



ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917

November 2015

PRESIDENT'S MESSAGE

By Gerry Villhauer – W0GV



Hello DRC Members,

I hope you remembered to change your clocks back to Mountain Standard Time. Cathy and I spent a few days visiting friends in Texas. Rain, Rain, Rain while we were there! We had a good time anyway.

Make sure you mark your calendar for our DRC Holiday Party, Wednesday, December 16th. We have a special general interest program lined up, good food, prizes and lots of fellowship. December is a busy month; please don't miss our annual gala holiday event.

The club is in need of a couple folks to fill two very important positions. We need an Emergency Communications Coordinator. The Emcom Coordinator works with our served agencies, plans exercises and develops an emergency plan. This person is not alone with these tasks, but, is the focal point to assure all plans are in place. Additionally we need a person to assist with the editor duties of the RoundTable. This person would work closely with Jessie (N0HI) our present editor and later next year take over as editor. As you know, Jessie has been doing a wonderful job with the RT. What you may not know, is that Jessie has triplet boys age 9; who are getting involved in sports and all the activities that boys that age get in to. As we all understand, Jessie needs more family time to devote to the boys. Jessie will train his successor for a smooth transition. Anyone interested in either of these two very vital clubs positions, please contact me.

If you were at the October meeting you know that our scheduled program presenter, Rob Steenburgh (AD0IU) had a family emergency; which required him to leave town suddenly. Our thanks to Bill Rinker (W6OAV) for stepping in at the last minute with a very interesting presentation on SDR receivers. Bill's presentation included live demonstrations which generated a lot of questions from the audience. Great Job Bill, with only a few hours of notice. YES, the cancelled program on Space Weather will be rescheduled as soon as possible.

Our November program will be presented by Larry Irons (K0LAI). Larry will be using a PowerPoint presentation and live demonstration to show how to program your radio using your computer and software from RT-Systems and other free software like Chirp. Larry also plans a demonstration of the ARRL's TravelPlus software. This promises to be a very interesting and educational program. Thanks to all of you who recently joined and made the DRC "Your Club". Please stay active on the air, come to meetings, programs and events. Your name and call will be listed in the body of the RoundTable.



73 for now,

INSIDE THIS ISSUE

October - Meeting, What'd I Miss?	2	K6DUX's Magnetic Loop Test	6
Who's New In The DRC?	3	So Many, So Few	8
Technical Committee Report	3	Looking Back At The DRC	9
Amateur Radio Parity Act	4	Upcoming Events & Contests	12
DRC Bylaws / Equipment Loans	4	DRC Repeaters	13
November Meeting Presentation	5	DRC Calendar	14
Learning Net Report / Solar Update	5	DRC Board & Staff	15



OCTOBER MEETING - WHAT'D I MISS?

By Bill, W6OAV

There were 41 attendees this month. After having attendees introduce themselves, Gerry (W0GV) discussed the upcoming HAMCOM Colorado convention (May 13-15, 2016). He then announced that Jim (N0USN) has accepted the Public Relations Coordinator position. Gerry is still looking to fill the EmComm Coordinator position. Anyone interested should contact Gerry. Also, Gerry announced that the club is looking for a RoundTable editor. (See article elsewhere in this publication).

Gerry announced that the scheduled guest speaker Rob Steenburgh (AD0IU) had to cancel at the last minute due to a death in his family. We will re-schedule his talk concerning Space Weather at NOAA. Rob has our deepest sympathies.

I filled in with a PowerPoint presentation titled "Tuning the World with WebSDR. The topics covered were:

- Overview of WebSDR, which are SDR receivers connected to the internet allowing many listeners to independently control the receivers. This includes controlling frequencies, modes, filter configurations, etc.
- Using WebSDR sites to test the user's HF station transmitter signal qualities, to determine antenna performance, propagation conditions, etc.
- Overview of a typical SRD receiver's configuration.
- The benefits of SDR technology.

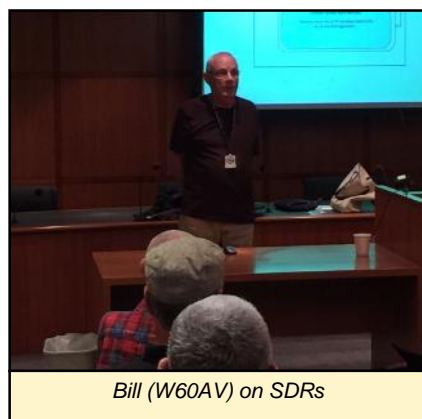
The presentation was followed with a live demonstration using several WebSDR sites around the world to tune to commercial stations, ham conversations and some digital signals.

