



# THE ROUND TABLE

Monthly Newsletter Of The Denver Radio Club

Since 1917

November 2022

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## PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Last month I said it was feeling like fall. Now, many days feel like winter, then fall, then winter again. I think winter is winning! You can expect to see reservation information for our DRC Holiday/Christmas party show up in your email and on the DRC website soon. The date is Wednesday Dec 21, 2022. Please mark your calendars so you do not miss this holiday event. We will have a great meal, fellowship (that we all have been missing for the past 3 years) and prize drawings. Again, Dec 21, 2022... Don't miss it!

I am going to add a new feature to the website and the Round Table. It will be a bulletin message which will list the positions, jobs, etc. that need to be filled within the club. I know we have a lot of untapped talent in our membership. I hope this new feature will help us find the help that we REALLY need to keep the club growing and moving forward. Please take a look and see if you can help.

Thanks to Chris Keller, K0SWE, for his presentation on Winlink and PAT, at our October meeting. His presentation generated some very interesting questions. Chris is a developer on these modes and very versed on them.

Our November meeting and program will be on Wednesday, November 16th, 2022 and will be as follows: The November speaker for the Denver Radio Club virtual meeting will be Jason Oleham, KM4ACK. He is an Amateur Extra Class operator. He has a successful YouTube Channel that discusses EMCOMM using the Raspberry Pi Linux single board computer.

Jason is a huge fan of the tiny little Raspberry Pi computer and uses them daily for all things ham radio. During the early years of learning Linux and the Pi, he was often frustrated with the complexity and various ways to install applications. Another pain point was online tutorials that often assumed the user had previous experience with Linux. With no formal computer programming training, he began to write Build a Pi (BAP). BAP is a Linux script written in Bash that makes it as easy as possible for someone with little to no Linux experience to get a Raspberry Pi up and running with ham radio applications. The script does the heavy lifting for you. Jason's primary modes of operation are JS8call, Winlink, and APRS.

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



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## WHO'S NEW IN THE DRC?

FROM CATHY VILLHAUER, N0CRZ, DRC MEMBERSHIP

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:

Darryl Hedges - KD9AUK  
Michael Lee - KFØHXA  
John Johnston - WBØODW  
Albert Straub - WØAWS  
Oliver Morrisette - KFØKOD  
Eric Burke - AB1R

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.

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## 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.



October topics we discussed:

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- NVIS Near Vertical Incidence Standing-wave Antennas
- Satellite tracking and communications The Ultimate Guide to Working Ham Radio Satellites
- ModernHam, KN4MKB: [youtu.be/aAE8NiJ6tGA](https://youtu.be/aAE8NiJ6tGA)
- Satellite tracking antennas
- Propagation
- Chameleon CHA LEFS Antenna Unboxing and Review: [youtu.be/zSM78rMaKVQ](https://youtu.be/zSM78rMaKVQ)
- Amateur Radio Is More Than A Great Hobby: W6LG, Jim. [youtu.be/NALlo-1XZvI](https://youtu.be/NALlo-1XZvI)
- 10-10 Net Mondays 7:00 PM 28.340
  - Daily Nets ([ten-ten.org](https://ten-ten.org))
- 10-meter calling frequency's - 10\_Meters.pdf ([gsl.net](https://gsl.net))
- 10-meter DX contacts made by net group
- Six meter sporadic E activity
- New ARRL 100th year collectors addition with software now available

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://w0tx.org), [w0tx@w0tx.org](mailto:w0tx@w0tx.org), or [elmer@w0tx.org](mailto: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](https://arrl.org/public-service)

Use your communication skills to help keep your community safe!



[weather.gov/marine/ham](https://weather.gov/marine/ham)

[warrenares.org/home/skywarn-weather-spotting](https://warrenares.org/home/skywarn-weather-spotting)

SKYWARN Spotter Training Updates: [weather.gov/bou/spot\\_training](https://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](mailto:elmer@w0tx.org)

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## SATELLITE AMATEUR RADIO

COMPILED BY FRED HART, AA0JK

*The thrill of satellite communications is within your reach.*

You can make contacts through amateur radio satellites, and even talk to the International Space Station, using equipment you probably own right now! All it takes is the right information.



There are dozens of spacecraft in orbit just waiting for your signals, and more are being launched every year.

A brief history of amateur radio satellites: The Radio Amateur Satellite Corporation (AMSAT as it is officially known), was first formed in the District of Columbia in 1969 as an educational organization. Its goal was to foster Amateur Radio's participation in space research and communication. AMSAT was founded to continue the efforts, begun in 1961, by Project OSCAR, a west coast USA-based group which built and launched the very first Amateur Radio satellite, OSCAR, on December 12, 1961, barely four years after the launch of Russia's first Sputnik.

Today, the "home-brew" flavor of these early Amateur Radio satellites lives on, as most of the hardware and software now flying on even the most advanced AMSAT satellites is still largely the product of volunteer effort and donated resources. Though we are fond of traditions our designs and technology continue to push the outside of the envelope.

For over 48 years AMSAT groups in North America and elsewhere have played a key role in significantly advancing the state of the art in space science, space education, and space technology. Undoubtedly, the work now being done by AMSAT volunteers throughout the world will continue to have far-

reaching, positive effects on the very future of both Amateur Radio, as well as other governmental, scientific and commercial activities in the final frontier.

### *Getting started*

Finding a Satellite Before you can communicate through a satellite, you have to know when it is available. This isn't quite as straightforward as it seems.

Two key pieces of information you must know before you can hear the satellite.

- Your position: Your position information doesn't need to be extremely accurate. Just find out the latitude and longitude of your city or town (the internet, will have this data, as would any nearby airport) and plug it into the program.

- Orbital elements: Specifying a satellite - This is the information that describes the orbits of the satellites. You can find orbital elements (often referred to as Keplerian elements) at the AMSAT Web site, and through many other sources on the Internet. You need to update the elements every few months.

