



ROUND TABLE

November 2007

The Denver Radio Club Newsletter

Since 1917

President's Message

By Gerry Villhauer-W0GV

Hello DRC Members,

What nice weather lately! I can take a lot of these 70-degree days as I still have antenna work to do at home. We have had lots going on in the technical areas lately with the work at our new Hudson site. We have a great group of people in the tech committee. If you are interested in helping, please contact Bill, W6OAV our Technical Committee Chairman. You don't have to be an electronic wizard. We need help with construction and antenna projects, tower climbing, and working on the ground also. Give Bill a call or e-mail and get involved, its lots of fun.

If you were not at the last meeting you missed a great video presentation on a DXpedition to Peter 1 Island. I had to make a change at the last minute to this program from the one originally planned and it was really well received by the members present.

This month's program will be presented by Bill Rinker, W6OAV. If you have antenna restrictions or you are interested in a compact "hide-able" HF antenna that works as well as a high dipole, you will not want to miss this presentation. Bill, will give a slide presentation about magnetic loops. He will also have a magnetic loop available for inspection. These are very amazing antennas, don't miss the program.

I would like to welcome new members Weston Petty, KD0BLW, Jonah Daley, KD0BVM, Bill Hudson, KD0AIA and Joe Furtado, KC0VXU. Thank you for choosing the Denver Radio Club as your

club. Please come to the meetings and activities and be an active member.

Our November regular meeting and Elmer session will be one week earlier because of Thanksgiving. **The November meeting will be on November 14th.** Can you believe how fast the year is passing by? December 19th will be our annual holiday party. We will have more details in the December Round Table. I want to make sure you are well aware of this date because December is a very busy month for most of us. Besides a great meal we will have good fellowship, drawings, prizes and a program of interest to members and family alike. Mark it on your calendar today!

We are trying to get accurate names, call signs, addresses, phone numbers and spouse names (if you have one) for our new DRC club roster and e-mail addresses for our data base. Please, please, please send any changes ASAP to Bob kc0ouq@att.net. Check the old roster to make sure your information is correct.

See you all at the meeting **November 14th** at the St. Joseph's Episcopal Church, 11202 West Jewell Ave., Lakewood. That is about two blocks West of Kipling on South side of Jewell. And remember to check our website, w0tx.org, for lots of important information about the DRC. The Elmer Session and Tech Meeting start at 6:30 p.m. followed by the Regular Meeting and Program at 7:30 p.m.

Gerry, W0GV
President

Inside The Round Table

Tech Committee Report	Pg 2	Events & Calendar	Pg 6
A Moment In Time	Pg 3	DRC Information	Pg 7
Family Disaster Plan	Pg 4	Puzzle	Pg 8
Puzzle Answers & Solar Watch	Pg 5		

TECHNICAL COMMITTEE REPORT - OCTOBER

This report provides an overview of Technical Committee activities for the past month and a list of on-going projects.

ACTIVITIES ACCOMPLISHED IN OCTOBER.

147.33 Relocation Project

The tech committee is studying the feasibility of relocating the 147.33 repeater to a site near Hudson.

Projects accomplished:

- Hudson Station building and tower surveyed for planning purposes.
- Original 147.33 Station 4 antenna removed and installed at the Hudson site.
- New Cellwave VHF antenna installed at Station 4.
- A radio cabinet equipped with a power supply and a backup 147.33 repeater installed in the Hudson building.
- Feed line installed from the tower to the cabinet.
- Preliminary coverage tests conducted with a mobile rig connected to the antenna system.

Special thanks to W0GV, WG0N, KC0CZ, N4ATA, AC0JM, K0HTX, N1ETV, KE0SJ and WA9TVH for completing the above projects.



New Repeater Site Building

Photo Courtesy of Doug - N4ATA

TSA (The Salvation Army) NVIS antenna system

N1ETV wired up and installed a panel for controlling the NVIS antenna auto tuner.

