ROUNDTABLE

The Denver Radio Club Newsletter

October 2013

Since 1917

PRESIDENT'S MESSAGE
By Gerry Villhauer – W0GV

First off, I would like to thank everybody for coming to the last meeting and election of our 2014 board and officers. We had a better turnout than I expected and an excellent Q & A round table discussion after the elections. As most of you know being president of the best radio club in Denver is not new to me, but, I can say it has been refreshing to take a break from the president's chair for awhile. Thanks to the membership for your past and future support.

I would like to welcome our two newly elected board members, Art Thayer, K0BAT, and Jack McComb, W0JMC. I truly believe they both will be a valuable asset to our board of directors. And thank you to Paul, WD0CXX and Bryan, KB0A, for your service. A simple "Thank You" is not nearly enough to our outgoing President, Bryan, KB0A. Bryan has devoted a big part of his time managing the affairs of the club. Under his leadership DRC has made many advancements in the service to our membership and to our served agencies.

As an example, I had more than one unsolicited comment at our recent hamfest; that DRC had the best run hamfest in Colorado. That is to Bryan's credit in organizing it and the hard work of many members. Bryan and I had a recent lunch meeting to "pass the torch". He assures me he will remain a member and available for consult as needed. Join me in wishing Bryan and Connie Godspeed in their new life adventure.

Due to the floods and FEMA taking over the Boulder Fairgrounds, the BARCFEST was forced to cancel. If they reschedule we will let you know on the Sunday night net. Our next DRC meeting and program will be October 16. Paul Deeth, WA2YZT, will give a presentation on the history and advancements of Television and Radio Broadcast from the early days until now and the future. Look for more details in this publication.

73,
Gerry, W0GV
President

INSIDE THE ROUND TABLE

SEPTEMBER MEETING - WHAT'D I MISS

By Bill – W6OAV

After introductions, the yearly DRC Officer and Board of Directors election took place. Dave, K0HTX, was elected as vice president. Additionally, Art Thayer, K0BAT and Jack McComb, W0JMC were elected as new board members. All other positions remain the same. (The complete list is on the past page of this publication). A big **THANK YOU** goes to the past and newly elected members and to those serving for another term.

After the elections a Q & A session was held. There was a good discussion about how a voter repeater system works, how the DRC's MotoTRBO is linked in to the worldwide system, and how the RadioMobile coverage plots seem to be very good in predicting the actual coverage.

OCTOBER MEETING ANNOUNCEMENT

Paul Deeth (WA2YZT) will give a presentation at the October meeting about broadcast television and radio. From the 1920's to today's technologies, we'll explore the past and discuss what the future has in store for viewers.

Paul is currently the transmitter supervisor for KCNC-TV in Denver. A television engineer for 40 years, he began his career in Rochester, NY before moving to Denver in 1997. He received is first amateur radio license in 1973, and holds a FCC general class radiotelephone license.

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

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.

David Hufnagel	KD0VNC
John L Hippe	KD0RFZ
Charles Raudonis	KH6GN
Charles Raudonis	KF6GN
Steve P. Cosentino	KD0WMO

(Congratulations on the new call Steve!)

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.

TECH COMMITTEE REPORT

By Bill – W6OAV

This report provides an overview of items discussed during the September Technical Committee meeting.

The main activity was transferring KB0A's projects to other Tech Committee members. As W0GV mentioned in his president's message in this issue of the Roundtable, KB0A is moving out of state. He will be sorely missed. THANK YOU Bryan.

The following are updates to ongoing projects.

Reconfigure the Station 4 MotoTRBO Internet link
Goal: Move the internet access for the MotoTRBO repeater over to the club's DSL service at Station 4. **Status – Completed.**

Convert one of the DRC repeaters to narrow band FM.
Goal: Reprogram the St Anthony repeater to narrow band FM.
Status – WW0LF has updated the controller program. The controller can be switched remotely whenever decision is finalized by the board/tech committee.

Provide the TSA with a cell/laptop charging station.
Goal: Design and implement a TSA emergency cell/laptop charging station.
Status – Completed. The charging station was a big help during the recent flooding situation to provide additional support functions by the TSA.

Voter System Redesign
Goal: Find a site east of Denver which will provide good coverage into the Denver Metro area and which will support the voter system.
Status – this work is ongoing. We are still looking for a repeater site near Smokey Hill Rd and E470.

VE TEAM NEWS
By Tom – KC2CAG

On the 24th of September the VE Team conducted a session with the following results: three tested and three passed. Congratulations to all.

Carla - Technician Class – Call Pending
Dennis - Technician & General Class – Call Pending
Daniel - Extra Class Upgrade – N2SRK

ST ANTHONY REPEATER ENTERS THE 21ST CENTURY
By Bryan – KB0A

The vast majority of the Denver Radio Club repeaters use standards from the mid-1960s. These radios use +/- 5 kHz deviation and CTCSS (Continuous Tone-Coded Squelch System). This means that a 25 kHz channel assignment is required for both transmit and receive channels to provide an adequate "guard band" between channels.

