THE ROUND TABLE
Monthly Newsletter Of The Denver Radio Club
Since 1917 June 2022

President's Message

By Gerry Villhauer, W0GV

Hello DRC Members,

It's looking like we are in for some more seasonal weather, at least for the next few days. Cathy and I visited Hamvention in Xenia, Ohio. Our first night was on Thursday and it rained all night. After the big rain Thursday, it was very pleasant for the two and a half day event. I don't know the attendance numbers but, it appeared very well attended and we had a good time there.

Field Day is upon us; June 25 and 26. Make sure you save the dates and come out and enjoy the biggest Ham Radio event of the year. Please see our website, W0TX.ORG for the address and details. You are invited to come enjoy the event and by all means; GET ON THE AIR! We will have food and drink (non-alcoholic) and plenty of comradery. We need help with set-up on Saturday and tear down on Sunday. Please contact Doron, K1DBC at K1DBC@w0tx.org and let him know if you are willing to help. I look forward to meeting old, new and prospective members at this fun event. Motor home, trailer and tent camping is available onsite.

Thanks to Tom, N5HYP, for his program on "Ham Radio in Space" at our May meeting. Lots of interesting and informative information was provided.

By Bill Rinker, W6OAV
Our next meeting will be on Wednesday June 15, 2022. John, W6NBC, who has given the DRC several informative presentations in the past, will discuss Skin Effect. Skin Effect is a phenomenon that most hams have heard of but know little about. This presentation looks at where skin effect plays major roles in ham radio. The most surprising to many is the part skin effect plays in baluns. A basic grasp of skin effect can pay big dividends in better antenna performance.

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

Stepping Down As Membership Chairman - My Thanks

By Bob Willson, KC0CZ

I want to thank all of you for the support I have received the last 10 years as Membership Chairman of the Denver Radio Club, DRC. I have seen the Club grow in membership, not because of me as I was just the record keeper, but the efforts you all have been doing. Keep up the good work. I am looking forward to meeting in person as we all have, hopefully soon. Thanks.

Thanks and Thanks

By Brennan pate, AD0UZ

As noted above, Bob Willson (KC0CZ) will be stepping down as membership chairman. Also, Bill Hester (N0LAJ) will be stepping back as the sole W0TX website admin. We thank them for their many years of work for the club and the important roles they played in making things work smoothly and well. Bill will continue to help with some of the content over the next bit. Please reach out and send them your thanks as well!

Join our Team!!

Job Description: **Membership Chairperson**

The Denver Radio Club, Inc., a non-profit organization serving the amateur radio community, is seeking a volunteer to assist in membership management efforts. Be an ambassador for the club.

Position Description:
Assist current and potential members in activities associated with The Denver Radio Club

- Primary communications point of contact for members; mostly email
- Manage membership database - coordinate renewals and new members
- Monthly mass email for membership activities, newsletter, surveys, and announcements
- Reconcile payments and dues
- This is a volunteer position

Qualifications:

- Excellent interpersonal skills - ability to support the Board and other Officers with the organization's communications.
- Amateur Radio Licenses not required.
- Experience with membership support and management preferred but not required
- Self-Motivated; able to take initiative, reliable, and honest
- Organized and resourceful
- Computer skills a must; Email, Mail merge, mass email applications, spreadsheets, database management, and web-based applications.

Hours:
Average 4-6 hours a week. Beginning of month about 8 hours depending on computer skills. Ability to attend Club activities reliably (face-to-face meetings, hamfests, field day, etc.)

To Apply:
Send simple resume/letter outlining qualifications and why you believe you would be a good fit and why you want to volunteer. Include any limitations or restrictions as applicable. If you have any questions, please include them in the email/letter.

Email to ***membership@w0tx.org.***

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.

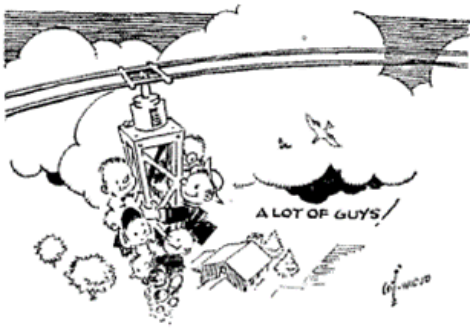
We strive to put experienced members / volunteers, at the forefront, as a regular source of knowledge-sharing in the Denver Radio Club. We hope members participating in the DRC learning net will find it rewarding to share experiences, and learning, that will motivate more of our amateur radio community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

May topics we discussed:

- Let's Build an 80m/40m Dipole Local Emergency Communications with NVIS ~$20
  - youtu.be/yYXVKtu3nwk
- Build Your Own Window Passthrough: youtu.be/JnZqip56t_s
- Getting Your Technician License, and Up Grading to General, Amateur Extra.
- Ham Radio License Courses by Dave Casler, KEØOG, now available at ARRL Learning Center.
- Technician License, Dave Casler Technician Course - YouTube
- General and Amateur Extra-Class are now found at learn.arrl.org.
- Learning Morse Code: Learning Morse Code (arrl.org)
- Field Day
- Field-Day Over Night Camping.
- All the amenities of home:

- Field-day Help Request
- Antenna setups etc:



Guys Needed For Antennas

- AMSAT Presentation N5HYP
- On The Air May/June issue, - ARRL – Magazine Articles

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, 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

Lakewood Siren Test

By Brennan Pate, AD0UZ

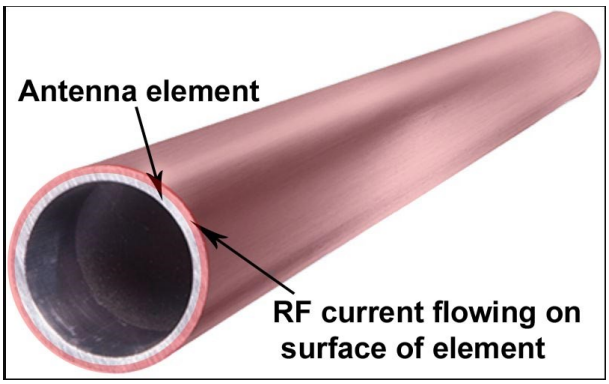
The Lakewood siren test was a successful event. The following is a captivating transcript from an interview I conducted after the test. Ironically, it was similar to last month's:

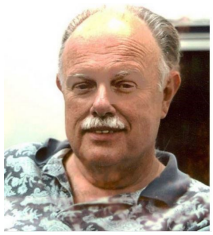
Interviewer: Was it a good event overall?
Interviewee: Yes.

Thanks to all those that helped. It was needed and appreciated. If you have not helped in the past or in awhile, but would like to be contacted for next year's test, please let me know. emcomm@w0tx.org The siren tests are a great way to practice your radio skills and help the Wheat Ridge and Lakewood communities and emergency preparedness officials.

