



# The ORC News -

Official publication of the Ozaukee Radio Club, Inc. Mail all contributions to the editor, Tom Ruhlmann, W9IPR, 465 Beechwood Dr., Cedarburg WI 53012 (phone 262 377-6945). Permission to reprint articles published in any issue is granted provided the author and the Ozaukee Radio Club Newsletter are credited.



ORC Repeaters on 146.97, 224.18 and 443.750 MHz -

Callsign W9CQO

Web site: [www.ozaukeeradioclub.org](http://www.ozaukeeradioclub.org)

Volume XXIV

January, 2010

Number 1

## From the President

De Bill Howe II (KA9WRL)

I've been asked why I enjoy introducing Amateur Radio to Scouts and School groups. After all, a lot of Hams pretty much keep to themselves, almost becoming a hermit down in the Ham Shack, only sharing their experiences at Hamfests and Club Meetings.

Well, my answer is simple. I don't want the hobby to die. The more youngsters involved at an early age generally translates into more Amateur Radio Operators later in life. Simple, yes? Maybe not.

Amateur Radio, in the eyes of the kids today seems archaic, compared to the incredible array of high-tech electronic games on the market within the past few years. It's a real challenge to get anyone interested in such an "old fashioned" hobby, mainly enjoyed by senior citizens.

When talking to Scouts and School groups, I have to remind myself to keep the presentation simple, but at the same time new and exciting! The equipment demonstrated can be a mixture of antique, fairly modern and state-of-the-art, but it has to "dazzle", if you will, the young minds with our version of "smoke and mirrors".

The presentation should evoke a feeling of becoming a new adventure into space for the students. It should certainly include a "hands on" session, whether it's pounding away on a straight key (hooked to an oscillator), trying to spell their name in code, or talking on an HT to a Ham across town, it's the endless variety available to Ham Operators that we must try to get across to them.

If possible, I like to show them how we can access the internet via Ham Radio, how we can send and receive pictures using slow-scan and fast-scan technology, how D-Star can close the gap between cities and continents, how we can track satellites and communicate via moon bounce and meteor scatter. I also like to display some simple "home-brew" equipment that they can actually build themselves. As I said, the possibilities are endless!

Also important is making them understand the difference between Cell Phone communications and Amateur Radio communications. How we can use low-power devices to talk around the world, either for our own enjoyment or for an emergency situation. I'll bring along ARRL and Scouting handouts for the students to take with them. If it's a small group, I may provide a Ham Radio DVD for each participant to take along and view at home.

Again, I don't want the hobby to die. I also really enjoy talking to the youngsters about Amateur Radio and I think, if you want to get involved in this facet of the hobby, you will too!

## Election of Officers

The nominating committee consists of Mike Yuhas (AB9ON) as chairman and Tom Ruhlmann (W9IPR), Ed Rate (AA9W) and Stan Kaplan (WB9RQR).

The following are nominated by the committee to serve on the ORC Board for the 2010 year.

President – Bill Howe III (KA9WRL)

1<sup>st</sup> Vice President – Chuck Curran (W9POU)

2<sup>nd</sup> Vice President – Mark Tellier (AB9CD)

Repeater VP – Open

Treasurer – Nels Harvey (WA9JOB)

Secretary – Patrick Sullivan (KC9LRK)

## Contesting

De Bob Truscott (W9LO)

Until a couple of hours ago I had been struggling with what I considered a serious conflict of interest, but that all went away when I sat down at the breakfast table this morning (Monday) with a copy of the Journal Sentinel in hand. Those of you who are avid Packers fans, AND serious contesters will understand my problem, but the rest of you probably couldn't care less. You probably know that the Packers clinched a position in the NFL playoffs a week ago, and ever since that time the experts who are supposed to know about these things kept saying that the Packers would play their first playoff game on Saturday, Jan.9. That also happens to be date of the North American CW QSO Party, my current favorite contest. It's a 10 hour contest, and the football game would steal 3 hours right out of the middle of it. So that was my problem, to choose between giving up 3 hours of contest time or skipping the football game. I even checked with NFL.com late last night, and they confirmed that the game would be on Saturday. But when I got to the sports page of the morning paper I found that the NFL had changed the schedule, and that the Packers would play on Sunday. Problem solved—I will now have the best of both worlds. It's a great contest. Join me on Jan. 9 for 10 hours of great CW fun.

