



THE ROUND TABLE

Monthly Newsletter Of The Denver Radio Club

Since 1917

August 2021

PRESIDENT'S MESSAGE

BY GERRY VILLHAUER, W0GV

Hello DRC Members,

Wild weather lately for sure. Hopefully it will be more stable soon. We have been in Wisconsin at Airventure and it was the same there; very hard rains, flooding and a lot of wind damage in the area around Oshkosh. Fortunately, the bad weather did not hit directly at Oshkosh but, was taken seriously by many pilots. Many aircraft departed to safer areas and many did not return. Anyway, we had a great time and always look forward to next year.

It looks like the COVID-19 and variants are again causing concerns here and elsewhere. Mask requirements are returning in many areas. I hope you all are staying safe and prepared to ride it out again if it comes to that.

Congratulations to Carl Saueressig (KB9QDG) our July meeting winner of a \$25 HRO gift certificate.

Thanks to Joe Eisenberg (K0NEB) for a great presentation on kit building at our July regular meeting.

Our August meeting presentation will be by a very well-known ham; Ward Silver (N0AX) of ARRL fame. Ward is the publisher of several ham radio books like: Ham Radio for Dummies, Grounding and Bonding for the Radio Amateur and Hands-On Radio Experiments. He is also a winning technical writer, receiving the Bill Orr Technical Writing Award two times. His presentation will be based on these subjects. Mark your calendar for our August 18th DRC meeting coming to you virtually, as has been the norm for many months.

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:

Dario Toribio - KF0GAG	Phillip Marquez - K0MQZ
Evans Moak - KF0FPI	Jason Orvin - KC0MSK

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.

July topics we discussed:

- August QST
- MARS (Military Affiliated Radio System)
- Operating Practices
- Noise filtering QRN (MFJ- 1026)
- Transmission Lines: The Care and Feeding of Transmission Lines, Reduce Line Loss!
by Joel R. Hallas, W1ZR (hamradio.com/detail.cfm?pid=H0-011800)
- Four Band Octopus antenna



- Making a ten meter dipole by K7AGE, Randy: youtu.be/84F4UgSWmQo
- Programming Baofeng UV-5R problems (Ask Dave – QST August p50)
- Kit Building

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 ser-

vice. 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

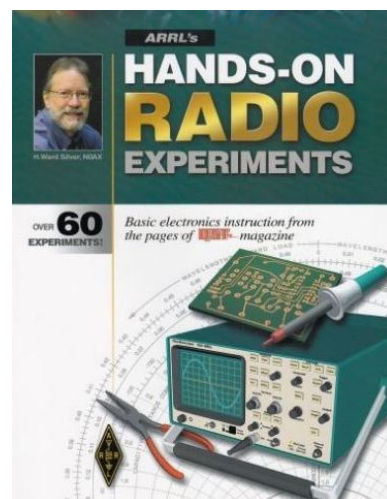
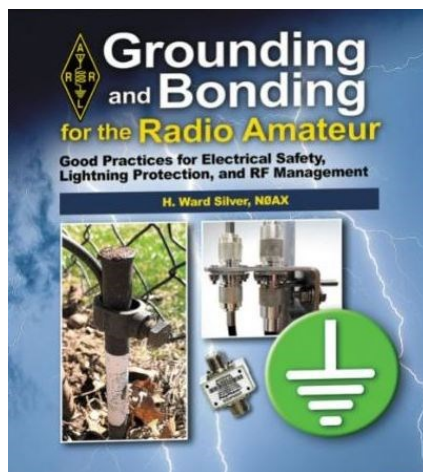
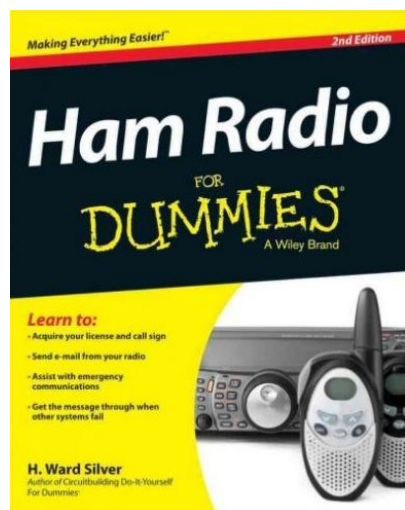
AUGUST PRESENTATION ANNOUNCEMENT

BY BILL RINKER, W6OAV

A lot of folklore and controversy exists concerning proper grounding and bonding in a ham station. Learn more about these topic by attending the August 18th DRC video presentation. Well known author Ward Silver, N0AX, will discuss the following topics:

- The definition and use of "Groundings" and "Bondings".
- The various requirements for AC safety, lightening protection and RF.
- Issues and techniques for building home ham stations.
- A common grounding and bonding system that satisfies all requirements.
- Comprehensive sources of information about grounding and bonding.

Ward was licensed at age 16 in 1972. Ham radio led him to a BSEE in 1978. Besides being very active in various ham activities, Ward has published many ham related books and even a ham radio novel. He received the ARRL Bill Orr Technical Writing Award in 2003 and again in 2016. Several examples of Ward's publications are shown below.



KEEPING IT ALL IN THE FAMILY

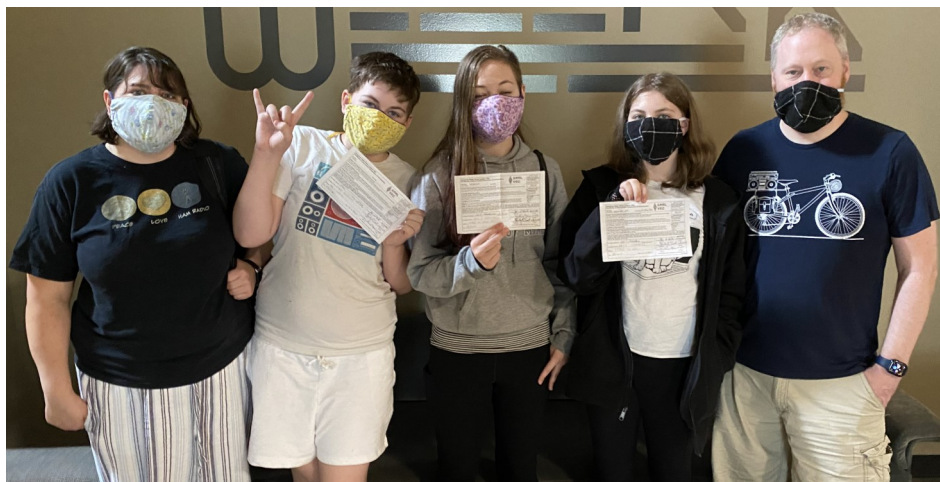
By TOM KOICIALSKI, KC2CAG

The Denver Radio Club VE Team witnessed a unique phenomenon at their July 31st, 2021 test session. Three YL's and sisters, Nyobi (13), Cora (15) and Anya (11) Sobanski all sat for the Technician Exam, and passed on their first try. They are now licensed as KF0GHP, KF0GHR, and KF0GHQ, respectively. Their Elmer and Grandfather, David Cherba, WZ8T of Washington State spent the last year helping them study. The three sisters join a family of hams. WZ8T introduced his daughter, Kelly (KB8OGP) to ham radio when she was a child. She gained a Novice license in 1992, and upgraded to Tech in 1995. Some years after that, Kelly was dating Peter Sobanski, who was intrigued enough by her ham radio hobby that he also earned his license and is currently an Extra Class Ham, AB8WN. "Grumps" (David) passed on the "ham genes."

When asked why they were testing for a ham radio license, Cora replied, "It gives us another way of bonding with our grandfather." We know "Grumps" would be proud of them! As a side benefit at that session, Peter volunteered to be added to the DRC VE Team.

Two additional candidates also took and passed the Tech exam on their first try: David Vogel (KF0GHS), and Tyler Dowden (KI5RBC), who drove in from Cheyenne, WY for the test session.

DRC VE team members supporting the test included Bill Rogers, WZ0S, Troy Lerner, KF0AFQ, Stan Trout, WB2SHR and yours truly, KC2CAG. (Editor's Note: Photo release form is on file.)

