

ANTENTOP

ANTENTOP 01 2012 # 016

ANTENTOP is **FREE** e-magazine devoted to **ANTENna's**

1-2012

**Theory,
Operation, and
Practice**

Edited by hams for hams

**In the Issue:
Antennas Theory!**

**Practical design of HF
Antennas!**

Underground Antennas!

**Practical design of UHF
Antennas!**

Regenerative Receiver!

And More....

S- Tuner

RZ3AE



Thanks to our authors:

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Eugene (RZ3AE)

Aleksandr Simuhin, RA3ARN

Vasiliy Samay, R7AA

And others.....

Sputnik Tube 1P24B



EDITORIAL:

Well, my friends, new ANTENTOP – 01 – 2012 come in! ANTENTOP is just authors' opinions in the world of amateur radio. I do not correct and re-edit yours articles, the articles are printed "as are". A little note, I am not a native English, so, of course, there are some sentence and grammatical mistakes there... Please, be indulgent!

ANTENTOP 01 –2012 contains antenna articles, description of antenna patents, Regenerative Receivers. Hope it will be interesting for you.

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



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Every issue of ANTENTOP is going to have 100 pages and this one will be paste in whole on the site. Preview's files will be removed in this case. I do not know what a term for one issue will need, may be 8- 10 month or so. A whole issue of ANTENTOP hold nearly 10 MB.

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73! **Igor Grigorov**, VA3ZNW

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<http://www.antentop.org/>

Preview: Some articles from "cooking" issue will be pasted for preview on this site, others no. Because, as I think, it must be something mysterious in every issue.

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and, they will do this work, and we will see lots interesting articles there.

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Editorial

Table of Contents

Antenna Theory

Page

- Reflector Antennas: by: 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. **5- 31**
- Now I want to present to you one more very interesting Lecture 14 - it is a Lecture Reflector Antennas. I believe, you cannot find such info anywhere for free! Very interesting and very useful info for every ham, for every radio- engineer.
- High-gain antennas are required for long-distance radiocommunications (radio-relay links and satellite links), highresolution radars, radioastronomy, etc. Reflector systems are probably the most widely used high-gain antennas...
- HF- Antenna Practice**
- Off Center Dipole Fed Antenna for 80- 40- 20- 15- and 10- meter Bands : Credit Line: Radio and TV-news, June, 1958**
- 2 Just description of an Off Center Dipole Fed Antenna for 80-, 40-, 20-, 15- and 10- meter Bands... **32**
- Ground Plane Antenna for 40, 20, 15 and 10- meter Bands: by: Vsevolod Vorob'ev, UA3FE, Moscow. Credit Line: Radio 1958, #6, pp.: 30, 31, 36**
- 3 Originally the antenna was used (and described) by polish ham Kahlickiy in 1946 year. The advantage of the antenna is that only one relay is used to switch the four working bands of the antenna... **33- 36**
- Vertical Antenna for 80-, 40-, 20-, 15- and 10- meter Bands: by: Yuri Medinets, UB5UG, Kiev :Credit Line: Radio # 9, 1960, p. 44**
- 4 The antenna is designed to work at 80-, 40-, 20-, 15- and 10- meter Bands without any commutation in the ATU (Antenna Tuning Unit). It is reached with the help of ATU made on the base of an open stub... **37- 38**



Table of Contents

	Page
5	39- 40
Shortened Antenna for the 160- meter Band: by: Aleksandr Simuhin, RA3ARN	
At my QTH I had no space for full sized dipole antenna for the 160-meter. So what I may install there it was only a shortened antenna. After dig out in the internet and books and tried out different antennas at my location I found the antenna that works for me...	
6	41- 45
Ground Plane for the 40,-30,-20 and 17- meter Bands: by: Vasiliy Samay, R7AA)	
The antenna is very simple. It is just vertical radiator in 10- meter length that is matched at the each working band by its own matching unit that is switched on with help of relay. However to the design I came not straight away...	
7	46- 54
EH Antenna for the 20- meter Band: by: Vladimir Kononov, UA1ACO, St. Petersburg	
Below step by step will be described how to make a EH- Antenna for the 20- meter Band.	
So if you are ready- go ahead ...	
8	55- 57
Delta Loop for 40- and 20- meter Band: By: Nikolay Kudryavchenko, UR0GT	
Antenna has good SWR on both 40 and 20- meter Bands. Antenna placed on distance 2- meter above real ground. Input impedances of the antenna on both bands depend on distance above the ground and condition of the ground...	
9	58- 62
Half Loop Antenna for the 80-, 40,- 20,- and 15- meter Bands: By: Nikolay Kudryavchenko, UR0GT	
It is very simple and efficiency antenna that works in several amateurs bands- 80,- 40,- 20,- and 15- meters. The antenna has input impedance 75 - Ohm...	
10	63- 64
3- Elements YAGI Antenna for the 20- meter Band: By: Nikolay Kudryavchenko, UR0GT	
It is very simple and efficiency YAGI antenna with wide pass band. Antenna has input impedance 50- Ohm. UR0GT - Match is used for matching the antenna with a coaxial cable...	



