

# Wire Antennas for Ham Radio

Julian Rosu YO3DAC / VA3IUL, <http://www.qsl.net/va3iul>

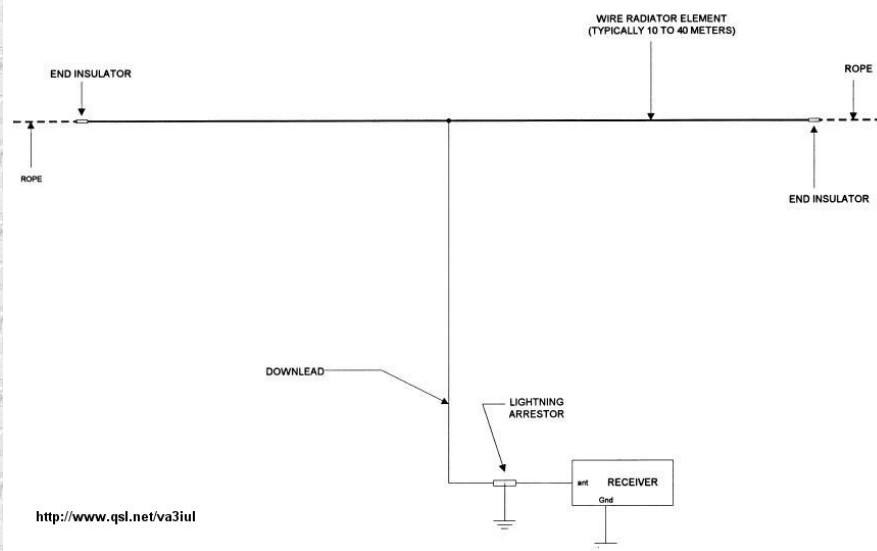
**Note:** Dimensions of the antennas presented below are either in: feet ('), inch ("), meters (m), or centimeters (cm)

<a href="#">01 - Tee Antenna</a>	<a href="#">147 - KE4PT OCEF All-Band Dipole</a>
<a href="#">02 - Half-Lambda Tee Antenna</a>	<a href="#">148 - Wire Quad Antenna for 40m</a>
<a href="#">03 - Twin-Led Marconi Antenna</a>	<a href="#">149 - Inclined Dipole Antenna for 80m, 40m</a>
<a href="#">04 - Swallow-Tail Antenna</a>	<a href="#">150 - Pyramidal Wire Antenna for 80m</a>
<a href="#">05 - Random Length Radiator Wire Antenna</a>	<a href="#">151 - Random Wire Antenna All Bands</a>
<a href="#">06 - Windom Antenna</a>	<a href="#">152 - Multiband Dipole Antenna for 80m, 40m, 15m, 10m</a>
<a href="#">07 - Windom Antenna - Feed with coax cable</a>	<a href="#">153 - Slim Jim Wire Antenna for 4m</a>
<a href="#">08 - Quarter Wavelength Vertical Antenna</a>	<a href="#">154 - Delta Loop for 6m</a>
<a href="#">09 - Folded Marconi Tee Antenna</a>	<a href="#">155 - Re-Configurable Antenna for 160m and 80m</a>
<a href="#">10 - Zeppelin Antenna</a>	<a href="#">156 - Very Low Frequency Inverted-L Antenna</a>
<a href="#">11 - EWE Antenna</a>	<a href="#">157 - Reduced Size Half Sloper Antenna for 160m</a>
<a href="#">12 - Dipole Antenna - Balun</a>	<a href="#">158 - Tree-Mounted HF Antenna</a>
<a href="#">13 - Multiband Dipole Antenna</a>	<a href="#">159 - Multiband Vertical Antenna for 80m, 40m, 20m</a>
<a href="#">14 - Inverted-Vee Antenna</a>	<a href="#">160 - Marconi Antenna for 136 kHz</a>
<a href="#">15 - Sloping Dipole Antenna</a>	<a href="#">161 - Simple Killer Antenna for 40m</a>
<a href="#">16 - Vertical Dipole</a>	<a href="#">162 - Stub-Directed V Antenna for 80m</a>
<a href="#">17 - Delta Fed Dipole Antenna</a>	<a href="#">163 - KTONY Over-and-Under DX Antenna for 20m</a>
<a href="#">18 - Bow-Tie Dipole Antenna</a>	<a href="#">164 - Horizontal Loop Antennas</a>
<a href="#">19 - Bow-Tie Folded Dipole Antenna for RX</a>	<a href="#">165 - Ribbon J-Pole for 2m</a>
<a href="#">20 - Multiband Tuned Doublet Antenna</a>	<a href="#">166 - Dual Band Ribbon J-Pole for 2m, 70cm</a>
<a href="#">21 - G5RV Antenna</a>	<a href="#">167 - Square Vertical Loop Antenna for 40m</a>
<a href="#">22 - Wideband Dipole Antenna</a>	<a href="#">168 - Tri-Band Quad Antenna for 20m, 15m, 10m</a>
<a href="#">23 - Wideband Dipole for Receiving</a>	<a href="#">169 - 3D Quad Antenna for 80m, 40m, 20m, 15m, 10m</a>
<a href="#">24 - Tilted Folded Dipole Antenna</a>	<a href="#">170 - Sloping Wire Antenna for 30m, 20m, 17m, 15m, 12m, 10m</a>
<a href="#">25 - Right Angle Marconi Antenna</a>	<a href="#">171 - Broadband Dipole Antenna with Coaxial Resonator for 80m</a>
<a href="#">26 - Linearly Loaded Tee Antenna</a>	<a href="#">172 - Resonant Feedline Dipole Antenna for 80m</a>
<a href="#">27 - Reduced Size Dipole Antenna</a>	<a href="#">173 - Dual-Band Loading Wire Antenna for 80m, 30m</a>
<a href="#">28 - Doublet Dipole Antenna</a>	<a href="#">174 - Stub Matching Antennas</a>
<a href="#">29 - Delta Loop Antenna</a>	<a href="#">175 - J-Style Vertical Wire Antenna for 10m</a>
<a href="#">30 - Half Delta Loop Antenna</a>	<a href="#">176 - Dual Band Vertical with Zepp Feeders for 40m, 20m</a>
<a href="#">31 - Collinear Franklin Antenna</a>	<a href="#">177 - RCA Double Doublet for 40m to 12m</a>
<a href="#">32 - Four Element Broadside Antenna</a>	<a href="#">178 - RCA Spiderweb Antenna for 40m to 6m</a>
<a href="#">33 - The Lazy-H Array Antenna</a>	<a href="#">179 - Folded Dipole with Shorted Straps</a>
<a href="#">34 - Sterba Curtain Array Antenna</a>	<a href="#">180 - Twin-Lead Marconi Antenna for 160m, 80m</a>
<a href="#">35 - T-L DX Antenna</a>	<a href="#">181 - Broadband Antenna Quarter-Wave Balun for 80m</a>
<a href="#">36 - 1.9 MHz Full-wave Loop Antenna</a>	<a href="#">182 - Three-Quarter-Wave Folded Doublet for Dual-Band</a>
<a href="#">37 - Multi-Band Portable Antenna</a>	<a href="#">183 - Three-Quarter-Wave Folded Doublet No-Switch for Dual-Band</a>
<a href="#">38 - Off-center-fed Full-wave Doublet Antenna</a>	<a href="#">184 - Wideband Omni-Directional Discone Antenna</a>
<a href="#">39 - Terminated Sloper Antenna</a>	<a href="#">185 - Wideband Rhombic Antenna for 40m to 10m</a>
<a href="#">40 - Double Extended Zepp Antenna</a>	<a href="#">186 - Pre-Cut Linear Array Antenna 3dB-Gain for 40m</a>
<a href="#">41 - TCFTFD Dipole Antenna</a>	<a href="#">187 - X-Array Antenna 6dB-Gain for 20m, 15m, 10m</a>
<a href="#">42 - Vee-Sloper Antenna</a>	<a href="#">188 - Double-Bruce Array Antenna 5dB-Gain for 20m, 10m</a>
<a href="#">43 - Rhombic Inverted-Vee Antenna</a>	<a href="#">189 - Bi-Square Broadside Array 4dB-Gain for 20m, 15m, 10m</a>
<a href="#">44 - Counterpoise Longwire</a>	<a href="#">190 - Six-Shooter Broadside Array 7.5dB-Gain for 20m, 15m, 10m</a>
<a href="#">45 - Bisquare Loop Antenna</a>	<a href="#">191 - Triplex Flat-Top Beam 4.5dB-Gain for 20m, 15m, 10m</a>
<a href="#">46 - Piggyback Antenna for 10m</a>	<a href="#">192 - Dual-Band Tilt Antenna for 20m, 10m</a>
<a href="#">47 - Vertical Sleeve Antenna for 10m</a>	<a href="#">193 - Super Space Multiband Dipole Antenna for 80m to 10m</a>
<a href="#">48 - Double Windom Antenna</a>	<a href="#">194 - Bi-Square Beam Antenna Gain=5.5dB for 10m</a>
<a href="#">49 - Double Windom for 9 Bands</a>	<a href="#">195 - Cousin of G5RV Multiband Antenna for 40m to 10m</a>
<a href="#">50 - Collinear Trap Antenna</a>	<a href="#">196 - Cayman Quad Antenna for 20m</a>
<a href="#">51 - Short Dipole Antenna for 40m - 80m - 160m</a>	<a href="#">197 - Hentenna Gain=3dB with Bazooka Match for 6m</a>
<a href="#">52 - Center Fed-Zepp Antenna for 80m - 40m</a>	<a href="#">198 - X-Beam Antenna Gain=3dB for 20m</a>
<a href="#">53 - All Bands Antenna</a>	<a href="#">199 - Twin Delta Loop Antenna Gain=6dB for 160m, 80m, 40m</a>
<a href="#">54 - All-Bands Dipole Antenna</a>	<a href="#">200 - Inverted-V Beam Antenna for 30m</a>
<a href="#">55 - Multiband Z Antenna</a>	<a href="#">201 - FD4 Windom Antenna for 80m, 40m, 20m, 10m</a>
<a href="#">56 - Multiband Dipole Antenna</a>	<a href="#">202 - Two Elements Phased Delta Loop for 40m</a>
<a href="#">57 - Five-Bands No-Tuner Antenna</a>	<a href="#">203 - Three Elements Wire Yagi for 10m</a>
<a href="#">58 - Dualband Full-wave Loop Antenna for 80m-40m</a>	<a href="#">204 - Low Radiation Angle Full-Wave Loop Antenna for 80m</a>
<a href="#">59 - Loop Antenna for 10m</a>	<a href="#">205 - Collinear Antenna Gain=3dB for 2m</a>
<a href="#">60 - Lazy Quad Antenna for 10m</a>	<a href="#">206 - X-Ray Monoband Antenna Gain=6.5dBd</a>
<a href="#">61 - Tri-band Delta Loop Antenna for 80m - 40m - 30m</a>	<a href="#">207 - Broadside Collinear Curtain Array for 20m</a>
<a href="#">62 - Dual-band Loop Antenna for 30m - 40m</a>	<a href="#">208 - Shrunk Loop Antenna for 80m, 40m</a>
<a href="#">63 - Wire-Beam Antenna for 80m</a>	<a href="#">209 - <math>\lambda/3</math> Multiband Dipole for 40m, 20m, 17m, 15m, 13m, 10m</a>
<a href="#">64 - Dual-Band Sloper Antenna</a>	<a href="#">210 - K3LR Sloper Antenna Gain=3dB for 160m</a>
<a href="#">65 - Inverted-V Beam Antenna for 30m</a>	<a href="#">211 - Mini Folded Vertical Monopole Antenna for 160m, 80m, 40m</a>
<a href="#">66 - ZL-Special Beam Antenna for 15m</a>	<a href="#">212 - Three Band Dipole for 80m, 40m, 20m</a>
<a href="#">67 - Half-Sloper Antenna for 160m</a>	<a href="#">213 - Stub Matched Dipole Antenna</a>
<a href="#">68 - Two-Bands Half Sloper for 80m - 40m</a>	<a href="#">214 - Inverted-Vee Antenna with Bazooka Match</a>
<a href="#">69 - Linear Loaded Sloper Antenna for 160m</a>	<a href="#">215 - Multiband Long Wire Antenna for 40m, 20m, 15m, 10m</a>
<a href="#">70 - Super-Sloper Antenna</a>	<a href="#">216 - Converted Vee Antenna for 80m, 40m</a>
<a href="#">71 - Tower Pole as a Vertical Antenna for 80m</a>	<a href="#">217 - Swiss Quad Antenna for 20m, 15m, 10m</a>
<a href="#">72 - Clothesline Antenna</a>	<a href="#">218 - Japanese Quad Antenna for 20m, 15m, 10m</a>
<a href="#">73 - Curtain Zepp Antenna for 160m, 80m, 40m</a>	<a href="#">219 - Seven-Elements Triangle Beam Antenna for 20m</a>
<a href="#">74 - Collinear Array Antenna for 40m, 30m, 20m</a>	<a href="#">220 - Log Periodic Wire Antenna for 40m</a>
<a href="#">75 - 160m Inverted Delta Loop</a>	<a href="#">221 - Three-Elements 90-degrees Wire Beam for 20m</a>
<a href="#">76 - Half Rhombic Unidirectional Vertical for 20m to 6m</a>	<a href="#">222 - Two-Elements Wire Beam for 20m</a>
<a href="#">77 - Capacitance Loaded Vertical Antenna for 160m</a>	<a href="#">223 - Suitcase-Fit Dipole Antenna for 80m, 40m, 20m</a>

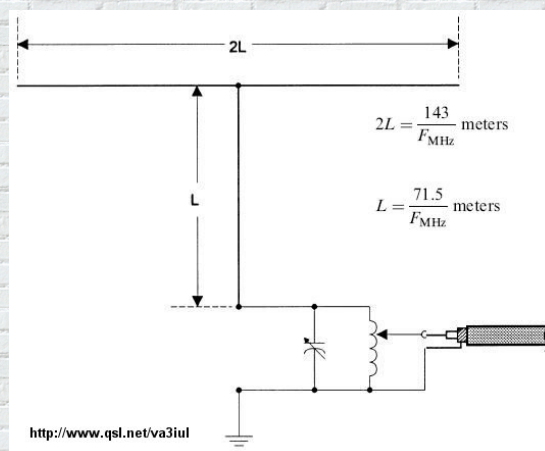
<a href="#">78 - Fan Dipole Antenna for 80m to 6m</a>	<a href="#">224 - Multiband Coaxial Dipole for 80m, 40m</a>
<a href="#">79 - Wire Ground Plane Antenna</a>	<a href="#">225 - Vertical Log Periodic Antenna for 80m, 40m</a>
<a href="#">80 - Inverted Delta Loop Antenna for 160m</a>	<a href="#">226 - Inverted Vertical Log Periodic Antenna for 40m</a>
<a href="#">81 - Inverted-L for 160m</a>	<a href="#">227 - Double Extended Zepp Antenna Gain=7dB for 15m</a>
<a href="#">82 - 300ohm-Ribbon Dual Band Dipole</a>	<a href="#">228 - Double Lazy-H Antenna G=10dB for 70cm</a>
<a href="#">83 - Tri-Band Beam for 20m, 15m, 10m</a>	<a href="#">229 - Wire Log Periodic Antenna G=12dB for 15m, 20m</a>
<a href="#">84 - Mini-Horse Yagi Antenna</a>	<a href="#">230 - Five-Elements Vertical Log Periodic for 80m, 40m, 20m</a>
<a href="#">85 - Backpack J-Pole Antenna for 10m, 6m, 2m</a>	<a href="#">231 - Sloping Delta Loop Antenna for 40m</a>
<a href="#">86 - Fan-Dipole Antenna for 80m, 40m, 20m</a>	<a href="#">232 - Doublet Antenna for 160m</a>
<a href="#">87 - Capacity Tuned Folded Loop Antenna for 20m</a>	<a href="#">233 - Log Periodic Wire Beam for 40m</a>
<a href="#">88 - Indoor Loop Antenna for 80m to 30m</a>	<a href="#">234 - G3LDO Wire Beam Antenna for 20m, 15m, 10m</a>
<a href="#">89 - Indoor Loop Antenna for 80m</a>	<a href="#">235 - Phased Delta Loop Array for 20m</a>
<a href="#">90 - Double-Delta Antenna 80m and 40m</a>	<a href="#">236 - Dual Band V-dipole for 80m, 40m</a>
<a href="#">91 - Inductance-Loaded Shortened Dipole for 160m</a>	<a href="#">237 - Collinear Array 5dB-Gain for 15m</a>
<a href="#">92 - V-Beam Antenna for 15m</a>	<a href="#">238 - Two-Band Quad Loop Antenna 80m, 40m</a>
<a href="#">93 - Picnic Vertical Wire Antenna</a>	<a href="#">239 - K7CW Quad Antenna</a>
<a href="#">94 - Laid-Back Quad Antenna for 80m</a>	<a href="#">240 - Broadband Short Dipole for 80m</a>
<a href="#">95 - Phased Loop Antenna</a>	<a href="#">241 - Off-Center Fed Dipole for 40m, 20m, 10m</a>
<a href="#">96 - Loop Antenna for TX for 160m</a>	<a href="#">242 - Broadband Sloper Antenna for 80m</a>
<a href="#">97 - Morgain-Dipole Antenna for 160m and 80m</a>	<a href="#">243 - Two-Frequency Dipole Antenna for 80m</a>
<a href="#">98 - ZL-Special for 20m, 15m, 10m</a>	<a href="#">244 - Top Loaded Vertical Antenna for 160m</a>
<a href="#">99 - Biconical Antenna</a>	<a href="#">245 - Two Loop Beam Antenna for 20m, 15m</a>
<a href="#">100 - Directive Delta-Birdcage Antenna for 20m to 10m</a>	<a href="#">246 - Corner-Fed Delta Loop Antenna for 80m, 40m, 20m</a>
<a href="#">101 - Dual Polarization Antenna for 80m and 40m</a>	<a href="#">247 - Loaded Delta Loop Antenna for 40m, 20m</a>
<a href="#">102 - Directive 300-ohm-Ribbon Folded Dipole for 15m</a>	<a href="#">248 - Compact Size Dipole for 80m</a>
<a href="#">103 - Miniature Directive Antenna for 10m</a>	<a href="#">249 - JAWS 3dB Gain Antenna for 40m</a>
<a href="#">104 - Biquad Antenna 12dBi-Gain for 2.4GHz</a>	<a href="#">250 - Inverted-V Antenna for 160m</a>
<a href="#">105 - Dual-Rhomboid Antenna for 435MHz to 870MHz</a>	<a href="#">251 - Lazy-U Antenna for 160m</a>
<a href="#">106 - Double-Bazooka Antenna for 80m</a>	<a href="#">252 - AF3V Compact Antenna for 160m</a>
<a href="#">107 - J-Style Antenna</a>	<a href="#">253 - Hot Beam Wire Antenna for 40m</a>
<a href="#">108 - Vertical / Horizontal / Circular Polarization Antenna</a>	<a href="#">254 - Sloping Delta Loop for 40m</a>
<a href="#">109 - Coax Inverted-L Antenna for 80m</a>	<a href="#">255 - K6FD Multiband Antenna with T-tuner</a>
<a href="#">110 - Indoor Compact Loop Antenna for 80m</a>	<a href="#">256 - Dual Band Dipole Antenna for 17m, 10m</a>
<a href="#">111 - Helix Antenna</a>	<a href="#">257 - Compact Travel Dipole Antenna for 10m, 15m, 20m</a>
<a href="#">112 - Novice Vertical Antenna for 80m, 40m, 15m, 10m</a>	<a href="#">258 - End-Fire Antenna for 160m, 80m, 40m, 20m</a>
<a href="#">113 - Stub-Loaded Shortened Dipole for 80m</a>	<a href="#">259 - Four Band Loop for 40m, 20m, 15m, 10m</a>
<a href="#">114 - Six-Band Wire-Stub Trap Antenna for 40m-10m</a>	<a href="#">260 - Carolina Windom Antenna for 80 to 10m</a>
<a href="#">115 - Multiband Half-Wave Delta-Loop Antenna</a>	<a href="#">261 - Shortened Loaded Dipole for 40m</a>
<a href="#">116 - Hybrid Vee for 20m, 17m</a>	<a href="#">262 - Shortened Loaded Dipole for 80m</a>
<a href="#">117 - Six-Shooter Array Antenna, Gain=7.5dB</a>	<a href="#">263 - Low Radiation Angle Inverted Delta Loop for 80m</a>
<a href="#">118 - Multiband Ground-Plane Antenna for 10m, 15m, 20m</a>	<a href="#">264 - Compact Dipole Antenna for 40m, 15m</a>
<a href="#">119 - Wire Superbeam Antenna for 10m, 15m, 20m</a>	<a href="#">265 - Vertical Delta Loop for 40m to 10m</a>
<a href="#">120 - Two Elements Delta-Loop Antenna</a>	<a href="#">266 - Delta Loop Antenna for 17m</a>
<a href="#">121 - Sterba Curtain Antenna</a>	<a href="#">267 - Bi-Square Beam Gain=3dBd for 17m</a>
<a href="#">122 - Half-Wave Vertical Zepp Antenna</a>	<a href="#">268 - Trap Dipole Antenna for 17m, 13m</a>
<a href="#">123 - Lazy-Loop Antenna for 40m</a>	<a href="#">269 - Hanging Unipole Antenna for 160m, 80m</a>
<a href="#">124 - Terminated Folded Dipole for 80m, 40m</a>	<a href="#">270 - Wideband Sloping Vee Antenna - 30m to 6m</a>
<a href="#">125 - Short-Fat Antenna for 15m</a>	<a href="#">271 - 5/8 Wavelength Antenna</a>
<a href="#">126 - Cobra Antenna for 80m</a>	<a href="#">272 - C-Pole Vertical Antenna</a>
<a href="#">127 - Log-Periodic Wire Antenna for 20m, 15m, 10m</a>	<a href="#">273 - Bobtail Antenna for 30m</a>
<a href="#">128 - 5-Element Log-Periodic Vertical Antenna for 80m, 40m, 20m</a>	<a href="#">274 - Bobtail Antenna for 40m</a>
<a href="#">129 - 2m Vertical Wire Antennas</a>	<a href="#">275 - Two Elements Vertical Loop Antenna for 40m</a>
<a href="#">130 - Earth-Mover Inverted-V Antenna for 40m</a>	<a href="#">276 - Double Extended Zepp Antenna for 40m</a>
<a href="#">131 - Coax-Cable Collinear Antennas</a>	<a href="#">277 - Reversible Moxon Flip Beam for 40m</a>
<a href="#">132 - Double Bobtail Antenna for 20m</a>	<a href="#">278 - Spitwire Antenna for 40m</a>
<a href="#">133 - Collinear Zepp Antenna</a>	<a href="#">279 - Fork Antenna for 40m</a>
<a href="#">134 - Taylor Vee Antenna for 20m</a>	<a href="#">280 - Veebeam Antenna 3dB-Gain for All Bands</a>
<a href="#">135 - Collinear Vertical Antenna 6dB-Gain for 2m, 1.3m, 73cm</a>	<a href="#">281 - Vertical Moxon Antenna for 10m</a>
<a href="#">136 - Bi-Loop Antenna for 20m</a>	<a href="#">282 - Half-Square Antenna for 30m</a>
<a href="#">137 - Wire Beam 6dBd-Gain for 10m</a>	<a href="#">283 - Rotatable Vertical Delta Loop for 20m</a>
<a href="#">138 - Sloping Diamond Antenna 4dB-Gain for 40m</a>	<a href="#">284 - Mini-Horse Antenna 10dB-Gain for 40m-to-2m</a>
<a href="#">139 - Twisted Loop Antenna for 160m</a>	<a href="#">285 - Compact Moxon Antenna 5dB-Gain for 40m</a>
<a href="#">140 - DX RX Loop Antenna for 160m</a>	<a href="#">286 - Two Elements Sloping Delta Loop 8dB-Gain for 10m</a>
<a href="#">141 - Hentenna 3dB-Gain for 10m, 6m, 2m</a>	<a href="#">287 - Two Elements Phased Vertical Antenna 3dB-Gain for 40m</a>
<a href="#">142 - VK2AAR Wire Antenna for 20m</a>	
<a href="#">143 - 2-Elements Quad Antenna for 6m</a>	
<a href="#">144 - Hula-Loop Bidirectional 6dB-Gain Antenna for 17m</a>	
<a href="#">145 - Moxon Rectangle Beam for 15m-10m</a>	
<a href="#">146 - Double-D Beam 4dB-Gain</a>	

## 01 - Tee Antenna

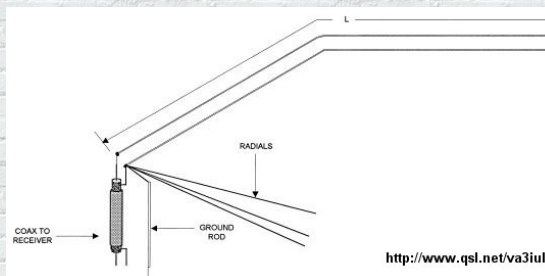




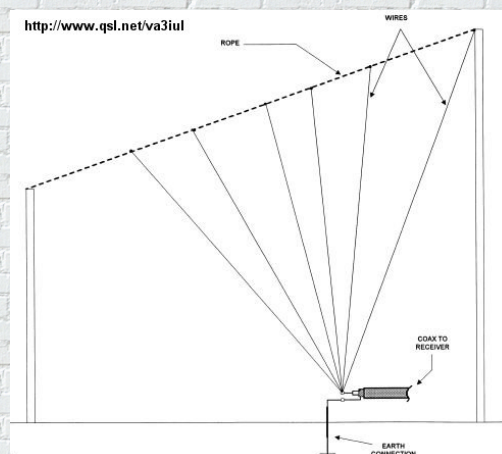
## 02 - Half-Lambda Tee Antenna



## 03 - Twin-Led Marconi Antenna

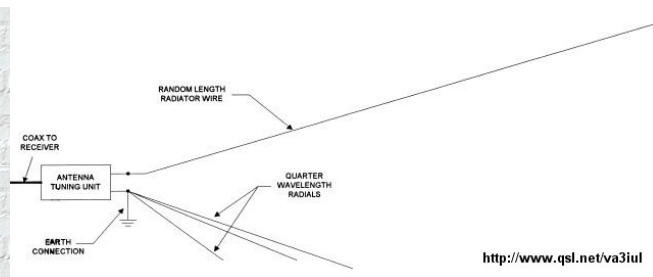


## 04 - Swallow-Tail Antenna

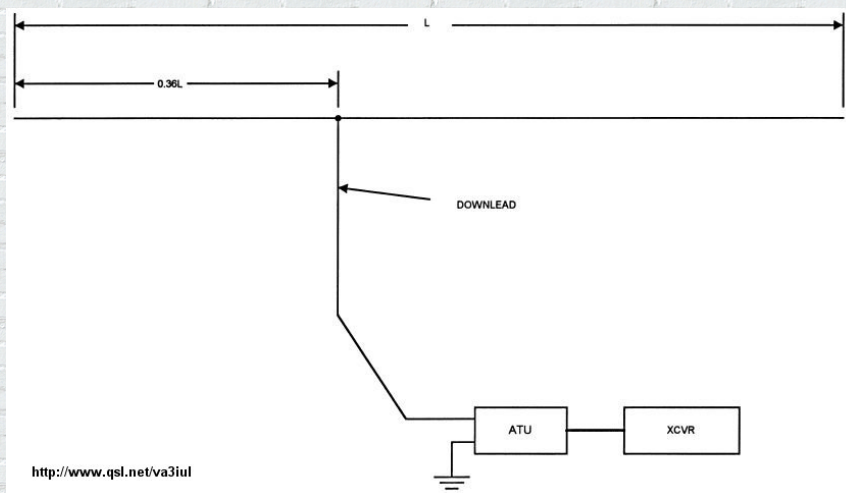


## 05 - Random Length Radiator Wire Antenna

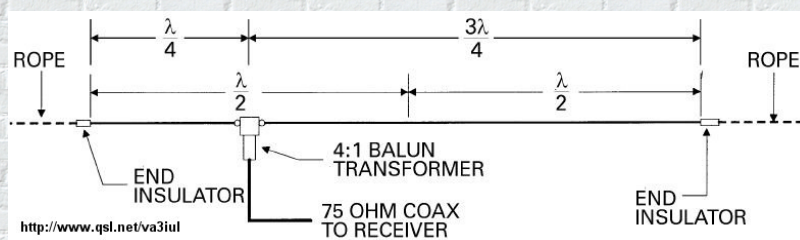




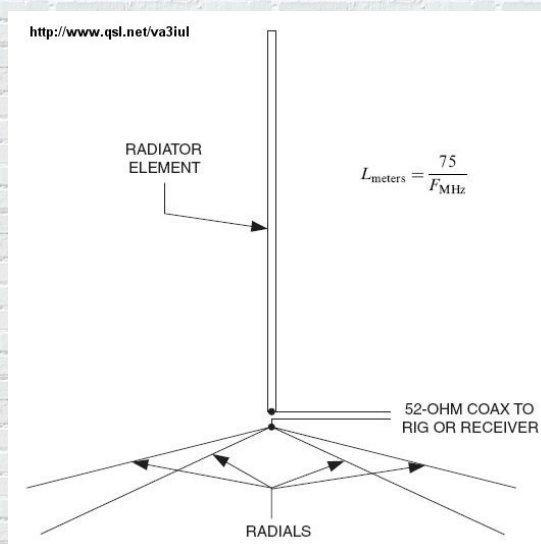
06 - Windom Antenna



07 - Windom Antenna - Feed with coax cable

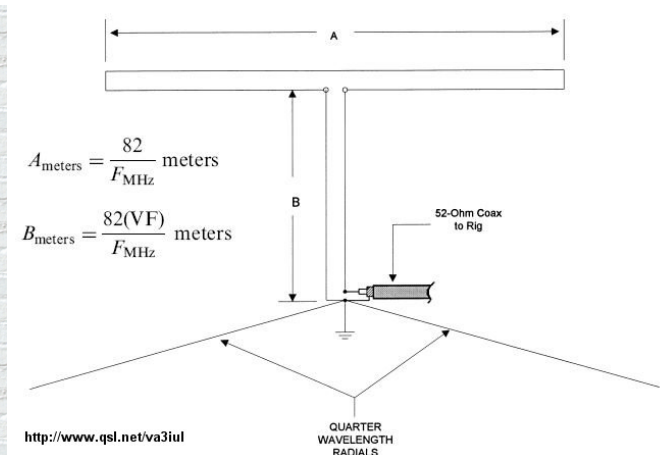


08 - Quarter Wavelength Vertical Antenna

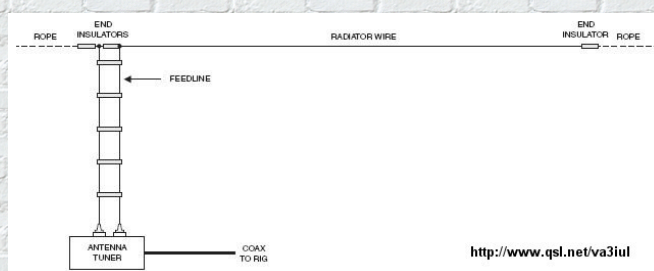


09 - Folded Marconi Tee Antenna

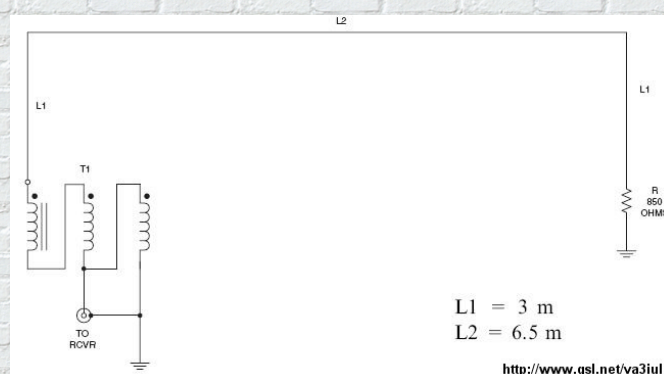




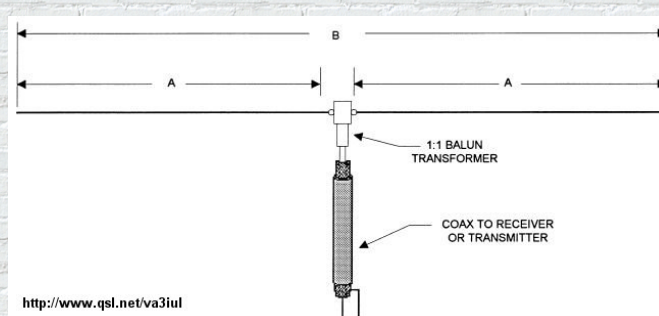
### 10 - Zeppelin Antenna



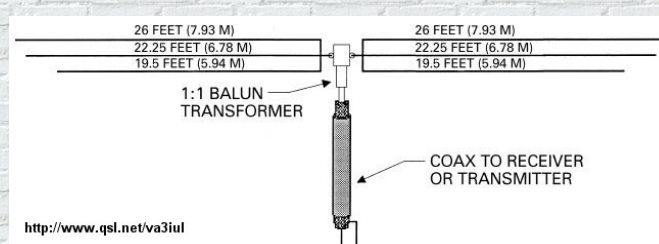
### 11 - EWE Antenna



### 12 - Dipole Antenna - Balun



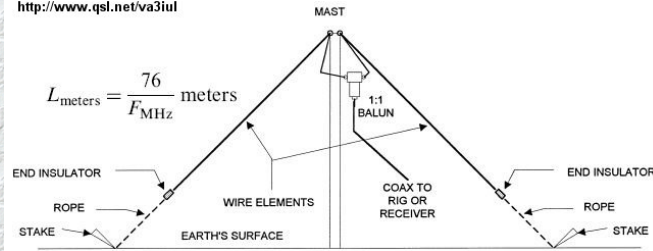
### 13 - Multiband Dipole Antenna



### 14 - Inverted-Vee Antenna

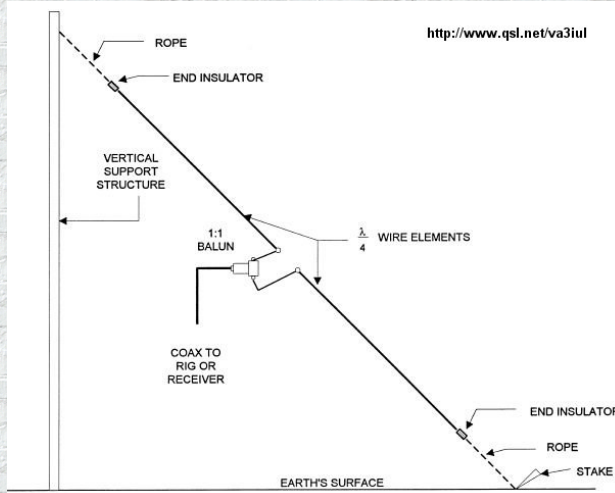


<http://www.qsl.net/va3iul>



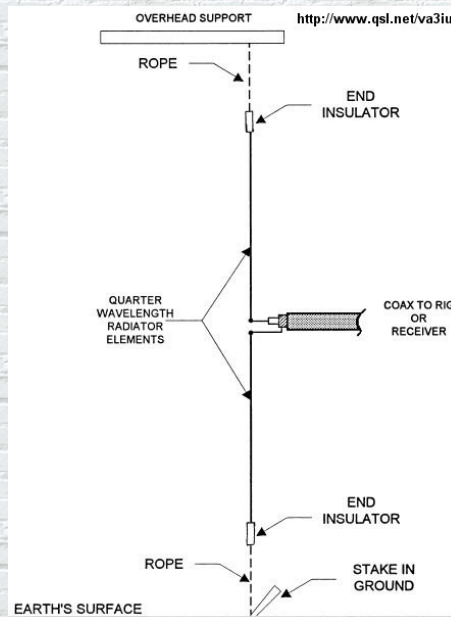
### 15 - Sloping Dipole Antenna

<http://www.qsl.net/va3iul>

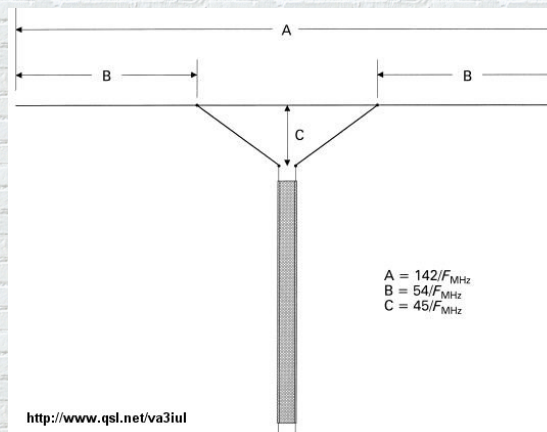


### 16 - Vertical Dipole

<http://www.qsl.net/va3iul>



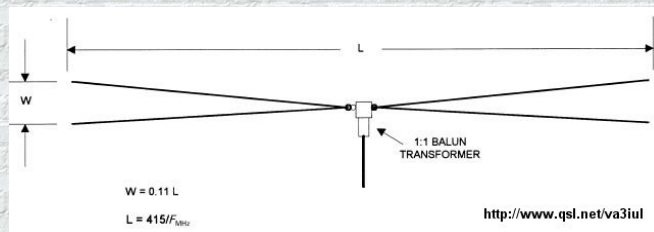
### 17 - Delta Fed Dipole Antenna



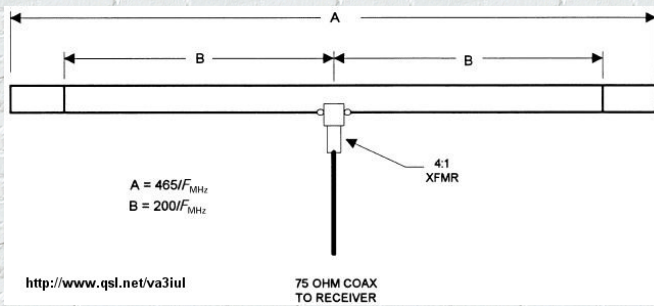
<http://www.qsl.net/va3iul>



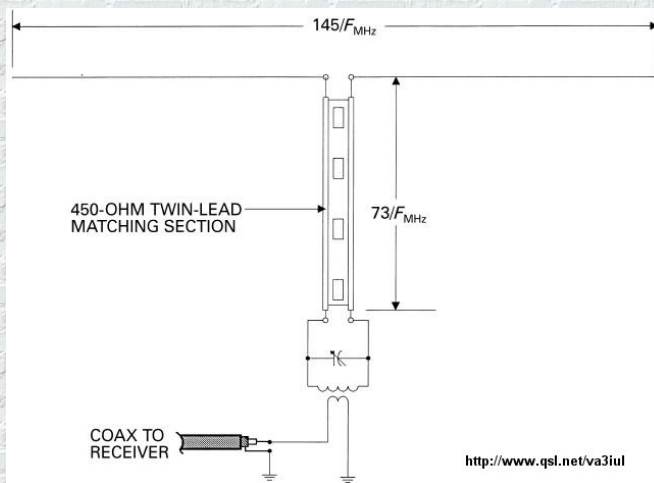
### 18 - Bow-Tie Dipole Antenna



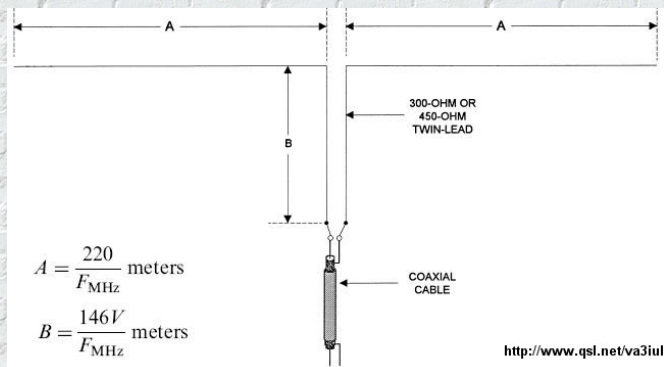
### 19 - Bow-Tie Folded Dipole Antenna for RX



