THE ROUND TABLE
Monthly Newsletter Of The Denver Radio Club
Since 1917 March 2025

President's Message

By Gerry Villhauer, W0GV

Hello DRC Members,

Here we are in March…in my mind, winter is pretty much over when we reach March. Yes, March and April are the months when we get the most moisture but, the real cold temperatures are "usually" over. I hope this holds true for 2025.

I want to thank Greg Mihran, KJ6ER, for a very interesting program on his antenna designs at our February meeting. You may search the web or Google for several articles about Greg and his different antenna designs used mostly for POTA operation.

At this writing, we do not have a program confirmed for our March 19, 2025 meeting. If you have seen or know of a program that you think would be a good fit for a DRC meeting, please let me know about it.

We will have a opening for a DRC Board Member Apr 1, 2025. If you are a current DRC member and would consider filling this position, please let me know as soon as possible.

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

Heavens Above

By Bill Rinker, W6OAV

Heavens Above (https://www.heavens-above.com/) is a valuable resource for ham radio operators, particularly those interested in satellite communications. The website offers several key features that are useful for hams:

- **Satellite pass predictions:** Heavens Above provides precise predictions for passes of the International Space Station (ISS) and other visible satellites, including amateur radio satellites. This allows hams to plan their satellite communication effectively.
- **Radio satellite information:** The platform offers specific data for amateur radio satellites, including uplink and downlink frequency information. This is crucial for hams looking to make contacts via satellite.
- **Live sky charts:** Users can view what's in the sky above them at any given moment, helping to locate satellites and stars visually.
- **Orbit and ground track details:** Heavens Above displays detailed information about satellite orbits and ground tracks, which is essential for tracking and communicating with satellites.
- **Night mode:** An optional red-on-black color scheme helps preserve night vision, which is useful for outdoor satellite operations.
- **Calendar integration:** Hams can add interesting satellite passes to their calendar, ensuring they don't miss opportunities for communication.
- **ISS visibility information:** The platform provides data on when the ISS will be visible from the user's location, which is particularly useful when the ARISS (Amateur Radio on the International Space Station) repeater is active.
- **Comet Tracking:** Displays the location of bright comets in the sky.

By offering these features, Heavens Above simplifies the process of tracking and communicating with satellites, making it an invaluable tool for ham radio operators interested in satellite operations.

Author's comment: I was stunned when I viewed the map showing Starlink satellites in orbit. As of January 2025, there were 6,912 Starlink satellites in orbit, with 6,227 of them in operational orbit!

References:
How to Track the ISS with Heavens-Above.com: https://www.youtube.com/watch?v=V8lWQrtLQvE
Heavens Above.com tutorial: https://www.youtube.com/watch?v=XayT4m9H0OU
Using Heaven above.com: https://www.youtube.com/watch?v=I36XKy3za3U

