



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 XXII

June 2003

Number 6

The Prez Sez

By Vic Shier (KB9UKE)

What a great program we had at the last ORC meeting. Tom, W9IPR explained the advantages of a balanced feed line for an antenna. His program was complete with charts, graphs and humor. Then to top it off, several club members brought some home brew tuners for display. Thanks Tom for the fun and informative meeting.



More tuners than antenna's. Dick Scarvaci (K9CAN) is showing a balanced line tuner made by his father in 1937. Tom Ruhlmann (W9IPR) is showing essentially the same design that he recently built from flea market parts. Ed Rate (AA9W) is showing a tuner built from WWII Command set parts and Ray Totzke (W9KHH) is showing a "T" network tuner assembled by Stan Kaplan (WB9RQR)

... and thanks to Leon, K9GCF for planning the programs month after month. It's a big contribution to the ORC.

Our next major event is Field Day. In case you haven't noticed, we take it pretty seriously! Last year the ORC placed 3rd in the nation for a club

running 5 radios and we are still crowing about it. We have plans this year to give it a good run again and many club members have already agreed to contribute to the effort. But I know that some members aren't sure what to do, wondering if they will be in the way or if they will be welcomed. Well let me assure you that the old saying "The More the Merrier" is absolutely true at Field Day. Here are some ideas for those of you that haven't joined us in the past:

- 1) Just come camping with your friends. A big part of Field Day is the camping, sitting around a campfire or enjoying a hot cup of coffee at sunrise. We meet at Lazy Days Campground. Check in at the front gate and let them know that you are a ham radio operator and they will give you a pass for a weekend of family fun.
- 2) Help with the set up on Friday afternoon and Saturday morning. It's a great way to learn more about radios and antennas. There will be plenty of Elmers there to explain why we do things the way we do.
- 3) Support the operators who are doing the contesting. Don't judge by the looks on their faces, they are having fun but they need some help too. Some times they need a drink of water or a cup of coffee. Stop in a tent and ask them if they need anything. Better yet, just bring them a cold drink. They will appreciate it.
- 4) Sit down next to an operator and give him a hand. How? Just listen. An extra set of ears is very helpful especially when it gets late into the contest. Was that last call K3VS or was it K3BF. After a few hours it is hard to tell.

- 5) Work the "Get OnTheAir" station. We need licensed operators who don't get on the air very often to run this special station. We could get several hundred extra points and there will be experienced hams to show you how. Just stop in at the cook tent.
- 6) Help an operator with the logging. Having an accurate log reduces problems and increases the score.
- 7) Sit down at the radio and start making contacts. Don't know how to do that? Well come to the next meeting and we will teach you. The program for the next ORC meeting will be Field Day focused. See you there!
- 8) OOPS. One more thing. We always need help when the contest is over. Tearing down the equipment is harder than putting it up because the excitement is over and everyone is tired.

Field Day is the most exciting event of the year for the ORC and one of the easiest ways to make new friends. Join us for Field Day.

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

Gerald Galvin – K9QXM Silent Key

A former ORC member, Gerry lived in Saukville and was regularly heard on the air on 3860 Kcs, rag-chewing with Bill W9VLL (SK), Ron W9BCK and his many more youthful friends from the area and surrounding states. A retired MSOE educated electronics engineer, Gerry's concentration was transmission line and antenna system performance analysis. Gerry had no peer in this endeavor. Well-versed in practical RF systems performance, Gerry's helping hand toward understanding these principles was ever extended to those of us who were in need of his guidance. No slouch in computer systems and technology, Gerry constantly probed the intricacies of computer applications "invented" by others, always to reveal their basic structure to have been extracted from DEC/IBM/Microsoft software DOS engineering expertise. It is often said that the mind of an engineer exists is also that of a

skilled Musician. Gerry was that too as a self-taught pianist, a talent that led to his passion for jazz and Dixieland music, beats that he knew, understood and played with "Big Band" touring companies, including Tiny Hill, Lawrence Welk and other lesser known bands. Gerry never "blew his own horn" in these regards, his accomplishments simply "slipped out" during our "Rag Chews" on 3860 and the many breakfasts with QXM, VLL and BCK. Gerry is a "one of a kind" gem in our universe of jewels.