ON GOING PROJECTS

449.35 Repeater

The original Master2 repeater is back in place next to the Kenwood to act as backup. WA9TVH is building a switching arrangement to allow remote switching between the Kenwood and the Master2.

6 Meter Repeater

K0HTX will build an antenna metal support bracket to replace the wooden bracket now in place

220 MHz Repeater

The repeater is presently out of service. KC0CUA repaired the repeater by replacing a bad diode. He is in the process of installing a new controller in the repeater.

Salvation Army Ham Station

Interference between HF radios - Field day activities brought out the fact that the Kenwood and Drake HF rigs interfere with each other even though they are on different bands. The Drake is normally used on the NVIS antennas and the Kenwood on the R7 vertical. N1ETV is investigating building roll off filters for each of the rigs.

Future growth - The tech committee is considering possible future antenna additions for the station. The club has a Tri-Band antenna. The club needs a working rotor. The club has two rotors that do not work. Perhaps one might be fixed with new bearings.

HF transceiver - The Kenwood 940 is a complex transceiver which presents a challenge to a lot of TSA users. The committee has decided to exchange the 940 with the Kenwood 430 transceiver located at Station 4. The 430 is associated with the 20 meter/2 meter packet gateway. The exchange will provide a simpler to operate transceiver at the TSA and a better transceiver for the packet gateway

Lakewood EOC

Lakewood EOC is moving to a new communications facility. K0TOR and WG0N are analyzing the facility and will make recommendations for antennas, radios, TNCs, etc.



ATOP SQUAW MOUNTAIN

by: Bob Swanlund - WØWYX

Visitors to Squaw Mountain this last 30-days: WØEY, WØCXW, WA4DNW, WB4QLN, WBØWCE, WBØVET, WDØWMI, WDØBSM, WDØAXO, WDØBUP, WAØZOC, WBØHWP, WA2YUN and 14 non-hams from Opportunity School in Denver.

WØEY, Vir James, and WØCXW, Taylor Shreve, brought up a set of three static brushes that I installed atop the 136-foot ham tower. We are trying to eliminate a lot of the corona discharge from snow and rain and at times from blowing dust. We are in hopes that it will also prevent the start of an ion path from static accumulation and thereby help prevent lightning strikes, too.

The batteries on the 10-KW Kohler plant gave up after several years of service and I had to buy two new ones at a cost of three times that of eight years ago. At the same time the battery in the Jeep fell apart and I had to get a new one for it. Now I should have two pieces of motorized equipment that will start during our horrendous winter weather.

Margaret and I with our guest Mary Elaine Olsen from Hot Sulphur Springs enjoyed several meetings of the "Wings of Wisdom" Grand Chapter Session of the Order of the Eastern Star at the Consistory

Building, 14th and Grant in Denver. Two of the local hams participating actively in the entire session, WØUTO (Olive Hafner) is one of the Grand Officers and her husband Walt, WØSYS, did all the sound system work, special lighting and trained members in use of the two wireless mikes. We were indeed fortunate to have Walk doing this work. There were two other hams attending the meeting that we talked to. Sam Selders (WØHJX) and Claire Boruchin (KØYJG). I'm trying to get Sam back on the air on two-meters. He is an old-timer on the low bands.



We were guests of WØMYB and Edith at a dinner in the palatial home in East Denver. Jack (KØYFK) and Helen helped us devour a lot of the goodies that Edith had prepared. Jack and I are still discussing the antenna we saw on a tower alongside the house. It's the first inverted drooping ground plane that I have ever seen and Jack says that is was a (xxxxx), but I don't think so.

One day Clem (WØUSE) called on the phone and asked if I would help him put up an old vertical multiband antenna that he had used at one time when he lived on Lookout Mountain. We went down there and Arnie, Clem, Margaret and I had it up in ten minutes. It took at least another hour to make some of the bolts fit but the antenna is up and now Clem can again work 10, 20 and 40 meters. One of the first contacts he had was with a South American.

I got the old snow plow rigged again and other equipment winterized. We have enough wood cut and split for the next seven months of winter heating.



