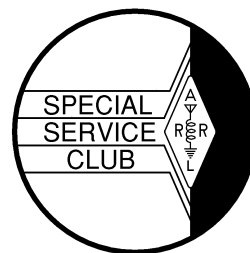


AMATEUR RADIO

The *ORC* Newsletter

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: <http://www.qsl.net/orc/>**

Volume XXIII

June 2004

Number 6

The Prez Sez

By Vic Shier (KB9UKE)

Field Day is one of the club's biggest events of the year and it is coming soon. As always, it is on the fourth weekend in June and we will set up at Lazy Days Camp Ground. This year the contest starts on Saturday the 26th for 24 hours. However, Field Day involves more than just the contest. Preparation has been going on for many weeks already. The Band captains are planning their stations, equipment has been inventoried and repairs are being made. We have made substantial improvements again this year and hopefully the results will show in our final scores. We still have several tasks that need to be assigned including the food tent, beverages, bonus point responsibilities, a crew for set up and takedown and operators.

The main activity starts Thursday evening the 24th when we load the equipment at the barn and haul it to Lazy Days. Friday afternoon is time to set up the stations and tents. Operations start on Saturday and continue to Sunday. Then it is time to pick up everything and put it away. We will cover these important details at the next meeting, which is June 9th.

For those of you who haven't experienced Field Day the ORC way here are few tips:

1. Don't lift the lid! The entrée for the Friday night potluck is turkey grilled to perfection. Enjoy the aroma but do not lift the lid.
2. If you are partner, lead with your highest trump. The Friday evening meal is followed by a social time including several sheephead games that run well into the night.

3. You can say anything you want about the 40 meter CW tent, it is impossible to hurt their feelings.
4. Do not call the humane society if you come upon an intense discussion about Park 'n Bark, just excuse yourself and get another beer.

This is a weekend of fun, come join us and you'll get a better understanding of Field Day the ORC way.

73's and remember...It's a hobby!

FIELD DAY MEMORIES

De Bob Truscott (W9LO)

Sometimes it can be fun, or at least interesting, to look back at past Field Days and think about some of the things that happened. Most of the memories are fond, amusing, or downright funny. They can also be tragic.

I remember the phone (AM in those days) operator at Omaha in 1952 who called CQ FD about 3 times as fast as a TV sportscaster gives baseball scores. You had to be there to appreciate it—I had good ears in those days, but I could figure out what he was saying only by the rhythm in his voice. I guess he thought that if the CW guys sent as fast as they could that he should talk as fast as he could. I don't believe he worked anybody. Later that night we had the heaviest FD thunderstorm I can ever remember. We disconnected the feed lines from the rigs and dropped them to the ground, and were drawing 2-3" sparks off the ends of them. Lucky---we could have burned up few receivers that night.

I remember FD at the gravel pit (somewhere in Ozaukee County) in about 1958 or 59. It was the group that later became OZRAD. We had a tower set up close to the tent, with the coax from the beam entering the tent directly behind the operating table. About 9 PM or so, we ran out of liquid refreshment so W9BCK volunteered to go into town to renew the supply. It was raining and the visibility was poor, so he didn't see the guy anchor as he turned his car around. He backed into it, causing it to come out of the ground, and the tower to fall. Charlie, K9MAU, was tuning the transmitter at that time, and when the tower fell, the coax pulled the rig right off the table and out of the tent. What a surprise for Charlie.

I remember the year that the 75-meter phone guys, who shall remain nameless, used a balloon to support a vertical antenna. The year was about 1965 (give or take perhaps 5 years), and the place was WA9BMA's property on the lakeshore somewhere north of Port Washington. The wind came up, the wire broke, and the balloon went sailing inland, trailing the 200' piece of bare copper wire beneath it. A short time later there was a large area power failure—didn't bother us because we were using generator power, but the electric company and the natives of the area got pretty excited about it. It was rumored that our balloon laid the wire on the cross-country transmission lines, but of course this couldn't happen, could it? (But even if it did, it's not our fault those lines were not insulated.)

I remember the year that W9RXJ drove his car over one of the coax feed lines, and wrapped about 20' of it around his axle. (How did he do that?) I don't remember if he pulled the tower down or not.

I remember the year of the baked salt shaker. Ann Berg brought the charcoal grill and I brought the potatoes, all previously wrapped in foil. We loaded the potatoes in the grill, cooked them, and then added the steaks, brats, or whatever they were. It had the makings of a real feast. When Ann unwrapped her baked potato it turned out to be a salt shaker. It seems that I had wrapped the salt shaker in foil

to keep the salt from spilling out while in transit, and it got mixed in with the potatoes. Have you ever used brown salt? It tasted OK to me.

And finally, I remember the year W9WQ died in the tent. I believe it was 1989, but I'm not sure. We finished the set-up and testing about noon on Saturday, much later than we expected to, so there wasn't time to go out to lunch as we usually did in those days. I shared my brats & chips with Joe while we talked over our contest strategy for the next 24 hours. He said he was feeling pretty good, and hadn't had any chest pains all day. Prior to that none of us knew he had a heart problem. Joe took the first operating shift, and I relieved him at 2:00 PM. He said he was a little tired, and was going to take a rest. He laid down on the cot and went to sleep, while I took over the operating position. He never woke up.

These are some of my Field Day memories. We take the bad with the good. I hope to see you all at Lazy Days on June 28-30 to build a few more memories, hopefully all fond.

Bob, W9LO

New Members

Nancy Stecker is one of our newest ORC members. She was a student in the "Technician"



training class at the Justice Center and took her test on May 1st at the ORC Swapfest. She passed and is now known as KC9FZK. Nancy lives in Grafton and recently retired from the Cedarburg library staff. Currently you will find Nancy on 2 meters with her HT or at breakfast on Saturday mornings at Prime Minister's in Mequon. Nancy got interested as a result of watching the activities of ARES and at Field last year and after meeting several of the members at the socials throughout the year. Welcome Nancy – look forward to your acting as an operator this field day. Nancy's Elmer is Stan Kaplan, WB9RQR.



Steve Stevens was also in the “Technician” training class at the Justice Center and also passed his Technician class exam on May 1st at the ORC swapfest. Steve has been a long time short wave listener using an SX-99 that he has had for over 25 years. He was encouraged to take the class by John Laske of the ORC and with whom he works at American Signal. Steve lives in Port Washington and is an accountant for American Signal who makes outdoor sirens. Steve was originally issued the call KC9FZF and has already had it changed to K9DXT which was the call of his uncle who is now a SK. Steve should be a great asset at our GOTA station on field day. Steve's Elmer is Tom Ruhlmann, W9IPR.

COUNT YOUR BLESSINGS

De Bob Truscott (W9LO)

Yes indeed, count your blessings if you are able to read this.

I was standing at the US Tower exhibit at the Dayton Hamvention recently, waiting for my turn to talk to the tower guy. It was late in the day and I was tired, so I paid little attention when I noticed a black Labrador dog lying on the floor at my feet. That is, until he suddenly lunged and barked at the yellow dog walking past the booth. The Lab's owner immediately apologized for the dog's action (which turned out to be a friendly gesture—he just wanted to get acquainted with the other dog, and proceeded to do so in the manner that dogs normally do), and said “I'm another blind ham. My call is-----, and my name is-----.” The lady with the yellow dog responded with the same information, and they proceeded to have what most of us would call an “eyeball” QSO. But they couldn't call it that, could they?

All this got me to thinking about how difficult life must be for people without sight. How can you talk to a salesman about a tower if you've never seen one? How can you tune a transceiver to 3860 kHz for your afternoon schedule if you can't see the tuning dial? How will you know if your VSWR has gone sky high? And the list goes on. These are simple actions that those of us with sight take for granted, but they are also a reminder that once in a while we should count our blessings. And praise the “Elmer's” who made it possible for these folks to join us in this wonderful hobby we call ham radio.

Bob, W9LO

Elmer's – a new program

De Tom Ruhlmann, W9IPR

We are starting a new Elmer program where all new members and requesting existing members will be assigned an Elmer. The job of the Elmer is to make sure new members feel welcome at the meetings and ORC activities and when ap-

appropriate, to encourage and assist them in advancing in their class of license.

Some existing members may also desire an Elmer to help them get on the air, solve a station problem or to assist in learning the code or upgrade theory.

Since one of the major responsibilities of an Elmer is to encourage the member to upgrade and assist in the learning of the code and additional theory, it is required that the Elmer's have a General or higher class license.

If you would like to have an Elmer to assist you in your amateur radio hobby or would like to volunteer as an Elmer, contact Tom Ruhlmann, W9IPR.

The current Elmer's are:

1. Stan Kaplan, WB9RQR
2. Jim Albrinck, K9QLP
3. Kent Christiansen, N9WH
4. Tom Ruhlmann, W9IPR

Field Day 2004

Here's looking forward to the weekend of June 25, 26 and 27. If you are looking to help set up or tear down and for some operating time during the event be sure to come to the June 9th meeting and sign up. If you can't make the meeting, just show up on Friday and Saturday and Sunday morning to get in on the action. The chairman this year is Jim Hillins, KA4UPW, and he is looking for the ORC to improve on the 3rd place finish of the past two years. We will have another crank-up tower this year and another tribander with all the parts this time. We will also have new dipoles for 80, 75 and the 40-meter stations.

If you have not been involved in field day in the past, do get involved this year. It is not only a fun social and learning experience, we need you to help setup, teardown and to serve as an operator. If you have not had much of a chance to operate HF phone in the past, take advantage of this opportunity – it's fun and we need your help.

Club Static

Our hart felt condolences go out to Tom Oehler (W9LNL) whose wife Brigitte, passed away on June 21, following a long illness.

Congratulations to Chris (N9VKC), one of our newer members from West Bend, who passed his Extra class exam in May. Chris has also been hosting a trivia net on 443.75 following our regular net on 147.97.

ORC Swapfest

Congratulations to Gene Szudrowitz (KB9VJP) who chaired the ORC 2004 Swapfest held at Circle B on May 1st. This project provides the revenue for the bulk of our operating expenses each year. This year Gene had revenues of \$2,681.50 and expenses of \$553 for a net total of \$2,127.83 to sustain the club. Great job Gene.



Nels (WA9JOB), Gabe (WI9GC) and Bernie (AA9CI) monitored the door and sold tickets making sure the swapfest was a financial success. There were 391 in attendance – nice crowd.

Again, Stan (WB9RQR) did a great job of raffling off the door prizes but the real thanks go to Julia (KB9WBQ) and Carol (KC9CBC) who

shook the bushes of Cedarburg and Grafton and supplied Stan with the door prizes from local merchants.



There was a great crowd all morning from before 8 AM to noon. They came for the prizes announced by Stan (WB9RQR) and for such treasures as offered by Fred (N9FH).



Ed (AA9W) was there again managing the "scholarship" table in an effort to clear his basement of donations and in the process earned \$440 for the scholarship fund.



Kent (N9WH) and Chairman Gene (KB9VJP) collected the money for over 90 tables from the vendors while Leon (K9GCF) operated the "talk in" station.

Dayton – Wet & Fun



Part of the ORC that made it to Dayton included Ray (W9BUJ), Gary (WI9M), Nels (WA9JOB), Rex and Tom (W9IPR). There were 6 vehicles and 17 members from the ORC – a really great showing.



Ray (W9BUJ) spied an SX-28 in the flea market and took a few moments to reminisce.



As the Saturday rains came the flea market thinned out and the halls filled with damp bargain hunters. However, it was during the rains that the greatest treasures were discovered in the flea market by W9IPR.



When the rain subsided the crowds returned to the flea market in force with a determination to make up for lost time.

Project of the Month

De Tom Ruhlmann, W9IPR

Not sure where to mount the HF antenna on your SUV? Try a true bumper mount. The center hole is a bit large at about 7/8" but it's simple and effective. Note the rubber cargo strap pinched in the door and used to stabilize the "whip" in the wind.



Minutes – May 12th, 2004

De Carol Szudrowitz, KC9CBC

Announcements – Tom's W9IPR class is going very well. In fact, he can say proudly say 100% completion. Congratulations to Nancy KC9FZK and Steve for passing the test given at the Swapfest.

Program – Ralph Evens W9ETZ gave an interesting program on WI-FI. He is a visionary and considers this a relatively new wireless field. It is an unlicensed service partly on a ham band 2.2 – 2.3 GHz.. It has short radius coverage using a directional antenna. Starbucks has Hot Spots. This is not protected from interference. Everyone has it even on garage door openers.

Ralph showed the Wireless Mobile coverage that has been instituted for UW Madison using a candelabra tower. It works campus wide. The cost of cards for Internet access is buried in student fees. For more information talk to Nels WA9JOB who works with him. Tom suggested this as a possible area for the club to investigate for potential revenue.

Auction – Held by Stan WB9RQR

Business Meeting – Secretary minutes approved as published.

Badger Examiners – Gary WI9M thanked all the hams working with him for test hams over the past 22 years. It is time consuming work. May 1 was the last exam at Swapfest. It's time to shut it down.

Treasurer's Report - See the printed copy. Swapfest was a success. 90 tables were sold and 391 paid attendance, one more than last year. The scholarship table made \$440 alone. \$500 will be placed in the Repeater Improvement Fund from the Swapfest profits.

Repeater Report - Nels WA9JOB reported that he felt everything was doing well until NET was attempted to be set on the controller. Brian N9LOO tried it and couldn't get it on. So after 3 hours of reprogramming it is OK. May 8th Jim KA4UPW and others worked in the barn to check things for Field Day. Interference was tracked in the shack and we are putting in a grounding strap for ground impedance. Goal for the 220 is to go on automatically for NETS and with 2 meters. 97-repeater interface with 220 link is what he's working on. 440 seems OK. Discussion continues about increase power for 220. It is at 6 watts now, an amplifier would help (possibly a solid state one). Terry KA9RFM volunteered to construct a safety cage for current amplifier. We are

also checking if antennas should be updated. All links are working currently.

OZARES - Rusty Kappella held the storm coverage class May 5th, so there was no regular May meeting. Next meeting is June 17th. Per Jon KB9RHZ

Field Day – Leon K9GCF reported for Jim KA4UPW. Tower is welded. We are doing welding work on some antennas. When storing them in the barn, stand them up to prevent water from entering (it tends to freeze in winter and bust the antennas). There are a few other repairs needed. Also needed authorization for money for tribander antennas. (TA 33 and 20 mono bander) Tower trailer works well. A map or directions are available for way to Sandy Knoll Campgrounds, just ask.

Swap Fest – Gene KB9VJP thanked all for making Swap Fest a success. There was a great turnout for set-up help Friday night and Saturday morning! It was greatly appreciated. Last year we had to set up all the tables Friday night. This year Circle B was on top of things so it was ready for us. All we had to do was number them and admit the vendors. Thank you again especially to Jane KB9SYI for making all the labels for the mailing, and Julia KB9WBQ for eliciting a number of great door prizes. Carol KC9CBC also obtained some. Testing was provided by Gary WI9M and his team.

Old Business – None

New Business – Dayton, Ohio Swap Fest - Reminder for those going - 55 is frequency to be on.

Air Show in West Bend - Reminder for those interested this is really great. The show is Saturday and Sunday, June 17 and 18th. If you can not make it this year make plans for next year. The air aerobics are phenomenal and we could set up a table to extol the virtues of ham radio. Let Tom W9IPR know.

Attendance - Ron W9BCK, Ray W9BUJ, Dick K9CAN, Mark AB9CD, Bernie AA9CI, Ron KC9DKQ, Gabe WI9GC, Leon K9GCF, Ed AA9GT, Jerry KB9IMH, Tom W9IPR, Nels WA9JOB, Bob W9LO, Brian N9LOO, Dale N9NNE, Michael WJ9O, Carol KC9CBC, Jim K9QLP, Terry KA9RFM, Jon KB9RHZ, Ted KB9RLI, Stan WB9RQR, Dave N9UNR, Joe KB9URC, Gary N9UUR, Herb WA9UVK, Roger W9UVV, Gene KB9VJP, Chris N9VKC, Don W9VSC, Jeananne N9VSV, Ed AA9W, Julia KB9WBQ, Kent N9WH, Jim N9WIU, Ed AA9WW, Tom AA9XK, Jake KB9ZOR, Gary WI9M, Nancy KC9FZK.

FIELD DAY PERSONAL CHECKLIST

De Skip Douglas, KA9DDN

Shelter / Operating Position and Furniture

Tent or trailer

Poles, stakes, guy ropes, etc.

Table - heavy enough for all equipment

Chairs

Lawn Chairs / chaise lounges (for relaxing)

Ground cloth

Radio Gear & Logging Equipment

Radio set, power supply, speaker, cooling fan

Ground rods, heavy wires and clamps for ground rods

Antenna(s), tripod, masts, coax cable, coax fittings and adapters, rope, pulleys

Antenna tuner(s), SWR meters

Keyer and/or keyboard, paddles, straight key (for backup), connecting cables

Headset(s)

Extension power cords (120VAC 3-wire outdoor type, 12-ga . preferable)

Power distribution (multi-outlet) boxes (with line filter to reduce electrical noise).

Digital clock and/or watch

Pencils, paper, erasers

Dupe sheet boards

Lamp (table or clamp-on type) with spare bulbs

Electric fan

Heater (gasoline or propane)

Tool Kit and Spare Parts

Hammers - Sledge, carpenter's, and ball-pen

Pliers - Ordinary pliers, needle nose, channel lock, vice-grips, side cutters

Wrenches - Open end or combination wrench set, adjustable open-end wrenches, socket wrench set, nutdriver set

Screwdrivers - Standard and Philips, various sizes

Wire strippers, crimping tool with stake-on

terminals, wire nuts

Soldering iron (15-25 watt), soldering gun (100 watt), solder (60/40 or better yet, 63/37 alloy)

Fuses for radios, power supplies, car, etc.

Extra coax fittings and adapters

Extra coax cable for making jumpers, etc.

Extra bulbs for electric lighting

Flashlight with spare bulbs and batteries

For connecting things - Baling wire, heavy string, electrical tape, duct (gaffing) tape, masking tape, nylon reinforced tape, large rubber bands

Personal Food

Fruit, sandwiches, cookies, crackers, cheese spread, summer sausages, bagels, chips, etc.

COOLER with ICE, Milk, Orange Juice, Beer, Southern Comfort, etc.

Any special food because of your diet

Personal First Aid

Bug repellent

Sunscreen, sunburn ointment

Aspirin, antacid

Any prescription medicines you may need

FIRST AID KIT - bandages, antiseptic, etc.

Camping/Sleeping Equipment

Personal tent or camping trailer, etc.

Cot or air mattress (air pump for air mattress)

Sleeping bag, pillows, etc.

Personal Hygiene stuff (toothbrush, razor, soap, washcloth, towels, etc.)

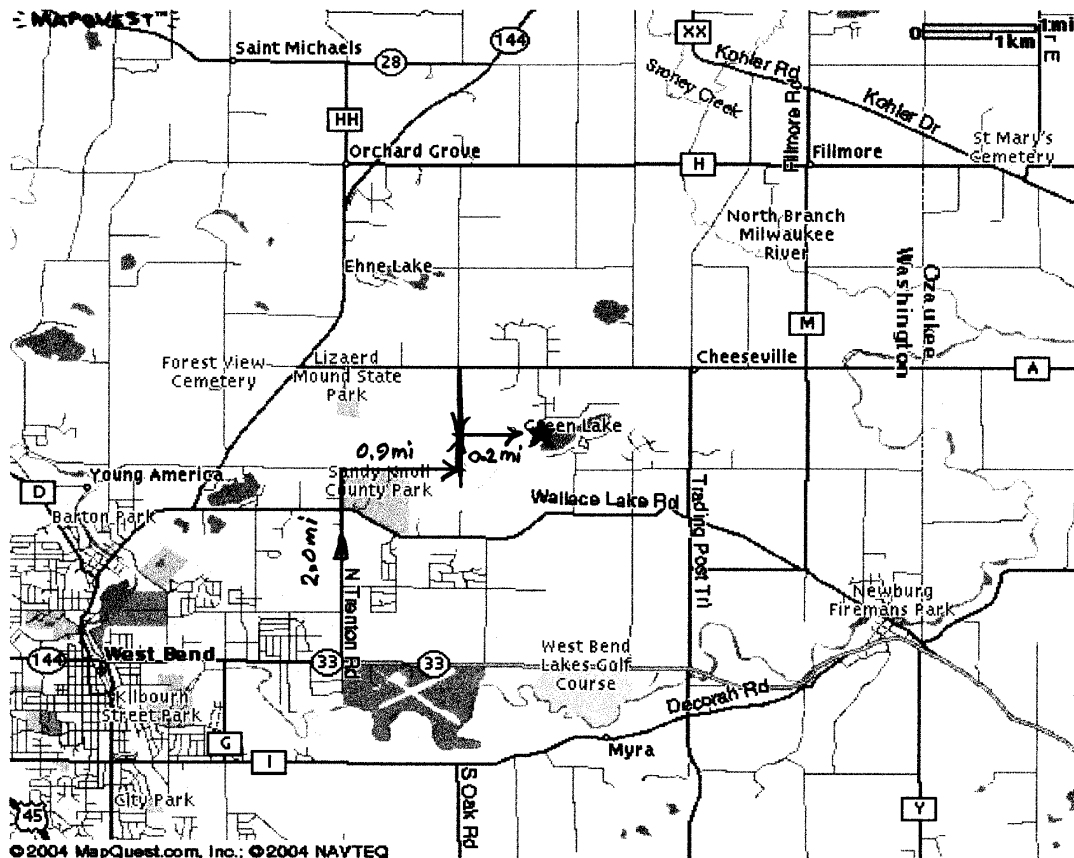
Clothing Items

LIGHT clothing for hot summer days

Jacket (light), jacket (heavier), sweater, long underwear or heavy slacks (for those cool nights)

SUNGLASSES, HAT - there's a hot sun out
Extra socks, underwear, jammies, change of clothes

Galoshes, raincoat or poncho, umbrella



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<http://www.mapquest.com/maps/print.adp?mapdata=RwuiQHj5qmyCVaYLxAWowrxQsip...> 5/26/04

We will be setting up at Lazy Days Campground. Perhaps the easy way to get there is drive West on Hy 33 past the West Bend airport about half a mile to North Trenton Road – Turn to your right (North). Go 2 miles North to the “T” in the road and turn right (East). Continue East for 0.9 miles and bear to the left (North again) for 0.2 miles. Now you are at the back entrance to Lazy Days Campground . Turn right (East) again and proceed very slowly as this is a very bumpy road. Stop when you see the antenna and smell the turkey – it’s Field Day.

AGENDA

June 9th, 2004

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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

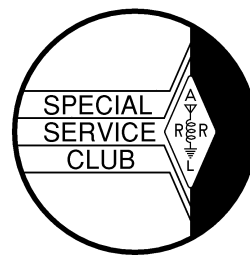
Wednesday, June 9th

7:30 PM



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July 2004

Number 7

The Prez Sez

By Vic Shier (KB9UKE)

Field Day 2004 is over and we will have to wait for several months to see our official score but we already know that we had a good Field Day. Planning, teamwork, and technical expertise helped us to get a very respectable score and again prove that the ORC is a top quality club. There were also a lot of people having fun and making new friends. Congratulations to the ORC for another job well done.

We have a couple of special events coming up. The 40th annual Fish Day is on Saturday **July 17**. Kathy Pohl will be at our July meeting to make a request for about 10 club members to help with communications starting at about 8:30 that morning and ending when the parade ends. This is a great opportunity to provide a service to the community and to be involved in the operations of a big parade.

There is also a request for some communications help at the end of the month. The Saukville River Fest is on **August 31** and operators are needed to provide communications for the volunteers who are cleaning up a portion of the Milwaukee River. Cindy, KA9PZG will be at the next meeting to tell us more.

Our annual corn roast will be in August. We will be making the plans and selecting the date next week. Does anyone know when the corn will be ripe?

Did you know we have a 440 repeater? Chris, N9VCK is running a net and a CW training session on it. The frequency is 443.750 and the net starts right after the regular Tuesday night 2 meter. Here is an opportunity to get some good CW instruction.

73's and remember...It's a hobby!

Contesting

De Bob Truscott (W9LO)

Another Field Day has come and gone. Indications are that it could turn out to be our best effort ever. I don't know what numbers the phone and VHF stations ended up with, but I do know that the two CW stations increased their number of contacts by about 700, as compared to last year. The CW total, not counting the 15-meter contribution was about 1800.

A really fun contest is coming up on July 10-11. It's the IARU HF Championship Contest. CW Only, Phone Only, or Mixed Mode. 160 meters through 10 meters (except for the WARC bands). A 24-hour contest beginning **at 7:00 AM local time on July 10**. Work anybody anywhere, once on phone and once on CW on each band. A great opportunity to use the skills you've just practiced on Field Day. Rules in April QST, page 109.

For you RTTY people, we have The North American RTTY QSO Party on **July 17**. And, for the VHF'ers we have the CQ WW VHF Contest, also on **July 17**. Rules for each in July QST, page 98.

Have fun contesting.

Just Another Shack

De Tom Ruhlmann (W9IPR)

Ray Brunette, W9BUJ, dates back to 1947 as an amateur radio operator. He was encouraged to electronics by his brother in law, W9QYH, and earned his "Class B" license at the age of

16. This was followed by earning his “Advanced class license and then his “Class A” license which required 20 wpm of Morse code. Ray’s first rig was a single tube 6L6 CW transmitter and a Hallicrafter’s S20R receiver for “ears”. At the time 10 meters was hot so Ray built an AM transmitter using a pair of 807’s in the output and modulated by a pair of 809’s. His dad encouraged the hobby and bought an old windmill tower for Ray so he could have an elevated dipole with an “armstrong” rotator.

Following graduation from high school in Green Bay he played Class B baseball for the Cleveland Indians on the “Green Bay Blue Jay’s” and currently plays in the “Seniors” slow pitch softball league. Since he didn’t make it to the “Pro’s” he joined the Navy. This resulted in his going to flight school and eventually flying the F9F Phantom jet off the Ticonderoga in Korea.



Here Ray is shown in about 1957 with his SX96 Hallicrafters receiver and his “home brew” AM transmitter using an 813 tube in the final. Oh for the glow of those filaments – transistors just aren’t the same.

Following his exploits in the Navy, Ray earned his Electrical Engineering degree at UW Madison and initially operated the ship to shore radio station at Port Washington. This was followed by his joining Bob Truscott and Ron Yokes at Channel 6. Then the “sales bug” bit Ray and he started selling for Allied Electronics and then established the Newark Electronics Distribution. He liked the business so well that he founded

Lakeview Electronics in Grafton which is currently operated by his son.

Ray and his wife Renee have a 42’ Zephyr motor home and spend some of the winter months in NM, TX and FL. In the rig he runs a Ten-Tec Corsair transceiver and AL-80 amplifier and is active on the FMCA (motor coach association) net which meets at 2 PM daily on 14.263 MHz.



At home Ray runs a Ten-Tec Paragon transceiver and a Titan amplifier in addition to a Kenwood TS430 to a Henry amplifier. For antenna he has a KLM 6 element tribander at 100 ft and folded dipoles.



So that’s the shack and Ray Brunette, W9 “Big Ugly John” - but his name really isn’t John.

New Members

De Tom Ruhlmann (W9IPR)

One of our newer members, although not new to amateur radio, is Chris Jacobs (N9VKC). Chris earned his Novice license in 1992. This was followed by his Technician license the following month and his General class license a month after that. He just earned his Extra class license this past May.



Chris is shown here operating 15 meters CW at the ORC field day tent.

While he was born in Oregon, Chris has lived in a variety of places including Ireland and Germany. Chris works as a Demolition Engineer, a skill he learned in the military, for Badger Wrecking. He also serves as their computer guru, a self taught skill. He recalled that his first computer was a Sinclair and that he worked all summer in the tobacco fields for the money to buy it – no, he didn't smoke it.

Chris is active on our 2 meter net and has started a 70 cm net for technical discussions followed by code practice for those wishing to upgrade to Technician +. Welcome to the ORC and thanks to Walter Stasiowski (WA9KFR) for bringing you to our meetings.

Welcome to Chris Jacobs as a new member of ORC.

Lightning Protection

De Gregg Lengling, W9DHI

(Part 4 of 6)

Towers, Supports, Locations, Magnetic Energy and Coax Grounding

Towers:

If you are constructing a new tower remember that concrete is a fair conductor and can be used safely to augment the tower grounding system. Because concrete can absorb moisture from the ground and release it slowly over a period of time makes this possible. In addition the released moisture enhances the conductivity of the surrounding soil. It's a common misconception that a lightning strike will cause the concrete pad to explode, this is only possible on a tower with no real grounding and the strike tries to dissipate through the tower materials in the pad. If during construction you tie all the rebar in the pad to the tower and the grounding system, the pad becomes an integral part of the grounding system and the pad will not crack.

To successfully implement an Ufer ground system it is necessary to bond each of the independent pieces of rebar together, preferably by an exothermic process such as Cad Welding. Failure to do this could create a case for a spark gap between the unconnected pieces. The electrically unified rebar is connected to the tower leg and the buried ground radial system and becomes a total system to dissipate the stroke charge. The better the ground system the better the charge of a strike flows from the leg of the tower to the ground system. Ufer ground system should never be used alone and should always be used in conjunction with a ground rod system.

Non-conductive structures should not be considered for an antenna support, as the only path to ground becomes the coaxial cables. If it is a sliding structure such as a crank-up tower, the joints should be bonded using short sec-

tions of copper strap with transitional metal clamps. Normal self-supported and guyed towers will not need such jumpers. Guyed towers are better from a lightning protection perspective if the guy anchors are grounded properly. Because the anchors are located away from the tower base, some of the strike energy will traverse the guy wires and the more energy diverted away the less that can travel toward your gear.

Magnetic Energy:

Lightning has a large magnetic field associated with it. This is typical of any high current pulse. The field will couple to all nearby conductive materials. Two ways to minimize the amount of coupling of magnetic energy are: Shield your gear or place it some distance away from the likely strike location. A galvanized steel sheet may be used as a shield to attenuate the magnetic pulse coupling by 10dB. The steel should be at least 30 gauge (0.41mm) and connected to the ground system. Using distance to minimize helps as the field diminishes at the rate of 1/distance squared. In addition the added length of coax by locating a distance from the tower is that the inductive nature of the coax will minimize the conductance of the pulse field. Typically this means locating the equipment at least 6 meters or more from the tower.

Antenna Location:

A ground mounted vertical antenna is very similar to a ground-mounted tower. Both have a low impedance connection to the ground system. However if you are mounting antennas on a roof structure the inductance inherent in the conductors to the ground system will be very significant. So much so that you could have voltages in the hundreds of thousands of volts present during a strike. To reduce the inductance, increase the surface area of the conductor and the number of ground conductors. Remember that we are talking skin effect so Copper Strap is a much better conductor for the size and cost. You can route multiple conductors spread over the roof and brought down to the ground system at multiple locations. This will require that the ground system be run completely around the structure making it a perime-

ter ground. An added benefit with multiple conductors is that it will reduce the mutual coupling between down conductors and provide an unsaturated perimeter ground to absorb the surge. In theory the fields will be divided and should cancel out in the middle of the building and limit the coupling effect to wiring inside the building.

Coax Grounding:

Since the tower is a conductor and is well grounded, all the coax lines should be grounded also, using a grounding kit, at the top of the tower close to the antenna and again at the base of the tower before they lead to your gear. During a strike event, the tower and the coax lines will mutually share the strike energy. If the coax lines are not grounded as they leave the tower or are isolated from the tower, more energy could be conducted toward your gear than is conducted to the ground system of the tower. Such a large inductive voltage drop could arc between the coax and the tower and cause pinholes and deterioration or destruction of the coax lines. Notice I said ground at the bottom of the tower, if you take your lines off the tower at say, 15' above ground on a 100' tower you will allow some of the surge to still continue on the coax. Remember even though the tower is all metal it is still like a resistor network and if there is 100,000 volts at the top and 0 at the bottom, you will have 15,000 at 15 feet off the ground. So even if you are running your coaxes off the tower at 15 feet you'll still want to decouple them to ground again at an entrance panel. Also make sure you leave the tower at right angles to the magnetic field surrounding the tower.