May 15th Video Meeting Announcement

By Bill Rinker, W6OAV





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Field Day 2022

By Doron Ben Chaim, K1DBC

Start: June 25 @ 12:00 pm
End: June 26 @ 12:00 pm
w0tx.org/fieldday.htm
k1dbc.com/fd
arrl.org/field-day

Organizers:
Doron – K1DBC – k1dbc@w0tx.org
Mark – N0XRX

Venue
Prospect Arena
13805 West 52nd Avenue
Arvada, CO 80002 United States
Google Map
View Venue Website
2022 DRC Field Day Radio Operations Sign Up
2022 DRC Field Day Volunteer Sign Up

Hello all,

It's that time again for Field Day, it's a great family friendly event, a way to exercise our equipment and services. Please stop by to attend a free camping (tent/car/RV) event, we are grateful enough to have the Salvation Army canteen vehicle to provide meals throughout the event. Everyone is welcome to attend, regardless of license or membership status. You can view our video from last year to get an idea of what to expect, but hopefully with better weather.

Field Day is ham radio's open house. Every June, more than 40,000 hams throughout North America set up temporary transmitting stations in public places to demonstrate ham radio's science, skill and service to our communities and our nation. It combines public service, emergency preparedness, community outreach, and technical skills all in a single event. Field Day has been an annual event since 1933, and remains the most popular event in ham radio.(arrl.org/field-day)

We have 2 signup forms, the first is for the radio operations schedule, we will have 3 stations setup, for now we have 10-20 meters, 40 meters and 80 meters. It's first come first serve, you can sign up for as many or as few as you would like. The bands we will operate are subject to change.

The second is for volunteer shift sign up, we will have 1 hour shifts, some may vary and not need to be filled. You aren't obligated to stay the entire shift, or attend even if you signed up. We are incredibly grateful for any and all help we can get.

Lastly, if you have any comments, feedback or questions, please don't hesitate to email me or the club.

Thanks and 73,
Doron
K1DBC

Learning Morse Code

The Good, the Bad and the Ugly Fist

By Fred Hart, AA0JK, elmer@w0tx.org

Its not how fast you are, its how good, readable, your fist is.

Scanning the bands, looking for a CW QSO, one hears all manner of good and bad keying. One heard sending slow and precise dits – daws, easy copy. Another ripping out 30+wpm poor spacing, run-together words. Who would you prefer to engage in a meaningful QSO?

How important is it to be able to send good code? Having a good fist as we Hams call it. Is it important to be understood by those you're making contact with? A poor fist will more than likely be passed over by someone seeking an enjoyable QSO. One with a bad fist is commonly refereed to as a "lid" in Ham speak.

Many hams miss out on a lot of fun by not knowing the code and how to send it properly.
Sure, they know the code well enough, but they have never really become good operators. As much as we would like to have some magical short cuts to offer you, we can't; we can only present a few basic principles that have been found to be effective in being a good CW operator.

Being able to send readable code is not difficult, but it does take a certain amount of know-how and practice. This article has two purposes: First, to show the operator how to adjust the key, and second, how to send.

Most newcomers, and contrary to most, think that their primary object is to increase their speed, when actually it should be to learn the correct way to send code. By correct code we mean the one that's layed out in any text on the subject, in contrast to the plethora of varieties one hears on the air. Where does one learn the "correct code"? Easy. By listening to taped transmissions from W1AW, or other learning CD's offered for learning code. These broadcasts and training aides, have a beautiful basic rhythm that is a far cry from the stumbling, bumbling odd-ball stuff to be found occasionally on the ham bands. Once you have learned the code from these mediums, and have acquired a feeling for the basic rhythm, you are on your way toward acquiring a "fist like a pro" because you will be aware of the slightest departures from the correct code. If you don't know what the code should sound like, you can never hope to recognize your own minor variations and correct them.

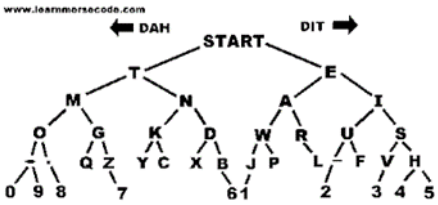
The Key
When first learning Morse Code, it is recommend staring out using a straight key. Here you can learn the proper spacing and sound of code. Later on after learning proper code, one can then start using other types of keys. Bugs, side-swipers, iambic keys.

First step, learn how to set-up your straight-key. Aligning the contacts for proper travel.
The amount of lever travel is a matter of personal preference, however, a good rule of thumb for lever travel is about one-sixteenth inch. With experience, you will find the right adjustment to suit you.

How To Send
Every effort should be made to learn how to send correctly at the very start of your amateur career. It is just as easy to acquire good operating techniques as it is to learn bad habits, and bad habits are difficult to break.

- Proper sending techniques are shown in the following videos: (oldies but goodies)
- U.S Army Signal Corps Morse Code Lesson (Part 1): youtu.be/lwsiMm4sxpk
- youtu.be/C8q57EQ_3SQ
- US Navy Training Video - Technique Of Hand Sending Morse Code: youtu.be/YQyP7VJqvqE

Don't just learn the code-master it!



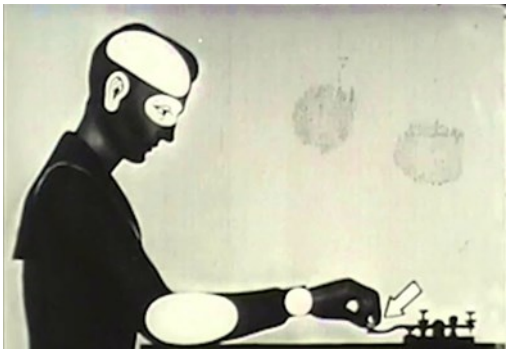
Code Practice Files (arrl.org)

Farnsworth timing
Avoid, traditionally, reducing the speed learning of Morse code. It will make learning take longer.

Using Farnsworth timing, characters are sent at the same speed as at higher speeds, while extra spacing is inserted between characters, and words, to slow the transmission down. The advantage of this is that you get used to recognizing characters at a higher speed, and thus, it will be easier to increase the speed by reducing the spacing later on.

The ARRL uses Farnsworth timing for transmissions, practice and test tapes are recommended up to 18 WPM.

Use All Your Senses



Senses used: sight, sound, feel, vocal. The more senses used increases retention.

When learning, we deal with short-term, and long-lasting-term memory. It has been found that repetition of seven, no less, times introduced, increases retention.
Your brain, like a computer, requires processing of information. We do not learn via osmosis, or telepathy. We require practice, practice, practice.

Once you have learned the basic code, practice a basic QSO, sending "CQ" three times, DE (from), your call letters, three times, then KKK (meaning over and listening). Never send the groups more than three times, Keep it brief, then listen for a reply, this is the key to making a contact.

Use a Morse Translator to practice. These are great for learning the proper sounds of code.
Morse Translator - Translate Morse Code to Text to & Text to Morse Code

When your tapping brass on the ham bands, you don't want to be regarded as bad or ugly fist. You want to hear that you have a great fist.

73,
Fred
AA0JK

Field Day - Tips for Being a Good Guest & Logbook Tutorial

Provided By Fred Hart, AA0JK

The ARRL's *On the Air* magazine for May/June 2022 had a good article on Field Day and some tips for those who are guests. You can find the tips here.