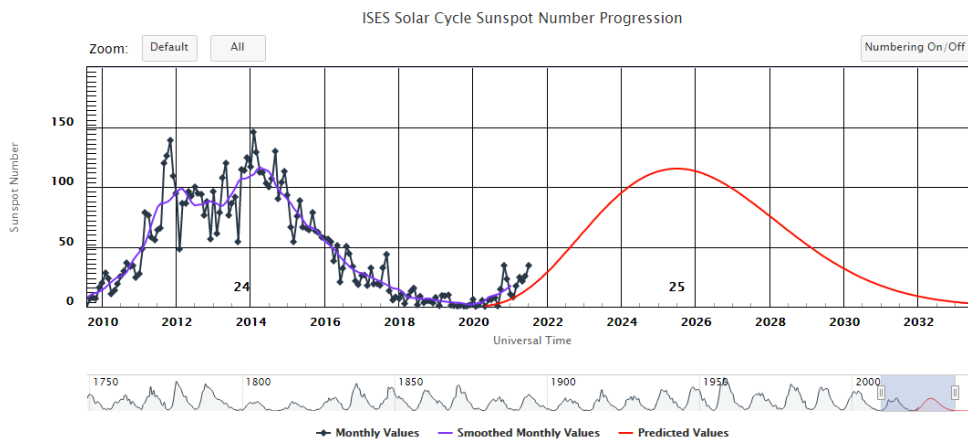




NOAA's NEW INTERACTIVE PROPAGATION TOOL

By BILL RINKER, W6OAV

NOAA has released a new interactive graph to explore the solar cycles. It lets you scroll back through time or into the future, comparing sunspot counts now to peaks and valleys of the past. One thing is clear. The past solar minimum was one of the deepest in a century. Click the following URL to explore almost 300 years of sunspot counts: swpc.noaa.gov/products/solar-cycle-progression





FREE ANTENNA AND RF PROPAGATION COURSE

BY BILL RINKER, W6OAV

There is a nice free downloadable antenna and RF propagation course produced by the Marine Corps Institute. The course is available at: w3pga.org/Antenna%20Books/US%20Marine%20Corps.pdf.

The course begins with the following introduction:
1. Purpose. The MCI 2515H, “Antenna Construction and Propagation of Radio Waves”, provides communicators with instructions in selecting and/or constructing the appropriate antenna(s) for use within the current field.
2. Scope. This course is designed as a course of study on the propagation of radio waves and the construction and repair of conventional and field expedient antennas.

Figure 1 shows the contents of the course.

UNITED STATES MARINE CORPS
 MARINE CORPS INSTITUTE
 912 POOR STREET S. E.
 WASHINGTON NAVY YARD DC 20391-5680



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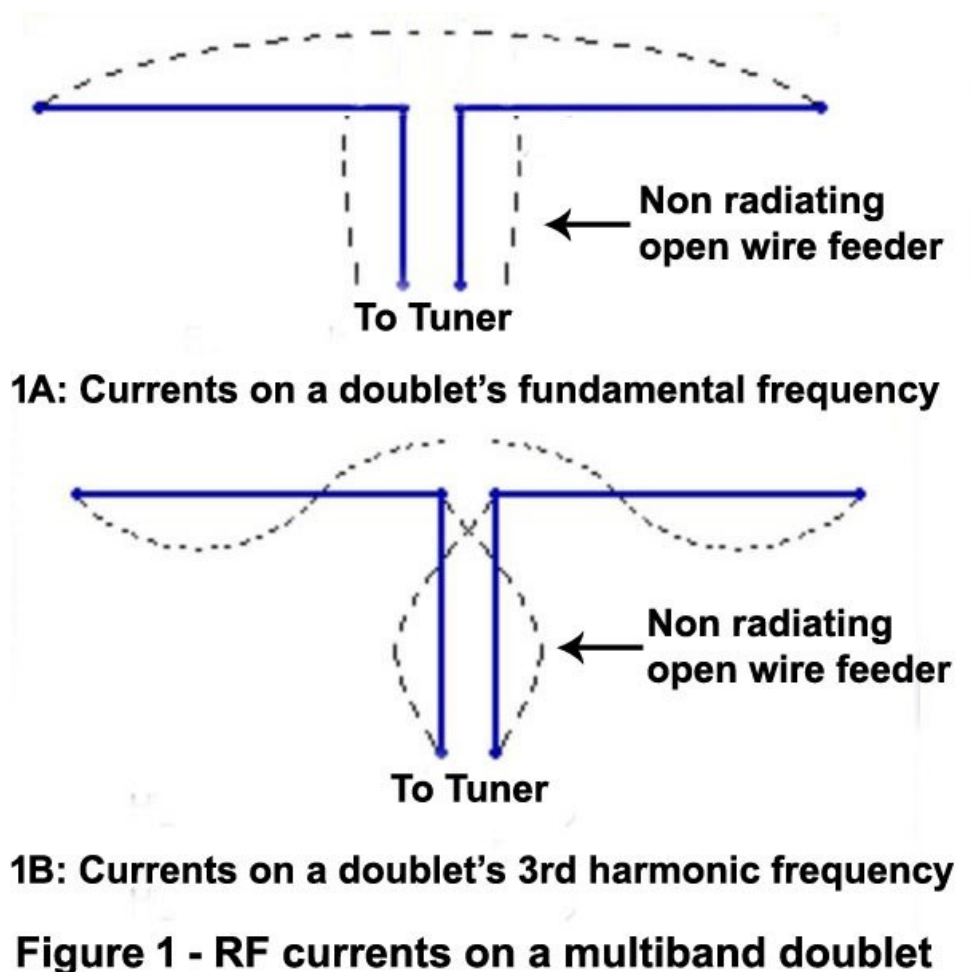
AN HF ANTENNA FOR SMALL YARDS

BY BILL RINKER, W6OAV

Many hams have a small yard which will not support a standard 40 meter or 75 meter dipole. A shortened unturned multiband doublet in the form of either a horizontal antenna or an inverted V antenna may be the answer in resolving this issue.

So, what is an untuned doublet? An untuned doublet is a form of antenna that uses a balanced open wire or ladder line feeder and an antenna tuner. Unlike coax, open wire and ladder line feeders have very little loss regardless of SWR values. [1] The feeder effectively becomes a **non radiating** part of the antenna resonance allowing the system to operate over a wide band of frequencies. Figure 1 shows the RF currents on a multiband doublet. A multiband doublet acts as a dipole on its lowest fundamental frequency (Figure 1A) and as a collinear array with RF gain lobes on the higher bands (Figure 1B). The precise radiating length and feeder length is not critical. The doublet has several good features:

- Wide range frequency coverage.
- An efficient all band radiator.
- Very simple to make.
- Not critical on dimensions or materials.
- Can be shortened at the lowest operating frequency with very little loss. [2]



This article will discuss a shortened horizontal 40 meter thru 10 meter doublet and a shortened 40 meter thru 10 meter Inverted V doublet. The material here can be applied to a 75 meter thru 10 meter doublet. The radiation patterns in this article were generated by the 4NEC2 antenna modeling program.

A Shortened Horizontal 40 Meter to 10 Meter Doublet.

A doublet’s radiating section can be reduced to about $3\lambda/8$, or approximately 73%, of the fundamental frequency without any major reduction in performance. With this reduction, the shortened doublet has about 98% of the efficiency of a full half wave dipole on the fundamental frequency, a difference that will not be noticeable. On the higher bands the shortened doublet functions as a collinear array with gain on the higher bands (Figure 1). The precise radiating length is not critical. A minimum length of $3/8 \lambda$ (25’ for 40 meters) on the lowest frequency of operation will work but with reduced effectiveness. A guide is to make the doublet at least 70% (46’ for 40 meters) of a half wave at the lowest band for good performance. [3]

Figure 2 shows a 40 meter doublet shortened to $3\lambda/8$. This shortened doublet is around 48’ in length with virtually no extra loss compared to a full sized 40 meter dipole approximately 66’ long. The shortened doublet requires 18’ less horizontal yard space.