"God Rest You, Merry Gentleman"

Ron/BCK

MY FIRST FIELD DAY

De Bob Truscott (W9LO)

I was introduced to Field Day back in 1950 by Dean Wagner, W0OR, my brand new father-in-law. He was an interesting guy—first licensed in 1924 as 9ARW (before the "W" prefix was invented), and according to him, a bootlegger before that. He was a CW guy since day-1, and had zero tolerance for "those idiots who work phone". So it came as no surprise when I told him I wanted to marry his daughter, that his answer was "well, if you're a CW man you can't be all bad, so go ahead with it, but if I ever catch you with a microphone in your hand, I'll have the marriage annulled". Well, this was about the best dowry that a young ham could hope for, so I quickly accepted his conditions before he had time to think it over. (I happened to share his views on phone operation at that time—REAL hams work CW.)

Back to FD. It was June 24-25, 1950 (25 was the day the Korean War started—didn't know that, did you?), and we were set up in a county park near Davenport, IA. Dean & I were the only CW ops in the group—we had his surplus WW-2 rig on 80 meters, and my home brew 25 watter on 40, sitting side by side on the same park bench. This worked OK during the day, but it created a real problem when 80 became active at night and we tried to become a 2-band operation. My receiver died every time he touched his key, and vice-versa. But this only decreased our hourly contact rate by about 2—before that we had been working as many as 4 stations per hour. The phone guys weren't even doing that well—one guy got very excited when he got a "QRZ". The highlight of my day was working K9NRD. None of us had ever heard of a "K" prefix, so we all

assumed it was a rare DX station (rare because nobody knew what country had a "K" prefix). I was pretty proud of that accomplishment until we learned later that "K" was a new USA prefix, and NRD was the Naval Reserve Depot about 2 miles down the Mississippi River from us. Overall, I believe the club had a total of perhaps 50 contacts, but it was fun.

By today's standards it was a primitive effort, but it was a great experience for me, and the first of many FDs—I've only missed 3 or 4 since that time. (And I've never touched a FD microphone - -Dean would be pleased to know that.)

This year's Field Day is June 28-29, with setup beginning on June 27 at Lazy Days Campground. Those of us who don't work for a living or can get the day off will be there about 10:00 AM to get things started. All others are welcome to join us at any time—it's a good opportunity for folks who are new to the event to learn the how & why of putting up antennas, how to set up the operating positions, how power is distributed, etc, etc. And don't forget the Friday night party, which begins somewhere around 5:30. All sheephead players bring money.

Coming up in June:

June 14-16 ARRL June V HF QSO Party. Rules in QST, May, 2003, page 101

June 28-29 ARRL Field Day Rules in QST, May, 2003, page 101.

Have fun contesting.

Swap Fest 2003 – Cedarburg Style

It takes the whole club to make this the successful event that it is!!.

Behind the scenes artwork was created for handbills and tickets. Mailing lists were compiled. Postcards were printed along with the handbills and tickets. Stamps and labels went on the cards for mailing. Newspapers were notified with information about the event. ARRL posted the event on the Internet. This was just the beginning. Handbills were taken to other swapfest for advertising or posted on local bulletin boards. Vendor table requests came in slowly at first. A

map was made out for reserved tables. Thank you for all your help.

Friday night we arrived at Circle B and found out that the Cedarburg Auction Company had just finished. The place was a mess and only one young man to clean and organize! So some members pitched in and put away chairs, while others helped pull tables from the back room.



Great crowd and great deals at the ORC 2003 Swapfest – Great job by Gene (KB9VJP).

Some members swept the floor and others labeled the tables with numbers. Finally, with everyone's help we were ready for the early vendor setup time. Thanks for being there!

Saturday morning we again had many helpful members at Circle B by 6:00 AM. Vendors set up and the doors were opened to the public by 8:00 AM. Comments from visiting hams were positive. They like what they saw and purchased. That pleased the vendors. We had a great crowd. Our scholarship table did well. Final totals were good. We did not sell out all the tables; however, the crowd was larger than last year.