Next month we'll cover Control and Coax line protection and Power and Telco entrance protection.

Upcoming Events

July 10th – South Milwaukee Swapfest

July 17th – Fish Days at Port Washington – need 10 volunteers for parade communications – contact Kathy Pohl

August – ORC Corn Roast

August 31st – Saukville River Fest – need volunteers for communications – contact Cindy (KA9PZG).

FIELD DAY TRIVIA

De Bob Truscott (W9LO)

BREAKFAST IN BED:

Well, not exactly, but close. At breakfast time on Sunday morning 40 & 20 were both hot. W9XT was scheduled to relieve me on 40, but had to go to 20 instead because WA9AWO, who had been on duty there all night was simply “out of it”, and had to rest for a while. You can’t let a hot band go unattended so I continued operating on 40. About a half-hour later the Field Day chairman showed up with a big plate of hot cakes, scrambled eggs, and sausage. That was better than breakfast in bed, and we kept the station operating. I worked about 15 stations while enjoying the culinary efforts of the folks in the cook tent. Thanks Jim.

THE POWER FAILURE

Didn’t know we had a power failure, did you? Well, “we” didn’t, but “I” did. My hearing aid battery died in the middle of a good run on a hot band, and I didn’t have a spare handy. By the time I found one I had lost the frequency. This little malfunction probably cost us about 10 contacts. Does anyone know where I can get batteries as reliable as Ed’s generator?

GOALS

Before the contest started W9XT and I agreed on a goal of 1,000 contacts on 40 CW. We reached that number at about noon on Sunday, and set a secondary goal at that time. It was to reach a total of 1036 contacts. We chose that number as a tribute to WI9M (long time employee of channels 10/36) for his many years of FD leadership. Thanks, Gary—we appreciate your efforts over the years. Sorry we didn’t make it—missed it by 3 Qs.

THE SKUNK

After the sheepshead party ended on Friday night I set up my cot and sleeping bag in the 40 meter CW tent. (You know, that’s the one with all the holes in the roof & the wide door, which cannot be closed.) Along about 3:00 AM I felt the need to get up briefly, and in the process of putting my shoes on I saw a skunk stroll casually up to the door and stop to look in. He apparently saw nothing of interest because he left after about 10 seconds. Needless to say I was very careful not to provoke him. This happened 3 years ago, but I forgot to mention it earlier. It’s good for you campers to know who your neighbors are.

THE COLD

Back about 1973, or so, it was very cold on FD weekend. I showed up for the sheepshead party wearing a couple of sweatshirts and a parka, for which I was mercilessly ridiculed. After that I decided to never again expose myself to such abuse. Oh, how I wish I had—my fingers were so cold about 3:00 AM on Sunday that I thought they were going to freeze to the keyboard. I’d have gladly taken a whole bunch of ridicule just to have my parka that night. What was the temperature in the motor homes, you phone ops?

ANTENNAS & STUFF

Did you get a good look at Leon’s “tower on a trailer”? A masterpiece—good job, Leon. It was fun to watch the entire VHF crew trying to mate up the sections of their tower—they finally got it done, but it was a comedy act for a while. The 40 meter CW tent was erected with its “inside in”, as opposed to its “inside out”, as it was erected last year. Someone must have patched the holes because it didn’t leak at all this year. 40 CW had another experimental antenna this year—it was intended to give us a lower angle of radiation than our dipole, and thus give us a better signal into California and places like that. Turns out the angle was too low and we skipped right over all those places. That was W9XT’s brainchild. KA9RPR will be back next year, and I can hardly wait to see what those guys come up with when they get their heads together. Should be a humdinger.

Field Day – 2004

De Tom Ruhlmann (W9IPR)

Field Day 2004 was a really great time as all who were there can attest. The bands were favorable and we had a great group of dedicated operators who turned in the best scores yet. Even 6 and 10 meters opened up to add some excitement to the GOTA and Gary & Jeananne Bargholz stations. Following are a few of the photo's taken this year that give a flavor of the event and more are to be found on the ORC web site.



OK, now you guys pull while we walk it up. Gabe is directing the “pulling” while it appears that Jim is running for cover.



A view of the area shows various of the station tents and antenna.

There were a total of 6 towers, 4 beams, 5 dipoles and one half square loop erected this year. There was no shortage of antenna. Two of the towers were unique “crank-up” systems mounted on trailers while the others were erected via the armstrong method.



Gary (N9UUR) and Jeananne (N9VSV) Bargholz are shown here aligning their satellite antenna. They were also very active on SSTV and 6 meters.

We were again fortunate to have Gary and Jeananne in our group in that they were able to contribute the technology and effort to gain the satellite, SSTV and 6 meter contact points. It was a great lesson for the rest of us to see how it is done.



Julia (KB9WBQ) did a great job with the “ORC Amateur Radio” information display and tent. The event and display also resulted in another new member.



The GOTA station was very active this year resulting in over 125 contacts. Here it is being operated by Athea Jacobs, daughter of Chris (N9VKC) shown in the background.



As the sun went down the eating and drinking continued until the tables were required for the sheephead card games.



Stan Kaplan (WB9RQR), our master turkey chef, is again showing off a turkey cooked to perfection. This is only one of the four prepared by Stan.



Gabe Chido (WI9GC) is shown explaining some of the finer points of 40 meter phone competition to our Ozaukee County Board Chairman, Robert Brooks of Saukville.



Our Field Day Chairman, Jim Hillins (KA4UPW) makes a few last minute contacts at the 20-meter phone “camper”.

Club Static

In the past couple of months we have gained 5 new members. Do we have 5 more volunteers to act as Elmer's? Contact Tom Ruhlmann (W9IPR) to volunteer.

Recent New Members:

John Laske (KC9FJX) - Technician
Rex Nielson (W9CRQ) - Extra
Gary Becker (N9SBG) - Technician
Mike Yuhas (KC9GDV) – Technician

No. 115 - Uninstall Those Programs Correctly

De Stan Kaplan (WB9RQR)

Almost all computer users have discovered that you cannot simply transfer a program from one computer to another. Rather, most programs need to be installed on each machine they are used on. There are several reasons why this is true. First, when we speak of a "program", we are actually describing a group of files that work together to do whatever the program is supposed to do. Let me construct an illustration. Let us suppose you have a "program" called MyEditor, a word processor. You use it to type documents, save them and print them, much like Microsoft Word. MyEditor is really a suite of

many files that work together to do the job. You might find MYEDIT.EXE in the main MYEDIT folder. MYEDIT.EXE is the main program that starts the whole works when you click on the icon. The icon itself might be a separate file, MYEDIT.ICO. For sure the "program" has several DLL files (MYEDIT.DLL, SCRMSG.DLL, etc.) that were placed in the C:\Windows\System folder during the installation process. These DLL (Dynamic Link Library) files contain programming routines to do things like showing a dialog box on the screen or sending a document to Windows so it can be printed or opening a file needed when you invoke the spell checker. The spell checker's dictionary itself might be in a file called MYWORDS.DIC. There might also be an uninstall program, typically called UNWISE.EXE, residing in the main MYEDIT folder. But don't invoke it to uninstall the program. Its name alone should warn you!

The point is, MyEditor is really a bunch of files, perhaps several dozen or more, installed in various places all over the hard drive. And to top it all off, when the program was first installed, several entries were written about it in the Windows Registry, a database containing information about all the hardware and software in your machine. Complicated? You bet. It would take at least several hours of careful hand sleuthing by a human to discover all of the files and their locations associated with MyEditor. In the old days of DOS, a program might consist of three or four files, all in one folder. To uninstall the program, one just erased the folder and all of its contents. Those days are long gone!

So then, how does one properly get rid of a program? Click on the Control Panel, then Add/Remove Programs, then find MyEditor and highlight it and click the Add/Remove button. What you are doing this way is letting Windows be the umpire. Windows will look in its Registry and perhaps the program's installation log and find (hopefully) all the files associated with MyEditor. It will remove the entries in the Registry, and perhaps some of the program files, then close. MyEditor will no longer be in the list of programs shown when you invoke Add/Remove programs.

You are not quite done, though. The icon for MyEditor may (or may not) still be on your desktop. If Windows did not remove it, right click it and select Delete. Now, use Explorer to find the MyEditor folder. If you cannot find it, click Start, Find, Files or Folders and type MyEditor in the dialog box (which, by the way, is shown by Windows by opening one of its own DLLs). That will tell you where the folder is. Now navigate to it using Explorer, right click it and select Delete. That should do it. At least 90% of the files associated with MyEditor are gone. Forget about any remaining ones - you will probably never detect them.

During the Add/Remove Programs process, you may see a message that Windows has found a shared DLL (possibly shared by other programs), and it wants to know if you want to delete it. Just for safety's sake, don't. Some other program may well need it to operate properly, and you don't want to bollix up anything but MyEditor.

Some people think they are uninstalling programs when they delete from the desktop the icon for that program. Wrong! The only thing they have deleted is the icon. All of the program files are still on the hard drive, and even the icon itself can be restored. And they wonder why, after a couple of years, no more space is left on the hard drive. If you don't clean your closet out, you can bet that it will eventually get full!

Next time we will have some words on installing programs correctly. Happy computing!

The above is reprinted from the Badger State Smoke Signals.

Minutes – June 8th, 2004

De Carol Szudrowitz, KC9CBC

Meeting was called to order at 7:33 PM

Announcements – Saukville River Fest and Cleanup is July 31. There is no rain date. Meet at Grady Park for Breakfast at 7:30 AM and assignments at 8:15. 6 to 10 Radio Operators are needed and the event should be over by Noon. Contact person is Cindy KA9PZG.

Veterans Fish Outing was held June 16 in Port Washington.

Fish Day is July 17 so mark you calendar if you can help.

In lieu of program, **Field Day** was discussed by Jim KA4UPW and Leon K9GCF. Dates are Thursday June 24 to Sunday June 27. Setup is Friday night with a Pot Luck Turkey Supper and Competition is 1 PM Saturday until 1 PM Sunday at Lazy Day Camp Grounds near West Bend.

Auction was help by Stan WB9RQR

Business Meeting

Minutes were accepted as published in newspaper.

Treasurer's Report was accepted as printed on report.

Repeater Report – Everything seems to be working well. 2 meter net is fine. 220 had some background noise on the audio until Nels WA9 JOB unplugged the 440 MHz. link receiver. The noise went away. Terry KA9RFM made a wonderful metal box to be used at the barn to house the 220 MHz. amplifier.

OZARES – Jon KB9RHZ reported that there were 3 call-ups for help during the flooding of Milwaukee River during the past month. OZARES is now officially incorporated.

Old Business – Gene KB9VJP was commended and thanked for running the Swap Fest so well.

Tom W9IPR encouraged members to be an Elmer to others. Help assist members who want to move up or new hams to encourage them to become more familiar with radio work. This keeps members interested. He also reminded members of Air Show in West Bend on the 19th & 20th of June. Meeting ended when Stan WB9RQR made the motion and Ed AA9W seconded it.

Attendance: Ed AA9GT, Jon KB9RHZ, Dave N9UNR, Gabe WI9GC, Ed AA9W, Nels WA9JOB, Barb KC9GDZ, Jeananne N9VSV, Gary N9UUR, Jim K9QLP, Bernie AA9CI, Ron KC9DKQ, Herb WA9UVK, Ted KB9RLI, Jim W9JRX, Leon K9GCF, Jim KA4UPW, Carol KC9CBC, Julia KB9WBQ, Paul KD9FM, Jake KB9ZOR, Mark AB9CD, Ed AA9WW, Ron W9BCK, Ray W9BUJ, Bob W9LO, Chris N9VKC, Paul KB9WCC, Gary W9XT, Roger W9UVV, Tom W9IPR, Steve K9DXT, Terry KA9RFM, Bob N9NRK, Stan WB9RQR, Nancy KC9FZK, Ben K9UZ, Don W9VSC, Tom AA9XK, Vic KB9UKE, Jane KB9SYI.

AGENDA

July 14th, 2004

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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

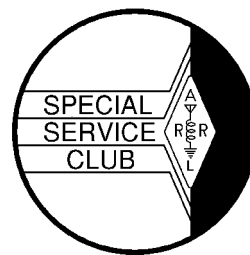
Wednesday, July 14th

7:30 PM



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 XXIII

August 2004

Number 8

The Prez Sez

De Vic Shier (KB9UKE)

The ORC needs a new location for all of the club equipment and the 146.97 and 224.18 repeaters. These issues will be discussed at the August Meeting on Wednesday the 11th.

The property referred to as "The Barn" is for sale. The ORC currently stores most of the club equipment there and it is also the location of two of the clubs repeaters. The ORC Board had a meeting on July 19, 2004 to discuss the implications of the sale and decided that it would be prudent to plan for the likely loss of the use of the property once it is sold. It is particularly important to transfer the club equipment to a new location before winter.

Nels, WA9JOB has investigated a few options for relocating the 2-meter repeater site and he will have more information on that issue in the future. However, we need suggestions for a place to store the club equipment and a new site for the 220 repeater.

On behalf of the Ozaukee Radio Club I wish to thank Sandy Wirth, W9BTN, for the use of his property over the years. He has made a significant contribution to the ORC by allowing us to use "The Barn." Thank you Sandy!

The ORC annual corn roast will be on Saturday August 28. We will meet at Waubedonia Park starting at 10:30 A.M. The park, located in the town of Fredonia just north of Hwy. 33, is on the Milwaukee River. It is a beautiful site and a good place for the kids to fish. Bring the family and enjoy the day.

73's and remember...It's a hobby!

Silent Key

De Nels, WA9JOB

I'm sad to inform you that a former member who moved away last year, Ken Klotz, N9DKM, has passed away, July 13, 2004. He had idiopathic pulmonary fibrosis, which was progressing over the last 3 to 4 months. He then got a Staph pneumonia, which went into septic shock resulting in his death. Ken had sold his Port Washington home after he retired, and moved to Florida. He had been wintering there for a while in a motor home. Leon and I met with him for lunch in Ft. Myers a couple of years ago. Ken was a very quiet person, but was always willing to help where he could. He will be missed.

Contesting

De Bob Truscott (W9LO)

Most humble apologies to the CW people in the group for failing to mention the North American QSO Party in last month's column. It was scheduled for Aug. 7, and will be history by the time you read this. Too bad—it's a very popular contest, and one of my favorites.

The big phone event of the month will be the North American QSO Party, starting at 1:00 PM (local time) on Aug. 21 and ending at 1:00 AM on Aug. 22. 160M through 10M (except the WARC bands). Work 10 of the 12 hours—work any station once on each band. Rules in Jan., 2004 QST, page 98, or at www.ncjweb.com. This is a great contest----give it a shot.

Have fun contesting.

Bob, W9LO

Next Meeting – Aug. 11th

– presentation by Gary, W9XT, on feedlines.

Project of the Month

Jim Hilins, KB4UPS, just completed another antique radio. This time it is a 1929 Grundig-Majestic and majestic it is. Jim didn't mention how many hours were invested in this project but I am sure it kept him off the streets at night.



Technician Class

The Cedarburg School District Adult Continuing Education department is posting Course #17 titled "Amateur Radio Technician Class/"Ham" license Preparation. It consists of 12 Tuesday evening sessions (6:30 to 8:30) starting September 14th.

Instructors are Tom Ruhlmann, Ed Rate and Stan Kaplan.

Interested parties should contact Karen Herre, Registrar at 262-376-6141.

Tips, Tails & Tools

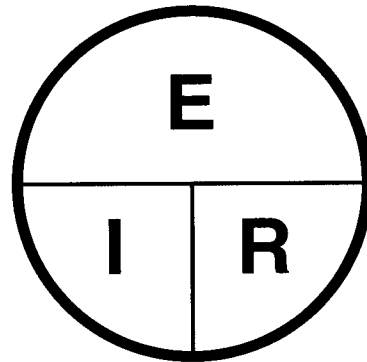
Save those plastic zip lock bags from the meat market. They make great bags in which to save parts and hardware of a type.

Remember the Ohm's law circle?

$$E = I \times R$$

$$I = E / R$$

$$R = E / I$$



Just place your thumb on the unknown item symbol and the other two symbols are in the position defining the required equation.

Wanted

Variable Capacitor (air gap or vacuum) with a range of up to 300 pf or greater and capable of 5 kilo-volts.

Contact Fred, N9FH

10-foot section of Rohn 25 tower.

Contact Gabe, WI9GC

Looking for information on control of a 10 position 12 VDC motor driven switch used in a CU-110 antenna coupler or similar application. Contact Tom, W9IPR.

The editor is looking for a "Community Service" column editor. This person would write up the various requests for assistance in the community and prepare newsletter articles on the ORC community involvement. Contact Tom, W9IPR.

South Milwaukee Swapfest

De Tom Ruhlmann, W9IPR

Again we all had a great time at the South Milwaukee Swapfest. Ed Rate, AA9W, was there at the request of his wife and he was successful at clearing out some of the "Scholarship Fund" equipment donations so they can now again use the pool table.



Gary Sutcliffe, W9XT, abandoned his display of surplus equipment to inspect Ed's stuff while Tom Oehler, W9LNL, looks things over to determine if there is something he really needs yet.

There was quite a gang there from the ORC and Jim Albrinck, K9QLP even parted with a few bucks for another 220 rig. I figured the day was a success as well in that I bought an incomplete variable temperature soldering iron for the price of a beer and pizza.

Lightning Protection

(Part 5 of 6)

Towers, Supports, Locations, Magnetic Energy and Coax Grounding

De Gregg Lengling, W9DHI

Coaxial Grounding/Protection:

Any input or output line can carry surge current that can harm equipment; this includes coaxial cables, rotor control cables, telephone and power lines. The coax lines from the tower can carry and bring in more surge current to your equipment than any other source. The large surface area of the shield and low inductance of the coax along with proximity to the tower give a fast rise time lightning current pulse an ideal path towards your equipment. If the bottom coaxial cable ground kit at the point where the coax leaves the tower is at any elevation above the earth, there is sufficient cause to create a voltage drop. The resulting voltage on the coax will drive current on the coax line to the equipment where the electrical safety ground provides a discharge path. Once this surge is inside the building/shack, it is almost too late to try to protect the equipment.

The best way to prevent these currents from reaching your equipment is to keep them from entering the shack. This can be accomplished by creating an entrance bulkhead on the outside of the building with a panel connected to the ground system with large surface copper straps. The large surface area strap is necessary to provide a low inductance path to ground for the surge energy as well as to provide for the high frequency component of the strike. Each coaxial line as it enters the building is attached to the panel with a ground kit and then fed to a coaxial protector.

Protectors:

Coax protectors should be units that have DC blocking on the center pin. This serves as a high pass filtering that prevents the lightning's low frequency energy from continuing to your equipment. The strike energy is picked off and

diverted into the ground system in a controlled way. The DC blocking ensures the operation of the protector regardless of the input circuitry.

Did you know that spark gap protectors with DC continuity will not work on receivers with shunt fed duplexers? The shunt to the ground inside a receiver prevents the low frequency lightning energy from turning on the DC continuity protector. The coil shunts the energy to ground, but it is at the wrong place. Also if the coil can't handle the energy, half the surge energy is on the center pin, the coil will open up and the current will translate to a large open voltage source capable of arcing anywhere within the radio. Rotor control lines should be protected using a protector at both the top of the tower where the lines go to the control motor and at the single point ground panel where they enter the shack.

If it is not practical to protect the lines at a single point ground panel, they may be protected at the bottom of the tower. The protected lines should then be placed within EMT conduit that is grounded only at the tower-base end. The EMT will act as a Faraday Shield from the tower's magnetic fields and will minimize the amount of induced energy.

Power/Telco Protection:

Full protection for a ham shack must cover not only strikes to your tower, but also hits from down the road to utility lines. By using single point grounding, your ham equipment will survive the hit to your tower. If the outside ground has a low impedance at lightning frequencies, most of the strike energy will be dispersed into the ground and little energy will enter the shack. This is fine, but what if your ground has deteriorated over time or was never very good because of yard size?

The ground system can absorb only so much energy before it becomes saturated. In 9 out of 10 strikes, a huge surge will come down your tower. If they cannot spread this surge out in a reasonable time frame, the back up pressure (voltage) will find or create another path. If the ground system is too small in area it will cause more energy to traverse the cables and other lines to the shack. The protectors can keep the

voltage levels between the single point ground and the signal lines at survivable limits, but the energy is only diverted elsewhere. This usually ends up on the household phone and power lines.

Other household items may be at risk. When the ground system is saturated, the energy is actually coming from the utility ground system and can go through your TV in an effort to leave the area via the cable TV drop. Satellite dishes also have the same problem. The best way to protect the rest of the house is to provide protection at a single point. The easiest will be at the power and Telco entrance. The utility ground rod (which you should have already interconnected to your ground system) is used both by the power neutral and the telephone protector installed by the phone company. By placing a power mains protector and a secondary phone line protector at this location the entire house will be protected. The cable TV, outside antenna coax or satellite antenna coax should be rerouted and a good coaxial protector installed at this point also. The cable company installed protector is usually nothing more than a grounding block for the shield and does nothing for the center conductor energy. As the ground system potential rises in a lightning strike, the protectors will take the ground system energy and place it on the power, telephone, and cable TV lines while keeping the voltages between earth and the active lines within the limits of equipment survival.

The utility ground rod for the house should have already been interconnected to your ground system. If this is not done, the energy from the tower strike will traverse the house safety ground wires to this rod, causing problems. The reason to interconnect them in the ground using bare conductors is to reduce the inductance of the interconnecting path.

The power and telephone feeds to your house can be either aerial or underground. Most people think underground is better from a lightning standpoint. Buried underground, it will not be hit directly, but if a nearby tree or structure is hit, the amount of energy coupled through the ground can almost equal a direct hit. Overhead

or buried you are at just as much risk for a strike surge through the power/teleco lines.

Lightning protection can be summed up thusly: **YOU HAVE CONTROL OF THE LIGHTNING STRIKE ENERGY AND NOT MOTHER NATURE, HOWEVER ONCE CONTROL IS LOST, ALL CAN BE LOST!**

Next month the final chapter: Single Point ground design

ORC at Saukville River Fest

De Mike Yuhas, KC9GDV & Bernie Chelene, AA9CI

For the past several years, the Village of Saukville has mobilized volunteers to help clean up the Milwaukee River in early June. This year, owing to the strong storms of late May, the event was postponed until Saturday, July 31. In addition to dozens of members of the community at large, three ORC members participated in the clean-up activities.

Cindy (KA9PZG) organized the ORC group, which consisted of Don (W9VSC), Bernie (AA9CI), and Mike (KC9GD9). The three used handhelds on two meter simplex. Bernie primarily served as liaison to the River Fest organizers, while Mike went into the field (muck, actually) with one of the crews. Don finally found a steel body part on the school bus on which to apply his magnetic mount antenna; he kept the bus driver informed of the ever-changing agenda.

It may be the last year it gets cleaned under this bridge. A new one will replace it before the next Riverfest. A great lunch was served after the cleanup. Next years' date has not been set at this time.



This landmark Saukville Bridge will be replaced with a “modern” bridge in 2005.

All in all, a good public service performed by Ozaukee Radio Club!

Fish Day @ Port

De Ted Heilmann (N9LLT)

The Ozaukee Radio Club's help was very much appreciated again this year by the Port Washington Fish Day Parade Committee. It was very enjoyable this year with the weather being the shining star of the event. There were no health and welfare issues this year and the event ran like clockwork.



John Laske, KC9FJX, is here on his way to help communicate co-ordination of the Fish Days parade.

There were some new members, some seasoned veterans and some members that have done a couple of events. Parades are a great way to sharpen your skills that could be essential in a more critical event. It's a great way to see the event.

It's also a great way to do something that is out of the ordinary when you can't think of something that you would like to do to have a change of pace. This year we had AA9W (Ed) who was our Net Control person. Also in attendance this year were KC9FJX (John), AB9CD (Mark), K9QLP (Jim), AA9XK (Tom), KB9WBQ (Julia), KB9VJP (Gene), KC9CBC (Carol), along with yours truly N9LLT (Ted). I also had the privilege of representing the club as a unit in the parade. I had information displayed on the side of my truck telling of our meeting time and place, our web site address, our club logo and our Special Service Club affiliation to the ARRL. It sure appeared that everyone had a good time. I know I did. Thank You to all who took the time to help and have a good time.

Upcoming Events

August 7th - ICOM open house at AES – 9 AM to 3 PM – all invited – door prizes

August 14th – Picnic on a Deer Farm – South Eden Game Preserve near Fond du Lac – open invitation – contact KD9ZP @ 920-923-0130 – talk in on 145.43 MHz w/ 107.2Hz tone.

August 28th – ORC Corn Roast

Sept. 18th – W9DXCC convention/conference at the Elk Grove Village motel. It is a good time if you are at all interested in DX. Details can be provided by Gary, W9XT.

Sept. 18th & 19th - Hamfest at Grayslake. This one is usually full of bargains.

Club Static

Assistance needed with the ARRL Audio News.

Brian, N9LOO has been playing the ARRL Audio News on Tuesday evenings for nearly 2 years. Now he is returning to school to get his bachelors degree and will be spending his evenings in class and study. Good luck to Brian

with his new challenge and thanks for doing a great job on the audio news these many months.

We need a replacement. A computer and a 2-meter radio is all you need, we will show you how to do the rest. Contact Vic KB9UKE if you can help.

Congratulations to John Laske, KC9FJX. This past week he passed his 5-wpm code test and his General Class exam.

Bicycles and Megacycles

by Richard Regent, K9GDF

Our energetic ARRL Section Manager, Don Michalski, **W9IXG**, will be taking a bicycle tour to retrace the journey on the trail that explorers Meriwether Lewis and William Clark discovered of the unmapped lands of North Dakota. CANDISC 2004: Cycling Around North Dakota in Sakakawea Country, will cover 414 miles in 7 days, an average of 59 miles of peddling per day. The bicycling tour is not a race. Riders will cycle past unspoiled striking vistas and seemingly endless fields storing large rolls of hay, scenery having very few barns, and over roads in slightly rolling terrain. The tour will go on in any weather -- in hot sun or cool rain; while watching for potholes, gravel or crossing animals; and riding through swarms of insects. Riders will rest overnight camping in their individual tents.

Don's Section Manager administrative and communications duties will be set aside and be delegated for from July 31 through August 7, 2004. while he enthusiastically enjoys bicycling, his favorite sport, and operating Amateur Radio QRP (communicating with a low power transmitter).

Since Don was first licensed in 1957, he has built lots of kits including many Heathkits, and particularly enjoys operating QRP. So recently Don ordered his new Elecraft KX1 kit, the ultra-portable CW transceiver. He said it can be build in few evenings, maybe in 25 hours of putting parts in the right places. This miniature transceiver operates 4 watts CW on 40 and 20 me-

ters. Don is adding a plug-in module to allow for 30-meter operation. Battery power is from six AA cells which last 20 to 30 hours under constant operating. The receiver only draws 34 ma of current. Don might buy some fresh cells along way if necessary. The KX1 has a built in keyer and an attachable sending paddle.

Around 8:00 p.m. each evening, Don plans to throw the 24-foot antenna wire over a tree and then place the 16-foot counterpoise wire on the ground. This is the radio connection for contacting his friend's back in Wisconsin on 7.040, 10.106 or 14.060 MHz QRP frequencies. A bicycle tour like this goes through the rarest of North Dakota counties, so there will also be many contacts for County Hunters. Other tour riders, besides discovering the Trail, will certainly be enlightened to learn about Amateur Radio from Wisconsin's expert.

Airventure 2004

The Fox Cities Amateur Radio Club operated a special event station on 3 different bands at the Pioneer airport during the 2004 Airventure in Oshkosh this year. While I was impressed with the activity I was somewhat disappointed that they were operating current technology equipment.



Special Events station K9ZL was operating from a main exhibit hanger at Pioneer airport during the EAA Airventure in Oshkosh.

Since the Pioneer airport is a museum of operations and aircraft from the 20's through the early 40's I had expected to see a vintage "ham" shack. Perhaps that could be a project for some of the ORC members – assemble a "vintage" station for use at the Pioneer Airport.

Minutes – July 14th, 2004

De Carol Szudrowitz, KC9CBC

Announcements: Cathy Pohl signed up 4-6 hams to help with the Fish Day Parade on June 17. Time commitment was from 8:30 to approximately 1:00 PM

Gary WI9M has a rough draft ready for Field Day. We did approximately 20% better than last year. He said he needed pictures for report including campgrounds, information booth, radio stations and more.

Reminder: Annual River Clean Up Day is July 31 in Saukville. Report to Grady Park for 7:30 AM Breakfast and Assignments at 8:15 AM. Call Cindy KA9PZG for more information.

Program: USS Des Moines Naval Ship Project was a fascinating program presented by Eric Sunstron. The goal of the program is to have the USS Des Moines anchored in Milwaukee near the War Memorial permanently for tours. It would be a reminder that "Freedom is Never Free". She is currently mothballed in the Naval Shipyard in Philadelphia and was a peacekeeper ship that never fired a shot in 13 years of service. She would be the largest Naval ship on the Great Lakes. The goal of having this memorial here would be a tourist attraction and historical education for young Americans. There will be a working radio station on the ship as there are 5 radio rooms. Contributions are needed to make this happen. To get more information check out the website www.ussdesmoines.org

Break and then Auction by Stan WB9RQR.

Meeting: Secretary and Treasurer's reports were accepted as printed.

Repeater Report: Nels WA9JOB reported that the repeater amplifier failed. The repeater was placed on the backup amplifier until Dick K9CAN fixed it. The repeater operated on the backup amplifier all through Field Day, and nobody had a complaint. 440 is working well. 220 is up and ready and ready and the amplifier is in the box that Terry KA9RFM made. Access to the Germantown site is through the techni-

cian for General Communications. Nels also encouraged members to contact him to learn about the repeater so he could have help.

OZARES: Jon KB9RHZ stated that OZARES is now incorporated. That is first step toward gaining the 501C3.

Scholarship Fund: Ed AA9W raised another \$81.00.

New Business:

Corn Roast will be August 28, 2004. We could use a volunteer to help organize it.

Elmer's Group: Tom W9IPR encouraged members who are Generals to volunteer to Elmer a new ham. It provides a consistent relationship to help the new ham and promote the hobby. He also stated that New Ham Radio Classes would be listed in the Cedarburg Community Night School Catalogue. Interest and sign-ups determine whether or not it runs.

CW Class – Chris N9VKC is doing well with code class on the net. He has handouts available and a practice disc.

Field Day Recap - Check re-mailer for date. Leon K9GCF will list it. Send him an e-mail if you want to share something and can't make the recap meeting. All members are invited. Leon also asked for any members to make suggestions about programs that would interest them. In Sept Ed AA9W will present a meeting about antenna design.

Board meeting is scheduled for July 19.

Astro Wings Fly-in - Terry KA9RFM has tickets available for the model airplane fly-in on August 7. The proceeds go to Special Olympics of Wisconsin. Each is \$1.00 or 7 tickets for \$5.00.

Terry made a motion to end the meeting. Gregg W9DHI seconded it.

