THE ROUND TABLE
The Denver Radio Club, Inc.
Since 1917 October 2020

President's Message

By Gerry Villhauer, W0GV

Hello DRC Members,

I hope all of you are staying well. It is definitely a life challenge to balance some semblance of a normal life and avoiding the COVID virus. We are about to go into the eighth month of this, so we are at the least, gaining experience on how to manage our lives in these troubled times.

There has been very little club activity other than our monthly meetings, Sunday evening nets and Wednesday evening Learning nets. I encourage you to join in on these activities if you have not been doing so. Hopefully you will find them refreshing and educational. I have been hearing more activity on our several repeater systems. They are there for you, please enjoy them. If you are having difficulty with any of the systems; questions are welcome. I know members have purchased new radios and are having operational difficulties. First, read the manual! Then if you have questions, please ask. We have experienced members who will help you with (most) equipment questions. The Wednesday evening Learning Net is an excellent place to start.

Our annual election of officers was held during our September virtual meeting. Thanks to all our board members and officers, who agreed to continue on with their prospective positions for another year.

Robert (K0RCW), thank you for a very well done and informative program at our September virtual meeting. Robert provided a wealth of information on how to operate a station "off the grid" using batteries, solar panels and portable generator.

Our October program presentation will be a very interesting one. The presentation will be a discussion of hobbyist antenna design and considerations for 3D printing antennas for microwave frequencies, with consideration of horn antenna theory and lessons learned. Okay, I know it sounds a bit technical but please don't let it scare you away. Our presenter is Karen Rucker (KG5GAK) Karen is a spacecraft RF engineer with a background in antenna design. She has a B.S. in electrical engineering from Texas Tech University with a focus in RF and microwave design and is a master's student in aerospace at CU Boulder. She received her ham license in 2015.

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 personally to make them feel welcome. Welcome to our newest members:

Arthur Bullock - N0AIU	Michael Gailus - KC0JKW
Lemuel Kornegay III - KI4YXS	Kevin Vasina - KE0FJY
Mark Thomas - N0XRX	Terry Cooper - KF0BDD
Joseph Stacey - KE0MZR	

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.

TECHNICAL COMMITTEE REPORT

BY BILL RINKER, W6OAV

The following is an overview of current issues for the Tech Committee. Nothing new this month.

DRC/TSA Aurora Site.
Goal: Work with the TSA relative to establishing a "communications room" for the DRC.
Status: This project shelved until Covid-19 is over.

Internet Failure Procedure at Station 4.
Goal: Develop a troubleshooting procedure when the Internet fails.
Status: W6OAV will research and develop a troubleshooting procedure.

Replace 220 Repeater Antennas
Goal: Improve coverage for the repeater.
Status: WW0LF is constructing the coax harness. Once completed, a work party will be scheduled.

Resolve the 220 Repeater Lockup issues.
Goal: Obtain a response from BridgeCom for troubleshooting assistance.
Status: W0GV will forward the past documentation to W6OAV who will attempt to escalate the issue.

Station 4 Remote Power Control.
Goal: Configure the Power Control to allow remote power control for various systems.
Status: W0GV will obtain help contacting APC to configure the system in their server.

Install a Remote 6 Meter Receiver
Goal: Investigate the possibility a remote receiver to resolve the high noise level at Station 4.
Status: WG0N and W0GV will check out conditions at a possible site.

Repair the Echolink Server
Goal: Investigate either repairing or rebuilding the server
Status: N0OBA will troubleshoot the server ASAP.

WIRES-X Repeater Tech Support

Goal: Create and educate a tech support team for maintaining and troubleshooting.
Status: W6OAV and KF0UV will chair this project.

Learning Net Report

By Fred Hart, AA0JK

Our Net group gathers here to discuss, and respond to, topics aimed at enhancing a better understanding of our hobby. The net is open to all and we encourage your participation.

September Topics :
- Packet
- FT8
- Ham groups / Nets (See W0TX web page for local listing: https://w0tx.org/netlist.htm)
- Antennas: J-Pole – Slim Jim – Verticals vs Dipoles - ED's antennas: https://edsantennas.weebly.com/
- Antennas for satellite tracking and communications, commercial and Home Brew:
  Arrow Antennas, - Make your own, Diana Eng, KC2UHB: https://youtu.be/lslHtCUSfN4
  https://makezine.com/2010/10/26/diana-engs-yagi-antenna-project-in/
- An Unusual Jpole Antenna (#302): https://youtu.be/Pp3PsWz_vII
- 3/16" Mobile J-Pole Antenna: https://dcasler.com/wp-content/uploads/2020/09/j-pole-drawing.pdf
- Air Boss Antenna Launcher: https://youtu.be/yHCsjGbUWhw
- Contact the ISS: https://www.ariss.org/contact-the-iss.html
  http://www.arrl.org/amateur-radio-on-the-international-space-station
- Weather Fax

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 via 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 the following helpful: Amateur Radio Licensing Guides via 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.