### 20 - Multiband Tuned Doublet Antenna

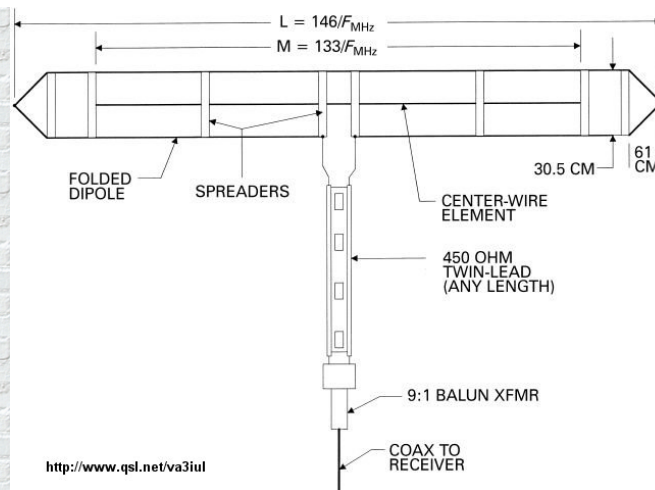


### 21 - G5RV Antenna

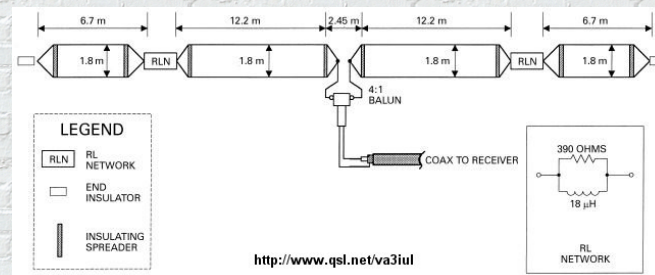


### 22 - Wideband Dipole Antenna

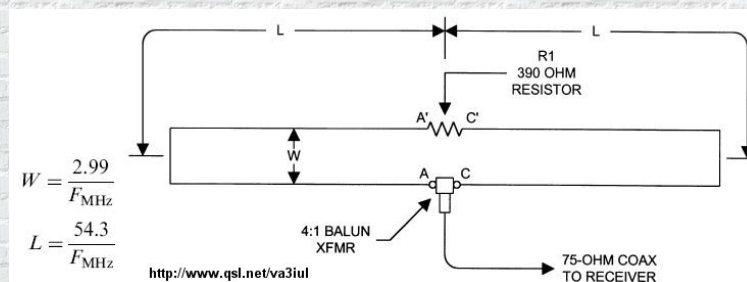




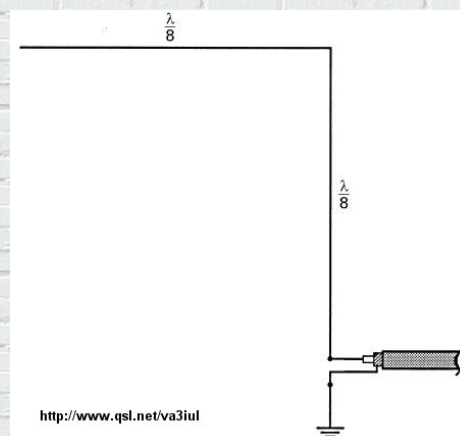
23 - Wideband Dipole for Receiving



24 - Tilted Folded Dipole Antenna

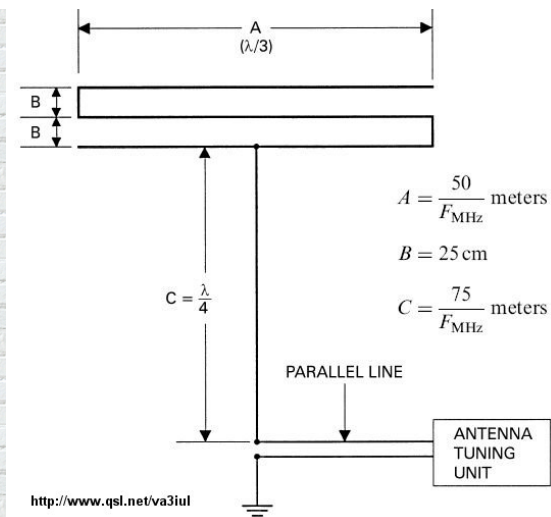


25 - Right Angle Marconi Antenna

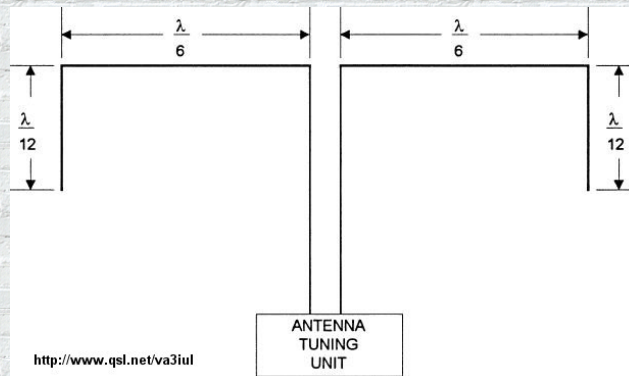


26 - Linearly Loaded Tee Antenna

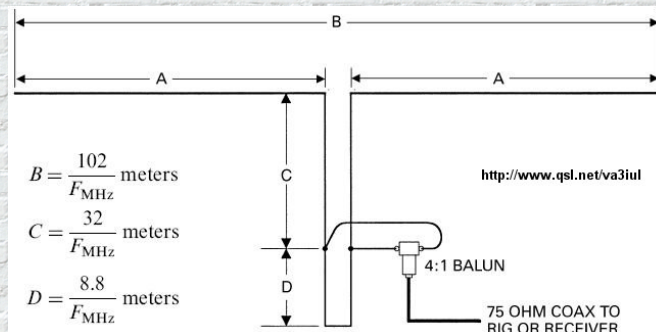




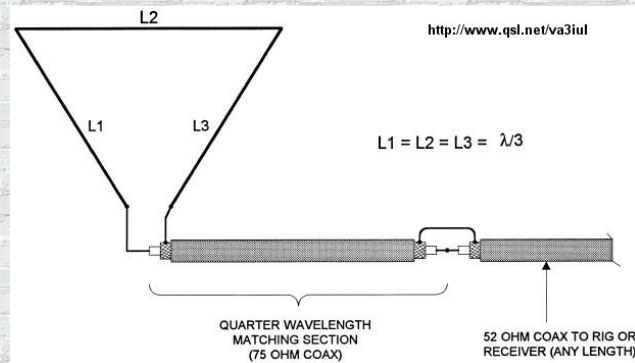
27 - Reduced Size Dipole Antenna



28 - Doublet Dipole Antenna

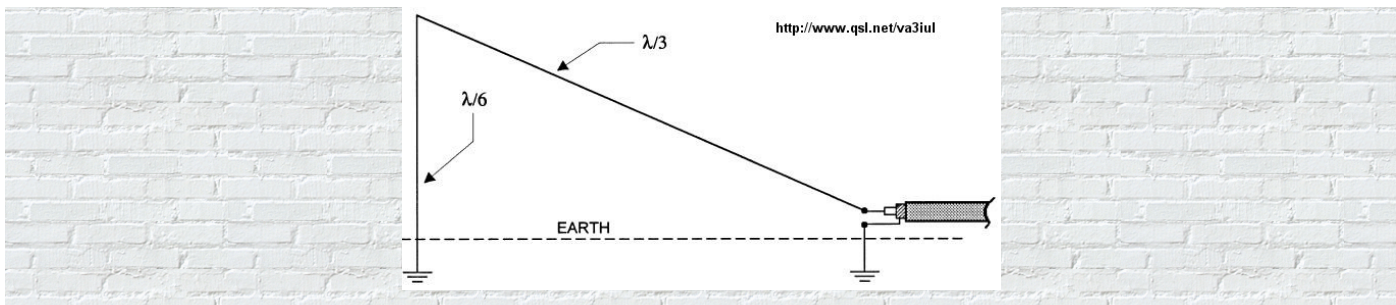


29 - Delta Loop Antenna

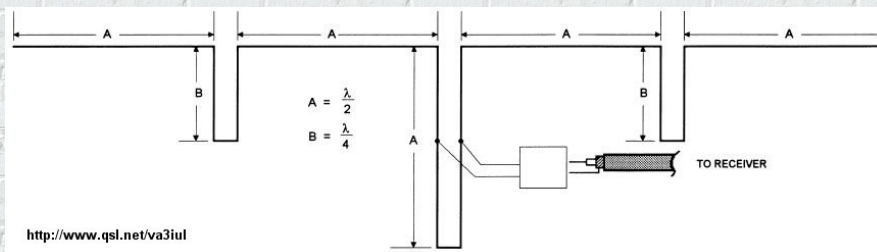


30 - Half Delta Loop Antenna

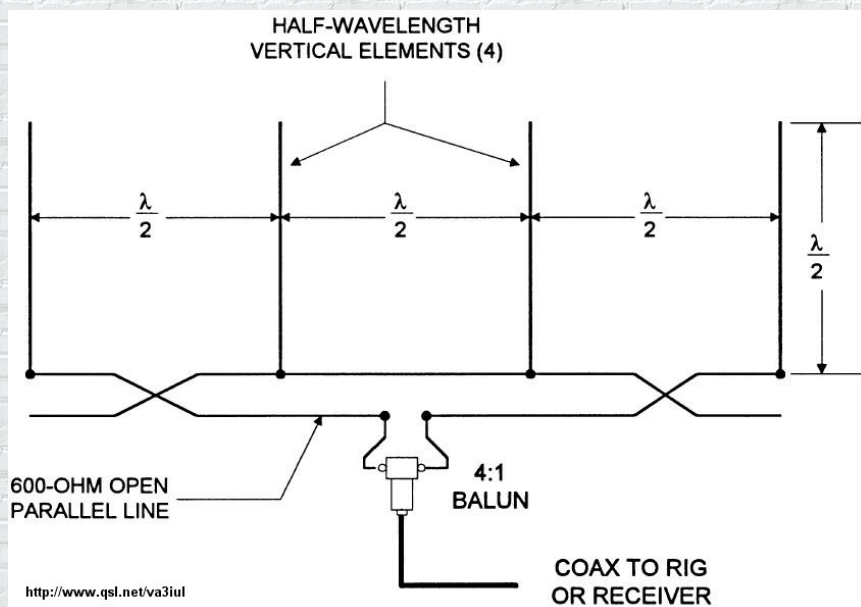




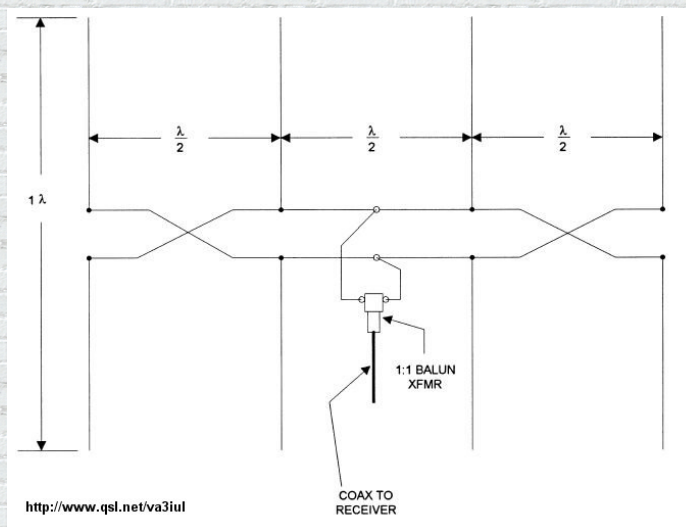
31 - Collinear Franklin Antenna



32 - Four Element Broadside Antenna

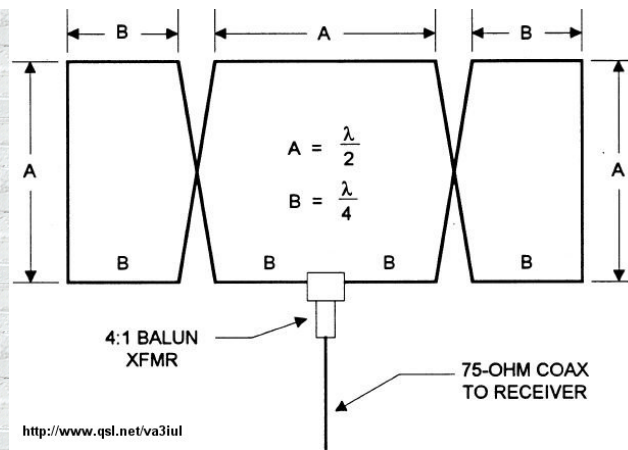


33 - The Lazy-H Array Antenna

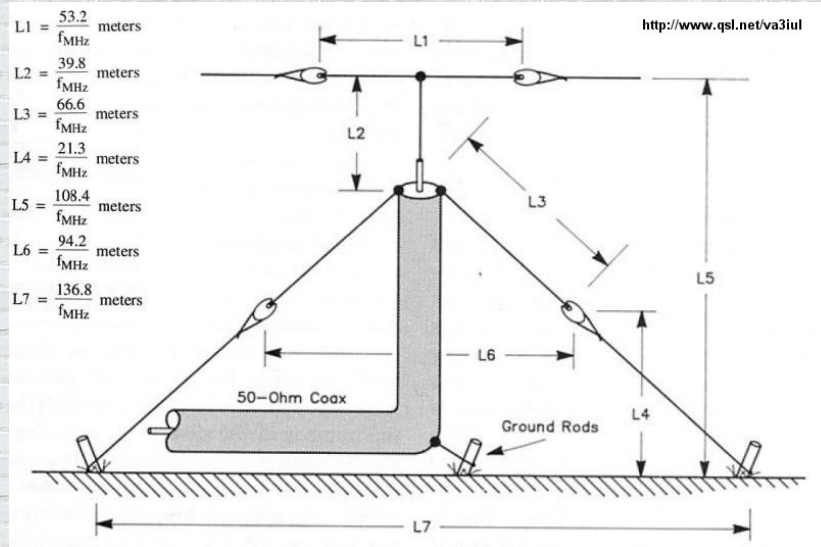


34 - Sterba Curtain Array Antenna

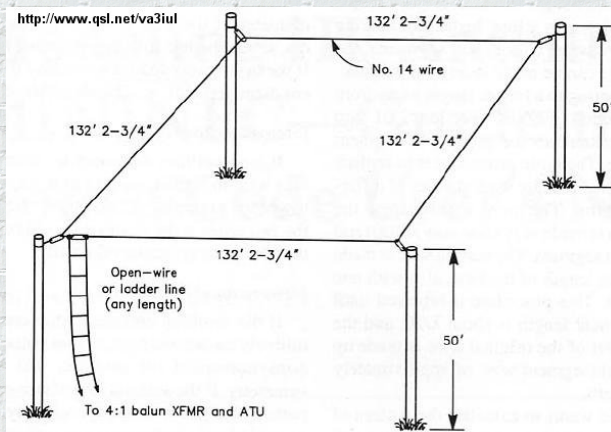




### 35 - T-L DX Antenna

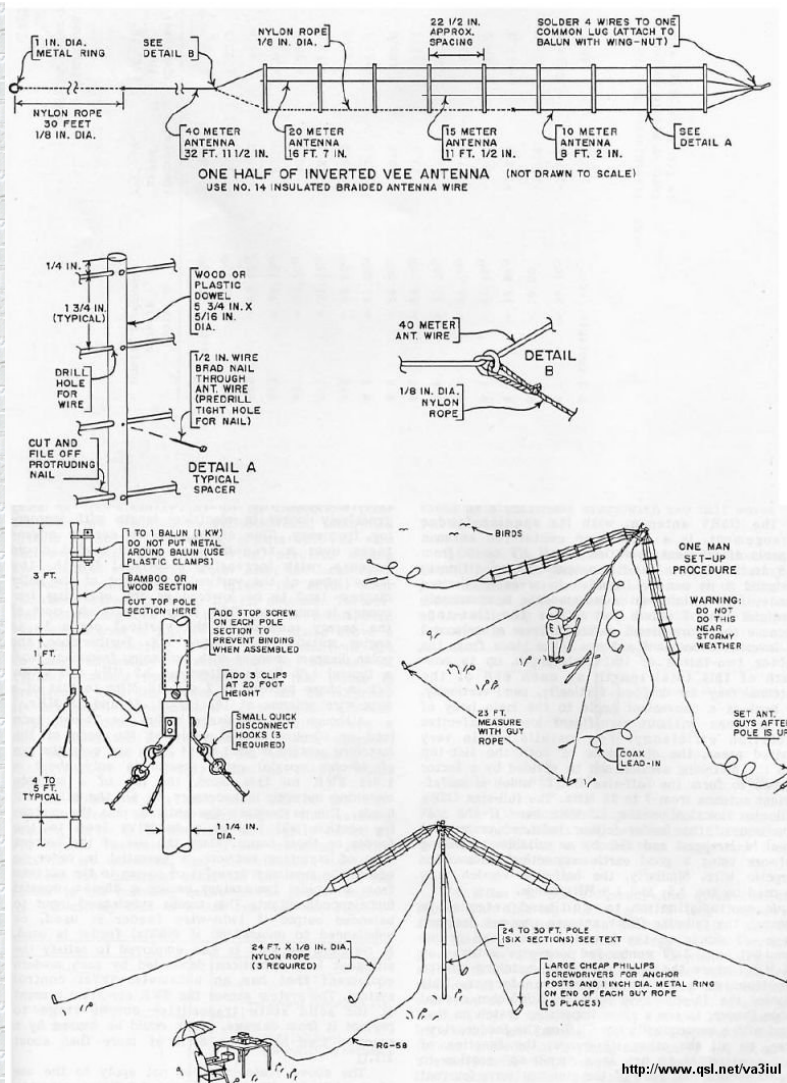


### 36 - 1.9 MHz Full-wave Loop Antenna

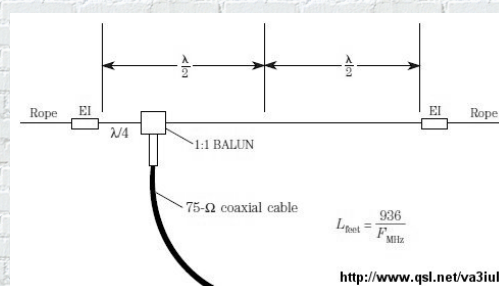


### 37 - Multi-Band Portable Antenna

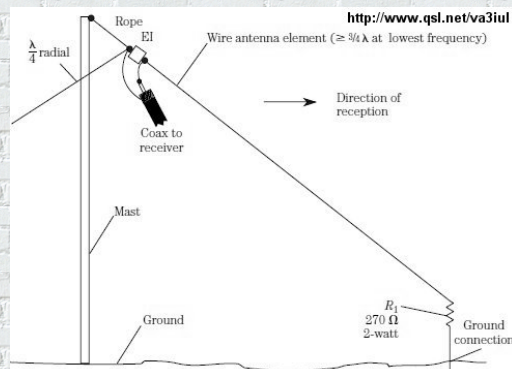




### 38 - Off-center-fed Full-wave Doublet Antenna

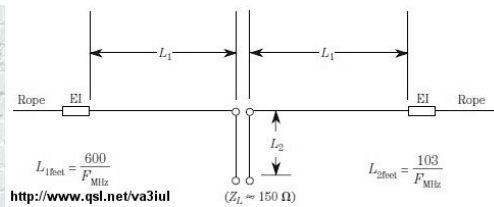


### 39 - Terminated Sloper Antenna

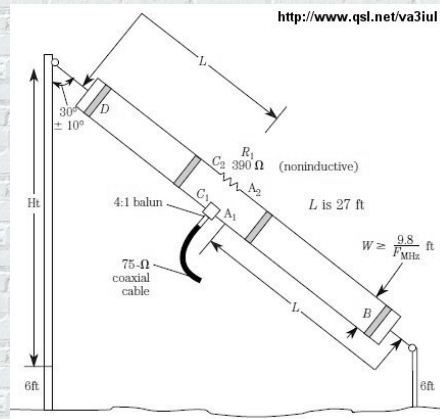


### 40 - Double Extended Zepp Antenna

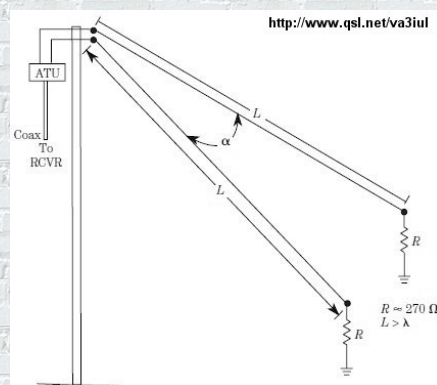




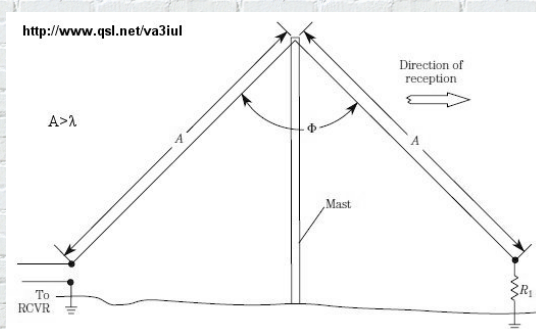
41 - TCFTFD Dipole Antenna



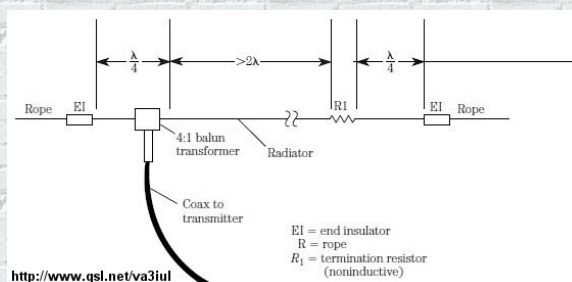
42 - Vee-Sloper Antenna



43 - Rhombic Inverted-Vee Antenna

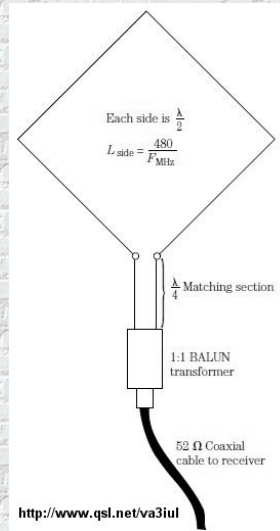


44 - Counterpoise Longwire

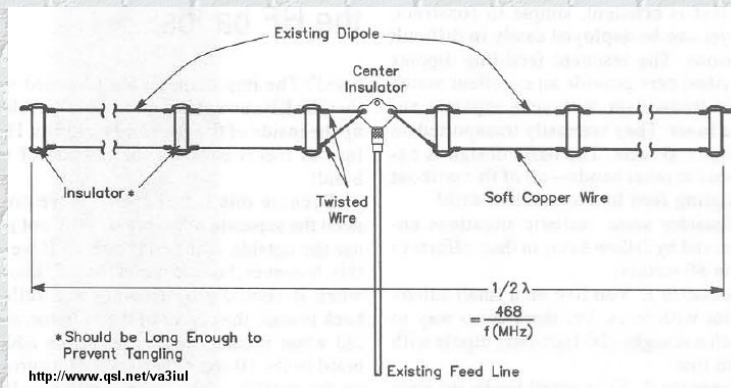




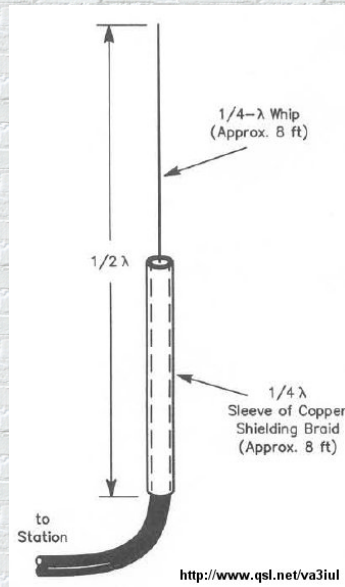
#### 45 - Bisquare Loop Antenna



#### 46 - Piggyback Antenna for 10m

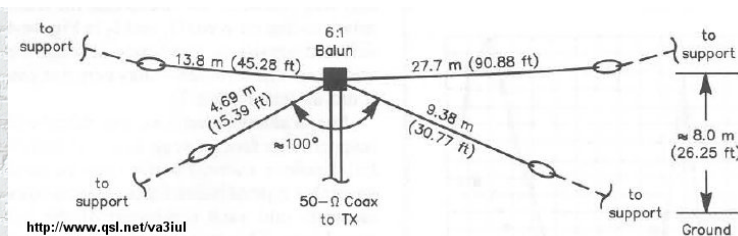


#### 47 - Vertical Sleeve Antenna for 10m

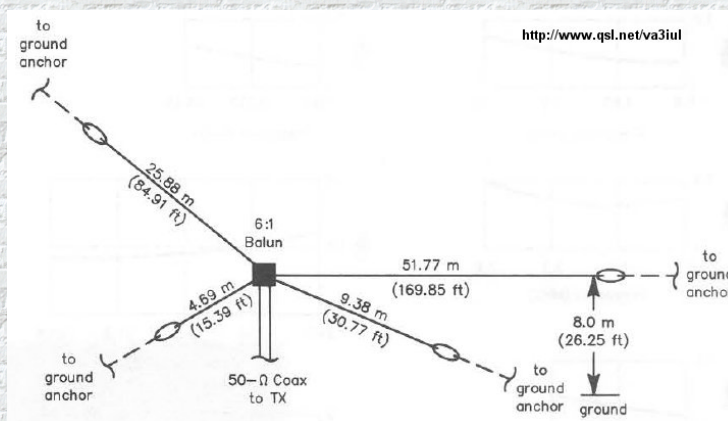


#### 48 - Double Windom Antenna

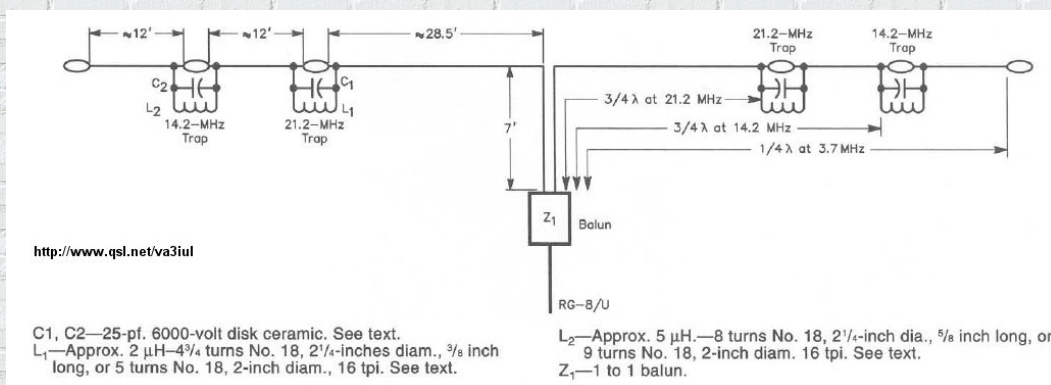




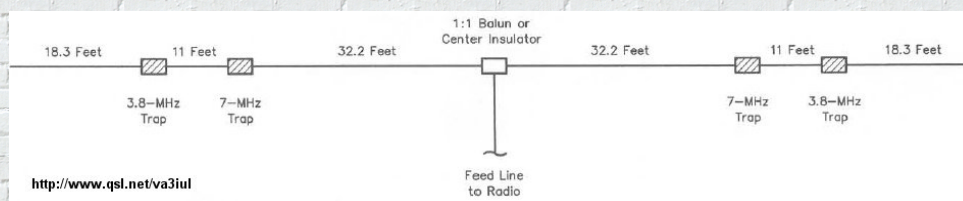
#### 49 - Double Window for 9 Bands



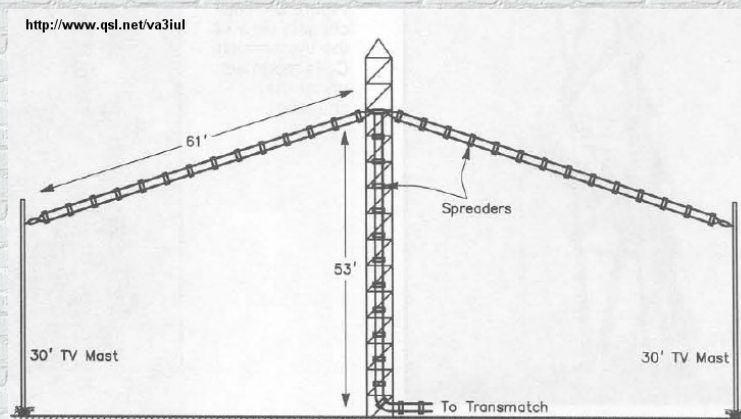
#### 50 - Collinear Trap Antenna



#### 51 - Short Dipole Antenna for 40m - 80m - 160m

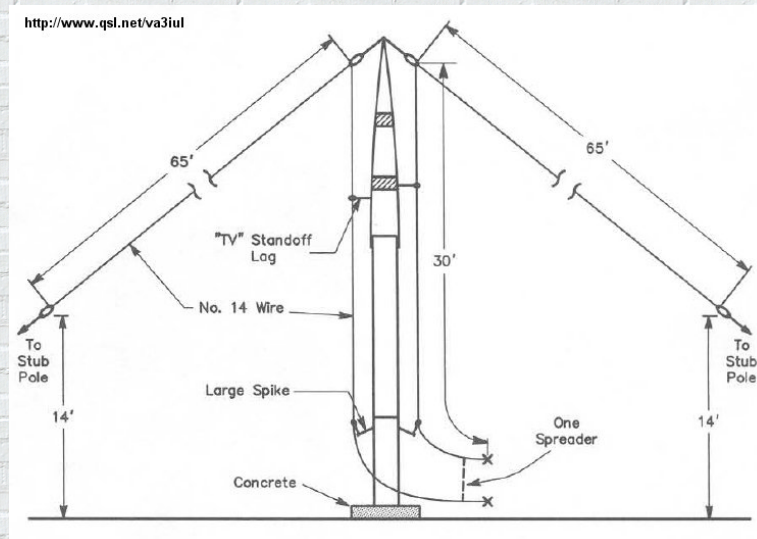


#### 52 - Center Fed-Zepp Antenna for 80m - 40m

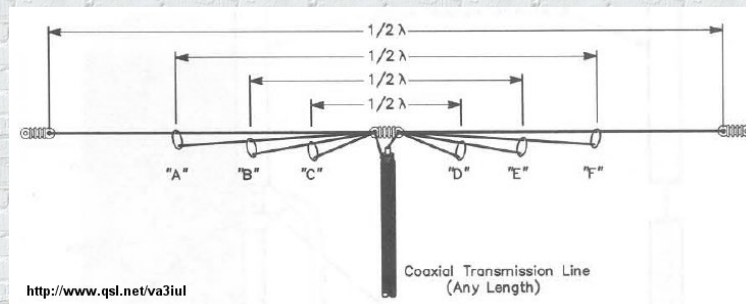




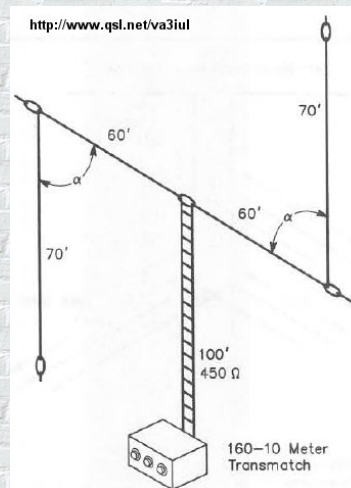
### 53 - All-Bands Antenna



### 54 - All-Bands Dipole Antenna

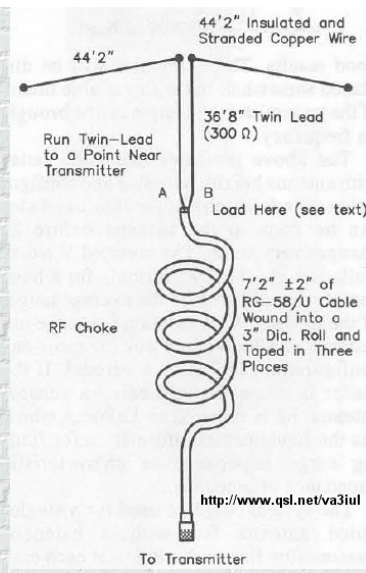


### 55 - Multiband Z Antenna

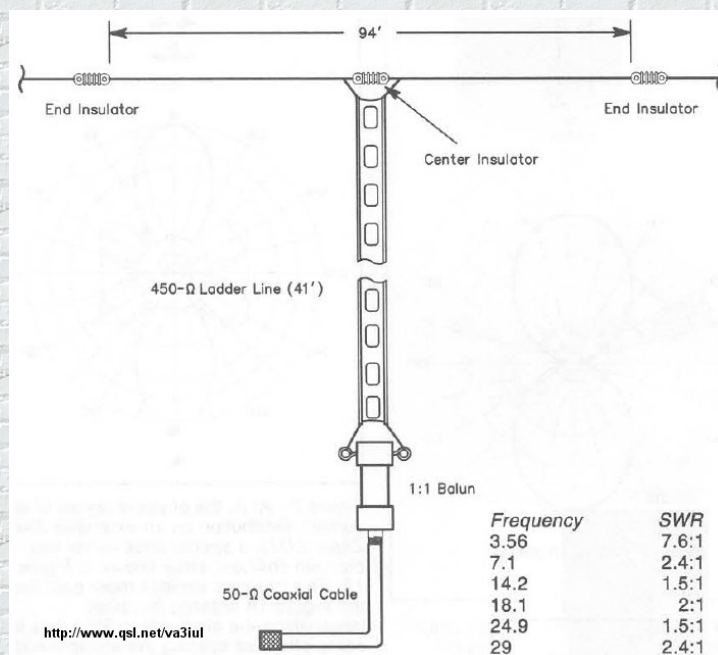


### 56 - Multiband Dipole Antenna

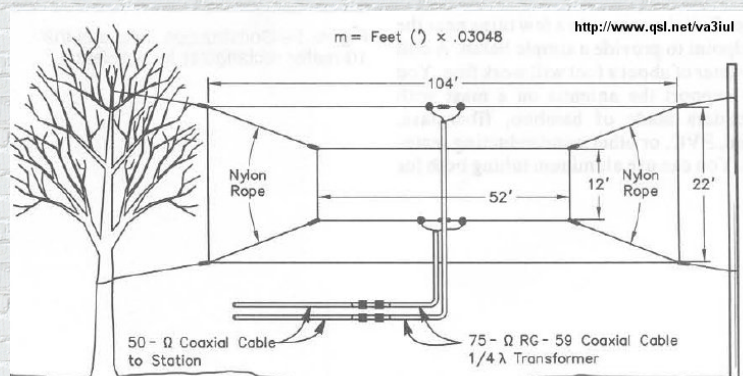




### 57 - Five-Bands No-Tuner Antenna

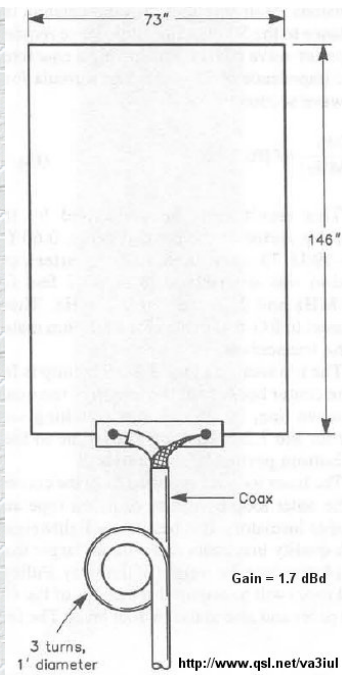


### 58 - Dualband Full-wave Loop Antenna for 80m-40m

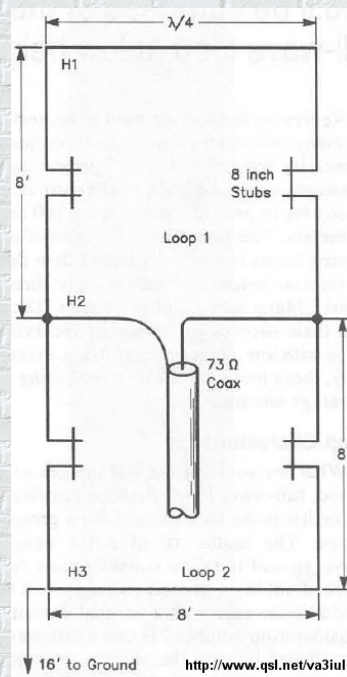


### 59 - Loop Antenna for 10m



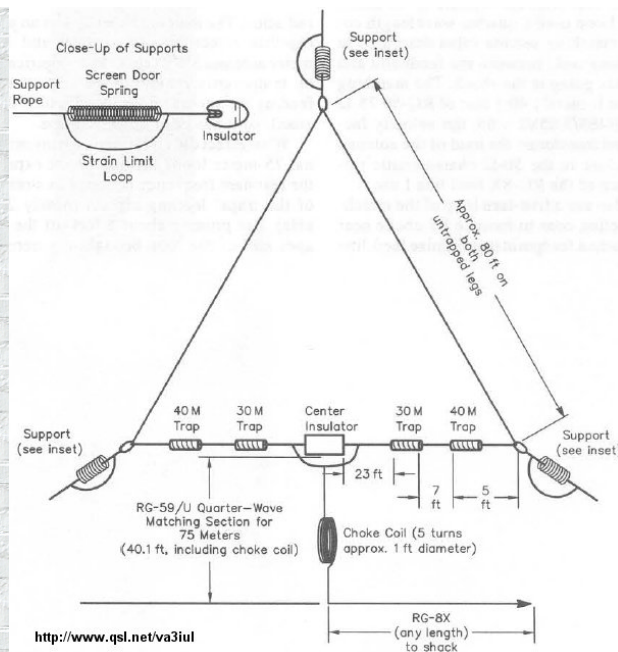


60 - Lazy Quad Antenna for 10m

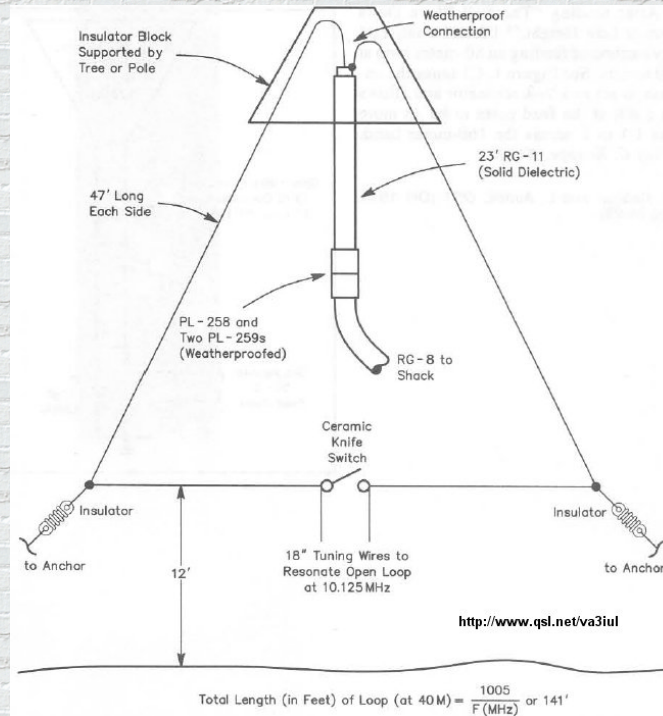


61 - Tri-band Delta Loop Antenna for 80m - 40m - 30m



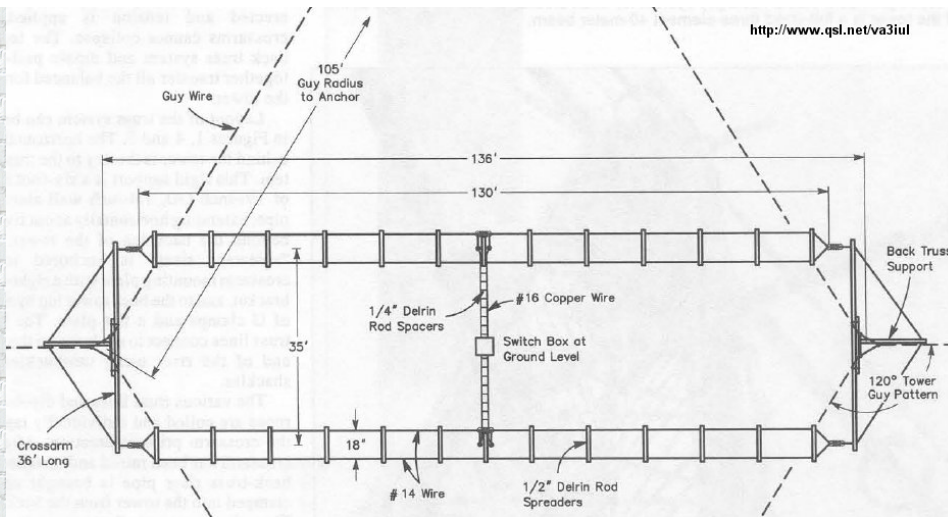


## 62 - Dual-band Loop Antenna for 30m - 40m

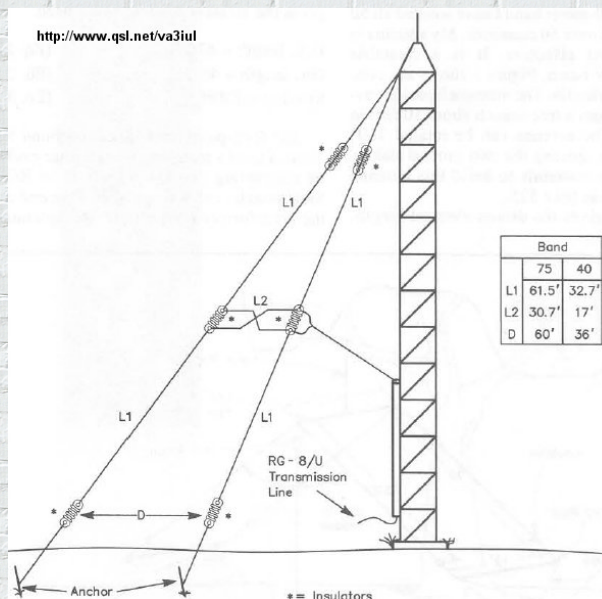