Thanks again to all who helped!! Gene KB9VJP

“Dayton” That says it all

The expeditions all arrived by Thursday evening and the Friday started with Nels (WA9JOB) and Ernie (K9LO) setting up the “point of sales”/rest station in the flea market.



For me it takes 8 full hours to tour the flea market one time. Others take it in stages. However it's done rest breaks are important – if only to discuss “what was seen where”.



Early to take a break were Dave (N9UNR), Tom (W9IPR), Ed (AA9W) and Jim (KA4UPW). Note that the space under the sales counter is starting to fill.

And then came the Saturday rains and we all went inside to visit the commercial vendors. However we did get back outside to snap up some of those good deals brought on by the rain God's.



But all's well that ends well and what could be better than an evening gathering for nourishment, the telling of tall tails and a bit of libation.



And clearly, the winner at Dayton for “The Most Antenna on a Trunk Lid” was this K8 with 21 as counted by Dave (N9UNR) and Jim (WA4UPW)

Truly it was a really great time, rain and all, as can be attested too by the above gangs and the others who ventured forth including Gene Szudrowitz (KB9VJP), Kent Christiansen (N9WH), Gabe Chido (WI9GC), Ted Schweitzer (KB9RLI), Ed Frac (AA9WW), Jake Schmeling (KB9ZOR), Brian Skrentny (N9LOO) and Leon Rediske (K9GCF).

Upcoming Events

- 11 June – ORC Meeting
- 21 June – Field Day @ Lazy Daze
- 12 July – South Milwaukee WI - Swapfest
- 27 –28 Sept. – Grayslake IL – Swapfest

Old Time Radio – Part 2

De Jim Hilins (KA4UPW)

Last month we completed we found our radio for restoration. Perhaps it was and “old” Zenith as shown below. Then we completed the first two steps:

1. Removal of the radio chassis from the cabinet.
2. Cleaning of the chassis and components

Now for getting to the real project – that of figuring out exactly what you have and what it will take to restore it.

3. Determining Model Number

So you think this is easy? Sometimes it is. The most common locations for model numbers are the rear of the chassis, the top of the chassis, and the inside of the cabinet..



An Old Zenith console vintage 1930's. This is the type radio we modified to include a BFO and with which we copied code when I was a freshman in high school – that was 1951 when I got my N0ITI Novice ticket (W9IPR)

If your radio is one of these and the numbers are still legible, then you don't need to read the rest of this section

Unfortunately, papers come unglued and fall out of cabinets, and numbers printed on chassis become illegible. Before you give up looking for a legible number, look ALL over the inside of the cabinet and the chassis. Model numbers sometimes appear on the bottom of the cabinet or the front of the chassis. Still no model number? Read on.

The first step in determining model or chassis number is finding out who made the radio. Look at the name on the front of the radio. The name on the front will tell you who made the radio or give you a good clue. Next, find out how many tubes the radio has, and the type of tubes (e.g. 6A8, 6K7, 80, 6Q7, 6F6). Some radios have tube numbers stamped on the tube sockets. The type of tubes will give an approximate date. Now you need to get access to a set of [Riders Perpetual Troubleshooters Manuals](#) or some other resource listing tubes and model numbers. The rest is a process of looking at many schematics or tube listings and finding one that matches your radio. You can double-check your results by determining if the radio really includes all the parts listed in the schematic. Riders Manuals are now available on CD ROM. Consider purchasing a set of Riders if you are serious about repairing or collecting antique radios. Or make friends with someone who has a set!