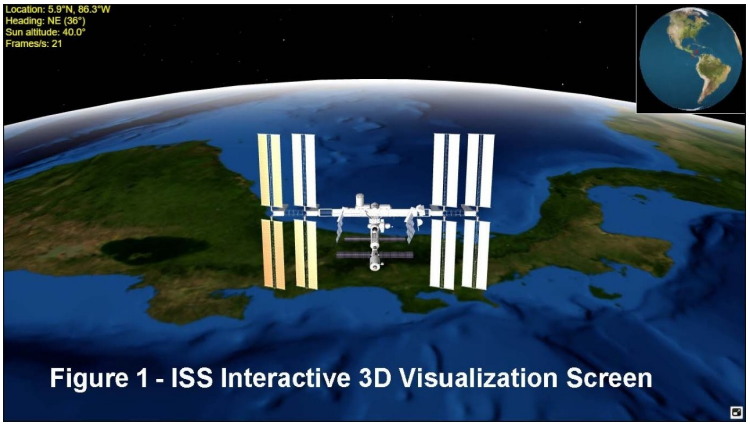


Figure 1 - ISS Interactive 3D Visualization Screen

HR1094

BY BILL RINKER, W6OAV

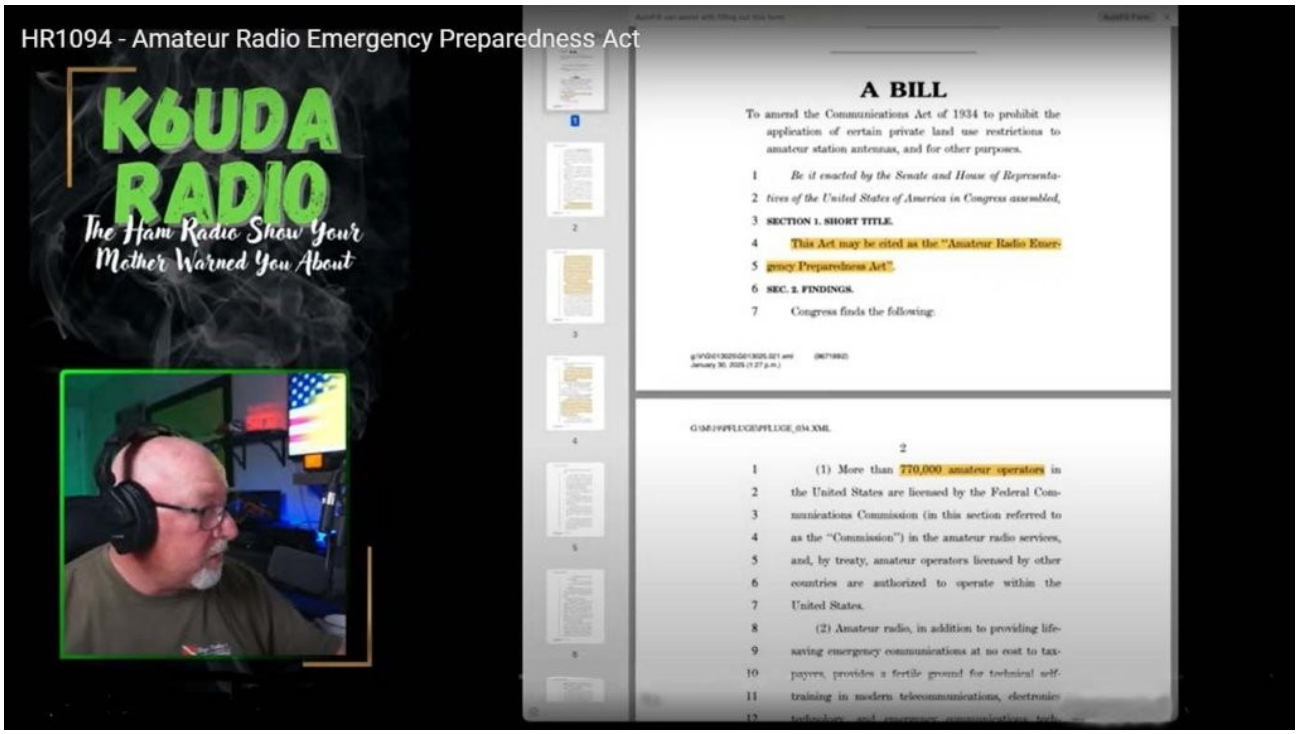
The Amateur Radio Emergency Preparedness Act (H.R. 1094 and S. 459) is bipartisan legislation reintroduced in this year by U.S. Representatives August Pfluger (R-Tex.) and Joe Courtney (D-Conn.), along with Senators Roger Wicker (R-Miss.) and Richard Blumenthal (D-Conn.). This act aims to amend the Communications Act of 1934 to prohibit homeowner associations (HOAs) from enforcing private land use restrictions that ban or impede the installation and operation of amateur radio antennas.

The proposed legislation seeks to address this issue by:

- Prohibiting HOA Rules: Preventing HOAs from enforcing rules that ban or unreasonably restrict amateur radio antennas.
- Clarifying the Approval Process: Establishing a clear and standardized process for the installation of amateur radio antennas, ensuring that applications are not subjected to excessive or discriminatory requirements.
- Providing Legal Recourse: Granting amateur radio operators a private right of action to challenge unreasonable restrictions, thereby empowering them to protect their rights through the legal system.

The successful passage of this Act depends on active support from the ham radio community. Watch K6UDA's YouTube video for the full details.

HR1094 - Amateur Radio Emergency Preparedness Act:
https://www.youtube.com/watch?v=61LKQ7q9IHs



An Easy to Use Antenna Design Tool

By Bill Rinker, W6OAV

There is a website dedicated to enabling hams to easily design and model wire antennas suitable for use on the HF bands for SOTA/POTA and/or home use.

