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 XXXIX	October 2022	Number 10

From the President

de Pat Volkmann, W9JI

The Ozaukee Radio Club got its start in the mid-1960s in Port Washington. From the very start, the Club was well organized and kept detailed records of meetings and Club business. That tendency toward record keeping has persisted over the last 60 years and today there is quite a volume of paper documenting the Club's activities. Meeting minutes, membership records, receipts for all sorts of things, correspondence, and pictures. Lots of pictures. While it is interesting to thumb through all the boxes the question of how to sort and organize this archive arises.

The ORC has had a number of Club Historians over the years and those individuals have done a stellar job of collecting and preserving a record of what we have been doing. The collection of Club documents is now at the point where something new has to be done or we will be in danger of losing those records. The ORC needs a Club Historian who is willing to take on the challenge. Part of that challenge is to figure out how to convert the paper to a format that can be preserved and more easily accessed. If you are interested in working on such a project, please get in touch with me.

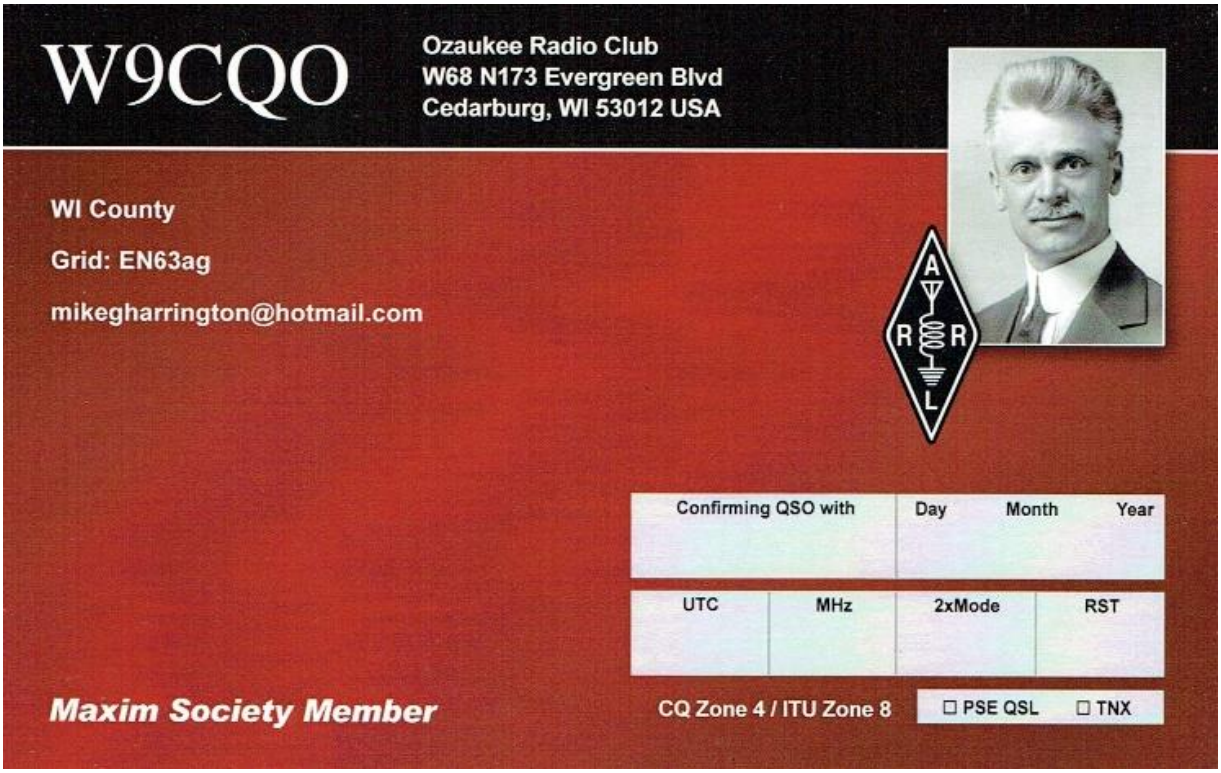
Coincidentally, the Internet Archive (archive.org) recently announced that they are starting a project to build an amateur radio and communications library. The Internet Archive site already has a huge collection of ham radio related books and magazines. From their announcement:

"Internet Archive has begun gathering content for the Digital Library of Amateur Radio and Communications (DLARC), which will be a massive online library of materials and collections related to amateur radio and early digital communications. The DLARC is funded by a significant grant from the Amateur Radio Digital Communications (ARDC),

a private foundation, to create a digital library that documents, preserves, and provides open access to the history of this community."

I think that the results of this project are going to be very interesting. The Internet Archive is looking for material for their project. This may be one way to deal with the mass of documents that the ORC has on hand.

Several months ago, the ARRL recognized the contributions of the ORC Scholarship program through our induction into the Maxim Society. One of the benefits to the Club is a Maxim Society QSL card. The first batch of cards has arrived and here is what they look like.



W9CQO Maxim Society QSL Card

See you at the meeting.

Pat Volkmann W9JI

A Message from the Editor
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de: Bill Shadid, W9MXQ

See Club President, Pat Volkmann, W9JI, and his monthly message on Page 1. Pat mentions a critical position as the Ozaukee Radio Club, that of Club Historian. Along with many pieces of historical documentation on this fine club, might I draw your attention to perhaps often forgotten sours of historical information on ORC? You have only to access the http://www.ozaukeeradiclub.org website for access to Newsletters, published by the club, to as far back as 2002. And that leads to a question, the January 2002 edition of the Newsletter lists itself as being Volume XXI, Issue Number 1. So, for some future historian, where are the previous twenty volumes?

As the current editor of the Newsletter, I would be happy to accept hard copy issues from any of the volumes previous to XXI (21) to copy and digitize for our files. They would be gladly returned to you. Contact me at newsletter@ozaukeeradioclub.org for further details. If you have digital copies (PDF or most anything else) I would accept them as well for this project.

We have a very robust Newsletter with a solid core of monthly column writers. As noted in last month's regular meeting, I am looking for fist person articles on your life in ham radio, an event you attended, or an event you led. Tim Ruhlmann, W9IPR, recently penned an excellent article on his life in ham radios – or perhaps better said, his life because of ham radio. This month I want to point out new writers during my tenure as Editor – from Jeananne Bargholz, N9VSV, where she writes about her work and the results with the ORC Table at the recent Ham Radio Outlet Superfest, here in Milwaukee. Also check out the article by Ray Totzke, W9KHH, on world War II Morale Radios – with emphasis on an E. H. Scott Receiver he owns. Do you need help in getting thoughts to paper (or keyboard!!)? Contact me at newsletter@ozaukeeradioclub.org.

Our regular Ozaukee Country Amateur Radio Emergency Coordinator Ozaukee County EC, Don Zank, AA9WP pens are article with a variety of short ARES related topics, including the recent Section Emergency Test. Stan Kaplan, WB9RQR, shows us how to find operating system version in Windows™. Oher regular authors include Bill Shadid, W9MXQ, (your Editor) talking about the mysteries of tuning a dual-dial general-coverage receiver from the 1930's into the 1970's. Gary Sutcliffe, W9XT, brings us On the Air Activities – Contests, DX, and Special Events through October and into November. .

Last but not least, check out Minutes of the last meeting as provided by our club Secretary, Ken Boston, W9GA. Check the complete Table of Contents on the next page.

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PAGE	**DESCRIPTION**

Fall comes to Holy Hill, Washington County, Wisconsin

_____Onward To the Newsletter_____

Ozaukee Radio Club Booth at Ham Radio Outlet Superfest 2022

de: Jeananne Bargholz, N9VSV

Friday and Saturday, 23 and 24 September 2022, marked the return of HRO Superfest. This event, with links back to the similarly named event developed by the old Amateur Electronic Supply store, returns after the Covid-19 Adventure.

ORC was setup, just like in the old days (pre Covid-19) in the garage area of the Ham Radio Outlet (HRO) facility on Good Hope Road. Our table featured a laptop running a slide show of a handful of Newsletters and alternately with a lots of ORC photographs. We also had a few Newsletters printed up for folks to page through if they wanted. The club has a new information Flier that was present. There were also business cards to hand out that showed our repeater frequencies, email address, website URL, and our social media addresses. Lastly, we offered "Save the Date" fliers for our Spring Swap-fest. Oh, almost forgot, we also had Haribo Gummy Bears, LOL! (Editor note's – the Gummy's were well received with this booth visitor!!!)

In walking around our area of the facility, I found a good representative group of area organizations. I hope none are omitted but the group included:

- Ozaukee County, Racine County and Kenosha County ARES Groups
- Salvation Army
- American Red Cross
- MAARS (Milwaukee Area Amateur Radio Society)
- LEFROG
- Westside Radio Club
- SEWFARS (Southeastern Wisconsin FM Amateur Repeater Society)
- MRAC (Milwaukee Radio Amateurs' Club)
- GMDXA (Greater Milwaukee DX Association)
    - These folks provided QSL verification for ARRL awards (very cool)
- MRC (Milwaukee Repeater Club)

VE Testing took place and served 16 Applicants – mostly upgrades.

