



ROUNDTABLE

PRESIDENT'S MESSAGE

By Bryan Steinberg – KB0A

Wow, I can't believe another year has gone by for me serving as President of our great club. I've been fortunate to lead the best Ham club in Colorado, one that is thriving and continues to grow. The highlight at this month's meeting will be our annual elections. As you may, or may not, be aware we elect half of the eight board members each September to a two year term. From those newly elected and those continuing with the second year of their term, we select the officers: President, Vice-President, Treasurer and Secretary. We usually try to include a short subject after the elections are completed. This month we will provide a Q&A session with the Technical Committee. I know this may not be as exciting as our usual monthly fare but in some regards it is much more important. Your participation and vote is a key part of keeping our club vibrant and growing. The leadership sets the goals for the club, both technical and social, so the selection you make for representation will directly impact what we do and where we go from here. So, please come and participate in this vital process.

On a related note I will not be seeking re-election to the board this year. Some of you

are aware that I recently sold my home in Lakewood and my wife Connie, the two dogs, one cat and I will be travelling around the West in pursuit of a new home base. We will be doing this in the luxury of our new, to us, motorhome. At this time I don't know what will come of our travels. We may be relocating or possibly wind up back in Colorado in the Spring looking to buy a new home here. Only time will tell. I am still a member of the club and will continue to be one. So, I too am interested in the upcoming elections. My thanks to the other members of the board and committees for stepping in and helping me keep the club running while I was packing and moving out.

A special thanks to Gerry, W0GV, for stepping in to keep the DRC Hamfest tradition going by taking over it's leadership.

Hopefully, I will get a chance to see most of you at the September meeting to say goodbye in person.

For now,
Bryan, KB0A

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AUGUST MEETING - WHAT'D I MISS

By Bill – W6OAV

There were 35 attendees. After attendee introductions W0GV announced that the hamfest was a great success (see the President's message). The meeting was then turned over to Will Cowan, AC0FV. Will presented a Power Point covering the following items:

- Reasons why one should understand transmission line parameters.
- Definition of early transmission line models –a circuit diagram describing that circuit's electrical characteristics.
- Analysis of a model showing the variations required in the model's parameters with changes in frequency.
- Why the models are not accurate.
- Why the development of calculus and transmission line equations enable extremely accurate transmission line modeling.
- Demonstration using computer apps to accurately analyze transmission line parameters.

SEPTEMBER MEETING ANNOUNCEMENT

By Bill – W6OAV

This month's presentation will be short and informal due to the DRC officer elections taking place at the meeting. Afterward the elections, there will be a Q & A session with the Technical Committee members. So, give some thought as to who you would like to elect and what you questions you would like to ask.

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.

Welcome New Members

David Gardberg	W4AMH
Doug Peterson	KD0TFP
Kelly Chastain	KB0UQT
Kent Leonard	N0NME
Kit Dean	AA6AS
Michael G. Hazelett	KB0UIG
Richard W. Stelts, Sr	
Steve P. Cosentino	
Steven Pimble	KC0FAD
Don Fowler	KDØVZQ

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 7pm. For new hams we have the Elmer session which starts at 6:30pm before the regular meeting.

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

AUGUST TECH COMMITTEE REPORT

No Tech Committee Report this month.

SEPTEMBER ELECTION MEETING

Part of this month's meeting will cover the election of four of the eight board members (each is a 2 year term). We will also elect the new club officers (President, Vice-President, Treasurer and Secretary) from among the eight members of the new board. Please consider stepping up to increase your participation in the club. Even if you aren't ready to be a board member or officer consider one of the other positions or assisting an existing committee chair.



At the current time we are in need of a Education Chairman. If you have an interest in this position please contact the club president. If you wish to assist an existing committee chairman please contact them directly. All contact information for club officers, board members and committee chairs can be found on the last page of the "RoundTable" and on the club website on the Club Officers page.

So How'd We Do? DRC 2013HAMFEST

By Bryan – KB0A

Another year has passed and the "Big One," the DRC Hamfest has come and gone. It was another great gathering of over 500 local, and not so local hams and ham hopefuls attending this year. We sold out all 114 tables, although I was concerned that we would have a lot of empty tables up to three weeks before the event. However, the last weeks brought in lots of reservations and we



I don't have the exact numbers but I heard that there were a lot of smiling faces leaving the VE testing room.

I also want to thank the Lions Club for running our kitchen and provide great food and drink at reasonable prices. It seems that they were very busy as well.

Once again we had a collection of nice door prices, both bought by the club and donated by Ham Radio Outlet Denver and RT Systems.



opening with seven tables being available at the door. Those seven tables were quickly sold.

I'd also like to thank all the DRC club members who showed up at 6:30 Sunday morning to help place the cardboard covers on the table and manage the impatient group of vendors and the throngs of attendees.

