

ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917 June 2020

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

I hope you all are well and staying safe. It is getting harder to practice social distancing and staying home as things loosen up a bit; like restaurants and businesses slowly opening. We all need to keep in mind that this pandemic situation is not over. Be careful as you venture back out into the world...it is still a dangerous place, health wise.

The world of virtual meetings via Zoom, Google Hangout and many other meeting platforms...who would have thought it would come to this? I am on some sort of virtual meeting almost every day. If you are interested, or just bored, there are many ham radio programs to watch. Many good ones on YouTube; just search and you will be amazed what is out there, not only ham radio but any subject you can think of; someone has a YouTube video on it.

The virtual world has worked very well for the club. Being able to continue with our meetings and programs is very important to sustain club activities until we can get back with face to face meetings. We will continue with virtual meetings until that time comes. As most of you know, I had the pleasure of presenting a program on RADAR and the new ADS-B system used for navigating aircraft in our airspace for our May meeting. I had several very nice comments about the program which makes doing it worth the effort. Thank you for that.

June Meeting Announcement by Bill Rinker (W6OAV): The June Google "Hangouts Meet" audio/video online meeting will be hosted by Scott Entrekin of NOAA. Scott will start the meeting at 6 PM and will provide a SKYWARN spotter training class. Attendees completing the class will be issued a SKYWARN spotter number.

Per Scott, "This class will enable you to be a certified SKYWARN weather spotter for the National Weather Service covering Northern Colorado. We will give you basic thunderstorm structure and what to look for to identify clouds that may lead to severe or tornadic storms. We will also address safety issues with severe weather along with protocol for reporting severe weather to our office." Club members will receive a meeting logon information email before the June 17th meeting date.

We have had several inquiries about ARRL Field Day. We are still in the wait and see mode if our Chief Hosa location will be available. Chief Hosa, although in Jefferson County, is a Denver Mountain Park and under their control. I will tell you we are looking at a couple alternative locations but nothing has developed so far. You should expect this will be a last minute notice of a location or cancellation. If we suddenly get a location confirmed, we will put out an email blast of the details.

Thanks to all of our new members who have recently joined the DRC. Your support is very much appreciated. Please come to meetings and events and stay active. Your name and call will be posted in this edition of the Roundtable.

73 for now,

Gerry W0GV President

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:

Thomas Norris - K0FTN	Michael Yehle - KF0ABV	Michael S Reiser - KD5LPE
Clifford Alan Holloway - N0HC	Andrew J Shattuck	Timothy T Roberts - KB0VQP
John S Callery - KE0LPN	Arthur J Williams	Matthew Hopkins - KE0ZUN

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.

TECHNICAL COMMITTEE REPORT

BY BILL RINKER, W6OAV

Due to our new "Stay Home - Shelter in Place" way of living the Technical Committee meetings have been temporarily cancelled. The planning stages of the projects have been completed. The execution of the projects is now on hold due to the present virus situation.

LEARNING NET REPORT

BY FRED HART, AA0JK

Our group gathers here to discuss, and respond to topics aimed at enhancing a better understanding of our hobby. The net is open to all and we encourage your participation.

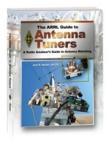
May Topics:

- Packet

ARRL: <u>The Amateur Amateur: Packet, Part 1</u> (arrl.org/news/the-amateur-amateur-packet-part-1)

<u>The Amateur Amateur: Packet, Part II</u> (arrl.org/news/the-amateur-amateur-packet-part-ii) <u>DRC Packet Radio Class</u> (youtube.com/playlist?list=PLS9mhJLZy56ldvaY0au6Yxd96MluCKa8)

- Nanotechnology
- Radio Amateur Finds Another "Zombie Satellite", Scott Tilley, VE7TIL (arrl.org/news/radio-amateur-finds-another-zombie-satellite)
- Baluns: BAL UN (Balanced to Unbalanced) https://static.dxengineering.com/pdf/Choosing%20the%20Correct%20Balun.pdf
- How to Use an Antenna Tuner (http://www.hamuniverse.com/tuner.html)
- The ARRL Guide to Antenna Tuners by Joel Hallas, W1ZR, ISBN:978-0-87259-098-4. Item #: 0984





 Improving your HT's performance: "TIGER TAIL" OR "RAT TAIL" COUNTERPOISE FOR UHF/VHF HT ANTEN NAS (<u>n1fd.org/forums/topic/tiger-tail-or-rat-tail- counterpoise-for-uhf-vhf-ht-antennas</u>) (See image previous pg.) https://youtu.be/GUNo3IXBp2o

- Diamond Antenna SRH77CA Diamond Antenna SRH77CA HT Antenna, 2m/70cm
- June QST: Batteries for portable use.

