



The *ORC* Newsletter



Official publication of the Ozaukee Radio Club, Inc. Email all contributions to the editor, Bill Shadid, W9MXQ (newsletter@ozaukeeradioclub.org). Permission to reprint articles published in any issue is granted provided the Author (as shown in the article) and the Ozaukee Radio Club Newsletter are fully credited in any publication.

ORC Repeaters on 146.97 (-127.3PL), 224.18 (-127.3PL), 443.75 MHz (+127.3PL) - Callsign W9CQO
Web site: www.ozaukeeradioclub.org

Facebook: facebook.com/orcwi

Volume XXXIV

March 2022

Number 3

From the President

de Pat Volkmann, W9JI



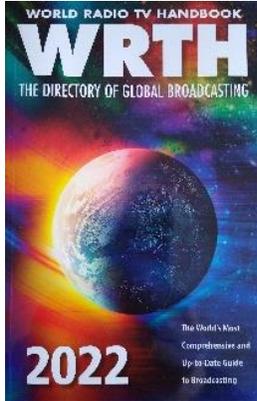
Covid numbers continue to drop and mask requirements are going away in most areas. At the February meeting, members were polled on their preference for future meetings. The result was 90% in favor of resuming in person meetings. This was confirmed by a follow up survey sent to all Club members.

There was also interest expressed in continuing the Zoom meeting in parallel with regular Club meetings. Some members don't live in the area, some don't drive at night and others prefer Zoom for watching the presentation. A Technical Committee, chaired by Gregg Lengling W9DHI, was formed to determine what equipment was needed to run a hybrid Zoom meeting from the Senior Center. The committee has made excellent progress and we are ready to test the setup. That test won't occur in time for the March meeting, so we are aiming for April to resume the meetings. I'll keep you up to date with developments.

It's award time, once again. Awards allow Club members to recognize the contributions and provide recognition to their fellow members. The two big ones are the Turkey Award and Ham of the Year. There are also a number of other awards, all of which are listed on the Club website in the Bylaws section. Take a look at the list and send your nominations to Ken Boston W9GA.

Congratulations to Kevin Steers, K9VIN, on being the 100th member for 2022! A big thank you to our Treasurer, Gary Bargholz N9UUR, for his work in reminding all of us to renew our Club membership. If you still haven't renewed, or want to join the ORC, you can do so very easily through the ORC website.

Word was received of the passing of Gary Becker, N9SBG (SK), on February 4, 2022. The Club has sent a condolence card to Gary's family.



The *World Radio TV Handbook* (WRTH) has been around for many years. This directory is a global listing of AM, FM, TV, and Shortwave stations, along with broadcast schedules. The publisher has said “Having produced this book for the past 24 years, we are very sorry to announce that *WRTH 2022* will be the final edition of *World Radio TV Handbook* produced and published by WRTH Publications.” While once a mainstay for shortwave listeners, the printed references have been replaced by Internet based directories. Not having seen the *WRTH* for many years I decided to get a copy of the last issue. *WRTH* still contains lots of good information, but I have to agree that it’s much easier to look it up on the Internet.

See you at the meeting.

Pat Volkman, W9JI

A Message from the Editor Newsletter Table of Contents

de Bill Shadid, W9MXQ

The Newsletter Header – at the top of page 1, has evolved a bit. There are three changes of note. Do you see them?

1. The ARRL Special Service Club Logo has been updated to show the latest version. Thanks to Tom Trethewey, KC9ONY, for bringing this to my attention.
2. The Editor’s contact email address has been revised.
3. Wording for proper credit to our authors and the Newsletter has been revised.

Look for an excellent personal experience article by Tom Ruhlmann, W9IPR. He chronicles his ham radio and professional life. It is interesting and shows a kind of article that many of you could write. Contact me for details.

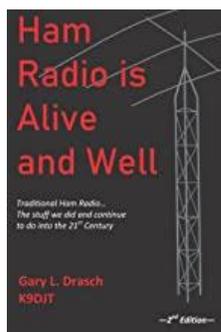
Check out Gary Sutcliffe, W9XT, as his always interesting “On The Air” column mentions upcoming events – including details of the Wisconsin QSO Party. How does that connect to Ozaukee Radio Club? Read Gary’s article!!



The Editor’s Red Lamy Safari Editing Pen – Ready to Go!

Here are the Table of Contents/Previews of this month’s Newsletter Edition . . .

Ozaukee Radio Club Newsletter – March 2022 – Table of Contents	
PAGE	DESCRIPTION
1	Pat Volkmann, W9JI: From the President Monthly Update
2	Bill Shadid, W9MXQ: A Message from the Editor This Month's Table of Contents
4	Tom Trethewey: Volunteering – A little goes a long way. The 2022 Ozaukee Radio Club Swapfest
5	Tom Ruhlmann, W9IPR: Personal Experience A Journey from Novice to Extra and A Career
7	Stan Kaplan, WB9RQR: Computer Corner No. 288: Let There be Light (Revisited)
8	Anonymous Contributor: Realities of Life A Really Short Story
9	Ken Boston, W9GA: Awards A Call for Nominations for Awards: 2022
10	Don Zank, AA9WP: OZARES Update Weather Spotter Training and Season
13	Pat Volkmann, W9JI: Vintage Radio Magazine Cover Art Radio Mechanics, March 1927
15	Bill Shadid, W9MXQ: Vintage Amateur Radio Drake Linear Amplifiers – Part 2 for the Drake L-4 and L-4B
22	Gary Sutcliffe, W9XT: On the Air! Wisconsin QSO Party, Working new DX Countries, QSO Today Virtual Ham Expo, HamSCI Workshop 2022, Upcoming Contests and DXpeditions
28	Tom Ruhlmann, W9IPR: Chair – Scholarship and STEM Committee Good Stuff for Sale!!
29	Ken Boston, W9GA: Secretary's Report Minutes of the 9 February 2022 Meeting
31	Pat Volkmann, W9JI: Upcoming ORC Monthly Meeting Programs Creating a Presentation for Club Meetings & This Month's Agenda
33	Ozaukee Radio Club Spring Swapfest Flyer Just a reminder – Spring is coming!!!



NEW BOOK about Amateur Radio

The Second Edition of *Ham Radio is Alive and Well*, by fellow ORC Member, Gary Drasch, K9DJT, is now in print. Check under the title or search under “Gary Drasch” on AMAZON.COM for details. There will be a more formal review of the book, written by this Editor, in the April Edition of the Ozaukee Radio Club Newsletter. Meanwhile, congratulations to one of our own!! My copy arrives next week.

Onward To the Newsletter

Volunteering – A little goes a long way.

**de: Tom Trethewey, KC9ONY
Chairman, ORC Spring Swapfest 2022**

When asking for volunteers at meetings, most often there is dead silence. Not even crickets could be heard. This happens with a lot of clubs and organizations. But you know, it takes volunteers to make a club successful. None of our officers are paid, they are all volunteers. They like our club and want to see it thrive or even grow into something better than we have now.

I volunteered to be the Chairman of the Spring Swapfest. Unfortunately, it had to be cancelled two years in a row. This year, it will be happening. For those that might not know, the Swapfest is not only a fundraiser for the club, but a gathering of amateur radio operators to buy and sell their equipment, as well as see old friends and make new friends. It's a way to promote our club. Some of the proceeds of the Swapfest go toward maintaining our repeaters and help support our ARRL Field Day activities.

I will need some volunteers to help setup, run the Swapfest, and teardown afterward. This year, the Swapfest is on Saturday, April 30, 2022. Setup starts on Friday, April 20, 2022, in the afternoon, usually around 1 pm. Doors open Saturday morning for vendors at 6 AM, and the general public at 8 AM. Grand prize will be drawn at Noon, and then teardown starts.

So, I'll need some help with:

Hauling tables to and from the barn.

Setting up and taking down signs.

Manning the vendor entrance doors.

Manning the ticket table at the buyer's entrance.

Monitoring the 146.97 MHz repeater for talk-in. (Can be done from your home.)

Manning the prize table where the ticket drum is located.

Helping with refreshments.

I miss Nels WA9JOB/SK in more ways than one. He always enjoyed manning the buyers entrance ticket table!

As you can see, it takes volunteers to make the Swapfest successful. Please consider volunteering for the Swapfest this year. You can contact me through the club roster or repeaters.

A little goes a long way.