Attendance: Dave N9UNR, Ed AA9W, Gabe WI9GC, Muhammad KC9CPC, Jon KB9RHZ, Herb WA9UVK, Jane KB9SYI, Leon K9GCF, Cathy-FISH, Carol KC9CBC, Matt, Jeff KB9QQE, John KC9FJX, Mark AB9CD, Steve K9DXT, Tom W9IPR, Terry KA9RFM, Roger W9UVK, Tom AA9XK, Ed AA9WW, Chris N9VKC, Barb KC9GDZ, Ray W9BUJ, Gary W9XT, Ray W9KHH, Paul KB9WCC, Jeananne N9VSV, Gary N9UUR, Gregg W9DHI, Mike KC9GDV, Stan WBRQR, Jim K9QLP, Mike WJ9O, Dale N9NNE, WA9JOB, Ben K9UZ, Nancy KC9FZK, Gene KB9VJP, Julia KB9WBQ, Paul KD9FM.

AGENDA

Aug. 11th, 2004

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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

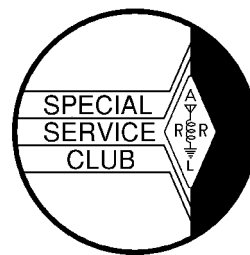
Wednesday, Aug. 11th

7:30 PM



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 XXIII

September 2004

Number 9

The Prez Sez

By Vic Shier (KB9UKE)

Although the corn roast started on a wet and dreary day, it turned out to be a fine picnic. Tom (W9IPR) and Ed (AA9WW) set up under the shelter at Waubedonia Park. The shelter is rather impressive and we received numerous recommendations to reserve it from this point forward thereby eliminating the need to re-schedule due to poor weather. Besides good food and good company, we also got some radio time in. Several QRP (low power) radios were set up for operation and some of us got a chance to participate in our first foxhunt. Leon (K9GCF) hid a 2-meter transmitter in the woods and then gave us instructions on how to find it using our HT's. Mike (KC9GDV) found it first. Nice job Mike!

A new location has been found for the storage of the club equipment and we can probably still call it "The Barn" or maybe "The Shed" would be better. The site is northwest of the current location, which is closer to our Field Day site. Once the new building is ready, we will pick a Saturday as moving day and we will need a number of volunteers. The next step will be to finalize the selection and then move the repeaters to a new location.

Amber Erickson, KC9FVW from Chippewa Falls, WI was chosen as this year's winner of the Ozaukee Radio Club's annual \$1,000.00 scholarship. Amber was selected by The Foundation for Amateur Radio (FAR). FAR is responsible for the administration of over 55 amateur radio-related scholarships, which range from \$500 to \$2,500. Amber will be attending UW-Eau Claire where she is studying Education and Social Studies. She holds a Technician

class license and is active with the Chippewa Valley VHF contesters. Congratulations Amber!

It will soon be time to appoint the nominating committee. Each January the club holds elections for officers. The positions are; president, vice president, repeater vice president, secretary and treasurer. Give some thought as to how you can help the club by serving as an officer.

73's and remember...It's a hobby!

Contesting

De Bob Truscott (W9LO)

If you like short and snappy contests, this is the time. The fall sprints are here— 3 separate 4-hour contests—CW, SSB, & RTTY. They are a good warm-up for the November Sweepstakes contests, and an opportunity for casual contesters to sharpen their skills for the 05 Field Day.

North American Sprint-CW **Sept. 12** Rules in Feb. QST, page 103 or www.ncjweb.com.

North American Sprint-SSB **Sept. 19**

North American Sprint RTTY **Oct. 10**

ARRL September VHF QSO Party **Sept.11** Rules in Aug. QST, page 107

QCWA Fall QSO Party—Phone/CW/ Digital. **Sept. 18/19**. Rules in Sept. QST, page 97.
(This one is for all the "old geezers" in the club.)

CQ Worldwide RTTY DX Contest **Sept. 25/26** Rules in Sept QST, page98.

Reported Scores:

North American QSO Party–CW

N9FH 683 Qs, 192 Mults., Score 131,136

W9LO 403 Qs 130 Mults., Score 52,390

North American QSO Party–SSB

W9LO 72 Qs 40 Mults., Score 2,880

(Where were all you phone guys?)

First Annual ORC Corn Roast Competition

W9LO 4 ears & 1 brat. A dismal showing, but I win anyway---You have to report your scores if you expect to win. For honorable mention in the next newsletter, send your claims to tbsi@hnet.net. Exceptional claims will be considered for duplicate medals. Proof of performance may be required.

Have fun contesting.

New Members

One of our new members is Barbara Musgrave of Cedarburg. She just recently completed her Technician exams and was awarded the call sign of KC9GDZ. Actually this is the third time



Barbara Musgrave (KC9GDZ), a new member of the Ozaukee Radio Club

Barbara has obtained her FCC license. Initially she earned her Novice license in about 1976 while a student at MSOE and that was followed

by a Technician+ license, which she allowed to expire. She works as an accountant at the University of Wisconsin and her interest in “Ham” radio was rekindled through her car pooling with Jane, KB9SYI. Barbara also has a new dog, Fritz and between Fritz and an advanced accounting course she is taking her “hamming” may be somewhat limited for the moment.

Another new member is Mike Yuhas of Saukville. Mike is in advertising sales for the publisher of the “Model Railroad” magazine. He also has a serious interest in photographing trains and that is what brought him into “Ham” radio.



New member Mike Yuhas (KC9GDV) is shown here with his “Elmer” Gary Sutcliffe (W9XT)

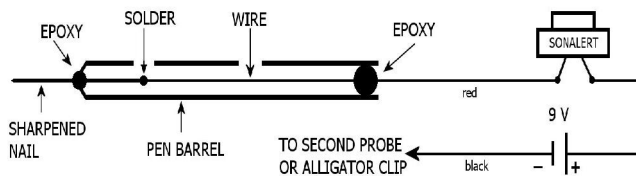
It seems that in some states such as Minnesota, you must have a license to have a scanner in your car. Since Mike has a scanner to listen to the train crews, he decided to earn a Technician license to make himself “legal”. He takes to “hamming” pretty fast and was the first to locate the hidden transmitter (fox) at the corn roast. He is also quite familiar with a microphone. Ask him about his previous activities as a disc jockey.

A Simple Continuity Tester

De Stan Kaplan, WB9RQR

Over the years, I have needed to check continuity thousands of times. This includes tracing wire harnesses in cars, radios and computers,

testing coax after soldering connectors in place, checking wires in household lamps to insure that the hot lead really does go to the center tab in the socket (and that the neutral lead really does go to the threaded part of the socket), making sure that there are no shorts to the metal body of household lamps, and so on. Of course, it is easy enough to use a multimeter for such tasks, but that requires looking at the meter for a visual indication after making connection with the test leads, unless, of course, you have a multimeter that provides an audio signal when there is continuity. Even if you do have a versatile multimeter with aural indicator, the stand-alone tester described here is often just more convenient to use, especially if your meter is across the room, connected to another project. The tester described here can be built easily, and for next to no cost, or no cost at all if you can scrounge the only active element – a sounding device or beeper such as the Mallory SonAlert. You can find the SonAlert at all the on-line vendors such as Mouser or DigiKey for under \$5, but you may well come across one at a swapfest, perhaps soldered onto a board. Half a dozen are in my junk box from swapfest scrounging sessions. Here is the very simple schematic:



Make the probe(s) first. Find a plastic ballpoint pen and pull out the innards. Find a steel nail with a diameter that fits into the plastic barrel at the pen point end with a nearly snug fit. Cut the head off the nail and solder an insulated wire test lead to the nail (red would be nice). Now slip the nail down into the plastic barrel until the tip projects at least a half-inch. Put a drop of epoxy glue at the point where the nail projects from the plastic. When the glue has set, run some more epoxy down the other end of the plastic barrel to anchor the test lead inside the barrel. A nice touch: grind the nail end down to a sharp point before assembly. An alternate approach: make only one probe as described

above; use an alligator clip for the other test lead.

Find a plastic box to hold the 9-volt battery inside, with room enough for the battery, battery connector and a couple of wires. Mount the beeper on the outside of the box, using glue or small machine screws and nuts. Be sure to drill a hole in the box matching the beeper's two terminals; they should project inside the box. Solder short leads to those terminals before mounting the device on the box. Now, wire a 9-volt battery connector inside the box, with the red lead connected to the beeper's positive terminal (the beeper is always marked or has its own set of colored leads). Wire the black lead of the battery connector to the other (black) test probe (or alligator clip).

Connect a battery to the battery connector and test the device by touching the two probes. If it beeps, the device is ready to use. A partially spent 9-volt battery, no longer useful for its original purpose, will do nicely to power this tester for several months or longer. A new battery will likely last for several years.

Another nice touch: attach a little strap to one side of the box so you can hang the gadget from a peg over your workbench. This little tester is so handy that I built one for my local hardware store, where it has been in use for over five years to test incandescent light bulbs. Besides the one permanently over my workbench, another resides in my tool belt.

Parts List

- Insulated wire
- (1) or possibly (2) ballpoint "stick" pens
- Possibly (1) alligator clip
- (1) 9-volt battery, used is OK
- (1) 9-volt battery snap terminal set with leads
- (1) Beeper - Mallory SonAlert or equivalent sounding device that makes a continuously audible sound when powered by 9 volts)

Wanted - Complete HF station. All solid-state. Reasonable. Contact Steve Stevens (KC9DXT) @ 262-284-2657

Install Programs Correctly

De Stan Kaplan, WB9RQR

Number 115 told you how to uninstall a program correctly. Now it is time to consider a few factors in program installation. Today, that usually goes pretty smoothly, because software companies bundle an installation wizard with their product, typically invoked with SETUP.EXE, a file commonly found on installation diskettes or CD-ROMs. The executable program SETUP.EXE is usually invoked when you put a new program CD in your drive. All versions of Windows since 95 look at CDs that are inserted in the drive, and if there is a file on it named AUTORUN.INF, Windows gets the information in it and starts based on that information. For example, here are the main contents of an actual AUTORUN.INF file from a CD:

```
[autorun]
open          =          setup.exe
```

The comment in brackets [autorun] is ignored. The next line says, "open setup.exe". There are a couple of other lines, not shown here, that give temporary control of the system to the installation wizard inside setup.exe, and another line that tells where the icon file is located. .

If you have the autorun features of Windows shut off, the automatic start based on the contents of AUTORUN.INF will not occur. To manually start installation, just find SETUP.EXE on the CD and double-click it.

During the installation procedure, you may be asked if you want an icon on the desktop, an entry in the START, PROGRAMS menu and other choices that are fairly self-evident. Just select your preference and continue. There is one choice screen, however, that is not quite so self-evident, and almost all installation wizards make a default choice for you that you may want to alter. That choice is where the program folder resides.

Let me take up a side issue, for a moment. In the past, I have extolled the virtues of having at least three partitions on a hard drive, a C:, D:, and E: (see #76 in the series, or search the First 100 CD-ROM for the word: partition). C: is for Windows, and perhaps tightly integrated suites such as Microsoft Office (Word, Power-

Point, Access, Excel, etc.). D: is for programs - other application programs such as graphics and drawing programs, multimedia programs that play music or show videos, CD-ROM burner programs, scanning files, utility programs of all sorts, and so on. E: is just for stuff you create. Letters, photos, scanned files, database data files - anything that you create or modify in the course of the work you do on your machine. That way, when you do a backup, you only need to backup the contents of drive E:, which often will fit on less than a quarter of the space available on a single CD. Thus, backups are quick and painless, which means you can do them more often. Once a month is not out of the question.

Now back to the main issue. If your programs are to be installed on drive D:, you must override the default (C:) that the installation wizard usually sets up. One of the wizard screens will show, for example, that it intends to put the program files in C:\Program Files\DeLorme\Streets and Trips. Edit that screen (you CAN do it!) to read D:\DeLorme\Streets and Trips. Forget the \Program Files part of it - that is not necessary. There is no need to make more subfolders than are necessary. Indeed, if you think of the program as DeLorme rather than Streets and Trips, you can do away with the \Streets and Trips subfolder, too. Just edit it to read: D:\DeLorme. Most installations will now go smoothly, and the program will work fine. But what if it does not? What if you spend a week trying to get it to work, and you cannot. What if you have called the company, and their help desk geeks tell you to uninstall the program and try installation again?

Now it is time to re-read the last column on uninstalling programs. Do it correctly, using the Control Panel's Add/Remove Programs feature. When you have done that, do not fail to take one more step: reboot! Rebooting gives Windows a chance to update the Registry, a critical step when either installing or uninstalling programs. I have had reinstallation's fail because I did not first reboot after uninstalling a program, and later succeed when I did reboot the machine. Rebooting can make a really big difference! Happy computing!

This article was reprinted from the Badger Smoke Signals web site.

Lightning Protection

(Part 6 of 6)

Towers, Supports, Locations, Magnetic Energy and Coax Grounding

De Gregg Lengling, W9DHI

Single Point Ground Design:

The next step in a good protection scheme is to provide a single point ground, a plate where all your equipment I/O protectors can be located. This panel is best located near the ground to keep the inductance of the ground conductor low. However, if this requires the plate to be far from your equipment and if the magnetic fields of a nearby tower can easily couple into the interconnection wires and cables, then the panel should be located close to your equipment.

An alternative to the single point ground plate is to use a rack panel. This is recommended only if all of the I/O protectors are mounted on the panel and the ground connection is directly to the panel and not to any other piece of equipment.

The grounding of the plate or panel is very important. A low impedance path to ground is a necessity and only copper strap should be considered. Since the strap is flat, its susceptibility to magnetic fields is only towards its edges. To prevent coupling, the strap should be oriented with the flat side parallel to the tower (the most likely strike point and magnetic field source). The single point ground plate should also be oriented with its flat side parallel to the tower for the same reason.

In the equipment room (shack), each piece of equipment must be bonded to the single point ground panel with low inductance strap. This will maintain all chassis at the same potential during the strike and minimize chassis-to-chassis current flow. The power, telephone and coax line protectors on each of the I/O's must

be mounted on the single point plate. This will minimize I/O to I/O current flow.

Additional protectors may be used to protect the opposite side entrance locations for the power and telephone lines. They will provide added protection for jointly used equipment such as appliances and other electronics. Ideally they should also be grounded and connected by buried bare conductor to the ground system.

Remember that surge energy can enter your shack in either of two ways: from a strike down the road coming in on the power/telephone/cable lines or from a strike to your tower or antennas. In either case, high quality protectors (I recommend PolyPhaser) will dump the energy into the ground system. Because of varying propagation times, if the protectors are electrically spread out from each other, they cannot work in unison to keep the voltage levels between the equipment I/O's within a tolerable range for equipment survival.

Also remember, no sharp bends. Route all ground straps and grounding conductors so they have a gentle-bending radius. Bends sharper than an 8-inch radius will add unwanted inductance to the desired ground path. Even for conductors buried in the ground, try to avoid sharp bends.

Well that's it; I hope you learned something and will plan out your ham shack with safety and protection in mind. I've used these techniques on my Ham Shack and also in the past on many commercial installations, including the towers I used to own. A case in point: In 1990 I built a 160 foot free standing tower in Germantown without following these guidelines. In the first 12 months I had lightning damage 3 times, one of the times was catastrophic as I lost 2 antennas, 1 feedline and 1 repeater. Total loss was over \$10K. I then spent a few days and maybe 1500 dollars to properly ground and protect everything. Since that day in 1991 there has been no lightning damage at the tower other than 1 antenna. In that case it was a 22-foot long fiberglass collinear on the top of the tower that took a direct hit. That was the only

loss from that direct hit, all feedlines and equipment survived that massive hit. This is the biggest testimony to all this information I learned over the years, including 3 classes I attended that PolyPhaser Corporation put on. Use this information wisely and good hamming!

End of Series.

Upcoming Events

Sept. 8th – ORC meeting

Sept. 18th – W9DXCC convention/conference at the Elk Grove Village motel. It is a good time if you are at all interested in DX. Details can be provided by Gary, W9XT.

Sept. 18th & 19th - Hamfest at Grayslake. This one is usually full of bargains.

September 8th Meeting

The program is titled “Loops, Squares, Rectangles and Other Antenna Curiosities” and will be presented by Ed Rate (AA9W)

Annual Corn Roast

It was a really great event this year and well attended by young and seniors as well. Although it threatened rain we were under cover with plenty of tables, water, bathrooms etc. and even a kids play area.



Stan again acted as the ORC chief chef as the line formed for the turkey brat's.



Brian Skrentny (N9LOO) acted as our official fireman assuring that the corn pot boiled.



Cassidy (Mike Yuhas's daughter) and Becka (Dave Barrow's grand daughter) were having a great time on the tire swing and bars in the kid's play area next to the shelter.

We had not only a great meal and much visiting but a foxhunt training session and examples of operating QRP stations and portable antenna as well. The club supplied the meat, corn and refreshments and with each member bringing a dish to pass there was plenty of food and a great time was had by all.



The meat was tender, corn was sweet and food and camaraderie were great. Even though there was the threat of rain it turned out to be a great day.



There was much discussion by Greg (W9DHI), Tom (AA9XK) and Ed Frac (AA9WW) while Ed Rate (AA9W) continued eating, about the relative merits of one QRP station and portable antenna Vs another. However, the solar panel power supply tends to negate the small size of the QRP stations.



Leon Rediske (K9GCF) provided a tutorial on the fine art of “fox hunting” using several different antenna and tracking techniques.



Mike Yuhas (KC9GDV) looks on in disbelief as he compared his new “rubber duck” antenna with Leon’s (K9GCF) 2 meter Yagi for fox hunting.

Minutes—August 12th, 2004

De Carol Szudrowitz, KC9CBC

Announcements: Leon K9GCF presided as Vic KB9UKE was out of town.

Corn Roast is August 28 at Waubedonia Park. Grays Lake Swapfest is the 18th and 19th of September. Gary N9UUR mentioned that another satellite is up.

Auction was held by Stan WB9RQR while Gary W9XT set up the program on Feed Lines.

Program: Feed Line information by Gary W9XT. He explained some of the theory, and pointed out some of the misconceptions of feed lines. Maximum power is transferred when the load impedance is matched to the source impedance. Various feed lines include coaxial, and open wire, or ladder line. A Smith Chart can show impedance and admittance coordinates. For more information ask Gary W9XT for a copy of his excellent handout.

Business Meeting

Secretary minutes were accepted as printed in last newsletter.

Treasurer's Report was accepted as presented. A donation was accepted from Port Washington Fish Day Committee and deposited in the treasury.

Repeater Report: The crackling noise was corrected in the repeater. The 220 is working at the barn. The 440 Net is doing well. Chris is continuing his code lessons on it. The repeater location, "The Barn" is for sale. We thank Sandy W9BTN for allowing the club to be there all these years. If no one else has a better idea, I (Nels WA9JOB), propose moving the repeater. KK&LL will become a transmit site only. We have the opportunity to make the central control site at the Grafton Fire Department. An antenna system can be placed at the Grafton Police Department as a part of the arrangement, for use by OZARES participants. I propose not using a control phone link as we do not need it any longer to be legal and "auto-patch" is not used as frequently as in the past. This will be a savings to the Club.

OZARES: no report

Committee Reports:

Ham Radio Class: Tom W9IPR said that the Radio Class is being offered through the Continuing Education Night School in Cedarburg on Tuesday evenings September 14 to December 14. Information is sent to all homes in the district and it is also publicized in the News Graphic. Anyone in the area can sign up

for it and for further information call Karen Herre at the school. Her number is 262-376-6141.

Field Day Recap: This was held at Leon's K9GCF. We want to introduce new folks to our Field Day effort.

Old Business: Corn Roast plans were discussed and hams volunteered for jobs. Food is to be served by 11 AM. Bring a dish to pass and enjoy friends. Check re-mailer for info.

New Business: Nels WA9JOB, said that a 125 watt continuous solid state amplifier is available for \$175.00 for the 220 and it is necessary with the upcoming move. Nels made a motion to buy it and Jim KA4UPW seconded it. With the club voting by saying aye, the motion carried.

Regarding the "stuff" in the barn, Nels made a motion to move it to a barn on Hawthorne Drive, about 1.5 miles west of Cth. 1, and about 2 miles north of Hwy. 33. For a nominal amount per year (\$200) and a 501C3 letter for deduction (this states the fair market value), the club can store everything there. There is a secure area for tents and barn space for tower trailers. It is convenient to Lazy Days Camp Grounds. Jim K9QLP seconded the motion to move the equipment there. Discussion ensued and agreed with the motion. Suggestion was made to move things this fall before it got cold.

Club also needs a rack cabinet for the Grafton Fire House location. A couple of the members thought they might have one that was suitable.

Stan WB9RQR made a motion to close meeting and Ed AA9W seconded it.

Attendance: Jim KA4UPW, Stan WB9RQR, Ed AA9W, Gabe W19GC, Dave N9UNR, Tom W9LNL, Nels WA9JOB, Barb KC9GDZ, Herb WA9UVK, Bernie AA9CI, Jim K9QLP, Don W9VSC, Dick K9CAN, Gary N9UUR, Jeananne N9VSV, Carol KC9CBC, Terry KA9RFM, Jane KB9SYI, Tom W9IPR, Ed AA9WW, Mike KC9GDV, Ray W9KHH, Bob W9LO, Paul KB9WCC, Nancy KC9FZK, Chris N9VKC, Walter WA9KFR, Tom AA9XK, Ron KC9DKQ, Mark AB9CD, Roger W9UVV, John KC9FJX, Gary W9XT, and Leon K9GCF.

AGENDA

September 8th, 2004

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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

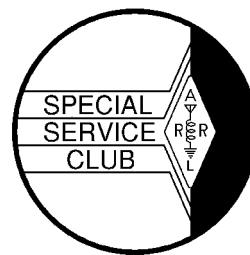
Wednesday, Oct. 8th

7:30 PM



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 XXIII

October 2004

Number 10

The Prez Sez

By Vic Shier (KB9UKE)

Fall is normally a time of the year that doesn't require much club activity. All of our normal events are finished and we can start planning for next year. However, this year is different. We have several projects that need to be finished before the first snowfall. We have to move all of the club equipment from "the Barn" to a new location, "the Shed".

There are four steps to the process, three of which need to be completed within the next few weeks.

- Step 1 is to get a cabinet for the repeater equipment. We club has two TV transmitters that are of little value but the cabinets may work at our future repeater site. Nels will determine the suitability of the cabinet in a few days. If they will fit, we will need two people to go to the barn and empty the cabinets by removing all of the TV transmitter equipment from the inside.
- Step 2 will be to move the cabinet into place at the new site (which is in Grafton), install the antennas, and run coax from the antennas into the cabinet. This will require four people.
- Step 3 will be to move all of the club equipment, except the repeaters, from the barn to the shed. This project will require a team larger than the Field Day moving crew. On field day we move about 60% of the equipment, this time we will need to move it all.

- Step 4 will be sometime later when we remove the repeater and related equipment from the barn.

Bring your calendars to the next meeting so we can pick out some dates.

It's also time to check your own antennas before the roof gets slippery. Hams often joke about waiting for crummy weather to fix the antenna but safety really is a concern. There are some beautiful days coming in October, look over your antennas before November.

73's and remember...It's a hobby!

Contesting

De Bob Truscott (W9LO)

It's time for the big one again---November Sweepstakes, that is. CW--Nov. 6-8, and SSB--Nov. 20-22. This is a great one--in my book it's # 2 of the year, just a tad behind Field Day. 160 thru 10 meters, except for the WARC bands. The contest runs for 30 hours---you may work a total of 24 of those hours, you choose which ones. Or, if you're not a contest addict, try it out for 2 or 3 hours, or whatever. Tip: The addicts will normally use about the bottom 40-50 kHz of the various bands, usually operating between 25 & 35 wpm. If you're not comfortable with those speeds, move up above 50 kHz where you will usually find slower operators. Call CQSS at whatever speed you choose, and most people will answer you at your speed. And don't worry about it if you don't have a great antenna system. Just load up the bed springs, your rain gutters (metal only), or string a wire 10' above the ground---they all work, not well enough to make you a winner, but well enough for you to have a little fun. Winning is never a consideration for me,

there is just too much competition out there. Instead, my goal in each SS contest is to score just a little bit better than I did last year. Sometimes I do, sometimes I don't, but when I do, a great feeling of satisfaction comes with it. It's kinda like hitting a home run in the softball game at the company picnic. Try it for a few hours, and maybe you can hit a home run next Field Day.

Results—ARRL Int. DX Phone:
K9CAN—252 QSO's—82 Mults. —61,992 Score

Coming up in Oct.:

Oct. 9-10 ARRL Int. EME Contest—Rules in Sept. QST, page 98

Oct. 30-31 ARRL Int. EME Contest—Rules in Sept QST, page 98

Oct. 30-31 CQ World Wide DX Contest, SSB—Rules in Oct. QST, page 99

Nov. 6-8 ARRL November Sweepstakes, C W—Rules in Oct. QST, page 107

Have fun contesting. See you in SS.

Bob, W9LO

Radio Hot Spots

de Vic Shier (KB9UKE)

If you have an opportunity to visit the Minneapolis area there are a few great radio stops. There is the Pavlek Museum of Broadcasting in St. Louis Park, a new ham radio consignment shop on Prior Ave. just north of University Ave., the Antique Radio Store in Stillwater and Great Northern Antiques on Bloomington Ave.

We recently stopped at Great Northern Antiques which has a wide selection of old tube radios, radio signs and other collector items. The owner, Alan Jespersen, was quite helpful. He answered all my questions and even gave us a tour of his basement so we could view his complete inventory of console radios.

You can get more information on any of these Midwest radio hot spots through the web by using a search engine.

A Letter from our winner



Our 2004 ORC scholarship winner is Amber Ericksen (KC9FVW) of Chippewa Falls who is a junior in Elementary Education at Eau Claire

Dear Vic Shier,

It was great hearing from you. It is a pleasure knowing you want to publish me in your newsletter. It is a great honor. Again, I would like to thank you for choosing me as the recipient for your scholarship. It has greatly helped with the cost of tuition and books.

A little bit about me: I was born and raised in Chippewa Falls Wisconsin by my two loving parents, Karen and Rick.

I have three siblings: an older brother Adam who is 25 years old and a newlywed to a wonderful woman Bridget, an older sister Amy who is 23 and has a four year old named Austin and a one year old named Ethan, and lastly, a younger sister Alisha who is 18 and has a one year old named Abilgail.

My family is very strong and close to each other. When you need help, there is always someone there ready to lend a hand.

Currently I am in my junior year at the University of Wisconsin – Eau Claire. I am studying Education and would like to teach at an elementary school, preferably third grade.

Amateur Radio is not new to me, only recently licensed; I have been around it for over five years. Justin, K9MU, sparked my interest in this amazing hobby and taught me what I needed to know. Before I knew it, I was studying for my license, which I obtained in April of this year. I currently hold a technician class license and got only one wrong on the exam.

I enjoy operating on six and two meters. I also like to contest. During this past September VHF contest I had the honor to operate at the old W0UC site on W0AIH's antenna farm near Fall Creek, WI. We were a multi-op using our club call K9CVC and our claimed score was just over 80,000.

I am the vice-president of the Midwest World Wide Young Contesters and a member of the Chippewa Valley VHF Contesters (K9CVC). I hope that this will help you for your newsletter. Please feel free to use what parts you want.

Thank you once again for choosing me as the recipient of the Ozaukee Radio Club Scholarship.

Sincerely,

Amber L. Ericksen, KC9FVW

Answering the Call

De Nels Harvey, WA9JOB

A couple of weeks ago, I put out a request on the re-mailer for a low band receiver that an old friend from my CB days wanted to acquire a receiver. Most of you know my interest in electronics started with CB, back in about 1962). Don, my friend, called me out of the blue recently, and I learned he was retired, pretty much restricted to home, and losing his eyesight due to diabetes. Don lives in Random Lake, and

recently found the 146.97 repeater on his scanner.

Todd Sprinkmann, KC9BQA, the guy that had been snooping in your hamshacks for the newsletter last year, stepped up to the plate. He wrote me: "The Icom R-70 is close to 25 years old, but was aligned by K9CAN two years ago. He said it was in good shape."

Todd, who also lives in Random Lake, has made arrangements with Don, visited him, his wife and son, and set Don up with the R-70. I want to thank Todd for his offer and assistance. This was a generous outreach by Todd that underscores the helping nature of most Amateur Radio operators. Perhaps we can encourage Don to get his ticket now, so he can further enjoy the benefits our great hobby offers.

73, Nels....

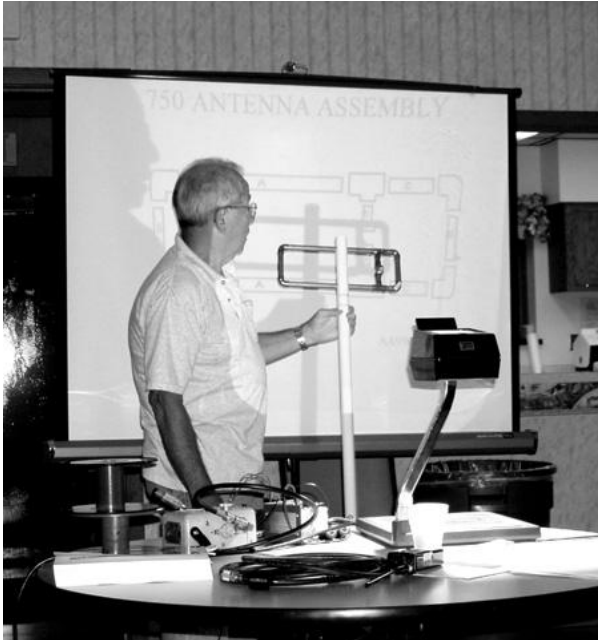
AA9W "SKELETON SLOT" ANTENNA DESIGNS FOR THE ORC REPEATERS

De AA9W, Ed Rate

My program presentation at the last meeting stirred up requests for construction information for this unusual antenna with dimensions for each of the club's repeaters. The skeleton slot described is a gain (3 dBd) antenna that looks like it should be horizontally polarized but isn't! When positioned as shown below, it produces equal front and back vertically polarized radiation lobes. The original design work was done in Britain in the 1950's. It was further explored by Japanese researchers but very little has been published in English. You will not find much about it published in the US ham literature. If it is designed for ham VHF frequencies using thick elements, it is very broad banded with out sacrificing gain and is very easy to make.

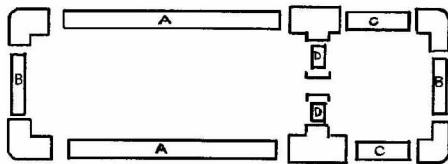
My designs are made from ordinary half-inch copper plumbing pipe (type L). The pipe, "elbows" and "T's" can be found at any home improvement store. The antennas are fed at the

caps using 50-ohm cable (RG-8) although a balanced line feed would be a little better.



Ed Rate (AA9W) is shown here explaining his design experiments and the resulting original "skeleton slot antenna" which exhibits 3-dB gain on the ORC repeater frequencies.

AA9W "SKELETON SLOT" ANTENNA
FOR OZAUKEE RADIO CLUB REPEATERS



The construction details given were determined for the ORC repeater input frequencies. The exploded view shows the dimensions for cutting the pipe

FREQ.	"A"	"B"	"C"	"D"
448.750	10 ½ inches	3 ½ inches	1 5/8 inches	1 3/8 inches
222.580	22 inches	7 1/8 inches	3 1/8 inches	3 1/8 inches
146.370	32 ½ inches	10 ½ inches	6 ¾ inches	4 7/8 inches

Breakfast Anyone?

Not everyone knows it but there are two locations for a Saturday morning "Ham" breakfast. The "Early Group" meets at Prime Minister in Mequon at about 6:30 or 7:00AM and hangs around until about 8:30 AM.



The "Early Group" had quite a crowd including the Tom and Julia Nawrot, Tom Oehler, Mike Yuhas, Gabe Chido, Nancy Stecker, Steve Stevens, Ed Rate, Stan Kaplan, Nels Harvey, Kevin Steers and Dave Barrow. Note Ed's (AA9W) loop antenna used as a table centerpiece.



