



ROUNDTABLE

The Denver Radio Club Newsletter

Since 1917

May 2020

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

I hope you are staying in, staying safe and healthy. I have not heard of any DRC members that have been stricken with the virus. Hopefully that will remain the case throughout this pandemic situation. I can say; thanks to ham radio for preserving my sanity! Although I do not know if Cathy would agree to that statement.

The DRC board of directors discussed in detail, our August 2020 Hamfest. A very difficult decision was made. Our August 2020 DRC Hamfest is cancelled. Due to a lack of vendor sign ups and the fact that the general ham radio age demographic is on the high end of the scale, the board feels participation would be very low and going forward would be a financial disaster for the club. I regretfully agree with the decision; it is the right thing to do under our present and extended circumstance. We were hoping since our hamfest is one of the last of the season, the COVID-19 situation would be much better by August. It looks like it will extend to close to our August 16th date to continue. We will plan for a bigger and better DRC Hamfest in 2021!

I want to thank everyone who came aboard for our monthly meeting...virtually. All in all it went very well. We had a couple technical issues, we recovered and moved on. I believe we had 76 in attendance. That is great and more than I expected; I was thinking if we hit 50 it would be good. It is always good to beat expectations! You can expect the same meeting format for our May meeting.

Thanks to Jeff Ryan (K0RM) our ARRL District Director for a very interesting and informative program on the ARRL. We had some great questions presented to Jeff and he gave informative answers in return. I was concerned how the text feature would work for questions. It worked very well I would say. Also thanks goes out to Jeff Irvin (KB0CHT) for hosting the Google Hangout format and pushing the buttons. There was one question Jeff could not answer on the spot but, came back the next day with the answer. The question was: are ARRL dues are tax deductible? The answer is No. According to IRS, the amount of dues for which there is no tangible benefit received is deductible. In the case of ARRL, members receive not just QST, but other services as well. The full amount of dues goes towards these benefits so, no portion of dues would be considered deductible. Thanks Jeff for taking the time to get the answer.

Our program for this month will be presented by yours truly, Gerry (W0GV). I have been working in aviation most of my career, primarily in Avionics; which means aviation electronics. Air navigation has gone through a major change, especially with regard to ground based RADAR navigation, used by the FAA for en-route and terminal navigation. This system has been in use since the 50's or earlier. We will go through some basics of RADAR navigation and then transition to the new system, ADS-B. This is the acronym for Automatic Dependent Surveillance-Broadcast. I will show you the basics of both systems and why the transition to ADS-B was necessary. With ADS-B, you can purchase or build a system using SDR technology and computers like Raspberry Pi, to monitor aviation activity at home; something not possible with RADAR. Hope to see you there (virtually), Wednesday May 20th.

Our VE team is looking at doing some license testing in May; if we can abide by the restrictions for doing it safely. If you or someone you know is interested in license testing for Tech, General or Extra. Please email our VE chairman, Tom (KC2CAG) at

(continued on next page)



kc2cag@arrl.net. IF we can do this, it will be by pre-registration only, no drop-ins will be accepted and you will have to have your own face mask. More info as it develops.

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:

| | | |
|----------------------------|-------------------------|-----------------------|
| Myron Keith Howitt - K0MKH | Deloise Andrews - N0QOO | Bill Rodgers - KD0FAE |
| Rex Humston - W0CU | Loan Kim Johnk - KD0BMH | Jack Walsh |
| Aaron Cure - KD7LCM | Robert Johnk - WB0VGD | William Blake |
| Colin Mullin | Troy Lerner | Brian Wonder - KE0HEB |
| | Steven Frager - K9PJP | |

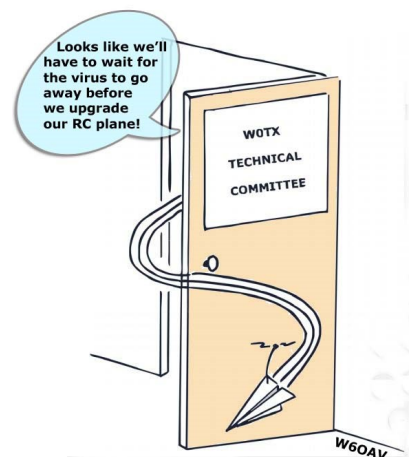
We have a number of activities throughout the year and we'd like very much for you to participate in serving your community. If you have questions please feel free to ask on any of the repeaters or see the contact information on the last page of this publication.

