



ROUNDTABLE

PRESIDENT'S MESSAGE

By Bryan Steinberg – KB0A

Happy New Year to all!

Once again we had a great turnout for our Holiday party, with around 60 people braving the snow to attend. Roger, K0YY, enlightened us with an overview of his visit to South Africa and Zimbabwe and how it is to operate DX from the "pile up" side. Hopefully, all got home safely after the meeting.

Some of club's plans for 2012 include:

- an expansion of the 147.33 voter system,
- finding a commercial radio for our 20 Meter packet gateway (something that is designed to operate 24/7)
- controller upgrades to our 145.49/448.625 repeaters
- and whatever other opportunities come up.

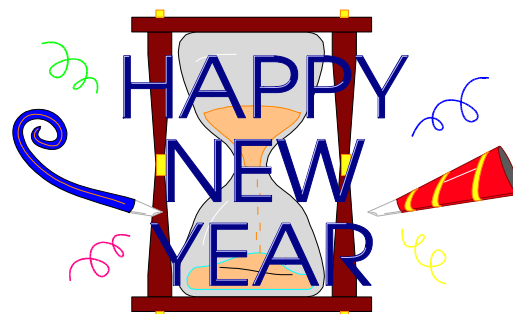
A more importantly what are *your* personal plans for 2012? Is this the year you upgrade your license – and privileges? Learn to use a new operating mode – CW, digital, QRP, satellite, DX. If so, how can the club help you achieve your goals? With our active membership I believe we have an expert in every aspect of Amateur Radio. Don't be afraid to ask for assistance. Or, if you decide to go it alone, share your knowledge and experiences with your fellow members. Write an article for the RoundTable, do a club meeting or Elmer session presentation. We even have members that will help you write the article or put together the presentation.

Our January meeting will feature work that a few of us on the technical committee have been experimenting with over the past few months. Wouldn't it be great to plug in some information about your station into a program and have it show your coverage? Well we have been doing that to "model" our repeater site coverage areas. This work also allows us to perform a virtual test of changes without having to climb a tower or even buy new equipment. Our antenna expert in residence, Bill, W6OAV, will take us through this program at our January meeting. Join us back at our usual regular location, the El Jebel Shrine in Denver. 7:30 PM for the membership meeting and 6:30 for the Elmer and Tech Committee meetings.

PS – the 2012 club rosters are in, so if you did not get yours at the holiday party be sure to check with Bob, KC0CZ, at the club meeting.

Until next month...

Bryan – KB0A
President



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DECEMBER MEETING - WHAT'D I MISS

By Bill – W6OAV

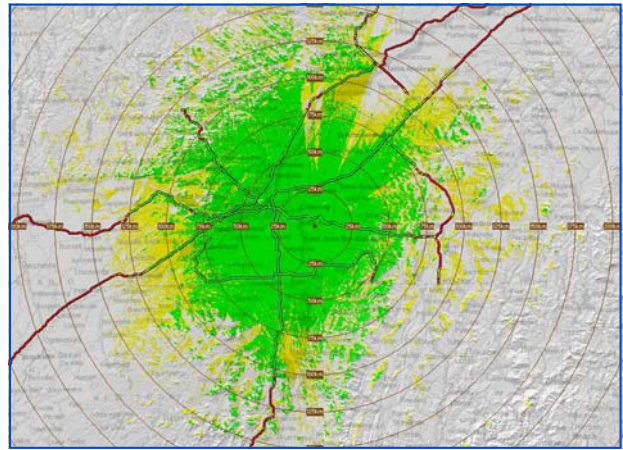
In spite of a snow storm forecast, there were 60 attendees at our annual Christmas party! There was plenty of good food and camaraderie available to all.

The highlight of the dinner was a presentation given by Roger Krautkremer, KØYY about his Zimbabwe DXpedition. He and his wife, Marilyn, KBØLJW, not only toured Africa earlier this year but were also able to operate as Z2/KØYY from the



QTH of his friend Fernando, Z21BB. Roger began his presentation with a beautiful picture tour of several cities and national parks in Zimbabwe. Then he discussed his experiences operating as Z2/KØYY. Roger ended with a discussion of DX'ing tips, DX'er tools and tips and the DX'er code of conduct.

The meeting ended with many attendees receiving great prizes.



TECHNICAL COMMITTEE REPORT

No committee meeting in December due to the Holiday Meeting.

