



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: www.ozaukeeradioclub.org Facebook: facebook.com/orcwi

Volume XXXIII

October, 2015

Number 10

From the President

de Chuck Curran, W9KR



The month of September turned out to be a fun radio month for me. The first area that I spent time with was helping with the September Swapfest, coordinated by Tom Ruhlmann, W9IPR. I started by looking at the gear I have at home, the by-product of a urge to "Hoard". I seem to have collected multiple samples of old Eico and Heathkit VTVM's, multiple Weston clamp on AC ammeters and other items. The first question I asked myself was how often had I used this stuff? Rarely, if at all was my confession. You only need one of each item, not 3 or 4!

So, out came a big cardboard box and I started placing my donations in it for the Swapfest. My wife seemed pleased that I was giving up my treasures, so I then was drafted into a shed cleaning project. We got rid of a large quantity of gardening junk that had also accumulated. Enough of that!

We also got some great help after the Swapfest taking everything back to the barn. Ed Rate, Tom Ruhlmann, Jake Shultz (Tom's grandson), Zach Yatso, Andy Amrhein, Gary Drash and myself had it all unloaded and back inside in about 25 minutes. Having a few more hands (or Hams?) present really made it easy!

Dave Barrow had the Swapfest financial report ready soon after the Swapfest and things turned out well, Thanks to all who participated, great job!!

Another Field Day gathering took place, coordinated by Ken Boston. We had a group that met at the Pleasant Valley Nature Park in the Town of Cedarburg to review the site. With about 8 of us present we think all aspects that would impact Field Day activities were covered. The end result was that we have now decided to hold the 2016 Field Day at Pleasant Valley Nature Park. It is located 1.8 miles north of Hwy 60 taking Hwy I, then ½ mile east on Pleasant valley Road, on the north side of the road. This location is much closer to places that can provide food if you want to run off for a snack and also has really nice restrooms with flush toilets and sinks. Wow!
73's

Chuck W9KR

DX'ing & Contesting

De Gary Sutcliffe (W9XT)



We recently passed the autumnal equinox and HF conditions have been improving. Even the sun has been cooperating and the solar flux is up to 130. If it can hold for a few more months we can have a lot of fun on the bands this fall and winter.

That would be great as there are some really good DXpeditions coming up this season. My local DX club which also included ORC members W9GA, K9DJT and W9MXQ donates money to several DXpeditions each year. Some of the DXpeditions cost several hundred thousand dollars to fund, and depend on clubs and DXer contributions to help offset costs. No one in our club

calls so many deserving operations and deciding which ones will get contributions from our modest balance will be difficult.

By the time you read this, TX3X from Chesterfield Island will be on. This is one of the big ones. This is put on by a large group of primarily US hams. They will be on the air until October 12. Their web site (www.tx3x.com) shows they plan on having 3 CW and 3 SSB stations along with another station for 6M and RTTY. They specifically want to have a big presence on RTTY. They will be running amplifiers and beams so they should have good signals. They are also bringing receive antennas for the low bands. That along with the number of stations should mean that there will be a lot of opportunities to work them.

Right now the North Cooks in the Pacific are on. Actually there are two different ones. E51MQT by N7QT and N7BX will be on until the end of October. I was able to pick them up easily running 100 watts into a 40 meter antenna with a tuner on 17 meter SSB. E51MKW by KZ1W is also on until October 13.

Continuing the Pacific Island theme, the Marshall Islands will be activated by a group of German hams October 13-28. They will be on 160-6 meters with 4 stations and operating CW, SSB, and RTTY. They will be using the call V63AH.

Macao is a pretty rare one but should be put on the air by a pair of Polish hams on October 16-28. They are only operating 40-10 meters, SSB and RTTY. Not only is this one fairly rare, it is a tough path. The call has not been announced, but the prefix is XX9.

If you don't have Vietnam, the next month or so offers some opportunities. VK6LC will be on using 3W2HCM October 16-23. A better shot might be later in the month by a large group of international ops and 5 stations operating under the call sign 3W3MD. Viet Nam is a tough path. Your best shot will probably be on 20 and 17 Meters.

