



ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917

July 2016

PRESIDENT'S MESSAGE

By Gerry Villhauer – W0GV

Hello DRC Members,

Summer is here for sure. As I write this I have the ground covered with pea size hail and there is a torrential rain storm along with it. You just never know what Colorado weather will bring.

Field Day...WOW! What a successful event for our club. The new location at Chief Hosa was great! Much better than the previous location on the lower level. It was much more level and easier for setup and operating, not having to go up or down hill to visit the different operating positions. Great Job and Thank You goes out to Jason (AC0JA), our Field Day Chairman and his trusty assistant Dave (K0HTX). Other than a drenching rain storm on Saturday, everything went very well. Nobody went hungry either, thanks to Jim (K0TOR) who operated the Salvation Army Canteen; supplying good food and plenty of snacks and refreshments. Jim was assisted by Cathy (N0CRZ), Katie and Victoria Gillespie. Operating the Canteen for three days is no easy task and I am sure Jim appreciated the help. And last to all who helped set up and tear down the site. Thank You! Usually when Sunday noon comes around there is little help to do the tear down. This year I am pleased to say more people stayed and helped, many of them visitors and first timers. Band conditions were mixed as expected. But all in all, we made lots of contacts; and most of all had FUN!

Thanks to Doug Parker (N4ATA) for his very interesting presentation on high power transmitters at our June Meeting. Doug's material was very informative and his personal experiences during his Navy Career made it even more fascinating.

Prior to Doug's presentation we had a surprise guest. Fred Lloyd (AA7BQ) the founder and president of QRZ.COM stopped by during his vacation to Colorado. Fred gave a short but very informative talk on how QRZ got started and where it is today. He also passed out "I'm good on QRZ.COM" bumper stickers. I hope he will contact me and come back next time he is in our state.

Our July program promises to be another don't miss it presentation. Mr. Lee Reedy (KE0COP) presents the question; How do you solve a transceiver reception problem when your radio is over 40 million miles away? Especially when each command that is sent out takes over 9 minutes to confirm. Lee along with other scientists, engineers, technicians and students are working on a project called the Kelper Deep Space Project, which is headquartered in Boulder, Colorado at the Laboratory for Atmospheric and Space Physics. There will be more on the program in this issue of the RT...Mark you Calendars, don't miss this 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 Round Table.

Finally, do forget our DRC Hamfest coming up August 21st.

73 for now,
Gerry (W0GV)
President



INSIDE THIS ISSUE			
June - Meeting, What'd I Miss?	2	Colorado 14er Event	8
Who's New In The DRC?	4	Squaw Mountain After The Storm	10
Technical Committee Report	4	Learning Net Report	11
DRC Ham Fest 2016	5	Solar Report	12
My Ham Radio Story	6	Past & Future Propagation Conditions	17
July Meeting Presentation	7	DRC Calendar	20
RoundTable RoundWorld	8	DRC Board & Staff	21



JUNE MEETING - WHAT'D I MISS?

By Bill Rinker, W6OAV and Doug Parker, N4ATA

There were 41 attendees. President Gerry Villhauer (W0GV) conducted introductions and then invited our Field Day Chairman, Jason Smallwood (AC0UA) to provide an update to the group.

The meeting was then turned over to the presenter, Doug Parker (N4ATA). The first half of Doug's presentation was a video of WLW's 500,000 watt transmitter that was put on the air in 1932. The video covered the background history of the radio station as it progressed from its beginning in 1921 until the 500,000 watt station was shut down in 1939. Most of the transmitter components were homemade.

The second half of Doug's presentation was on The U.S. Navy's 2,000,000 watt Very Low Frequency (VLF) transmitter that was put on the air in 1961 just outside Cutler, Maine. Doug's PowerPoint presentation covered background history of the station with pictures and diagrams of the building of the station.

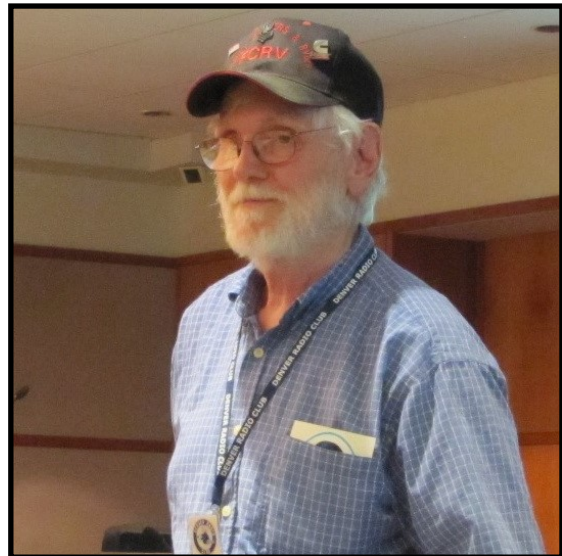
The presentation ended with very good questions, especially concerning the VLF station.

Additional information URLs:

WLW Video: <https://www.youtube.com/watch?v=CbHjcwloTiY>

NAA Cutler, Maine: <http://www.navy-radio.com/commsta/cutler.htm>

Popular Science September 1960 article about NAA Cutler, Maine: [LINK CLICK HERE](#)



From left to right: Fred (AA7BQ), and Doug (N4ATA).

ATTENTION

Denver Radio Club Field Day

~ Editor's Note: Watch for the August Denver Radio Club's Newsletter for information on how the 2016 Field Day went, along with dozens of photos of the fun.

The YouTube logo is displayed in a light blue rectangular box with a dark orange border. The word "You" is in black, and "Tube" is in white inside a red rounded rectangle.

The new DRC YouTube Channel is now open for business! The first videos available are the 10 videos of the packet radio sessions conducted by W6OAV back in 1992. Although there have been some changes with newer technology, the majority of the information is still current and very usable. The channel is easily accessed by clicking the link contained on the W0TX web site home page (www.w0tx.org).

Who's New In The DRC?

By Bob Willson, KC0CZ

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 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.

Nick Parker	K1BRX
Christopher C. Campbell	N0NDF
Charles H Wheat	WM0W
Sparky Ullmer	KA0DPC

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 Rinker, W6OAV

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

AllStar Link Voter System (W0GV)

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

Status: W0GV is working with KD0WHB, and K0LAI, to install the main server with Asterisk software and get familiar with it. N0ETV is building a remote AllStar Link receiver for testing. W0GV has the parts to build two more receivers. W0GN will help assembling the receivers. One voter is in test mode..

