

A special thank you goes out to Ed Rate for his donation of \$600 to the ORC. While talking with Ed about the donation, he said "I've been a ham most of my life and it's been a joy." We agree with you Ed. We will put the money to good use.

Tom Ruhlmann W9IPR has stepped down as Chair of the STEM Committee. Tom has been the Chair of the STEM (previously Scholarship) Committee for some years and felt it was time to hand the job off to someone else. I have agreed to take on the role of Chair. The STEM committee has had a couple of recent meetings and is in the process of defining what we want to do with our program. We will keep the Club informed as things develop.

Field Day 2022 results were published in the December issue of QST. The Ozaukee Radio Club placed 8th in the nation in the 3A category on total points scored. The score is based on a combination of the number of QSOs, and bonus points awarded for various Field Day activities. The ORC finished 4th in the nation for number of QSOs in 3A, with 2847. A very good showing for our Club. Thank you to all who participated.

See you at the meeting.

Pat Volkmann W9JI



A Message from the Editor

Newsletter Table of Contents

de: Bill Shadid, W9MXQ

See Club President, Pat Volkmann, W9JI, and his monthly message on Page 1. Upcoming elections are the source of our future leadership team. This is a good time to step up and make a difference.

I want to draw your attention to the monthly column by Gary Sutcliffe, W9XT, as he includes fellow members in his fine On The Air Activities article. Gary not only writes about events, but he is also aware of the activities and stories of his readers.

Stan Kaplan, WB9RQR, continues with his excellent primer on Linux™. This is an excellent series on those just coming onto the Linux scene. And Don Zank, AA9WP, as he talks about, “In Theory....” Up front in this edition, check out Pat Volkmann, W9JI, as he shows us a separate FT8 Antenna to handle a specific antenna need he found in his station.

Do you procrastinate about getting on the air? Check my article, “Just get on the air!!” in this edition of the Newsletter.

My article on Vintage Amateur Radio shows a bit more personal side of the collecting that I do with radios. And, last but not least, check out Minutes of the last meeting as provided by our club Secretary, Ken Boston, W9GA.

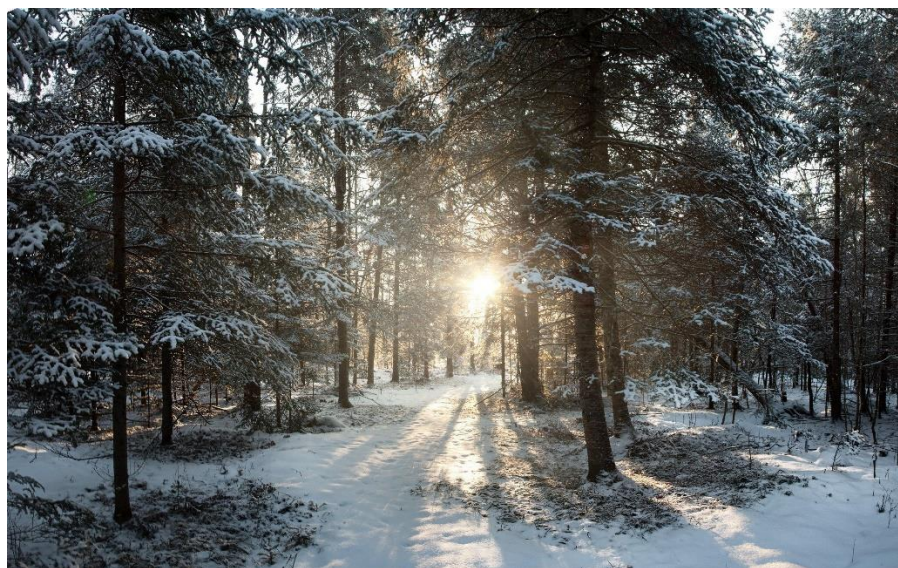
Two things for comment – repeating from the past:

1. 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.
2. I am looking for first person articles on your life in ham radio, an event you attended, or an event you led. Do you need help to get published – well, that is why I have the title of Editor. Let me know and we will work together to get your story into print. Contact me at newsletter@ozaukeeradioclub.org. An example is on page 34, this month.

Enjoy the Newsletter!!

**Ozaukee Radio Club Newsletter
December 2022 – Table of Contents**

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Winter in Wisconsin – ©Pinterest

Onward To the Newsletter

FT-8 Antenna Tip

de: Pat Volkmann W9JI

I was having trouble working South America on 40 and 30 meters on FT-8 with my wire antenna. I wanted to improve the situation without getting into a major antenna project and here's what I did.

My main wire antenna is a variation of a double extended Zepp, up about 50 feet. The antenna pattern favors signals to the east and west, so it works well for Europe and Asia. South America has been a problem with relatively few contacts and poor signal reports.



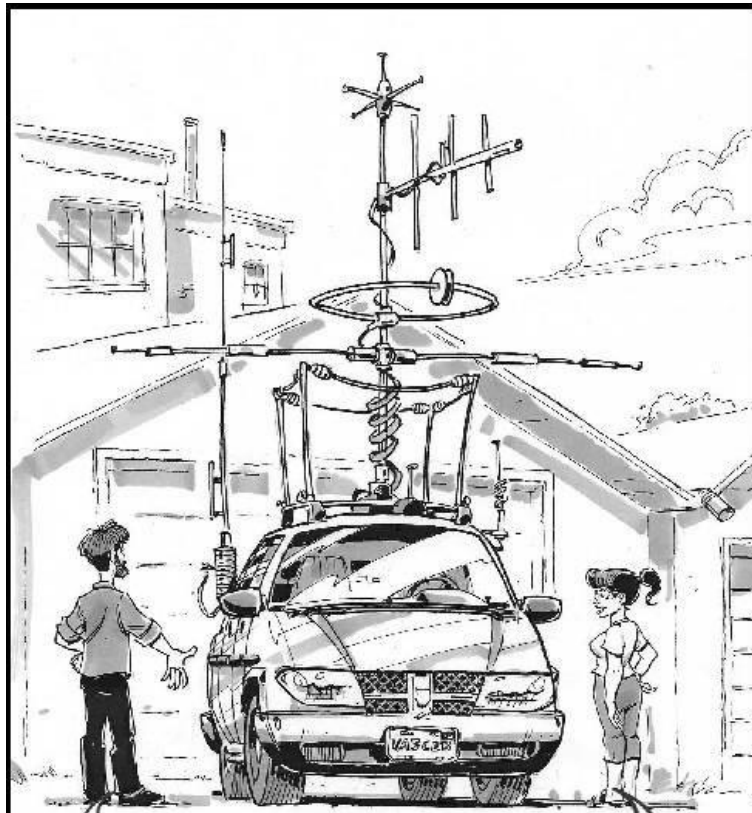
Mounting bracket for Hamstick™ Antenna

Photo by W9JI

I was able to improve the situation with a simple change – I added a vertical antenna. I took one of the 40-meter Hamstick antennas that I used for HF mobile and mounted it on the deck in my backyard. Two elevated radials tucked under the edge of the deck created the ground plane. The radials are out of sight and the vertical blends in with the deck railing. The feed line runs into the shack and connects to a tuner. The incorporation of a tuner in the systems allows for easy multiband operation. The 40-meter ham stick works well on 40, 30 and 20 meters.