The contest of the month is the CQWW DX SSB Contest, October 24-25. This one starts at 7:00 PM local time on Friday night and runs 48 hours. Basically you work other countries, including Canada. The exchange is signal report and CQ zone, which for us is zone 4. So, you would give 5904 as the exchange. You get 2 points for other countries in North America, and 3 points for each contact in the other continents. The multipliers are the number of different coun-

tries and CQ zones worked on each band. You can work US stations for the country and zone mults, but they are worth zero points so don't waste your time working them once you get the multiplier. There are a few quirks on multipliers, so you should check the rules at www.cqww.com if you plan to operate this one.

Did you know that this was the biggest contest as far a number of stations on the air? That is why there are a large number contest DXpeditions for this weekend. Often they are on the air a



few days early as they get set up and check propagation. Since the main reason they are going to these locations, they want to maximize the number of contacts during the contest. For that reason they often avoid the contest phone bands before the start. Casual DXers who work them a few days early on say 20 Phone might not bother again during the contest. Your best shot at getting them before the contest is often on CW or the WARC bands.

That wraps up October operating. Sunspots continue to decline, so work them while you still can!

(cartoon from QST, Oct. 1957)

The Computer Corner

No. 212: Let the Buyer Beware

By Stan Kaplan, WB9RQR
715 N Dries Street, Saukville 53080 (262) 268-1949
wb9rqr@att.net



Before we get to today's topic, let me relate a conversation between my wife, Nancy (KC9FZK), and myself, today.

Nancy: Did you write your Computer Corner article for the newsletter yet?

Stan: No, not yet.

Nancy: Better get to it. Tom will be back in town Wednesday; check your email as to when it must be in.

Stan: OK. I'll get to it.

So, next time you see Nancy, thank her! She keeps me honest and on time.

At our last swapfest (26Sep15), one of our ORC members bought a Windows 7 computer. The seller related the machine was perfect and offered our member his card with contact information, but our member forgot to take it. When he got the computer home and set it up, the desktop came up, but programs would not run without a password. He had no password and no way to get it. Therefore, our member was out the dollars he had paid for the machine.

The simple moral to this story is: never purchase any piece of equipment at a swapfest without getting at least one of the following two items: 1. A basic demo from the seller showing the equipment operates as intended. 2. Contact information from the seller so you can phone or email them with questions later as you become familiar with the piece of equipment.

In the case of a computer, the demo should show that the following are operating:

1. The Operating System itself (run Start, Accessories, System Tools, System Information, for info on the OS, who manufactured the system, memory installed and other tidbits).
2. Programs. (try Start, Accessories, System Tools, then Disk Cleanup for a simple indication that programs will work properly).
3. Antivirus. Look for an antivirus program and run it to get an indication of how current it is. If the virus definitions are more than 3 months old, make the assumption that the machine is virus infected and be prepared to go on a witch-hunt to detect and kill them. In that case, also be prepared to hunt and kill rootkits that might be lurking on the hard drive.
4. Network cable connections or WiFi connections. If it is important to you, plug in a cable or activate the WiFi ability of the machine, and then run Internet Explorer to see if you can get on-line and surf the net.

Be careful what you pay for. And, if you need a computer, always check with me first. When I have them, mine are freshly rebuilt, guaranteed, and the proceeds go to support good causes: some combination of the ORC, the ORC Scholarship Fund or OZARES. Happy Computing!

A Garage Door Opener Solution

De Stan Kaplan, WB9RQR

My garage door opener developed a problem. While the opener itself worked fine, its relays that turned the built-in lights on and off had failed. The door would open and shut, but the lights would not go on, either automatically or when pressing the appropriate button on the manual switches mounted on the wall near entry to the house.