Thanks to all who attended and made this a great hamfest, whether as a volunteer, VE, vendor or attendee.



A great job by Bill, W6OAV, putting together this year's technical seminars. Those presentations received good turnouts as well.



Remember to keep the 17th of August next year open for the DRC 2014 Hamfest.

A very Special Thanks to Bryan, KB0A for the many years of unselfish hard work making the Hamfest better and better each year. Also, Thanks Michael, KU5X for taking the HAMfest photos.



Tom, KC2CAG, and his DRC VE Team did a top notch job of providing testing to those wishing to become a ham, or upgrade their current license.

We want to thank, William Thomas for providing the pictures for the Field Day 2013 montage in the August Issue. Sorry we missed you last month!

MEMBERS IN THE NEWS

Congratulations to Paul, WA2YZT



Paul Deeth, WA2YZT has won five Emmy awards while working at KCNC-TV in Denver. The Emmy's were awarded for the technical work done during the Bolder Boulder Race broadcast by KCNC-TV from 1997 to 2005. Paul's role included developing a plan that allowed for live coverage of the

race using ten cameras along the race route connected via microwave links back to the remote production truck at Folsom Field. Utilizing the station's helicopter was a major part of the plan.



While its main role was to provide overhead live video of the race, Paul gave it a second task – as an airborne microwave relay system that received a microwave signal from a camera on



a truck driving in front of the racers and retransmitting that signal to Bow Mountain west of Boulder and back to the remote truck at Folsom Field.

Paul's role included setup of four portable microwave systems over the course of

two days at Bow Mountain to receive the various microwave relay signals around the race course and send the signals to Folsom Field.

An additional day was spent working with avionics mechanics to install a special microwave receive antenna on the aircraft; the transmit antenna was already part of the aircraft's standard equipment. With five of the staff engineers being hams, the races were always a lot like field day, just bigger.



"I never set out to win an award, but it is an honor to be recognized by my fellow professionals for doing something I love."

Photo Notes:

1. Paul with his Emmy.

2. Copter 4 hovering about 100 feet over the top of Bow Mt getting a GPS location for the onboard 2 gig microwave antenna. The antenna is the round white object at the bottom center of the ship. The camera is the white ball on the front underside of the ship. It is made by FLIR Systems and cost about \$350,000.

3. Bow Mt. 3 microwave links using 6 gig and 13 gig to relay cameras to the remote truck at Folsom Field.

4. The 3 receive radios on the top of Folsom Field.



NEWINGTON, CONNECTICUT – ARRL, the national association for Amateur Radio, has announced the organization's plan to hold its national Centennial Convention in Hartford, Connecticut, July 17-20, 2014. The Convention will mark 100 years of the ARRL's founding in Hartford. ARRL President Kay Craigie has also announced a theme for ARRL's Centennial year: **Advancing the Art and Science of Radio -- since 1914.**

In May 1914, Hiram Percy Maxim (1869-1936), a leading Hartford, Connecticut, inventor and industrialist, founded the American Radio Relay League (ARRL), together with Clarence Tuska, secretary of The Radio Club of Hartford. Today, ARRL serves over 158,000 members, mostly licensed radio amateurs, in the US and around the world.

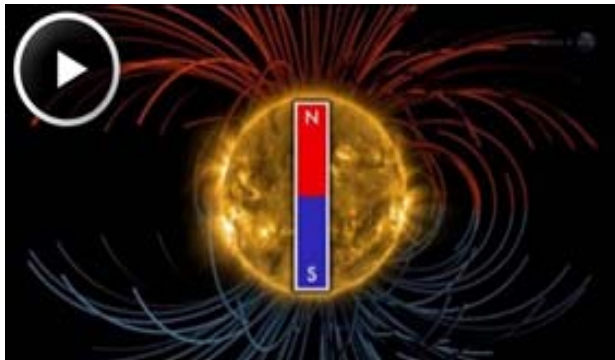
The decision to hold the ARRL Centennial Convention in Hartford was made by the ARRL Board of Directors during its July 2012 meeting. The organization's headquarters has been maintained in the Hartford area since its founding. ARRL's present headquarters is located on Main Street in Newington, Connecticut, a suburb of Hartford, and is visited by nearly 2,000 groups and individuals each year. The site has been home to The Hiram Percy Maxim Memorial Station, call sign W1AW, since 1938. ARRL employs around 100 people.

THE SUN'S MAGNETIC FIELD IS ABOUT TO FLIP

Author: Dr. Tony Phillips | Production editor: Dr. Tony Phillips | Credit: Science@NASA

August 5, 2013: Something big is about to happen on the sun. According to measurements from NASA-supported observatories, the sun's vast magnetic field is about to flip.