Since the 1990s most of the ham radios manufactured, both handheld and mobile, have the capability of using narrow band features. Narrow band means that the signal is transmitted using +/- 2.5 kHz deviation. This allows more efficient use of the repeater frequencies available by splitting channel assignments. Many of you may not be aware that currently all 2M and 70cm repeater channels are assigned and there is a waiting list for any frequencies that may become available.

The club board and tech committee has decided to experiment with this new technology on the St Anthony site repeater by moving it to utilize narrow band technology. Being a newer Kenwood repeater this radio has the capability to implement the narrow band channel. For those that use this repeater you will need to check your radio manual and/or any computer based radio programming software to determine how to set that repeater memory to narrow band.

One other item needs to be mentioned. Currently our repeaters use the CTCSS technology in order to have the repeater "open up" and retransmit your signal. This technology transmits a subaudible tone whenever you press the PTT button. This frequency is interpreted by the repeater's receiver and causes the squelch to open and the signal to be transmitted. Most repeaters use this feature in order to reduce the risk of interference from other strong radio signals. There is a newer technology for providing this function that uses a digital signal and sends it whenever the PTT is pressed. Again, radios that support narrow band will also support DCS (Digital Coded Squelch) technology. Again, you will need to check with your programming software and/or manual for your radio to determine how to set this feature on the repeater memory channel.

The St Anthony repeater has already been reprogrammed to function as a narrowband repeater using DCS but it has not yet been implemented. We can implement the switch remotely through programming codes we send to the transmitter. Our plan is to upgrade the repeater to narrow band and DCS tone around the 15th of October. When the changes are implemented, the receive and offset frequencies will remain the same. All that will need to be changed is specifying narrow band FM for that memory channel and the DCS code of 073.

RASPBERRY PI
A WEB SERVER
By Mark – W0QL

I had been debating whether to pay for a hosting service for my w0ql website but hadn't decided. Cost was driving my decision since my wife, Marge, looked at our electric bill and encouraged me to measure my usage. It turns out my hobbies were costing $70 a month! Building your own web site is one of life's passages. I have had a ball doing mine over the years. Recently I have been doing my own hosting on a PC loaded with Ubuntu Linux. It works great but I measured its use at about $6 a month in electricity. Hosting services can be as cheap as $3 a month.
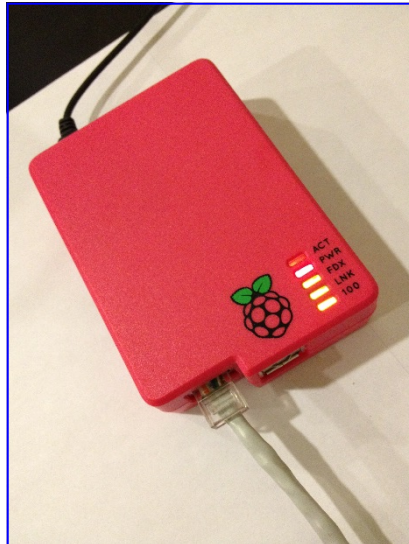
One day I discovered the Raspberry Pi which I read can be made into a web server and it only uses 2 watts. That works out to an eye popping 16 cents a month, yes, CENTS. It was a no brainer if I could pull it off. A Raspberry Pi microcomputer is the size of a credit card and runs a full version of Linux. It was introduced last year, in 2012. Of course devices this good are very expensive and the software and service is an additional large expense, right? Incredibly, no. A Raspberry Pi, power supply, case, and SD memory card total about $65, either locally or online. That's all you need to spend because all the software is free and you don't need a monitor, keyboard, or mouse. Run the Pi "headless" and dial in over the network using the built in Ethernet port. The Internet is packed with help on this little jewel. I found a YouTube video, "How to turn your Raspberry Pi into a webserver" by Daniel Foreman that walked me through my entire web server installation: *http://www.youtube.com/watch?v=zBaUay7s-14*

Following the video made it easy to get the Pi up and running. Once that was done I just had to copy over my web page files without making any changes. Amazingly, it all worked the first time with no errors. If you visit www.w0ql.com everything you see is being served by my little Raspberry Pi, including the pictures.

Reaching the web server from the outside world is easy. You just need to configure your router for port forwarding to the Pi. I'm enjoying the 16 cents a month electricity charge (and so is Marge). I hope my experience will encourage you to try making a Raspberry Pi project, too, whether a web server or something else more directly related to ham radio. Have fun.

REMEMBER WHEN?
By Bill – W6OAV

The purpose of this article is to bring back memories to old time hams like me and to let newer hams know what ham radio was like in the 50s and 60s.

In the late 50s and early 60s the electronics industry extremely valued the ham's technical knowledge and experience. The electronics industry knew that hams had to pass a complex license test and that most hams either built their own equipment or modified surplus military equipment. Because of this, the electronics industry ran many job ads in QST. A knowledgeable ham could easily begin a career in electronics.

This article shows a sample of the ads directed at hams which appeared in QST during the 50's and 60's.

The ad at left, shows a Bendix Radio ad which specifically states that they were looking for hams with electronics experience.

The next two ads are designed to catch a ham's eye.