What topics would you like to discuss? Join us Wednesday nights, 7:30 PM, 145.490, 100 Hz PL tone & linked to 448.625, 100 Hz PL tone.

73,

Fred
AA0JK

DRC's 2020 Holiday Party Cancelled

The DRC Holiday Party scheduled for December 16, 2020 has been cancelled due to the ongoing COVID situation and occupancy restrictions imposed by the City of Denver. Besides the city restrictions, the DRC Board of Directors feels it is the responsible thing to do for the wellbeing of our members.

September Meeting - What'd I Miss?

By Bill Rinker, W6OAV

There were 54 attendees. Gerry started the meeting with an overview of members available for election to the board. The attendees unanimously reelected the existing board members for another year. The meeting was then turned over to our guest speaker, Robert White, K0RCW. His PowerPoint was titled "Operating off the Grid". Robert covered the following topics:

- Reality of batteries, including LifePo batteries.
- Sizing the system.
- Science of and efficient configuration of solar panels.
- Proper connectors and connections.
- Test and monitoring equipment.
- Calculations.

Robert's PowerPoint is available at: https://drive.google.com/file/d/1aTnQlJ2osNpRsf2ExltKE71JBlCvYHKU/view

The video recording of Robert's presentation is available at: https://drive.google.com/file/d/1EbwaaZHEIljKJgGGiqDBTki6JmZ6b3YR/view?usp=sharing

Figure 1 - Typical condiguration

October Meeting Announcement

Provided By Bill Rinker, W6OAV

Bio:
Karen Rucker (KG5GAK) is a spacecraft RF engineer with a background in antenna design. She has a B.S. in electrical engineering from Texas Tech University with a focus in RF and microwave design and is a master's student in aerospace engineering at CU Boulder. She got her amateur radio license in 2015.

Brief Overview:
An introductory discussion of hobbyist antenna design and considerations for 3D printing antennas for microwave frequencies, with specific consideration of horn antenna theory and lessons learned.

Never An Elmer - Novice to Extra

By Fred Hart, AA0JK

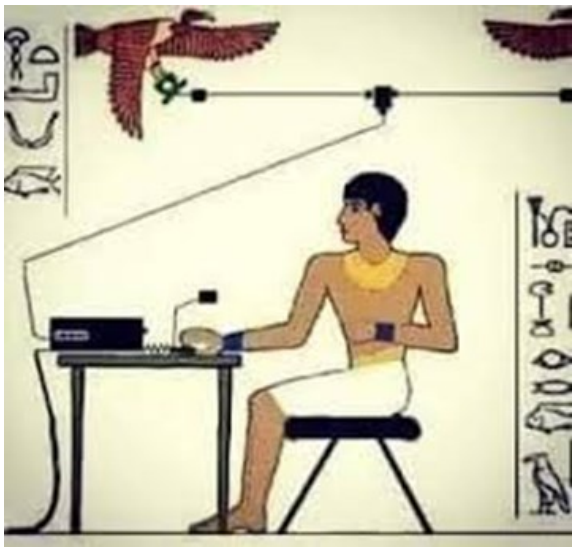
Amateur radio has been a great hobby for me over the years. It has provided a great escape from the daily routines, through good and not so good times. It has opened doors that would not have been accessible otherwise, if it were not for that certificate in my wallet.

From the teen years, when introduced to the wonders of radio, it was never considered, or was there ever the thought to seek out an elmer. Regular trips to the library provided the needed material to gain the knowledge needed to pursue this hobby.

Adventure novels were the books most likely to follow me home in those days. Then upon a visit to the library, the librarian questioned me about my interests, and could she help me. Well yes, was my reply. Forestry, the fascination of becoming a Forest Ranger. I loved being out in the woods with my faithful Catahoula leopard dog, Yankee. We would spend hours hunting and fishing on my dads ranch, and surrounding forest land.

Well, my librarian proceed to direct me to an adventure novel about a forest ranger, and his two sons living on an isolated island in Lake Superior.

It turned out that the novel was more about amateur radio rather than forestry. Yes, the father was a ranger assigned to Isle Royal, who was hoping his eldest son would follow his footsteps, and also become a ranger. But that was not exactly in his sons future plans. A career in electronics, and radio communications was more at the top of his list. He spent most of his spare time building his radios, and talking with friends, mostly maritime mobile radio operators.



The many adventures of this young ham made a decisive change in my future interests, no longer was I to peruse the forestry career, especially after finding out that it would require six years of college. The trips to the library now became the collecting of books on amateur radio and electronics. Free catalogs were collected in the pursuit of acquiring parts to build radios.

Through this all, never once was an elmer sought. Between the library, and later being introduced to the ARRL, more books were collected, and all this led to acquiring the coveted amateur radio license.

My novice days, yes, that dates back a ways. Note my home brew dipole in the image to the right. ;-)

Up through the ranks to obtaining the Extra Class certification, never an elmer. Never attending any classes. Twenty five word per minute code proficiency was gained through on air QSO's, and ARRL code practice broadcasts. Twenty wpm was required for the Extra.

