

ANTENTOP

ANTENTOP 01 2020 # 024

ANTENTOP is **FREE** e-magazine devoted to **ANTENna's**
Theory,
1-2020 **Operation, and**
Practice

Edited by hams for hams

In the Issue:

HF Helical Antennas Theory!

Practical design of HF Helical Antennas

Practical design of Antennas for the 50-MHz Band

Artificial Ground Tuner
John Howard Green , ZS1JHG

RW4HFN Clip Antenna



Thanks to our authors:

Greg Mossop, G0DUB

Nick Kudryavchenko, UR0GT

Konstantin Enin, RN3ZF

Igor Vakhreev, RW4HFN

And others.....



EDITORIAL:

Well, my friends, new ANTENTOP – 01 - 2020 come in! ANTENTOP is just authors' opinions in the world of amateur radio. A little note, I am not native English, so, of course, there are some sentence and grammatical mistakes there... Please, be indulgent!

ANTENTOP 01 –2020 contains antenna articles, Book for download, descriptions of HF Helical Antennas. Hope it will be interesting for you.

Our pages are opened for all amateurs, so, you are welcomed always, both as a reader as a writer.



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73! Igor Grigorov, VA3ZNW, CF3ZNW

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UA3ZNW, UA3ZNW/UA1N, UZ3ZK

op: UK3ZAM, UK5LAP, EN1NWB, EN5QRP, EN100GM

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ANTENTOP is **FREE** e-magazine, available **FREE** at <http://www.antentop.org/>

Welcome to ANTENTOP, FREE e - magazine!

ANTENTOP is **FREE e- magazine**, made in **PDF**, devoted to Antennas and Amateur Radio. Everyone may share his experience with others hams on the pages. Your opinions and articles are published without any changes, as I know, every your word has the mean.

Every issue of ANTENTOP is going to have 100 pages and this one will be paste in whole on the site. I do not know what a term for one issue would be taken, may be 12 month or so. A whole issue of ANTENTOP holds nearly 10- 30 MB.

A little note, I am not native English, so, of course, there are some sentence and grammatical mistakes there... Please, be indulgent!

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73! **Igor Grigorov**, VA3ZNW
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Table of Contents

		Page
	Cover and Contents	1- 4
	Antenna Theory	
1	HF Helical Antennas: Theory and Practice: Igor Grigorov, VA3ZNW	5- 37
	<p>Shortened HF Helical antennas have been used by radio amateurs in activity on the Air during a long time. For example, shortened vertical helical antennas have been used in hand held CB radio stations (it is 11- meter HF band) from the 50- years of the 20- century. Some manufacturers produce shortened helical antennas for military and amateurs for lower HF bands- from 3 to 20- MHz. As well shortened helical antennas are widely used in VHF/UHF radio, as amateurs, as commercial...</p>	
	HF- Antenna Practice	
2	A Slinky Antenna: Greg Mossop, G0DUB	38- 39
	<p>I built a Slinky antenna using four of the children's toys. The aim is to have a helically loaded dipole which you tune to resonance by shorting out turns at the end of the coils. Depending upon the quality of the Slinkys you buy this isn't really an outdoor antenna since corrosion can set in quite quickly...</p>	
3	Outdoor Window Mounted HF Helical Antennas: Igor Grigorov, VA3ZNW	40- 43
	<p>In the far 90s it was installed and tested several outdoor HF helical antennas. About two designs of the antennas is the article. The antennas were mounted on the clothes drier installed at the first floor of the 9 story building. Height from the ground to the clothes drier was near two meter....</p>	
4	The Helical Whip for RV and Mobile Use: J. T. McCullough, W0BHG	44- 49
	<p>When I retired I found I needed to reduce the complexity of my antennas for several bands, and simplify their mounting and connections. I needed to cut down on the time I spent setting up and disassembling antennas for recreational vehicle (RV) and motor home use...</p>	
5	Simple Balcony Antenna for 10- 40 meter Bands: Sergey Grishchenko, R3KAS	50
	<p>I made one more experimental balcony antenna. The antenna was made on the fishing pole in 5 meter length...</p>	