1. Specifying your location: Start by visiting [heavens-above.com](http://heavens-above.com)
2. Specifying a satellite: Active Amateur Satellites: Frequencies and Modes.
3. Reading the chart pass chart.
4. Picking a good pass.
5. Finding the frequency.
6. Aiming an antenna.
7. Following the pass with the antenna.

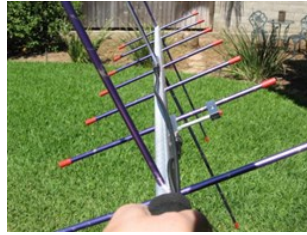
All amateur satellites are either low-Earth orbiters (LEOs), or they travel in very high, elongated orbits. Either way, they are not in fixed positions in the sky. Their positions, relative to your station, change constantly as the satellites zip around the Earth. This means that you need to predict when satellites will appear in your area, and what paths they'll take as they move across your local sky.

Doppler Effect: The relative motion between you and the satellite causes Doppler shifting of signals. As the satellite moves toward you, the frequency of the downlink signals will increase as the velocity of the satellite adds to the velocity of the transmitted signal. As the satellite passes overhead and starts to move away from you, the frequency will drop, much the same way as the tone of a car horn or a train whistle drops as the vehicle moves past the observer.

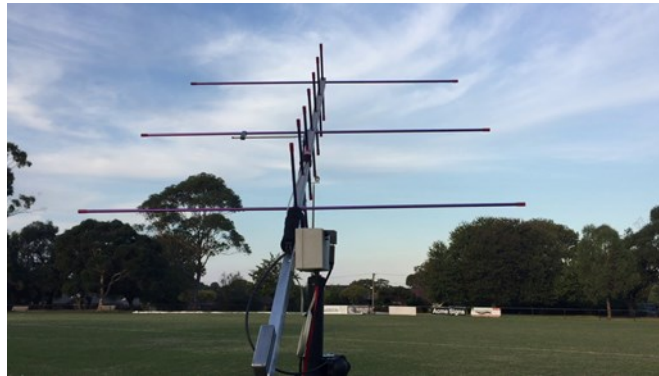
Just the Beginning. This article barely nicks the surface of satellite operating. There is much more to learn and enjoy. Its suggested that you spend some time at the AMSAT Web site at [amsat.org](http://amsat.org). You'll pick up a wealth of information there. Speaking of "picking up," grab a copy of the ARRL Satellite Handbook (see your HRO dealer, or buy it on the Web at [arrl.org/catalog](http://arrl.org/catalog)). Between these two resources you'll be able to tap just about all the amateur satellite knowledge you're likely to need. In the meantime , see you in orbit!

Listening to Satellites with a Homemade Yagi Antenna - Make: (makezine.com) KC2UHB, Diana Eng

Arrow Antenna Hand Held Portable dual band 146 437 440 arrowii Yagi Satellite ([arrowantennas.com](http://arrowantennas.com))



DIY for cheap satellite operation - KB6NU's Ham Radio Blog



ARRL Space Communication ([arrl.org](http://arrl.org)): Clint Bradford, K6LCS, describes how to work FM Amateur Satellites with your handheld transceiver.

Arrow II Satellite Antenna A handheld dual band 2M and 70 cm cross polarized Yagi. Product Review QST June 2000, p. 64.

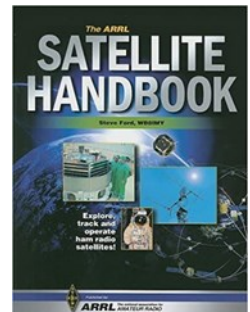
Satellite project.pdf ([arrl.org](http://arrl.org))

The ARRL Satellite Handbook

RIISBN-10 : 087259985X

ISBN-13 : 978-0872599857

[amazon.com/Arrl-Satellite-Handbook-ARRL](https://www.amazon.com/Arrl-Satellite-Handbook-ARRL)



(1) satellite antenna ham radio - YouTube

73,

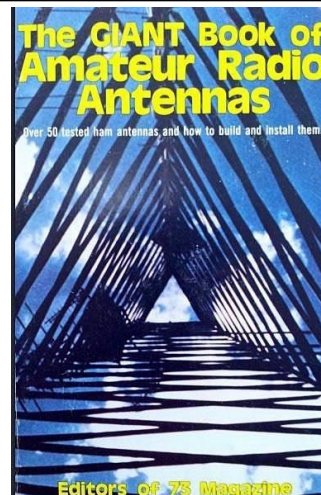
Fred  
AA0JK  
[elmer@w0tx.org](mailto:elmer@w0tx.org)



## THE GIANT AMATEUR RADIO ANTENNA BOOK

BY BILL RINKER, W6OAV

Interested in downloading a FREE very good all inclusive 462 page antenna manual? If so, click on [vk5pas.com/uploads/1/3/9/8/13982788/the\\_giant\\_book\\_of\\_amateur\\_radio\\_antennas-cc.pdf](http://vk5pas.com/uploads/1/3/9/8/13982788/the_giant_book_of_amateur_radio_antennas-cc.pdf)



## MONITOR DMR WITHOUT A RADIO

BY BILL RINKER, W6OAV

There are many digital amateur networks available today. It can be a challenge for a ham to determine which network to join. It would be nice to get familiar with the various digital networks by monitoring them before buying the appropriate software and equipment. There is one very popular digital network that can be monitored with a computer without any special app. That network is the worldwide DMR network.

As of this writing the DMR network consists of over 6600 repeaters around the world and 1640 talk groups (TG). So, what is a TG? A TG is a logical grouping of users (a virtual radio channel) configured by countries, states, counties, regions, cities, special interest groups, etc. Each TG has a unique numerical ID. A DMR user selects a TG with his radio and only hears what is transmitted on that TG.

