



THE ROUND TABLE

Monthly Newsletter Of The Denver Radio Club

Since 1917

March 2022

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

Here it is March already. I always feel that winter is coming to a close when March comes around. Yes, we typically get our heavy wet snows this time of year but, usually that bone chilling cold is over and the snows melt quickly. Lighter, longer days and Spring are coming!

Please take a look at the announcement I posted on our website and in this issue of the Round Table. The US Forest Service is proposing a \$1400 annual fee for radio equipment that resides on Forest Service land. Our Squaw Mountain repeater fits under that category. This is very unfair to the Amateur Radio community. The basis of Amateur Radio is service to the public during disasters and emergencies. A fee like this would more that likely force us and many other clubs, to remove our repeaters from Squaw Mountain and other sites owned by the Forest Service. Please read the information in the Round Table or our website and make your formal comments against this proposal. The comment period is March 1 through 31, 2022. This is your opportunity to speak up!

Thanks to Carl (K9LA) for his presentation on "Two simple antennas for HF" at our February online meeting. His presentation generated questions from the audience; which always marks a good presentation. We will likely have Carl back for another program in the future.

Our March program will be on a subject I do not recall we have covered; Amateur Television. Jim (KH6HTV) will cover the basics of analog and digital TV and show what equipment is necessary. Jim has been involved in ATV since the 1970's and is the trustee of the Boulder DATV repeater, (W0BTV). This will be a very interesting and informative program. Mark your calendars for Wednesday March 16th 2022 for this live virtual presentation.

Our 147.330 EAST repeater is off the air for maintenance. The 147.330 WEST repeater is fully operational.

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 Round Table.

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 welcome them to the club and repeaters. Welcome to our newest members:

Francis King - K9DOW	Stephen Taylor - KD0CRX	Bradley Whitlock - AD0RX
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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.

LEARNING NET REPORT

BY FRED HART, AA0JK

Purpose:

We are here to help introduce, and promote, a variety of topics of interest to all amateur radio operators.

Our intent is to help participants get more active, involved, and engaged in amateur radio.

Topics of interest we encourage:

Personal Communications

- Getting started in the various modes, of communications.

Emergency communications

- Participation in public service.
- Training in emergency communication for volunteers.

Radio electronics, and technology

- Kit building, understanding signal propagation. and building antennas.

We strive to put experienced members / volunteers, at the forefront, as a regular source of knowledge-sharing in the Denver Radio Club. We hope members participating in the DRC learning net will find it rewarding to share experiences, and learning, that will motivate more of our amateur radio community toward lifelong journeys as Hams.

If you have experience in, and have a passion for, any amateur radio related topics, please consider providing the DRC with presentations that will motivate other Hams to share your interests.

February topics we discussed:

- ARRL 2022 YouTube Handbook Series:
youtu.be/SdJhk1lzsig?list=PL01YuCIs6edaHXU8lv_FHzWmb1X7Qy3aO
- ARRL Handbook - Assembling a (Ham Radio) Station!
youtu.be/clZdlZsY4U?list=PL01YuCIs6edaHXU8lv_FHzWmb1X7Qy3aO
- Your First Amateur Radio HF Station: ISBN:978-1-62595-007-9. ARRL Item No.:0079
- 2022 ARRL Handbook Release - Let's see what it says about FT8
youtu.be/wAaM1aDBILM?list=PL01YuCIs6edaHXU8lv_FHzWmb1X7Qy3aO



- ARRL 2022 Handbook - Battery Selection for Portable Operation
youtu.be/wHzBJRQwzQ0?list=PL01YuCIs6edaHXU8lv_FHzWmb1X7Qy3aO
- EVERY Ham Shack needs THIS | 2022 ARRL Handbook - Radio Propagation
youtu.be/TWG4zIIYiH4?list=PL01YuCIs6edaHXU8lv_FHzWmb1X7Qy3aO
- ARRL Handbook - Your Ham Radio Lifestyle
youtu.be/pxyU7AZUKM0?list=PL01YuCIs6edaHXU8lv_FHzWmb1X7Qy3aO
- 2022 ARRL Handbook. How to make a Yagi!
youtu.be/C3w8L2T6978?list=PL01YuCIs6edaHXU8lv_FHzWmb1X7Qy3aO
- Presentation by W6NBC, John, on antenna tuners.
- Fabricating a 30M dipole, using W6NBC John's recommended placement of tuner at the feed-point of the two elements of the antenna rather than at the radios transmitters output. Found this to be a great improvement.
- Headsets best for amateur radio
- Making your first antenna (Round Table – March 2018 p14 – 15)
- Solar storm, solar wind, brings down 40+ satellites.
- Preppier – are you prepared in the event of an emergency? (RoundTable November 2019 p 6-7).
- HAM Radio for Preppers 101 - youtu.be/RDaptaQ3kCs
- ARRL Operating Manual
- Everything for the Active Ham Radio Operator: ISBN:978-1-62595-120-5. ARRL Item No.:1205.
- Building the Tiger Tail Antenna - Paratus Radio
- Diamond - Dual-Band HT Antenna RH77CA
- ARRL – End-Fed Antenna Kit #0612
- Chameleon antenna



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

If you are listening and don't yet have your license, you can contact us at the [W0TX web-site](https://www.w0tx.org/), 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.

Getting that first Technician license? Upgrading to General or Extra? We're here to help.

You may also find Dave Casler's Amateur Radio Licensing Guides helpful: <https://dcasler.com/ham-radio/>

We would encourage those who have been Hams for several years to also join us. Your experience and input is welcomed.

Finding your place in the amateur radio community - -> Are you looking to be more involved, learn new skills, find a mentor or friends to share your amateur radio interest? Check out your local Denver Radio Club, and start making the most of your amateur radio license.



arrl.org/public-service

Use your communication skills to help keep your community safe!



weather.gov/marine/ham
warrenares.org/home/skywarn-weather-spotting
 SKYWARN Spotter Training Updates: weather.gov/bou/spot_training



During severe weather events, amateur radio operators bring significant resources to storm spotting, including an established communications system that can function in an emergency. They provide real-time information to partners like emergency management and forecasters at the national weather service. The data received from hams helps issue weather watches, warnings, and advisories.

What topics would you like to discuss? Join us Wednesday nights, 7:30 PM, 145.490, 100 Hz PL tone & linked to 448.625, 100Hz PL tone.