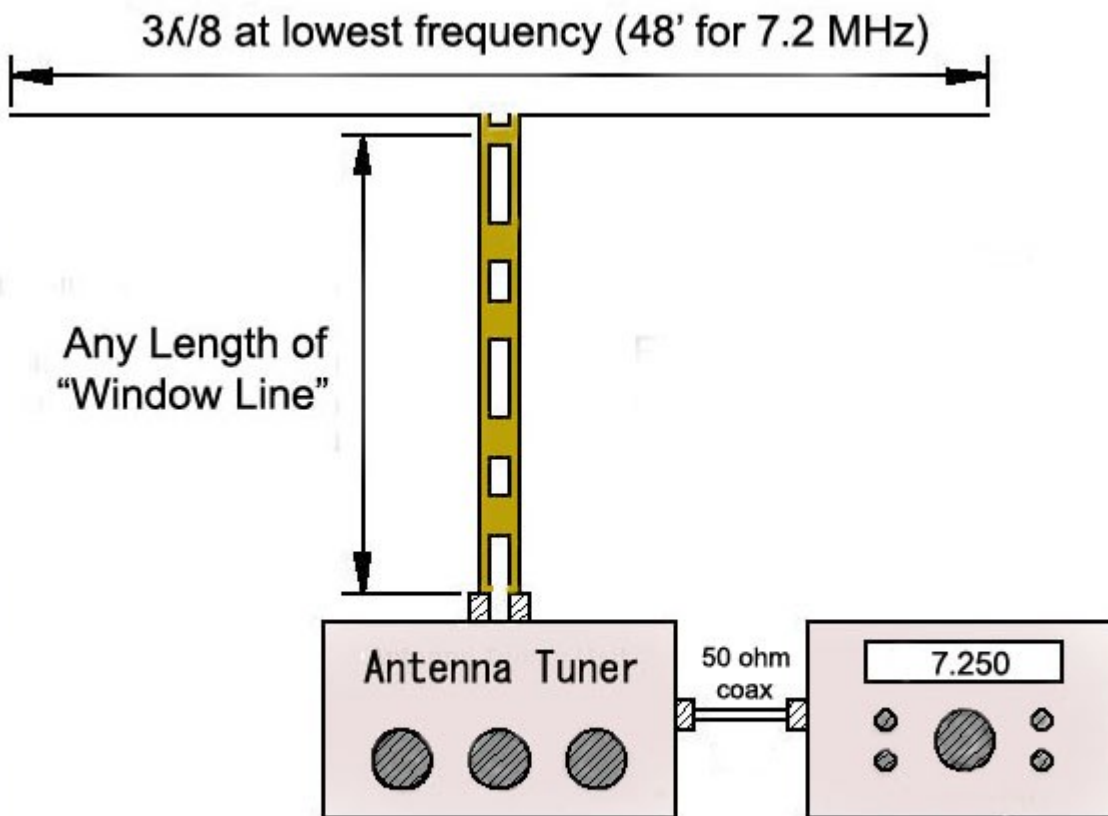


Figure 2 - All band shortened 40M to 10M doublet

Figures 3 thru 6 show the radiation patterns of this shortened horizontal 40 thru 10 meter doublet at 30' above ground. The blue line shows the horizontal pattern looking down at the antenna which lies in the 0 to 180 degree plane. The red line shows the vertical pattern when looking at the end of the antenna. [4] When installing this doublet, if possible, orientate is so that the radiation pattern points in the desired directions.

A disadvantage of a horizontal doublet is that it requires three tall supports. A shortened Inverted V doublet requires only one tall support and two short supports and takes less horizontal yard space.

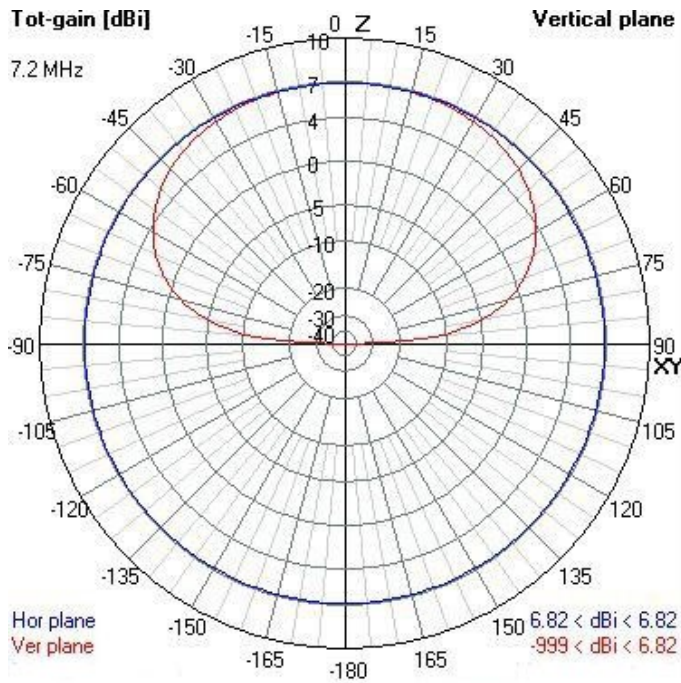


Figure 3 - 40M Patterns of 48' doublet @ 30'

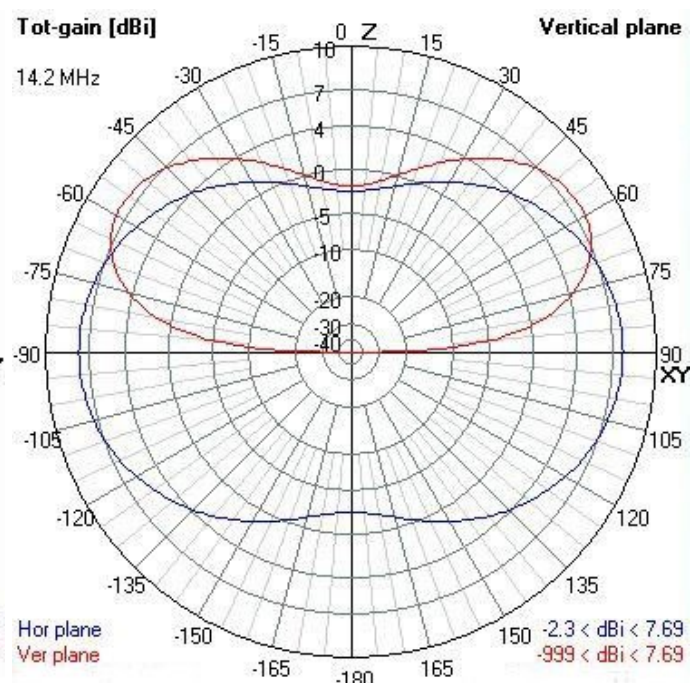


Figure 4 - 20M Patterns of a 48' doublet @ 30'

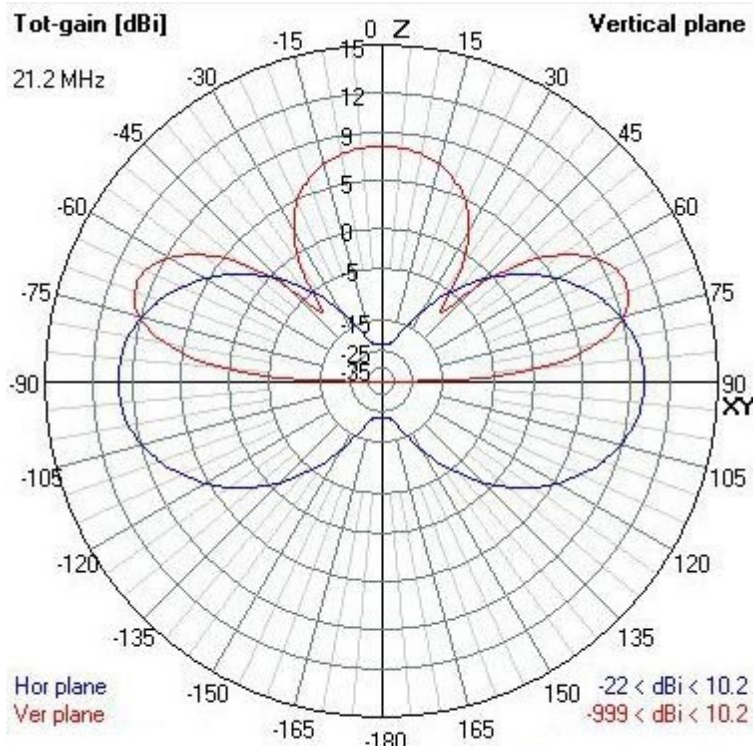


Figure 5 - 15M Patterns of a 48'doublet @ 30'

