



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.



AMATEUR RADIO

ORC Repeaters on 146.97, 224.18 and 443.750 MHz -
Callsign W9CQO Web site: <http://www.qsl.net/orc/>

Volume XXI

November 2002

Number 11

The Prez Sez

By Leon Rediske K9GCF

Thanks to Becky & Paul Gruettner for bringing us the October program about their new book, THE FOX. Hope many of you have finished reading your copy by now. Don't tell me how it comes out, as I haven't finished mine as yet.

ORC elections are coming up soon, so please be thinking of persons to fill the clubs positions.

Regarding the vote to change the bylaws taken at the October ORC meeting, there were 35 in favor and 2 opposed. Gabe told me that at that point in time, we had 99 members capable of casting a vote. Therefore the vote did have the minimum number of votes to legally change our bylaws.

Did anyone from the club attend the Central States VHF Society 3-day conference. If so, how about a report?

If any of you folks are doing cross banding to our repeaters, note the following:

1. Always monitor the repeater output into which you are cross banding. If cross banding causes problems, one can detect and fix it quickly.
2. Always shut off cross-banding equipment when leaving your house/office. No Unattended Cross-banding, please.
3. Always use PL squelch when cross-banding. Temperature/voltage changes & noise can create interference using carrier squelch.

Winter is coming, have you checked your antennas, greased your thrust bearing, etc. The one thing I hate to see is a beam element that came loose, & speared a hole in a roof. It's also worth

considering replacing that 25-year-old coax that is very lossy by now. (Leon, listen-up) Now is the time to accomplish the annual antenna inspections club members.....

CW sweepstakes contest is coming up 2 & 3 November. Gabe, (Mr. CW is my life, I'll see you on the air.)

73's for now, and see you all at the November 13, ORC meeting, 7:30 PM @ the Grafton Senior Center Building, 1665 7th Ave, Grafton, WI.

Upcoming Events

- 11/02/02-MRC Swapfest - Waukesha Expo
- 11/13/02 - ORC meeting and HT holder contest at the Grafton Senior Citizens Center.
- 11/28/02 - OZ ARES meeting at Justice Center
- 01/04/03 - WARAC Swapfest-Waukesha Expo

PROGRAM

Jim Hilins, KA4UPW, will tell us how to build a flagpole vertical, and how he did his. Antennas these days need be stealthy, for the Community, the Covenants, & the Wife. So you folks that thought you could not get on HF due to the size and visibility of the required antennas, listen up! Better purchase your 9913 direct burial coax from "Cable X-perts" now, so that your vertical can go up before the snow flies. Not all 9913 is direct burial, nor is all manufactured 9913 of the same specifications.

A Letter From Our Scholarship Winner

Dear ORC Members,

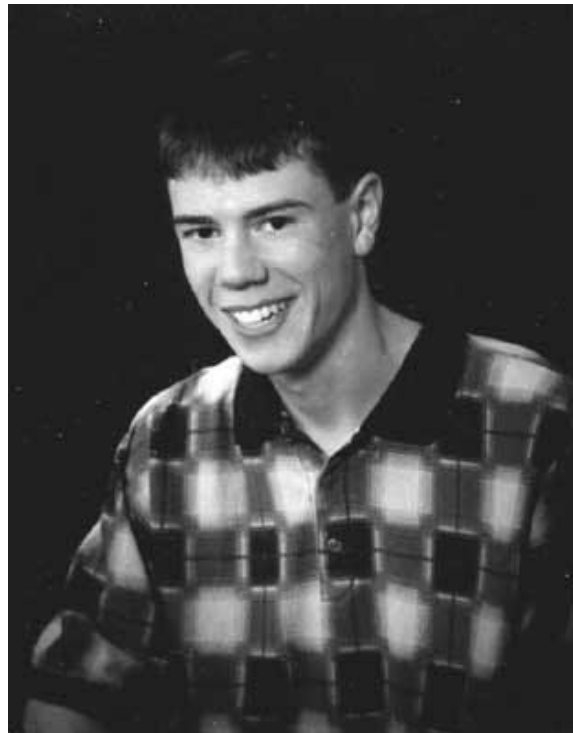
I just wanted to send you a note thanking the Ozaukee Radio Club for making a scholarship available to me this year. College expenses seem to increase every year, and your support is very much appreciated.