As far as I can tell from two days of tower climbing, all antennas are secured, feeders wired and taped, guy wires tight, turn buckles wired and grounds clean. The buildings are reasonably tight. The road is as near ready as we can get it, for the long season ahead. Now. Let WINTER be on it's way!

The Nut Hatches have returned and one of them has put on the "Batman" act for us several times while he was trying to warn a Chipmunk to stay out of his way. We seem to have three Stellar Jays here at this time. One of them is quite a character. He has started a routine of whistling and also emits the strangest call when we feed him. I must record that at the first opportunity.

The first Magpie appeared last Sunday and, as usual, was very spooky and as soon as it saw me, took off for shelter among the trees. There must be at least 10 Chick-A-Dees in the area. They are as sassy as last time they were here. It is fun feeding these little guys.

The Rosy Finches are late and I do believe that the weather being exceptionally good for this time of year, govern their arrival. We still have some 600-pounds of millet in stock and are ready for them. We have had several Bird Watchers asking about them and their arrival.

Continued on the next Page.

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always bark at him and this is our cue to go look.

One of the female Coyotes prowled the area below the north parking lot and while we were watching made several trips back and forth searching for her dinner. I'm sure that the animal saw us, too.

The hunting season is here now. We see lots of hunters but no game. It's far too warm and dry for good hunting. The first danger each day is in the Very High region and has been there for two weeks now.

Hope that I can be back in the next issue of the Round Table.

73, Bob

From The November 1977 Round Table of former DRC member C.F. Williams, WØOMN from Wray, Colorado – Photos from the collection of Woody, WØUI

Family Disaster Plan

By George - AG0S



Families should be prepared for all hazards that affect their area and themselves. NOAA's National Weather Service, the Federal Emergency Management Agency, and the American Red Cross urge each family to develop a fam-

ily disaster plan. Where will your family be when disaster strikes? They could be anywhere at work, at school, or in the car. How will you find each other? Will you know if your children are safe? Disasters may force you to evacuate your neighborhood or confine you to your home. **What would you do if basic services - water, gas, electricity or telephones - were cut off?**

Basic steps to a family disaster plan...

I. Gather information about hazards.

Contact your local National Weather Service office, emergency management office or civil defense office, and American Red Cross chapter. Find out what type of disasters could occur and how you should respond. Learn your community's warning signals and evacuation plans.

II. Meet with your family to create a plan.

Discuss the information you have gathered. Pick two places to meet: a spot right outside your home for an emergency, such as fire, and a place away from your neighborhood in case you can't return home. Choose an out-of-state friend as your "family check-in contact" for everyone to call if the family gets separated. Discuss what you would do if advised to evacuate.

III. Implement your plan.

- Post emergency telephone numbers by phones;
- Install safety features in your house, such as smoke detectors and fire extinguishers,
- Inspect your home for potential hazards (such as items that can move, fall, break, or catch fire) and correct them;
- Have your family learn basic safety measures, such as CPR and first aid; how to use a fire extinguisher; and how and when to turn off water, gas, and electricity in your home;
- Teach children how and when to call 911 or your local Emergency Medical Services number;
- Keep enough supplies in your home to meet your needs for at least three days. Assemble a disaster supplies kit with items you may need in case of an evacuation. Store these supplies in sturdy, easy-to-carry containers, such as backpacks or duffle bags. Keep important family documents in a waterproof container. Keep a smaller disaster supplies kit in the trunk of your car.

A Disaster Kit or GO Kit Should Include:

A 3-day supply of water (one gallon per person per day) and food that won't spoil one change of clothing and footwear per person one blanket or sleeping bag per person a first-aid kit, including prescription medicines emergency tools, including a battery-powered NOAA Weather Radio and a portable radio, flashlight, and plenty of extra batteries an extra set of car keys and cash special items for infant, elderly, or disabled family member.