4. Assessing the condition of the chassis

You can get a rough idea of the scope of repairs your radio needs by a good visual inspection. You have removed all the dust at this point, so let's start looking at what was underneath all that dirt. First, is there anything obviously missing? Look at the top of the chassis. Large holes in the chassis and empty tube sockets are a good indicator that something may be missing. Some radios came with extra-unused holes in the chassis, so this is not always a good indicator. I've seen many radios with holes in the chassis where the old electrolytic capacitors were removed and replaced with newer units located under the chassis. Look for loose ends of wires, another good indication that something is missing. Double-check the schematic for the parts that the radio should include. Does it include a power transformer? If so, does the transformer look like it has been overheated? Burnt paint, and exces-

sive amounts of tar or wax drips are signs of overheated or failed transformers. How many coils should the radio have? (some coils live on top of the chassis, others lurk underneath) Look for the audio output transformer, it may be under the chassis, on top of the chassis, or on the speaker frame. While you look for the audio transformer, look at the speaker also. Is the speaker cone intact? You can repair even large tears. If much of the cone is missing, you will need to have the speaker re-coned.

If your radio is complete and free from obvious problems, you can move on to preliminary testing!

5. Preliminary Testing of your Antique Radio Chassis.

Now comes an exciting step! When I began restoring antique radios, I skipped some of the necessary safety precautions and just plugged radios in. I always asked the questions- will it work? Will it just be dead or will it smoke and spark? I ruined a number of rectifier tubes in this manner and started a few small fires! So, before you start, make sure your radio has a good line cord.

The most important piece of equipment in this step is the Variac. The Variac is an adjustable transformer. Given a 115V input, my Variac will give me a variable output from 0 to 140V, continuously adjustable by a single knob on the front. The Variac is useful since it allows you to apply a low voltage input to the radio for testing. This low voltage allows you to test your radio without damaging it - even if there are electrical shorts in the radio. You can order a Variac from Aircraft Spruce and Specialty.

Set the Variac to zero and plug the radio into the Variac. Remove the rectifier tube. The first test assesses the condition of the power transformer. If the radio does not have a transformer, skip this step. Turn the radio on and slowly bring the voltage up to about 70 volts. Make sure nothing is overheating. Carefully measure the voltage from the power transformer at the rectifier socket. The high voltage will be around 200 to 400 volts. If nothing looks or sounds suspicious, adjust the Variac to 115 volts. Leave the power on for approximately one-half hour. Watch the radio to make sure nothing is getting too hot. The power transformer should be warm, but not hot in this test. A shorted power transformer will heat up even with the rectifier

tube removed. If the transformer passes the test, proceed to the next step.

Connect an antenna to the radio if the radio requires an external antenna. Turn the radio on. Slowly bring the power up to about 50 volts. Make sure the rectifier tube is not getting too hot (if the plate glows a dull red, it is definitely too hot!). Check the B+ (high voltage from power supply). The B+ voltage should be about one third of normal. If it is zero, turn the radio back off. If all is well bring the power up to about 70 to 80 volts. Check the rectifier tube again and the B+ voltage. If the radio works at all, you will hear it begin to play. If the radio plays, then you may only need to replace capacitors for it to operate safely and reliably. If the radio makes no noise at all, but has reasonable B+ voltage, the audio transformer may be bad or one of the audio circuit capacitors may be shorted.

"But I don't have a Variac, what can I do?"

If you do not have a Variac, you can wire a 250Watt heat lamp in series with the radio for testing. The lamp should not light up, a little glow might be OK.

6. Filter Capacitor Replacement

Filter capacitors smooth out the waveform of the DC current produced by the power supply. Many old radios came equipped with liquid filled filter capacitors. Filter capacitors are frequently labeled "electrolytic" on the schematic diagrams. My rule of thumb for filters is to replace them unless someone else has already replaced them recently. Shorted or leaky filter capacitors ruin power transformers, rectifier tubes and speaker chokes - often difficult and expensive to repair.

Check the schematic diagram to find out how many filters the radio has and what the values are. Use the same value filter for the capacitor closest to the rectifier tube. Using a lower value will increase the hum, a higher value will cause the voltage to be higher than normal. You can replace the other capacitors with ones of equal or slightly greater values.

Do not discard the old wet capacitors from the radio chassis. Leave the original cans on the chassis for the sake of authenticity. You can mount new capacitors under the chassis, or you can cut open the old capacitor and install the new one inside it. Either way, make sure the re-

pair is neat and safe (insulate all connections). When I install new capacitors inside the original cans, I cut the can open at the top, or wherever a cut is the least noticeable. Once the new capacitor is inside the can, I glue the top back on using gap filling super glue or Duco cement.