I'm going into my third year at Michigan Technological University in Houghton, Michigan, where I'm studying electrical engineering. When at school I'm involved in Inter Varsity Christian Fellowship, Superior Search and Rescue, and of course the Husky Amateur Radio Club. This coming year I'm also going to be a Resident Assistant in Mc Nair Hall, which will mean I'll be busier than ever and won't be able to work part-time as I did the last two years. This makes your scholarship even more appreciated.

I enjoy working all bands and modes from the HARC station W8YY, and also like to build equipment and station accessories. One of my most recent projects has been an APRS tracker for search and rescue applications. Superior Search and Rescue uses amateur radio exclusively for communications, which is a great advantage to our operations. Search and rescue and emergency communications have always been of great interest to me, and ham radio has played a big role in that interest.

I'm very excited about this coming year and I'm looking forward to going back to school in a few weeks. Again, thank you very much for your generosity and support. I know how much work goes into raising scholarship money, and I am humbled to be receiving it.

Andy Knitt KB9JOZ



Andy Knitt (KB9JOZ)

Contesting

De: W9L0 Bob Truscott

The results of the 2002 ARRL DX Phone Contest are in. As usual, K9CAN represented the club very well, with 471 SOS and 92 multipliers in the low power category, all on 10 meters. That's tops in the state for a single band operation. W9XT, in the all band- high power category, had 446 SOS and 186 multipliers.

At the last club meeting I heard several people talk about having worked the PSK-31 contest on Oct. 5, but where are the scores? You people missed an opportunity to see your names in print. Send me your scores so that you can have your moment of fame. That's a way to build interest in whatever your particular operating event happens to be. Tbsi@hnet.net-262-629-9685.

The CW November Sweepstakes will be history by the time you read this, and I hope to get scores from about a dozen members, along with comments on the contest.

I'm not much of a phone operator (the phone ops always talk faster than I can listen.), but if I had to choose a favorite phone contest, it would be the ARRL November Sweepstakes, coming up Nov.16 -17. (See Oct. QST for rules.) It really is a great contest (as phone contests go), and an opportunity for all you field day phone operators to polish your skills so that you can begin to compete with CW on field day. Does that sound like a challenge???? It is.

Another great weekend for CW people is Nov. 23-24. That's the CQ Worldwide CW DX Contest. See Oct. QST, page 90. And while that's going on, there is also the ARRL International EME Contest. See Sept. QST, page 103.

Have fun contesting.

For Sale, Trade or Free

HT202X – 2 Mtr. HT – Leon (K9GCF) @ 262-377-1080

Kenwood Desk Microphone **MC-50** - \$35 or? Tom W9IPR

Cushcraft A3S **beam antenna** with a **40 meter** kit and a BN-86 **Balun** - \$300

Universal 30 ft. free standing crank up **tower** with rotor mounting plate - \$300

Hustler G6-144B 2 meter ant. – **6 dB gain** - \$60

Yaesu antenna **rotor** model G800 SDX - \$200

Contact AA9GT (Ed Seigworth) at **377-8929**

Conceive It & Build It

Keith Shilhavy (KY9P) is pointing out some of the more subtle features of one of his "original" HT holders. The contest is on – and with cash

Prizes. Conceive and build an original holding fixture for your HT. It can be for use at home or in the car – just so it properly holds your HT and doesn't cost more than \$5 to build. You may be called upon to present some of the more unique features of your creation.



Cash prizes to be presented following the judging at the November 13th meeting. Judges will be Leon (K9GCF), Keith (KY9P) and Tom (W9IPR).

Note: Tom could be bribed.

Just Another Shack

This month's shack visit is with Ray Totzke, W9KHH. Ray has been a licensed ham since 1954. He got his license at the age of 16, but had been listening to short wave and broadcast band signals since he was a young boy. Ray fondly recalls BCB dx'ing, which led to a lot of experimentation with wire antennas.