A good list of available WebSDR sites can be found at:

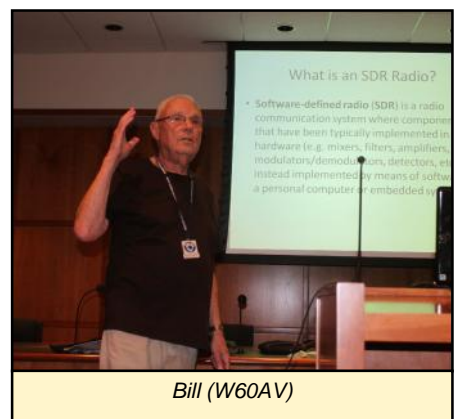
http://www.dxzone.com/catalog/Internet_and_Radio/WebSDR/



Gerry Introductions



Bill (W6OAV) on SDRs



Bill (W6OAV)

WHO'S NEW IN THE DRC?

The DRC is a very active club in the Denver metro area and we'd like to have all of our members listen for these new calls and personally to make them feel welcome.

Alex Acerra	W2PBR
Gregory Steiner	NA
Eric Davis	KD0TAQ
Karl R. Nelson	KN0KN

Welcome to our newest members. We have a number of activities throughout the year and we'd like very much for you to participate in serving your community.

If you have questions please feel free to ask on any of the repeaters or see the contact information on the last page of this publication. Also please join us once a month at the regular club meeting on the 3rd Wednesday at 7:00 p.m. For new hams we have the Elmer session which starts at 6:00 p.m. before the regular meeting.

More information can be found on the Denver Radio Club website at <http://www.w0tx.org>.

TECHNICAL COMMITTEE REPORT

By Bill, W6OAV



October Technical Committee Meeting

The following is an overview of the subjects discussed at the September Technical Committee meeting. The project coordinators' call signs are in red.

AllStar Link Voter System (W6OAV)

Goal: Discuss the feasibility of establishing an AllStar Link Voter network.

Status: W0GV has installed the main server Asterisk software and getting familiar with it. NOETV is building a remote AllStar Link receiver for testing.

Voter System Expansion - East (W0GV)

Goal: Locate additional remote sites.

Status: On hold as the tech committee investigates the feasibility of building an AllStar Link voter network.

145.49/448.625 Repeater - Controller and Radio Upgrade (AC0UA)

Goal: Replace the S Com 7k with a preprogrammed S Com 7330 and replace the Sytnors with Kenwoods.

Status: AC0UA has completed the project. The repeaters are working well. Members are monitoring for the possibility of any "hiccups".

DRC/TSA Aurora Site (W0GV)

Goal: Maintain contact with TSA relative to establishing a "communications room" for the DRC.

Status: The TSA has assigned a contact person for the DRC. W0GV is working on meeting with him as soon as possible.

Packet Gateway (W6OAV)

Goal: Re-design the gateway for more reliability.

Status: Kantronics sent a new firmware upgrade which W6OAV installed in the KAM XL TNC. However, the firmware tests can't be performed since the gateway is shut down (See next item below). The club has a Time-wave PK900 to replace the KAM should future tests show that the new firmware is not reliable.

Noise at Station 4 (WWOLF)

Goal: Locate, document the power line noise source(s) and contact Xcel to correct.

Status: WWOLF is gathering the equipment and will coordinate the tests. In the meantime, the HF side of the gateway is disabled as the gateway is "deaf" due to the extreme HF power line noise level.

Establish a DRC YouTube Channel (KB0A)

Goal: Provide access to various DRC videos.

Status: KB0A has obtained a channel. He will forward log-in info to W6OAV and to others.

Low Level Hum on 6 Meter Repeater (KB0A)

Goal: Identify and correct the source of the hum.

Status: Appears to be 60 Hz hum. Troubleshooting will be done ASAP.

Fusion Repeater Upgrade (KB0A)

Goal: Equip the Fusion repeater with a Wires-X link unit to connect it to the Wires network.

Status: Equipment purchased, waiting for delivery and setup.

~ Editor's Note: The Technical Committee meeting is open to members of the DRC. It is held in the Arvada room, starting at 6:00 p.m. on the evening of the DRC monthly meeting.

AMATEUR RADIO PARITY ACT OF 2015

By Kurt, KU0O

I started rescue-radio.com after I started looking new housing for my family. After spending close to a year looking at older properties in the metro Denver area, I could not find something that would meet my wife and my two children's needs.

So I did what every other loving father did and put their needs ahead of property that was antenna friendly. Unfortunately 99% of the new housing in the Denver area is encumbered with CC&R's sometimes with a HOA, sometimes with metropolitan district such as in the Candela's subdivision doing the covenant enforcement.

The problem is that most CC&R's is that they are cookie-cutter copies of previous CC&R's often with little to no thought put into them, especially antenna restrictions. Getting the CC&R's changed often takes a 66% supermajority to overturn and in the case of Candela's subdivision even if you get the 66% vote, the developer can deny the covenant for the next 20 plus years.

Since many amateurs face the same uphill battle, I created www.rescue-radio.com as an easy way to support the ARRL's mission to get the Amateur Radio Parity Act passed in both the house and senate. While the ARRL can't petition members outside of the organization, I can. So you can have your spouse, friends and family also join the mission to get this important legislation passed.

