

# ANTENTOP

ANTENTOP 01 2019 # 023

ANTENTOP is **FREE** e-magazine devoted to **ANTENna's**  
**Theory,**  
**1-2019** **Operation, and**  
**Practice**

*Edited by hams for hams*

**In the Issue:**

**UN7FGO Slinky Antenna**

**Thanks to our authors:**

**Practical design of Limited Space  
HF Antennas!**

**VHF and UHF Antennas!**

**Design of ATU**

**Books**

**Patents**



**Igor Vakhreev, RW4HFN**

**Nick Kudryavchenko,  
UR0GT**

**Gennadiy Kuzmichyov,  
UN7FGO**

**And others.....**

**R0CBD Balcony Dipole Antenna**

**EDITORIAL:**



Well, my friends, new ANTENTOP – 01 -2019 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 –2019 contains antenna articles, Books for download, descriptions of ATU. 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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**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, CF3ZNW  
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op: UK3ZAM, UK5LAP, EN1NWB, EN5QRP, EN100GM

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Editorial

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**1 Spreading and Underground Antennas:  
Igor Grigorov, VA3ZNW****5- 15**

It was in the end of 1980s, during at my trip by bus from Gorkiy (now Nizniy Novgorod, Russia) to a small town at this region, while on route to my destination, I observed a huge field fenced with barbed wire. I asked my local fellow traveler what it might be and he replied that it was a military communications site. However, I noticed there weren't any antennas visible. My companion remarked that they were installed underground! So, for the first time I had seen an underground communications site...

**HF- Antenna Practice****2 R2DII Mini Dipole Antenna for 14- MHz Band:  
Dimitriy Sarnikov, R2DII****16- 17**

I have very limited conditions for antenna installation in my apartment on the second floor. It is my balcony and windows of the room. I choose my balcony and begin experimented with different shortened antennas there. I cannot achieve success with shortened vertical antennas. However in the experiments there it was born Mini Dipole Antenna...

**3 Balcony Dipole Antenna for 20, 15 and 10- meter Bands:  
Sergey Lysenko, R0CBD****18- 20**

The three band balcony antenna consists of L- Bracket, mounting plate and kit of two easily replaceable shortened vibrators...

**4 Slinky Dipole Antenna  
Gennadiy Kuzmichyov, UN7FGO****21- 23**

I found descriptions of different Slinky Antennas in the Internet and I decided make my own one...

**5 Experimental Helical Antenna for the 40- meter Band:  
Gennadiy Kuzmichyov, UN7FGO****24- 26**

My first helical antenna was made from a slinky coil. Now I decided make antenna from a good copper wire. The antenna was my experiment in shortened helical antennas that may be only one antenna in strictly environment. I choose the 40 meter band as universal band for day and night propagation...

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6	<b>Simple Balcony HF Antenna:</b> <b>Alexsander Kovalevskiy, RN6LW</b>	27- 28
	The antenna was made on a plastic fishing pole in 4.5- meter length...	
7	<b>Partisan Antenna for 40, 30, 20 and 17- meter Bands:</b> <b>Sergey Grishchenko, R3KAS</b>	29
	City management service removed a tree at my window where my old antenna was located. So I need to find a solution for a new antenna. Balcony was a sole place for the antenna where I placed this one and named it a Partisan Antenna...	
8	<b>Folded Beverage Antenna:</b> <b>Igor Grigorov, VA3ZNW</b>	30- 36
	I have got a new job, and therefore I have moved again in a new place. I have moved from Richmond Hill to Niagara Falls, it is 150 km far from my old location. Of course on the new location the question about antenna arose again...	
9	<b>Loaded Loop Antenna:</b> <b>Vaclav</b>	37
	Antenna was installed along the perimeter of my balcony of the brick house...	
10	<b>RW3DKB Loop Balcony Antenna</b> <b>Valery Lifar, RW3DKB</b>	38- 40
	I have not access to the roof on my new QTH, so I decided install antenna on my balcony. It was a loop antenna...	
11	<b>Experimental Loop HF Antenna:</b> <b>Eugene Mavrin, UA5AA</b>	41- 44
	Let me say at the outset that such an antenna will not replace a good three- element beam on 20 or 60-foot high doublet on 80; however, considering the space, cost and easy of adjustment, it gives a very good account of itself...	
12	<b>RX1AG ZEPP Fed HF Antenna:</b> <b>Valentin Ivanov, RX1AG</b>	45
	The simple ZEPP Fed Antenna could tune on all HF bands from 3.5 to 28- MHz. I matched the antenna with help of 4Z5KY ATU...	