For those who will be operating during W0TX Field Day, the following is a great introduction for logbook entry, or a refresher prior to the event. N3FJP Software - Field Day Contest Log Quick Start Tutorial youtu.be/DJEIXuoKWqc

Technician, General & Extra License Classes on YouTube

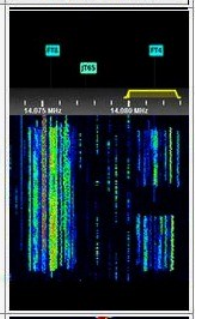
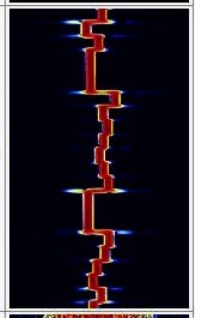
By Bill Rinker, W6OAV

Interested in upgrading your ham license while at home? If so, check out a series of very good YouTube videos by Gary, W4EEY. He and his friends taught the Technician, General and Extra class ARRL manuals and recorded all of the classes. The class videos are available at youtube.com/channel/UCI3DKjqB4OLY2UXm2KqDpwQ

Mysterious Radio Signals

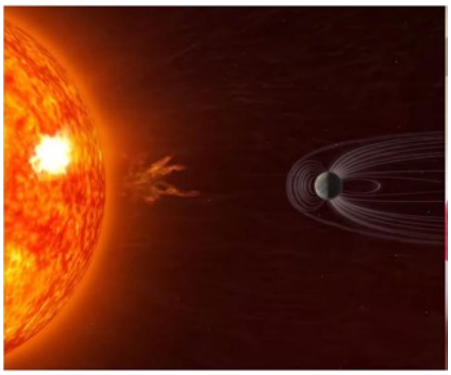
By Bill Rinker, W6OAV

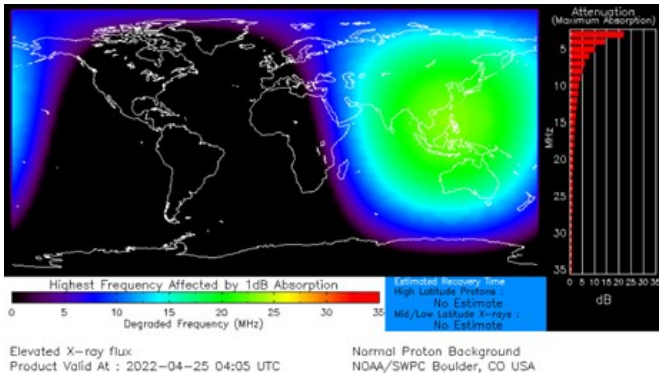
Ever hear a signal on the radio and you don't know what it is? Check out the URL listed below for audio files with accompanying waterfall shots of over 422 different amateur, commercial and military digital signals. Amazingly, there are examples of 72 different types of signals that are used in the ham bands. https://www.sigidwiki.com/wiki/Signal_Identification_Guide

Signal Name	Description	Frequency	Mode	Modulation	Bandwidth	Location	Sample Audio	Waterfall image
FT4	FT4 is an amateur radio QSO communication protocol.	14.08 MHz	USB	GFSK	83 Hz	Worldwide	0:00 / 0:08	
FT8	FT8 is an extremely-weak-signal amateur radio mode that transmits very limited communications. JS8, a variant of FT8, can send full conversations and relay messages	1.84 MHz — 144.174 MHz	USB	GFSK	50 Hz	Worldwide	0:00 / 0:00	

Solar Geophysical Activity Report

Provided By Fred Hart, AA0JK



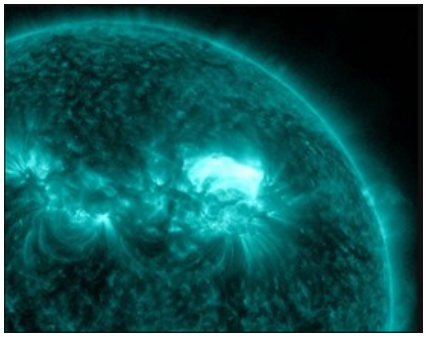


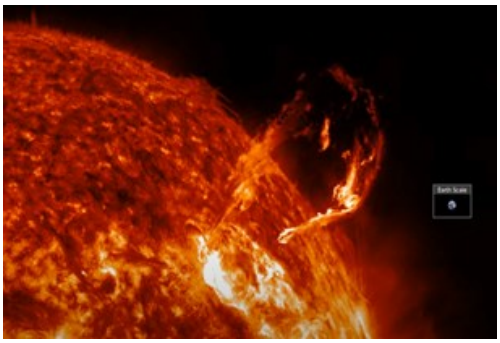
DOUBLE SOLAR FLARE: Sunspot AR2993 erupted twice in quick succession on April 25th, producing an overlapping pair of M1-class solar flares.

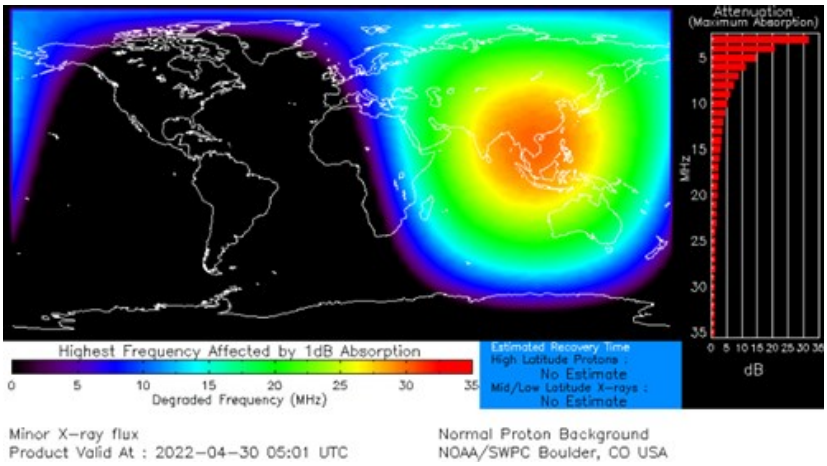
The double-blast caused a minor, albeit long-lasting radio blackout, over southeast, Asia and Australia, affecting frequencies below 20 MHz.

Departing sunspot AR2994 unleashed a M2.6-class flare, April 30th (0501 UT). Even with most of the sunspot hidden behind the sun's northwestern limb, the explosion still produced enough radiation for a shortwave radio black-

out over southeast Asia. Signals below 20 MHz were attenuated for nearly an hour.

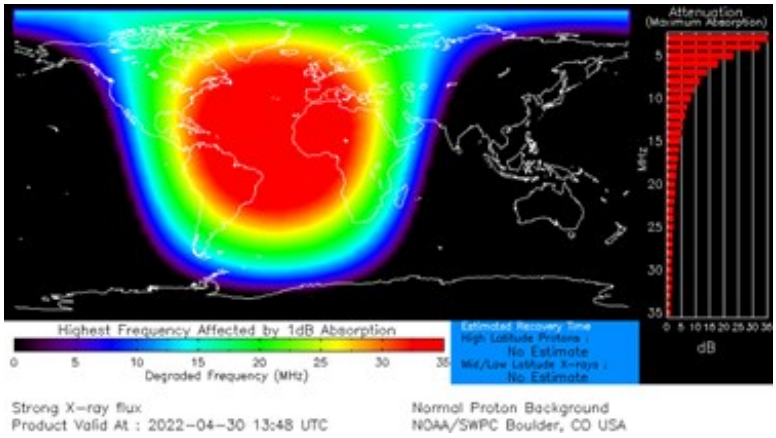






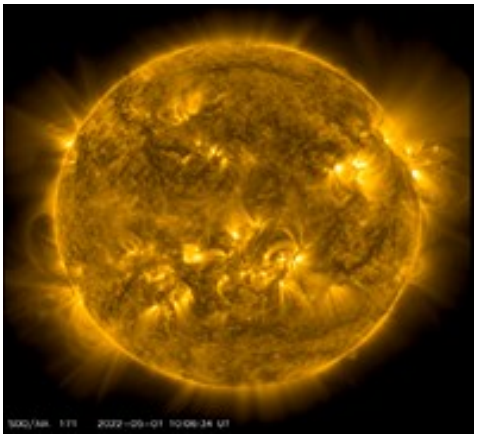
Last day of April on the sun, brought a surge in activity from the departing sunspot groups. Several M-class flares were noted on the bright spots of the suns solar surface. The coronal hole streams were weak. Minor telemetry in geospace, and minor geomagnetic storms were unsettled.