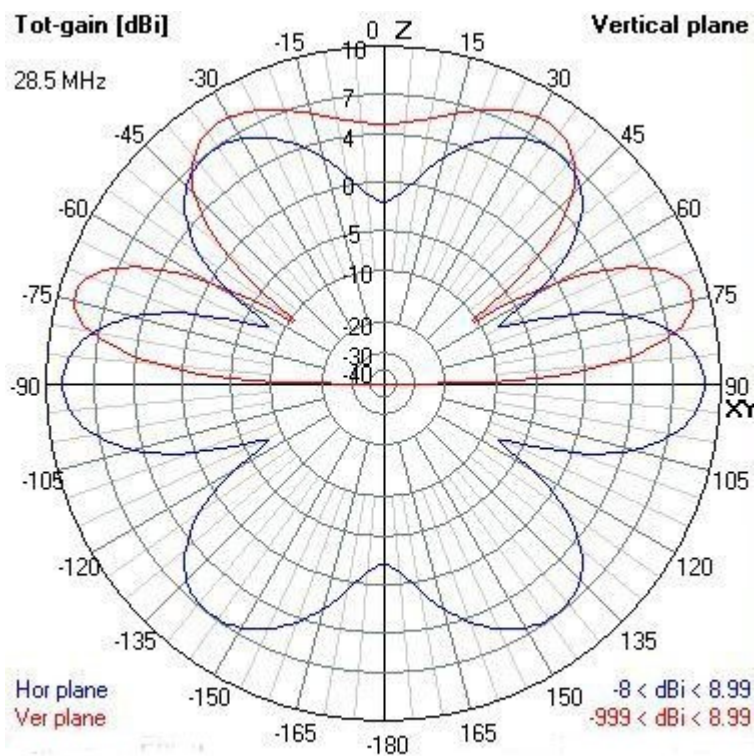


Figure 6 - 10M Patterns of a 48' doublet @ 30'

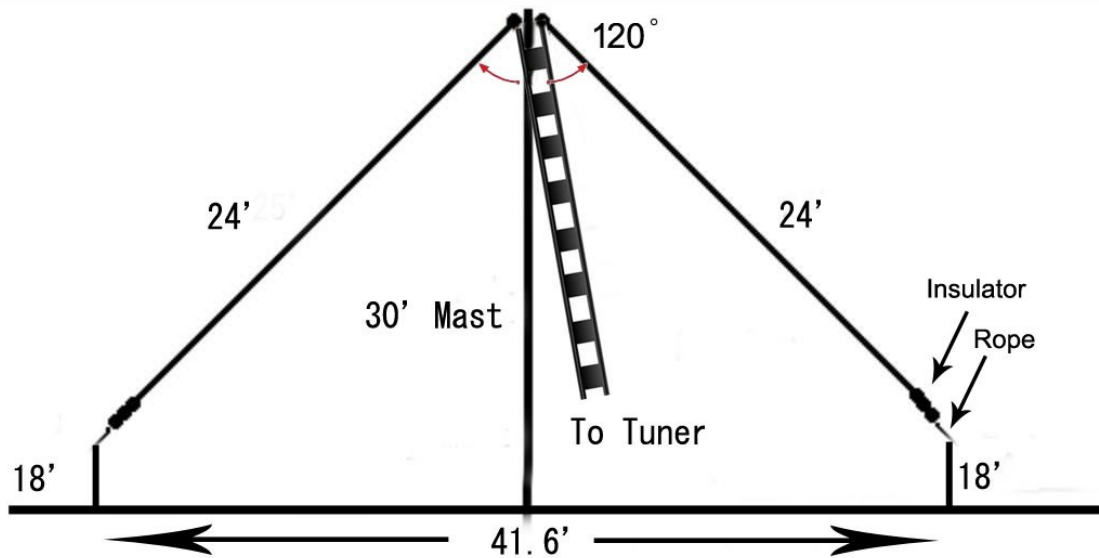


Figure 7 - 48' Inverted V doublet @ 30' with a 120° apex

A Shortened Inverted V 40 Meter to 10 Meter Doublet.

The advantage of the Inverted V doublet is that it only requires one high support and two short supports while still achieving a high level of performance. The performance difference between a shortened Inverted V with its center at the same height as that of a shortened horizontal doublet is minimal. The difference in performance may not be detectable. The radiation patterns are more omni-directional.

[5] Another advantage of a shortened Inverted V doublet is that it takes less horizontal yard space than that of an equivalent shortened horizontal doublet. Figure 7 shows a shortened $3\lambda/8$ 40 to 10 meter Inverted V doublet with a 120 degree apex. The horizontal yard space is 24.4' less than that of a 66' 40 meter dipole. The horizontal yard space requirement can be made smaller by reducing the doublet's apex angle to a minimum of 90 degrees. However, efficiencies will be somewhat degraded. Also, the two 18' poles can be replaced with rope from the insulator to an anchor space resulting in approximately 10' of additional horizontal space requirements.

Figures 8 thru 11 show the radiation patterns of this shortened Inverted V 40 thru 10 meter doublet.

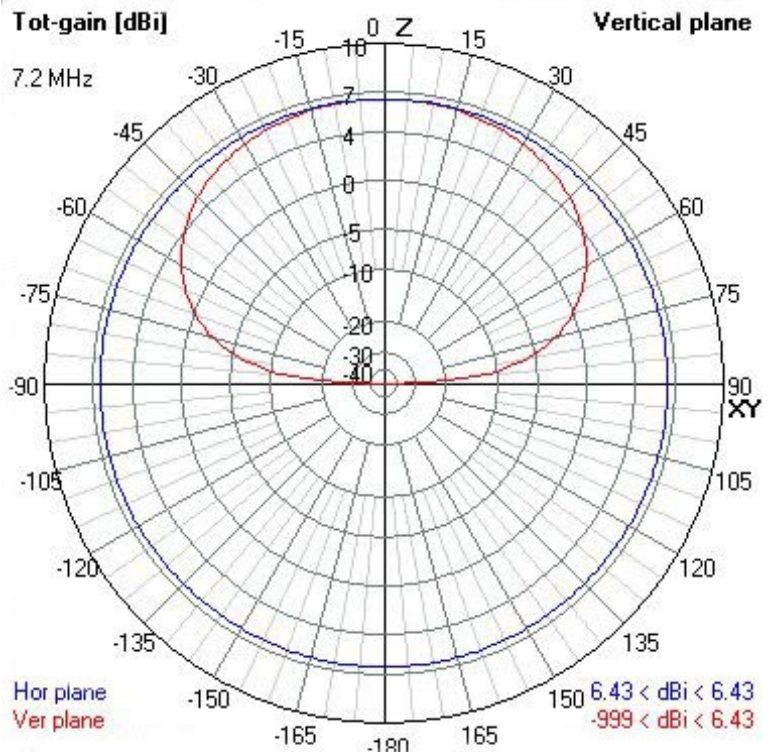


Figure 8 - 40M Patterns of a 48' V doublet @ 30'

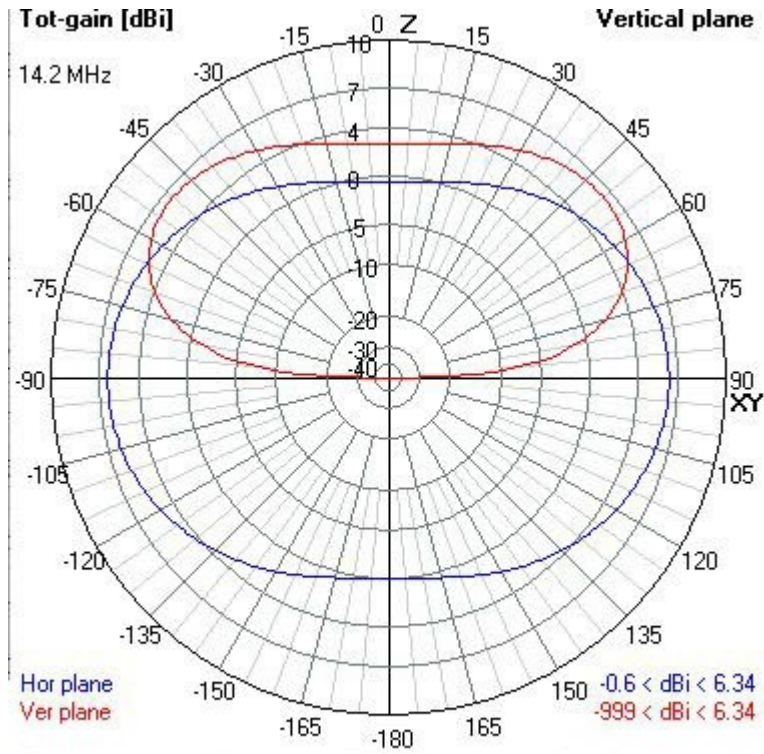


Figure 9 - 20M Patterns of a 48' V doublet @ 30'

