



# ROUNDTABLE

### PRESIDENT'S MESSAGE

By Gerry Villhauer-W0GV

Hello DRC Members,

Well I wonder if we will get that Indian summer weather that I was hoping for last month. As I write this it is snowing like crazy with about 8 inches on the ground and plenty more coming. We have had some changes come up suddenly at our Salvation Army station at Penn St. Part of The Salvation Army is moving out of the Penn St. location to make room for other activities. This made it necessary for DRC to move the equipment out of the headquarters building. The radios have been removed and by the time you read this, antennas, desk and coax will probably be moved, weather permitting. Where will it all go? Temporarily it will be stored. At a later date to be determined, we will relocate at a Salvation Army building at 2201 Stout Street, Denver. Some construction work has to be completed and we are supposed to have a room dedicated to ham radio operation. The board and technical committee will be reviewing the space available and making decisions on what antennas and equipment will be installed. I will keep you informed of the progress here in the RT and also on the Sunday net.

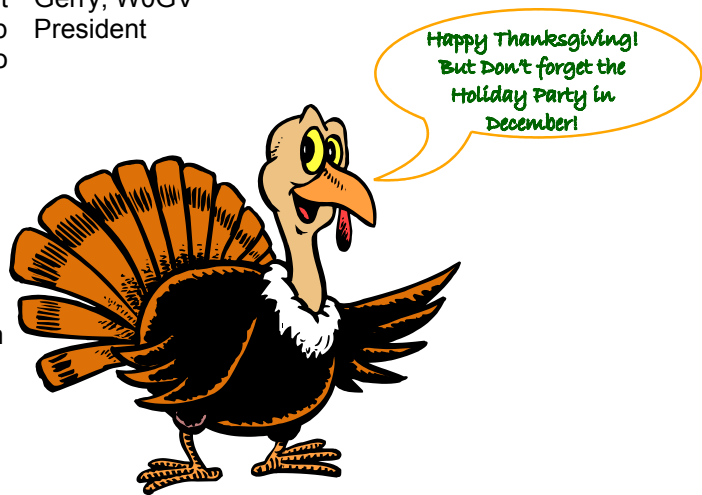
Welcome to new DRC members Stuart Davis, KD0IOZ, Steve Finch, AI0W, James Gay, KC5ZFZ, Allen Hulan, KD0IKA, Mark Kliewer, KC7QHC and Steve MacGregor, KD0IKC. Please check in on the nets, come to the meetings and activities and remain an active member.

Thanks to Bill, W6OAV, for the very interesting program on SWR at our October meeting. I could tell by the comments and questions that his program stimulated a lot of thinking and re-thinking about SWR. Thanks Bill, Great Job!

Our November 18<sup>th</sup> program will be on the new craze in ham radio SDR or Software Defined Radio. The presentation will be based around the Flex Radio Systems, Flex-5000A. Jim Beall, K0TOR, will be the primary presenter assisted by yours truly Gerry, W0GV. Jim and I both own a Flex-5000A and are totally impressed with its performance, especially the receiver. We will be doing our best to convince you that this is the "radio of the future" available today.

See you all at the meeting November 18<sup>th</sup> at the St. Joseph's Episcopal Church, 11202 West Jewell Ave., Lakewood, CO. That is about two blocks West of Kipling on West Jewell. And remember to check our website, [www.w0tx.org](http://www.w0tx.org), for lots of important information about the DRC. The Elmer Session and Tech Meeting start at 6:30 pm. followed by the Regular Meeting and Program at 7:30 pm.