73,

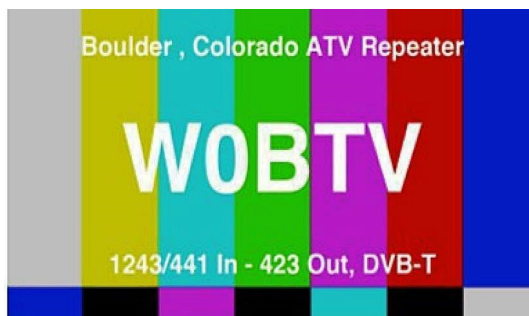
Fred
 AA0JK
elmer@w0tx.org

MARCH 19TH VIDEO MEETING ANNOUNCEMENT

BY BILL RINKER, W6OAV

ATV hams today are transmitting broadcast quality, hi-def digital TV. Jim, KH6HTV, will cover the basics of analog and digital TV and will show what equipment is necessary. Boulder has a DATV repeater with coverage of most of metro Denver and up to the Wyoming border.

Bio: Jim, an extra class, has been licensed since 1965. He has been active with ATV since the mid 70s and built the first Boulder TV repeater in the late 70s. He is the designer and trustee of the current Boulder DATV repeater, W0BTV. He has been active in Boulder ARES, BCARES, since its founding in late 70s and was the EC in early 90s.



US FOREST SERVICE RADIO EQUIPMENT FEE

BY GERRY VILLHAUER, W0GV

The following is a proposal for a \$1400 annual fee for radio equipment on US Forest Service land. If implemented, this would seriously affect our 449.350 repeater on Squaw Mountain and many other clubs that have equipment on Squaw or other Forrest Service Land. The club already pays a monthly fee to a contractor that leases the mountain top space and in turn charges DRC and others a monthly fee to have the equipment there. If the \$1400 annual fee were implemented; that would probably cause us to remove the 449.350 repeater from Squaw Mountain. Please first read the ARRL's comment and then consider filing your opposition to this fee with a meaningful comment; using the link below. In your comment, please mention that Amateur Radio's basis is serving the public in times of disasters and other emergency situations.

The US Forest Service sent a Notice to the Federal Register yesterday announcing that they will re-open the window for comments on the proposed new \$1400. annual administrative fee to be applied to radio equipment located on USFS land. Anyone who may have missed the earlier comment period, or who wishes to file additional information and/or comments can submit them between March 1 and March 31. A copy of the Notice to be published on March 1 is here: public-inspection.federalregister.gov/2022-04254.pdf.

The ARRL's comments on the matter can be found at: [regulations.gov/comment/FS-2022-0001-0749](https://www.regulations.gov/comment/FS-2022-0001-0749)

Thank you!

JS8CALL

PROVIDED BY FRED HART, AA0JK

Homer, put down the donuts and return to the keyboard, here comes JS8Call. Here we have a new mode that takes the robustness of FT8 and layers it on a messaging and network protocol for weak signal communication on HF giving you a keyboard-to-keyboard interface. Take a look: js8call.com/js8call-getting-started



QUESTION OF THE MONTH

BY BILL RINKER, W6OAV

Question

I often see horizontal half wave dipoles shown as having gains of from 2.1 dBi up to 8.0 dBi. How can half wave dipoles have different gains?

Answer

First of all we need to define dBi. dBi stands for decibels referenced to an isotropic antenna. What is that? An isotropic antenna is a theoretical point source of RF energy in space which radiates equally in all directions. See Figure 1. The isotropic antenna is normally used as a common reference against which other antennas are compared.

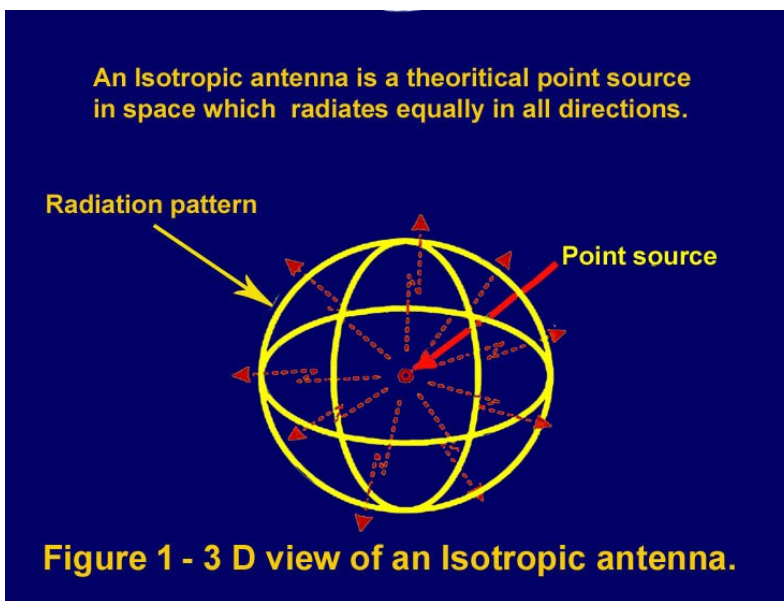
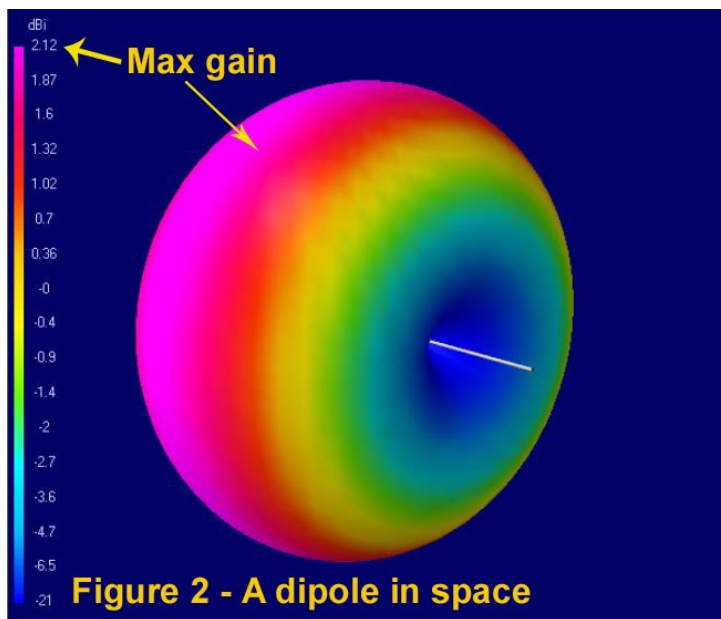


Figure 2 shows a half wave dipole in space. The dipole radiates a donut shaped RF field. This means that there is more power broadside to the dipole and less power towards the ends of the dipole. Figure 3 shows the pattern of a dipole in space occupying the same space as the isotropic antenna. As mentioned earlier, the power radiated by the isotropic antenna is equally radiated in all directions whereas the power radiated by the dipole is concentrated broadside to the dipole. Hence the broadside power is 2.1 dB stronger than that from the isotropic antenna. This is why a dipole in space is rated as having a gain of 2.1 dBi.