Coming up in January:

Jan. 9 North American QSO Party—CW Rules at [www.ncjweb.com/naqprules.php](http://www.ncjweb.com/naqprules.php)

Jan. 10 North American QSO Party-SSB Rules at [www.ncjweb.com/naqprules.php](http://www.ncjweb.com/naqprules.php)

Jan. 23 ARRL January VHF Sweepstakes Rules at [www.arrl.org/contest](http://www.arrl.org/contest)

Jan. 30 CQ WW 160 Meter Contest, CW Rules at [www.cq160.com](http://www.cq160.com)

Club Members Reported Scores:

Nov. ARRL Sweep Stakes (SS), CW

W9LO 705 Q 77 Mults  
Score 108,570

W9XT 217Q 66 Mults  
Score 28,644

W9KHH 205Q 69 Mults  
Score 28,290

Nov. ARRL Sweep Stakes (SS). SSB

W9XT 271Q 80 Mults  
Score 43,360

CQ World Wide (WW) CW Contest

W9XT 93 Countries, 29 Zones  
Score 137,738

ARRL 160M CW

W9XT 629Q 73 Mults 17 DX  
Score 118,080

W9LO 247Q 53 Mults  
Score 26,182 QRP

W9KHH 215Q 51 mults, 1 DX  
Score 22,183

Have Fun Contesting.

Bob, W9LO

## VHF & UHF

De Todd Sprinkmann (KC9BQA)

Our focus this month is the ARRL VHF contest from 1pm Jan 23 until 10pm Jan 24. <http://www.arrl.org/contests/rules/2010/jan-vhf-ss.html>

I'm promoting an ORC angle to this contest again. Last year had focused activity periods to welcome newcomers and FM-only stations to operate. We are doing this again in 2010. Not just for ORC, but for hams all across SE WI. Save time on your calendar for some VHF contesting the weekend of Jan 23-24. Spread the word.

The ORC angle is this: With 15 or more ORC entries in this contest, plus at least 15 contacts

in each log, I'll award a traveling plaque to the top ORC scorer. Tips about how to play in a VHF contest are at <http://www.kc9bqa.com>. Newcomers are more than welcome, and the veterans will need to help recruit more activity. Talk it up at the ORC meeting Jan 13<sup>th</sup> and on the repeater.

Making 15 contacts isn't hard, if there's enough activity and your station is capable of working 15-30 miles on simplex. If you work 8 stations on both 6 and 2m, you've qualified. Bands like 1.25m and 70cm are also in play. Your contacts can be FM, SSB or CW. One thing – in a VHF contest, you can't work the same station twice, using different modes on the same band. But you want to work them on the different bands you have in common. You hear "any other bands?" a lot during a VHF/UHF contest.

The 15 contacts rule is to ensure that you give a good effort. No making 2 or 3 Q's, saying "that's good enough" and pulling the plug. After the contest, I will review the logs myself to verify that the conditions were met. We can talk about logging later – that info will be on my website. Main thing right now is to make your contest plans and spread the word. Get 15 or more ORC entries lined up and win the plaque.

I know W9GA and I will be on, so you already have two. Oh yes... the award will go to a newer contester who tries hard. Big guns and multi-year veterans are not eligible.

VHF Contesting is more relaxed than HF, and you don't need a superstation to have fun. You do need activity, though, and that's what I try to promote – ACTIVITY. If you have 6 or 2 meter gear, then you are all set. 6 and 2 are the bread and butter bands in any VHF contest. Check out a great article in the January QST, on page 79. It's about how FM simplex can be a training ground for VHF Contesters. The QST article gives nice publicity to Wisconsin's own MRAC club. MRAC has run an FM simplex contest for a decade or so now, and it gets very good participation from dozens of hams all across SE WI. It runs on Feb. 21<sup>st</sup> this year – make plans to operate that Sun. afternoon. [http://www.w9rh.org/fm\\_simplex\\_contest.htm](http://www.w9rh.org/fm_simplex_contest.htm)

Back to the ARRL Jan 23-24<sup>th</sup> VHF Sweepstakes. Again, I will be posting detailed tips and hints on [www.kc9bqa.com](http://www.kc9bqa.com). You'll also get some short reminders on the ORC Yahoo re-mailer. For now, make sure your rigs, antennas and feedline are A-OK.