DRC/TSA Aurora Site (W0GV)

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

Status: W0GV is attempting to meet with the new TSA contact. The TSA contact has had medical issues so the meeting is on hold for a while. K0TOR worked with Burie and did locate some of our equipment stored there. The site remodeling is still in progress.

Noise at Station 4 (W6OAV)

Goal: Monitor noise level.

Status: Xcel has replaced equipment on a nearby pole.

Noise level is now back to the original level. The HF port is now on line. W6OAV will monitor the HF port's performance. Unfortunately, monitoring is difficult as 20-meter propagation has been terrible for the past three months.

Redesign Packet Gateway (W6OAV)

Goal: Re-design the gateway for more reliability.

Status: AC0UA has given the DRC a long-term loan of a FT-950 transceiver. W6OAV will build interface cables for the receiver and a PK900. The new configuration will replace the existing KAM and TS-430. The DSP filtering in the FT-950 and the PK900 should improve the gateway's performance.

Establish a DRC YouTube Channel (KB0A)

Goal: Provide access to various DRC videos.

Status: N0LAJ will administer the channel. N4ATA is editing the packet tutorial videos and will get them to N0LAJ for uploading to the channel.

Fusion Repeater Upgrade (KB0A)

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

Status: KB0A will mentor AC0UA who will take over administering the upgrade. With managing Field Day, and helping put Squaw Mountain back together after the lightning strike, AC0UA has not had much time to work on this one.

DRC TRBO Move (K0HTX)

Goal: Move the TRBO repeater to Centennial Cone to provide better coverage.

Status: The board has approved the move along with changing from MARC to BrandMeister. CCARC approval is expected.

~ 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.

ELMER SESSION START TIME

The Elmer Session Starts at 6 p.m.
before the regular 3rd Wednesday DRC Meeting!

Come join in on the sharing of information.

HAM SITE OF THE MONTH

Band Conditions

Sunday August 21st - Jefferson County Fairgrounds

DENVER HAMFEST 2016

Denver Radio Club, WØTX



Since 1917

- ◆ DEALERS ◆ FLEA MARKET ◆ PRIZES
- ◆ FORUMS ◆ FCC EXAMS ◆ FOOD ◆ INDOORS

More Tables & Less Crowding

Admission: \$6 (Children under 13 free w/adult)
 Tables: Advance Purchase: \$12 (Paid by Aug 8)
 At the Door \$16

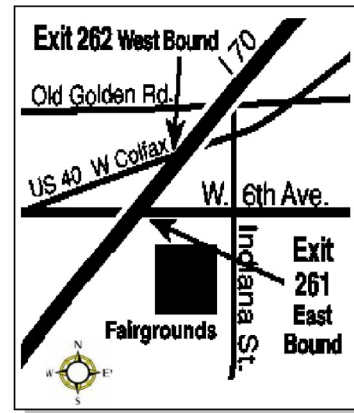
Hourly Door Prizes - Main Drawing at Noon
 (Must be present to win)

Doors Open: 8:30 AM - 1:00 PM
 License Testing/VE Exams at 10 AM
 (Vendor Set-Up Starts at 7:15 AM)

Talk-In: 145.490-/448.625- PL 100.0Hz
 GPS: Lat 39d 43' 19"N Lon 105d 10' 15"W

Handicapped Parking & Access Available

WWW.WØTX.ORG



Jefferson County Fairgrounds
 15200 West 6th Avenue Golden, CO

For more info visit our website or contact:

Jason Smallwood, ACØUA, 303-429-2536 eMail: drcfest@w0tx.org

Advance Table Reservation Form

Make checks payable to: Denver Radio Club, do not mail cash!

Payment is required with reservation and must be received by August 15, 2016 to obtain the \$12 per table advance registration price
 AC Power is limited, available on a FCFS basis. Reservation confirmations will be emailed. Vendor badges & tickets will be
 provided at the Hamfest. Tables must be claimed by 8:30 AM or they will be subject to resale - no refunds
 Save the upper portion of this flyer for your records

Name: _____ Call: _____

Org: _____ Phone: _____ Email: _____

of Tables _____ @ \$12.00 each = _____

of Vendor Admissions _____ @ \$6.00 each = _____

AC Power: yes no Total Enclosed: _____

Special Requests: _____

Please mail all reservations to (New Address): Denver Radio Club, 7780 Bradburn Blvd., Westminster CO 80030-4526



MY HAM RADIO STORY

By Gerry Villhauer, W0GV

How did you get interested in ham radio?

I grew up in a rural area and had distant neighbors that were both ham radio operators. I visited their home several times for live ham radio demonstrations. They also had mobile HF radios in their vehicles, which in the early sixties was not a dash mount transceiver. These radios took up the whole trunk and then some. I had a broadcast receiver that would also tune some of the ham bands; where I would listen with great interest. I remained very interested but did not go forward with getting a license until a co-worker who was a ham peaked my interest. I studied and he gave me the test for Novice; which was how it was done back then. I was issued the call WN0UCQ, which later became WA0UCQ when I upgraded to General and Advanced class. Those two upgrades were taken at the FCC office before an examiner. I purchased a Drake R4A receiver, which I still have, and build a Knight Kit T-60 transmitter. It was crystal controlled which was required by FCC rules at the time. And as they say, the rest is history, and I have been involved with the hobby ever since.

What are your favorite activities in the hobby?

As far as operating, my favorite mode is CW, 95 percent of my HF operating time is using Morse code. I have built and operated several repeaters. I have one on my bench at this time which will replace the present UHF repeater that I own.

What is your most memorable experience(s)?

Radio-wise, my most memorable experiences are my early days of ham radio. Building and putting my first repeater on the air. Field Day operations and many memorable work parties on mountain tops. Other memorable experiences are the wonderful trips my wife Cathy (N0CRZ) and I have taken to numerous locations in Europe and Hawaii.

What is your background?

My background is mostly in the field of Avionics (Aviation Electronics) and Land Mobile two-way radio. I have a commercial FCC General Radio License and FAA Airframe and Powerplant Mechanics Certificate. Most of my career has been aviation related and I owned and operated a small two-way radio business for over 20 years. I also worked in broadcast radio engineering and supervised the radio/electronics shop at Stapleton International Airport for the City of Denver.