So why do you see different gain figures for half wave dipoles? Well, the gain figures mainly depend on what type of ground is beneath the dipole and how high the dipole is above that ground. The effects of the ground beneath a dipole (conductivity, dielectric constant, and



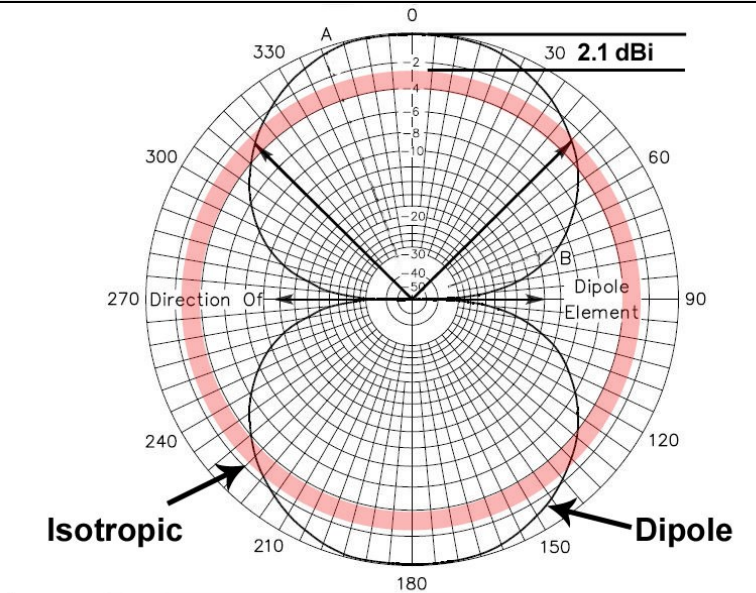


Figure 3 - Relationship of isotropic and dipole antennas in space

most importantly reflections in phase and out of phase) are to increase the intensity of radiation (gain) at some vertical elevation angles above ground and to decrease the intensity of radiation (loss) at other vertical angles above the ground. Antenna modeling software will always express the dipole’s gain as measured at the strongest elevation angle.

Let’s look at how height above the ground affects a dipole’s gain. Figure 4 shows the pattern of a 20 meter dipole 32’ above the ground. The gain is 7.4 dBi at 28 degrees. Figure 5 contrasts the pattern of the 32’ high dipole to that of the isotropic antenna. Figure 6 shows the pattern of a 20 meter dipole at 70’ above the ground. The radiation pattern consists of two main lobes; the stronger lobe being 8.11 dBi at 13 degrees. Note: not shown is a 20 meter dipole at 16” above the ground. In this case the gain is only 6.3 dBi at an angle of 90 degrees to the horizon.

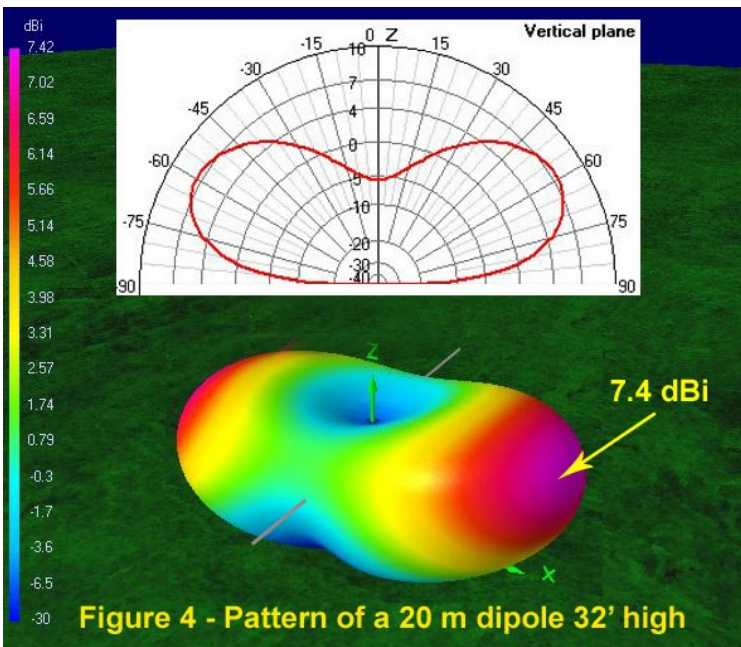


Figure 4 - Pattern of a 20 m dipole 32’ high

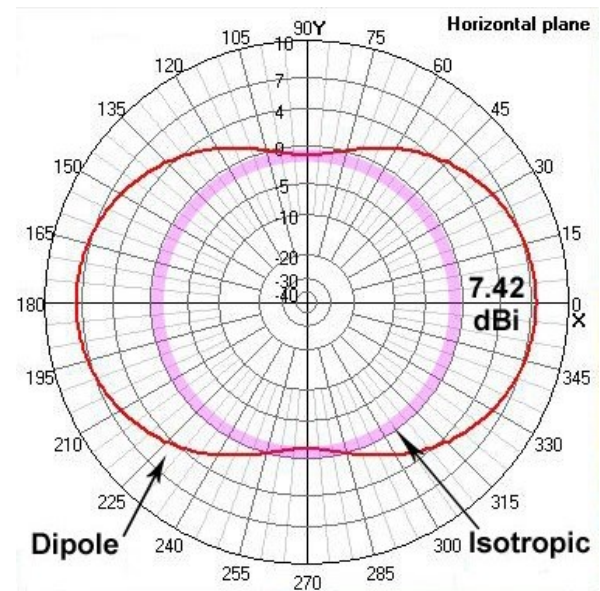
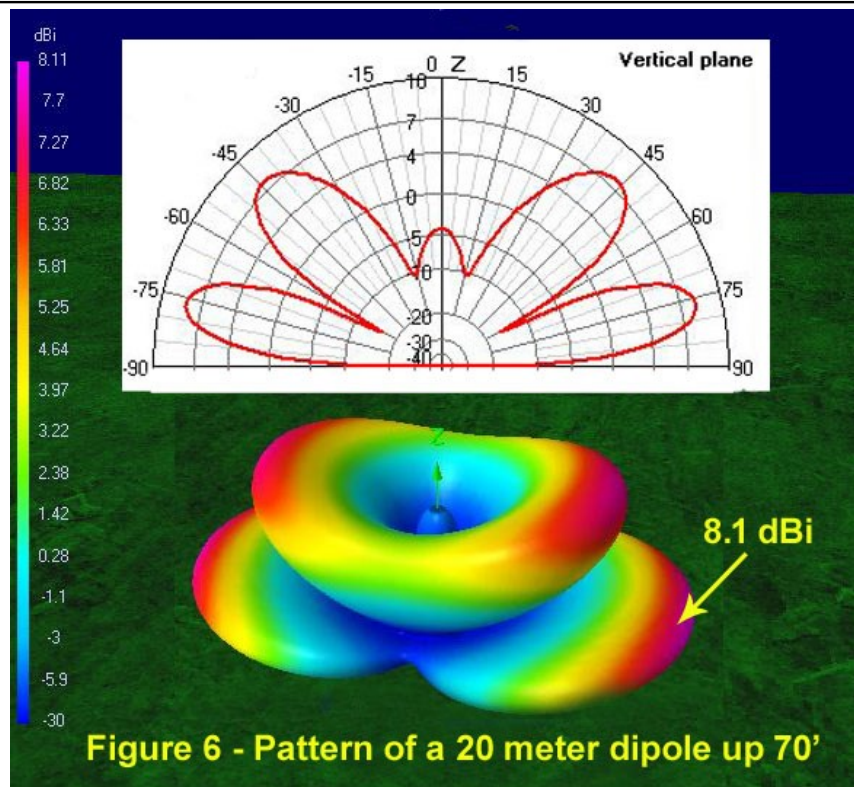