SAFE WI-FI COMPUTING

PART 4

By Bill – W6OAV

Part 4 discusses and illustrates configuring Windows XP for secure hotspot Wi-Fi operation. A lot of the following also pertains to configuring Windows XP on home Wi-Fi systems. The reader might want to review the acronym definitions contained in the introduction to this document.

Preparing For Hotspot Wi-Fi Operation

For secure hotspot operation, the user must disable file sharing options, Ad Hoc connections and automatic connects to networks, other than the home network, contained in the station's Wi-Fi Profile List.

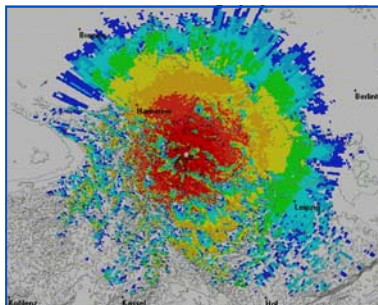
The station's Wi-Fi must be enabled in order to disable the above mentioned features. Therefore, it is best to perform these procedures in a safe place, such as at home or in a non-hotspot location. If these procedures must be done in a hotspot, verify the SSID of the Wi-Fi offered by the hotspot operator. Then, after enabling the station's Wi-Fi, verify that it hasn't connected to any Wi-Fi. If it has, and it is not that of the hotspot provider, immediate turn off the station's Wi-Fi. Then move to a non-hotspot location and disable the above mentioned features.

(Continued on page 3)

JANUARY MEETING PRESENTATION

Interested in plotting your station's radio coverage? Interested in profiling the RF path between your station and a repeater or another station? If so, plan to attend the January DRC club meeting. W6OAV and N0LAJ, will discuss and demonstrate a computer program called *Radio Mobile*.

Radio Mobile is a simulation program used to predict radio coverage of a base station, a repeater or other radio network. This program is free, easy to install and easy to use.



Radio Mobile produces a colored plot of radio coverage showing the expected receive signal levels in S-units, μ V, dBm, or μ V/m. The program uses terrain elevation data from either the SRTM (Shuttle Radar Topography Mission) or the DTED (Digital Terrain Elevation Data) databases that are both available free on the Internet.

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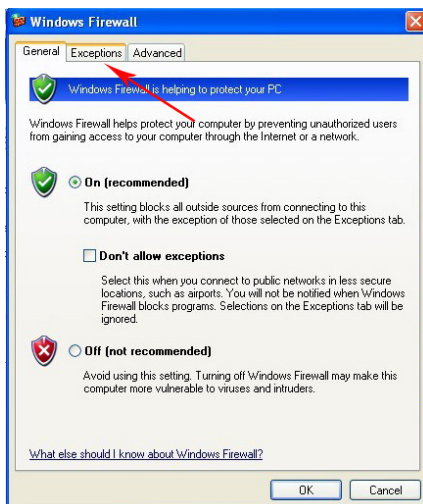
The figures shown below are for an XP configuration set for the classic view. As is normal for Windows there are several different ways to achieve the following configurations. If your configuration is set for a different XP configuration, or if you are using a 3rd party Wi-Fi application, your screens will be a bit different. However, the process is the same.

Disabling File Sharing options

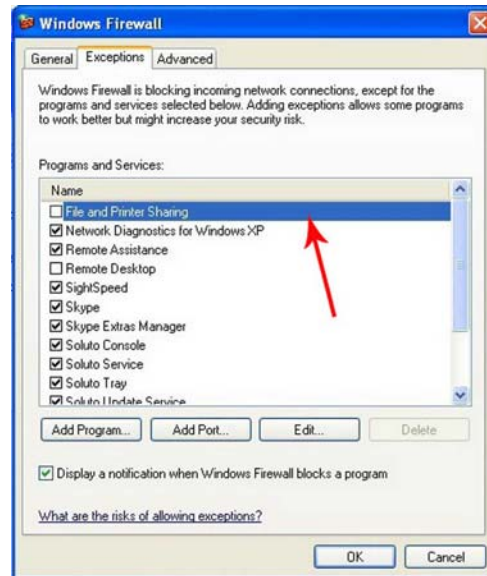
Step 1 – Bring up the Security Center by clicking “Start”, “Settings”, “Control Panel” and then “Security Center”. On Windows Security Center click “Windows Firewall”.



Step 2 – Click on the Exceptions tab.



Step 3 – Un-tick “File and printer sharing” Then Click “OK” and close all windows which will bring up the Desk Top.