What are your additional hobbies?

I am a licensed private pilot although I have not flown for several years. I am a Shriner and have a Dune Buggy; which I drive in several parades in and out of state mostly in the summer months.

~Editor's Note: As long as we have material, we will continue to publish a monthly column profiling DRC members' stories about how they got into the ham radio hobby, their interests and backgrounds. The purpose of this column is to introduce DRC members to each other and to find commonalities between them. Please participate by answering the questions as shown in the article above. We will publish in the order we receive them. Please use Microsoft Word set to Arial and 10 point and submit your story to w6oav@arrl.net. *Thanks to Gerry for his story.*

**Don't forget to join in Wednesday nights at 7:30p.m. for the
DRC Learning Net on 145.49/448.625 Repeaters!**

JULY MEETING PRESENTATION

By Lee Reedy, KE0COP

How do you solve a transceiver reception problem when your radio is over 40 million miles away and you don't have direct measurements to tell you what's wrong? When each command you send takes over nine minutes to confirm, troubleshooting a problem can take an enormous amount of time, so how do you analyze the problem with very little data?

Kepler is a deep space mission searching for planets in the habitable zone around distant stars. The telecommunications link margin limits data rates and involves extraordinary wait times for perceiving any change made.

For the July presentation, Lee Reedy will be here from the Laboratory for Atmospheric and Space Physics to discuss how the Kepler professionals and CU Students worked together to solve such a difficult problem and restore the ability to get valuable science data in the search for planets.

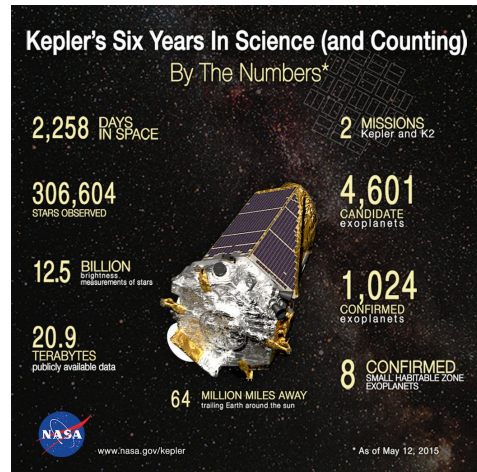
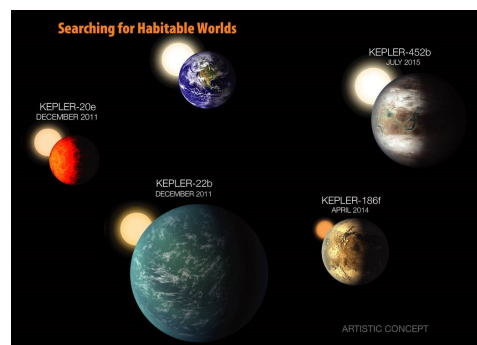
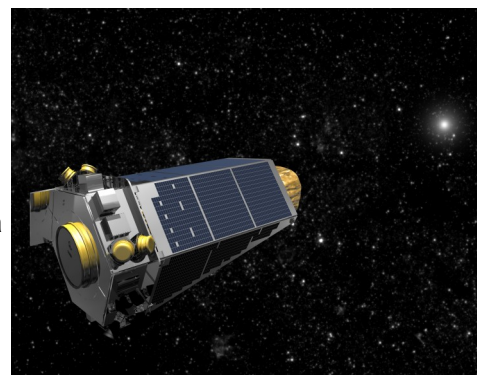
Bio:

Lee Reedy (KE0COP) is an Air Force Space Command Level III-certified aerospace professional with 29 years of proven expertise in program management, systems administration, operations leadership and training system analysis and development.

He retired from the USAF in 2005 with 8 years experience in flight simulation systems and 18 years experience in space operations. He has been on the Kepler deep space science mission since 2012 and earned his Technician Class license 18 months ago. He and his wife Pat live in Brighton, CO.

The Laboratory for Atmospheric and Space Physics (LASP) is one of the top space science research institutes in the country with facilities in Boulder, Colorado employing approximately 500 scientists, engineers, support personnel, and students.

Lee works closely with scientists, engineers and other space system mission operators in the development, operation, and maintenance of spacecraft mission operations. He also supervises one or more student assistants. Lee is certified for the Flight Controller, Flight Director, and Mission Planner positions on the new Kepler Satellite mission operations dubbed "K2".



THIS COULD SAVE YOUR LIFE

By Bill Rinker, W6OAV

Most folks know that you stay in your vehicle if you are in a situation where a power line has fallen on your vehicle. However, what do you do if the car catches fire?

Puget Sound Energy has produced a video which covers this situation. Access the URL below and watch the video as it could save your life. (Thanks to Ed Mersich (WA6RZW) for providing this link.) <https://www.youtube.com/embed/FLVzvMTgGDY>

ROUNDTABLE, ROUNDWORLD

By Jessie King, N0HI

Below is an email we received from Mark (MOLXQ/KE0GGA) in England. Keep your eye peeled for Mark at our August meeting and give him a friendly hello and welcome.




Hi Jessie,

Just responding to the request in the June edition of RoundTable to let you know I'm reading outside of Colorado. I am located in Bromsgrove, England, just outside of our second largest city Birmingham. I remember having a QSO with you on Echolink on the very first day I was licensed!

My mother- and sister-in-laws live in and around Denver, and my wife and I are heading out in August and I was hoping to come along to your August meeting to see what you get up to - it looks like you have some very informative speakers.

Hope to meet you in August!

73, Mark, MOLXQ/KE0GGA



~ 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

COLORADO 14ER EVENT

By Bob Witte, K0NR

Amateur Radio operators from around Colorado will be climbing many of Colorado's 14,000-foot mountains and Summits On The Air (SOTA) peaks to set up amateur radio stations in an effort to communicate with other radio amateurs across the state and around the world.

Join in on the fun during the 25th annual event and see how many of the mountaintop stations you can contact. This year the event is expanded to include the entire weekend, August 6 & 7. However, many mountaintop activators will hit the trail early with the goal of being off the summits by noon due to lightning safety concerns. More info on the event web site: www.ham14er.org

The 14er event includes Summits On the Air (SOTA) peaks, which add over 1700 potential summits! If you aren't up to climbing a 14er, there are many other summits to choose from (with a wide range of difficulty). See the WOC SOTA web page at w0c-sota.org. See the Flyer on the following page.