This experimentation continued in the Boy Scouts, where Ray and a friend started learning Morse code. The two of them used code buzzers attached to a long wire. The wires grew longer and longer until they achieved a range of 2 miles! At this point, their milkman - a licensed ham - educated the boys about bootleg transmissions and steered them toward ham radio. With Hal Giese's help, (Hal's callsign is W9RXJ) Ray became a novice and built his first transmitter. It had an 807 final that put out 75 watts.

These days, as a retired school teacher, Ray uses either his Yaesu FT-757 or FT-847 for working the bands. A variety of wire antennas cover all HF bands from 160 through 10 meters. A 6-meter Hi-Par antenna is being retired. Ray also uses 9 element home-brew yagis on 2 m and 70 cm. When Ray operates portable, an Icom IC-706 comes with him.



Now this is more realistic. Finally a “shack” to which I can relate.

Ray enjoys a variety of ham radio bands and activities. He works all the frequencies from 1.8 MHz up to 432 MHz. He operates both phone and CW. He has worked in various contests and is a regular Field Day participant. Ray is a long-time ORC member and goes back with the Club to the 1960's. Many of us are probably aware that Ray also works at Amateur Electronic Supply. He has been at AES for 2 1/2 years.

I asked Ray if he had any memorable moments in the 48 years he's been hamming. His first QSO was with Hank Niesen, W9IQZ. W9IQZ only lived one block from Ray, but Ray didn't know this. The signal swamped Ray's Hallicrafters S-38c receiver and Ray was so nervous about this first QSO that he didn't copy him, even though his signal was S9 Infinity!

Ray also spent time in Greece, courtesy of the US Coast Guard/Voice of America. Ray was actually inside the VOA's 150,000-watt transmitter. (Perhaps that explains the curly hair??) He realized it was nothing more than a (very) big ham tube transmitter. On 1290 kHz, this transmitter used an FT243 crystal with a 6AG7 oscillator that drove an 807 that drove a 4-125 that drove two 4-125's that drove four 4-250's that drove a bunch of 4-1000's that drove several huge water cooled bottles putting out the 150 kW. Consider doing this for your next home-brew experiment, hihi.

Upgrade to General?

G4B01 What item of test equipment contains horizontal and vertical channel amplifiers?

- A. An ohmmeter
- B. A signal generator
- C. An ammeter
- D. An oscilloscope

(D) An oscilloscope has two channels. This allows two signals to be compared to each other by applying one signal to the vertical input and the other to the horizontal input, resulting in a characteristic pattern on the screen.

G4B03 How would a signal tracer normally be used?

- A. To identify the source of radio transmissions
- B. To make exact drawings of signal waveforms
- C. To show standing wave patterns on open wire feed lines
- D. To identify an inoperative stage in a receiver

(D) A signal tracer is any device that reacts to RF or AF energy and is used to trace the path of a signal through a circuit. A signal tracer can help identify an inoperative stage in a receiver.

Tips and Tails

Want to minimize the static crashes in your earphones? Put two signal diodes “back to back” across each individual earphone.

Want to protect your panel meter from burn out due to applied overvoltage? Put two signal diodes “back to back” across the meter terminal. They will limit the voltage across the meter to the diode junction drop (approximately 0.4 VDC)

Control Operators @ W9CQO

The following are listed as official control operators for our club repeater W9CQO. If you no longer want this responsibility please contact our repeater VP Dave Knaus @ 262-377-8874.

K9CAN (Dick Scarvaci), KA9DDN (James Douglas), AA9HR (Joe Holly), WA9JOB (Nels Harvey), KB9NH (Matt Singer), N9QA (Dave Knaus), K9QLP (Jim Albrinck), WB9RQR (Stan Kaplan), KB9UIE (Victor Shier) and AA9W (Ed Rate).

Playing the Audio News

De Vic Shier KB9UKE

The first time I heard the ARRL Audio News was during a trip to Maryland. A club in the Washington D.C. area played it prior to their weekly net. I thoroughly enjoyed the program; it is a convenient way to hear the latest ham radio news. A few months later, Leon, K9GCF, played the Audio News on the Ozaukee Radio Club's repeater as an experiment. The Audio News has been a popular feature of the club's Tuesday night net from that point forward. In the past 3 years, our club has been recognized twice on the News and several club members have been mentioned, including WA9JOB, WB9RQR, and N9UUR. This article will explain how to broadcast the audio news.