Figure 5 - Isotropic vs elevated dipole



All the 4NEC2 calculations above were made over average ground. If different types of grounds were selected for the measurements, the dBi gains in Figures 4 and 6 would be different. So, to summarize, the following factors affect a dipole's gain:

- Height of the dipole above ground (the major factor affecting gain).
- Earth conductivity, G , a measure of the ability of the soil to conduct electricity.
- Dielectric constant, k , a unit-less quantity that corresponds to the capacitive effect of the earth.
- Frequency of operation.
- Conductor size.

References:

[http://k9la.us/Nov15 A Rule of Thumb for Antenna Gain vs Height.pdf](http://k9la.us/Nov15%20A%20Rule%20of%20Thumb%20for%20Antenna%20Gain%20vs%20Height.pdf)

<https://www.arrl.org/files/file/antplnr.pdf>

<http://radio.n0gw.net/radio11.pdf>

WHAT A CODE PLUG IS AND HOW TO PROGRAM IT

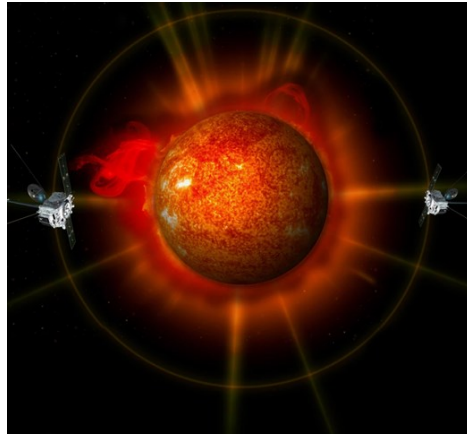
BY BILL RINKER, W6OAV

Have you just bought a DMR radio and found out that there's a mysterious and complicated looking thing called a Code Plug? If so, don't panic! At first glance a Code Plug can look intimidating. However, it gets easy to understand once one studies it. So, what is a Code Plug? It is the software that, when uploaded into the radio, tells the radio what to do. There is an excellent tutorial at:

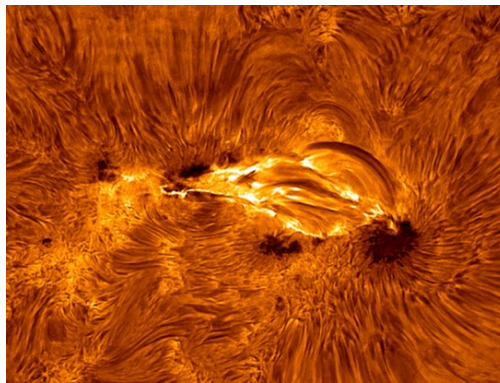
<https://www.jeffreykopcak.com/category/amateur-radio/dmr-in-amateur-radio/>

SOLAR GEOPHYSICAL ACTIVITY REPORT

PROVIDED BY FRED HART, AA0JK



February 1st - Sunspot Caught In Mid-Flare



AR2936 had multiple dark cores larger than Earth, and the entire group stretched more than 100,000 km (62,137.12 mi.) across the surface of the sun.

BIG SUNSPOT ALERT: New sunspot AR2936 had rapidly grown into one of the largest active regions of young Solar Cycle 25, quadrupling in size in only 48 hours.

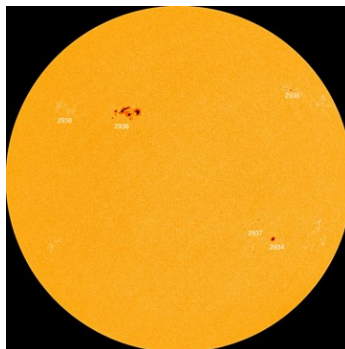


Image Credit: SDO/HMI

It was crackling with C-class solar flares every 4 to 5 hours, and would potentially pose a threat for stronger explosions.

A coronal mass ejection (CME) hit Earth's magnetic field on February 1st at 22:21 UT, a few hours earlier than predicted.

NOAA's DISCOVER spacecraft suggested that conditions were favorable for aG1-class geomagnetic storm, but maybe not the stronger G2-class storm originally predicted.

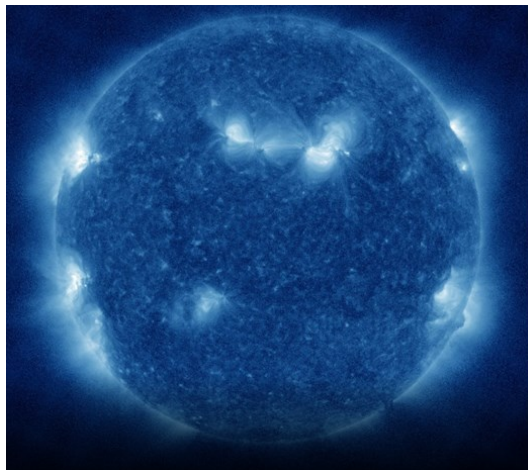
G1 (Minor) Geomagnetic Storm Impacts:

- Power systems: Weak power grid fluctuations can occur.
- Spacecraft operations: Minor impact on satellite operations possible.
- Other systems: Migratory animals are affected at this and higher levels.

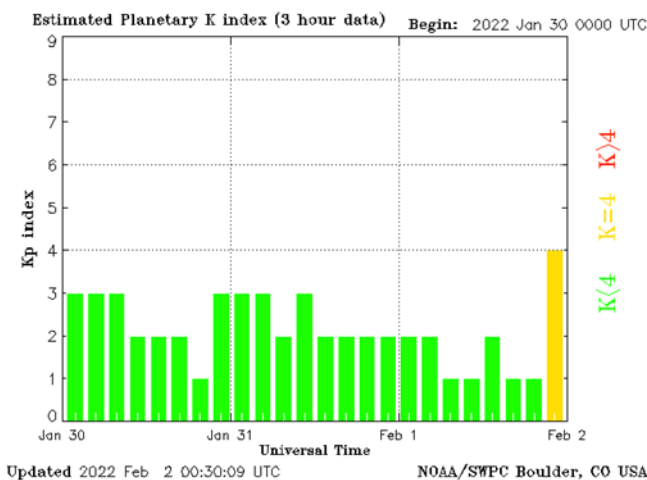
G2 (Moderate) Geomagnetic Storm Impacts:

- Power systems: High-latitude power system's may experience voltage alarms, long-duration storms may cause transformer damage.
- Spacecraft operations: Corrective actions to orientation may be required by ground control, possible changes in drag affect orbit predictions.
- Other systems; HF radio propagation can fade at higher latitudes.