It took about 3 hours to install the vertical and radials and run coax into the shack. There was no additional cost as I already had all the parts. I am now able to work South America easily on FT-8 on 40, 30 and 20 meters.

73, Pat, W9JI



XYL to K9DJT as he puts the finishing touches on his rover adaptation to his Ford Escape

“Gee, honey, I can’t wait to see you back that into the garage!!”

THE COMPUTER CORNER

No. 297: LINUX: INSTALLING LINUX MINT CINNAMON v. 21, 64-BIT, “VANESSA”

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

We will assume you got a copy of the *iso* file and burned a bootable installation disk, or you got a copy of the installation disk from me (see the last paragraph of last month's article, always available on the ORC website).

Put the installation disk into your DVD drive and turn off the machine. After a few seconds, turn it back on. Your DVD drive light (little green or red LED on the front of the drive) should light and blink repeatedly, indicating that your system recognizes the disk and is booting from it. After some seconds, a Linux logo should appear in the center of the screen. Sit tight and let the boot disk continue to do its thing. Realize that it must load a complete, working operating system (OS) and boot the machine with it.

After the system boots from the installation disk, you should eventually be presented with a new desktop¹. Your machine now has a working copy of Vanessa up and running. You can play with it as much as you like but leave the disk in the drive. For example, press the Linux logo in the system tray (where the start button is in Windows – in the leftmost position of the system tray) and type in Desktop (or select Desktop from the list of All Applications). In the resulting window, you can select which icons you would like to show on the desktop (if Vanessa was to be permanently installed). Explore like this all you want, for as long as you want. When you are finished exploring, remove the disk and shut down. Your machine has just been restored to the condition it was in before you booted with the installation disk; no changes have been made permanent. You have experienced the use of a *live* OS disk.

But our goal is to install Linux permanently, rather than to just play with it. So, reboot with the installation disk and be sure to leave it in the drive. You will note an icon on the desktop labeled Install Linux Mint. Click that, and you are off and running with the actual installation process. Be aware, you will need the password of your home wireless network or a cable connection (looks just like a phone connection, but wider with more wires in it). If you have a cable, best to plug it in before booting with the installation disk. If you have a choice, use the cable – it is usually faster than wireless.

OK, you clicked Install Linux Mint by the CD icon. Select English as your language and click continue, then US for the keyboard layout and click continue. Then check the box by Install Multimedia Codecs and click continue. Note that at this point you need the cable or wireless connected so the software can go out and retrieve codecs and drivers as needed.

The next screen will give you several choices, depending upon what the installation disk software found on the hard drive. Your goal is to check ERASE DISK AND INSTALL

LINUX MINT. When you have done that, click Install Now. A caution screen will appear next, allowing you to go back before an impending format of the drive. Select continue. Choose Chicago as your nearest location, then continue.

Now comes the main identification screen, Who Are You? Use care with providing this information. I suggest the following. For your name, type your first and last name with caps for the first letter. My entry: Stanley Kaplan. It will then suggest a name for the computer, the name it uses when it talks to other computers. Edit this and shorten as you wish. I used: MSI-Lorosh (my computer has an MSI motherboard and Lorosh is its nickname). Now decide on a password. This is critical. You will need to type it often, so use care in your design. I have used the 4-digit house number of a childhood home followed by my initials in lower case (no spaces anywhere). Devise your own and make it really hard for anyone to guess. Note this bug when typing in the password: if you click the eye so that it has a line through it, it WILL show what you typed. If you leave it with no line through the eye, it will NOT show what you typed. Retype your password a second time in the space provided to confirm it. Be sure to check **Require my password to log in**, unless you intend to never have your machine connected to the Internet or to another computer that is connected to the Internet. With all that done, click continue.

Now watch the screen for a number of minutes. You will be entertained for a while with slides showing neat options and available software, while the installation program copies files to the hard drive, retrieves language packs, Libre Office, and other files, configures software, removes unused and backup files, and generally packs Vanessa into your hard drive space. When all done, your choice is to Continue Testing or Restart Now. Choose Restart Now. After a black screen and Linux logo, the message "Please remove installation medium" will appear and the CD door should open. Remove and put the disk away and shut the CD door. Press ENTER. If nothing happens, shut off power to the computer (turn it off). Wait a few seconds and turn it back on. Vanessa should appear when the machine boots up. But you are not done yet!

There will be a Getting Started box in the middle of the screen with a number of entries. Immediately click First Steps. Some of these categories can wait until later, but some really cannot wait. Here are those that I consider critical and must have your attention right now for safety, security and to really complete the installation process. They are listed in order of importance.

1. UPDATE MANAGER. Select this first and install a new version if one is available. When done with updating the Update Manager, it will present you with a series of new updates. **Install all of them, now.** Yes, it will take some time, maybe even up to half an hour or more, depending on how many there are. It is important to do these installations. Furthermore, you may be asked to reboot the computer when finished. Do it.

2. FIREWALL. Click the status box to turn it on. That is all you need do. The default settings are fine, but it is important to have this watchdog on to keep you safe.

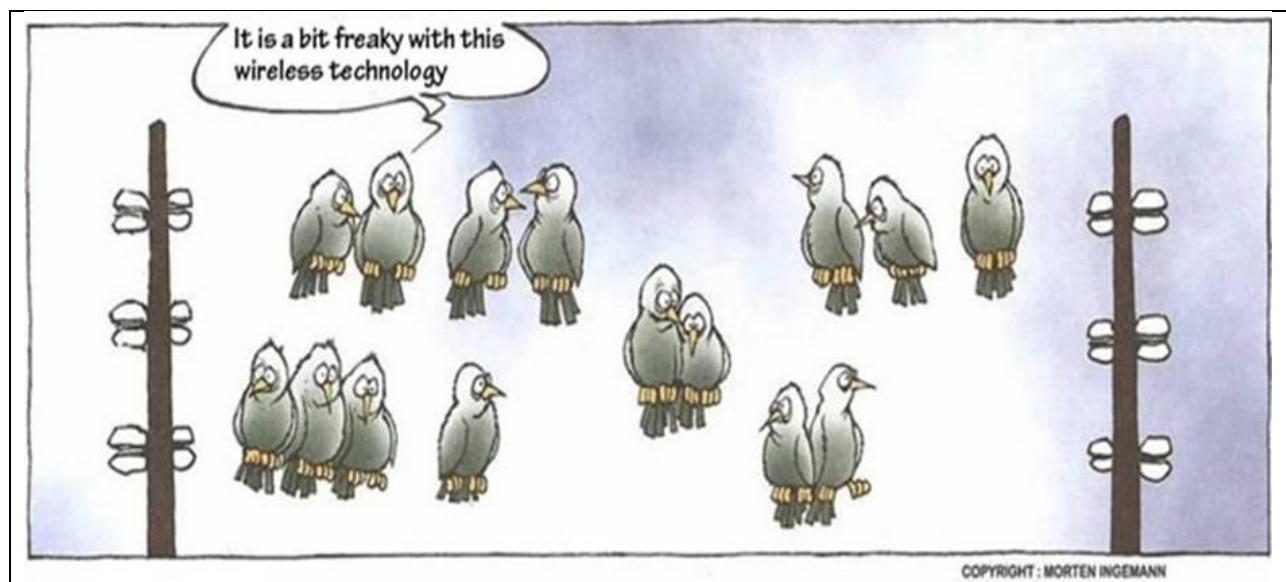
3. DRIVER MANAGER. Activate this, and it will go out and find drivers for your hardware devices. Probably it won't find any since some were installed during the early part of the install process. But do it just in case. Are drivers important? Your printer will not work without one, just as an example.