Gerry, W0GV  
President



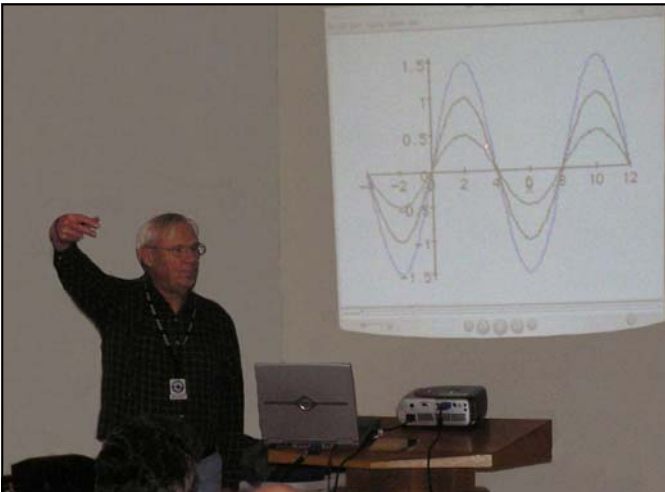
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## OCTOBER MEETING - WHAT'D I MISS

By Bill – W6OAV

In spite of a very snowy evening there was a great turnout at the monthly meeting. Gerry, W0GV, began the meeting with introductions. Gerry then announced that the Salvation Army will be moving from their Pennsylvania location. Consequently, the DRC ham station will have to be removed and stored at a temporary location. More information will be available when the board determines the future location and configuration of the DRC station.



The meeting was then turned over to Bill, W6OAV. He gave an hour presentation covering the myths and facts of SWR. The presentation showed many examples of various SWR facts and how and why they occur.

The meeting concluded with several lucky attendees winning door prizes.

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## TECHNICAL COMMITTEE REPORT

By Bill – W6OAV

This report provides an overview of items discussed during the October Technical Committee meeting plus any actions that were taken relative to the meeting agenda items.

### Pennsylvania Salvation Army Station Move

Goal: Determine a schedule, and the processes required, to disconnect and move the DRC ham station from the Pennsylvania site to temporary storage location.

- On October 23, K0HTX, KU5X and W6OAV moved all the station equipment from the Pennsylvania site to temporary storage at K0HTX's work location.
- A work party is scheduled, weather permitting, on October 31. The goal is remove all coaxes and roof top antennas.

### Voter System

Goal: Design and build a 147.33 voter system:

- WA9TVH is in the process of assembling the voter system for Station 4 as time permits. N1ETV has installed the antenna system for the first remote voter test site.

### 147.33 - Hudson Site

Goal: Repair bad audio:

- Several committee members have conducted tests which have determined that the "tinny" audio is always present. This indicates that the problem is pre-emphasis/de-emphasis or some similar problem. WA9TVH will go to the site to test when time permits.

### 145.49/448.625 Controller Upgrade

Goal: Replace the S Comm controller with a 7330 controller:

- KB0A has the 7330 and is looking at beginning to program it as time permits.

Additionally, the Tech Committee would like to thank Barry Wilson, KA0BBQ for the generous donation of a number safety equipment items.

# MY LOOP ANTENNA EXPERIENCE

By Irv – K6DUX

## INTRODUCTION

By Bill – W6OAV

The purpose of this introduction is to present an overview of small transmitting loops (STL) and to introduce K6DUX's article describing his experience with building and testing his STL.

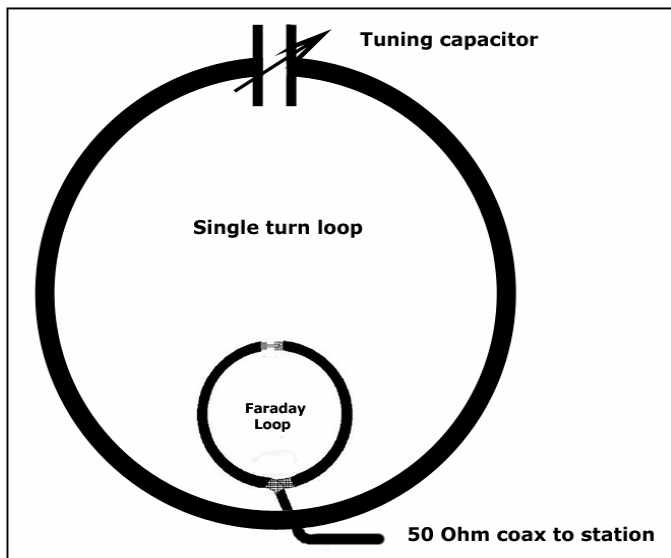
### Why STLs?

