

# Expedition Two Element Antenna for the 20-meter Band

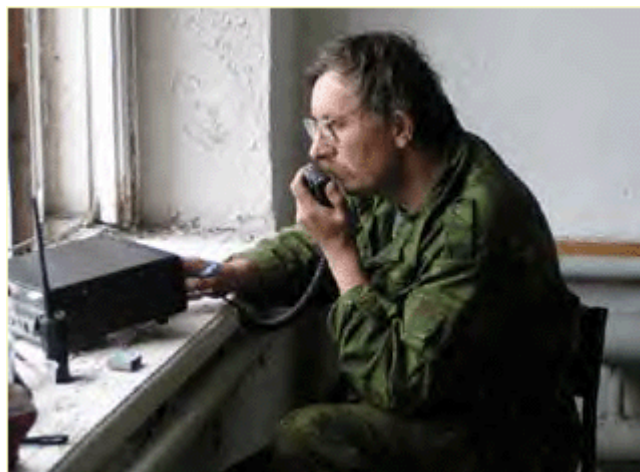
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The antenna was designed for using at DX- peditions. Antenna consists of two elements- mast in height 10 meters and in diameter 30-50-mm (it is reflector) and a dipole for the 20-m (it is driver). Dipole has length  $2 \times 495$  centimeters for bare copper wire in diameter 1.5- mm (15-AWG). For best operation of the antenna the mast should be isolated from the ground, for example with help a simple insulator in height 5- 10 centimeters. Input impedance for the (tuned) antenna is close to 50-Ohm. Gain is near  $4 = \text{dBi}$ . Main radiation is going up to 20-22 degree to horizon.

The upper part of the dipole works like guy for the mast. It fixed to the mast with strong synthetic rope in 50 centimeter length. Lower part of the dipole hangs free. Lower part of the dipole allows tune the antenna. Coaxial cable goes aside and down from the mast.

**Figure 1** shows the drawing of the Two Element Antenna. **Figure 2** shows Patterns for Two Element Antenna (MMANA made).

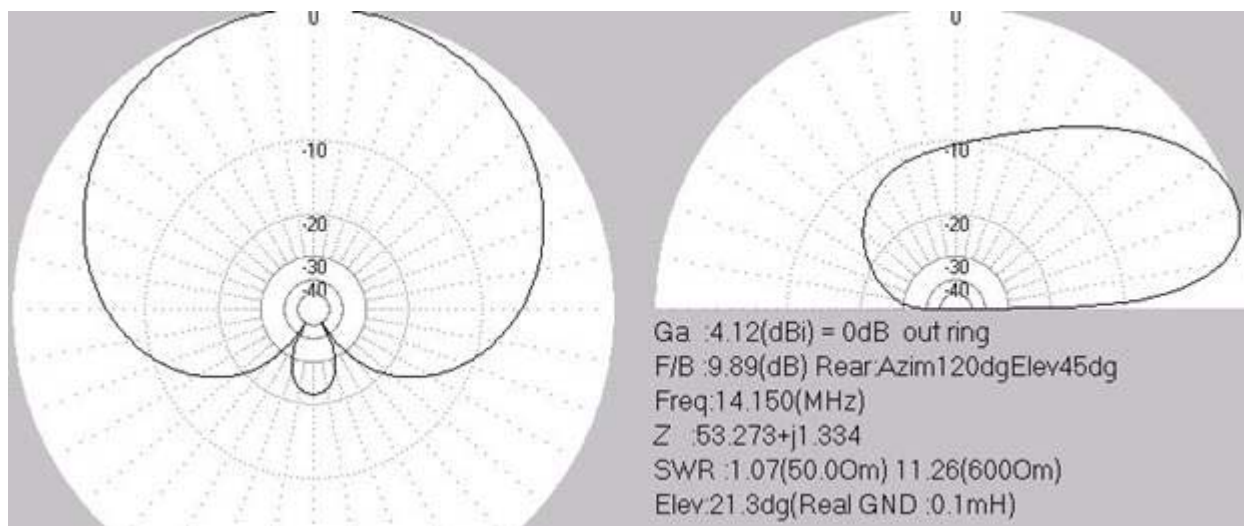


**UA9XBI**

Radio club 'Arktika' Championship 2004

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[http://www.arktika.komi.com/Champ\\_2004.htm](http://www.arktika.komi.com/Champ_2004.htm)