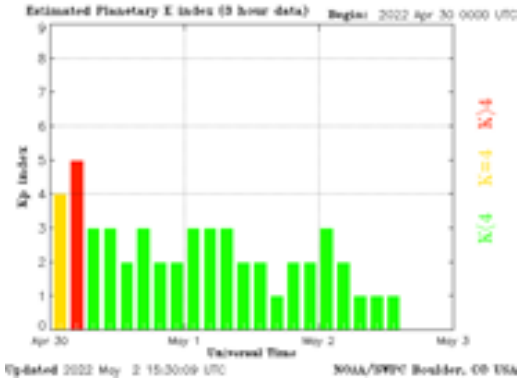
May 1st



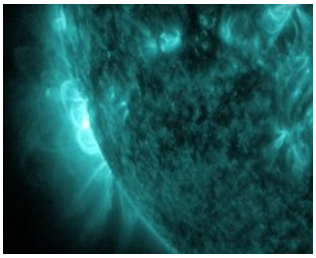
Solar activity produced enough radiation for a strong shortwave radio blackout over the mid-Atlantic Ocean and Europe. Signals below 30 MHz were attenuated for nearly an hour.

Coronagraph images from the Solar and Heliospheric Observatory (SOHO) confirmed that the explosion hurled a CME into space.

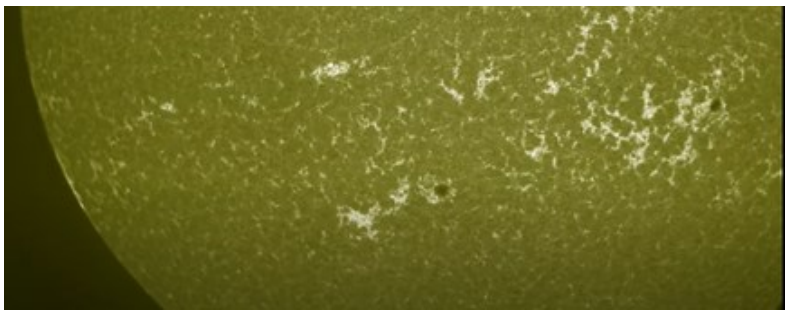


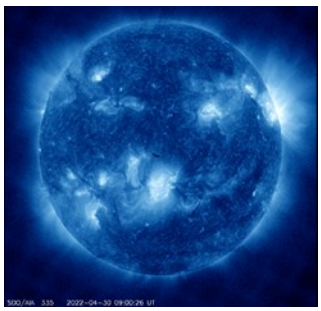


Tuesday, May 3rd

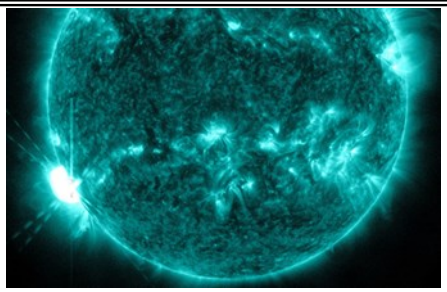


A new sunspot was growing rapidly in the sun's southern hemisphere. AR3004 didn't exist May second, now it contained more than a dozen Moon-sized dark cores. The region appeared to have the type of magnetic complexity that could lead to strong flares if its development proceeds apace.

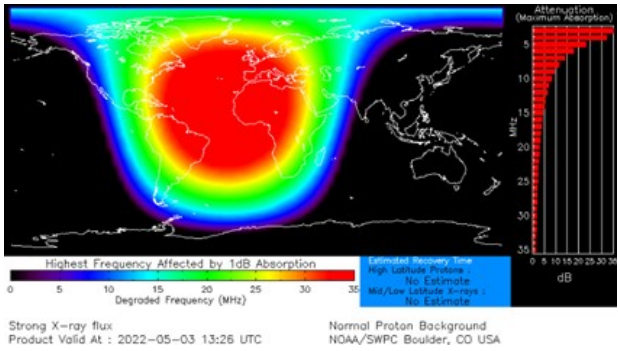




Wednesday, May. 4th
NASA's Solar Dynamics Observatory (SDO) recorded an extreme ultraviolet flash. The active sunspot was emerging over the sun's southeastern limb.



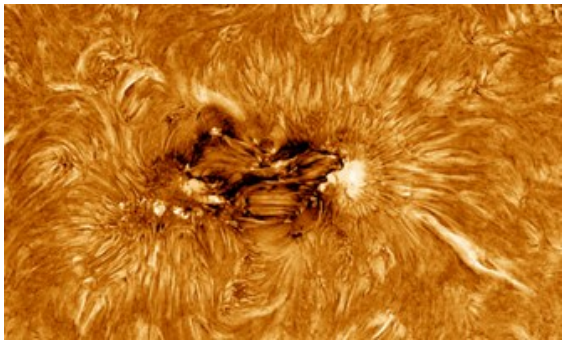
Radiation from the flare ionized the top of Earth's atmosphere, causing a strong shortwave radio blackout over the Atlantic Ocean and Europe.

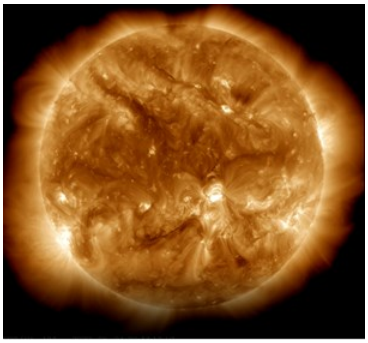


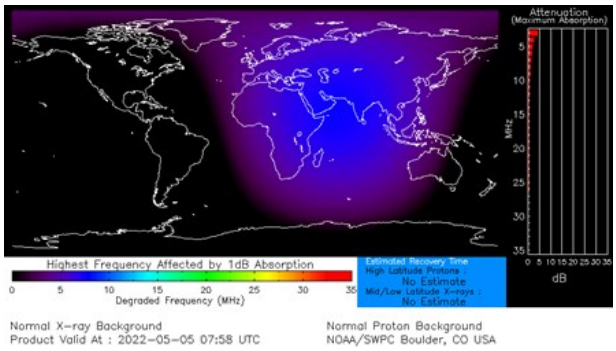
Signals below 30 MHz were attenuated for more than an hour.