~ Bob Witte / K0NR / bob@k0nr.com / www.k0nr.com



Colorado 14er Event

Celebrating 25 Years!!!

August 6 & 7, 2016

Saturday and Sunday

www.ham14er.org

Amateur Radio operators from around Colorado will be climbing many of **Colorado's 14,000-foot mountains** and **Summits On The Air (SOTA)** peaks to set up amateur radio stations in an effort to communicate with other radio amateurs across the state and around the world. Join in on the fun during the **25th annual event** and see how many of the mountaintop stations you can contact. This year the event is expanded to include the entire weekend. However, many mountaintop activators will hit the trail early with the goal of being off the summits by noon due to lightning safety concerns. See the very cool **25 Year Anniversary t-shirts** available at <http://www.cafepress.com/wg0at>

Now including **Summits On the Air (SOTA)**, which adds over 1700 potential summits! If you aren't up to climbing a 14er, there are many other summits to choose from (with a wide range of difficulty). See the W0C SOTA web page at w0c-sota.org

Radio operators who plan to activate a summit should post their intent on the ham14er Yahoo Group. To subscribe to the "ham14er" email list, visit the Yahoo groups site at <http://groups.yahoo.com/group/ham14er/> . Also, be sure to check out the event information at <http://www.ham14er.org> It is also a great idea to post an ALERT on the SOTAwatch.org website.

Frequencies used during the event

Activity can occur on any amateur band including HF and VHF. The 2m fm band plan uses a "primary frequency and move up" approach. The 2m fm primary frequency is 147.42 MHz. At the beginning of the event, operators should try calling on 147.42 MHz. As activity increases on that frequency, move on up the band using the 30 kHz steps. *Don't just hang out on 147.42 MHz...move up!* The next standard simplex frequency up from 147.42 MHz is 147.45 MHz, followed by 147.48 and 147.51 MHz.

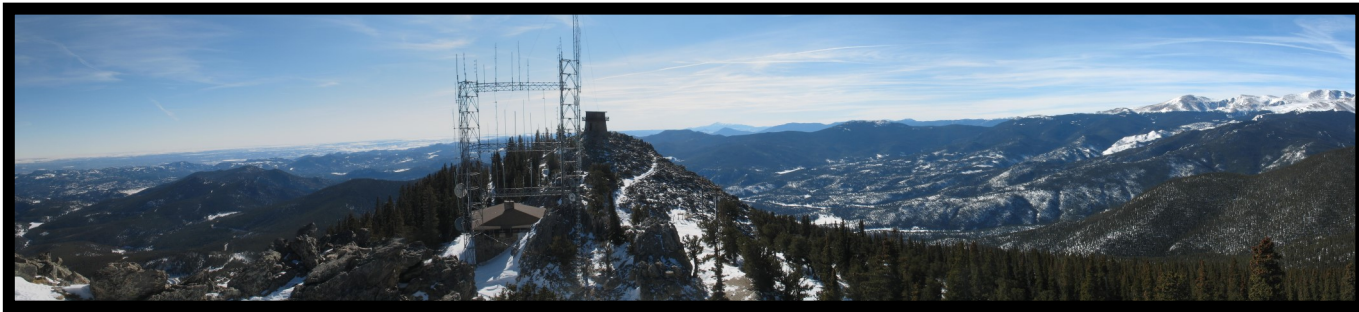
Frequency (MHz)	Comments	Frequency (MHz)	Comments
147.42	Primary 2m FM Frequency, then up in 30 kHz steps	7.032	40m CW Frequency
147.45	Alternate 2m FM frequency	7.185	40m SSB Frequency
147.48	Alternate 2m FM frequency	10.110	30m CW Frequency
147.51	Alternate 2m FM frequency	14.060	20m CW Frequency
446.000	Primary 70 cm FM frequency	14.345	20m SSB Frequency
446.025	Alternate 70 cm FM frequency	18.092	17m CW Frequency
144.200	2m SSB calling frequency	18.158	17m SSB Frequency
50.125	6m SSB calling frequency	21.060	15m CW Frequency
		21.330	15m SSB Frequency
Other Bands/Modes	Standard calling frequencies and/or band plans apply.	28.060	10m CW Frequency
		28.350	10m SSB Frequency

Warning: Climbing mountains is inherently a dangerous activity. Do not attempt this without proper training, equipment and preparation.

Sponsored by *The Colorado 14er Event Task Force*

SQUAW MOUNTAIN AFTER THE STORM

By Dave Baysinger, WG0N



Frank A. (Bob) Swanlund (W0WYX), who lived with his wife Margaret in the stone home he built with his own hands following WWII, would have absolutely loved the cooperative radio repair challenge that five Denver Radio Club members experienced today atop Squaw Mountain. Bob and Margaret lived on the "hill" from 1962 until 1982 tending the fire lookout tower and all the radios and repeaters in their living room, basement and several other rooms. They called their retirement business the "House Of Radio." Their first ham repeaters 146.94 Mhz and 449.45 Mhz (WR0ABF and WR0ABG) could talk beyond Brush to the northeast and Cheyenne, Wyoming to the north. But it's not all serene and pleasant on the mountain. During those years past and to the present, one of the greatest dangers on Squaw was and still is lightning. When you live at 11,500 ft. under 130 feet of steel tower, lightning is not your friend. For more than 20 years the Swanlunds endured many sleepless nights when the boomers of summer came calling.

So it is that the lightning danger continues, although there are few if any ears and eyes on the mountain to witness the continuing barrage. Last week a potent strike targeted the radios of Squaw Mountain. It didn't hit the towers with their many aluminum antennas. It hit the power lines, ripping through a large pole mounted transformer. The massive surge plowed into the basement filled with repeater stations, silencing most systems, and damaged many. Some radios miraculously came back up, only to crash back down causing technicians below to ask, "...What the....?" On Friday, June 10, five DRC members met at 7:30 a.m. in Bergen Park and headed for the rocky road that twists and climbs from state highway 103 to the summit of Squaw.

