Delta for the 80 and 40 meter Bands

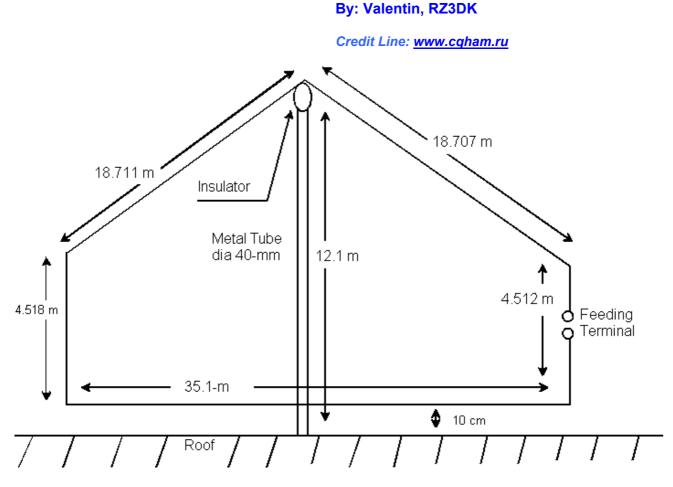


Figure 1 Design of the Delta for 80- 40 meters

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.

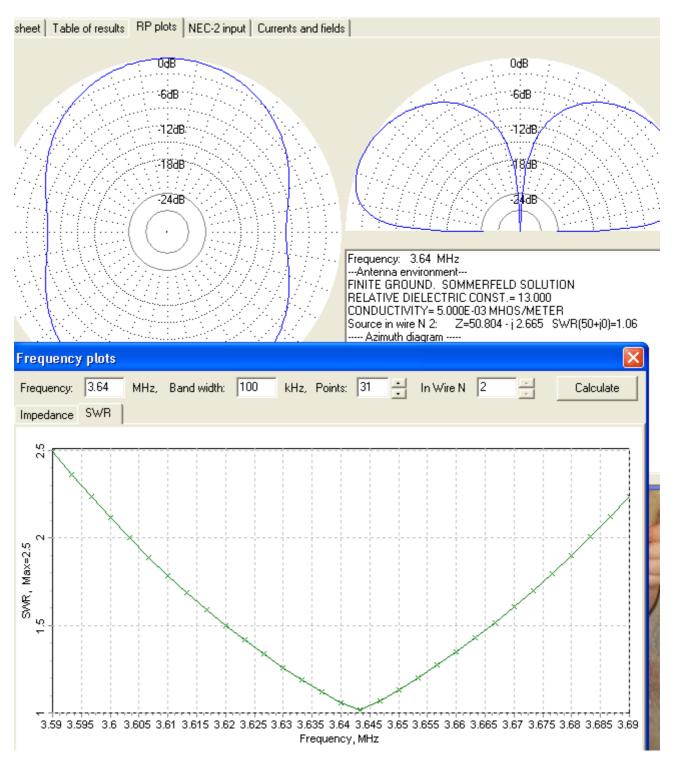
73!

Link: http://www.antentop.org/010/ rz3dk_010.htm

ANTENTOP

FREE e- magazine edited by hams for hams Devoted to Antennas and Amateur Radio www.antentop.org