CW, my favorite model!

I look back and remember the exhilaration, the pride, the achievements provided by this wonderful hobby.

Today, one wonders about those who think they need to attend a class to achieve the privileges of a ham radio operator. Opening a book long enough to memorize a few test question answers, take the test, then wonder, what now?

What now? Don't deny yourself the gratification that can be gained by actually achieving a working knowledge of the world of electronics and radio communications. A whole new exciting world has been opened up to you. The opportunities seem to be endless for those who take the hobby seriously. Careers are built on the simple beginnings, then the advancements up through Extra class. Then, take the next step, the GROL commercial certification. This, and add the radar endorsement, will further open the doors of opportunity.

Today we have the internet that provides great web-sites that offer everything you need to gain your amateur radio license.

Elmers, yes we are here to help when requested, but the driving force to these achievements lies within the individual.

73,

Fred
AA0JK
GROL/R – CFII flight instructor.

56th Annual TPQSO Party

Provided By Bob Willson, KC0CZ

Announcing the 56th Annual TPQSO Party October 19th, 2020.

TO: Telephone Pioneer Radio Amateurs

The George S Ladd Radio Club (Golden Gate Chapter) invites all Telephone Pioneers, including former and current employees of the telephone related companies, and all other licensed amateur radio operators to participate in the 56th Annual Telephone Pioneer QSO Party. We welcome contacts from non-pioneers as well!

The Telephone Pioneer QSO party combines Pioneering and Amateur Radio. It is a great chance to renew old friendships. Help us celebrate the Annual Telephone Pioneer QSO Party.

For the latest information and results go to: https://tpqso.com/

QRM

By Bill Rinker, W6OAV

Achtung!

By Fred Hart, AA0JK

This one has been around the block a few times, but still brings a laugh and smile.

The original:
ACHTUNG! ALLES LOOKENSPEEPERS!

Das computermachine ist nicht fuer gefingerpoken und mitten grabben.

Ist easy schnappen der springen werk, blowenfusen und poppencorken mit spitzensparken.

Ist nicht fuer gewerken bei das dumpkopfen.

Das rubbernecken sichtseeren keepen das cotten-pickenen hans in das pockets muss; relaxen und watchen das blinkenlichten.

My translation:
Attention all you onlookers!

The computer, (Ham Radio), is not for poking with your fingers or grabbing with your hands.

It is easy to snap the spring works, blow the fuses with popping sounds and spitting sparks everywhere.

It is not for use by dummies.

You rubberneckers and sightseers must keep your cotten-picken hands in your pockets; just relax and watch the blinking lights.

QUESTION OF THE MONTH

BY BILL RINKER, W6OAV

Awhile back I received this question via email. So, I thought I'd answer it here as well since I have heard similar discussions about this subject on our repeater.

Question:
I want to build a simple omni-directional antenna for FM repeater work. Several friends have recommended either a Ground Plane or a J Pole. Which would you recommend?

Answer:
Well, it basically depends on where you want to place the antenna rather than on antenna performance. Let's begin by discussing the antenna configurations first. Figure 1 shows both antennas and their current distributions which create the radiation. The Ground Plane is a ½ wavelength radiator. The J Pole is also a ½ wavelength radiator. The J Pole is basically an end fed ½ wavelength dipole. The bottom ¼ wavelength section is a matching section. The two currents in the matching section are equal but have opposite polarities. Thus they cancel resulting in no radiation from that section.

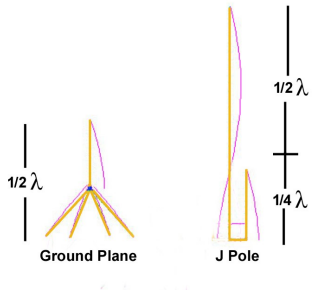


Figure 1 - Ground Plane vs J Pole

Antenna performance doesn't really enter into the decision of which antenna to choose. The Ground Plane with 45 degree down radials and the J Pole have, for all practical purposes, identical gain in their primary low-angle lobes just above the horizon. As the antennas are raised or lowered above ground their radiation patterns do change a bit but are still basically identical at low angles. Figures 2 and 3 show the 4NEC2 horizontal and vertical radiation patterns of a 2 meter Ground Plane with 45 degree down radials and a 2 meter J Pole, both of which are 30' above ground. Observe that the dBi values shown in the lower right corner of both figures are within 0.02 dB of each other. For those not used to interpreting antenna patterns, Figure 4 might help. The red circle in Figures 3 represents the outer edge of the strongest lobe of the signal in the horizontal plane. The blue pattern in Figure 3 represents a vertical slice through the radiation pattern. These are shown in 3D in Figure 4. Detailed information can be found in the October and November 2010 issues of the Roundtable. The articles are titled "Antenna Radiation Patterns Explained".

