# Delta for the 80 and 40 meter Bands

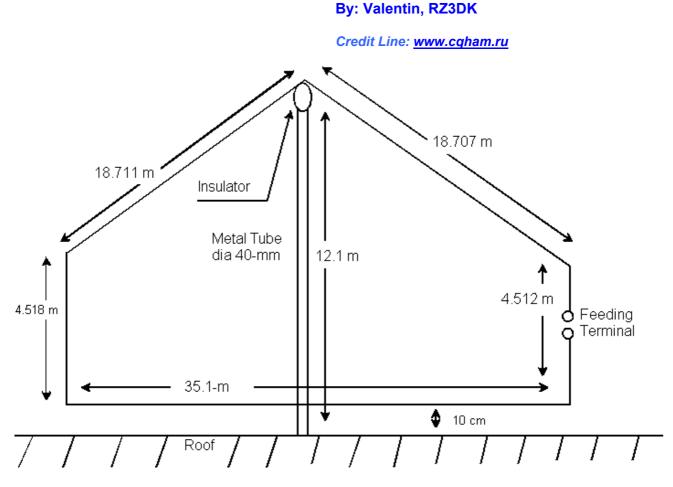


Figure 1 Design of the Delta for 80- 40 meters

The Delta for 80 and 40 meters was designed for installation on the roof of a building with help of a metal mast. Design of the antenna is shown on **Figure 1**. Link for file \*maa for the antenna is given below at the article.

File \*maa contains correct dimension for the antenna. However, MMANA simulates the antenna in not correct way. Correct data may be reached using NEC for MMANA. All of these programs are free. **Figure 2** shows patterns (in horizon and vertical plane) of the antenna on the 80 meters. **Figure 3** shows patterns (in horizon and vertical plane) of the antenna on the 40 meters. Matching of the antenna at both bands is possible with the help of the length of 75-Ohm Coaxial in 4.82-meters. SWR at the both bands (at this case) is 1.46:1.0. **Figure 4** shows diagrams and data for the matching. Improved variant of the matching is shown on the **Figure 5**. A length of 75-Ohm coaxial cable in 3.9 meters and opened stub from a length of 75-Ohm coaxial cable in 1.7 meters are connected to antenna's terminal. SWR at the both bands (at this case) is 1.23:1.0.

It is a theoretical model. In the coming spring I hope to install and check the antenna.

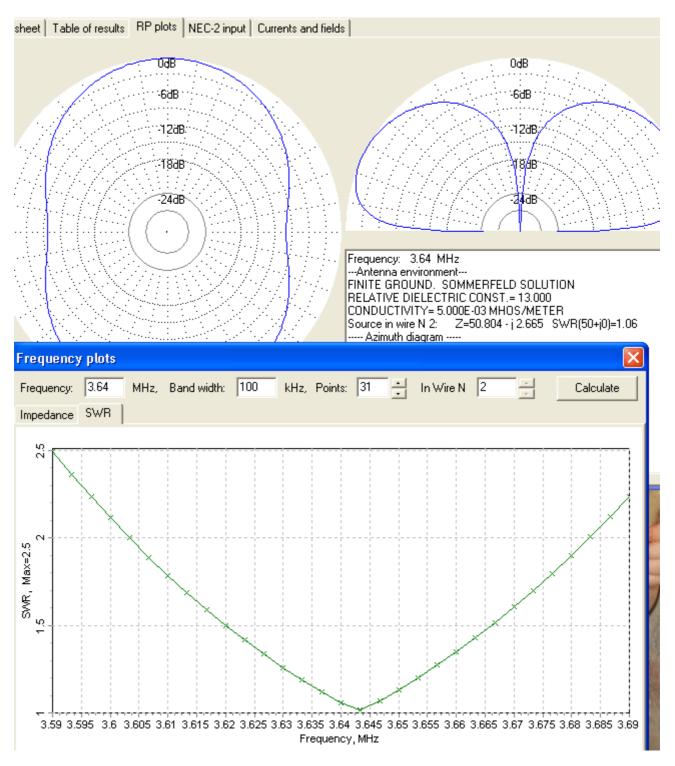
73!

#### Link: http://www.antentop.org/010/ rz3dk\_010.htm

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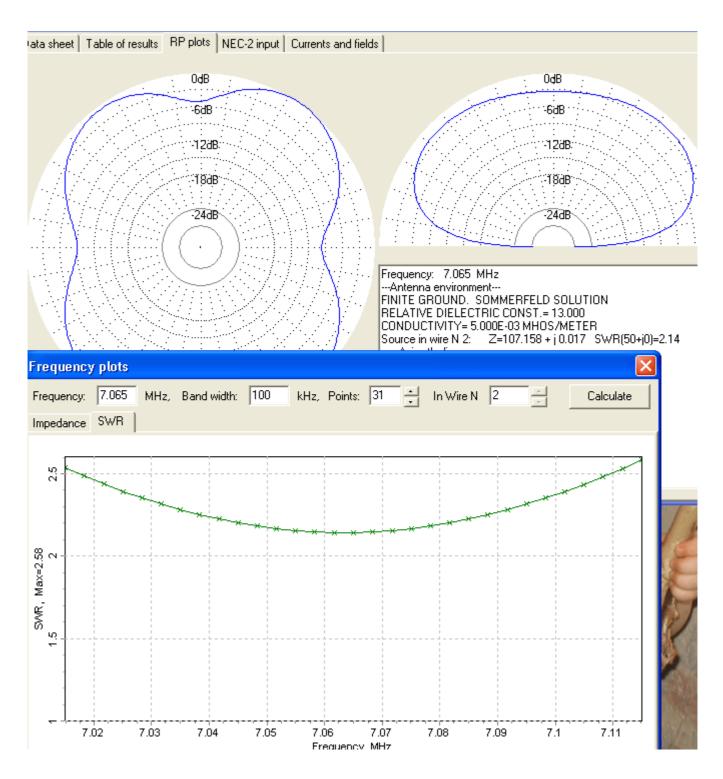
#### Delta for 80 and 40- meters







