations under the foregoing warranties are limited to the precise terms thereof. These warranties provide exclusive remedies, expressly in lieu of all other remedies including claims for special or consequential damages.

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## 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  $\Omega$  RF bridge, and an eight-bit micro-controller. 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  $\Omega$  antenna and transmission line systems, the unit also measures RF impedances between a few ohms and several hundred ohms. 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 .....	<b>\$237.50</b>
MFJ-99	Accessory Pack—includes Dip Meter Coil (MFJ-66), AC adapter (MFJ-1312D), and carrying pouch (MFJ-29C) .....	<b>\$57.95</b>

## HF/VHF/UHF Antenna Analyzer

This compact battery-powered RF impedance analyzer combines six basic circuits: a variable oscillator, frequency counter, frequency multiplier, 50  $\Omega$  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  $\Omega$  antenna and transmission line systems, the unit also measures RF impedances between a few ohms and several hundred ohms. An easily accessed, user-controlled Zo 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  $\Omega$ . 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 .....	<b>\$329.00</b>
MFJ-98	Accessory Pack—includes Dip Meter Coil (MFJ-66), AC adapter (MFJ-1312D), and carrying pouch (MFJ-39C) .....	<b>\$57.95</b>



### Accessories

MFJ-1312D	AC Adapter .....	<b>\$15.50</b>
MFJ-66	Dip Meter Coil .....	<b>\$23.95</b>
MFJ-731	Tunable RFI Filter .....	<b>\$89.95</b>
MFJ-29C	Carrying Pouch for MFJ-259B .....	<b>\$23.95</b>
MFJ-39C	Carrying Pouch for MFJ-269 .....	<b>\$23.95</b>

### Interface Cables for MFJ Tuners

MFJ-5114I	Icom Rig Interface Cable for MFJ-998/929/928/927/925 .....	<b>\$18.95</b>
MFJ-5114K	Kenwood Rig Interface Cable for MFJ-998/929/928/927/925 .....	<b>\$18.95</b>
MFJ-5114Y	Yaesu Rig Interface Cable for MFJ-998/929/928/927/925 .....	<b>\$18.95</b>
MFJ-5114Y3	Yaesu FT1000MP Rig Interface Cable for MFJ-929/998 .....	<b>\$18.95</b>
MFJ-5114Y4	Yaesu FT2000 Rig Interface Cable for 929/998 .....	<b>\$18.95</b>
MFJ-5124I	AutoTuner Radio Interface Cable for ICOM .....	<b>\$18.95</b>
MFJ-5124K	AutoTuner Radio Interface Cable for Kenwood and compatibles .....	<b>\$57.95</b>
MFJ-5124Y	AutoTuner Radio Interface Cable for Yaesu and compatibles .....	<b>\$57.95</b>

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