IV. Practice and maintain your plan.

Ask questions to make sure your family remembers meeting places, phone numbers, and safety rules. Conduct drills. Test your smoke detectors monthly and change the batteries at least once a year. Test and recharge your fire extinguisher(s) according to manufacturer's instructions. Replace stored water and food every six months.

How Far Does My Ground Wave Go?

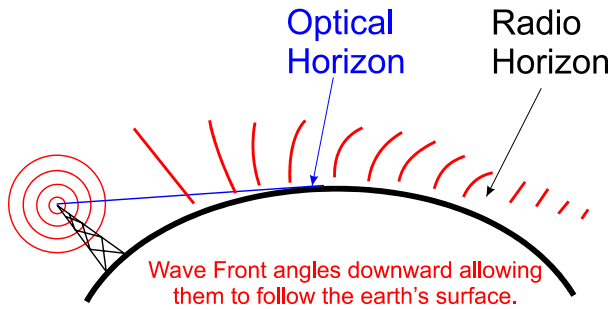
By Bill - W6OAV

Before beginning this article, let's define "Ground wave". Ground wave is a radio wave that stays in contact with the Earth's surface as it travels from the transmitting antenna to the receiving antenna.

Have you noticed that the lower in frequency you operate, the further you seem to be able to communicate via ground wave? How can this be possible if radio waves, like optical waves, travel in a straight line? How can you work a station via ground wave that is beyond the earth's optical horizon?

The answer is in the way ground waves travel in contact with the earth's surface. As the ground wave travels it penetrates the earth's surface and induces currents in the surface of the earth. This action slows down that portion of the wave front near the earth's surface. (The resistance of the earth is higher than that of the air). This causes the wave front to tilt downwards towards the earth as it travels along the earth's surface (see Figure 1).

Figure 1 - Groundwave Propagation



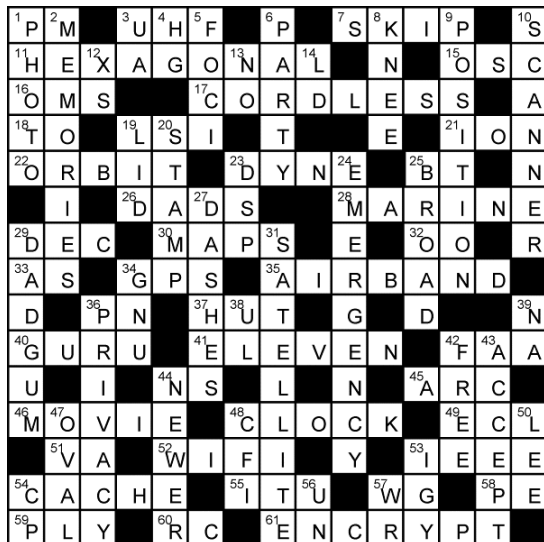
This tilting action causes the ground wave to curve beyond the earth's optical horizon. The lower the frequency, the deeper is the penetration and the more the bending over the optical horizon. Hence, as the frequency of the ground wave decreases, the "radio horizon" distance increases.

The following chart, developed from G4FGQ's "Path Loss" program, shows the radio horizon distance verses frequency. These values are very close to those shown in the ARRL "Antenna Handbook".

FREQUENCY (MHz)	RADIO HORIZON (Miles)
446	6
146	9
52	13
28	16
21	18
14	20
7	26
3.5	32
1.8	40

Solar Watch

Sometimes no news is not good news. In the case of solar activity this is certainly true. The USAF 45 day Solar Flux Forecast is indicating the 10.7cm Flux to remain in the mid to high 60s with an average of 67.5. This isn't good news for those of you on hunting DX because HF openings are very infrequent. However, you shouldn't give up on the lower bands because we have been seeing some sporadic openings and when the openings occur signal propagation is very good. Happy DXing.



Frank - KCOVGG is now ACOJMJ - Extra
 Brant - KCOVTU is now WOBKZ - General

Have you upgraded your license class or gotten that special vanity call that you've always wanted? If so, let us know and we'll post it right here in the Round Table.