The activity periods where FM ops are urged to concentrate will be from 2-6pm on Sat. Jan 23, and from 7-10am on Sun. Jan 24<sup>th</sup>. Here are the suggested frequencies:  
2m: 146.550, 146.580 primary; 146.46 and 146.49 secondary. Spread out if it's busy!  
6m: 50.525 primary; 50.550, 50.575 if busy.  
1.25m: 223.500 primary; 223.525 if busy.  
70cm: 446.000 primary; 446.025 if busy.

If you have questions, please ask them on the ORC Yahoo group, or email [sprinkies@excel.net](mailto:sprinkies@excel.net). Far more info will be on [www.kc9bqa.com](http://www.kc9bqa.com), also.

## Low-Band Receiving

De Tom Ruhlmann (W9IPR)

Thanks to the "Century Club" 160 meter net I have made confirmed 160 meter SSB contacts in just about all the states except Hawaii. In an effort to get more range I determined I needed a vertical or at least an inverted L antenna that would produce a lower angle of radiation. Once that was completed and I still didn't work a "KH" station I concluded that they could probably hear my kilowatt but due to background noise I couldn't hear them.

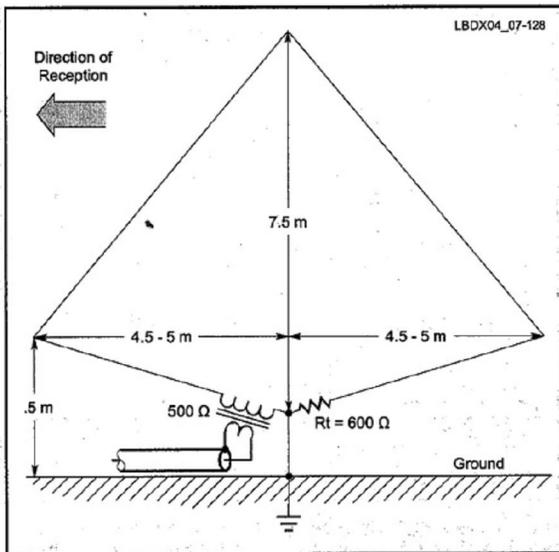
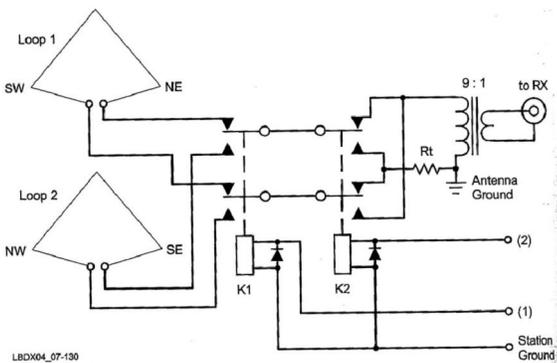


Fig 7-128—The K9AY loop.

**ARRL “Low-Band Dxing” by ON4UN**

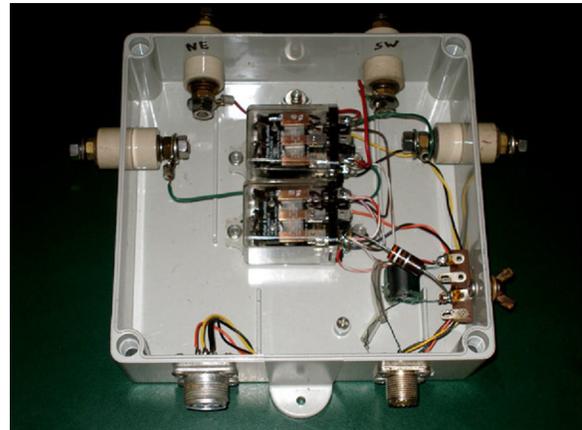
So I decided to install a “top bands” receiving antenna to minimize the received noise and improve the signal to noise ratio so I could pick them out of the static.

After researching various types of receiving antenna I decided to build a K9AY system. It required a minimum of space (a circle approximately 40 ft in diameter and a support at the circle center of about 30 ft in height) and materials. No, it doesn't have the signal gain of a vertical or dipole but by minimizing the noise and providing directivity I should be able to read a weaker signal. Just refer to the handbook or do an internet search on K9AY and you can learn much about receiving antenna and the options. I won't attempt to provide a tutorial on the antenna but just present my approach to its construction and installation.