### 63 - Wire-Beam Antenna for 80m

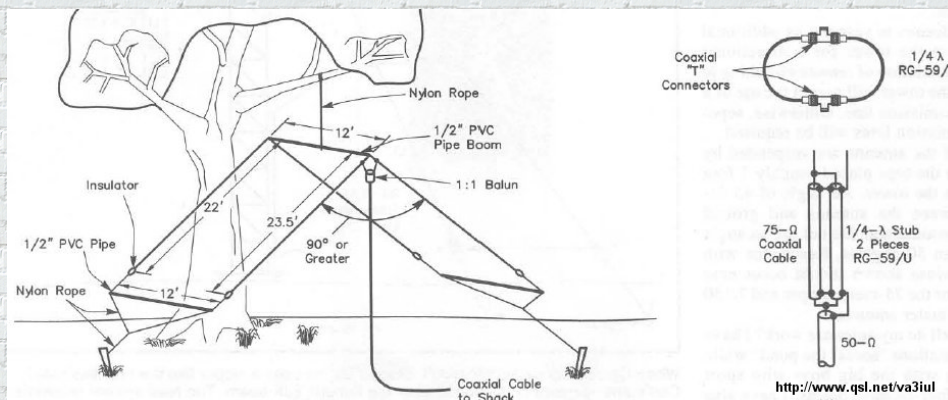




64 - Dual-Band Sloper Antenna



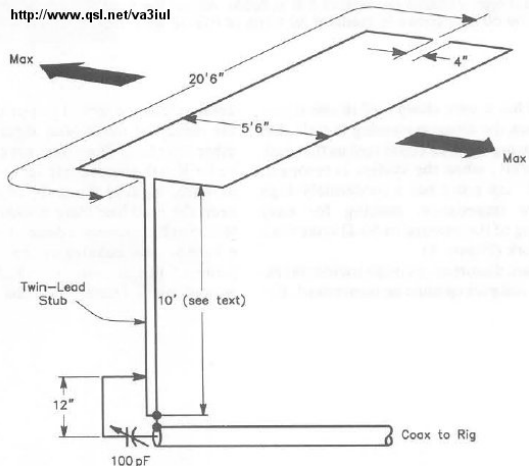
65 - Inverted-V Beam Antenna for 30m



66 - ZL-Special Beam Antenna for 15m

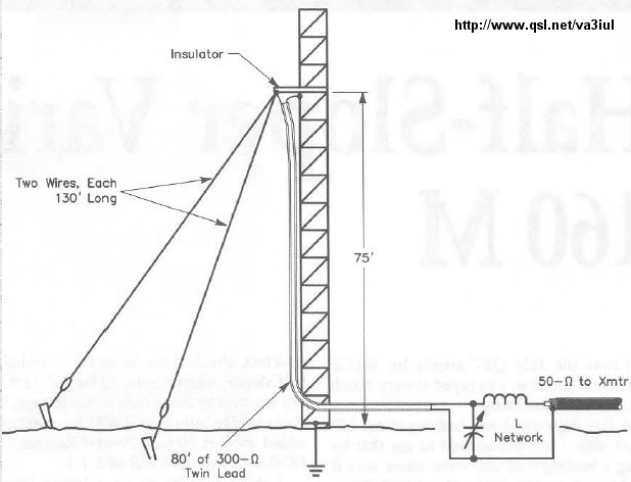


<http://www.qsl.net/va3iul>

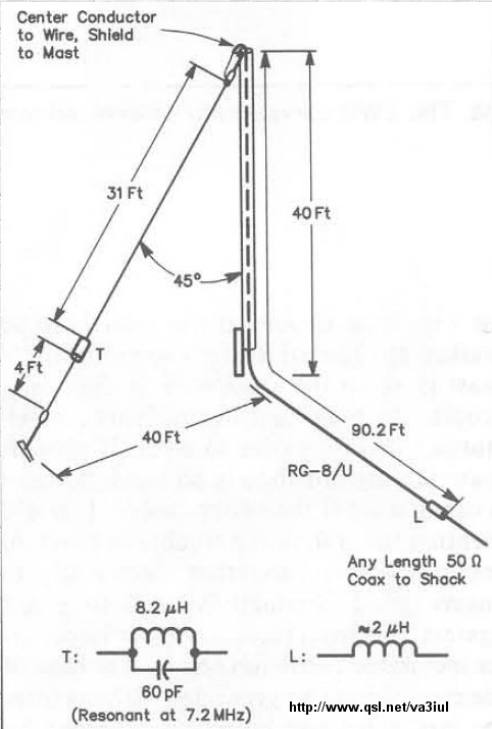


67 - Half-Sloper Antenna for 160m

<http://www.qsl.net/va3iul>



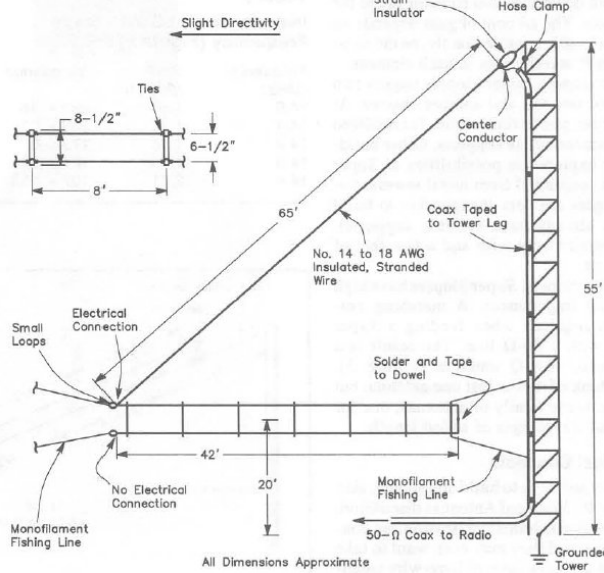
68 - Two-Bands Half Sloper for 80m - 40m



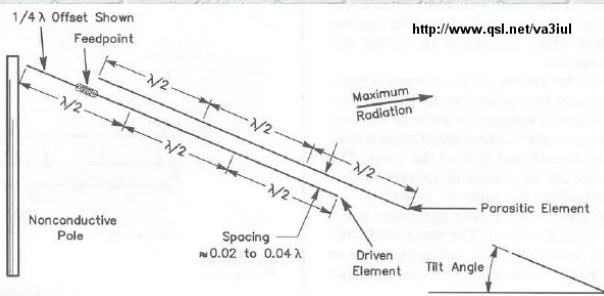
69 - Linear Loaded Sloper Antenna for 160m



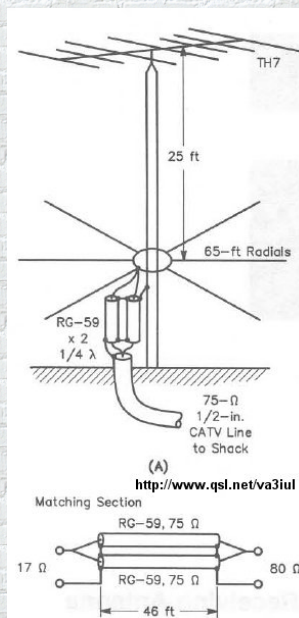
<http://www.qsl.net/va3iul>



## 70 - Super-Sloper Antenna

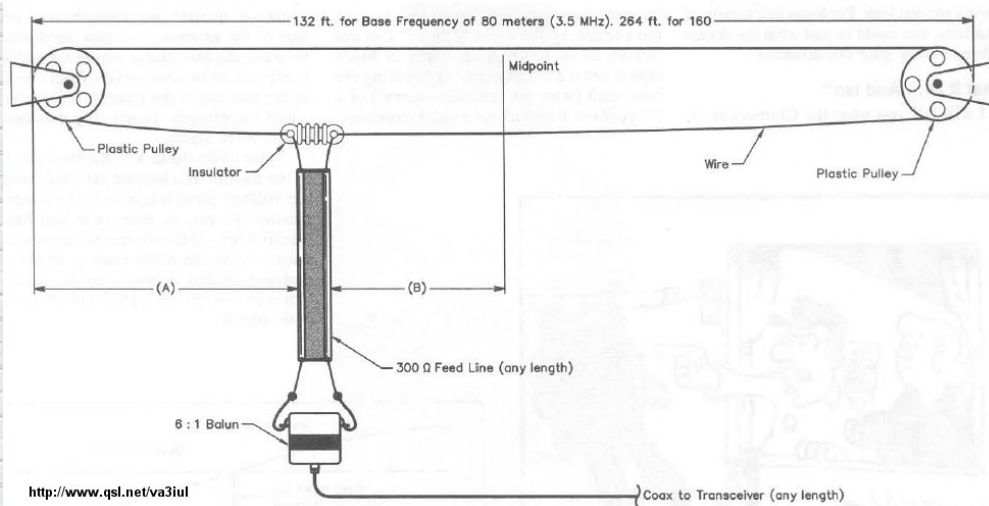


## 71 - Tower Pole as a Vertical Antenna for 80m

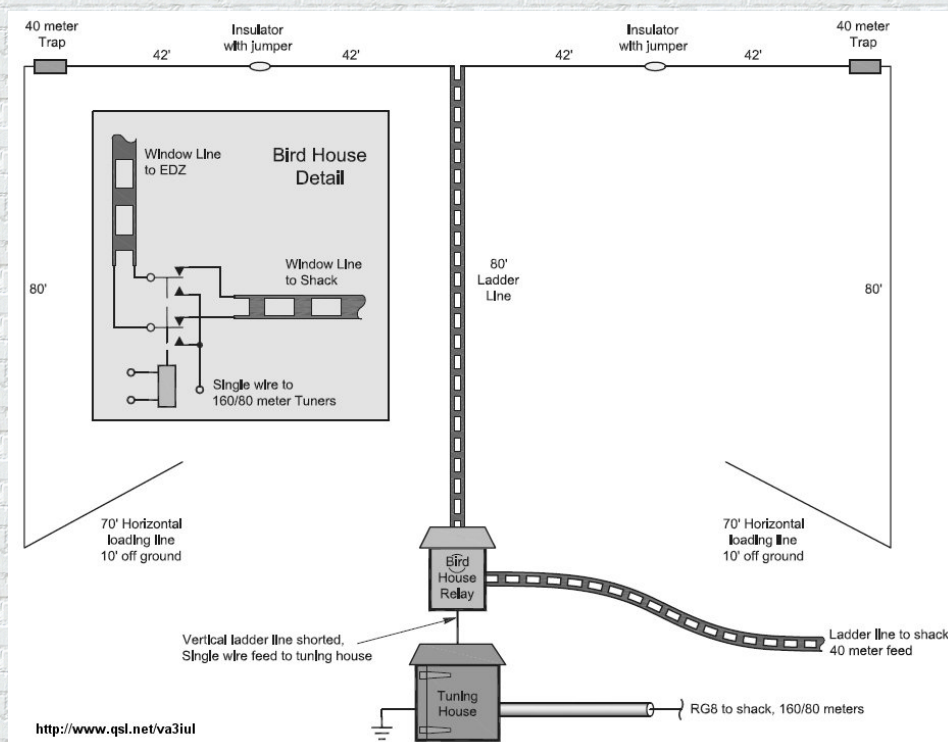


## 72 - Clothesline Antenna

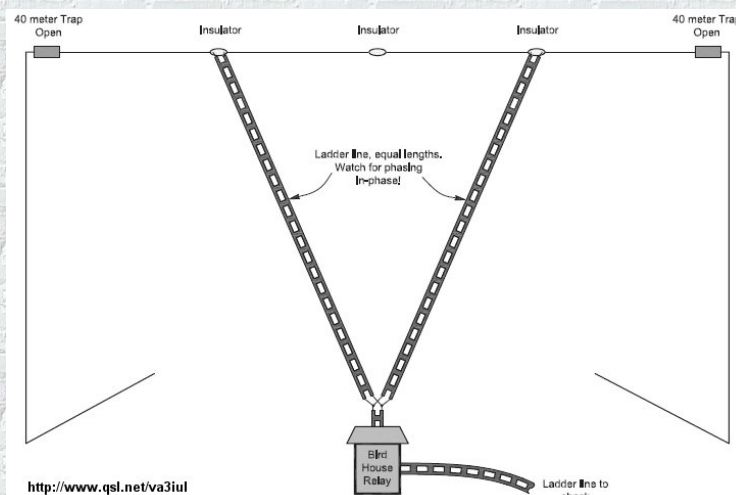




73 - Curtain Zepp Antenna for 160m, 80m, 40m

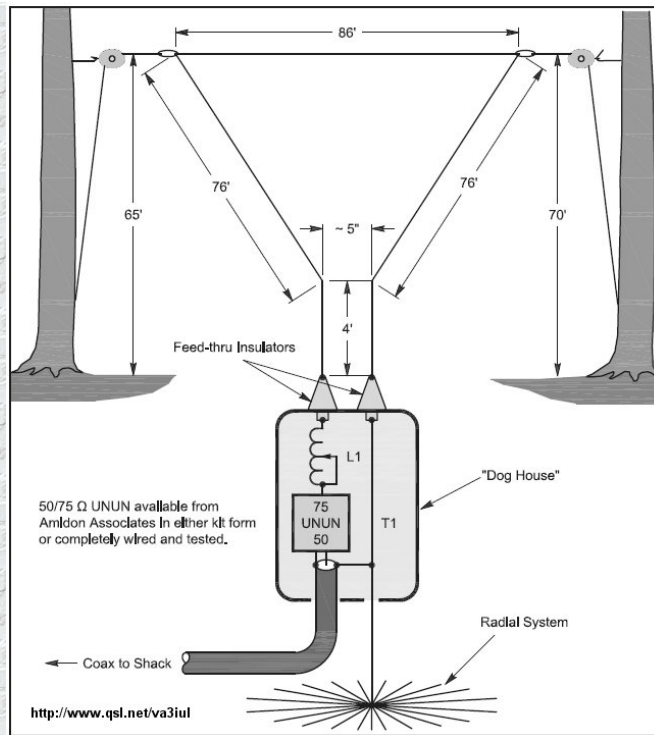


74 - Collinear Array Antenna for 40m, 30m, 20m

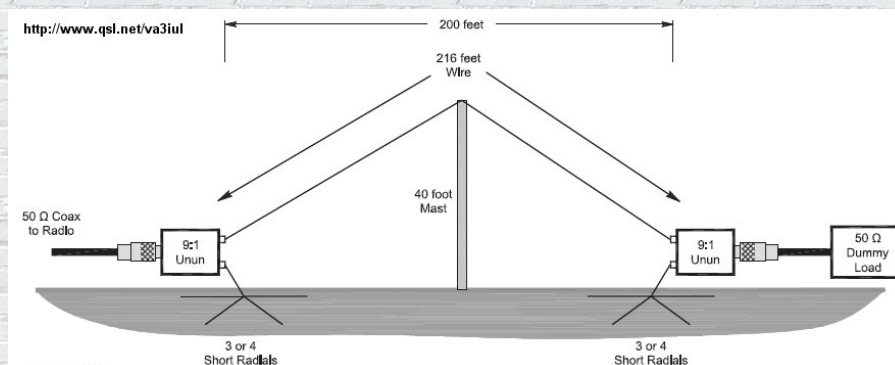


75 - 160m Inverted Delta Loop

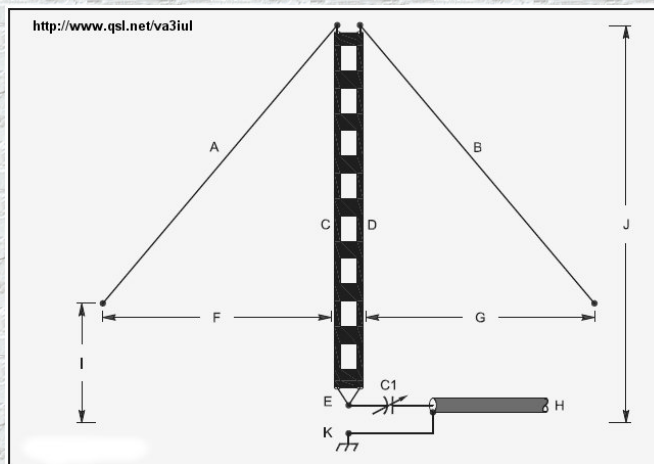




**76 - Half Rhombic Unidirectional Vertical for 20m to 6m**



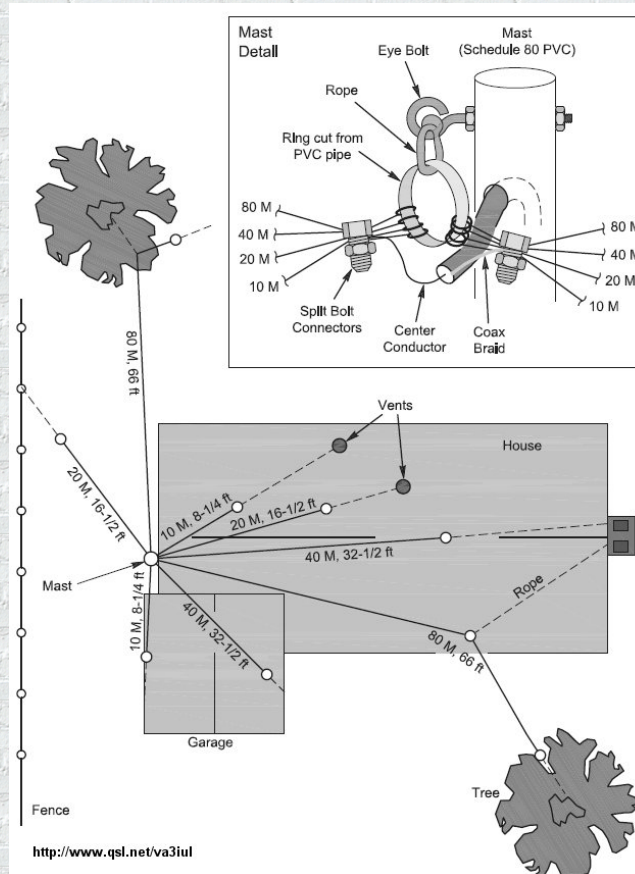
**77 - Capacitance Loaded Vertical Antenna for 160m**



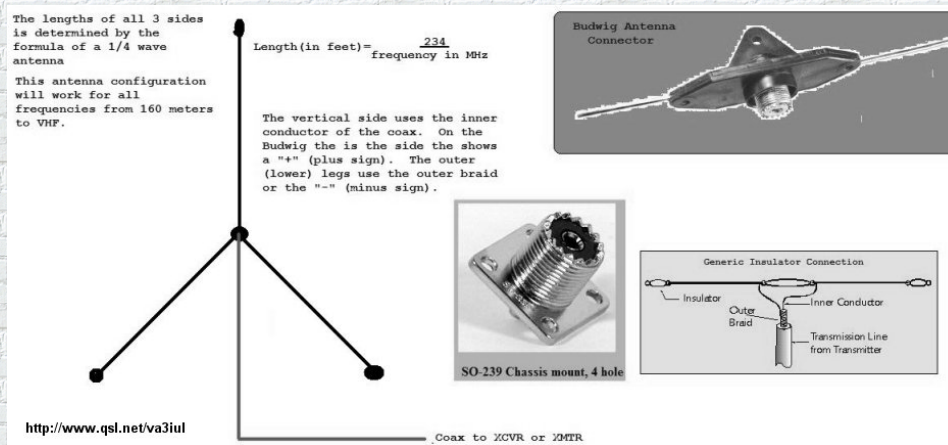
- C1 — Variable capacitor, 0-1500 pF, 7 kV.  
A, B — Sloping segments of 66 foot, 4 inch pieces of #16 AWG enameled copper wire soldered to the top of segments C and D and forming a 45° angle.  
C, D — 59 feet of 450 Ω open wire or window line or, alternatively, two parallel lengths of #16 AWG enameled copper wire with a 1 inch separation.  
E — 1 inch triangle formed by the bottom ends of the open wire line. Solder them tightly at the vertex and connect to C1.  
F, G — Distance between the lower ends of segments A and B from segments C and D, 51 feet.  
H — Any length of 50 Ω coaxial cable (RG-213 in this case). The central conductor must be soldered to C1, and the braid to the ground radials.  
I — Approximately 16 feet from ground to lower ends of sloping segments A and B.  
J — 60 feet from antenna top to bottom.  
K — Ground radials, 60 1/4 λ (the more the better — 32 will form a reasonable ground).



## 78 - Fan Dipole Antenna for 80m to 6m

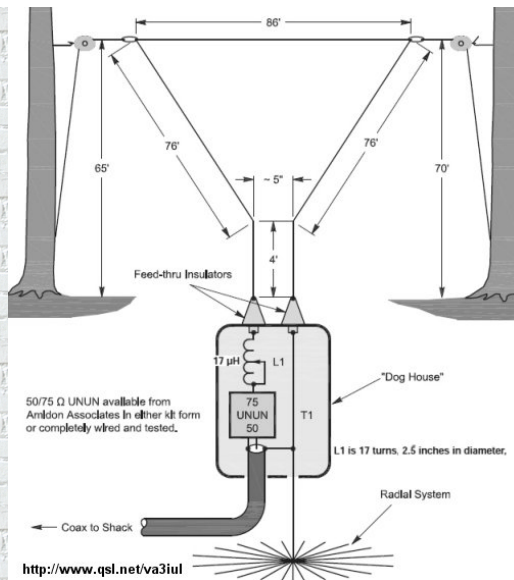


## 79 - Wire Ground Plane Antenna

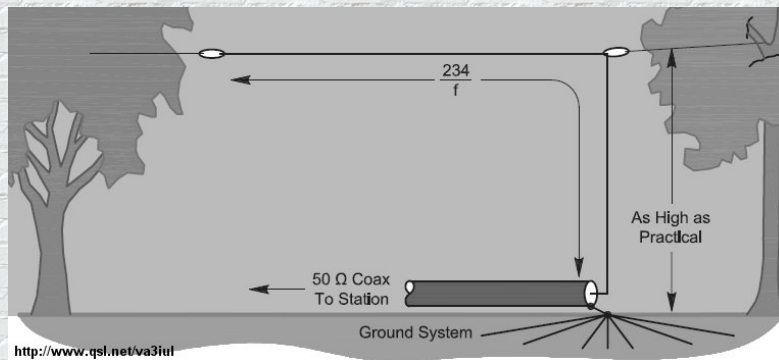


## 80 - Inverted Delta Loop Antenna for 160m

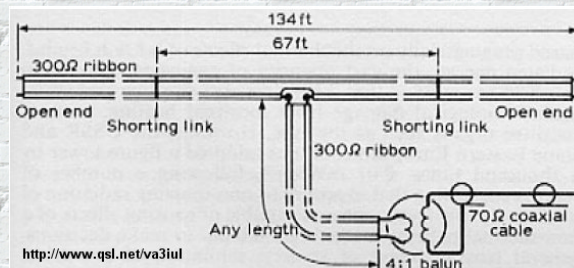




81 - Inverted-L for 160m

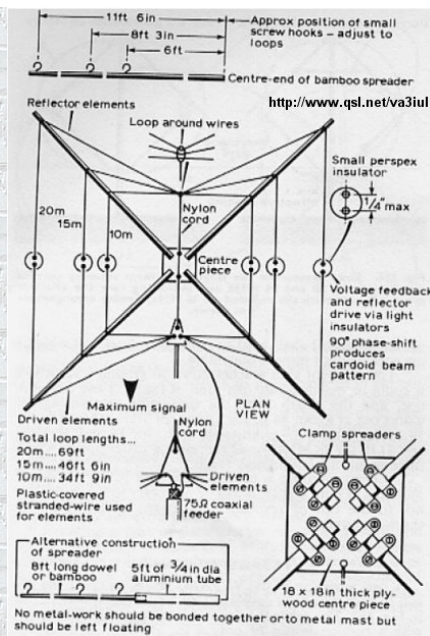


82 - 300ohm-Ribbon Dual Band Dipole

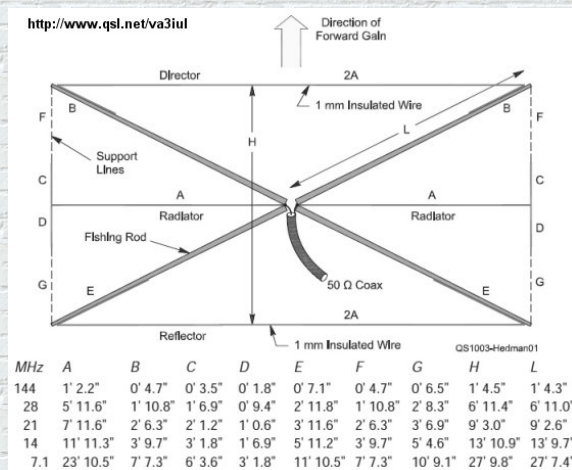


83 - Tri-Band Beam for 20m, 15m, 10m

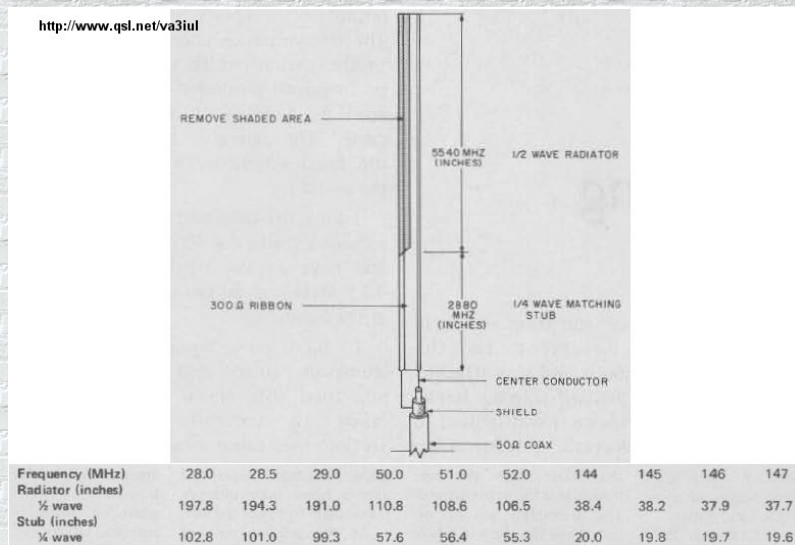




84 - Mini-Horse Yagi - Antenna

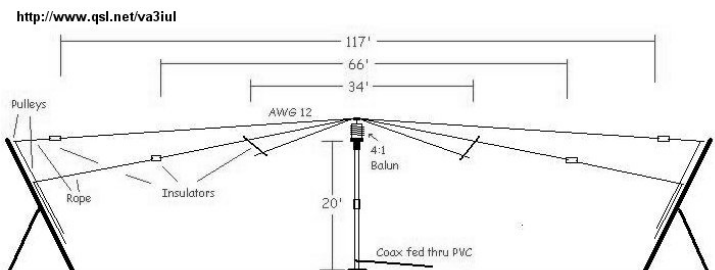


85 - Half-Rhombic Directive Antenna for 20m to 6m

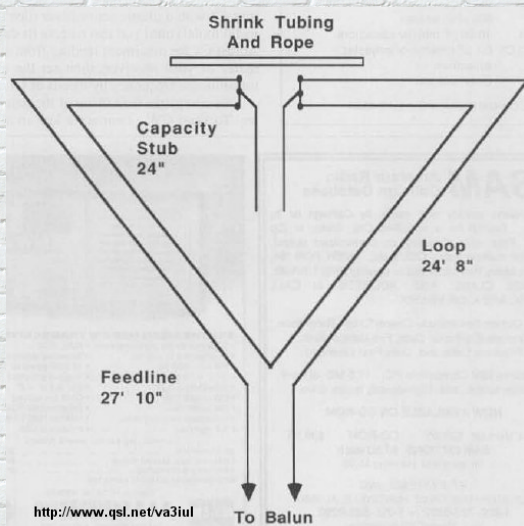


86 - Fan-Dipole Antenna for 80m, 40m, 20m

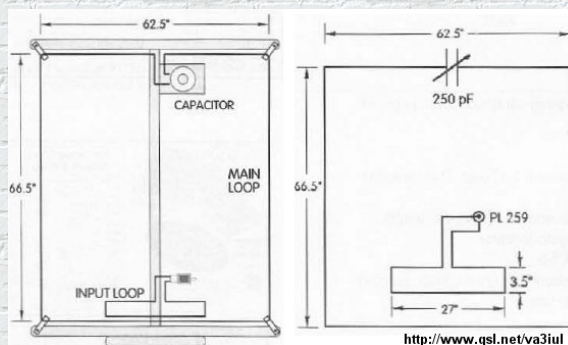




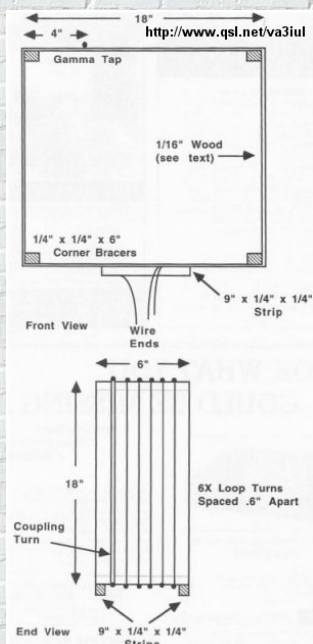
**87 - Capacity Tuned Folded Loop Antenna for 20m**



**88 - Indoor Loop Antenna for 80m to 30m**

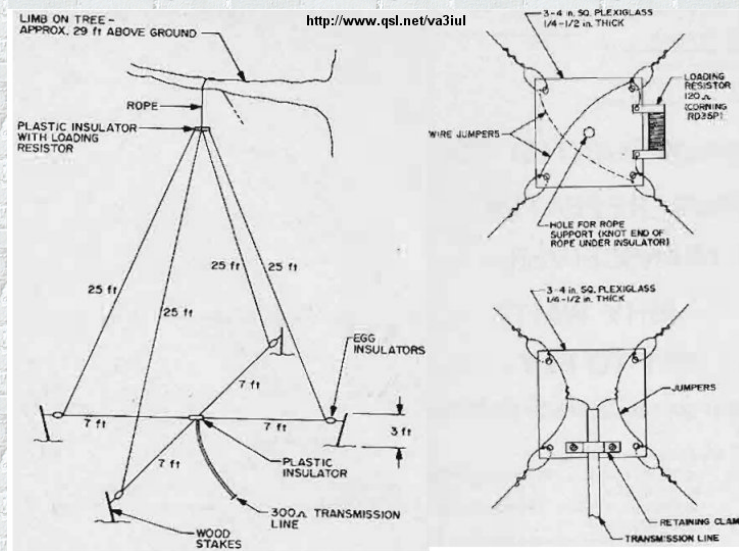


**89 - Indoor Loop Antenna for 80m**

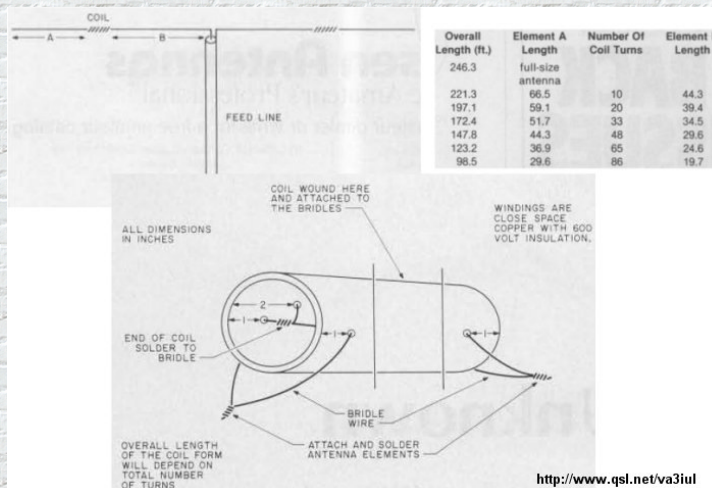




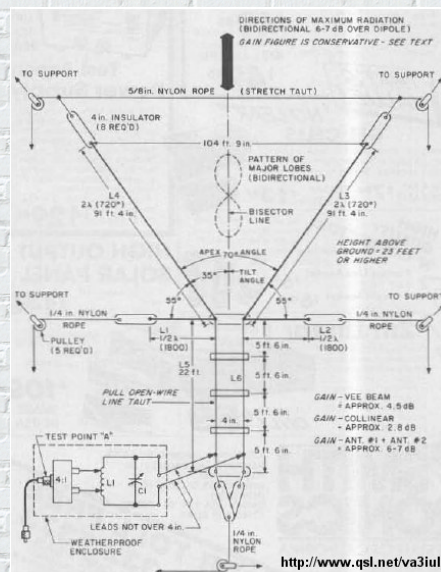
### 90 - Double-Delta Antenna 80m and 40m