STLs, also known as Magnetic Loops, are very popular in Europe and are becoming very popular in the US. The reasons are:

- **Ideal** for covenant restricted areas and for portable operation.
- **Small** size. For example, a 3' diameter loop will efficiently operate from 10 through 30 meters.
- **High** efficiency (if properly built, equal to a full size dipole).
- Does not require radials.
- Can be mounted several feet above the ground when installed vertically.
- Extremely low noise levels on receive.

### What is an STL?

An STL is a loop in series with a variable capacitor. *See figure below.* The variable capacitor tunes the loop to the desired operating frequency. Typically a 3' diameter loop with a 5 to 100 pf variable capacitor will cover 10 through 30 meters. RF is coupled into the loop via a Faraday loop. Gamma matches or toroid coils are sometimes used in place of the Faraday loop.



### Why build an STL?

Commercial STLs are pretty expensive. One can economically build an STL if certain rules are followed:

- Use 1/2", or larger, copper pipe.
- Use a high voltage split stator capacitor. OR, build a trombone capacitor out of copper pipe as K6DUX did, which he describes in Part 1 of his article next month. Capacitors with wiper contacts are **NOT** usable.
- Loops can be circular, octagonal, or square. The latter two shapes will slightly reduce efficiency but are easier to build.
- All joints **MUST** be soldered.

### Do STLs work?

My HF antenna farm in a covenanted neighborhood consists of a 2 element 10 through 20 meter wire 8JK beam in the attic, a 23' hidden wire vertical base tuned by an SGC 230 autotuner sitting on a 3'x 35' hog wire ground plane and a 3' diameter STL vertically mounted 3' above the ground in a pine tree. Comparison receive tests were conducted using a switchable attenuator to measure the difference of incoming signals on each antenna. (Antennas are reciprocal..... if one antenna has 3 dB gain over another antenna, then that difference will show up on both receive and transmit). Comparison transmit tests were conducted by having remote stations compare the signals radiated by each antenna. The receive and transmit test results were very similar.

The 8JK was normally 6 dB above the vertical and the STL. The vertical and the STL were usually equal. In some cases the vertical was slightly better than the STL and in other cases, the reverse was true.

The STL shined relative to noise levels. The noise level on the STL was S2, on the vertical was S6 and on the 8JK was S7 (noisy attic). I could copy all kinds of weak signals on the STL that I could not copy on the other two antennas.

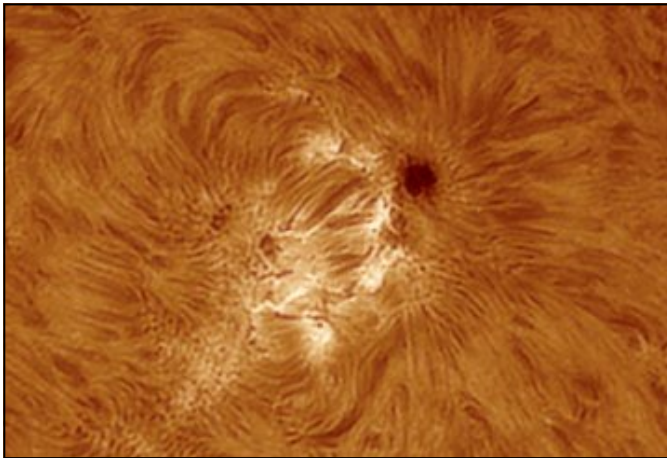
### References:

- Theory: [http://en.wikipedia.org/wiki/Magnetic\\_loop](http://en.wikipedia.org/wiki/Magnetic_loop)
- STL Calculator: <http://www.standpipe.com/w2bri/software.htm>
- Homebrew STL: <http://www.iw5edi.com/ham-radio/11/a-magnetic-loop-antenna-for-hf>
- STL References: [http://www.dxzone.com/catalog/Antennas/Magnetic\\_Loop/](http://www.dxzone.com/catalog/Antennas/Magnetic_Loop/)

*Next month' Roundtable" will carry Part 1 of K6DUX's article titled "My Loop Antenna Experience ".*

# BIG AND ACTIVE

Sunspot 1029, the biggest and most active sunspot of 2009, continues to put on a good show. Pete Lawrence sends this picture from his backyard observatory in Selsey, UK:



"The 'snake pit' of activity next to the main spot showed lots of intricate changes including the development of several intense star-like points," he says.

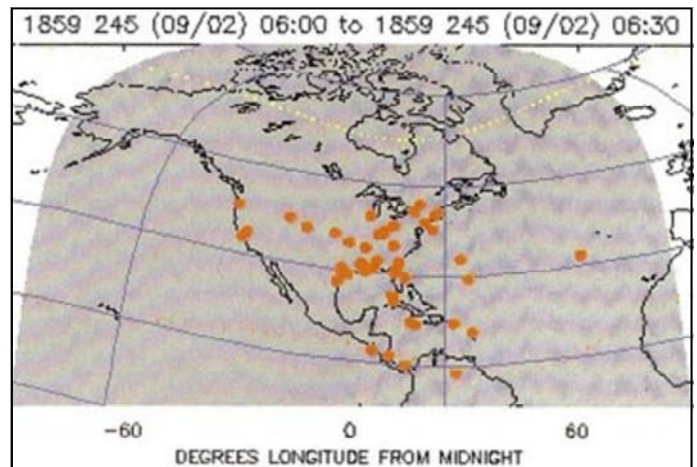
The sunspot has been crackling with minor [C-class](#) solar flares since it emerged a few days ago. Magnetic fields around the spot have been growing more complex, making stronger eruptions increasingly likely. NOAA forecasters estimate a 5% chance of an [M-class](#) flare in the next 24 hours. [Stay tuned](#) for solar activity!

*Excerpted From Spaceweather.com  
Sunspot Image Courtesy of Pete Lawrence*

## MORE SOLAR NEWS

**GEOMAGNETIC MEGA-STORM:** On Sept. 2nd, a billion-ton coronal mass ejection (CME) slammed into Earth's magnetic field. Campers in the Rocky Mountains woke up in the middle of the night, thinking that the glow they saw was sunrise. No, it was the Northern Lights. People in Cuba read their morning paper by the red illumination of aurora borealis. Earth was peppered by particles so energetic, they altered the chemistry of polar ice.

Hard to believe? It really happened 150 years ago. This map shows where auroras were sighted in the early hours of Sept. 2, 1859:



As the day unfolded, the gathering storm electrified telegraph lines, shocking technicians and setting their telegraph papers on fire. The "Victorian Internet" was knocked offline. Magnetometers around the world recorded strong disturbances in the planetary magnetic field for more than a week.

The cause of all this was an [extraordinary solar flare](#) witnessed the day before by British astronomer Richard Carrington. His sighting marked the discovery of solar flares and foreshadowed a new field of study: space weather. According to the National Academy of Sciences, if a similar flare occurred today, it would cause \$1 to 2 trillion in damage to society's high-tech infrastructure and require four to ten years for complete recovery.