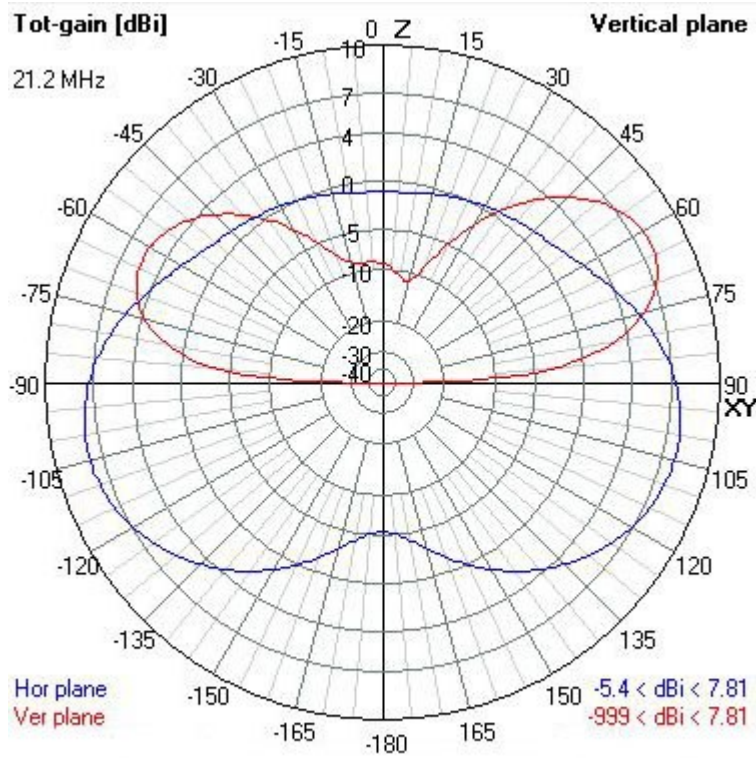


Figure 10 - 15M Patterns of a 48' V doublet @ 30'

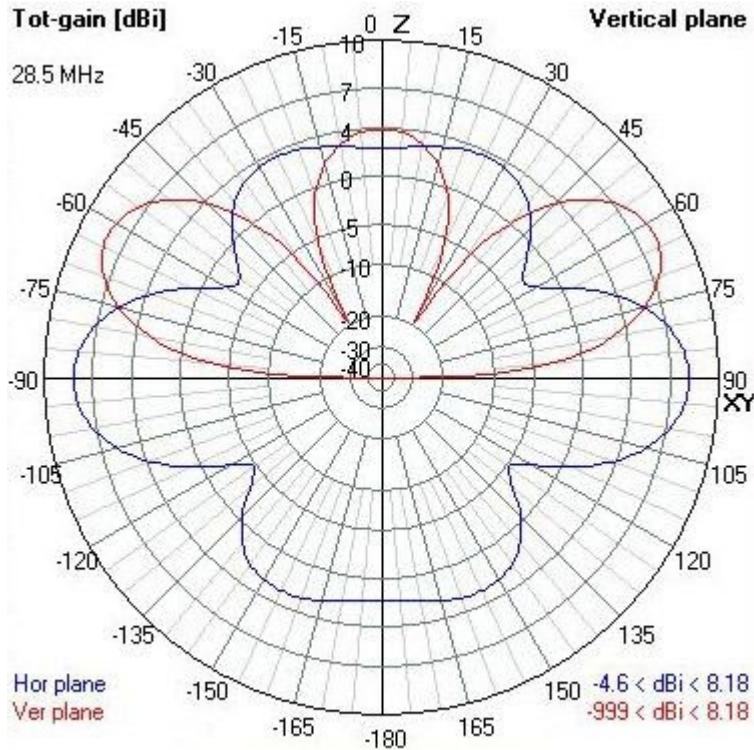


Figure 11 - 10M Patterns of a 48' V doublet @ 30'

Summary

- Table 1 compares the peak gains of standard horizontal $1/2 \lambda$ dipoles, shortened horizontal and Inverted V doublets at 30' above ground. All gain figures for the $1/2 \lambda$ dipoles are the standard patterns for dipoles at 30' above ground as shown in Figure 2.4 of the reference below. [6]
- To determine the best doublet to use and how to position it, compare the vertical radiation take off angles of the horizontal and Inverted V doublets as shown in Figures 3 thru 6 and Figures 8 thru 11. If there is room for either doublet, the doublet with the lowest take off angle in the desired direction may be the best choice.
- Should a situation occur where the tuner cannot tune the doublet on a particular band, trim the feed line as described in reference below. [7]
- Fiberglass poles rather than aluminum poles should be used for the center support for these doublets. Aluminum poles can possibly unbalance the feed line. The MFJ-1910 is a good example of a nice 33' fiberglass telescoping pole. [8]

Table 1 - dBi Gains of Antennas 30' Above Ground			
MHz	$1/2 \lambda$ Dipoles	48' Doublet	48' V Doublet
7.2	7.04	6.82	6.43
14.2	7.21	7.69	6.34
21.2	8.17	10.2	7.81
28.5	7.29	8.99	8.18

References:

- [1] Roundtable, "Don't Worry About High SWR", Page 8.
[https://www.w0tx.org/RoundtableArchive/2016-RoundTables/RT201602\(FEB\).pdf](https://www.w0tx.org/RoundtableArchive/2016-RoundTables/RT201602(FEB).pdf)
- [2] W4RNL (SK) "Half-Length Dipoles for 40 Meters."
<http://on5au.be/content/a10/wire/40hb.pdf>
- [3] W4RNL (SK) "Antennas Made of Wire", Page 140. <http://on5au.be/Cebic/W4RNL%20Antennas%20Made%20of%20Wire%20Vol%201.pdf>
- [4] Roundtable, "What is an Antenna Radiation Pattern?", Part 1, Page 3.
[https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201010\(OCT\).pdf](https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201010(OCT).pdf)
Roundtable, "What is an Antenna Radiation Pattern?", Part 2, Page 3.
[https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201011\(NOV\).pdf](https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201011(NOV).pdf)
- [5] Roundtable, "Inverted V Verses the Dipole", Page 3.
[https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201012\(DEC\).pdf](https://www.w0tx.org/RoundtableArchive/2010-RoundTables/RT201012(DEC).pdf)
- [6] "Dipoles near Ground".
https://f6ajournal.com/crbst_911.html
- [7] Roundtable, "Tuner Matches Antenna System on All But One Band?": Apr 2014 Page 4.
https://f6ajournal.com/crbst_911.html
- [8] MFJ-1910 Fiberglass Pole
https://mfjenterprises.com/collections/mfj/products/mfj-1910?_pos=3&_sid=178d8ccc7&_ss=r
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WYOMING HAMCON 2021

PROVIDED BY R.J BRAGG, WY7AA, PRESIDENT OF SHY-WY ARC

The Wyoming ARRL Section Convention will be held on October 9th. We will be opening early registration soon. See wyhamcon.org/site for more details.

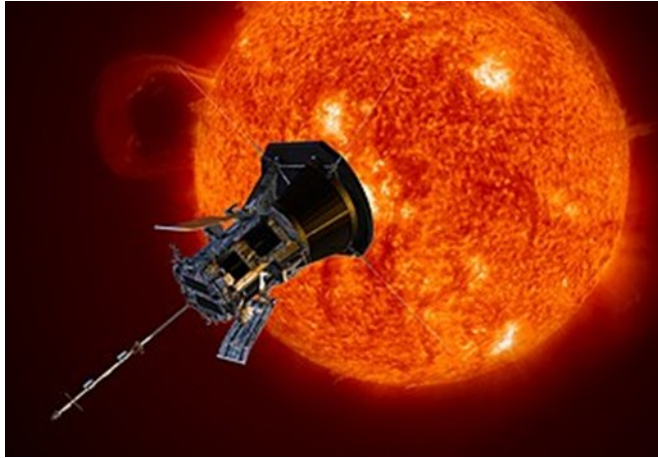
We have a large venue, and we plan to have as many activities as we can during the event. If anyone has more questions, or would like to be a vendor or forum presenter, please contact us at: wyhamcon.org/site/contact-us

73 and we hope to see you all in October in Cheyenne.