Just go to www.rescue-radio.com and click the "Contact congress today" button. A form will appear where it will ask for your information. It generates one letter for amateurs and another for non-operators depending if a call sign is entered or not. Then click the "Create letters" button and a downloadable PDF will be generated with instructions on where to mail the letters.

Please send them to the ARRL instead of Congress directly. The reason for this is that it gives the ARRL lobbyists a talking point and evidence that amateurs and general public support this legislation. This in turn makes this an easy sell to congress.

DENVER RADIO CLUB BY-LAWS

By Gerry, W0GV

We were supposed to vote on By-Law changes at our last meeting. With all the confusion around the cancellation of our speaker, I forgot to put that item on my notes. We will have that item of business at our November meeting. If you would like to again review the proposed changes, please view them in the October Round Table.

EQUIPMENT LOANS

By Bill, W6OAV

The DRC has several equipment items that club members can borrow for up to 90 days.

The equipment consists of 2 HF/VHF antenna analyzers and 6 VHF/UHF HTs. The latter are programmed for all the Front Range repeaters and simplex. The borrowers are responsible for picking up and returning the equipment to the names below.

Contact the following to borrow the equipment:

- Antenna Analyzers
 - Bill (W6OAV) 303-741-2537
- HTs.
 - Jim (K0TOR) 303-798-2351



WHAT IF THE WEATHER CHANGES?

If we should experience a turn in the weather on the day of our monthly DRC meeting it may be necessary to cancel the meeting. If this should happen listen for meeting status reports on 145.49 or 448.625 MHz repeaters during the afternoon on the day of the meeting.



QST, QST, QST.....

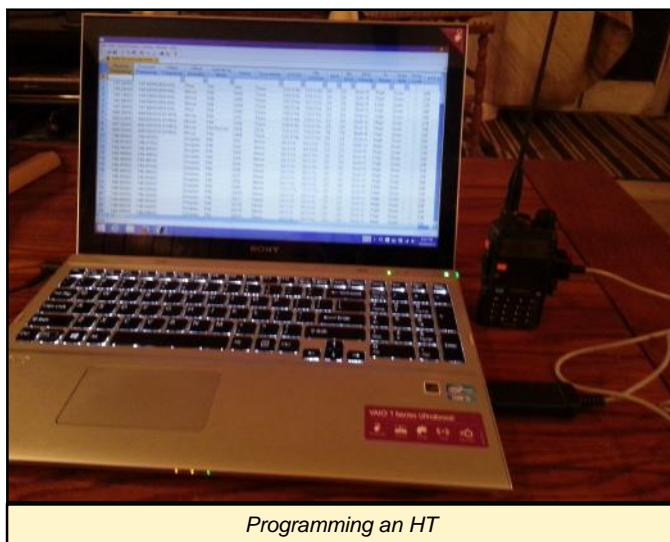
The club is looking to add Sunday Net Control Operators. We would like to have several operators trained, so there can be a rotation of operators to relieve one person from net control duty every Sunday. If you would like to fill one of these important club roles, please contact either Jim (K0TOR), or Gerry (W0GV). Contact information can be found on the DRC webpage. You must have a reliable base type station to serve as Net Control Operator.



NOVEMBER MEETING PRESENTATION

By Larry, K0LAI

The presentation will be on how to program a radio using a computer and software. I will give a PowerPoint presentation and a demonstration of how to program a radio. I will show how to copy and paste repeater settings from one type of radio to another type of radio. I will cover both RT-Systems software and the free, open source software called Chirp. Are you traveling across country and need to program your radio for other locales? I will give a demonstration of ARRL's TravelPlus software to extract the data on the repeaters along your route. Don't miss this chance to learn how to program your radio with your computer.



Programming an HT

W0TX LEARNING NET REPORT

By Fred, AA0JK

Some of the subjects discussed this month:

- IRLP Nets
- EchoLink
- Antennas
 - Diamond X30A & X50A
 - HamStick vs. Hustler mobiles.
 - Outbacker multi-band.
 - MFJ-1699T.
 - Tarheel screwdriver mobile.



If you are listening and don't yet have your license, you can contact us at the W0TX website, w0tx@w0tx.org or at elmer@w0tx.org.

If we don't have the answer here on the net, we have a lot of experienced hams in the club that can help. Questions can also be submitted on the YAHOO Learning Net web page. (<https://groups.yahoo.com/neo/groups/HamLearningNet/conversations/topics/376>)

Here you will also find information from past activity that you might find of interest. Getting that first Technician license? Upgrading to General or Extra? We're here to help. We encourage those who have been Hams for several years to also join us. Your experience and input is welcomed.

What topics would you like to discuss? Join us Wednesday nights, 7:30 PM, 145.490/448.625.

(Note: The third Wednesday of the month is devoted to the DRC club meeting. See the w0tx web site for additional information. w0tx@w0tx.org),

SOLAR UPDATE

BY FRED, AA0JK

October started out with a spectacular eruption sending a massive plume of dark plasma up from the sun's western limb. Fragments of the plume were expected to deliver a glancing blow to earth's magnetic field during the late hours of October 3rd. October 8th high speed solar wind streams buffeted earth's magnetic field. This marked a three day period of geomagnetic storms. This was amplified by a solar storm already in progress. Mid October saw the sun flat-lining with solar activity being very low.