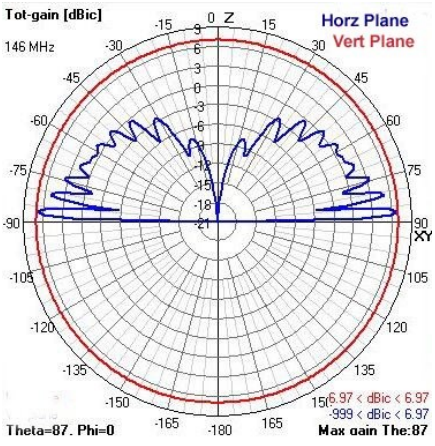


Figure 2 - Radiation pattern of a Ground Plane

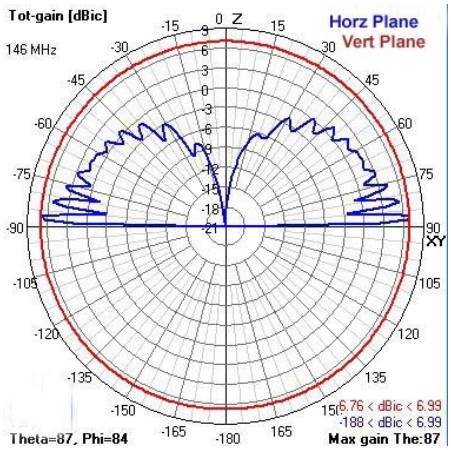


Figure 3 - Radiation pattern of a J Pole

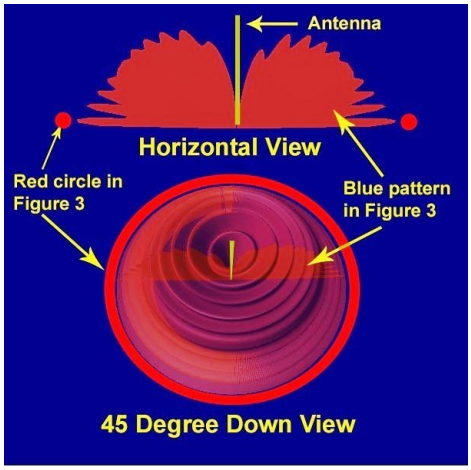


Figure 4 - Another view of information in Figure 3

The physical environment of the location of the antenna does enter into the decision of which antenna to choose. Compared to the Ground Plane, the advantages of the J Pole are:

Advantages:

- Unobtrusive, slender design with little physical width.
- No radials, thus:
  - Low wind resistance.
  - Easier to install in places like a tree.
  - Makes a convenient easy to handle portable antenna.
  - Rugged construction - no radials to break or bend
- Fully weather proof.
- At a mounting point, radiating element is higher.
- Entire antenna is at same DC potential allowing a grounded mount to dissipate static charges.
- Easily constructed from ladder line or commonly available plumbing parts (References below).

I personally prefer a ladder line J Pole installed in a PVC pipe (Lowes #23990 best for UHF RF). They're inexpensive, effective, easy to handle and very easy to build. This configuration makes for either a nice convenient portable antenna or a strong permanently mounted antenna. Also, I have had very good luck packing a rolled up J Pole ladder line in a suitcase for portable when travelling.

If an assembled VHF/UHF dual band J Pole is of interest, I recommend the DBJ-2 which provides all but the actual PVC pipe (if desired to install in PVC). This antenna was described by the developer Ed Fong, WB6IQN, in the March 2007 QST. The DBJ-2 is available on eBay for $35. Ed's YouTube tutorial is available at https://www.youtube.com/watch?v=E_IBni6vvMc.

I did build a DBJ2 from the QST article. It works well but was difficult to tune up as the VHF and UHF sections interact. I'd make a change to one section and then would have to go back to the other section and visa versa.

So, there's a long answer to a short question! Good Luck!

References for Building J Poles:

Build a PVC J Pole (January 2013 issue of the Roundtable):
https://www.w0tx.org/RoundtableArchive/2013-RoundTables/RT201301(JAN).pdf

A Roll up Ladder Line J Pole: https://www.youtube.com/watch?v=oZD55UvC7mY&feature=emb_logo

Building and tuning a copper J Pole: https://www.youtube.com/watch?time_continue=1&v=IdbFqVwoV8s&feature=emb_logo

J Poles Handbook: http://www.buxcomm.com/jpoles4ever.htm

References for Building Ground Planes:

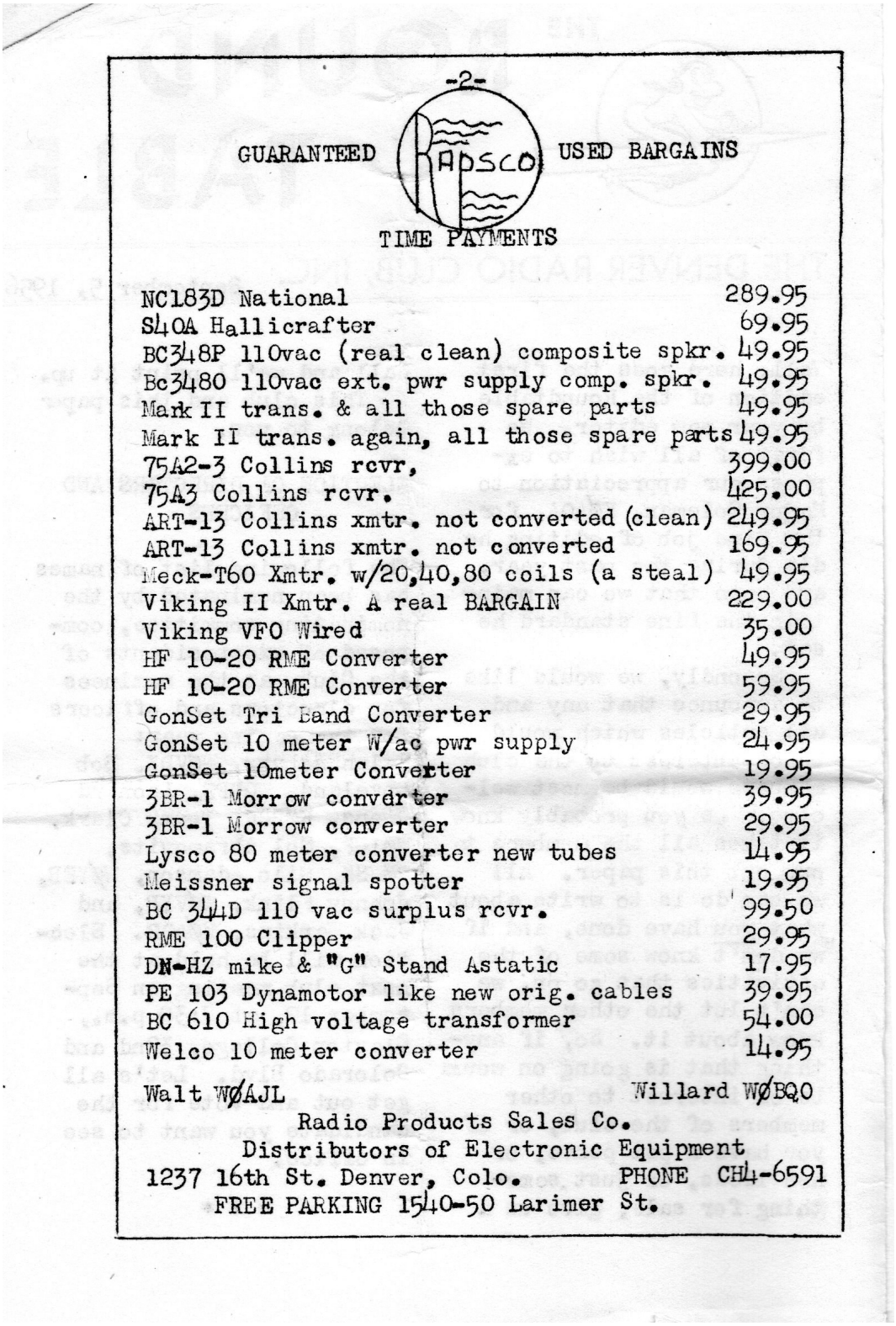
Building a 2 Meter Ground Plane: https://www.youtube.com/watch?v=HkmD3Sgz7Q0

DIY 2 Meter Ground Plane: https://www.youtube.com/watch?v=17MjkpblLpE

Past Round Table Pages

Provided By Woody Linwood, W0UI

A page from the September 1956 multi-page edition. It is the second oldest known remaining Round Table.



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NC183D National	289.95
S4OA Hallicrafter	69.95
BC348P 110vac (real clean) composite spkr.	49.95
Bc348O 110vac ext. pwr supply comp. spkr.	49.95
Mark II trans. & all those spare parts	49.95
Mark II trans. again, all those spare parts	49.95
75A2-3 Collins rcvr,	399.00
75A3 Collins rcvr.	425.00
ART-13 Collins xmtr. not converted (clean)	249.95
ART-13 Collins xmtr. not converted	169.95
Meck-T60 Xmtr. w/20,40,80 coils (a steal)	49.95
Viking II Xmtr. A real BARGAIN	229.00
Viking VFO Wired	35.00
HF 10-20 RME Converter	49.95
HF 10-20 RME Converter	59.95
GonSet Tri Band Converter	29.95
GonSet 10 meter W/ac pwr supply	24.95
GonSet 10meter Converter	19.95
3BR-1 Morrow convdrter	39.95
3BR-1 Morrow converter	29.95
Lysco 80 meter converter new tubes	14.95
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BC 344D 110 vac surplus rcvr.	99.50
RME 100 Clipper	29.95
DN-HZ mike & "G" Stand Astatic	17.95
PE 103 Dynamotor like new orig. cables	39.95
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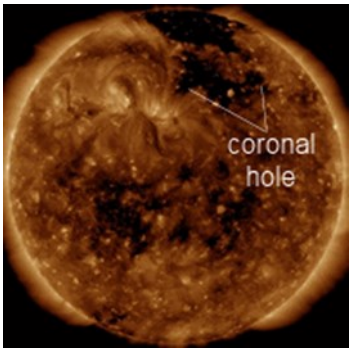
Solar Geophysical Activity Report

Provided By Fred Hart, AA0JK

September started out with geomagnetic activity picking up. Earth's polar magnetic field was in a simmering state of unrest, book-ended with G1-class geomagnetic storms.