Elecraft AX1 Dual Band Whip Antenna

Multi-station Interference and Field Day

- Prepper basics & the importance of being ready when disaster strikes.
- Diamond Mobile Antenna Mounts (K400S) diamondantenna.net/Product Catalog/mounts.html
- K0BG web-site. Setting up your mobile radio.
- Solar activity and HF propagation.

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 www.wotx.org or elmer@www.org.

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. The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. http://www.arrl.org/ares. In the event of emergencies such as floods, fires, or other public service, the amateur 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 Coordinator: Mike Vespoli (KE0HFH) at emcomm@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.

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, 100 Hz PL tone & linked to 448.625, 100 Hz PL tone.

(Note: The third Wednesday of the month is devoted to the DRC club meeting. Elmer Session: 6 PM, Main Meeting: 7 PM. See the WOTX web site for additional information.)

73,

Fred AA0JK



A DIFFICULT DECISION MADE DRC'S 2020 HAMFEST CANCELLED

BY GERRY VILLHAUER, WOGV

The DRC Board of Directors unanimously made the decision to cancel the 2020 DRC Hamfest scheduled for Sunday August 16, 2020. We all know why this had to be done so I will not labor that point. The facts; we are way down on vendor applications and looking at the age demographic of the ham community, it is fair to say, most hams in our age group will not be willing to gather in large groups, even if more restrictions are lifted by the date of our hamfest, Organizing a successful hamfest is a big undertaking and a financial gamble for the club. With the situation we are ALL in this year, the board just does not see that happening this year. We will look forward to a bigger and better hamfest in 2021.

HAMCON COLORADO 2020 POSTPONED

FROM JOHN MAXWELL, WOVG

With a great focus on social distancing and not holding large social gatherings, we are officially postponing HamCon Colorado 2020 until 2021. We realize that there are lots of concerns from our attendees and we want to make sure that we can have an event that everyone will be comfortable in attending. The new convention date will be announced at a future date when preparations are made for the venue.

As of Tuesday May 19, we are in official negotiations with our venue to return our funds on deposit for the HamCon Colorado 2020 convention. Once the venue returns our funds, we will be promptly returning all registrant funds via Paypal if the registration was done in the last 180 days less the small fees that Paypal retains. If the registration was done outside of 180 days, we will be sending a live check to you.

HAMCON COLORADO 2020

We apologize for the late date of postponement, but we want to make sure you're safe. We're looking forward to 2021 already and our committee is already engaged on making the 2021 convention even better than 2020!

Stay tuned for more information. Thank you for your interest in HamCon Colorado.

MAY MEETING - WHAT'D I MISS?

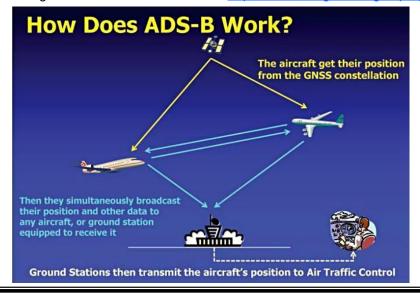
BY BILL RINKER, W6OAV

Our second virtual monthly meeting took place via Google "Hangouts Meet". The principles in the virtual meeting were the coordinator Jeff Irvin (KB0CHT) and the presenter Gerry Villhauer (W0GV). There were 67 attendees. The audio/video meeting went very well!

Gerry's presentation was titled "Radar and ADS-B". Gerry began the presentation by describing present day primary radar and secondary surveillance radar systems, their purposes and the information provided (and not provided) by these systems.

Gerry then described the next generation of traffic control named <u>A</u>utomatic <u>D</u>ependent <u>S</u>urveillance <u>B</u>roadcast (ADS-B). Unlike radar, which basically works by bouncing signals off of aircraft every 6 seconds, ADS-B uses information received digitally every 1 second from aircraft. This information includes the aircraft's GPS coordinates, speed, heading, altitude, flight number and other information. ADS-B does not degrade with range, atmospherics, etc. Gerry completed the presentation by discussing many of the technical details of ADS-B and related systems.