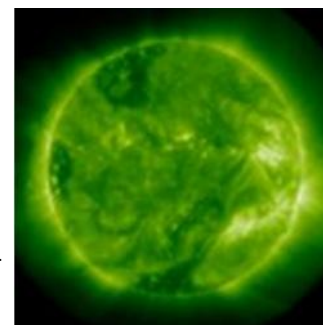
Solar and geomagnetic activity October 19-25 – solar activity reached low levels. C- Class flares were observed on the 19th that produce a majority of the activity of the period.

Space Weather Outlook - 26 October 2015 thru November 21

Forecast of Solar and Geomagnetic Activity 26 October - 21 November 2015

Solar activity is expected to be at low levels

November should hold moderate improvement for propagation for stations in the northern hemisphere on most HF bands. This should be welcome for the winter DX season.



K6DUX'S MAGNETIC LOOP ANTENNA TEST

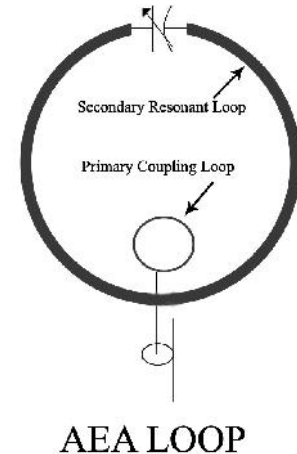
BY BILL, W6OAV AND IRV, K6DUX

Part 1 – Introduction - By Bill, W6OAV

Part 2 of this article below describes a stability test that K6DUX performed on an AEA Magnetic Loop antenna. Before describing the test, a bit of back ground information on magnetic loop antennas is in order.

Figure 1 shows the configuration of a typical magnetic loop antenna. Magnetic loops have been very popular for years in many countries and are becoming very popular in the United States. The reason is because more hams are moving to covenant controlled areas which do not allow antennas or into condos or townhomes where installing outside antennas is an issue. The following features make magnetic loops popular:

- Relatively stealthy.
- Multiband.
- Smaller in circumference than a quarter wavelength at the highest operating frequency.
- Very close to the efficiency of a dipole.
- Do not require radials.
- Have a very low angle of radiation even when mounted vertically very close to the ground.
- Very low receive noise compared to most other types of antennas.



Magnetic loops have one disadvantage. They have a small bandwidth. This requires the operator to retune as he moves up or down within a band. This usually isn't a real issue when using a remote tuner. However, it can be an issue if an operator wants sit on a particular net frequency for long periods of time. This is because a loop's resonant frequency will drift over time due to temperature changes causing metallic expansion and contraction. K6DUX discusses this issue below.

Part 2 – Magnetic Loop Test By Irv, K6DUX

I had the opportunity to pick up a used MFJ Loop at one of the local flea markets and was lucky enough to find out what was wrong with it and get it working again. I soon discovered that I had to use my MFJ antenna analyzer to find out where the resonate frequency was before trying to set it to the frequency that I wanted.

I use the MFJ Loop to roam around the bands that it covers. One day I decided to set it on 14.076 to see what the differences were in receiving on the 20 meter vertical and the loop. I soon discovered that the loop had a tendency to drift off frequency and I had to constantly check where the resonate frequency was. The Q of the loop is so high that I had to very slowly move the frequency of the analyzer to avoid bypassing the resonate frequency dip.

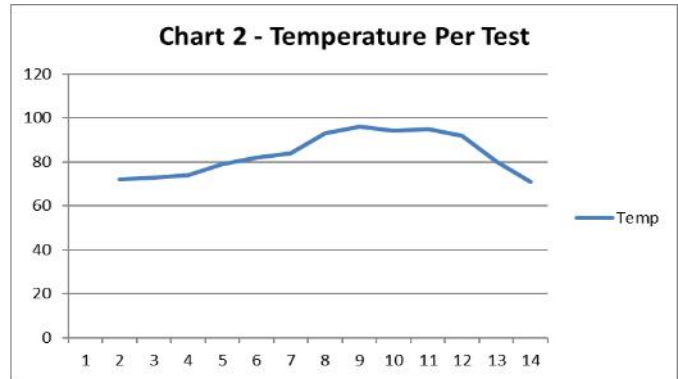
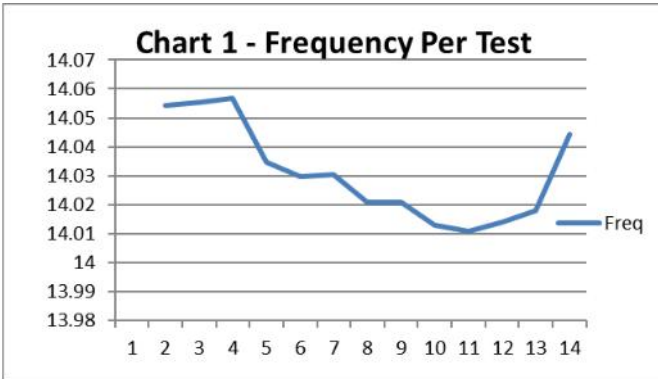
I recently read an article written by VK5KLY, (www.brisdance.com/vk4amz/VK5KLT.html), about magnetic loops that Bill, W6OAV, sent me and I commented that there was no mention of how much the loops drifted in frequency. After some discussion I decided to run some tests on my loop and note just how much it drifted. I think that it is obvious that temperature, i.e. thermal expansion of the capacitor and to a lesser degree the loop itself, was the main culprit that caused the loop to change resonate frequency I set up a test stand with the loop on a rotator and one of my remote temperature transmitters placed close to the loop to record temperatures (See Figure 1). I ran three days of tests, each day was on a different band, and recorded the temperature as well as the resonate frequency every couple of hours.