Some event statistics:

- 15 Tickets for Door Prizes were pulled on Friday.
- 42 Tickets for Door Prizes were pulled on Saturday
- One Ticket was pulled for the Grand Prize (a Yaesu FTdx-10 Transceiver)
    - Won by Dave Schornack, WØAH, Germantown, Wisconsin.
- N9VSV Note - My ticket was never pulled….bah! But, Joe Bettencourt, KD9RAW, won a door prize. It was a flashlight. I talked with one of the people running the raffle. They said all unclaimed prizes would be packed away for the next Super-fest.

I noted these suppliers as I toured the large commercial area:

- ABR Cable
- ARRL (Held the ARRL Central Division Convention on Saturday.)
- Cable X-Perts
- COMPACtenna
- Icom
- Pulse Larsen
- RT Systems
- SDRplay
- Times Microwave
- Unified Microsystems (that guy looked familiar!!)
- West Mountain Radio
- Yaesu

Commercial exhibitors were down this year. From memory, it appeared that Kenwood, RadioWavz, Comet, MFJ, and some others were nowhere to be seen. Every time I walked out of the Club area, I was surprised with the lack of people in the commercial area. However, the raffle cage looked like maybe 200-300 tickets were inside. I spoke with an HRO Representative who said they were really busy out front both Friday and Saturday. Personally, I met a number of HAMS and was able to talk with old friends I'd lost touch with some 20 years ago.

Although sparce, the opportunity to connect – the comradery – was so very important. It was like we all had to fill in the gaps that COVID caused. We talked about future club endeavors. We reminisced and even shed a tear over silent keys. We embraced! I saw more hugs and handshakes than I noticed at recent Swapfests. It was a great gathering.

Forums on Saturday continued a tradition with Superfest since it started many years ago. Sadly, I wasn't able to sit in on any forums. Fortunately, all were recorded and are now on YouTube. Check out this link for access:
https://youtube.com/playlist?list=PLRVMCH-SpmLu11ky9725foeqYBBhWyhm_

If your streaming player supports apps, access via the Ham Radio Outlook app as well.

Special kudos and thanks to the volunteers who took time to sit at the ORC table with me and sometimes in my place. They included Tom Ruhlmann, W9IPR, Joe Bettencourt, KD9RAW, Vic Shier, WT9Q, and Gary Bargholz, N9UUR.

That's all! Glad all of you were there – it was good to see the real you!

Please check a selection of pictures on the following two pages . . .

ORC Booth
Don AA9WP, Fred W9KEY, Tom W9IPR

Clubs Area

ARRL Booth

Yaesu Booth

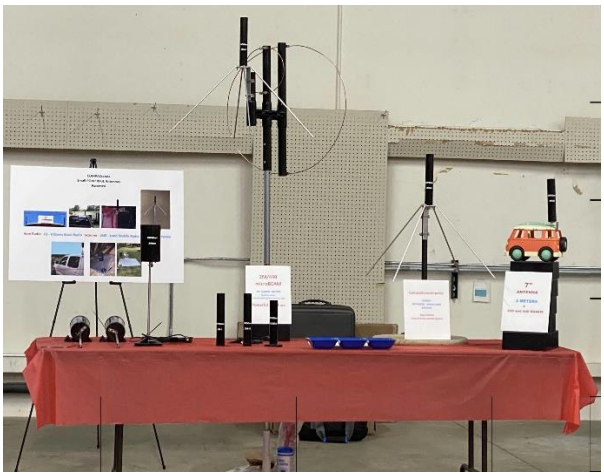
Icom Booth

Unified Microsystems Booth
Gary K9DJT, standing in for Gary W9XT

More pictures . . . next page . . .

LEFROG Booth
Loren Jentz, N9ENR

Salvation Army Booth



COMPACtenna Booth

ABR Industries Booth

Cable X-Perts Booth

West Mountain Radio Booth

World War II Morale Radios – the E. H. Scott HLRM

de: Ray Totske, W9KHH

It's 1942. The USA was at war with Germany and the other Axis powers. The US Navy and Merchant Marine were busy moving personnel and supplies to Europe.

There was a serious problem, an opposition to this troop and materiel movement. This opposition was the Deutsche Kriegsmarine, particularly the Ubootwaffe (U-Boat Force). Seems the U-Boats were tracking US ships readily despite US radio silence. No communications between ships or with shore stations on either side of the Atlantic.

U-Boat Operating in the Caribbean in 1942

Pinterest

With no transmissions receivers aboard ship were operating, listening to military traffic and entertainment programming for the ships' crews and personnel headed for combat duty. They couldn't leave Benny Goodman, Cab Calloway, Fred Allen, Jack Benny, and countless others behind. There they were on the radio keeping the men connected to the life they were leaving. They were the morale keepers.

The U-Boats were having a field day for some time until it was realized that the U-Boot radios were tracking the radiation from the receivers on the Navy and Merchant Marine ships.

A call went out for US radio manufacturers to produce receivers that did not radiate.

One of those manufacturers was the Scott Radio Laboratories of Chicago, Illinois. Several models were produced and supplied to the Navy and Merchant Marine during the war. Radiation could not be detected at a distance of twenty feet from the receiver. Ergo, no radiation for detection and position reckoning by the U-Boats. US shipping losses were diminished.

Scott receivers were also supplied to Great Lakes ships for morale purposes supporting crews that spent weeks and months on the sweet water seas moving iron ore, coal, and stone to the mills producing steel for the war effort.

After the war one of these receivers, a Scott Model SLRM, from a coal boat in Port Washington came into the hands of Bert Klopp, W9OFM (SK), radio operator at WAD, the Lorain Radio ship-to-shore station of Port Washington.

Scott Model SLRM Morale Receiver

W9KHH

The Scott SLRM received 540 kHz to 18 MHz in four bands. A twelve-tube sensitive receiver with four degrees of selectivity for AM reception. CW was limited to whatever the components allowed. One position. It also had provision for phonograph audio input. Since electrical conditions aboard ship varied it was designed as a 115-volt AC/DC radio. Isolation transformers were installed by Bert.

Close-Up Picture of the SLRM Main Readout Dial

W9KHH

In 1959 during Solar Cycle 19 I was using a 50 Mc to 7 Mc converter with a Hallicrafters S38C receiver. After discussion with Bert, he sold the Scott SLRM to me. Ah-h-h! Much better six-meter station.

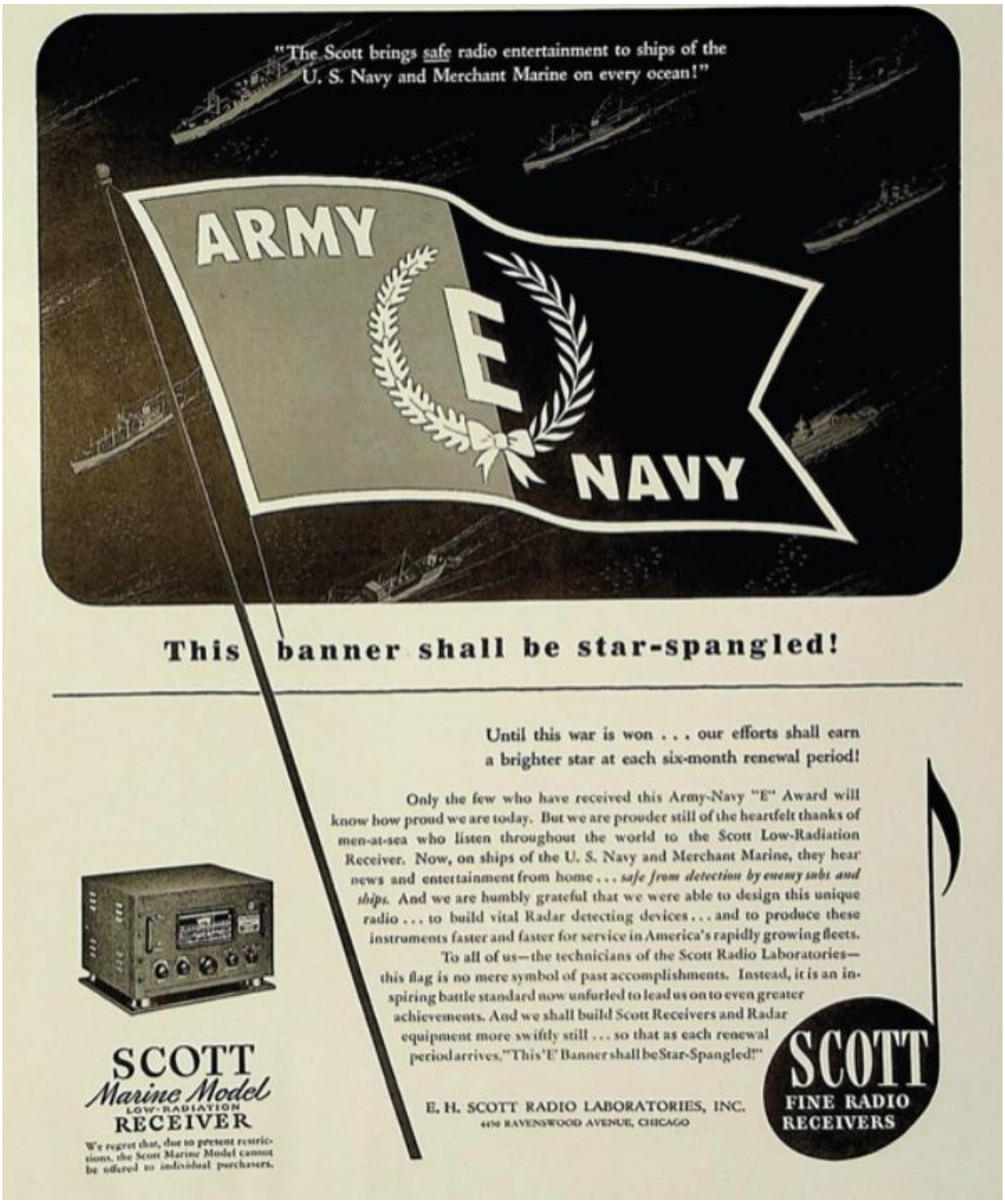
Six meters at the time was a very active band locally in addition to F2, Sporadic E, Aurora propagation for hours daily. For the better equipped stations DX to Europe (a few stations had special privileges to operate six meters), Japan, and South Africa. For mere mortals we checked the forty-meter Canadian time station. If its signal was watery and garbled, we listened for fuzzy aurora signals with beams to the north. RST 53 to 59.