### 91 - Inductance-Loaded Shortened Dipole for 160m

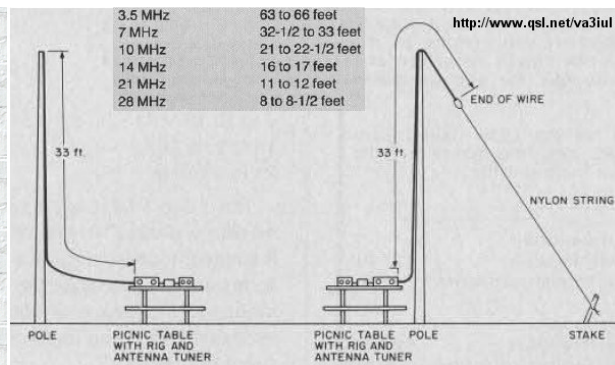


### 92 - V-Beam Antenna for 15m

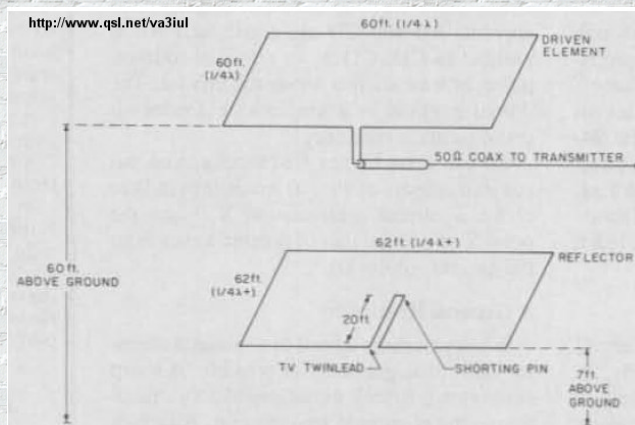


### 93 - Picnic Vertical Wire Antenna

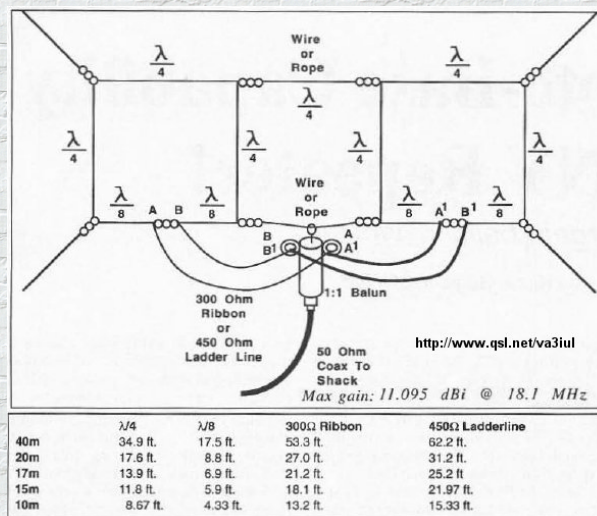




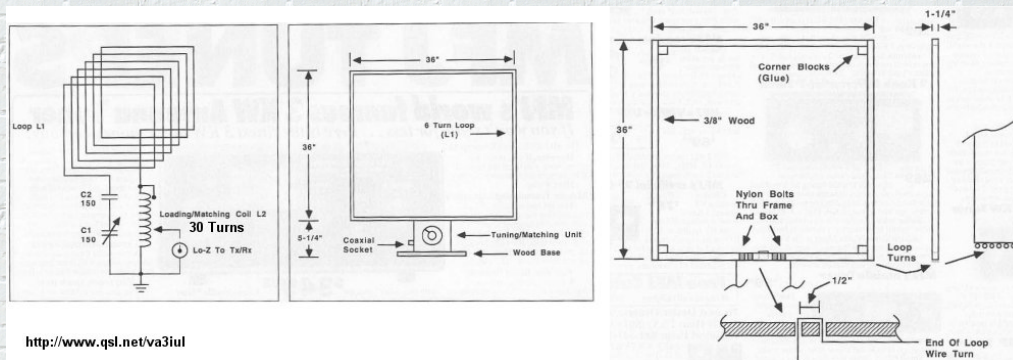
94 - Laid-Back Quad Antenna for 80m



95 - Phased Loop Antenna

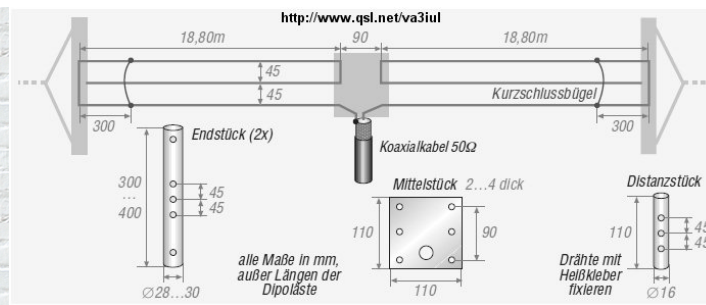


96 - Loop Antenna for TX for 160m

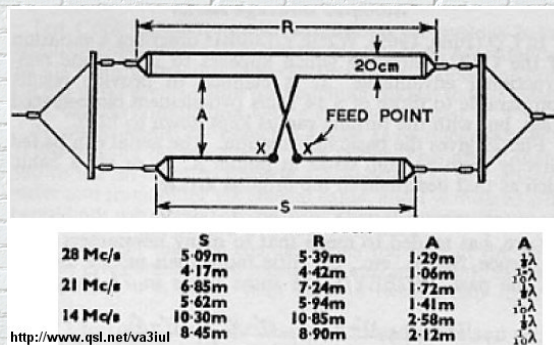


97 - Morgain-Dipole Antenna for 160m and 80m

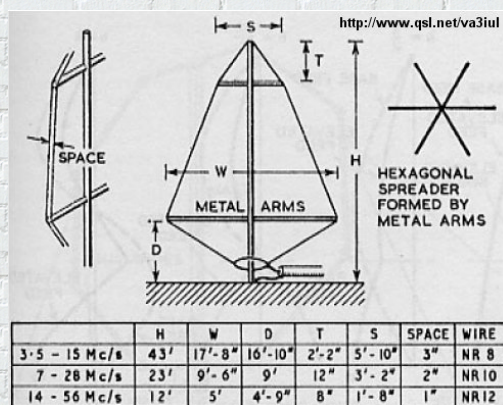




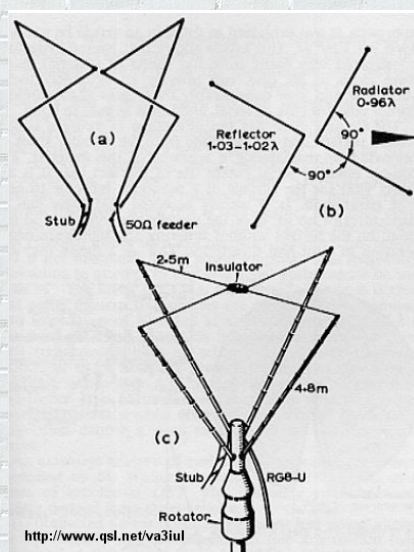
98 - ZL-Special for 20m, 15m, 10m



99 - Biconical Antenna

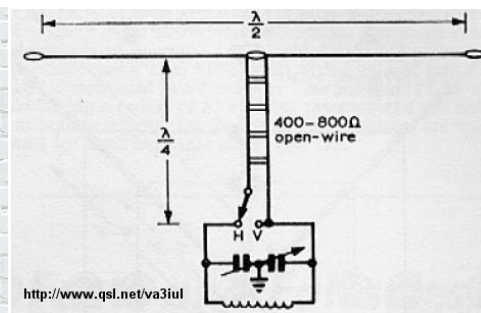


100 - Directive Delta-Birdcage Antenna for 20m to 10m

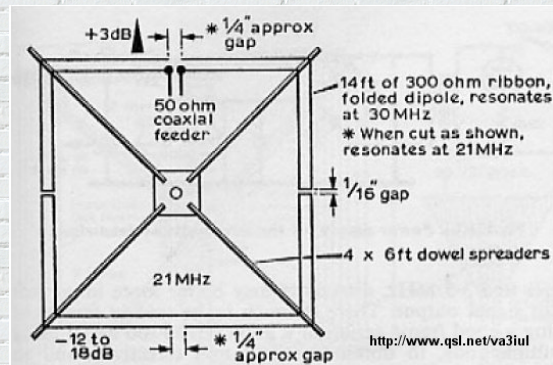


101 - Dual Polarization Antenna for 80m and 40m

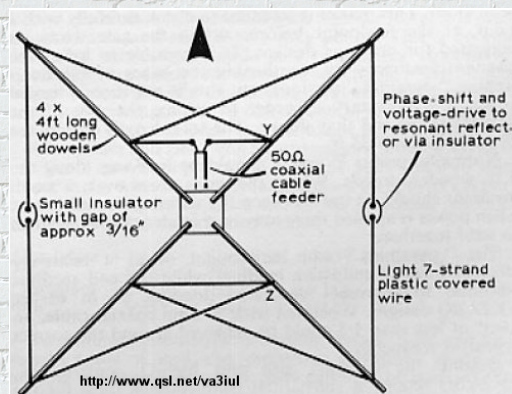




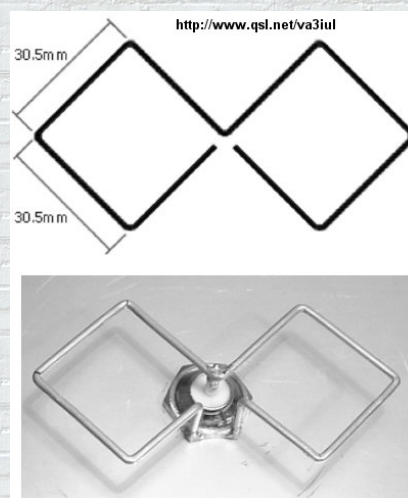
102 - Directive 300-ohm-Ribbon Folded Dipole for 15m



103 - Miniature Directive Antenna for 10m



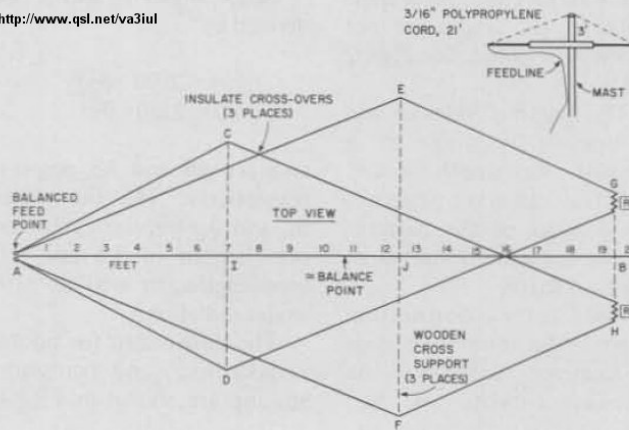
104 - Biquad Antenna 12dBi-Gain for 2.4GHz



105 - Dual-Rhomboid Antenna for 435MHz to 870MHz

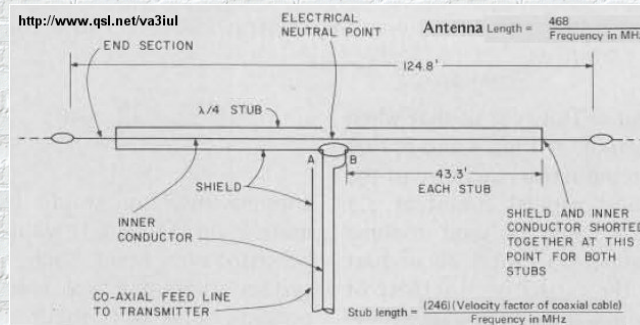


<http://www.qsl.net/va3iul>

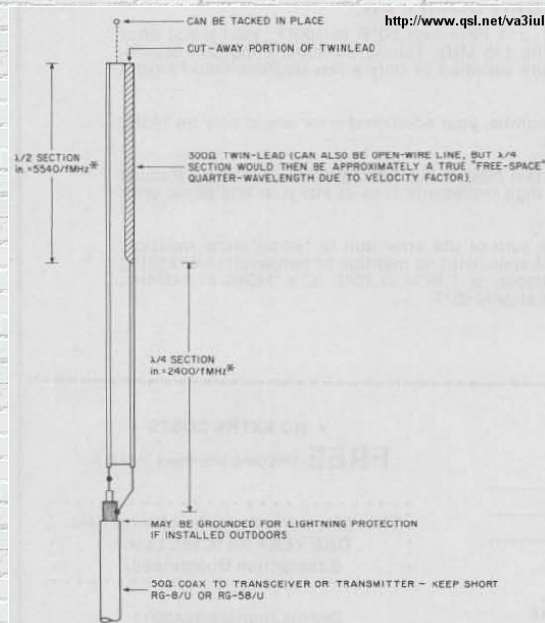


**Dual rhomboid antenna for 435-870 MHz.** Beamwidth  $\approx 10^\circ$  H x  $6^\circ$  V. Gain over DP  $\approx 26$  dB. Boom length: AB = 19'6". Support spacing : AI = 7'; IJ = 5'6"; JB = 7'. Support length: CD = 7'3"; EF = 10'3"; GH = 3'0". Rhomboid sides: AC, AD, EG, FH = 7'9.5"; AE, AF, CH, DG = 13'5.5". Feedline: Wire needed: 14 AWG formvar,  $\approx 86'0"$ . Boom material: AI, JB = wood; IJ = metal. Cross support: CD, EF, GH = wood. Terminators: R1, R2 = 600 Ohms; Watts

#### 106 - Double-Bazooka Antenna for 80m

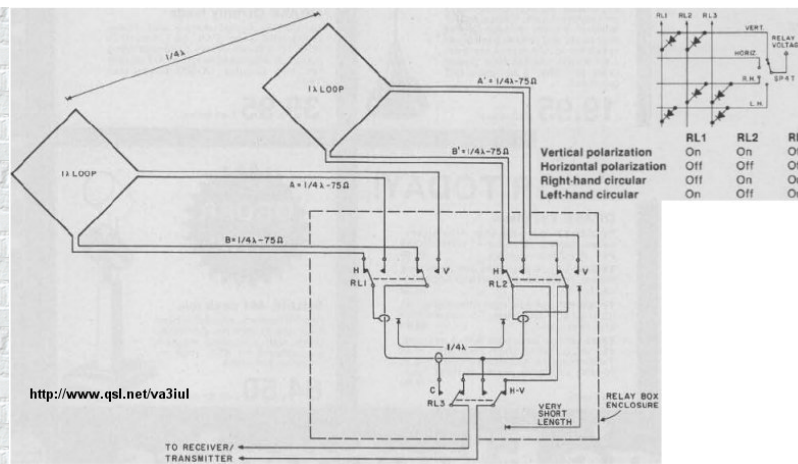


#### 107 - J-Style Antenna

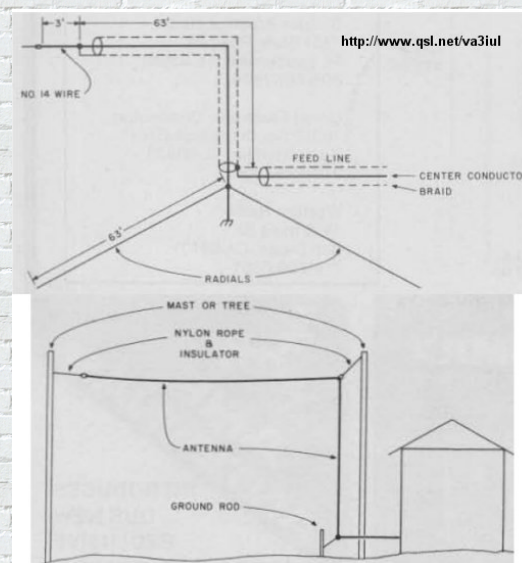


#### 108 - Vertical / Horizontal / Circular Polarization Antenna

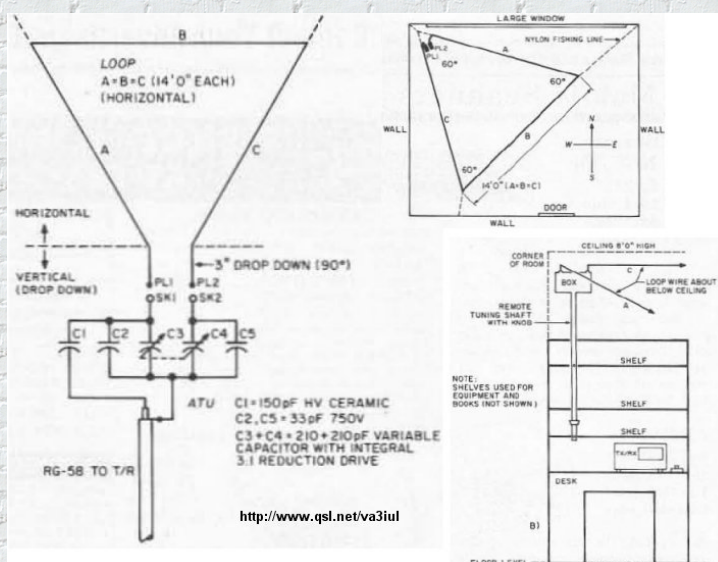




109 - Coax Inverted-L Antenna for 80m



110 - Indoor Compact Loop Antenna for 80m

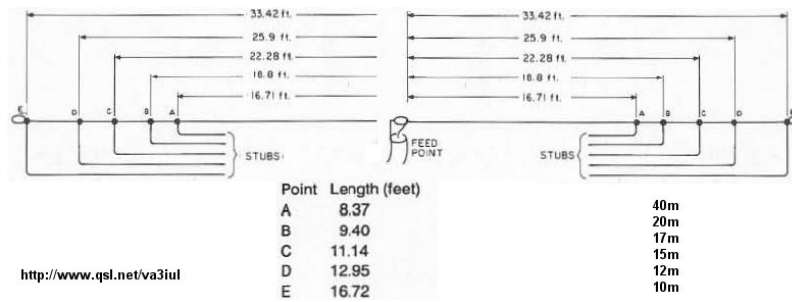


111 - Helix Antenna

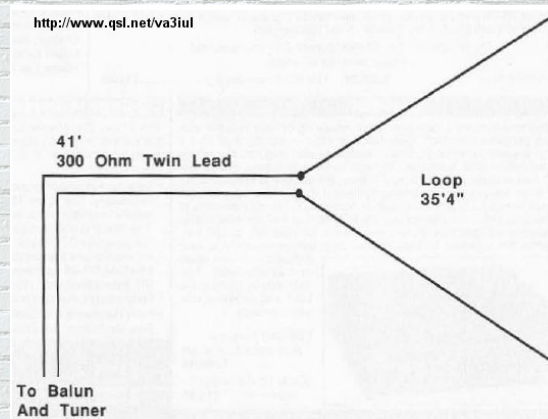




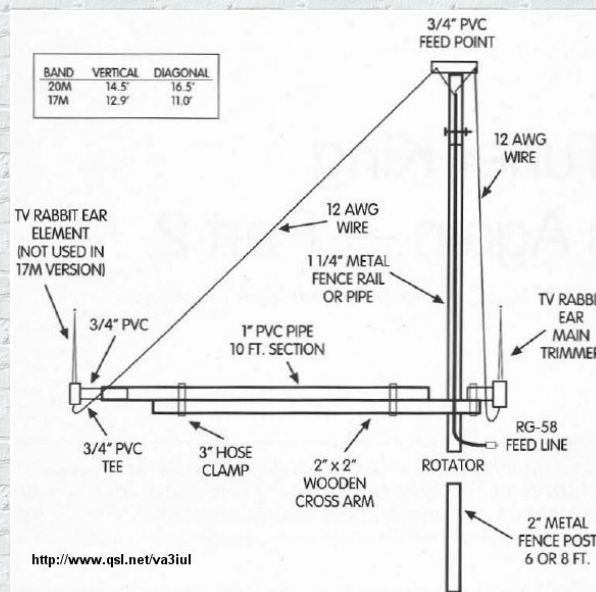




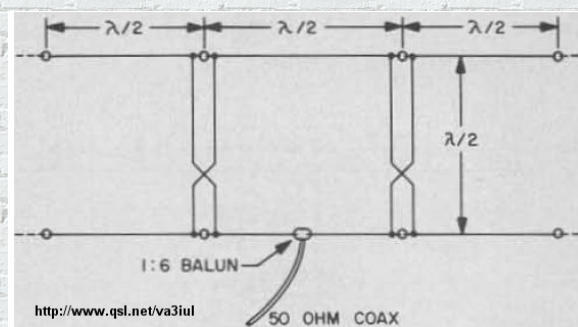
115 - Multiband Half-Wave Delta-Loop Antenna



116 - Hybrid Vee for 20m, 17m



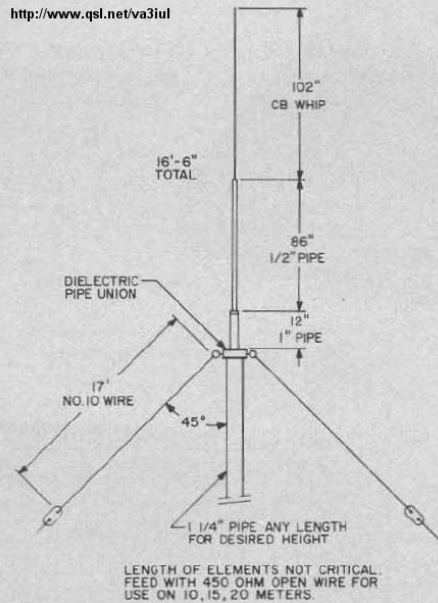
117 - Six-Shooter Array Antenna, Gain=7.5dB



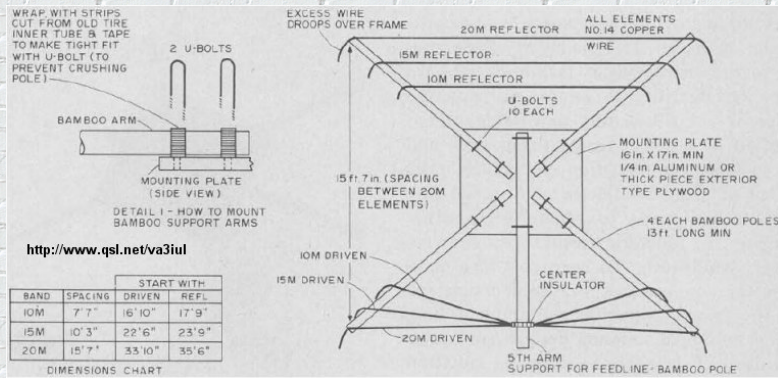
118 - Multiband Ground-Plane Antenna for 10m, 15m, 20m



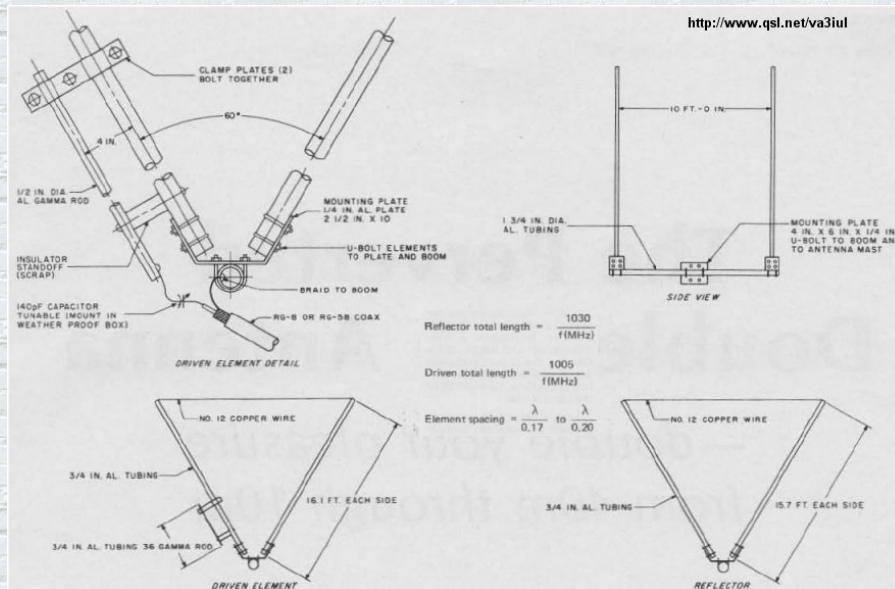
<http://www.qsl.net/va3iul>



### 119 - Wire Superbeam Antenna for 10m, 15m, 20m

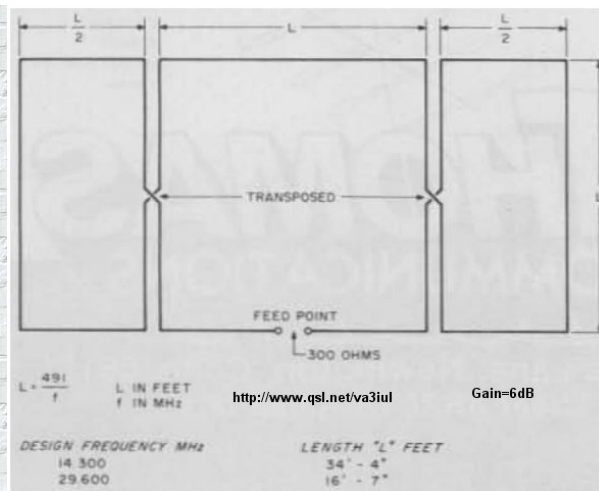


### 120 - Two Elements Delta-Loop Antenna

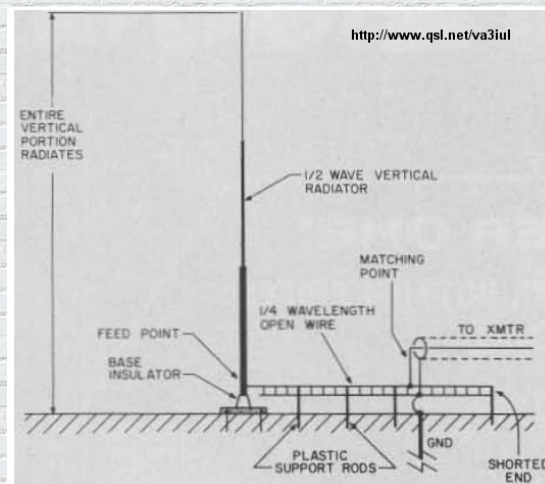


### 121 - Sterba Curtain Antenna

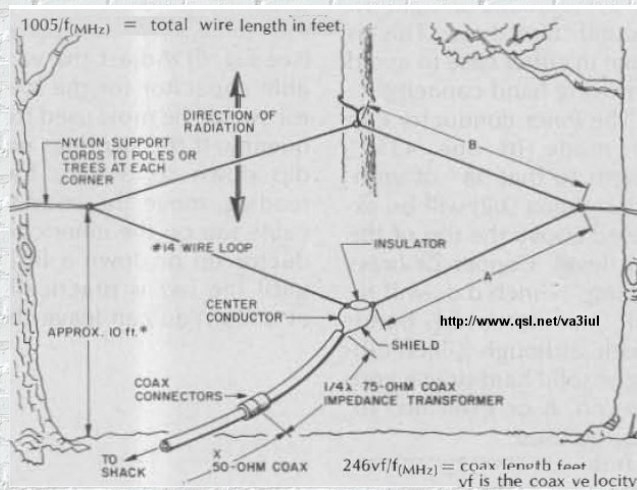




122 - Half-Wave Vertical Zepp Antenna

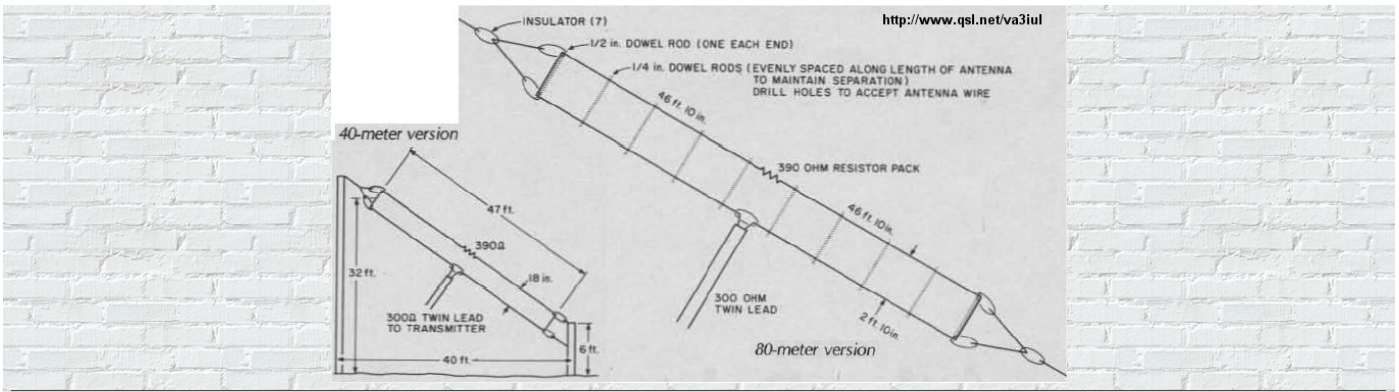


123 - Lazy-Loop Antenna for 40m

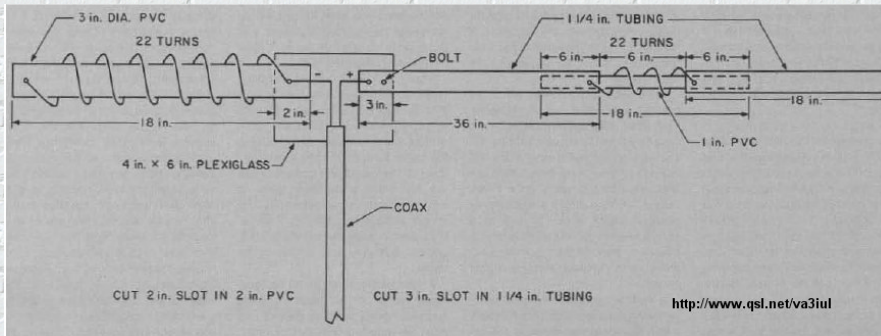


124 - Terminated Folded Dipole for 80m, 40m

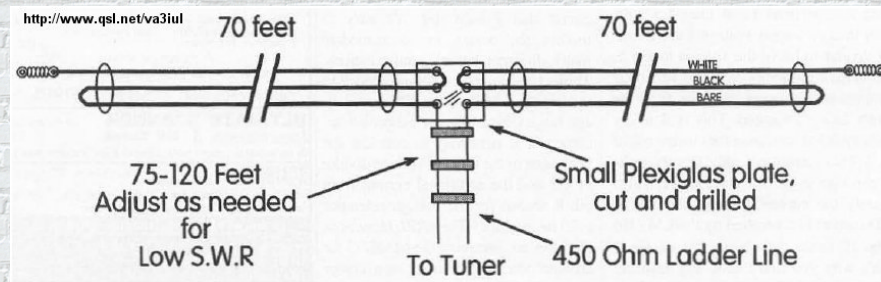




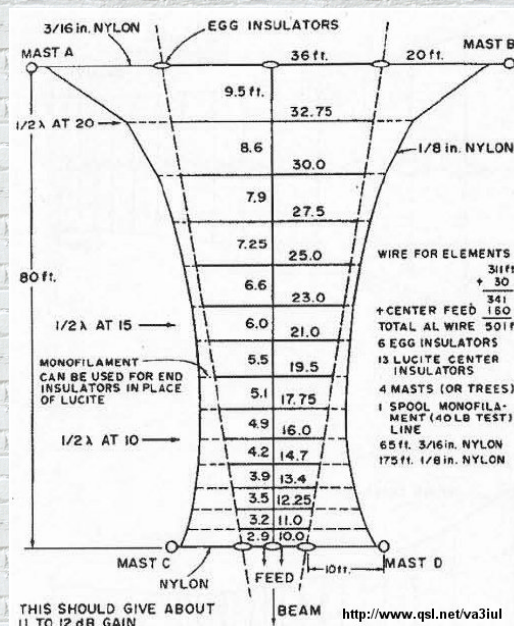
125 - Short-Fat Antenna for 15m



126 - Cobra Antenna for 80m

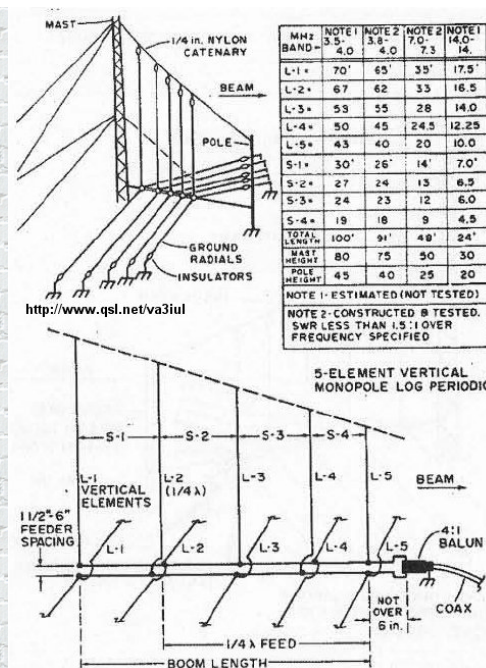


127 - Log-Periodic Wire Antenna for 20m, 15m, 10m



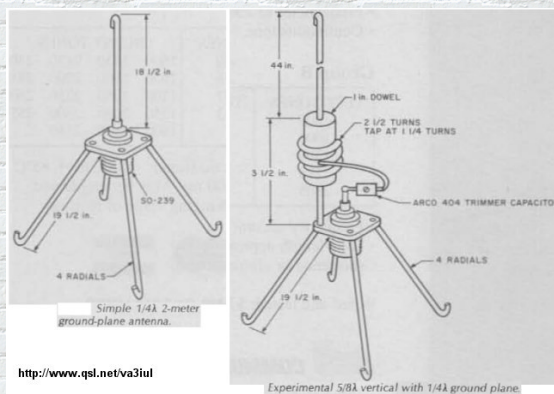
128 - 5-Element Log-Periodic Vertical Antenna for 80m, 40m, 20m





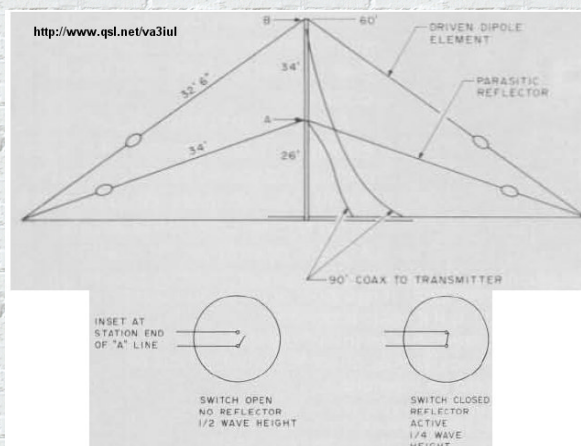
<http://www.qsl.net/va3iul>

### 129 - 2m Vertical Wire Antennas



<http://www.qsl.net/va3iul>

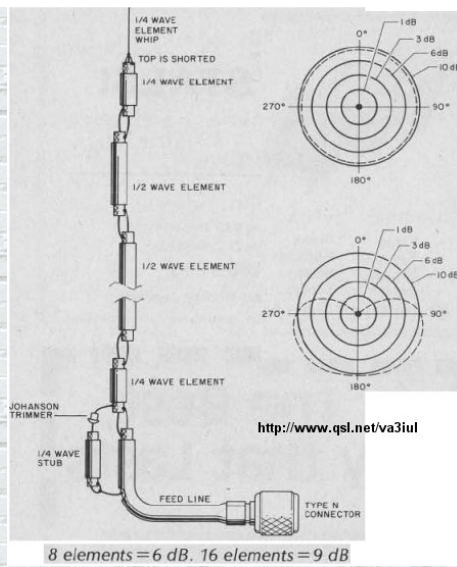
### 130 - Earth-Mover Inverted-V Antenna for 40m