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.

April Topics:

- Getting set-up on EchoLink.
- Introducing EchoLink: <http://echolink.org/>
- How To Use And Setup EchoLink: <https://myoffroadradio.com/how-to-use-setup-echolink-ham-radio/>
- Denver Radio Club: Node 4140 EchoLink, 70cm, 449.350.
- Preparing for that next upgrade to General or Extra.
- ARRL is running a special on three of their books that will help you in understanding the material in your studies. Also the information will enhance your understanding of Ham radio, making you a better operator.
 - Understanding Basic Electronics, Basic Antennas, and Basic Radio.
 - [“ARRL Basic Series Bundle”](#)
- Field Day
- ARRL Suggests Taking a Creative Approach to Field Day 2020
 - <http://www.arrl.org/news/arrl-suggests-taking-a-creative-approach-to-field-day-2020>
 - Adjusting for Field Day planning to address social-distancing guidelines that may be in effect in many areas of the country, as we gather at our traditional Field Day sites.
- Charging Lithium batteries:
 - <https://www.ehs.washington.edu/system/files/resources/lithium-battery-safety.pdf>
- Summits on the air:
 - <http://www.w0c-sota.org/>
 - <https://youtu.be/Y5QhNMZilfE>
- What is System Fusion? <http://systemfusion.yaesu.com/what-is-system-fusion/>
- ARRL VEC Issues Statement on Video-Supervised Online Exam Sessions
 - <http://www.arrl.org/news/arrl-vec-issues-statement-on-video-supervised-online-exam-sessions>



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.

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 wel-

comed. 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 [W0TX web site](#) for additional information.)

73,

Fred
AA0JK



A DIFFICULT DECISION MADE DRC's 2020 HAMFEST CANCELLED

BY GERRY VILLHAUER, W0GV

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.

MORSE CODE INVENTED APRIL 27TH, 1791

PROVIDED BY FRED HART, AA0JK



Developed in the 1830s and 1840s by Samuel Morse (1791-1872) and other inventors, the telegraph revolutionized long-distance communication.

Morse sent his first telegraph message, from Washington, D.C., to Baltimore, Maryland. On May 24, 1844, Morse sent the historic first message: "What hath God wrought!" The telegraph system subsequently spread across America and the world.

Although the telegraph had fallen out of widespread use by the start of the 21st century, replaced by the telephone, fax machine and Internet, it laid the groundwork for the communications revolution that led to those later innovations.

Did you know? SOS, the internationally recognized distress signal, does not stand for any particular words. Instead, the letters were chosen because they are easy to transmit in Morse code: "S" is three dots, and "O" is three dashes.

The code assigned letters in the alphabet, and numbers, a set of dots (short marks) and dashes (long marks) based on the frequency of use; letters used often (such as "E") got a simple code, while those used infrequently (such as "Q") got a longer and more complex code.

Initially, the code, when transmitted over the telegraph system, was rendered as marks on a piece of paper that the telegraph operator would then translate back into English. Rather quickly, however, it became apparent that the operators were more proficient. They were able to hear, and understand the code just by listening to the sounds of the receiver. The paper machine was quickly replaced by the expert operator.

Even by the end of the 19th century, however, new technologies began to emerge, many of them based on the same principles first developed for the telegraph system. In time, these new technologies would overshadow the telegraph, which would fall out of regular widespread usage. Still its invention stands as a turning point in world history.