The reason for the geomagnetic activity was solar wind. Earth was dipping in and out of these solar wind streams in the Sun's atmosphere at ~ 500 km/s. The buffeting was expected to continue through at least the first few days of the week. Image Credit: SDO/AIA



Solar wind flowing from this northern coronal hole was brushing Earth's magnetic field on September 2nd.

The Sun was blank, no sunspots.

Solar Minimum was reported to have occurred in December 2019, per the ARRL on 8/31/20: http://www.arrl.org/news/solar-minimum-most-likely-occurred-in-december-2019

Solar activity on the Earth-facing side was seeing Filament launches
as the new solar cycle begins.

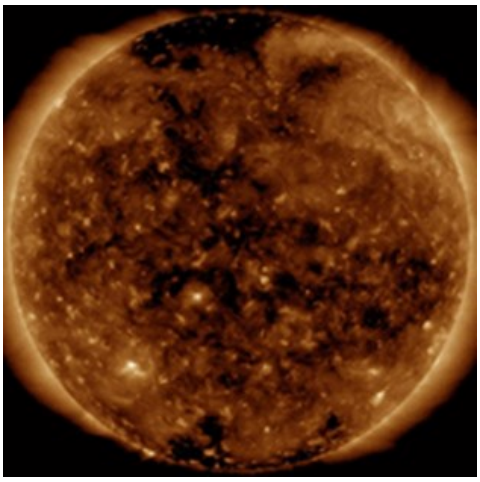
This date in history, during a solar minimum, the Carrrington Event struck Earth. Research shows the event, a monstrous storm, might not be as unique as previously thought. Historical documents from East Asia suggest that Carrington Events (plural) have happened many times before, and probably will happen again.

Week Two

September 6th - Solar minimum conditions were in effect: The solar disk was blank (without sunspots) for 16 straight days. The Sun's X-ray output was flat-lined, and geomagnetic activity was low.

Note: X-ray is needed for the ionization of the Earths upper atmosphere. This ionization of the ionosphere is of major importance to us, because it influences HF radio propagation.

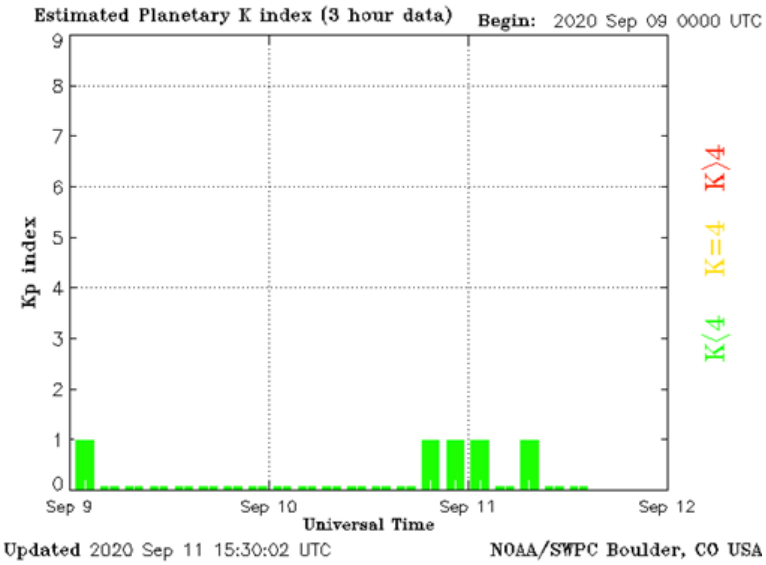
Filaments were erupting again! Image Credit: SDO/AIA



There were no significant coronal holes on the Earth-facing-side of the Sun.

Very Quiet - Coronal holes were confined to the polar regions. Two active regions on the south were lacking significant complexity, keeping us at quiet geomagnetic levels.