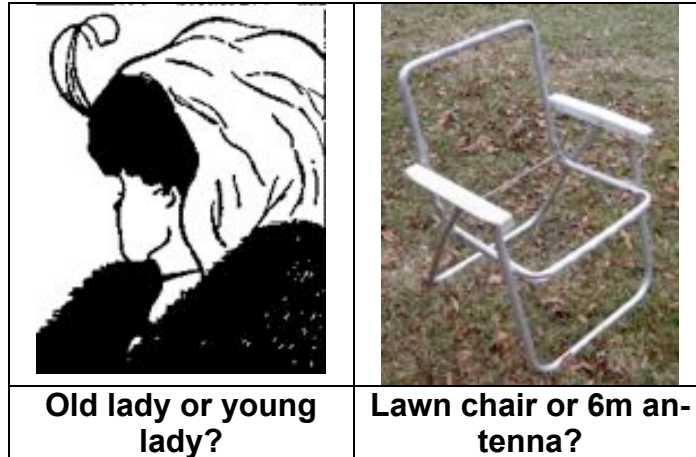
A technician from Cedarburg Garage Door came out and confirmed it was the relays. He informed us that they no longer used relays and that the replacement board would cost \$200. A whole new opener would cost \$300. But the technician reflected that the opener was fine and had at least 4 to 5 years more service life to go. Then he suggested the solution that I have shared below.

I took out the bulbs installed in the opener, since they did not work anyway. I purchased an inexpensive (about \$15) motion detector from my hardware store. I mounted the detector in an appropriate place in the back of the garage, about seven feet above the garage floor. I installed the two light bulbs in the sensor, went through a couple of position/sensitivity adjustments, and settled on one that worked well. Now, stepping into the garage or opening the garage door will turn on those lights for a minute (you can choose 1, 5 or 10 minutes on my particular motion detector). Continued movement in the garage will keep those bulbs burning. Only after a minute of no motion (after closing the big door and entering the house) will the lights go out. A simple, low cost solution!

6m Lawn Chair Squalo

de Tim Boppre, KA9EAK

How good is your Amateur Radio vision? As a test consider the image on the left. Some see an old lady, some see a young lady, and some can see both. Now consider the image on the right. Most see what looks to be the frame of an aluminum lawn chair but those with keen Amateur Radio vision see a 6m antenna.



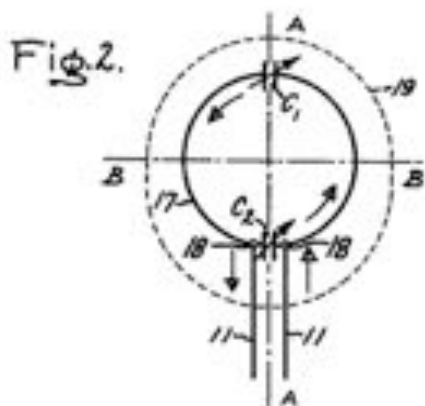
A number of years ago, using his sharp Amateur Radio vision Dick Stroud, W9SR, saw a 6m antenna hiding in an old lawn chair and soon the 6m Lawn Chair Squalo was born. He wrote an article about it in the January 2002 issue of QST “*Six Meters from your Easy Chair*” and soon lawn chairs everywhere were being turned into six meter antennas. There was such a run on folding aluminum lawn chairs that an entire new outdoor seating device had to be invented (the folding bag chair) in order to meet the demand for outdoor seating as the pace at which Amateur Radio operators were converting lawn chairs into antennas could not be slowed. It got so bad at one point that legislation was being considered to implement a background check for the purchase of folding aluminum lawn chairs. Anyone with an Amateur Radio license was to be subjected to intense scrutiny. My involvement with this piece of Amateur Radio history came later, after debate over the Folding Aluminum Lawn Chair Preservation Act of 2003 legislation subsided and the availability of safe and effective picnic seating was once again restored.

I purchased my first 6m capable radio, a Yaesu FT-857, last fall and wanted to see what this “Magic Band” was all about. I was considering building a Moxon when Tom, W9IPR, suggested on an ORC net one night that I build a Squalo and he donated a lawn chair for the project. The term “Squalo” was invented by Cushcraft in the ‘60’s for a “square” “halo” antenna that was popular then and is still sold today.