During the next 6 hours Steve Ciotti (K0SDC), Jason Smallwood (AC0UA), Jan Dickover (WY0J), Larry Irons (K0LAI), and Dave Baysinger (WG0N) diagnosed the problems with multiple repeater stations, consulted by radio with other ham technical types down in Denver, created fixes for broken systems, and summoned the IREA (Intermountain Rural Electric Association) to determine why an excess of 160 volts AC was being delivered to the house to create radio havoc.

An IREA team arrived within several hours and quickly installed a second replacement transformer to supply a calmer 115 volts to the site. Some stations were damaged so badly, they had to be shut down to await additional technical help. DRC president Gerry Villhauer (W0GV) and Vice-President Dave Gillespie (K0HTX) provided signals from the city below to calibrate systems and help trace problems.

At end of day 2 UHF repeaters had been returned to the air to serve the public in time of need. All systems had been safety checked, the high antennas on the high towers were accounted for, and we're sure the spirit of Bob Swanlund was feeling honored and pleased at the day's success. All the work is done to bolster the truth that it really is, "Amateur Radio -- when all else fails."



LEARNING NET REPORT

BY FRED HART, AA0JK



A surprise visit from QRZ's Fred Lloyd, (AA7BQ), CEO of QRZ, joined us during the Elmer secession during the June club meeting. Fred gave us some background on the formation of his web-site, and the many services provided there. The site is free but donations are appreciated.

Many thanks for the visit Fred, from all of us here at the Denver Radio Club.

Learning Net and Yahoo Learning group topics discussed this past month of June:

- D-Star
- APRS: Automatic Packet Reporting System
- ARES Amateur Radio Emergency Service
- Field Day
- Feed lines, sealing out water, and ways to run lines into your shack

Great topics from our group. We certainly enjoy everyone's participation. Thanks to all.

If you are listening and don't yet have your license, you can contact us at the W0TX web-site , 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. 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 at 7:30 PM, on 145.490 or 448.625.

(Note: The third Wednesday of the month is devoted to the DRC club meeting. See the W0TX web-site for additional information.

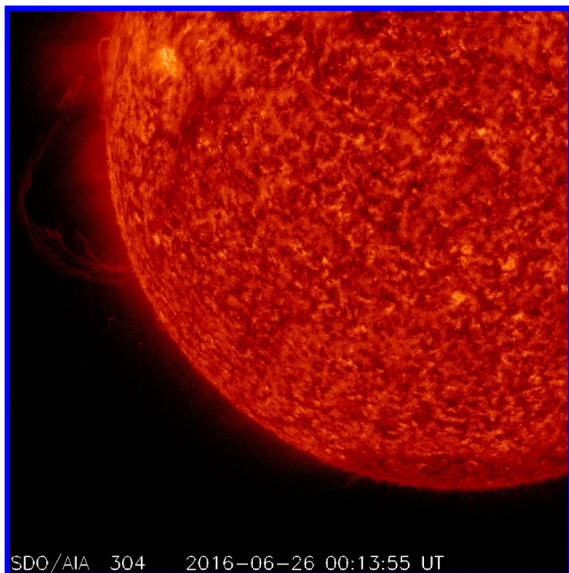
73, Fred (AA0JK)

ATTENTION**SUPPORT THE DRC FROM YOUR AMAZON PURCHASES**

You can now support your Denver Radio Club when you make purchases from Amazon.com. Amazon Smile donates 0.5% of your purchase to the non-profit (501.c.3) organization of your choice. This is at no additional cost to you. To support the DRC just visit <https://smileamazon.com>. Select Denver Radio Club, Inc. as the organization you want to support and proceed with your order as usual. Amazon Smile will credit the DRC automatically. Thank you for your support.

SOLAR UPDATE

PROVIDED BY FRED HART, AA0JK



First Week:

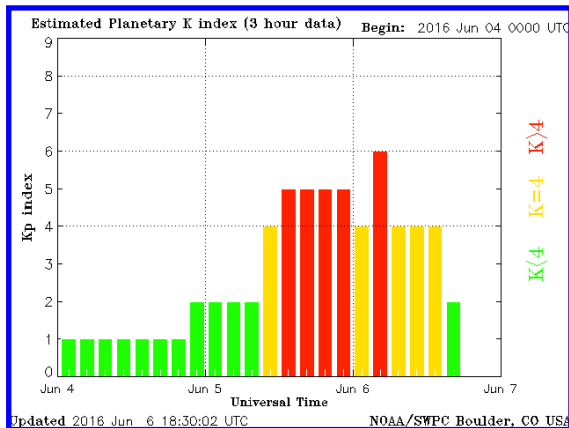
Coronal Hole Rotating into Earth-strike Zone

Despite the recent quiet spell, a dark coronal hole was rotating into the Earth's strike zone. This presented a good chance for a solar storm from fast solar wind forecast to hit late on June 3rd and continuing through June 5th.

There was also a snake-like filament that continued to tease us with the possibility of an eruption within the following few days. This would add to the intensity and length of the coming solar storm.

Overall activity continued to confirm that we are well passed solar maximum and on a slow path to solar minimum within the next five years.

As of this date, both visible numbered regions 2550 and 2551 were stable and not expected to present any noteworthy solar flare activity. A filament eruption was observed towards the north-east limb on Wednesday, June 1st but was not expected to impact earth.



June 6th, solar winds remained elevated. Periods of minor (G1) geomagnetic storming were expected to persist at higher latitudes.

After five days of no sunspots, Region 2552 appeared on the visible disk, continuing to expand and producing very minor B-Flares.

June 9 – 10th, Earth crossed through a fold in the heliospheric current sheet. As we dip in and out of this solar sector boundary, we can expect high-latitude solar activity.

Week Two:

Farside Solar Activity:

The Earth-directed side of the sun was quiet, with only two sunspots producing very low – level flares. On the farside however, there was more activity. On June 16th, a CME was detected, billowing over the sun's northeastern limb. More were expected to follow. At the time however, Earth-directed solar activity remained at low-levels.