There are several different ways of playing the Audio News including via the telephone. However, the most popular method is by downloading

an MP3 file from the ARRL web site for use at a later time. By downloading the program ahead of time, several problematic variables can be eliminated such as a poor Internet connection.

Audio News Techniques

The equipment needed to do this is: a computer in the shack with an Internet connection, sound card and speakers; a rig to use as a base station; a second rig with an earplug to monitor the broadcast; and a software program that will play an MP3 file such as Windows Media Player, RealPlayer or MP3 Player.

The latest issue of the Audio News is usually posted on the web on Fridays and I try to download it sometime during the weekend. That way it is ready for the Tuesday evening net. The website is www.arrl.org. Once there, you will find a tool bar titled "News/Bulletins." Under that is "ARRL Audio News." Scroll down to the section titled "Downloadable MP3 file" and right click on it. Select "Save Target As," set your destination path or let your computer select it for you. In either case, note the location so you can find it without having to search for it later. I like to place mine in a temporary directory which would then read C:\temp\aan0823.mp3 for the August 23rd issue. Now download the file to your hard drive and it is ready for playing.

Prepare for the broadcast about one half-hour prior to the beginning of the net. Fire up the computer, the 2-meter base rig for transmitting, and the second rig with an earplug for monitoring. If you are using an HT, make sure the battery is charged. Start the MP3 program (I don't know how to explain this; if you are having trouble, ask the neighbor kid) and adjust the speaker volume. The length of time it will take to play the program will be displayed. The normal length of the news is between 15 and 18 minutes. Now you can determine when to start the news and have it complete just prior to the start of the net. Allow three extra minutes for identification and setting the repeater.

Before starting the Audio News, set the repeater for a 10-minute time-out period if possible. Generally there are several club members who have access to the codes and will be happy to set the repeater for you. Don't forget to ask them to return it to normal use when the net is finished.

Try to eliminate any QRM in the shack, get into a comfortable position and place one of the computer's speakers close enough to the rig so that you can reach it with the mic. Start transmitting, identify your station, place the mic directly on the face of the speaker, and click the start button on the MP3 program. When it is time to identify click on the pause button. Do not hit the stop button or the program will start over rather than pick up where you left off. Un-key the mic to allow the repeater to reset, identify your station and continue the broadcast.

There are two challenges when playing the audio news. The first is holding the transmit button for an extended period of time. The thumb can get quite tired and switching from one hand to the other is tricky without accidentally releasing the PTT button. In the past, Nels (WA9JOB) has recommended a collection to buy me a large rubber band to hold it down. My new rig has a feature that will allow continuous transmission with one push of the PTT button. This feature is very helpful and has made the need for another club fund-raiser unnecessary.

The second difficulty is to listen to the output of the repeater during the broadcast.

This is an important step. Timing Out the repeater is always embarrassing and repeating the message is not an option. Also, interference from various sources may be disrupting the transmission. The only way to know what the repeater is doing is by monitoring your transmission. I use a HT with an earplug to monitor the repeater. The problem is that by transmitting on a frequency only 60 Hz from the receive frequency, an HT is sometimes over powered by the base rig causing the reception to be poor or impossible. Although I have not eliminated this problem, there are two suggestions that will help. Transmit on the lowest possible power while still maintaining full qui-

eting and hold the HT horizontally to attenuate the received signal.

The easiest way to learn anything new in ham radio is to ask Elmer for some help. Go to the ham shack of someone who has done it and watch him. When the transmission is complete, you will have plenty of time to ask questions. Next time, Elmer can come to your shack and walk you through it step by step.

Playing the Audio News is a great way to contribute to ham radio and it can be done from the comfort of your own home.

Geratol Anyone?

De Ernie Swanson (K9LO)

Here is a net of interest to the extras in the group. It is the Geratol Net. It meets nightly from October to May on 3.768 MHz. The net meets at 0100 UTC. It is a worked all states (WAS) net and features 39 different awards. A lot of the awards are neat wallpaper to hang in the shack. The first one is "The Unbelievable Operating Achievement Award". This is accomplished by working all states on the 75-meter phone band. You will then get a Geratol number that gives you the privilege to work for the rest of the awards. It is a great bunch of hams and much fun can be derived on this net. Of course you will need "Geratol" to get the rest of the awards.