A good reference for learning about ADS-B can be found at https://www.faa.gov/nextgen/programs/adsb/faq/



JUNE MEETING ANNOUNCEMENT

BY BILL RINKER, W6OAV

The June Google "Hangouts Meet" audio/video online meeting will be hosted by Scott Entrekin of NOAA. Scott will start the meeting at 6 PM and will provide a SKYWARN spotter training class. Attendees completing the class will be issued a SKYWARN spotter number.

Per Scott, "This class will enable you to be a certified SKYWARN weather spotter for the National Weather Service covering Northern Colorado. We will give you basic thunderstorm structure and what to look for to identify clouds that may lead to severe or tornadic storms. We will also address safety issues with severe weather along with protocol for reporting severe weather to our office."

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COMING TOGETHER DURING COVID-19

By Fred Hart, AA0JK

During a crisis, Amateur Radio has always helped us maintain contact with each other. A link that has maintained a bonding, and an appreciation for the ability to communicate.

During the COVID-19 crisis of 2020, we have seen this during a time of isolation to combat the spread of the Virus.

While monitoring our DRC repeater, 449.350, I responded to a young, recently licensed Ham, calling "CQ would anyone like to talk". I responded to his call, and was amazed to hear how he had received his Technician license.

During this time of isolation, Wyatt (KF0AEW), spent his time away from school studying for his amateur radio license. He had earlier purchased a BaoFeng radio on the internet, only to find on arrival, that it required a license to use. Well, this didn't stop young Wyatt from pursuing his desire to use that radio. He turned to his grandfather for guidance. Gary Meyers (AC6ER) in California. Here the bonding of Grandfather and Grandson came together through Amateur Radio.

Good things can evolve during, and despite a crisis. With the guidance of Gary, his grandson, 12 years old, is now calling "CQ" and finding local hams to talk with, and enjoying the wonders of Ham radio.

PS. A great appreciative thanks go's out to all the VE's and local Hams that have been out there keeping the licensing sessions ongoing, despite current conditions. Fruits of your labors are showing, examples like Wyatt becoming a Ham. Thank You all!

VE TESTING UNDER COVID-19 RESTRICTIONS

By Tom Kocialski, KC2CAG

A small contingent of DRC VE Team members successfully administered an in-person VE exam session on Saturday, May 9th. Club president Gerry Villhauer (W0GV) arranged to use the Highlands Masonic Temple as the venue for the test. This gave the team plenty of room for "social distancing!"

We followed the protocols established by the Colorado Department of Public Health and Environment for "Non Critical Retail and Limited Personal Services" and "Public and Private Gatherings Outside a Residence" as outlined below:

- Maintained 6 foot separation (more like several wavelengths at 144 MHz!)
- Limited to 10 people total in the building at one time
- Implemented symptom monitoring protocol (non contact temperature monitoring)
- Disinfected contact surfaces prior to entry
- Required all personnel, candidates and VE's, to wear masks
- And required each attendee (candidates plus the VE's) to sign a COVID-19 affidavit affirming via several criteria that they were symptom-free and had no household members suspected or diagnosed with COVID-19

In addition we required exact change or a check for the exam fee to minimize currency handling.

It was one of the most successful sessions in my recent memory! Each candidate passed each test taken. Out of eight total candidates, three passed the Tech exam, one passed both the Tech and General Exam, two upgraded to General, and two upgraded to Extra, both of whom achieved perfect scores on that tough exam.

Congratulations to all the candidates, and thanks to intrepid VE's Gerry (W0GV) and Bill (WZ0S) for assisting me in conducting the exam session.

Kris Meredith - WD0ESY (E)	Gerry Glancy (T)	Edward Worthington - KE0YKV (G)
Timothy Roberts - KB0VQP (G)	Dan Girdner (T)	Jack Walsh (T)
William Davis - K7IRC (E)	-	Troy Lerner (G)

Tom Kocialski, KC2CAG DRC VE Chairman





ANTENNA FUNDAMENTALS

BY BILL RINKER, W6OAV

A website named *Interference Technology* contains a very interesting article titled "Antenna Fundamentals". The nicely written article covers the following:

How Do Antennas Detect Signals?

What is the Significance of an Antenna's Shape?

How do Antennas Form and Radiate Electromagnetic Fields?