A halo antenna is a horizontally polarized, omni-directional antenna which is essentially a half-wave dipole shaped into a circle with some interesting characteristics where the ends nearly meet and at the feedpoint which allow it to be physically shorter than a half-wave dipole. The first US patent was filed in 1941 and issued in 1943 as US2324462 A, *High Frequency Antenna System*. It’s a very interesting patent and I commend it to you as it contains a very good description of the operation of a halo antenna. As an interesting aside, Apple cited this patent as prior art in one of their recent patent applications which just issued this past June as US9070969 B2, *Tunable antenna system*, providing a nice illustration of age old principles applied in new ways and furthering the arts which is the primary intent of the patent system.

A few years after US2324462 A was issued in 1943, an article appeared in the October 1947 issue of QST, “A “Halo” for Six Meters.” In it the author, W1MUX, describes a mobile halo an-

tenna based upon "borrowing an idea from commercial practice." (We were a significantly less litigious society in those days.) The article is available in the QST archives and again is very interesting to read as it applies the principles described in the patent in explaining how the mobile halo worked to solve the problem of horizontal polarization for mobile operations at that time. It's also funny as it has a picture of the antenna mounted on the bumper of W1MUX's car. It looks like a mobile basketball hoop.



To build my Squalo I disassembled the lawn chair by drilling out the rivets and then cutting the legs to the correct dimensions. An interesting part of the construction of the antenna is that you need to build two capacitors. Referring to Fig. 2 of US2324462 A, the first of the two capacitors, C1 is located at the position where the dipole ends nearly meet, one plate being attached to each leg of the dipole with air as the dielectric, and C2 which is located at the feedpoint and is called a Gamma match.

I constructed the plates for C1 by cutting and shaping some aluminum plate and fastening it to the legs of the chair which have now been transformed into antenna elements. (Which came first, the antenna or the chair?) One side of C1 is fixed and the other side is allowed to move for tuning purposes.



Capacitor C2, the Gamma match is constructed of a piece of brass rod covered with heat shrink tubing (the dielectric) inserted into a length of aluminum hobby tubing.



The center of the Gamma match (the brass rod) is connected to the center of the SO-239 connector and the tube is spaced from the lawn chair leg, I mean antenna element, in such a way as to allow adjustment for tuning.



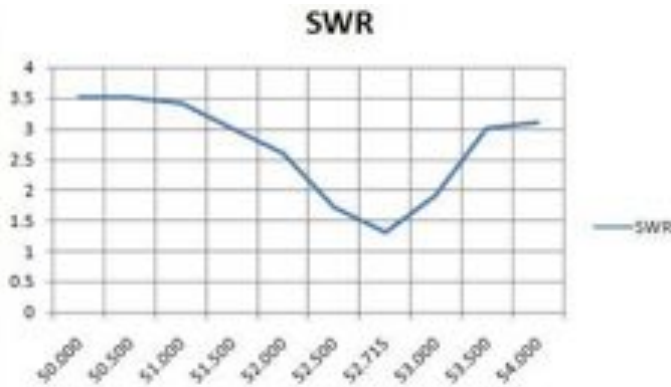
With the fabrication of a mounting bracket the completed antenna looked like this:

And mounted at 21 feet on some welded up electrical conduit:

Performance of the antenna thus far has been good though further experimentation and tun-



ing are required. Once it was up and functioning Tom, W9IPR and Jim, K9QLP took some time in the age old tradition of Amateur Radio to assist me with some on-air testing. Tuning the antenna is accomplished by adjusting C1 and C2. My initial work resulted in the following SWR over the 6m band:



And further work will improve this result.

Overall this was a very interesting project that provided an opportunity to delve into a number of aspects of the hobby which in the end is what the best hobby of all is about. Over the course of building this antenna I researched various topics for additional insight and would highly recommend reading the following two references on Gamma matches as they are an interesting topic in their own

right:

Given all of this inspiration, I expect to see some Squalos mounted on bumpers at the next ORC club meeting as we all await the next opening of the "Magic Band."

References:

Six Meters from your Easy Chair:

<http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/0201033.pdf>.)