4. SYSTEM SNAPSHOTS. Open and activate this. I suggest that a monthly snapshot is in order, at least. Make it weekly if you like, or even daily if you are working on critical projects. Set it up as you wish. Use care not to make multiple, overlapping snapshots unless you intend to.

These 4 are the critical items. The others are up to you. Under SOFTWARE MANAGER, you can see some of the many thousands of programs available to you. Don't overload yourself at first unless one or another lets you tackle a project you need to do. On the other hand, I do recommend VLC since it will let you view screens with graphics while you are surfing the web or looking for info on a topic.

Finally, when you exit the important ones noted above, look for any notifications in the system tray. There may be some language packs that you will need ... if there are, install them. It will not take much time. You have now installed Vanessa!!! Next time we will see how to use it.

¹If the new disk fails to boot the machine, remove it from the disk tray, restart and (for Dell machines) repeatedly press F2 during the very start of the reboot to get into the BIOS. In the BIOS, under BOOT, move the CD/DVD/CD-RW Drive entry to first in the priority list so the machine will attempt to boot from CD/DVDs when a disk is present in the drive. Then Save and Exit and try to boot from the CD again. To get into the BIOS of other machines, consult your user manual, try F2, ESC, or email me with details and I will try to help you out.



OZARES: Ozaukee Amateur Radio Emergency Services

de: Don Zank AA9WP, OZARES Emergency Coordinator



In theory, theory and practice are the same. In practice, they are not.
Albert Einstein

In theory there is no difference between theory and practice. In practice there is.
Yogi Berra

The Friends of the Cedarburg Library recently held a book and magazine sale. As I was searching through the selections, I came across a book titled "The Theory and Mechanics of Bookkeeping." An interesting choice of words. But I suppose bookkeeping can be more mechanical in usage. Debits need to equal credits in double-entry accounting and things like that.

That got me wondering about a possible book titled "The Theory and Mechanics of Amateur Radio" although "The Theory and Practices of Amateur Radio" may be more accurate.

I think we are all familiar with the many theories that make up amateur radio. How propagation works, the various modes of operation, and the basics of analog and digital electronics. And of course, every ham's favorite topic of discussion: Antennas

The mechanics or practices will vary depending on the activity. The mechanics of contesting, DXing, and digital modes are all different.

Amateur radio emergency services have moved from the mechanics of message passing to a more intricate interaction between served agencies, using the guidelines from the National Incident Management System, or NIMs.

Emergency communications aim to help all parties maintain situational awareness when normal modes of communication have failed. Taking the guidelines direct from the NIMs information:

Communications systems need to be . . .

- **Interoperable** – able to communicate within and across agencies and jurisdictions.
- **Reliable** – able to function in the context of any kind of emergency.
- **Portable** – built on standardized radio technologies, protocols, and frequencies.
- **Scalable** – suitable for use on a small or large scale as the needs of the incident dictate.

- **Resilient** – able to perform despite damaged or lost infrastructure.
- **Redundant** – able to use alternate communications methods when primary systems go out.
- **Secure** – able to protect sensitive or classified information from those without a need to know.

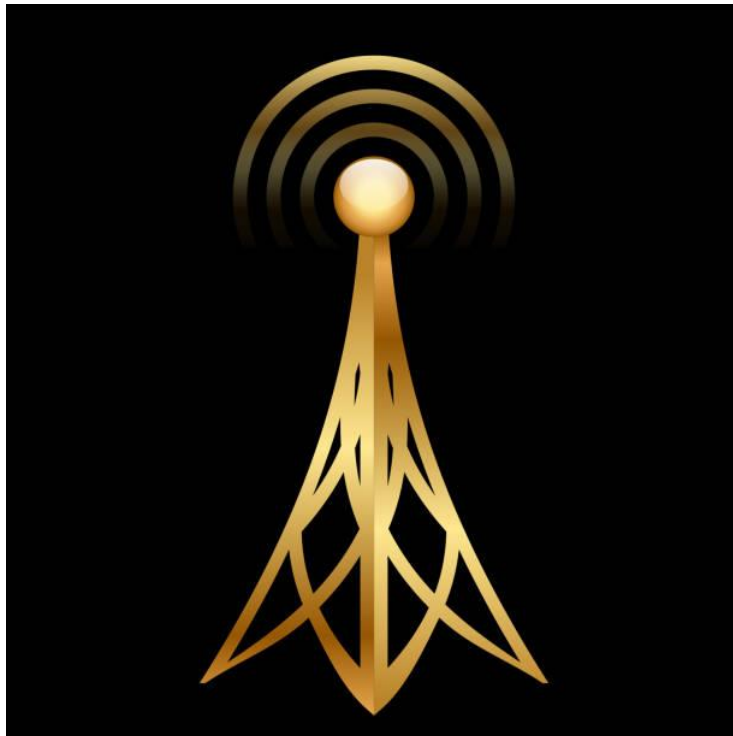
It isn't quite time for New Year Resolutions, but I think the above list will provide good subject material for the next year. See you then and have a great holiday season.

73

Don, AA9WP

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



On the date fringe of the radios that I most enjoy collecting and restoring are the Hybrid Radios pioneered in the mass market by Sideband Engineers (SBE) (some would say, Hallicrafters¹) and fully realized by Trio/Kenwood and Yaesu-Musen. Hybrid Radios became defined as a solid-state transceiver (or separate receiver and transmitter) where all functions, except for the power amplifier driver and power amplifier tubes being solid state.

Eventually, Sideband Engineers (SBE), Kenwood, Yaesu, Henry Radio (Tempo from Uniden), and a mass market offering from Hallicrafters fell into this description of radios offered. Kenwood had offerings early-on that were close – but with more tubes at critical circuit functions². There were 20 twenty different hybrid models and/or model series that were made by five manufacturers – plus two more manufacturers known to have experimented with product offerings in this field³.

To begin what will be a review of the various Hybrid Radios⁴ made for the market the focus for the moment will be Yaesu's FT-101Z and FT-101ZD. The "Z" in the model number is the version of the FT-101 series while the "D" denotes "Digital Readout." Here is an example of this model transceiver . . .