September 10th - Kp flat lined



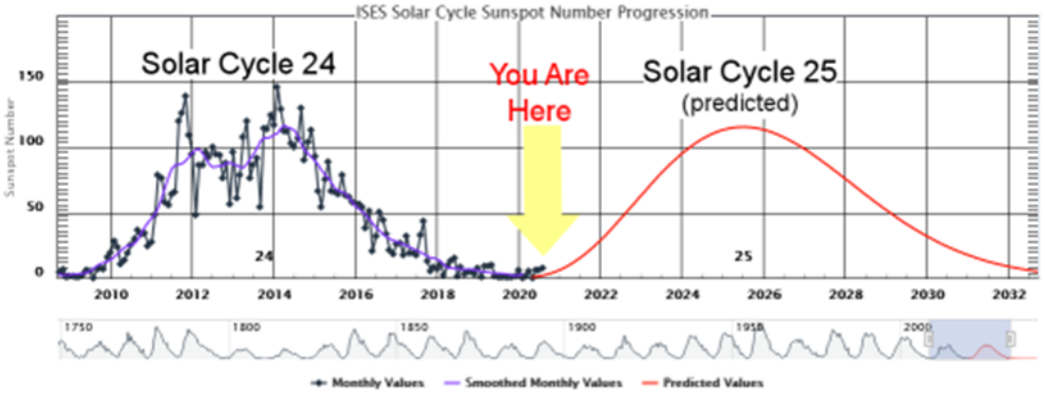
September 12th - The Sun was blank for 22 days, more than three weeks without sunspots. Solar Cycle 25 started months ago, but the new cycle was not yet strong enough to break the icy grip of Solar Minimum. Solar activity was expected to remain low.

Not good for DX propagation.

Week Three

Dark southern holes were rotating into view there were no active regions facing Earth or solar flares.

September 14th - An extended lull in solar activity was persisting.

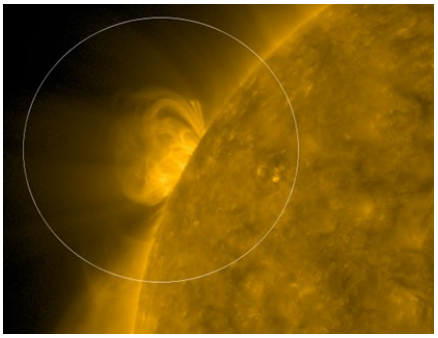


Week Four

The solar disk has been blank, (zero sunspots), for 31 straight days, and we haven't had a significant solar flare in more than a month. Strange? It only seems that way. The early months of new solar cycles are often interrupted by quiet spells, sometimes long ones.

This interval has pushed the current Solar Minimum into historic territory. Since 2016, there have been 825 spotless days. To find a lull in the solar cycle with more spotless days, you have to go back to the years around 1913 when the sun racked up 1023 spotless days. We are now experiencing a century-class Solar Minimum.

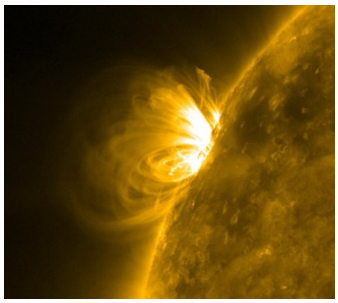
Solar cycle 25 strikes back. The face of the sun was blank, but it won't be blank for long. A new sunspot group was about to rotate over the eastern limb of the sun. Its magnetic canopy was visible in this image from NASA's Solar Dynamics Observatory (Image by SDO/HMI):



As NASA and NOAA recently announced, Solar Cycle 25 has begun, but it's having trouble breaking the presitent grip of Solar Minimum.

The bright region off the northeast limb was now turning into Earth view. So far there were no visible sunspots. Occasional B-Flares continued to be detected.

September 22nd, the autumnal equinox, occurred at 1330 UTC on Tuesday. We should see a seasonal improvement in HF propagation as we enter into autumn, as the northern and southern hemispheres are bathed in roughly equal solar radiation, enhancing north-south propagation.



All sizzle, no sunspots. They were expecting sunspots. Instead, there was plage. French for "beach," plage is the bright magnetic froth that surrounds many big sunspots. In this case, however, there were no sunspots.

This frothy network of white-hot plage was emerging over the sun's northeastern limb underneath a canopy of sizzling magnetic arches. Usually, such a canopy would herald an active sunspot group. However, no dark cores were visible.

Officially, the sun remained blank and spotless for the 32nd consecutive day, a sign that Solar Minimum is still underway
27-Day Space Weather Outlook Table. Issued: 2020 Sep 21 0147 UTC. Prepared by the US Dept. of Commerce, NOAA, Space Weather Prediction Center

# UTC Date	Radio Flux 10.7 cm	Planetary A Index	Largest Kp Index
2020 Sep 21	70	5	2
2020 Sep 22	70	5	2
2020 Sep 23	70	10	3
2020 Sep 24	70	12	4
2020 Sep 25	70	16	4
2020 Sep 26	70	12	3
2020 Sep 27	70	28	5
2020 Sep 28	70	18	4
2020 Sep 29	70	10	3
2020 Sep 30	70	5	2

Solar space weather simplified:

Cartoon by Bill Watterson (SK).

73,

Fred
AA0JK

~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. The purpose of the column is to introduce DRC members to each other and to find commonalities between them. Please use Microsoft Word set to Arial and 10 point, and submit your story to drc.editor@gmail.com.

