



ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917

100 years of amateur radio in Colorado

September 2017

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

The summer is slipping away. I can't believe how fast this whole year is passing by; does that have something to do with getting older? Whatever the reason, it sure is happening at lightning speed. As I write this, Cathy and I are out of town for a long weekend, enjoying the time away in Utah.

Our Hamfest has come and gone with success but somewhat disappointing attendance. It appears some of the lack in attendance was do to the competition with the Epic Eclipse happening the Monday after our event. Well, we won't worry about that happening again for awhile. I do want to thank EVERY member and non-member for their help doing all the last minute set-up, tear down, ticket selling, various other jobs and operating the kitchen. We could not have done it without YOU!

Thanks to Larry (K0LAI) for presenting our August DRC Meeting on Packet Radio, APRS and Winlink. Larry also did this presentation at our Hamfest. Along with that, Bill (W6OAV) did a presentation on Brandmeister DMR. I understand both presentations were well received. If you missed Bill's presentation on Brandmeister DMR, you will have another opportunity at our September meeting when Bill will give the presentation again. If you already saw his presentation, I guarantee you will get more out of it the second time. We have had many requests for more information on Brandmeister, so don't miss the learning opportunity which will help whether or not you have already jumped into DMR or are thinking about doing so.

September is our annual meeting and election of officers. If you have an interest in serving on the board of director, contact me or any board member.

Thanks to our new members for making the DRC "Your Club." Please come to meetings and other events and stay active. Your name and call will be listed in this issue of the Round Table.

73 for now,

Gerry (W0GV)
President



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AUGUST MEETING – WHAT'D I MISS?

BY BRENNAN PATE, AD0UZ

August's meeting started off with four 1st time visitors introducing themselves. Next Gerry (W0GV) made the announcement that board elections will be done during the September face-to-face.

Larry (K0LAI) gave an informative and well laid-out introductory presentation on packet radio, ARDOP, Winlink and APRS. He provided some basic info on the networks, history, allocations, and who uses packet and its subsets. He outlined how ARES, NTS, EOCs and other hams use packet over HF, VHF and UHF. He talked about packet's (and its subsets) capabilities for transferring data via texting, BBS, email, APRS, etc.



Information on the necessary hardware was provided. He talked about how one can use a TNC, sound card or offshoots of those devices to assist in the transmittal of data. He also talked about Digipeating, software and apps, types of radios one can use, protocols for the various packet formats, ARDOP's new protocols and then talked about several websites that provide software for packet-related uses.



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:

Leon Siefken	N0GWM	Jeff Potter	KB0JEF	Rudolph Bluhm	-
Clay Schneider	KI0ID	Matthew Schreiner	KE0NLS	Sheryl Atterberg	KA0TTW
Steven Atterberg	K9UL	Larry Licht	WA2ATF	Wesley Marrow	WD0EDH

We have a number of activities throughout the year and we'd like very much for you to participate in serving your community. If you have questions please feel free to ask on any of the repeaters or see the contact information on the last page of this publication. Also, please join us once a month at the regular club meeting on the 3rd Wednesday at 7:00 p.m. For new hams we have the Elmer session which starts at 6:00 p.m. before the regular meeting.

ATTENTION

The DRC Board of Directors nomination and election process will take place during the September face-to-face meeting. If you are interested in running for a position, please contact one of the club's board members. Their contact information can be found at the end of the Roundtable or at W0TX.org.

TECHNICAL COMMITTEE REPORT

BY BILL RINKER, W6OAV

The following is an overview of the subjects discussed at the August Technical Committee meeting.

DRC/TSA Aurora Site

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

Status: Next meeting scheduled with TSA on August 28th.

Station 4 Remote Power Control

Goal: Investigate purchasing and installing Internet controlled power outlets.

Status: The tech committee determined the number of outlets required. The Internet modem may require a special outlet that can be remotely commanded to automatically cycle off and then back on. It may be possible to telnet into the modem to reboot it. W0GN and K0RCW will investigate the telnet possibility.

Centennial Antenna Radiation Patterns

Goal: Switch antennas between the 448.625 and the BrandMeister repeaters and then compare the coverage patterns.

Status: Reports from BrandMeister users confirm a remarkable coverage improvement with the antenna switch. Radio Mobile plots show that the coverage shouldn't have changed that much. An antenna test will be scheduled to analyze the antenna now on the 448.625 repeater.

Fusion Repeater Move

Goal: Discuss the feasibility of moving the Fusion repeater to a better coverage location.

Status: Feasibility study is in progress.

Lightning Protection at Centennial Cone

Goal: Add lightning protection to the CAT6 cable coming in from the micro wave link.

Status: K0HTX completed the installation on 8/19/2017.

SEPTEMBER MEETING PRESENTATION

BY BILL RINKER, W6OAV

The DRC's BrandMeister repeater has made it simple to talk to hams all over the world. Unlike other digital modes, the BrandMeister user doesn't have to remember access codes. With a simple twist of the radio's channel knob the user can select any one of 681 groups. These groups can be worldwide, countries, areas of countries, states, cities, specialized groups, etc. Also, users can be anywhere in the world and remotely access the DRC repeater as if they were physically in Denver.

If you are interested in learning about all aspects of BrandMeister, plan to attend the September club meeting. A PowerPoint presentation will cover the following topics:

- Benefits of digital versus analog.
- BrandMeister versus DMR MARC.
- Using the BrandMeister network.
- DMR components (Time Slots, Talk Groups, Color Codes, etc).
- BrandMeister Code Plug components (Contact List, Channels, Zones, Scan Lists, etc).
- Benefits of Hotspots.
- Example of programming a radio's Code Plug.



CALLING ALL QSLs...

BY BRENNAN PATE, AD0UZ

If you would like to have your QSL card featured in an upcoming edition of the Roundtable please send a copy of it (i.e. PDF or JPG) to drc.editor@gmail.com.

Alternatively, if you have received a unusual or exotic one in the past and would like to share it, then send it on over.

DRC's 100TH ANNIVERSARY PINS

BY W0TX STORE

If you would like to commemorate the 100th year of the Denver Radio Club then ask about getting your very own commemorative pin. The cost is \$3 for one or two for \$5. They are available at the monthly face-to-face. The picture to the right is a mock up of the pin. They are about 1" tall and 0.75" wide.