Disabling Ad-Hoc Connections

Turn on the station’s Wi-Fi. Then perform the steps shown below:

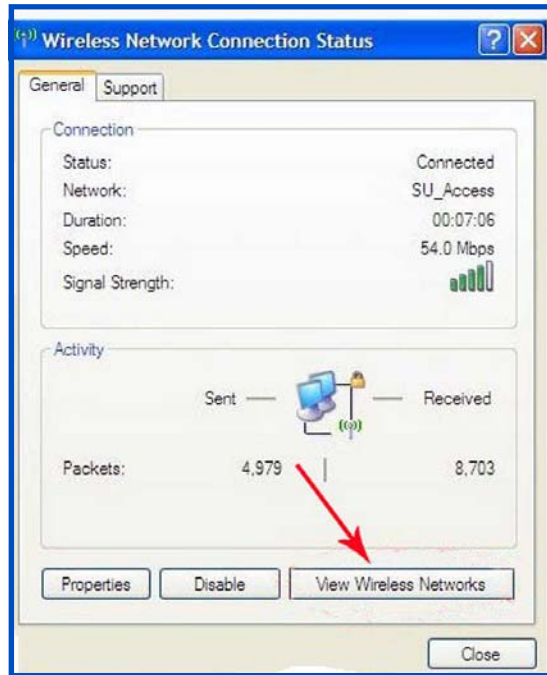
Step 1 – Click the Wi-Fi Icon in the System Tray.



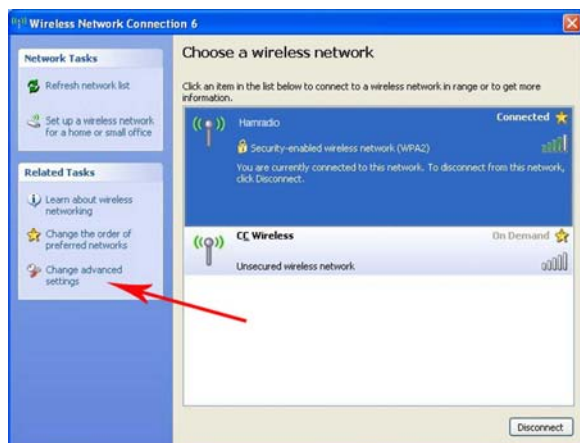
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Step 2 – Click on “View Wireless Networks”.

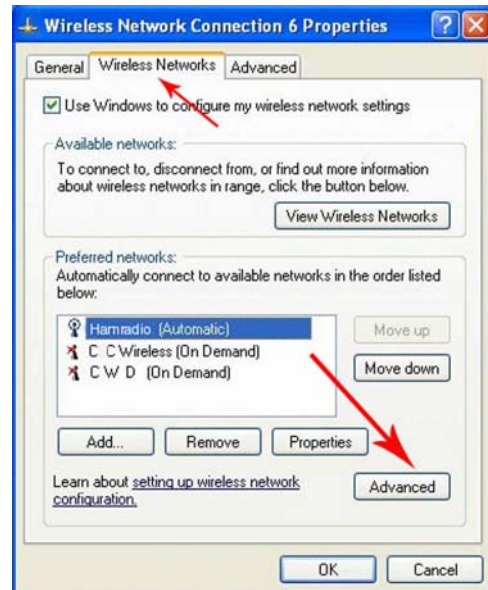


Step 3 – If you are in a Wi-Fi hotspot, check to see if your station is connected to a network which is not the network that you verified earlier with the hotspot operator. If not, immediately disconnect from that network. (Note that “Hamradio” is connected in this example). To get to the Wi-Fi Profile List, select any network (“Hamradio” in this example) and click “Change Advanced Settings”.



Step 4 – Click the “Wireless Networks” tab and then click the “Advanced” button. This screen shows the Wi-Fi Profiles stored in the station. Note that the network “Hamradio” is configured for auto connects and that the other two networks are configured for manual connects.

Note that one can select an undesired Wi-Fi Profile and click “Remove” to delete it. To disable “Ad Hoc connections on a particular network, select the desired network and click “Advanced”.



Step 5 – Click “Access point (infrastructure) networks only” & then click “Close”.