Yaesu FT-101ZD Mark II SSB/CW/AM Transceiver
W9MXQ Collection (from KC9CI)

The FT-101ZD was introduced in 1979 and followed a very long line of original FT-101 HF Transceivers that included the FT-101, FT-101B, FT-101E Series, and the FT-101F Series. These earliest FT-101 units⁵ had a different appearance but were Hybrid Radios. Here is the earlier (original) model (in version E form):



Yaesu FT-101EE SSB/CW/AM Transceiver

W9MXQ Collection

Here is a breakdown of the various versions of the FT-101Z models:

FT-101Z Model Breakdown and Options						
Model	Digital Readout	WARC Bands	Cooling Fan	CW Filter	AM/FM Mode	Notch Filter
FT-101Z	Optional	No	Optional	Optional	No	No
FT-101ZD	Standard	No	Optional	Optional	No	No
FT-101ZD Mk 1	Standard	No	Optional	Optional	AM	No
FT-101ZD Mk 2*	Standard	Yes	Optional	Optional	AM	No
FT-101ZD Mk 3	Standard	Yes	Optional	Optional	AM/FM	Yes

** - the radio model in this article*

The FT-101Z series was a single conversion design with a nominal 9 MHz i-f system. A second i-f filter is in the i-f chain as well to allow for continuously variable bandwidth in this single conversion scheme. This continuously variable bandwidth which is a nice feature and is installed in all models of the FT-101Z. Unlike earlier versions of the FT-101, the FT-101Z series models offer a Noise Blanker as a part of the main design of the radio. It is not optional.

The FT-101ZD covered here is a Mark II version of this model. It therefore had the WARC Bands and the AM Mode. It is equipped with the Cooling Fan Option. The CW filter is ready for installation – but has yet to be done. The radios from Yaesu with early versions of continuous bandwidth tuning are quite suitable for casual CW operation at narrower bandwidths. The -60dB bandwidth is wider than it would be with the specific Yaesu 600 Hz CW filter for the radio (Yaesu XF8.9HC). (Yaesu added a 350 Hz CW filter option late in the production cycle – few details of this filter seem to be available.)

In theory, the FT-101Z model (without the digital readout) was available in all forms through the Mark 3 version. In reality very few were likely imported for the North Ameri-

can Market. But to be sure, it was likely possible to buy an FT-101Z Mark 3, if you could find one.

The AM and FM choice shown for the Mark 3 model was a bit more complicated than shown. While the AM mode was standard on the Mark 1 and Mark 2 models, it was not standard equipment on the Mark 3 models. For that version, the user had the option to purchase either the AM or the FM module for field installation in the transceiver. Only one could be installed at a time.

The FT-101Z series had a wide range of options for use with the radio. Those included the SP-901 and SP-901P Speaker Console (the S-901P included a Phone Patch). Also, one could purchase a Remote VFO model FV-101Z or FV-901DM.



The FV-101Z Remote VFO was an analog readout unit for use with all versions of the FT-101Z and FT-101ZD. This was perhaps the only option uniquely tied to the FT-101Z series. All others were shared with the up-market FT-901 and FT-902 series Transceivers⁵ that inhabited an identical cabinet and shared much in the electronics area. This view shows the readout configuration that was present on the non-digital readout FT-101Z.

Universal Radio



The FV-901DM Digital Remote VFO, intended for the FT-901 and FT-902 Transceivers also matched and worked with the FT-101Z series radios. This Remote VFO had digital features, such as 40 memories.

Universal Radio

Not shown here were items such as RTTY Interface Units (YT-901 and YK-901). and 50, 144, and 430 Band Transverter (FTV901R). However, some more common options are shown below. These items, as their model numbers denote, also supported the FT-901DM and FT-902DM product lines.



The SP-901 Speaker Console is the matching speaker for this series of radios.

Not everyone's cup of tea, the matching speaker is a must for me for radios that I collect.

Universal Radio



The SP-901P Speaker/Phone Patch is the same as the above SP-901 Speaker except that it included a Phone Patch. Phone Patch operation was quite common on the Amateur Radio Bands when these radios were new. This unit included all necessary cabling to connect the radio to the telephone line.

Universal Radio



The FV-901DM Digital Remote VFO, intended for the FT-901 and FT-902 Transceivers also matched and worked with the FT-101Z series radios. This Remote VFO had digital features, such as 40 memories.

Universal Radio

When acquiring an older radio that has been used through its life – the one in this article was purchased new in mid-1981 – it is good practice to remove the Cooling Fan and inspect it for collected dirt and to oil its bearings. I use a product called “3-IN-ONE™ Multi-Purpose Drip Oil. 3-IN-ONE has been on the market since 1894 and is currently

made and marketed by WD-40 Company. Website for the product is <http://www.3InOne.com>. Chemically, it is not to be confused with the WD-40 product.

Here are example pictures:



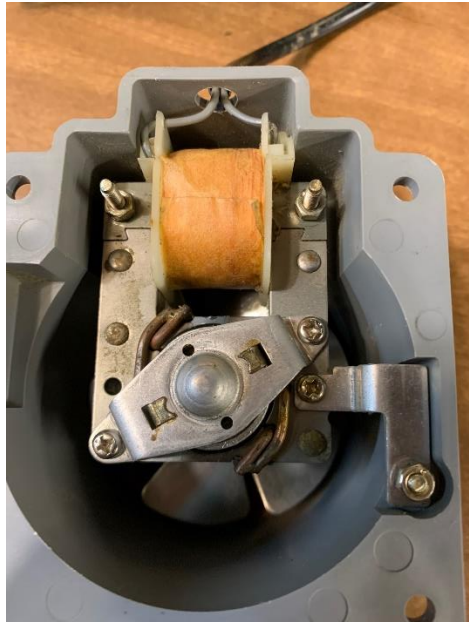
**Before Cleaning
FT-191ZD Rear Panel
Fan Just Removed**



**Before Cleaning
FT-101ZD Rear Panel and Fan
Showing Lint in Fan Assembly**



**After Cleaning
FT-101ZD Rear Panel and
Fan Cleaned and Fan Lubricated**



**To remove the fan from its housing to
clean/lubricate further, remove the
three nuts at the top and lower right.**

The radio was well cared for over the years. Careful initial power-up with a Variac™ showed that all was well and that the power supply was working. Only four problems came to light (three are corrected) and these items are typical of the minimum that will be found even with very well cared for older radios that have not been in regular use.