Despite the current technological replacement of CW by commercial, and the military's communications, CW is still a mainstay in the Amateur Radio community. Hams realize the advantages of Mores Code over today's technical advances. We take advantage of its simplicity, and dependability, to communicate world wide. When technology fails, we Hams will prevail when duty calls.

73,

Fred
AA0JK

SIREN TESTS CANCELLED

BY BRENNAN PATE, AD0UZ

Lakewood's Emergency Manager, Jesse Miller, has notified us that the siren tests for Lakewood and Wheat Ridge have been cancelled for 2020. If the officials decide to perform the tests later in the year we will be notified and we will post a notice and reach out to past participants.

HOW DO ANTI-THEFT TAGS WORK?

BY BILL RINKER, W6OAV

Ever wonder how anti-theft tags work? The process is called magnetostriction. Anti-theft tags contain a tiny mechanical oscillator that is activated by a magnetic field. The detectors at a shop's doorway can detect the oscillation magnetically.

A good explanation video can be found at: <https://www.youtube.com/watch?v=KAm7qAKAXwI>



A typical anti-theft tag

APRIL MEETING - WHAT'D I MISS?

By BILL RINKER, W6OAV

Due to our new "Stay Home - Shelter in Place" way of living, the April 15th Elmer and monthly meeting took on a new dimension. The meeting was a virtual (online) meeting complete with audio and video. The meeting took place via a Google platform called "Hangouts Meet". Prior to the meeting night, everyone on the DRC email list had received an email which contained the meeting attendance information (hardware requirements, URL and login procedures). Those without computers were able to join by telephone. Participants were able text questions to the moderator.

There were 76 attendees. Considering this was the first DRC virtual meeting, things went pretty well. There were a few attendees who had video or audio issues.

The principles in the virtual meeting were the coordinator Jeff Irvin (KB0CHT), the moderator Gerry Villhauer (W0GV) and the presenter Jeff Ryan (K0RM).

Jeff is our ARRL Rocky Mountain Division Director. Jeff presented a very interesting PowerPoint covering the ARRL Mission Statement, the structure of the ARRL organization, its programs, publications, expenses, and interactions with the FCC on behalf of the amateurs.



Jeff Ryan, K0RM - Rocky Mountain Division Director

BETA TEST OF ONLINE VE TESTING

By TOM KOICIALSKI, KC2CAG

Two radio clubs back east have received permission from the ARRL VEC to "beta test" protocols for online VE testing. They are limited in scope and cannot handle large groups, although they are trying to develop approved methods to streamline the process. One of the clubs has offered to train other clubs in their current protocol, which allows testing one candidate at a time. In order to be "trained" in their protocol, they require that the ARRL VEC vet the requesting clubs and then refer them to that club for training. We have requested the ARRL VEC to "vet and refer" us to them! Keep your fingers crossed, as the ARRL seems to be inundated with requests and have shut down the physical offices of ARRL headquarters on April 22.

In another opportunity, our club president, Gerry Villhauer, has obtained permission for us to use his lodge's main hall (where we have our Christmas party) for in person VE testing. If our governor revises his guidance on Critical Businesses or Necessary Activities, we can perhaps set up a VE session there for a limited number of candidates where we can maintain social distancing and other appropriate measures. Keep your fingers crossed on this one, too!

High VHF Whip SWR

By Bill Rinker, W6OAV

Question

I installed a commercial 2 meter ¼ wave length vertical antenna on the roof of my car. The best SWR I can get is 2.5 to 1. How do I get to down to 1 to 1?



Answer

Don't spend time trying to get that perfect 1 to 1 SWR ratio. Here's why. A perfect ¼ wave length 2 meter antenna on a car roof, or on a ground plane with horizontal radials, would have a feed point impedance of approximately $23.5 + j0.85$ ohms at resonance. This would produce an SWR of 2.13 to 1. Since it is an imperfect world with coax impedances and system losses, a well installed ¼ wave length 2 meter antenna on a car would usually have a feed point impedance of approximately 30 ohms. This would produce an SWR of approximately 1.7 to 1 at resonance.

