

SIMPLE 430-MHz 4-EL YAGI FOR MOUNTAINS

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The purpose of this design is to create an antenna for mountains. The antenna must correspond follow requirements:

1. To have gain not less the 7-dB. Forward Gain is the main characteristic of the antenna.
2. A wide lobe must be. During a QSO you can hold the antenna by the tail and shaking of the antenna should not result to full 'failure' of the communication.
3. Simplicity in making and adjustments. An opportunity of fast repair in field conditions.
4. Antenna weight with coaxial cable both must be up to 500 gram.
5. 50-Ohm coax for the feeding must be used.

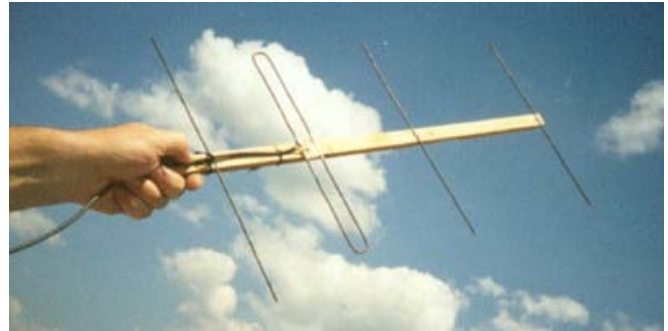
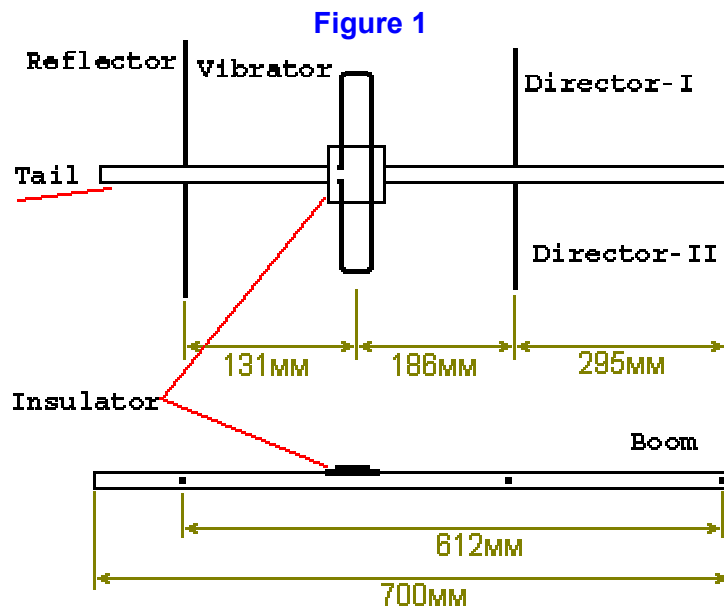


Figure 1 shows a design of such antenna. The boom is made of a wooden strip.. Elements and the vibrator are made of 2-mm copper wire (# 12 AWG).

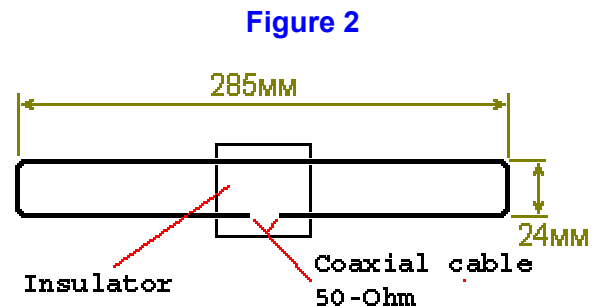
The sizes of elements:
 Reflector 345-mm.
 Vibrator 285-mm.
 Director-I 312-mm.
 Director-II 306-mm.



The design of antenna vibrator is shown on **Figure 2**. Coaxial cable has 850-mm length and this one goes along the boom. Soldered place must be protected from weather.

Antenna has weight of 290 gram. SWR (metered by SWR-291) is: at 433- MHz =2:1, at 435-MHz =1:1, at 438-MHz =2:1.

The antenna worked very well in the mountains. Also the antenna may be used for stationary work from a fixed QTH.



Credit Line: <http://www.mountain.ru>