What an improvement with the Scott SLRM over the Hallicrafters S38C.

As a morale booster radio my Scott has served well. Assuming it was built during WW2, now approximately 75-80 years old it is still “boosting my morale.” Providing AM reception of medium wave and shortwave broadcasts almost daily. It has never burped. No tubes or other components have been replaced. It could use a new power on/off switch. The external power strip takes care of that.

Pictured is the Scott SLRM in its operating position today. The red wire on the left side of the picture went to a BC-453 Q-Fiver for selectivity .

More info on Scott radios can be found with an internet search. The company lasted a couple years after the war’s end before closing and joining Atwater-Kent, Radiola, and various variable condenser manufacturers in the radio history archives. An example of E. H. Scott advertising during World War II for their Low-Radiation Receivers follows . . .



World War II Era E. H. Scott Advertisement for another Low-Radiation Receiver
W9KHH

THE COMPUTER CORNER - No. 295: WINVER

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

Here is a very short article, but it definitely shows a bit of useful and somewhat interesting information you can easily reveal. Of course, there are several other ways to show WINVER as well, but this is really quick and easy.

In your tray, in the box labeled “Type here to search” (sometimes shown as just a magnifying glass until you hover over it), type winver, or WINVER, or WinVer (case doesn’t seem to matter) and hit the Enter key. A box will pop up with information, shown below from two different computers. On the left is my main desktop machine; on the right is my laptop. Both show the version of Win10 and the build, which are identical and the latest for this Operating System (OS) at the time these two were captured. The product license quoted is correct for my desktop (though I really do not know why it shows the two words “org name”), but it is not really correct for laptop. I must have gotten lazy when setting up the laptop (which, as an aside, is a dual-boot computer with Linux as the second OS).

STAN’S DESKTOP

STAN’S LAPTOP

Anyway, this is a quick and easy way to check on your version and build, to compare several computers, and to make sure you are up to date. Happy Computing!

OZARES: Ozaukee Amateur Radio Emergency Services

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

Short Takes

The last weeks of September have been busy weeks for the OZARES group. In preparation for the Simulated Emergency Test, or S.E.T., held on October 1st, OZARES conducted two WINLINK classes on September 20 and 21. . The classes were fashioned to help operators in Ozaukee and Washington County to setup their WINLINK packet software on their laptops and Signalink (or similar devices). The classes, held at Saukville Village Hall, were well attended and everyone learned something. A few of us learned how important the TX level setting on the Signalink is to get the system to work. Unfortunately, we still have a few that have not had much success. But we will keep at it.

Then, at the end of the week, and thanks to Jeananne, N9VSV, for the invite, OZARES joined with the ORC table at the Ham Radio Outlet Superfest. I enjoyed some interesting conversations with the gentlemen at the SATERN table, Tom and Loren at the LEFROG table, along with Dave, KD9JYL, at the Red Cross Table. Gary, K9DJT, informed me that the Greater Milwaukee DX Association, located directly across from our table, was holding a pool on how long the OZARES banner, held with duct tape, would stay up. That issue will be fixed, thanks to Joe, KD9RAW, who has offered to build a PVC banner holder for the club. All The presentations were interesting and informative, and it was nice to have them live on YouTube. The ARES discussion during the ARRL presentation stirred up some interesting comments and discussion.

Some good news is that our served agencies are reopening their doors. OZARES has reestablished relations with the Aurora Grafton Hospital, and we are in the process of working with Ascension St. Mary's Mequon. OZARES is looking forward to returning to quarterly tests with the two local hospitals, Ozaukee-Washington Public Health, and our two emergency operation centers. The National Weather Office in Sullivan has reopened so now when severe weather is in the area, we can submit real-time severe weather spotter reports.

On October 1, the S.E.T. was held and OZARES co-operated with the Washington County group to test communications. In Ozaukee County we had eight operators participate. Roland, KB9TMB, and Todd, KD9QLJ held down the fort at the Justice Center EOC. Dave, KD9JYL, and Joe, KD9RAW, worked at the hospitals. Scott, KC9IIZ, was on the Ozaukee County Sheriffs' boat near Lion's Den. And I worked from the Saukville Village Hall EOC. John, NO9X, and Alex, WB9X, worked from Sheboygan County as Aurora Hospital Sheboygan, virtual.

In Washington county, WASHARES, http://www.washares.com/, had nine stations checked in. Their served agencies include the Washington County EOC, the Menomonee Falls Hospital, West Bend Hospital, Hartford Hospital, and Germantown Police Department.

OZARES and WASHARES operators tested communications between respective repeaters and simplex channels.

We had success contacting the Sheriff's boat, maritime mobile, from Ozaukee and Sheboygan Counties.

Both groups used WINLINK to pass check-in and status messages between the EOC and the hospitals. The State Emergency Operations Center was open, and Roland and Todd established communications on the HF bands. The hospitals all passed reports to the State via WINLINK.

This was a very good exercise for OZARES and WASHARES. Both groups learned a great deal and a few things need to be fixed. I am looking forward to next year when we can try some different modes such as WINLINK peer-to-peer.

See you next month.

73,
Don, AA9WP for the OZARES group.

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

Vintage Amateur Radio

de Bill Shadid, W9MXQ

Do you remember the days of the vacuum tube general coverage receiver? I certainly remember. Back when I first of these radios (a Hallicrafters SX-110, new in 1963), I quickly had to learn how to tune it properly and get maximum readout accuracy on the ham radio bands. In those days, we were talking about the HF amateur bands of 80, 40, 20, 15, and 10 meters. The 160-meter band was usually not included – for reasons I will detail a bit later in this article. Sometimes the 11-meter band was included with the tuning of the 10-meter band. Look below at the SX-110 Receiver from the time when I was studying for my first ham radio license. It is still with me, today.

Hallicrafters SX-110 General Coverage Short Wave Receiver (1963)

W9MXQ Collection

For me to tune this receiver now is very easy. But when I first unpacked it in 1963 that was not the case. By the way, I can still recall the aroma of the freshly assembled electronics as the paper wrapper around the new receiver was removed!! Warming up the eight vacuum tubes only served to enhance that pleasant experience. And, due to good care all these years, it is still apparent when the tubes heat up as I write this article and listen to the radio's smooth vacuum tube audio.

Tuning was accomplished using one switch and two controls. These included the BAND SELECTOR Switch, the MAIN Tuning Control, and the BANDSPREAD Tuning Control. We are going to setup this receiver in this example to listen to 7.258 MCS (MHz). Those of you familiar with the bands know that this is the 40-meter, long time net called Mid-

CARS. Generally, depending on band conditions and location, they are available from early morning to mid-afternoon. They cater to mobile operators but are open to all. I use them frequently to check a radio that I have on the bench.

First, we setup the radio to receive on in the area of 40 meters, 7.000 to 7.300 MCS (MHz). To do that, turn the BAND SELECTOR SWITCH to position 3 on the dial as shown here:

Referencing the picture on the first page of the article, see that the BAND SELECTOR switch is the second switch from the left on the lower row of controls. Position 3 allows coverage on the radio from 4.6 to 13.0 MCS (MHz). Included in that range is the 40-meter ham band of 7.0 to 7.3 MCS (MHz).

W9MXQ Picture

Next, look directly above the BAND SELECTOR switch to the round readout dial to note the placement of the 7.0 MHz area on the dial:

See the band area on the second arc from the top and the red circle that I have added to identify the location.