LEARNING NET REPORT

BY FRED HART, AA0JK

Thanks goes out to our net controllers: Larry (K0LAI), Alex (W2PBR), and Steve (KD0WMO). The following topics were discussed this past month:

How to Program the Yaesu FT-60R with Chirp: <https://youtu.be/1uQcJ4g0akM>

Yaesu FT-60R Review and Programming Tutorial: <https://youtu.be/Akvv3IBZ-W8>

Baofeng UV5R Family Radio Programming: <https://youtu.be/tyHwAq7w9QE>

Auto Tunners: LDG 100

The Yaesu FT-857D & Kenwood TS 590S

Diamond RHM-8B Portable Antenna

Sound Cards for digital and CW, MFJ-407D Electronic Keyer

Your First HF Station: <https://youtu.be/KnZ0YJzGVj0>

Emergency Communications: be prepared, EmComm

Our Wednesday night face to face meeting was well attended. Lots of questions and activity from those looking to get into amateur radio and those providing insight and advice. Thanks to all.

We are always looking for additional net control operators. If you would like to participate we can help you with the basics of becoming a net controller. This is a great opportunity to learn and get experience running a net.

Net controllers are always needed to perform Emergency Communications services. In the event of emergencies such as floods, fires, or other public service, the amateurs radio community is always ready to help. If you have an interest in participating, when the need arises, learn and train now to be prepared. For additional information contact our EmComm Coordinators: Mike Vespoli (KE0HFH) and Brennan Pate (AD0UZ), at emcomm@w0tx.org.

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 via w0tx@w0tx.org or elmer@w0tx.org.

If we don't have the answer here on the net, we have a lot of experienced hams in the club that can help. Questions can also be submitted on the YAHOO Learning Net web page <https://groups.yahoo.com>. 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 would encourage those who have been Hams for several years to also join us. Your experience and input is welcomed. What topics would you like to discuss? Join us Wednesday nights, 7:30 PM, 145.490 / 448.625.

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

73,
Fred
AA0JK



**Don't forget to join in on Wednesday nights at 7:30 p.m. for the
DRC Learning Net on the 145.49/448.625 (no PL) repeaters!**

SOLAR UPDATE

PROVIDED BY Fred Hart, AA0JK

Week One*August 1st*

Sunspot region AR2665, reapers right on time after its two week long journey across the back side of the Sun. Now renumbered AR2670, it rounds the east limb of the solar disc. C-Class flare activity was being detected as observers waited for a better look during the following 24 hours.

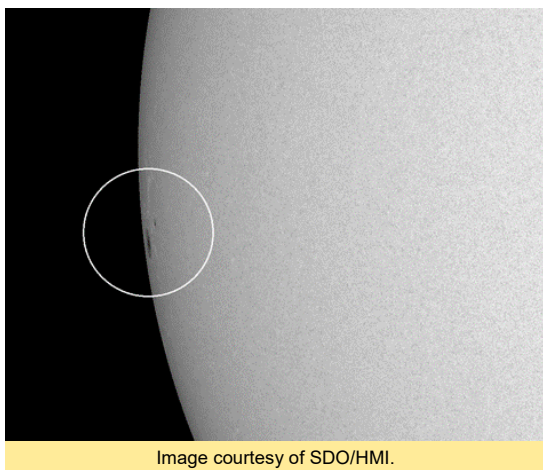


Image courtesy of SDO/HMI.

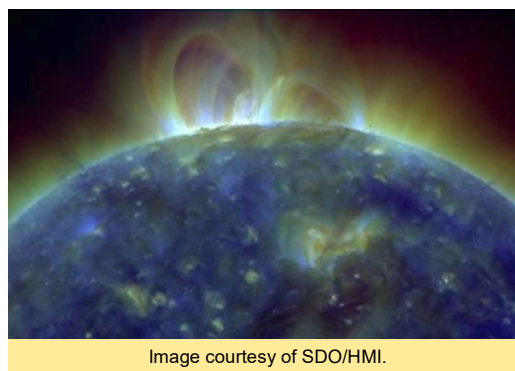


Image courtesy of SDO/HMI.

The above right image shows the sunspot's towering magnetic canopy via an extreme ultraviolet photo from NASA's Solar Dynamics Observatory.

In early July, AR2665 crossed the Earth-side of the sun, sparking moderately strong geomagnetic storms when it faced our planet. The huge sunspot remained active during its far-side transit as NASA spacecraft observed bright flares and multiple bright CMEs billowing away from its location.

Two Weeks in the Life of a Sunspot: <https://youtu.be/SungFXUsoqg?list=PLF14609877EF3419B>

Saturday, August 5th

SOLAR WIND STORM: As predicted, Earth had entered a stream of solar wind blowing around our planet faster than 700 km/s. First contact with the stream did not produce a geomagnetic storm. Nevertheless, polar geomagnetic storms (G1 and G-2 class) remained possible on August 4th and 5th as our planet moved through this region of space.

LONELY SUNSPOT: The sun is plunging toward a deep Solar Minimum, and this is making sunspots lonely. AR2670 was all by itself:

AR2670 was the corpse of old sunspot AR2665, a former behemoth that sparked geomagnetic storms in mid-July when it first crossed the face of the sun. Even then, the sunspot was all by itself, unattended by other dark cores that typically pepper the sun during more active phases of the solar cycle. If the decay of AR2670 continues at its current pace, it would soon be gone as well, leaving the sun completely blank. Stay tuned for Solar Minimum.

(Continued on page 6)

Week Two

Storm Watch: A coronal hole stream was now moving past Earth above 600 km/s. As of this update, only disturbed (Kp4) geomagnetic conditions had been observed. A minor (G1) geomagnetic storm watch would remain in effect for the following 24 hours.

Sunday, August 6th

More zero-sunspot days appeared over the past week, but less than the previous week. The average daily sunspot number increased from 1.7 to 5, and average daily solar flux went from 69.7 to 71. Both were very low numbers, and below the minimum non-zero sunspot number, 11, for any single day. Average daily planetary A index went from 11.9 to 5. These numbers are generally good for HF propagation, being lower, but for the best HF propagation, we like sunspot numbers and solar flux as high as possible.