**ARRL “Low-Band Dxing” by ON4UN**

The total antenna consists of two identical loops of less than 1/8 wavelength. The antenna impedance is approximately 450 ohms so a 9:1 transformer is wound on a small ferrit core. The output side of the antenna and terminating resistor (R) are switched by relays K1 and K2 which are controlled from a control box in the station.



The antenna relays, connectors and terminating resistor were housed in a water tight plastic box that I got at the ORC May swapfest for \$2.00. The robust feedthrough insulators form the terminations for each side of the loops.



The antenna control box was mounted on a treated post in among the surprize lilies.

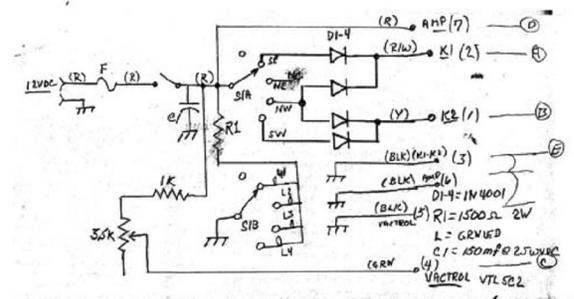


The receiving antenna performance can vary with "ground" conditions so a good ground is required. I used an 8ft. 3/8" copper rod and installed it using a home made driving cap pipe.



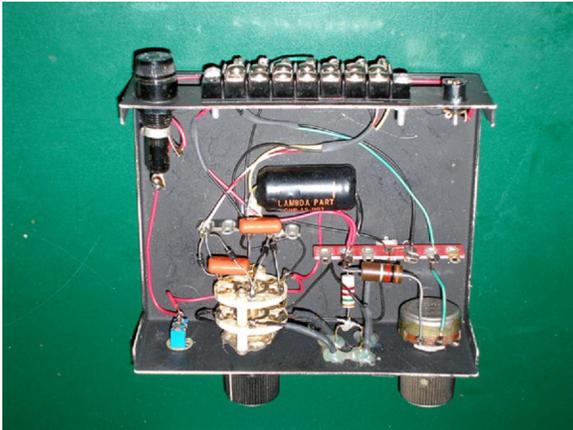
Two 45 degree plastic conduit elbows were joined at right angles and used to support the apex of the two loops from an overhead tree limb.

A 2 ft length of PVC pipe was put into the ground to act as a socket for the 8 ft length of PVC pipe used to support the loop corners. This allows the antenna to be easily disassembled if desired. There is a pully at the top of the pipe and the loop corner is supported by a rope through the pully and weighted by a milk jug filled with sand. This allows the supporting tree to move and sway without stressing the antenna loops.



Naturally, I redesigned some of the circuitry of the shack control box for the antenna control. I decided to use a 12 volt "wall wart" rather than building an internal power supply and also to include provision for 4 LEDs to indicate the antenna receiving direction. Since I had 6 available control conductors to the antenna I decided to include a conductor for control of a

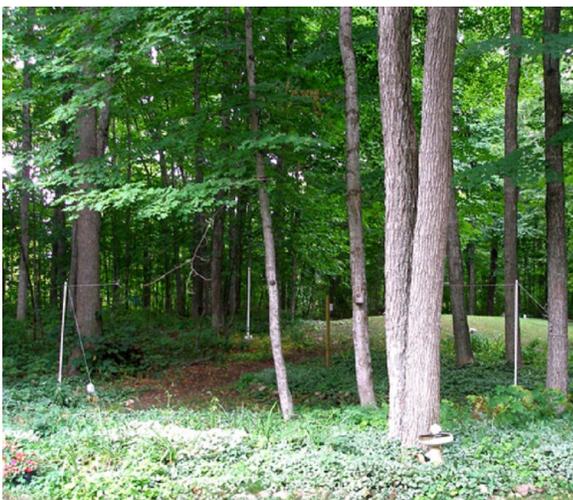
variable terminating resistor and potential signal amplifier to be added later.



The control circuitry was made completely from the junk box using an old "A-B" switch for the control box itself.