A good description of DMR can be found at: [https://www.raqi.ca/~ve2rae/dmr/Amateur\\_Radio\\_Guide\\_to\\_DMR.pdf](https://www.raqi.ca/~ve2rae/dmr/Amateur_Radio_Guide_to_DMR.pdf)

Now, let's discuss monitoring TGs with a computer. This capability is provided by accessing the Brandmeister Hoseline at: <https://hose.brandmeister.network/>. Clicking this link will produce a screen similar to Figure 1 (Which here is a view of the top part of the screen as one must scroll down to view all the many TGs). Each block shows a TG that has been recently active and the call sign of the last active station. For example, the TG 91 block in the upper left shows that E77TH (Bosnia) was last active 1:59 minutes ago. The TG 92 block shows that VE3BEE was active 5:05 minutes ago. The red line around the TG 92 block and the little red man icon indicates that there is another station now transmitting on that TG. However, the currently transmitting station is not VE3BEE. Note that the blocks are arranged numerically. Now, let's discuss how to hear the audio and see the call sign of the currently transmitting station.

The steps below and shown in Figure 2 show the process used to monitor TGs. This example shows the process to monitor TG91:

1. To enable audio monitoring on TG91, click the TG91 box. Note that PU1JTX (Brazil) last transmitted 8:02 minutes ago and that the red man icon indicates that another station is now transmitting on TG91.
2. To display the current transmitting station's call sign, DMR ID and name, click the Player icon.

The drop down below list appears. It shows the currently transmitting station's DMR ID (7400208), call sign (HC4Z in Ecuador) and name (Milton).

3. To turn off monitoring TG91, click the "X".
4. To monitor other TGs click the up arrow and the scroll down the drop down TG list. Select the desired TG or multiple TGs to monitor OR click the desired TG blocks as described above.

Multiple TGs may be monitored and individually controlled. Click this link for more information:

<https://news.brandmeister.network/new-hoseline-with-stunning-new-features/>

Hopefully we will soon hear you on the DRC DMR repeater!