For more information go to :

<http://www.qsl.net/geratol/welcome.html>

Club Static

Stan 's (WB9RQR) daughter Lisa, who is an anchor at WLEX TV in Lexington KY, was married September 25th to Mr. Doctor. in Lexington.

Joyce Harvey (WB9IMA) is at home and continues to heal from the staph infection she acquired in the hospital.

Basic Repeater, 102:

De Nels Harvey , WA9JOB

This is an outline on how a remote receive site functions. While there are variations, I will describe how the 146.97 MHz. Repeater links work.

The receivers used on our system are built around Motorola Radius GM 300 transceivers. A VHF receiver is programmed to receive signals from the antenna on 146.37 MHz, the frequency your radio transmits on when accessing the repeater. The audio is sent to an S-com 5K controller, along with a COR logic signal, resulting from the reception of your signal. The 5K controller is programmed to either accept the incoming signal, or to only respond if the incoming signal has the proper sub-audible tone. This is a function a control operator can set. We normally require the sub-audible tone on the 146.97 MHz. repeater

The 5K controller then causes the UHF 440 MHz link transmitter to transmit, passing the audio through. When an incoming signal is received, a sub-audible tone generator installed in the 5K is also turned on, and sent to the link transmitter. The controller will provide proper transmitter ID's when needed. Unless someone is being repeated through that site, the ID tones aren't passed through to the voter system at the main site, because the ID's are sent without the sub-audible tone generator activated. Occasional parts of link ID beeps can be heard if the repeater is busy.

At the repeater's main site, three UHF 440 MHz Radius radios are set to receive each of the receive link transmitters. At this time, we have the three 440 MHz receivers, and a receiver on 146.37 MHz. This gives us four audio sources bringing your input audio to the repeater. Since only one signal can be passed to the transmitting system, a voting system is employed to choose the best signal.

A fellow named Doug Hall sold us his designed voting system, the Hall Voter. This unit receives the inputs from all four receivers at the main site.

The 440 MHz. receivers use a CommSpec decoder board to detect the sub-audible tone on the incoming audio. If the incoming audio contains the proper sub-audible tone frequency, the COR logic tells the voter to consider that link source. The VHF receiver uses it's own internal decoder to provide COR logic.

The voter determines which input signal has the best audio quality, and passes only that audio to the main controller, along with the COR logic. Up to four signals could have been selected from, especially if the user has a strong signal. As an incoming signal exhibits flutter, common with mobiles, the voter will instantaneously select the input from a better source. Front panel LED's indicate which input is selected. Sometimes these LED's dance back and forth between receivers, but the output to the controller is consistent. Any sub-audible audio on the output signal is filtered out.

The main site S-com Controller, an S-com 7K, receives the best signal the Hall Voter can put out, and controls the transmit function of the repeater. I will have more on what the controllers do in Basic Repeater, 103.

Can You Connect?

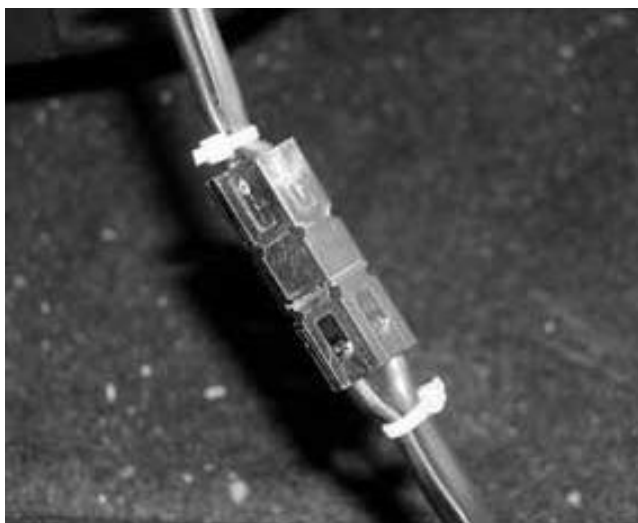
De W9IPR – Tom Ruhlmann

The most significant civic service we can offer as amateur radio operators is the provision of immediate emergency communications during emergencies such as natural or man made disasters. At a flood, fire or crash site is not the time to learn that the power or RF connectors on your equipment do not mate with that of the power source or antenna available at the site. Is it possible for your rig to be transferred to another "hams" or safety volunteers vehicle so as to supply communications from an alternate site?