This site provides an easy to use online tool for designing dipoles (single band and multiband), Off-Center Fed dipoles (OCF), End-Fed Half Waves (EFHW), Delta Loops, Half-Squares and Moxons.

The online tool provides outputs which are close to that of EZNEC, 4NEC2 and MMANA-GAL. However, unlike those programs the learning curve for using this program is much flatter. The tool takes the complexity out of modeling and designing wire antennas. Parameters such as frequency, wire links and angles are easily inputted which results in graphical output.

Figures 1 through 3 show the tool being used to design an EFHW 20 meter antenna which is bent due to height limitations. Filling in the required information shown in Figure 1 and clicking "Calculate" produced the antenna diagram shown in Figure 2. Filling in the required information shown in Figure 3 and clicking "Display" produced the information shown in Figures 4 through 6.

This designed antenna worked well when erected. This tool makes it easy to design, experiment and tweak values to see what changes in performance occur. Check the site out at: https://sota-antennas.com/index.php

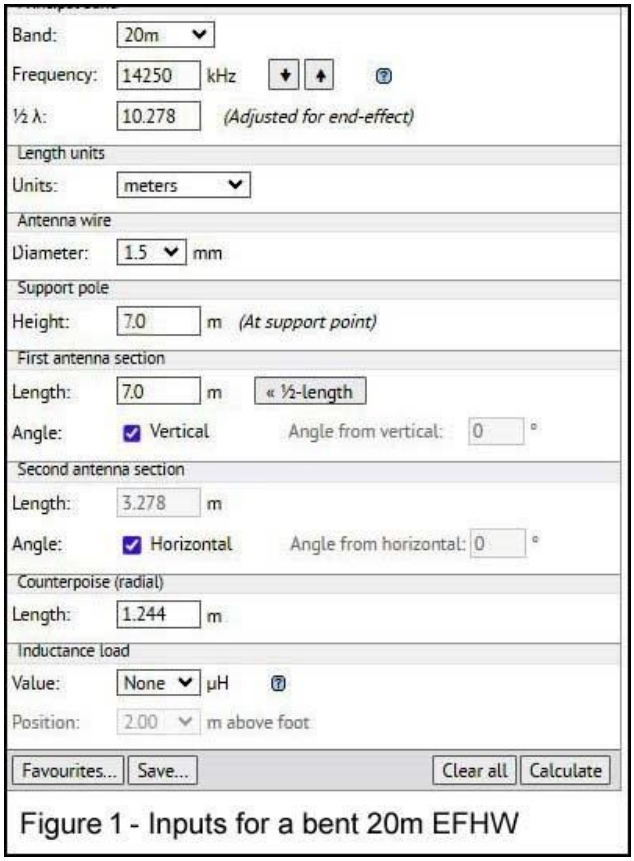


Figure 1 - Inputs for a bent 20m EFHW

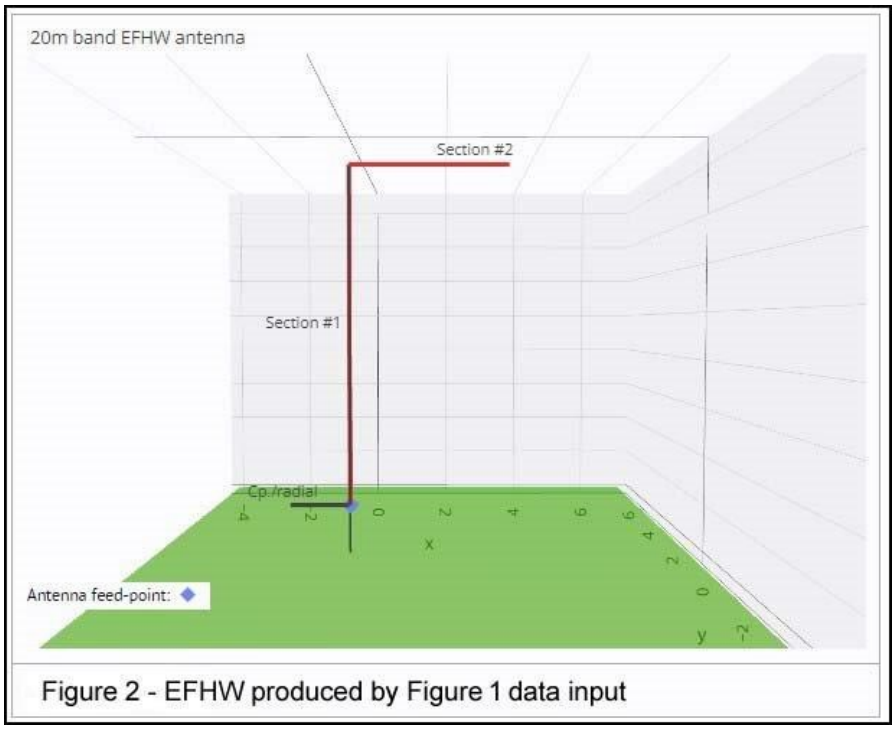
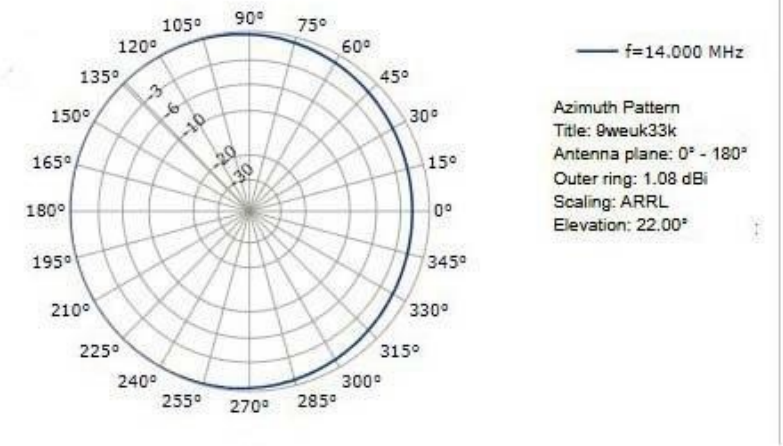


Figure 2 - EFHW produced by Figure 1 data input

Choose ground type of land in the vicinity of the antenna:	Poor (SOTA standard) Conductivity: 13 S/m Dielectric const.: 0.002 F/m *Rocky soil, steep hills, typically mountainous*
View propagation plots:	☑ Azimuth ☑ Elevation Set azimuth angle for elevation plot: ◉ Auto ○ Choose: 0 ° ☑ 3D
Check prop. patterns on:	○ Principal band ◉ Choose band: 20m
View currents diagram:	☑ Antenna currents diagram
View VSWR chart:	☑ VSWR Check on: ◉ Principal band ○ Bands range From: 20m To: 20m
Display impedance curves:	Using 49:1 unun
Impedance curves scales:	○ Independent: ◉ Shared
View Smith chart:	☐ Smith chart
Estimated antenna gains at 22° elevation:	Maximum gain: 1.08 dBi (-1.07 dBd) at 134° azimuth Minimum gain: -0.63 dBi (-2.78 dBd) at 0° azimuth Max/min difference: 1.71 dB
Estimated frequency range:	621.8 kHz at VSWR 1.6 : 1
Help...	Display