"It looks like we're no more than 3 to 4 months away from a complete field reversal," says solar physicist Todd Hoeksema of Stanford University. "This change will have ripple effects throughout the solar system."



A new ScienceCast video anticipates the reversal of the sun's global magnetic field.

Play video - <http://www.youtube.com/watch?v=34gNgaME86Y>

The sun's magnetic field changes polarity approximately every 11 years. It happens at the peak of each solar cycle as the sun's inner magnetic dynamo re-organizes itself. The coming reversal will mark the midpoint of Solar Cycle 24. Half of 'Solar Max' will be behind us, with half yet to come.

Hoeksema is the director of Stanford's Wilcox Solar Observatory, one of the few observatories in the world that monitor the sun's polar magnetic fields. The poles are a herald of change. Just as Earth scientists watch our planet's polar regions for signs of climate change, solar physicists do the same thing for the sun. Magnetograms at Wilcox have been tracking the sun's polar magnetism since 1976, and they have recorded three grand reversals—with a fourth in the offing.



Astronomers at the Wilcox Solar Observatory (WSO) monitor the sun's global magnetic field on a daily basis. WSO home page - <http://wso.stanford.edu/>

Solar physicist Phil Scherrer, also at Stanford, describes what happens: "The sun's polar magnetic fields weaken, go to zero, and then emerge again with the opposite polarity. This is a regular part of the solar cycle."

A reversal of the sun's magnetic field is, literally, a big event. The domain of the sun's magnetic influence (also known as the "heliosphere") extends billions of kilometers beyond Pluto. Changes to the field's polarity ripple all the way out to the Voyager probes, on the doorstep of interstellar space.

When solar physicists talk about solar field reversals, their conversation often centers on the "current sheet." The current sheet is a sprawling surface jutting outward from the sun's equator where the sun's slowly-rotating magnetic field induces an electrical current. The current itself is small, only one ten-billionth of an amp per square meter (0.000000001 amps/m²), but there's a lot of it: the amperage flows through a region 10,000 km thick and billions of kilometers wide. Electrically speaking, the entire heliosphere is organized around this enormous sheet.

During field reversals, the current sheet becomes very wavy. Scherrer likens the undulations to the seams on a baseball. As Earth orbits the sun, we dip in and out of the current sheet. Transitions from one side to another can stir up stormy space weather around our planet.

(Continued on page 6)

(Continued from page 5)



An artist's concept of the heliospheric current sheet, which becomes more wavy when the sun's magnetic field flips.

More - <http://wso.stanford.edu/gifs/HCS.html>

Cosmic rays are also affected. These are high-energy particles accelerated to nearly light speed by supernova explosions and other violent events in the galaxy. Cosmic rays are a danger to astronauts and space probes, and some researchers say they might affect the cloudiness and climate of Earth. The current sheet acts as a barrier to cosmic rays, deflecting them as they attempt to penetrate the inner solar system. A wavy, crinkly sheet acts as a better shield against these energetic particles from deep space.

As the field reversal approaches, data from Wilcox show that the sun's two hemispheres are out of synch.

"The sun's north pole has already changed sign, while the south pole is racing to catch up," says Scherrer. "Soon, however, both poles will be reversed, and the second half of Solar Max will be underway."

When that happens, Hoeksema and Scherrer will share the news with their colleagues and the public.

Denver Radio Club
General Meeting start time is
7:00PM

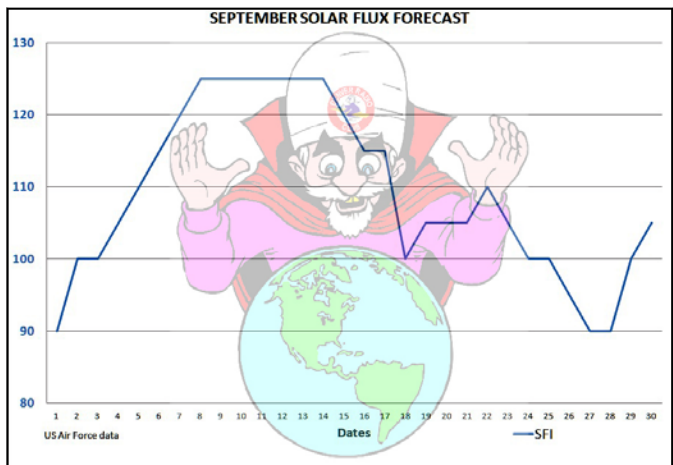
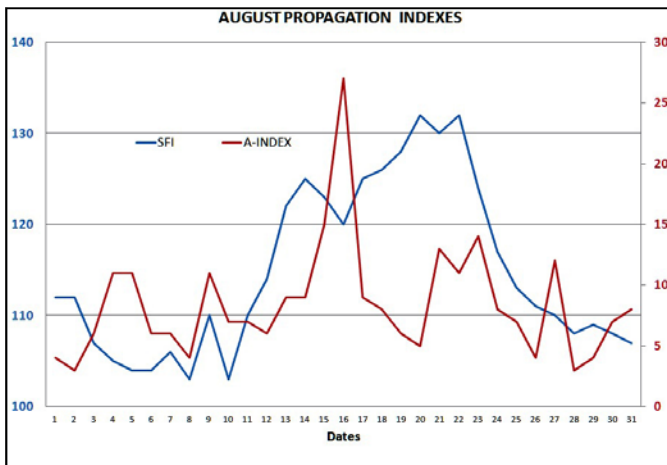
The Elmer Session will still start
at 6:30PM.