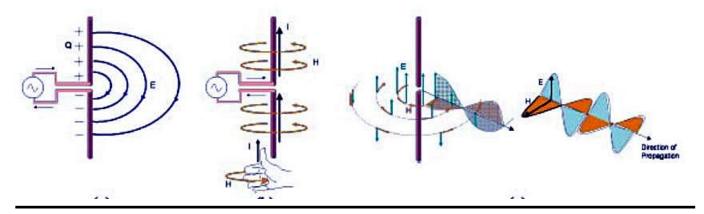
How Does the Antenna Impedance Change with Frequency?

Do Antennas Radiate in All Directions?

Mirror, Mirror on the Wall: What is the Importance of Reflections?

How Are Signals From Antennas Conditioned and Amplified?

The website is accessible at: https://interferencetechnology.com/antenna-fundamentals/



LISTEN TO THE GEOSYNCHRONOUS SATELLITE

BY BILL RINKER, W6OAV

The Qatar-OSCAR 100 (QO-100) satellite was launched in November 2018 from Cape Canaveral, Florida and carries the first geosynchronous Amateur Radio payload. The satellite is at its final position of 25.9° E with coverage as shown in Figure 1.

The satellite carries two transponders operating in the 2400 MHz and the 10450 MHz bands. More information can be found at https://amsat-dl.org/eshail-2-amsat-phase-4-a.

One can monitor the satellite by accessing the (QO-100) WebSDR receiver and spectrum monitor at https://eshail.batc.org.uk/nb/. See Figure 2 (next page).

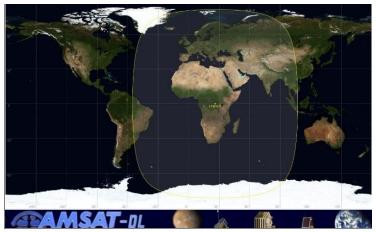


Figure 1 - Coverage map of Qatar-OSCAR 100 (QO-100)



Figure 2 - WebSDR monitor for Qatar-OSCAR 100 (QO-100)

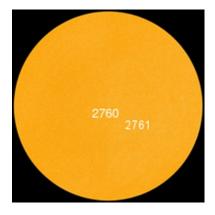
SOLAR GEOPHYSICAL ACTIVITY REPORT

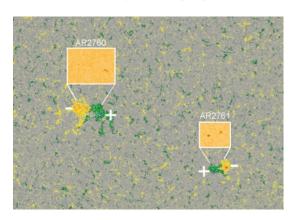
PROVIDED BY FRED HART, AA0JK

The first week of May sees another new-cycle sunspot.



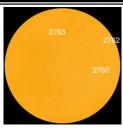
For the second time in a week, a sunspot from the next solar cycle appeared. AR2762 had a magnetic polarity that marked it as a member of solar Cycle 25. Solar cycle 25 is definitely showing signs of life.





Sunspots AR2760 (SC24) and AR2761 (SC25) were small and posed no threat for strong solar flares. Image Credit: SDO/HMI

Sunspots AR2762 and AR2763 are members of new Solar Cycle 25. Image Credit: SDO/ HMI



Week two:

May 10th - SOLAR SECTOR BOUNDARY CROSSING: Earth was about to cross a fold in the heliospheric current sheet, a vast wavy structure in interplanetary space separating regions of opposite magnetic polarity. The crossing, called a "solar sector boundary crossing," was expected on May 11th and was looking to trigger geomagnetic activity around Earth's poles.



(Note: The outer most planet depicted here is Jupiter. Mercury, Venus, Earth, and Mars are in the center of this plasma swirl.)

Coronal Holes: 11 May 20 (image to left)

There were no large coronal holes on the Earth-side of the Sun. Image Credit: SDO/AIA

100 DAYS WITHOUT SUNSPOTS: 2020 was not even 5 months old. Already there have been 100 days without sunspots. This is a sign that Solar Minimum is underway. So far this year, the Sun has been blank 76% of the time, a rate surpassed only once

before in the Space Age. Last year, 2019, the Sun was blank 77% of the time. Two consecutive years of record-setting spotlessness adding up to a very deep Solar Minimum.

An analysis of ionospheric perturbations related to the solar wind sector boundary (SB) shows that, as the Earth passes from one sector to another, the total electron content, (TEC), of the ionosphere at middle to high latitudes, generally undergoes a change from enhanced, to depleted values, with the opposite trend at low latitudes.