A "Halo" for Six Meters: http://p1k.arrl.org/pubs_archive/27854

US2324462A, High frequency antenna system: <https://patents.google.com/patent/US2324462A/en>

US9070969 B2, Tunable antenna systems: <https://patents.google.com/patent/US9070969B2/en>

Beam Talk for the Layman:

<http://www.arrl.org/files/file/protected/Group/Members/Technology/tis/info/pdf/5807035.pdf>

What is a Gamma match: <http://ham.stackexchange.com/questions/1804/what-is-a-gamma-match-in-the-context-of-the-driven-element-of-a-yagi-antenna>

The ORC 2015 Annual Fall Swapfest

De Tom Ruhlmann (W9IPR)

Well we did it again – we had a successful Fall Swapfest and a lot of fun however with a minimal crew. We had about 43 vendors including Tower Electronics and the attendance was over 200 and seemed to be slightly more than last year. However there were definitely more cars and Stan and Nancy Kaplan, Kate Holt and Kristian Moberg did a great job of keeping the parking and vendors organized.

Jim Albrinck did a great job of arranging for the fairgrounds and with setup for the swapfest Friday evening and Saturday. He also supervised the gate ticket sales assisted by Jake Shultz and Dick Holt.

Vendors are an important part of the event and several of our members, including Gary Sutcliff, John Strachota, Loren Jentz and Tom Trethewey helped the show go on.

Bill Howe again did a great job as our announcer and MC using his personal audio equipment – thanks Bill.

As in past years Brian Skrentny and Ed Frac prepared the brats, donuts, coffee etc and refreshments which added another \$100 or so profit to the club treasury.

Thanks to previous equipment donations and the efforts of Chuck Curran, Gary Drasch and Ed Rate the Scholarship Fund grew with sales of over \$650.

It ain't over till it's over and thanks to the cleanup crew and the gang unloading the unsold items at the barn we were all home by about 1 PM while the club operating fund had increased by over \$500.



The Scholarship Fund had 6 tables and 2 trailers full of bargains while Ed Frac and Brian served up the brats.



Tower Electronics had about 10 tables of parts and antennas inside while over 40 vendors set up outside.



Bill Howe set up his PA system and talk-in station and acted as MC while he participated as a vendor as well.

Everywhere you looked there were more tables and car trunks of some of the good stuff that you always wanted. I saw antennas, antique broadcast radios, antenna tuners, grid dip meters, amplifiers, power supplies, transceivers, speakers, microphones, hardware, wire and cable, oscilloscopes, multimeters, VTVMs, signal generators, frequency counters and about anything else one could think of. It was a great time socializing with other HAMs of the region under a warm sun with a free coffee and the profits will help keep our club operating.

DIY Ham License... Printing Print vs. Photo Copying

From the GM Firebird newsletter by W0PC

It's easy to print your own personal Amateur Radio License from the FCC web site. The main things you need to know are your FRN (Federal Registration Number) and your Password. Every licensed amateur already has an FRN. It's printed on your license. When you got your FRN, you were sent your password. Using these 2 items, you can renew your license, change your mailing address or make other administrative changes like adding or changing your email address.

As a money saving measure, the FCC has stopped printing ham licenses as a general rule. If you want them to mail your license, you must request it via their web site. If you use the ARRL or other 3rd party source to renew your license on your behalf, you will receive an email to the address on file that contains a link to your license. Just click on the link and your "Official Copy" license will pop up like the one on the right. Simply print the license as it appears on you computer. No fancy paper is used. They advertise they have been using recycled paper for quite awhile already. Your home made "Official Copy" license looks exactly the same. There is no difference on the copy the FCC mails out via your request or the one you print yourself. I've tried them both. For grins, I changed my email address and requested a Duplicate Copy of my license. Within 3 days, I had a letter with my license enclosed. The part I was surprised about was the new "Effective Date" where my email address was changed. It didn't look any different than what I printed myself. Remember to sign the bottom of your license to make it really official. The small lower part can be laminated and put in your wallet like always. If you are a VE or thinking about upgrading your ticket, your job is easier. No need for a photo copier to get a copy of your license to turn-in. Just print an "Official Copy" and use it. There is no limit to how many times you can print your license. An easy thing to do is to simply make a copy of the computer file (Adobe Reader) and store it on your computer or some safe place. When you need a copy simple pull it up and click print. I just finished teaching an Extra class and my students had no problem getting their new license on the wall of their shacks. Good Luck.... It's not really that scary. If you need another copy of my PDF file I sent out on how to do it, just drop me an email.