Chart 1 below shows the **frequency** measured during each test. Chart 2 shows the **temperature** measured during each test. I rotated the loop 90 degrees for each reading but found very quickly that it didn't seem to matter what direction the loop was orientated in. I was surprised as to just how hot the loop temperature reached. In the 10 meter test the temperature reached 112 degrees in the sun. The results for each band, as one would expect, were

(Continued on page 7)

(Continued from page 6)

almost identical in nature. The results for the 20 meter band gives the best clue as to how temperature affects the resonate frequency and is shown in the two graphs below. An interesting note is that when a cloud partially covered the sun that the temperature dropped, obviously, shown in point 10 in the temperature graph below, and the resonate frequency changed accordingly, as expected. I also noted that when the wind blew fairly hard that the temperature would also drop. Since the MFJ loops have black plastic coverings over the capacitor and pickup loop that they retained heat more readily and that the resonate frequency was slow to return to its initial settings.



The magnetic loop is a fine antenna even though it does drift with temperature. During weak signal operation it was superior in receiving due to its lower noise threshold than the PAR 1/2 wave verticals that I have for both 10 and 20 meters. Knowing that the resonate frequency would move down as the temperature rose, or the reverse, made it far easier to know what direction to move the capacitor to adjust the resonate frequency. A mathematical examination of magnetic loops can be found in Antennas by John Kraus for those interested. An explanation of the various shapes, sizes and patterns will be the subject of another article.



Figure 1 - Remote Temperature Sensor



Figure 2 - Test Loop

Please Let Us Know

Over the years we occasionally hear from hams who have read the RoundTable in other states and countries around the world. We appreciate the comments and we would like to know where you are located. So if you live outside the Front Range or Denver Metro Area and read the newsletter either online, email or hard copy please send a short note via email with your *City, State or City, Country*. We will publish it at a later date in our new regular feature called RoundTable RoundWorld.

To respond to this request send your information to n0hi@arrl.net.

Subject: I'm located in...

SO MANY, SO FEW

BY FRED, AA0JK

We see many individuals at VE testing, but hear very few later on the air. Why?

How many newly licensed hams do you hear on the air after they get their license? Very few? Why? Maybe it's because of the method by which they learned the material needed to pass the test with little regard to applying that information.

Cram courses are fine for test preparation, (after having prior exposure to the subject), not good for learning the material needed to actually apply it to the hobby.

After a cram course, they may be overwhelmed with all the information and don't feel comfortable joining us on the air. They may feel intimidated with what they think is required to push that transmit button. Therefore they put it aside and may or may not pursue the hobby further.

In flight training, you don't give a cram course in how to fly, then put the student in their aircraft expecting them to have the knowledge required to make a flight successfully and return to fly another day. If this way of thinking is thought to be acceptable, you will not have any returning students. You will hear about them on the evening news and their encounter with terra-firma. (This may be job security for accident investigators, but does not create a very good image for aviation).

If someone is overwhelmed with too much information all at once, they will neither retain nor be able to apply it. I believe this is why we hear very few of these new hams on the air.

To those pursuing an amateur radio license, take the time to learn the material needed to be successful in exercising the hobby. There are great sources out there that will fit in with your life's schedules. There are internet videos that allow you to study the subjects at your leisure. This, along with the texts available, of which there are many to choose from, will help you succeed in getting that coveted privilege to join us on the air. We welcome and encourage you to join the ranks of amateur radio.

~ Editor's Note: The DRC periodically sponsors and has member volunteers that provide training classes for the different Amateur License Levels. There is also a very dedicated team of volunteers that provide help for those trying to expand their knowledge of the hobby through "Learning Nets and Elmer Sessions". And when you are ready to test, the DRC has another team (some of the same members) that provide VE Testing. There are a lot of unselfish DRC members that are interested in helping those wanting to learn and obtain their "ticket". See page 15 for the names and contact information of the Education coordinator and the VE Team coordinator. Also, read the information on the "Learning Net" elsewhere in this issue to find out how to get more information on learning or teaching.