Potted (encased in wax or tar filled cans) capacitors present a little more challenge. First, remove the can from the radio, marking all the wires as the can is removed. Many potted capacitors are soldered closed, so the first order of business is to get inside the can. Dynamite is the quick and easy method of opening potted cans. Dynamite is a tad dangerous, so I recommend a large soldering iron or a small propane torch. Once the can is open, you still have to get the potted capacitors out. The best way to get the capacitors out is by heating the entire assembly in your oven. Before you heat the capacitors, send your wife out shopping. Heat the can at 200 to 250 degrees F. When the wax or tar starts to become soft, remove the can from the oven and slide or dig the mess out. Make sure you clean up every trace of this mess from the oven! Use aluminum foil and an old cookie sheet to keep potting material off the burner. Fire is always a hazard in this type of operation, so keep the heat low, and have a fire extinguisher handy.

Once you have an empty can, install new capacitors (make sure the wires are not shorted to each other or the can). If you are a real purist, refill the can with the wax or tar you removed earlier.

Who Does What & Lazy Day's

By Vic Shier (KB9UKE)

The Ozaukee Radio Club has held its field day event at Lazy Day's Campground for over 30 years thanks to the owner, Joe Waters. Mr. Waters isn't a member of the ORC and he isn't even a ham but he certainly has been a supporter of the club.

He learned electrical engineering at DeVry Institute in Chicago and upon graduation repaired radios and televisions for Railroad Salvage in Milwaukee. Shortly after that he became the Maintenance Engineer for WOKY TV station. From there he and a group of 9 others were sent

to St. Louis to start a new station, KLPR where he met several famous personalities including Pearl Daily and Richard Rogers, of Rogers and Hammerstein.

Not long after the station was up and running he returned to Wisconsin and worked for a variety of radio and TV stations. One of his responsibilities was to negotiate the purchase of a new \$46,000 videotape machine from RCA. The RCA rep at that time was Ron Yokes, W9BCK. Some of his co-workers through the years included Nels Harvey, WA9JOB and Bob Truscott, W9LO. It was sometime in the mid 1960's that Bob asked if Joe might have some space available for the ham radio operators. Joe said, "Sure, if you can't help other people, what good are you?" That space was at Lazy Day's.

The Waters' family enjoyed camping and in 1963 he purchased a farm with frontage on Little Green Lake in Washington County and started Lazy Day's Campground. Little Green Lake is nice for fishing and swimming. It is a great place to take the family.

Two years ago he opened Stoneridge, a new golf course on an adjacent property and a driving range. It is a regulation 18-hole golf course with bent grass fairways and a fun course to play.

Starting a campground and a golf course from scratch has presented Joe with many challenges but he hasn't let them bother him. He said "I work hard all day and when I go to bed at night it is to sleep, not to worry."

Next field day make an effort to thank to Mr. Waters and his family for supporting the ORC these many years.

What's Worth Repeating?

De Nels Harvey, WA9JOB

On Tuesday, May 27th, Alan Rome, KB9DRZ, a professional tower climber from the Madison area, was kind enough to climb our tower, and replace the old antenna with the new one Leon, K9GCF, and I had purchased from a radio shop in Fon du Lac. This was arranged by our ARRL Wisconsin Section Manager, Don Michalski, W9IXG.



This new antenna is operating very nicely, and there is a noticeable difference between the old antenna's performance, and the new one's. Please give us reports on your receiving results as you travel on weekends and vacations.

Minutes

De Carol Szudrowitz (KC9CBC)

ORC Meeting was called to order May 14, 2003 at the Grafton Senior Center.

Announcements:

Dayton Bound hams request an early end to meeting - leaving early May 15 for Ohio.

River Fest - May 31 - Community Service 7:30 AM, Saukville.

Miller Ride for the Arts - June 1, if you can help, call Jeananne N9VSV, for more info.