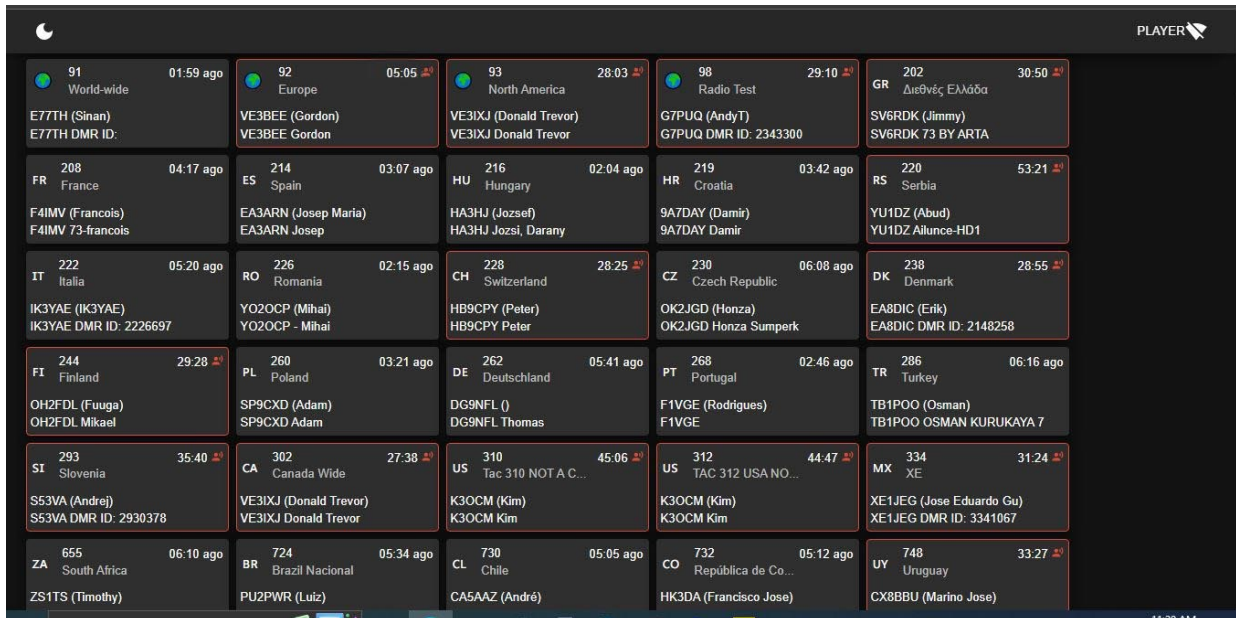


Figure 1 - The initial Brandmeister Hoseline screen

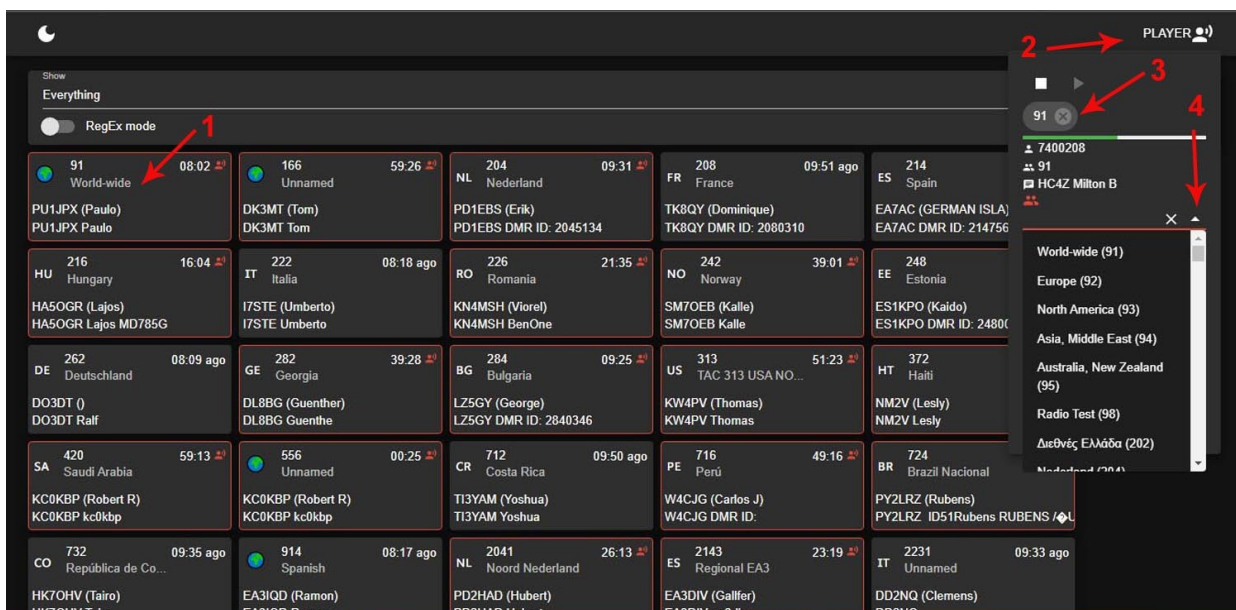
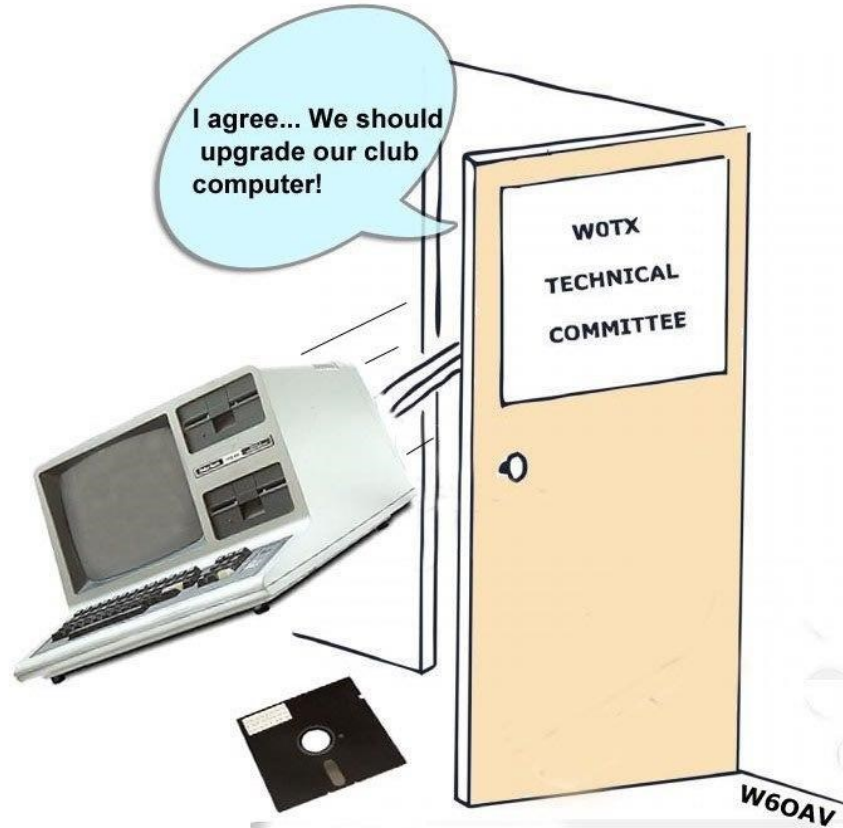


Figure 2 - The Brandmeister Hoseline in the monitor mode (see text for steps shown above)

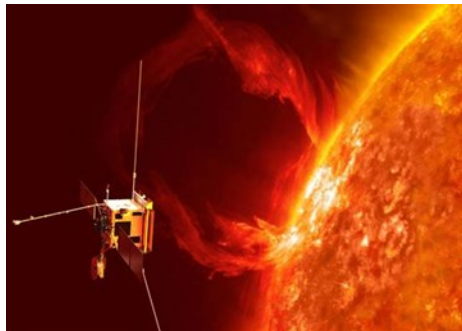




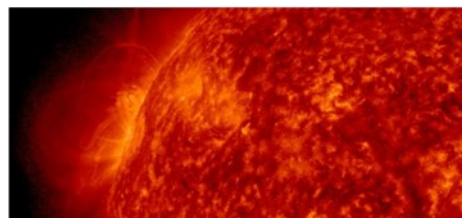
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## SOLAR GEOPHYSICAL ACTIVITY REPORT

PROVIDED BY FRED HART, AA0JK



October opened with increasing activity as a large and active sunspot group was rotating over the sun's northeastern limb.



It produced a M1-class solar flare on September 30th . The sunspot group was altering the way the whole sun was vibrating.

The Radio Sun: 10.7 cm flux: 137 sfi Kp= 4 unsettled

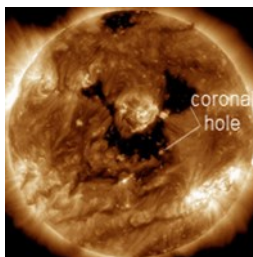


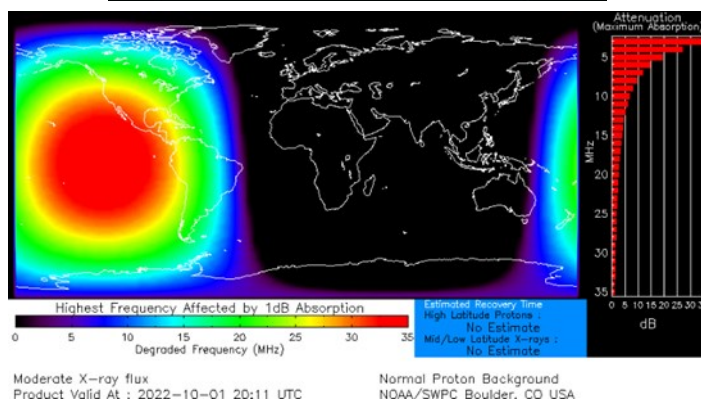
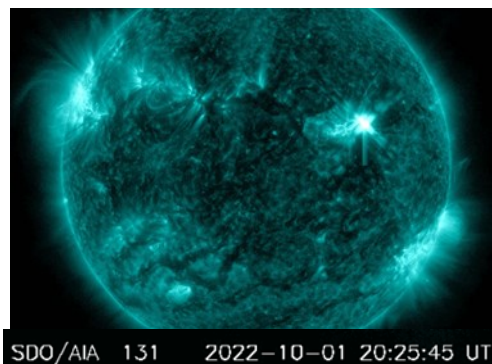
Image Credit: SDO/AIA

Solar wind flowing from this double equatorial coronal hole was forecast to graze Earth's magnetic field on October 1-2.