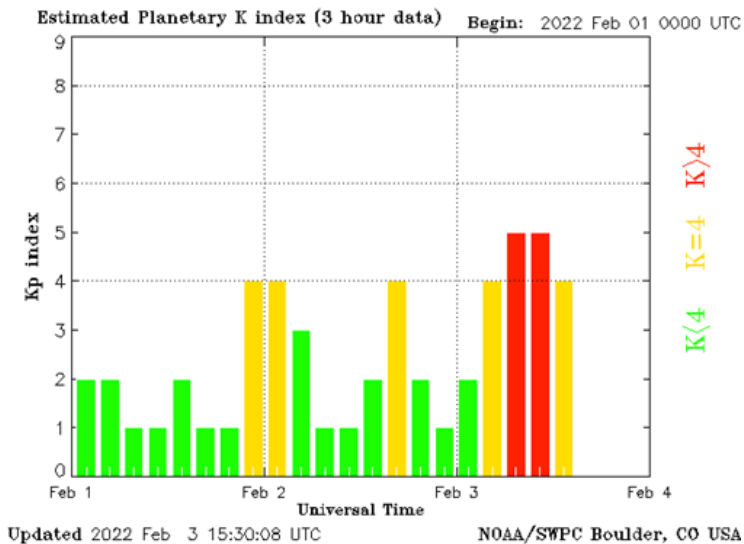
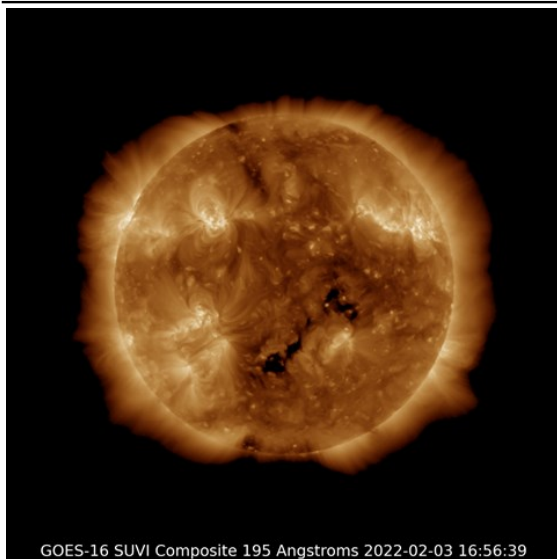
Below Image: The Radio Sun 10.7 cm flux: 130 sfuj. Credit: SDO/AIA 335



Next Image: The Radio Sun 10.7 cm flux: 129 sfu



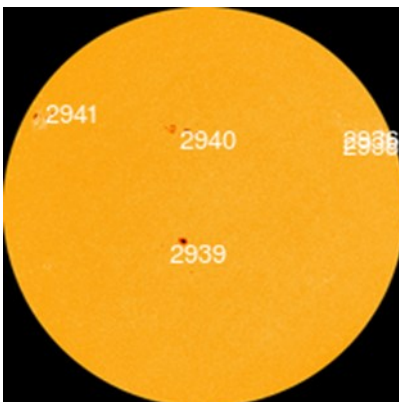
February 3rd - Sunspot AR2940 had a 'beta-gamma' magnetic field that harbored energy for strong M-class solar flares. NOAA forecasters said there was a 25% chance of an eruption during the following 24 hours. The sunspot was almost directly facing Earth, so any flares would be geoeffective.



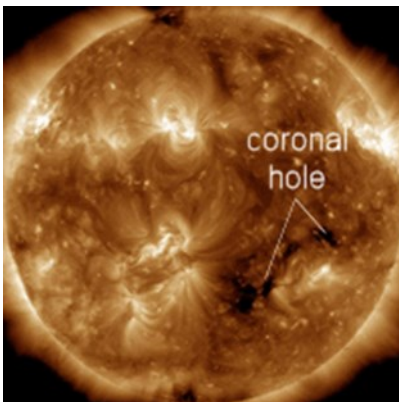
The Radio Sun 10.7 cm flux: 128 sfu

February 5th - The Radio Sun 10.7 cm flux: 130 sfu. Minor G1-class geomagnetic storms, which began on February 4th would continue on February 5th as Earth entered a stream of high-speed solar wind. The gaseous material was flowing from an equatorial hole in the sun's atmosphere.

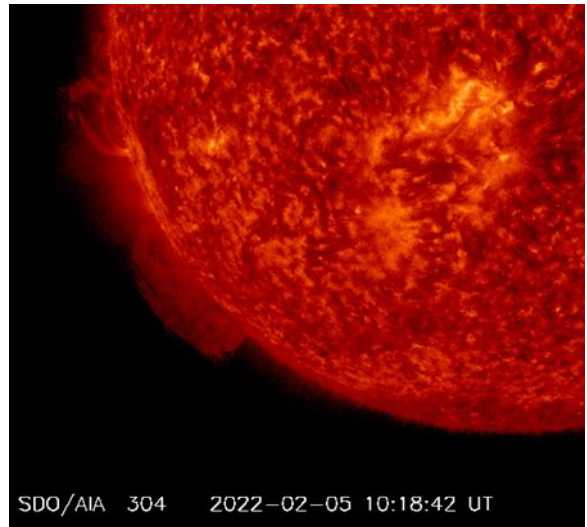
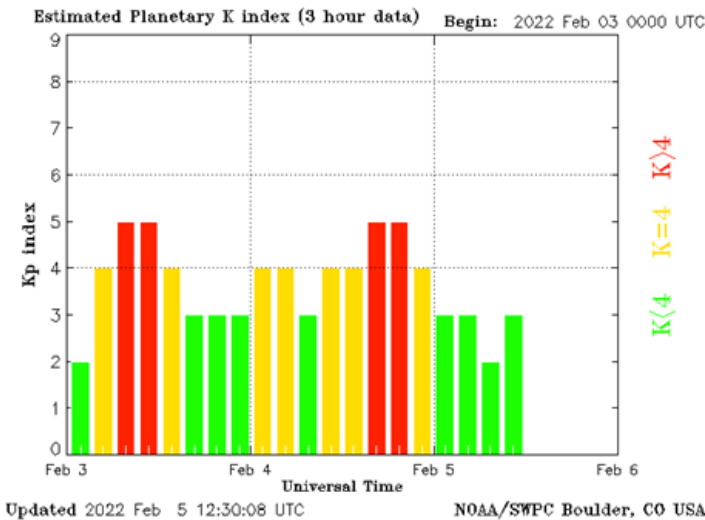
Sunspot numbers are at their highest level in more than 5 years. Below Image Credit: SDO/HMI