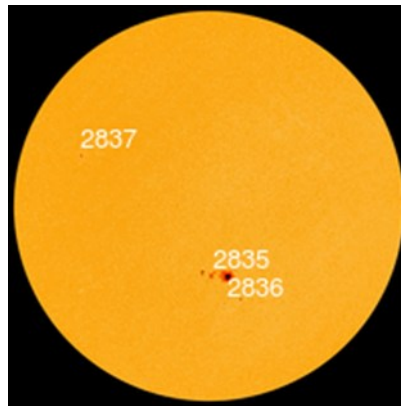


SOLAR GEOPHYSICAL ACTIVITY REPORT

PROVIDED BY FRED HART, AA0JK

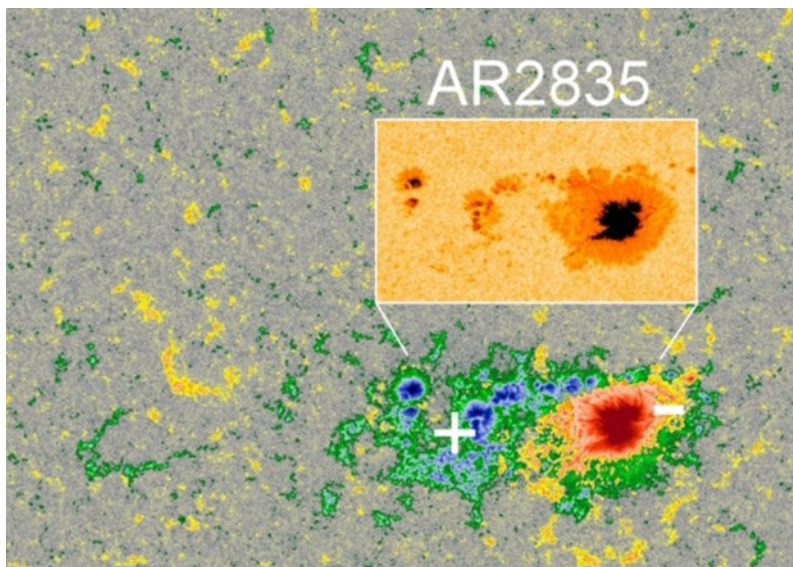


July 1st - Sunspot AR2835 Nearly doubles in size over a 24 hour period.



Credit: SDO/HMI

Sunspot AR2835 had a 'delta-class' magnetic field that harbored energy for a strong M-class solar flare.

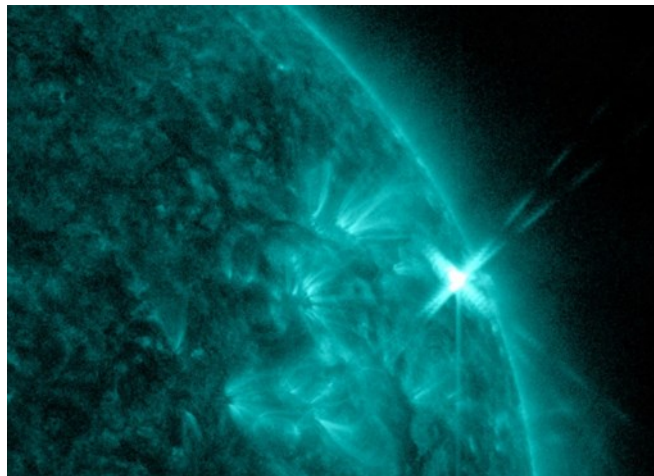


This magnetic map was from NASA's Solar Dynamics Observatory.

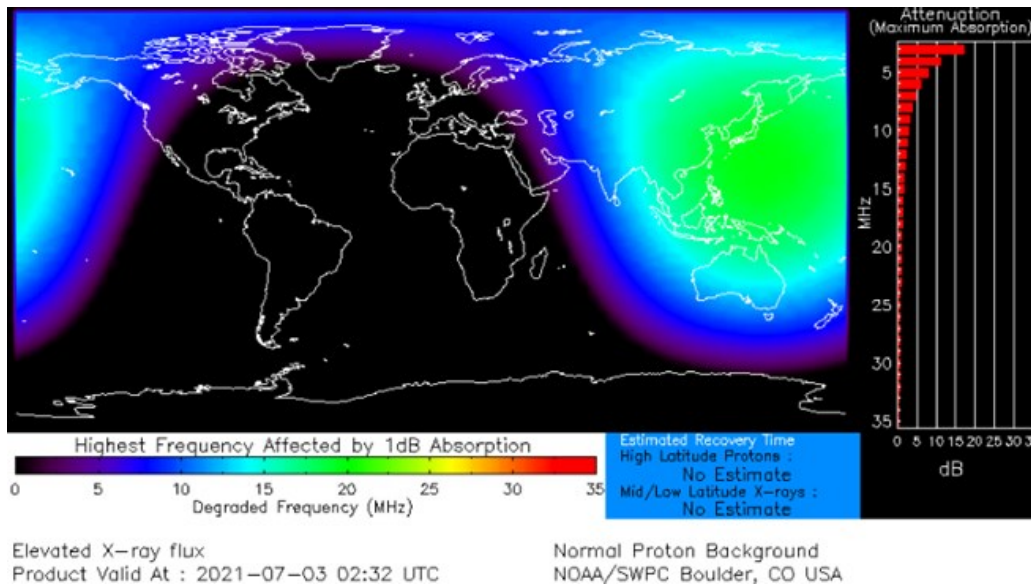
As the sunspot had grown, its magnetic structure became more complex. Note the mixing of north (+) and south (-) magnetic fields. When magnetic fields of opposite polarity bump together, they can explode. The process is known as magnetic re-connection, and it is responsible for solar flares.

Any flares at this time would have been geoeffective, as the sunspot was directly facing Earth.

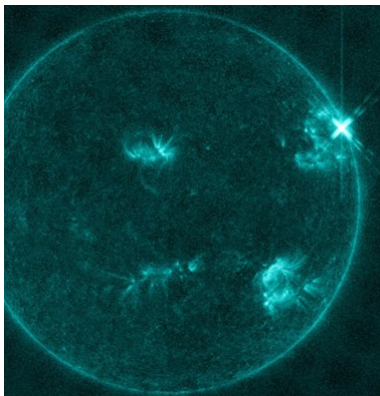
July 3rd - New sunspot immediately explodes. A new sunspot emerged during the early hours of July 3rd, and immediately exploded. NASA's Solar Dynamics Observatory recorded the extreme ultraviolet flash.



The C7 class solar flare briefly ionized the top of Earth's atmosphere, causing a shortwave radio blackout around the western rim of the Pacific Ocean. Mariners, aviators, and amateur radio operators may have noticed unusual propagation effects below 20 MHz just after 0231 UT.



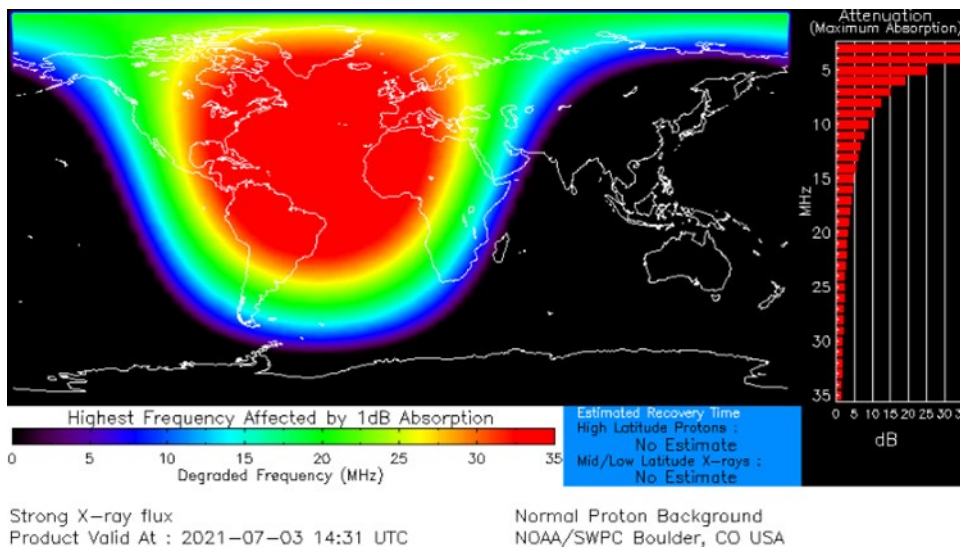
Black-Out-Map



Sunspot AR2838 burst through the surface of the sun and promptly unleashed the strongest solar flare in 4 years, an X-1.5 class explosion.