Solar Wind Inundates Earths Magnetic Field: For the third day in a row, a high-speed stream of solar wind was blowing around Earth. First contact on August 4th rattled our planet's magnetic field.

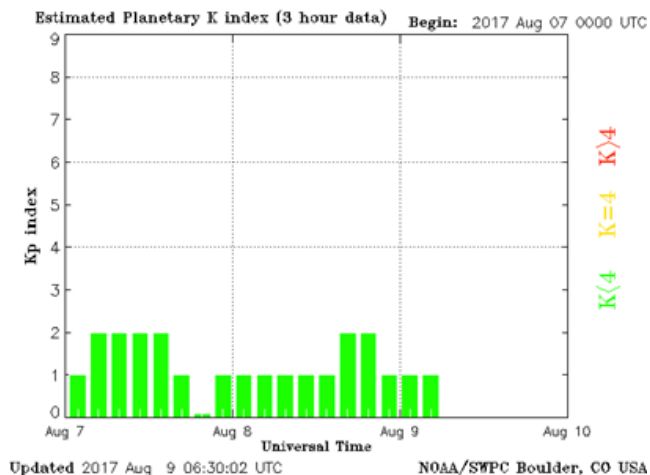
Subsequent to the stream's steady ongoing pressure, it had done little to upset the equilibrium of our planet's magnetic field. No strong geomagnetic storms were observed. NOAA forecasters said there was a 45% chance of minor geomagnetic storms on August 6th.

MAGNETIC TENTACLES OF SUNSPOT AR2670: Spider-like extensions were threading the sun's atmosphere high above AR2670's earth sized core making them easy viewing for backyard solar telescopes.

AR2670 had been quiet for several days, but if the magnetic structures happen to crisscross above it, there was potential for a ferocious explosion caused by a magnetic reconnection. This possibility made AR2067 worth monitoring as it crossed the face of the Sun.

August 7th

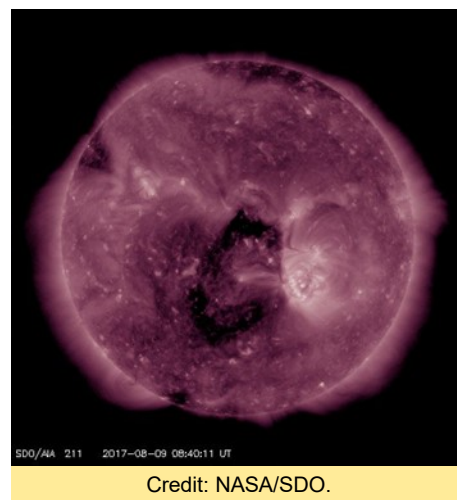
Solar activity remained at very low levels. Region AR2070 was not considered a threat for producing strong solar flares.



August 8th

A coronal hole was facing Earth. Enhanced solar wind was expected to arrive in ~3 days.

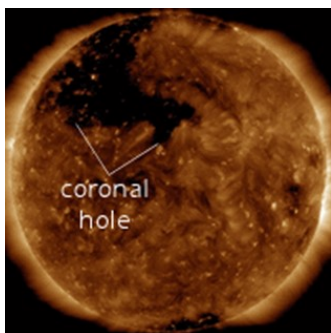
THE NEXT SOLAR WIND STREAM: Earth was exiting one solar wind stream. Another was due to arrive on August 11-12.



Continued from page 6)

Week Three

A large northern coronal hole was turning toward Earth.

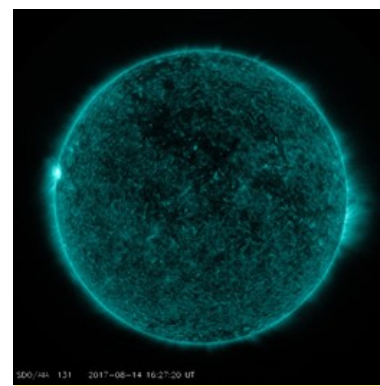


Credit: NASA/SDO.

Monday, August 14th

SOLAR FLARE ACTIVITY: Suddenly, the eastern limb of the sun was crackling with minor solar flares, heralding the approach of a new sunspot. NASA's Solar Dynamics Observatory recorded this C1-class explosion during the early hours of August 14th.

During Solar Maximum, such a solar flare would be considered too minor to report. Now, however, the sun is close to Solar Minimum, so even a C-flare is noteworthy. In fact, it is noteworthy. A typical C-class solar flare releases as much energy as 1 billion WWII atomic bombs. Only on the sun, which is itself a 1027 ton self-contained nuclear explosion, would such a blast be considered puny?

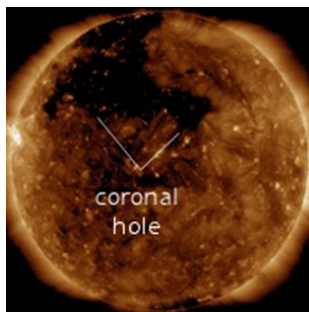


Credit: NASA/SDO.

Tuesday, August 15th

A NEW SUNSPOT EMERGES: The emergence of a new sunspot AR2671, as recorded by extreme ultraviolet telescopes on-board NASA's Solar Dynamics Observatory. AR2671 was growing, crackling with C-class solar flares, and throwing moon-sized clouds of plasma into space. If the active region continued to develop, it could become a significant source of space weather in the days to follow.

GEOMAGNETIC STORM WATCH: NOAA forecasters said there was a 55% chance of G1-class geomagnetic storms on August 16th, increasing to 70% on August 17th as Earth moved into a stream of fast-moving solar wind. The wind was flowing from a large hole in the Sun's northern atmosphere:



Credit: NASA/SDO.

Solar wind flowing from this large northern coronal hole was expected to reach Earth as early as August 16th

This was a coronal hole (CH)--a region where the sun's magnetic field peels back and allows solar wind to escape. Solar wind was flowing from this hole as fast as 700 km/s (1.6 million mph).

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Here is a look at sunspot AR2671 as it turned into view off the east limb. The active region in formation was producing minor C-Class flares and depending on additional development, it could produce an isolated M-Flare.



Credit: SDO/HMI.