Big sunspot alert. One of the biggest sunspots in years was emerging over the sun's northeastern limb. AR3112 had more than a dozen dark cores scattered across 130,000 km of solar terrain.

Magnetograms of the sunspot group reveal a delta-class magnetic field that harbored energy for X-class solar flares.

High solar activity. The sun had just stroked Earth with a pair of strong M-class solar flares. In quick succession on October 1st and 2nd, NASA's Solar Dynamics Observatory recorded flashes of extreme ultraviolet radiation.



Radiation from the flares ionized the top of Earth's atmosphere, causing shortwave radio blackouts over the Pacific side of North America and later Australasia. Ham radio operators, aviators and mariners may have noticed fade-outs and other unusual propagation effects at frequencies below 20 MHz.

These flares registered M5.9 and M8.7. The second explosion was only decimal points away from being an X-flare. If this progression had continued, an X-flare could have occur before the weekend was over.

The Radio Sun 10.7 cm flux: 148 sfi

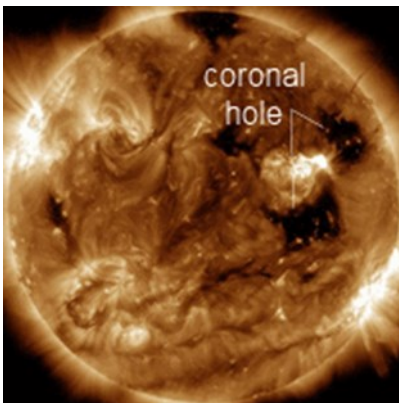
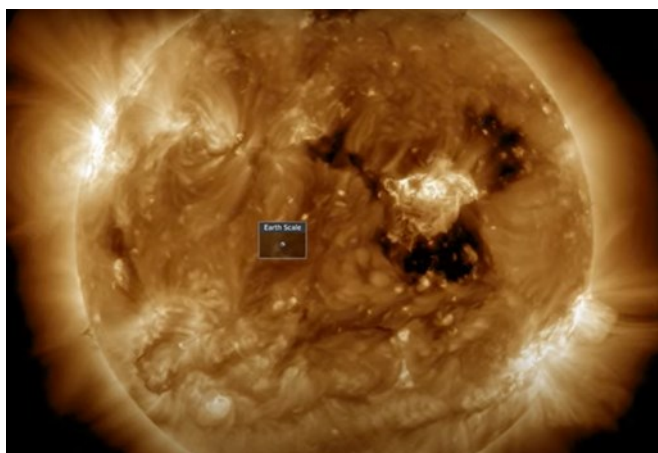


Image Credit: SDO/AIA

Solar wind flowing from this double equatorial coronal hole would hit Earth's magnetic field on October 2-3.

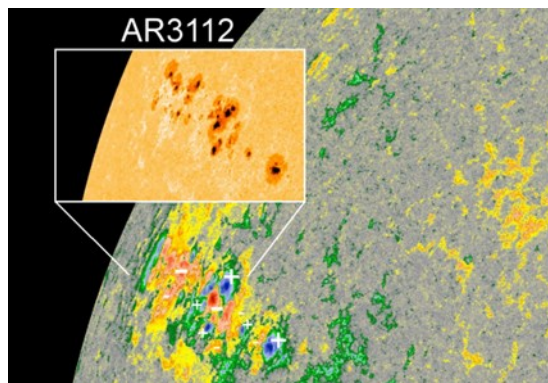


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02 Oct 2022 1334 GMT
SFI 148 SN 114
A 3 K 2 / Plntry
X-Ray C1.5
304A 140.8 @ SEM
Ptn Flx 1760
Elc Flx 23000
Aurora 3/n=1.99
Aur Lat 65.6°
Bz -3.9 SW 454.0
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HF Conditions		
Band	Day	Night
80n-40n	Fair	Good
30n-20n	Fair	Good
17n-15n	Good	Good
12n-10n	Fair	Poor
Geomag Field	QUIET	
Sig Noise Lvl	S1-S2	
MUF US Boulder	20.86	
Solar Flare Prb	61%	

October 3rd - Sunspot number: 102

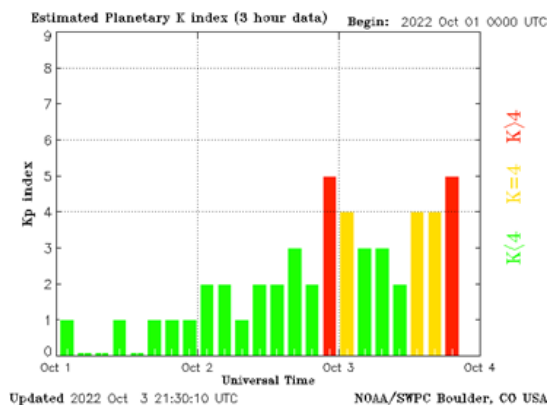
One of the biggest sunspots in years had just rotated over the sun's northeastern limb. Introducing, AR3112.



AR3112 had more than a dozen dark cores scattered across 130,000 km of solar terrain, making it an easy target for backyard solar telescopes.

The image above is a magnetic map of the sun's surface with a white light photo of AR3112 inset. It shows what makes this sunspot group so dangerous. Positive and negative magnetic polarities are bumping together, an explosive mixture that could produce an X-class solar flare.