Sunspot AR2936 was crackling with C-class solar flares. All the others were quiet. Below Image Credit: SDO/AIA

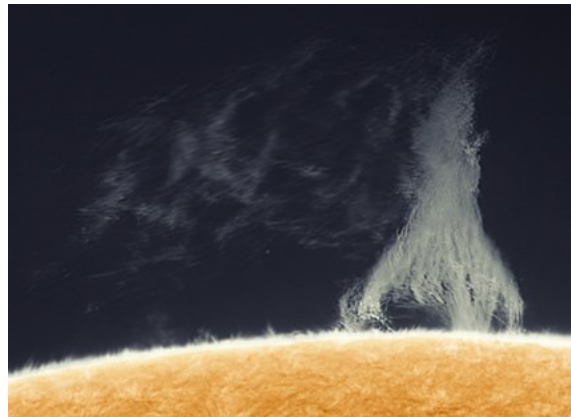


Solar wind flowing from this minor equatorial coronal hole would reach Earth on February 5th & 6th.



A huge solar prominence was surging on the incoming south east limb, covering an area big enough to swallow 30 Earths. It was poised to erupt at any moment.

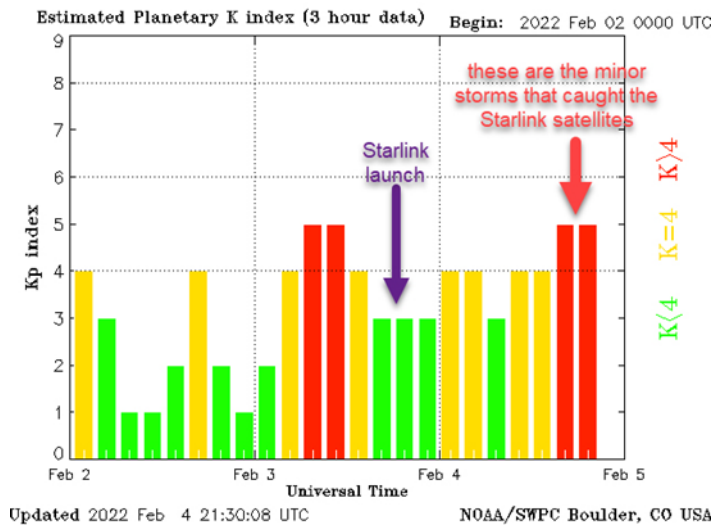
HUGE SOLAR PROMINENCE: Fast-changing prominence's like this one can explode with little warning.



February 10th - A coronal mass ejection (CME) hit Earth's magnetic field February 9th @ 2100 UT.

Geomagnetic storm brings down Starlink satellites: As many as 40 Starlink satellites were falling out of the sky. The surprising result of a minor geomagnetic storm. SpaceX made the announcement February 10th.

"On Thursday, February 3rd at 1:13 p.m. EST, Falcon 9 launched 49 Starlink satellites to low Earth orbit from Launch Complex 39A (LC-39A) at Kennedy Space Center in Florida. Unfortunately, the satellites deployed were significantly impacted by the geomagnetic storm on Friday.



As Earth passed through the CME's wake, some sputtering G1-class geomagnetic storms developed.

Geomagnetic storms heat Earth's upper atmosphere. Diaphanous tendrils of warming air literally reached up and grabbed the Starlink satellites. According to the SpaceX onboard GPS devices, atmospheric drag increasing "up to 50 percent higher than during previous launches.



Solar Storm Knocks 40 SpaceX Satellites Out of the Sky, After the Company Ignored Scientists' Warnings.

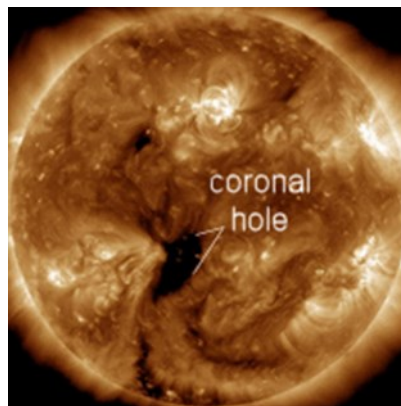
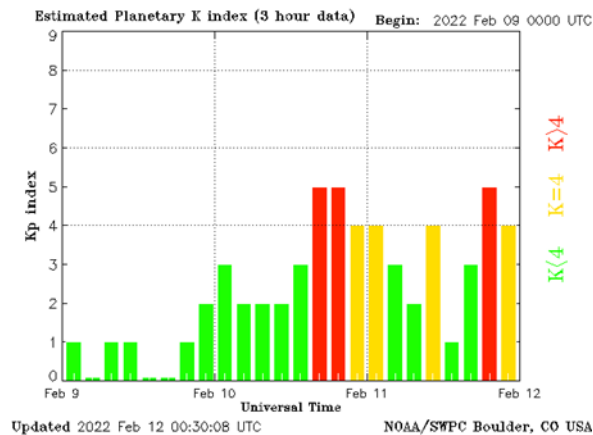


Image Credit: SDO/AIA

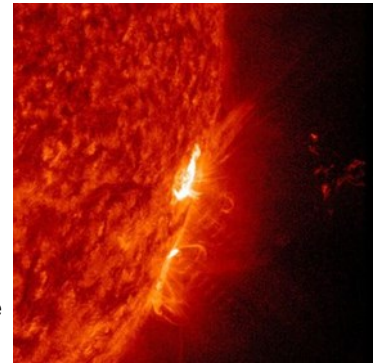
Solar wind flowing from this coronal hole would reach Earth on February 13-14. Planetary K-index: Kp= 4 unsettled 24-hr max: Kp= 5 storm.



February 13th - Multiple solar flares and CMEs: The sun experienced an episode of near-global activity yesterday. Sunspots AR2939, AR2940, AR2941 and AR2944 all produced solar flares ranging in magnitude from C6 to M1. In addition, a spotless magnetic filament exploded in the sun's southern hemisphere. Multiple CMEs flew into space.