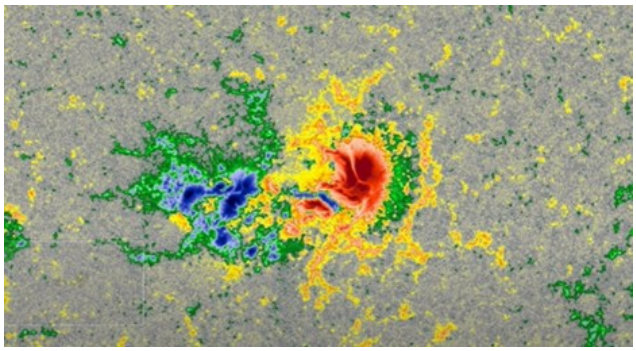
Future flares were expected to become increasingly more geoeffective as the active region turned toward Earth.

May 5th - In 24 hours, sunspot AR3004 had produced more than 18 solar flares (15+ C-class flares and 3 M-flares). It was almost impossible to catch a sunspot that was not flaring.





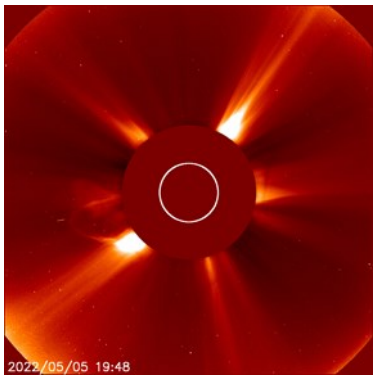




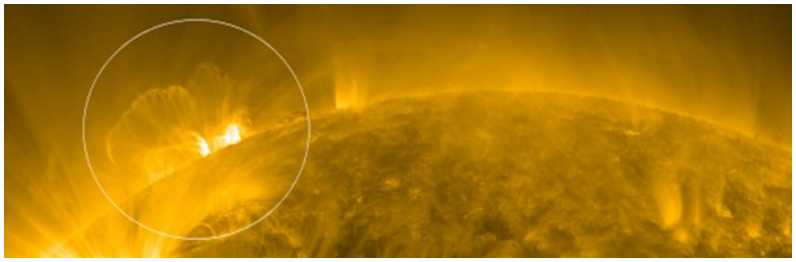
AR3004

Deep within this mishmash of sunspot umbra, we would find a magnetic intruder. That blue area slicing through the red, was making this one a beta gamma delta magnetic class, and that remained the case for several days. It was hoped to be quiet, however, unlike before, we just saw one loaded in the chamber.

(The red color indicates sunspots or areas with a negative polarity, and the blue color indicates areas with positive polarity.) An example of a very complex sunspot group with a Beta-Gamma-Delta magnetic classification as seen by NASA SDO's HMI instrument

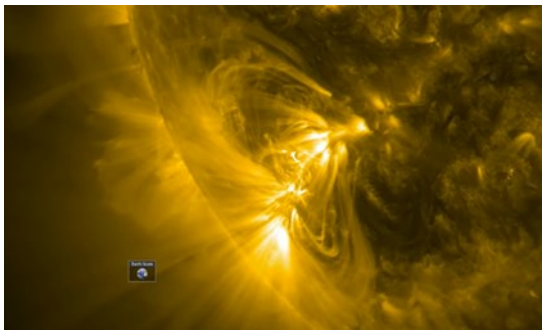


Coronal Mass Ejections

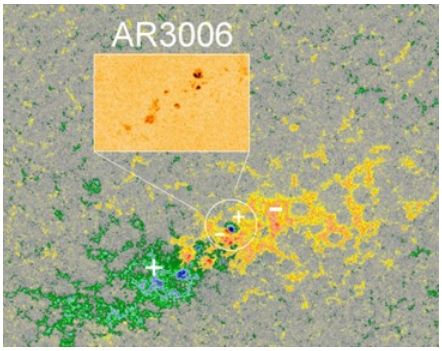


The sun was crackling with solar flares, and these explosions were hurling multiple overlapping CMEs into space.

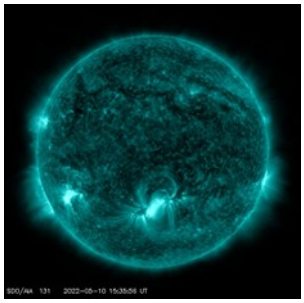
NASA's Solar Dynamics Observatory photographed plumes of debris thrown up by a partially eclipsed solar flare on May 5th.



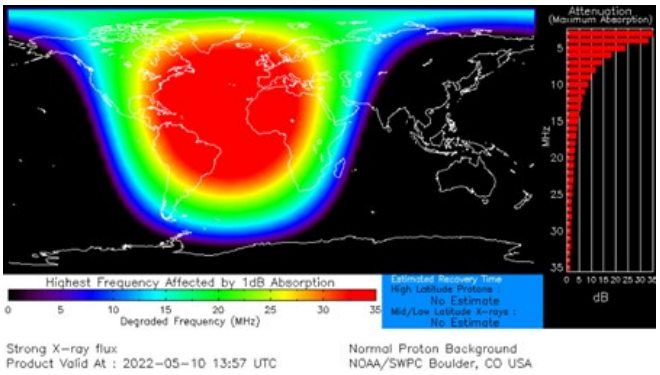
May 10th - Sunspot AR3006 was having an identity crisis. It was supposed to have a +/- magnetic field. Mostly it did. But deep inside the sunspot's primary core, the polarity was opposite, -/+. Note the circled region in this magnetic map of the sunspot from NASA's Solar Dynamics Observatory:

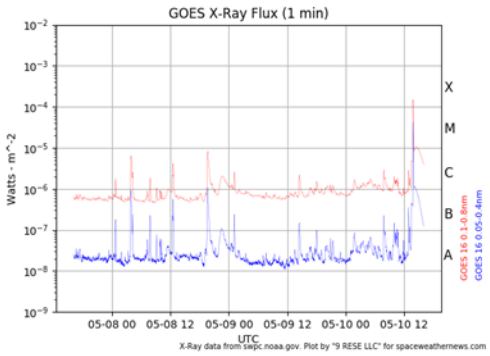


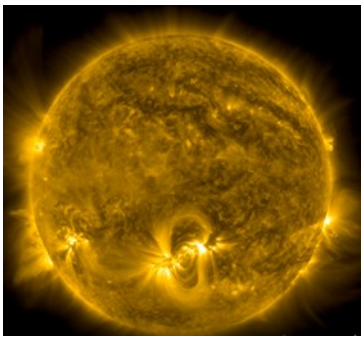
Solar flare alert: The mixture of magnetic polarities marked this sunspot as interesting, and dangerous. When opposite polarities bump together, it can light the fuse of magnetic re-connection, the explosive power source of solar flares. If AR3006 flared, it would be geoeffective. The sunspot was directly facing Earth.



X-CLASS SOLAR FLARE: Earth-orbiting satellites detected a X1-class solar flare (May 10th @ 1355 UT). The source was a "magnetic polarities mixed-up" sunspot AR3006. Radiation from the flare ionized the top of Earth's atmosphere, causing a shortwave radio blackout over the Atlantic Ocean. Radio transmissions at frequencies below ~30 MHz were attenuated for more than an hour after the flare.