Observe that there is a round marker at 7.4 MCS (MHz) on the dial. That round marker, or bulge in the line between 7.0 and 8.0 MCS (MHz) indicates a setpoint that is important in the next step of this process.

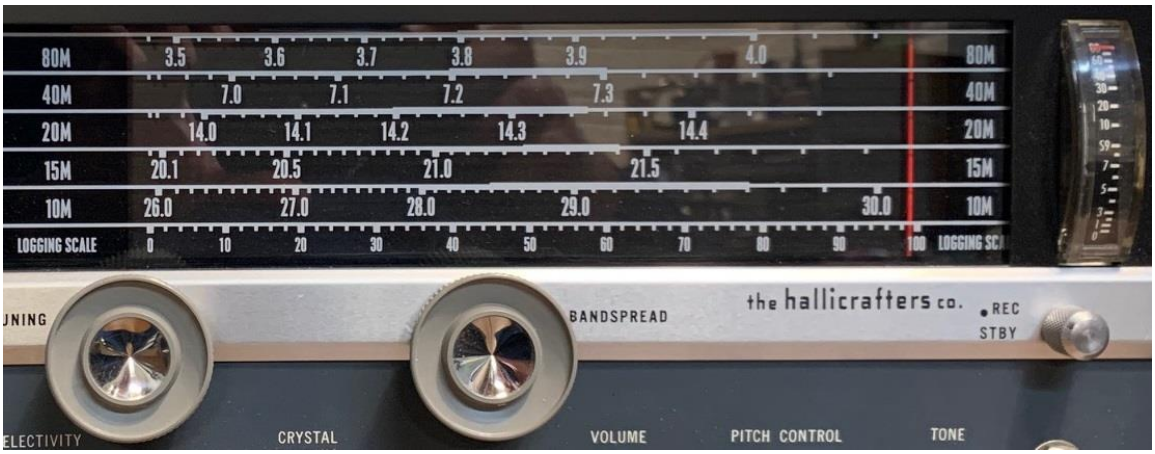
W9MXQ Picture

Next use the TUNING control to set the dial on the marker – as shown below.

Check the location of the readout indicator line (vertical white line that indicates the frequency. It is directly on the marker, or bulge, at 7.4 MCS (MHz).

W9MXQ Picture

Next, on the SX-110 Receiver, the large slide rule appearing BANDSPREAD readout and control come into play. See the picture below:



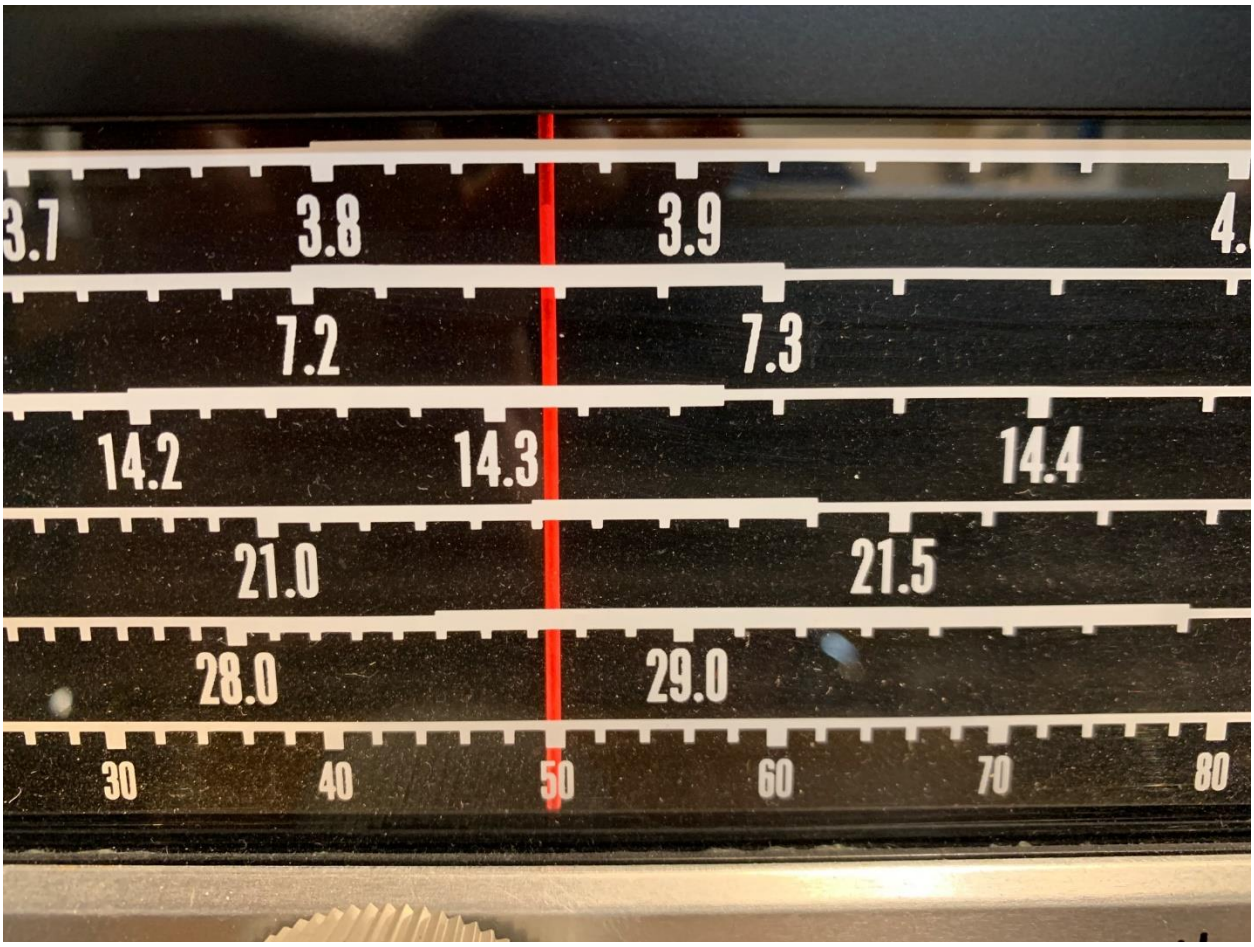
W9MXQ Picture

This is the bandspread readout panel on the SX-110. The BANDSPREAD tuning knob is below the center of the readout – clearly marked in the picture, above. Note for reference that the red dial pointer is all the way to the right (or as far as it will go) in this picture. This is how the Operating Manual for the SX-110 shows to always leave this readout when using the TUNING control. For our purposes in this article that is not important – but it IS IMPORTANT if you are operating the receiver with just the main TUNING control.

The bandspread for the previously mentioned 7.0 to 7.3 tuning range is shown as the second readout from the top with the callout “40M” (meaning “40-Meters”) on both ends of the dial in use.

Now move the dial (using the BANDSPREAD control) to where the dial pointer is within the range of the band (7.0 to 7.3) and listen for signals on the band.

Remember that I previously mentioned MidCARS? Here is how the dial looks when tuned to that popular net:



W9MXQ Picture

Here is the BANDSPREAD dial with the red indicator just below 7.260 MCS (MHz). It is actually tuned to MidCARS at 7.258.0 MCS (MHz). Not to precise you say? Welcome to the world before digital readout!! Precise readout was better and better with increasing level models. The SX-110 was a medium-priced radio. Lower priced models were somewhat less precise to accurately callout frequency – higher priced models were better. This is a bit of a generalization – and also tied to specific brands.

For reference, note that the actual readout line is above the frequency callout numbers on each band. So, how accurate is this indication of frequency, you might ask? Not too good, I might answer. This is covered in detail in a second article on this subject.

This process is repeated for each band on the SX-110. That is, for the 80, 40, 20, 15, and 10-meter bands. For other areas, one may set any frequency on the MAIN tuning just above the selected range then use the BANDSPREAD on its Logging Scale (bottom readout) of 0-100 to indicate relative frequency. Band to band, however, this is just a relative readout which in theory could be repeated when returning to the same range. Practically speaking, however, it is not a practical, or very accurate, statement. For instance, to tune 160 meters with this receiver, set the BAND SELECTOR to 2, the MAIN tuning to 1.8 MHz, with the BANDSPREAD set to the far right. Then tune to the left with

the BANDSPREAD to cover the 160-meter band. Frequency indicated on the BAND-SPREAD dial will be a reference, not actual.

Now we will look at some other examples – from other manufacturers. One such receiver is a model sought after to this day, the Hammarlund HQ-180 General Coverage HF Receiver.

