



THE ROUND TABLE

October 2026

Monthly Newsletter of the Denver Radio Club

Since 1917

PRESIDENT'S MESSAGE

Greetings and Salutations,

The Club held its annual meeting on 16 September. That meeting holds its elections for officers. Bill, KEØYKV, a Sunday night net controller and a participant in the Membership Involvement Committee was elected to the Board of Directors. He is replacing Pete, AB8WN, who was instrumental in many of the club functions. Unfortunately, family and work commitments took its toll on his life. He will be sorely missed. Thanks Pete for all you did and to Bill for stepping up.

One of the last ham fests this year will be held in Boulder on 04 October from 9:00 until 13:00 at the Boulder County Fairgrounds. Boulder Amateur Radio Club (BARC) is hosting this event. The Denver Radio Club will have a presence there with a table. Stop by to say hello. For more information on the event, check out <https://barcw0dk.wordpress.com/barcfest-2024/>.

Do you own a mobile VHF/UHF radio with APRS feature built in? Are you actively using some of its features. If you'd like more information, join us for our virtual October club meeting on 21 October. We will be having Jason, KM4ACK, presenting on APRS and many of the features. This should be a highly informative meeting on the topic, so I look forward to seeing you at 7:00 pm. The meeting can be found on Google Meets at <https://meet.google.com/bsq-zrpv-jpj> or <https://w0tx.org/meet> or the W0TX webpage.

Last month's (August) Board Minutes approval was postponed to allow for corrections and edits and won't be included in this month's Round Table.

73,

Kevin – KØKPS

DRC - BLAST FROM THE PAST

PROVIDED BY WOODY LINWOOD, WOUI



1981 DRC Christmas Banquet

QUESTION OF THE MONTH

BY BILL RINKER, W6OAV

What are the 3 basic rules for properly analyzing antenna specifications?

The answer can be found on page 3 of the January 2014 Roundtable:

[Why are Load Coils Never at the Ends of an Antenna Element?](#)



MONTHLY DRC LUNCH - REMINDER

By PETE SOBANSKI, AB8WN AND KEVIN SCHMIDT, KOKPS

Join us on the third Wednesday of each month at 11:30 a.m. for lunch at Sunrise Sunset. The address is 1424 S Wadsworth Blvd, Lakewood, CO 80232. No reservations are required. If you are interested in meeting and talking about radio, or other topics, don't hesitate in coming by. w0tx.org/2024/06/09/denver-radio-club-lunch



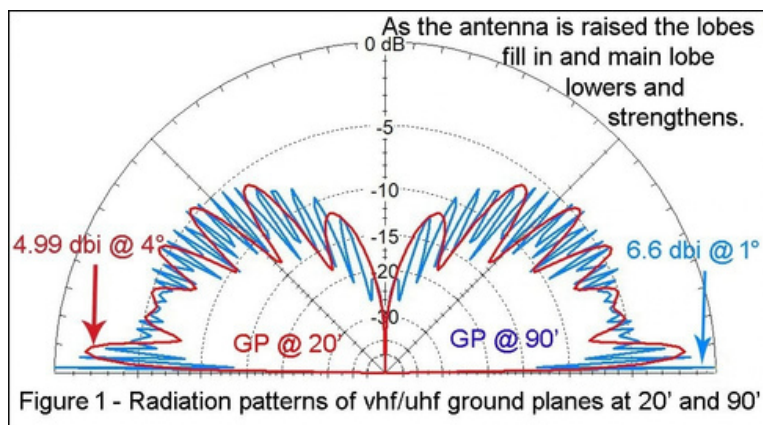
BEST HEIGHT FOR A VHF/UHF ANTENNA

By BILL RINKER, W6OAV

Many hams dream of raising their VHF/UHF antennas high above the ground. Determining the optimal height for installing a VHF/UHF antenna involves weighing the advantages and disadvantages of a tall tower, as well as assessing whether the elevation will provide the desired line-of-sight (LOS) communication with specific locations. Below are outlined various advantages and disadvantages associated with raising an antenna, followed by a procedure to ascertain the most suitable height for achieving desired LOS coverage.