The "Late Group" crowd this Saturday was small but interesting with Gene and Carol Szudrowitz, Dave Knaus and Gerry Walker and his visiting son.

The "Late Group" gathers at about 8:00 AM at "The Family Restaurant" (bowling alley) in Grafton. They, like the "Early Group", usually have 10 or so at breakfast and there is much discussion about "hamming" as well as religion, politics and sex.

Grayslake! It was great!

Yes, I did find a number of treasures and some of them weren't broken – yet.



Tom Nawrot (AA9XL) camped in his tent at the adjoining campground to be sure he would get an early chance at bargains.



Gary Sutcliffe (W9XT) was on the selling end of things on Sunday following his participation in the W9DXCC convention on Saturday at Elk Grove Village.

How about a 400 VA UPS system for \$1.00 that works once the battery is replaced or a Heathkit 50 watt antenna tuner for \$7.50 (no rattles). Those that rattled were only \$5.00



As Gabe Chido toured the outdoor treasure tables he bumped into his old friend K9XHA. You will note that Gabe is still empty-handed so you know this is still early on Saturday morning.

What else? How about a Heathkit signal tracer for \$5.00 or an EICO Transistor Analyzer Md. 685 (I need a manual) for \$15.00. And these were only the "high lights". See you there next year.

E-mails of help from afar

De Nels Harvey (WA9JOB)

As you all know, Hurricane Charley passed through southwestern Florida in the middle of August. As a result, I received the following e-mail:

Mr. Harvey,

Your name was given to us by the Ozaukee Radio Club. We are trying to contact anyone from the Amberg family in Punta Gorda FL. First names are David, Dennis, and Carol. Another contact is Paullette McQuire, Sarasota FL.

The hurricane has wiped out all phone service in this area, for this reason we are urgently looking for alternate means to contact these families.

We certainly appreciate any assistance you can provide. You can reach me at the email address attached to this email. My phone no. is 262-284-5048?

Thanks again, JimPurdy.

Jim,

I am CC'ing your message to John, a former Ozaukee Radio Club member who lives down there also. I don't know if he is able to help you at all, but he has been able to use e-mail after the storm, so possibly he can be of some help.

John, is there some way that you may be able to help Jim out? Could you please contact Jim at any rate? I am sure he would appreciate anything you can do for them.

Thanks, Nels....

Nels,

I will see if we can get in touch w/ one of the Amberg's maybe thru a local radio station. If so I will get back to you.

John WD9JAC

Nels,

I got in touch w/ the Amberg's David's Sister and gave them the phone # and name that you sent to me

John WD9JAC

Nels,

We did hear from our nephew in Punta Gorda. Everyone is safe, and all the damage was "financial". We certainly thank you and your associate in FL for all the efforts you extended on our behalf.

Thanks again ...Jim Purdy

Just Another Shack

By Steve Stevens (K9DXT)

Time was getting shorter and I had a deadline to meet... Problem was I was not known for my writing, uncton or spelling skills. And which made matters worse I couldn't find my Valium.

I started making phone calls to find a victim or should that be subject for the article and ran

into a number of roadblocks. I was beginning to feel like I was driving on a stretch of Wisconsin highway in construction season.

Most people had conflicts because of over loaded schedules some just didn't return phone calls, others said they would be a subject down the line and still others felt they didn't have a "shack". These articles are not just about someone who has built an edifice to the great god Ham. My definition of a shack is anywhere you have a communication device and you can carry on a contact with someone at another location.

I took this assignment to write about people. I wanted to meet people in the club and learn about and from them. Where they had come from, where they were going and yes about their interest in amateur radio. And I promise to do this as painlessly as possible.

Thanks for your consideration and I'll see you on the radio.

WANTED

A good home for a portion of my ham radio magazine collection. The basement is getting too crowded, and they have got to go. Here's what's available:

CQ 1948 -2004

Ham Radio 1969 -1990

73 1961-1990

They are almost complete, but have a few missing issues. They are free—you transport. Tbsi@hnet.net, or 262-629-9685. If there is no interest they will drive away in the recycle truck next month.

Bob, W9LO

Tips & Tools

Gel hand cleaner works great to clean up an old dingy panel but be careful to use a "goop" that does not contain pumice. The pumice will leave microscopic scratches on the painted panel.

Save the “zip lock” lunchmeat bags from the market. They are great for separating and maintaining your smaller treasurers.

Membership Meeting Minutes – Sept. 8th, 2004

De Carol Szudrowitz, KC9CBC

Announcements: Amber Erickson KC9FVW is this year’s scholarship recipient. She attends the University of Wisconsin Eau Claire and is studying to become a Social Studies teacher.

Program: Ed AA9W presented an interesting program on Antennas – Loops, Squares, Rectangles and other Curiosities. Ed lives in the southern edge of Mequon and because of two ridges his radio transmissions can not reach the repeater. Also his subdivision restrictions forbid outside antennas/towers; therefore, he investigated dipoles. Ask for a copy of the design he came up with to solve the problem. It sure is nifty and it works very well. It is made with PVC pipes.

Auction by Stan WB9RQR

Business Meeting

Minutes stand approved as printed in the newsletter.

No Treasurer’s report this month. Tom AA9XK is out of town.

Repeater Report: The amplifier was acting up so the 33 repeater was used for a Tuesday NET. Dick K9CAN checked the amplifier out, and found nothing. Nels WA9JOB put the spare amplifier in service, and the same problem occurred. It turned out the problem was in the Radius radio used to drive the amplifier. It was exchanged with the local receiver radio and the problem was solved. 220 and 440 are both working.

We are looking for a work crew to put some equipment in the Grafton Fire House and within the next few weeks to move barn “stuff” to the new location off of Hwy. 33.

OZARES: Jon KB9RHZ reported that the by laws have been adopted and work is going for-

ward to gain non-profit status. The simulated Emergency Training Session is slated to be October 16 across the nation.

Nominating Committees are needed per Vic KB9UKE. Let him know if you are interested for the following; Awards (Turkey and Ham of the Year Awards), Nominating (for officers for next year), and By-Laws. Reminder again: Let Vic know if you are interested.

Old Business

Many thanks are in order. The Corn Roast was Very Successful. We did not cancel because of rain as we were able to use the pavilion and that was very pleasant. A motion was made by Jane KB9SYI that we reserve this shelter every year for \$50.00. Stan WB9RQR seconded this. It was amended by Tom W9IPR to add the time – the 3rd weekend of Aug. at Waubedonia Park.

Mike KC9GDV has created a wonderful website and donated his time. It should speed things up for printing the newsletter. Website is www.OzaukeeRadioClub.org

Tom W9IPR will be out of town in Nov. so Gregg W9DHI volunteered to publish the newsletter then. Tom is also inviting club members to become Elmer’s for new club members.

Leon K9GCF is looking for ideas for programs. Let him know what interests you and if you have any contacts or suggestions. One suggestion was field trips. Note: be on the lookout for aluminum towers/antennas for the club. Meeting was adjourned.

Attendance: Jon KB9RHZ, Cindy KA9PZG, Gary WI9M, Gabe WI9GC, Don W9VSC, Gregg W9DHI, Nels WAJOB, Tom W9LNL, Ben K9UZ, Jim K9QLP, Bill, Jim N9WIU, Bernie AA9HR, Ron W9BCK, Paul W9IPR, Jane KB9SYI, Dick WA9MME, Herb WA9UVK, Gene KB9VJP, Stan WB9RQR, Jim KA4UPW, Leon K9GCF, Gary W9XT, Mike KC9GDV, Nancy KC9FZK, Chris N9VKC, Roger W9UVV, Mark AB9CD, Julia KB9WBQ, Carol KC9CBC, Ray W9KHH, Vic KB9UKE.

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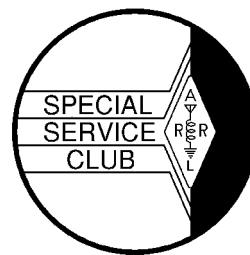
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Volume XXIII

November 2004

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The Prez Sez

By Vic Shier (KB9UKE)

Much of the club equipment has been moved from the barn to the shed. Some items remain that will need to be moved at a later time but it is not a significant amount. However, there is a lot of stuff that should be disposed of. Stan (WB9RQR) suggested we auction off what we can and the rest will have to go to a dumpster.

Nels (WA9JOB), with the help of a number of club members, has prepared one of the old TV racks to hold the repeater equipment. It has been striped, cleaned and modified, and it is in location at the Cedarburg Fire Department. The next step will be to install the antennas and feed line. Thanks to everyone for helping with this transition.

Nominations for next year's officers will be brought to the floor at the December meeting. Give some consideration to running for office. Clubs are healthier when there are new members on the board bringing in new ideas.

We had a great auction last month thanks to the generous donation from Fred Linn (W9NZF.) Many of the items were old, hard to find, components that only a ham radio operator could love. When it is time to clean out some of your radio clutter, consider bringing it in for the auction. There will likely be someone there who would be happy to have it while helping the club coffers at the same time.

73's and remember...It's a hobby!

Contesting

De Bob Truscott (W9LO)

For those of you who get the newsletter by e-mail this is the last call for the November CW Sweepstakes Contest. If you get it by "snail mail" you may miss it. It's one of the top CW contests of the year, and great practice for next Field Day. Jump in there for a few hours and have some fun. Nov. 6-8---Rules in Oct. QST, page 107.

The SSB Nov. Sweepstakes Contest weekend is Nov. 20-22---Rules in Oct. QST, page 107. I'm not very big on phone contests, but if I were, I'd have to say this one would be my favorite, even above Field Day. (I guess that's because I have never worked, and never will work, phone on FD---I prefer to stick with the "superior" mode.) Bad attitude, right? In spite of that, I plan to put in as many operating hours on that weekend as the Green Bay Packers and certain other NFL team's schedules allow. (I'll also probably have to take time out for the WI Badgers on Saturday; depending upon what time they play.) I'm a casual type of phone contester, and don't expect to make a respectable score--just want to have a little fun, and see how "the other half" lives. And, it's good practice for me in case all the CW rigs fail at the same time on some future Field Day. I hope to log a bunch of club members on both SS weekends.

Also, look for the CQ World Wide CW DX Contest on Nov. 27-28. That's another great one. Rules in Oct. QST, page 99.

Have fun contesting.

Upcoming Events

Nov. 6th - MRC Swapfest at Waukesha Expo.

Nov. 10th - Membership meeting

Jan. 8th - West Allis RAC Swapfest at Waukesha Expo. Center

April 16th – Ns9RC Swapfest at Grayslake fair-grounds
May 7th – ORC Swapfest at Circle B
July 9th – South Milwaukee Swapfest

Tips, Tails & Tools

(Will return next month, ran out of space)

November 10th – Membership meeting at the Grafton Senior Center. The program will be a presentation by Mark Tellier, titled: "FROM PERMIT TO FEEDLINE" or How to get approval to put up a 40-foot tower in Brown Deer.

Club Static

Gregg Lengling, W9DHI, notes that this year marks the 100th anniversary of the invention of the "Fleming Valve" also known as the "TUBE". In 1904 Sir Ambrose Fleming patented the Valve Diode and thus led us faster down the path of electronics. So Happy 100th Birthday for the VALVE!

Kenwood Getting out of High End HF Business? by KORS on September 7, 2004
<http://www.eham.net/forums/mailto/3?id=1577>

Yes, it's true. Kenwood hasn't built a "high-end" radio since the TS-950SDX. It's rumored that a representative from their marketing department recently told (strictly on the condition of anonymity) a US ham visitor to Japan that due to impending worldwide deployment of BPL that they feel amateur radio products are no longer a viable proposition. They intend to use the existing tooling for TS-2000's to build DVD players. ; ^)

I certainly hope they are wrong, but then if BPL takes off, HF hamming will be impossible.....
Leon.

If interested in receiving donated computer(s), please contact Mary Mezera at (608) 240-5254 or mary.mezera@doc.state.wi.us with any questions about the Computer Recycling Program.

Please also visit website at www.buybsi.com to gain more information on the Computer Recycling Program.

UK Amateurs Gain 7.1 - 7.2MHz

Ofcom and the Radio Society of Great Britain are pleased to announce that all necessary procedures required for early access to the 7.1 to 7.2MHz spectrum for all UK radio amateurs have been finalised and that access is allowed from 0100UTC on Sunday 31 October 2004. Early access is granted on a Secondary (non-interference) basis using a maximum of 26dBW (400 watts) PEP.

Notices of Variation for the Foundation, Intermediate and Full licences have been published on the Ofcom website.

Morse code modes are used between 7.1 and 7.2MHz. B

It is recommended that for the time being only voice and band planning issues on 7MHz will be kept under regular review and will be dependent on the number of administrations granting early access to this band prior to full Primary access on 29 March 2009.

The RSGB would like to offer its appreciation to all parties involved in the consultations, in particular the broadcasting industry, the UK Ministry of Defense, the Radio communications Agency and its successor Osco.

Please note that access to the extra 100 kHz is only allowed from 0100UTC, and not midnight UTC, on Sunday morning. Or, put another way, from 2.00am local time, at which time the clocks are put back by one hour. Local time will then be 1.00am, the same as GMT or UTC.

FIRST TRANSISTOR RADIO DEBUTED 50 YEARS AGO

Remember the first transistor radio? Last Monday, Oct. 18, marked the 50th anniversary of the Regency TR-1, the first transistor radio. The radio used four germanium transistors and operated on a 22.5-V bat-

tery. It cost \$49.95. For information on the Regency TR-1 and links to other Web sites with information on early transistor radios, see www.regencytr1.com. For commentary on the anniversary, a look at how technology has progressed and where it might be headed, see Rupert Goodwin's commentary We're fifty years into the future.

APRS – Is it for you?



Chris Jacobs, N9VKC, gave an excellent review of APRS at our Oct. Meeting. He explained what it is and what it can do for you. Contact him directly or www.geocities.com/n9vkc for more information and the source of related kits.

APRS in a nutshell

APRS which stands for AUTOMATIC PACKET/POSITION REPORTING SYSTEM was invented by Bob Bruninga, WB4APR for tracking of mobile stations and the exchange of data within large groups of hams. I originally became interested in APRS when it was first coming out in the early nineties. I had a 386sx 16 MHz computer with 2mb of ram which was fairly robust for the times and running some flavor of DOS. However those first versions of APRS required a GPS unit that cost as much if not more than my HF rig. Ouch, Needless to say I didn't get into GPS head over heels. Now days you can pick up a good GPS receiver for under \$50 (eBay) and that along with some simple electronics and a 2 meter rig you're set to join the APRS crowd.

What does APRS do? Why do you want to use it? Well the answers to these questions are simple. APRS as it is most often used is to track a mobile station. You don't need to have an APRS station to do the tracking either. There are sites on the internet that allow anyone (Ham or not) to type in your call and find your current location, heading, elevation, and speed. (Don't worry about the speed hi hi you can adjust the settings to show no more than say 65?) This is very handy when traveling out of your normal area so that loved ones can see where you are at. I've also run into the situation where I was in Chicago and did not know where I was going and another Ham on a local repeater was able to see me on his APRS map and give me directions to my intended destination. As long as an APRS station is not able to transmit via a mic or key or anything other than the digital GPS information then a Ham can put these in their car and non hams can drive about with the unit running and be found at any time. I can see a use for this during the winter when non ham loved ones are out on the road and it feels good to be able to find them in an instant. Another popular use for APRS and one I find especially interesting is weather reporting. There are many consumer weather stations available that dump the weather data collected to a serial interface. Many hams take that data and make it available on the APRS network. In fact so many do so that the weather service looks to these highly accurate readings often to gather data for their predictions. Some Weather stations are even mobile so that storm spotters can give very accurate data instantly. Many TNC's are setup to receive Wx data and it really is plug_and_play. Ares and RACES groups see the advantage to APRS as well. Stations on the APRS network have their location graphically represented on a map. This makes things a lot easier for those at net control dealing with a situation when you can see exactly where everyone is. Think of a search party for a missing boat or plane when all the searchers locations can be depicted in real time on a map. You can very effectively cover areas instead of having some groups double over another group's area. When the missing vehicle/person is found the

exact location is instantly known. Some K9 units carry APRS so that the dogs can be more effective. Even things as common and as mundane as parades can be more effectively watched and guided when you have APRS showing exact locations of stations.

If you can currently setup a packet station or have the pieces laying around your QTH for the assembly of a packet station then you have all you need hardware wise to get started with APRS. Essentially you need a TNC, 2meter radio, and a computer for a base station and for mobiles you need a GPS receiver, 2 meter radio, and a GPS enabled TNC. There are several really good APRS programs out there and one for every flavor of OS currently running on computes. DOS, JAVA, MAC, LINUX, UNIX, SUN, WINDOWS 3.11 TO XP. I currently use UI-View32 and have found it to be the easiest to configure and get running. I've made links to these software programs and hardware sites on my web page. www.geocities.com/n9vkc When setting up your base station you don't need a GPS (unless your house likes to go mobile once in a while). Have a fellow Ham with a GPS unit com over and give you your Coordinates and you can enter these manually. The national frequency for APRS is 144.390 MHz and I bet if you tune in right now you'll hear some activity. For mobile users I found this little gadget that is got to be just as nifty as these things get. The Tinytrack III is a self contained TNC that you program once from your computer and then plug in your radio and GPS unit. I had one of these units at the October meeting. They are inexpensive and even cheaper for those who like to put together kits. The Tinytrack III comes either assembled and tested or in Kit form. My mobile setup is small enough including my 2 meter HT to fit inside a shoe. Mounting applications are endless. I should mention at this point that Kenwood makes several very fine radios that have TNC's built in. Add your GPS and your set for APRS. Personal setup and application could go on for a long time here. If you're interested please look at my web page and or get hold of me and I'd be glad to help you out.

I'd like to cover one other item relating to APRS in this very short article and that is how the APRS network works. OH NO this could be boring and complicated, NOT SO!! The real beauty of the APRS network is that for the most part it is self sustaining and does not need you to know all the network paths and access codes to get from one station to another. APRS works much like the ORC's repeater. One station transmits and the repeater picks up that weak station and repeats it so that everyone in the coverage area can hear the original station. APRS works much the same only think of other repeaters hearing the ORC's repeater and then passing along your information to all of their coverage area. These are DIGIPEATERS. I urge anyone setting up a base station to turn on the DIGIPEATER function in their software. This allows low power mobiles passing through your area to stay on the network. Unlike repeaters which we want to have a huge coverage area the DIGIPEATER concept is much the same as cell phone towers. Having many small DIGIPEATERS covering smaller areas will increase the overall bandwidth within a single frequency. When you load your software you can see stations from all over the world!! Yes all over the world. Hmm doesn't all that traffic boggle the network? NO The other type of station is the IGATE (you can run both IGATE and a DIGIPEATER at the same time). The Igate is as it sounds a gateway to the internet. Most of the heavy networking is done over the internet. The RF networking is all local as I mentioned above. This allows a lot of bandwidth on a single frequency. If you have broadband internet at home you can be an IGATE. When the IGATE option is turned on your station will relay to the internet APRS servers all the traffic you hear and that in turn is available to anyone connected to the internet. That is how others can log onto the internet web sites and see your location from anywhere in the world. Another neat thing is to see areas that are troubled with heavy storms (Hurricanes n such) and to find WX APRS stations nearby and watch the WX data in real time.

I've covered a lot of material here in a short amount of time. In fact I think I covered this all in a nutshell. HI HI. The ARRL has a great little

book *APRS Moving Hams on the Radio and the Internet*. All of the information in there can be found on the internet but it is nice to have it at your fingertips. I've setup a page with a ton of links to APRS sites and locations to get hardware and software. Check out www.geocitites.com/n9vkc. I hope to see some of you on the network soon.

73's

Chris Jacobs N9VKC

Holes Barred Installation

De Tom Ruhlmann, W9IPR

Unintentionally we bought a new Buick LaSaber, which led to the discussion as to how the 2-meter Icom 207H radio would be installed. I finally agreed that it would be installed without any holes being drilled in the new car and the following pictures document the process.



The Buick has a metal trunk lid so a dual band magnetic mount antenna was used. The co-ax from the antenna is small so it was laid along the trunk lid gasket to enter the trunk area. I have used this approach before without damage to the co-ax.



The RG-58 co-ax from the antenna was then passed through a wiring harness passage behind the rear seat.

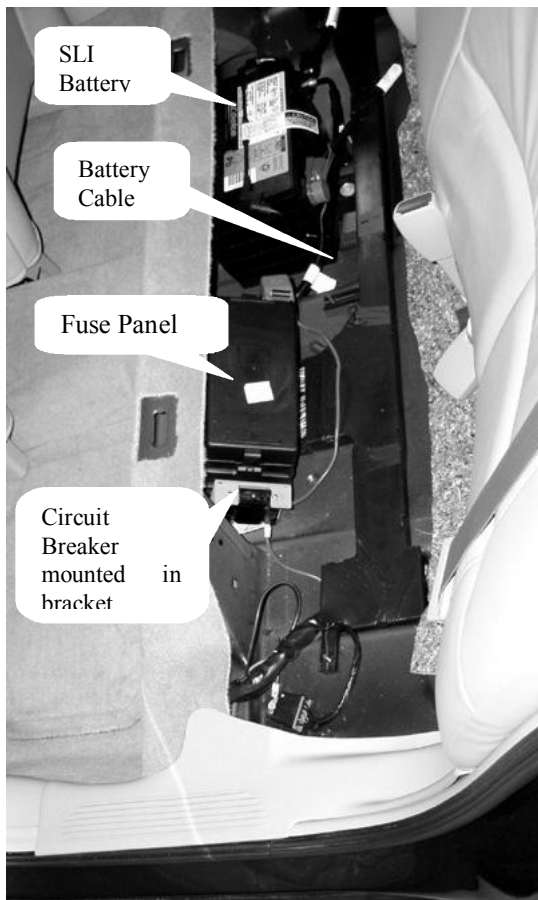


Since the cable passed along side a wiring harness there was no hole required in rear bulkhead.

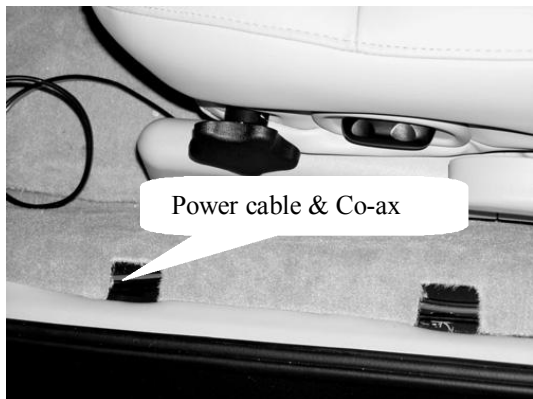
The Buick LaSaber has the starting, lighting & ignition (SLI) battery mounted below the rear seat so this made access quite convenient.

The battery directly supplies an adjacent master fuse panel. The fuse panel had an input bolted termination from the battery that I was able to also utilize to supply power to a 25 ampere DC circuit breaker which I mounted to the outside of the fuse panel. The circuit breaker could then be used to safely supply power to the 2 meter rig via an insulated #10 stranded wire cable. I used a #10 wire to minimize voltage drop during

the higher current draw while transmitting. It is worth noting that a 25 ampere AC circuit breaker is different from a DC breaker and as a general rule could only handle about 10 amperes DC (40% of the AC rating).



The #10 power cable from the circuit breaker and the RG-58 antenna co-ax were then slipped under the floor molding and fed in the direction of the driver's side door.



The molding was temporarily removed below the driver's seat to allow the wires to be fed forward and remain out of sight and protected by the replaced molding. These moldings are not screwed in but snap in and out.



The wires were then secured to the underside of the dash using tie-wraps with adhesive pads and routed to the area of the transceiver. The original fuses were retained at the transceiver and the 30 amp Anderson power pole connectors were used to make the power connections. I prefer these as the common power connectors since it allows the transceiver to be easily pulled from this car and used in the truck or as a base station both of which are also equipped with these "power pole" connectors.

And there you have it – an installation with no holes drilled and a happy wife.

Minutes – October 13, 2004

De Carol Szudrowitz, KC9CBC
(As recorded by Tom in Carol's absence)

Announcements: Vic KB9UKE reported that the Milwaukee club is requesting assistance from interested ORC members with the JOTA

(Jamboree on the Air) event coming up on Sunday October the 17th.

Program: Chris N9VKC presented an interesting program on APRS. APRS was developed by Bob Bruninga WB4APR for tracking and digital communications with mobile GPS equipped stations with two-way radio. In the 12 years since its introduction, it has grown to encompass just about every aspect of Amateur Radio. Chris was a pioneer BBS 'host'. His interest in Amateur Radio really took off after he learned from his 'Elmer' Walter Stasiowski WA9KFR, about the digital modes, such as packet radio that Amateurs were using. Chris explained that an APRS system could be quite simple. A TNC kit can be built for about \$39.00 and free software can be downloaded for the cost of a small donation. He promised to list some of the links to this information on the 70 cm website. The 70 cm website can be reached from OzaukeeRadioClub.org.

Auction: Stan WB9RQR conducted his October auction with good results. With assistance from Jon KB9RHZ and Ed AA9W money was raised to benefit the club's scholarship fund and the Ozaukee County ARES group – OZARES.

Due to enthusiasm from members for the program and the auction, the business segment of the meeting followed immediately without the usual break.

Treasurer's Report: Reports for August and September were presented and accepted without discussion.

Repeater Report: Nels WA9JOB ask for volunteers to help move equipment from the 'barn' on Saturday October 16th to the new storage site in the area of Hawthorne and "I" (near Lazy Days). Decisions will be made as necessary to dispose of unused club equipment. Due to an OZARES activity on Saturday, the move crew would not assemble until 1:00pm. The following weekend another work crew will be needed for setting up controller equipment and an antenna at the Grafton Police Station. Interested Volunteers should watch the re-mailer for details.

New Business:

Stan (WB9RQR) reported that ORC newsletters from 1996 to the present have been preserved in a fine-looking professionally bound book. Coincident with getting the binding work done Stan learned of an opportunity to acquire a 35' tower, beam antenna and rotator from Bob Hertzberg N9ICH in Milwaukee. Stan moved for the Club to make the acquisition and the motion was seconded by Leon (K9GCF). The cost would be \$50.00.

Ed AA9W mentioned that it is time to make the annual Club donation to the Foundation for Amateur Radio from the Club scholarship fund. Members concurred that the annual donation is automatic and no vote is needed.

The audit committee members were announced. They are Kent N9WH, Steve K9DXT and Ed AA9W. The committee working on a revision to the Club Bylaws consists of: Tom W9IPR, Ed AA9W, and Jim K9QLP.

Nels mentioned the need, discussed at a recent meeting, to rent club space. He said he would send the name and address of the owner of the space to the Treasurer to issue the \$200.00 payment.

Kent N9WH motioned for adjournment and seconded by Ed AA9GT.

Attendance:

Ed AA9GT, Jon KB9RHZ, Stan WB9RQR, Dave N9UNR, Ed AA9W, Gabe WI9GC, Kent N9WH, Don W9VSC, Nels WA9JOB, Mark AB9CD, Roger, W9UVV, Herb WA9UVK, Ron W9BCK, Nancy KC9FZK, Ray W9KHH, Bob W9LO, Paul KB9WCC, Mike KC9GDV, Steve K9DXT, Jim K9QLP, John KC9FJX, Tom W9IPR, Terry KA9RFM, Ed AA9W, Leon K9GCF, Vic KB9UKE, Paul KD9FM

For Sale, Trade or?

Garmin Street Pilot III Deluxe (lists new \$679.00) voice guided direction (color screen) 128 Meg (Garmin memory)

128 Meg Additional Garmin memory (\$98.00)
Garmin USB card reader
Garmin Map software version 4.15 and version
5.0 with unlock codes
Garmin (bean bag) dash mount
Additional Ram mount (suction cup) (\$49.95)
I will help install software and unlock codes and
set up if needed on your computer.
Will sell for 450.00
Patrick Murray W9PJM 262 -377-3410

AGENDA

November 10th, 2004

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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. 10th

7:30 PM



The *ORC* Newsletter

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 <http://www.ozaukeeradioclub.org/>**

Volume XXIII

December 2004

Number 12

The Prez Sez

By Vic Shier (KB9UKE)

Who do you know wants to have some fun? Invite them to the Ozaukee Radio Club monthly meeting. What? Can ham radio club meetings really be fun? Ours are. Our monthly meetings are a jolly social event. Friends greet each other with smiling faces; laughter can be heard throughout the room. Julia, KB9WBQ, brings refreshments for everyone; Leon, K9GCF, arranges interesting programs; and Stan, WB9RQR, has some great stuff for the auction. After the meeting, a number of people get together for pizza and beer. Come to the next meeting and get your fun battery recharged.

The club has made more progress towards vacating the barn. The antennas have been installed and the coax has been run. We are now ready to move the repeater system with minimal down time. Nels, WA9JOB, put together a good plan and a good work crew. Nice job Nels!

This year is coming to a close and it has been another good year for the ORC. Now it is time to look forward. If we ask ourselves, what would make this club better? What could we do differently? Should we try something new? Questions like those are the catalyst for change, which keeps the club healthy and the hobby exciting. Do you have some ideas? If so, let's hear them.

73's and remember...It's a hobby!

By-laws Revision

The proposed revisions to the By-laws are posted at the ORC web site. Please review them, as this is one form of an official posting prior to voting. A copy will be mailed to those members who do not have web site access and normally receive the newsletter by mail. The vote on revisions will occur at the January meeting prior to the voting for officers.

New Members

We have a new couple in the ORC, Mark and Naomi Potash. It turns out that Naomi earned her Novice license while in collage about 30 years ago and so when Mark came home one



evening and suggested they consider "ham" radio as a "retiring" hobby, Naomi was enthused. They studied together and both earned their Technician Class license in October 2004. Currently they both have a VX-150 HT and are looking for a mobil rig. They leave in Mequon and have 3 children who are currently either teaching, going to collage or preparing to enter UW Madison. Mark has his own metal fabrication company (Potash Metal Products or PMP) and Naomi is self-employed in the field of hotel marketing.

Club Static

Congratulations to Nancy Stecker, KC9FZK, who passed her Element 1 (5-wpm) code test on Saturday, November 27th. Nancy surprised everyone by sneaking off after breakfast to AES to take the exam and then returning home with the certificate of completion in hand – congratulations to Nancy and to Chris (K9VKC) who has been running a code class on the 70 cm repeater net.



Our newest “born again” member is Jeff Alper (WB9PZD). Jeff was an ORC member in the mid 90’s and has just returned to the fold. He originally earned his license in 1974 while a student at Madison and spent many hours at the club station as a member of the Badger Amateur Radio Society (BARS). Jeff currently holds an Advanced Class ticket. While his degree is in Electrical Engineering since 1987 he has been self-employed as an Insurance and Investment Counselor. His interest in Amateur Radio and the ORC was rekindled as he monitored the ORC web site and noted the variety and success of the ORC activities. He has an “Azden” 2-meter rig in the car – now to see if he can open the repeater and join the “Morning Mobilers”.

Field Day Success

De Gregg Lingling,

Well guys it looks like we did really well 14th overall and second in the 5A class. First place was K4BFT (Huntsville ARC) with a total of 15,754 points for 4,993 QSO’s but with 45 participants. We did 13,676 points with 3,986 QSO’s with only 38 participants. Good going guys. First place went to W3AO Potomac Valley RC and Columbia ARA 32,372 points in 9,304 QSO’s with 60 participants. They were however, in class 50A. The only other 9th area group to make the top 25 was an Illinois team (3A) at 16th and another Illinois team (2A) at 20th. Great show gang.