So, if you have an SWR very close to 1 to 1, then you have either extra loss in the antenna system (bad coax, bad soldering, bad bonding to roof, etc) or a bad SWR measuring device. Never expect amateur grade test equipment to be within 10% accuracy unless calibrated against lab grade equipment. (Note: A magnetic mount antenna will show a lower SWR because of the extra loss due to the capacitive coupling loss to the car roof, the antenna's ground plane.)

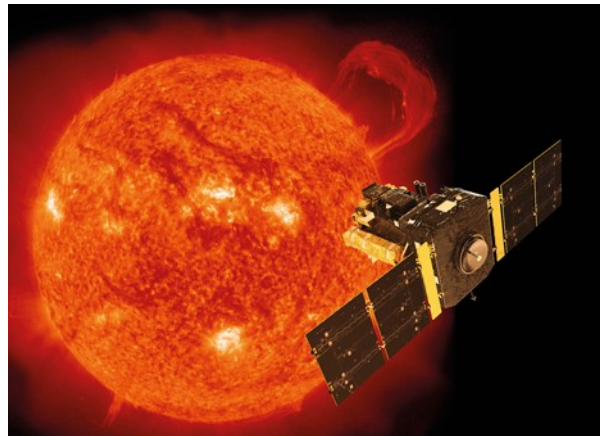
You should be ok as long as your SWR at resonance is somewhere between 2.0 to 1 (very little antenna losses) and 1.5 to 1 (some antenna losses). Most 2 meter rigs can handle that SWR range. If an antenna analyzer is available, fine tune the antenna to get the "X" reactance value as close to "0" as possible.

For a good article on the radiation patterns from a vertical antenna mounted at different locations on a car, go to the ARRL site and download W6NBC's March 2012 QST article titled "Your 2 Meter Mobile Antenna – What's the Best Mounting Location?" (Article: <https://www.w6nbc.com/articles/2012-03QST2mmounting.pdf>)



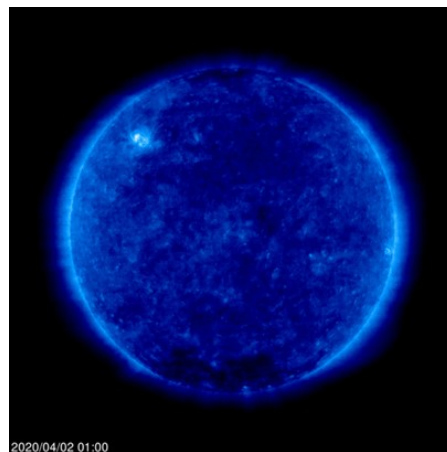
SOLAR GEOPHYSICAL ACTIVITY REPORT

PROVIDED BY FRED HART, AA0JK

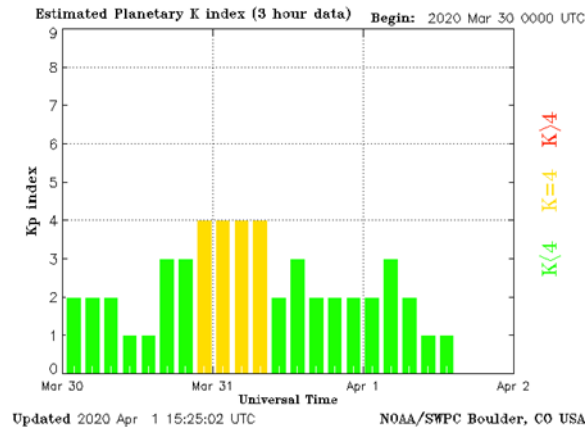


April Solar Activity – No Foolin’

April solar activity brakes a long stretch of spotless days. A bright area emerging around the east limb of the solar disc developed into a cycle 25 sunspot. AR2759. Non-flaring. (Below image: EIT 171, Credit: SDO/HMI)



April 2nd , Sunspot AR2759 had a reversed magnetic polarity, that identified it as a member of new Solar Cycle 25.