Advantages:

- **Decreased Path Loss:** Elevation lessens ground losses and obstructions, leading to increased signal strength and extended range for communication.
- **Radio Horizon:** Raising the antenna extends the distance to the radio horizon thus maximizing signal strength over long distances. Table 1 shows the radio horizon of a VHF/UHF antenna at various heights.
- **Line-of-Sight Communication (LOS):** Raising the antenna improves LOS communication, bypassing ground reflections and maximizing signal strength over long distances.
- **Improved Radiation Pattern:** Positioning the antenna higher provides a stronger low angle directivity and a fuller high angle pattern for high repeaters. (See Figure 1).
- **Reduced Interference:** Elevated antennas are less susceptible to electromagnetic interference from nearby sources like power lines or electrical devices in the home, ensuring clearer communication.



Disadvantages:

- **Cost and Complexity:** Taller structures necessitate robust masts, additional hardware, feeder cost, and potential permits, etc., causing high installation costs and intricate setup.
- **Feeder Loss:** The losses in the feeder become considerable with increased height, and in some instances may be more than the gain resulting from the increased height.
- **Safety Concerns:** Elevated antennas carry inherent safety risks due to lightning strikes, high winds, and potential hazards when performing maintenance on the tower. Rigorous grounding and safety precautions are imperative.
- **Visual Impact:** High antennas can be visually unappealing and disruptive, particularly in residential areas.
- **Limited Benefit at Short Distances:** For local communication within close proximity, the advantages of height elevation might be negligible, not justifying the associated cost and complexity.
- **Regulatory Landscape:** Local regulations and zoning restrictions can limit the maximum permitted antenna height.

If the advantages outweigh the disadvantages for raising or installing a high antenna, it becomes essential to identify the optimal height for achieving the desired line-of-sight (LOS) coverage. The following process outlined below will facilitate determining this ideal height.

Procedure to Determine LOS

A quick and easy way to check LOS is to use the free online SCADACore tool. (Link listed below). This free online tool uses the antenna height and the topographical formations of the earth to calculate the LOS of a given radio path. Note that buildings and other obstructions are not taken into consideration when calculating LOS.

The following example shows the steps using the SCADACore tool to determine the necessary antenna height to have LOS from Highlands Ranch to the DRC Station 4 repeaters.

1. When first accessing the tool, a map of the US displays blue and green location markers above North Dakota.
2. The two sites of interest were selected by dragging the markers into position (GPS coordinates could have been entered for each marker).
3. After the two markers were positioned an elevation profile graph popped up on the upper left showing an elevation profile between the markers as well as the distance between the markers.
4. At the bottom of the elevation profile graph, the heights in meters of both antennas were entered. (See Figure 2). The red line between markers indicated a blocked LOS. As shown in Figure 2 when the PC curser was placed on the land profile, the elevation at that point displayed. Also, a marker displayed on the red path on the map showing the location of the curser on the land profile. As the curser is moved the marker moves. This feature is handy for pinpointing the location of obstacles.
5. As shown in Figure 3, when the antenna at the green marker is raised one meter higher the red line turns green showing that LOS now exists between stations.

It's important to note that the tool does not take buildings and other obstructions into consideration when calculating LOS. Additionally, it does not account for the curvature of the earth. Usually, the earth's curvature is not an issue unless the distance between stations is large. To account for the earth's curvature, consider using other tools such as HeyWhatsThat's Profiler (Link listed below).