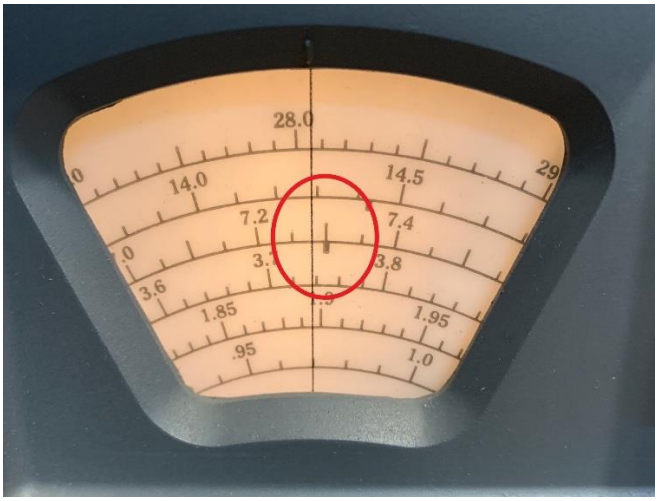
Hammarlund HQ-180 General Coverage Short Wave Receiver (1959) Shown with Optional S-200 Speaker and GE Telecron™ Clock
W9MXQ Collection

Relating to the Hallicrafters SX-110 Receiver previously discussed, we will use the same functional controls on the Hammarlund HQ-180 to find the same 7.258 MCS (MHz) for MidCARS. But the controls have slightly different names. To make the initial setup, we use the MAIN TUNING RANGE MCS switch in the lower center of the panel to set the tuning range, the MAIN TUNING control to set the main frequency, and the BAND SPREAD control to tune the selected band. As with the SX-110 we discussed above, we are again tuning the 40-meter band for MidCARS on 7.258 MCS (MHz). Note the front panel MAIN TUNING RANGE MCS on the HQ-180 references "MCS," for Megacycles. Megacycles as a term for frequency was replaced by the current term "Hertz," after Heinrich Rudolf Hertz (1857–1894). So, in the day of the HQ-180 we would be search for 7.258 MCS and today we search for 7.258 MHz. (I have used both terms in this article.) This new terminology was adopted by the General Conferences on Weights and Measures (CGPM) in 1960. As you might expect, hams tended to ignore the new reference for some years after it was adopted – present company included!

This radio carries the rather classic dual disk readout system so popular on many radios from Hammarlund, Hallicrafters, National, RME, and others that made radios from the 1930's until not that long ago. As in the case of the also popular scheme of a main tuning disk and a slide rule band spread dial (like the Hallicrafters SX-110), the design was to set up the main tuning to be at one end (top or bottom, depending on the model) and the do fine tuning of the particular band segment using the band spread control.

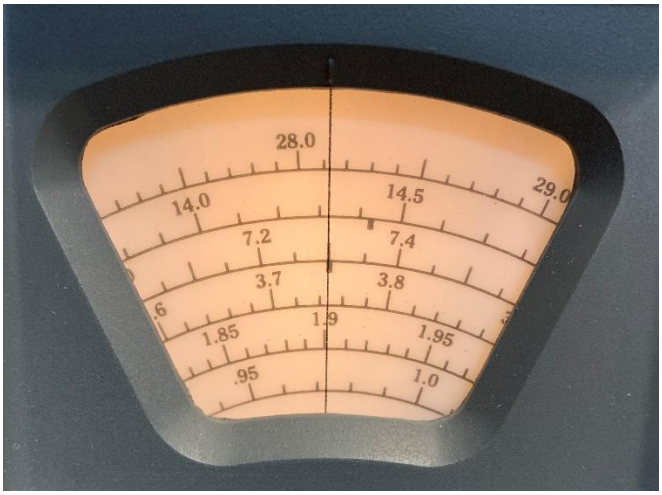
Hammarlund HQ-180 Front Panel – the lower center of the Front Panel (see above) for the TUNING RANGE MCS Control. We need the range 4 – 7.85 MCS (MHZ) to cover the 40-Meter band. (Remember, you see "MCS" on this Control – but you remember that today this is MHz.)

W9MXQ Picture



This is the left readout window (reference HQ-180 photo, above). This is the readout window connected to the MAIN TUNING Control. Marked here is the middle arc that includes the range we need. Note in the middle of the circle, the arc shows a bold mark, or bulge. Move the MAIN TUNING Control so that the indicator falls right on that bold mark, as in the picture just below this one.

W9MXQ Picture



As referenced above, note that the readout is now exactly over the bold mark on the arc between 7.2 and 7.4 on the dial. This indicates that the receiver is tuned to 7.3 MCS (MHz), which is the top of the 40-Meter band. We now need to move to the next picture and to start using the BAND SPREAD readout window and Control.

W9MXQ Picture

The next part of the process, like with the Hallicrafters SX-110 Receiver, is to move to the BAND SPREAD readout window – to the right of the S-Meter. On the readout window, you can see that I have tuned the receiver on 40-meters (third arc from the bottom to just below 7.26 MCS (MHz) in order to tune in MidCARS at 7.258 MCS (MHz).

W9MXQ Picture

As with the Hallicrafters SX-110, this process is repeated for each of the 80, 40, 20, 15, and 10-meter bands. Again, for other areas, one may set any frequency on the MAIN TUNING just above the selected range then use the BANDSPREAD on its Logging Scale (bottom readout) of 0-100 to indicate relative frequency. Also noted again, that band to band, this is just a relative readout which in theory could be repeated when re-turning to the same range. 160 meters is not on the BAND SPREAD on the HQ-180 so for a better tuning rate, the same process as on the Hallicrafters SX-110 is used here.

Bandspread (some spell it band spread and some as bandspread – I used it the way the particular receiver I am discussing used the word) was generally available but some-times more useful than others. Here it is on a very low-priced receiver – as I bought and built with paper route money – in late 1954 or early 1955 while in the fifth grade. It was (and still is with me) the Allied Knight Kit Space Spanner – the original version, not the two-tone front panel version made later.

Model S-243 Allied Knight-Kit Space Spanner Short-Wave Receiver Tuned 6-17 MCS (MHz) Shortwave plus the Broadcast Band

W9MXQ Collection

Knight-Kit Advertisement in Popular Electronics from 1954

The Space Spanner had the same two tuning controls as the "real radios" with MAIN TUNING and BANDSPREAD. With the two position to SW, for Shortwave. (Switch has SW or BC positions for Shortwave or Broadcast band.) Set the BANDSPREAD to "100" then tune the MAIN TUNING for the highest frequency above where you wanted to tune. Then rotate the BANDSPREAD downward to catch a variety of stations. Accuracy, you ask? Very little – just fun listening to a wider world when you are nine years old.

W9MXQ Picture

The idea of a reference kind of Band Spread on the SX-110 and the HQ-180, in addition to ham band individual readouts was handy for non-ham radio listening – such as in the active shortwave broadcast area at the top end and above our 40-meter band and also the band below 10 MHz WWV from about 9.5 to 10 MCS (MHz). However, the 0-100 logging scale alone was not unique to low priced radios like the Space Spanner. Hams were a major factor in marketing short wave receivers – but we were not the only market. Some very fine radios did not include specific Band Spread for hams even though the radio might be of professional or commercial grade.

As an example, here is a Hammarlund SP-200. These receivers, dating from back before World War II and after, (1939-1945) served in many critical military operations along with other famous radios of the day, such as the Hallicrafters SX-28 and the National HRO. The SP series from Hammarlund were nothing short of outstanding with a worthy reputation (much of which is lost to history except for collectors). The one below is owned by my friend Bob Bailey, W9DYQ. At least one other in the series is owned by another friend, Pat Volkmann, W9JI. Let's just say they live today with adoring fans of their fame. But let's see how the SP-200 does Band Spread.

Hammarlund SP-200 HF Receiver (1939)

W9DYQ Collection

The Band Spread on the SP-200 was designed for the varied uses of the radio by its military and commercial customers. So, even though greatly outclassing a radio like the Knight Kit Space Spanner in receiving capability, it shared exactly the process for using Band Spread as its later cousin, the lowly Space Spanner.

We will take a look at the two readout windows on the Hammarlund SP-200:

This is the MAIN TUNING dial – on the left side of the meter and band selector switch area. While difficult to see in this picture, the dial is tuned to 7.3 MCS (MHz). The arc you see is in its location because of the setting of the Band Selector switch covering this range of frequencies. The arc location on the readout changes according to what range is selected. You only see the range selected – with the others covered.

W9DYQ Picture

This is the BAND SPREAD dial – on the right side of the meter and band selector switch area. This dial is set on 100. Remember, the SP-200 does not have a Band Spread calibrated for the ham radio bands – it merely has a 0-100 Logging Scale. To use this scale, set it at “100” with the MAIN TUNING set at the top of the band for which you want to tune. In this case, the MAIN TUNING is set for 7.3 MCS (MHz) so the BAND SPREAD will tune downward in frequency as one adjusts the dial,

W9DYQ Picture

This has been a good review of the Main Tuning and Band Spread operating process for a cross section of vintage radios that ran from the 1930's until the 1970's when such radios began to be replaced by digitally tuned radios. Solid state radios, such as those available from Radio Shack™ (Realistic™) and Sony,™ and other Asian sources, did bridge the time of analog tuning (as shown in this article) to their later digital readout examples.