A JOURNEY FROM NOVICE TO EXTRA and A CAREER

de Tom Ruhlmann, W9IPR



As a kid in Atchison KS, I always wanted to be a pilot and a doctor. However, when I went to Maur Hill Boys High School (locally referred to as the reform school) I discovered the intrigue of amateur radio. I among others was introduced to amateur radio in 1951 by our science teacher Fr. Augustine. He had a Hallicrafters SX28 and a rack of military surplus equipment running a full gallon (1 KW) on CW and AM. The sun spots were plentiful during those years and allowed for world-wide communica-

tions.

There were 5 of us who were fascinated, and we studied the theory and code for the novice license, and we were allowed to use a shed next to the gym for a club house. Initially we modified a Zenith console radio with short wave bands to copy code and then Father provided a Howard shortwave receiver so we could copy distinguishable code on the air. That was great but also important since a novice license allowed you to only operate CW and then it expired in 1 year. At that time, you had to take the test at an FCC office. The closest office was in Kansas City, so John Vollmer and I took our first train and cab ride to take our Novice exam which included code at 5 words per minute. We both passed (I was N0ITI) and that started new careers.

My first receiver was a “home brew” regenerative receiver using a single 3A4 vacuum tube. The transmitter was also home brew and used a single 6L6 vacuum tube. I must have made a few contacts because it sustained my interest and in 1952, we again took the train to the Kansas City FCC office where we passed the General class theory and code test at 13 words per minute.

Now I was a real “HAM” (W0ITI) and saved enough money to buy a Bretting 12 from the 1930’s and through various trades obtained a Navy surplus BA-12 Bendix transmitter. This is a picture of my attic bedroom station. The receiver was eventually replaced by a Hallicrafters S-40B.



Bretting 12 Receiver



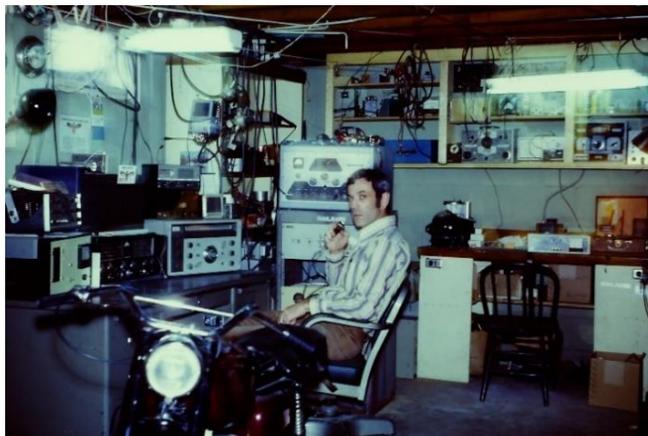
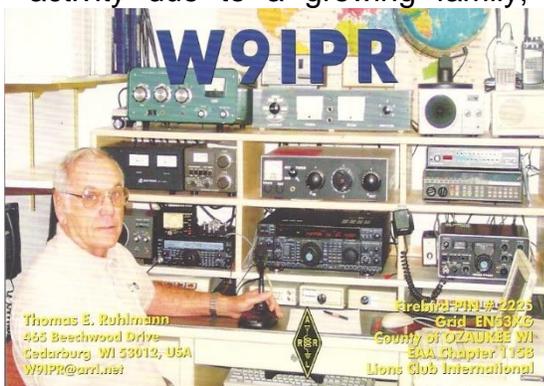
Bendix BA-12 Transmitter



Then it was off to collage to earn an engineering degree and during that time my mother earned her license (K0ANA), and my brother John earned his ticket (W3CWV) while in the air force then returned home with a real station; a Heathkit DX100 transmitter and National NC300 receiver.

I got my engineering degree and married my wife Pat in 1960. There was a long a pause in my amateur radio activity as we moved to Wisconsin, Texas, Arizona and back to Wisconsin with AC Spark

Plug/Delco Electronics with the Titan II missile and Main Battle Tank programs. While living in South Milwaukee I got back into amateur radio using my brother's old station and then earned my Advanced Class license. There was another long pause in radio activity due to a growing family, the



change in employment to Globe Union/JCI, the technology of transceivers and solid-state electronics and our move here to Cedarburg. Here I joined the ORC and bought a used Kenwood TS940. The DX bug bit me and I graduated to a Yaesu FT1000MP and eventually I restored a Heathkit SB200 amplifier. Then I got the extra Class License since 20 words per minute was no longer required and it allowed extra operating frequencies. This naturally led to my eventual retirement with my present Yaesu FTdx-5000 and Ameritron AL-572 amplifier and a host of test equipment and "good stuff", trips to Dayton, a DXCC-100 certificate and many new friends. As you can see, over the years there has been a notable change in the hair line. What's next? Pat says I need to get rid of some of the "good stuff."

Editor Note: I added pictures on the previous page of the Bretting 12 Receiver – from the Western Carolina Radio Museum, And the Bendix Military Surplus BA-12 Transmitter – a picture from the internet.

THE COMPUTER CORNER

No. 288: Let There Be Light (Revisited)

de: Stan Kaplan, WB9RQR, 715 N. Dries Street, Saukville, WI 53080-1664
wb9rqr@gmail.com

I alluded to the topic in #286, Let There Be Light, but it really needs to be expanded. Why? To underline the fact that incandescent light bulbs have largely reached the end of their useful lives. It now just does not make sense to purchase them, from either a financial or environmental point of view. Of course, this is my personal opinion, but remember that I was the “light bulb guy” at a hardware store for over 25 years. And I still am the lamp fixture repair guy there, which gives me some additional insight into the issues that make this change to modern technology now worthwhile.

Let’s start with a basic 100-watt light bulb. I have on my desk a package of four 100-watt equivalent LED (Light Emitting Diode) light bulbs. They are A-19 bulbs with an E-26 base, simply meaning that they are roughly the size and shape of 100-watt incandescent bulbs and screw into the same style socket. The pack of four 100-watt equivalent bulbs are now on sale (mid-January 2022) at Hahn Mequon Ace Hardware for \$1.00, plus tax, or 25¢ plus tax for each light bulb. If you prefer less light output, for the same price you can get four 60-watt equivalent bulbs or four 75-watt equivalent bulbs.

The 100-watt LED bulbs I purchased put out daylight-equivalent light (cool white) at about 5000 K, about 1600 lumens. A side issue: You can also purchase LED bulbs which put out a warmer color light, more similar to soft-white incandescent bulbs, if you or your family members object to bright white light (though personally I find bright white much better for both reading and fine work in the workshop than soft whites).

Although they are 100-watt replacements, these bulbs actually draw only 15 watts of power. They are giving you 100 watts worth of light but using 85% less power. So, you are paying 85% less on your light bill.

What about life expectancy? For example, how long will the 100-watt equivalent LED model last? If you burn one for an average of 3 hours per day, it is rated to last 25,000 hours or just under 23 years (though they are fully warranted for 5 years from the date of purchase).

You may have heard that LED bulbs can cause interference with radios. This might have been true when they first came out, but no longer. Modern LED bulbs must comply with Part 15 of the FCC rules – “they may not cause harmful interference and must accept any interference received, including interference that may cause undesired operation”. I can assure you that any bulb flaky in this respect, or one that dies prematurely, will be replaced free if you bought it at Hahn Mequon Ace.

More rather amazing specs: these LED bulbs will reliably operate in ambient temperatures from -4 to +104 °F, and even in enclosed or recessed fixtures, and even in damp

locations. They also work with LED-compatible controls and dimmers over the range of 100% down to 10%.

There is one more important attribute that needs closer attention. Because LED bulbs generally convert much more energy into light (and much less energy into heat), bulb sockets and switches are stressed much less than those that must control incandescent bulbs. I have yet to find a burned-up socket that was controlling LED bulbs. All of the burned sockets I have had to replace during lighting fixture repairs (many hundreds of sockets over the years) were burned out by controlling high-heat-generating incandescent bulbs.

So, there you have it. I defy you to find a 100-watt incandescent bulb that matches anything like the specifications outlined above. Save yourself energy bucks, lighting fixture repair bill bucks, and the bother of changing light bulbs so often by converting to LED light bulbs. Use your furnace to heat your home, not your light bulbs. All this just makes good sense. Happy Computing.

Realities of Ham Radio Life

de: Anonymous

With sadness I want to announce that after 30 plus years of Ham Radio, I am posting this with heavy heart. I love Ham Radio and everything that comes with it, but I am officially making a change in 2022! This is taking up too much of my time. I'm struggling to keep up with the everyday chores of cooking, cleaning, and maintaining my home, so something has to give. I have decided to get rid of all my gear.

Below is a list of what's available. Serious inquiries only, and please don't insult me with low offers. Thanks for reading and understanding...

