

ANTENTOP

ANTENTOP 01 2017 # 021

ANTENTOP is **FREE** e-magazine devoted to **ANTENna's**
Theory,
1-2017 **Operation, and**
Practice

Edited by hams for hams

In the Issue:
Antenna Theory!

Practical design of HF Antennas!

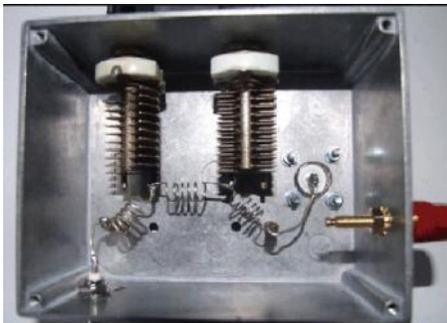
Propagation!

Design of ATUs

Stealth Antennas!

Antenna- Trees!

VHF ATU (145- MHz)
by Brett Johnson



Indoor Antenna



Thanks to our authors:

Prof. Natalia K.Nikolova

Nick Kudryavchenko,
UR0GT

Dick Reid, KK4OBI

Craig A La Barge, WB3GCK

And others.....

EDITORIAL:

Well, my friends, new ANTENTOP – 01 -2017 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 –2017 contains antenna articles, Books for download, descriptions of ATUs, articles on Mysterious Propagation. 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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UZ3ZK

op: UK3ZAM, UK5LAP, EN1NWB,
EN5QRP, EN100GM

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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
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Editorial

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Antenna Theory

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**Friis Transmission Equation and the Radar Range Equation:
Prof. Natalia K. Nikolova**

- 1 Dear friends, I would like to give to you an interesting and reliable antenna theory. Hours searching in the web gave me lots theoretical information about antennas. Really, at first I did not know what information chose for ANTENTOP.
- Now I want to present to you one more very interesting **Lecture 06**: Friis Transmission Equation and the Radar Range Equation. I believe, you cannot find such info anywhere for free! Very interesting and very useful info for every ham, for every radio- engineer...
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HF- Antenna Practice

**The Three L-Antennas:
Dick Reid, KK4OBI**

- 2 A space saving antenna in the form of an upright L has been around the amateur radio world for a long time... this article is to expand our general knowledge relative to angle-of-bend and off-center-feed (OCF) configurations of the L-Antenna...
- 12- 19**

**The WB3GCK Downspout Antenna Revisited:
Craig A La Barge, WB3GCK**

- 3 A ham friend of mine recently asked me for the details of how I use my rain gutter and downspout as an antenna. I originally did a write-up on it in 1994 (Reference 1). That article found its way into several ham radio publications and newsletters. Most of the original article is still relevant but I have made some changes in the way I feed the "antenna." So, here's an updated description of my Downspout Antenna...
- 20- 21**

**Stealth Antennas for Amateur Radio:By:
Charles W Bushell, KC8VWM**

- 4 This list of Ultra Stealth antenna has been created here in hopes of assisting the radio amateur community who may be otherwise restricted or limited in terms of antenna installation possibilities so they can remain active while serving to address any required need for those individuals who may be seeking just such a solution...
- 22- 29**

**The GRASSWIRE: Another Approach to Hidden HF Antennas:
Michael J. Toia, K3MT**

- 5 The article is an AntenTop Magazine variant of Chapter 7 from K3MT book "HF Antenna Topics."
- Deed restrictions got you down? Neighbors intimidating your tower plans? Need a really easy, portable HF antenna? Then the Grasswire may be the answer! Virtually invisible, lightweight, and compact (you can carry one in your hip pocket), this antenna works! I've used one in various installations for more than 10 years...
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<p>Two Helical Antennas for 160 meter Band: Andre Chichkin, VE3YXO</p> <p>9</p> <p>Helical vertical antenna at its relatively small height may provide a good operation in the Air. It is possible to find the statement at lots ham publications in the internet and in paper magazines. So I decided to make my own helical antenna originally for 160 meter band and prove if the helical antenna works so well. Design of my helical antenna was based on source from internet and magazines that I had at my hand....</p>	41- 44
<p>UR0GT Helical Antenna for the 40- meter Band: Nikolay Kudryavchenko, UR0GT</p> <p>10</p> <p>Nikolay (UR0GT) would like experimented with Helical Antennas for the HF Band. He already made a MMANA model of the Helical HF Antenna for the 40 meter Band. But...did not have time... he lived for us just two files of the antenna...</p>	45- 46
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13	<p>Experimental Window Antenna for the 14- and 21- MHz Band: Yuri Pankratov, R0CBK</p> <p>The antenna is very simple for design. It needs to buy just two aluminum tubes in 40 and 10- mm in diameter and two aluminum plates (it is possible use kitchen aluminum foil instead of the plates). Others stuff for antenna may be found in amateur junk box or bought in amateur flea market...</p>	53- 54
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	VHF ATU	
	VHF ATU: Brett Johnson. Credit Line: Facebook group: The Urban Radio Ham.	64
18	Now many of you may think WIRE antennas are the preserve of the HF bands. Well not so. I have a "long" wire here that gets used on 2 m - and for this some form of ATU is handy - here is a simple one I made...	
	HF ATU	
	Several Universal ATUs for the Whole Amateur HF Band: Igor Grigorov, VA3ZNW	65- 71
19	It is not difficult to build an Antenna Tuning Unit (ATU) for any amateur HF band. Such device could be done with usual coils and capacitors. However the real problem is making a simple and effective ATU without lots switching and tuning that could work over a broad range of frequencies. Below there are given several different ATU that work effectively over all amateur HF bands from 160-10 meters, easy to do and easy to tune and easy to match antenna with transmitter...	
	Classical ATU: Yuri Ziborov, RZ3GI	72- 73
20	The Classical Antenna Tuner (with two capacitors - one for matching with transmitter another one do matching with load and inductors that value depends on frequency between the capacitors) is known by hams and served at the ham shack for decades...	
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21	Note from I.G.: I found schematic of the tuner on infinite pages at the ham forum at www.cqham.ru. The design was present by amateur with alliance Svoy- 3000. Of course I have decided make and test the ATU...	

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First soviet space apparatus "Sputnik" was launched into an elliptical low Earth orbit on 4 October 1957. It was a 58 cm (23 in) diameter polished metal sphere, with four external radio antennas. The antennas (two antennas were belonged to each transmitter) were connected to two transmitters. One transmitter was working on 20- MHz another one on 40- MHz. Transmitters turn on and off with help of an relay and transmitted just CW pulses...

Propagation

23 **Ultra Long Delayed Echoes: Mike Doig, ZL2BBS**

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I had an odd experience a few years ago, which, maybe, might count as the longest delayed radio echo on record...

24 **Time Warp on 20 Meter: Igor Grigorov, VA3ZNW**

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LDE: what is it: Is it truth or myth? I believe you already have read the article "Ultra Long Delayed Echoes" written by Mike Doig, ZL2BBS. The article was published in K9YA Telegraph # 4, 2017. Yes, it is April article that just may smile you. However, some April articles are not like April articles but... The small notes described what was happened with me and it is not an April joke...

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