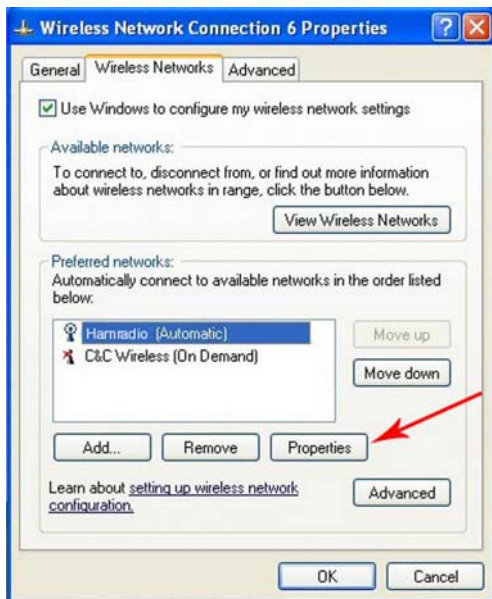
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Step 6 – Repeat the above steps for any other desired networks.

Disable Auto Connections

Step 1 – Click the desired network and click the “Properties” button.



Step 2 – If necessary, click the “Connection” tab. Un-Check “Connect when this network is in range” & then “OK”.



Step 3 – Repeat the above steps for any other desired networks.

Part 5, will discuss some of the common ways hackers can attack your station.

VIDEO KILLED THE RADIO STAR:

VIRGINIA NATIONAL GUARDSMAN FINDS NEW USE FOR OLD RADIO TECHNOLOGY IN AFGHANISTAN

By Sgt. Francis O'Brien



U.S. and Romanian troops, members of the team who successfully deployed a new province-wide short wave radio transmitter in Zabul, pose for a photo after completing installation of the antenna near Qalat, Afghanistan Dec. 9. (Photo by Spc. Crystal Davis)

ZABUL PROVINCE, Afghanistan – The song “video killed the radio star” was the first video played on MTV in 1981 and launched a music revolution. Soldiers of the Virginia Army National Guard’s 116th Infantry Brigade Combat Team are deploying technology in a revolutionary way in Afghanistan using a short wave radio transmitter that can reach almost every radio in Zabul province.

This is the first time a province-wide transmitter has been used in Afghanistan. The transmitter allows the Zabul provincial and district government to send messages to rural Afghan homes.

“No other unit in the International Security Assistance Force has ever done this at any level,” said Master Sgt. Joel E. Fix of Fort Belvoir, Va. speaking of the novel application of the technology.

Radio and word of mouth are the primary means of spreading news and information in rural Afghanistan. Listening to the radio – thousands of which were distributed by NATO-ISAF - is a cultural norm for Afghans, many of whom follow both the BBC and Voice of America.

Fix, a 14-year veteran of the Guard on his third overseas deployment, came up with the transmitter solution in response to a problem raised in discussions with Afghan officials: “How could the Government of the Islamic Republic of Afghanistan communicate to their people in remote areas?”

It was a particularly timely dilemma. As GIROA expanded its influence into every district, GIROA’s continued legitimacy rested on the ability to reliably reach and involve ordinary Afghans in their parliamentary democracy. Specifically, the district governors of Mizan and Day Chopan in Zabul province each wanted to invite the elders of their districts to grand shuras in September 2011.

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Day Chopan has the highest elevations of Zabul province with deep valleys unreceptive to radio signals, unless they come from overhead from high angle radio waves bounced off the ionosphere.

The 116th "Stonewall Brigade", in partnership with Romanian troops and Soldiers of the Alaska-based 1st Battalion, 24th Infantry Regiment, all members of Combined Team Zabul, came together to brainstorm a solution. Traditional options raised by CTZ such as leaflet drops, broadcasting radio transmissions from aircraft and even flying aircraft with loudspeakers attached were all denied.

"The government was looking for ways to communicate with people on a greater scale, but there were gaps in the coverage. Short wave radio is the solution we came up with," said Fix.

Short wave radio is known in the U.S. as ham radio which allows two way communications. The Zabul transmitter is one way. Most radios used by Afghans are receive-only.

"I was soliciting for bids for a transmitter and was referred to Don Butler to assist with the project for the design of the antenna system," said Maj. William R. O'Neal a Smithfield, Va. native with the 116th.

Butler, an Air Force veteran from the '60's, is a ham radio enthusiast from Gun Barrel City, Texas, who provided design help for the antenna system. Butler's call sign is N4UJW.

"Ham radio is two way communications over short wave. Our transmitter is one way," said Fix. "With this configuration, no matter where they are, there's no reason the Afghan's can't get a signal. The frequency is close to but not the same as the one for the BBC. That makes it easy to find and remember," he added.