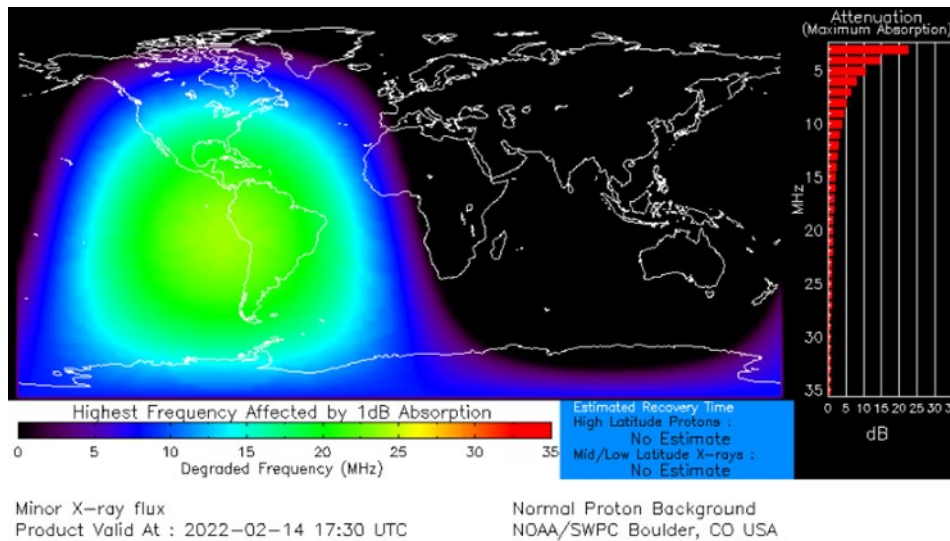
Our Sun was very busy over a 36 hour period, producing multiple C-class solar flares and a M1 solar flare.

Sunspot region 2939 surprised us with a long duration M1.4 solar flare near the west limb. The solar flare looked to be eruptive as it was associated with both Type II and IV radio sweeps. The resulting CME was more than likely not aimed towards our planet.

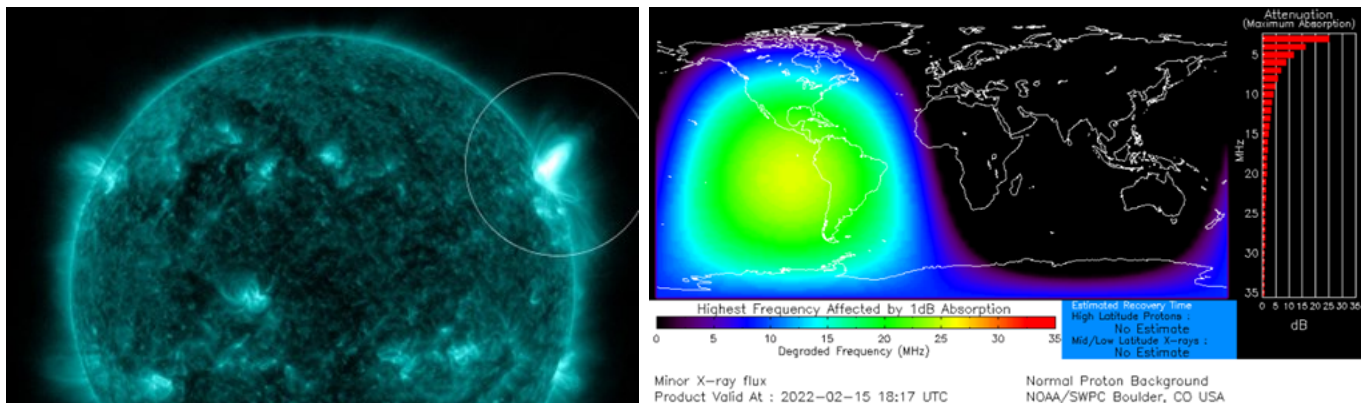


The Radio Sun: 10.7 cm flux: 126 sfu

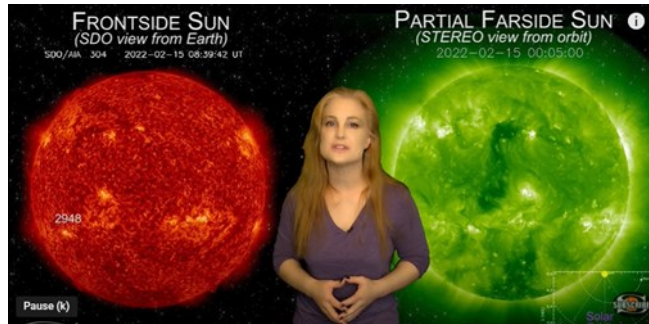
February 15th - M-Class solar flare. Sunspot AR2941 erupted on February 14th (1731 UT), producing a M1-class solar flare. A brief shortwave radio blackout followed the explosion after X-rays ionized the top of Earth's atmosphere. Ham radio operators and aviators in the Americas may have noticed unusual propagation effects at frequencies below 20 MHz.



ANOTHER SOLAR FLARE: Departing sunspot AR2941 was crackling with M-class solar flares. A category M1.3 explosion on February 15th at 1815 UT, caused a minor shortwave radio blackout over South America.

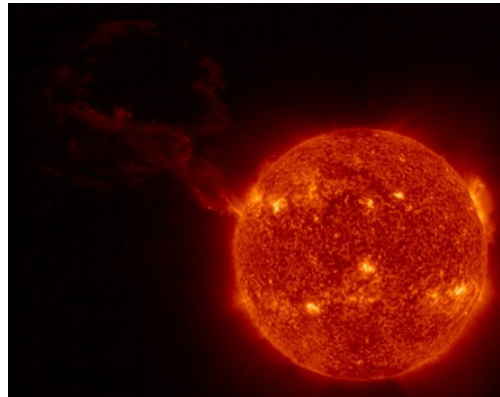


Above Left Image Credit: SWAP 174Å 20220216



Above Image: Tamitha Skov, WX6SWW, youtu.be/wJaV5RnIEFE

February 22nd -



The European Space Agency just released an image of the far-side eruption. It shows a plume of debris shooting out more than 1.5million Kilometers (932,056 mi) into space.

3-Day Forecast, Issued: 2022 February 22 1230 UTC. Prepared by the U.S. Dept. of Commerce, NOAA, Space Weather Prediction Center. NOAA Geomagnetic Activity Observation and Forecast: The greatest observed 3 hr Kp over the previous 24 hours was 5 (NOAA ScaleG1). The greatest expected 3 hr Kp for February 22- February 24 2022 was 5 (NOAA Scale G1).

NOAA Kp index breakdown February 22- February 24 2022: No G1 (Minor) or greater geomagnetic storms were expected. No significant transient or recurrent solar wind features were forecast.

NOAA Radio Blackout Activity and Forecast: No radio blackouts were observed over the previous 24 hours.

Radio Blackout Forecast for February 22 - February 24 2022: A slight chance for R1-2 (Minor-Moderate) radio blackouts existed 23-24 February due to anticipated returning active regions.

73,
Fred
AA0JK

DRC's Trading Post

Don't forget you can find **locally-sourced, ham-grown** merchandise at:
<https://www.w0tx.org/trade.htm>

PAST ROUND TABLE PAGES

PROVIDED BY WOODY LINWOOD, W0UI

A page from the April 1958 edition.