Wanted & For Sale or Trade

Wanted – Amatron AL80 amplifier or similar linear using a 3-500 tube – Contact Ray (W9BUJ) at 262- 377-5777

An old friend of Dick Scarvaci’s & his Dad wants to dispose of the following equipment:

DRAKE TR4-C, L4-B amplifier, RV4-C, W-4 RF/SWR Meter, Phone Patch, SHURE 535 Mike and Stand, 40 Foot Tower on hinge with tri-band beam. If interested contact Sid Kohlenberg (W9YXB);7433 N. Crossway Rd.;Fox Point, WI 53217 - Tel 414-352-0424

Upcoming Events

Jan. 8th – West Allis RAC Swapfest at Waukesha Expo. Center

February 26th – Post Everything Party

April 16th – NS9RC Swapfest at Grayslake fairgrounds

May 7th – ORC Swapfest at Circle B

July 9th – South Milwaukee Swapfest

Post Everything Party

Mark your calendars for the "Post Everything Party" coming up on February 26th. For the benefit of the many new members, the name 'Post Everything' evolved from the idea of having this social get-together AFTER the busy holiday season, AFTER the New Year even AFTER Valentines Day.

Like last year, we will be at the American Legion Clubhouse in Cedarburg. Folks start to arrive at 6:00 for beverages and appetizers. A nice buffet is set out about 7:00. Contesters should not have a conflict this year - so plan on being there! See the sign up flyer at the back of this newsletter for reservation details.

December 8th – Membership meeting at the Grafton Senior Center.



Mark Tellier, AB9CD, gave a great presentation at the November meeting concerning his “tower raising” experience in Brown Deer. Mark is now well established as the ORC expert on “permits” and tower installations.

Dues are Due

Dues for the 2005-year are due by the annual meeting scheduled for January 13th, 2005. The application form is the last page of this newsletter. Please complete the form and submit it with an accompanying check to Tom Nawrot (AA9XK) via the snail mail or in person at the December or January meetings.

It rained on our parade

De Jim Albrinck, KA9QLP

Nine hardy souls of the Ozaukee Radio Club ventured out on Saturday morning, November 27, to provide communications to the Grafton Christmas Parade sponsored by the Grafton Chamber of Commerce. Cedarburg Emergency Government provided their Commo Van (Unit 1) for Net Control. More pictures and information on that vehicle will be provided later. ORC members participating in the parade were as follows:



Ed Rate, AA9W, is seen under his umbrella as he aligns the paraders and awaits the command to “start the parade”

Gary WI9M, Ed AA9W, Jim K9QLP, Nels WA9JOB, Gene KB9VJP, Carol KC9CBC, Cindy KA9PZG, Ted N9LLT, and Tom W9IPR. Two graduates of Dr. Ed Rate’s Ham classes participated by operating the Cedarburg EG Commo Van. They were Frank Even, Director, KB9URD, and Lt. Jim Ramthun, KB9URE. Ray Vollrath, WD9HOD, ORC Member and liaison officer between Cedarburg Fire Department and Cedarburg Emergency Government stopped by to lend a hand.



The spectators were prepared for the weather as they watched the West Bend Harley “HOG” group lead the way.

Many of the ORC members learned some valuable lessons on programming their radios and simplex, cross band repeater operation as a result of this exercise. Even though we were wet and cold, the post parade “get together” warmed everyone.



What's a parade without Bands? Here it is noted that the Grafton High School Marching Band, one of many, were also prepared for the weather as they cheered the crowds with Christmas music.

Emergency Government Communications Van

De Jim Albrinck, K9QLP

Cedarburg Emergency Government loaned the ORC their Commo Van (Unit One) for use as the command post for the Grafton Christmas Parade.



I was welcomed aboard the Cedarburg Emergency Government Communications Van by Director Frank Even (KB9URD) and Lt. Jim Ramthun (KB9URE).

The unit is a former Cedarburg Ambulance vehicle that was donated to the Cedarburg Emergency Government. It was gutted and outfitted with volunteer labor contributed by members of the Emergency Government. Frank Even, KB9URD is the current Director. The van is equipped

with a diesel engine, AC generator, landline phones, a cell phone with FAX machine, and television and weather monitoring equipment. Radios on board include a Kenwood 25 watt Ham 2 meter mobile; Motorola low band for Red Cross and other emergency frequencies; General Electric UHF Business Band for Cedarburg Firemen's Park and backup Cedarburg Fire Department; General Electric EDACS 800 MHz trunking 35 watt mobile with dual control heads; one 800 MHz portable with charger; Yaesu 440 UHF Ham Radio; and one Motorola High Band mobile for all public safety and hospital frequencies and the most used Ham radio repeater and simplex frequencies.



Looking into the business end of the communications van we see Director Frank Even (KB9URD), Lt. Jim Ramthun (KB9URE) and way in the back, Jim Albrinck (K9QLP)

The ORC has been fortunate to have the use of this vehicle for the Grafton Christmas parade for the last 6 or 7 years. Frank wants everyone to know that this unit is available to all towns, villages, and cities in Ozaukee County and surrounding counties. There is no charge for this service. Cedarburg EG is supported by the City & Town of Cedarburg, Cedarburg Fire Department, and donations of time and talent from members of the community. Anyone requesting further information can contact ORC members Ray Vollrath, WD9HOD, or Jim Albrinck, K9QLP.

In addition to unit one, Cedarburg EG has a light truck with a 15 kW generator; pickup trucks and SUV's, all 800 MHz radio equipped, and a new Command Vehicle with a large meeting Room for 8 people, TV, Land Line and cell phones, and 800 MHz radio. This unit was a former Snap-On tool van and was purchased with donated funds from the hometown Heroes benefit sponsored by KAPCO in Grafton and labor donated by EG members. Again,

this equipment is available at no charge to the governmental units in Ozaukee County and surrounding areas.

CW CONTESTING: THE "OLD DAYS"

CONTESTING 101: Q-How do you send CQ in a CW contest? Ans.-Punch F1 on your computer keyboard. The computer will then send, perfectly, whatever CQ message you have programmed into it, and do it as many times as you punch the button. And, it will do the same for all other bits of information required during the message exchange. Simple, efficient, and reliable. Pretty neat, huh? But it wasn't always that way. Back in the 1950s and 60s it was a whole different ball game.

Before computers we had programmable fully automatic keyers (which would send the various messages at the push of a button), and before that we had fully automatic keyers (which didn't have any buttons), and before that we had semi-automatic keys, better known as "bugs". You made dits on the bug by pushing the paddle to the right with your thumb, and holding it until the required number of dits were completed. You made dahs by pushing the paddle to the left with your right forefinger, once for each dah. So if your call happened to be W0EJA (mine at the time) you would hit the paddle 11 times with your forefinger just to send your call, plus 5 more for the CQ. What this added up to if you were a serious contester was something like 5 trillion hits on the paddle with your right forefinger just through the process of CQ'ing. As you might guess, the result usually was a big fat blister on that finger, and if it broke before the contest ended you were in big trouble. That gave birth to my "blister fixer CQ machine"

The fixer was an audio tape loop with the CQ message recorded on it. I ran the recorder output through a processor to square up the CW pulses, and into the keying circuitry in the transmitter. It worked fine until the tape broke. Bummer-down time. Crude, but it worked, sorta. Sometimes its fun to look back and chuckle a little at the "good old days", but I really prefer computers.

Reported Scores:

Nov. SS-CW:

W9LO	517 Qs,	76 Sections
N9FH	402	74
W9KHH	251	75
W9XT	95	?

Nov. SS-Phone

W9XT 300Qs ? Sections

CQ Worldwide DX Contest-CW

W9XT 664 Qs, 340 Countries, 125 Zones

Coming Up In Dec.:

Dec. 2-6 ARRL 160 Meter Contest-CW Rules in Nov., 2004 QST, page 105

Dec. 11-12 ARRL 10 Meter Contest-CW &Phone Rules in Nov., 2004 QST, page 104

Have fun contesting. Bob, W9LO

ARES - Here is the link to the WI ARES/RACES Apparel Site.

http://www.wi-aresraces.org/apparel_ordering.htm

Silent Key's

De Gregg Lengling, W9DHI

Sad to report that Charles "Charlie" Imbruglia, WA9CPE, long time member of the ORC passed away on Wednesday October 20th, 2004. Charlie was a Pearl Harbor Survivor and could usually be seen in the parades in Cedarburg on his Motor Scooter. He used to live on Bridge Street in Cedarburg but in later years moved to Jackson. He will be greatly missed as a friend, neighbor and fellow ham. 73's Charlie.

Some of our old timers may recall Herb Christensen, WB9DRO who lived in Wales. Herb passed away October 6th. He is survived by his son Jay who is also a ham. 73's Herb.

The Mentor Program

De Tom Ruhlmann, W9IPR

The purpose of the Mentor Program is to make sure that new members are made welcome to the ORC and that our Technician Class members have a contact with whom they can consult as related to technical, operating, license and club matters.

Essentially, member volunteer to be “mentors” and they are then assigned to new members as they join the club. In other cases, existing members have requested a “mentor” or “Elmer” to assist them in the resolution of some specific problems.

“Mentors” may also be assigned to new members with General, Advanced and Extra Class licenses to assure they are assimilated into the various activities of the club.

It is expected that the “Mentor” establishes contact with the assigned new member and make sure they are made to feel welcome at the meetings and encourage them to participate in the various activities of the club. When the new member is a Technician Class “Ham” and desires to progress to greater operating privileges via learning the code and/or earning the General Class license, it is expected that the “Mentor” will guide them through the process.

The current “Mentor” teams are:

Stan Kaplan	- Nancy Sticker	T+
Jim Albrinck	- Kevin Steers	G
Tom Ruhlmann	- Steve Stevens	T
Mark Tellier	- John Laske	G
Jim Hillins	- Muhammed Jamal	T
Ray Totzke	- Gary Klupper	T
Gary Sutcliffe	- Mike Yuhas	T
Bob Truscot	- Lyndel Davis	T
Tom Nawrot	- Mark Potash	T
Julia Nawrot	- Naomi Potash	T

If you would like to volunteer to be a “Mentor” and make our newer members feel welcome and productive, give me a call at 377-6945 or send me an e-mail at teruhlmann@sbcglobal.net

Minutes – Nov. 10th, 2004

De Carol Szudrowitz, KC9CBC

Announcements

The Coffee Kitty is coming up short. So when enjoying friends and goodies don't forget to look for the kitty and donate. Also during the program, try not to move around the senior center unless it is an emergency. Sometimes this is distracting to others and the speaker.

ARRL is restarting a program where clubs receive a commission for new members and renewals of membership for ARRL. Keep this in mind when encouraging other hams to join the club.

Grafton Christmas Parade is coming up. This is an annual event where we help with communications. It gives us a chance to practice using radios for emergencies and fun. If you can't help this year put it on your calendar for next year. It is always the Saturday after Thanksgiving.

ULS System is down indefinitely. New licenses are goofed up in numbering, and it is not a good time for renewing.

Nominating Committee is needed. Call Vic if interested. He will not run again due to business time constraints and traveling.

Program

Mark AB9CD gave a very entertaining and informative program on “Putting up a Tower”. Mark gained a tower from another ham two blocks from his home in Brown Deer. When laid off from work this seemed to be a perfect opportunity to move the tower. After numerous meetings with neighbors to inform them of his intentions and the village of Brown Deer to satisfy their concerns Mark was able to begin. He used a hydraulic jack and 2 by 4's to take it apart. The village was concerned with height, neighborhood concerns, and electrical wires. After being persistent and answering all concerns such as changes to the environment, technical questions on installation, and appearance, Mark was able to do it. He needed a building permit and a few other documents to present to the citizen's appeal board. A Rohn chart helped with the technical aspects.

Auction – held by Stan WB9RQR

Business Meeting

Minutes by secretary were approved as published in last newsletter.

Treasurer's Report was approved as shown on report handed out at meeting.

Repeater Report

Telephone costs about \$ 20.00 a month for repeater control and the autopatch. Motion was made to have club continue to pay for it until we need to move, by Steve K9DXT and seconded by Nels WA9JOB. Dick K9CAN checked out the repeater as the power level was down. Output tubes are showing age as they are almost 2 years old. He tweaked the machine back to normal power. The 440 repeater at KK&LL is working well and the 220 repeater at the barn is playing well.

The barn where the Two Meter and 220 MHz. repeater is located is for sale and if and when it is sold we will have a reasonable amount of time to move the repeater. Field Day stuff is already moved. Saturday morning after breakfast we need a group to put an antenna on the Grafton Fire House as that will be the control point after we do move. Fire Chief Dave, NN9SW will help install it. We will not auto patch after the move.

OZARES

Jon KB9RHZ reported that a new vertical HF dipole antenna was installed on the Justice Center. December 2 is the next meeting.

Scholarship Fund

We sold a Drake TR 7 and a speaker as it was returned by emergency management.

Audit Committee - Kent N9WH and Steve K9DXT

By Laws Committee - Tom W9IPR

Awards Committee - Jim K9QLP and Gregg W9DHI

Old Business

Thanks to Gregg W9DHI for publishing the November Newsletter. It was great.

New Business

Post Everything Party is February 26, 2005. Julia KB9WBQ and Tom AA9XK are Co-Chairmen.

Dave N9UNR will reserve the Waubedonia shelter in the riverside park for the Corn Roast next Aug.

Stan WB9RQR made a motion to close the meeting and Gregg W9DHI seconded it.

Attendance

KA9DDN, Gary WI9M, Jon KB9RHZ, Ed AA9W, Kent N9WH, Gregg W9DHI, Dave N9UNR, Jim K9QLP, Jeff WB9PZD, Bernie AA9CI, Steve K9DXT, Nancy KC9FZK, Herb WA9UVK, Bob WQ9N, Ed AA9WW, John KC9FJX, Terry KA9RFM, Tom W9IPR, Naomi WQ9AAD, Mark WQ9AAH, Tom AA9XK, Julia KB9WBQ, Jane KB9SYI, Chris N9VKC, Mike KC9GDV, Ray W9BUJ, Paul KB9WCC, Ray W9KHH, Roger W9UVV, Mark AB9CD, Carol KC9CBC, Vic KB9UKE, Stan WB9RQR, Ben K9UZ, Nels WA9JOB, Gene KB9VJP.

***Merry Christmas to all you
ORC Members and your
families and may we share
our many gifts throughout
the year***

Post Everything Party

February 26, 2005

**American Legion Clubhouse
Peter Wollner Post 228
W57 N481 Hilbert Ave.
Cedarburg**

**Cocktails 6:00
Dinner 7:00**

hors d'oeuvres before complete buffet dinner

recognition for spouses

entertainment after dinner

presentation of annual awards

(\$20.00 per person)

Don't forget to bring your usual gag gift
of ham radio or computer "junk"

and

a nice, but not expensive, gift for the ladies exchange too !

!!!!!! Reservations required by February 18th !!!!!!

2004 ORC Post Everything Party Reservation Form

Callsign _____ Number attending ___ X \$20.00 = _____

Names of those attending _____

Make your check out to Ozaukee Radio Club and send to -

Julia Nawrot KB9WBQ 10335 N. Grasslyn Road Mequon, WI 53092

Ozaukee Radio Club, Inc

2005 Membership Application/Renewal Form

Call Sign _____ Year first licensed _____ Age _____

Novice No-Code Tech Tech Plus General Advanced Extra

Name: _____ ARRL Member? Yes No

Address: _____

City: _____ State: _____ Zip: _____

Phone No. (day) _____ (evening) _____ Speed # _____

E-Mail _____ (if you want to be listed on ORC Web page)

Areas of interest:

HF UHF-VHF Construction Projects Antenna Computers Satellites APRS CW
 SSB AM FM Digital Modes Portable Mobil Fixed Fox Hunt Ground
Systems Software QRP Contesting ARES Community Service Collections
 WAS & DXCC Boat Anchors Linears Newsletter "Elmer'ing" Presenting Programs
 Photography Club Magement Community Service Test Equipment Equipment
Repair & Restoration Surfing the net

Full Membership (supports club and repeaters) \$15.00 OR

Club Membership (supports club only) \$7.00

• Family Membership

Make check payable to:

Ozaukee Radio Club c/o Tom Nawrot (AA9XK)

10335 North Grasslyn Road, Mequon, WI 53092

The newsletter is available at <http://www.ozaukeeradioclub.org/>. (web site version encouraged)

Do you also require a hard copy through the snail mail? Yes No

Spouce's Name: _____ & call sign: _____

Comments: _____

AGENDA

December 8th, 2004

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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, Dec. 8th

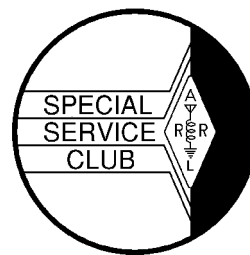
7:30 PM



AMATEUR RADIO

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: <http://www.qsl.net/orc/>**

Volume XXIII

January 2004

Number 1

The Prez Sez

de Vic Shier (KB9UKE)

Happy New Year! There are many ways to celebrate the New Year. Some ham radio operators celebrate by getting out their old fashioned Morse Code keys and enjoying some slow speed contacts, it is called Straight Key Night. Sponsored by the ARRL, it runs for 24 hours starting on New Years Eve. I would have forgotten about it this year if it weren't for Ed AA9W.

Using a straight key is a challenge for both the sender and the receiver. The line between being diplomatic and just plain fibbing becomes fuzzy on Straight Key Night as we tell each other how good we are doing. The dits and dahs tend to run together and instead of sending "my name is Vic" it comes out as "my nag is Uic" but it's still a lot of fun as is HF work in general.

Why am I telling you this? I want to encourage those of you who have the Technician class license to consider setting a goal of upgrading to General for 2004. Start now and you will be ready to take the exam at our swapfest in May. There are Elmer's in the club who will help you with theory and the 5 word per minute Morse Code. Nothing adds excitement to the hobby like upgrading your ticket.

Elections will be held at this next meeting which is January 14, the second Wednesday of the month. All of the meetings this year will be on the second Wednesday so mark your calendars and see you there.

73's and remember...It's a hobby!

Just Another Shack

De Todd Sprinkmann (KC9BQA)

This month's Shack visit is with Gregg Lengling - W9DHI.

Gregg has been a ham for 40 years now. His interest in radio was sparked by the Boy Scouts. He fondly recalls the W9BSO station his troop operated. Affiliated with Mother of Good Counsel parish on the northwest side of Milwaukee, this station was a very well equipped one. They had Collins S-Line equipment, courtesy of several generous scoutmasters. Gregg is proud to give back to the Boy Scouts; he serves on the board of the Milwaukee County BSA.

Gregg got his first rig in 1974, a Yaesu FT-101E. He became an ORC member 20 years ago. Nowadays, W9DHI operates both HF and VHF, with a variety of equipment. On HF, he has assembled an Elecraft K-2. The K-2 has a great DSP and a fast autotuner. He dazzled me with how well this rig works. Using his computer to control filters and such, he easily took noisy, crowded CW signals and made them crisp and clear. Gregg says the K-2 is the best radio he's ever had.



Gregg, W9DHI, in his heated garage "shack"

Gregg also has put together an Elecraft KX-1. This unit is about the size of a deck of cards and puts out 3 watts on 20, 30 and 40M CW. Gregg is an avid CW ragchewer. While he doesn't pursue DX, he enjoys CW with hams all across the globe.

Gregg's antennas on HF are a KT-34 beam for 10, 15 and 20M. For 30 through 160M, he uses a sloper that uses the tower as a counterpoise.

When mobile, Gregg works SSB with a Yaesu FT-857. The FT-857 puts out 100W on 160 thru 6M, 50W on 2M and 20W on 440Mhz. This compact unit has a low-key faceplate that mounts in the car and is connected to a rig in the trunk. Gregg uses Hamstick antennas, run through an LDG tuner. Gregg went out of his way to say that 17M is a great band for working SSB.

Gregg is recently retired from the 2-way radio business. His VHF radios reflect this. Gregg has modified Kenwood commercial radios for 10, 6, 2 and 440 FM work. While we were listening to CW on the K-2, the VHF rigs would occasionally come to life. Gregg likes to keep tabs on repeaters that he's been involved with through his business.

Gregg is also involved with the WERA. That stands for Wisconsin Experimental Repeater Association. He's been a member of WERA for over 25 years. This group experiments with repeaters and linking same. Gregg mentioned something about beverages, as well. I don't think he was talking about very long wire antennas for 160M.

Gregg has a variety of other interests. He and his wife Deb travel quite a bit. This ties in nicely with their love of gardening and scuba diving. They have visited gardens in England and Ireland and by the time you read this, Gregg will be diving in Mexico.

Gregg also described himself as a computer geek. He has a variety of equipment networked between his house and garage (where the shack is). He is also into digital photography, HDTV and classic cars.

In the garage is a mint, aquamarine Ford pickup. I'm no classic truck expert, but this was a beauty. It appeared to be about a late 50's, early 60's model. The license plate read

DEBSBED. This must mean it's a gardening vehicle for Mrs. Lengling.

Gregg and Deb have a daughter, Danee. Danee has been in Baghdad since April. She is a supply clerk with the 724th engineering battalion.



Need an acceptable reason to erect a tower? How about to display a Christmas star? It worked for Gregg (W9DHI).

Upcoming Events

Jan. 14 – Meeting and Elections – Contact WI9M (Gary) or WB9RQR (Stan) if you are interested in running for office of nominating another.

March 6 – Post Everything Party

American Legion Clubhouse – [C@6](#) & [D@7](#)
\$20 per person – Reserve by Feb. 20 with Julia Nawrot (KB9WBQ) – 10335 N. Grasslyn Road, Mequon WI 53092

May - ORC Swapfest

Contesting

De Bob Truscott (W9LO)

My 3rd favorite contest (right behind Field Day & Nov. Sweepstakes) is coming up this weekend, and I should have mentioned it last month, but

goofed up & didn't. Those of you who get the newsletter via the Internet may get it in time to join in the fun, and to the rest of you I apologize. It's the CW NAQP, (North American QSO Party). It starts at noon on Sat, Jan.10, & runs for 12 hours, of which you may operate only 10 hours. The message is simple—your name & section. And, unlike most contests, you may work a given station on each of the bands from 160 M thru 10 M, which means that you can have 5 virgin bands to work with instead of the usual 1. This translates to more contacts and more fun. The SSB version runs later in the month—I promise to work it if some of you phone ops will try CW on Saturday.

The other highlight of the month is the CQ WW 160-Meter Contest on Jan 24-25. Conditions have been good on that band lately, and the Qs should be easy to come by. And don't be turned off because you don't happen to have a 160-M antenna. I just tie the inner & outer conductors of the 80-meter dipole feedline together at the output of the tuner, and load it up as a random wire. It works pretty well, although it will never be a contest winner. (Little I care, since I'm not in the habit of winning contests anyway.)

In the area of "Can You Top This?", W9IPR showed up in the ARRL CW only 160-Meter Contest last month on SSB. He thought nobody answered his CQs because of all those CW stations who kept interfering with him.

Reported Scores:

CQWW CW

W9XT-- 812 Qs, 36 Zones, 116 Countries

ARRL 160 Meter Contest:

W9XT--369 Qs, 64 Sections

N9FH--349 Qs, 55 Sections

W9LO--340 Qs, 57 Sections

KA9RPR--82Qs, 33 Sections

W9KHH--80Qs, 31 Sections

WI9M----35 Qs, 17 Sections

ARRL 10 Meter Contest:

W9XT--CW-707 Qs, 55 Sec.

PH-631 Qs, 48 Sec.
W9LO-CW-188 Qs, 43 Sec.

Coming up in January:

Jan. 10-11--North American QSO Party-CW Rules in Jan. QST, page 98.

Jan. 17-18--North American QSO Party-Phone Rules in Jan. QST, page 98.

Jan. 25-25--CQ WW 160 Meter Contest-CW Rules in Jan. QST, page 98.

Feb. 7-8-----CQ World-Wide RTTY WPX Contest Rules in Jan. CQ, page 56

Have fun contesting.

Bob, W9LO

QRP THE OLD FASHIONED WAY - BUILD IT

De Gregg Lengling – W9DHI

As many of you know I spent over 25 years in the 2-way radio business and have been a ham for over 40 years. I've built my share of doodads and radios and stuff and then for Christmas of 2002 my wife bought me the Elecraft K2 HF Radio Kit and boy did I have a blast. This is now my main HF rig at home and I couldn't be happier. Even though I did build the QRO version with the 100-watt output the basic radio is actually a QRP radio but it's rather large to take hiking or camping. So guess what Elecraft came out with a "Pack-Backer's Dream Machine". Enter the Elecraft KX1.

The KX1 is a 2 band (20 meters and 40 meters) CW transceiver. There are also options for a 30 meter module (KXB30), a built-in auto antenna tuner (KXAT1) and a Keyer Paddle (KXPD1) (of course I had to have all of them). It also receives USB and LSB so makes for a great SWL radio also. The receiver is as sensitive as anything on the market and due to DDS (direct digital synthesis) it is a general coverage receiver from 5.0 to 9.5Mhz and 12.0 to 16.5 MHz (with the KXB30, 5.0 to 14.35 complete). Transmit coverage is: 7.0 to 7.3 MHz, 10.1 to 10.150 MHz and 14.0 to 14.350 MHz. Now this

is a true QRP rig, it operates at approximately 4 watts out at 13.8 volts and 1.5 to 2.0 watts at 8 volts.

Okay now you are thinking just how heavy and big is this sucker (especially if it's a kit you have to build). It is small and has a very low current consumption. It is a rugged 1.2" high by 5.3" wide by 3" deep custom metal enclosure. Okay so in such a small box what can you do. Well first off let me tell you that there is even a pair of battery holders internal to it to hold 6 AA cells to provide up to 8volts of power internally. So here's what it does:

1. Rugged and small
2. Weighs 9 ounces (11 ounces with ATU and paddle options)
3. 3-digit high-efficiency LED display with brightness and time-out control
4. 20, 30 and 40 meter ham band plus SWL coverage
5. Operates from 6.5 to 14VDC (internal batteries from 7.2 to 9 volts)
6. DDS VFO for excellent temperature stability
7. Receive current typically 34 ma, display adds 1 to 10 ma
8. Rit with clear control, +/- 10kHz in 20Hz steps
9. Two frequency memories per band
10. Simple menu system for configuration
11. Built-in battery voltage monitoring
12. CW TX, CW/SSB RX (can zero-beat AM stations)
13. White LED logbook lamp with separate on/off switch (7-ma typ.)
14. Programmable audio Morse code feedback on switch press, including frequency announcement.

RECEIVER

1. Low-current, single-conversion super-het receiver
2. Variable bandwidth xtal filter (approx. 300 to 2000 Hz) AGC
3. Bar-graph S-meter display mode
4. Multiple VFO tuning rate selections
5. 10 Hz tuning resolution

TRANSMITTER

1. 1 to 4 watts out depending on supply voltage - Power can be reduced if desired via internal trim pot
2. Clean, click-free keying waveform
3. Fast, silent break-in with variable QSK delay

CW FEATURES

1. 2-memory keyer with iambic A and B modes
2. Reversible dots/dashes 8 to 50 WPM (internal keyer); 70+ WPM (external keying)
3. Programmable message repeat interval
4. Adjustable sidetone volume and pitch

OPTIONS

1. KXB30 30-meter adapter: Adds 30-meter band, WWV and more SWL coverage
2. KXAT1 Internal Automatic Antenna Tuner - Allows use of a single random-length wire antenna on all bands
3. KXPD1 Keyer Paddle: Custom designed for the KX1, plugs into the front panel and is retained by a thumbscrew. 45-degree orientation for ease of use. Physically reversible for left or right handed operation.



The Elecraft KX1 – a two band QRP transceiver with a keyer- receives SSB/CW & transmits CW only

Okay to the nitty gritty....does it work and how well....how was it to build. Well first off because of the size and complexity this is defi-

nately not a first time kit builders kit. However to make it possible to be built with common tools (Temperature controlled soldering station, needle nose pliers, small/sharp diagonal cutters and screwdrivers, and a VOM) the 3 surface mount components...the DDS chip, 50mHz osc. Chip and 2.7 volt regulator are preinstalled on the board. From there it's a matter of following the well written instructions. This project took me about 8 hours of leisurely assembly. Some of the most demanding building steps are those that require you to wind your own toroids. While most are just single windings there are a couple that are bi-filer transformers which take a little time and patience. But even with all these tasks the kit is astonishingly easy to build.

How does it work? In one word GREAT! I've had a blast with it already and have over 35 countries, yes countries worked on 1-1/2 watts with a 23-foot length of wire.

The variable crystal filter is great when the bands are hot and there is a lot of activity. While watching the Elecraft reflector recently, there were various reports of users in the US, England, Germany and other countries using the KX1 on the CQWW contest. So if they can play with the big-boys so can you.

The best part is now I always have ham radio with me, no matter where I go. This little puppy sits in a prominent position on my shack bench and is always ready to hit the suitcases when I leave town...or even this summer you'll probably find me at a park bench in Cedarburg working the world.

For more information about the KX1 and all the other great Elecraft products go to: <http://www.elecraft.com>

73, Gregg W9DHI

A High Performance Wire Antenna

De Jim Hilins (WA4UPS)

Figure 1 is a treasure map. Contained within this diagram is one of Mother Nature's important

secrets. The mystery of wonderfully loud signals emanating from insignificant looking antennas strung between two cooperative trees is explained in this simple chart. This map to the "Treasure Island" of incredible antenna performance was lifted from the 14th edition of the ARRL Antenna Book, page 7-1.

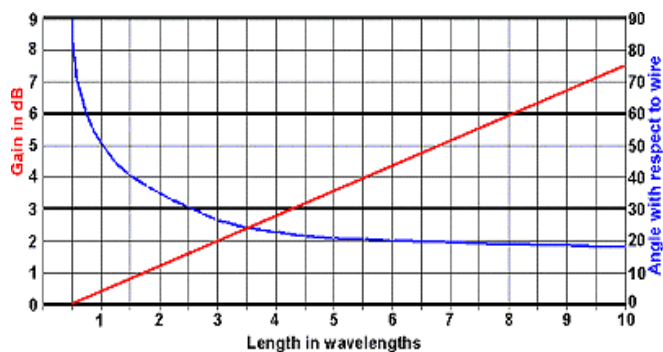
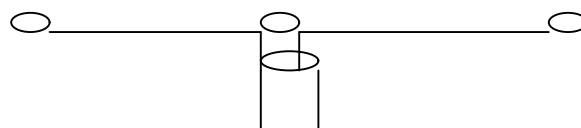


Figure 1
Gain versus antenna length

Popularity doesn't guarantee high antenna performance -

The all time favorite wire antenna is the half-wavelength, center-fed, dipole. It is easy to build and it performs adequately. The dipole is the reference used to measure the performance of the other antennas. It's the base line. The dipole is a suitable reference for amateur radio purposes because you can actually build one.



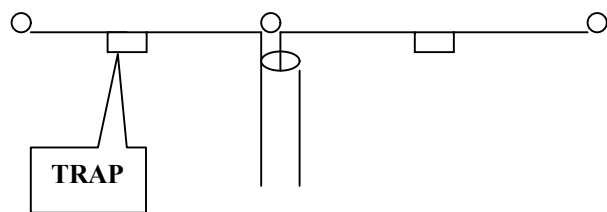
The venerable center fed (50 or 72 ohm coax) 1/2 wavelength dipole - one per band

In contrast, all the antenna patterns used in this ARRL antenna manual are referenced against a theoretical 'isotropic antenna.' The results are expressed in dBi.

Isotropic Antenna

An Isotropic Antenna is a hypothetical antenna radiating or receiving equally in all directions. Such antennas do not exist physically, but represent convenient reference antennas for expressing directive properties of actual antennas.

One band just isn't enough; most hams want to be operational on as many bands as possible. This requires a separate dipole for each band. Since we now have eight HF bands, that means that eight different coax fed dipoles are required to adequately cover all the bands from 80 through 10 meters. Eight separate antennas are unacceptable to the average Ham. Most of us want 80 through 10 meters coverage with a single antenna. There are several ways to achieve this goal of a single antenna for 80 - 10 meters. The most popular technique for achieving multi-band operation with a single antenna is to divide the antenna into appropriate lengths with 'traps.'