The traditional connector for most mobile transceivers has been a Molex 1545 however; its contacts are limited to 10 amperes continuous service. Exceeding that design limit can result in connector heating, excessive voltage drop and

even a smoking failure. Since so many of the newer mobile transceivers are 50 to 100 watt units, their current draw exceeds the rating of the Molex connector and an alternative with higher current capability and that provides for standardization is required.

In July of this year, Stan Kaplan (WB9RQR), our State ARES/RACES Emergency Coordinator and Chief Radio Officer declared the Anderson Powerpole connector with either the 15 or 30 ampere contacts, to be the ARES standard.



The Powerpole connector is shown in Figure 1. Using the same housing, either 15 amp or 30 amp contacts can be utilized. The contacts will accommodate up to AWG16 and AWG12 respectively. One of the advantages is that the housings and connectors are genderless and one plug with for example 15 amp contacts can be plugged into another plug with 30 amp contacts. Naturally, the connection current should be limited to that of the lower rating but the point is – you have power. Most of the 100-watt mobile rigs have AWG #12 wire and should be using the 30 amp contacts.

The individual housings can be used for individual connections or they can be snapped together to form a variety of connector configurations. For standardization, use the configuration shown in Figure 1.

I changed my mobile rigs over to this Powerpole configuration and now feel I can transfer my rigs between my vehicles as well as use them in the vehicles of others. I soldered the wires into the contacts well and found the assembly of the connectors rather simple – once the technique was understood. I even made up a set of bench power supply leads using the Powerpole to make it more convenient to bench test equipment. If you don't change over your connectors, and do plan to be of service in emergencies, I suggest you at least make up a "Molex (or whatever) to Powerpole" conversion cable.

The relevant Anderson part numbers are shown below.

Connector	Complete	Housing	Contact Only
15 Amp			
Black	1395G1	1327G6	1332
Red	1395	1327	1332
30 Amp			
Black	1330G4	1327G6	1331
Red	1330	1327	1331

If you run a search on "Powerpole" you will be taken to a number of ARES/RACES web sites with this and a variety of other information. One to try is www.Ocraces.org/powerpole.html.

Oct. 9th, Meeting Minutes

By Nels Harvey, WA9JOB, Secretary

Call to order and introductions:

The meeting was called to order at 7:31 PM at the Grafton Senior Center by President Leon Rediske, K9GCF. Introduction of members and guests was made.

Events and Announcements:

The Friendly Fest by the Milwaukee Repeater Club, will be held at the Waukesha Expo on November 2, 2002.

Stan, WB9RQR, announced he was considering doing another computer class. (Ed. Note: The class is already filled.)

Stan's daughter was married in Kentucky on September 28th. Stan displayed a photo of the bride.

The Club hasn't heard from the Grafton Christmas Parade people yet. The Cedarburg Emergency Government people have been requested to send their communications van. Leon will contact Mike Donahue regarding our participation.

Program:

Paul, KB9ODQ, and Rebecca Gruettner, KB9LFW, gave a presentation about the mechanics of researching, writing, and publishing Rebecca's first book, titled "The Fox". A tantalizing tale, including psychic forewarnings, a sixth sense, and a touch of Amateur Radio, make this murder mystery very interesting.

After the program, Stan held his usual auction.

After the break: The regular business meeting was convened.

Minutes: The minutes of the last meeting were accepted.

Treasurer's report: Gabe, WI9GC, was not present, and Nels, WA9JOB, passed out printed Treasurer reports. Because the Scholarship funds were not immediately available to be withdrawn, the general fund advanced payment to the ARRL Scholarship group, F.A.R. Jon, KB9RHZ, moved to accept, subject to clarification of the Scholarship funding withdrawal, and Bob, W9RNA, seconded. The report passed by voice vote.