Week Three:

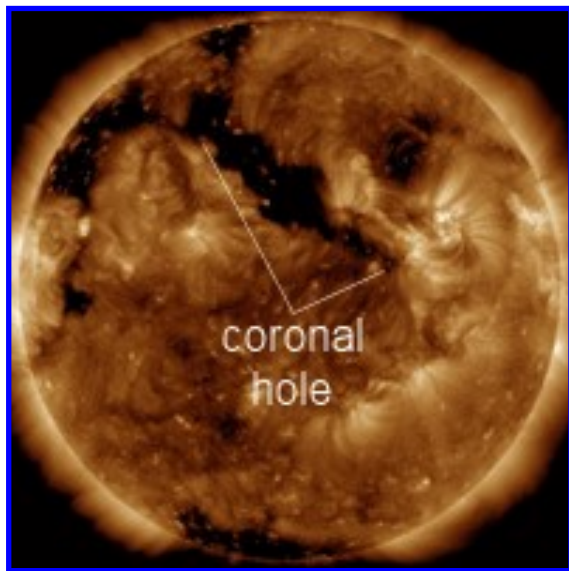
Solar Wind, Ineffective:

A stream of high-speed solar wind was pressing against Earth's magnetic field, but constant pressure was doing little to spark dynamic geomagnetic activity.

June 24th

The Earth facing side of the sun was spotless. There was little to

(Continued on page 13)



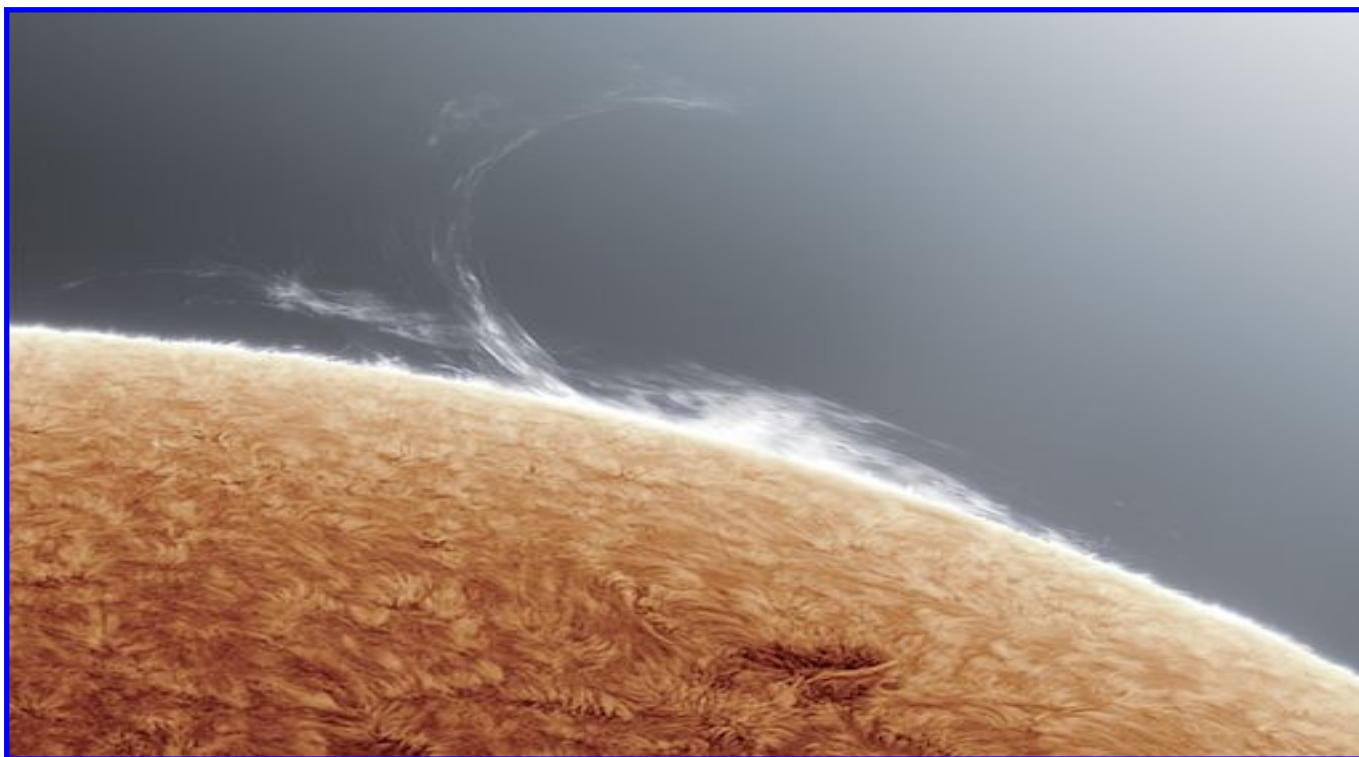
(Continued from page 12)

no chance for strong solar flares at the time. More quiet is expected during the following few days. The solar flux index for Thursday, June 24th, was 78. Today's blank sun is a sign of the forthcoming Solar Minimum. Forecasters expect the next Solar Minimum to arrive in 2019-2020. Between now and then, there will be lots of spotless suns. At first, the blank stretches will be measured in days; later in weeks and months. When the sunspot cycle reaches its nadir, a whole year could go by without sunspots. However, don't expect space weather to go away. Solar Minimum brings many interesting changes.

Week Four:
June 26th

Solar activity remains very low and the short term geomagnetic outlook is quiet. The east limb however has provided us with a number of prominence eruptions to view.

SCORPION WITH A MAGNETIC TAIL: As the face of the sun grows quiet, attention is turning to the *edge* of the sun. "The spotless sun put out a large, fast moving prominence... a loop that rose and disappeared quickly. The Magnetic tail resembled that of a scorpion.



Forecast:
Solar activity is expected to be very low throughout the forecast period.

73,
AA0JK
Fred



Fred (AA0JK)

LOOKING BACK AT THE DRC PROVIDED BY WOODY LINWOOD (W0UI) ROUNDTABLE, JULY 1965

The Denver Radio Club successfully sponsored the July 1965 ARRL Rocky Mountain Convention.

DENVER RADIO CLUB

1965

ARRL

*Rocky Mountain Division
Convention*



Centre Denver Motor Lodge

July 17-18, 1965

LOOKING BACK AT THE DRC PROVIDED BY WOODY LINWOOD (W0UI) ROUNDTABLE, JULY 1965

The Denver Radio Club successfully sponsored the July 1965 ARRL Rocky Mountain Convention.



Welcome to Denver and the 1965 Rocky Mountain Division ARRL Convention, sponsored by the Denver Radio Club, Inc. It is the sincere desire of everyone connected with the programming of this convention that you have an enjoyable weekend of good fellowship and congeniality.

