



ROUNDTABLE



PRESIDENT'S MESSAGE

By Bryan Steinberg – KB0A

I was reading an article in a current issue of Computer-World where the writer was discussing the advances in technology in everyday life. He bemoaned the fact, apparent to him, that while ordinary folks are using more advanced technology there seems to be a dearth of people who understand such technology. Obviously he is unaware of the thriving existence of the amateur radio community. Like elsewhere our, ham radio, technology is also advancing and the equipment used today seems to be more "plug and play" versus build your own. However, most of us do understand the technology used, albeit at different levels, hence our three license classes. To prove this it's been nice to see an increase in ham radio kits. These kits extend from basic QRP (low power) radios to more advanced equipment.

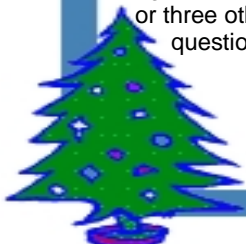
This also explains one of the major tenets of the Denver Radio Club, which is education. Many of our monthly meeting presentations and RoundTable articles require our members to stretch. No, not the physical kind but the one using your brain, which is also a form of exercise, I suppose. We, the board and tech committee, know that these presentations at times present some advanced topics and that it can be difficult to absorb all the information. We do hope that you will hang in there and continue to attend and participate. But, most of all, we hope you ask questions. I am sure each of us had at least one teacher who uttered those most prolific words about there being no stupid questions. In this case, well actually most cases, they are right. For every question asked there are probably two or three other people who would have asked the same question if they only had the courage to do so.

This is where we come back to the advancing technology and the fact that most people don't understand what's involved in making such devices work. I'll bet each of you can answer, to some degree and in some way how these things do work. While a smart phone may be using a cellular network implementing CDMA, TDMA or something else remember that it is just a radio and we all know how a radio works, don't we?

Being December it is time for our annual holiday party. This year we will meet at the Golden Corral, 3677 S. Santa Fe Dr., Sheridan, CO 80110 (Phone: 303-643-5898) which is the same location as we used last year. We will be using one of the rooms at the left end of the restaurant. Our presentation this year will be the "K4T DXpedition to the Dry Tortugas" by Pete Fountain, WD4IXD. Pete will discuss the planning and implementation procedures involved in coordinating a DXpedition. He will also talk about the issues that had to be overcome to bring this event to fruition. Don't miss this great presentation. Our holiday meeting will be held in place of our normal December meeting on the 19th. People usually start showing up around 5 PM and we expect to start the presentation at 6:30 PM. Also, don't forget the door prizes and member grand prize.

Hopefully I will get a chance to see many of you at the holiday dinner. For those who can't make it let me close by wishing all of you a very happy holiday season along with a Merry Christmas and Happy New Year.

Till next time...
Bryan, KB0A



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NOVEMBER MEETING - WHAT'D I MISS

By Bill – W6OAV

In spite of the fact that the meeting was on the eve of Thanksgiving, there were 28 attendees. After introductions, KB0A began his presentation on the HP 8924c Service Monitor. He explained the history of the HP 8924c, how the club obtained it and why the club needed it.



Pete has been licensed since 1977 and his interests are DXing, contesting and VHF/ UHF/Microwave weak signal work (including EME). Pete is an RF Engineer for ViaSat and in his spare time enjoys helping the club as a VE.

WW0LF than defined for attendees some of the parameters that KB0A would be demonstrating, such as deviation, receiver sensitivity, effects of over deviation, AM verses FM, PL tone detection issues, etc.

KB0A began the demonstration by using the HP 8924c to analyze an HT's receiver and transmitter parameters of which there were many. After that, he demonstrated other features of the HP 8924c, such as using the spectrum analyzer, the oscilloscope, the tracking generator to analyze duplexer tuning, the function generator, the RF generator, to name just a few of the many available functions.

After the presentation, small groups took turns gathering around the HP 8924c where KB0A demonstrated additional features which were of interest to the individual groups.

NO TECH COMMITTEE REPORT FOR NOVEMBER

Who's New In The DRC

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. 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 7pm. For new hams we have the Elmer session which starts at 6:30pm before the regular meeting.

More information can be found on the Denver Radio Club website at <http://www.w0tx.org>.