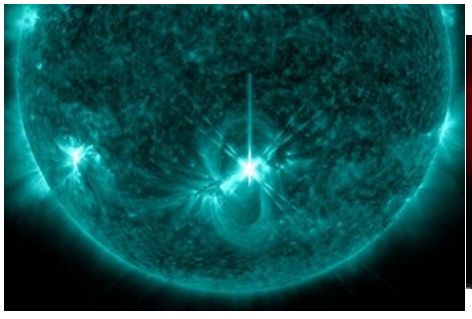


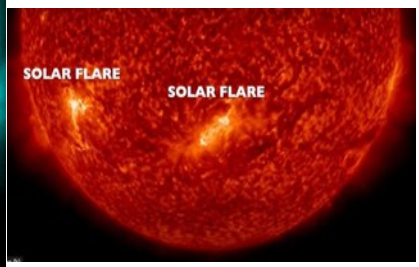




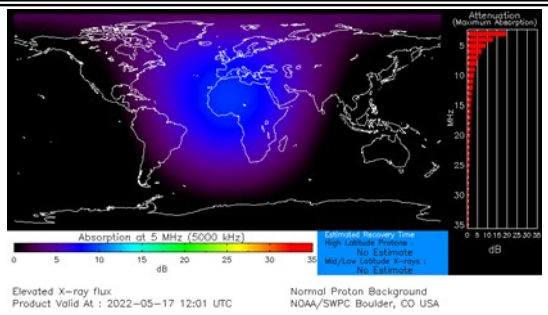
SDO/AIA 0171 May 10th 2022 16:27 UTC

After the flare occurred, a mish-mash of CMEs had billowed away from the sun's southern hemisphere. It was unclear if these CMEs were related to the X-flare or instead some other, lesser explosions that happened at almost the same time. There was a filament eruption to the right of the X-flare, and a C4-class solar flare in another sunspot to the left.

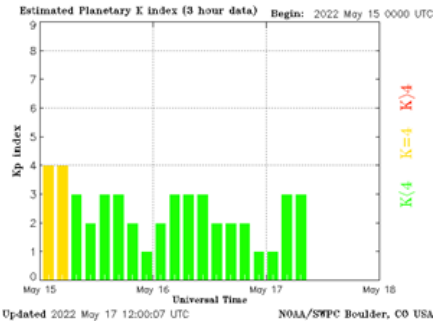




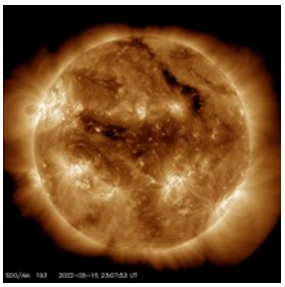
May 17th



HF Band conditions were Poor



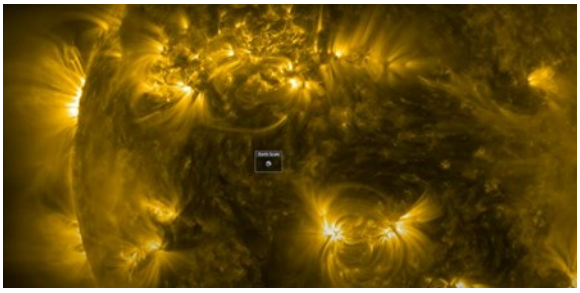
The eastern incoming limb was highly active. Several eruptions sent CME's off approximately 90' behind earth's orbital position. Eruptive activity was being monitored for encroachment into the earth-facing heliographic longitudes. The sun spots filaments and the activity levels would warrant a CME watch also.



East West

(Note: The Sun's rotation is opposite that of Earth's)

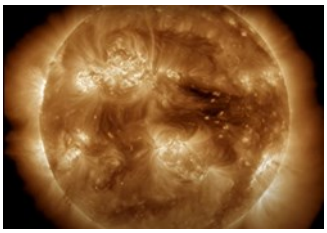
May 19th - Solar Flares were on the rise.

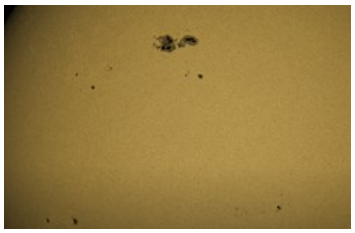


Northern active region developing flares, pumping out the x-rays. Not so much for plasma to create CME's, but a lot of filament activity around the peripheral regions.

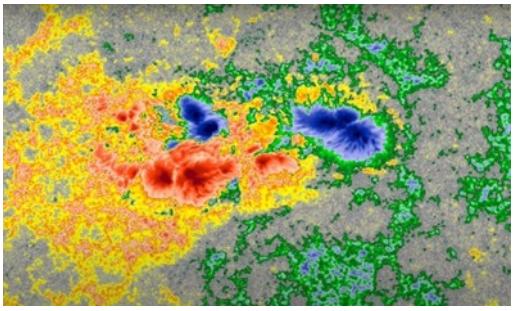
Not a lot heading our way, but a watch was out for larger active regions on the north, as they rotated into earth-

facing longitude. High flare potential, with its delta or near delta-class interaction of positive and negative, at the trailing spots, were within the group.



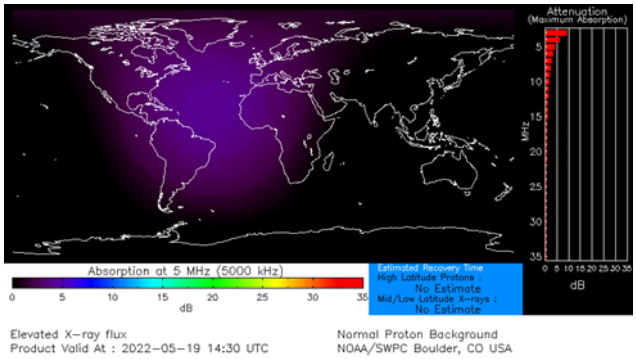


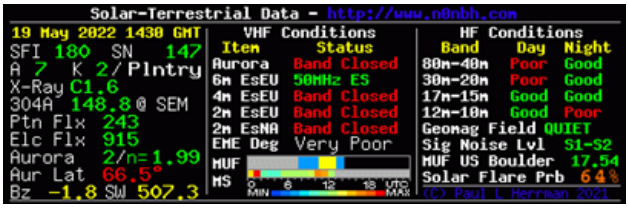
AR3014 had a beta-gamma magnetic field posing a X-class solar flare. Being Magnetically complex, it presented several delta class interaction zones, as it turned through earth-facing heliographic longitude.



(Blue areas + polarity. Red areas – polarity. If they come in contact with each other, Bang!, Solar Flare)

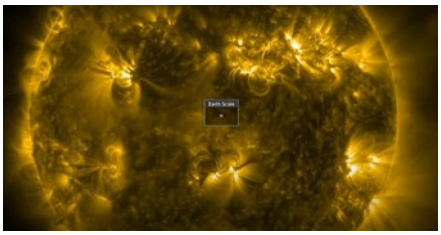
Elevated X-Ray Flux





Solar Flux Index on the rise, 180.

May 23rd -



Corona plasma filaments were lifting and twisting away. Despite the plethora of active regions denoted by bright umbra magnetic fields, there hadn't been much in the way of flaring or CME production in earth's direction. There have been several that went off to the sides as you can see with the coronal rippling. The coronal holes were entering earth-facing longitude. The sun spots continued growing, and despite the relative quiet of the northern grouping while it faced earth, we were beginning to see more development of the active regions around it, north and south.