Before closing I want to comment, as promised, on why 160-meters was not included in Band Spread on the receivers in this article. In the days these radios were on the market, 160-meters in the United States was a confusing band due to its proximity **LORAN**, short for **LOng Range Navigation**. That was a hyperbolic radio navigation system developed in the United States during World War II. During that time, the tiny, 200 kHz 160-meter band (1.8 to 2,0 MHz – just as it is now) was subdivided into four segments with each having different power levels (including zero power), depending on your location in the United States and the time of day. Quoting Wikipedia™ here, "Loran-A used two frequency bands, at 1.85 and 1.95 MHz. These same frequencies were used by radio amateurs in the amateur radio 160-meter band, and amateur operators were under strict rules to operate at reduced power levels to avoid interference; depending on their location and distance to the shore, U.S. operators were limited to maximums of 200 to 500 watts during the day and 50 to 200 watts at night." To avoid interference, most transmitter manufacturers avoided the band. Receiver manufacturers almost never included 160-meters on the Band Spread of their General Coverage radios. More on this at:

https://en.wikipedia.org/wiki/LORAN

What remains is frequency accuracy – or, rather, the lack thereof. Stay tuned for a follow-up article on the subject of frequency dial accuracy, and how it can be attained, with these receivers.

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 often adds commentary that makes it into the article. Bob's Hammarlund SP-200 Receiver was one of the items covered in this article.

On The Air Activities!

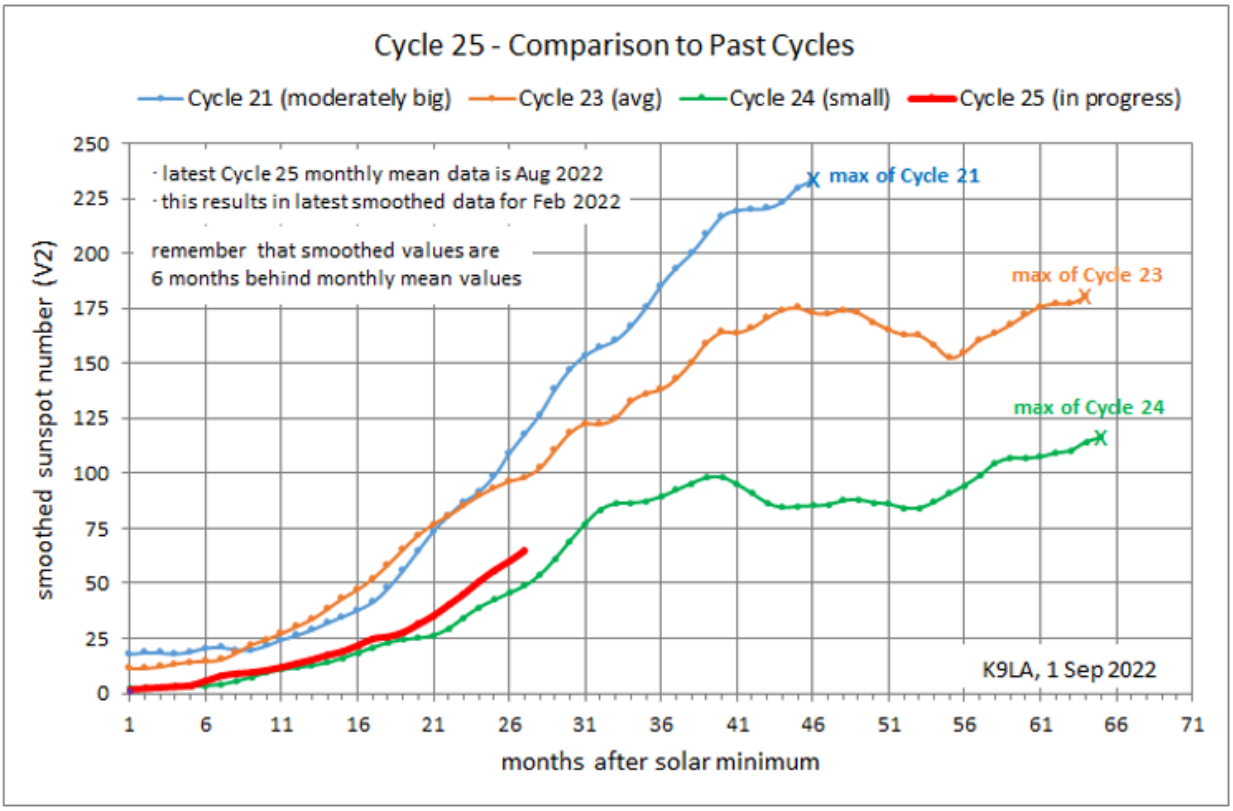
de Gary Sutcliffe, W9XT

Wow! September sure was a busy month! We had the successful ORC Hamfest, and there was the HRO Superfest. I also went to the W9DXCC convention and was invited to speak at the Friday pre-convention event, DX University.

I hope October will allow for some much need outdoor antenna work and some time on the air.

HF Conditions

As we enter the autumn season, conditions on the higher HF bands continue to improve. This year we are getting more solar activity than we have seen in many years as Cycle 25 continues. This will be a welcome return for hams that have been licensed for many years. Newer hams will get to experience the fun that can be had on the higher bands when conditions are favorable.



Solar cycle comparison. The solid red line is the current cycle. K9LA diagram.

Cycle 24, the last one, was the smallest in our lifetimes. Hopefully, Cycle 25 will be much better. The chart above compares Cycle 24, an average cycle, and an above average cycle. The solid red line shows the progress of the current cycle. So far, it looks like this one will be better than the last one. Hopefully, the curve will accelerate and get

closer to an average cycle. The chart was kindly provided by propagation guru Carl Luetzelschwab, K9LA, our ARRL Central Division Director.

Many DXers consider October to be the best month of the year. Higher frequencies improve then, and the northern and southern hemispheres have approximately the same number of daylight hours, enhancing north-south communications.

10 Meters

Ten meters is my favorite band. During the 1990s, I had a stack of two 4 element Yagi's and spent most of my time on that band. When conditions are right, you can work the world with very little power. I once worked a guy in the Netherlands running 1/3 of a watt on SSB. Once, when I was back home visiting my parents, my dad, W9FRF (SK), took me out to his car parked in the driveway. He used a CB rig converted to 10M with a mobile whip antenna. We sat there working Japan with that. During a major DX contest, we can have wall-to-wall European SSB signals from 28.300 MHz to sometimes reaching up to 29.500 MHz. That is over 1 MHz of phone signals!

Newer hams probably don't believe this. They have been hearing mostly a dead band with some sporadic E openings in the spring and summer for the last five years or so. The last time I worked Japan on 10-meter CW was December of 2014. It is easy to see why those who have not experienced the good times just ignore the band. I hope to encourage you to give 10 M a chance if you have not in the past.

Some things make 10 M the most accessible of the HF bands. The first reason is that it is the only HF allocation that Technician Class operators can use for phone or digital communications. Technician class operators can use CW, RTTY, and digital modes from 28.000-28.300 MHz. In addition, they can use phone in the 28.300-28.500 segment. Techs are limited to 200 watts.

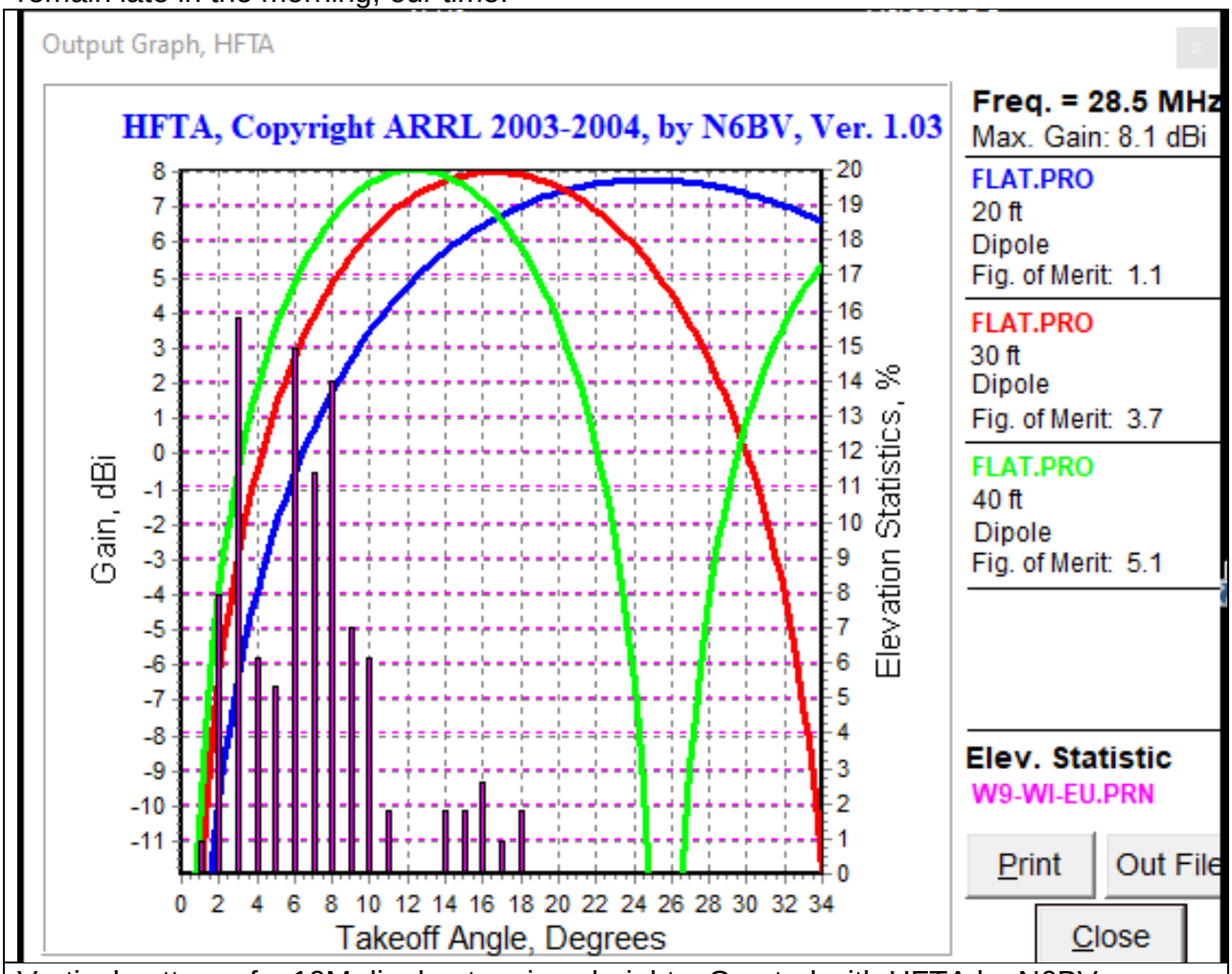
Another advantage of the band is antennas are small. A small 10 M Yagi can usually be turned with a heavy-duty TV rotator. A dipole is about 16.5' long and simple to build. If you can get it up in a tree about 20-30 feet, you can make a lot of contacts.