U.S. Naval Research Laboratory

Propagation was: 80m - 40m Good. Solar conditions were: Sunspots – 0

Solar Flux - 69

Geomagnetic Storming, - None

Solar Wind was at 313.8

Kp-0

The Noise Floor – S0 – S1.

X-ray, n/a, no sunspots, no x-ray to energize the upper atmosphere and enhance propagation.

As sunspot maximum starts to ramp up over the next 36 months, growing, and fading activity patterns will continue as we have seen since November.

THE GREAT GEOMAGNETIC STORM OF 1921: 99 years ago this week, the biggest solar storm of the 20th century struck Earth. It set fire to buildings, burnt out telephone lines, and sparked auroras as far south as Tonga and Samoa. New research suggests that the Great Geomagnetic Storm of May 1921 may have been even stronger than previously thought.

This could include regional power outages, profound changes to satellite orbits, and loss of radio-based technologies such as GPS. The disruption of GPS could significantly impact logistics, and emergency services. It's something to think about on the 99th anniversary of a 100-year storm.

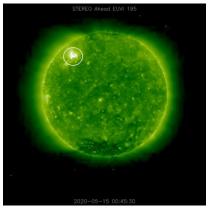
A SUNSPOT IN THE OFFING? A magnetic active region was rotating into view over the Sun's northeastern limb. Based on its high latitude, it had a potential of forming sunspots for new Solar Cycle 25.

STEREO Ahead EUVI, 195 05-15-2020. This bright area was showing a potential of forming new cycle 25 sunspots, but the area faded before any could form, and surface.

Week Three: Spotless Days: 21+.

Solar activity around the North-East limb was showing rousing activity as the week started with some spectacular prominence activity. Also of note, there were two new bright regions in Earth view.

Although these regions had launched several solar storms while on the Sun's far-side, they seemed to be dissipating, so not much additional activity was expected. These regions at least boosted the solar flux back into the marginal range for HF propagation, so Amateur Radio operators were enjoying a boost in propagation over the following few days.



Going into week four:

Geomagnetic Forecast: Issued 2020 May 21 1230 UTC, Prepared by the U.S. Department of Commerce, NOAA, Space Weather Prediction Center.

Solar Activity:

24 hr Summary: Solar activity remained at very low levels. No Earth-directed CMEs were observed in available satellite imagery.

Forecast: Solar activity was expected to persist at very low levels 21-23 May.

73,

Fred AA0JK

DRC's Emergency Responses

In the event of a disaster in the metro area, please monitor our repeaters on 145.490/448.625 (primary) and 449.350 (secondary).

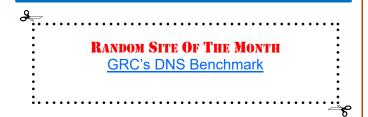
The emergency Net Control Operator will provide information and/or requests to members for assistance.

W0TX Repeater Directory



Note to DRC Members:

Our club depends on the involvement and participation of YOU, our members. Do you have a skill or interest that could help the club. Maybe you want to volunteer to be on a committee? Like to write? Have ideas for improving what we do? Speak up and let someone know, all ideas are welcomed and participation is always helpful. ~Editor



THE ROUNDTABLE ARCHIVE

Go to: http://www.wotx.org/roundtables.htm

THE ROUNDTABLE ARTICLE INDEX

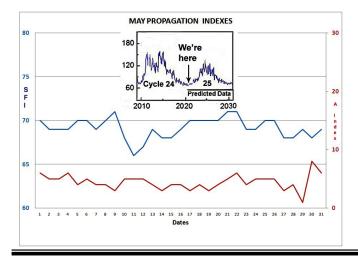
Go to: http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf

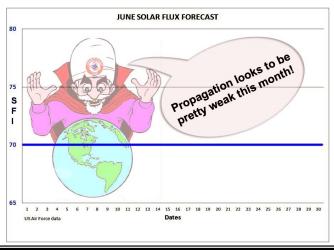
PAST & FUTURE PROPAGATION CONDITIONS

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, which is available at: http://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201009(SEP).pdf





UPCOMING EVENTS

HAMFESTS & CONVENTIONS

Event	Date	Location	Sponsor Website

All cancelled.