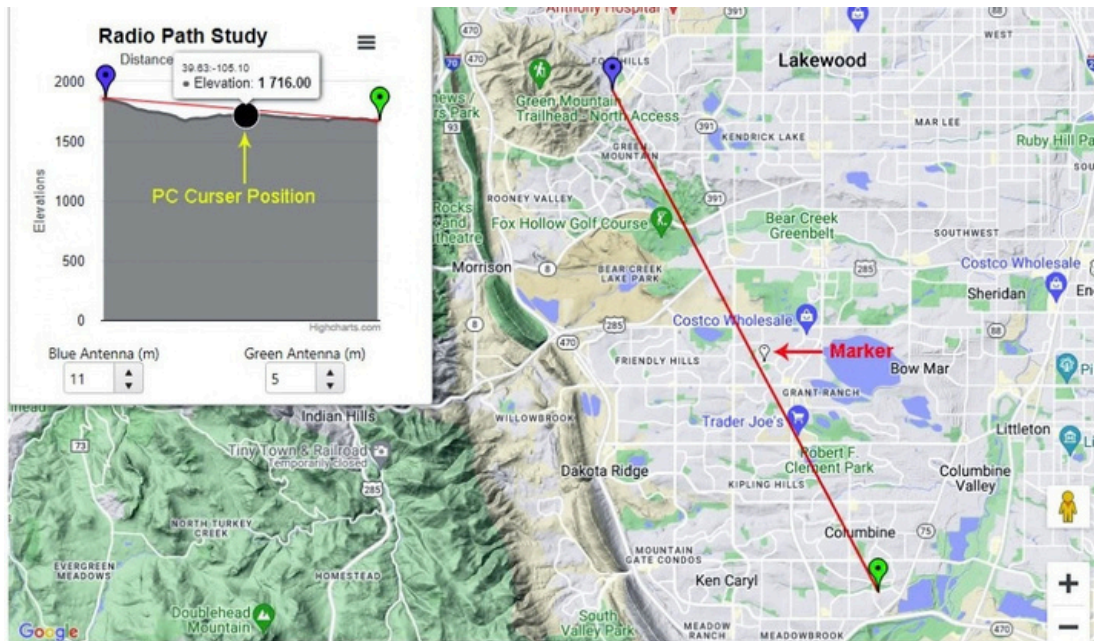


Figure 2 - Shows no LOS between antennas at the heights shown

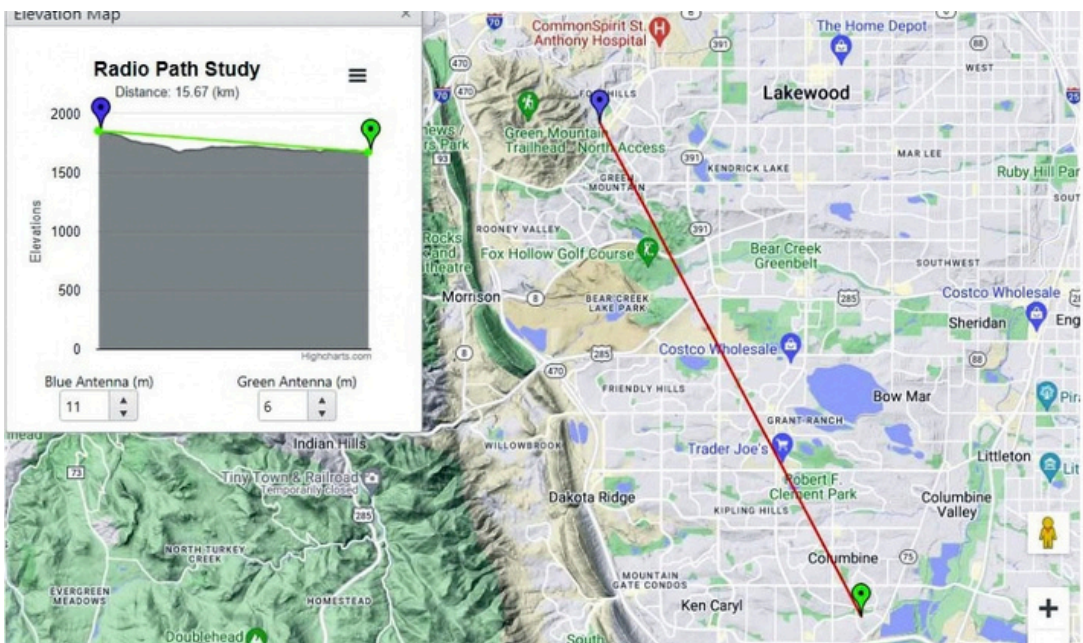
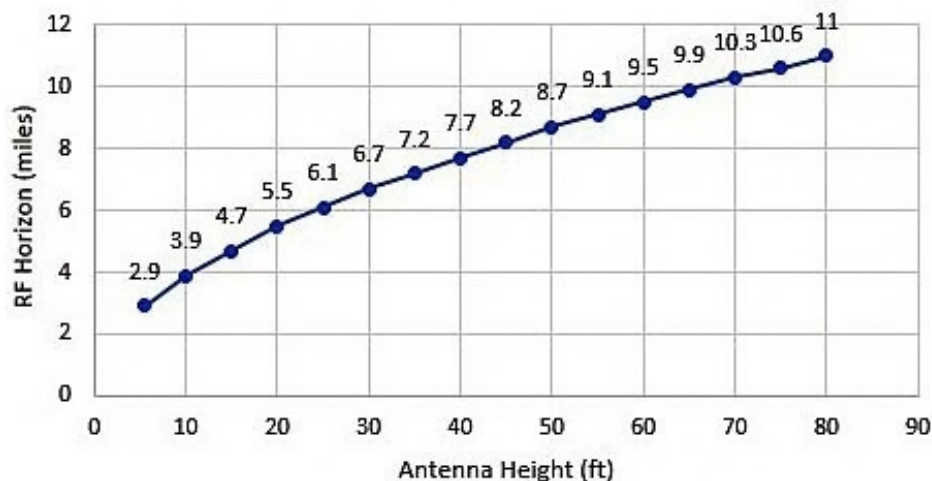