This ad has an old banner of "QRVs", the Q code means "Are you ready?".

(Continued from page 4)

In this ad a bold banner of "CQs" which means "I'm looking for anyone out there to respond".

The 50s and 60s were exciting times for hams wanting to take advantage of their hobby knowledge and experience to start an electronics career. Many different opportunities were available to them!

Here the ad that illustrates American Airlines' respect for the ham's experience.

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.
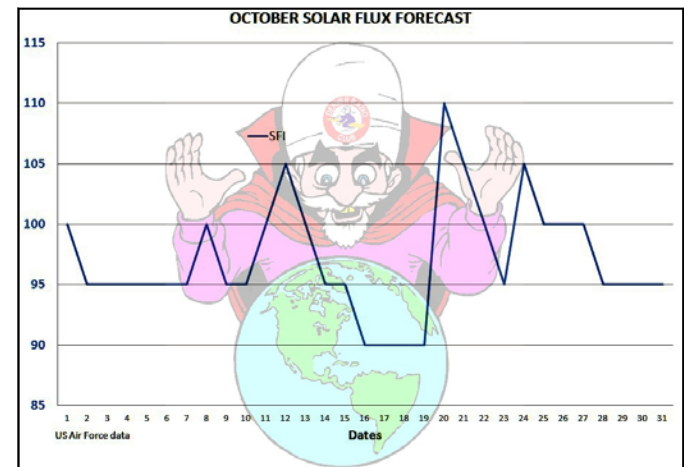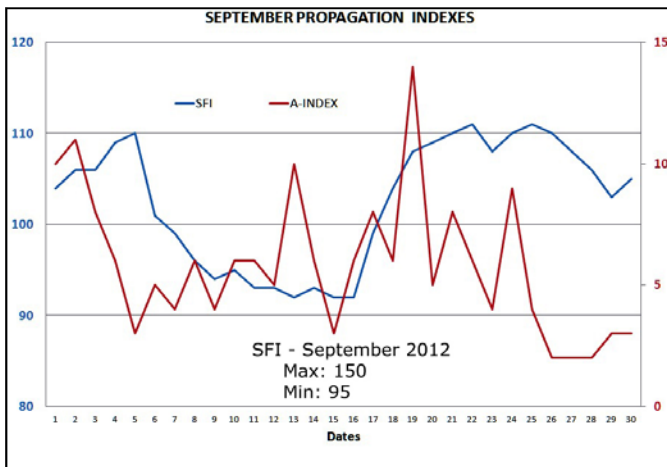
Up Coming Events

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.

November 2 – 285TechConnect RC, Fall TechFest
Lakewood Elks (Club See information at left.)
http://www.na0tc.org

2014
January 18 – NCARC Hamfest
Loveland, CO Larimer County Fairgrounds In the 1st National Bank Building.
http://www.ncarc.net

Rocky Mountain Division Convention
Rocky Mountain Park Inn, Estes Park, Colorado
http://www.hamconcolorado.org

NAØTC – 285 TechConnect Radio Club 2013 Fall TechFest

The 285 TechConnect Radio Club (NAØTC) is pleased to announce its 2012 Fall TechFest. This event will be held on Saturday, Nov. 3, 2012: 9:00am. - 3:00pm. Check-In: 8:00 - 8:45am at the Lakewood Elks Club, 1455 Newland Street, Lakewood, CO 80214 Pre-registration is recommended by contacting kd0spq@yahoo.com.

Topics include Lightning Protection, Low-Band Operations with Suburban-Style Antennas, Working DX with Low Power and Restrictions, Using Free Software to Improve a Station and Raspberry PI and Amateur Radio Applications.

For more information go to: *www.na0tc.org*.

OCTOBER 2013 — *DRC Net Sunday's at 8:30pm Local on 145.490 & 448.625 (No PL)*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 *Learning Net* 7:30pm	3	4	5 ● New Moon
6	**7**	8	9 *Learning Net* 7:30pm	10	11 ◐ First Quarter	12
13	14 COLUMBUS DAY	15	16 *DRC Meeting* Elmer 6:30pm General 7:00pm	17	18 ○ Full Moon	19
20	21 *ARRL* School Club Roundup	22	23 *Learning Net* 7:30pm	24	25 *ARRL* School Club Roundup	26 *ARRL* EME 50-1296MHz Begins 000UTC ◑ Last Quarter
27 *ARRL* EME 50-1296MHz Ends 2359UTC	28	29	30 *Learning Net* 7:30pm	31		

Check www.ARRL.org for Contests and Rules!

DRC BOARD OF DIRECTORS

President	W0GV	Gerry Villhauer	303-467-0223	w0gv@arrl.net
Vice-President	K0HTX	Dave Gillespie	303-880-1938	k0htx@comcast.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	K0BAT	Art Thayer	TBD	TBD
Board Member	W0JMC	Jack McComb	303-885-9098	prairiestone@q.com
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 Kocialski	720-493-1426	kc2cag@arrl.net
Swapfest Manager	Open	Thanks Bryan		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	K0HVA	Bud Chick	720-394-6006	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**