73 de Rick (WØPC)



Ozaukee Radio Club Meeting Minutes

September 9, 2015

Zach Yatso (KC9ZNR), Secretary



Chuck Curran (W9KR), President, called the meeting to order at 1928. Introductions followed.

Announcements:

Ted H. (N9LLT) reminded everyone about the informal Echolink Train Net, now in its 7th year.

Program:

Bill (W9MXQ) presented on and showed a fascinating video tour of antique radio station WLW. Several members were able to add their own stories and experiences with the station.

50/50 Drawing:

The 50/50 drawing was held by Kristian (KC9TFP) and the winning ticket was #066.

Auction:

Stan Kaplan (WB9RQR) conducted the auction and numerous items were sold.

Officer Reports:

Chuck Curran (W9KR), President – No report.

Kevin Steers (K9VIN), 1st VP – No report.

John Strachota (W9FAD), 2nd VP – No report.

Tom Trethewey (KC9ONY), Repeater VP – There was a slight issue with the 2m repeater, 220 is working, and 440 is working (but no one is using it...)

Zach Yatso (KC9ZNR), Secretary – Motion to accept August minutes was made by Nancy (KC9FZK), seconded by Dave (N9UNR), and carried without debate.

Dave Barrow (N9UNR), Treasurer – motion to accept Treasurer's report was made by Dave, seconded by Bill (W9MXQ), and carried without debate.

Committee Reports:

Tom (W9IPR) announced classes for the Technician/General license exam will start on Oct 17th. There's still time to join! Contact Tom.

Tom (W9IPR) is seeking interviews and pictures for the New Members column in the newsletter. Ask him for example questions if you're interested in interviewing/being interviewed.

Ken (W9GA) and others will be meeting at the Pleasant Valley Nature Preserve on Pleasant Valley Rd. Saturday Sep. 19th to investigate the site for potential use during Field Day 2016. The Field Day committee will announce their findings.

Old Business:

N/A.

New Business:

N/A.

Adjournment:

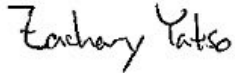
Nels (WA9JOB) made the motion to adjourn at 2109. The motion was seconded by Bernie (AA9CI) and the motion carried.

Attendance:

There were 39 members present and 2 guests.

A copy of the attendance sheet is available upon request in PDF format. Please contact Zach Yatso via email at: kc9znr@arrl.net for a copy.

Respectfully submitted,

A handwritten signature in black ink that reads "Zachary Yatso". The signature is written in a cursive style with a large initial 'Z'.

Zachary Yatso, KC9ZNR
Secretary

AGENDA

October 14, 2015

1. 7:00 – 7:30 PM – Network & Rag Chew
2. Call to order: Introductions. Chuck Curran, W9KR
3. Announcements, Bragging Rights, Show & Tell, Upcoming events, Etc.,
4. Program:
5. 50/50 – Kristian Moberg, KC9TFP
6. Fellowship Break
7. Auction – Stan Kaplan (WB9RQR)
8. Presidents Report – Chuck Curran, W9KR

9. 1st VP Report – Kevin Steers, K9VIN
 10. 2nd VP Report – John Strachota, W9FAD
 11. Repeater VP report – Tom Trethewey, KC9ONY
 12. Acceptance of Minutes : Zach Yatso, KC9ZNR
 13. Treasurer's report – Dave Barrow, N9UNR
 14. Committee reports.
- Other:
15. OLD BUSINESS
 16. NEW BUSINESS
 17. Adjournment to ?

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The ORC Newsletter

465 Beechwood Drive
Cedarburg WI* 53012

First Class

Next ORC Meeting

Grafton Senior Citizens Center

1665 7th Avenue, Grafton

Wednesday, Oct. 14th

7:00 PM – doors open

7:30 – Membership Meeting