ATTENTION EDITOR NEEDED

The DRC Board of Directors are looking for someone to take over as the Editor of this newsletter. I volunteered for this position when my predecessor George (AG0S) decided after 6 plus years that he was ready to pass this role along to someone else. I knew coming in, that I would not be able to commit the amount of time that George did, but wanted to take on the challenge put out by the board.

I will continue until someone else takes over or until December 2016. As soon as someone is selected for the job, I will happily provide assistance and training. Please contact Gerry (W0GV) at 303-467-0223 if you are interested. It has and is fun, but the time requirement is more than I can sustain at this current stage. Who knows, someday when I am retired, you may see my "byline" again as the editor of the RoundTable. ~ Jessie (N0HI)

LOOKING BACK AT THE DRC PROVIDED BY WOUI) ROUNDTABLE, AUGUST 1960

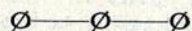
Origin of "Ham Shack" by longtime DRC member Lys (K0PGM) SK.

EICO KITS			
Model 706	— Code Oscillator	- - -	895
Model 710	— Grid Dip Meter	- - -	2995
Model 720	— 90 Watt Xmtr	- - -	7995
Model 730	— Modulator-Driver	- - -	4995
<hr/>			
VIBROPLEX Vibro-Keyer			- - - 1595
<hr/>			
JOHNSON VIKING		<ul style="list-style-type: none"> • Adventurer • Challenger • Navigator 	
• Ranger	• Valiant		
<hr/>			
Store Hours: 8 A.M. to 6 P.M. — Including Saturday			
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20 WEST 13th AVE.		Denver	AMherst 6-3755
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NBS Monitors

(Continued from page 7)

of interferences, both to communications and navigation. Hope is that the study will unearth some method of decreasing this QRM. It's a known fact that some of these interferences are blamed onto ham operators (yet they suffer from the same noises.)



Origin of "Shack"

By Lys, K0PGM

"The shack" is a term we hear on the airways daily. On very few occasions have we heard the question, "When did it start?" If you look into the shack of yours truly, or most any other ham shack's junk box, the name would speak for itself. However, to a non-ham, I hear there are such things, (commonly known as TVI). I have been queried, "Why do you call it the shack?"

Just before the turn of the century, when a radio operator was known as a

"Marconi man" and radio was commonly known as "wireless," radio was just beginning to prove its worth on the seas. In about 1900 or 1901, "wireless" was to be installed on board a ship where no room was available for the "shack." A wooden lean-to was constructed on a lower deck against an iron bulkhead. The shack was about 4½ ft. by 3½ ft. for something like \$20. This is believed to be the starting of our term "the shack," and who is to disagree. The equipment was a huge 8-inch spark coil plus transformers. The "Marconi man" needed a strong arm to actuate the long bar which acted as the key as we know it. How does this compare with your shack?

**SAMPLE MACHINE
and
AUTO BODY SHOP**

General Machine Work - - Complete
Auto Body Repair Service
NORV (K0IYC) and NORM
3355 South Umatilla SU 1-1050

Page Eight

This puzzle is provide courtesy of Chris Codella - W2PA. The URL for his website is <http://www.w2pa.com>. The solution for the puzzle is on page 11.

Alphas and IOTAs

Across

- 1. Swiped
- 6. GM OM
- 10. Tuvalu IOTA
- 14. KH6 IOTA
- 15. If's partner (to a programmer)
- 16. Get one's ducks in ____
- 17. __nito
- 18. Stage part
- 19. Poor QTH, say
- 20. Foot covered?
- 22. Means justifiers
- 23. Amplifier knob
- 24. Softrocks, e.g.
- 26. Murphy, e.g.?
- 30. OA denizens, once
- 33. Mother ____
- 34. W4 Beach
- 36. Xmtr pwr plus all following dBs
- 37. 3B6 IOTA
- 39. 6Y IOTA

- 41. Where you might get a 5-down - or maybe five, 5-down's down
- 42. November honorees
- 44. Multiple Elvises?
- 45. F capital bisector
- 47. Carefully did 23-across, with the big knob probably.
- 49. CW
- 51. Hero
- 52. They're turned on by a positive base
- 54. Two cartons of ice cream?
- 60. Kind of IC
- 61. Word often found in IOTA names
- 62. Possible Northern UK prefix

- 63. IRE descendent, in 1963
 - 64. Zig or zag
 - 65. Where the HV goes
 - 66. Western DL river
 - 67. Blunders
 - 68. Church assembly
- Down**
- 1. Narrow opening
 - 2. Trig function
 - 3. How many times a grid can be grossly overdriven
 - 4. XW land
 - 5. Brewski, to a ham?
 - 6. Pacific
 - 7. Zoomed in
 - 8. LA city
 - 9. The 18 and 21 MHz bands?

- 10. See 41-across
- 11. What a K2 can do
- 12. Harry Chapin's callsign?
- 13. Is in the red
- 21. Power problem
- 25. Result of key down amplifier, possibly
- 26. Smooth transition
- 27. Borders both VU and A4
- 28. RTTY char
- 29. G rule in VU
- 31. (The amp.) made an untoward noise
- 32. Hot Springs and others
- 33. Manipulates a key
- 35. Small pet
- 38. Opposite of amp.