Ken Rawlings	KV5Y
Stuart P. Davis	KD0IOZ
Sylvia Sydow	
Tom Kukla	
Zeke W Ragsdale	WQ0Z

DECEMBER MEETING ANNOUNCEMENT

Our holiday meeting presentation will be given by Pete Fountain, WD4IXD, documenting the trip he and seven others made in March 2010 to Fort Jefferson in the Dry Tortugas. This location is steeped in history and made for an excellent location for HF, VHF, UHF, and satellite operations. It is a very rare entity on the IOTA (Islands On The Air) program and an extremely rare grid square for VHF and amateur satellite operators. Hear the details of all that was involved in making this 4 day operation such a success and how they overcame obstacles such as the basic preparation, permitting requirements to camp and operate from there, power requirements, and transportation of the equipment. This will be an interesting and entertaining program that could benefit the club with ideas for future Field Day operations as well.

**It's Time Once Again For The
Annual Holiday
Meeting & Dinner**

When: December 19th
Where: Golden Corral Buffet Restaurant
 3677 South Santa Fe Drive
 Sheridan, CO
Time: 5pm Dinner / 6:30pm Presentation and Drawing
 For map & directions check www.w0tx.org

A COMPUTER AND TV INTERFERENCE CURE

By Bill – W6OAV

I had a very severe case of radio frequency (RF) interference whose solution might be of interest to other hams. The interference began when I installed an HF vertical antenna fairly close to the house. When I transmitted on any HF band the transmitted audio would blare out from the TV's speaker system. Worse yet, the TV's on screen programming menu would flash on the screen in a jumbled fashion. Sometimes the programming menu would remain on the TV screen. In that case I would have to power cycle the TV to clear the menu.

I suspected that the external sound around audio system was feeding the RF into the TV audio system where it was being rectified, amplified and sent back to the speakers. When I disconnected the external sound system the interference disappeared.

How does the RF interference occur to TV audio and computer audio occur when external speaker systems are connected? Well, Figure 1 shows

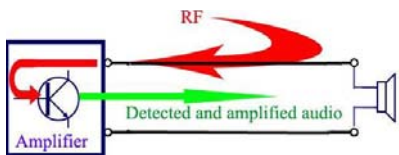


Figure 1 - Audio Interference in Audio Systems

how the speaker wires act as an antenna and conduct the RF into the TV or computer audio system. The RF is then rectified by the diode junctions within the audio system transistors (remember the old diode crystal radios?). The resultant detected audio is then amplified and sent out to the speaker.

The first time I had this problem I tried capacitors across the speaker leads, wrapping the speaker leads around ferrite cores, using shielded speaker leads and a combination of all three. All was to no avail. Then I built the low pass audio filter arrangement shown in Figure 2. I

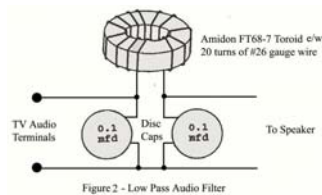


Figure 2 - Low Pass Audio Filter

I connected the filter to the speaker connectors on the back of the TV. The interference disappeared! As shown in Figure 3, the filter works by

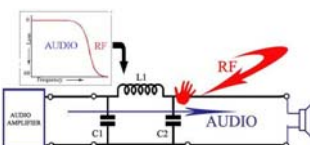


Figure 3 - Lowpass Filter Action

passing audio to the speakers and by blocking RF from getting into the TV audio system.

The number of turns and the wire gauge on the toroid core are not critical. For a list of toroid core suppliers reference Google: "Amidon FT68-7".

About year after I cured the interference to the TV, I bought a new computer and an external audio system. Guess what...the RF got into the audio. I built and installed the low pass filter for each speaker on the back of the computer. This cured the problem.

HOW TO SEND @ OR % IN MORSE CODE

Many of those proficient in Morse might be stumped when it comes to sending @ or %, fortunately the ITU-R recommendation on International Morse Code provides an answer.

The ITU Radio communication Sector (ITU-R) is one of the three sectors (divisions or units) of the International Telecommunication Union (ITU) and is responsible for radio communication.

Recommendation ITU-R M.1677-1 (10/2009) confirms the International Morse code characters and the operational provisions applying to their use in radio communication services.

The Morse code for @ is: $\cdot - - \cdot - \cdot$

For the percentage sign % there is no corresponding signal in the Morse code and they recommend that the figure 0, the fraction bar and the figure 0 shall be transmitted successively.

A whole number, a fractional number, or a fraction, followed by a % sign, shall be transmitted by joining up the whole number, the fraction number, or the fraction to the % by a single hyphen.

For 2% you would transmit 2-0/0

The ITU-R International Morse Code Recommendation M.1677-1 (10/2009) can be downloaded in Word or PDF format from <http://www.itu.int/rec/R-REC-M.1677-1-200910-l/en>

Other ITU-R M Series Recommendations are available at <http://www.itu.int/rec/R-REC-M/en>

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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.