Gathered here are amateurs representing all phases of the diversified interests which make up the amateur fraternity. Whatever your special interest or talent might be, let us remember the basic purpose of the amateur service. We operate in the public interest, convenience and necessity—we always have and we always will.

On behalf of all amateurs of this division, I wish to express appreciation to "Slats" Council, KOATZ, and the entire Convention Committee for their hard work in preparing for this weekend.

Now is the time to relax and enjoy yourself!

Carl L. Smith, WOBWJ
Rocky Mtn. Div. Director

WELCOME

We would like to welcome you to Denver for the 1965 Rocky Mountain Division ARRL Convention. We hope the program we have assembled is interesting as well as educational to all members of the family. We especially want to thank Major General Bestic K4BMR, Lew McCoy WIICP, ARRL Headquarters Staff, Robert Booth W3PS ARRL General Counsel and District Judge Sherman Finesilver KOLUB for their interest in our behalf toward making this convention one that you will remember.

I would like to thank all of the members of the Convention Committee who so willingly donated their time and energies toward a successful Convention.

Thank You and 73's.

"Slats" Council KOATZ
Convention Chairman

COMMITTEE CHAIRMEN

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- Prize Committee.....Taylor Shreve WOCXW
- Program Committee.....Larry Johnston WOEIE
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Tops**

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kiddies menu

WE NEVER CLOSE

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 17.

Interface

Across

- 1. Radio room
- 6. Analog tuning device
- 10. F-land without
- 14. Simple /MM vehicle
- 15. It follows that
- 16. SK item
- 17. Henry amp last name
- 18. "If it ___ broke ..."
- 19. This
- 20. They help you read 6-across and other 67-acrosses
- 22. Rig or antenna maintenance
- 24. Sometime AMSAT launcher
- 25. Related degree hams sometimes have
- 26. Campus org, informally
- 29. Not fooled by
- 32. Prepare, as tea
- 36. Chips that store
- 37. Dahdit dahdit

- 38. JA port
- 39. Hall-of-Famer Mel
- 40. Comebacks
- 42. Ham, to Noah
- 43. Weeper of myth
- 45. Once again
- 46. Go for the gold
- 47. Inductor shape, sometimes
- 48. Overhaul
- 49. Figure skater's jump
- 50. Whig's rival
- 52. Good thing to break on the links
- 54. Art's transceiver
- 57. Rotary, slide, and others
- 62. Bigger than a pico
- 63. Speaker part
- 65. Stockpile
- 66. Shakespeare's river

- 67. Interface device manipulated by digits
- 68. Where hams want to be
- 69. Livens (up)
- 70. Puts in stitches
- 71. FD, repeater, and others

Down

- 1. Atlantic fish
- 2. Innocent antenna configuration?
- 3. Prefix with VOX
- 4. Brass instruments not meant for, but useable for, sending CW
- 5. 19th century G poet
- 6. DR on CW
- 7. Pupil's place
- 8. "What?", on 7.005, say
- 9. Expensive sports car
- 10. Where plugs go

- 11. Old alpha alternative, in the military, say
- 12. ZK2 place
- 13. Footfall
- 21. Spanish prefix
- 23. XE units
- 25. Docked /MM
- 26. With 35-down, it's where 6, 20, 57, 67-across, 10, and 44-down are located
- 27. Part of SWR
- 28. Digital mode
- 30. ___ public
- 31. Congo prefix
- 33. Balearic prefix
- 34. Armenian prefix
- 35. See 26-down
- 40. Plant again
- 41. A full circle

- 44. Interface devices manipulated by a digit
- 46. Radio pioneer
- 51. Crystals, familiarly
- 53. SV/A Mount
- 54. Hiker's sack
- 55. Its length determines frequency
- 56. KL followers
- 57. VE8 forecast
- 58. Networks
- 59. One method of ant. elev. measurement
- 60. Lake for which a bug fist is named
- 61. Flex, SoftRock and others
- 64. QSO at start of SS

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			
69						70					71			

FACT OF THE DAY

Broken Safety Grounds

Electric power outlet safety grounds (also called equipment grounds) generally return to a main power panel and then connect to a large-gauge ground wire that is clamped to an incoming water pipe. Home owners often install various types of water treatment devices such as water softeners, mechanical filters, reverse osmosis filters, electromagnetic water conditioners, or magnetic water conditioners after original home construction and wiring. Sometimes those devices are installed in a main water line between the power panel ground-point and water pipe entrance. Some water filters have plastic pipe couplers or plastic pipes that break the electrical ground circuit. In those cases, the ground wire either should be reconnected to the street-side of the filter or the filter should be bridged with a large-gauge electrical conductor. ©2005 Martek International All rights reserved.

S	H	A	C	K		D	I	A	L		S	A	N	S
C	A	N	O	E		E	R	G	O		O	B	I	T
U	L	T	R	A		A	I	N	T		C	L	U	E
P	O	I	N	T	E	R	S		U	P	K	E	E	P
				E	S	A				M	S	E	E	
F	R	A	T		O	N	T	O		S	T	E	E	P
R	A	M	S		N	O	N	O		O	S	A	K	A
O	T	T		R	E	T	O	R	T	S		S	O	N
N	I	O	B	E		A	N	E	W		M	I	N	E
T	O	R	U	S		R	E	D	O		A	X	E	L
				T	O	R	Y			P	A	R		
K	W	M	T	W	O		S	W	I	T	C	H	E	S
N	A	N	O		C	O	N	E		H	O	A	R	D
A	V	O	N		K	N	O	B		O	N	A	I	R
P	E	P	S		S	E	W	S		S	I	T	E	S

~ Ham Tip ~

If you have knowledge of a **GREAT** ham radio related website or just a general tip, let us know and we will share it with the rest of the DRC membership here in the RoundTable. Send to n0hi@arrl.net.