- 40. Worked ____ Continents
- 43. Drinker
- 46. More meddlesome
- 48. Types of gears
- 50. North Cook IOTA prefix
- 52. Cloud burner sig.
- 53. "Guilty," e.g.
- 55. ____-friendly
- 56. Easter flower
- 57. Possibly needed to purchase an IC-7800
- 58. Not taken in by
- 59. The last one for DXCC #1, say

1	2	3	4	5		6	7	8	9		10	11	12	13	
14							15					16			
17							18					19			
20						21						22			
					23				24	25					
		26	27	28				29		30			31	32	
33							34	35			36				
37							38		39			40			
41				42			43		44						
45			46			47		48							
		49				50		51							
52	53					54	55					56	57	58	59
60						61					62				
63						64					65				
66						67					68				

FACT OF THE DAY

Why Copper Ground Rods?

Copper ground rods actually are copper clad steel, because copper rods would be too soft to drive in the ground and unnecessarily expensive. Most people probably assume that copper is used because of its high conductivity. That is a slight added advantage, but not the real reason. The resistance of the soil surrounding a ground rod is so high compared to the resistance of any metal that the series resistance of a rod and the soil surrounding it would be almost the same regardless of the metal used. The real reason copper is used is copper a noble metal that has high corrosion resistance. It becomes a cathode when joined together with a less noble metal such as steel in the presence of an electrolyte such as moist soil. The less-noble steel becomes a sacrificial anode that corrodes away first, leaving a relatively corrosion-free copper shell in contact with the soil.

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THE ROUNDTABLE ARCHIVE

Scan the QR code or go to <http://www.w0tx.org/RoundtableAccessPage.htm>

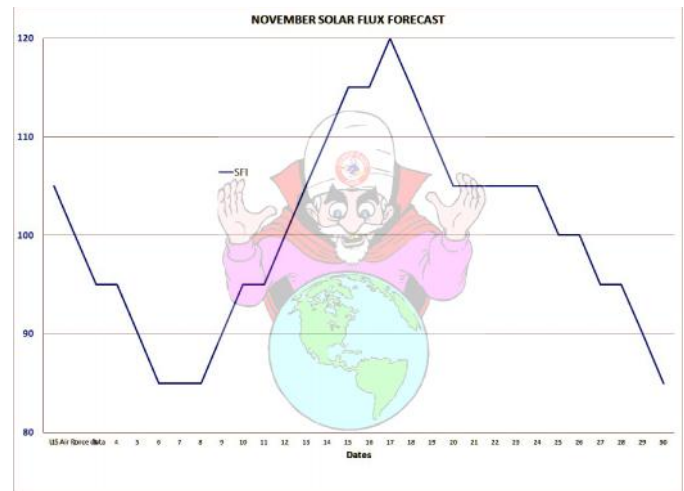
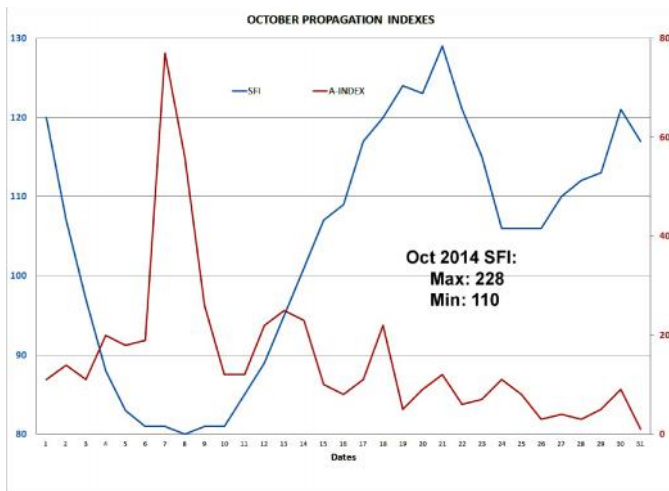


PAST & FUTURE PROPAGATION CONDITIONS

By Bill, W6OAV

The charts below show the Solar Flux and "A" indexes for last month and the forecast for this month's Solar Flux index.

Refer to the September 2010 *Roundtable* for more complete information on interpreting these charts. Issues of the *Roundtable* are available at <http://www.w0tx.org/RoundtableAccessPage.htm>.



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UP COMING EVENTS

HAMFESTS & CONVENTIONS

The following are the HAMfests & Conventions which have been registered with the ARRL so far. More information can be found on www.arrl.org/hamfests.

2015

11/07/2015 | 2015 Fall TechFest

Location: Lakewood, CO
Sponsor: 285 TechConnect Radio Club
Website: <http://na0tc.org>

2016

02/07/2016 | The Swapfest

Location: Brighton, CO
Sponsor: Aurora Repeater Assn., Cherry Creek Young ARC, & Rocky Mountain Ham Radio
Website: <http://www.n0ara.org>

01/23/2016 | Winter 2016 Hamfest

Location: Loveland, CO
Sponsor: Northern Colorado Amateur Radio Club
Website: <http://www.ncarc.net>

UP COMING CONTESTS **NEW**

The following are the Contests not sponsored by the ARRL. Please submit information for inclusion in future issues.