The emergence of AR3112 already fully formed and unstable could herald two weeks of high solar activity as the sunspot group transits the solar disk, facing Earth the whole time. The Radio Sun 10.7 cm flux: 154 sfi



October 5th - A MAGNETIC FILAMENT ERUPTS

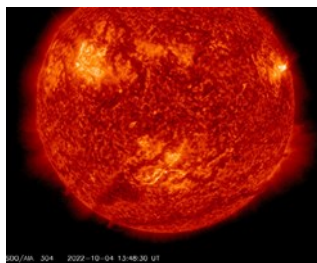


Image Credit: SOHO

A 200,000-km long filament of magnetism in the sun's southern hemisphere erupted. Snapping like a rubber band. Debris from the blast was headed for Earth. SOHO coronagraphs also saw hints of a CME emerging from the blast site.

The Radio Sun 10.7 cm flux: 155 sfi

Over the previous two weeks our Star had been a flurry of activity. We had a large number of big solar flares, including the first X-class flare since May, and an unprecedented number of Earth-directed solar storm launches since this cycle began.

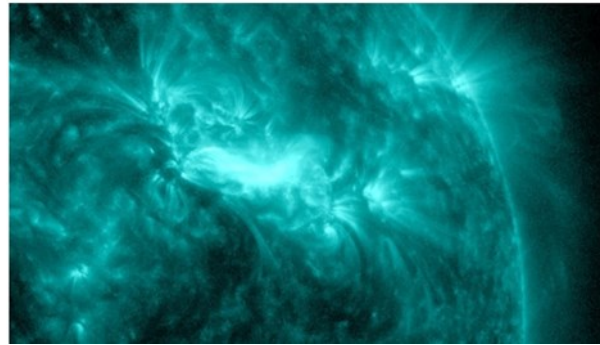
All of these solar storms thus far had been oriented the wrong way to cause us any serious issues.

The storms have been too far to the east or west to deliver anything but glancing blows. As for the ones that were still coming, they were aimed too far to the south to be direct hits either.

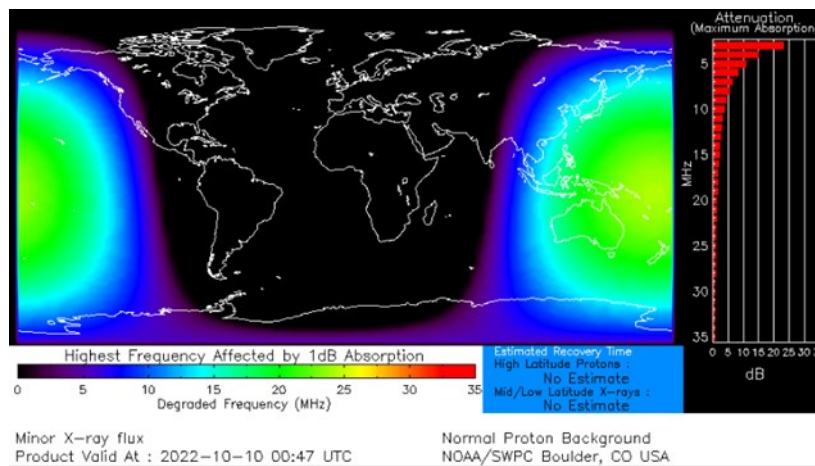
We still had the potential for big solar flares on Earth's day-side. This meant radio blackouts could still occur over the following few days.

October 10th - Sunspot AR3112 exploded on October 10th (0047 UT), producing an M1-class solar

flare.



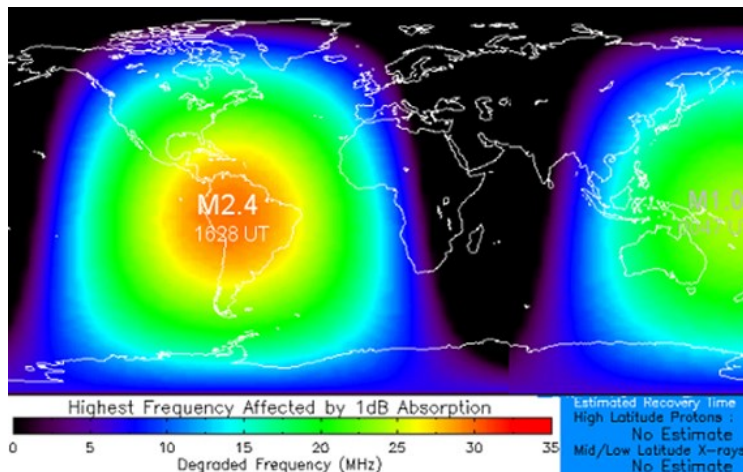
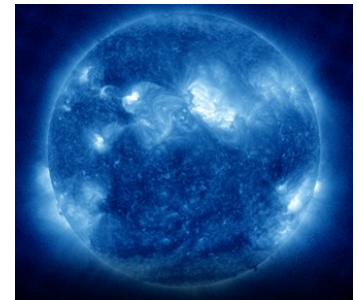
Radiation ionized the top of Earth's atmosphere, producing a shortwave radio blackout over the South Pacific. Aviators, mariners and ham radio operators may have noticed fading and other unusual effects at frequencies below 15 MHz.



The explosion lasted more than three hours, plenty of time to lift a CME out of the sun's atmosphere.

The Radio Sun 10.7 cm flux: 161 sfi. Planetary K-index. Kp= 4 unsettled

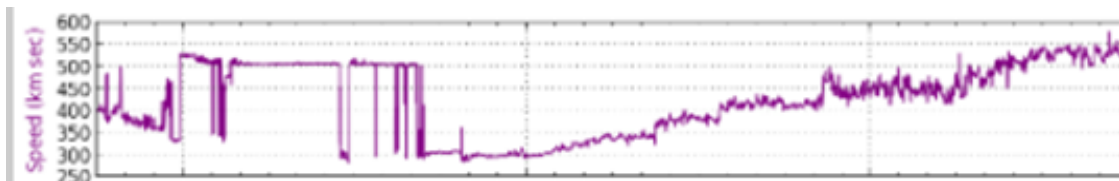
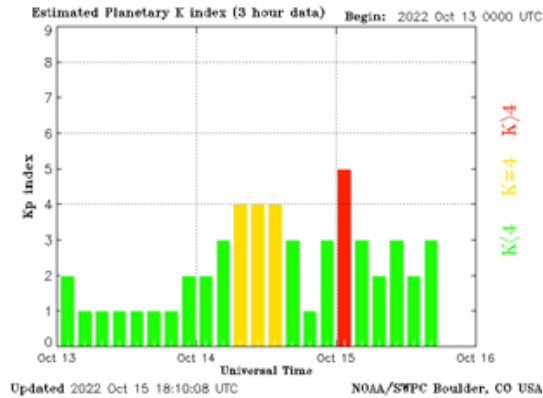
October 11th - Sunspot AR3112 exploded twice on October 10th, producing a pair of M-class solar flares. Twin pulses of radiation ionized the top of Earth's atmosphere and caused radio blackouts over the South Pacific and South America.