1. The dirty fan already mentioned. This is a common problem especially with older shaded pole motor designs that heavily interfere with air flow through the assembly causing dirt (lint) to collect. The fan assembly was cleaned and lubricated. When the motor is removed from its housing (as noted above) the lubrication points at both ends of the motor frame are clearly visible as small holes in the metal surrounding the motor at both bearings (front and back). Two or three drops of oil is fine – maybe a couple more if the motor has been stored for years. The oil is stored around the bearings in felt washers. Be careful (!! too much oil will cause it to be forced back out through the holes and attract dirt. Newer motors are sealed and require no attention. These old-shaded pole motors require some attention every year, or two.
2. Associated with the above problem the antenna relay was found to have collected a lot of the same kind of lint found in the fan. The relay was cleaned (its exterior and the contacts) and then modified a bit to shield it from any future air flow that caused it to collect dirt.
3. The bandswitch wafer that selects the band heterodyne crystals was dirty and was cleaned with DeoxIT™ contact cleaner applied through a small opening “needle” delivery tube to prevent any of the chemical getting on the switch wafer or elsewhere in the radio. Evidence of this need is shown in signals that seem to come and go (or not appear at all) or intermittent transmitter operation.
4. The illumination lamps for the analog dial (just above the main tuning dial) are both out. The photograph on the first page of this article seems to show them working but, in fact, they are illuminated with a small flashlight sitting inside the radio just for this photograph. I will replace the lamps but when the digital readout is installed, the illuminating of the analog dial is not really necessary. Because of linearity issues with the analog drive, it needs to be adjusted to be on frequency at various points on the dial. The digital readout makes that unnecessary. Many owners of these radios disconnect those lamps or do not replace them when they ultimately burn out. (For the picture shown in the first page of this article, I setup a flashlight inside the radio to illuminate the dial for the picture only. The work to remove the VFO assembly and replace the burned-out lamps remains to be done.⁷⁾

The FT-101ZD in this article was used for about 30 contacts in the CQ WW DX CW Contest and it showed very satisfactory performance. It certainly does not provide the performance of my FTdx-101MP (the current holder of the “101” moniker) but the receiver performs well in the face of strong adjacent signals. Keep in mind that I am using nothing more than the standard 2.4 kHz SSB Filter with the continuously variable (down to 300 Hz) bandwidth feature. The radio performed essentially without issue and was a pleasure to use. I admit to being spoiled by QSK (full break-in CW) on more modern ra-

dios but that was not a feature of radios at the time when this radio was new. But it must be remembered that Ten-Tec's excellent, QSK equipped Omni A was on the market for a year before we saw the semi-break-in FT-101Z series. And, the Ten-Tec Omni A had solid state finals. What is a feature of the hybrid radios and those preceding them will have to be noted as their clean, low distortion vacuum tube finals. Only now, at the time of this writing, are we seeing constructive efforts to upgrade the spectral purity of solid-state final amplifiers. Vacuum tubes with less restrictive and defined upper power limits are harder to drive into distortion.

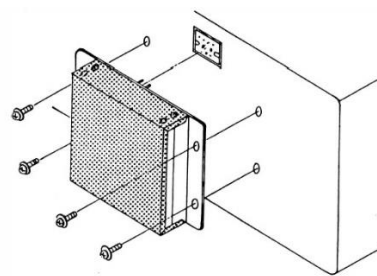
Important note: Do not think for one moment that vacuum tubes cannot be driving to distortion. My point here is that for given 200-watt input (100-watt output) vacuum tube final amplifier, its similarly rated solid-state cousin is more prone to distortion in general ham radio operation. Watch that Microphone Gain Control and keep your eye on the ALC reading as its use is defined in the operating manual. I also do not want to confuse the issue of proper operation of solid-state power amplifiers. Operating them within proper parameters can net a clean and pleasant to hear signal.

This brings up an interesting story on the Japanese hybrid radios from the 1970's is that they heralded the beginning of the modern era of radios with quiet receivers and competitive receiver performance. In truth, other than conveniences like QSK, these radios are competitive in many ways to radios of today. Kenwood with their TS-530S and the TS-830S (single and double conversion, respectively) along with the FT-101ZD and the FT-901DM/FT-902DM (single and double conversion, respectively) were excellent performers on the scene in the day.

Most hybrid radios (but not all of them) offered a single package operation – that is, no separate accessories, such as power supply, are required. Properly optioned for DC operation, the FT-101ZD shown in this article can operate from 120/240AC Power as well as 13.6VDC – all from the one package. Even a relatively good speaker is part of that one box package. Here is the back panel of the FT-101ZD showing the standard 120/240VAC unit on the left and the installation of the added 13.6VDC Yaesu DC-1 Module on the right:



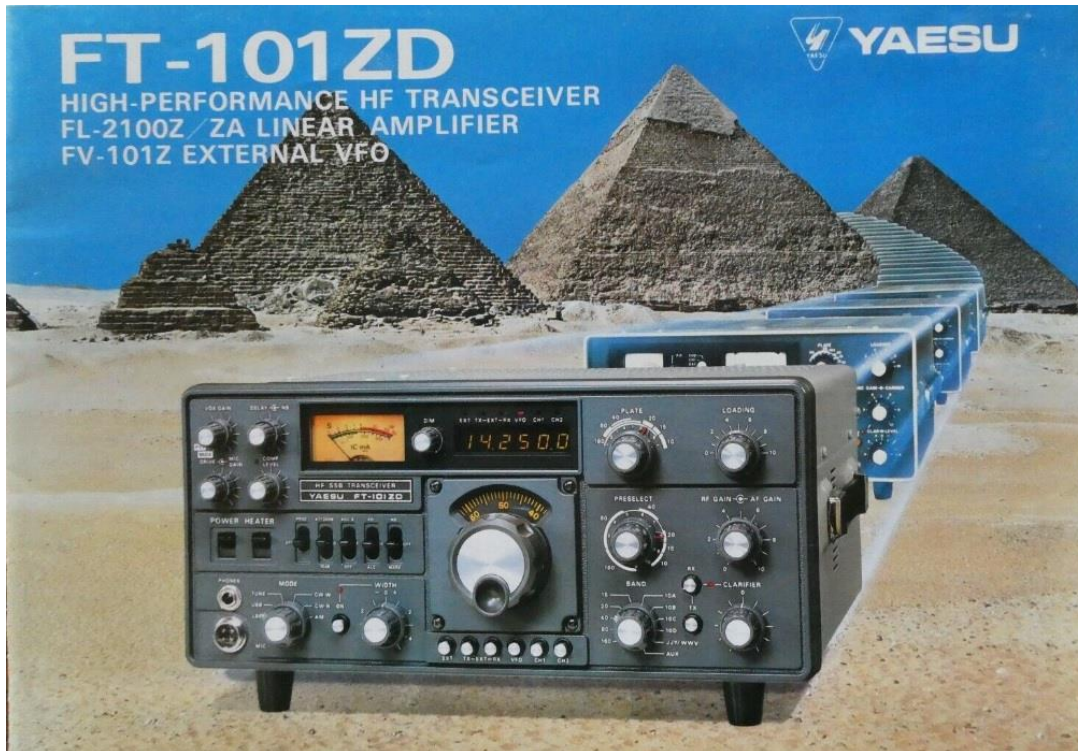
Rear Panel of the FT-101ZD
Note Optional Fan is Installed
See Tape over DC Module Connector⁸
Note Power Connector at Lower Right
W9MXQ



Sketch from FT-101ZD Operating Manual
Note installation of Yaesu DC-1 Module

Yaesu FT-101ZD Operating Manual

Connector at Lower Right is wired for 120VAC, 240VAC, or 13.6VDC Operation – as appropriate.
 Fuse rating – Fuse Holder to the left of the Power Connector – is changed for different supply voltages.