2015

Kentucky QSO Party

Starts: November 14, 2015 - 1400 UTC
Ends: November 15, 2015 0200 UTC
Sponsor: Western Kentucky DX Association
Website: <http://www.wkdx.com/mainsite/>

2016

Minnesota QSO Party

Starts: February 7, 2016 - 1400 UTC
Ends: February 7, 2016 - 2400 UTC
Sponsor: Minnesota Wireless Association
Website: <http://www.w0aa.org>

Vermont QSO Party

Starts: February 7, 2016 - 1400 UTC
Ends: February 7, 2016 - 2400 UTC
Sponsor: Radio Amateurs of Northern Vermont
Website: <http://www.ranv.org>

British Columbia QSO Party

Starts: February 6, 2016 - 1600 UTC
Ends: February 7, 2016 - 0400 UTC
Sponsor: Orca DX and Contest Club
Website: <http://www.orcadxcc.org/bcqp.html>

New Hampshire QSO Party

Starts: February 13, 2016 - 1400 UTC
Ends: February 14, 2016 - 2400 UTC
Sponsor: Port City Amateur Radio Club
Website: <http://www.w1wqrm.org/>

North Carolina QSO Party

Starts: February 28, 2016 - 1500 UTC
Ends: February 28, 2016 - 0100 UTC
Sponsor: Raleigh Amateur Radio Society
Website: <http://www.rars.org/ncqsoparty/>

Based on 2015 Date

Based on 2015 Date

Contest Websites

ARRL Contest Calendar
<http://www.arrl.org/contest-calendar>

WA7BNM Contest Calendar
<http://www.hornucopia.com/contestcal/>

SM3SER Contest Service
<http://www.sk3bg.se/contest/>

Contesting Dot Com
<http://www.contesting.com/>

HAM SITE OF THE MONTH
[VOCAP.COM](http://www.vocap.com)
[PROPAGATION PREDICTIONS](http://www.vocap.com)

DRC REPEATERS

BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090MHz (-1MHz) 107.2Hz PL	
Packet	145.05MHz<>14.105MHz	Usable by Technicians on 2 meters. See January 2015 RoundTable.
2m	145.490MHz (-) 100Hz PL	Linked to the 70cm - 448.625MHz machine.
2m	147.330MHz (+) 100Hz PL	Local Area, Members Auto-Patch Does Not TX a PL!
2m	147.330MHz (+) 131.8Hz PL	Test Mode Operation. Send signal reports to Tech Committee.
1.25m	224.380MHz (-) 100Hz PL	
70cm	447.825MHz (-) DCS~073; NB 12.5; +/- 2.5	Saint Anthony's Note: This is a narrow band repeater requiring DCS.
70cm	448.625MHz (-) 100Hz PL	Linked to the 2m - 145.490MHz machine.
70cm	449.350MHz (-) 100Hz PL	Wide area coverage with Echolink Node # 4140.
70cm	449.775 MHz (-) 100Hz PL	Yaesu Fusion Digital / Analog, 100 Hz Tone Required for Analog.
70cm	446.7875MHz (-)	MotoTRBO Repeater Slot 1 – DMR-MARC WW, Slot 2 – Local



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NOVEMBER 2015		DRC Net Sunday's at 8:30 p.m. on 145.490 / 448.625 (No PL)				
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Mountain Standard Time Begins 	2	3 Election Day!  <small>Lunar crescent</small>	4 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	5	6	7 ARRL Nov. Sweepstakes - CW Begins 2100 UTC
8	9 ARRL Nov. Sweepstakes - CW Ends 0259 UTC	10	11 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)   <small>New moon</small>	12	13	14
15	16	17	18 DRC Meeting Elmer 6:00 p.m. General 7:00 p.m.  <small>First quarter</small>	19	20	21 ARRL Nov. Sweepstakes - Phone Begins 2100 UTC
22	23 ARRL Nov. Sweepstakes - Phone Ends 0259 UTC	24	25 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)  <small>Full moon</small>	26 	27	28 ARRL EME 50 to 1296 MHz Begins 0000 UTC
29 ARRL EME 50 to 1296 MHz Ends 2359 UTC	30					

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~ GET PUBLISHED ~

We welcome and encourage all members to share their experiences and stories so that we can all learn from one another. It can be long or short. If we can't fit it into one newsletter, we can split it across multiple issues. Not a writer? We have volunteers that will listen to your story and put it into an article, and of course you will have the opportunity to review and approve prior to publication. Your contribution to the club is welcomed and appreciated. ~Editor

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DRC members - this is your newsletter. Please email your club or amateur radio related suggestions to the editor. Members are the heart of The Denver Radio Club, so if you have an expertise or an interest in a particular segment of ham radio that you'd like to write about, you may email your submissions to n0hi@arrl.net. The submission deadline is the 20th of the Month. ~ Editor