The diagram below shows the vertical patterns for 10-meter Dipoles at various heights above flat ground. The purple vertical lines indicate that if the band is open to Europe, that is the probability of the signal coming in from that angle. The probabilities cover an entire sunspot cycle. As we get into the initial part of the sunspot cycle that supports 10 meters, most openings will occur on the left side with lower angles. The higher angles will happen more often in a few years. But, even at 20 feet, a dipole will have some gain during many openings now.

If you can get it higher or live on a hill, it should work even better for DX. Openings to North American locations will have higher angles but will require higher maximum usable frequencies.

If you don't have a rig that covers 10 meters, used HF radios are going for very affordable prices. Maybe you can find someone to loan a spare old radio for a while to get your feet wet.

Propagation on the band tends to follow the sun. Sometimes the band will open to the south soon after sunrise. As the sun ionizes the atmosphere between us, Europe will start to open up. If you are watching a map of the world showing the areas of daylight and darkness, you will see the eastern European stations begin to fade out as they reach sunset, with the UK and Spain being the last signals from that part of the world to remain late in the morning, our time.



Vertical pattern of a 10M dipole at various heights. Created with HFTA by N6BV

You will start hearing African and South American stations as the morning progresses. Africa will fade out as they go into darkness, but they often remain workable longer in their darkness than European stations since there is more ionization on the path crossing the equator than on the polar European openings. Hawaii and the Pacific stations start coming in when after their sunrise. Later if conditions permit, the band will open to Japan and other parts of Asia. Those signals will disappear after we reach darkness, with the last signals heard coming from the south Pacific.

How long stations can be heard while in darkness depends on the ionization level. Ten meters can remain open a few hours after dusk during very high sunspot periods.

North-south paths will be more reliable than polar paths to Europe or Asia. The aurora zone will expand during times of geomagnetic disturbances. The auroral zone absorbs signals if the radio waves travel through it. Look for periods when the K index is in the 0-2 range, preferably for a few days in a row.

Occasionally we get some morning long path into Asia. We usually point the beam to the northwest in the afternoon to work Asia on 10 meters. But, as the name suggests, long path signals take the long way around the world. So, we turn the beam southeast in the morning. I decoded a few FT8 Japanese stations on the 10 M long path a couple of days before writing this.

Often there is an opening to northern Europe a few hours after the band closes. Signals are often weak and watery sounding and are often missed. There is sometimes a similar path with us at the eastern end around 9:00 PM local time. But the west end is in Mongolia, and there is not much activity from there.

HF communications are a lot of fun. Ten meters provides an easy way to put together an effective station without tall towers. Regardless of your license class, if you have not operated 10 meters, take advantage of the sunspot peak for the next 4-5 years.

Pico Balloons

I have been a ham for over 50 years and have dabbled with countless activities within the hobby. Yet I keep coming across interesting activities I didn't know existed. As I mentioned above, I was speaking at DX University. It was a series of talks aimed at the new DXer. However, they had a somewhat off-topic presentation that really caught my imagination – Pico Balloons.

You are probably aware of ham radio groups that send up balloons containing amateur radio beacons. They usually include a GPS and a 2 Meter APRS beacon showing their location. They go up to a point where the balloon bursts, and the radio package returns to earth by parachute and is hopefully recovered for a new flight a hundred miles or so away.

The talk at DX University covered a different class of radio balloons using tiny balloons and extremely lightweight radio systems. It was presented by a member of the Northern Illinois Bottlecap Balloon Brigade. This is a group of adults and school-age members who design, build, and launch their radio beacons. https://nibbb.org

The balloons they used are in the party balloon class, helium-filled ones you buy for birthday parties. Some also use somewhat larger balloons. Sometimes they use hydrogen instead of helium because it is often easier to get, has more lifting power, and has less leakage.

The electronics include a GPS receiver, a WSPR beacon transmitter running about 10 mW, a power system, and of course, the antenna. The weight of the entire system, including the balloon, is less than10 grams.

Solar cells provide power. Usually, no battery or super caps are used to store power for weight reasons, and therefore only operate during the day. Most are on 20 M, although some Internet research showed one set for 30 M.

The list of problems that must be addressed is impressive. Keeping to the weight limits is one of the most challenging. Others include figuring out how much lift is needed and how much lifting gas to use to meet the target. Aeronautical ham radio is not allowed over certain countries, so the device must know where it is and be silent when over those countries. Even launching without getting the antennas tangled or caught in a tree can be challenging. It is almost a mini-space project!

Since they run the WSPR beacon system and use HF, it is possible to track them as they fly. Sometimes they make a complete trip around the world before they are lost. If they last the first few days, they usually are lost when they fly through storm systems. One group I found on the Internet had one that made five and a half trips around the world!

The talk I heard was fascinating. It was a tremendous educational experience for both the kids and adults. Some group members did not have ham tickets when they started but got them later. The Bottlecap group uses a different member's call sign for each launch.

There is quite a bit of interesting material on the Internet on Pico balloons. If you don't look into new and different activities in ham radio, you are missing out on a lot!

SET

The annual Simulated Emergency Test (SET) was held Saturday, October 1. Since I live in Washington County, I am with the WASHARES group. We had members activating emergency stations in hospitals and other official locations. I was at the Aurora Medical Center in Hartford.

OZARES also participated in the SET. As part of a joint effort, members of each group attempted to check into both ARES repeaters. I'm sure Don, AA9WP, the OZARES Emergency Coordinator, and Vic, WT9Q, the WASHARES Emergency Coordinator, will have more details in this or next month's newsletter.

DX

When the Russians invaded Ukraine in February, there was a 30 day ban on ham radio for Ukrainian amateurs. Even after the 30 days expired, you didn't hear them on the air. Although the war continues, Ukrainian stations have started showing up on the bands. I

worked a few of them recently. I'm sure these are from the safer part of the region. It is good to see some of them back on the air.

After a long drought due to COVID, it looks like DXpeditions are finally back! Add that to improving high band propagation and it will be a lot of fun. The DXpeditions mentioned here are the bigger ones. There are many single-op efforts, often part of a vacation. I usually don't mention them. It seems a lot plan on doing a fair amount of operating, but once they get caught up in sightseeing and other vacation activities, their operating time is very limited. Often those times don't line up well with propagation to us either.

A group of twelve European hams will be going to the Comoros Islands in the Indian Ocean starting October 6. They will be using the call sign D60AE. It looks like it will be a well-organized effort.

There are two operations from Madagascar this month. The first is by a group of four European ops from October 11-22. They will have two stations, and each operator has his own 5R8 call. There is also a holiday style operation by IK6QON from October 8-17, using SSB and CW on the HF bands.

The African country of Benin will be activated by a Russian team that has been going to African countries for the last couple of years, including A25RU, 7Q7RU, etc. They have been run very well. They will fire up TY0RU from October 14-26. The eight-man crew should have several stations on the air. Keep an eye out. In the past, they operated from the announced operation. Then they showed up in another country shortly afterwards with little notice.