A big puny solar flare: The biggest solar flare of the year happened over the first weekend of April. But don't get excited, it was puny. On April 4th, NASA's Solar Dynamics Observatory captured the ultraviolet flash from new-cycle sunspot AR2759.

This was a B4-class flare. It caused only a brief and ephemeral wave of ionization to ripple through our planet's upper atmosphere. There were no radio blackouts. Only during Solar Minimum would such a flare receive any attention at all.

As plasma reached Earth, there were reports of 40 and 20 meter openings. Hams scrambled to take advantage of the brief opening to log a few DX contacts.

The week of April 7th, we had two new bright regions on the Sun, one in Earth view, and one on the Sun's backside. Both of which were Solar Cycle 25 regions! The region in Earth-view had shown some flare activity, firing a few small, B-class flares our way, but no solar storms. Still, these flares are good news because they show that activity in these new cycle regions are increasing! Solar flux was also staying in the low 70s, which means radio propagation was hugging the low end of marginal, and with the second of the two bright regions due to rotate into Earth view, these conditions were expected to continue.

Week two:

This week the Sun continued to show more signs of Solar Cycle 25. We had two new bright regions at high latitudes (a hallmark of the new cycle). One region in Earth-view had been firing B-class flares, which was a good indicator that activity was continuing to rise. The other region on the Sun's far-side was expected to rotate into Earth view, and help keep the solar flux boosted into the low 70s. Along with the new bright regions, we also had a coronal hole that was rotating into the Earth-strike zone.

Week Three:

The Sun launched twin solar storms. One of them was partly Earth-directed, and its glancing passage gave us a slight boost in activity over the following couple of days.

Amateur radio operators got a slight boost in propagation, especially on Earth's night side. This boost was most welcome, as we are in a deep solar minimum, and the solar flux was dipping back into the 60s momentarily. It seemed the Sun, just like us, was enduring a dark spell.

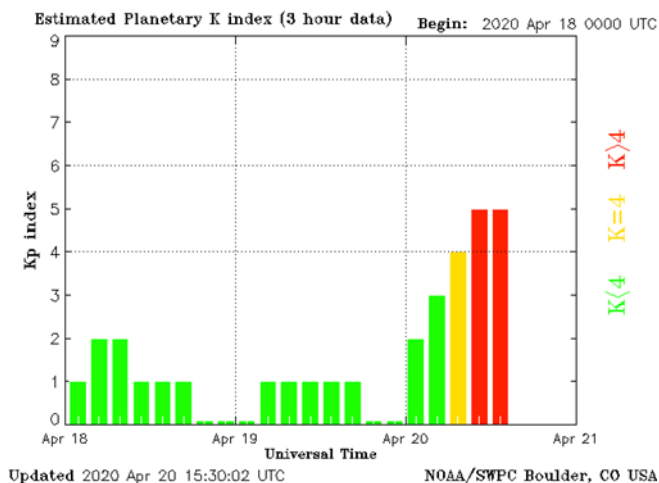
Radio propagation on Earth's day-side had fallen back into poor conditions. Despite this, the Sporadic-E season is picking up in the northern hemisphere, and boosting radio propagation.

Going into week four:

The Sun gave us a treat this week by launching yet another partially Earth-directed solar storm. Although this was a stealthy solar storm, which means it may have a weak impact at Earth, its presence was yet another reminder that Solar Cycle 25 is continuing to try to take hold. Sadly though, activity is not ramping up as quickly as we hope. For the moment we have returned to a spotless Sun, and solar flux was dipping back into the high 60s.