Figure 3 - Additional inputs to complete calculations



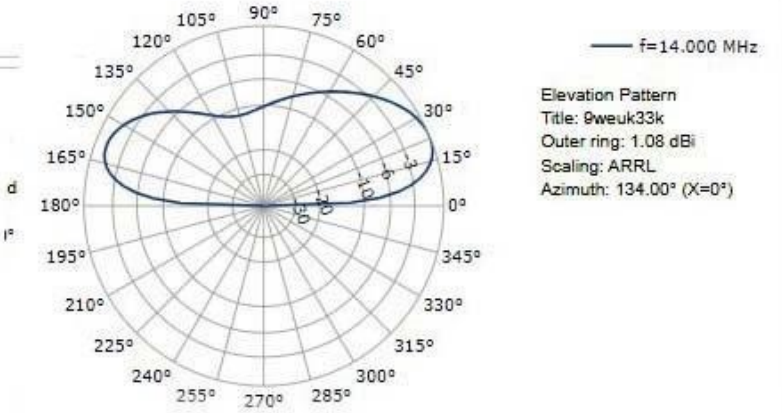


Figure 4 - 20m EFHW patterns

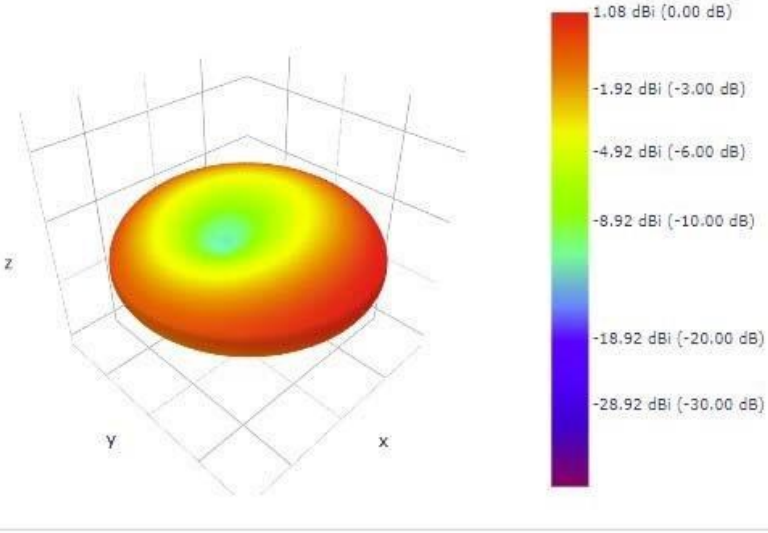


Figure 5 - 3D Patterns of the 20m EFHW

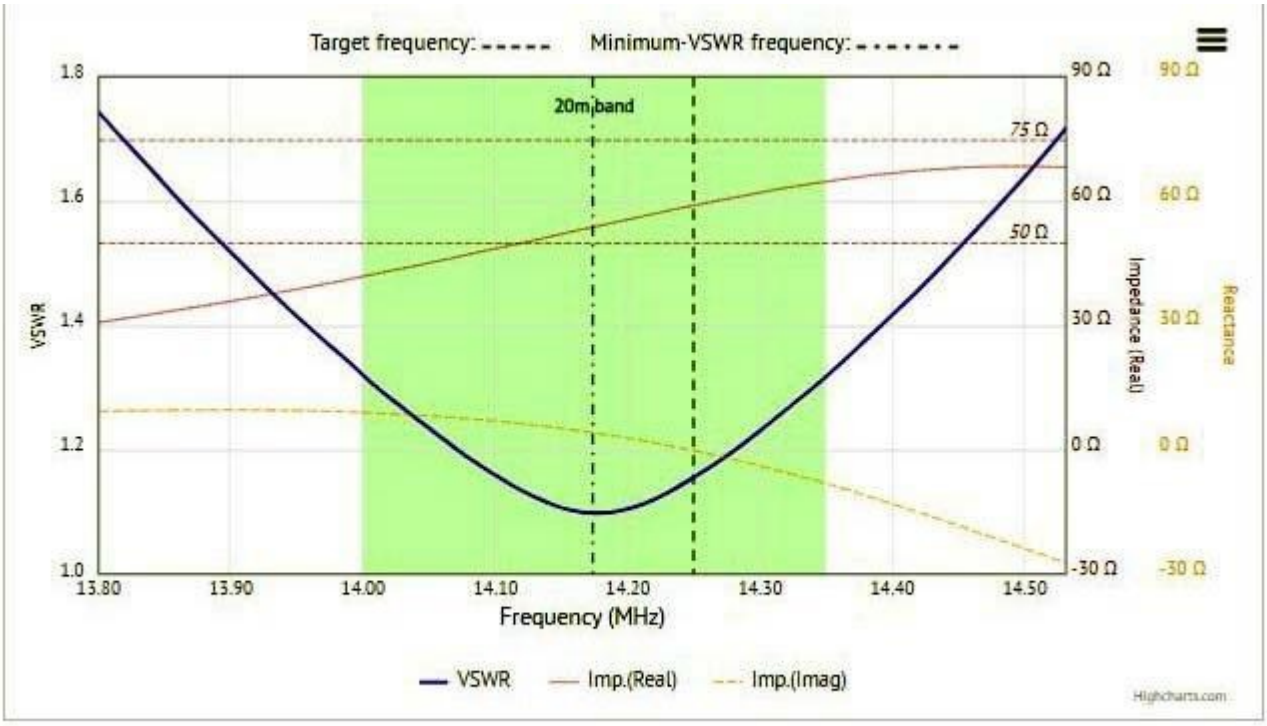


Figure 6 - SWR of 20m EFHW

SOTA Versus POTA

By Bill Rinker, W6OAV

We often hear SOTA or POTA mentioned on the air. So, what are these? The following may qualify their meanings.