1. Vacuum Cleaner
2. Dustpan and Broom
3. Mop and Bucket
4. Lawn Mower
5. Leaf Blower
6. Washing Machine and Dryer
7. Iron
8. And anything more that helps buy more Ham Radio Equipment.

73 and DX

A CALL FOR NOMINATIONS FOR AWARDS: 2022

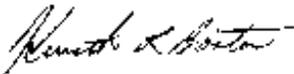
de Ken Boston, W9GA

I want to invite all of the members to consider picking a nominee for this years "Ham of the year" and also "Turkey of the year." These annual awards are the major awards issued by our club, and both have a physical trophy that travels from year to year to the individuals who win them. The Ham of The Year goes to a member who has made significant contributions to the hobby, and to the ongoing activities of the ORC, and can be awarded multiple times to any one member. The Turkey of The Year is awarded to a member who has been found to 'cheer up' the membership, and provide a little comic relief to the folks, and can be awarded only once to any specific member.

Due to a major computer problem here, I currently do not have the full list of the past recipients of these two awards; however, if you check on the club webpage, and open the pdf of the newsletters for 2021, and page forward to page 31 and 32 you will see the full lists there. Add Pat, W9JI, as the 2021 Ham of The Year, and Don, K9MOI, as the 2021 Turkey of the Year and you can see who the lucky winners have been. I should have the computer issue resolved shortly, and plan to post the list also on the reflector as a text file for your reference.

In addition to the two main awards, I will be looking for nominees for any of the other awards that we issue on a yearly basis. The full list is in the bylaws posted to the website under Policy and Procedure #8. These awards include Public Service; Radio Art; Communication tech skills and International Goodwill. Also listed are many "of the year" awards such as meeting program, committee, club project, operator, trainer, technical project, contester, and club service. Pat, as president, also can make any award[s] that he identifies.

Please consider your choices and email me directly. You can contact me on the reflector with a message to mail you a return if you don't have my direct email.



Kenneth Boston W9GA

Email: kboston6@wi.rr.com

ORC Repeaters are On The Air – Awaiting Your Call . . .

- 146.97 MHz (- Shift) (127.3 PL)
- 224.18 MHz (- Shift) (127.3 PL)
- 443.75 MHz (+ Shift) (127.3 PL)

OZARES: Ozaukee Amateur Radio Emergency Services Weather Spotter Training and Season

de: Don Zank AA9WP, OZARES Emergency Coordinator, aa9wp@arrl.net



I was planning to open this article up talking about how spring is approaching because baseball spring training was taking place, however the owners and players are tied up in a lockout. So, I will just continue on without them and just note that the NASCAR season is starting, the Wisconsin QSO party is coming up March 13 along with the start of daylight-saving time and that is a sure sign of spring.

The meteorological spring weather season may have already started before you read this. For weather forecasters, the date of March 1 is the start of meteorological spring, while for the rest of us, the spring season, or more formally astronomical spring, begins at the vernal equinox, occurring this year on March 20.

The spring season brings changing weather conditions and with the changes comes an increase in severe weather activity. Weather spotting and providing severe weather reports, be it thunderstorms, tornadoes, lightning, high winds, extreme rain, hail, or flooding, has been and remains an important activity for amateur radio. The severe weather reports provided by weather spotters and amateur radio operators furnish the much-needed ground conditions needed by the Milwaukee National Weather Service, NWS, office in Sullivan. The reports provide ground proof for the forecasters, who may suspect what the weather conditions may be, but are unable to determine from their radar data.

It is important for weather spotters to maintain their skills for observing and reporting severe weather. The skills and abilities can be kept up by taking on-line courses and from books such as the ARRL book Storm Spotting and Amateur Radio by Mike Corey, W5MPC and Victor Morris, AH6WX. Of course, another great learning opportunity is the weather spotter training course offered by the Milwaukee NWS office. This year the local weather spotter training class will be offered on April 19, between 6:30 pm and 8:30 pm, at the Ozaukee Pavilion on the Fair Grounds. Registration is required before attending so please check out their website: <https://www.weather.gov/mkx/spotter-schedule>. And if for some reason, this is not a good time please review other available classes listed on the website.

Yes, returning to live in-person training sessions. And hopefully the Office in Sullivan will be open to non-weather official personnel later this spring. The classes have been held virtually the past two years. Weather spotter reports have been relayed to the office the past two years by using social media such as Twitter and Facebook. While the point of weather spotter is providing accurate and timely reports to the office, the typing of

information on the smartphone does not provide the same satisfaction as keying up the mic on the rig.

The Sullivan Committee, or SULCOM, headed by Tom Kucharski, W9TJK has worked with the local office to create a team of internal operators that receive and relay severe weather reports to office staff, and external groups, such as OZARES and weather spotting organizations like the Midwest Severe Storm Tracking group, <https://midwestsstrc.org/>, who provide the severe weather reports.

A standard reporting format has been created that allows for quick delivery and recording of the event.

Who: Radio call sign or private citizen.

What: The reported weather conditions of tornadoes, rotating wall clouds, hail, high winds, flooding etc.

When: Time of activity given in local time. A critical factor in providing reports. Quick and accurate information is required at the office. Reports after five or more minutes lose their usefulness.

Where: The location or direction of the activity. An important point to remember is that tornadoes or rotating wall clouds will, hopefully, not be at the observers location. So, the observations direction and estimated distance must be provided in the report. Local observations can be reported with a street address; longitude and latitude; or distance from a major intersection. Providing the county is very helpful as the weather office is responsible for twenty counties in southeast Wisconsin.

OZARES criteria for activation requires a severe weather warning to be issued. However, we will normally have a stand by net activated when severe weather is roughly a county distance away. This allows everyone time to check on their families and prepare for severe weather but also be ready at the radio when the convective weather arrives in Ozaukee. All amateur radio operators are encouraged to participate in the severe weather nets. We request to keep all radio activity down to the minimum, check into and out of the net and to use the guidance provided in the Severe Weather Reporting Criteria. Hopefully, there will be additional training opportunities this spring and summer, normally the last Tuesday of the month, to practice providing severe weather reports to the office. The practice helps keep skills sharp, test communication equipment and get to know the people working in the office.

Hope to see you at the April Severe Weather training. If you have further questions, please let me know by email or ask them at the training session. On the following page is the Severe/Convective Weather Report form we use. Looking forward to a safe spring weather season.

Severe/Convective Weather Report

Who _____

What (circle ONE below and complete other details as indicated)

<p>1. Tornado or Waterspout <i>circle one</i></p> <p>2. Funnel Cloud</p> <p>3. Rotating Wall Cloud</p>	→ Looking																									
<p>4. Severe Damage <i>Check all that apply. If the event detail is not listed, then add detail in the Notes Section, below</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">tree branches greater than 3" dia. snapped, trees uprooted</td> <td style="width: 10%; text-align: center;">_____</td> <td style="width: 40%;">downed power lines</td> <td style="width: 10%; text-align: center;">_____</td> </tr> <tr> <td>any structural damage to buildings (includes roof damage)</td> <td style="text-align: center;">_____</td> <td>crop damage</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>bent, snapped or collapsed light poles or traffic lights</td> <td style="text-align: center;">_____</td> <td>sink holes</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>cave-ins and mud slides</td> <td style="text-align: center;">_____</td> <td></td> <td></td> </tr> </table> <p>5. Severe Winds – 58 mph or greater: Speed _____ circle if <i>measured</i> or <i>estimated</i></p> <p>6. Severe Hail - 1 inch or greater: Size _____ circle if <i>measured</i> or <i>estimated</i></p> <p>7. Severe Flooding <i>Check all that apply. If the event detail is not listed, then add detail in the Notes Section, below</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">water over river banks or dams</td> <td style="width: 10%; text-align: center;">_____</td> <td style="width: 40%;">roads, bridges or railroads washed out</td> <td style="width: 10%; text-align: center;">_____</td> </tr> <tr> <td>impassable or closed roads</td> <td style="text-align: center;">_____</td> <td>water out of banks that causes property damage</td> <td style="text-align: center;">_____</td> </tr> </table>			tree branches greater than 3" dia. snapped, trees uprooted	_____	downed power lines	_____	any structural damage to buildings (includes roof damage)	_____	crop damage	_____	bent, snapped or collapsed light poles or traffic lights	_____	sink holes	_____	cave-ins and mud slides	_____			water over river banks or dams	_____	roads, bridges or railroads washed out	_____	impassable or closed roads	_____	water out of banks that causes property damage	_____
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impassable or closed roads	_____	water out of banks that causes property damage	_____																							
<p>8. Minor Hail – 3/4 inch to 7/8 inch: Size _____ circle if <i>measured</i> or <i>estimated</i></p> <p>9. Minor Damage <i>Check all that apply. If the event detail is not listed, then add detail in the Notes Section, below</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">any cosmetic damage to buildings & vehicles</td> <td style="width: 20%; text-align: center;">_____</td> </tr> <tr> <td>tree branches less than 3" dia. snapped causing power line damage or cosmetic damage to buildings & vehicles</td> <td style="text-align: center;">_____</td> </tr> </table> <p>10. Minor Flooding <i>Check all that apply. If the event detail is not listed, then add detail in the Notes Section, below</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">non-life-threatening / non-damaging water over curb</td> <td style="width: 20%; text-align: center;">_____</td> </tr> <tr> <td>water out of banks but confined to low lands and bottom lands (<i>not impacting buildings</i>)</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>water on the roads</td> <td style="text-align: center;">_____</td> </tr> </table> <p>11. Visibility - <i>less than 1/2 mile</i>: Distance _____ due to precip ___ fog ___ blowing dirt ___ smoke _____</p> <p>12. Rainfall - <i>equal to or exceeding 1" per hour measured over at least 15 minutes</i> <small>(i. e., at a rate greater than 1/4 inch in 15 minutes)</small> Measurement _____ in (between) _____ minutes (start/end time)</p> <p>13. Minor Winds 40-57 MPH: Speed _____ circle if <i>measured</i> or <i>estimated</i></p>			any cosmetic damage to buildings & vehicles	_____	tree branches less than 3" dia. snapped causing power line damage or cosmetic damage to buildings & vehicles	_____	non-life-threatening / non-damaging water over curb	_____	water out of banks but confined to low lands and bottom lands (<i>not impacting buildings</i>)	_____	water on the roads	_____														
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water on the roads	_____																									