© 1979 Yaesu-Musen

Yaesu loved to tout the global nature of its go anywhere design – owing to the universal power supply capabilities of the FT-101ZD. Above is the Mark 2 Version from 1979 and is a picture taken of the original brochure (found on eBay™) after adding the radio to my collection. Notice the first-generation FT-101 fading into the past behind its latest new offspring. A worth successor to the original!

This FT-101ZD has an interesting story – as many radios that I collect happen to have. This one was owned by Phil Reensburg, KC9CI. I met Phil in the first week after moving to Wisconsin in 1998. This radio was Phil's first radio – back when he was KA9FWN. When he traded the radio for a more modern one years later, he sold this FT-101ZD. Phil had kept track of the radio and made it available to me when he found that it had been put aside after the most recent owner made a move to a more modern rig. We found that it may have been in at least one other shack over the years. But it is home to stay, now.

Phil is very active on local nets and is a Group Commander in US Air Force MARS. MARS (Military Auxiliary Radio System) is a United States Department of Defense sponsored program, established as a separately managed and operated program by the United States Army, and the United States Air Force. Phil's original crystals for fixed frequency net operations on MARS frequencies, above and below 80 meters, are still in place in the radio. The most recent owner of the FT-101ZD was also a MARS operator.

Phil is also a Net Control Operator for the Midwest Country Cousins Net on Tuesday evenings, on 75 meters. He participates in the Thursday evening version of the same

Network – same band but with a different Net Control Operator. I checked into both nets with the FT-101ZD, the first week I had it, and it was well heard with its barefoot 100 watts output all over the Midwestern United States. At least one of the operators I found via that net is a fellow vintage radio collector – and it was nice to talk to him with the FT-101ZD.

Phil is a special and long-time friend. I have assisted him over the years with maintenance and even replacing HF radios in one of the local ARES (Amateur Radio Emergency Service) operations where he provides management. I have assisted him also with his personal station at home. He could tell you stories about me helping him “MARS enable” his radios! I sincerely thank Phil for making this FT-101ZD a part of my Vintage Amateur Radio collection.

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. Certainly, in an article like this, it is good to have a second person review the process.

Notes and Credits:

¹ Hallicrafters announced their FPM-200 Hybrid Transceiver in the 1950’s with several publicity splashes and at least one major event that would publicize the radio. The radio was introduced but never made in volume. The transceiver used a pair of 6146 finals driven by a 12BY7. There were some regulator tubes in the power supply circuitry.

² Some radios listed as “hybrid” actually have more than just driver and power amplifier tubes. The Kenwood TS-511S, for instance, also has tubes in transmitter and receiver mixer circuits and at the output of the common transmitter and receiver i-f. My opinion is that those radios were so far ahead of their predecessors in solid state circuitry that they were named “hybrid.”

³ A good deal of information exists on at least development versions of a hybrid version of the Drake TR-4CW-RIT (last version of the popular TR-4 Transceiver) that was to be called the Drake TR-5 (with a “-“ in the model number – the later version of this model was the TR5, no “-“ in the model number). The final TR5 was preceded by the rather revolutionary solid-state TR7. So, the marketed TR5 came out after the TR7. Confusing, but true.

⁴ For purposes of the discussions on this series of radios. Here is the list:

1. Drake TR-5 Transceiver (never produced – but some details known)
2. Hallicrafters FPM-200 Transceiver (1959) (Seemingly only few produced)
3. Hallicrafters FPM-300 Transceiver (1972)
4. Heathkit SB-103 Transceiver (never produced – but some conjecture exists)
5. Heathkit SB-402 Transmitter (never produced – but some conjecture exists)
6. Icom IC-700R/IC-700T Receiver and Transmitter (1967) (Only a few produced)
7. Kenwood (Trio) TS-511S/TS-515S Transceiver (1971) (Several extra tubes – not totally a hybrid but widely accepted as so)
8. Kenwood TS-520 Series Transceiver (1973)
9. Kenwood TS-820 Series Transceiver (1976)
10. Kenwood TS-530S Series Transceiver (1981)
11. Kenwood TS-830 Series Transceiver (1980)
12. Kenwood TS-900 Series Transceiver (1973)

13. Kenwood R-599/T-599 Series Receiver and Transmitter (1970)
14. National Radio (Japan) with the HyGain 3750 Transceiver (1977)
15. Sideband Engineers SBE-33 Transceiver (1962)
16. Sideband Engineers SBE-34 Transceiver (1966)
17. Sideband Engineers SBE-35 Transceiver (1970)
18. Sideband Engineers SBE-36 Transceiver (1972) (Made by Robyn of Japan)
19. Uniden of Japan with the Henry Radio Tempo 2020 Transceiver (1975)
20. Yaesu FT-101, FT-101B, FT-101E Series, and FT-101F Series (1970)
21. Yaesu FR-101.FL-101 Series Receiver and Transmitter (1974)
22. Yaesu FT-101Z/FT-101ZD Transceiver (1979)
23. Yaesu FT-901/FT-902 Series Transceiver (1979)
24. Yaesu FT-102 Transceiver (1982)

⁵ Subject of a future article.

⁶ "WARC Bands," in this article, are defined as the 30-, 17-, and 12-Meter Bands. For this radio, and all in the list in Note 4, WARC Bands did not include the later addition of the 60-meter band.

⁷ The illuminated analog dial is unnecessary when the digital readout is present. Besides, the digital is more accurate across the band – not requiring linearity caused resets for accurate readout in several points across the span of the band.

⁸ The taped over DC-1 DC Power Supply is sometimes present with and without the tape. I presume that if the tape is missing but actually it may not always have been applied at the factory.

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On The Air Activities!

de Gary Sutcliffe, W9XT



This month is kind of weird. The first was on a Thursday, which means our meeting and thus the newsletter are pretty late in the month. That means many of the December activities will be well in progress or over by the time you get this. That is why I include activities for the upcoming month. A lot has happened since the last newsletter!

Recent Contest Review

The ARRL Sweepstakes were the first and third weekends of November. Unfortunately, I always have a conflict on the first (CW) weekend, so I only put in a token effort. However, Vic, WT9Q, was pretty serious about SS CW and sent in the following report:

"I finally got the "Sweep" after seven years of trying. I reached my goal so the mug will soon be on my desk. The ARRL Sweepstakes contest is a fun one because a person can only operate for 24 hours, and all participating stations are either in Canada or the USA. You don't need an amplifier to do well in this contest. If you contact all 84 sections, you did the full sweep and you qualify for a coffee mug. Last year I missed one section, Quebec. The year before that I missed 3 sections. In 2018 I missed it by 4. But this year I logged my last needed section, EWA (East Washington State) for the Sweep with time to spare. The coffee is going to taste so sweet from that cup. Now all I have to do is to send \$20.00 to the ARRL so that they send me the mug."

Congratulations on the clean sweep Vic! They can be tough to get, especially in the CW Sweeps. Oddly, Wisconsin was pretty rare this year.