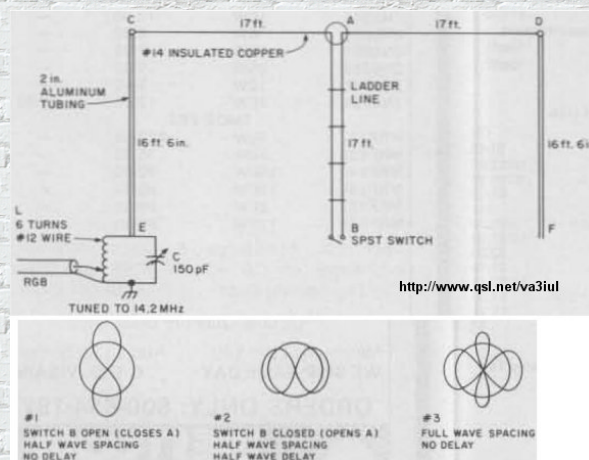
<http://www.qsl.net/va3iul>

### 131 - Coax-Cable Collinear Antennas

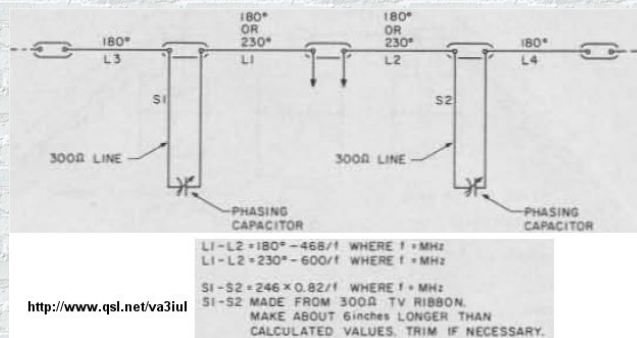




### 132 - Double Bobtail Antenna for 20m



### 133 - Collinear Zepp Antenna

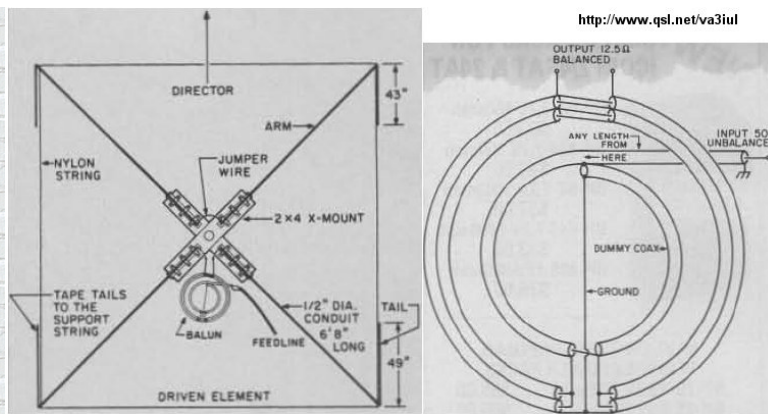


### 134 - Taylor Vee Antenna for 20m

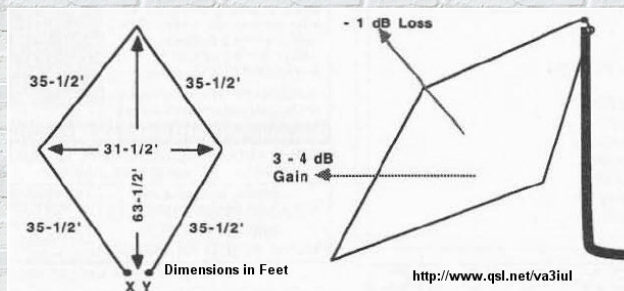




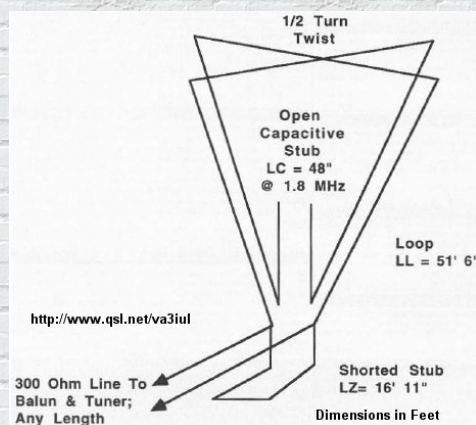




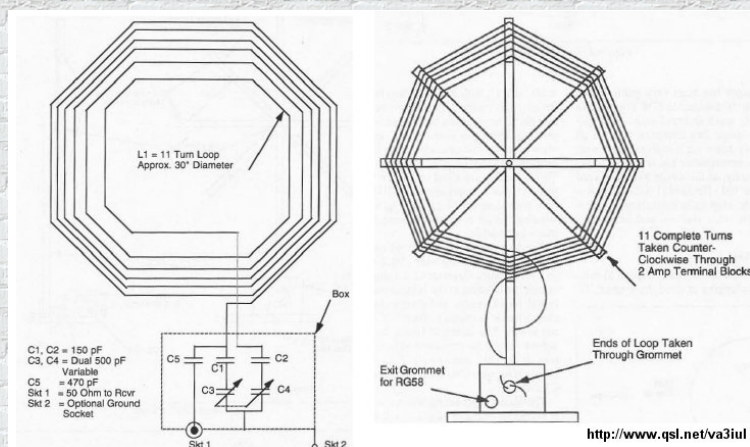
138 - Sloping Diamond Antenna 4dB-Gain for 40m



139 - Twisted Loop Antenna for 160m

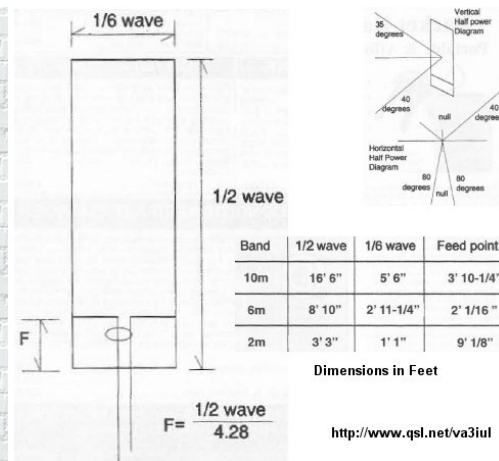


140 - DX RX Loop Antenna for 160m

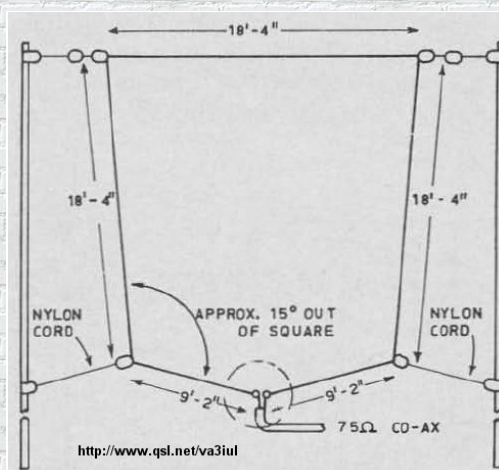


141 - Hentenna 3dB-Gain for 10m, 6m, 2m

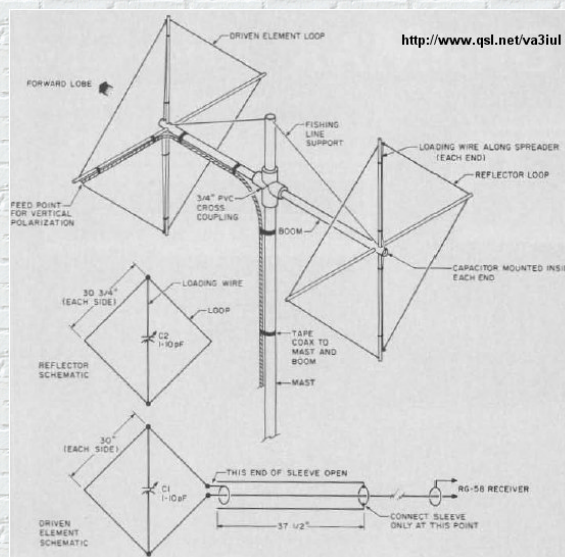




142 - VK2AAR Wire Antenna for 20m

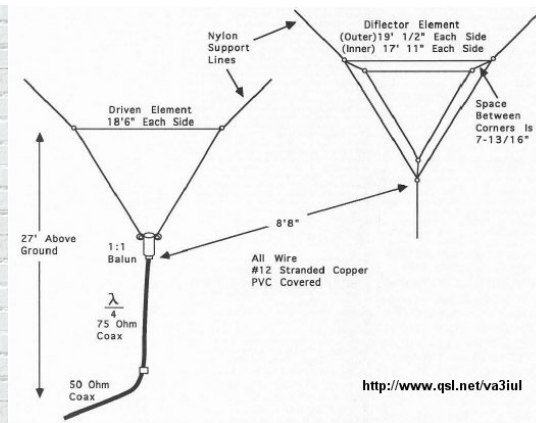


143 - 2-Elements Quad Antenna for 6m

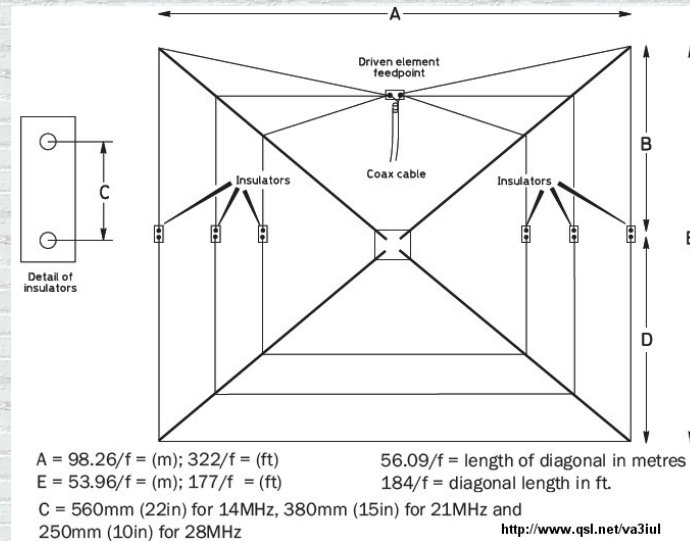


144 - Hula-Loop Bidirectional 6dB-Gain Antenna for 17m

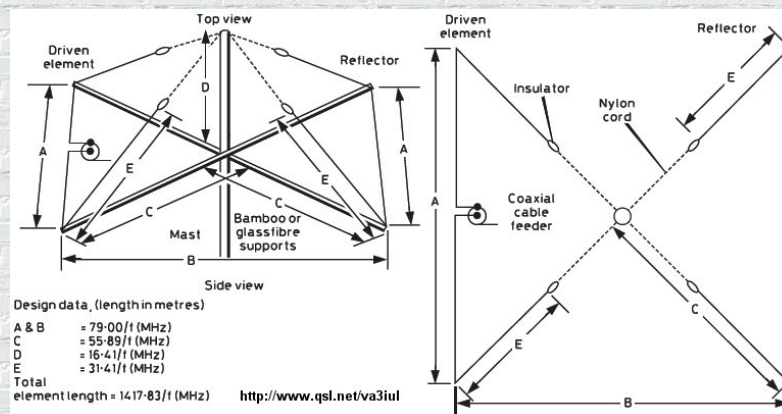




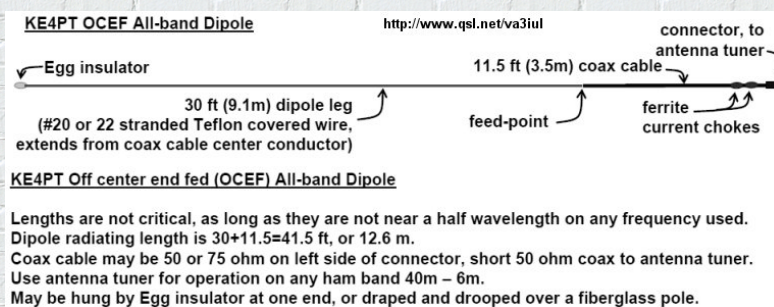
145 - Moxon Rectangle Beam for 15m-10m



146 - Double-D Beam 4dB-Gain



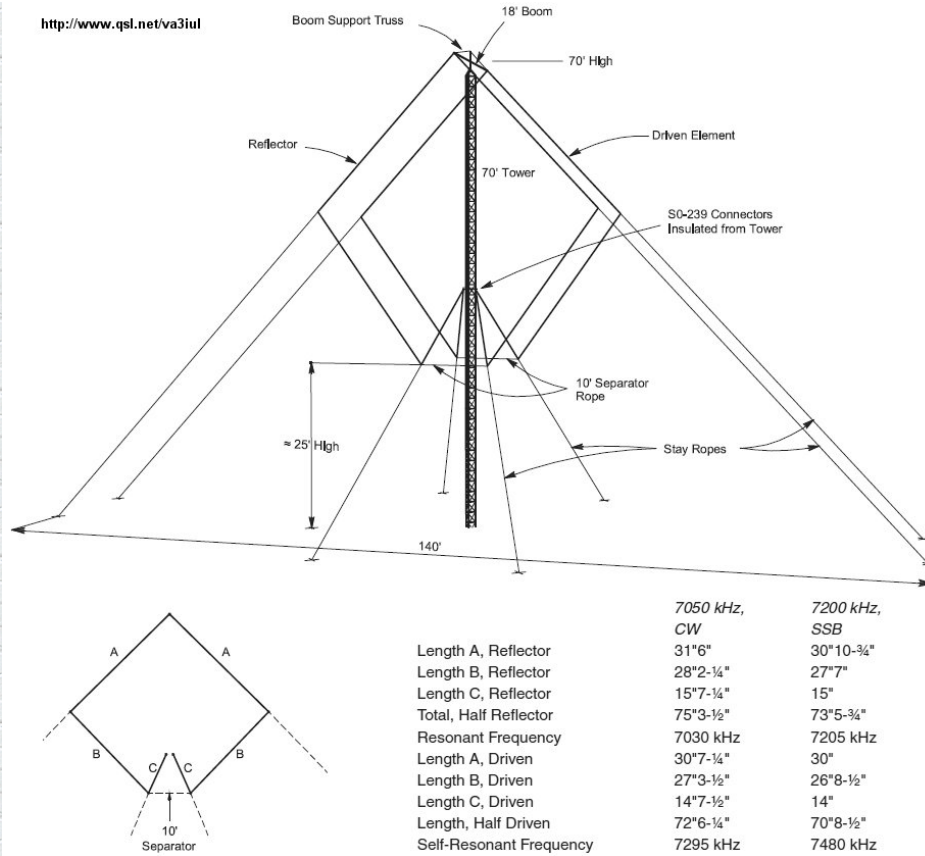
147 - KE4PT OCEF All-Band Dipole



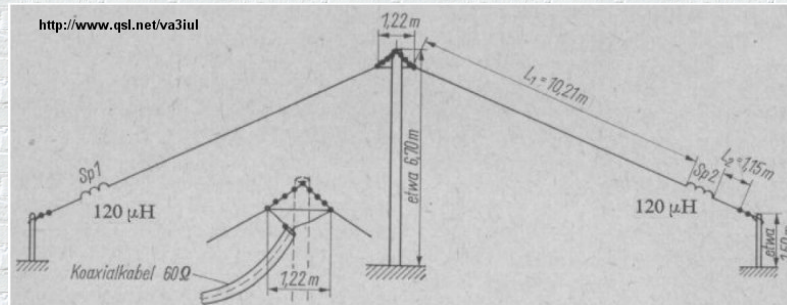
148 - Wire Quad Antenna for 40m



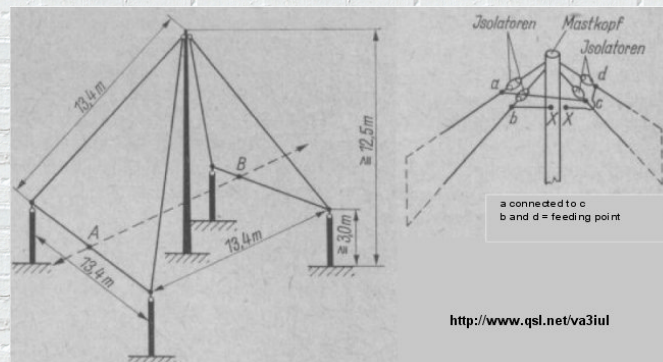
<http://www.qsl.net/va3iul>



#### 149 - Inclined Dipole Antenna for 80m, 40m

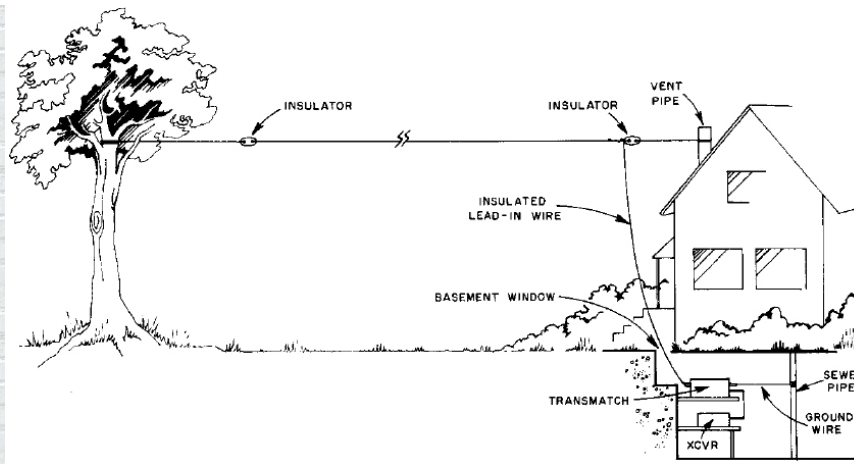


#### 150 - Pyramidal Wire Antenna for 80m

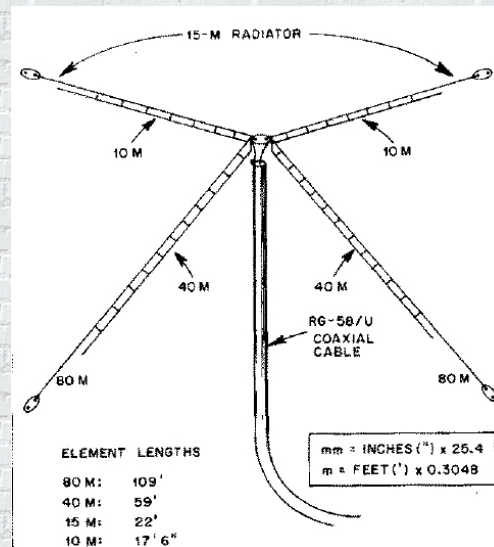


#### 151 - Random Wire Antenna All Bands

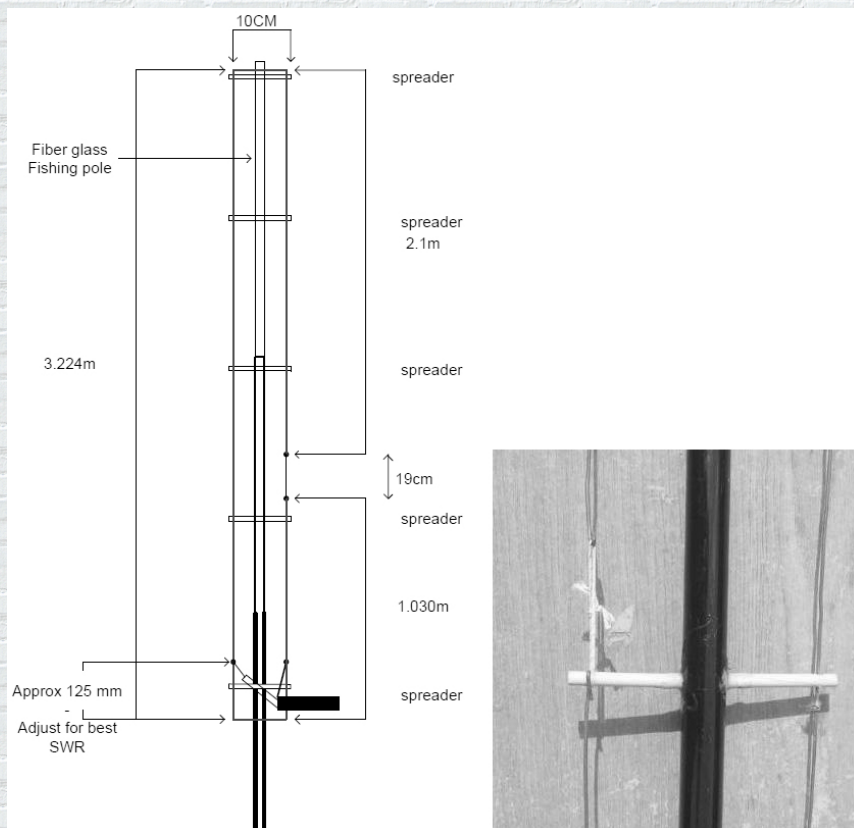




152 - Multiband Dipole Antenna for 80m, 40m, 15m, 10m

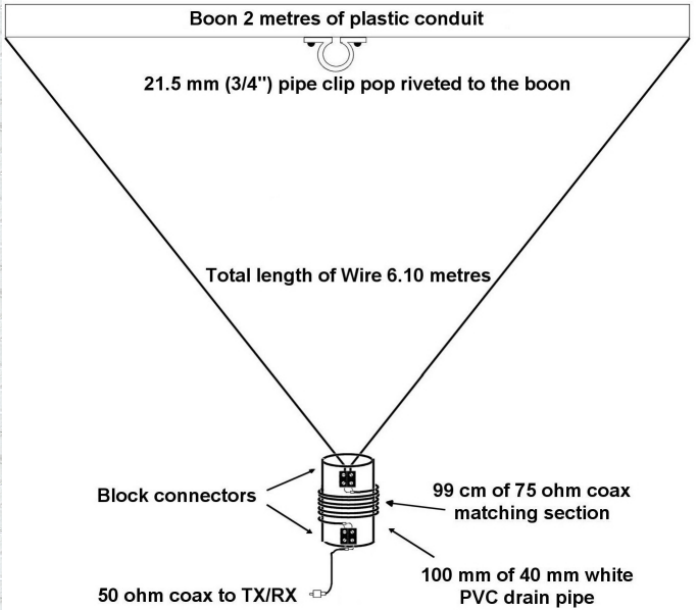


153 - Slim Jim Wire Antenna for 4m

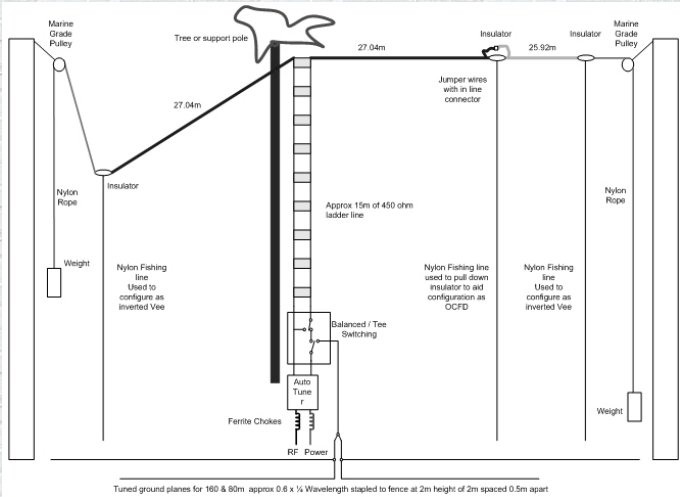




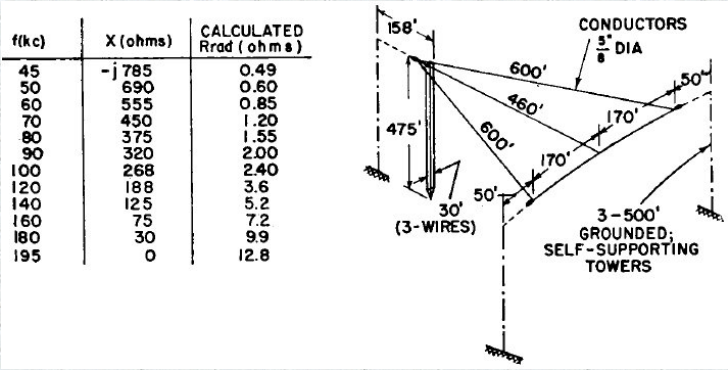
154 - Delta Loop for 6m



155 - Re-Configurable Antenna for 160m and 80m

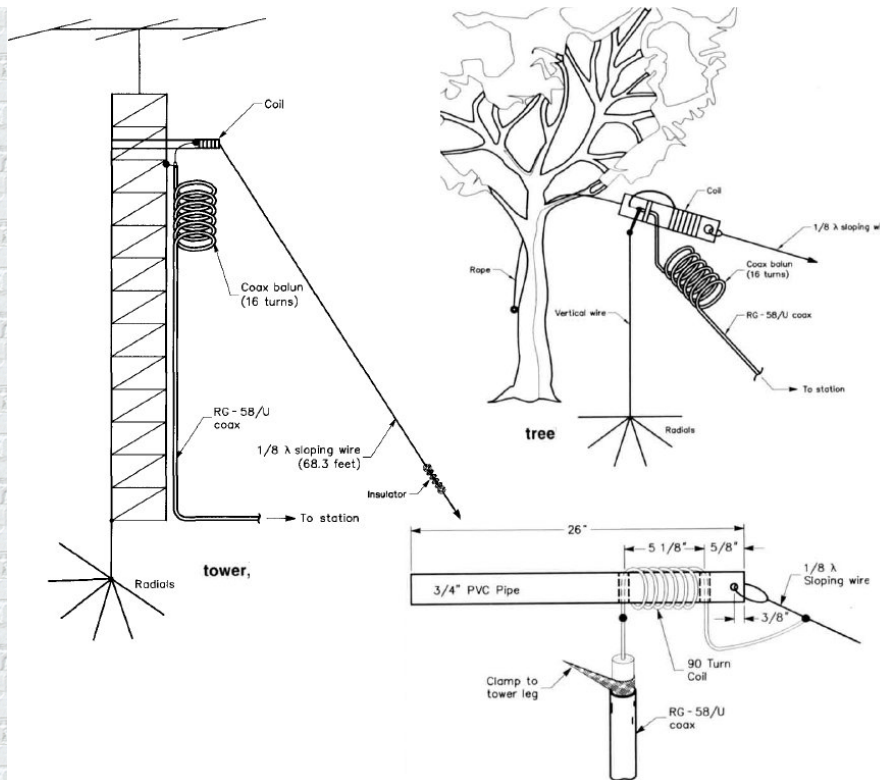


156 - Very Low Frequency Inverted-L Antenna

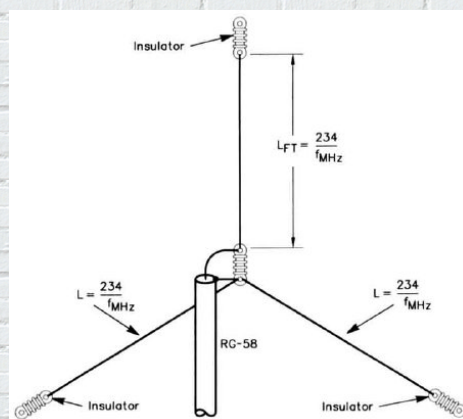


157 - Reduced Size Half Sloper Antenna for 160m



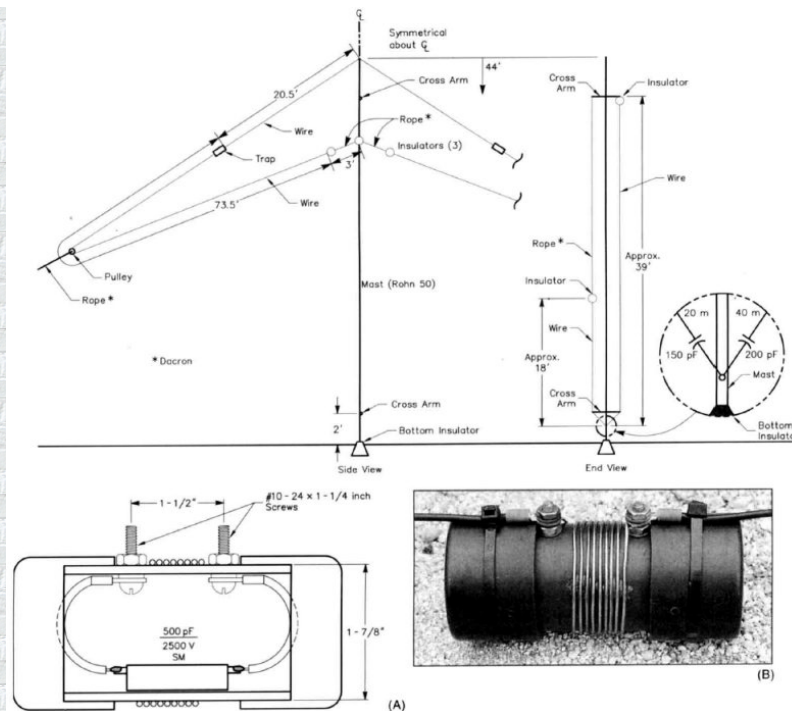


158 - Tree-Mounted HF Antenna

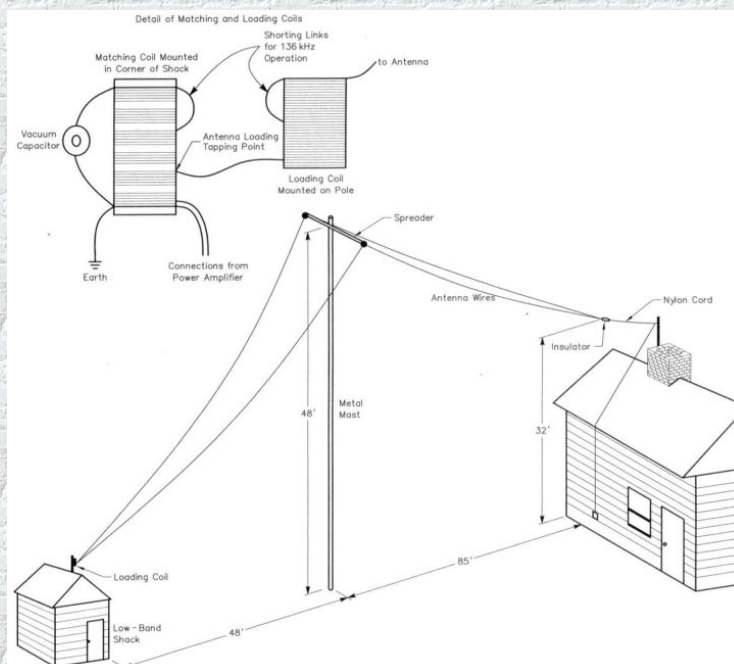


159 - Multiband Vertical Antenna for 80m, 40m, 20m



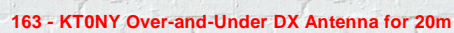


### 160 - Marconi Antenna for 136 kHz

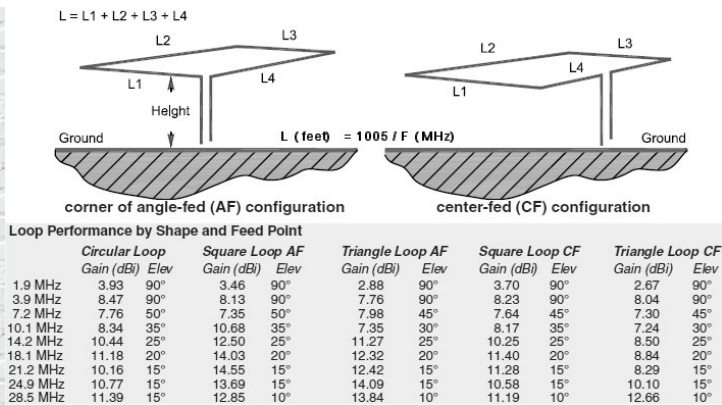


### 161 - Simple Killer Antenna for 40m

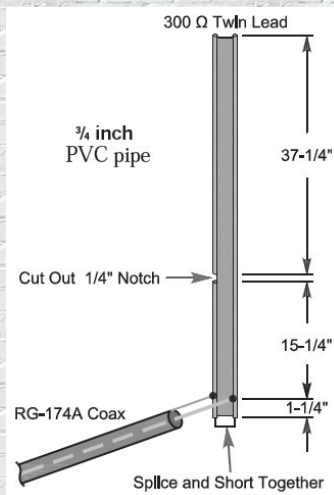




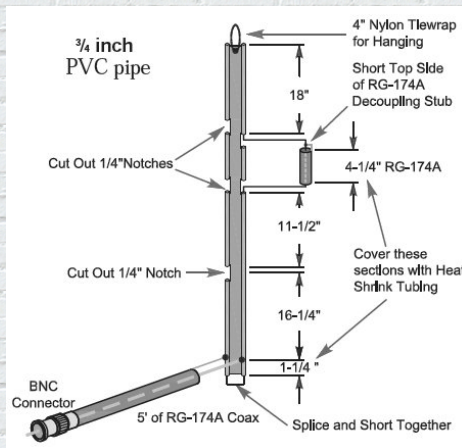




165 - Ribbon J-Pole for 2m

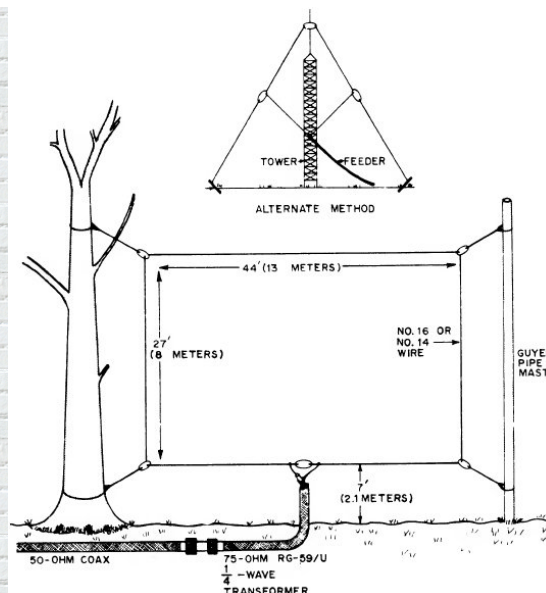


166 - Dual Band Ribbon J-Pole for 2m, 70cm

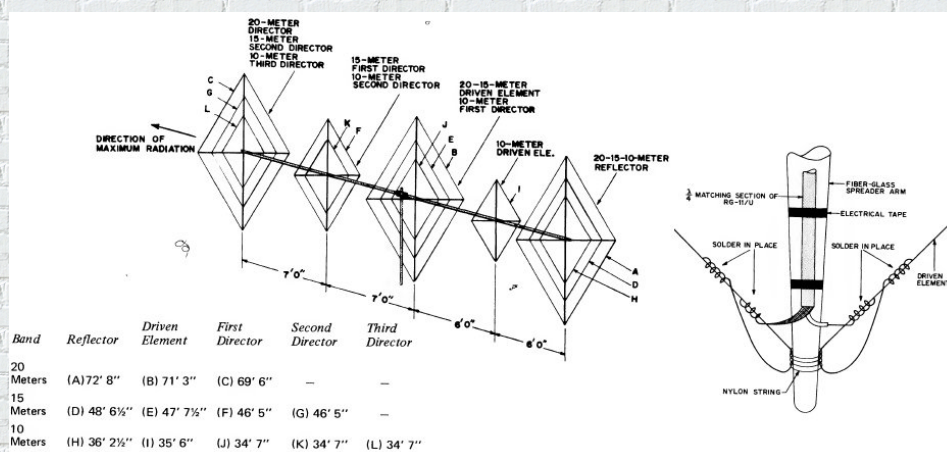


167 - Square Vertical Loop Antenna for 40m

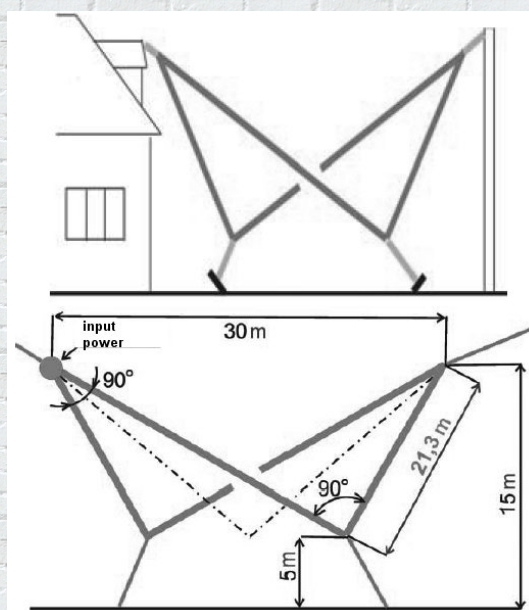




168 - Tri-Band Quad Antenna for 20m, 15m, 10m

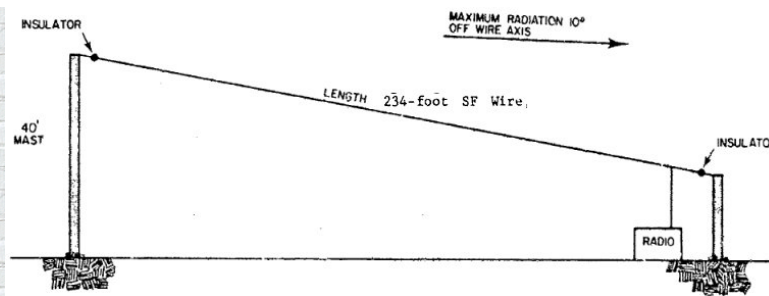


169 - 3D Quad Antenna for 80m, 40m, 20m, 15m, 10m

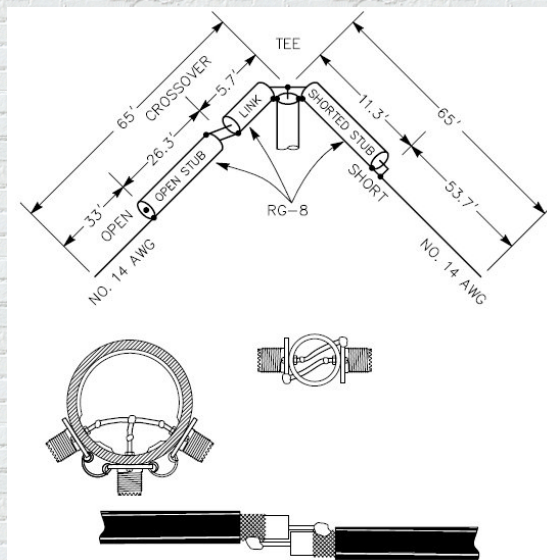


170 - Sloping Wire Antenna for 30m, 20m, 17m, 15m, 12m, 10m

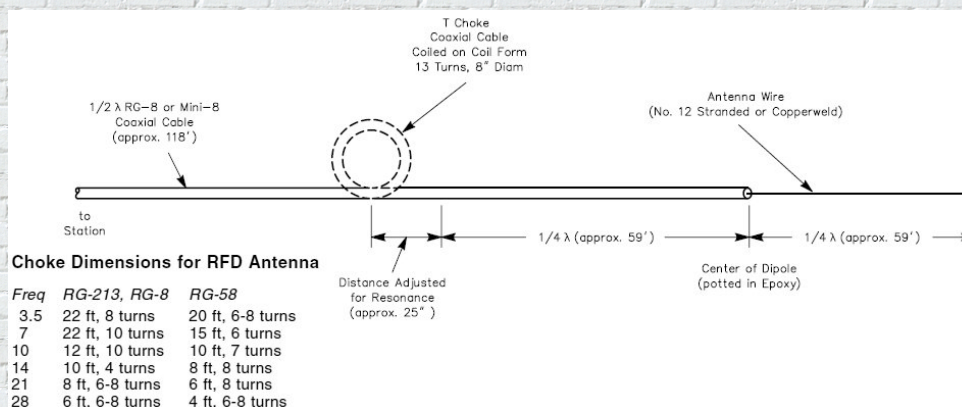




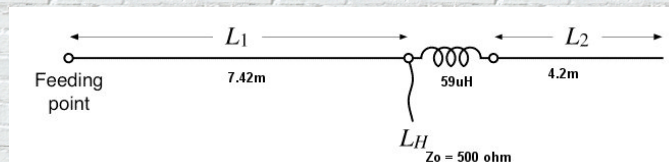
171 - Broadband Dipole Antenna with Coaxial Resonator for 80m