A repeat of the Carrington Event seems unlikely from our low vantage in a deep solar minimum--but don't let the quiet fool you. Strong flares can occur even during weak solar cycles. Indeed, the Carrington flare itself occurred during a relatively weak cycle similar to the one expected to peak in [2012-2013](#). Could it happen again? [Let's hope not.](#)  
*Excerpted From Spaceweather.com*





## DRC's Echolink Server Gets A Bug

By Bill - W6OAV

In the middle of October, our Echolink server was hit with a virus. So, I brought the server home and used several applications to clean up the system. I then took the server over to Scott, N0OBA, to have him verify my work. Scott is very computer knowledgeable. He began to hook up the various cables. All of a sudden there was a bad omen....we heard an electric arc and smoke poured forth from the server. The power supply had shorted out. Not having the right size power supply, Scott bridged in another power supply. He then discovered that the hard drive was now doing "funny things". So, with that, Scott built and configured a new Echolink server! I took the server back to its normal location and put it on line. The server came right up is working very well. THANK YOU Scott for donating the server to the club and for all the time you spent putting it together.

### How do I know if I have the flu?

You may have the flu if you have some or all of these symptoms:

1. fever \*
2. cough
3. sore throat
4. runny or stuffy nose
5. body aches
6. headache
7. chills
8. fatigue
9. Sometimes diarrhea and vomiting

\*It's important to note that not everyone with flu will have a fever.

### What should I do if I get sick?

If you get sick with flu-like symptoms this flu season, you should stay home and avoid contact with other people except to get medical care. Most people with [2009 H1N1](#) have had mild illness and have not needed medical care or antiviral drugs and the same is true of seasonal flu.

However, some people are more likely to get flu complications and they should talk to a health care provider about whether they need to be examined if they get flu symptoms this season. They are:

### What are the emergency warning signs?

#### In children

1. Fast breathing or trouble breathing
2. Bluish skin color
3. Not drinking enough fluids
4. Not waking up or not interacting
5. Being so irritable that the child does not want to be held
6. Flu-like symptoms improve but then return with fever and worse cough
7. Fever with a rash

#### In adults

1. Difficulty breathing or shortness of breath
2. Pain or pressure in the chest or abdomen
3. Sudden dizziness
4. Confusion
5. Severe or persistent vomiting

Courtesy of the CDC



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## UP COMING EVENTS



### 7 November 2009 Fall TechFest

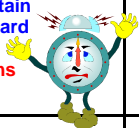






Presented by 285 TechConnect Radio Club  
 Check-In: 8 to 8:45am  
 Workshops: 9am to 4pm  
 Info: <http://www.na0tc.org>

### 16 December 2009 DRC Holiday Meeting & Dinner

More information in the December RoundTable

### 16 January 2010 NCARC Winter Hamfest

Lincoln Center in Fort Collins  
 Info: <http://www.ncarc.net>

NOVEMBER 2009							<i>DRC Net Sunday 8:30pm Local</i>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
1 Mountain Standard Time Begins 	2 	3	4 Learning Net 7pm	5	6	7 ARRL November CW Sweepstakes Begins 2100U ARRL Int'l EME Comp Begins 0000U	
8 ARRL November CW Sweepstakes Ends 0300U ARRL Int'l EME Comp Ends 2359U	9 	10	11 Learning Net 7pm Veteran's Day 	12	13	14	
15	16 	17	18 DRC Meeting Elmer 6:30pm General 7:30pm	19	20	21 ARRL Nov. Phone Sweepstakes Begins 2100U	
22 ARRL Nov. Phone Sweepstakes Ends 0300U	23	24 	25 Learning Net 7pm	26 	27	28	
29	30						

*Check [www.ARRL.org](http://www.ARRL.org) for Contests and Rules!*

## DRC BOARD OF DIRECTORS

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## DRC REPEATERS

BAND	Freq / Shift / PL Tone	Additional Information
10m	29.620mHz (-100kHz) FM	Not In Service
6m	53.090mHz (-1mHz)	
Packet	145.05mHz<>14.105mHz	
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	NE Area Remote Does Not TX a PL!
1.25m	224.380mHz (-) 100Hz PL	
70cm	448.625mHz (-) 100Hz PL	Linked to the 2m - 145.490mHz machine.
70cm	449.350mHz (-) 100Hz PL	Wide area coverage with Echolink Node # 4140.