Aviators, mariners and ham radio operators may have noticed fading and other unusual propagation effects at frequencies below 20 MHz for as much as an hour after each flare.

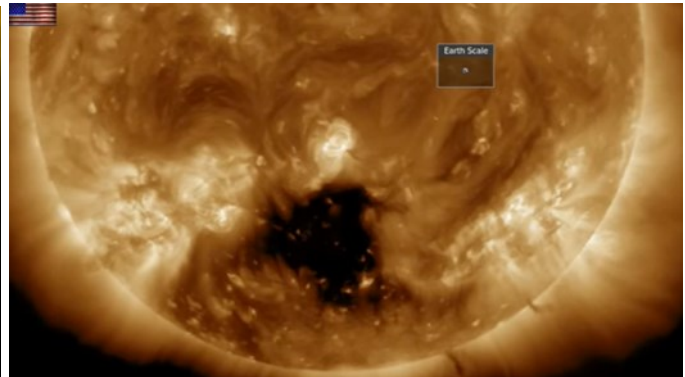
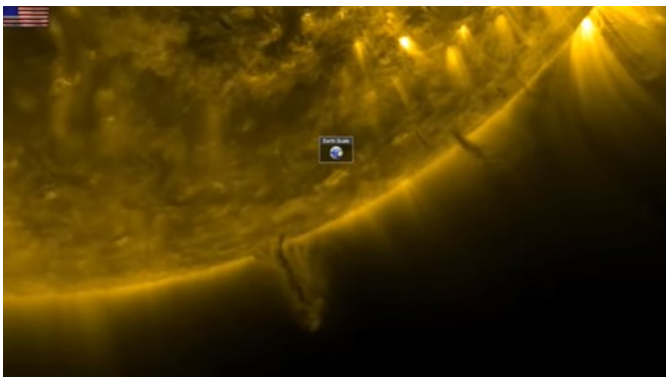
The Radio Sun 10.7 cm flux: 163 sfi. Updated 11 October 2022.

October 15th - Geomagnetic unrest. Earth's magnetic field was disturbed as our planet moved into a high-speed stream of solar wind. A minor G1-class geomagnetic storm broke out during the early hours of October 15th, then quickly subsided.

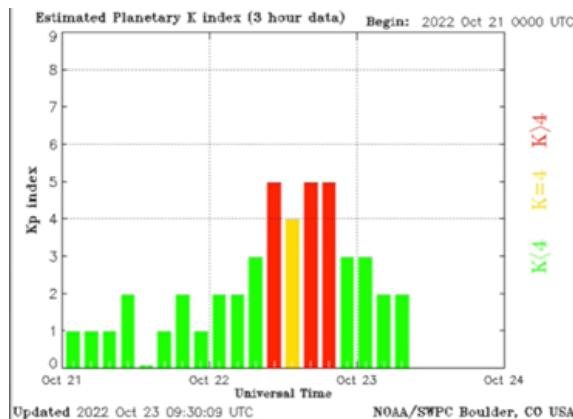


The Radio Sun 10.7 cm flux: 121 sfi. Kp= 5 storm

October 21st



October 23rd - The last 24 hours on our star were pretty quiet. We are still in the interim of the 5.9 month cycle, so solar flaring is expectably low, eruptive activity is low. We did end up taking a corona whole stream onset, and the geomagnetic activity did in fact develop into a geomagnetic storm that created instability for several hours. We are seeing some umbral magnetic field activity at the incoming limb, so we may have some sunspot activity to monitor in the coming days as well.



Solar wind speed: 513.3 km/sec. Density: 11.78 protons/cm3

Forecast: Geomagnetic Forecast Issued: 2022 October 22, 2205 UTC  
Prepared by the U.S. Dept. of Commerce, NOAA, Space Weather Prediction Center Solar activity has been at low levels for the past 24 hours. The largest solar event of the period was a C6 event observed at 22/0542Z. There are currently 4 numbered sunspot regions on the disk. Solar Activity Forecast: Solar activity is expected to be very low with a chance for a C-class flares on days one, two, and three (23 October 24 October, 25 October).

73,  
Fred  
AA0JK



The Denver Radio Club  
is an ARRL Special Service Club

Support your hobby and join the  
ARRL today!

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



## DRC's Trading Post

Don't forget you can find **locally-sourced, ham-grown** merchandise at:  
[w0tx.org/trade](http://w0tx.org/trade)

ATTENTION

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

**PAST ROUND TABLE PAGES**

PROVIDED BY WOODY LINWOOD, W0UI

From the November 1960 edition.

## The Round Table

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Readers are cautioned that material meant for publication must be directed to the proper staff members of THE ROUND TABLE. All editorial matter should be directed to the editor or the proper associate editor. Advertising material, including "Buy-Sell-Swap" ads, must be directed to the advertising manager. THE ROUND TABLE staff cannot be responsible for material improperly directed.

Page Four

### TROUBLE SHOOTING

By Bill Cohen, K0AYG

Part Three

Let's get back to the matter of gathering information on what's okay and what's wrong with the equipment at hand. How do we know which is which? The particular set—transmitter, receiver, or whatever it is—has mounted on it, usually on the front panel, a batch of controls and indicators of one kind or another. These gadgets are intended to be functional rather than decorative, although there are times when I begin to wonder. Each of them, when manipulated, should have some effect on the operation of the set. Hence, your problem at the moment is to know what each of the controls does when you turn it, flip it, rotate it, or bash it with a small hammer. If operation of a given control has the desired effect, you have an OK indication; if not, you have an indication that something is wrong. While we're at it, let's not overlook the fact that some controls are dependent on others. For instance, you can crank the BFO pitch knob off its shaft without an indication of any kind unless some other control turns the BFO on.