GUARANTEED		TIME PAYMENTS		USED BARGAINS	
COLLINS				HALLICRAFTER	
32V2 Xmtr. 2 each	450.00			S20R Rcvr. 2 each	49.95
32V3 Xmtr. 2 each	495.00			SX24 Rcvr. 79.95 W/Sp.	89.95
310B-1/3 Exciter	179.95			S106 Rcvr. (6 meters)	39.95
NATIONAL				HT19 Xmtr.	299.95
SW54 Rcvr.	39.95			S40B Rcvr.	69.95
NC183 Rcvr. 179.95W/sp	189.95			S52 Rcvr.	69.95
NC240D W/Spkr.	169.95			SX43 Rcvr.	129.95
NC240CS W/Spkr.	139.95			SX43 Rcvr. W/Spkr.	139.95
HRO5RA1-4C/Spkr/pwr.	149.95			HT18 Xmtr/VFO/NBFM	59.95
HAMMARLUND				S76 Rcvr.	124.95
SP200 Rcvr. W/Spkr.	119.95			HT9 Xmtr.	99.95
SP200 Rcvr. W/Spkr.	89.95			JOHNSON	
RME				Viking 1 Xmtr.	169.95
69 Rcvr. W/Spkr.	59.50			Viking 11 Xmtr.	229.00
70 Rcvr. W/Spkr.	89.95			Pacemaker	395.95
DB20 Preselector	39.95			VFO-122	35.00
VHF152 Converter	69.95			Mobile	69.95
45 Rcvr. W/Spkr.	79.95			Audio Amplifier	69.95
4300 Rcvr.	169.95			GONSET	
MISC.				500W Linear Amp.	229.95
WRL500 Xmtr.	399.95			Superceiver	59.95
WRL 400B Like New	275.00			Squelcher Unit	19.95
WRL 680 Xmtr.	89.95			10 meter Conv.	24.95
WRL 90 Xmtr. 2 each	49.95			Super 6 Like New	44.95
WRL AT4 Matcher Sr.	59.95			MISC.	
WRL 755 VFO	44.50			Heath VF1 VFO	17.95
WRL SM90 Modulator	11.95			Heath AT1 Xmtr.	24.95
HW TBS50 DeLuxe Xmtr.	69.95			Heath DX20 Xmtr.	34.95
HW APS50 Pwr. Supply	34.95			Heath QF1 Mult.	7.50
HW VFO	35.00			Heath AR3 Rcvr.	24.95
AF67 ElmacXmtr. LikeNew	149.95			ST202A Stancor Xmtr.	54.95
PMR7 Elmac Rc. LikeNew	139.95			MBR-5 Morrow	189.95
James C1450 pwr. Supply	49.95			MB-560 Morrow	199.95
Walt WØAJL	Russ Johnson			Willard WØBQO	
Glenn Brocker	Bill EX-WØLVI			Chet KØIUN	
RADIO PRODUCTS SALES COMPANY					
1237 16th St.	Denver, Colo.			Ch4-6591	
FREE PARKING 1540-50 Larimer St.					

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

RANDOM SITE OF THE MONTH
[Starlink](#)

THE ROUND TABLE ARCHIVE

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

THE ROUND TABLE ARTICLE INDEX

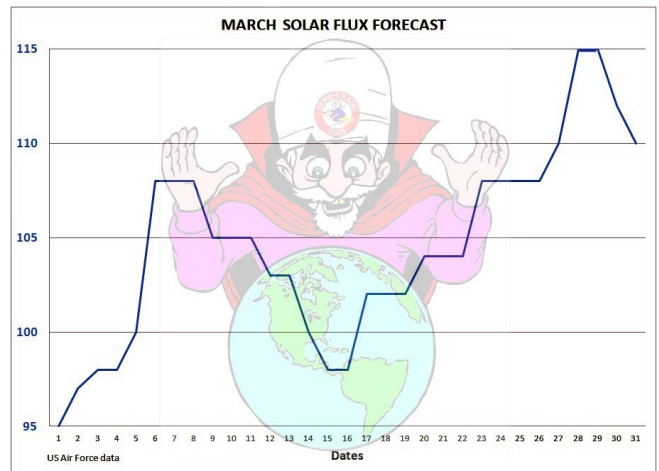
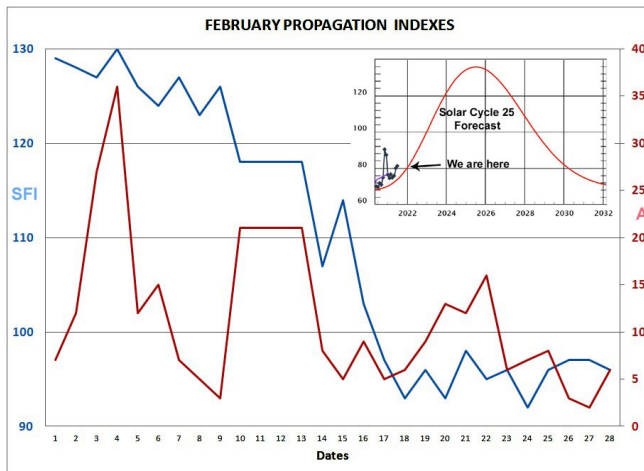
Go to: <http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf>

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 *Round Table* 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
None			

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
Idaho	03/12/2022	03/13/2022	Idaho QSO Party	
Oklahoma	03/12/2022	03/13/2022	Oklahoma DX Association	
Wisconsin	03/13/2022	03/14/2022	West Allis Radio Amateur Club	
Virginia	03/19/2022	03/20/2022	Virginia QSO Party	
Louisiana	04/02/2022	04/03/2022	Louisiana Contest Club	
Mississippi	04/02/2022	04/03/2022	ARRL Mississippi Section	
Missouri	04/02/2022	04/03/2022	Boeing Employees' Amateur Radio Society – St. Louis	
Georgia	04/09/2022	04/10/2022	Georgia QSO Party	
Nebraska	04/09/2022	04/10/2022	Nebraska QSO Party	



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<http://www.arrl.org/>



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	Metro Denver Area Coverage
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. W0TX Room 40931.
70cm	446.7875MHz (-)	BrandMeister Repeater: Slot 1 – Wide Area Traffic, Slot 2 – Local Talk Group 310804





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MARCH 2022							<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 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)  New Moon	3	4	5 ARRL DX Phone - Begins 0000 UTC	
6 ARRL DX Phone - Ends 2359 UTC	7	8	9 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	10  First Quarter	11	12	
13	14	15	16 DRC Online Meeting Elmer 6 p.m. Meeting 7 p.m.	17	18  Full Moon	19	
20	21	22	23 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	24  Last Quarter	25	26	
27	28	29	30 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	31			

See arrl.org/contest-calendar for additional details about contests.

DRC BOARD OF DIRECTORS

President	W0GV	Gerry Villhauer	303-467-0223	w0gv@hotmail.com
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Trustee	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
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Please Let Us Know

Over the years we occasionally hear from hams who have read the Round Table 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 Round Table Round World.

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