A dual band "trap" dipole

Traps act like electronic switches, which isolate the correct portions of the antenna wire to achieve half-wavelength resonance within each desired band. A five-band trap antenna can use as few as two traps or as many as eight. It all depends the design. In general, the more traps, the better behaved the antenna is in terms of operating bandwidth and acceptable SWR. There is a high price to pay for the convenience of traps.

Disadvantages of trap antennas

1. Trap antennas are usually expensive.
2. There is a loss of operating bandwidth if a low SWR is a requirement.
3. There may be a slight loss in efficiency caused by the traps themselves.
4. Hard to troubleshoot
5. Detuning effects of nearby objects
6. They are heavy and often difficult to support

Advantages of trap antennas

1. Dipole performance at best

2. No tuner required, if you are willing to operate within narrow portions of the bands.
3. Trap antennas often require trimming
4. Slightly shorter than full size dipoles
5. Traps fail
6. One antenna can cover many bands

It is my argument that trap antennas are not an efficient use of available antenna space.

If you put up a 120' long 80 - 10-meter trap antenna, why use only 33' of it on 20 meters? There are significant advantages to using the full antenna length on all bands. Let me show you some interesting data.

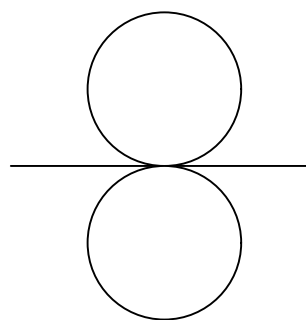


Figure 2 – Radiation pattern of a 1/2 wavelength dipole

Figure 3 is the radiation pattern of an 'Extended Double Zepp' or 'EDZ.' An EDZ' built for 20 meters is about 85' long. Notice the difference in the pattern of this antenna and the curve for the dipole in figure 2.

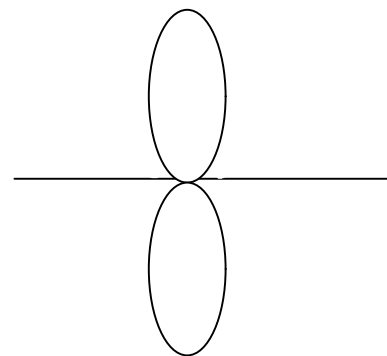


Figure 3 – Extended Zepp radiation pattern

The narrowing of the lobes concentrates the energy radiated by the antenna. Concentrating energy is another way of saying the antenna

develops gain. The Extended Double-Zepp produces between two and three dB gain. A 3-dB gain is the equivalent of doubling your output power. Note the four 'minor lobes.' Operation is not limited to the direction of the major lobes.

The point of comparing these two curves is to show that it is possible to build better antennas than dipoles. This is not the end to the story. In fact, let's go back to the beginning. Figure 1 gives us the most important reason for using the full length of 80 or 40-meter antennas on higher bands where antenna length becomes long. Notice the curve, marked "gain." It rises as the length of the antenna increases beyond $\frac{1}{2}$ wavelength. These gain figures are not large. For example, on 10 meters, the gain of an 80-meter dipole will be only 3 dB. But, that's three dB you wouldn't have if you were using a dipole. It's the same as doubling your power. Remember, every dB counts. 3 dB here, another 3 dB, they add up to a big signal. Figure 1 proves a very important point. Put up a lot of wire, get a lot of gain. It's that simple. Combine the advantage of a long antenna with techniques that lower the radiation angle and the result is unbeatable. This is the secret of high performance wire antennas. It's not magic, it just taking advantage of physical laws.

Have a great day!

Next Meeting –

January 14, 2003 – Elections

Elections are for one-year terms.

Nominating committee members are Gary (WI9M) and Stan (KB9RQR). They will be accepting nominations directly and from the floor. You must be a paid member to vote.

The current officers are:

President – Vic Shier, KB9UKE

Vice Pres. – Leon Rediske, K9GCF

Repeater VP – Nels Harvey, WA9JOB

Treasurer – Tom Nawrot, KG9DP

Secretary – Carol Szudrowitz, KC9CBC

Past Pres. – Leon Radish

Club Static

Where did the term Gin Pole come from...well here's the answer. It is a contraction of the work "Engine" as noted below in definition and also the link to the online Hyperdictionary.

\Gin\, n. [A contraction of engine.]

1. Contrivance; artifice; a trap; a snare. – There you have it, "a pole contrivance" we use to snare items up a tower.



An unusual anti-climb contrivance is used on this tower at W9DHI's

Gary Bargholz, N9UUR, has agreed to help develop a video of the ORC activities etc. to be used for club promotions etc. on Channel 14. Look around and let me (Tom, W9IPR) know what still photos and video tapes you might have that could be used. This is a great opportunity.

Dec. 10, 2003 Minutes

De Carol Szudrowitz

Announcements:

Vic KB9UKE stated there is a typo on the Club membership application. Dues are \$7.00 for

Club and \$8.00 for Repeater membership just as always.

Sus's pictures and a book from YASME on dx'ing and Contesting (from Vic) are available for viewing during break and the program. The pictures are an interesting history of previous Post Everything parties.

Program:

Nels WA9JOB and Greg W9DHI did a Radio Workshop, and checked several portable and mobile radios for proper frequency, sensitivity, and deviation. Other members had equipment for show and tell

Auction:

By Stan WB9RQR

Break for viewing equipment and visiting.

BUSINESS MEETING

Secretary's Report was accepted as printed in newsletter.

Treasurer's Report – Motion made by Mark AB9CD to accept it and seconded by others.

Board Meeting:

The board decided to table idea of being on WE Energies Tower after looking at expenses and coverage area. We can look into it again in the future if a need arises. Coverage at that site would be a little less as it is 7 miles east of current site. No changes in club dues as it is too late according to the by-laws to do anything. See note further down.

Repeater Report:

The 7K controller failed again as a result of last Summer's power surge so it is in the Scam Hospital again. The main microprocessor failed and was actually upgraded with a newer version by Bob Schmid, WA9FBO, Scam's owner. The controller will interface with the 220 repeater and 10-meter link. Two meter and 440 repeaters are OK. Question by Gabe WI9GC – Will we be able to check net on 10 meters? Nels WA9JOB said he thinks it could be wired that way, just more expensive.

OZARES

Reminder was given by Jon KB9RHZ for a meeting the next day. Training will be the focus for the next few months.

Scholarship Fund

Check with Ed AA9W. There are more donations thanks to Bob W9RNA (2 Heath kits).

6146 60-80- receiver that works. Drake 225 tuning unit. Etc.

Swap Fest

Remember to call Gene KB9VJP for flyers to take to other swapfests or places of interest.

Dues:

Board decided it was too late to change anything according to the by-laws and we are currently pretty healthy financially. Gabe WI9GC commented he thought what was needed was clarification of when you can vote and when you can not vote during an election. Dues should be paid by Jan 1 but one is a member in good standing till February. So Tom W9IPR made a motion that a committee look at the by-laws for an explanation Ted KB9RLI seconded this.

Reminder:

Radio kit building will start in Jan with Gregg, W9DHI.

New Business:

Post Everything Party:

Ted KB9RLI said that due to personal circumstances he could not chair it this year. Julia KB9WBQ volunteered.

Nominating Committee:

Gary WI9M and Stan WB9RQR volunteered to chair this.

Audit Committee

Kent N9WH has graciously agreed to chair this with Nels WA9JOB and Ed AA9W.

Meeting ended at 9:15. Move to adjourn by Vic and seconded by Gabe.

Attendance:

Herb WA9UVK; Ray W9BUJ ;Ron W9BCK; Bernie AA9CI;Bob W9LO;Ray W9KHH;Jim N9WIU;Gene KB9VJP;Roland KB9TMB;Nels WA9JOB;Greg W9DHI;Gabe WI9GC;Ed AA9W;Kent N9WH;Ted KB9RLI;Stan WB9RQR;Gary WI9M;Jon KB9RHZ;Leon K9GCF;James KA4UPW;Julia KB9WBQ;Mark N0OKS;Tom W9IPR;Terry KA9RFM;Mark AB9CD;Gary W9XT;Ron KC9DKQ;Paul KB9WCC;Don AA9WP;Tom AA9XK;Vic KB9UKE;Ben K9UZ;Joseph KB9URC;Dave N9UNR;Ed AA9WW;Jake KB9ZOR

Carol KC9CBC

Post Everything Party

March 6, 2004

American Legion Clubhouse
Peter Wollner Post 228
W57 N481 Hilbert Ave.
Cedarburg

Cocktails 6:00
Dinner 7:00

hors d'oeuvres before complete buffet dinner

recognition for spouses

entertainment after dinner

presentation of annual awards

(\$20.00 per person)

**Don't forget to bring your usual gag gift
from your ham radio junque box**

!!!!!! Reservations needed by February 27th !!!!!

2004 ORC Post Everything Party Reservation Form

Callsign _____ Number attending ____ X \$20.00 = _____

Names of those attending _____

Make your check out to **Ozaukee Radio Club** and send to -
Julia Nawrot KB9WBQ 10335 N. Grasslyn Road Mequon, WI 53092

AGENDA

Jan. 14th, 2004

1. Call to order.
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Elections
15. Adjournment to ?

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, Jan. 14th

7:30 PM



AMATEUR RADIO

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
Call sign W9CQO

Web site: <http://www.qsl.net/orc/>

Volume XXIII

February 2004

Number 2

The Prez Sez

By Vic Shier (KB9UKE)

Elections have passed and the new board is the same as the old board. Yes, each current officer ran for their respective position and was re-elected. I want to thank the board members for serving this past year and I look forward to working with them again this year.

If you haven't renewed your membership as of yet, you are in a grace period so get your check and application to Tom, AA9XK before your membership expires.

The first half of the year is always an active time for the ORC. The Post Everything Party is on March 6th. Then we run a booth at Superfest on April 2nd and April 3rd. Four weeks later is our Swapfest. Then comes the trip to Dayton and Field Day is just around the corner from there.

Of these events, the Post Everything Party has an approaching deadline. Reservations must be made by February 27th. Julia, KB9WBQ is chairing the program and it is important that she receives your reservations by that time. Applications can be found in this newsletter. This dinner gives us an opportunity to thank our spouses and friends for putting up with that extra wire hanging from the tree or that additional box hauled into the basement. Don't miss it; it's a fun evening!

Our annual swapfest is our major fund-raiser for the year and as such it is quite important. Gene, KB9VJP is the chairman again this year and he can always use some extra help. Placing signs and posters throughout the area is good advertising. Pick up a few at the next meeting and post them at your favorite stores. Another help is to buy a table. Dig through the boxes and shelves in the basement and sell some of your extra stuff so you have some

walking around money for Dayton. Finally, you can help by supporting the vendors who do come to our Fest. Make a shopping list of things you may need for your shack and take advantage of the great deals you can get at the ORC swapfest.

73's and remember...It's a hobby!

ORC Officers for 2004



Our board of directors was re-elected at the January 14th meeting. From L to R they are Nels Harvey (WA9JOB) as the Repeater VP, Leon Rediske (K9GCF) as VP, Carol Ann Szudrowitz (KC9CBC) as Secretary, Tom Nawrot (AA9XK) as Treasurer and Vic Shier (KB9UKE) as President.

THE OTHER FIELD DAY

De Bob Truscott (W9LO)

Bet you didn't know there were two Field Days, did you? Well, listen up! This one is a dandy. It's called The FYBO (Freeze Your But Off) Winter QRP Field Day. It's CW only, and as you might guess, it is sponsored by a bunch of guys in Arizona who probably wouldn't recognize snow if they fell into a pile of it. (Mountaintops don't count.) The temperature multipliers at the operating positions are:

1 for 65+ degrees

2 for 50-64

3 for 40-49

4 for 30-39

5 for 20-29

6 for under 20 (They obviously don't understand winter, or they would have additional mults going down below zero.)

Other mults are X4 for a field operation, X2 for alternate power and X2 for QRP. The only bonus points (10,000) are for working NQ7RP, apparently the sponsors club station.

We'll have to get going in a hurry to be set up by the contest day—Feb. 8. Presumably Jim & Gary will handle the details, arrange for appropriate “warming” type refreshments, contact Lazy Days, etc. It's rather short notice, but I'm sure that Stan, being the good fellow that he is, will come up with his usual FD turkey. I'll bring a rig and a 40 meter dipole, but we probably should use one of the newer tents because the 40 meter tent has too many holes in it. We can get along without the cook tent if someone can figure out where to hold the sheepshead game. Jeananne—bring the cards, please. Is the big generator available, Ed? This might violate the spirit of the contest, but it would be nice if someone would bring a heated camper trailer that we could use as a field hospital to treat frost bite, etc. And finally, we will need more operators than we usually have because the operating shifts will only be about 10 minutes unless we can come up with some heated gloves that are not too bulky to operate the keyboard and paddle. Come one, come all—lets have some winter fun. Please call Jim or Gary and tell them what function you would like to perform.

We should be a cinch to win this one if we can persuade the sponsor to add an appropriate temperature multiplier of about 12 for zero degrees.

Reported scores:

North American QSO Party:

N9FH 896 Qs, 226 Mults.

W9LO 584 Ws, Mults.

CQWW 160 Meter Contest:

W9LO 334 Qs, 46 Mults.

W19M 101 Qs, 28 Mults.

W9XT 100 Qs, (?)Mults.

K9LO 86 Qs, 34 Mults.

W9KHH Participated, but no report.

KA9RPR Participated but no report.

Apologies to anyone I may have overlooked. My records got all fouled up this month.

Coming up in Feb.:

Feb. 7-8 CQ WorldWide RTTY WPX Contest. Rules on Feb. QST, page 103.

Feb. 7-8 XE international RTTY Contest. Rules in Feb. QST, page 103.

Feb. 8 FYBO (Freeze Your Butt Off) Winter QRP Field Day. Rules in Feb. QST, page 103.

Feb. 8 North American Sprint—SSB Rules in Feb. QST, page 103.

Feb 14 FISTS CW Winter Sprint—CW. Rules in Feb. QST, page 103.

See you at FD

Bob, W9LO

Wanted - Your Dues ASAP

If you have not yet paid your dues you will find the form at the end of last months newsletter. Also, you can simply send a check for \$ to the Ozaukee Radio Club c/o Tom Nawrot @ 262-242-1029

Interesting Programs



WA9JOB (Nels Harvey) and **W9DHI** (Gregg Lingling) brought their analyzers to the December meeting and provided free “state of health” status reports on the HT's of the concerned members.



At the January meeting **KA4UPW** (Jim Hillins) displayed his new VHF-UHF antenna designed as a TV antenna look alike for use in restricted areas.

Club Static

De Tom Ruhlmann (W9IPR)

If you have cable and occasionally view the public service channel 14 announcements you will note the ORC meetings are now listed. In March we will try to have a couple of ARRL videos played prior to an announcement for a license training class. Perhaps this will help boost the interest of young persons. We will also try to have the program accepted as an evening course in the fall semester at the High School.

No. 113 - The Virtues of Speed Disk

De Stan Kaplan (WB9RQR)

You have probably read before in my column that I consider the Norton Utilities (Symantec Corporation) as the single most important piece of third party software a Windows user can buy. That opinion still holds, whether you are using Windows 3.1, 95, 98, ME, 2000, XP, or whatever. It finds problems and fixes them, taming the unruly, bloated, complicated Windows environment into something that most users can work with. Enough said about Windows. Anyway, the Norton Utilities are included in their suite, Norton Systemworks. Version 2004 is the latest release as of this writing (Oct 2003).

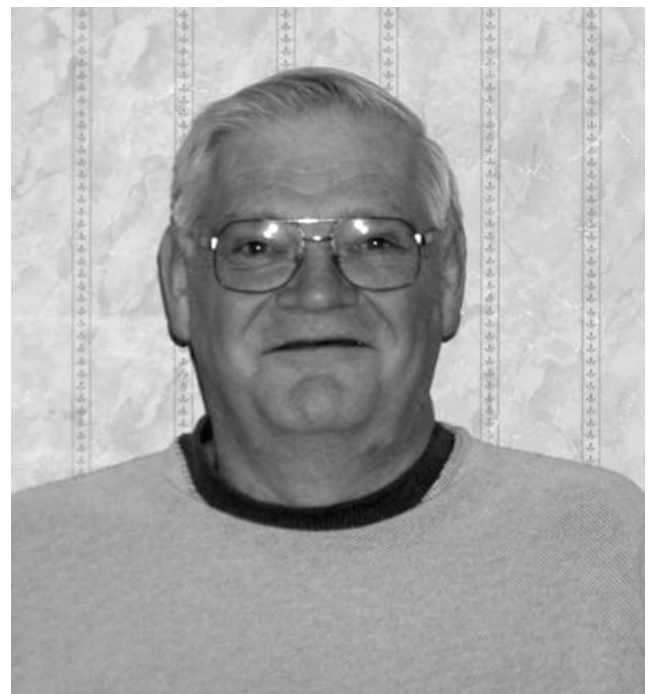
One of the Norton Utilities is Speed Disk, which takes the place of the Defrag program that comes with Windows. As an aside, Norton programmers (presumably under contract to Micro-

soft) wrote the Defrag program itself, but Defrag is much smaller and less capable than Speed Disk. I proved the origin of the Defrag program by examining its code in Windows 98se, which indeed contains the signature of the Norton Utilities group. Actually, Peter Norton himself made his reputation (and started his company) with his invention of Speed Disk, way back in the early years of computing.

Speed Disk does indeed defragment your drive, putting pieces of a file together in contiguous blocks of data. That makes your computer work faster and more efficiently, as I have written about before. But it does something else; too, that insures the integrity of your data. Something that is really not documented anywhere. At least, I have not been able to discover any documentation in the "white papers" and other documents on the Symantec web site. Before I tell you exactly what else Speed Disk does, let me give you a bit of background.

As you are aware, data is written to a hard drive's platters by a tiny electromagnetic "head", which flies over the platter's surface. Electrical pulses, sent to the head, creates a magnetic field, which in turn, can alter the magnetic properties of a tiny section -----**extracted from and continued at** www.bsss.org

New ORC Members



KC9DKQ, a new member from Jackson

KC9DKQ has his Extra Class license and joined the ORC in 2003. He had a Novice license in the '70's but due to time constraints really could not pursue the "Ham" radio interest. Then upon his retirement after 30 years with Ameritech as a central office technician he found the time. In March of 2003 he got his Technician and General class license and then completed his Extra class in January of 2004. He spends most of his time on 20 meters and has already earned his WAS (worked all states). Curious about his name? Introduce yourself at the meeting and find out.



AA9WP, a new member from Grafton

AA9WP is also a (re)new(ed) member and he enjoys CW and QRP. He had a Novice ticket back in the '70's but allowed it to lapse. He then got his General license in 1984 and his Extra in 1998. Currently he works at Rockwell Automation in Technical Support. He just finished his MS in operations management and now has time to enjoy the amateur radio hobby and after a very long absence, has renewed his membership in the ORC. His name? Again, introduce yourself at the February 10th meeting and find out.

KC9CPC is also one of our new members. He has always been an avid short wave listener so it was a natural progression to being a "Ham". He was at AES buying some parts when he

asked Ray "how do you become a Ham?". Ray indicated Gary and Nels were giving tests that morning and he should go talk to them.



KC9CPC, a new member from Thiensville

Nels convinced him to take the test, and he passed. He received his Technician license in Oct. 2002. Naturally, then he was invited by Nels to join the ORC. He is an independent defense contractor and lives in Thiensville. Currently he is operating with his Kenwood HT but he is now planning to go for his General – this time however, he intends to buy the book. His name? Again, introduce yourself at the upcoming meeting and find out.

Upcoming Events

March 6 – Post Everything Party @ American Legion Clubhouse - \$20 per person – contact Tom & Julie Nawrot @ 262-242-1029

March 28 – Hamfest at Lake County Fairgrounds in Grayslake, IL (1.3 hours drive and this side of Chicago – good Hamfest – I'm going)

April 2 & 3 – AES Superfest and ORC table

May 1 – ORC Swapfest – Contact Gene @ 262-377-6792

Recycling

De Tom Ruhlmann (W9IPR)

When Nels said he was cleaning the basement I was there within the hour. The prize? A two channel Midland desktop transceiver in the 40 MHz range. What to do with it? Well, it had a good case, speaker and 12-volt power supply. With a little work it could be a perfect docking station for a mobil transceiver.

First checkout the power supply and make sure it has voltage regulation and current capability sufficient to power the intended radio. I found the voltage to be a bit low at 13.2 and dropping 0.1 VDC on transmit. I then located the adjustment pot and reset it to 13.8 VDC. This was to allow for connecting a lead acid battery in parallel with the supply output. This would not only provide filtering and standby power but should a higher-powered transceiver be connected, the battery would provide the transmit power preventing overload of the power supply.

Being satisfied that the power supply was adequate I then removed the original transceiver electronics from the unit and added a support shelf using previously hoarded scraps of metal.



The Kenwood is installed and powered by the retained power supply and connected to the cabinets speaker



The “docking station” ready to receive the old Kenwood 2-meter mobil

Then to cut out a section of the original plastic panel to allow insertion of the radio. Now add the binding posts for battery connection and the “power pole” connections at the power supply output to connect the radio. Finally connect the console speaker to a audio cable with a 3.5-mm plug and the docking station is ready to accept its new resident.



Docking station completed and with capability of accepting a variety of mobil radios.

The moral of this article? – almost every item has a second useful service life given a little ingenuity and effort – and it’s fun doing it.

Lightning Protection for your “Ham” Station (Part 1 of 6)

De Gregg Lingling (W9DHI)

Proper lightning protection of a ham radio station can involve more variables than any other

type of radio site. The location of the antennae will establish grounding requirements, while the location of the station will define the protection requirements.

The primary rule for surviving a lightning strike is the same as for any other installation: All equipment must be connected to a single, low impedance ground system. That includes the antennas, support structure (tower, tripod, pole ect, etc.) and all of the stations input/output protectors (antenna, AC power, telephone, rotor etc.).

So let's get with it and examine what it takes. First let's choose the antenna location. The location and type of antenna will dictate the size and location of the grounding system you will need to disperse the energy of a lightning strike. The sooner the energy is transferred to your ground system, the less likely any energy will be transferred to your equipment thus mitigating damage. Almost 90% of lightning strikes will be electrons that, due to like charge, repel and spread out. The antenna system creates a great interface to the earth.

Also fundamental to a good protection scheme is the creation of a SINGLE POINT GROUND within the ham shack. The single point ground is used to mount all protectors and to provide a ground point for all equipment chassis. This single point ground system is connected to an external ground system with low impedance copper strapping. The tower ground system and the single point ground system must be interconnected. This interconnection should be below grade with a bare low inductance conductor (unless you create a HALO system, which will be discussed in a future article). The coax shield must not be the only interconnection between your ground systems.

Techniques:

Every conductor has measurable inductance. As such, ground conductors exhibit normal inductance before they go to grade. Once they are in the earth, the inductance of a bare conductor is shunted to the ground. If the soil at your site is not very conductive there are 3 things that can be done to help the situation.

1. Increase the surface area of the conductor, decreasing its inductance.
2. "Dope" the soil to increase conductivity.

3. Install additional bare radial lines with ground rods, which will effectively parallel the inductance and reduce the overall system inductance.

In some locations it may be necessary to do all 3 of the above.

The most effective material for a ground system is copper (we will discuss oxidation and metals in another article). Since lightning has a large portion of its energy in the LF range it will behave like a RF signal. Meaning the energy will mainly conduct on the skin surface of the conductor (skin effect), so this means the energy will travel on the outside of the conductor. A round conductor will be wasted as much of the cross-sectional area will not be used; using strap is much more effective offering lower inductance at a much lower cost.

Points to be covered in future articles of series (I don't want to put too much on you at once, lightning protection is not a small subject, but can save you from catastrophic damage and failures).

Conductor Surface Area and Metallurgy (March 2004)

Soil Doping (April 2004)

Ground Radials and Ground System Materials (April 2004)

Ground Measurement (April 2004)

Tower Considerations and Antenna supports (May 2004)

Magnetic Energy (May 2004)

Antenna Location (May 2004)

Coax Grounding (May 2004)

Control and Coax line protection and protectors and Entrance Systems (June 2004)

Power and Telco entrance (June 2004)

Single Point ground design (July 2004)

Now that I've whetted your appetite get ready

73, Gregg W9DHI

Minutes

De Carol Szudrowitz (KC9CBC)

ORC Meeting January 14, 2004

Meeting was called to order at 7:35 by Vic KB9UKE.

Announcements:

Vic reminded he has the YASME Contesting Magazine available for those who want to read it. It is helpful for contesting tips.

Program:

Jim KA4UPW gave a short program on Stealth antennas for the home. Some subdivisions frown on radio antennas in the yards and he demonstrated one that mimics a large TV antenna which works with many bands. (UHF, 6 meters, 10 meters, 4 elements)

Auction:

Stan WB9RQR held the usual auction. Ed AA9W mentioned that more donations came in.

Elections:

Gary WI9M and Stan WB9RQR opened the elections. They asked for nominations from the floor and explained the ballot. None were given so nominations were closed. Ron W9BCK noted that next year this process should start earlier so that it can be published in the newsletter. The elections were held and ballots counted. The incumbents were re-elected.

President - Vic KB9UKE
Vice President - Leon K9GCF
Repeater V P - Nels WA9JOB
Treasurer - Tom AA9XK
Secretary - Carol KC9CBC
Repeater Trustee - Ed AA9W

Business Meeting:

Minutes were approved as published in the newsletter.

Treasurer's Report:

The Audit Committee (Kent N9WH headed it) reported that everything balanced. Gabe WI9GC and Tom AA9XT are to be commended for a job well done as well as Ed AA9W for all the paper work he has to complete, to comply with government regulations.

An interesting note, the mailing of the newsletter cost \$530 at its height. Now with electronic distribution it is down to \$229 so cost is cut in half. Also cost for the repeater is approximately \$1300 per year so \$8 from club dues is about \$500 shy of amount needed. That and some other costs (parties, field day, telephone etc) are supplemented by the Swap Fest proceeds.

The Treasurer's report was approved as given.

Repeater Report:

Nels WA9JOB reported that everything is OK. The 220 is running at his home on limited antennas. It runs on the 7K controller. The 10-meter link is working. Please note the beeps when entering the system

1 beep 224.18 repeater only
2 beeps 224.18 repeater plus 10 Meter receive only
3 beeps 224.18 repeater activity is sent out on 10 Meters as well. It usually is on 29.60 MHz.

The 220 will eventually be interfaced with the 146.97 repeater so we will be able to check in on NET with either one. Tues. Night is NET check in. It is good practice for emergencies. Eventually the goal is a link for the 220 at the Germantown site. We need to use the antenna there or take it out. Operating the 224.18 repeater when it is connected to the 10-Meter link requires a control operator that is a General Class or higher, is available when signals will go out on 10 Meters (three beeps). If properly monitored, it is perfectly legal for Technician Class license holders to communicate to someone on 10 Meters through the 224.18 repeater.

OZARES:

Weather Training Class had been changed from Feb to April 12, 6:30 PM to 8:30 PM at the Justice Center. Any ham is welcome even non-members for this vital information.

Scholarship Fund:

Ed AA9W reported that the 501C3 report has been submitted to the government so we are OK. It is a huge undertaking so many thanks to Ed for continuing this worthwhile activity.

Swap Fest:

Important need is advertising according to Gene KB9VJP. (Land phone 377-7692) Please ask for and take flyers to any meet you are attending.

Post Everything Party – Date: March 6 Cost: \$20.00 per person

Julia KB9WBQ and Tom AA9XK reminded everyone to talk up the party and come for the fun and sharing. Spouses (usually the ladies) are asked to bring a "white elephant ladies gift" to exchange with others. These gifts are usually something that is nice enough to share with someone. It does not have to be something new, but please, no junk. It just needs a new home. Gary WI9M has graciously accepted the role as MC. We are also looking for some favorite CD's for background music. Hams are asked to remember to bring their "white elephant radio exchange" gifts too.

Old Business:

Leon K9GCF needs help for programs that may interest hams at meetings in Feb and March. Give him a call with your suggestions. If you have a question about some aspect of the hobby it usually is of

interest to others as well and would make a good program.

New Business:

Tom W9IPR is working with Carl Harms to put club information on Channel 14 the Public Cable Television Station. He is looking for your club memories on VHS tapes from the last 3 or 4 years. Tom is hoping to put together a video to show club activities.

Reminder: From Jim KA4UPW, only 5 more monthly meetings until Field Days! Next month think about volunteering to be a field captain.

Ron W9BCK encouraged hams to join QCWA. It is the Quarter Century Wireless Assoc. for long-term hams (licensed for 25 years or more). Join the new Auxiliary membership if licensed for fewer years. It is a great way to learn about the past history and

events of hams. There is a NET Sunday mornings on 3.985. Join us. A national magazine is also available.

Attendance:

Ed AA9W, Gregg W9DHI, Joe AA9HR, John W9FAD, Don W9VSC, Bernie AA9CI, Bill AA9OS, Kent N9WH, Stan WB9RQR, Jeff KB9QQE, Jane KB9SYI, Joe KB9URC, Leon K9GCF, Tom AA9XT, Tom W9LNL, Tom W9IPR, Mark AB9CD, Bob N9NRK, Terry KA9RFM, Herb WA9UVK, Ron W9BCK, Bob W9LO, Ray W9KHH, Gene KB9VJP, Gary W9XT, Mark N0OKS, Brian N9LOO, Ron KC9DKQ, Paul KB9WCC, Don AA9WP, Sky N9XRU, Gay KB9OBR, Julia KB9WBQ, Gary WI9M, Ed AA9WW, Jake KB9ZOR, Michael WJ9O, Carol KC9CBC, Nels WA9JOB.

Post Everything Party

March 6, 2004

American Legion Clubhouse
Peter Wollner Post 228
W57 N481 Hilbert Ave.
Cedarburg

Cocktails 6:00
Dinner 7:00

hors d'oeuvres before complete buffet dinner

recognition for spouses

entertainment after dinner

presentation of annual awards

(\$20.00 per person)

**Don't forget to bring your usual gag gift
from your ham radio junque box**

!!!!!! Reservations needed by February 27th !!!!!

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Callsign _____ Number attending ____ X \$20.00 = _____

Names of those attending _____

Make your check out to **Ozaukee Radio Club** and send to -
Julia Nawrot KB9WBQ 10335 N. Grasslyn Road Mequon, WI 53092

AGENDA

Feb. 10th, 2004

1. Call to order.
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
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11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton

Wednesday, Feb. 10th

7:30 PM



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: <http://www.qsl.net/orc/>

Volume XXIII

March 2004

Number 3

The Prez Sez

By Vic Shier (KB9UKE)

A few days ago we learned of the passing of one of our club members, Jim Raasch N9NNA. We send our sympathies to Joan and the rest of his family. I will miss Jim's Port Washington fishing reports.

The Post Everything Party is only a few days away. One of the more fun portions of the party is the gift exchange. Hams bring something from their shack that they no longer use and it is exchanged with a similar item from someone else's shack. Generally you can hear many people saying, "What is it?" This year the spouses will be doing a gift exchange too. Something that they may have received as a gift in the past and don't really want it. Either of these gifts should be easily found in the home without any cash outlay.

The candy store (Amateur Electronic Supply) will be holding their annual Superfest on April 2nd and 3rd. We will be running a booth there along with OZARES. This event gives us an opportunity to introduce hundreds of hams to the ORC. We need volunteers to man the booth. AES has a great line up this year: Gordon West will be interviewed on

the FOX 6 Morning Show; Joe Monie WB0PAW from the FCC will do a Q&A on enforcement; and our very own Gary Bargholz N9UUR will be making a presentation on the latest satellite technology. Pick your favorite topic and schedule some time before or after when you can help with the booth.