Repeater Report: Dave, N9QA, deferred the report to Nels, WA9JOB. Nels announced the Mee-Quon Park tower site now has a receive link for the 146.97 MHz. repeater in operation. All else is status quo with the repeaters.

OZARES Report: Jon, KB9RHZ, announced a disaster drill was held at St. Mary's Hospital, Ozaukee (SMO) on Saturday, September 28. He told us there were many problems unearthed regarding communication. The drill functioned without regular telephones. Jon will set up an emergency response team to evaluate the results. Many dead spots were experienced, HT's and other equipment problems were experienced. He reminded the group of the regular OZARES meeting Thursday, October 24. There will be a HAZMAT training, and recap of the SMO exercise.

Old Business: Vic, KB9UKE moved the Audit Committee's effort to change part of Section 3 of the Club's Bylaws to:

Section 3. The Repeater Vice President shall be responsible for all aspects of the care, maintenance, design and proper operation of any repeater project. The Repeater Vice President shall be responsible to the President of the corporation, and through the President of the corporation, to the members generally.

The Repeater Vice President may appoint such assistants from Regular Members as he or she deems appropriate.

The Repeater Vice President shall render periodic activity reports at regular meetings, and upon completion of the term of office or resignation or removal, shall furnish a written account for any corporation property which may have come into his or her possession or control during the term.

After determining that there was a Quorum, the Bylaws change was passed by a 34 to 2 vote.

A request was made by Tom, W9IPR, for the Board to consider supporting the Club's website sponsor further, financially. No official action was taken.

New Business: Jon, KB9RHZ, presented a proposal to join the VOAD Emergency Management project. The project was referred to committee for consideration.

Vic, KB9UKE, demonstrated a computer CW interface that he built.

Keith, KY9P, discussed the contest to buy, or build an HT holder, for less than a \$5.00 investment. Keep the project as simple as possible, and some undisclosed cash prizes will be presented to the judge's favorites. Projects dressed up with beads, doilies, sequins, or any such, will be immediately disqualified.

Adjournment: The business meeting was adjourned at 9:16 P.M.

Next Meeting: The next meeting will be held on November 13, 2002, at the Grafton Senior Center.

Attendance: Nels, WA9JOB, Bernie, AA9CI, Tom, W9IPR, Gene, KB9VJP, Bob, W9LO, Terry, KA9RFM, Ray, W9KHH, Don, W9VSC, Dave, N9QA, Herb, WA9UVK, Paul, KB9WCC, Ed, AA9WW, Ed, AA9W, Jane, KB9SYI, Stan, WB9RQR, Leon, K9GCF, Jim, N9WIU, Carol, KC9CBC, Ed, AA9GT, Ernie, K9LO, Jake, KB9ZOR, Kent, N9WH, Jon, KB9RHZ, Vic, KB9UKE, Bob, W9RNA, Joe, KB9URC, Ben, K9UZ, , Jim, K9QLP, Ron, WB7OFC, Jeff, KB9QQE, Gary, W9XT, Julia, KB9WBQ, Tom, AA9XK, Mike, WJ9O, Keith, KY9P, Chub, KG9MS, Mike, N9JIY, Gary, WI9M, Cindy, KA9PZG, Dave, N9UNR, and our program presenters, Rebecca, KB9LFW, and Paul, WB9ODQ.

Note: Did you enjoy reading this issue? If so, share a few paragraphs about something you enjoyed within the hobby with the rest of the membership. If not, submit a few paragraphs to improve the next issue.

AGENDA

Nov. 13th, 2002

1. Call to order.
2. Introductions.
3. Program – The Flagpole Vertical.
4. Auction.
5. Break
6. Call for acceptance of minutes.
7. Treasurer's report – Gabe Chido (WI9GC).
8. Repeater report – Dave Knaus (N9QA)
9. OZARES report – Jon Gilmore (KB9RHZ).
10. Committee reports – VOAD Report
11. OLD BUSINESS

- a.
 - b. Open to the floor.
12. NEW BUSINESS.
 - a.
 - b. Open to the floor.
 13. Adjournment.

Return undeliverable copies to

The ORC Newsletter

465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton

Wednesday, Nov. 13th

7:30 PM