When _____

Where Address _____ Reference/ _____
Distance/Direction _____ City/ _____
Lat/Long _____ Intersection _____ County _____

Time at Office _____

SulCom

Rev. 7

11 March 2017

Vintage Magazine Cover Art

de Pat Volkmann, W9JI



Our cover this month is from the March 1927 issue of **Radio Mechanics**¹, an M. B. Sleeper publication. Radio Mechanics was one of dozens of publications in the 1920s that focused on building your own radio equipment. Only a handful of issues are known to have survived. Milton Blake Sleeper was well known in 1927 as a prolific designer of radio circuits and author of numerous books and articles².

Sleeper was a co-designer of the “Pilot Wasp” receiver in the late 1920s. The Wasp was a kit and was described as “their first really popular Shortwave receiver kit”³. Sleeper was a life-long friend of Major Edwin Armstrong, the inventor of the regenerative and superheterodyne receivers and FM radio.

Sleeper was active with Armstrong in lobbying the FCC for favorable FM regulations during 1940s, but without success. Sleeper started several popular FM and audio hi-fi magazines over the course of his career. His last venture was *Hi-Fi Music at Home*, a newsletter for kit builders.

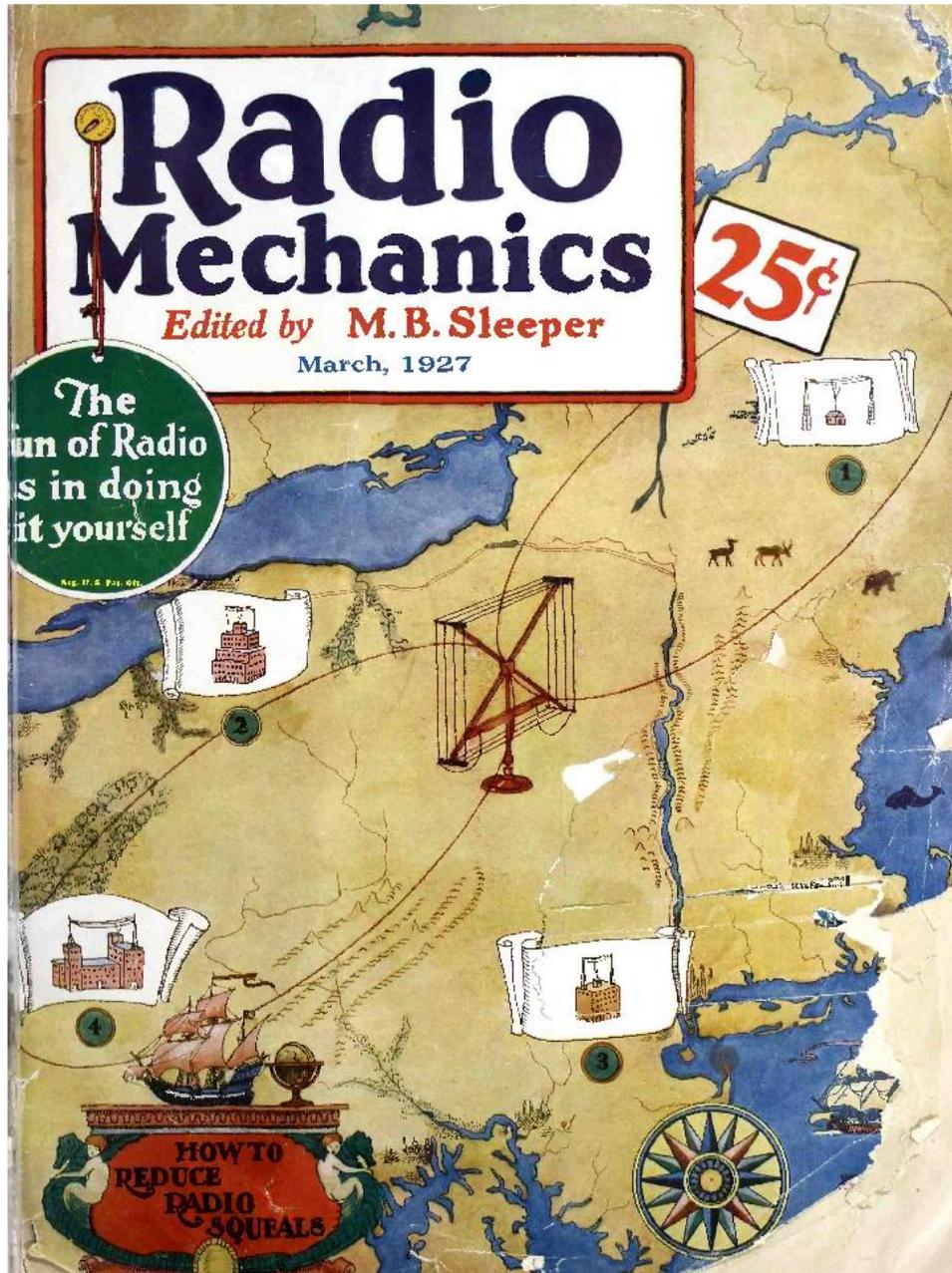
The cover, illustrated by Howard V. Brown, shows four radio stations positioned around a directional antenna. The lobes of the antenna pattern fall on two of the stations. The cover caption, “How to Reduce Radio Squeals,” does not match up to any article in this issue. Instead, it illustrates an approach to interference reduction that is still very much in use today – the use of a directional antenna. The antenna pictured on this cover is a directional loop that is commonly used with radio receivers and can be seen in many period photos.

This issue of **Radio Mechanics** offers seven receiver designs, each with a detailed description, circuit diagram, parts list, photographs, and layout drawings. All of the radios were intended to be built by the hobbyist in the “kitchen table workshop.” One of the famous designs of this time was the Browning-Drake receiver. As with any brand name, there were many who copied the circuit. There is an interesting article by G. H. Browning laying out the “official” Browning-Drake receiver design⁴. This is an attempt to dispel what Browning describes as “misunderstandings from new names,” referring to the many circuits claiming to be improved Browning-Drake designs. Sleeper’s editorial on improving society by encouraging youngsters to take up radio as a hobby is a relevant and worthwhile read.

Radio Mechanics is a construction magazine that contains more practical and well thought out designs than is typical of this period. The articles address the how-to concerns of the hobbyist but are not aimed at the beginner. No doubt, hams would have found much useful homebrew information in this publication⁵.