Figure 3 - Shows raising the antenna 1 meter at the green marker provided a clear LOS

Table 1 - VHF/UHF Radio Horizon vs Height



References

VHF/UHF Line of sight calculator:
hamuniverse.com/lineofsightcalculator.html

SCADACore tool:
scadacore.com/tools/rf-path/rf-line-of-sight

HeyWhatsThat's Profiler:
heywhatsthat.com/profiler.html

JOTA

PROVIDED BY GREG OSTRAVICH, KEOZY

Jamboree on the Air (JOTA) is going to be October 17th. Greg will be running a Merit Badge class from about 8:30 - 4:30 at the Boy Scouts' HQ, do a Yagi demonstration, some QSOs and a little CW. The pictures below are from a past project.

If you are interested in participating or helping, you can email him at his callsign via Gmail.



JUST DO IT: MY FIRST POTA ACTIVATION

By ROBERT WHITE, KORCW

I am a longtime member of the Denver Radio Club. Although I moved to Texas about five years ago, I still check in on club nets and value the friendships I made through the club. After completing my first Parks on the Air activation here in Texas, I thought my experience—and especially the lessons I learned the hard way—might be useful to other DRC members considering POTA.

I had been thinking about trying Parks on the Air for some time, but the blizzard of information surrounding POTA made it seem more complicated than inviting. I kept putting it off.

That changed when I saw a Facebook post from the Houston POTA Club advertising a group activation. The club appeared friendly and informal, so I decided it was time to quit studying POTA and actually try it. As Nike says, “Just do it.”



The activation was at Stephen F. Austin State Park, about an hour from my home and situated along the Brazos River west of Houston. The Houston POTA Club members proved to be every bit as friendly and welcoming as they had appeared online.

My station consisted of an Icom IC-705, a Microsoft Surface Pro 7 running Windows 11 and WSJT-X, a 12 Ah Bioenno LiFePO4 battery, a Goal Zero Sherpa power bank for the computer, and a portable magnetic-loop antenna. The Bioenno battery had plenty of capacity for the six-hour operating period while transmitting at 10 watts.

Because several stations were operating in close proximity, coordinating bands and equipment was important. Having previously participated in a W0TX Field Day, I already understood how critical this can be. The organizers supplied an 18 MHz band-pass filter and assigned me to 17 meters.