## EDITOR'S NOTE

DRC members - this is your newsletter. If there is something which is club or amateur radio related that you'd like to see as a regular feature, email suggestions to the editor. Members are the heart and sole of The Denver Radio Club, 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 [DRC\\_RT@comcast.net](mailto:DRC_RT@comcast.net). Submission deadline is the 25th of the November. **Edi-**

# Puzzle Page

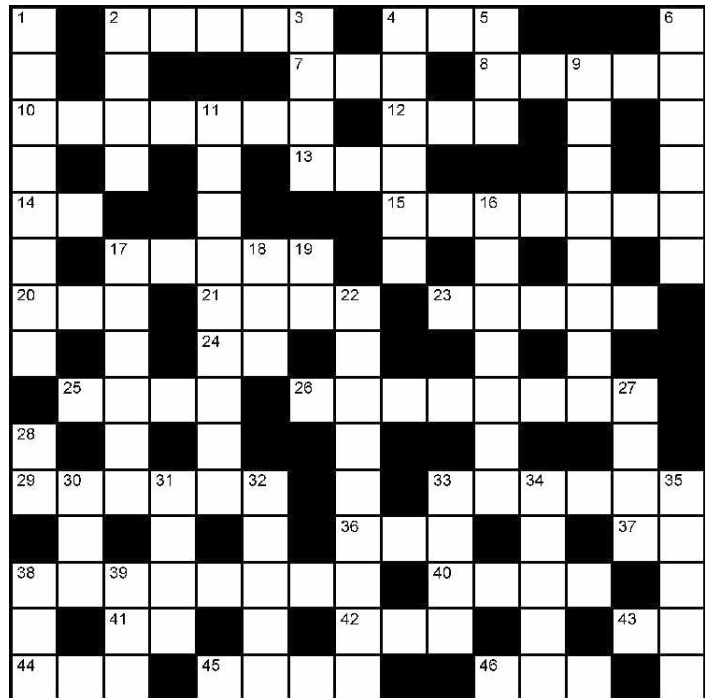
## "Turnabout Is Fair Play"

A challenging puzzle that will turn your world upside-down.

By H. Ward Silver, N0AX

Crossword puzzle fans know that puzzle makers are often fond of, or desperate for, abbreviations and acronyms to flesh out those pesky blank spaces. This time we turn the problem on its head, or rather, your head. The clues are the abbreviations, prosigns, and Q-signals. The solutions are words closely associated with the clue. There are a couple of off-the-wall combos, just to keep you busy!

**NOTE: Puzzle solution for this puzzle is located on page 5.**



### Across

- 2. HI
- 4. LID
- 7. MD
- 8. OT
- 10. CL
- 12. SK
- 13. HW
- 14. CHK
- 15. Spell
- 17. Mix
- 20. LSN
- 21. Sea GND
- 23. LTR
- 24. QLF (abbr.)
- 25. QSB
- 26. QTC
- 29. QRQ
- 33. QRN
- 36. INT (opp.)
- 37. CC (volume)
- 38. QTH
- 40. K
- 41. Where U R
- 42. Officer
- 43. Connected to NA
- 44. Pale
- 45. KN
- 46. Sum

### Down

- 1. QSL
- 2. Round ANT
- 3. QRO
- 4. QRS
- 5. Not VOX
- 6. Make
- 9. QST
- 11. QRM
- 16. QSO
- 17. What BK does
- 18. QNI
- 19. From
- 22. QRG
- 27. WFWL
- 28. Paired with RF
- 30. Much ABT NIL
- 31. TT
- 32. Rule
- 33. QRT
- 34. GA
- 35. Good WX
- 38. QRP
- 39. Headphone