Technicians Class - No Class for 2 weeks, Ohio Superfest and Memorial Day Weekend.

Program:

Tom W9IPR, gave an interesting program on tuners. Best Resource available is the ARRL Antenna Manual. Info on feed lines, tuners and balanced line antennas.

Tom W9IPR, Ed AA9W, Ray W9KHH and Dick K9CAN displayed their tuners.

Break and then Auction:

Stan WB9RQR, held the usual Auction

Business Meeting:

Minutes:

Approved as in the newsletter.

Treasurer's Report:

Swapfest was successful, see report.

Gabe, WI9GC, is retiring to Arizona in September; therefore, Tom AA9XK has graciously agreed to finish Gabe's term as of Sept. and run for office next year.

Repeater Report:

Nels, WA9JOB, reported the repeater failed in a storm on Saturday May 10th. The 7K controller was blitzed. It will be taken care of after Ohio Trip. A 5K SCOM controller is serving for now. The damaged controller has been sent to SCOM for repairs and updating. Plans are for the 220 system to be outfitted with the newly acquired 7K controller and possibly interfaced with the 146.97 MHz. repeater for nets. This would make autopatches available on the 220 MHz. repeater.

OZARES Report:

Jon, KB9RHZ, just a meeting reminder on Thursday, May 22 at 7:30 PM Justice Center.

Scholarship Report:

Ed, AA9W, said the Scholarship Table did very well at Swapfest, over \$1000. Still has 2 handitalkies.

Committee Reports:

Swapfest:

Gene, KB9VJP, said Thank You! Thank You! Thank You! For all the set up help and that day help. Everything went well! The Board awarded Gene a new pocket protector for his efforts.

RiverFest:

Saturday - May 31 - River Cleanup 7:30 AM - Saukville - Call Cindy KA9PZG for more information. Remember it's a great service project for the community.

Old Business:

Superfest:

Thanks to those who worked the booth, Stan, WB9RQR, won the prize.

International Space Station:

For information contact Gary N9UUR.

New Business:

Field Day:

June 27, 28, 29, 2003

A preliminary planning meeting was held at Leon's, K9GCF. The next one will be at Leon's June 3 at 7:15 PM. We need a replacement for beverage responsibility. It's all pre-ordered at Otto's and prepaid. It needs to be at the park by Friday for set up. There is another keg run in the middle and then return everything by Sunday afternoon.

Gary WI9M, gave the run down. The park will spray mosquitoes with DDT. Poison Ivy will also be taken care of. Think about sign up times next month. To practice computer logging go to www.KANE.com/ham Check Gary's article in newsletter for more information. If you have pictures from previous events, share them for our

bulletin board. We are also trying to get local paper out there for a picture. Ed Frac's generator will be back as well as Stan's WB9RQR turkeys on Friday night. Remember to bring a dish to pass.

The meeting was adjourned at 9:40.

Attendance:

Dave NRUNR, Ted KB9RLI, Herb WA9UVK, Gabe WI9GC, Kent N9WH, Nels WA9JOB, Bernie AA9CI, Jim K9QLP, Tom W9LNL, Gene KB9VJP, Joe AA9HR, Roger W9UVV, Gary WI9M, Bob WQ9N, Bob W9LO, Ray W9BUJ, Ron W9BCK,

Chris, visitor, Charles WA9CPE, Gary N9UUR, Jeananne N9VSV, Terry KA9RFM, Bob N9NRK, Gay KB9OBR, Julia KB9WBQ, Carol KC9CBC, Ben K9UZ, Stan WB9RQR,

Jon KB9RHZ, Ed AA9GT, Don W9VSC, Cindy KA9PZG, Dick K9CAN, Ed AA9W,

Jeff KB9QQE, Leon K9GCF, Jane KB9SYI, Paul KB9WCC, Bob W9RNA, Tom AA9XK, Tom W9IPR, Ray W9KHH, Mike WJ9O, Sky N9XRU.

AGENDA

June 11, 2003

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 – Gabe (WI9GC).
 9. Repeater report – Dave (N9QA)
 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 11th

7:30 PM