I selected FT8 because I thought it would be the path of least resistance for my first activation. That turned out to be only partially true.

For the first two and a half hours, I struggled with a combination of radio, RF, computer, and time-synchronization problems. My first mistake was placing the magnetic-loop antenna too close to the Surface Pro. RF interfered with the computer's control of the IC-705. Moving the antenna farther away helped resolve that problem.

My computer's clock was also no longer synchronized closely enough for FT8. This is something that should be checked and corrected before leaving home. I managed to synchronize it using the single bar of cellular service available on my iPhone 16. At a more remote park, that might not have been possible. More than once, I wished I had brought my Starlink Mini.

I also discovered that I had not packed enough RF connectors and barrel adapters. A portable kit should include a good assortment of UHF-to-BNC adapters, male-to-male and female-to-female barrels, and other combinations that might be needed when plans change. Fortunately, members of the Houston POTA Club had the missing connectors, as well as the appropriate band-pass filter.

Once I finally solved the problems and started making contacts, I was hooked.

My first hunter was Adam Thompson, VE3FTS. Better still, it was a park-to-park contact: Adam was operating from the Dorchester Mill Pond area near London, Ontario. That was a memorable way to begin my first activation.

I logged 32 FT8 contacts at 10 watts. Two were duplicates, leaving 30 unique contacts for the activation.

Logging and submitting the activation proved to be the easiest part. I used ChatGPT as an Elmer to help fill gaps in my knowledge and guide me through logging contacts with WSJT-X. Afterward, submitting the log to POTA was simply a matter of dragging and dropping the WSJT-X ADIF file onto the POTA website.



The other major challenge was the weather. The temperature reached 95 degrees in the shade, accompanied by Houston humidity. I was so focused on completing my first activation that I hardly noticed the heat while operating, although I did come home with a mild sunburn.

I had brought bug spray, sunscreen, a hat, an umbrella, and rain gear. The umbrella and rain gear were unnecessary that day, but the bug spray, sunscreen, and especially the hat were essential. Weather must be treated as part of station planning rather than as an afterthought.

Shade is also important for the equipment. I was fortunate to spend most of the day beneath trees. The glossy display on my Surface Pro 7 was difficult to see outdoors. Heat buildup in radios, computers, batteries, and power supplies is another consideration.

For a future warm-weather activation, I may bring a portable shelter or operate at night. Colorado operators should at least have a more enjoyable climate than the 95-degree heat and humidity I encountered in Texas—but Colorado weather has its own ways of demanding preparation.

My next goal is to make POTA contacts using CW. That should require less equipment and setup than an FT8 station. I am currently learning through the Long Island CW Club, and I hope to begin logging CW contacts within the next month or two.

The most important lesson from my first activation is that you do not have to know everything before going into the field. Problems will occur. Bring extra adapters, synchronize your computer clock, separate your antenna from sensitive electronics, plan for the weather, and operate with a friendly group whenever possible.

ChatGPT can be an excellent Elmer for filling gaps in your knowledge, but eventually you have to stop reading and start operating.

Just do it.