The transmitter antenna owes its success to a technique called NVIS – Near Vertical Incidence Skywave – which involves bouncing radio signals off the ionosphere – a layer of the atmosphere. One specially designed NVIS antenna is placed horizontal to the ground unlike a traditional vertical antenna. The second part of the NVIS antenna is called the reflectors and helps to boost the signal by forcing it to go almost straight up instead of outward and limited by the curve of the earth.

"In a traditional short wave broadcast, you get your antennas up as high as you can go," said Fix. "It bounces off the F2 layer of the ionosphere but gives you limited coverage with 'skip points.' Using NVIS and our reflector wire system, the signal goes up at a very steep angle and almost straight back down which can penetrate deeper into mountain valleys. When we were looking at this system, it was a no brainer," he added.

The transmitter is operated and maintained by coalition forces including the U.S. and Romanian soldiers and broadcasts content from the local government. At first glance it doesn't seem very impressive: one antenna, the ever-useful 550 cord, and some wire that feeds into a transmitter with one port and an on/off switch.

"Our goal is to transfer the transmitter and antenna system to the provincial government as part of the transition," said O'Neal. Unlike some new technologies developed and used as part of Operation Enduring Freedom, this transmitter is inexpensive and effective.

"It has resulted in a savings of around 3,100%," said Fix. "It would take 30-32 FM systems to cover the same area. The final testing is still in progress and the station is not on the air yet.

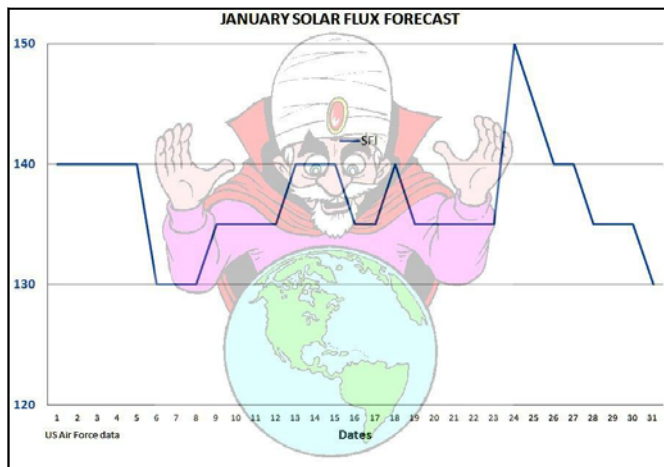
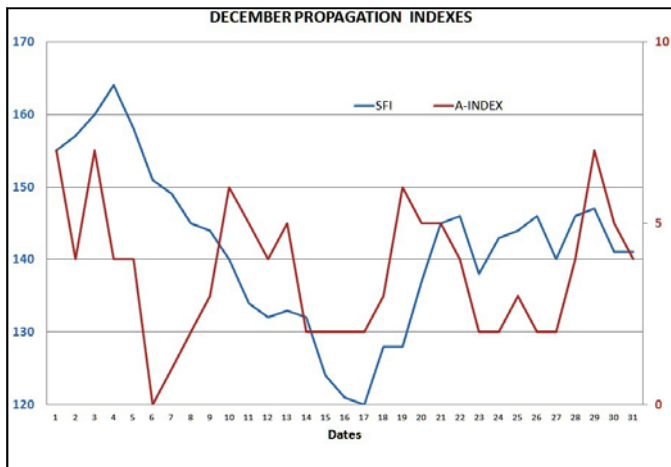
PAST & FUTURE PROPAGATION CONDITIONS

By Bill – W6OAV

This article provides two charts: the propagation conditions for last month and a forecast of next month's propagation conditions.

USING THE PROPAGATION INDEX CHART

Note two things on the chart: the trend of the SFI and A indexes and the date of largest SFI peak. The trend of the SFI shows the progress of the solar cycle during the past month. The SFI peak allows the rough forecasting of the reoccurrence of SFI peak in the next month. In order to "forecast" the next SFI peak, note the date when the SFI peak occurred and project out to about 28 days. Due to the sun's 28 day rotation, the SFI peak will often reoccur in about 28 days. The reason is because the sun spots causing the SFI peak move with the sun's rotation and face the earth every 28 days. This 28 day repetition will become more pronounced as the solar cycle improves. Refer to the September 2010 Roundtable for more complete information on the "SFI" and "A" indexes.



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UP COMING EVENTS

HAMfests & Conventions

The following are the HamFests & Conventions which have been registered with the ARRL so far. More information can be found on www.arrl.org/hamfests.