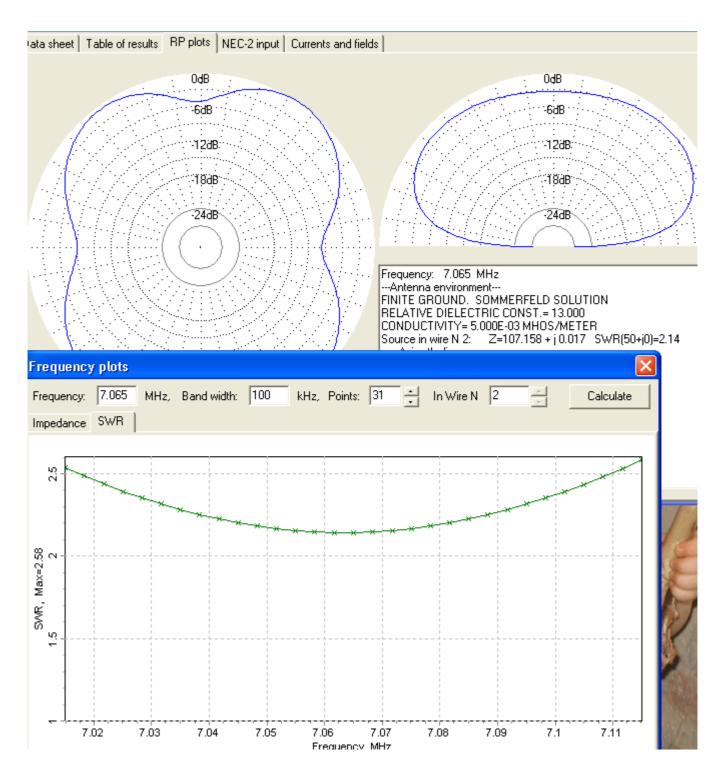
Delta for 80 and 40- meters







www.cqham.ru







www.cqham.ru

Delta for 80 and 40- meters

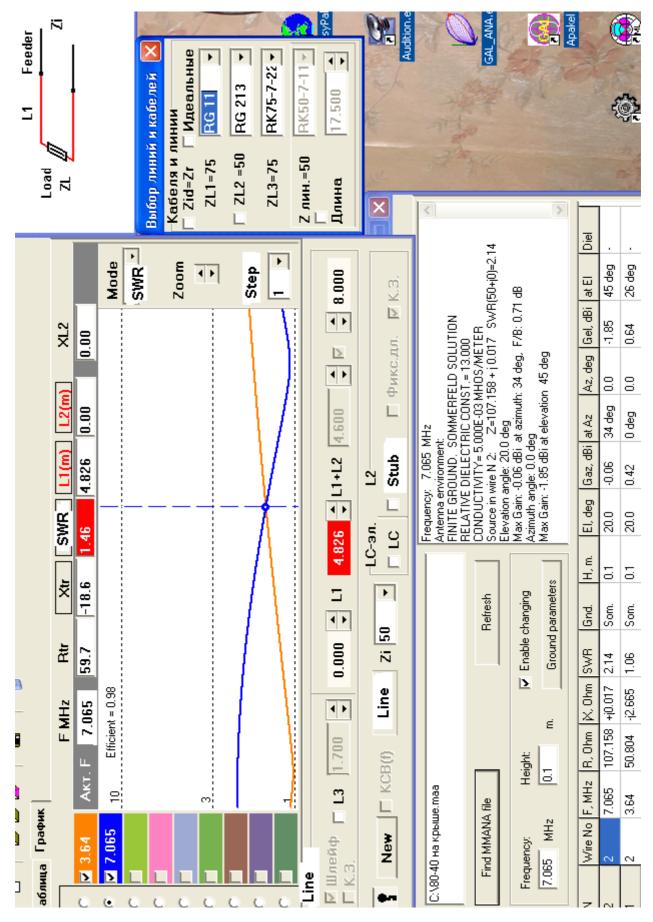


Figure 4 Matching of the antenna with the help of one length of the 75-coaxial cable

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
		J4.600	7.065 MHz trionment: UND. Both UND. Both UND. Both ITY= 5.00MME1 ITY= 5.00MME1 ITY= 5.00ME1 ITY= 5.00MME1 ITY= 5.00M	Bi at Az 34 deg 0 deg
[] 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
SWR 1.23		Short V L3 L / UU V L1 3.300 V L3 V . V V V V V V V V V V V V V V V V V	Frequency: Antenna em FINITE GRC RELATIVE I CONDUCTN Source in wi Max Gain: -1 Azimuth ang Max Gain: -1	El, deg 20.0 20.0
		oats. (V and fields	rters	Н, т. 0.1 0.1
<u> </u>		s with wires in dielectric c	Refresh Enable changing Ground parameters	Gnd. Som.
Marka 142.8		U.UUU in diele C2 input	Enab Grou	m SWR 7 2.14 5 1.06
F MHz 7.065		h wires	É	R, Ohm K, Ohm 107.158 +j0.017 50.804 -j2.665
Akt. F		iles wit		
		IN L3 Dr MMANA file Table of results	ime.maa	 F, MHz 7.065 3.64
		Short IEC-2 for M a sheet Tab	C:\80-40 ha Kpalue.maa Find MMANA file Frequency: 7.065 MHz	Wire No 2 2
аблица о О		C Short NEC-2 Data sheet	C:\80-	ZNF

Figure 5 Improved matching of the antenna with the help of two length of the 75-coaxial cable

http://www.antentop.org/