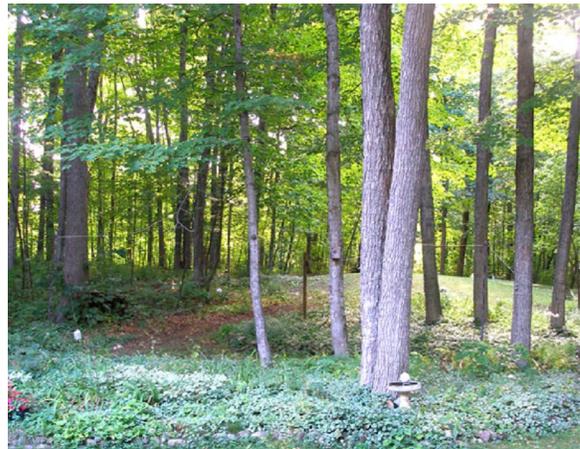


The control labeling was made using white lettering on clear tape in a labeling machine.



And there it is installed as seen through our kitchen window. The XYL was not impressed with the white PVC support poles. Obviously it was important to find a way to hide or camouflage this creation if I was ever to make a top band contact with Hawaii.

It's amazing what a couple of cans of "camo" paint from the hardware store can do for a relationship. The white PVC supports etc. were sprayed with some brown and then green (camo) paint and they seemed to disappear – at least in the summer time.



Does it work? Well yes, weak signals are much more readable on 160 and 80 but I did not get quite the pronounced directional properties I had hoped for. The directional properties are known to vary with ground conditions and that requires variation in the value of the loop terminating resistor. That's when Gary (W9XT) introduced me to the K9AY loop antenna terminating resistor switching unit he now provides through his company, Unified Microsystems. You got it – I am now modifying the shack control box and will complete the mod of the antenna relay switching box termination resistor package when the snow stop's flying. I will be listening for you on 160 – it's a fun band.

## Upcoming Events

Jan. 13<sup>th</sup> – A meeting program about building and operating model gasoline, steam and heat engines will be presented by Terry Koller (KA9RFM). These are really something to see.

Also, we will have elections for ORC Board of Directors at the Jan. 13<sup>th</sup> meeting.

Don't forget the West Allis Radio Club Swapfest Jan. 9<sup>th</sup> at the Waukesha Expo Center by the airport.

Also, there is a new Swapfest in Fitchburg (near Madison) on Jan. 23<sup>rd</sup>.

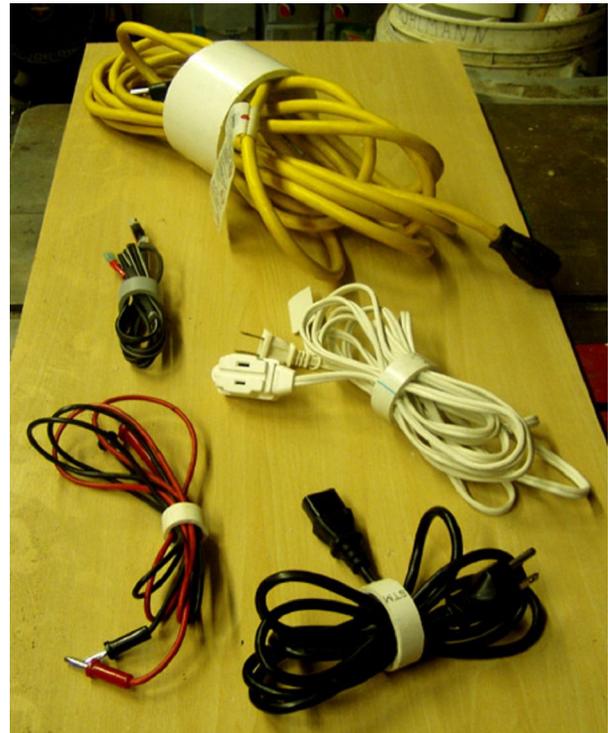
## Club Static

Our condolences to Ted (N9LLT) and Mark Heilmann (N9SVE) whose father passed away recently.

## Tips and Tools

So you are wondering what to do with those scraps of PVC pipe from your last plumbing job?

Why not cut them into slices and use the rings to secure test leads, extension cords etc. and lengths of rope.



## Minutes– Dec. 9th, 2009

De Chuck Curran (W9POU)

### Opening of the Meeting:

Club President Bill Howe, KA9WRL called the meeting to order at 7:30 PM.

### Announcements:

Mike Yuhus AB9ON shared with the group the pending openings on the ORC Board. He asked all present to consider becoming part of the Board

Nels Harvey, WA9JOB announced a new Hamfest taking place in Fitchberg, WI on January 23, 2010.

**Awards:** None

### Program:

Chuck Curran W9POU had a presentation on large 9-24 Kw Tesla Coils

### Auction:

Items were auctioned off by Stan Kaplan WB9RQR and Jon Gilmore KB9RHZ. A nice flat screen monitor, speakers and CAT 5 cable were all available for bidding.