Both Summits on the Air (SOTA) and Parks on the Air (POTA) are challenging events for ham operators, encouraging portable operation in unique outdoor locations. While they share some similarities, there are also key differences:

Focus:
SOTA*:* Specifically targets reaching and activating mountain and hill summits, emphasizing the challenge of working from higher remote elevations.
POTA*:* Focuses on activating designated parks and public lands, offering a vast variety of landscapes and locations to explore.

Participants:
SOTA: There are two groups that participate in SOTA:
Activators:
Activators start by choosing a summit from the SOTA database. Each summit is assigned a points value based on its height, isolation, and accessibility. Once on the summit, activators set up their portable radio station and make contacts with other ham operators around the world. They transmit their call sign, summit reference number, and any additional information. Each contact with a station (Chaser) earns them points based on the summit's difficulty and the distance between the stations.

Chasers:
Chasers make contact with activators from their own stations. They also earn points based on the summit's difficulty and the distance between the stations.

POTA: There are two groups that participate in POTA:
Activators:
Activators select a park listed on the POTA website. There are thousands of parks across the globe, offering diverse landscapes and challenges. Activators set up temporary stations in designated parks and make contacts with other ham operators (Hunters).

Hunters:
Hunters try to contact activators from their own stations, earning points for each successful QSO.

Popularity:
SOTA:
The official SOTA database (established internationally in 2002) lists over 160,000 activations. This data represents the total number of activations ever logged, not necessarily the active number of participants.
POTA:
POTA doesn't maintain a centralized database of participants due to privacy concerns. Instead, they focus on recording activation logs. As of October 2023, the POTA website reports over 850,000 park activations logged since the program's inception in 2016.

Terrain:
SOTA: Summits usually involve hiking or climbing, often requiring more physically demanding efforts, potentially harsher weather conditions and tree less terrain (no antenna supports).
POTA: Parks can range from flat grassy areas to wooded forests to coastal locations, offering varying degrees of accessibility and physical challenge.

Technical Demands:
SOTA: May require specialized antennas and careful setup considerations due to the lack of trees, the potentially windy and uneven terrain on summits.

POTA: Generally less demanding in terms of equipment and antenna setup, as operating from flat or gently sloping ground with trees allows for easier installations

Points System:
SOTA
SOTA points, which are awarded to activators for each contact they make from a summit, are determined by a combination of factors:
1. Summit difficulty:
Each summit in the SOTA database is assigned a "point value" based on its height, isolation, and accessibility. Higher, more isolated, and less accessible summits generally have higher point values.
The point value ranges from 1 for the easiest summits to 10 for the most challenging ones.

2. Contact distance:
Points are also awarded based on the distance the activator achieves with each chaser.
The distance is calculated using the locator grid system, and different point values are assigned for different distance ranges.

POTA
POTA points, unlike SOTA points, are not primarily based on the difficulty of the chosen park or the distance of contacts. Instead, the POTA point system focuses on encouraging diverse park activations and radio skills development. Here's how it works:

1. Contact Points:
Each successful contact an activator makes with a hunter earns them 1 point. Unlike SOTA 1 point is awarded regardless of distance to the hunter.

2. Band Multipliers:
To incentivize using different bands, POTA awards multipliers based on the band used for the contact:
HF: 1x multiplier (no bonus).
VHF /UHF: 2x multiplier.
Microwave (above 1 GHz): 3x multiplier.

3. Park Type Bonus:
To promote exploration of diverse parks, POTA awards bonus points for activating different park types:
National Parks/State Parks: 1x bonus point.
County/City Parks/Forests/Recreation Areas: 2x bonus point.
Unique Park Categories (Islands, Historical sites, etc.): 3x bonus point.

Awards:
SOTA: Recognizes achievements through various awards based on points accumulated, summit activations, and activation frequencies used.
POTA: Offers awards for achieving specific milestones in terms of QSOs, park types activated, and bands used.

Overall Experience:
SOTA: Emphasizes the challenge and adventure of reaching mountaintop peaks and making

contacts from remote locations, requiring more planning and technical savvy.
POTA: Encourages leisurely radio operation in diverse outdoor settings, promoting enjoyment of nature and connecting with other hams in public spaces.

Summary:
Ultimately, the choice between SOTA and POTA depends on individual preferences and priorities. SOTA could be the perfect choice for enjoying mountain ascents and challenging radio operations. POTA might be the choice for exploring parks and making casual contacts. So, give either SOTA or POTA a try. It can be a blast and provide a sense of accomplishment!