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

FCC License Search

The Round Table Archive

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

The Round Table Article Index

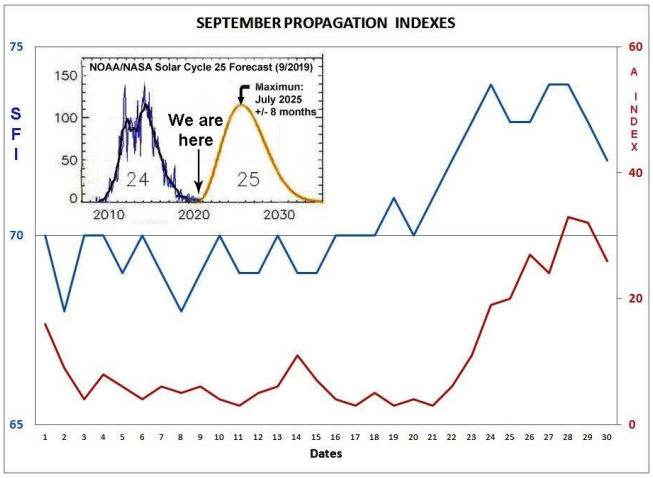
Go to: http://www.w0tx.org/RoundtableArchive/-RoundTables-Index.pdf

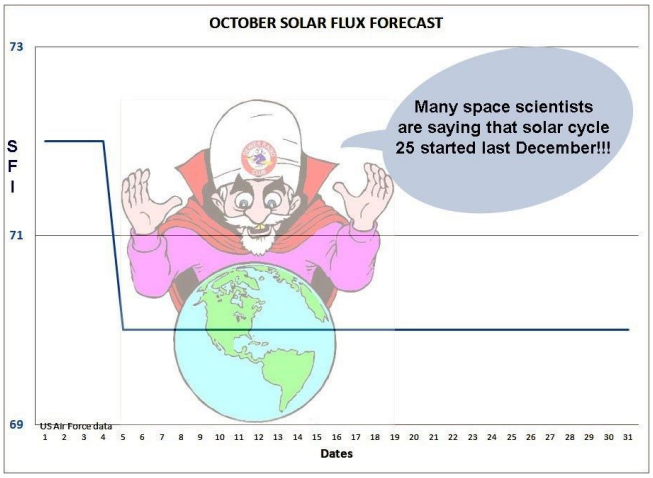
Past & Future Propagation Conditions

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

All cancelled.

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
California	10/03/2020	10/04/2020	California QSO Party	
Nevada	10/09/2020	10/11/2020	Sierra Nevada Amateur Radio Society	
Arizona	10/10/2020	10/11/2020	Arizona QSO Party	
Pennsylvania	10/10/2020	10/11/2020	The PA QSO Party Association	
South Dakota	10/10/2020	10/11/2020	South Dakota QSO Party	
New York	10/17/2020	10/18/2020	Rochester DX Association	
Illinois	10/18/2020	10/19/2020	Western Illinois Amateur Radio Club	

ATTENTION

SUPPORT THE DRC FROM YOUR AMAZON PURCHASES

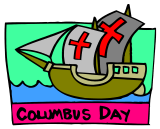
You can now support your Denver Radio Club when you make purchases from Amazon.com. Amazon Smile donates 0.5% of your purchase to the non-profit (501.c.3) organization of your choice. This is at no additional cost to you. To support the DRC just visit smileamazon.com. Select Denver Radio Club, Inc. as 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<>14.105MHz	**2m / 20m gateway. Useable by Technicians on 2m.**
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**

OCTOBER 2020

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Full Moon	**2**	**3**
4	**5**	**6**	**7** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**8**	**9** Last Quarter	**10** **EME Contest 50 - 1296 MHz -** Starts 0000 UTC
11 **EME Contest -** Ends 2359 UTC	**12** 	**13**	**14** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**15**	**16** New Moon	**17**
18	**19** **School Club Roundup** Starts 1300 UTC	**20** **School Club Cont.**	**21** **DRC Online Meeting** Elmer 6 p.m. Meeting 7 p.m. **School Club Cont.**	**22** **School Club Cont.**	**23** **School Club Roundup -** Ends 2359 UTC First Quarter	**24**
25	**26**	**27**	**28** **Learning Net** 7:30 p.m. 145.490 / 448.625 (No PL)	**29**	**30**	**31** Full Moon 

DRC Board of Directors

President	W0GV	Gerry Villhauer	303-467-0223	w0gv@hotmail.com
Vice-President	K0KPS	Kevin Schmidt	303-475-9234	k0kps@arrl.net
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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

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EmComm Coordinator	AD0UZ	Brennan Pate	*Check Roster*	emcomm@w0tx.org
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Tech. Committee Chair	W6OAV	Bill Rinker	*Check Roster*	*Check Roster*
Trustee	WW0LF	Orlen Wolf	303-279-6264	owolf@mines.edu
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Website & YouTube	N0LAJ	Bill Hester	*Check Roster*	w0tx@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 drc.editor@gmail.com.

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 drc.editor@gmail.com. The submission deadline is the 25th of the Month. ~ Editor