Our swapfest is only two months away. Talk it up. Mention it when talking to other hams especially when on a different repeater. Mention it to that person from work that always seems interested in your hobby. A successful Fest takes effort, it doesn't happen by accident.

73's and remember...It's a hobby!

IT'S WISCONSIN QSO PARTY TIME

De Bob Truscott (W9LO)

Next to Field Day, I believe the WIQP is the most popular contest of the year for our particular club. It runs from 12:00 N to 7:00 PM local time on March 14. CW & SSB on 80 thru 2 meters, plus FM on 6 & 2 only. That's 7 hours of fun, and it gives us each an opportunity to hone our operating skills for FD. Work any station once on each band in each mode, and the mobile stations each time they move to a new county. Download rules, forms and the county list from www.warac.org.

It's a little late to suggest it for this year, but it might be fun to run a multi-op station next year. Any interest?

Reported scores:

160 Meter Contest:
W9KHH-----91 QSO's, 35 Mults.

ARRL International DX Contest-CW
W9XT-----1309 QSO's, 418 Mults.
W9LO-----226 QSO's, 97 Mults.
WI9M-----100 QSO's, 60 Mults.

Coming up in March:

March 5-7 ARRL International DX Contest-Phone—Rules in Dec. QST, page 96.

March 14 North American RTTY Sprint—Rules in March QST, page 100.

March 14 Wisconsin QSO Party—Rules in March QST, page 100.

March 27-28 CQ WW SSB WPX Contest—Rules in March QST, page 100

Have fun contesting.

ANTENNA TUNERS! DO THEY?

De: K4FQU & submitted to the ORC Newsletter by Leon, K9GCF.

I am sure that many of our newer licensees and perhaps quite a lot of old timers also, are laboring under false impressions regarding antenna tuners. There is only ONE true antenna tuner. That is YOU! Antenna tuners please DO NOT TUNE ANTENNAS. Nothing can tune an antenna except by physically changing or alternating the structure itself and only the builder can do this. There may be a few mechanical devices out there that can physically change an antenna struc-

ture but they still need a human to tell them that. Today's and yes yesterdays "antenna tuners" only fool your transmitter into believing it is looking at a perfect match or at least a good match. And indeed they are looking at a good match if the tuner is tuned correctly, however all this is done right in that little (or big) box and has virtually no effect on the feedline connected to it nor the antenna at the other end. The structure remains the same; the SWR remains the same. All the transmitter looks at is that little box, and it has a smile on its face because it is "tuned" so to speak. What happens is that the capacitive & inductive load within the "tuner" has been changed so that it is resonant with the frequency that the transceiver is operating on. The antenna or the SWR on the coax feedline has NOT CHANGED. An antenna CAN BE TUNED if one puts a capacitor right at the antenna feed point and tunes it to resonance, in which case the SWR on the feed line will change. This has been done however it is not an easy job. The losses on the feedline are not that severe on HF to even worry about a tuner at the antenna. What your tuner is actually doing is making the transceiver operate at its peak efficiency, with little or no damage potential to the finals. High impedance's (SWR readings) can harm a final in your transceiver so if your antenna is grossly mismatched then a tuner is recommended. The best tuner is a well-built antenna, which is resonant or nearly so to the operating frequencies.

AES Superfest

De Ray Grenier (K9KHW – AES)

On AES Superfest Friday (April 2nd) from 5:00 to 7:00 p.m. there will be a special two-hour forum and fully operational demonstration on the Icom D-STAR System by Matthew F. Yellen, KB7TSE - Icom Technical Sales Specialist & D-STAR. The D-STAR system is an off the

shelf, 128K open protocol DATA system that combines the analog and digital worlds into a seamless communications network at 1.2 and 10 GHz! Just picture being in your vehicle, helping with emergency communications with the 128K DATA "you can visually communicate what is happening simply by e-mailing a photo or live video. Attend and learn MORE! We are encouraging local area clubs get as many of their membership to AES on Friday night to help fill up our expanded forum area. As an incentive, there will be a \$100 AES Gift Certificate presented to the club with the largest contingent. Icom is bring their new IC-7800 HF/50MHz transceiver to Superfest. It's your chance to see this phenomenal new radio in operation.

Club Static

Congratulations to Jim Russel (KC9ETH) His General Ticket was posted in February!! Passed Element 1 in February and Element 3 last September.

Lightning Protection

(Part 2 of 6)

Conductor Surface and Metallurgy
de Gregg Lengling, W9DHI

Conductor Surface Area:

The most effective material for a ground system conductor is copper strap. Copper as a metal is a good electrical conductor, only moderately attacked by ground and air borne acids, and should have a life span measured in years.

Since lightning has a large portion of its energy in the LF range, it will behave like an RF signal. That means the energy will only mostly conducted on the skin of the conductor (skin effect). Thus, the surge current will only ride on the outermost surface of the conductor. Such cur-

rents following a round-member conductor will not make extensive use of its large cross sectional area. With a 1-1/2 inch [38.1 mm] or larger flat strap of at least 26 gauge (0.0159 inches) [0.4 mm], both surfaces will conduct the surge.

Why Ground Rods are usually Copper-Clad:

The real reason for copper plating is corrosion resistance. Copper, silver, mercury and gold have high resistance to corrosion, while processed metals (never found free in nature) like aluminum and magnesium are easily corroded. Noble metals like copper become the cathode when joined together with less noble metals in the presence of an electrolyte (water). Less noble metals become the sacrificial anode and corrode away.

Not listed in the galvanic table of metals is Graphite, since it is not a metal. Graphite is even more noble than silver and certainly much nobler than copper. Therefore, if a graphite backfill material is to be used as a ground "enhancer" to surround copper, the copper will be sacrificial to the graphite and will dissolve away into the soil.

The following affect the amount and speed of corrosion both above and below the soil:

- 1) **Water:** The presence of water mixed with contaminants is the basis of galvanic corrosion. Pure rain water is slightly acidic (pH 5.5 to 6.0). It picks up carbon dioxide as it falls which creates carbonic acid. It can start attacking some metals, even copper, without being in a junction. The ions etched from the copper go into solution in the rainwater. As this rainwater drips on galvanized

tower sections, it will cause the zinc to combine and wash off. This leaves the bare steel to oxidize away.

2) **Oxygen:** This is the main corrosion accelerator. Rainwater also picks up oxygen as it falls through the atmosphere. Water provides an excellent carrier of oxygen.

3) **Temperature:** Generally, the higher the temperature the faster the chemical reaction.

4) **Texture of the metal(s):** Glass smooth surfaces are less likely to corrode than rough finishes.

5) **Hydrogen Sulfide:** A gaseous product of exhaust emissions, it combines with rainwater creating acid rain.

6) **Chlorine:** Tap water can have an acidic effect on underground materials.

7) **Inert gases:** Helium displaces oxygen and reduces the corrosive effect.

8) **Alkaline:** Although some alkalis tend to increase the rate of carbon dioxide absorption from the air, which creates corrosive carbonate solutions, slight amounts of alkalinity can reduce corrosion rates.

9) **Salts:** Sodium chloride, found just about everywhere, increases the soil conductivity and also increases the corrosion process in nearly the same proportion to its concentration. Other naturally occurring salts or non-natural added salts do the same. Only sodium carbonate or phosphate and potassium ferricyanide form a protective film that prevents further corrosion.

10) **Microorganisms:** Both bacteria and fungus can deteriorate metal. Some will give off acids in

trapped water or when they die and decompose into acids.

Dissimilar Metals:

There are many different types of metals and each has desirable properties. However, when two dissimilar metals are joined to make an electrical connection there can be problems. Corrosion will begin when the connection is exposed to moisture or any other liquid acting as an electrolyte.

Corrosion is an electro-chemical process resulting in the degradation of a metal or alloy. Oxidation, pitting or crevicing, dealloying, and hydrogen damage are a few descriptions of corrosion. Most metals today are not perfectly pure and consequently, when exposed to the environment, will begin to exhibit some of effects of corrosion.

Aluminum has an excellent corrosion resistance due to a 1 nano-meter thick barrier of oxide film that instantaneously forms on the metal. Even if abraded, it will reform and protect the metal from any further corrosion. Any dulling, graying, or blacking that may subsequently appear is a result of pollutant accumulation.

Normally, corrosion is limited to mild surface roughening by shallow pitting with no general loss of metal. An aluminum roof after 30-years only had 0.076mm (0.003 inch) average pitting depth. An electrical cable lost only 0.109mm (0.0043 inch) after 51-years of service near Hartford, Connecticut. Copper such as C110 used in our equipment shelter coax cable entrance panels has been used for roofing, flashing, gutters, and downspouts. It is one of the most widely used metals for atmospheric exposure. Despite the formation of the green patina, copper has been used for centuries and has negligible rates of corrosion in unpol-

luted water and air. At high temperatures some copper alloys are better than stainless steel.

If copper were joined to aluminum or copper to galvanized (hot dipped zinc) steel with no means of preventing moisture from bridging the joint, corrosion loss will occur over time. This is the accelerated corrosion (loss) of the least noble metal (anode) while protecting the more noble (cathode) metal. Copper, in this example, is the more noble metal in both connections. (See the Noble Metal Table for a ranking of commonly used metals.)

Where the connection is with galvanized steel, the zinc coating will be reduced allowing the base steel to oxidize (rust), which in turn will increase the resistance of the connection and eventually compromise the integrity of the mechanical structure.

The aluminum will pit to the copper leaving less surface area for contact. The connection could become loose, noisy, and even allow arcing.

This type of corrosion problem can be prevented by using a joint compound, covering and preventing the bridging of moisture between the metals. The most popular compounds use either zinc oxide or copper particles embedded in silicone grease. As the joint pressure is increased, the embedded particles dig into the metals and form a virgin low resistance junction void of air and its moisture.

The use of a joint compound is the recommended means for joining our coaxial protectors to our bulkhead panels for non-climate controlled installations. We have tested this compound with a "loose" 1 square-inch (6.5 sq.-cm) copper to copper joint and have found it to handle a 25,500 ampere 8/20 waveform surge with no flash over and no change in resistance (0.001 ohms). We have even

moved the loose joint before and after the surge and experienced no change in resistance.

The connection of a copper wire to galvanized tower leg should be avoided even if joint compound is used. The primary problem here is the low surface-area contact of the round wire with the (round) tower leg. Consider using a stainless steel clamp. The clamp will help increase the surface area of the connection as well as provide the necessary isolation between the dissimilar metals. Use joint compound on exposed applications of the stainless steel clamps. For an even more effective connection, use copper strap in place of wire with the clamp.

Silver oxide is the only oxide (that we know of) that is conductive. This is one reason why GOOD N-type coax connectors are all silver with gold center pins. Copper oxide is not conductive and the proper application of joint compound will prevent oxidation.

Next Month Soil Doping, Ground Radials and Ground System Materials and Ground Measurement.

Elements:	MAG	ALUM	ZINC	IRON	CAD	NICK	TIN	LEAD	COPPER	SILVER	PALL	GOLD
MAGNESIUM	0.0	-0.71	-1.61	1.93	-1.97	-2.12	2.23	2.24	-2.71	-3.17	-3.36	-3.87
ALUMINUM	0.71	0.00	-0.90	1.22	-1.26	-1.41	1.52	1.53	-2.00	-2.46	-2.65	-3.16
ZINC	1.61	0.90	0.00	0.32	-0.36	-0.51	0.63	0.64	-1.10	-1.56	-1.75	-2.26
IRON	1.93	1.22	0.32	0.00	-0.04	-0.19	0.30	0.31	-0.78	-1.24	-1.43	-1.94
CADMIUM	1.97	1.26	0.36	0.04	0.00	-0.15	0.27	0.28	-0.74	-1.20	-1.39	-1.90
NICKEL	2.12	1.41	0.51	0.19	0.15	0.00	0.11	0.12	-0.59	-1.05	-1.24	-1.75
TIN	2.23	1.52	0.63	0.30	0.27	0.11	0.00	0.01	-0.47	-0.94	-1.12	-1.64
LEAD	2.24	1.53	0.64	0.31	0.28	0.12	0.01	0.00	-0.46	-0.93	-1.11	-1.63
COPPER	2.71	2.00	1.10	0.78	0.74	0.59	0.40	0.46	0.00	-0.46	-0.65	-1.16
SILVER	3.17	2.46	1.56	1.24	1.20	1.05	0.94	0.93	0.46	0.00	-0.19	-0.70
PALLADIUM	3.36	2.65	1.75	1.43	1.39	1.24	1.12	1.11	0.65	0.19	0.00	-0.51
GOLD	3.87	3.16	2.26	1.94	1.90	1.75	1.64	1.63	1.16	0.70	0.51	0.00

LESS

NOBLE:

Noble Metal Table: Accelerated corrosion can occur between unprotected joints if the algebraic difference in atomic potential is greater than + / - 0.3 volts.

For Sale, Trade or ?

Delta (Unisaw) cabinet saw on mobil base – new motor - \$650 – contact Tom, W9IPR @ 262-377-6945

Clock Repair – contact Kevin, K9VIN @ 262-375-6792

(WI stations only) x2 (< 5 W), 1.5 (<150 W). WI mobiles/portables add 500 bonus points for each county with 12 or more QSO's. For more information: <http://www.warac.org/>. Logs due Apr 14 to k9kr@powercom.net (in WARAC Cabrillo format--see Web site) or Wisconsin QSO Party, West Allis RAC, PO Box 1072, Milwaukee, WI 53201. De Dave, N9QA

Upcoming Events

Wisconsin QSO Party--Phone/CW--sponsored by the West Allis RAC from 1800Z Mar 14-0100Z Mar 15. Frequencies (MHz): CW--3.550, 3.705, 7.050, 14.050, 21.050, 10 meters; Phone--3.890, 7.230, 14.290, 21.350, 28.400; All modes-- 6/2 meters, UHF. No repeater QSO's. Categories: SO, MS, MM and Mobile. Mobile operators may not operate on county lines. Exchange: S/P/C or WI county. QSO Points: Phone--1 pt, CW--2 pts. Score: QSO pts x WI counties (max. 72) + S/P/C

ORC Swapfest – May 1st – If you will be needing a table, or can solicit other vendors to procure a table, contact Gene, KB9VJP @ 262-377-6792

March 28th – Hamfest at Lake County Fairgrounds in Grayslake IL – only 1.3 hours away.

April 2 & 3 – AES Superfest

What a Great Party

This past Saturday, March 6th, marked one of the very best Post Everything Parties yet. Many thanks to the Chairmen, Julia (KB9WBQ) and Tom (AA9XK) Nawrot and all those who worked to make it such a great success.



Julia (KB9WBQ) and husband Tom (AA9XK) Nawrot did a great job in chairing the 2004 Post Everything Party.

The group was pleased to learn that Gary Sharbuno, WI9M, was awarded the ORC "Ham of the Year" cup. Gary has chaired Field Day for the past several years and also provides the volunteer testing services in the area among his many other actives in the club. Congratulations Gary.



Our "Ham of the Year" for 2004, Gary Sharbuno (WI9M), reflects on all the previous recipients of the cherished award.

The "Turkey" was awarded to Jim Hillins (KA4UPW) for having made 2004 a more enjoyable year for his involvement in Field Day, meeting presentations, articles in the newsletter and just being a great, contributing club member.



A great time was being had by Vic (KB9UKE), Ron (W9BCK) and Gregg (W9DHI) as they shared stories of rare DX and whatever.



Kevin (K9VIN) admires the 60,s era 5 channel 5 pound CB-HT received by Bob (W9LO) in the “clean the shack” gift exchange.



Gary (N9UUR) received a certificate in recognition of his operating a satellite station for the 2003 field day event.

An Excuse

You may have wondered why the newsletter was late this month but there was a good excuse. We escaped the cold and snow during February and spent those days in cool rainy Texas. Had a great time visiting family and seeing the sites in Collage Station, Houston, Corpus Christie, Padre Island, San Antonio, Austin, Kansas and Iowa. Over 3000 miles but we did get a few days of sun. Glad to be back.



Pat Ruhlmann getting ready to soak up some sun on North Padre Island TX.

Minutes – Feb. 11, 2004

De Carol Szudrowitz, KC9CBC

Introductions and Announcements

Vic KB9UKE reminded hams that dues are now due. If you have not paid membership dues, please do so.

Deadline for POST EVERYTHING PARTY is February 27 so please call Julia KB9WBQ.

Program

Leon K9GCF is out of town; therefore short program. –Show and Tell- Vic KB9UKE shared the fun and knowledge he received when fixing an old United Engine Co radio that he obtained. It was quite an experience and the sound is getting better each time it is used.

Auction

Held by Stan KB9RQR

Business Meeting

Minutes were approved as printed in newsletter.
Treasurer's Report was approved as given.

Repeater Report

There is still an access problem at the Germantown site. General Communications still doesn't have an easement to get to the tower. Snowplowing turned out to be on someone else's property, and they need to solve the problem. Apparently, a neighbor complained, and wants it resolved. The 220 repeater is not functioning at this time. It is at Nels' house, and work is being done on it. The 440 is OK. Mequon site also has a problem. There is no transmitting from the site.

OZARES

Jon KB9RHZ reported that Milwaukee has new CDM750 radios. MRC bought 5 of them.
4th Thursday is meeting date. HASMAT is topic. Mark calendar for Monday, April 12, the Serve Weather Meeting at 6:30 to 8:30 PM

Scholarship

Ed AA9W told the club about the old Howard Sams Manuals that were donated. They have lots of good information regarding TV, Radio and Circuit information. Please contact him if interested in one.
Tubes are now available on e-bay at \$25.

Swapfest

Needs your help, please call for flyers if you go somewhere or help put out posters. Contact Gene KB9VJP.

Old Business

Gregg's W9DHI class went well

No New Business

Meeting's end was moved and seconded by 8:50.

Attendance:

Jon KB9RHZ, Stan WB9RQR, Kent N9WH, Dave N9UNR, Carl KC9CBC, Wil KB9HHR, Nels WA9JOB, Ernie K9LO, Bernie AA9CI, Gerald KB9IMH, Mike WJ9O, Ron W9BCK, Ray W9KHH, Jim N9WIU, Herb WA9UVK, Mark N0OKS, Ron KC9DKQ, Paul KB9WCC, Don AA9WP, Jake KB9ZOR, Ed AA9WP, Terry KA9RFM, Mark AB9CD, Gregg W9DHI, Tim N9IW, Jeananne N9VSV, Gary N9UUR, Gene KB9VJP, Julia KB9WBQ, Don W9VSC, Bob WQ9N, Fred N9FH, Gary W9XT, Jim K9QLP, Ed AA9W, Gary N9UUR, Gary WI9M.

AGENDA

March 10th, 2004

1. Call to order – Vic (KB9UKE)
2. Introductions.
3. Announcements, Upcoming events, Etc.,
4. Program:
5. Fellowship Break
6. Auction.
7. Acceptance of Minutes as printed.
8. Treasurer's report – Tom (AA9XK).
9. Repeater report – Nels (WA9JOB)
10. OZARES report – Jon (KB9RHZ).
11. Committee reports.
12. OLD BUSINESS
13. NEW BUSINESS.
14. Adjournment to ?

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

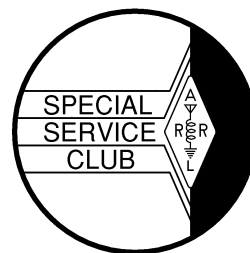
Wednesday, March 10th

7:30 PM



The *ORC* Newsletter

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 XXIII

April 2004

Number 4

The Prez Sez

By Vic Shier (KB9UKE)

Mark your calendars the 26th Annual ORC Swapfest is only four weeks away. Set up is on Friday evening April 30th and take down is on Saturday May 1st. Running a successful event for 26 consecutive years is quite an accomplishment and there are several reasons that our swapfest is successful. Basically, we run a good Fest. We have a good location with ample parking and easy access. The vendors know we will have a good turnout so they can sell their products. Hams throughout the area know there will be a good selection of vendors there so there will be lots of stuff to shop for. It goes hand-in-hand. The efforts of Gene, KB9VJP our current chairman and all of the past chairs have provided the leadership to create this tradition but obviously they didn't do it alone. Contact Gene and let him know you are available to help out in some way.

Dave, N9QA, the chairman of the Scholarship committee, has informed me that he would like to resign as chair. He is unable to attend our monthly meetings and believes the position would be better served with a more active member in that role. The position does not require a big time commitment and he is willing to teach the new chair what is required. Please contact Dave or myself if you are interested in this position. Thanks to Dave for providing many years of leadership in this important community service provided by the ORC.

Our booth at AES Superfest was a success; we signed up a few members and had an opportunity to tell many hams about our upcoming swapfest. We also got to see some new products like the \$11,000 radio from Icom. One of the fun aspects of ham radio is being involved

in the latest technological advances like the D-Star system. The April edition of QST had an amazing article on ESE. New developments have made it possible to bounce signals off the sun using some fairly simple equipment. Sometimes this technology is hard to believe.

73's and remember...It's a hobby!

N9NNA (Jim Raasch) SK

De WA9JOB, Nels

A few weeks ago, one of the Ozaukee Radio Club members, James W. Raasch, N9NNA, was taken from his family and us at an untimely age.

I first got to know Jim shortly after he, and his son, Jason, earned their Amateur Radio license, in December 1991. Jim and Jason's callsigns were sequential, N9NNA and N9NNB, because father and son took their tests together. At the time, Jason was only 9 years old, and he, and his dad enthusiastically built radio projects, and operated on Ten Meters as well as the Club's repeater. I have a lot of respect for Jim's way of developing a great relationship with his son.

Jim operated Two Meter mobile, usually for short trips to work, and at times for longer trips to go fishing! I often talked to Jim as he went to work, and the time was always short because he only had a four-minute commute! I always enjoyed talking to him, because of his never-ending enthusiasm.

Jim was an avid fisherman! He would get out to fish every opportunity that he could. Occasionally, when work was slack at the Russell T. Gilman plant, Jim would take advantage of three-day weekends and early afternoons to get out

and ply his skills on the several fishing spots that were his favorite. On several occasions, early on a Saturday morning, I would hear Jim calling Ray Weber, N9SQA, a relative, to coordinate their day's fishing trip. Of course most of us were still sleeping when those two were on their way.

Jim's favorite remark was "A bad day of fishing is better than a good day at work!" Jim's always cheerful attitude and outlook was contagious. His friendly, bearded smile was the type that expressed his peaceful soul. I think he made the world a little better for his being here. Jim, you certainly are missed.

Nels....

WISCONSIN QSO PARTY

De Bob Truscott (W9LO)

Jake and Ed were coming over to help me out with a multi-op effort in the WIQP but it never happened. I was sick that weekend and had to cancel. Never even turned the rig on. Lousy timing--I never get sick on contest weekends. However, from what I've been hearing, ORC was well represented in the party, and a good time was had by all.

Reported Scores:

		<u>QSO's</u>	<u>MULTS</u>	<u>SCORE</u>
W9XT	CW	251	96	99,360
	SSB	325		
WI9M	CW	80	48	45,216
	SSB	51	MOBILE	
K9GCF	CW	65	68	28,560
	SSB	150		
K9LO	SSB	139	66	13,761
K3GGN	SSB(?)	1	1	At least he showed up.

K9QLP Participated, but no reported score.
W9LO No show

Have fun contesting.

OZARES Exercise

De: Jon Gilmore (KB9RHZ)

On March 25 thirteen hams, members of OZARES, participated in a mock emergency exercise at St. Mary's-Ozaukee Hospital. Providing communications throughout the hospital was the objective. The simulated emergency was a high wind event that caused a major accident on I-43 resulting in 15 serious injuries and the closing of I-43.



Jim (N9WIU), Tom (AA9XK) and Ed (AA9W) raise to portable 2mtr antenna at St. Mary's Hospital during the ARES emergency test exercise March 25th.

OZARES is developing an emergency response team to help SMO when there are breakdowns in communications. A major problem at SMO is the structure of the building prevents radio and cell phone signals from reaching various sections from other sections or departments.

OZARES is using crossband repeating to overcome the problem. The exercise revealed some technical problems, but the message traffic went well.

Much equipment is housed at SMO. There are ham radios, antennas, packet equipment, and an 800-system radio. Kent(N9WH) reprogrammed the ham radios and Stan(WB9RQR) made some cables that should help with some of the technical problems.

Joanne Schmidt, Emergency Room Supervisor and Head Nurse, observed the exercise and described emergency conditions that may overwhelm the hospital's communications. She welcomed the efforts of the hams and thanked them.

2004 ORC Technician COURSE

De W9IPR, Tom Ruhlmann

The first of 8 sessions starts on April 10th at 9 AM at the Justice Center in Port Washington. Presently there are only 2 students so contact your interested friends and neighbors if you wish to share your hobby of "ham" radio. Have them call Tom at 262-377-6945.

For Sale, Trade or ?

Beam Antenna with Alliance HD-73 rotor
\$350 OBO. Contact Mark Simms (W9MS) at 414-352-6954

Upcoming Events

De N9VSV (Jeananne Bargholz)

Milwaukee ARES and Waukesha ARES need your help. ALL hams are welcome! We've been providing communications for the MAACC Fund's "Trek 100" and the Miller Lite "Ride for the Arts" for years. These two events have traditionally been at least a week apart. NOT THIS YEAR. This year, the "Trek 100" is Saturday, June 5 (begins and ends at WCTC in Waukesha). The "Ride for the Arts" is Sunday, June 6 (begins and ends at the PAC in downtown Milwaukee). Please consider volunteering for sag

vehicles, shadows and rest stops for either event. Contact Jeananne, N9VSV by phone: 414-355-6922 or by e-mail: n9vsv@wi.rr.com to volunteer or to ask questions. Thanks, Tom - and 73, Jeananne

April 10th – Start of 8 session Technician Class training course at the Justice Center in Port Washington – contact W9IPR @ 262-377-6945

April 17th – Second session of the Technician Class training course at the Justice Center.

April 18th – Madison Swapfest at Mandt community Center in Stoughton WI.

April 25th – SEWFARS Swapfest at the Richfield Chalet. 1271 Hwy. 175 in Hubertus, WI

May 1st – ORC Swapfest at the Circle B in Cedarburg at 5 corners.

July 10th – South Milwaukee Swapfest at the Legion Park on Shepard Avenue in Oak Creek.

Club Static

De W9IPR (Tom Ruhlmann)

I did manage to go to the Grays Lake swapfest on March 28th and it did seem a bit smaller than usual..



W9NAW with his rotors and antenna at Grays Lake – Some good deals on good equipment

We did get flyers for our May 1st event distributed so perhaps that will further increase our attendance.

AES Superfest



The ARES and ORC tables were well manned at the AES Superfest April 2nd. Here ready to answer questions are Ron (W9BCK), Gene (KB9VJP) and Kent (W9WH) while Jon (KB9RHZ) examines the new emergency radio he had just won.



There was a good crowd at the Superfest and plenty of vendors showing their wares and answering questions. There were seminars on equipment as well as operating procedures. Something for everybody.



Our own Gary Sutcliffe (W9XT) was exhibiting his “Voice/CW Message Keyer” to other avid contesters at Superfest

Just Another Shack

De Todd Sprinkman (KB9BQA)

This month’s Just Another Shack visit is with Gary Sutcliffe – W9XT. Gary lives just outside of Slinger and has a great DX’ing and contesting QTH. When I called to set up an interview, Gary made this month’s article a cinch.

He steered me toward his own bio as part of the National Contest Journal (NCJ) team. Gary has been writing an article on Contest Tips, Tricks and Techniques in the NCJ for 16 years now.



Here is Gary’s ham radio story, in his own words:

“For me, getting my ham ticket was only a matter of time. My uncle, W9FJ (SK), gave me my first ARRL handbook when I was only 7 or 8. I

got my novice ticket in 1970 (WN9FRG) and upgraded to Advanced the following year. The Extra followed two years later.

My first exposure to contesting came during the 1971 Field Day. I went down to help a friend from school set up the Novice station. I planned on staying only a few hours but got so interested that I didn't go home until it was over! Since then I have missed only two Field Days. During the summer of '74 I was WB9FRG/6W8, and one year in the early days of packet I programmed my computer to make QSO's while I had to work.

My real push into contesting came while in college at the University of Wisconsin where I majored in Ham Radio with a minor in Electrical Engineering. The UW club station, W9YT, was one of the contesting big gun stations from the late 1960's through the mid 1970's, and I got to operate with some of the best contesters of the time. W9YT has produced some of the top operators including K3ZO and K6NA. Both of them were there before my time, but their legacy inspired those that followed.

The main reason I like contesting is that you can set goals and compete at whatever level you want. Unlike things such as DXCC, everyone starts out at ground zero at the beginning of each contest. Even common states or countries are needed for the multiplier. More and more I favor contests that require more strategy and knowledge of propagation and operating techniques as opposed to contest that are more or less CQ marathons.

My contesting activity has been down the last few years due to a young daughter and a job that keeps me late more often than I would like. My favorite contest is the ARRL 10-Meter Contest. I also operate the DX contest and SS whenever I can, as well as the Wisconsin QSO party. My latest push is to get equipment on the air on the VHF and higher bands.

Between contests I chase DX and home brew (both the electronic variety and the liquid fermented malt beverage variety). From time to time the electronic projects appear as articles in QST or NCJ. I also raise tropical fish (40 aquariums) and enjoy gardening. During the day I am the engineering manager for a contract electronic design and manufacturing company."

I asked Gary about his rigs and antennas. He has a Yaesu FT-1000MP for his main HF rig and uses an Ameritron AL-1200 amp. The backup rig is a Kenwood TS-930, paired with a Heathkit SB-200. For VHF work, Gary uses a Yaesu FT-847.



Gary has 2 towers. A 50' tower has SSB beams for 50, 144 and 432 MHz. This tower also has a TH-7 for 10, 15 and 20m. Dipoles for 80 and 40m, along with a small vertical beam for 146 and 223 MHz FM fixed toward Milwaukee round out Tower 1.

Tower 2 is at 60' and has a pair of 3 el tri-banders. The upper one is rotatable and the lower fixed on Europe. Gary also has a 2 el 40m beam and a rotatable dipole for 12m. A dipole for 160m is attached and the tower is shunt-fed for 80m work. There is also a tuning box with capacitor and motor for remote tuning between the CW and phone portions of 80m. To improve performance on 160 and 80, Gary has about 3/4 miles of radials buried. He also has 2 350' beverages on his property. One is oriented toward Europe and the other toward Japan.

Gary joined ORC a year ago. He stated that he was interested in joining a club that didn't just specialize in one narrow aspect of ham radio. He also went out of his way to say he enjoyed Field Day.

W9XT also has a company called Unified Microsystems. His company designs station accessories like CW and voice keyers. Unified Microsystems can be found at www.qth.com/w9xt/.

Program April 14th

Pete, KB9URH, will present a program titled "Grounding and Guying for Hams: What the National Electric Code Says".

Lightning Protection

(Part 3 of 6)

Soil Doping, Radials, Materials and Measurement

De W9DHI, Gregg Lengling

Since most soils are stratified, the best way to determine the effectiveness of a ground system is to measure it. The simplest way to determine the sub-layer conductivity is to measure the first ground rod, one foot at a time, as it is hammered into place. This technique can provide a profile of the lower layers relative to the first foot. Most earth resistance meters measure only dc or low frequency ac resistance of the ground system. Although the lightning strike is dc, due to the fast rise time to peak current, there is significant RF energy. Since there is a high frequency component, the inductance (affecting transient response) of the ground system is important. Without using very expensive specialized test methods, the only way to ensure a low impedance ground system is to follow the suggestions given for conductors, doping and radials.