Wednesday, August 16th

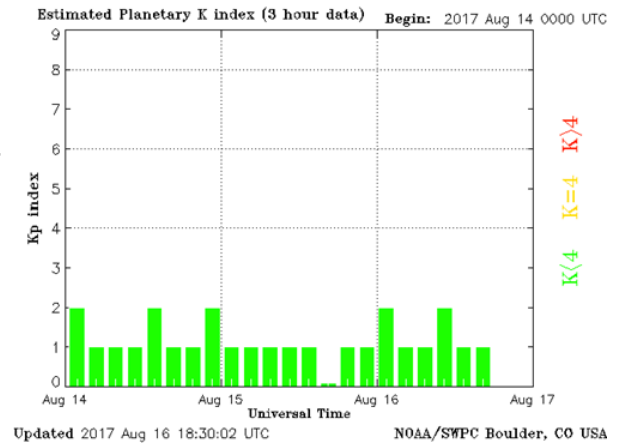
MAGNETIC UNREST: Earth was expected to cross a fold in the heliospheric current sheet. Shortly thereafter, solar wind flowing from a hole in the sun's atmosphere would make contact with our planet's magnetic field. The combined effect of these two events could spark geomagnetic storms around the poles. NOAA forecasters said there was a 70% chance of G1-class magnetic storms on August 17th, subsiding to 55% on August 18th.

Track a Solar Storm Through Space:

<https://youtu.be/6N8WZvZCQ7E?list=PLF14609877EF3419B>

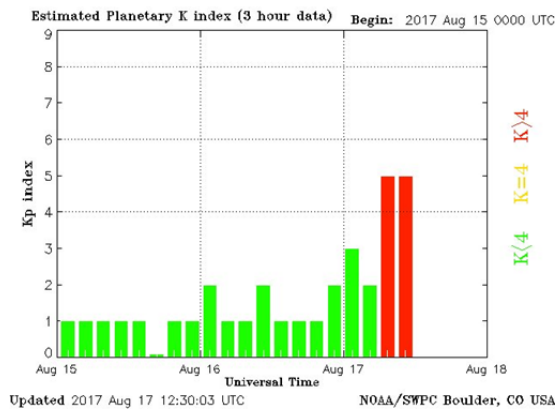
Band Conditions were:

- HF Band Day/Night
- 80m-40m Fair/Good
- 30m-20m Fair/Fair
- 17m-15m Poor/Poor
- 12m-10m Poor/Poor



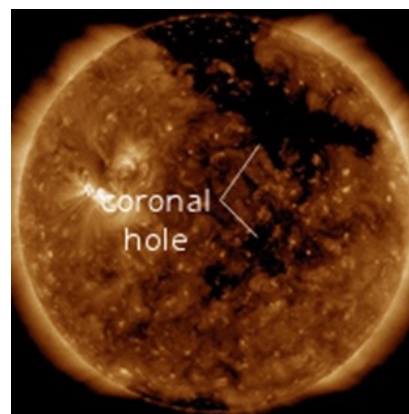
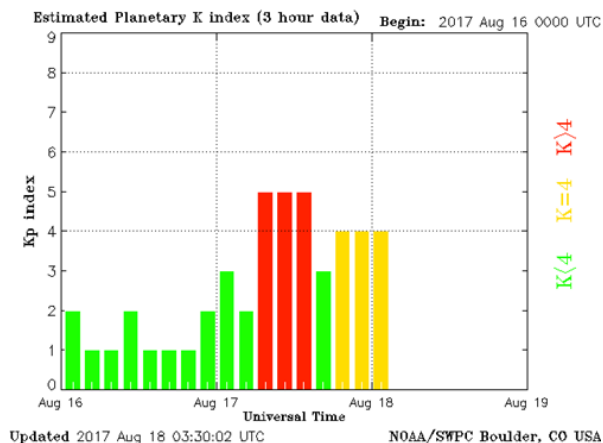
August 17th

Two 3-hour periods of Kp=5 (G1 storm) due to fast solar wind from the extended coronal hole. The compressed magnetic field was oriented southward.



August 18th

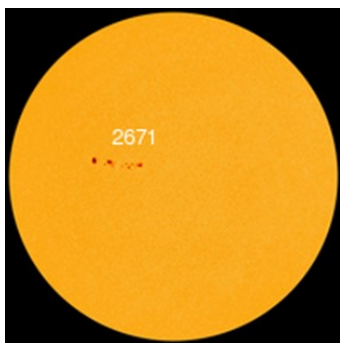
A minor storm was observed. A high speed coronal hole stream reached Earth on Thursday 17th, and sparked minor (G1) geomagnetic storming at higher latitudes.



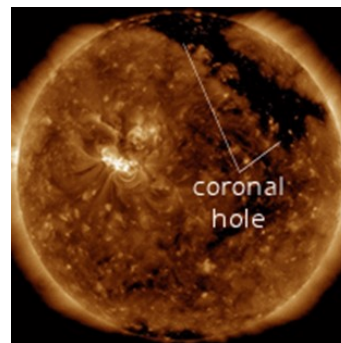
Credit: NASA/SDO.

Earth was inside a stream of solar wind flowing from this large northern coronal hole. Sunspot AR2671 was sprawling across the surface of the sun. It was more than 140,000 miles from end to end, almost twice as wide as the planet Jupiter. The sunspot had a 'beta-gamma' magnetic field that harbored energy for M-class explosions.

August 19th



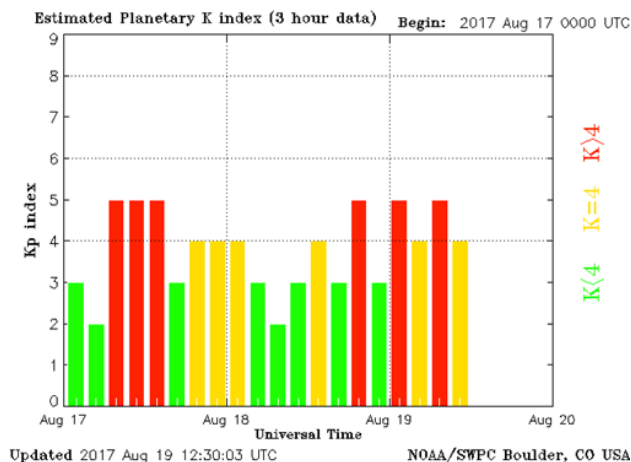
Credit: NASA/SDO.