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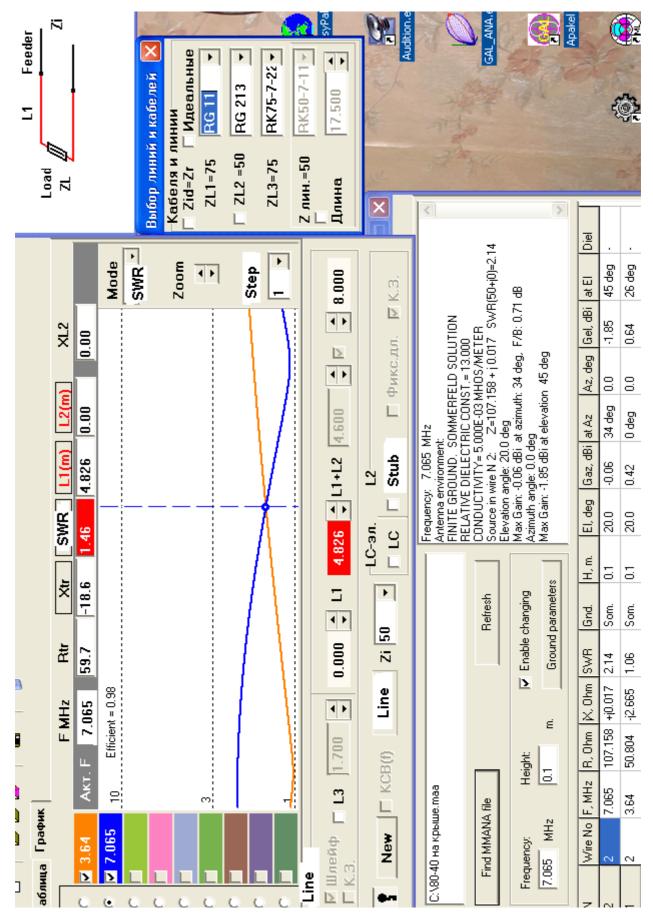


Figure 4 Matching of the antenna with the help of one length of the 75-coaxial cable

http://www.antentop.org/

# Delta for 80 and 40- meters

L1 Feeder ZL L3 L3 is open or short	nd Coax 2r C 75 [] =50 [] 75 [] 75 [] =50 []			
Mode	Zoom Zoom Step	000.8	Hz DMMERFELD SOLUTION RIC CONST.= 13.000 C0E-03 MH0S/METER Z=107.158 + j 0.017 SWR(50+j0)=2.14 deg t azimuth: 34 deg, F/8: 0.71 dB a elevation 45 deg	at El 45 deg 26 deg
XL2 0.00			Frequency: 7.065 MHz Anterna environment: FINITE GROUND. SOMMERFELD SOLUTION RELATIVE DIELECTRIC CONST.= 13.000 CONDUCTIVITY= 5.000E-03 MH0S/METER Source in wire N 2: Z=107.158 + j 0.017 SWR[50 Elevation angle: 20.0 deg Max Gain: -0.06 dBi at azimuth: 34 deg, F/B: 0.71 dB Azimuth angle: 0.0 deg Max Gain: -1.85 dBi at elevation 45 deg	1 Gel, dBi -1.85 0.64
			Frequency: 7.065 MHz Antenna environment: FINITE GROUND. SOMMERFELD SOLUTION RELATIVE DIELECTRIC CONST.= 13.000 CONDUCTIVITY= 5.000E-03 MHOS/METER Source in wire N 2: Z=107.158 + j 0.017 SW Source in wire N 2: Z=107.158 + j 0.017 SW Max Gain: -0.06 dbi at azimuth: 34 deg, F/B: 0. Azimuth angle: 0.0 deg Max Gain: -1.85 dBi at elevation 45 deg	Az, deg 0.0 0.0
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[] 3.900			Frequency: 7.065 MHz Anterna environment: FINITE GROUND. SOM RELATIVE DIELECTRIC CONDUCTIVITY= 5.000E CONDUCTIVITY= 5.000E Source in wile N 2: Z=' Elevation angle: 20.0 deg Max Gain: -1.85 dBi at ele Max Gain: -1.85 dBi at ele	1 Gaz, dBi -0.06 0.42
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Figure 5 Improved matching of the antenna with the help of two length of the 75-coaxial cable

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