What I'd like to suggest at this point is an operational checkout procedure that you can use whenever you suspect that all is not as it should be within the container of inter-connected electronic garbage. There used to be a time when the manufacturers of military radio equipment used to include such a procedure in the technical manual of each set. Perhaps they still do, but the manufacturers of "ham" gear have seldom, if ever, stooped to this practice.

Somehow I get the impression that the instruction manuals for "ham" gear are produced by the advertising department rather than the engineering section. This explains why the manual on a certain transmitter devotes page after page telling you that you just can't get along without an antenna matching device and a low pass filter made by the same outfit. And you can read this manual through all the way to the back cover without running into an adequate step-by-step procedure on how to put the rig on the air properly. Then there are the receiver instruction manuals that

(Continued on Page 7)



**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**  
[20 AWFUL DISHES](#)

**THE ROUND TABLE ARCHIVE**

Go to: [w0tx.org/roundtable](http://w0tx.org/roundtable)

**THE ROUND TABLE ARTICLE INDEX**

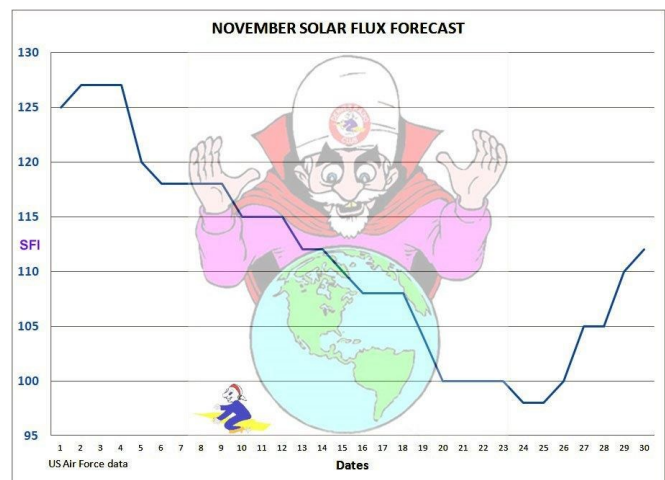
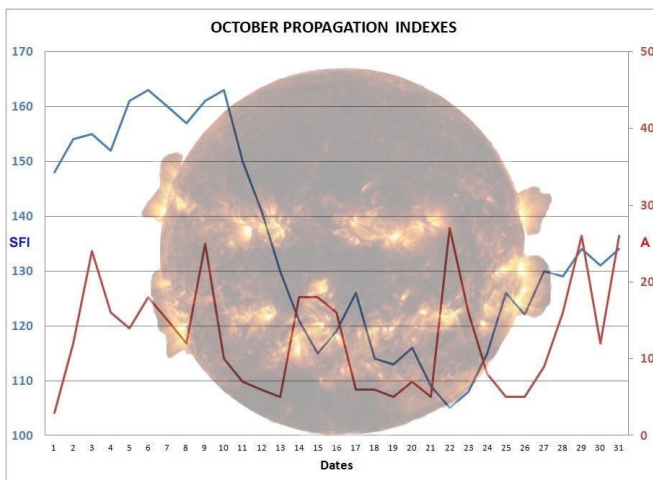
Go to: [w0tx.org/RoundtableArchive/-RoundTables-Index.pdf](http://w0tx.org/RoundtableArchive/-RoundTables-Index.pdf)

**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
The Swapfest	2/19/2023	Brighton, CO	<a href="http://mham.org/swapfest">mham.org/swapfest</a>

**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
None listed.				

See [contestcalendar.com/contestcal.html](http://contestcalendar.com/contestcal.html) for a larger QSO parties list.

**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](http://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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<b>NOVEMBER 2022</b>							<i>DRC Net Sundays at 8:30 p.m. on 145.490 / 448.625 (no PL)</i>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
		<b>1</b>   First Quarter	<b>2</b> <b>Learning Net</b> 7:30 p.m. 145.490 / 448.625 (No PL)	<b>3</b>	<b>4</b>	<b>5</b> <b>November Sweepstakes CW</b> - Begins 2100 UTC	
<b>6</b>	<b>7</b> <b>November Sweepstakes CW</b> - Ends 0259 UTC	<b>8</b>   Full Moon	<b>9</b> <b>Learning Net</b> 7:30 p.m. 145.490 / 448.625 (No PL)	<b>10</b>	<b>11</b>	<b>12</b> <b>EME Contest</b> - Begins 0000 UTC	
<b>13</b> <b>EME Contest</b> - Ends 2359 UTC	<b>14</b>	<b>15</b>	<b>16</b> <b>DRC Online Meeting</b> Elmer 6 p.m. Meeting 7 p.m.   Last Quarter	<b>17</b>	<b>18</b>	<b>19</b> <b>November Sweepstakes Phone</b> - Begins 2100 UTC	
<b>20</b>	<b>21</b> <b>November Sweepstakes Phone</b> - Ends 0259 UTC	<b>22</b>	<b>23</b> <b>Learning Net</b> 7:30 p.m. 145.490 / 448.625 (No PL)   New Moon	<b>24</b>	<b>25</b>	<b>26</b>	
<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b> <b>Learning Net</b> 7:30 p.m. 145.490 / 448.625 (No PL)   First Quarter				

See [arrl.org/contest-calendar](http://arrl.org/contest-calendar) for additional details about contests.

**DRC BOARD OF DIRECTORS**

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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 [roundtable@w0tx.org](mailto:roundtable@w0tx.org).

*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 [roundtable@w0tx.org](mailto:roundtable@w0tx.org). The submission deadline is the 25th of the Month. ~ Editor*