NOTES:

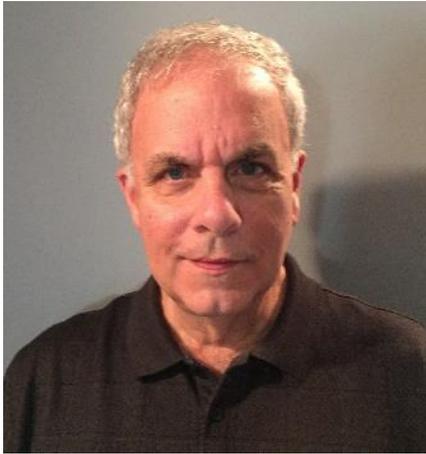
1. You can find a PDF of this issue and others at https://worldradiohistory.com/Radio_Mechanics.htm
2. Ziesmann, J. K. (n.d.). *Milton B Sleeper*. Milton Sleeper - A Brief Biography. Retrieved March 2, 2022, from <https://worldradiohistory.com/Archive-FM-Magazine/MiltonSleeperBio.htm>
3. Rogers, H. (n.d.). *Pre-War Receivers*. Pre-WWII Ham Gear. Retrieved March 2, 2022, from <https://www.radioblvd.com/Pre-WWII%20Ham%20Gear.htm>
4. Browning and Drake developed the first high efficiency RF transformer. <http://antiqueradios.org/gazette/bd1.htm>
5. I'm interested in your comments on this article. Please contact me at w9ji@arrl.org



Radio Mechanics – March 1927

Vintage Amateur Radio

de Bill Shadid, W9MXQ8



Previously, I penned an article on the Drake L-4 and L-4B Linear Amplifiers. That was followed by what became a much more detailed article about the Drake L7 and L75 Amplifiers. Because of that, I have decided to author an additional article providing more detailed information concerning Drake's original L-4 and its successor, the upgraded and expanded L-4B.

While I have a1n L7 Linear Amplifier that I purchased brand new in the early 1980's that has served me very well, I have always felt that the L-4B was the superior amplifier. It built on the well thought out original L-4 and added conveniences that were also included in the L7 and L75 amplifiers of later years, The most notable shortcoming in the L-4 and L-4B is the lack of coverage of the 160-meter band. That feature alone made the L7 and L75 popular. My own late model L-4B came a few years ago from a ham in Illinois. It is a great performer.

Coverage of the WARC Bands (30, 17, and 12 meters) was openly possible in the L7 and L75 products but was just as possible in the L-4 and L-4B¹.

To refresh your memory, here are the L-4 and L-4B (and Power Supply) pictures:



Drake L-4 Linear Amplifier
WB4HFN



Drake L-4B Linear Amplifier
W9MXQ



L4-PS HV Power Supply Views (Front and Back)



W9MXQ

The L-4 and L-4B, distinguish themselves with their robust cooling system as compared to the L7 and L75. While Drake, in the L7 and L75, used a large fan blowing horizontally across a raised pair of 3-500z finals (one 3-500z in the L75), the L-4 and L-4B used a pressurized lower chassis with pressure created by a squirrel cage fan drawing air from the back of the amplifier, into the lower chassis, and out via chimney ducting around the tubes. Review this Drake L-4B interior view to see the fan installation in a top view:



**Drake L-4B Linear Amplifier (Representative of the L-4 also)
Interior View – Front Panel at the Top of the Picture**

WB4HFN

At the center is the Plate Tune Capacitor with the Tank Coils to the left. The two 3-500z finals are at the right rear – showing the glass chimneys enclosing them. The blower motor assembly is at the bottom of the picture – blue in color. Lower left shows the filament transformer, partially shown. The Plate Choke, with its red windings, is shown just to the left of the final tubes. At the top right you can see the shield enclosures for the front panel meters.

Because of some control location differences in the L-4 and L-4B Linear Amplifiers, the back panel of the two radios was somewhat different.

The L-4 rear panel included items missing from the L-4B. For one, there is no Relative Power Level adjustment on the L-4B as it has true reading watt meters (300 and 3,000-watt scales) rather than a relative power readout. The L-4 rear panel also has an ALC

Level adjustment that was moved to the front panel on the L-4B. Check the two rear panel views for details.



Drake L-4 Linear Amplifier – Rear Panel View

WB4HFN



Drake L-4B Linear Amplifier – Rear Panel View

WB4HFN

A review of the two rear panels shows the Squirrel Cage Blower input in the center of both panels – the blower is the same in both models. The L-4 Amplifier (top of the two views) shows the Relative Output Adjust control just to the left of the blower intake. The ALC Threshold Adjustment is at the lower right on the L-4 rear panel – to the left of the AGC input connector. That connector is a phono jack connector for the ALC connection from the driving transmitter/transceiver.

The unique connector PTT connection (engaging the amplifier) is on the L-4 to the right of the Power/Control connector and second from the lower left on the L-4B.

The two SO-239 connectors in the bottom center of both amplifiers are the RF Output (left) and the RF Input (right). That layout is common to both amplifiers.

Both amplifiers have the exceptionally large Cinch, eight-pin plus key stud, Power and Control lead connector. This connects to the separate L4-PS Power Supply unit using the fixed cable from the power supply chassis. That single cable splits close to the amplifier chassis end and includes the heavily insulated high voltage lead that terminates in a Millen High Voltage Connector. The connector to receive that line is on both amplifiers to the right of the blower input.

Now take a look at a bottom-view of the interior of the L-4B Linear Amplifier (fairly representative of both the L-4 and L-4B models).



**Drake L-4B Linear Amplifier – Bottom Interior View
Front Panel to the Right**

Internet Picture – No Identity Given

At the top of the picture, you can see the two sockets for the 3-500z final amplifier tubes². Check out the silver-plated copper strap used to interconnect the filament leads in parallel between the tubes and the filament choke (reddish colored wound choke in about the middle of the picture). Note also that the top strap extends to the right into the compartment holding the tuning slugs for the input coils (ensuring a good match to the exciter looking for a 50 to 70-ohm load)³.

See the brass high-voltage interlock leaf arm (on a phenolic board) between the left side and the left tube socket. That shorts the high voltage to ground if the top cover is removed.

Below the reddish filament choke you can see the feed through capacitors bringing filament voltage to the tubes. These leads feed from the feed-through capacitors back to the transformer – passing the transmit/receive relay to the left as they travel to the transformer on the lower left-hand corner. To the right of the transformer, you can see the terminal strip used to setup the transformer primary between 120 VAC and 240 VAC. In the L-4, L-4B, and L7 Amplifiers, the 120 VAC and 240 VAC selection must be made in BOTH the amplifier and the power supply chassis. Being a single chassis, this separate chassis arrangement is not required in the L75 Amplifier.

At just above left center you can see the output of the blower that is used to pressurize the under chassis of the amplifier. This air would exit around the tube sockets which are sub-mounted below the chassis, on spacers to allow air to escape around the base of the tube. In flow, the air would go past the seal at the base of the tube to keep it relatively cool. This seal, visible as a black circle at the middle of both tube sockets, is the final vacuum draw down point for the tube manufacturing process and is a weak spot for most vacuum tubes. The air then enters glass chimneys for each tube – visible in the top views of the chassis – channeling air along the hot glass envelope of the tube, keeping it properly cooled.

WARNING: Do not power up any high-power amplifier with the blower or fan inoperative. This may allow enough heat to develop in the tubes to cause them to fail – even if merely in standby condition. If you do not see or hear the blower or fan operating – or feel that it is operating but running slowly – turn off power immediately to correct the problem⁴.

On both the L-4 and L-4B one could find straight sided chimneys – similar to a Coleman™ gas lantern design or a design that had a top edge that helped direct cooling air to the plate caps of the tubes (Eimac's standard design). Arguments exist to which is best, but Drake did use cooling fins on their plate caps, so they likely felt that the more expensive Eimac chimneys were not necessary. I am not sure that this debate will be settled!!

Just below the center right area of the underside of the chassis, the load capacitor is shown. It is a four-section variable. Below that location – to the lower right – there is vis-

ible the individual components of the ALC Threshold circuitry. To the right of that there is just visible – mounted to the front panel – the switch assembly for Power and Mode switching. These switches – as supplied by Drake – are extremely rare. Treat them very carefully. They sometimes become available in different configurations and with some effort can be converted for use in these amplifiers.

Finally, I draw your attention to potentially troublesome part of the L-4 and L-4B Linear Amplifiers. If you look at the mechanical layout you will note that the band switching for the input and the plate circuitry are not in common (as they are on the L7 and L75 Linear Amplifiers. Looking at the Input Tuned Circuit slug tuned coils, you can see a switch shaft going to the right through the chassis wall but not through the front panel. This shaft terminates at a cog wheel with a plastic “key chain” winding around it. This plastic chain goes to a similar cog wheel on the plate bandswitch. The bandswitch on the front panel is in a different location.