January 21 – Northern Colorado ARC Winterfest, Larimer County Fair Grounds, Loveland, CO

February 12 – ARA Swapfest
Adams County Fairgrounds, Brighton, CO

April 7 – Longmont ARC, LarcFest
Boulder County Fairgrounds Longmont, CO

June 23-24 – ARRL Field Day
More information later.

August 19 – DRC HAMfest
More information later.

DRC EDUCATION CHAIRMAN NEEDED



The Education chair is responsible for making sure we have a presentation each month at the club's Elmer session. The chairman doesn't need to present at every session but needs to make sure there is a presentation.

If you are interested, or would like to nominate someone who you feel would be good for this assignment, please contact Bryan, KBØA



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"There are only two ways to live your life.
 One is as though nothing is a miracle.
 The other is as though everything is a miracle."
Albert Einstein

JANUARY 2012		DRC Net Sunday's at 8:30pm Local on 145.490 & 448.625 (No PL)				
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 ARRL Straight Key Night 	2	3	4 Learning Net 7:30pm	5	6	7 ARRL RTTY Round-Up Begins 1800U
8 ARRL Kid's Day 1800U to 2359U ARRL RTTY Round-Up Ends 2400U	9 	10 Save The Eagles Day 	11 Learning Net 7:30pm Amelia Earhart Day 	12	13	14
15	16 Martin Luther King Day 	17 	18 DRC Meeting Elmer 6:30pm General 7:30pm	19	20	21 ARRL January VHF Sweeps Begins 1900U
22	23 ARRL January VHF Sweeps Ends 0359U 	24	25 Learning Net 7:30pm	26	27	28
29	30 	31				

DRC BOARD OF DIRECTORS

President	KB0A	Bryan Steinberg	303-987-9596	KB0A@arrl.net
Vice-President	W0GV	Gerry Villhauer	303-467-0223	W0GV@arrl.net
Secretary	WWOLF	Orlen Wolf	303-279-6264	owolf@mines.edu
Treasurer	K0TOR	Jim Beall	303-798-2351	K0TOR@arrl.net
Board Member	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
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DRC STAFF AND VOLUNTEERS

Trustee	WWOLF	Orlen Wolf	303-279-6264	owolf@mines.edu
Net Control	K0TOR	Jim Beall	303-798-2351	K0TOR@arrl.net
TSA/EmComm Coordinator	KB0BZZ	Bob Zimprich	303-400-3400	bobzz@comcast.net
Membership	KC0CZ	Bob Wilson	303-659-0517	KC0CZ@comcast.net
Club Librarian	WG0N	Dave Baysinger	303-987-0246	WG0N@arrl.net
VE Team	K0RCW	Robert White	303-619-1048	K0RCW@arrl.net
Swapfest Mgr	KB0A	Bryan Steinberg	303-987-9596	drcfest@comcast.net
Field Day	K0HTX	Dave Gillespie	303-880-1938	K0HTX@comcast.net
Tech. Committee Chair	W6OAV	Bill Rinker	303-741-2537	W6OAV@arrl.net
APRS Chair	KB0MQQ	Lloyd Plush	303-277-0785	LloydPlush@aol.com
Benevolent		Carolyn Wolf	303-330-0721	
RT Editor	AG0S	George McCray	303-751-7246	AG0S@arrl.net
RT Assoc. Editor	W6OAV	Bill Rinker	303-741-2537	W6OAV@arrl.net
Education		OPEN		
Web Master	N0LAJ	Bill Hester	303-388-5120	wrhester@hotmail.com

DRC REPEATERS

BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090mHz (-1mHz)	
Packet	145.05mHz<>14.105mHz	
2m	145.490mHz (-) 100Hz PL	Linked to the 70cm - 448.625mHz machine.
2m	147.330mHz (-) 100Hz PL	Local Area, Members Auto-Patch Does Not TX a PL!
2m	147.330mHz (-) 131.8Hz PL	NE Area Remote Does Not TX a PL!
1.25m	224.380mHz (-) 100Hz PL	
70cm	447.825mHz (-) 100Hz PL	Saint Anthony's
70cm	448.625mHz (-) 100Hz PL	Linked to the 2m - 145.490mHz machine.
70cm	449.350mHz (-) 100Hz PL	Wide area coverage with Echolink Node # 4140.

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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 AG0S@arrl.net. Submission deadline is the 25th of the Month. **Editor**