172 - Resonant Feedline Dipole Antenna for 80m

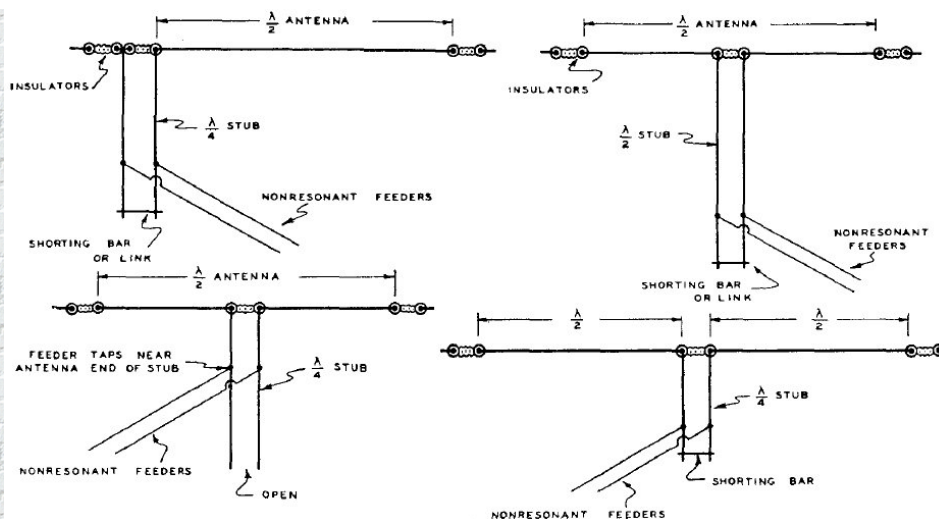


173 - Dual-Band Loading Wire Antenna for 80m, 30m

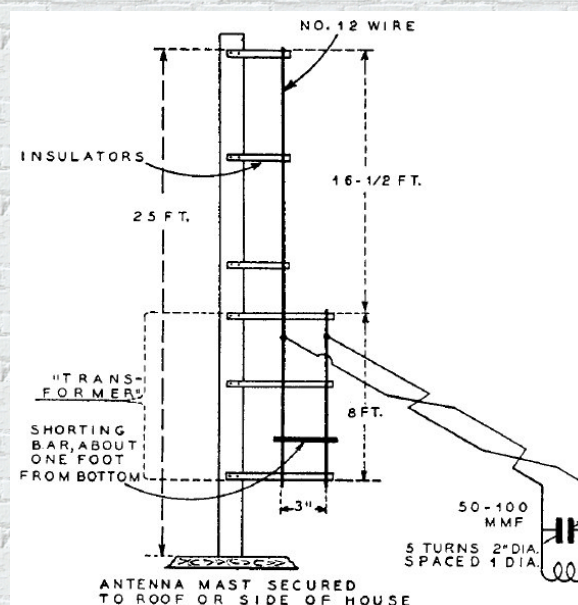


174 - Stub Matching Antennas

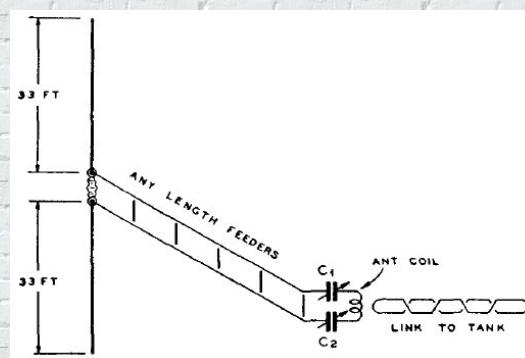




175 - J-Style Vertical Wire Antenna for 10m

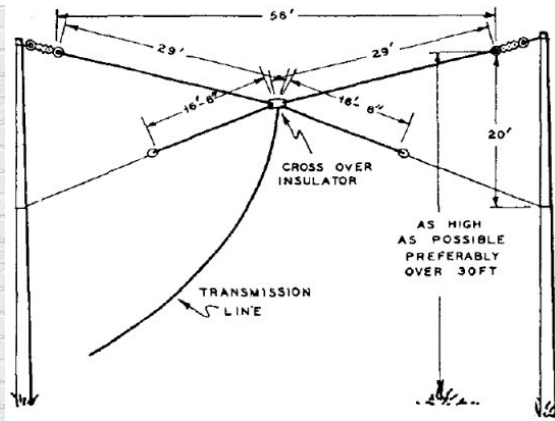


176 - Dual Band Vertical with Zepp Feeders for 40m, 20m

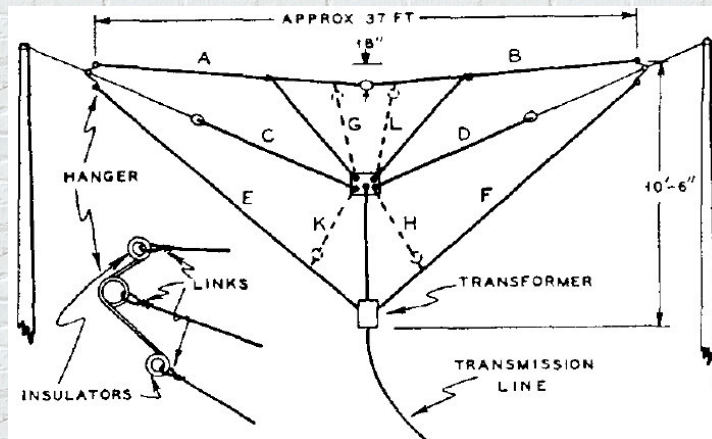


177 - RCA Double Doublet for 40m to 12m

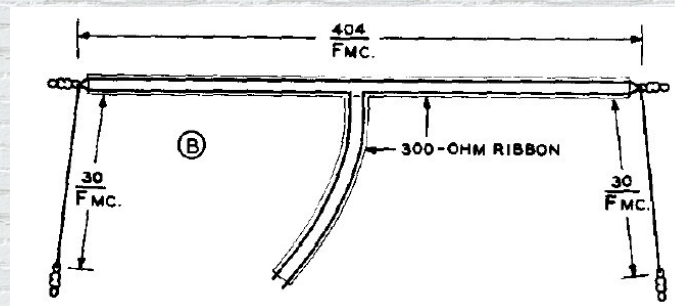




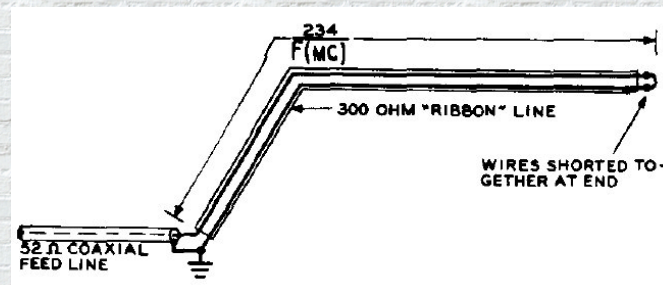
178 - RCA Spiderweb Antenna for 40m to 6m



179 - Folded Dipole with Shorted Straps

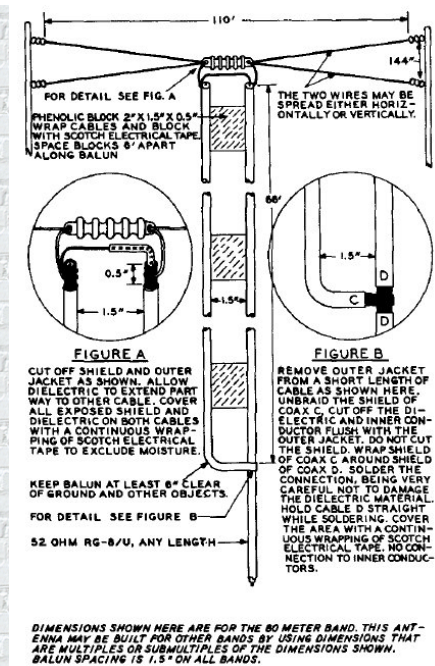


180 - Twin-Lead Marconi Antenna for 160m, 80m

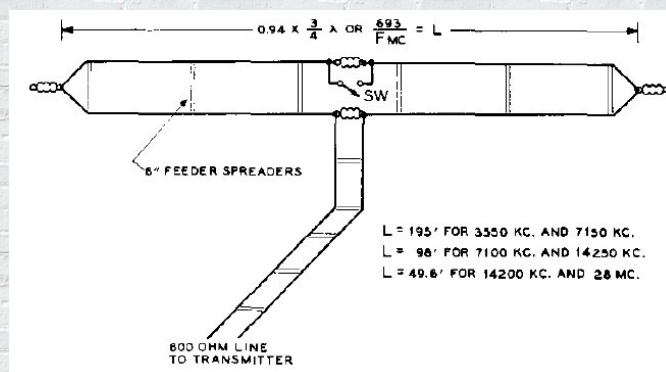


181 - Broadband Antenna Quarter-Wave Balun for 80m

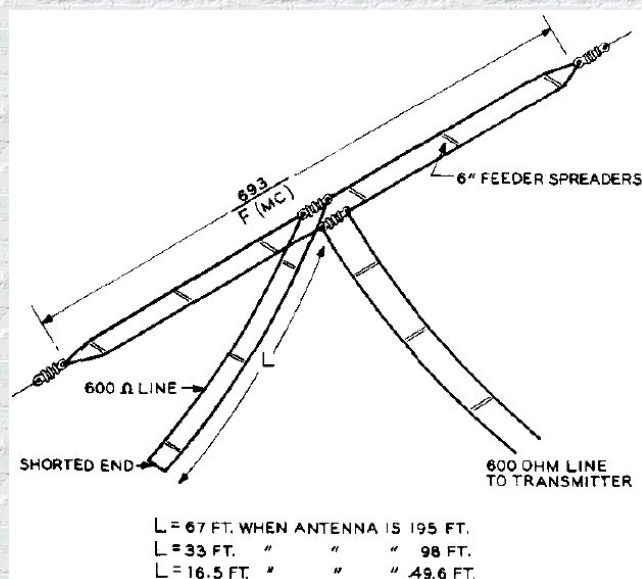




### 182 - Three-Quarter-Wave Folded Doublet for Dual-Band

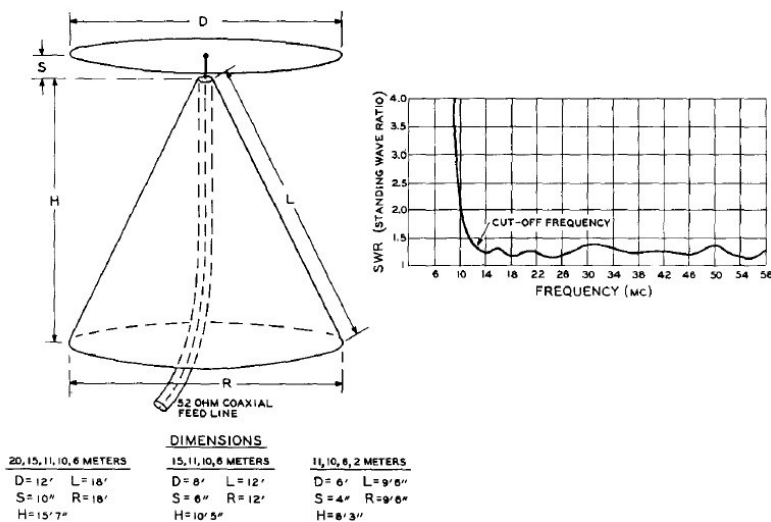


### 183 - Three-Quarter-Wave Folded Doublet No-Switch for Dual-Band

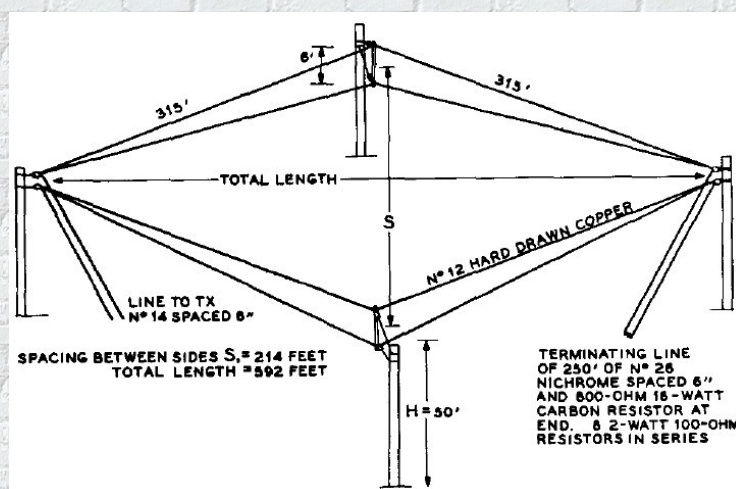


### 184 - Wideband Omni-Directional Discone Antenna

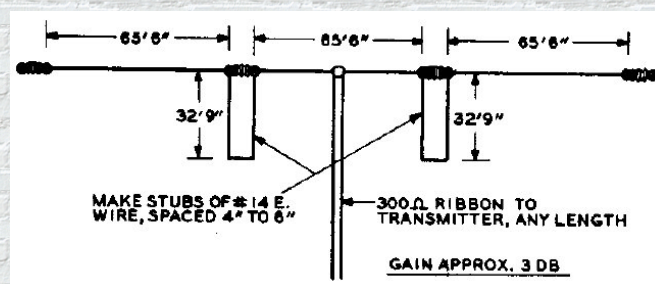




185 - Wideband Rhombic Antenna for 40m to 10m

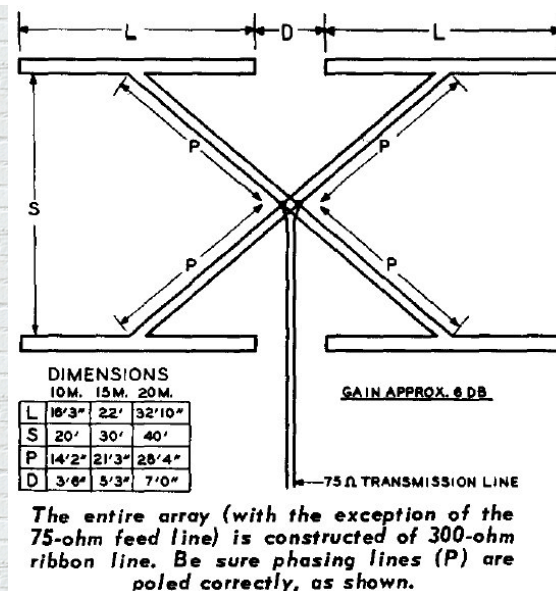


186 - Pre-Cut Linear Array Antenna 3dB-Gain for 40m

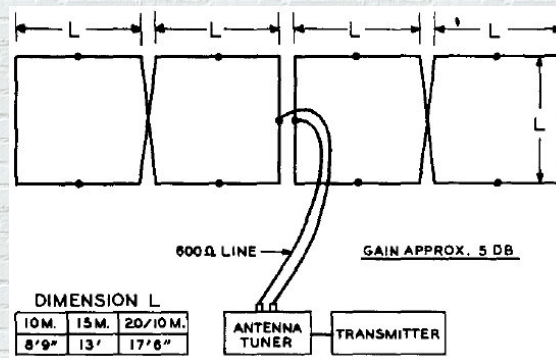


187 - X-Array Antenna 6dB-Gain for 20m, 15m, 10m

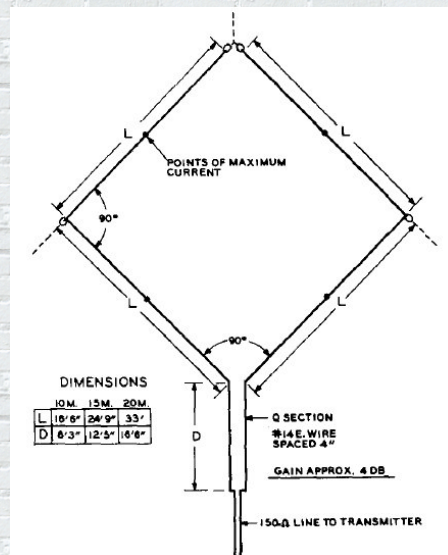




188 - Double-Bruce Array Antenna 5dB-Gain for 20m, 10m

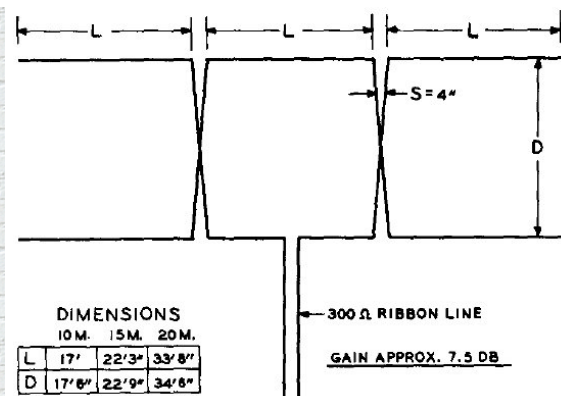


189 - Bi-Square Broadside Array 4dB-Gain for 20m, 15m, 10m

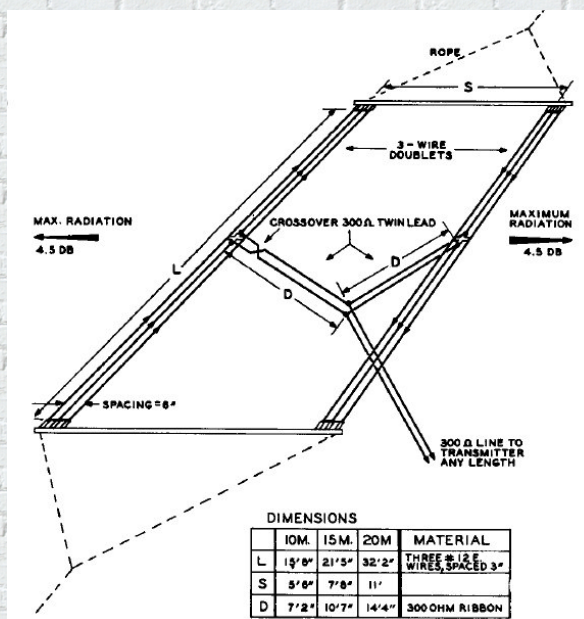


190 - Six-Shooter Broadside Array 7.5dB-Gain for 20m, 15m, 10m

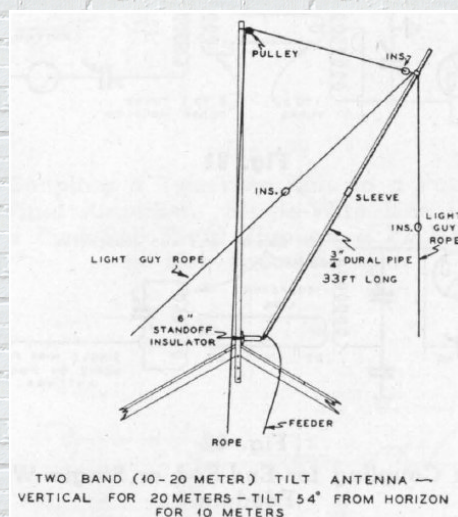




191 - Triplex Flat-Top Beam 4.5dB-Gain for 20m, 15m, 10m

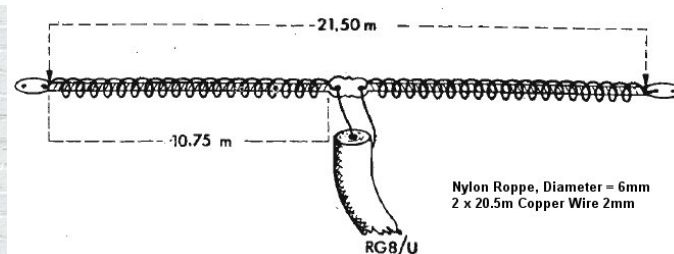


192 - Dual-Band Tilt Antenna for 20m, 10m

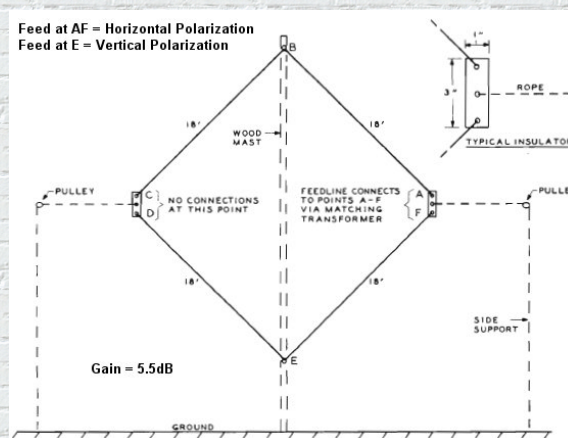


193 - Super Space Multiband Dipole Antenna for 80m to 10m

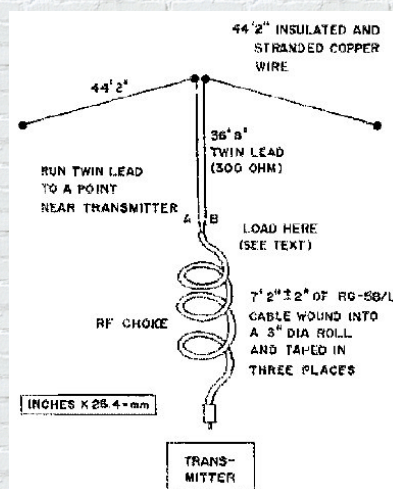




194 - Bi-Square Beam Antenna Gain=5.5dB for 10m

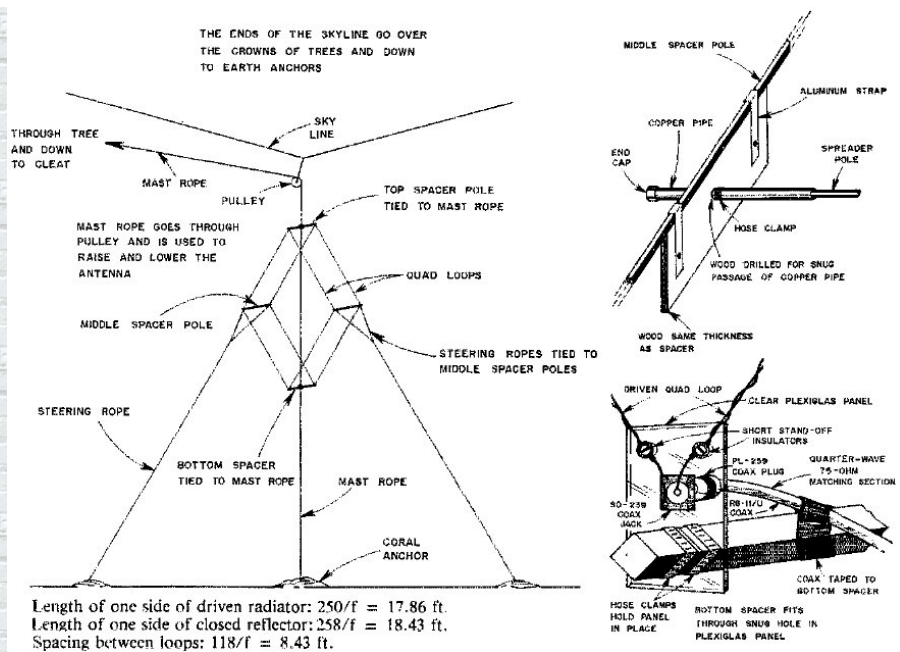


195 - Cousin of G5RV Multiband Antenna for 40m to 10m

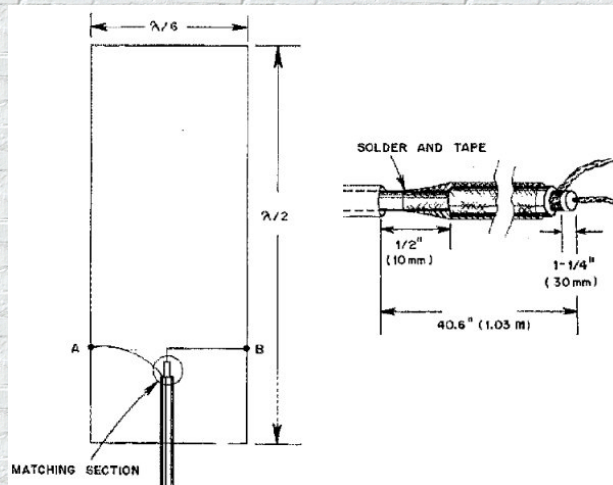


196 - Cayman Quad Antenna for 20m

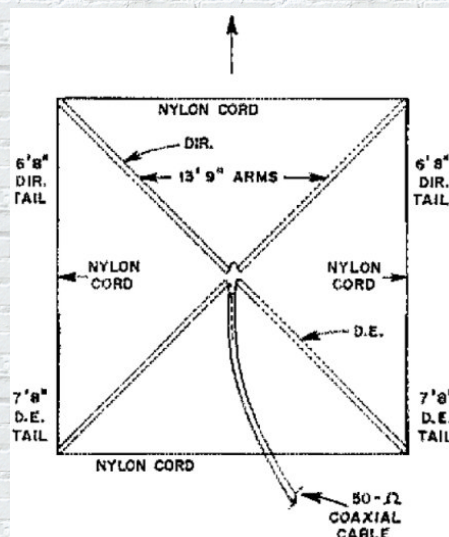




197 - Hentenna Gain=3dB with Bazooka Match for 6m

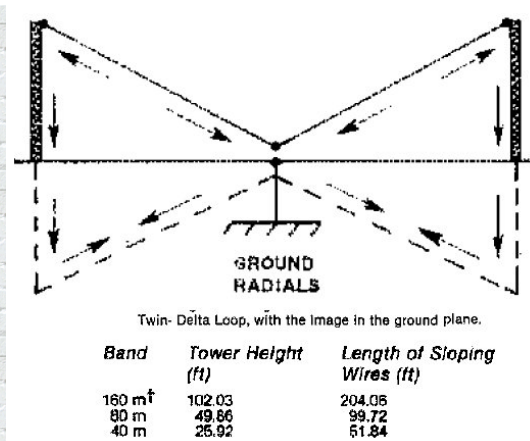


198 - X-Beam Antenna Gain=3dB for 20m

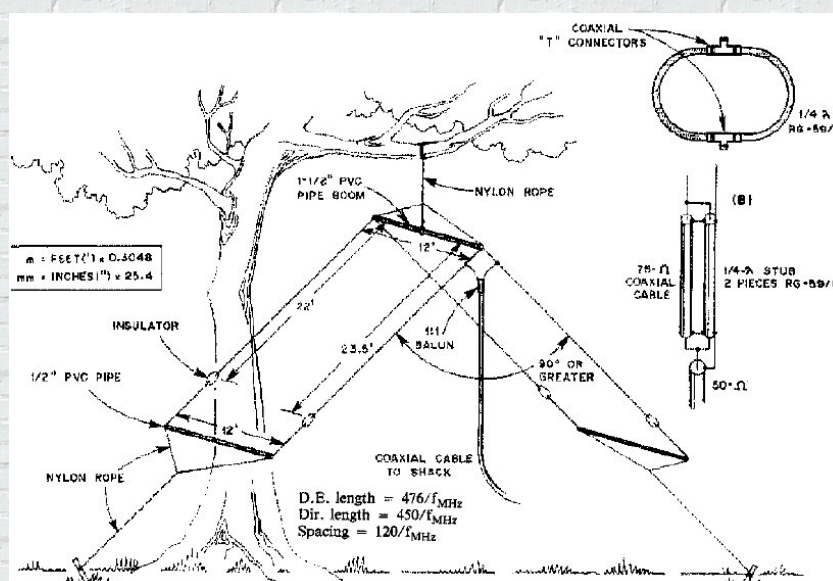


199 - Twin Delta Loop Antenna Gain=6dB for 160m, 80m, 40m

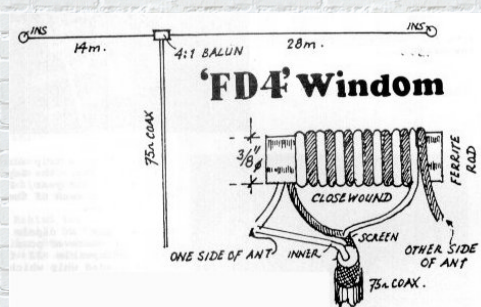




200 - Inverted-V Beam Antenna for 30m

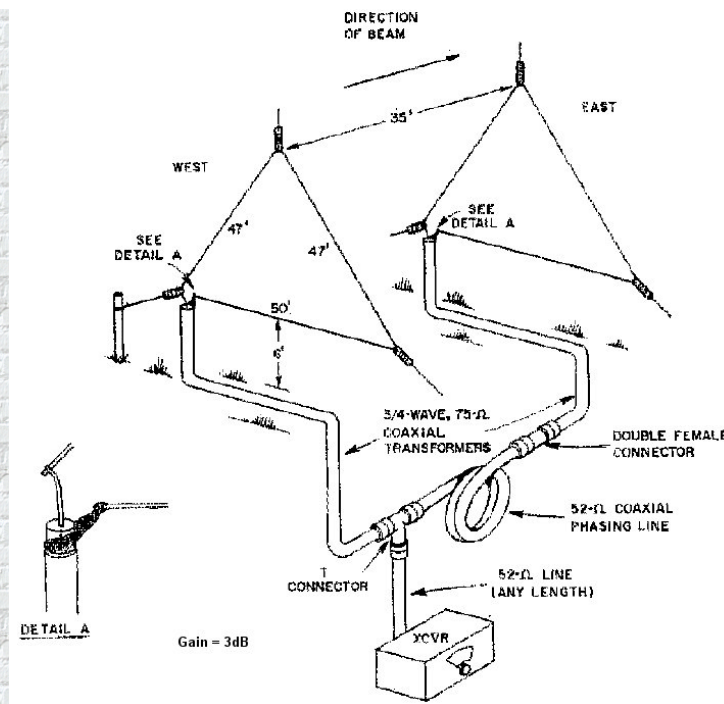


201 - FD4 Windom Antenna for 80m, 40m, 20m, 10m

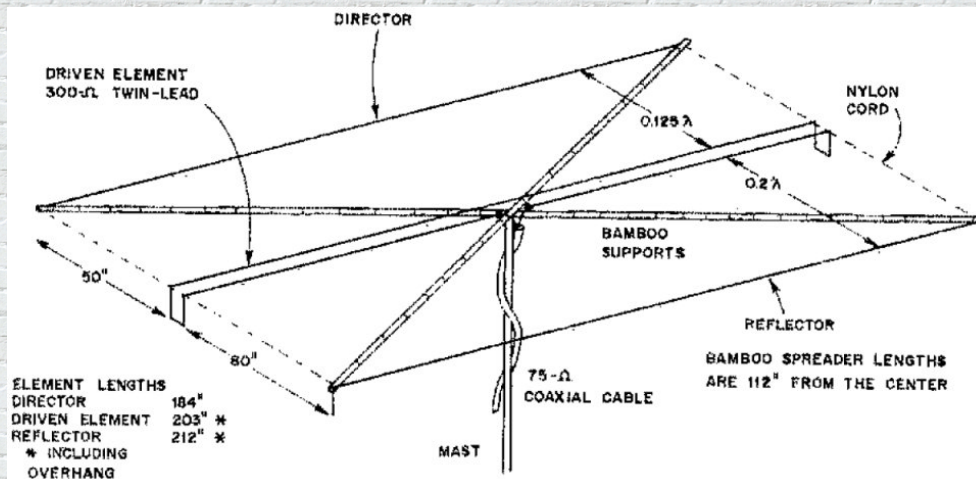


202 - Two Elements Phased Delta Loop for 40m

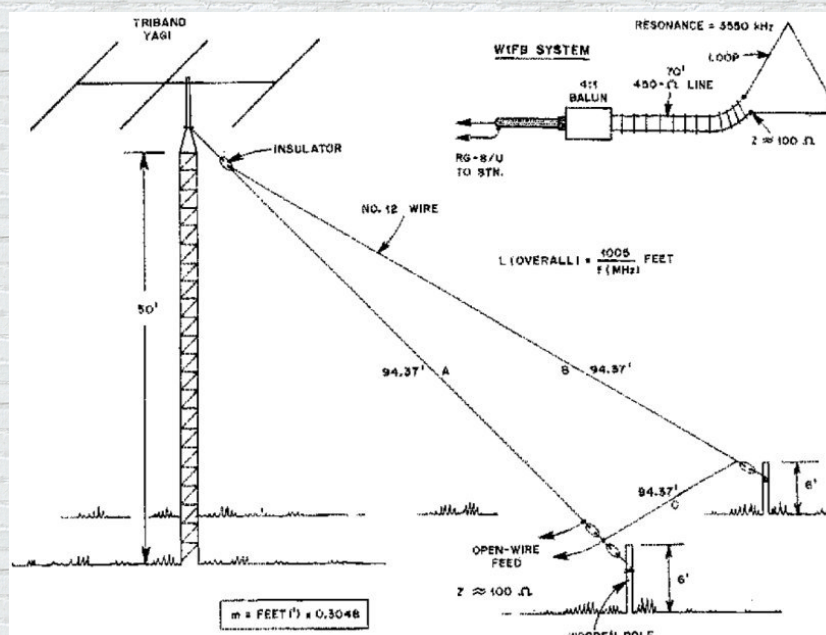




203 - Three Elements Wire Yagi for 10m

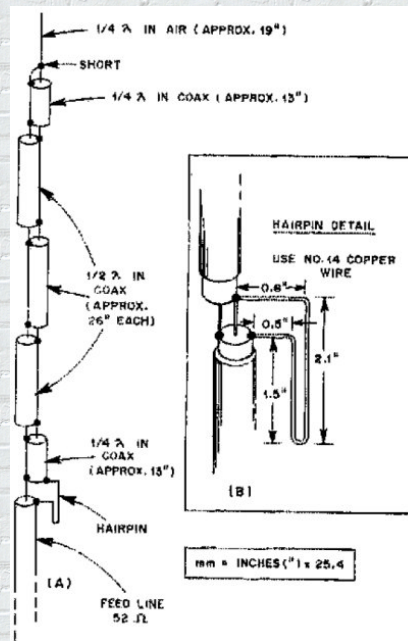


204 - Low Radiation Angle Full-Wave Loop Antenna for 80m

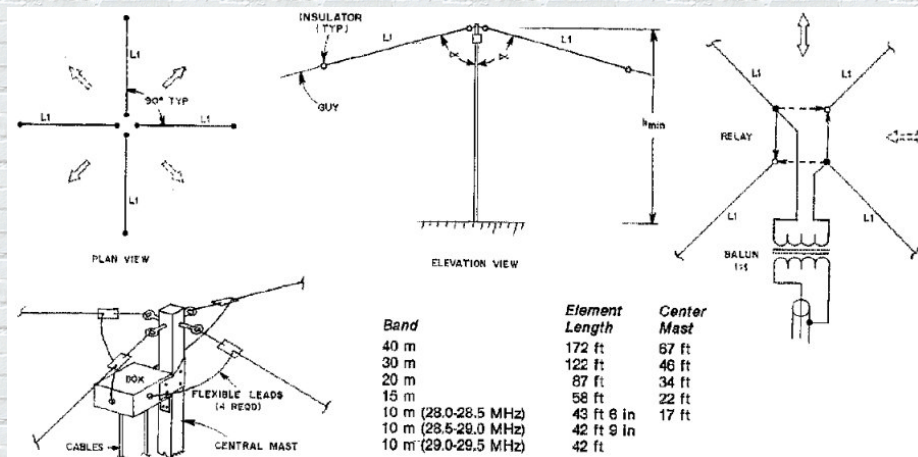




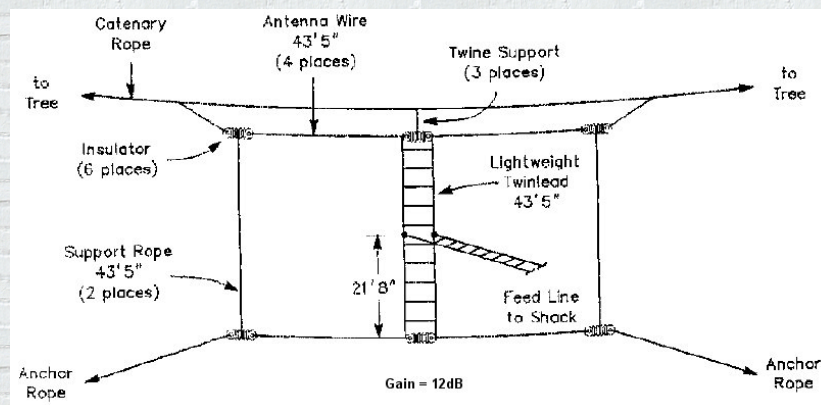
### 205 - Collinear Antenna Gain=3dB for 2m