EXTRA NOTE: I must say here that while the L-4 and L-4B are similar in layout, I do not actually have an L-4 top or under chassis picture for reference. I cannot be 100% sure of the exact layout. If you have such pictures, I would like to see them and include them in my library. Contact me at W9MXQ@TWC.com if you have them.

As a note from this owner of both the L-4B and L7 Linear Amplifiers. I am very watchful of the power cable coming from the L4-PS (or L7-PS) to the amplifier chassis. This appears to me to be a custom-made cable that Drake had made to include the lower-level power, filament primary, and control leads. Plus, included is a heavily insulated high voltage lead in the same cable jacket. In appearance, the high voltage lead appears as RG-8 coaxial cable with the outer jacket removed. So, you see a very thick, translucent insulation over a heavy gauge conductor. Likely it is more than just modified coaxial cable; but it is worthy of inspection any time you decide to move the amplifier and/or the power supply.

Be aware of the high voltage in these amplifiers. They can kill you – INSTANTLY and SILENTLY. Today’s amateur operators are not well conditioned for high voltage in radios. However, at the same time, high voltage is always present in vintage radios. Be respectful of the potential death dealing voltages present – DO NOT by-pass the interlocks that prevent high voltage from flowing when the cabinets are open. Also be aware, that while the L-4 and L-4B RF Cabinets are fully interlocked for protection, no such protection exists with the L4-PS Power Supply. So, I include here two of my favorite reminders applying to any work with vintage radios using high voltage:



Melodramatic you say? I say, not nearly dramatic enough!! There is not a second chance at the 3,000 volts present in these amplifiers. You will be dead⁵.

In a future article I will cover the failures, foibles, preventative maintenance, and repairs of all these quality products.

Ron Baker, WB4HFN, has kindly allowed me to use pictures from his fine website (<http://www.wb4hfn.com>) as a source of pictures for my articles relating to the products of the R. L. Drake Company. As with any article, suppliers of pictures and concepts deserve credit for their invaluable work. While Ron has offered his picture resource for my use, his call letters will always grace his contributions to my articles. I am indebted to many as sources – always credited – for these articles.

I appreciate that you read my articles. Remember that I am open to questions and comments anytime at my email address, W9MXQ@TWC.com.

A special note of thanks to my proofreader, Bob Bailey, W9DYQ. Bob is a lot more than a proofreader as he nearly always adds commentary that makes it into the article.

Credits and Comments:

¹ Coverage of the WARC Bands (30, 17, and 12 meters) may require some retuning of the input circuits – as covered in the Drake Operating Manual for the L-4 and L-4B Amplifiers. While covered, power limitations on the 30-meter band make the amplifier's use impractical.

² These tubes can vary in type and brand:

- In the Drake L-4 Linear Amplifier, they can be:
 - Eimac 3-400z (most common)
 - Amperex 8163
- In the Drake L-4B Linear Amplifier, they can be:
 - Eimac 3-500z (most common) or 3-400z
 - Amperex 8802/3-500z or 8163

³ This 50 to 70-ohm load makes the Drake L-4 and L-4B (as well as the L7 and L75) linear amplifiers ideally suited to modern solid-state transceivers – and all earlier Drake transmitters and transceivers.

⁴ In any restoration of a long idle linear amplifier, make sure that the fan is working to full rotation before any attempt to apply power. I generally separate the wiring to the fan and run it alone to determine good operation as a first step in any restoration.

⁵ **“How much current does it take to kill someone?”** “The answer is very little. A current of as little as 0.007 amps (7mA) across the heart for three seconds is enough to kill. 0.1 amps (100mA) passing through the body will almost certainly be fatal.” “As a rough rule of thumb, more than fifty volts is sufficient to drive a potentially lethal current through the body.” In the SSB Mode, the Drake L-4 or L-4B produces 3,000 volts 700mA. In the CW Mode these amplifiers produce 2,100 volts at over 500mA.

https://www.metroid.net.au/engineering/knowledge_center/fatal-electric-shock-what-voltage-causes-death/

⁶ Product specifications for the Drake L-4 and L-4B models shown come from their respective Instruction Manuals – all of which exist in my files. Most Drake manuals are available on-line for downloading. I download Drake manuals from Ron Baker, WB4HFN, at: <http://www.wb4hfn.com/DRAKE/DrakeManuals.htm>.

On The Air!

de Gary Sutcliffe, W9XT



Wisconsin QSO Party

If it is March, it is time for the Wisconsin QSO Party. I have reminded you to mark Sunday, March 13, on your calendars. I hope you did.

We won the club plaque in 2020 but were a few entries shy of winning it last year, coming in second place to the club that sponsors the QSO Party.

It starts at 1800 UTC, which is 1:00 PM Sunday afternoon. Note that Daylight Savings starts that day. You can and should read the full rules are at:

https://www.warac.org/wqp/wiqp_rules.htm

The WiQP allows just about every band and mode from 160 meters to 70 cm. The exceptions are FT8/FT4, the use of repeaters, and VHF calling frequencies. The rules have suggested frequencies for all bands. So, every ORC member with a license and a radio can contribute to the score.

If you can operate HF, the best plan is to switch between 80, 40, and 20 meters. The multipliers are states, Canadian provinces, and of course, Wisconsin counties. You want to work as many of each as possible. You will work the more distant states on 20 meters, and with improving sunspot numbers, 15 meters might be worth a quick check or two but don't spend too much time there. Your goal on these bands is to work multipliers, not fill your log with California stations.

You will work the Wisconsin counties mostly on 40 and 80 meters. The bands go long early, so don't wait too long to get down there. I rarely spend more than 30 minutes on a given band/mode. I move around to get stations as they move around and changes in propagation. Don't forget. You can work a station again on different bands and modes on the same band. Also, you can work a mobile station again when they move to a new county. Many counties are only activated by mobile stations.

Keep in mind that ops in other states are looking for us. It is the one contest where we are the rare stations! So, call CQ a lot. You will get the pileups. The State QSO Party Challenge has created a lot of interest in the state QSO parties. There may be more out of state entries than in state participants. Very few out of state operators will call "CQ Wisconsin." If the rest don't hear you calling CQ, you won't work them.

On phone non-contesters who will answer your CQ to help you out. Thank them for calling in. While working that station, there are probably 2-3 more listening, deciding if they should call you. Being friendly helps to draw them in.

Did you know there is a special plaque for the top VHF station? It is sponsored by the Badger Contesters, a group of VHF+ oriented operators promoting contesting on the VHF bands. A 500-point minimum score is required to qualify for the plaque. Most likely, it will be a mobile station that wins the plaque. Mobile stations can contact everyone again once they move into a new county, a big advantage in QSO totals. They also get an extra 500 points for every county (outside their home county) they make at least 12 contacts. Are there any ORC members interested in taking a shot at this award?

One problem with VHF on contests like this is that they can get slow after the initial rush. Check back often. If you don't hear anyone, make a few CQs. If you work a station and can operate other bands, don't be shy about asking them to QSY for another contact.

I suggest the ORC has some VHF activity times. I think 1:00, 4:00, and 7:00 PM would be good times. Get on at the start because the activity is always highest then. If you have limited time, try to get back on at 4:00 and again at 7:00 PM. Members who operate mainly HF may want to check their VHF radios at those times.

Don't consult with other members about what time and frequencies you will be on in advance. That goes against the spirit of schedules. Just show up whenever you can, and if you are not able to put in much time, try to hit one or more of these times.,

Logs are due by March 27. Be sure to send them in on time. Also, make sure the summary shows the Ozaukee Radio Club as your club. Use the full name, not just ORC.

Working new DXCC countries

Gary, N9UUR, sent an email to a couple of us who are active DXers. Gary was excited because he worked South Korea (HL). That is a pretty good catch. Despite being a developed country, they have relatively few active hams on HF. It is common for me to miss this multiplier in DX contests even though I might work dozens of Japanese stations, indicating good propagation to that part of the world.

Gary was also asking how to work Indonesia. This one is tougher. The path is more difficult. The country has plenty of hams, but most are only active on VHF. I gave him a few pointers.

That got me thinking. How does a new DX'er work new countries? The first 100 or so come pretty quickly if you are active. They start to slow down after that.

The first thing is to get on the air often and to vary your times and bands. Propagation will vary based on the time of the day. Being active at different times and bands spread out the areas you hit, and times when those hams there are likely to be at their radios. In general, 20 meters and up follow the sun. One or both sides will be in daylight or within an hour or two of sunset/sunrise. The lower bands are best when both stations are in darkness.