Credit: NASA/SDO.

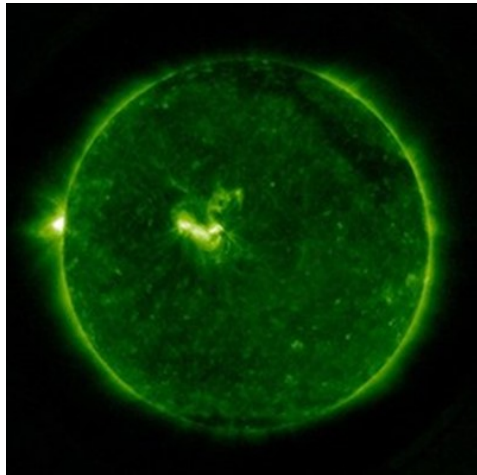


Credit: David Eagle, Higham Ferrers, England.

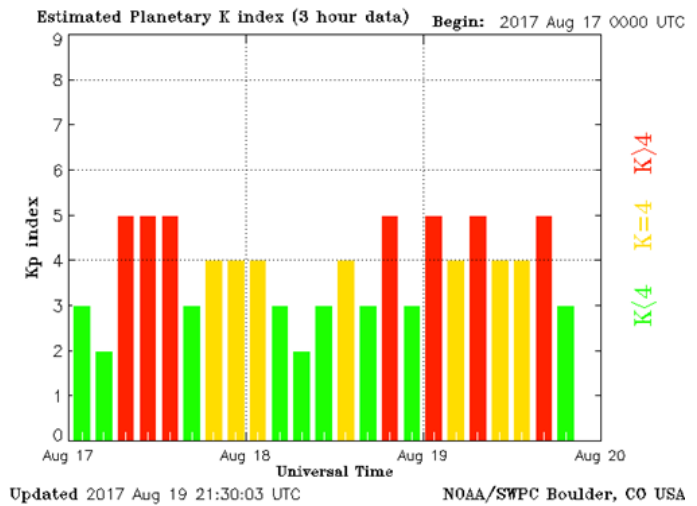


Earth was inside a stream of solar wind flowing from this large northern coronal hole.

(Continued on page 10)



Credit: NASA/SDO.



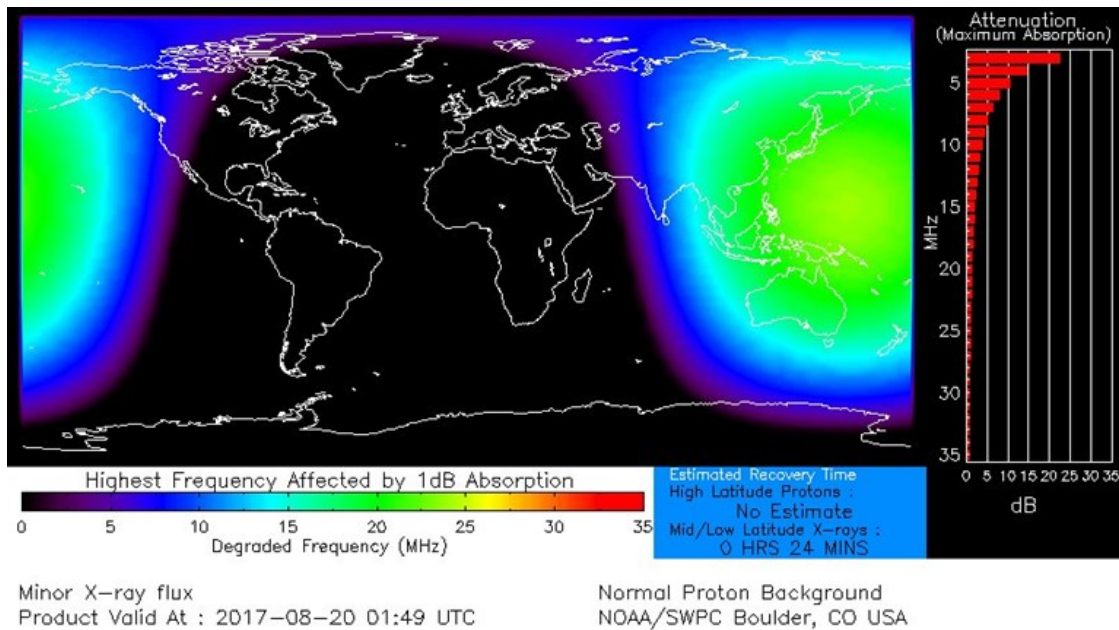
There was a huge prominence on the sun's eastern limb.

Week Four

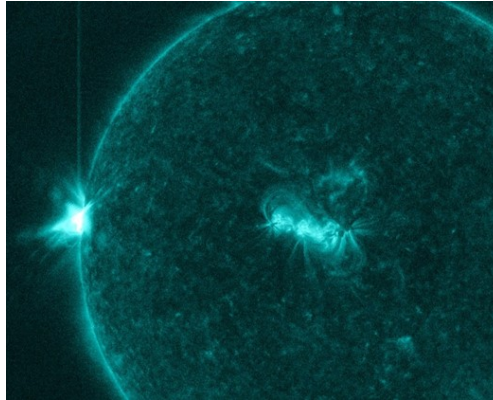
August 20th

Solar activity was at moderate levels. New region 2672, was turning into view off the east limb, produced an M1.1 flare at 01:52 UTC. What a difference a week makes.