**Figure 2** Patterns for Two Element Antenna



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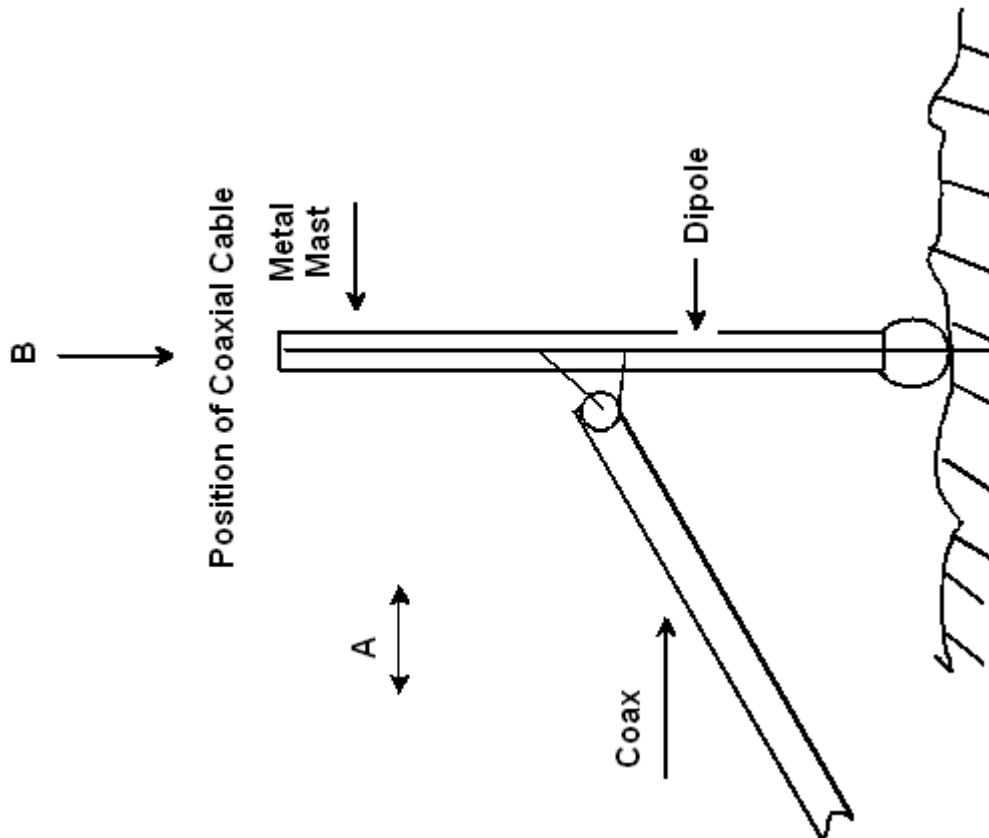


Figure 1.2 Two Element Antenna

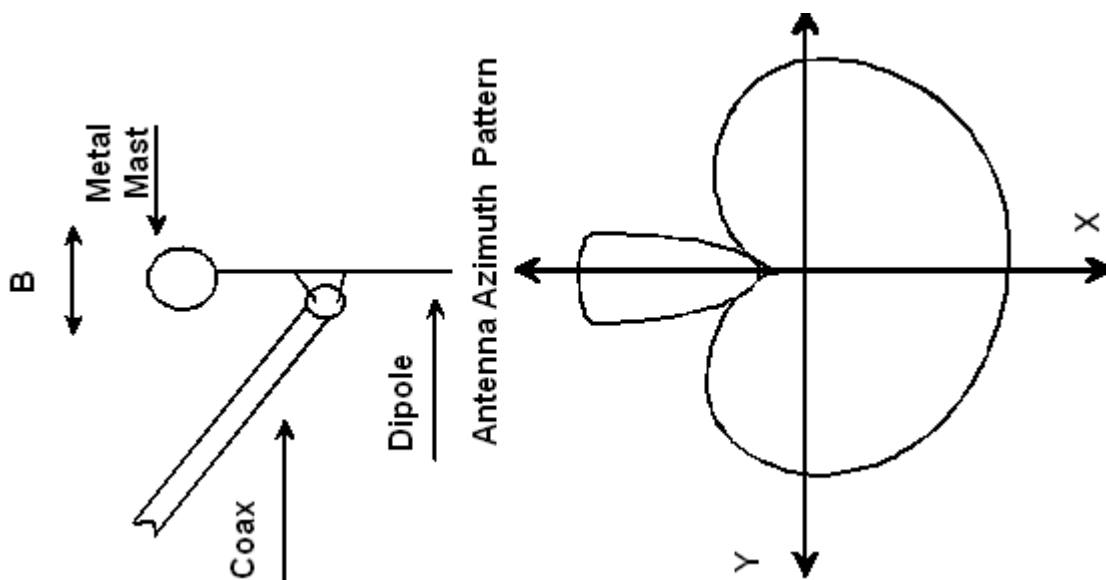


Figure 1.3 Two Element Antenna