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.

September 29 – BARCfest

Boulder County Fairgrounds
http://www.qsl.net/w0dk/barcfest_files/barcfest.html

November 2 – 2013 Fall TechFest

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

2014

July 17-20 – ARRL Centennial - 100 Years of Ham Radio
 Hartford, Connecticut
<http://http://www.arrl.org/centennial>



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*Don't forget to join in Wednesday nights
 at 7:30pm for the
 DRC Learning Net!
 145.49/448.625 machines*



The Denver Radio Club
 Is an ARRL
 Special Service Club
 Support your hobby
 Join the ARRL TODAY



September 2013							<i>DRC Net Sunday's at 8:30pm Local on 145.490 & 448.625 (No PL)</i>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
1	2 Labor Day	3	4 Learning Net 7:30pm	5 New Moon	6	7	
8 Grandparent's Day	9	10	11 Learning Net 7:30pm	12 First Quarter	13	14 ARRL VHF QSO Party Begins 1800U	
15	16 ARRL VHF QSO Party Ends 0300U	17	18 DRC Meeting Elmer 6:30pm General 7:00pm	19 Full Moon	20	21 ARRL 10GHz & Up Contest Begins 0600L	
22 First Day of Autumn ARRL 10GHz & Up Contest Ends Midnight	23	24	25 Learning Net 7:30pm	26 Last Quarter	27	28 ARRL EME Contest 2.3GHz & Up Begins 0000U	
29 ARRL EME Contest 2.3GHz & Up Ends 2359U	30						

DRC BOARD OF DIRECTORS

President	KB0A	Bryan Steinberg	303-987-9596	kb0a@arrl.net
Vice-President	W0GV	Gerry Villhauer	303-467-0223	w0gv@arrl.net
Secretary	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
Treasurer	K0TOR	Jim Beall	303-798-2351	k0tor@arrl.net
Board Member	N4ATA	Doug Parker	303-922-3305	n4ata@arrl.net
Board Member	K0HTX	Dave Gillespie	303-880-1938	k0htx@comcast.net
Board Member	KD0CXX	Paul Meenach	720-746-1488	TBD
Board Member	N3PQ	Frank Ortega	303-452-0283	n3pq@hotmail.com

DRC STAFF AND VOLUNTEERS

Trustee	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
Net Control	K0TOR	Jim Beall	303-798-2351	k0tor@arrl.net
EmComm Coordinator	W0JMC	Jack McComb	303-885-9098	W0JMC@arrl.net
TSA Coordinator	KA0BBQ	Barry Wilson	Check Roster	ka0bbq@arrl.net
Membership	KC0CZ	Bob Willson	303-659-0517	kc0cz@comcast.net
Club Librarian	WG0N	Dave Baysinger	303-987-0246	wg0n@arrl.net
VE Team	KC2CAG	Tom Kocalski	720-493-1426	kc2cag@arrl.net
Swapfest Manager	KB0A	Bryan Steinberg	303-987-9596	drcfest@w0tx.org
Field Day	AC0UA	Jason Smallwood	Check Roster	sjason67@msn.com
Tech. Committee Chair	W6OAV	Bill Rinker	Check Roster	
Benevolent		Carolyn Wolf	303-330-0721	
RT Editor	AG0S	George McCray	303-751-7246	ag0s@arrl.net
RT Assoc. Editor	W6OAV	Bill Rinker	Check Roster	
Education Chairman	Open			elmer@w0tx.org
Web Master	N0LAJ	Bill Hester	Check Roster	

DRC REPEATERS

BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090MHz (-1MHz) 107.2Hz PL	
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	Not in service at this time!
1.25m	224.380MHz (-) 100Hz PL	
70cm	447.825MHz (-) 100Hz PL	Saint Anthony's
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	446.7875MHz (-)	MotoTRBO Repeater Slot 1 – DMR-MARC WW, Slot 2 – Local

EDITOR'S NOTE

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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 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 AG0S@arrl.net. Submission deadline is the 25th of the Month. **Editor**