Table of Contents

		Page
6	<p>Low Height Antenna for the 160- meter Band: Konstantin Enin, RN3ZF</p> <p>I made the antenna for operation at the field. The antenna is very easy to build and shows high efficiency. My friends were amusing when they have known what kind of antenna I used to...</p>	51
7	<p>RZ9CJ Vertical Delta Antenna Compendium: Sergey Popov, RZ9CJ</p> <p>I tested lots antennas on the Air. The simplest and most efficiencies ones are vertical delta antennas. Below there are figures of the antennas that were tested by me...</p>	52-54
8	<p>RZ9CJ OCF Antenna Compendium: Sergey Popov, RZ9CJ</p> <p>Just OCF Antenna Compendium from different sources. May be useful to those who would like make a simple wire antenna for several bands...</p>	55
9	<p>Antenna with Rotating Directional Pattern for the 80, 40, 20, 14 and 10 meter Band: Valeriy Chihuga RA6AA and Georgiy Matcoyan UV6AF</p> <p>The antenna, developed by RA6AA and UV6AF, allows rotate the directional pattern by changing the setting in the Antenna Tuning Unit that may be sitting directly on the table at radio shack. The antenna was made and tested at the end of the 80s in the USSR. Many of the Soviet hams did the antenna...</p>	56- 60
10	<p>UR0GT Wideband Antenna for 27- 30- MHz: Nikolay Kudryavchenko, UR0GT</p> <p>It is simple vertical antenna that has low SWR at the 27- 30- MHz. The antenna has 50- Ohm input impedance. Center frequency with low SWR may be adjusted with help of variable capacitor in 20- 30- pF...</p>	61- 64
11	<p>Simple Dipole Antenna for the 7 and 21- MHz Band: Nikolay Kudryavchenko, UR0GT</p> <p>A dipole antenna is most simple antenna ever. Easy to make easy to tune to the working band. And it is benefit if the simple antenna works on two bands. Below described simple dipole antenna that can work on 7 and 21- MHz....</p>	65- 67



Table of Contents

Page

6- meter Antenna Practice

- 12 End Fed 6- meter Zepp Antenna with Resonance at 2- meter Band:
Igor Grigorov, VA3ZNW** **68- 71**

The September 2020 ARRL VHF Contest was coming and for this party I decided to make an antenna for the 6 meters band. Of course, it is not wise for me to install only single-band antenna for the 6- meter band, therefore, using the my lovely simulating antenna program MMANA I did simulation for antenna that could operate at 6 and 20 meters, and even at 15 meters with a slightly high SWR...

VHF- UHF Antenna Practice

- 13 RW4HFN Vertical Clip Antenna for 145 and 435- MHz :
Igor Vakhreev, RW4HFN** **72- 74**

It is very simple antenna that has shape of a vertical paper clip can work at 145 and 430- MHz...

- 14 RW4HFN Clip Antenna for 145 and 435- MHz :
Igor Vakhreev, RW4HFN** **75- 77**

It is very simple antenna that has shape of a paper clip can work at 145 and 430- MHz...

- 15 RW4HFN Simple 145/430- MHz Antenna:
Igor Vakhreev, RW4HFN** **78- 80**

The antenna made from aluminum wire in 6- mm diameter. Antenna has enough wide passband so it is not critical to the sizes. Antenna may be placed in vertical or in horizontal position...

AVIA Antenna Practice

- 16 UR0GT Broadband Avia Antenna Modified by RW4HFN :
by: Igor Vakhreev, RW4HFN** **81- 85**

I have made the UR0GT Broadband Avia Antenna . The antenna works good like it was stated. However, I have decided a little modified the antenna to meet my requirements...

Antenna Tuning Unit

- 17 Antenna Tuner for Symmetrical Two Wire Line:
Andrey Radchenko, UR3ILF** **86**

Very interesting practical design of the Antenna Tuner for Symmetrical Two Wire Line it was published in the Forum at CQHAM.RU...

Table of Contents

Page

Artificial Ground

- 18 Building a Ground Tuner (Artificial Earth) by ZS1JHG:
John Howard Green , ZS1JHG 87- 90**

The conductivity of your ground varies from one location to the next. This is of particular note to the mobile or portable radio station. Using short vertical or end fed antennas a good low resistance ground is required for efficient operation...

Home Made Ham Equipment

- 19 RF Generator for HF Bands 1.8- 30- MHz:
by: Igor Grigorov, VA3ZNW 91- 93**

For antenna measurements I used to a home brew RF- Bridge. It was very compact device that can be used in the roof and field. However, to test the antennas the RF- Bridge needs RF generator that provides at least 50- mW of RF power. For my field applications it should be compact, battery powered and stable source of RF energy ...

- 20 Simple RF- Bridge: Design and Applications:
by: Igor Grigorov, VA3ZNW 94- 95**

Lots measurements in antenna practice may be made with simple enough home- made test equipment. One of piece of the equipment is an RF- Bridge...

- 21 Ferrite Clips and RF Current Sniffer
By: Igor Grigorov, VA3ZNW 96- 98**

Practice shows that even in case of a well matched with coaxial cable antenna there is some RF current flowing on the outer braid of the coaxial cable. It is so called common mode RF current. Causes of the current are very different...

History

- 22 Old QSLs
Igor Grigorov, VA3ZNW 99**

It is just a memory, for my QSO's that I made in the far 1991 to 2004 years. I have tried to send QSL cards for all of my QSOs. However, I do not know if my cards have reached the correspondents. It was not a simple era in the ham radio in the Russia...

BOOK

- 23 Introduction to Wave Propagation, Transmission Lines, and Antennas 100**

My opinion is that the best books for radio amateur are the Military Books. The book gives clear information that could understand everyone. No any formulas just practice that needs to know...