

Shortened Dipole Balcony Antenna for the 20- meter Band

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Some years ago, just for fun, I made the Shortened Dipole Antenna for the 20- meter Band at my balcony. The antenna still exists and I use to it for my operation in the Air.

Figure 1 shows schematic of the antenna. As it is seen from the figure the antenna is shortened dipole antenna with lengthening inductor in each wire. Antenna fed by 50- Ohm coaxial cable. RF- Choke plus balun is installed at the cable of the antenna.

Picture 1 shows the antenna at installation on my balcony. RF-Choke installed on the coaxial cable of the antenna is very simple.

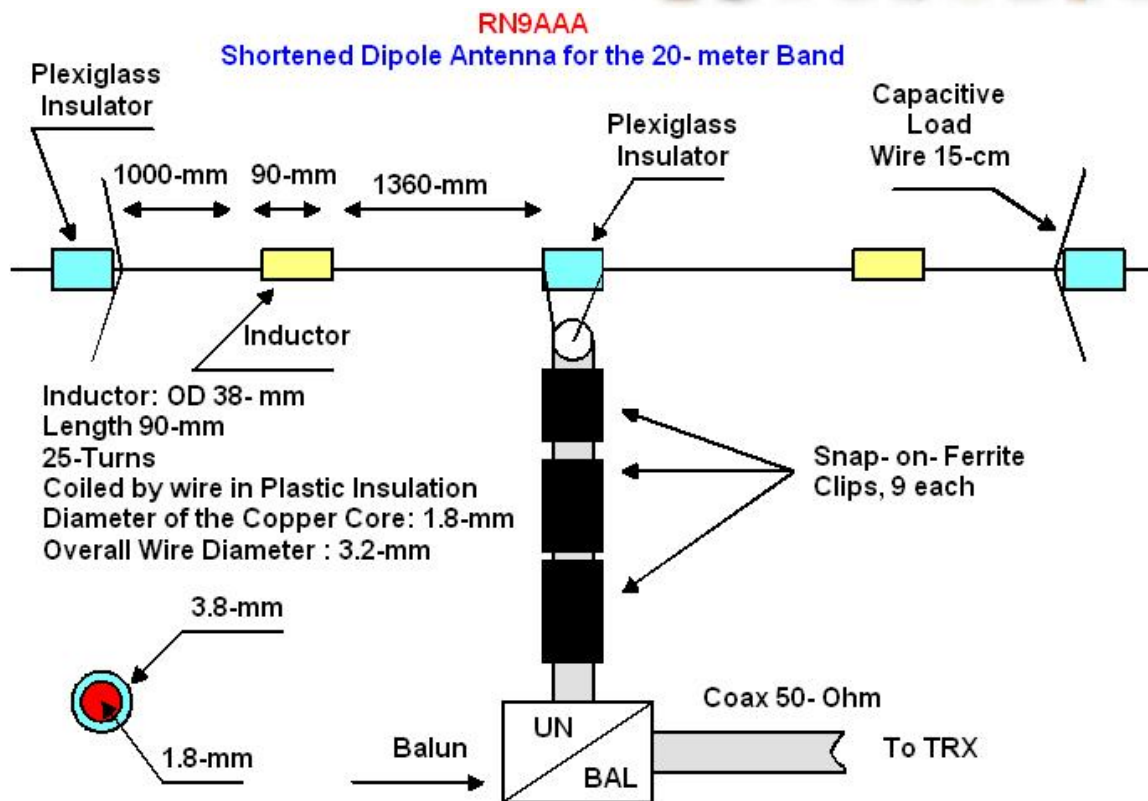


Figure 1 Shortened Dipole Antenna for the 20- meter Band

It is nine snap on ferrite clips that are snapped on to the coaxial cable. Quantity of the ferrite clips depends on whether the position of the coaxial cable is not interacted on to tuning of the antenna. When the needed quantity of the ferrite clips is found, install a balun. It is possible to find lots description "how to make a balun" in the internet. My balun also is very simple. It is four coils turned around a ferrite ring. It is possible use almost any ferrite ring with suitable sizes and permeability 100- 2000. **Picture 2** shows antenna analyzer MFJ- 259B connected to the tuned into resonance antenna. Antenna input impedance is 53- Ohm at 14.075- MHz.



Picture 2 Antenna Analyzer MFJ- 259B Connected to the Tuned into Resonance Antenna



Picture 1 Shortened Dipole Antenna installed at my balcony

Design of the antenna is very simple. For the antenna it was used wire in diameter 0.7-mm (22- AWG). It is possible to use any suitable wire in diameter 0.5- 2.0- mm (25- 14- AWG). Homebrew insulators (made from plexiglass) used at the antenna. Lengthening inductor is wound around plastic tube in 38- mm (1-1/2") diameter. For the inductor it was used electro- technical wire in plastic insulation. Diameter of the copper core is 1.8-mm (13- AWG). Overall diameter of the wire in plastic insulation is 3.8- mm (7- AWG).



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Picture 3 shows the inductor. Capacitive load is installed at the ends of each wings of the dipole. Picture 4 shows the capacitive load.

Antenna is tuned in to resonance by shortened of the capacitive loads. It needs cut the wire symmetrically at the both sides of the antenna. Install initially capacitive load in 20- cm- length.



Picture 3 Inductor of the Shortened Dipole Antenna for the 20- meter Band



Picture 4 Capacitive Load at the Shortened Dipole Antenna for the 20- meter Band

Of course the antenna cannot be a “super- efficiency” antenna. However the antenna provides not bad operation in the Air by CW and JT65. Picture 5 shows screen shot of monitor for JT65 for one of the days. Reference 1 gives information how to make a shortened dipole antenna.

On show sent/rcvd by

Monitoring RN9AAA/8 (last heard 4 hrs ago). Automatic refresh in 4 minutes
 There are 902 active monitors: 292 on 10m, 248 on 20m, 50 on 15m, 69 on

Download (ADIF) [last 24 hours](#), [last week](#)

Txmttr	Rcvr	Band	Mode	Distance	Time (UTC)
RA4FDQ	RN9AAA/8	20m	JT65	1948 km	14:01:53
EK1KE	RN9AAA/8	20m	JT65	2988 km	14:00:52
UA3OQG	RN9AAA/8	20m	JT65	2304 km	13:53:52
IZ2FNS	RN9AAA/8	20m	JT65	4370 km	13:49:53
RA3AIC	RN9AAA/8	20m	JT65	2093 km	13:47:54
DL3HBT	RN9AAA/8	20m	JT65	3664 km	12:54:52
U15KL	RN9AAA/8	20m	JT65	3052 km	12:46:52
RA3ID	RN9AAA/8	20m	JT65	2185 km	12:38:52
RN6HGV	RN9AAA/8	20m	JT65	2693 km	12:29:52
GW3UOF	RN9AAA/8	20m	JT65	4548 km	12:15:52
UN7BEW	RN9AAA/8	20m	JT65	1052 km	12:06:53
RN9AAA/8	OH3BY	20m	JT65	2488 km	12:05:00
RN9AAA/8	M0LEL	20m	JT65	4664 km	12:04:57
RN9AAA/8	RA3ID	20m	JT65	2185 km	12:03:00
RN9AAA/8	PA2GP	20m	JT65	3927 km	12:03:00
RN9AAA/8	UN7BEW	20m	JT65	1052 km	12:03:00
RN9AAA/8	R1CEP	20m	JT65	2279 km	10:19:00

Picture 5 Screen Shot of Monitor for JT65

References

- http://www.k7mem.com/Electronic_Note.../shortant.html

73! RN9AAA