References:
SOTA:
Official website:
https://www.sota.org.uk/
Getting started with Summits on The Air (SOTA):
https://www.youtube.com/watch?v=Bi1_guZHJVI
Activating SOTA on VHF/UHF - Radios, Antennas, & Tips:
https://www.youtube.com/watch?v=6SxNHChLX-I

POTA:
Official website:
https://parksontheair.com/
Getting Started In Parks on the Air:
https://www.youtube.com/watch?v=oQr5NoNY6Pc

The DRC needs you!

Please contact W0GV (president@w0tx.org) if you are interested in helping with the open positions.

See the list at the end of the newsletter.

~Editor's Note: We would love to publish a monthly column profiling DRC members' stories about how they got into the ham radio hobby, their interests and backgrounds. You may be boring but your story is probably interesting! Please submit your story to roundtable@w0tx.org.

HamCon Colorado is Coming!

From John Maxwell, W0VG

The Rocky Mountain Division Convention is coming back to Colorado after nearly 9 years! We're going to have a great convention with some fantastic speakers and forums on every topic imaginable. We look forward to seeing you all October 23-26, 2025 in Grand Junction.

Thank you for your interest in HamCon Colorado. If you would like more information, go to hamconcolorado.com.

The DRC needs you!

The DRC is looking for Net Control operators for the Sunday night nets. A script, that will guide you through the process, will be provided. It is great practice for running a net and gaining additional experience. If you're interested, please email net@w0tx.org.

~ Get Published ~

We welcome and encourage all members to share their experiences and stories so that we can all learn from one another. It can be long or short. If we can't fit it into one newsletter, we can split it across multiple issues. Not a writer? We have volunteers that will listen to your story and put it into an article, and of course you will have the opportunity to review and approve prior to publication. Your contribution to the club is welcomed and appreciated. ~Editor

FROM THE ARCHIVES

SEPTEMBER 1969

Ye Gd Says

Dick Schmidt has sent us some more pictures but time did not allow us to get the plates made for this issue. Next time we hope. The Staff page need an overhauling too as it does not accurately reflect the status of offices in the club. Since election is coming up and there will be changes this will be corrected next issue too. In the mean time bear with us.

Some members have not been getting their Round Table again. Please ask as there are sometimes a mistake and again the P.O. may have lost your copy. We have even found out that some one moved and forgot to let us know. Labels have not stuck on either.

Thanks again to our advertisers and to those who take the time to contribute to our paper. This is a very good thing as it gives several points of view.

DRC's Emergency Response Info

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

Kings Soopers Reward Program - Help the DRC.