2013

January 19 – NCARC Winter Hamfest
 Larimer County Fairgrounds
<http://www.ncarc.net>

May 31 – Rocky Mountain Division Convention
 Rocky Mountain Park Inn, Estes Park,
 Colorado
<http://www.hamconcolorado.org>

Don't forget to join in Wednesday nights at 7:30pm for the DRC Learning Net !
145.49/448.625 machines
NO Net December 26



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THE ROUNDTABLE ARCHIVE

Have you been looking for a back issue of the Roundtable? Many are available on the DRC web site. Access <http://www.w0tx.org>. On the left side of the page, click on "Roundtable".

WHAT IF THE WEATHER CHANGES?

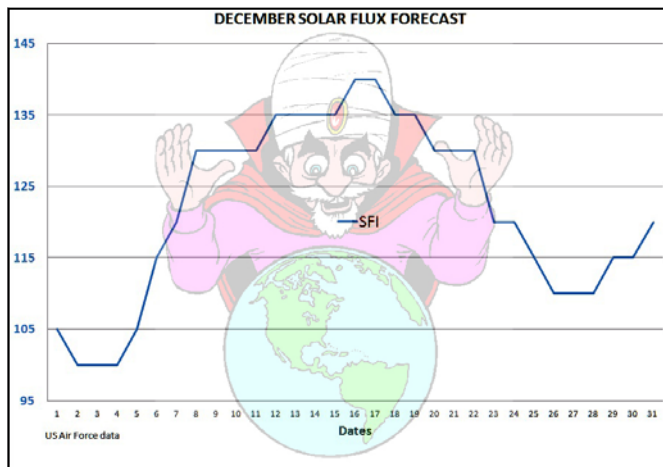
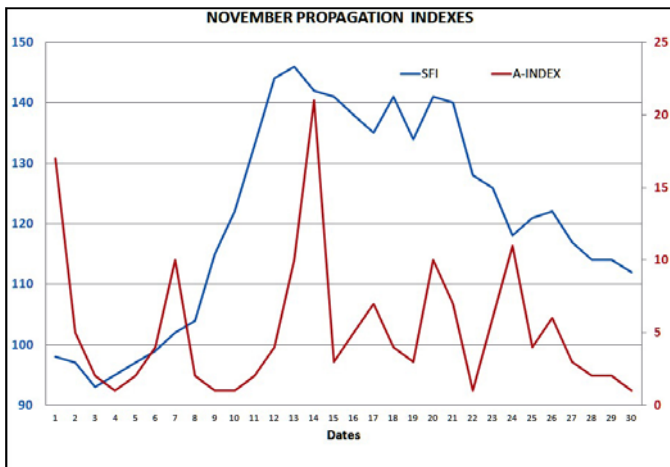
As every Coloradoan knows our winter weather can take a sudden change for the worse. If we should experience a turn in the weather on the day of our monthly DRC meeting it may be necessary to cancel the meeting. If this should happen listen for meeting status reports on 145.49 or 448.625 MHz repeaters during the afternoon before the meeting day.

PAST & FUTURE PROPAGATION CONDITIONS

By Bill – 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 *Roundtable* for more complete information on interpreting these charts. Issues of the *Roundtable* are available at www.w0tx.org.



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It's Time Once Again For The Annual Holiday Meeting & Dinner

When: December 19th

Where: Golden Corral Buffet Restaurant
3677 South Santa Fe Drive
Sheridan, CO

Time: 5pm Dinner / 6:30pm Presentation and Drawing

For map & directions check www.w0tx.org

December 2012							<i>DRC Net Sunday's at 8:30pm Local on 145.490 & 448.625 (No PL)</i>
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
						1 ARRL Int'l EME Contest Begins 0000U	
2 ARRL 160m Contest Begins 23590U	3	4	5 Learning Net 7:30pm	6  Last Quarter	7 Pearl Harbor Remembrance Day	8 ARRL 10m Contest Begins Saturday 0000U	
9 ARRL 10m Contest Ends 2359U	10	11	12 Learning Net 7:30pm	13  New Moon	14	15	
16 ARRL Rookie Roundup 1800U thru 2359U	17 Wright Brothers Day 	18	19 Club Holiday Dinner & Meeting 5pm  First Quarter	20	21 First Day of Winter	22	
23/30	24/31 New Year's Eve	25 	26 NO Learning Net 	27	28  Full Moon	29	

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Web Master	N0LAJ	Bill Hester	<i>Check Roster</i>	

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	Not in service at this time!
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.
70cm	446.7875mHz (-)	MotoTRBO Repeater Slot 1 – DMR-MARC WW, Slot 2 – Local

EDITOR'S NOTE

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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**