3-Day Forecast: Prepared by the U.S. Dept. of Commerce, NOAA, Space Weather Prediction Center
Issued May 23, 12:30 UTC

No G1 (Minor) or greater geomagnetic storms were expected. No significant transient or recurrent solar wind features were forecast.

There was a slight chance for S1 (Minor) or greater solar radiation storms on 23-25 May due to the potential from Region 3014.

No radio blackouts were observed over the preceding 24 hours.

There was a chance for R1-R2 (Minor-Moderate) radio blackouts on 23-25 May, due primarily to the flare potential from Region 3014.

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

SPEAKING OF TRADING…

Wally, AC0T is looking for a used HT to buy. Email wallygamble37@gmail.com if you're interested in selling.

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

A couple pages from the November 1960 edition.

CLUB CHARACTERS

By Roy Raney, KØOVQ

KØOOA

Andy Bahley, KØOOA, was cleaning out a closet one day last summer when he unearthed a converted ARC-5 transmitter. With typical enthusiasm, he abandoned his cleaning project and hooked up the ARC-5 on his workbench. He plugged in a dummy load, applied power, and pressed the key.

The television set across the room went wild.

Andy Bahley, KØOOA, sighed, put away the ARC-5, and resumed his cleaning chores. It just wouldn't do for the district engineer in charge of the Federal Communications Commission to have TVI.

And so went the amateur activities of Andy Bahlay for another year. It's not that Andy has become indifferent to his hobby because of his professional activities, but as engineer in charge of the 15th District he finds little time for amateur operation. Still a ham at heart, he talks fondly of the days when he first got his license (in 1932) and chased DX with the best of them. Just a youngster living in a New York apartment building at the time, he didn't have to worry about TVI as he collected an impressive array of QSL cards from many countries. His only problem, he recalls, was a neighbor who raised homing pigeons on the roof of the next building. The birds weren't sharp-eyed enough to spot Andy's antenna wire suspended between the buildings, and they often got clobbered in flight. Andy assures us that a neighbor with television interference problems isn't half as difficult to handle as a neighbor with a pigeon interference complaint.

Andy's first love in those days, as it is now, was CW operation. He still enjoys wrapping up a key about 35 w.p.m. In the early days of the five-meter band, he switched for a while to phone and joined the experimenters on that band. It was there that he once heard his own call—W2EIL—being used illegally by a "bootleg" station.

Maybe that was one of the reasons why Andy joined the FCC. In any case, he now makes it his business to see that the many radio services in his district operate within the law. Does he spend much time running down bootleg stations? Not much, says Andy. The hams do much of that for him. Reports of illegal stations on the amateur bands usually come from the hams themselves. The odds are against a bootleg operator, he says, because "you can't fool a hundred thousand hams."

Before taking charge of the Denver office Andy was in charge of the FCC district headquartered in Savannah, Ga. There, as W4KPI, he was president of the local amateur radio club.

As an FCC engineer, Andy must represent the commission in the hundreds of matters in which it has authority. His job

(Continued on Page 9)

IS YOUR ADDRESS CORRECT?

The second edition of the Colorado Ham Directory is definitely in the making. In order to get everyone listed correctly, please send any information to Howard Eldridge, KØDCW, 3156 W. 25th Ave., Denver 11, Colo., that is if you are not presently correct in the Colorado Ham Directory. We prefer a post card to telephone. If Howard had to take some three hundred phone calls, it could be quite difficult with bits of scratch paper scattered all over the shack.

Past Round Table Pages, Continued

Provided By Woody Linwood, W0UI

ON FREQUENCY

By Walt, WØWRO

When you speak of DX, you have to mention Pete Wessel, WØJYW. Pete now has 244 countries confirmed on phone. He does it with an HT-32 running into a homebrew 600-watt final. He has thre elements on 15 and three on 20. The receiver is the Heath kit Mohawk, and he's very happy with it.

Pete's wife, Martha, is KØEPE. She's fast closing the DX gap with 115 countries worked, 80 confirmed. Martha is district chairman of the YLRL and a member of the LCL net. Both Wessels are interested in getting some sort of DX organization formed in Denver—perhaps within the framework of the Denver Radio Club.

Milo Adamson, WØYEB, is more of a ragchewer than a DX hound, but he has the gear to tackle anything. He's using a pair of 4E27A's in a 750-watt homebrew final. He modulates with 803A's. If that isn't enough, he has a single-sideband linear kilowatt. he receiver is a 75A-4. The antenna farm consists of a 40 and 75 meter inverted doublet and a Gonset Tri-bander on 10, 15, and 20.

As announced last month, we're waiting for Denver amateurs to call the author with operating news for each column. We're still waiting.

Ø—Ø—Ø

NIGHT IS LIGHT

A new electronic vision tube will enable soldiers to fire weapons or drive tanks on the darkest night.

It could increase the range of night-time vision up to 20 times.

Development of the tube was announced at Army engineering center by John Johnson of the Army's research and development laboratories.

The new tube intensifies the images of objects bathed by "sky glow" light. That is the dim but always present light that exists in the sky at night even when there is no moon and the stars are blanked by clouds.

Amplifying on his report, Johnson said the newly developed tube would allow the following:

1. An infantry soldier could spot an object at 500 to 1,000 yards, even though he couldn't see it with his naked eye.

2. Drivers of military tanks and other vehicles would have vision up to 200 feet without the use of headlights.

SIX METERS AND UP

By GLENN, WØIJR

Preparations for the fourth annual Christmas Banquet of the Mile Hi Highbanders are in the final stages now. We have decided on the Little Banquet Restaurant near 13th and Broadway again this year.

Saturday, December 10, at 7:30 p.m. will be the time. The price, including everything, will be $2.00 per person. We are asking that the reservations be made and paid for in advance this year. In order that we can make better plans for a memorable evening, we must know how many will attend by November 26. Please have your reservations and money in by that time.

Send your check or money order to our net secretary, Charles Simmons, KØSMOH 1490 S. Hudson St., Denver.

All amateurs are welcome. You need not be a member of the Highbanders or even a VHF' enthusiast. Members of the Denver Radio Club and their families are particularly welcome.

For any additional information, contact the writer at HA 9-7287 or Dennis Boruchin, KØBTO, at AT 7-4787.

Quite a number of very short openings were reported during October. On one opening via phone patch from Texas, Mark K5JPG, sent his regards back to the six meter gang through KØBTO. He expressed thanks for all the consideration he received during his hospital stay at Fitzsimmons.

New calls to the six meter gang are: Tom, KØIUF; Dale, K9VIX/Ø; Tom K5SBK/Ø.

XE3AIA is desperately looking for Colorado for his WAS certificate. He has every state but this one. Watch for him on 50.104 Mc.

We finally have a "Hootowl" in the group. John Cox, KØRRS, while roaming

(Continued on Page 11)

GOOFED

Last months issue (page three) two names were inadvertently omitted from ARRL Official Bulletin #768. As you noticed from your official ballot, we left out the names of Chic Cotterell, WØSIN, for director and Les Richards, WØICR, for vice director. We of the Round Table regret our error and promise to never make another one nearly so serious.