### 206 - X-Ray Monoband Antenna Gain=6.5dBd

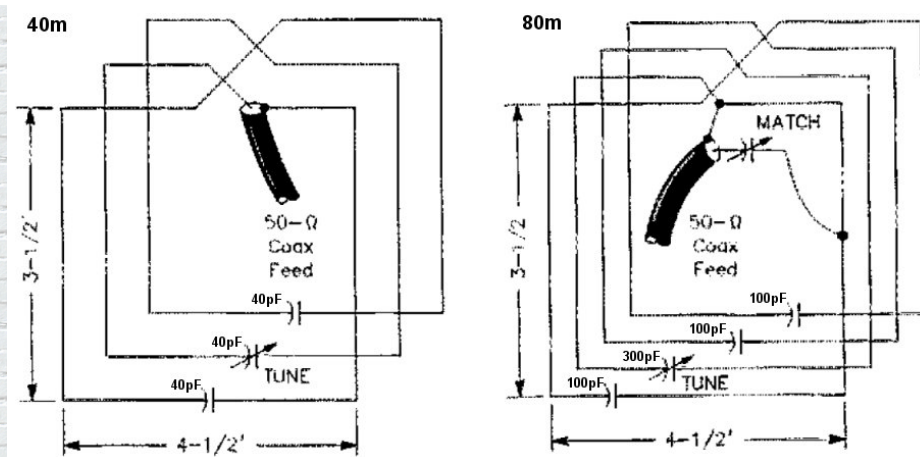


### 207 - Broadside Collinear Curtain Array for 20m

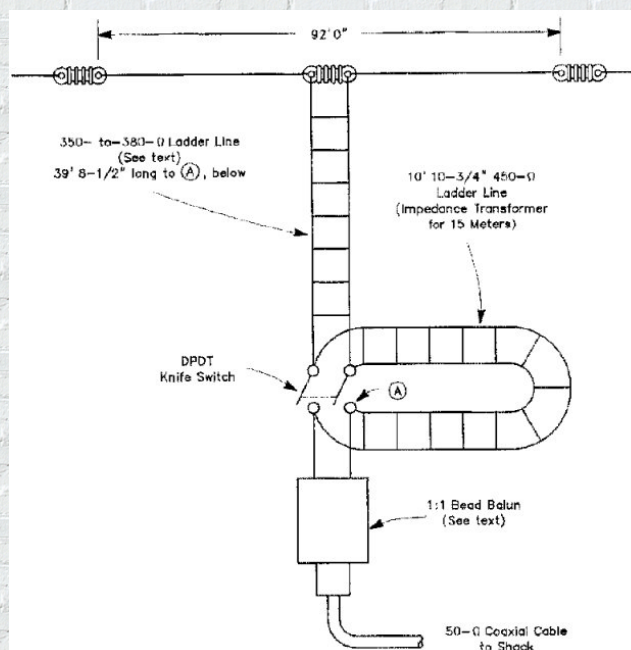


### 208 - Shrunk Loop Antenna for 80m, 40m

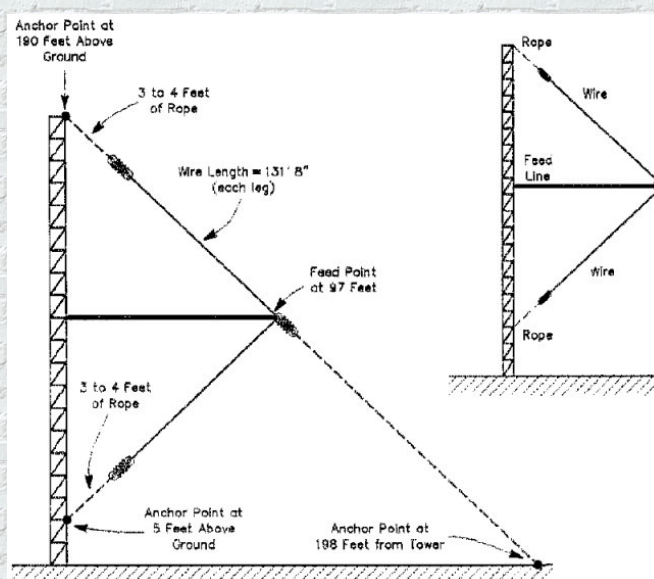




209 -  $\lambda/3$  Multiband Dipole for 40m, 20m, 17m, 15m, 13m, 10m

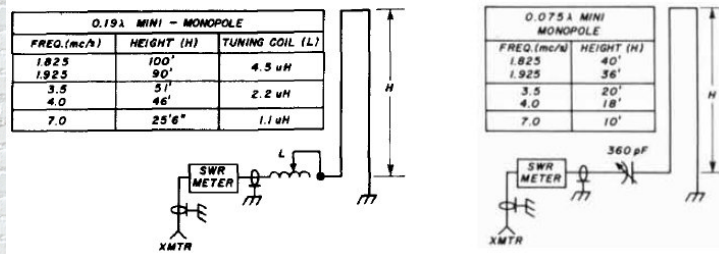


210 - K3LR Sloper Antenna Gain=3dB for 160m

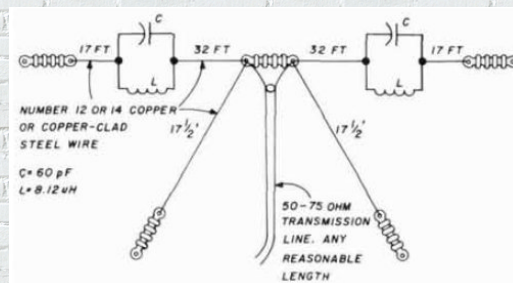


211 - Mini Folded Vertical Monopole Antenna for 160m, 80m, 40m

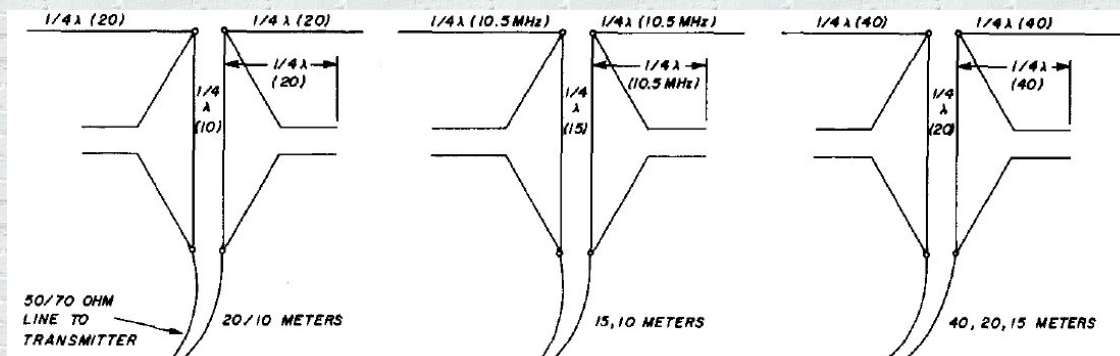




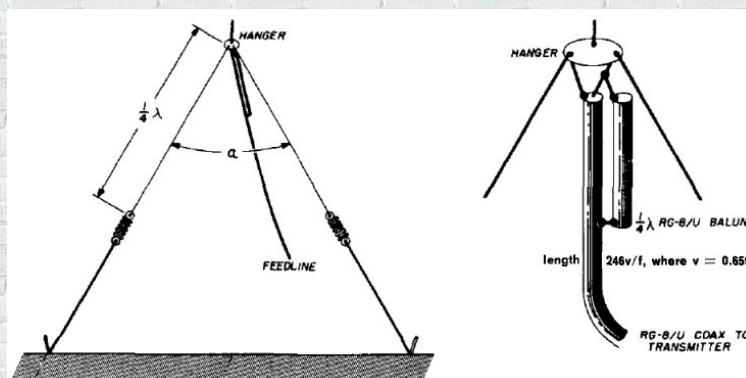
212 - Three Band Dipole for 80m, 40m, 20m



213 - Stub Matched Dipole Antenna

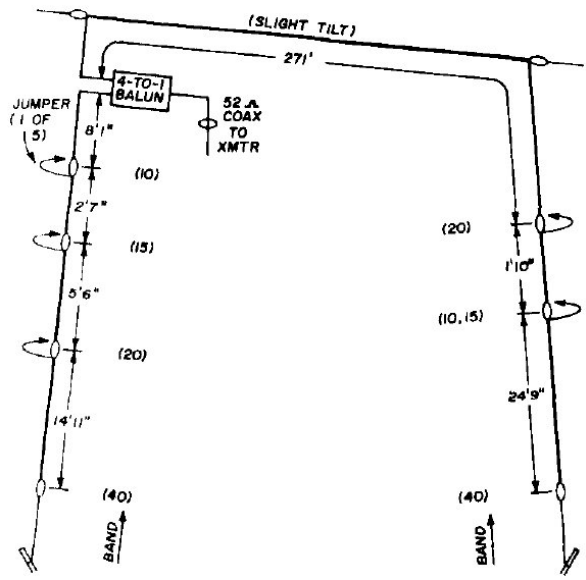


214 - Inverted-Vee Antenna with Bazooka Match

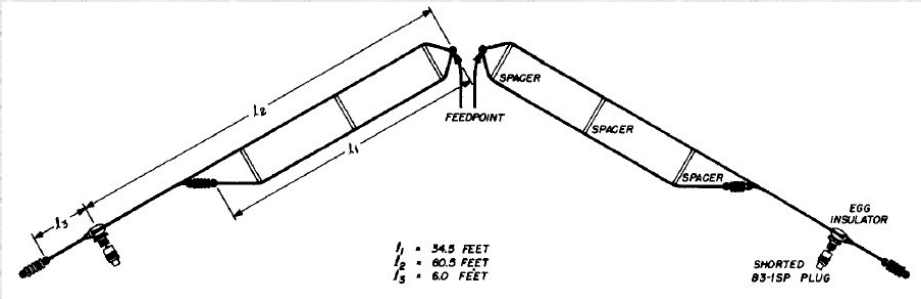


215 - Multiband Long Wire Antenna for 40m, 20m, 15m, 10m

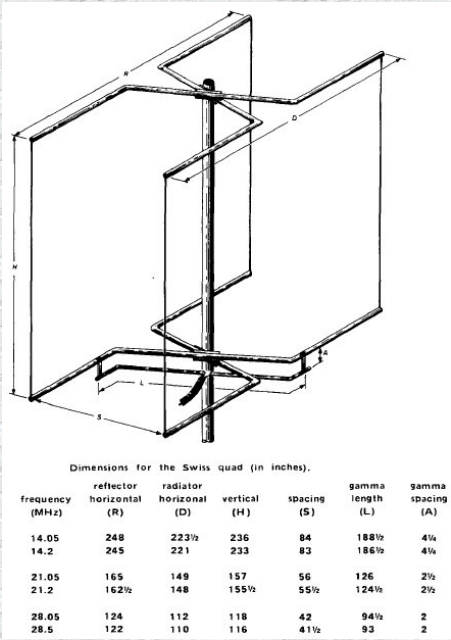




216 - Converted Vee Antenna for 80m, 40m

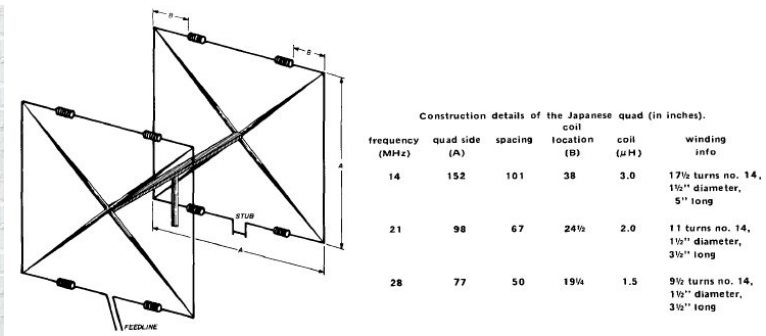


217 - Swiss Quad Antenna for 20m, 15m, 10m

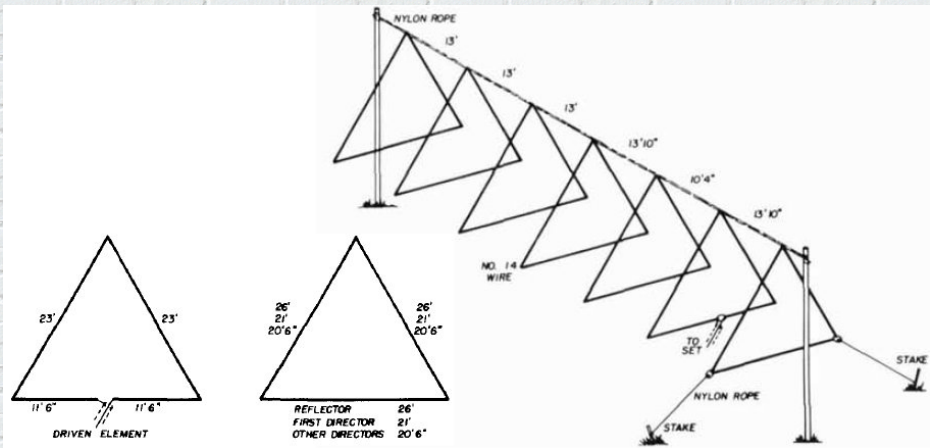


218 - Japanese Quad Antenna for 20m, 15m, 10m

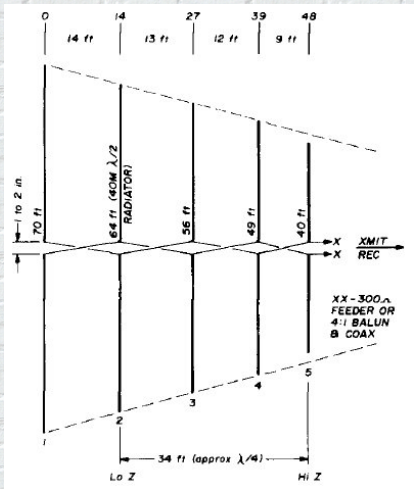




219 - Seven-Elements Triangle Beam Antenna for 20m

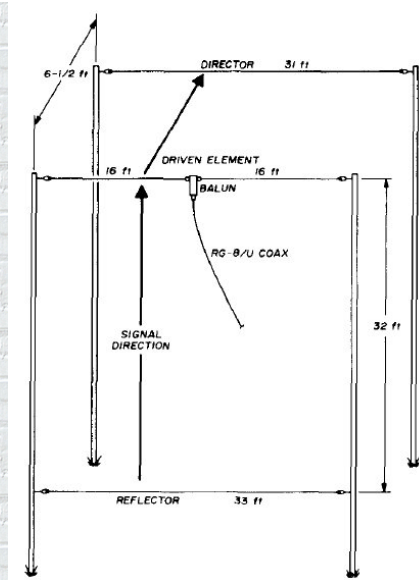


220 - Log Periodic Wire Antenna for 40m

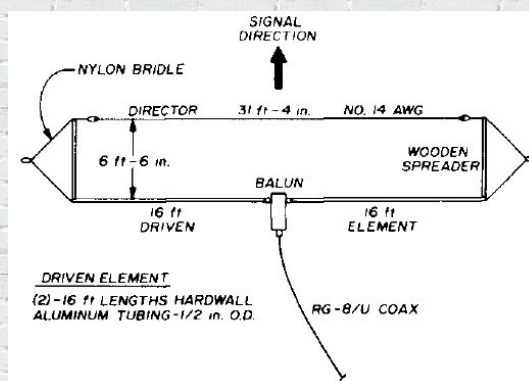


221 - Three-Elements 90-degrees Wire Beam for 20m

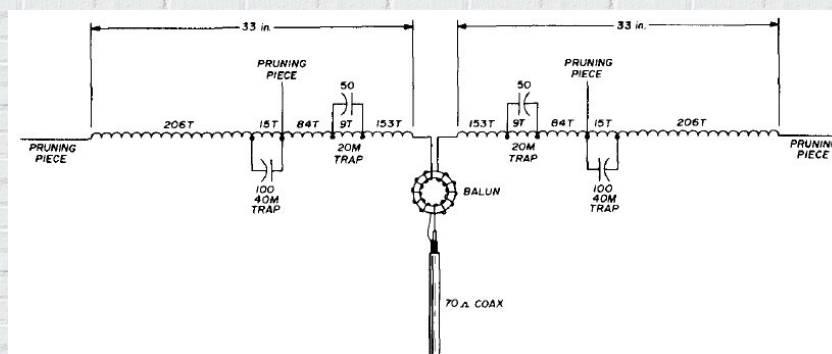




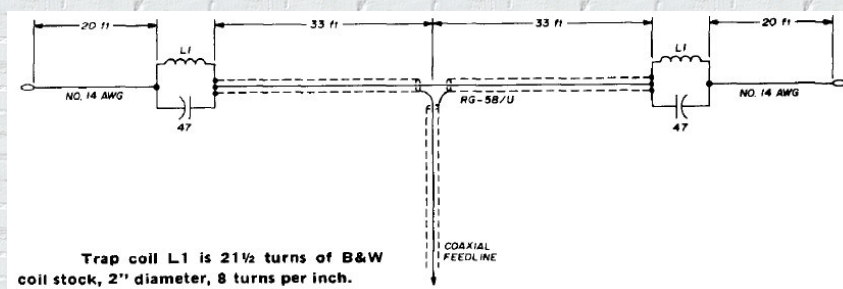
222 - Two-Elements Wire Beam for 20m



223 - Suitcase-Fit Dipole Antenna for 80m, 40m, 20m

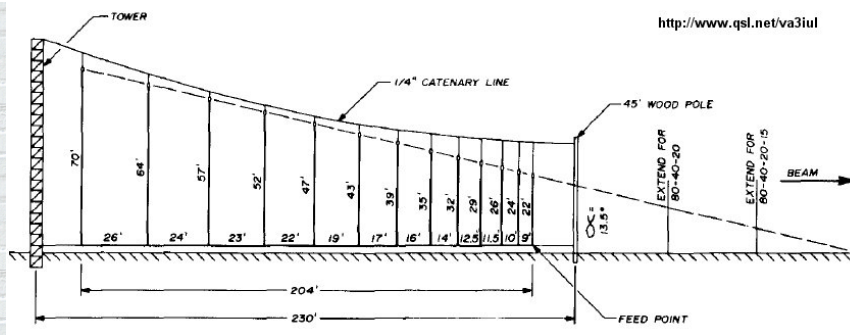


224 - Multiband Coaxial Dipole for 80m, 40m

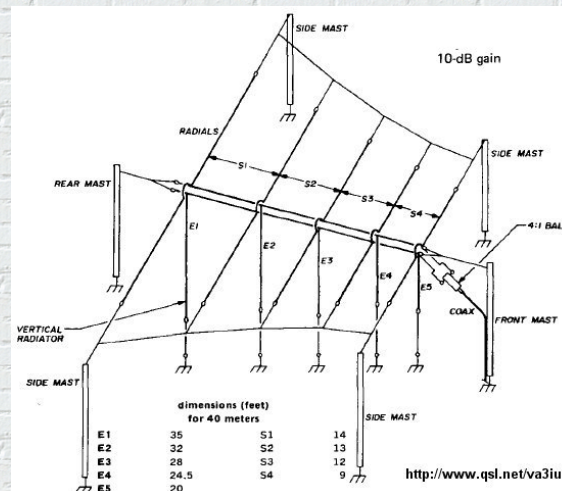


225 - Vertical Log Periodic Antenna for 80m, 40m

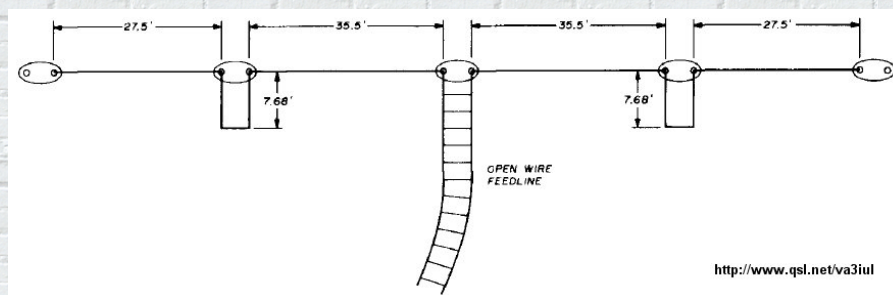




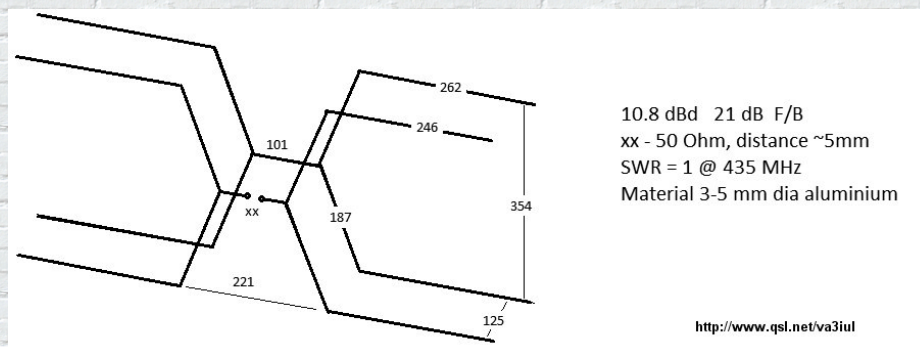
226 - Inverted Vertical Log Periodic Antenna for 40m



227 - Double Extended Zepp Antenna Gain=7dB for 15m

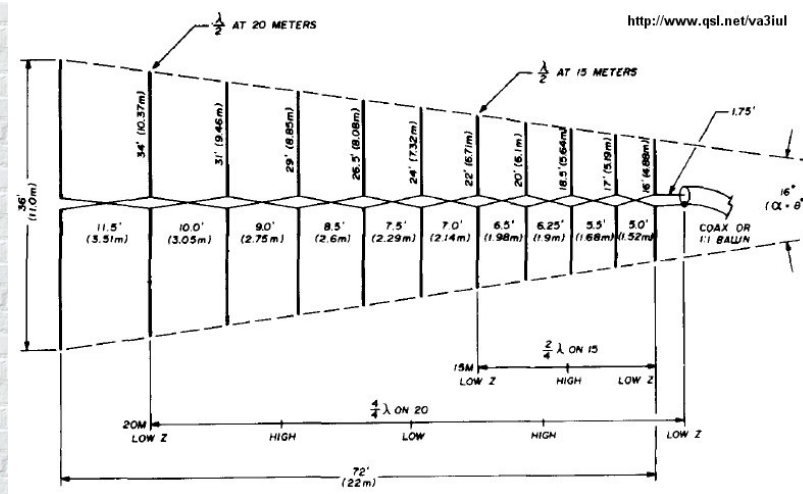


228 - Double Lazy-H Antenna G=10dB for 70cm

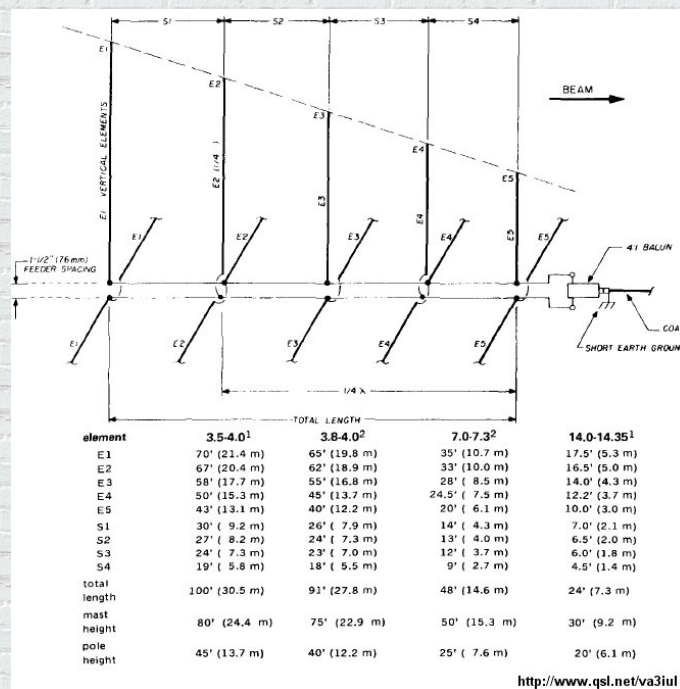


229 - Wire Log Periodic Antenna G=12dB for 15m, 20m

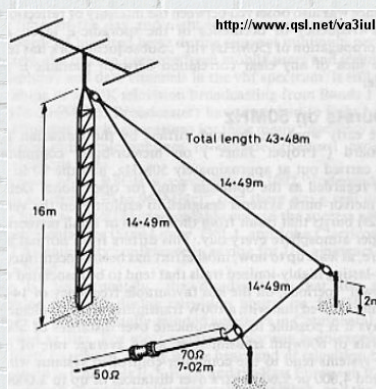




230 - Five-Elements Vertical Log Periodic for 80m, 40m, 20m

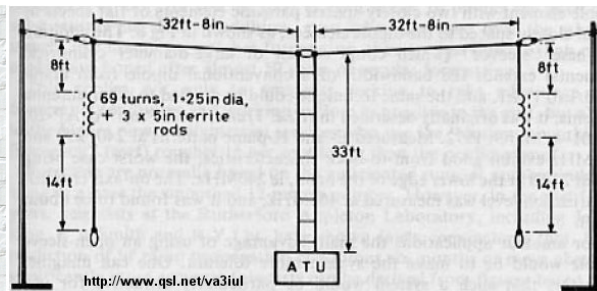


231 - Sloping Delta Loop Antenna for 40m

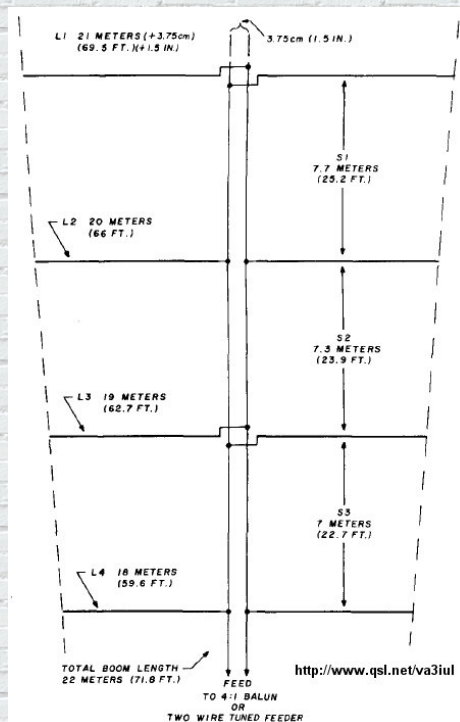


232 - Doublet Antenna for 160m

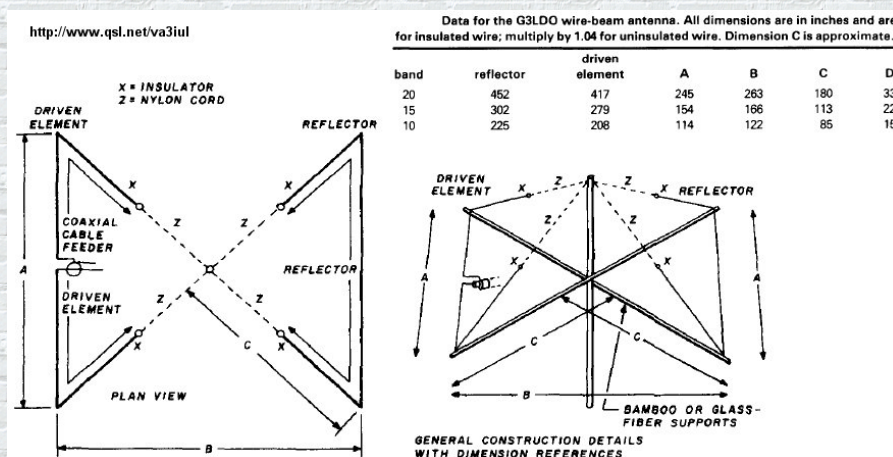




233 - Log Periodic Wire Beam for 40m

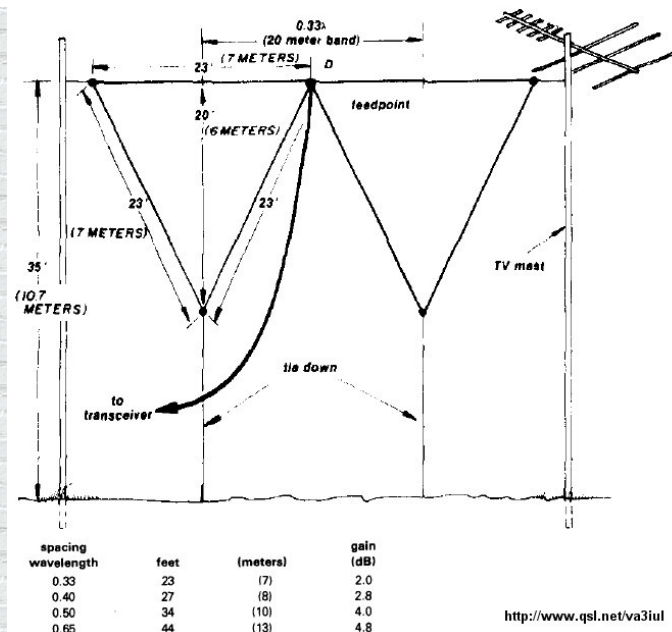


234 - G3LDO Wire Beam Antenna for 20m, 15m, 10m

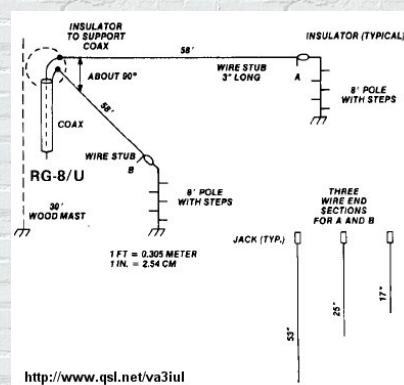


235 - Phased Delta Loop Array for 20m

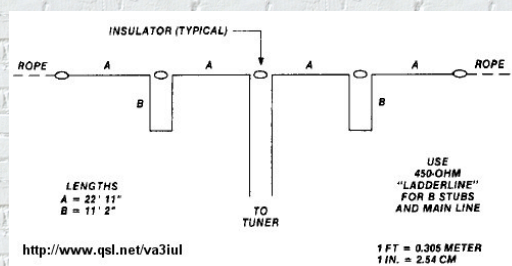




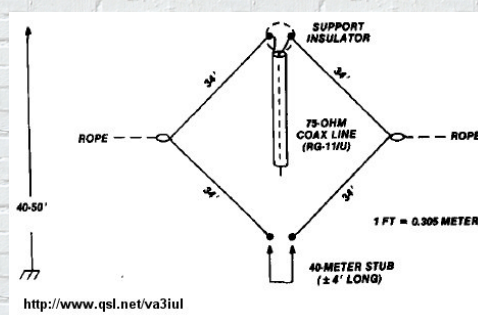
236 - Dual Band V-dipole for 80m, 40m



237 - Collinear Array 5dB-Gain for 15m

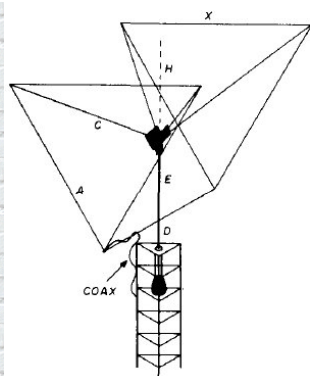


238 - Two-Band Quad Loop Antenna 80m, 40m



239 - K7CW Quad Antenna





$$X = \frac{1030}{9.84F}$$

$$A = \frac{1005}{9.84F}$$

$$H = \frac{X}{2}$$

$$D = 2A$$

$$E = \sqrt{X^2 - H^2} - H$$

$$C = \sqrt{2H^2 + \left(\frac{D}{2}\right)^2}$$

Where F = design frequency of antenna (3X = total distance around reflector loop).

3A = total distance around driven element loop.

= distance from main hub to top of antenna (the imaginary plane which contains the tips of all four spreaders).

where  $\lambda$  = wavelength at design frequency.

D = element spacing

= length of bottom spreader.

= distance from bottom spreader to main hub.

= distance from hub to where loop is attached to main spreader.

	3.575 MHz	3.8 MHz	antenna design frequencies (in meters)							
X	29.2722	27.5389	14.8437	14.5344	7.43503	14.075 MHz	14.25 MHz	21.1 MHz		
Y	87.8165	82.6168	44.5311	43.6033	22.3051					
A	28.5617	26.8705	14.4834	14.1817	7.25457					
B	85.685	80.6116	43.4502	42.5450	21.7637					
H	14.6361	13.7895	7.42184	7.26722	3.71751					
D	16.7832	15.7895	8.51064	8.33333	4.26288					
E	10.7144	10.0800	5.43317	5.31998	2.72141					
C	22.3349	21.0124	11.3258	11.0899	5.67298					
	21.3 MHz	28.15 MHz	28.6 MHz	29 MHz	50.05 MHz	50.125 MHz	53 MHz			
X	4.91305	3.71751	3.63902	3.60855	2.09087	2.08774	1.97449			
Y	14.7392	11.1525	10.9771	10.8257	6.27261	6.26322	5.92347			
A	4.79380	3.62728	3.57021	3.52097	2.04012	2.03707	1.92657			
B	14.3814	10.8818	10.7106	10.5629	6.12036	6.11120	5.77970			
H	2.45653	1.85876	1.82951	1.80428	1.04543	1.04387	98724			
D	2.81690	2.13144	2.09790	2.06897	1.19880	1.19701	1.13208			
E	1.79830	1.36070	1.33929	1.32082	0.765311	0.764166	0.722714			
C	3.74870	2.83649	2.79186	2.75335	1.59535	1.59296	1.50655			

Note: X = length of reflector loop side

Y = distance around reflector loop

A = length of driven element loop side

B = total distance around driven element loop

H = distance from hub to top of antenna

D = bottom spreader length

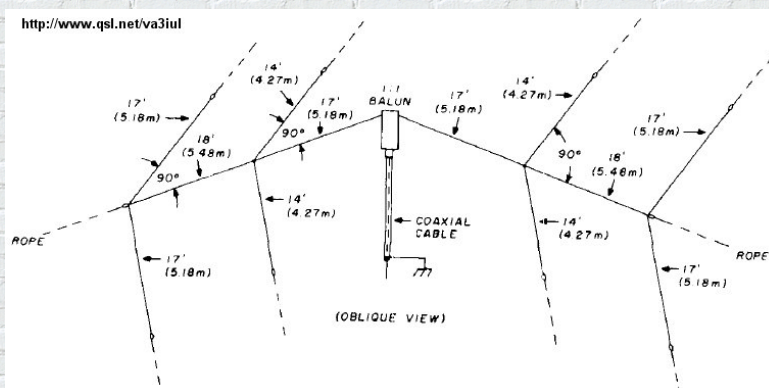
= element spacing

E = distance from bottom spreader to main hub

C = distance from hub to where loop is attached to main spreader, that is, spreader length

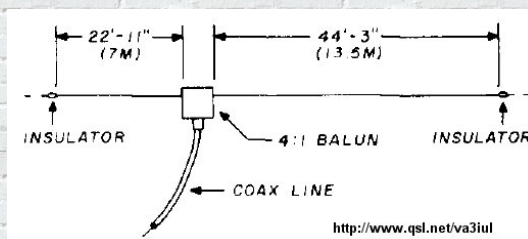
<http://www.qsl.net/va3iul>

## 240 - Broadband Short Dipole for 80m



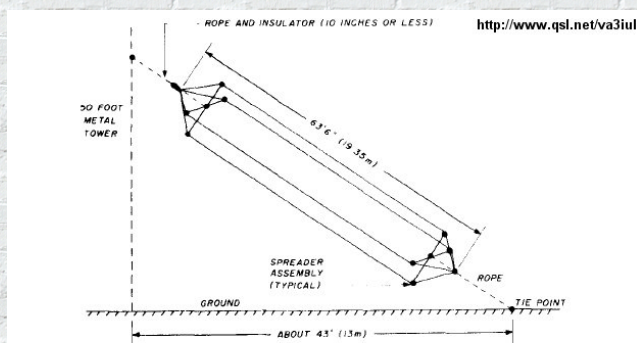
<http://www.qsl.net/va3iul>

## 241 - Off-Center Fed Dipole for 40m, 20m, 10m



<http://www.qsl.net/va3iul>

## 242 - Broadband Sloper Antenna for 80m

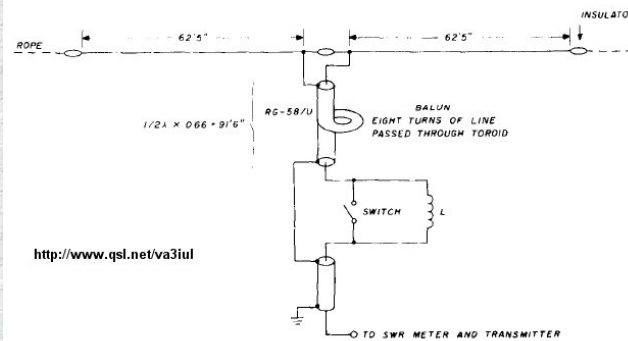


<http://www.qsl.net/va3iul>

80-meter WD4FAB broadband sloper. Spreader assemblies are made of 36-inch long fiberglass tubes. The four antenna wires are tied together about 24 inches past each spreader assembly. A nylon line may be required from the crossover point of the spreader to the outer insulator to prevent bowing. The SWR plot of the antenna falls below 1.4-to-1 at 3.5 MHz; 1.25-to-1 at 3.8 MHz and 1.4-to-1 at 4.0 MHz. Feedpoint resistance of the antenna may be changed by altering the slope angle. The resonant frequency is adjusted by changing length — no climbing necessary!