The last weekend in November was the CQWW CW DX contest. That was the weekend right after Thanksgiving. We had out of town family activities, and I knew I would not get home until a couple of hours before the start. I would have liked to do an all-band effort, but I knew I would not be rested up enough to get by on only a couple of hours of sleep for each of the two nights. I decided to do a single band 10-meter, low power, assisted operation.

While I was setting up, I checked the propagation numbers. They did not look good. The solar flux, so crucial in the higher bands, had been dropping the last week or so. It had been in the 130s, but now it was only 109. The A index was not all that good either. That did not bode well for 10 meters, so I made a last-minute call to do 15 meters instead.

Openings on 15 meters were pretty good during daylight, but the band didn't stay open very late. Actually, the band closed on Friday night before the start, and I didn't make any contacts until Saturday morning.

Things went pretty well for me. I finished with 641 contacts into 113 countries, all with low power on 15 meters. CQ published the claimed scores for submitted logs after the log deadline. My score was the top North American entry, something I am pretty happy about. It still has to go through the log checking process, but I am not worried about score reductions significant enough to drop me down a spot.

WT9Q passed along his comments on the CQWW CW effort.

“This year I did not put in a full-time effort for the CQ World Wide DX contest. Our oldest grandson went off to college in fall and wouldn't be getting home until Friday pushing our traditional celebration back by one day. Our house would be full of company for the first 24 hours of the contest, and I didn't want to miss that special time together. My goal for this contest had always been to beat last year's score. That would not possible this year, so I changed my goal to contacting as many different countries as possible and hopefully log a new country. I never can remember which countries I still need towards DXCC so when the contest was over, I loaded the ADIF file into Ham Radio Deluxe and then exported those same contacts to an Excel worksheet. I then sorted the contacts by country and compared them to the countries that were already confirmed. Voilà, I logged two new countries: New Caledonia and Samoa. Each country is over 6,000 miles away and that made a total of 80 different DXCC contacts in less than 24 hours. That was a lot of fun.”

That is great, Vic! It is always a bonus to pick up a new one in a contest. Also, congratulations on your grandson going to college!

The following weekend was the ARRL 160 Meter contest. I played around a little and made a little over 500 contacts. With a big effort in CQWW the previous weekend and the ARRL 10 Meter contest coming up, I didn't want to get burned out.

There was a lot of Wisconsin activity, including ORC members K9DJT and WT9Q. Vic and I operated in the low band unlimited category. We used the online scoring system so we could keep an eye on each other. In our class, there were five Wisconsin stations in the top eight in the country!

Gary, K9DJT, gives an interesting account of how he went QRP in the ARRL 160 Meter contest.

160M QRP – Really???

I recently learned that my friend and Elmer, WE9R, was planning to participate in the 160m CW contest. He said he was going to enter the QRP category. On a

lark, I thought I would do the same but not tell him. My hope was to surprise Lyle by outscoring him but that didn't happen.

I couldn't believe how much fun I had with this contest and what I learned. I had expectations of only making a few contacts and instead I bagged 207 (only 10 less than WE9R). The farthest Qs were the Bahamas, US Virgin Islands, and Puerto Rico. I also worked everything between the Midwest and the east coast and down through most of the southern states. Going west was a different story. Kansas, Oklahoma, and South Dakota were the furthest in that direction. I also did a few in Texas which is southwest. I am only guessing I was unsuccessful in making it out to the western states because of the lack of radial symmetry in my 160m tower/inverted L antenna system. Then again, it could have just been poor propagation in that direction. What really surprised me though was the number of Gruber contacts I made, i.e., one call, that's all. I think I smiled every time someone came back to me. After all, it was only five watts, and it was 160m! The lowest power I had ever used in the past was during my novice days at 75 watts input. This was insane!

I learned through this contest that a lot of power to communicate is not required. In addition, I confirmed that a low SWR is unnecessary. I had my antenna tuner engaged when I started out to bring my 1.9 SWR down to 1:1. My first few contacts asked me to repeat my callsign a couple of times which made me think about the insertion loss of the antenna tuner. I disengaged it, ignored the SWR, and all of a sudden, I was making Gruber contacts. (I still want to check it out with my Bird wattmeter to confirm if it really made that much of a difference.) The reason the higher SWR didn't negatively affect my signal is that I'm feeding the antenna with about 25' of 7/8" Heliac®. The loss due to SWR in that line is almost as low as ladder-line at 1.9 MHz. Nearly all of the five watts are being radiated!

It's funny how things evolve. It now appears there's a portable QRP rig in my near future. Give QRP a try! You may be pleasantly surprised.

Nice job, Gary! That is very impressive for your first shot at a 160-meter QRP effort! It was not your antenna or power that prevented you from working to the west. We just did not have very good propagation. I missed most of the sections in California and a few in W7. I was lucky to snag a KH6, though. The A index was around 20, indicating that the geomagnetic field was disturbed and adversely affected long distance contacts.

You are right about coax loss due to SWR. With the description you mentioned, your 5W output was reduced to 4.97 watts at the antenna. The connectors in the tuner probably added more loss than that! That is due to the very low loss coax and the short length. If you had a longer line and higher losses, it could have been a problem.

The only other factor is some rigs can't handle high SWR and will reduce power to prevent damage to the rig. If you were using a 100-watt rig running at 5W, it would probably not even notice if you forgot to connect your antenna!

VHF

December is usually not a big month for VHF activities, but some exciting stuff is happening. We had an opening to New Zealand on the night of December 1. Unfortunately, I was not copying any of them with my best 6M antenna frozen east, but a friend near Port Washington heard some, and another friend near Madison worked one or two. It was probably sporadic E (Es) coupled into some TEP (Trans Equatorial Propagation). That was the closest I have come to working New Zealand. Hopefully, we will get some F-layer propagation to that area as the sunspot cycle improves.

The primary mode for 6 meters is Es. We get a lot of it in the spring and early summer. Single hops can get us out to about 1200 miles or so, but multi-hop Es is not uncommon, and we sometimes get opening as far away as Europe. So, while most of the excitement happened about 5-6 months ago, there is also a smaller Es peak in December.

On the morning of Dec 5, Gary, K9DJT, alerted me that 6 meters was open. It was a pretty good opening to the East Coast, down towards Texas and some other stations to our west, including South Dakota, Colorado, and other states. Too bad there were no new grids for either of us.

Gary and I did work a new grid on 6 meters a few days earlier. On the morning of December 3rd, Gary was up early working stations on meteor scatter and scored a contact in EN25, northwest of Minneapolis, for a new grid. He was gone when I arrived but was on again the following morning. I stopped operating the 160M contest and was able to work him for my first new 6-meter grid in about five months.

EN25 is a bit hard for us. It is too far for ground wave and too close for most Es openings. I have the additional problem of a big hill in that direction. Meteor contacts that close are at high angles, making it possible to get over that hill.

Those QSOs were probably from the Geminid meteor shower. It peaks this year around December 13-14. The Geminids are known for slow, very bright, slow, moving meteors. A week before the peak, the shower appears to be pretty good with Gary, K9DKT, making multiple contacts every morning.