Local sunrise and sunset times, plus or minus an hour or so, are also great times to pick up new DX. Low bands signals often follow the Grey Line. The Grey Line is the circle of twilight around the planet. This circle changes over the course of a year, and there might only be a few weeks where a target location is in twilight at the same time as us.

Of course, there are exceptions, and there are some interesting openings outside of the usual times. These openings can be to some pretty rare locations, so don't be afraid to check bands that "should" be closed. Give out a few CQs while you are there. Many years ago, I woke up at 2:00 AM and could not get back to sleep, so I turned on the radio. The 15-meter band was open to India, one of the toughest paths at any time. The band should have been closed for hours.

Also, consider local times at the other end. The band may be open, but if it is 2:00 AM on a weeknight there, activity will be low. Weekday working hours will have fewer stations active. Friday in the Middle East is like our Sunday and may have increased activity.

What if you want to contact a specific country or region? You might have a big gap in that region, or maybe a DXpedition is coming up. Some programs and websites will let you know when the band is open to the various parts of the world. One good site is VOACAP.

<https://www.voacap.com/hf/>

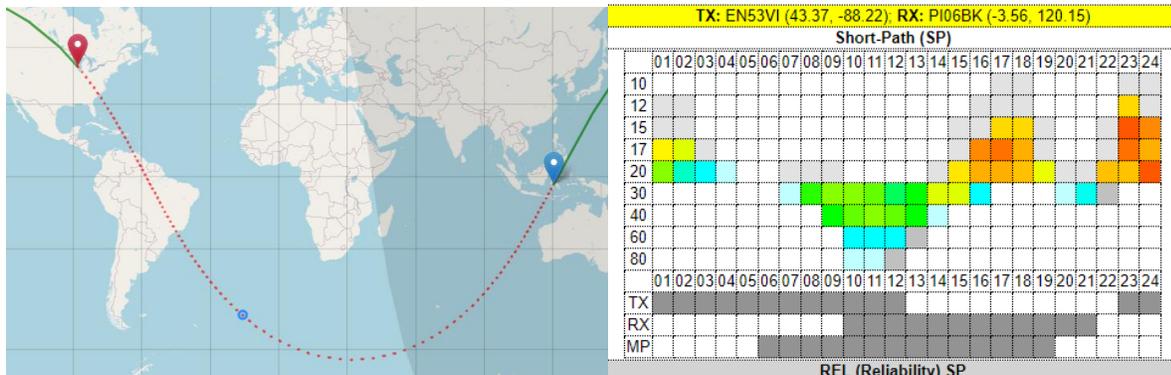
VOACAP has a lot of features, and reading the manual is suggested. You can move the pins between any two spots as a quick start. Below the map are many options for picking bands, showing Grey Line, etc.

The graphics below show the path between Wisconsin and Indonesia selected and a band-by-band breakdown of the best times to make a contact between those locations. The best shots are when the boxes are filled in with orange.

Note that these are predictions. If you hover your cursor over a box, it will tell you the percentage of days this path will be open. For example, the 15-meter opening at 2300 has a 94% chance of being open. It is sort of like the weather forecast for rain.

The box shown is for the short path. Sometimes there are paths open from the opposite direction, the long path. Another pretty good time to work Indonesia is around 1300 UTC on 15 meters. Sometimes the long path is better than any short path openings.

N9UUR says now that he found the right time and bands, he now has five YB stations in the log! Way to go, Gary!



Path map and propagation forecast WI to YB. Curtesy VOACAP Online

QSO Today Virtual Ham Expo

There are two online events of interest to hams this month. The first is the QSO Today Virtual Ham Expo, March 12 and 13. This is the fourth running of this event. As usual, there are over 60 presentations on many aspects of the hobby. Some are sure to be of interest to you.

I will be giving a talk titled "*Antennas – The Third Dimension.*" It discusses how antenna take-off angles are as important and maybe more important than the horizontal pattern. I also go into what affects the take-off angles of different antenna types. The time for my presentation is 10:00 AM (CDT) on Sunday, March 13.

There are also manufacturers exhibiting at the Expo. Slinger, Wisconsin's largest ham radio manufacturer, Unified Microsystems, exhibited in the past but will not be this time. One reason is to allow me to put a full-time effort into the Wisconsin QSO Party. If you register, and a talk you want to see is during the QSO Party, don't worry. You can go back and watch recordings of the presentations for 30 days after the event.

The QSO Today Expo is not a free event. Registration is \$10.00 before March 7. It goes up to \$13.50 after that.

<https://www.qsotodayhamexpo.com/>

HamSCI Workshop 2022: The Weather Connection

HamSCI is an organization of scientific researchers and ham operators working together to better understand the ionosphere and radio propagation. They have a couple of exciting projects in the works, including developing low-cost space weather stations that participating hams can set up and contribute to science.

They have an annual meeting. However, like most events the last two years, they went to a virtual event during COVID. I sat in on both, and they were fascinating. This year, they are meeting in person in Huntsville, AL, but it is a hybrid event, so you can still attend via the Internet.

In the past, some of the talks were at high scientific levels, but many were at ham levels. The nice thing about virtual attendance is you can quickly come and go according to your schedule and interests.

This is a free event. Registration for virtual attendance will be up in early March.
<https://hamsci.org/hamsci2022>

Contests

Contests start to taper off in March and April. But, of course, the big one is the Wisconsin QSO Party covered at the start of this column.

The other big one is CQ's WPX Phone contest. This one is where everyone works everyone. You give a signal report and a serial number starting with #1 for your first contact. The multipliers are the call sign prefix (W9, K9, N9, WT9, etc.). This is a good contest if your call does not start with W9. Points are based on distance and band. Check the rules for details.

W9XT's contest picks for March and early April 2022					
Name	Start	Length	Bands	Mode	Link
WI QSO Party	18:00 March 13	7 hours	160- UHF	CW/Phone/Digital	https://www.warac.org/wqp/wiqp_rules.htm
CQ WPX Phone	00:00 March 26-27	48 Work 36 max	160 + HF	SSB	cqwp.com/rules.htm

Dates/Times in UTC. Subtract 6 hours from UTC to get local (CST). HF = 80, 40, 20, 15, 10 Meters

DX

TL8AA from the Central African Republic is a good one. This seven-operator Italian team will have four stations set up. I'm looking forward to this one as I need it on several bands and digital.

W9XT's DXpedition picks for March and early April 2022					
QTH	Dates	Call	Bands	Mode	Link/notes
Central African Rep.	March 27 – April 9	TL8AA (TL8ZZ FT8)	HF	C/S/D	http://www.i2ysb.com/idt/
Aland Island	April 1-9	OH0EG	HF + 160	C/S/D	

Modes: C = CW, S = SSB, D = Digital (may include RTTY) HF = 80, 40, 20, 15, 10 Meters

The Aland Island operation is being put on by a small group of mostly German hams. In addition, there will be a group from Poland later in April using the same call sign.

There are several single operator DXpeditions in March. I usually don't mention them because many are vacations with a radio along for downtimes. Catching them is pretty much hit or miss.

That wraps up March. In case it escaped you, the **WiQP is Sunday afternoon, March 13**. Be sure to get on and contribute to the ORC club score.



In the above article from Gary, W9XT, you saw references to working mobile in the Wisconsin QSO Party. Is it my error or is this an Ozaukee Radio Club member preparing to go mobile in the upcoming 2022 Event?

Editor's Note

Good Stuff – For Sale!!

(Donated by the Nels Harvey family to the SCHOLARSHIP/STEM Fund)

1. RF Wattmeter, 120 Watts - AN/URM-120 w/TS-1285 (2 thru 250 MHz)	\$100
2. HP 200CD Audio Generator	\$40
3. HP 400D VTVM	\$40
4. RCA VTVM	\$25
5. EICO VTVM	\$15
6. Precision VTVM	\$20
7. EICO signal generator	\$59
8. EICO signal tracer	\$45
9. Heathkit Grid Dip Meter	\$20
10. Precision CB26 C-R Bridge	\$5
11. Techtronic's 7613 Spectrum Analyzer (tube type)	\$50
12. Techtronic's 465 Dual Trace Oscilloscope w/Manuals and Stand	\$75
13. Bird Dummy Load Model DA 412A/U Estimated 2 Kw and UHF (Navy Surplus)	\$75
14. Handy 36 R-C Substitution Box	\$5
15. Bell & Howell Oscilloscope (Tube Type)	\$10
16. Oscilloscope Portable Stands (Sloped/Shelf and Wheels - 3 Available)	\$5
17. Variac - 7 Ampere	\$15

For Information and Purchase

Contact Tom Ruhlmann, W9IPR, at 262-844-6331

Ozaukee Radio Club Minutes of Membership Meeting 2/09/2022

de: Ken, W9GA, Secretary

This ORC meeting was conducted via an online (internet) connection using the ZOOM app. Prior to the meeting start, those members who were able to access the 'waiting room' via phone or computer/webcam were then introduced into the meeting space hosted by Pat, W9JI. At that time various audio and video connection issues were addressed for the members before the meeting began.