kingsoopers.com/i/community/community-rewards

citymarket.com/i/community/community-rewards

Random Site Of The Month

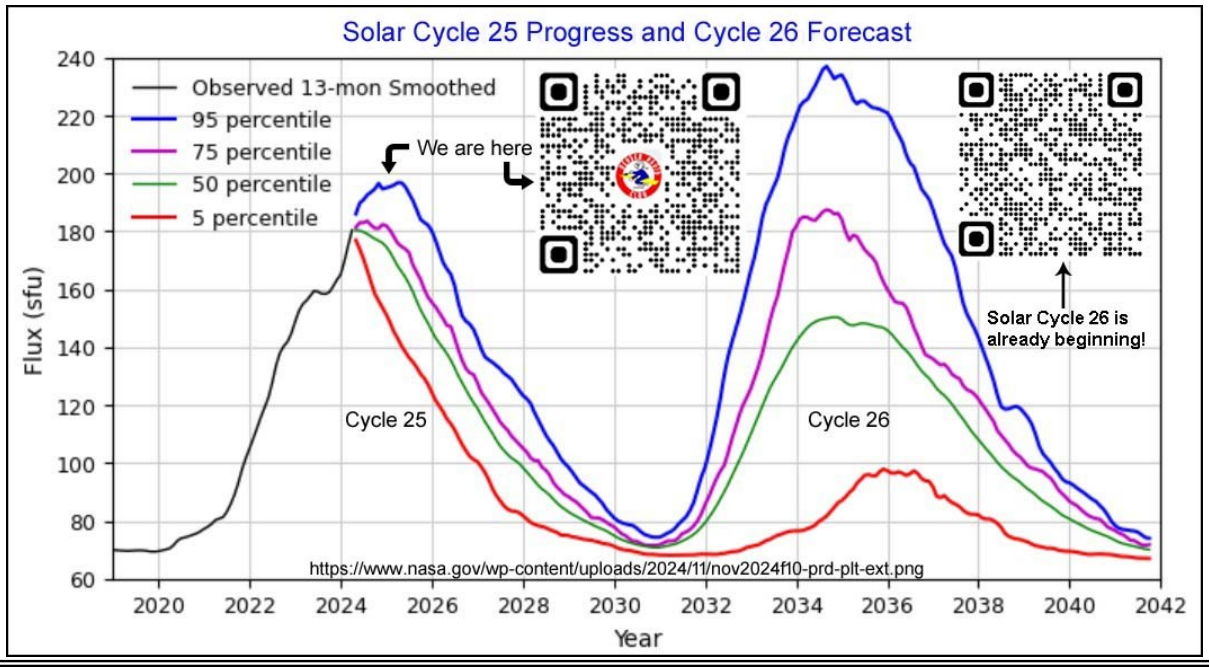
Austrian Amateur Radio Society

The Round Table Archive and Article Index

w0tx.org/roundtable

Propagation Forecast

By Bill Rinker, W6OAV



Upcoming Events

Hamfests & Conventions

Event	Date	Location	Sponsor Website
LARCfest 2025	04/05/25	Longmont	W0ENO page

Upcoming QSO Parties

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

State/Province	Start Date	End Date	Sponsor Website	Notes
Idaho	03/08/2025	03/09/2025	Idaho QSO Party	
Oklahoma	03/08/2025	03/09/2025	Oklahoma QSO Party	
Wisconsin	03/09/2025	03/10/2025	West Allis Radio Amateur Club	
Virginia	03/15/2025	03/16/2025	Virginia QSO Party	
Louisiana	04/05/2025	04/06/2025	Louisiana Contest Club	
Mississippi	04/05/2025	04/06/2025	ARRL Mississippi Section	
Missouri	04/05/2025	04/06/2025	Boeing Employees' Amateur Radio Society – St. Louis	
Georgia	04/12/2025	04/13/2025	Georgia QSO Party	
New Mexico	04/12/2025	04/13/2025	New Mexico QSO Party	
North Dakota	04/12/2025	04/13/2025	ARRL ND Section Manager	

Source: qsoparty.eqth.net/index.html See contestcalendar.com/contestcal.html for a larger QSO parties list.

Attention

The DRC Board of Directors meetings are held on the 4th Wednesday of each month via Google Meet and are open to any member. If you wish to attend, please contact a board member prior to the meeting night for specific information.

DRC Repeaters

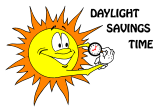
BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090MHz (-1MHz) 107.2Hz PL	
Packet	145.05MHz	**Metro Denver Area Coverage**
2m	145.490MHz (-) 100Hz PL	**Linked to 70cm / 448.625MHz. Primary frequency during emergency net.**
2m	147.330MHz (+) 100Hz PL	**Local area. Does not TX a PL.**
1.25m	224.380MHz (-) 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**

DRC's Trading Post

Don't forget you can find locally-sourced, ham-grown merchandise at: w0tx.org/trade

MARCH 2025

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5 **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	6 First Quarter	7	8
9 	10	11	12 **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	13	14 Full Moon	15
16	17 	18	19 **DRC Lunch** 11:30 @ Valley Inn Restaurant, Lakewood **DRC Meeting -TBD** Elmer 6 p.m. General 7 p.m.	20 	21	22 Last Quarter
23 30	24 31	25	26 **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	27	28	29 New Moon

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
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Treasurer	N0CRZ	Cathy Villhauer	303-467-0223	treasurer@w0tx.org
Board Member	N0XRX	Mark Thomas	720-438-0848	n0xrx@w0tx.org
Board Member	K1DBC	Doron Ben Chaim	720-254-1561	k1dbc@w0tx.org
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	Open			elmer@w0tx.org
EmComm Coordinator	KE0HFH	Michael Vespoli	303-215-8862	emcomm@w0tx.org
Field Day Chairman	N6WHV	Dick Nelson		fieldday@w0tx.org
Membership	KB8OGP	Kelly Sobanski		membership@w0tx.org
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Website & YouTube	K1DBC	Doron Ben Chaim	720-254-1561	websiteadmin@w0tx.org

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