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
Kentucky	06/06/2020	06/07/2020	Paducah Amateur Radio Association	
West Virginia	06/20/2020	06/21/2020	West Virginia State Amateur Radio Council	
Maryland-DC	08/08/2020	08/09/2020	Anne Arundel Radio Club	
Hawaii	08/22/2020	08/24/2020	Hawaii QSO Party	
Ohio	08/22/2020	08/23/2020	Ohio QSO Party	
Kansas	08/29/2020	08/30/2020	Kansas QSO Party	
Colorado	09/05/2020	09/06/2020	Pikes Peak Radio Amateur Association	
Tennessee	09/06/2020	09/07/2020	Tennessee QSO Party	
Alabama	09/12/2020	09/13/2020	Alabama QSO Party	
Texas	09/12/2020	09/13/2020	Texas QSO Party	
Iowa	09/19/2020	09/20/2020	Story County ARC	
New Jersey	09/19/2020	09/20/2020	New Jersey QSO Party	
Washington	09/19/2020	09/20/2020	Western Washington DX Club	
Maine	09/26/2020	09/27/2020	Wireless Society of Southern Maine	
California	10/03/2020	10/04/2020	California QSO Party	
Nevada	10/09/2020	10/11/2020	Sierra Nevada Amateur Radio Society	

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	2m / 20m gateway. Useable by Technicians on 2m.
2m	145.490MHz (-) 100Hz PL	Linked to 70cm / 448.625MHz. Primary frequency during emergency net.
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 2m / 145.490MHz. 1° disaster net freq.
70cm	449.350MHz (-) 100Hz PL	Wide area coverage with Echolink, node # 4140. Secondary frequency during emergency net.
70cm	449.775 MHz (-)	Yaesu digital, C4FM, Wires-X, DN, VW & Data. No analog FM.
70cm	446.7875MHz (-)	BrandMeister Repeater: Slot 1 – Wide Area Traffic, Slot 2 – Local Talk Group 310804



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e-mail: denver@hamradio.com

JUNE 2020 DRC Net Sundays at 8:30 p.m. on 145.490 / 448.625 (no PL) Sunday Monday Tuesday Wednesday **Thursday Friday** Saturday 2 4 5 6 3 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL) Full Moon 7 9 11 13 8 10 12 Learning Net June VHF -7:30 p.m. Starts 1800 UTC 145.490 / 448.625 (No PL) Last Quarter 20 14 15 16 17 18 19 **DRC Online Meeting** June VHF - continued June VHF -**Kids Day** 1800 - 2359 UTC Elmer 6 p.m. Meeting 6 p.m. Ends 0259 UTC 21 23 24 26 27 22 25 Learning Net Field Day - Begins 1800 7:30 p.m. 145.490 / 448.625 (No PL) New Moon 29 30 28 Field Day - Ends 2059 First Quarter

DRC BOARD OF DIRECTORS

President	W0GV	Gerry Villhauer	303-467-0223	w0gv@hotmail.com
Vice-President	AD0GX	Kevin Schmidt	303-475-9234	ad0gx@arrl.net
Secretary	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
Treasurer	N0CRZ	Cathy Villhauer	303-467-0223	crazycathy56@gmail.com
Board Member	WY0J	Jan Alan Dickover	303-697-0725	jad.wy0j@gmail.com
Board Member	K0TOR	Jim Beall	303-798-2351	k0tor@arrl.net
Board Member	WG0N	Dave Baysinger	303-987-0246	wg0n@arrl.net
Board Member	KB0CHT	Jeff Irvin	Check Roster	Check Roster

DRC STAFF AND VOLUNTEERS

Benevolent		Carolyn Wolf	303-279-1328	Contact owolf@mines.edu
Club Librarian	WG0N	Dave Baysinger	303-987-0246	wg0n@arrl.net
Education Coordinator	AA0JK	Fred Hart	303-420-3536	elmer@w0tx.org
EmComm Coordinator	KE0HFH	Michael Vespoli	303-215-8862	emcomm@w0tx.org
EmComm Coordinator	AD0UZ	Brennan Pate	303-578-6283	emcomm@w0tx.org
Field Day Chairman	K1DBC	Doron Ben Chaim	720-254-1561	k1dbc@arrl.net
Membership	KC0CZ	Bob Willson	303-659-0517	rwillso2@centurylink.net
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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 dreedlerd ones learn.

Subject: I'm located in...

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