Radio Black Out 01:49 UTC



(Continued on page 11)



M1.1 Solar Flare. Image courtesy of the Solar Dynamics Observatory (SDO/AIA)

August 21st
THE GREAT AMERICAN SOLAR ECLIPSE



As described by Fred (AA0JK):

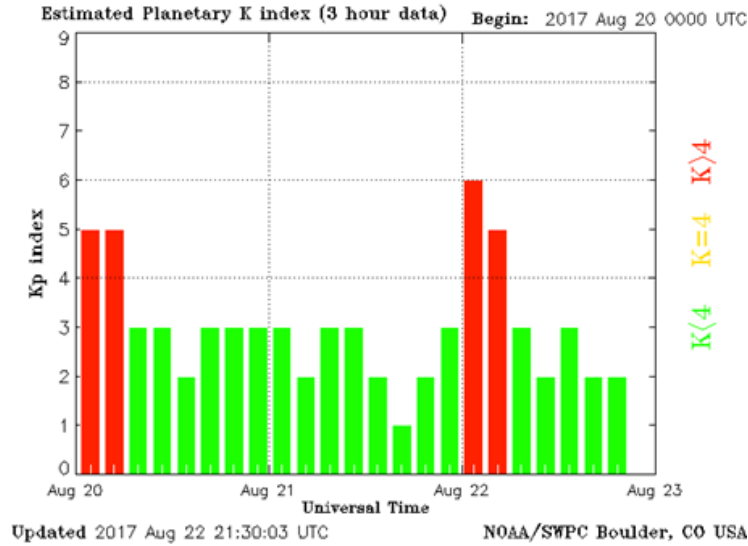
East of Glendo, Wyoming, it was a challenge to find a place to park. Out in cattle country, there seemed to be an endless collection of observers waiting for the solar event. There is no way to explain or describe the experience.

As the moon slowly moved across the face of the sun, air temperature dropped. A gray aura engulfed the area as totality approached. Over head a 70 mile wide ink black hole in the sky approached, surrounded by blue sky, and to the west, sunset coloring appeared.

Then, as the last sliver of sun disappeared, there seemed to be an abrupt explosion, and a flash of silvery light swept by then leaving you in a column of black. The Sun was surrounded by a shimmering silver ring emanating gleaming tentacles of the corona. To the west, Venus and a few stars became visible. It was like being in a black cylinder looking out into space.

An amazing experience to behold. Well worth the trip.

Solar Eclipse: Through the Eyes of NASA: https://youtu.be/nqeb_Nzrupk



August 22nd

UNEXPECTED GEOMAGNETIC STORM: A G2-class geomagnetic storm occurred during the early hours of August 22nd when the interplanetary magnetic field (IMF) near Earth unexpectedly tipped south. This opened a crack in our planet's magnetosphere. Solar wind poured in to fuel the strong but short-lived storm.

Band Conditions were:

- HF Band Day/Night:
- 80m-40m Fair/Good
- 30m-20m Fair/Fair
- 17m-15m Poor/Poor
- 12m-10m Poor/Poor

Solar Reports were:

- SFI:79
- SN: 43
- Ap Indices: 11
- Kp indices: 2
- Solar Wind: 347.9
- MUF at Boulder, Co.: 16.30

Forecast: Solar activity was expected to be at low levels with a slight chance of M-class flares (R1-R2; Minor-Moderate radio blackouts).

73,

Fred
AAØJK



AN INTERESTING MYSTERY HF SIGNAL

BY BILL RINKER, W6OAV

The following might be of interest to shortwave listeners.

There is a mystery signal that has been continuously transmitted 24 hours per day/7 days a week since the 1970s. It is a buzzing signal along with intermittent code words and numbers on 4625 KHz. Shortwave listeners have nicknamed it the "Buzzer". The signal consists of a short, monotonous buzz tone repeating at a rate of approximately 25 tones per minute. Sometimes, the buzzer signal is interrupted with a voice transmission in Russian. The signal is supposed to be originating from the area near St. Petersburg. Many think it belongs to the Russian military.

There are several theories about the signal. One theory, as described in a recent BBC article (URL below), is that the transmitter is a "Dead Hand" signal that triggers a nuclear retaliatory response if Russia were hit by a nuclear attack. If that's the case, in the event of a nuclear attack against Russia, the buzzing signal would stop and an automated counter-strike would be launched. Scary! Another theory is that the frequency is used to communicate with Russian spies around the world since the code words and numbers are usually encrypted. A third theory is that it is a combination of two things. One, it's a marker to make sure other people don't use the frequency. Second, it might be a backup station in case Russia needs the frequency in a crisis situation. Typically, frequencies like these are used as backup systems in case a satellite goes down.

The signal is pretty strong here in the evenings. Give it a listen.

URL for BBC article: <http://www.bbc.com/future/story/20170801-the-ghostly-radio-station-that-no-one-claims-to-run>

CONTACT YOUR SENATOR REGARDING S 1534

FROM THE ARRL

Don't forget to contact your Senator regarding the Amateur Radio Parity Act. To send a note to your senator, please visit: <https://arrl.rallycongress.net/ctas/urge-us-senate-to-support-amateur-radio-parity-act>



NEAR SPACE BALOON RESEARCH

EMAIL FROM MARTY GRIFFIN, WA0GEH

Edge of Space Sciences deployed a balloon during the eclipse in August. The main site is: eoss.org

Their Kickstarter project page with additional info about the flight can be found at: <https://www.kickstarter.com/projects/1206401145/expanding-near-space-balloon-research-implementing>

DRC HAMFEST VE SESSION RESULTS

By TOM KOICIALSKI, KC2CAG

Wow, what a turnout from the VE Team at this year's exam session at the DRC Hamfest! We had one VE for each of the test takers. Ten VEs and ten folks sitting for the tests. Volunteer Examiners supporting the effort included Fred, AA0JK, Frank, AC0JM, Bill, AC0VC, Brennan, AD0UZ, Dave, K0HTX, Mel, K0MEL, Robert, K0RCW, Steve, K9UL, and Tom, KC2CAG VE Liaison. Thank you all for your help.

Three candidates earned their Tech licenses, and another one passed the Tech and General exams. Two other candidates upgraded to General class and three others upgraded to Extra. Congratulations to all!



LOOKING FOR CLUB MEETING PRESENTATIONS

By BILL RINKER, W6OAV

Please contact W6OAV if you have an idea for a club presentation, or know of someone who would be willing to give a presentation.

ATTENTION

The DRC Board of Directors meetings are held on the 4th Wednesday of the month and are open to any member. Due to scheduling of meeting space, the board does not always meet at the same location and on occasion meetings are held via Skype. Anyone wishing to attend, please contact a board member prior to meeting night for specific information.