A G1-class Geomagnetic storm was underway. Earth's magnetic field was reverberating from an unexpected impact of a CME during the early hours of April 20th.

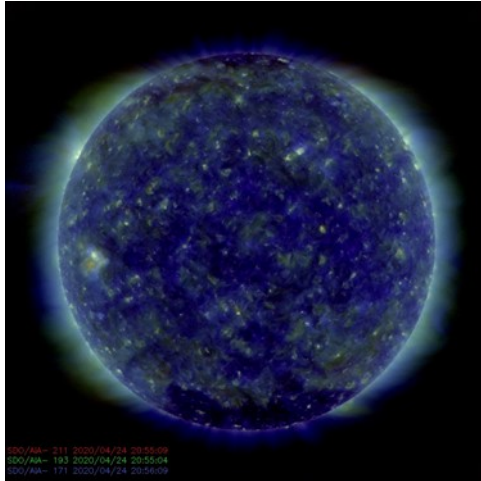
This was the first geomagnetic storm of 2020. In fact, the last time storm levels reached G1 on NOAA Storm Scales, was more than a year ago, March 16-17, 2017.



The cause of the storm appeared to be a slow-moving CME that left the Sun on April 15th

This CME was not squarely Earth-directed, and forecasters did not think it was likely to hit our planet. Nevertheless, it apparently did. Solar wind data suggest that the CME sideswiped Earth with a snowplow-like buildup of plasma shortly after 0130 UT on April 20th.

Seeing solar storms like this is an indicator that the Sun's magnetic field is growing in strength, which is just one more sign we are continuing to rise out of solar minimum. Solar flux also continues to hold steady in the low 70's despite us having a spotless Sun right now. This means marginal radio propagation on Earth's day-side will continue. (Image: AIA 094, 335, 193)



Bright areas at this time are showing no signs of underlying sun spot development.

Geomagnetic Forecast:

Issued: 2020 April 25 0030 UTC. Prepared by the U.S. Dept. of Commerce, NOAA, Space Weather Prediction Center

Solar Activity, 24 hr Summary:

Solar activity was very low. The solar disk was spotless. No Earth-directed CMEs were observed in available satellite imagery.

Forecast: Solar activity was expected to remain at very low levels on 25-27 April.

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](#)



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Search for Denver Radio Club @ smile.amazon.com

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

RANDOM SITE OF THE MONTH
[Raspberry Pi-JNOS](#)

THE ROUNDTABLE ARCHIVE

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

THE ROUNDTABLE ARTICLE INDEX

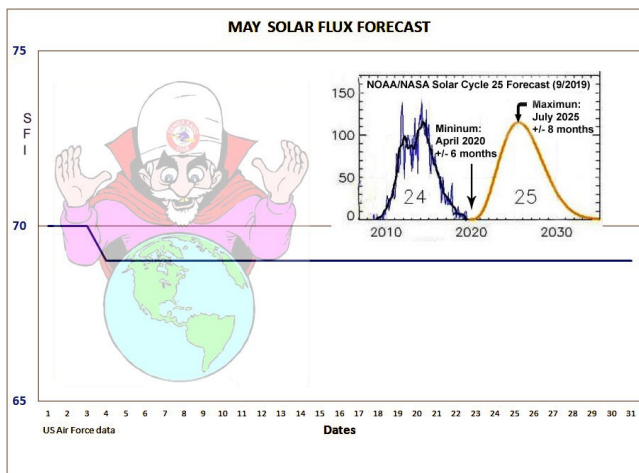
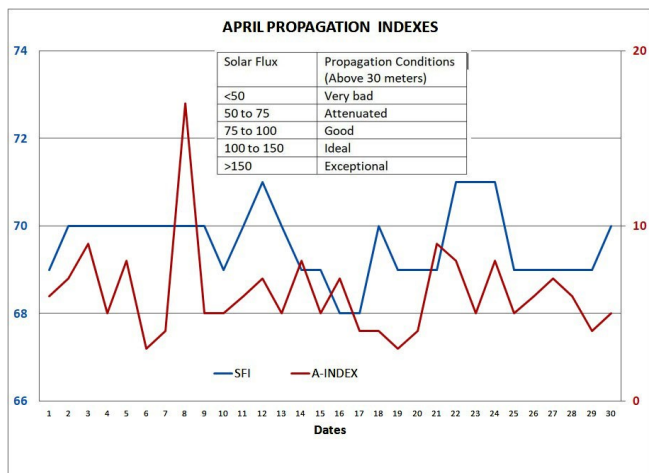
Go to: <http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf>