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<b>13</b>	<b>RW4HFN Limited Space Balcony Dipole Antennas: Igor Vakhreev, RW4HFN</b>	<b>46- 55</b>
	If your antenna room is limited by balcony or attic you need think about a small antenna. Below you find a description of small antennas for HF amateur Bands 40-10- meter...	
<b>14</b>	<b>RV9CX Inverted L Antenna for 160 and 80- meter Band: Dmitry Avdeyev, RV9CX</b>	<b>56- 57</b>
	The antenna is very simple and can work on 160 and 80- meter Band....	
<b>15</b>	<b>UA4WI Vertical Antenna for 20 and 10- meter Band: Alexei Shmykov, UA4WI</b>	<b>58- 59</b>
	It is very simple no counterpoises antenna can work on 20 and 10 - meter band. Antenna may be placed either in vertical or in horizontal position...	
<b>16</b>	<b>Balcony Vertical HF Antenna: Alexsander Kovalevskiy, RN6LW</b>	<b>60- 61</b>
	The simple balcony vertical HF antenna made with plastic fishing pole. Just along the pole I install copper wire in 7 meter length. Then was installed ATU. It was used home brew tuner. For each band was used one counterpoise in length $0.8 \times \lambda/4$ ...	
<b>17</b>	<b>RW4HFN Limited Space Balcony Antenna for the 20- meter Band: Igor Vakhreev, RW4HFN</b>	<b>62- 63</b>
	It is very interesting variant of a mono band antenna for the 20 meter band installed on to a balcony. The feature of the antenna is that it has DD opposite to the building. It means the antenna cannot pick up the hum from the electronics devices located in the building and the radiation of the antenna cannot go towards the building and does harm to the electronics devices located in the building...	
<b>VHF and UHF Antennas</b>		
<b>18</b>	<b>UR0GT V- Antenna for the 145- MHz: Nikolay Kudryavchenko, UR0GT</b>	<b>64- 65</b>
	It is very simple antenna that has very high gain. The antenna has 50- Ohm input impedance. Stub may match feeder with antenna. Instead of the stub it is possible to use an usual inductor...	

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	In this article we take a look for several designs of BiQuad antennas for the 432- MHz Band...	
<b>20</b>	<b>UR0GT Super- J Antenna for the 438 MHz: Nikolay Kudryavchenko, UR0GT</b>	<b>72- 75</b>
	Super J antenna is very popular on UHF bands. Here it is present two design of the antenna. First design of the antenna has input impedance of 200- Ohm so it is possible match the antenna with 50- Ohm coaxial cable with help of 4:1 transformer. Second design of the antenna has input impedance of 50- Ohm...	

### RF Broadband Transformer

<b>21</b>	<b>RL1L Two Balun Transformers for 50/300 and 50/150 Ohm: Anatoli, RL1L</b>	<b>76- 78</b>
	Below you can find design of two Balun transformers for 50/300 and 50/150 Ohm. The Balun transformers have low SWR, less the 1.0: 1.2 at all 160 to 10 meter Bands...	

### History

<b>22</b>	<b>Old Commercial UHF Licence</b>	<b>79- 80</b>
	Well, when I was involved in the service of VHF/UHF radio in the GTA, I have seen sometimes strange things. Be truth not strange, but abandoned old radio rooms... There were located on the roof of some buildings... I always had nostalgia feeling when I have chance to explore the rooms...	

### ATU

<b>23</b>	<b>US4LEB ATU for HF- Bands: Sergei Klimenko, US4LEB</b>	<b>81- 82</b>
	The ATU is used T-circuit for matching transceiver output with antenna. However, the features of the ATU is a Ball variometer and RF-Relays . The variometer is the variable inductor of the ATU. Using the Ball variometer allows to simplify the ATU design. RF relays switch on the coils of the variometer and it makes needed inductance.....	

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### RECEIVING ANTENNAS

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		Active loop antenna can provide good reception in harsh environment. The antenna consists of from a loop connected to RF amplifier. Loop allows provide selection to direction and RF amplifier boosts the receiving signal. Dimension of the loop depends on receiving range...	
<b>25</b>	<b>Short Dipole Receiving Antenna</b>		<b>84</b>
		Short Dipole Antenna may provide great receiving in the 100- kHz- 40- MHz range. Dipole may be in 10- 20- cm length...	
<b>26</b>	<b>RN3KK Receiving Loop Antenna: Nikolai Banshcikov, RN3KK</b>		<b>85</b>
		Yesterday I had a couple hours of free time so I decided make a receiving loop antenna for my receiver DEGEN. When the antenna was made and connected to the receiver I was amused how good it worked...	
<b>27</b>	<b>Simple Receiving Magnetic HF Antenna- S- Match Loop: Andy Johnson, PMR446CB, Tallinn</b>		<b>86- 87</b>
		While experimenting with S- Match I decided use in the match magnetic loops. Yes, why not use in this one not binocular transformer but just usual loop. I used small loop with diameter up to 70 cm...	
<b>28</b>	<b>RW3DKB Receiving Loop Antenna: Valery Lifar, RW3DKB</b>		<b>88</b>
		The loop antenna was designed for 160 and 80 meter bands and tested in city where receiving on long wire antenna was impossible on the bands...	

### BOOKS

<b>29</b>	<b>Tactical Radio Operation</b>		<b>89</b>
		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...	
<b>30</b>	<b>TELEFUNKEN from 1919</b>		<b>89</b>
		History of Radio has lots wonderful pages. Several days ago I found in the internet old Telefunken catalogs from far 1919...	

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Harold H. Beverage