Page Three

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

amazonsmile
You shop. Amazon gives.
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
Unsupervised Learning

The Round Table Archive

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

The Round Table Article Index

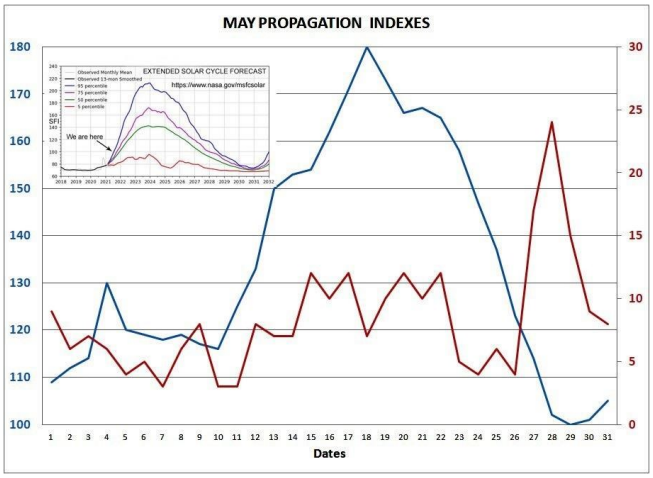
Go to: http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf

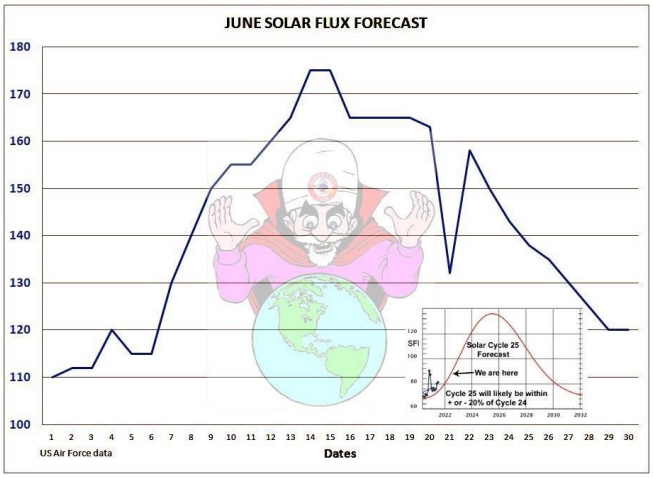
Past & Future Propagation Conditions

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





Upcoming Events

Hamfests & Conventions

Event	Date	Location	Sponsor Website
Montrose ARC Tailgate Party	06/04/22	Lion's Club Pavilion	montrosehamradio.org

Upcoming QSO Parties

The following are the Contests not sponsored by the ARRL. Please submit additions for future issues.

State/Province	Start Date	End Date	Sponsor Website	Notes
Kentucky	06/04/2022	06/05/2022	Kentucky Contest Group	
West Virginia	06/18/2022	06/19/2022	West Virginia State Amateur Radio Council	
Maryland-DC	08/13/2022	08/14/2022	Anne Arundel Radio Club	
Hawaii	08/27/2022	08/29/2022	Hawaii QSO Party	
Kansas	08/27/2022	08/28/2022	Kansas QSO Party	
Ohio	08/27/2022	08/28/2022	Ohio QSO Party	
Colorado	09/03/2022	09/04/2022	Pikes Peak Radio Amateur Association	
Tennessee	09/04/2022	09/05/2022	Tennessee Contest Group	
Alabama	09/10/2022	09/11/2022	Alabama QSO Party	
Iowa	09/17/2022	09/18/2022	Story County ARC	
New Hampshire	09/17/2022	09/18/2022	Port City Amateur Radio Club	
New Jersey	09/17/2022	09/18/2022	Burlington County Radio Club	
Texas	09/17/2022	09/18/2022	Texas DX Society	
Washington	09/17/2022	09/18/2022	Western Washington DX Club	
Maine	09/24/2022	09/25/2022	Wireless Society of Southern Maine	
California	10/01/2022	10/02/2022	California QSO Party	
Nevada	10/07/2022	10/09/2022	Sierra Nevada Amateur Radio Society	

ATTENTION

SUPPORT THE DRC FROM YOUR AMAZON PURCHASES

You can now support your Denver Radio Club when you make purchases from Amazon.com. Amazon Smile donates 0.5% of your purchase to the non-profit (501.c.3) organization of your choice. This is at no additional cost to you. To support the DRC just visit smileamazon.com. Select Denver Radio Club, Inc. as the organization you want to support and proceed with your order as usual. Amazon Smile will credit the DRC automatically. Thank you for your support.

DRC Repeaters

BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090MHz (-1MHz) 107.2Hz PL	
Packet	145.05MHz	**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**

JUNE 2022

DRC Net Sundays at 8:30 p.m. on 145.490 / 448.625 (no PL)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**2**	**3** New Moon	**4** **ARRL Digital Contest -** Starts 1800 UTC
5 **ARRL Digital Contest -** Ends 2359 UTC	**6**	**7** First Quarter	**8** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**9**	**10**	**11** **June VHF -** Begins 1800 UTC
12 **June VHF cont.**	**13** **June VHF** - Ends 0259 UTC	**14**  Full Moon	**15** **DRC Online Meeting** Elmer 6 p.m. Meeting 7 p.m.	**16**	**17**	**18** **Kids' Day -** Begins 1800 UTC - 2359 UTC 
19 	**20** Last Quarter	**21**	**22** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**23**	**24**	**25** 2022 FIELD DAY
26 2022 FIELD DAY	**27**	**28** New Moon	**29** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**30**		

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

DRC Board of Directors

President	W0GV	Gerry Villhauer	303-467-0223	president@w0tx.org
Vice-President	K0KPS	Kevin Schmidt	303-475-9234	k0kps@arrl.net
Secretary	WW0LF	Orlen Wolf	303-279-6264	secretary@w0tx.org
Treasurer	N0CRZ	Cathy Villhauer	303-467-0223	treasurer@w0tx.org
Board Member	N0XRX	Mark Thomas	720-438-0848	n0xrx@w0tx.org
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	benevolent@w0tx.org
Club Librarian	WG0N	Dave Baysinger	303-987-0246	wg0n@arrl.net
Digital Committee	W6OAV	Bill Rinker	Check Roster	digital@w0tx.org
Education Coordinator	AA0JK	Fred Hart	303-420-3536	elmer@w0tx.org
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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.

Subject: I'm located in…

Editor's Note

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. The submission deadline is the 25th of the Month. ~ Editor

Sunday August 28, 2022- Adams County Fairgrounds

DENVER RADIO CLUB HAMFEST

NOTE: NEW PLACE AND DATE!!!

Adams County Fairgrounds

9755 Henderson Road in Brighton

Sunday August 28, 2022

9:00 am – 1:00 pm

$6.00 Admission
(Children under 13 free w/adult)

Exact Change appreciated

Doors open to the Public at 9am
Six-foot tables Advance Purchase..... $13.00 each
Tables at the Door..... $20.00
No guarantee of availability of "at the door" tables!

Vendor Setup begins at 7:30 on August 28th
Table assignment will be available at check-in
License Testing/VE Exams at 10 am
Talk-In: 145.490 or 448.625 PL 100.0Hz
GPS: Lat 39d 43' 19" N Lon 105d 10' 15" W
Handicapped Parking & Access Available

Visit our website for table reservations or email our hamfest manager Cathy Villhauer at drcfest@wØtx.org