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](http://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201009(SEP).pdf)



UPCOMING EVENTS
HAMFESTS & CONVENTIONS

| Event | Date | Location | Sponsor Website |
|-------|------|----------|-----------------|
|-------|------|----------|-----------------|

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 |
|----------------|------------|------------|--|-------|
| Arizona | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| Connecticut | 05/02/2020 | 05/03/2020 | New England QSO Party | |
| Delaware | 05/02/2020 | 05/03/2020 | First State Amateur Radio Club | |
| Idaho | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| Indiana | 05/02/2020 | 05/03/2020 | Hoosier DX and Contest Club | |
| Maine | 05/02/2020 | 05/03/2020 | New England QSO Party | |
| Massachusetts | 05/02/2020 | 05/03/2020 | New England QSO Party | |
| Montana | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| Nevada | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| New Hampshire | 05/02/2020 | 05/03/2020 | New England QSO Party | |
| Oregon | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| Rhode Island | 05/02/2020 | 05/03/2020 | New England QSO Party | |
| Utah | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| Vermont | 05/02/2020 | 05/03/2020 | New England QSO Party | |
| Washington | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| Wyoming | 05/02/2020 | 05/03/2020 | Central Oregon DX Club | 7QP |
| Arkansas | 05/09/2020 | 05/10/2020 | Amateur Radio Klub of the Arkansas Northwest | |

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](https://smile.amazon.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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DRC BOARD OF DIRECTORS

| | | | | |
|----------------|--------|-------------------|--------------|--|
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| 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 |
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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 25th of the Month. ~ Editor

Early Bird Discount Registration is Available Now! at
<http://www.hamconcolorado.com>

HAMCON COLORADO 2020 ROCKY MOUNTAIN DIVISION

MARK THESE DATES ON YOUR CALENDAR!

August 7 - 9, 2020

FRIDAY *Separate Event* - DX University 8AM – 5PM \$50 includes Lunch

ALL DAY SATURDAY & SUNDAY Many engaging technical sessions & forums Numerous club, organization and manufacturer exhibits!

MEALS MUST BE PURCHASED IN ADVANCE TO HEAR THE SPEAKERS

Booked so far are Riley Hollingsworth K4ZDH & Rick Roderick K5UR

SATURDAY

- ◆ Kickoff Breakfast with speaker (TBA)
- ◆ Afternoon Delicatessen Buffet with a nationally known Speaker (TBA)
- ◆ Evening Meet and Greet Buffet with ARRL Officials and a Keynote Speaker
- ◆ Midnight Wouff Hong Ceremony (Details TBA)

SUNDAY

- ◆ Breakfast with a nationally known Speaker (TBA)
- ◆ BBQ lunch with a nationally known Speaker (TBA)

MORE FOR YOU!

- ◆ Show your CW skills and coordination in a QLF (Details TBA)
- ◆ Show your skills in a challenging CW Pileup Contest (Details TBA)
- ◆ Operate W1AW/Ø – HF/VHF/UHF All modes including Digital on fantastic hardware
- ◆ Hourly prize giveaways
- ◆ Hospitality Suite sponsored by Mile High DX Association and Grand Mesa Contesters of Colorado



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