Cocos Keeling is an island northwest of Australia in the Indian Ocean. A group of three Aussies will activate the island at the end of the month. They will be on for CQWW but on the air before and after the contest for a few days. This one can be a bit tough due to propagation and little activity. This might be your first good chance to pick it up in many years.

A very large group of German hams will be in Papua New Guinea at the end of the month and early November. This is another good catch from the western Pacific.
Lesotho is one of the landlocked homelands in South Africa. It used to be pretty common, but there has not been a lot of activity in recent years. However, eight ZS hams will be there starting November 2.

Two other Pacific island operations will happen in early November. First, Palau will be activated by a group of US hams. Second, Tonga will be put on the air by two Bulgarian hams for almost three weeks in November.

The CQWW Phone contest is at the end of the month. There are always several contest DXpeditions. They are on the air a few days before, often with different calls than they use in the contest. They are checking out their stations and learning the propagation. Some do most of their operating on the WARC bands to keep demand for their country

by DXers high until the contest. So, spend some time listening between about October 24-28, and you might find some new ones. Of course, getting on during the contest is also a good idea, even if you are just looking for new countries.

Contests
The biggest contest of the year is the CQWW Phone contest. The rules allow everyone to work everyone for credit, so a lot of stations get on to work new countries. With good high band propagation, this year should be one of the best in a very long time.
You work DX for QSO points. Contacts with other continents are worth more points. Multipliers are DX countries and CQ zones. There are 40 zones, and we are in zone 4. The exchange is signal report and zone, so we will give out "59 04." You can work the same station again on each band.

You can work US stations, but they are worth QSO zero points. You get country and zone multipliers for working your own country, though. Don't call other US stations if you are not sending in a score. You will probably be wasting their time. If a US station calls you, log it and send in your score, so they get credit.

Even if you are not serious, getting on for a few hours and seeing what you can work is a lot of fun. If you plan to send in a score, check out the rules.

The November CW Sweepstakes starts Saturday afternoon on November 5. This is a popular contest. I think it is also one that small stations can be successful with good operating skills. The exchange is long. I will send "001 A W9XT 70 WI" to my first contact. What this means is somewhat complicated, and I suggest you read the rules and supplementary information online.

Only a few events are listed this month, including the ORC meeting and Friendly Fest. If you plan on participating in some ham radio related activity, let me know by the end of the previous month so that I can include it in the activity chart. Better yet, send a short article to our editor giving the details and why we should also participate.

Well, October will be a busy month between preparing our stations for winter and many stations to work on the air.

Check my monthly Operating Aid – Next Page . . .

W9XT's Contest, Operating, DXpedition, and Special Event Picks for October and early November 2022

W9XT's contest picks for October and early November 2022					
Name	**Start**	**Length**	**Bands**	**Mode**	**Link**
CQWW Phone	0000Z Oct 29	48 hours	160, HF	SSB	https://www.cqww.com/
ARRL Sweepstakes CW	2100Z Nov 5	30, work 24 max	160, HF	CW	www.arrl.org/sweepstakes

Dates/Times in UTC. Subtract 5 hours from UTC to get local (CDT). HF = 80, 40, 20, 15, 10 Meters

W9XT's DXpedition picks for October and early November 2022					
QTH	**Dates**	**Call**	**Bands**	**Mode**	**Link/notes**
Comoros	Oct 6-17	D60AE	160, HF	CSD	https://comores2022.wordpress.com/
Madagascar	OCT 11-22	5R8xx	160, HF, 6	CSD	Ops each have their own 5R8 call sign
Benin	Oct 14-26	TY0RU	160, HF, 6	CSD	https://ty0ru.org/
Cocos Keeling	Oct 26-Nov 4	VK9CM	HF,6	CSD	
Papua New Guinea	Oct 25-Nov 10	P29RO	160, HF, 6	CSD	
Lesotho	Nov 2-7	7P8CW	HF	CSD	
Palau	Nov 2-14	T88WA	160m HF, 6	CSD	
Tonga	Nov 2-20	A25GC	160, HF, 6	CSD	

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

W9XT's operating & event picks for October and early November 2022			
Event	**Dates**	**Details**	**Link/notes**
ORC Meeting	7:30 PM Oct 12		Zoom/in person
Friendly Fest	8:00 Nov 5	Elks Club 5555 W. Good Hope Rd. Milwaukee	

Ozaukee Radio Club Minutes of Membership Meeting. 9/14/2022

de: Ken W9GA, Secretary

The monthly ORC meeting occurred at the senior center as we have returned to live in-person meetings, along with a streaming version held via Zoom.

ORC President Pat W9JI officially initiated the meeting at 7:30 PM; and with actual members attending, a go-around was conducted. Zoom attendees were also in attendance but were not addressed individually. Jeananne, N9VSV, put out a plea for members to help man a table at the upcoming HRO Superfest; Vic, WT9Q, reminds members of the upcoming SET scheduled for Oct 1; Fred, W9KEY, mentioned the Route 66 on the air event, running now, with 21 active stations on the route; Gary, W9XT, will be participating in the 'QSO today' program and speaking at W9DXCC

Program:

Dave Ellison, W7UUU, via zoom, gave us a presentation on his shack fire in October 2020 that totally destroyed his radio shack, which was housed in a garage adjacent to his home in Washington state. The cause was due to a faulty MOV surge protector in a plastic power strip. This gave Dave the idea to rebuild the shack using his desire to design the ideal shack. [at this point, at 7:45 PM, the connection to Dave via the internet dropped out completely, and the presentation was then concluded].

Scholarship Auction:

Due to the interruption of the program, Stan, WB9RQR, held the auction, items sold included a complete Winlink system, a Linux desktop computer, and some other items. The 50-50 raffle was then held.

Committee reports:

[there was no first VP report and no RPT VP report]

2nd VP: Bill, K9GN, briefly reported the recent lighthouse event happenings, and referred to the newsletter article by Fred, W9KEY, stating rainy weather was experienced, and over 300 QSOs were made. W9MXQ added that the article was a welcome addition to the newsletter and reminded the group that more articles would be welcome.

Treasurer: Gary N9UUR set out the current balance sheet at each table; cash balances look strong, and the fall Swapfest earned a nice profit. The August treasurers' report was accepted; motion made by K9QLP; 2nd by AA9W and carried.

Secretary: Ken W9GA reported the Aug 2022 minutes are posted; a few corrections were brought up by members to those minutes; a motion to accept [with corrections] was made by N9VSV; and K9GN 2nd, and the motion carried.

Scholarship/STEM: Tom, W9IPR, went over the financial impact of the dollars earned by the Swapfest; and the impact on the S.T.E.M. program; plus, the impact of table sales at the Swapfest due to many items from Nels [WA9JOB - SK] and Ed, AA9WW, donations. Tom reminded members of the $60K we donated to the ARRL for awards, and that we have over $17K available to support students locally. The S.T.E.M. committee is due to meet in October.

Technical committee: Tom KC9ONY is now serving in the committee, running the meeting streaming equipment, as Gregg W9DHI has stepped down from his position.

OLD business: There was no old business

NEW business: Tom W9IPR made a recommendation for the board of directors to consider; that we supply a name tag for any 1st year dues paying members who join; and also, that the board consider donating [again] to the ARRL defense fund. Stan, WB9RQR, noticed that the ORC is not listed under the ARRL'S list of special service clubs, and a review of all of our services offered was briefly discussed.

Adjournment: WB9RQR moved to adjourn, N9DRY 2nd, motion carried; time ending was 8:44 PM. There were 23 in-person attendees, 10 Zoom attendees.

Respectfully submitted,

Kenneth Boston W9GA, Secretary

Upcoming ORC Monthly Meeting Programs

de: Pat Volkmann, W9JI

- October – Jason Spetz KC9FXE
  ARRL Wisconsin Section Manager
- November – Dave Ellison W7UUU - From the Ashes:
  Fire and Rebuilding the Ideal Ham Shack
- December – Fred LeMere KD9IGO
  Horizontal Loop Antenna and Feedline
- January - Elections

We need some programs for the coming year. Please consider sharing some of your experiences with the rest of us. 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

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ORC Meeting Agenda

October 12, 2022

1. 7:15 – 7:30 PM
   Check-In and Introductions
2. 7:30 PM Call to Order:
   President Pat Volkmann (W9JI)
3. Announcements, Bragging Rights, Show & Tell, Upcoming Events, etc.
4. Presentation:
   Jason Spetz KC9FXE
   ARRL Wisconsin Section Manager
5. President's Update:
   Pat Volkmann (W9JI)
6. 1st VP Report:
   Ben Evans (K9UZ)
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 Reports
12. OLD BUSINESS
13. NEW BUSINESS
14. Adjournment

Next Month's ORC Meeting
Planned Hybrid In-Person/Zoom Meeting
9 November 2022

Program
Dave Ellison, W7UUU - From the Ashes:
Fire and Rebuilding the Ideal Ham Shack

7:00 PM – Doors Open

7:15-7:30 PM – Zoom Check-In

7:30 PM – Meeting Begins