HAPPY 100TH BIRTHDAY TO THE DRC

BY BILL RINKER, W6OAV

I found the article below in the January 1997 issue of the Roundtable and thought its re-publication to be appropriate for the DRC's 100th birthday year. The author of the article is unknown.

*Happy 80th Birthday to the Denver Radio Club
January 19, 1997*

A brief history of the DRC.

The Mountain States Radio Association Denver was the forerunner of the Denver Radio Club, Inc. First election of officers was January 19, 1917. President was Donald L. Clark, 9ADH. Colorado was a part of District 9 and at that time there was no assigned prefix to the calls. It was during World War II that a group organized DRC with Bob White, WOPDA, as president and Walt Reed, W0WRO as Vice President. The first meeting was held in an old carriage barn in north Denver. Early locations for meetings were: basement of Radio Products Sales, West High School, Public Service Company at 3rd and Lipan and the Denver Federal Center. Later, places were the National Guard Armory, Clayton College, Sportland, Colorado General Hospital, Denver University Campus and at the Mile-High Red Cross when it was at 2nd and Steele.



In 1959, Walt and Bob prepared a DRC club history covering the period prior to WWII through the war years and post-war rejuvenation. Unfortunately, the records of this bit of history were lost in the 1965 flood when Chet Peterson's K0FXE, print shop materials went down the South Platte River. The Round Table was originally a mimeographed 8x11 sheet and took its present format (with some variations) as the club publication in 1956, by the then printer, John Cox, K0RRS.

The DRC is a general interest club and we welcome all persons interested in amateur radio to join in our activities.

**"Sparky"**

The club logo was originated by Miriam Juza, XYL of Marvin, W6FGD, ex W0FYF. Miriam was looking for something to put on Marv's letterheads and as a surprise for him, she drew "Sparky". Possibly in 1956, during the presidency of Carl Smith, W0BWJ, permission was given to the club for its use as that was the year it first appeared on the club's publication The Round Table. The original design of Sparky riding a lightning bolt and holding a key has not been changed but other alterations have been made in past years, namely the addition of Denver Radio Club encircling him and a coat of arms by Roy Raney, K00VQ.

~ 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

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

October 1960 - 6 M and Letter to the Editor

SIX METERS AND UP

By GLENN, WØIJR

The September Eyeball QSO was held up on top of Squaw Mountain, 11, 500 ft. at the QTH of Bob & Margaret Swanlund, otherwise known as WØWYX, the only two mile high, Mile High Hi-Bander. Thirty two were present and all enjoyed the fine hamburgers and goodies that go with a meal of that type. We certainly enjoyed your hospitality.

Our six meter mobileers had an opportunity of doing a good deed on the highway again. Involved for the second time were KØRRC, Earl and KØBTO, Dennis. The first incidence involved a mail truck that was forced off the road by another car and the information was passed on very ably by KØYJG, Clair (BTO's XYL). The most recent was one involving a drunk passed out at a railroad crossing waiting for a train to pass thru. Shortly after the train passed and the police called via WØIJR, the mans foot slipped off the brake onto the gas pedal ending up fortunately in a ditch a little down the road still sleeping. Good hunting, fellows.

No DX reported in during Sept., and local activity is on an increase.

A mobile transmitter hunt is planned for Oct. 16.

That's all for this month, hope to cu on 6.

Letters to the Editor

Sir:

History is never made in the abstract. Always it is something that some one or some group has done. Moreover, history is never some solid mass achievement but a circuit composed of many components each perfected by some particular person or a specific group. Thus as we look upon history we discover a similarity to amateur radio and us 'Hamus Americanus'.

Today it is almost impossible for one to stand as a lone individual. This is especially true for 'Hamus Americanus' who has to fight constantly the onrushing stream of currents ever trying to curb his privileges or even absorb the minute particle of spectrum that has remained for the pursuit of his hobby. To survive he must choose to become a component part of a determined group that will espouse his cause for the good of all and combined, stem these currents from engulfing us all.

The amateur radio club is that group, and the Denver Radio Club is our own local champion. However, "for the good of all" means just that; for while there is quantity in numbers only **unity** can exert force. Restrictions or curtailment placed on Sidebander's Donald Duck" will have eventually the same repercussions on the Brass Pounder's "CW" and Ancient Modulator's "AM." Divided among ourselves—we shall destroy ourselves and the same dust will cover the gear of all 'Hamus Americanus' be he Novice, Advanced, General, or Technician.

We are united by a common bond of Ham Radio. "Live and let live" to make this bond stronger and for a fuller enjoyment give a little time and effort to the Denver Radio Club and become an integral component of the greatest bunch in the world, "Hamus Americanus."

Dennis Boruchin, KØBTO

(Continued on Page 10)

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Words are from the Technician license manual. The solution for the puzzle is on the next page.

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

Word List:

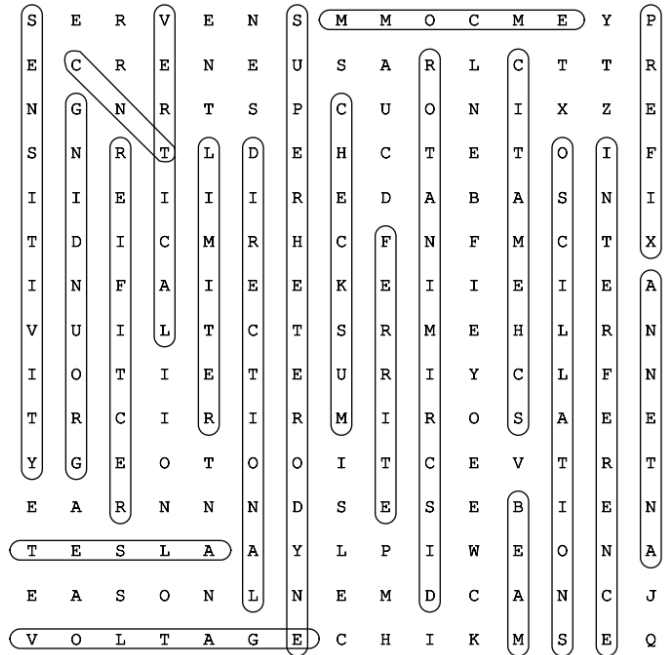
ANTENNA	BEAM	CHECKSUM	DIRECTIONAL
DISCRIMINATOR	EMCOMM	FERRITE	GROUNDING
INTERFERENCE	LIMITER	OSCILLATIONS	PREFIX
RECTIFIER	SCHEMATIC	SENSITIVITY	SUPERHETERODYNE
TESLA	TNC	VERTICAL	VOLTAGE