Table of Contents

UHF- Antenna Practice

Ground Plane for AVIA Band: By: Nikolay Kudryavchenko, UR0GT

- 11 Some receivers for AVIA-Band (118- 136- MHz) are designed for 75- Ohm -antennas. Below described simple Ground Plane antenna for the band that has input impedance 75-Ohm at good SWR on 118- 136- MHz..... **65- 66**

Antenna for Two- meter Band with Cardioid Diagram Directivity: By: Nikolay Kudryavchenko, UR0GT

- 12 The antenna has Cardioid Diagram Directivity. **67- 68**
 There are some special cases when such diagram required to be used...

Discone Antenna for the 2- meter Band: by: by V. Bataev

- 13 **Credit Line: Radio # 8, 1958** **69- 70**
 Antenna was designed for the 2- meter Band. The antenna combined the all advantages of the discone antenna with the simplicity of the design...

Receiving Magnetic Loop Antennas

14 **Two Receiving Magnetic Loop Antennas from Old Magazines**

- Very often it is possible to find something interesting and unusual while going around old magazines. Below there are two interesting design of the Magnetic Loop Antenna... **71**

Tuners

- 15 **S- Tuner: by: Eugene (RZ3AE)** **72- 74**
 S- Tuner provides matching of asymmetrical output of a transceiver with symmetrical feeder line. Symmetrical feeder line (as usual it is two- wire ladder line or two- wire line with plastic insulation) used to feed symmetrical dipole antennas...



Table of Contents

Page

Underground Antennas

Underground Antennas: Credit Line: CQHAM.RU. Forum: Underground Antennas

- 16 Below there are pasted some messages from the topic on Underground Antennas from the ham- radio forum on CQHAM.RU... **75- 80**

Underground Can Antenna: Credit Line: Forum at <http://russianarms.mybb.ru/>

- 17 At articles about Underground Antennas that are published at Antentop there are pictures of Underground Antennas that look like a giant plate or giant up- down can. What is inside of the monster? At Antentop there were several version of the inside design. Below one more version and some more pictures of the underground cans are included... **81- 82**

Regenerative Receivers

- 18 **Regenerative Receiver Audion with 1ZH24B Tubes: by: Andrey Bessonov, Chelaybinsk** **83- 84**

Audion is an old regenerative receiver that was produced in pre WWII German. The shown below receiver is a bit similar to the old Audion on the schematic...

- 19 **Autodyne Synchronous Regenerative Receiver: by: Sergey Starchak** **85- 86**
Described an original Autodyne Synchronous Regenerative Receiver that was made and tested by Sergey Starchak...

- 20 **Regenerative Receiver on Pencil (Sputnik) Tubes: by: V.V. Voznyuk** **87- 88**
Just schematics of the simple regenerative receivers made on the Pencil (Sputnik) tubes...



Table of Contents

Page

History Data

- 21 Pencil Tubes: by: V.Sukhanov, A. Kireev Credit Line: Radio # 10, 1960, pp.: 49- 52 89-92**
- Below there are described some main schematics on the miniature "pencil" tubes. The schematics came to us from the far 50- 60-s of the 20- Century. The schematics with pencil tubes were used at the radio equipment that was installed practically anywhere - from tank and submarine up to space ship.. .
- Data for the Soviet Sputnik (Pencil) Tubes**
- 22 Just Data for the Sputnik Pencil Tubes... 93**

Towers

- 23 Self- Supporting Tower: by: B. Derkachev: Credit Line: Radio 1957, #1, p. 27 98**
- Design of a simple self- supporting tower.

Patents

- 24 Broad Band Antenna (Discone Antenna): By Armig G. Kandoian 94- 97**
- Just the famous patent on to discone antenna filled by Armig G. Kandoian
- 25 Josef Fuchs (OE1JF) Antenna: Patent Description 99- 100**
- Dr. Josef Fuchs, OE1JF, Austrian Radio Amateur, was the first who described the Monoband Endfeed Half Dipole Antenna in 1928. Later the antenna got name "Fuchs Antenna." Just Patent Description