Events

ARRL Rocky Mountain Division Elections

If you haven't already voted there is still time. Ballots are due no later than noon on November 17th. So make your voice heard and mail your ballot today. Listed below are the candidates and links to their web bios.

The candidates for Division Director:

Brian Mileshosky, N5ZGT, is the current region Vice-Director who is running for the Director position. Find more info at Brian's campaign website - <http://www.voterockymountain.org>

Jeff Ryan, K0RM, is the current Colorado Section Manager. Info on Jeff's campaign can be found on his website <http://www.k0rm.net/>

Warren "Rev" Morton, WS7W, who is the current Director is not seeking re-election.

The candidates for Division Vice-Director:

Chris Howard, W0EP. More info about Chris can be found on his website <http://rockymtndivisionelection.blogspot.com/>


Dwayne Allen, WY7FD. You can find info on Dwayne at the website he shares with Brian <http://www.voterockymountain.org>



Remember to vote and remember whoever we elect will represent the interests of all hams in the Rocky Mountain Division (Colorado, New Mexico, Utah and Wyoming) for the next three years. Every vote does count so please be sure to return your ballot today.

If you aren't a member of ARRL join today and help protect our spectrum.

NOTE: November Club Meeting date has changed!

November 2007				DRC Net Sunday 8:30pm Local		
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2 General Class 7pm to 9pm	3 ARRL Sweeps CW Begins 2100U
4	5 ARRL Sweeps CW Ends 0300U	6	7 Learning Net 7pm	8	9 General Class 7pm to 9pm	10
11	12	13	14 DRC Meeting Elmer 6:30pm General 7:30pm	15	16 General Class 7pm to 9pm	17 ARRL Sweeps Phone Begins 2100U
18	19 ARRL Sweeps Phone Ends 0300U	20	21 Learning Net 7pm	22  Thanksgiving Day	23 General Class 7pm to 9pm	24 ARRL Int'l EME Comp. Begins 0000U
25 ARRL Int'l EME Comp. Ends 2359U	26	27	28 Learning Net 7pm	29	30 General Class 7pm to 9pm	

Check www.ARRL.org for Contest Rules!

DRC Board of Directors

President	W0GV	Gerry Villhauer	303-467-0223	W0GV@hotmail.com
Vice-President	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
Secretary	WA9TVH	Orlen Wolf	303-2791328	owolf@mines.edu
Treasurer	K0TOR	Jim Beall	303-798-2351	K0TOR@arrl.net
Board Member	KC0CUA	Bryan Steinberg	303-987-9596	KC0CUA@arrl.net
Board Member	K0HTX	Dave Gillespie	303-880-1938	K0HTX@comcast.net
Board Member	AC7SX	Joe Delwiche	303-233-6229	lakewoodjoe@aol.com
Board Member	K0RCW	Robert White	303-619-1048	TBD

DRC Staff and Volunteers

Trustee	WA9TVH	Orlen Wolf	303-279-1328	owolf@mines.edu
Net Control	K0TOR	Jim Beall	303-7982351	K0TOR@arrl.net
Emergency Coordinator	K0SSE	Oscar Hall	303-375-0627	oscarh@aol.com
Membership	KC0OUQ	Bob Proctor	303-986-0612	KC0OUQ@att.net
Club Librarian	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
VE Team	AC0T K0MEL	Wally Gamble Mel Minnick	303-202-0339 303-761-3456	wallygamble@comcast.net k0mel@msn.com
Hamfest Mgr	KC0CUA	Bryan Steinberg	303-987-9596	KC0CUA@arrl.net
Field Day	N6LD	Charles Wright	303-347-0188	cwright@haxsystems.com
Tech. Committee Chair	W6OAV	Bill Rinker	303-741-2537	W6OAV@arrl.net
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Education	AJ0C	Robert Rude	303-8416443	AJ0C@comcast.net