FACT OF THE DAY

Induction and Radiation Fields

There is a mix of magnetic and electric induction fields and an electromagnetic radiation field at distances that are small compared to the size of a transmitting antenna or a wavelength. The two induction fields differ in phase and are stronger in magnitude than the radiation field near a transmitting antenna. The magnetic field strength from a doublet is inversely proportional to square of the distance. The electric field strength from a doublet has two components. One diminishes inversely proportional to the square of the distance. The other diminishes inversely proportional to the cube of the distance. However, the radiation field strength diminishes inversely proportional to the distance, so both induction fields diminish faster than the radiation field with distance.

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THE ROUNDTABLE ARCHIVE
 Go to: <http://www.wotx.org/roundtables.htm>

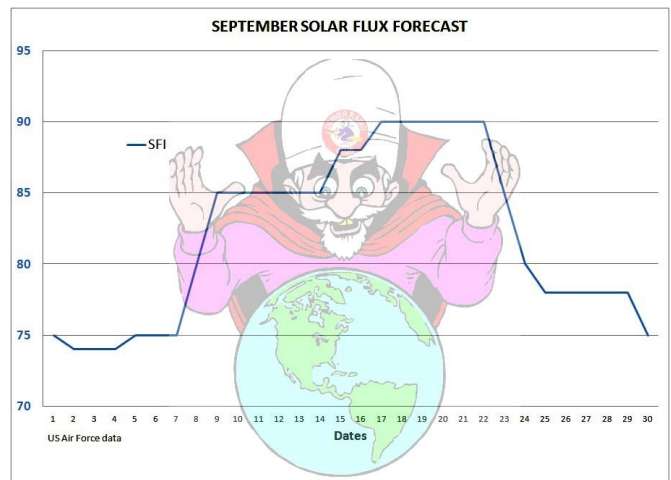
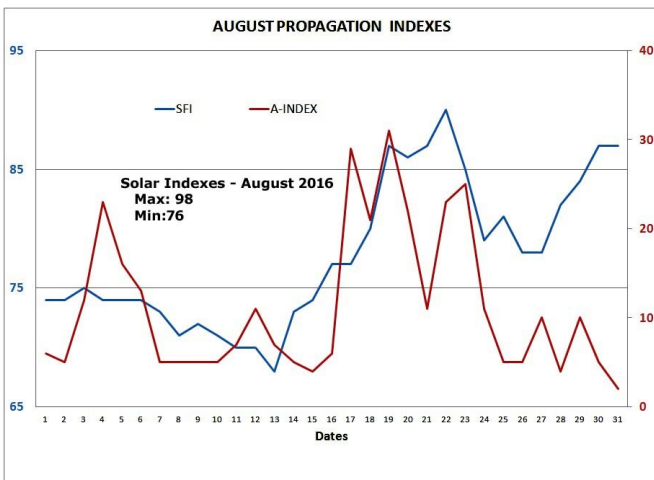
THE ROUNDTABLE ARTICLE INDEX
 Go to: <http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf>

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
Western CO ARC Hamfest	09/09/17	First Christian Church, Grand Junction	Western CO ARC

UPCOMING ARRL CONTESTS & EVENTS [ARRL CONTEST CALENDAR](#)

Contest	Start Date	Start Time	End Date	Stop Time	Notes
EME - 2.3 GHz & Up	09/09/17	0000 UTC	09/10/17	2359 UTC	
September VHF	09/09/17	1800 UTC	09/11/17	0259 UTC	
10 GHz & Up - Round 2	09/16/17	6:00 AM local	09/17/17	Midnight local	

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
Colorado	09/02/2017	09/03/2017	Pikes Peak Radio Amateur Association	
Tennessee	09/03/2017	09/04/2017	Tennessee QSO Party	
New Jersey	09/16/2017	09/17/2017	New Jersey QSO Party	2016 date
Washington	09/16/2017	09/17/2017	Western Washington DX Club	
New Hampshire	09/16/2017	09/17/2017	Port City Amateur Radio Club	2016 date
Iowa	09/16/2017	09/17/2017	Story County ARC	
Texas	09/23/2017	09/24/2017	Texas QSO Party	2016 date
Maine	09/23/2017	09/24/2017	Wireless Society of Southern Maine	

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 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.

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. Has voting receivers. 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, Wires-X and analog. 100 Hz tone required for analog.
70cm	446.7875MHz (-)	BrandMeister Repeater: Slot 1 – Wide Area Traffic, Slot 2 – Local Talk Group 310804



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SEPTEMBER 2017							<i>DRC Net Sundays at 8:30 p.m. on 145.490 / 448.625 (no PL)</i>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
					1	2	
3	4 	5	6 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	7	8	9 EME 2.3GHz & Up Contest - Begins 0000 UTC September VHF Contest - Begins 1800 UTC	
10 EME 2.3GHz & Up Contest - Ends 2359 UTC	11 September VHF Contest - Ends 0259 UTC	12	13 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	14	15	16 10GHz & Up Contest - Begins 6AM local	
17 10GHz & Up - Ends Mid-night local	18	19	20 DRC Meeting Elmer 6 PM General 7 PM	21	22	23	
24	25	26	27 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	28	29	30	

DRC BOARD OF DIRECTORS

President	W0GV	Gerry Villhauer	303-467-0223	w0gv@hotmail.com
Vice-President	K0HTX	Dave Gillespie	303-795-8225	k0htx@comcast.net
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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
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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	AD0UZ	Brennan Pate	303-578-6283	drc.editor@gmail.com
RT Associate Editor	W6OAV	Bill Rinker	Check Roster	Check Roster
Swapfest Manager	AC0UA	Jason Smallwood	Check Roster	sjason67@msn.com
Tech. Committee Chair	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 drc.editor@gmail.com.

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 drc.editor@gmail.com. The submission deadline is the 20th of the Month. ~ Editor