As quickly as it appeared, the sunspot was already gone. On July 4th it rotated over the sun's northwestern limb, and would spend the next two weeks transiting the far-side of the sun. If AR2838 holds itself together, it would re-appear on the Earth-side in late July.

A pulse of X-rays ionized the top of Earth's atmosphere again, causing another shortwave radio blackout over the Atlantic Ocean this time. Mariners, aviators, and amateur radio operators may have noticed unusual propagation effects below 30 MHz just after 1429 UT.



X-flares are the strongest kind of solar flare. They are typically responsible for the deepest radio blackouts and the most intense geomagnetic storms. This is the first X-flare of young Solar Cycle 25. More are in the offing. During the previous solar cycle, (Solar Cycle 24), the sun produced 49 of them. Forecasters believe that Solar Cycle 25 should be at least that active. We can therefore expect dozens more X-flares as the sun approaches Solar Maximum in the year ~2025.

July 5th - The first X-flare of solar cycle 25. On July 3rd, for the first time in almost 4 years, the sun produced an X-class solar flare. This was an important milestone. X-flares are the most powerful kind of explosion on the sun, responsible for the deepest radio blackouts and the most intense geomagnetic storms. Many more X-flares are likely in the months and years ahead as Solar Cycle 25 approaches peak activity in ~2025:

A phenomenon called a 'magnetic crochet.' Radiation from the flare ionized the top of Earth's atmosphere and

caused currents to flow 60 km to 100 km above Earth’s surface. These currents, in turn, altered Earth’s polar magnetic field. Unlike geomagnetic disturbances that arrive with CME’s days after a flare, a magnetic crochet occurs while the flare is in progress. They tend to occur during fast impulsive flares like this one on July 3rd .

July 7th - CO-ROTATING INTERACTION REGION. NOAA forecasters said there was a chance of geomagnetic unrest on July 9th when a co-rotating interaction region (CIR), was expected to hit Earth's magnetic field. CIRs are transition zones between slow- and fast-moving solar wind. Solar wind plasma piles up in these regions, producing CME-like density gradients that can spark HF radio disturbance.

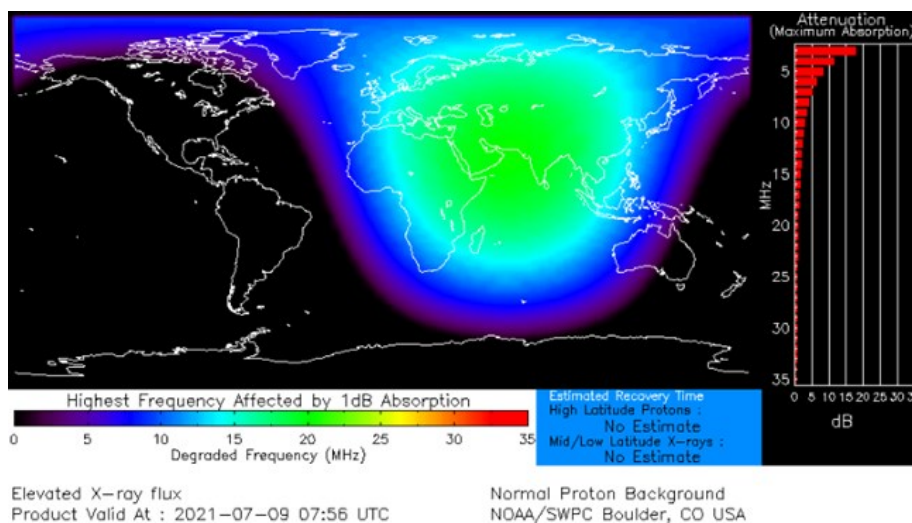
“HF propagation blackouts are caused when x-ray and extreme ultraviolet radiation from X-class solar flares strongly ionizes the absorbing D-region in the Earth’s sun-facing dense lower ionosphere. Such a radio blackout occurs when a pulse of x-rays ionize the top layer of the atmosphere, the exosphere.

A R3-level or “stronger”, radio blackout (on a scale of R1 – R5). A R3 incident can cause a “wide-area blackout of HF radio communication [and] loss of radio contact for about an hour on sunlit side of Earth. Low-frequency navigation signals degraded for about an hour.”

“95% of all X-class solar flares occur when the solar flux index is 90 or greater. The remaining 5% can occur any time during the solar cycle.” “X1-class major solar flares typically degrade HF propagation for only an hour or two at mid and high latitudes, only on Earth’s sunlit side.”

July 10th - Two solar flares. Two radio blackouts. Departing sunspot AR2840 erupted twice on July 9th, producing a pair of almost M-class level solar flares.

Pulses of X-radiation ionized the top of Earth’s atmosphere. The result: two minor radio blackouts.



The solar disc was full of minor motions, filaments were dancing, a coronal hole was turning through on the south. On the departing region in the North, AR2840 was still firing as it disappeared over the limb to the far side. One of the southern filaments tried to erupt in the earths direction but failed. Flaring and solar wind were calm.

July 16th - Another halo CME. It happened again. For the second time in two days, a halo CME billowed away from the far-side of the sun on July 15th. It wasn't as potent as the first CME, but it signaled continued activity from a hidden sunspot group.

Although the explosion occurred on the far-side, separated from Earth by the massive body of the sun, it still peppered our planet with high-energy particles.

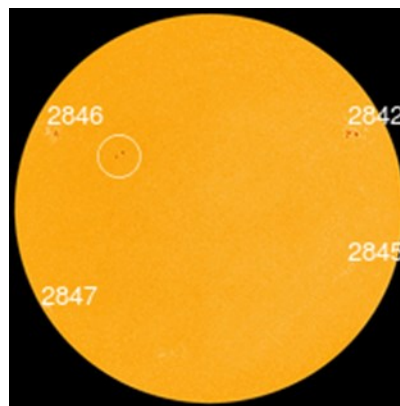
Speculates that lifted-off of the CME may have created a global shock wave on the far-side of the sun. Particles spilling over the edge spiraled toward out planet.

The source of the blast might have been the same sunspot (AR2838) that produced the first X-flare of solar cycle 25 on July 3rd. That sunspot was transiting the far-side of the sun approximately where the CME came from. Within the following week, AR2838 was expected to return.



The southeastern limb of the sun was seething with activity. During the late hours of July 19th, Earth-orbiting satellites detected multiple Long-duration solar flares, as glowing masses of plasma and magnetic arches surged into view. NASA's Solar Dynamics Observatory recorded the action.

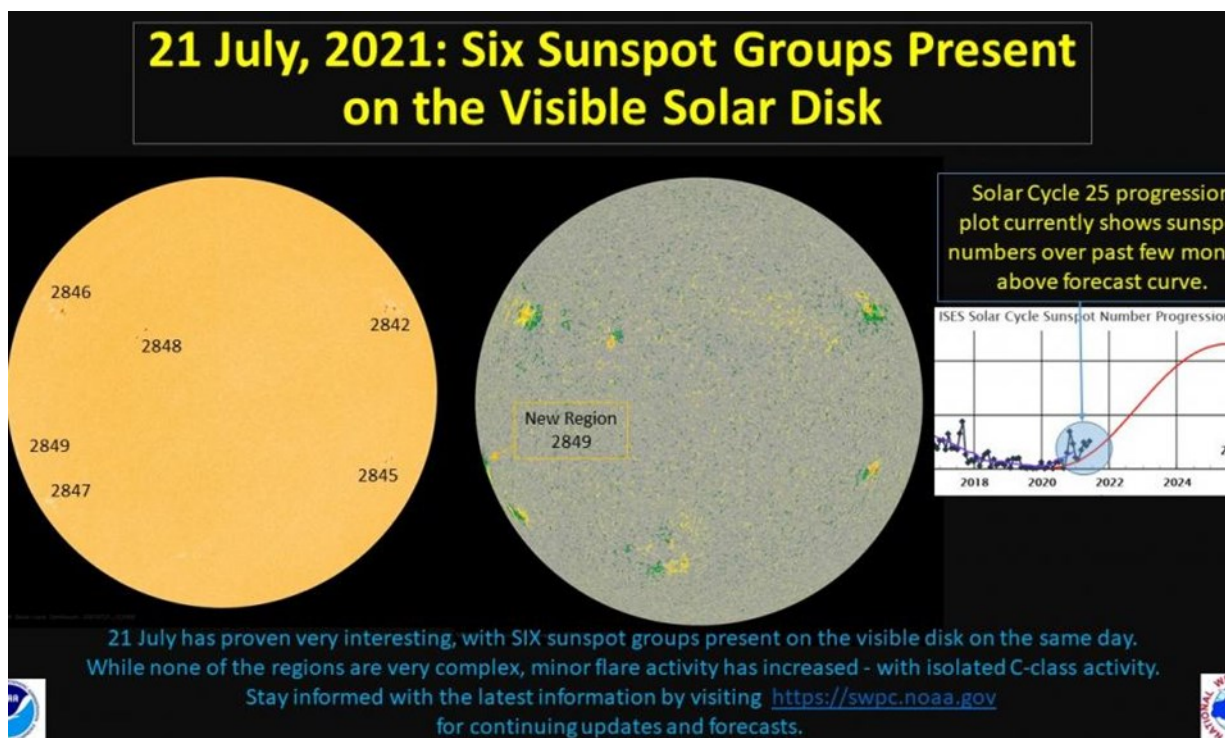
July 21st - Image Credit: SDO/HMI



A new, as-yet-unnumbered sunspot, was growing rapidly at the circled location.