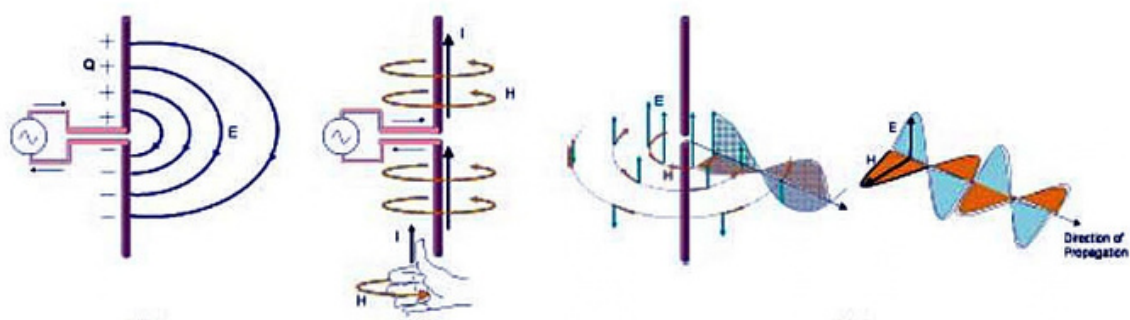
BEST HEIGHT FOR A VHF/UHF ANTENNA

BY BILL RINKER, W6OAV

A website named Interference Technology contains a very interesting article titled “Antenna Fundamentals”. The nicely written article covers the following:

- How Do Antennas Detect Signals?
- What is the Significance of an Antenna’s Shape?
- How do Antennas Form and Radiate Electromagnetic Fields?
- How Does the Antenna Impedance Change with Frequency?
- Do Antennas Radiate in All Directions?
- Mirror, Mirror on the Wall: What is the Importance of Reflections?
- How Are Signals From Antennas Conditioned and Amplified?

The website is accessible at: [interferencetechnology.com/?s=antenna+fundamentals](https://www.interferencetechnology.com/?s=antenna+fundamentals)



FROM THE ARCHIVES

APRIL 1958

CD DRILL HELD

Sunday, March 30th, the Denver Civil Defense Mutual Aid Area staged a mock drill from headquarters at Red Rocks with Jefferson, Arapahoe and Adams Counties participating.