Any properly applied lightning protection device is only as effective as the ground system attached. Ground resistance is usually measured using the 3-stake fall of potential method. Theoretically, the final measurement achieved on the completed ground system is the same resistance to any other ground system on earth. A good ground system measurement would be between 5 and 10 Ohms. A well-designed 5-Ohm ground system is usually considered optimal for a lightning ground system.

A 4-stake resistivity measurement should be done ahead of the actual ground system installation. This procedure tells the engineer which areas within the system's geographic confines have the most conductive soil and at what depth this occurs. The results will be expressed as resistance (in Ohms - cm/m) and will determine the ground system's design.

The ground system's final 3 stake fall of potential ground resistance reading is the impedance of the system measured with approximately 100 to 300 Hz source potential. The obvious concern of this measurement is how well the ground system will handle electric utility ground faults. There must be enough current flow in to the earth to trip the applicable ac circuit breaker. Unfortunately, there is yet no way we can directly relate this 100 Hz measurement to the energy/frequency distribution range of a lightning event. When a

single long "ground well" is used in rock or poor conductivity top soil, the series inductance of the top section of pipe "chokes off" current flow to the more conductive lower section causing rapid local ground potential rise. Outbound currents from this higher potential can cause damage to circuitry bridging both potentials.

From a practical point of view, grounding specifications at ac power line frequencies must be met using the fall of potential method. But to be effective as a lightning ground, the ground system must also be designed for a rapid response in the RF range between 10-100 kHz. This usually means large surface area low inductance conductors connected to multiple ground radials with ground rods along their length.

Very high potential differences can occur from "point a to point b" on the same ground system due to the ground system/earth's combined impedance at the strike's higher frequencies (Ground Potential Rise - GPR). Since this is a complex topic, I'd best refer the reader to www.gpr-expert.com. They offer a complete explanation beyond this document's scope.

Soil Testing Steps:

Testing soil pH is simple. You will need a swimming pool pH tester, some clean cloth, a glass

and distilled water. Take one teaspoon of soil at your grounding system depth. Place in a clean glass and add water to cover the sample by 1 inch and mix well with the spoon. Let sit for ten minutes, then, keeping the sediment in the glass, strain the liquid through a double or triple thickness of the clean cloth into the pool tester container as per the test equipment's instructions. Test normally. This should provide a coarse level of soil pH.

If you have a pH of 4 and are using copper, the soil will make the materials short-lived. Typically, good ground rods only have about 0.02 inch of copper cladding. Additionally, corrosion or galvanic (mixed metal unions) will also reduce the life of a metal in soil. Knowing the soil pH is a start to determining how long your grounding system will last.

Government-sponsored testing of various backfill grounding materials shows "coke breeze" as the number one choice based on the conductivity as well as the cost. GTL Inc. completed tests for Fluor Daniel with results submitted to NEXRAD (Next Generation Weather Radar), a Doppler weather radar project of a tri-agency (NWS, FAA, and U.S.A.F.). Findings indicate that of the three materials tested; only two were conductive when frozen with no moisture. Coke breeze was one of the two.

Backfill material is often used for mountaintops where grounding conditions are poor. Coke breeze offers a backfill solution since it can be compacted to 95% and offers the best conductivity at moisture levels between 5% and 20%. Above this level, the coke breeze came in a close second. The testing followed ASTM G 57-78 in performing the Wenner Four-Electrode Method of Soil Resistivity Measurement.

Coke breeze is a waste material from burning coke (byproduct from coal), and is very economical.

Soil Doping:

Water in its purest form is an insulator. Ionic salts when mixed with water make ions. The earth is a conductor because of the number of ionic salts present in the soil. Therefore, con-

ductivity can be improved by adding more ions to the soil.

Soil doping can be done by either adding water or a saline solution to the soil around the grounding system. If the soil already has a sufficient amount of naturally occurring salts, adding water will free the ions and improve conductivity. The more ions (salts) available, the less water that will be needed to reach a given level of conductivity.

If few natural ions are available, salts, such as Epsom salts, can be added to the soil to increase the conductivity. Depending on the amount of rainfall, doping the ground system radials with 4 pounds of salt per linear foot and 20 pounds per rod may last approximately two years.

Ground Radials:

Radials are the most cost-effective grounding technique considering system impedance, material cost, and installation labor. If one radial gives "X" resistance, then two will deliver an equivalent "parallel rule" plus 10%. This rule only holds true when the soil has the same conductivity over the entire radial area. After the first two radials, you will need to double the number of radials each time to continue with the parallel-plus rule.

Radials do have a limit on their effective length. If the surge energy has not been launched into the soil within the first 75 feet [22.86 meters], the inductance of the radial will prevent any further effective prorogation. Therefore, as a general rule, all radials should be at least 50 feet 15.24 meters] long and no longer than 75 feet.

Ground rods should be placed along the entire length of each radial. The most cost effective spacing between rods for normal (grassy) soil is two times the length of a rod into the ground. If 8-foot [2.44 meters] rods are used, they should be placed on 16-foot [4.88 meters] centers.

If the soil is not normal (e.g., very dry or sandy), the separation may be reduced in order to minimize the interconnect inductance. It doesn't hurt

to have the rods too close, it only costs more in material and labor.

In the May Newsletter we will discuss "Tower Considerations and Antenna Supports.

Minutes – March 10, 2004

De Carol Szudrowitz, KC9CBC

Announcements – Vic KB9UKE repeated the announcements from the PEP Party – Jim KA4UPW is Turkey of the Year and Gary WI9M is Ham of the Year. Also Ed AA9W received confirmation in an IRS letter that the club is classified as a Public Charity under Code 501C3 therefore exempt from Federal Tax. Congratulations and thank you for all your hard work.

Super fest is April 2, 3 at AES. Coverage is needed Friday and Saturday. There will be special seminar on Digital Radio D Star, info on FCC enforcements, etc. N9UUR will give a talk on Satellite Communications. Gordon West will be there on the Morning Show.

Program – Leon K9GCF presented information on contesting. He emphasized to use the official letter code and not make names up like he does "Good Clean Fun" for call letters. This is not understood in the international forum. Local contesting is fun. Download the format from whoever is sponsoring the contest. Keep track of deadlines. Think of scoring multipliers as well as power and where you score best. Zones are important. If you are hand logging, be sure to use duplication sheets. Get forms from organizers. Watch formats and get comfortable headphones. Check with Leon for more helpful tips.

Terry KA9RFM brought in a single piston engine that he is making for show and tell. Vic KB9UKE shared the fun of receiving QSL cards from around the world. W9CQO call sign was identified as the official club call sign given by the repeater.

Auction – held by Stan WB9RQR.

Business Meeting – Secretary notes were approved with two corrections. Information regarding the CDM750 radios was given by Gary N9UUR not Jon KB9RHZ. Gregg's W9DHI class on Radio Kit Building his not begun as of yet.

Treasurer's Report – was approved as printed on handouts given by Tom AA9XK.

Repeater Report – Please send any digital pictures of the PEP Party to Nels WA9JOB. Link at Mee-

Kwon is down. The rack bent so now it has been reinforced. The link transmitter needed reprogramming, so it was reprogrammed. It then was swapped with the radio used for receive, just in case there is a bug in it, so that is fine now. Audio level was going up and down at one time this month as a result of Nels' tuning. The 224.180 repeater is in Nels' basement and operating. Gregg W9DHI did some work on it to modify the exciter to transmit PL. PL decoding will be made available on the main site, and also on the Germantown link which will be done this spring. This will satisfy the Wisconsin Association of Repeaters requirements for re-coordination.

OZARES – HazMat presentation will be the next meeting. On the 25th, St. Mary's drill took place.

Committee Report – Swapfest – table counts are down for this time of the year. Nels WA9JOB heard from Tower Electronics (Scott was sick so late in signing up) They will be there. Gene KB9VJP could use help with advertising, donations, and flyer distribution. Please give him a call.

Post Everything Party – Julia KB9WBQ said there have been lots of positive feedback and thanks Tom AA9XK for all his help in organizing this party. Klug's Creekside Inn did a wonderful job with the food. Door Prizes were appreciated by all.

Field Days - A short meeting was held by Leon K9GCF and captains after general meeting.

Meeting was adjourned at 8:59 PM

Attendance - Gary WI9M, Paul N9PG, Stan WB9RQR, Dave N9UNR, Jon KB9RHZ, Kent N9WH, Ed AA9W, Wil KB9HHR, Tom W9LNL. Gary N9UUR, Nels WA9JOB, Jeananne N9VSV, Jim K9QLP, Joe AA9HR, Gregg W9DHI, Gene KB9VJP, Bernie AA9CI, Jim N9WIU, Leon K9GCF, Joseph KB9URC, Carol KC9CBC, Terry KA9RFM, Gary W9XT, Paul KB9WCC, Chris N9VKC, Ron W9BCK, Bob W9LO, Ray W9KHH, Mark N0OKS, John WA9KNY, Herb WA9UVK, Tom W9IPR, Brian N9LOO, Tom AA9XK, Julia KB9WBQ, Muhammad KC9CPC.

AGENDA

April. 14th, 2004

1. Call to order – Vic (KB9UKE)
 2. Introductions.
 3. Announcements, Upcoming events, Etc.,
 4. Program:
 5. Fellowship Break
 6. Auction.
7. Acceptance of Minutes as printed.
 8. Treasurer's report – Tom (AA9XK).
 9. Repeater report – Nels (WA9JOB)
 10. OZARES report – Jon (KB9RHZ).
 11. Committee reports.
 12. OLD BUSINESS
 13. NEW BUSINESS.
 14. Adjournment to ?

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

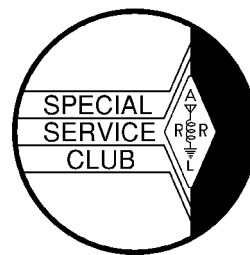
Wednesday, April 14th

7:30 PM



The ORC News -

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AMATEUR RADIO

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

Volume XXIII

May 2004

Number 5

The Prez Sez

By Vic Shier (KB9UKE)

Surprise! Everyone likes to hear that word. Whether it's a birthday party or a present; a new car or a bouquet of flowers, a pleasant surprise is sweet and can bring a smile to your face for years to come. I have had such a surprise.

Five years ago I received my Certificate of Successful Completion (CSCE) and was soon to be a FCC licensed amateur radio operator. Although I was quite nervous, I expected I would pass. I also knew that I would soon be using radios to transmit instead of just listening. Propagation, printed circuits, antennas, and operation procedures were all things that I would need to learn and I expected that too. There was no surprise there. Eventually I would upgrade and the learning curve would continue. My skills would improve with time and I suppose at some point I would be considered an "Elmer." None of this was a surprise.

My surprise lay deeper than that. My interest was solely in the electromagnetic field and the concept of wireless communication. The people on the receiving end? Who are they? That never crossed my mind.

It turns out that ham radio operators are a wonderful pool of like-minded people who have the potential to become close friends. When I look at the signatures on my very first CSCE I see the call signs of; WI9M, WA9JOB and WQ9N. Two of these people have become friends of mine and the third is someone that I would like to know better.

Over these last 5 years I have made more friends than I have in the last 20 years. That

was my surprise. Just counting the friends I have made in the Milwaukee area would make a long list not including the people I have met in Wausau, Minnesota, and Northeast Wisconsin

This was my surprise. It never occurred to me that I would make dozens of friends in such a few years. Radios are fun and friends are great!

73's and remember...It's a hobby and what a hobby it is!

Contesting

De Bob Truscott (W9LO)

Back in the 60's there was a series of phone and CW contests every year called CD Parties, CD meaning the Communications Department of the ARRL. As I recall they were short contests, formatted much like FD as we know it today, where everyone could work everyone else. They were quite popular and many of us used the CW contest in April as a FD warm-up because in those days there weren't many contests between November SS and FD, and, we needed to shake the cobwebs out of our brains. Unfortunately those contests disappeared quite some time ago—don't know why, they just did. But the idea of a FD warm-up contest still lingers, so I looked for a substitute. Didn't find one for phone, but did for CW. It's the CQ World Wide WPX Contest, on May 29-30, starting at 0000 GMT on Saturday (7 PM Friday local time), and ends 48 hours later. At first glance it appears to be a DX contest, and it is, but you can also work anybody anywhere, which makes it attractive to people like us who just need a little practice before the big one in June. 160 through 10 meters, except for the WARC bands. If you want to work some DX, try 10, 15 & 20 , and hope for an opening. You

don't need a beam to work those guys—wire antennas or verticals do just fine, and on 40 or 80 your dipoles are great for the US and Canada. Don't expect to win a contest like this unless you have a super antenna farm, but do jump in for a few hours and have some fun. You might be surprised how much the club FD score will improve if we all do that. Give it a shot. Short form rules in March QST, page 100. Long form (6 pages) and paper log and summary sheets at www.cqwp.com.

Official results of the CW Nov. SS, reflecting deletions by the Cabrillo log checking system are in:

<u>CALL</u>	<u>SCORE</u>	<u>QSO's</u>	<u>SECTIONS</u>	<u>CLASS</u>
N9FH	160,844	1018	79	U
W9LO	106,548	683	78	A
W9XT	52,640	376	70	A
W9KHH	24,644	202	61	A
KB9UKE	11,554	109	53	B

Wisconsin QSO Party:

K9QLP (Phone) 129 Q's 16 States 35 Counties & Provinces

Have fun contesting.

ANTENNA TUNERS-PART 2

De: Leon Rediske, K9GCF

Now we know that antenna tuners don't tune the antenna, from reading part 1 written by Earl K4FQU. All that antenna tuners really are, is a variable RF transformer matching what the transmitter wants to see (50 ohms) to what the antenna & feedline are actually producing in the hamshack. Are their different types of tuners? You bet your bippy! Generally there are 3 categories of tuners:

#1 is the tuner one finds inside a new HF transceiver. It is compact, and automatic in function, the ham doesn't need to do a thing except select it "on" from a menu or switch. The trouble with these types is they typically won't match more than a 3 to 1 SWR. That is, the 50-ohm

transmitter can be matched to a 150-ohm load (50 times 3) or 1/3 of 50 ohms, which is 17 ohms. So the range it can match is 17 to 150 ohms. If antenna system presents a higher or lower impedance than that, the tuner can't handle it. I seldom use mine, due to the narrow range of impedance's it can match,but there is one in my fancy FT-1000 Transceiver. These tuners can only handle the power output of the transceiver, typically 100-Watts.

Many times the cost is buried in the transceiver if you are talking high end radios, and cost an additional hundred or two in your Icom 706 MK 2 G.

The 2nd type is a manual tuner, so the ham actually tweaks knobs and switches on this baby. This tuner is contained in an additional box requiring room on the desktop. However, these tuners can match the transmitter to the antenna over a very wide range of impedance's.....the widest range of any tuner type.



Various "manual" antenna tuners as built by Dick (K9CAN), Tom (W9IPR), Ed (AA9W) and Ray (W9KHH)

I have one of these in my shack. I use it to match my G5RV dipole on any band. Many of these tuners offer balanced feed (2 antenna terminals) as well as the usual unbalanced 50 ohm coax feed. These tuners can match to balanced feedline, usually 300-ohm TV type twin lead or 600-ohm open wire feedline. Plastic ladder line is typically 450 ohms impedance,

and these manual tuners do a fine job of matching this impedance as well.

If these tuners are designed for it, they can handle Kilowatt power levels. These are big boxes, mine measures 13" wide, 9" high, and 17" deep. It is the Super Super Tuner by Dentron, 3 kW rated, and no longer made. Alternatively, tiny manual tuners are built to handle QRP power levels of 5 watts or less.

Some manual tuners offer harmonic reduction as well as matching. This is useful to reduce or eliminate interference to TV's & other electronics.

Unfortunately not many ways of wiring tuners offer harmonic reduction, and even though it is wonderful to have, it does reduce the range the tuner can match. Therefore, most, if not all, of the tuner manufacturers, use circuits that will match a wide range of antenna systems, and to heck with the Television interference troubles. (harmonic reduction) That's your problem.....use a low pass or bandpass filter. These tuners cost about \$150 for a 250 watt model.

Because the old Johnson Matchboxes (circa 1950's) do offer harmonic reduction, they bring a hefty price on the ham market today. Many of those matchboxes are over 50 years old, but still command a price greater than what one can buy a new tuner with cross needle metering & all the bells and whistles.

The 3rd type of tuner is the automatic external type. This is an electronic computer controlled box that is usually mounted outside near the flagpole antenna, or even hung in the center of a dipole antenna. They are typically sealed from the elements.....therefore can be mounted outside IN the elements. They can be switched by a cable from your fancy transceiver or they can sense RF and control themselves. Sometimes folks mount these tuners in the back of their pickup trucks like Gabe Chido, WI9GC, has done with his. His matches a 102" whip, and allows him to operate on most all HF bands. These tuners can handle a moderate

range of impedances but cannot handle 1-Kilowatt power levels. A 250-watt model costs from \$400 to \$600 & more. Boaters use automatic external tuners to match a whip antenna in the case of a powerboat, or to match the backstay in the case of a sailboat. SGC makes one model where the whip is attached to the box of the tuner. Just strap it to the side or top of a vehicle, and feed it your RF. Great for rental & leased cars.....and it leaves no holes.

Even though they are variable RF transformers, ham radio has called them antenna tuners from year's back. It is really an incorrect term, but we are going to live with it for some time to come. Call 'em what you may; matchboxes, antenna tuners, trans-match or whatever, they do a necessary matching function between the transmitter and the feedline.



An interesting program was presented at the April meeting by KB9URH (Peter Schmidt of Schmidt Electric) as he discussed the implications of the NEC (National Electric Code) on amateur radio station grounding.

Antenna Restrictions in your Community or, *How to get the City Fathers to see your views*

De Ernie Swanson, K9LO

Recently the City of Omro, Wisconsin wanted to enact an ordinance to severely restrict antenna and towers within the city. This included amateur radio. The process took about 10 months to get a reasonable ordinance written which would give the amateurs reasonable accommodation of tower and antenna structures. The road was not smooth.

Be alert to what is going on within your community government. Ordinances are written and brought to the floor of council meetings quietly with hopes of passage with little opposition. This happened in Omro. One of the council members notified me that this issue was being brought up at the next meeting. Prepare to speak up at the council meeting. You need to convince the city fathers that the ordinance has severe problems. You also need to let them know that the rights of the citizens of the community are being violated with restrictions to receiving antennas. You need to present copies of Wisconsin Antenna Act 50 and 47 CFR 97.15 of the FCC Amateur Service rules and PRB-1. This will alert the council as to reasonable accommodation under the law.

You will need to go to authorities whom amateur radio supports. This should include Emergency Managers, Red Cross officials, and other supported organizations. Get them to the meetings to plead your case in the public interest. If they can not attend, get a written statement to be presented at the meeting(s). You need to make amateur radio existence look very important to the public sector. Include as many examples of public service as you can. Do not forget SKYWARN. They remember the high winds, hail, and the tornado warnings. Tell them how the warning process works. Include the part radio amateurs should I say "professionals" play. Tell the council about recognition government has given to hams. Bring along copies of presidential and gubernatorial proclamations. The

city will then know that they are dealing with a decorated proud organization.

Bring in articles relating to amateur activities of September 11, 2001. They will remember the incidents.

Call fellow hams in the community. Bring them to the meeting. Let them tell the story. Let them be recognized even if they are too timid to speak up. Numbers do count. This shows that you are not alone in your plight.

If the argument about safety comes up, let the council know that the tower erected is safer than the new homes of the community. Site the fact that towers can survive winds in excess of 100 miles per hour. Remember that the uniform building act states that a new home only needs to survive a wind of 55 miles per hour for five minutes. Which is safer? Let them judge for themselves. Also, give the argument for dipoles between two trees. Is the tree a tower?

Last of all; let someone famous tell the council all about Amateur radio. Show the five minute video [Amateur Radio Today](#). Walter Cronkite does a wonderful job of telling the story. What is shown in five minutes, would take me an hour. Yes, this video sums up amateur radio. It will drive public service home.

Remember to see which councilmen on your side. Take them to lunch or see your shack. Get them to propose amendments which will give amateur radio reasonable accommodation. Negotiate reasonable settlements that causes the council to save face but further our cause. If you loose 10 feet of height but makes the law fair to all; that is a victory. We have a law that has a height limitation of 60 feet for all radio amateurs and citizens using receivers.

You can make a difference in your community. If the law is not reasonable, either take it to court or legislate an amendment to get reasonable accommodation. The federal and state gave you that right. These tools will get the job done. Remember candy works better than the lash!

Upcoming Events

June 19 & 20 – West Bend Airshow and Car/Motorcycle Exhibit

July 10th – South Milwaukee Radio Club Swapfest

Club Static

Chris, one of our new members from West Bend is hosting a 440 net following our usual Tuesday evening 146.97 net. It is a little different in that each evening there will be a different technical topic for discussion.

There will again be an airshow at the West Bend airport on Fathers Day weekend. This would be a great opportunity to set up an operating station and perhaps gain the interest of a few more aviators and spectators in “Ham” radio and the ORC. Would you like to organize this tent etc.?

Contact Tom Ruhlmann, W9IPR, for more information. Also, if you would like to volunteer to assist with the varied tasks at the airshow just contact Tom.

Community Service

De Nels Harvey, WA9JOB

I think we all know several of our members are, or have been very active in their own communities, and the County. For example, Jerry Walker, KB9IMH, is ongoing as a County Board member. Sandy Wirth, W9BTN, has recently retired from the County Board, where he was the Chairman, and Dave Barrow, N9UNR, was recently elected to the Board. Dave had been the Constable for the Town of Cedarburg, and Tom Ruhlmann, W9IPR, has served on the Town of Cedarburg Board. I was very pleased to see credit given to our own Cindy Douglas, KA9PZG, in the Easter Sunday Milwaukee Journal, Sentinel. Cindy has been very active in Saukville affairs. She is now the President of the Saukville Area Historical Society, and has been very active in church and in the river

cleanup efforts over the years. She finds time for the Saukville Emergency Government and OZARES and somehow finds time to shepherd school kids across the streets at dangerous intersections in town as a crossing guard. Cindy has long been very active in our Club affairs as well. She and Skip have taken care of the Field Day kitchen chores, and our annual corn roast often benefits from her help. While she is a very busy businesswoman, she finds time to volunteer at just about every event needing her services. It isn't her way to claim notability like some others might, but rather too simply get the job done. Thank you Cindy! 73, Nels....

Just Another Shack

De Todd Sprinkman

This month's Just Another Shack Visit is with Gene (KB9VJP) and Carol (KC9CBC) Szudrowitz.

Gene and Carol both grew up on Milwaukee's northwest side. Gene recalled helping to build the ham shack for his Boy Scout troop back in the 1950's. He also recalled the various crystal sets and speakers he had all around the house growing up.

Gene was in the Navy from 1957-74, and then the Army reserves from 1974-86. During his stint in the Navy, Gene spent time in electronics school, working with early computers and with the National Security Agency. In the Army reserves, Gene held the rank of 1st sergeant.

Gene and Carol married in 1967 and moved to Cedarburg in 1969. In 1970, Gene decided to join the Cedarburg Fire Department. This occurred in an unusual and humorous way. One New Year's Eve, the Szudrowitz's were grilling out on a snowy evening. The whole scene was illuminated by an outdoor spotlight.

Neighbors saw the smoke and swirling snow and combined with the bright light, they were convinced the Szudrowitz residence was on fire. Firefighters arrived and were relieved to see the surprised couple assure them everything was fine. Gene was so impressed with the FD's response that he became a firefighter himself. Gene remains with the CFD to this day.

Carol is a special education teacher with Nicolet High School. Carol and Gene have 3 children and 3 grandchildren.

Gene had enjoyed SWL'ing for most of his life, but had never actually gotten his ham ticket. In 1999, freed from the CW requirement, he became licensed. Carol got her ticket in the summer of 2002.

Together, Carol and Gene are involved in a variety of public service aspects of hamming. They also serve the ORC in important ways.

Gene is involved with severe storm spotting. He also is part of a committee that coordinates radio comms for St. Mary's Ozaukee hospital. This is part of his commitment to ARES.



Carol Ann (KC9CBC), our Secretary and Gene (KB9VJP), our Swapfest Chairman share a few moments in their shack with the ICOM 706.

Carol is in the 2nd year of her term as Secretary of ORC. She also helps provide sustenance for the Field Day team. With Carol, Jane Rediske and Julia Nawrot, the cook tent at FD is in capable hands.

Together, Gene and Carol have helped coordinate events such as Fish Days, the Grafton Christmas Parade and The Miller Ride for the Arts.

Gene and Carol are going to be particularly busy this weekend. Gene is in his 4th year of running the ORC swapfest held at Circle B. When I asked him to comment about his service

for the swapfest, he simply asked me, "Do you want to rent a table?"

The Szudrowitz's are an Icom family. The main rig is a 706 MkII G. This is connected to a Comet tribander for VHF and to a longwire on the HF side. Gene still enjoys SWL'ing and keeping an ear to the HF side of hamming. Carol and Gene have Icom HT's and Icom rigs in the car.

Should the 220 Repeater Get a Power Boost?

Please come prepared to discuss the 220 repeater at the MAY ORC meeting. The following facts were asked for by Vic to aid in the discussion. Dick, K9CAN, and Gregg, W9DHI, are assisting in accumulating the data needed.

Facts about the Club's 220 repeater are as follows:

Local users:

W9BTN, K9CAN, AA9CI, KA9DDN, WA9JOB, N9PMR, KA9PZG, N9QA, K9QLP, N9UNR, AA9W, WB9RQR, WA9JMS, AA9WW (?), N9LLT, KY9P, N9LOO, W9XT, N9PSN, plus new members whose calls are not on this list.

Activity increases substantially when the 10-meter link is operating.

Activity increases substantially when the repeater can be heard well in Milwaukee.

The 4-CX-250B amp works.

The 4-CX-250B amp is noisy to work around.

The amp is unsafe to place where people not used to working with voltages > above 500 volts are located.

A cage around the amp would provide necessary safety and security.

A cage was suggested at the time the repeater was removed from Germantown with no action.

The amp does not use a bleeder for reasons of heat and power consumption. It could be added.

Currently a link receiver and voting system are being integrated into the 220 repeater.

Currently there are plans to link the 220 with 146.970 for nets.

An amplifier is needed to take full advantage of 220. It is not important whether we incorporate the present tube amp (with safety concerns) or a solid state unit.

Information prepared by Dick, K9CAN

Minutes – April 14th, 2004

De Carol Szudrowitz, KC9CBC

Call to Order and Announcements: The Technician's Class has begun. Tom W9IPR said others could still join and reminded all that you can encourage friends and others interested in radio work to join. Most people get interested when you, the experienced ham, encourage them. That brings more new life into our club then advertising.

In Omro, Ernie K9LO got involved with the city politics. He had to contact council members to get equity and reasonable accommodations for erecting a new tower. See the article in the newsletter. He said it is worth the effort to educate the public.

Program: Peter KB9URH received his Master Electrical Certification recently. He was kind enough to share some of the codes that apply to the installation of ham radio equipment. An interesting handout dealt with receiving equipment, antennas and clearances for receiving stations. Peter especially emphasized the importance in grounding your equipment and antennas correctly.

Auction: Stan WB9RQR held the auction.

Business Meeting: The **Secretary Report** and **Treasurer Report** were approved as printed.

Repeater Report: the audio went up and down for awhile depending on which receiver was being used. Problem was in the repeater shack. It is fine now. The 220 is back out after getting the PL capability that was needed. A decoder will be added. 10 meter is working OK at home but has feedback at the site

so copper bonding will be added to reduce the RF feedback. Coaxial cables have been the only ground return. On the 440 repeater there is 40 Watts out of the duplexer. It is running good. Jim, K9QLP wants us to start thinking about the want or need for an amplifier for the 220 repeater. Maybe we'd get more usage.

OZARES: – Net tomorrow Thursday. Storm Spotters Class canceled due to death in Rusty Kapela's family. Meeting will be the 4th Thursday as usual.

Scholarship Fund: Dave N9QA wants to be relieved of duties on committee. His role is to handle paper work between candidate and club.

Swapfest Report: Date is May 1 as of the meeting 35 tables out of 95 were sold. (As of newsletter publishing it is better – more then 60 are sold.) Numbers are down, Grays Lake was down too. Is this a trend? Do we want to pay for another year? It could be a financial problem. Nels WA9JOB motioned and recommended to pay for another year. It has served the club well and we do not want to lose that weekend at Circle B. Tom W9IPR seconded this motion. Reminder for members, **we need help for set up, ticket takers, and cleanup.**

Friday night – 6:00 PM set up of tables and numbering – also, early vendors will come in
Saturday - 6:00 AM set up for most vendors
8:00 AM general public comes in
Testing - License testing available after 9:00 AM
Noon or 1 PM start cleanup, take out trash etc.

Gary WI9M will run the testing, Leon K9GCF will help with talk-ins. There is a scholarship table for selling. A club table is available for selling items if you only have a few things you want to sell. Prizes will be given. If any club member has any or can get some it is appreciated. Ray W9BUJ is donating 2 Battery Minders (\$60 each value) thank you!

Field Days: JimKA4UPW reported that it is coming together well. We need HF Band Captain; Captains schedule operators for each position for complete coverage during competition. Goda Station will not be in food tent this year. 10 meters can be expanded. Tents are available for each band position. We could use two more antennas. For 20 meter Yagi would be ideal. Suggestion is that we have a workday some Saturday at Leon's (centrally located) with brats to get hardware tuned up.

Newsletter: Turn in all materials for publishing by the 27th of April to Tom W9IPR.

New Business: Need spotters June 6 for a run in Washington County, the Bob Cross Walk and Run. Challenge as that is also the weekend for the Miller Ride for the Arts and another event in Waukesha County.

Discussion: Jim K9QLP commented regarding the 220 repeater at barn. Dick, K9CAN, doesn't want to use the tube type amplifier he had built for the repeater, because the high voltage shielding was not adequate, or safe. Therefore it is only putting out 6 or 7 watts from the driver stage. Jim said it needs more power to the antenna, possibly a mobile solid state amplifier. Paul KB9WCC suggested using fan but Gregg, W9DHI, said it wouldn't work well because there are hot spots and potential for failure. Stan WB9RQR suggested an ad hoc committee to research it. Gregg W9DHI seconded it so the discussion is tabled until the ad hoc committee can research and study need. Committee appointed is Gregg W9DHI and Jim K9QLP. The purpose is to research amplifier for 220. Nels W9JOB will study the system coverage at higher power levels.

Meeting ended before 9:45.

Attendance: Stan WB9RQR, Joseph KB9URC, Leon K9GCF, Ed AA9W, Dave N9UNR, Gregg W9DHI, Carol KC9CBC, Kent W9WH, Peter KB9URH, Joe AA9HR, Jim K9QLP, Nels WA9JOB, Ernie K9LO, Don W9VSC, Ray W9KHH, Gene KB9VJP, Ray W9BUJ, Bob W9LO, Mark N0OKS, Jim N9WIU, Jane KB9SYI, Herb WA9UVK, Tom W9IPR, John KC9FJX, Julia KB9WBQ, Mark AB9CD, Roger W9UVV, Ed AA9WW, Terry KA9RFM, Jake KB9ZOR, Don AA9WP, Paul KB9WCC, Gary W9XT, Chris N9VKC, Brian N9LOO, Tom AA9XK, James KA4UPW, Vic KB9UKE.

AGENDA

May 12th, 2004

1. Call to order – Vic (KB9UKE)
 2. Introductions.
 3. Announcements, Upcoming events, Etc.,
 4. Program:
 5. Fellowship Break
 6. Auction.
7. Acceptance of Minutes as printed.
 8. Treasurer's report – Tom (AA9XK).
 9. Repeater report – Nels (WA9JOB)
 10. OZARES report – Jon (KB9RHZ).
 11. Committee reports.
 12. OLD BUSINESS
 13. NEW BUSINESS.
 14. Adjournment to ?

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, May 12th

7:30 PM