ORC President Pat, W9JI, officially initiated the meeting at 7:31 PM, as introductions were recognized when members checked into the meeting, a go-around was not conducted. Pat marked the passing [SK] of two of our members: Jerry, KC9WUI, and Gary, N9SBG.

Program:

Gary, W9XT, presented a program on Antenna basics, covering many of the basic principles of antenna physics and simple designs. Concepts covered were Resistance/Reactance, impedance at resonance, $\frac{1}{2}$ wave dipole, $\frac{1}{4}$ wave vertical and Yagi beam antennas. Then practical applications were discussed, such as antenna height, gain and directional characteristics, plus matching to a coax cable, and the use of baluns.

Committee Reports:

Repeater: Gregg, W9DHI, reported that all seems OK, and that the Tuesday night nets were operating fine through the system.

Treasurer: Gary, N9UUR, reported little activity, the 2021 books now closed. There are currently 115 paid members, and 15 members from last year who have not renewed yet. The January treasurers' report was accepted; motion made by WB9RQR, 2nd by W9DHI, and carried.

Secretary: Ken, W9GA, reported the January 2022 minutes have been posted; W9MXQ moved, WB9RQR 2nd, motion to accept carried.

Scholarship/STEM: Tom, W9IPR, has not yet had anyone volunteer for the STEM committee.

OLD business: So far, W9GA, has received 5 logs for the Key-up activity. The budget for 2022-23 was introduced and briefly discussed. STEM program is to be included in the budget process. Fred, W9KEY, inquired into the \$500 repeater expense cited in the budget. Gregg, W9DHI, moved, Jim, K9QLP, 2nd to accept, motion carried.

NEW business: Information on the yearly awards will be included in the upcoming newsletter. A new committee was created to research and provide streaming capability for the in-person meetings, which can then be broadcast on Zoom. Gregg, W9DHI, and Tom, KC9ONY, are current members of this committee.

Pat, W9JI, presented a short poll for the members in the Zoom call to vote on in-person meetings. 21 persons participated:

Attend meetings In-person; Yes	52%
Attend meetings In-person; With Conditions	38%
Attend meetings In-person; No	10%

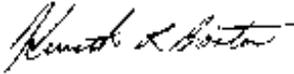
[Further questions addressing the conditions for attending showed interest in certain requirements such as masking and having been vaccinated.]

Some discussion also occurred regarding reserving space at the senior center and reserving the park for Field Day 2022.

Adjournment: Gary, N9UUR, moved to adjourn, Bill, W9MXQ, 2nd, motion carried; time ending was 9:28 PM. There were 36 attendees.

Following the meeting breakout rooms covering any general topics; were opened.

Respectfully submitted,



Kenneth Boston, W9GA, Secretary

REMEMBER!!!

2022 Ozaukee Radio Club Spring Swapfest

**Saturday, April 30, 2022 – 8 AM to 12 PM (Setup begins at 6 AM)
Columbia St. Mary's Center – W67N890 Washington Ave., Cedarburg, WI**

**See the Ozaukee Radio Club Website for Details
Flyer is Inserted as the last page of this Newsletter.**

Upcoming ORC Monthly Meeting Programs

de Pat Volkmann, W9JI

March – Chuck Curran, W9KR - Hickok tube testers

April – Pat Volkmann W9JI – Refurbish a Classic Amp Ameritron AL1500

May – Open

June – Field Day

July – Field Day Member Reports

August – Bill Shadid, W9MXQ - Drake Linear Amplifiers – Features and Failures

Please contact Pat W9JI with your program ideas.

Creating a Presentation

Many of our presenters use Microsoft's PowerPoint to organize and present their information. If you don't have access to or aren't familiar with PowerPoint, there is an alternative. The Open Office package contains Impress, which is similar to PowerPoint. Impress is easy to use and available at no charge. You can check out OpenOffice here: <http://www.openoffice.us.com/>

The monthly program is the highlight of the Ozaukee Radio Club meeting. We are fortunate to have a number of very talented people in our club, many of whom have shared their knowledge through a presentation. Share your expertise and experience with the club. Programs can be on any topic that is ham radio related. Contact Pat Volkmann, W9JI, at orc_pat_w9ji@outlook.com to discuss your idea for a program

ORC Meeting Agenda

March 9, 2022

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none">1. 7:15 – 7:30 PM – Check-In and Introductions2. 7:30 PM Call to Order:
President Pat Volkmann (W9JI)3. Announcements, Bragging Rights, Show & Tell, Upcoming Events, etc.4. Presentation: Hickok Tube Testers, Chuck Curran, W9KR5. President's Update:
Pat Volkmann (W9JI)6. 1st VP Report:
Ben Evans (K9UZ) | <ol style="list-style-type: none">7. 2nd VP Report:
Bill Greaves (K9GN)8. Repeater VP Report:
Gregg Lengling (W9DHI)9. Secretary's Report:
Ken Boston (W9GA)10. Treasurer's Report:
Gary Bargholz (N9UUR)11. Committee Reports12. OLD BUSINESS13. NEW BUSINESS14. Adjournment |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Meeting Note:

Until the club decides it's safe to hold in-person meetings again, we will be holding the meetings via the Zoom Videoconferencing platform on the same evening and time as we had the in-person meetings. President Pat Volkmann will email sign-in info, W9JI via the ORC remailer usually about an hour before the start of the meeting.

For more updated news concerning in-person meetings, please see the President's Message at the start of this Newsletter.

Next ORC Meeting
Planned Hybrid In-Person/Zoom Meeting
13 April 2022
Read President's Message, on Page 1

7:00 PM – Doors Open

7:15-7:30 PM – Zoom Check-In

7:30 PM – Meeting Begins

The Ozaukee Radio Club presents its 42nd Annual Spring Indoor
Amateur Radio, Electronics & Computer



SWAPFEST



Saturday, April 30, 2022 – 8 AM to 12 PM (Setup begins at 6 AM)

featuring TOWER ELECTRONICS!

Columbia St. Mary's Center – W67N890 Washington Ave., Cedarburg, WI

Talk-in: 146.97 – PL 127.3



Like us on
 Facebook.com/orcwi

www.ozaukeeradioclub.org

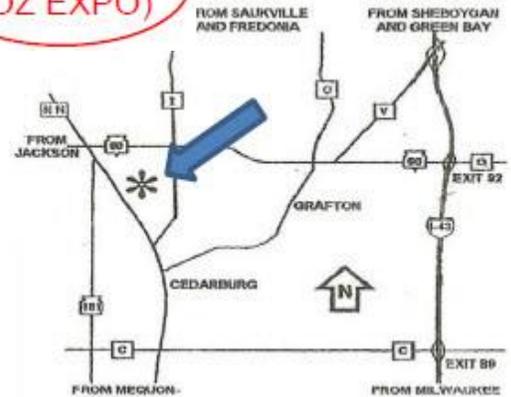


Table Spaces \$10 (All Tables are 6 ft)
Buy 1 Ticket & 1 Table... just \$15!

Use Order Form below, email, or call Tom Trethewey, KC9ONY at 262-421-6351

Email: swapfest@ozaukeeradioclub.org

For Advance Tickets, send check with self-addressed stamped **Business-Size Envelope** to:
 Tom Trethewey, KC9ONY – W69N905 Evergreen Ct N, #202, Cedarburg WI 53012
Admission Tickets just \$5 (Please make checks payable to ORC)

Company Name: _____ Phone# _____
 Contact Person: _____ Call Sign: _____
 Address: _____ e-mail: _____
 City: _____ State: _____ Zip: _____
 No. of Tickets: _____ X \$5 = _____ Electricity: Yes (Add \$5) _____ No _____
 No. of Tables: _____ X \$10 = _____ Total Amount Enclosed: _____

(For Official Use Only)

Ticket(s) # _____ Table(s) # _____ Init: _____

Date: _____ Time: _____ Vendor Entrance Used (Circle one): **1** **2** **3**