CALLING ALL HAMS

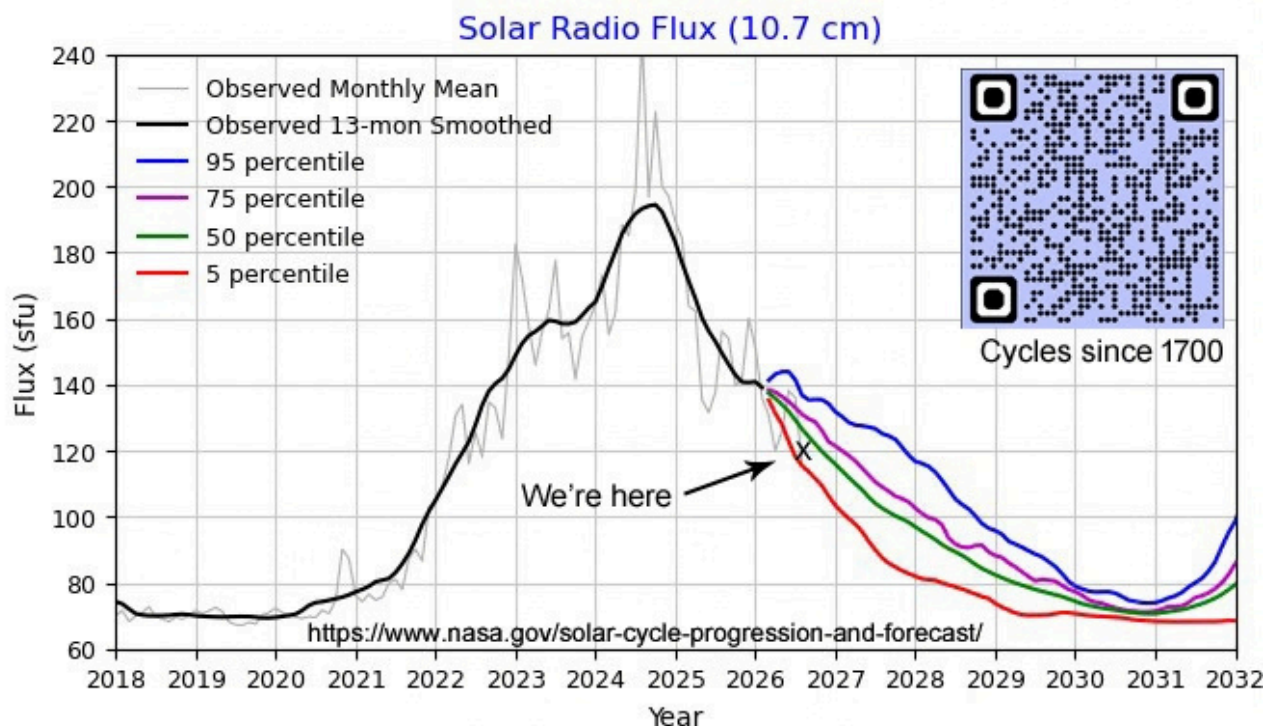
Let us
consider your printing

For information phone
West 4-4739 or write to
Box 8217, Denver 19, Colo.

ALL WEST SALES SERVICE

PROPAGATION FORECAST

By BILL RINKER, W6OAV



DRC Board of Directors				
President	K0KPS	Kevin Schmidt	303-475-9234	president@w0tx.org
Vice-President	N6WHV	Dick Nelson	Check Roster	n6whv@w0tx.org
Secretary	WWOLF	Orlen Wolf	303-279-6264	secretary@w0tx.org
Treasurer	WWOLF	Orlen Wolf	303-279-6264	treasurer@w0tx.org
Board Member	KFOAWC	Brian Diem	970-218-5543	kf0awc@w0tx.org
Board Member	K1DBC	Doron Ben Chaim	720-254-1561	k1dbc@w0tx.org
Board Member	KE0YKV	Bill Worthington	720-626-5485	ke0ykv@w0tx.org
Board Member	K4RNY	Ronnie Bock	303-519-8510	k4rny@w0tx.org
Board Member	KE0VR	Bruce Kirkpatrick	Check Roster	ke0vr@w0tx.org
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	Open			digital@w0tx.org
Education Coordinator	Open			elmer@w0tx.org
EmComm Coordinator	Open			emcomm@w0tx.org
Field Day Chairman	N6WHV	Dick Nelson	Check Roster	fieldday@w0tx.org
Hamfest Manager	KE0YKV	Bill Worthington	720-626-5485	drcfest@w0tx.org
Membership	KB8OGP	Kelly Sobanski	Check Roster	membership@w0tx.org
Net Control	KS0E	Alex Acerra	Check Roster	net@w0tx.org
Public Relations	KOAXP	Dave Verlinde	248-515-2371	publicrelations@w0tx.org
RT Managing Editor	AD0UZ	Brennan Pate	Check Roster	roundtable@w0tx.org
RT Associate Editor	W6OAV	Bill Rinker	Check Roster	Check Roster
Tech. Committee Chair	N0XRX	Mark Thomas	720-438-0848	tech@w0tx.org
Trustee	WWOLF	Orlen Wolf	303-279-6264	trustee@w0tx.org
VE Team	K0RAP	Robert Pickett	720-336-0114	k0rap@w0tx.org
Website & YouTube	K1DBC	Doron Ben Chaim	720-254-1561	websiteadmin@w0tx.org

DRC Repeaters

September 8	Freq / Shift / PL Tone	Additional Information
September 23	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. WOTX 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

**HAM
RADIO
OUTLET**

NOBODY BEATS AN HRO DEAL!

COME VISIT US AT
8400 E ILIFF AVE #9, DENVER, CO 80231
TOLL FREE: 800.444.9476 | DIRECT: 303.745.7373 | EMAIL: DENVER@HAMRADIO.COM
HAMRADIO.COM

UPCOMING EVENTS

October 4	<u>BARCfest Hamfest</u>
October 12	<u>Yorktown Victory Day</u>
October 19 - 23	<u>School Club Roundup</u>

UPCOMING DRC ACTIVITIES

Learning Net	Wednesday's (except 3 rd Wednesday)	@ 1930
DRC Lunch	3rd Wednesday	Sunrise Sunset, in Lakewood @ 1130
DRC Monthly Meeting	3 rd Wednesday	Elmer @ 1800 & Meeting @ 1900

RANDOM SITE OF THE MONTH

CHAT THE HAM
WE9V.COM/STATION.HTM