### Minutes:

The minutes as recorded by Chuck Curran W9POU, were listed in the newsletter. It was moved by Stan Kaplan WB9RQR to accept the minutes as written, it

was seconded by Terry Koller KA9RFM. There was a 100% vote in favor of this.

#### **Treasurer's Report:**

Nels Harvey, WA9JOB, went over the current state of the treasury. An update on the newly installed 10 meter system was provided. Jon Gilmore, KB9RHZ, moved that the Treasurer's report be accepted, this was seconded by Stan Kaplan WB9RQR. There was a 100% vote in favor of this.

#### **Repeater Report:**

Nels Harvey, WA9JOB, said a trip to Belgium was made and the transmitter was replaced. It was suggested that it will help if as we drive around the county, we should listen on the 440 MHz band and listen for interference on 440.37 MHz. Time Warner cable has some leakage issues and they have modified and repaired several issues to date.

Committee Reports:

**Membership Committee:** Dave was absent, so no report was offered.

#### **Post Everything Party**

Bill Howe KA9WRL, reported that the American Legion Post is heavily booked already. The only open dates are Friday's during March, or Sunday afternoons. A vote was held and the final was 11 in favor of a Friday night, 2 in favor of a Sunday afternoon, and 0 in favor of April. A date on a Friday will be set.

#### **Swapfests**

Tom Ruhlmann W9IPR will be preparing a flyer for the May Swapfest. Tom added that the September Swapfest is also all set.

#### **Corn Roast/Light House Event Discussion**

The Corn Roast will be held at the shelter in Port Washington. The Lighthouse event will take place to the east of the Corn Roast

#### **Old Business:**

Two items are listed on eBay for sale; the first is 3 Mickey Mouse radios, while the second is 2 miniature magic eye tubes

#### **New Business:**

Tom Ruhlmann, W9IPR motioned that a donation of \$200.00 to the ARRL be considered at the next Board meeting. Mike Yuhas, AB9ON, seconded the motion. Board will discuss this at the next meeting.

Tom Ruhlmann W9IPR motioned that a donation of \$100.00 to the Grafton Senior Center be considered by

the Board since a reduced amount of ORC activity was taking place during Grafton parades and other items supported in the past. Mike Yuhas, AB9ON, seconded this motion.

**Adjournment:** Jon Gilmore KB9RHZ moved to adjourn; this was seconded by Stan Kaplan, WB9RQR. All were in favor.

#### **Attendance**

Jon Gilmore KB9RHZ, Stan Kaplan WB9RQR, N9LLT, Kent Christiansen N9WH, Ed Rate, AA9W, Nels Harvey, WA9JOB, Todd Fast, N9DRY, Mark Fielkow, KB9PXE, Chuck Curran, W9POU, Patrick Sullivan KC9LRK, Tom Ruhlmann W9IPR, Bill Howe KA9WRL, Cindy Douglas, KA9PZG, Terry Koller, KA9RFM, Mike Yuhas, AB9ON, Bob Frank, N9NRK, Tom Nawrot, AA9XK, Ray Totzke, W9kHH, Mark Tellier AB9CD, Tom Ruhlmann, W9IPR (Note: heavy snow kept attendance down tonight)

## **AGENDA**

*January 13, 2010*

1. Call to order – Bill Howe (KA9WRL)
2. Introductions.
3. Announcements, Bragging Rights, Show & Tell, Upcoming events, Etc.,
  - Jan. 9 – West Allis RC Swapfest
  - Jan. 23 – Fitchberg Swapfest
  - Jan. 23 – VHF Contest Trophy
4. Elections
5. Program:
6. Fellowship Break
7. Auction.
8. Acceptance of Minutes as printed.
9. Treasurer's report – Nels (WA0JOB).
10. Repeater report – John (W9NRG)
11. Committee reports.
  - PEP Committee
12. OLD BUSINESS
13. NEW BUSINESS
14. Adjournment to ?

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### **The ORC Newsletter**

465 Beechwood Drive  
Cedarburg WI\* 53012

### **First Class**

## **Next ORC Meeting**

**Grafton Senior Citizens Center**

**1665 7<sup>th</sup> Avenue, Grafton**

**Wednesday, Jan. 13<sup>th</sup>**

**7:30 PM**