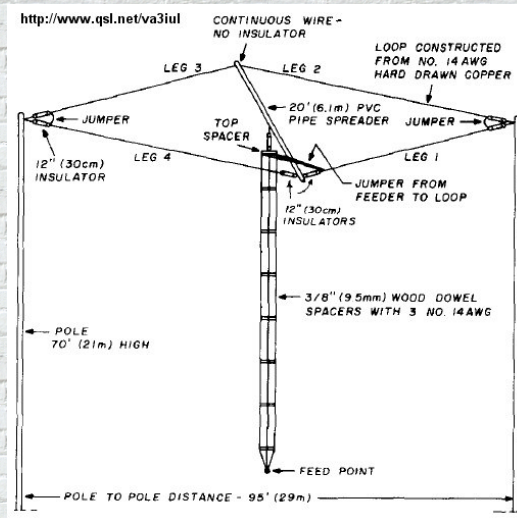
## 243 - Two-Frequency Dipole Antenna for 80m



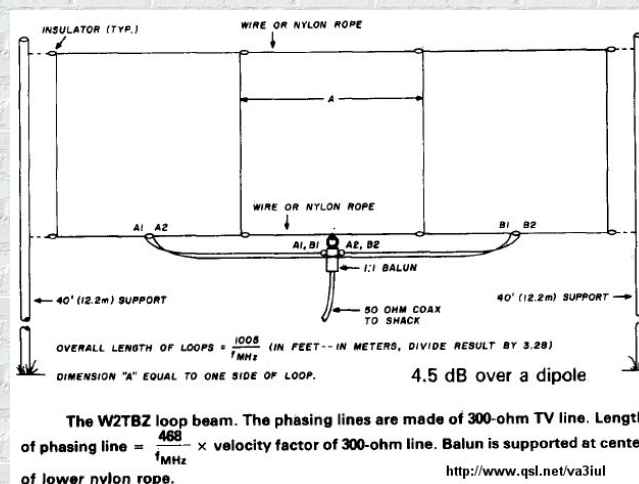


The W6TC two-frequency dipole for 80 meters. Antenna is cut for resonance at high frequency end of band. A single loading coil for operation at the low frequency end of the band is placed an electrical half-wavelength down the transmission line. The line is decoupled from the antenna by a simple balun placed directly at the antenna insulator. Toroid is powdered iron material T-200 (2" OD) (1.25" ID), 2-mix (red,  $\mu = 10$  (Amidon T-200-2), or equivalent.

#### 244 - Top Loaded Vertical Antenna for 160m

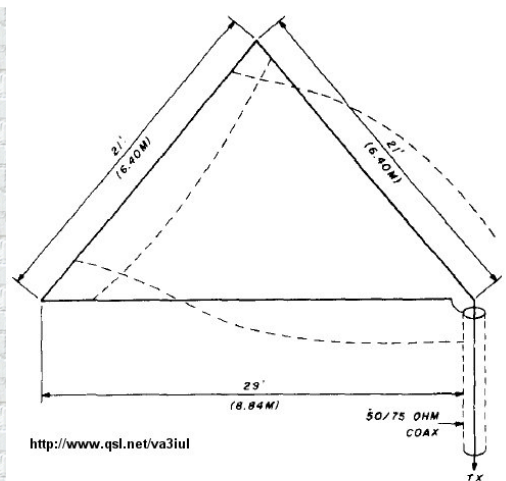


#### 245 - Two Loop Beam Antenna for 20m, 15m



#### 246 - Corner-Fed Delta Loop Antenna for 80m, 40m, 20m

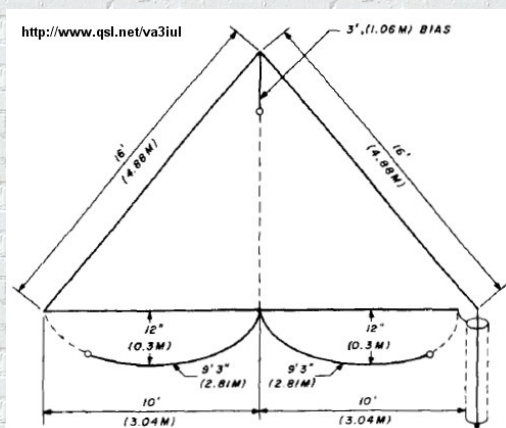




**DIMENSIONS FOR FULL-SIZE CORNER-FED DELTA LOOPS**

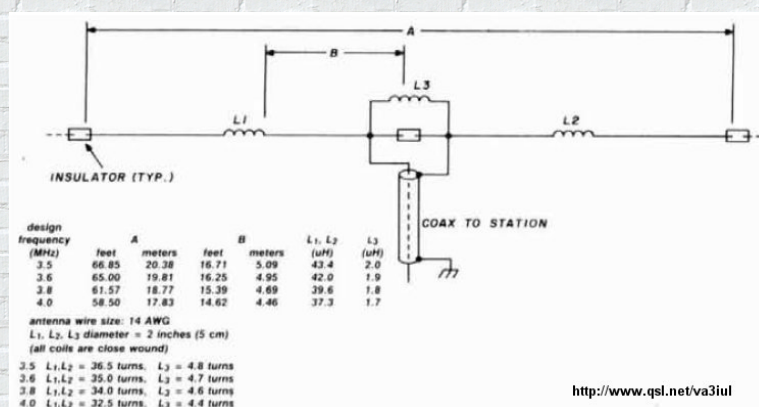
frequency (MHz)	total loop circumference (feet) (meters)	length of each side (feet) (meters)	length of base (feet) (meters)
3.800	279 ft. 2 in. (85.09)	82 ft. (24.99)	115 ft. 2 in. (35.10)
7.075	142 ft. 0 in. (43.28)	42 ft. (12.80)	58 ft. 0 in. (17.68)
14.150	71 ft. 0 in. (21.64)	21 ft. (6.40)	29 ft. 0 in. (8.84)

### 247 - Loaded Delta Loop Antenna for 40m, 20m



The final loaded loop for 14 MHz. All dimensions are doubled for operation on 7 MHz. Base loading wires are each 18 feet 4 inches (5.59 meters). The top loading wire is made taut by securing to base with thin light nylon cord.

### 248 - Compact Size Dipole for 80m

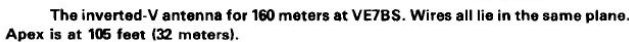


### 249 - JAWS 3dB Gain Antenna for 40m

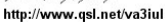




<http://www.qsl.net/va3iul>



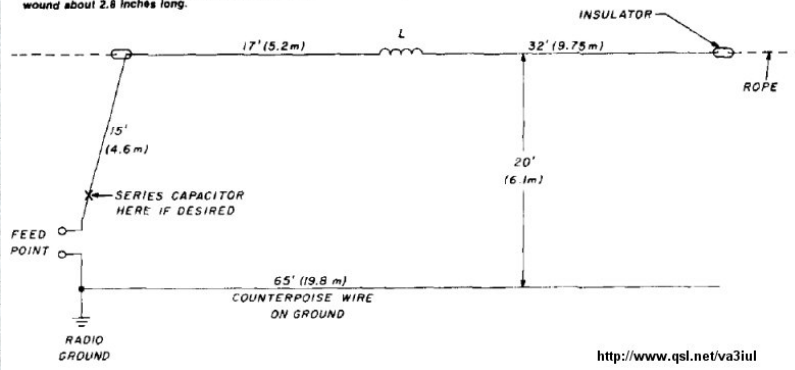
<http://www.qsl.net/va3iul>



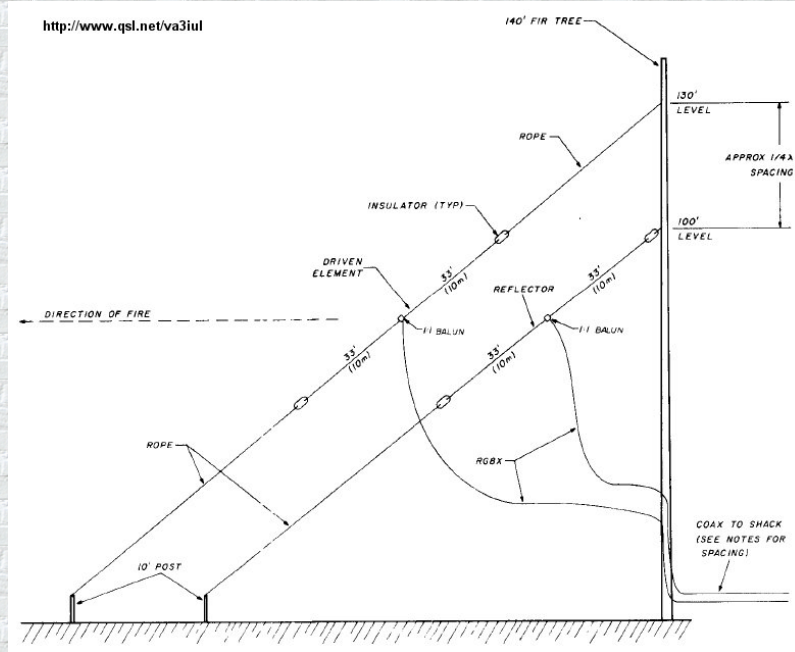
78 sur 89



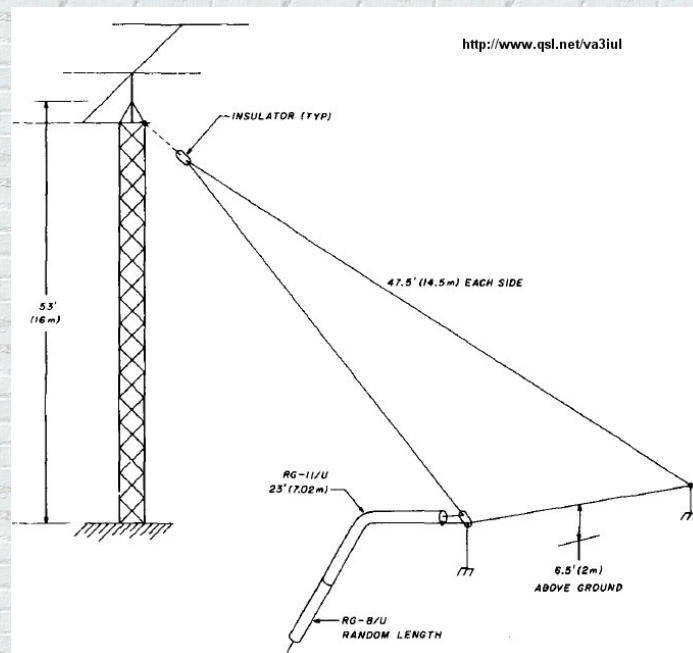
L = 89-H, 59 turns No. 18 gauge enamel wire, 1-7/8 inches diameter, cross wound about 2.6 inches long.



253 - Hot Beam Wire Antenna for 40m

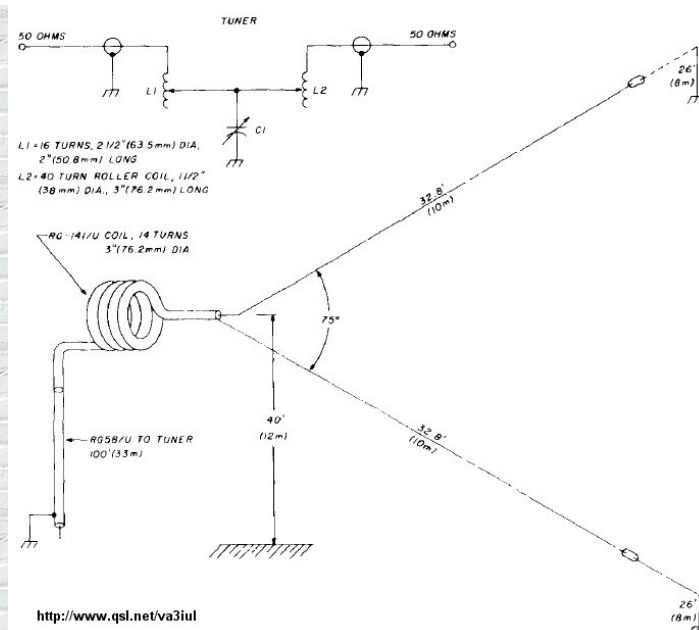


254 - Sloping Delta Loop for 40m

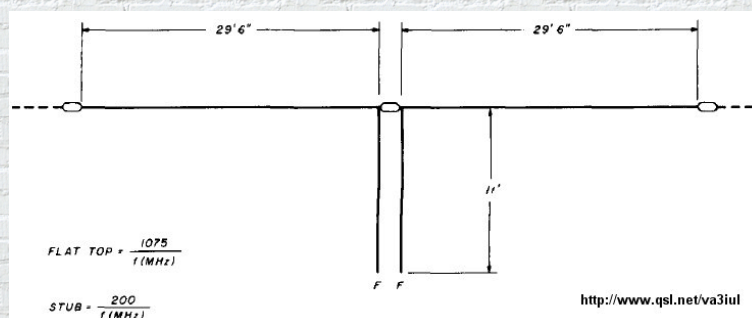


255 - K6FD Multiband Antenna with T-tuner

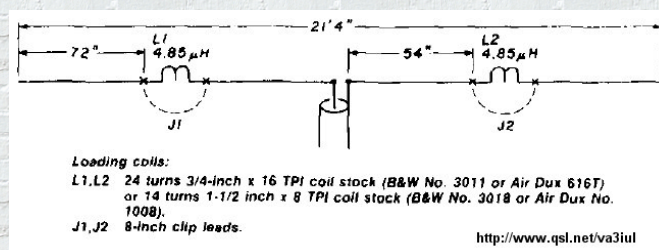




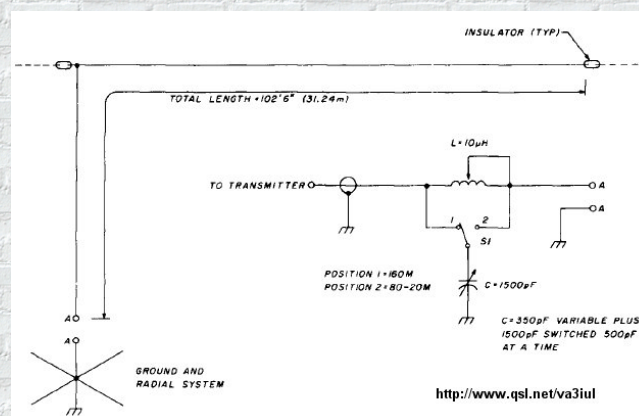
256 - Dual Band Dipole Antenna for 17m, 10m



257 - Compact Travel Dipole Antenna for 10m, 15m, 20m

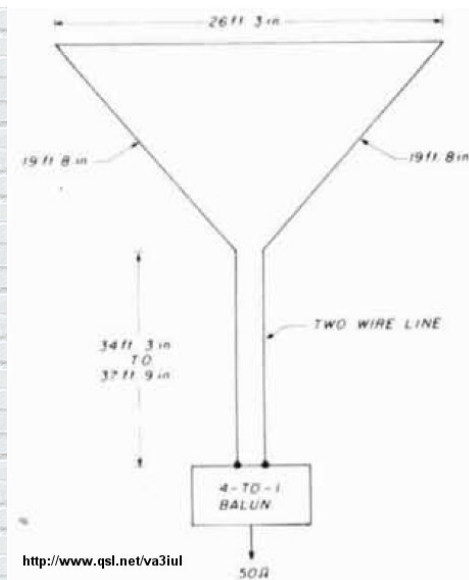


258 - End-Fire Antenna for 160m, 80m, 40m, 20m

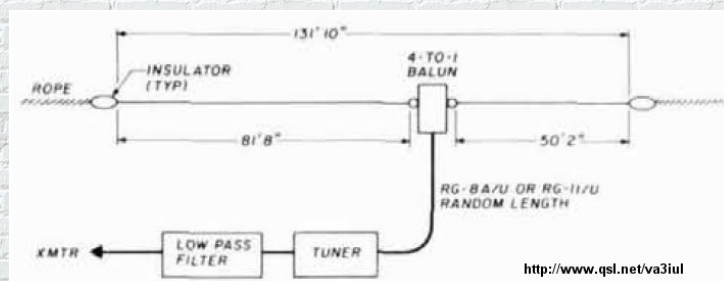


259 - Four Band Loop for 40m, 20m, 15m, 10m

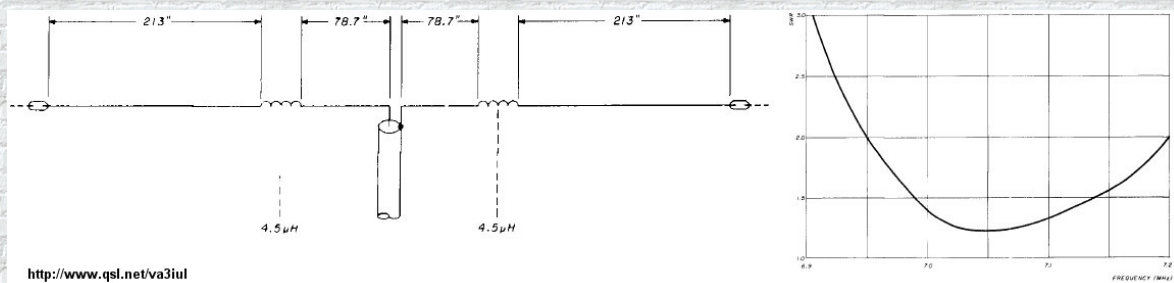




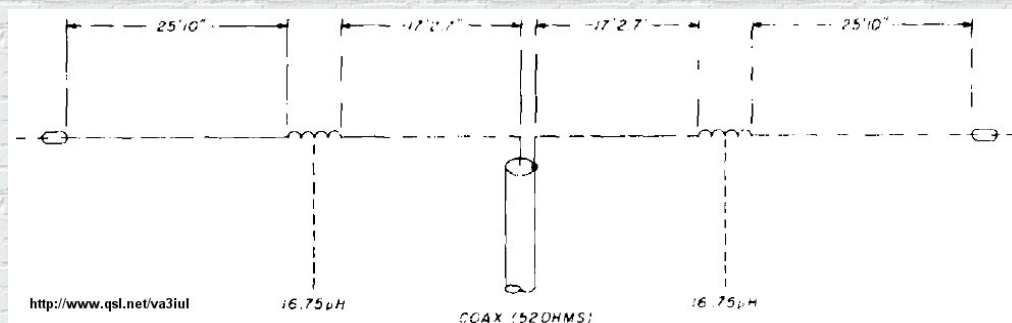
260 - Carolina Windom Antenna for 80 to 10m



261 - Shortened Loaded Dipole for 40m

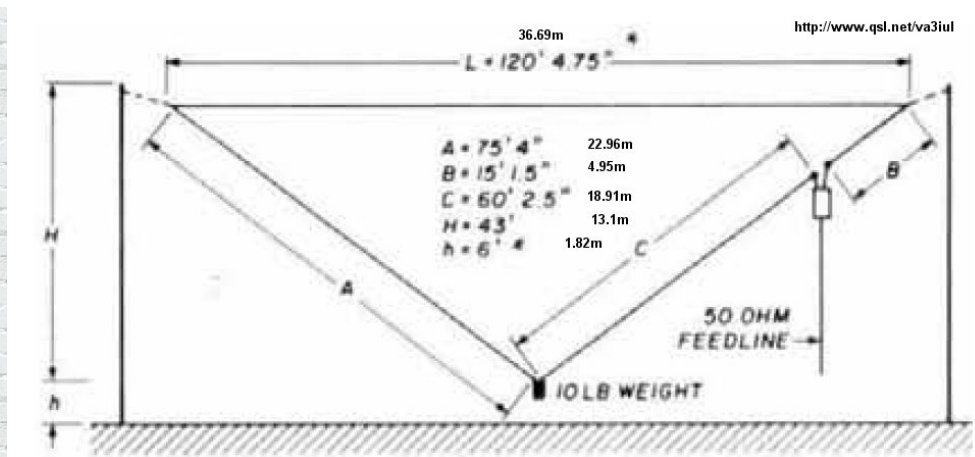


262 - Shortened Loaded Dipole for 80m

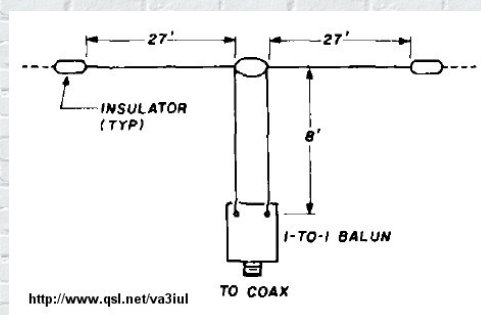


263 - Low Radiation Angle Inverted Delta Loop for 80m

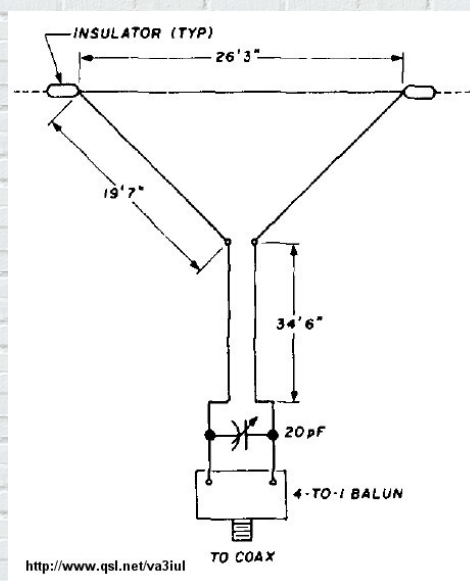




264 - Compact Dipole Antenna for 40m, 15m

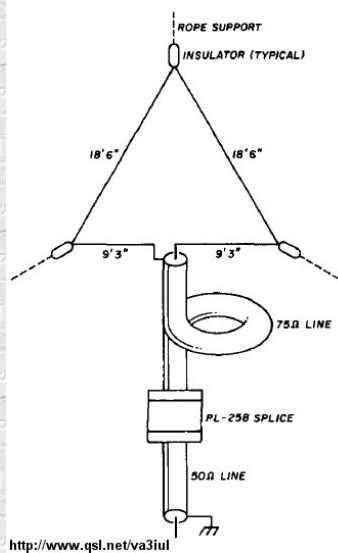


265 - Vertical Delta Loop for 40m to 10m

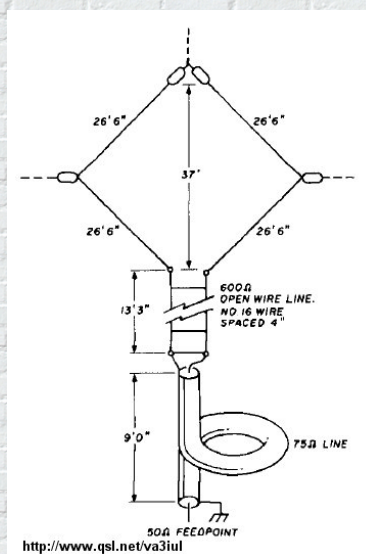


266 - Delta Loop Antenna for 17m

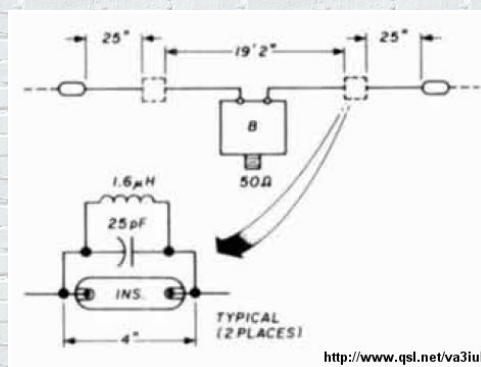




267 - Bi-Square Beam Gain=3dBd for 17m

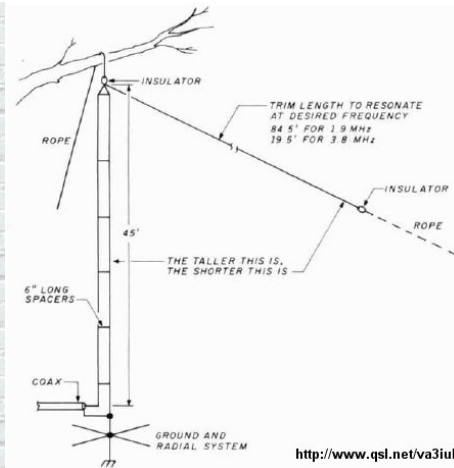


268 -Trap Dipole Antenna for 17m,13m

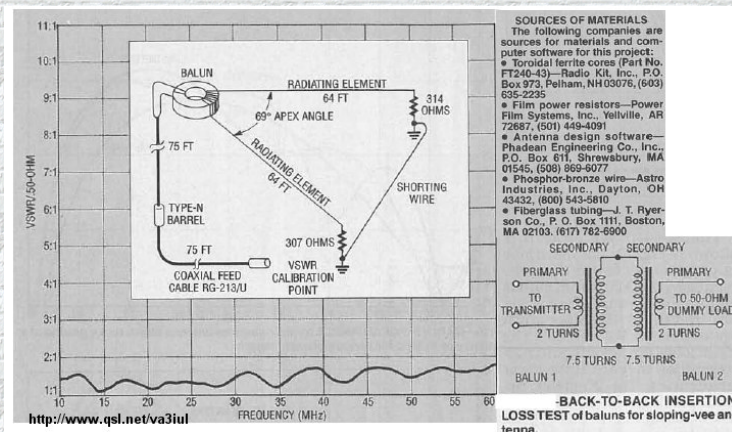


269 - Hanging Unipole Antenna for 160m, 80m

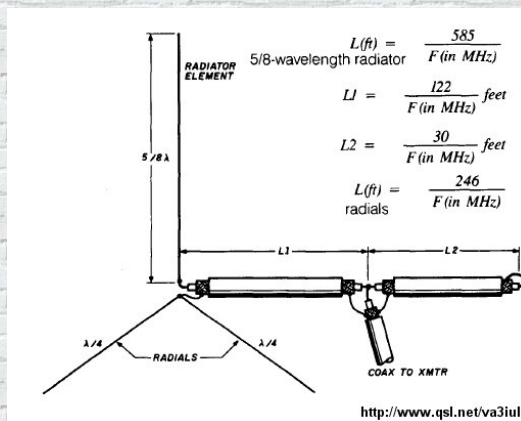




270 - Wideband Sloping Vee Antenna - 30m to 6m

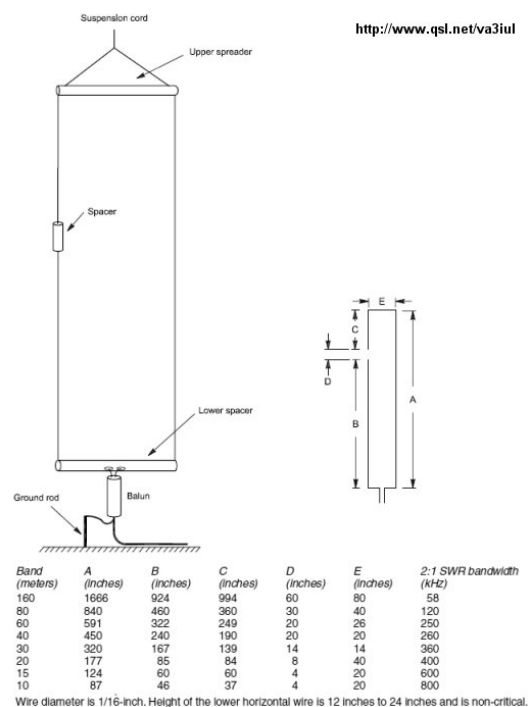


271 - 5/8 Wavelength Antenna

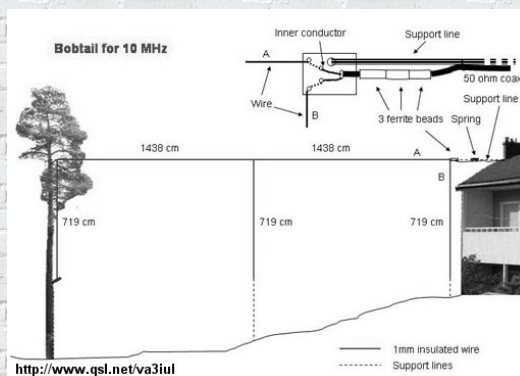


272 - C-Pole Vertical Antenna

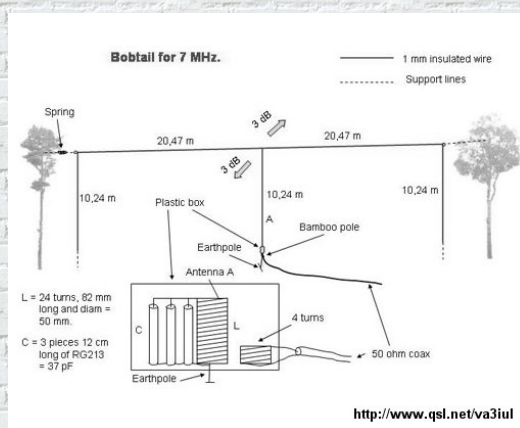




### 273 - Bobtail Antenna for 30m

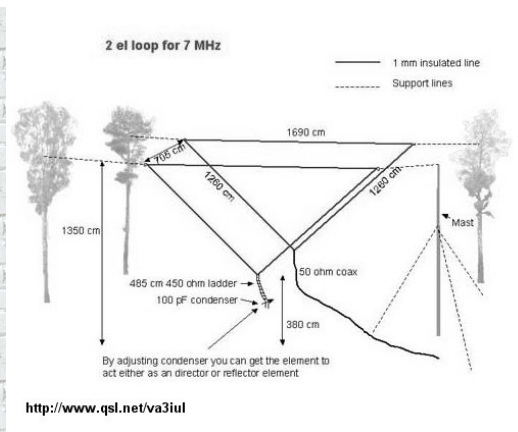


### 274 - Bobtail Antenna for 40m

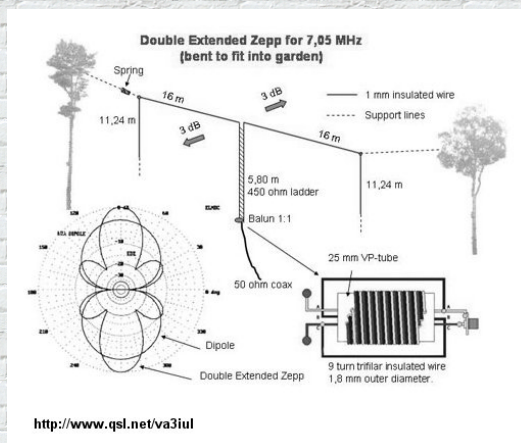


### 275 - Two Elements Vertical Loop Antenna for 40m

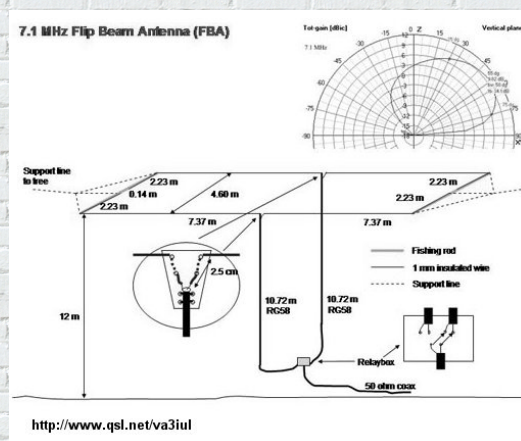




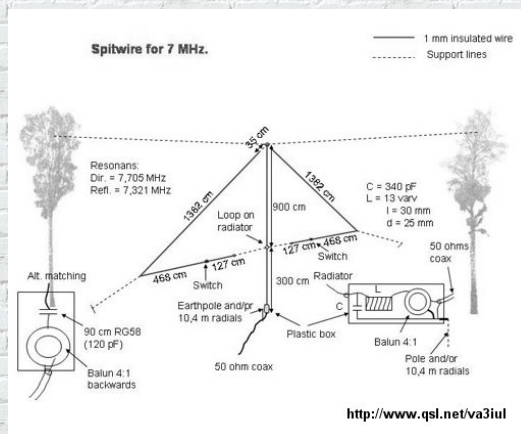
## 276 - Double Extended Zepp Antenna for 40m



## 277 - Reversible Moxon Flip Beam for 40m

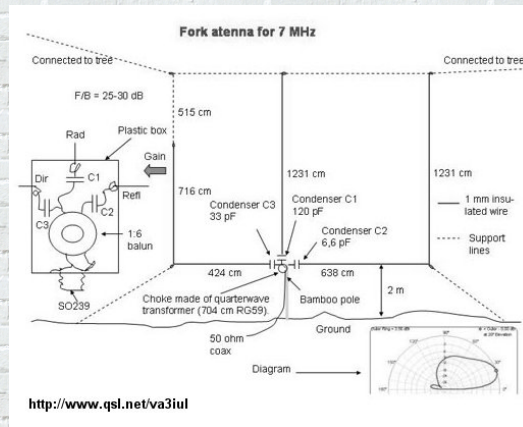


## 278 - Spitwire Antenna for 40m

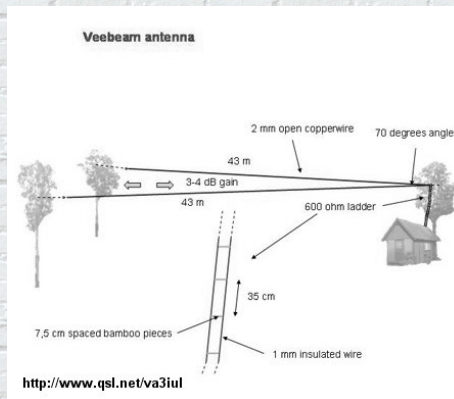




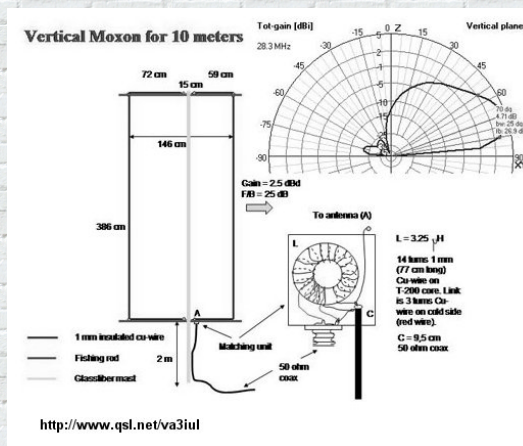
### 279 - Fork Antenna for 40m



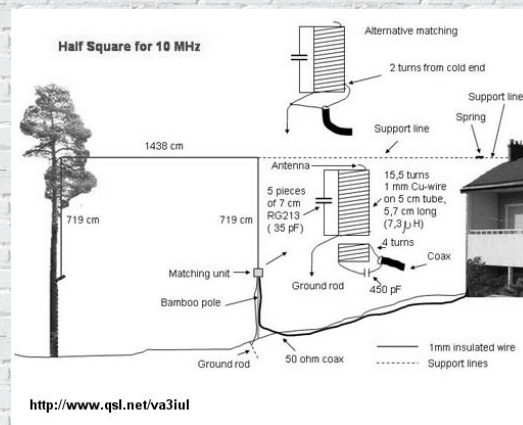
### 280 - Veebeam Antenna 3dB-Gain for All Bands



### 281 - Vertical Moxon Antenna for 10m

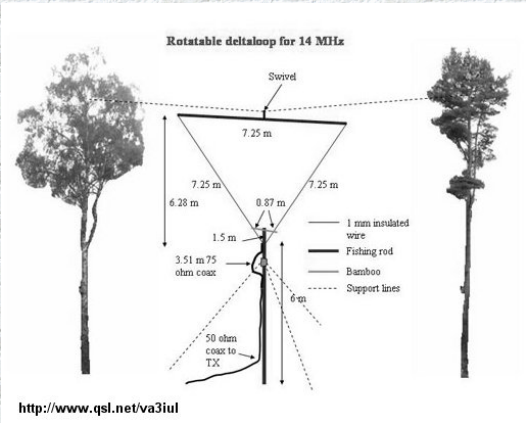


### 282 - Half-Square Antenna for 30m

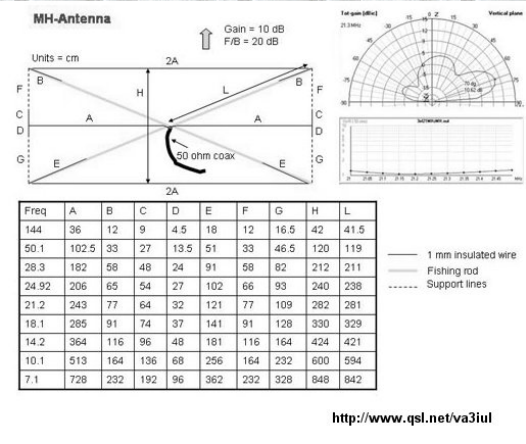




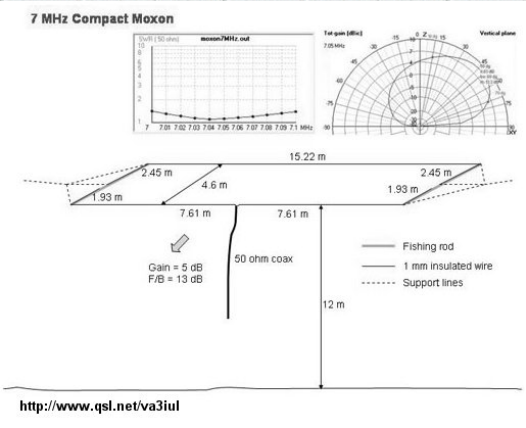
283 - Rotatable Vertical Delta Loop for 20m



284 - Mini-Horse Antenna 10dB-Gain for 40m-to-2m



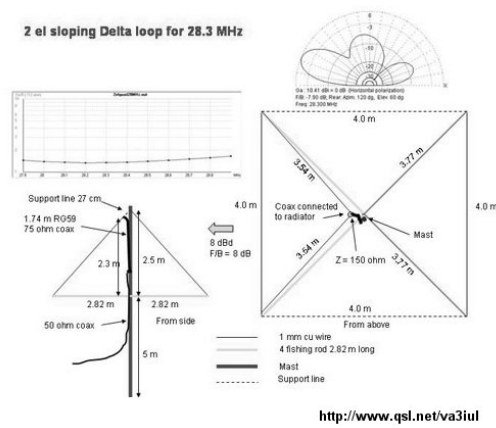
285 - Compact Moxon Antenna 5dB-Gain for 40m



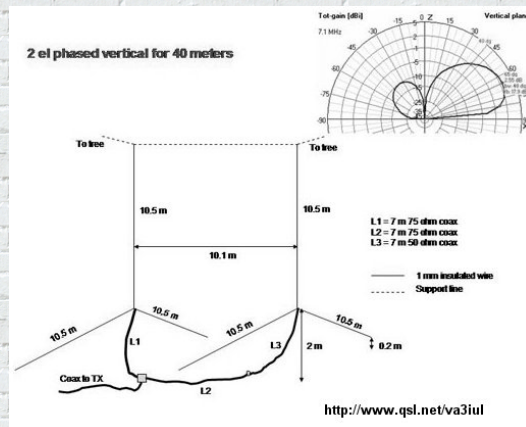
286 - Two Elements Sloping Delta Loop 8dB-Gain for 10m



### 2 el sloping Delta loop for 28.3 MHz



### 287 - Two Elements Phased Vertical Antenna 3dB-Gain for 40m



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