THE ROUNDTABLE ARCHIVE

Go to: <http://www.w0tx.org/RoundtableAccessPage.htm>

THE ROUNDTABLE ARTICLE INDEX

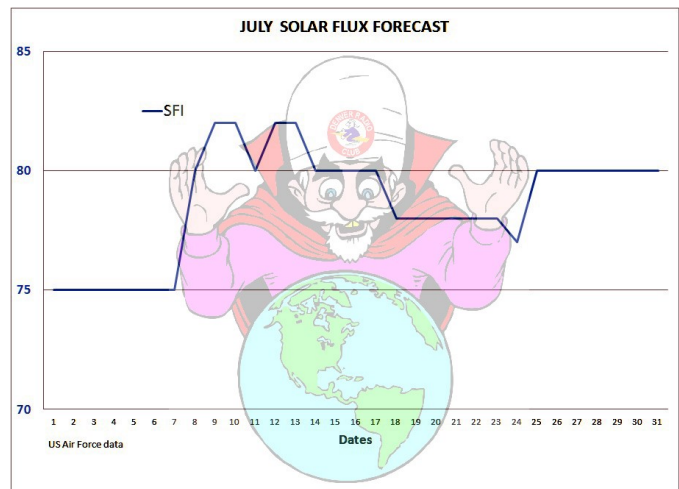
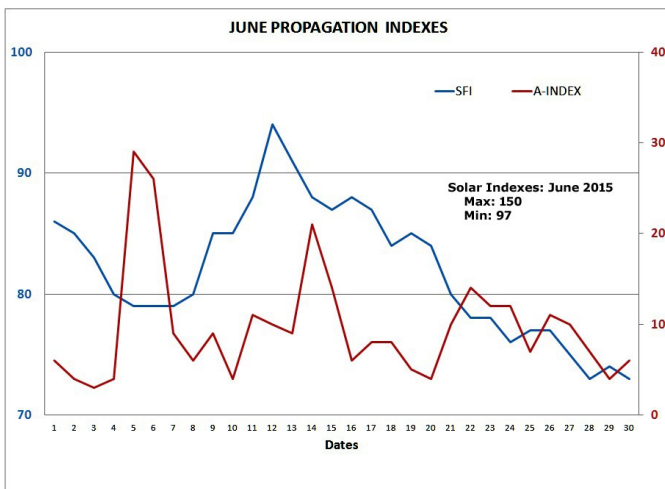
Go to: <http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf>

PAST & FUTURE PROPAGATION CONDITIONS

By Bill Rinker, 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/RoundtableArchive/2010-RoundTables/RT201009\(SEP\).pdf](http://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201009(SEP).pdf)



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UPCOMING EVENTS

HAMFESTS & CONVENTIONS

Event	Date	Location	Sponsor Website
PPRAA Megafest	07/09/16	Monument, CO	Pikes Peak Radio Amateur Association
Denver Radio Club Hamfest	08/21/16	Golden, CO	Denver Radio Club
BARCfest	10/02/16	Longmont, CO	Boulder Amateur Radio Club (BARC)

UPCOMING ARRL CONTESTS

[ARRL CONTEST CALENDAR](#)

Contest	Start Date	Start Time	End Date	Stop Time	Notes
IARU HF World Championship	07/09/2016	1200 UTC	07/10/2016	1200 UTC	
10 GHz & Up – Round 1	08/20/2016	0600 Local	08/21/2016	0000 Local	
Rookie Roundup – RTTY	08/21/2016	1800 UTC	08/21/2016	2359 UTC	
September VHF	09/10/2016	1800 UTC	09/12/2016	0259 UTC	

UPCOMING QSO PARTIES

The following are the Contests not sponsored by the ARRL. Please submit additions for future issues.

State/Province	Start Date	End Date	Sponsor Website	Notes
Maryland-DC	08/13/2016	08/14/2016	Anne Arundel Radio Club	
Kansas	08/27/2016	08/28/2016	Kansas QSO Party	
Hawaii	08/27/2016	08/29/2016	Hawaii QSO Party	
Ohio	08/27/2016	08/28/2016	Ohio QSO Party	
Colorado	09/03/2016	09/04/2016	Pikes Peak Radio Amateur Association	Based on 2015 date.
Tennessee	09/04/2016	09/05/2016	Tennessee QSO Party	Based on 2015 date.
New Jersey	09/17/2016	09/18/2016	New Jersey QSO Party	
Washington	09/17/2016	09/18/2016	Western Washington DX Club	Based on 2015 date.
New Hampshire	09/17/2016	09/18/2016	Port City Amateur Radio Club	
Maine	09/24/2016	09/25/2016	Wireless Society of Southern Maine	
Texas	09/24/2016	09/25/2016		
California	10/01/2016	10/02/2016	California QSO Party	
Pennsylvania	10/08/2016	10/09/2016	Nittany Amateur Radio Club	

DRC REPEATERS

BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090MHz (-1MHz) 107.2Hz PL	
Packet	145.05MHz<>14.105MHz	2 meter / 20 meter gateway. Useable by Technicians on 2 meters. See January 2015 RT.
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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JULY 2016							<i>DRC Net Sunday's at 8:30 p.m. on 145.490 / 448.625 (No PL)</i>						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
												1	2
3	4  New Moon 	5	6 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	7	8	9 ARRL IARU HF World Championship Begins 1200 UTC	10 ARRL IARU HF World Championship Ends 1200 UTC	11  First Quarter	12	13 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	14	15	16
17	18	19  Full Moon	20 DRC Meeting Elmer 6:00 p.m. General 7:00 p.m.	21	22	23	24/31	25	26  Last Quarter	27 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	28	29	30

DRC BOARD OF DIRECTORS

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Club Librarian	WG0N	Dave Baysinger	303-987-0246	wg0n@arrl.net
Education	AA0JK	Fred Hart	303-420-3536	elmer@w0tx.org
EmComm Coordinator	KE0HFH	Michael Vespoli	303-215-8862	mvespoli@gmail.com
EmComm Coordinator	AD0UZ	Brennan Pate	303-578-6283	ad0uz@outlook.com
Field Day	AC0UA	Jason Smallwood	Check Roster	sjason67@msn.com
Membership	KC0CZ	Bob Willson	303-659-0517	rwillso2@centurylink.net
Net Control	K0TOR	Jim Beall	303-798-2351	k0tor@arrl.net
Public Relations	N0USN	James Fariello	303-659-3319	jamesfariello@gmail.com
RT Managing Editor	N0HI	Jessie King	720-427-2992	n0hi@arrl.net
RT Editor	AD0UZ	Brennan Pate	303-578-6283	ad0uz@outlook.com
RT Associate Editor	W6OAV	Bill Rinker	Check Roster	Check Roster
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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...

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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