DRC Repeaters

BAND	Freq / Shift / PL Tone	Additional Information
10m	29.620mHz (-100kHz) FM	Temporarily OFF The Air
6m	53.090mHz (-1mHz)	
Packet	145.05mHz<>14.105mHz	
2m	145.490mHz (-) 100Hz PL	Temporarily OFF The Air -- Check Mid November
2m	147.330mHz (-) 100Hz PL	Members Auto-Patch
1.25m	224.380mHz (-) 100Hz PL	Temporarily OFF The Air -- For Controller Upgrade
70cm	448.625mHz (-) 100Hz PL	Temporarily OFF The Air -- Check Mid November
70cm	449.350mHz (-) 100Hz PL	Wide area coverage with Echolink Node # 4140.

Editor's Note

DRC members - this is your newsletter. If there is something which is club or amateur radio related that you'd like to see as a regular feature, email suggestions to the editor. Members are the heart and sole of The Denver Radio Club, 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_RT@comcast.net. **Editor**

Puzzle Page

1	2		3	4	5		6		7	8		9		10
11		12				13		14				15		
16					17									
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46	47					48						49		50
	51			52						53				
54						55		56		57			58	
59				60			61							

Across

- 1. Cousin to FM
- 3. Frequency range for 40 Across
- 7. Propagation off the ionosphere
- 11. Shape of mobile phone cells
- 15. Generates a sine wave (abbr)
- 16. The chairman of WRTC-2006
- 17. Phone without wires
- 18. Transistor package outline prefix
- 19. One step prior to VLSI (abbr)
- 21. Atom missing an electron
- 22. Path around an astronomical body
- 23. Add "hetero-" to mix frequencies
- 25. CW dash
- 26. Slang for fathers
- 28. Radio on the water
- 29. Between OCT and HEX
- 30. Drawings of landforms
- 32. Ham band monitoring station
- 33. CW prosign for "Stand by"
- 34. Wireless satellite navigation system
- 35. Where pilots communicate
- 36. Semiconductor junction
- 37. Another word for "shack"
- 40. Expert
- 41. Wavelength in meters of CB allocation
- 42. Agency with tower height rules
- 44. How a compass needle aligns itself
- 45. Sustained spark
- 46. One use of streaming video
- 48. Regular time signal
- 49. High-speed logic family using negative voltage
- 51. Across the Potomac from MD (postal code)
- 52. Popular wireless network standard
- 53. Organization that controls the standard for 52 Across
- 54. Stash of goods or supplies
- 55. Organization that allocates prefixes
- 57. Feed line for microwaves (abbr)
- 58. Person that reviews building plans
- 59. One of several layers
- 60. Wireless control of models
- 61. Obscure the meaning with a code

Down

- 1. Voltaics and cells
- 2. Where channel contents are stored
- 3. Prefix for hosts of WRTC-2010
- 4. Used in thermometers (chemical symbol)
- 5. Where elliptical dishes concentrate energy (plural)
- 6. A shared telephone line
- 8. An abrupt change in a graph or curve
- 9. What a navigation system provides
- 10. Receiver designed to monitor many channels
- 12. Series reactance (abbr)
- 13. Opposite of Normally Closed (abbr)
- 14. Load (abbr)
- 19. Poor operator
- 20. Need one to mail QSLs
- 23. Filtering by computation
- 24. Like a disaster
- 25. Wide bandwidth or beamwidth
- 27. Partner to dots
- 29. Mildly exasperated rural expletive (two words)
- 31. A bird in space
- 34. Animal for whom the free-source movement is named
- 36. Codes used on FRS and GMRS radios
- 38. Safety lab
- 39. Does not apply (abbr)
- 42. Available at no charge
- 43. To take or receive
- 44. More recent
- 47. Shape of the aurora from space
- 48. Person qualified to teach flying
- 50. Sheltered from the wind
- 53. International scientific cooperation in 1959
- 54. Prefix for landlocked South American country
- 56. Partner to "bal"
- 57. Prefix for types of 57 Across

NOTE: Answer key for this puzzle is located on page 5.