Sideways solar flare. A filament of magnetism near sunspot AR2846 erupted July 20th, sparking a B-class solar flare, and hurling a cloud of plasma into space. Normally, the location of the blast site would rule out an impact on Earth. However, the explosion's debris squirted out sideways. NOAA analysts were evaluating the possibility of a glancing blow later in the week.

SIX SUNSPOT GROUPS PRESENT ON THE VISIBLE DISK AT SAME TIME ON 21 JULY.



Solar activity recently increased as six sunspot groups were present on the same day (21 July, 2021). Some of these regions have also produced low-level C-class flare activity the past few days. Additionally, solar cycle sunspot progression the past several months has been ahead of the solar cycle 25 forecast.

Solar Cycle 25 is on the up-tic.

Joint USAF/NOAA Solar Geophysical Activity Report and Forecast. SDF Number 201 Issued at 2200Z on 20 July 2021. The geomagnetic field was expected to be at quiet to unsettled levels.

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.

The LCL-YL Column

by

Pat, KØEVG

The LCL-YL net celebrated its first anniversary April 7. It was a year ago when seven YLs answered the "CQ YLs. This is the Loaded Clothesline YL net meeting for the first time on this frequency 7.235 mc. This is WØTYB net control

The YLs who checked in the first meeting were:

Betty, WØTYB
 Carolyn, KØBCQ
 Irma, KØHFB
 Marie, WØMMT
 Lucille, K5GYZ
 Dorothy, WØSWK
 Pat, KNØEVG/WØFG

Since the first meeting the LCL-YL net has organized members known as WYLAS, Western Young Lady Amateurs. There are now twenty-four members in good standing.

The activities of the WYLAS include: a net at 9:30 every Monday morning; a flying round robin, which contains information about each member and is circulated among the members for additional news, and helps them to get better acquainted; and the keeping of the "Hollow-Log." The log is an historical account of the WYLAS and their activities since organization.

This column wouldn't be complete without saying that the WYLAS net was born through the efforts of Betty, WØTYB. The coining of the Hollow-Log, and the designing and presentation

of the apron favors to each new member was also through the inspiration of Betty, KØTYB. Without doubt all members have helped in numerous ways and we all hope this fine esprit de corps continues.

The LCL-YL net will be affiliated with YLRL. One of the YLRL requirements is that an organized net must have three-fourths of its members also members of the YLRL.

During the National Science Teachers Association Convention recently the Denver YLs were happy to meet and entertain Sister Mary Charlotte, K6VFE, and her companion, Sister Mary Alexandrine, another science teacher. Marte, KØEPE, drove to the airport and had luncheon. Kay, KØBTV, showed the visitors some of the wonders of the Bureau of Standards. K6VFE was at the mikes to compare KØEVG's Viking 500 with KØEVG's mobile Gonset twins. K6VFE was a great inspiration to all the hams who met her by her determined enthusiasm for hamming.

Betty and Mel had a vacation as far as California. They were in contact daily with Denver from their mobile rig.

Marte, KØEPE, is elated over the help Peter, WØJYW, her OM, gave her in putting up the 20 meter antenna. Or was it vice versa? Marte has scratches from cutting branches in the trees. (cont. on page 6.)

-5-

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
[Many Books](#)

THE ROUND TABLE ARCHIVE

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

THE ROUND TABLE ARTICLE INDEX

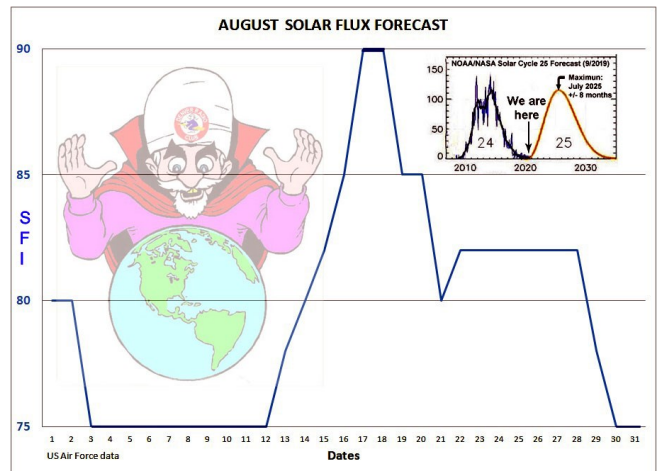
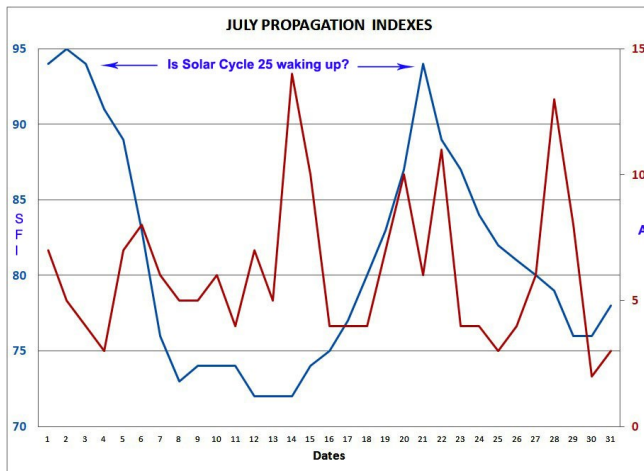
Go to: <http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf>

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
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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
Maryland-DC	08/14/2021	08/15/2021	Anne Arundel Radio Club	
Hawaii	08/28/2021	08/29/2021	Hawaii QSO Party	
Kansas	08/28/2021	08/29/2021	Kansas QSO Party	
Ohio	08/28/2021	08/29/2021	Ohio QSO Party	
Colorado	09/04/2021	09/05/2021	Pikes Peak Radio Amateur Association	
Tennessee	09/05/2021	09/06/2021	Tennessee Contest Group	
Alabama	09/11/2021	09/12/2021	Alabama QSO Party	
Iowa	09/18/2021	09/19/2021	Story County ARC	
New Hampshire	09/18/2021	09/19/2021	Port City Amateur Radio Club	
New Jersey	09/18/2021	09/19/2021	Burlington County Radio Club	
Texas	09/18/2021	09/19/2021	Texas DX Society	
Washington	09/18/2021	09/19/2021	Western Washington DX Club	
Maine	09/25/2021	09/26/2021	Wireless Society of Southern Maine	

ATTENTION

SUPPORT THE DRC FROM YOUR AMAZON PURCHASES

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

DRC REPEATERS

BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090MHz (-1MHz) 107.2Hz PL	
Packet	145.05MHz	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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AUGUST 2021							<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	3	4 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	5	6	7 222 MHz & Up Distance Contest - Begins 1800 UTC	
8 222 MHz & Up Distance Contest - Ends 1759 UTC  New Moon	9	10	11 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	12	13	14	
15  First Quarter	16	17	18 DRC Online Meeting Elmer 6 p.m. Meeting 7 p.m.	19	20	21 10 GHz & Up - Starts 0600 Local	
22 10 GHz & Up - Ends 1200 Local Rookie Roundup RTTY - 1800 to 2359 UTC  Full Moon	23	24	25 Learning Net 7:30 p.m. 145.490 / 448.625 (No PL)	26	27	28	
29	30  Last Quarter	31					

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

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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