Meteor scatter is a lot of fun. If you are set up for FT8 and have an all-mode rig capable of operating on 6 or 2 meters, you are all set. Give it a try. Six meters is much easier, so try that band first if you don't have any experience.

The mode is MSK144 in the WSJT mode drop-down. MSK144 is similar to FT8 in operation, but some special operating conventions apply. So please read up about it before you give it the first shot.

Direct QSLing

If you want to QSL directly, and some DX stations only QSL that way, you send an en-

velope with your QSL and an SAE (Self Addressed Envelope). You are expected to pick up the return postage. It would be unfair for hams in rare 3rd world to pay for hundreds of stamps.

In the past, we used something called IRCs (International Reply Coupons) to cover postage. In theory, anyone in the world could take one to their local post office and exchange it for a surface mail stamp good to anywhere else in the world. You had to include 2-3 with your QSL for return air mail for most countries, although some required as many as seven.

You could go to your local post office and buy them. But when I did, I would get a deer in the headlights look most of the time. They were apparently not a big seller. Stations that got cards with IRCs usually bought stamps with cash and used the IRCs they got to send for QSLs they were seeking. It was sort of an international currency. A forebearer of Bitcoin?

IRC's were phased out many years ago. The alternative was to send "green stamps," dollar bills. That was risky for several reasons. In some countries, it was illegal to possess foreign currency. Sending cash could get them in trouble. That seems to be less of an issue these days.

Of course, the big danger was that envelopes got pilfered. It was a way for postal workers in poor (and some not so poor) countries to subsidize their income. That sometimes happened with IRCs too, where they could be traded for bread or cigarettes in some places.

Right now, the standard rate for most countries is three green stamps. Some countries have higher postal rates, and you need to include more. Usually, if \$3 is not enough, they will say so on their QRZ page.

So, to get a direct QSL from a DX station, you need to buy a \$1.40 stamp, add \$3 for postage, and probably another \$0.40 or so for two envelopes and your QSL. Figure \$5 as a round number. By the way, postage rates will go up again next month. So, buy your forever Global stamps soon! If you go in and ask for air mail stamps, you will get the same look as if you ask for IRCs.

With the high costs, it is no surprise that Logbook of The World (LoTW) is so popular. But if you want a real QSL, and some are very nice to have, probably the best way is direct.

Modern technology has found a way to improve direct QSLing. It is called OQRS, for Online QSL Request Service. Essentially, it allows you to check an online log. If you made contacts with that station and if they use the service, you can request a QSL. You send money via PayPal to cover return postage. One big advantage is that it eliminates the chance your envelope gets lost or stolen. It also eliminates the time it takes to for your envelope to get there.

The first step is to go to the Club Log site. Club Log is an excellent site for DXers, and if you chase DX, I suggest you sign up. It is free, but they can always use donations to keep it running. The easiest way to check if the DX station uses the service is to go to <https://clublog.org/logsearch.php>

Enter the DX station's call and your own call sign. Then click on Show Contacts. If the station uses the service and you have contacts, you will get a page showing the bands and modes of your QSOs. If they use OQRS, you will see a button to click to request a QSL card.



Club Log screenshots showing checking for QSOs and requesting QSLs.

You will get a detailed list of your QSOs if you click that button. Then, you can click on the ones you want to be confirmed. The screenshot shows I checked one QSO for direct and one via the bureau. The other two were unchecked, so you can see what the options look like.

If you select via the bureau, there is no charge, but expect to wait a long time and have envelopes on file at the W9 incoming QSL bureau. If you check one or more for direct QSLs, you click the Check Out button, and you will be taken to your PayPal account, where you can finalize the transaction.

This one is fairly typical. There is a cost for the first QSL, but additional ones are free. Generally, they just print out a label with the QSO info for the QSL card. It does not cost more to confirm multiple QSOs. If it is a DXpedition, it might give you the option to donate extra to help cover the costs of the operation. Some DXpeditions are very expensive and rely on donations. Next month I will cover a DXpedition that has a budget of \$720,000! If it is a DXpedition, they will often QSL via LoTW within a day or two, but the physical card takes several weeks or more, depending on how many others are ahead of you.

I had a problem with OQRS and PayPal. I have two PayPal accounts. One is for my business, Unified Microsystems, and one is a personal account. When I go to the OQRS check out, it often takes me to my business account. I don't want to pay for QSLs from the business account. For some reason I can't change accounts when using

OQRS. I can usually change accounts when I order from other places. A simple work-around is to log into the account you want to use and then open OQRS in a different window. It then goes to the account you have open.

Of course, like anything else, some people try to take advantage of you. Usually, they are not the ones using OQRS but use ham radio to make money. Their QRZ.com page will say something like you have to request a card and pay via PayPal. Usually, OQRS costs \$4-\$5 for as many contacts as you wish. The bad guys often charge something like \$7 per QSO. Sometimes that is only for a LoTW confirmation, which does not cost them any money to use.

There is a QRZ page of a ham in the Pacific who goes into great detail about why you should be happy to pay extortion rates because he built up his station so you could work the DXCC country. I won't play that game. If the guy makes a \$1 or so from OQRS, and it really does not cost me more than mailing green stamps, I don't care. But making contacts should not be a paying job.

Contests

If you read the newsletter as soon as it is published, the ARRL 10 Meter Contest starts in a few hours. I should have covered this one last month, but I didn't notice that the publishing date was so late this month. Anyway, the ARRL 10 Meter Contest is perhaps my favorite contest. It starts at 6:00 PM Friday night, December 9, local time.

One nice thing about this contest is that it won't keep you up all night. The band will open around sunrise, around 7:15, and might stay open to 7:00 PM if we are lucky. The other thing is that 10M is a quiet band. Antennas are also small compared to the other HF bands. Another thing to keep in mind is if you have a Technician license, you can operate phone on 10 meters, the only HF band that is allowed.

You can operate phone only, CW only, or mixed mode. In addition, there are high, low, and QRP power, and assisted or unassisted categories. So, you have a lot of choices. This year should be a real treat. We are finally coming out of the sunspot minimum. The last 6 or 7 years have been more like a VHF contest, waiting hours for a sporadic E opening. Although the solar flux dipped a bit in the last few weeks, it is coming back up. About a week before the contest, it was about 150. Last year it was in the upper 70's. My rule of thumb is we will get an opening to Europe if it is over 100 and the geomagnetic field is quiet for a couple of days. So, it appears we should be getting some really fun DX openings!

There is one contest left in 2022 after the ARRL 10 Meter contest. That is the Stew Perry Top Band Distance Challenge. It is a 160-meter CW contest. Usually, this is the Saturday between Christmas and New Year's. But with those being on Sundays this year, they figured activity would be down on New Year's Eve. So, it is on December 17. The TBDC is very different from a lot of contests. First of all, QSO points are based on the distance between the two stations. You send your grid square as the exchange, and

your logging program will compute how many points each contact is worth as you log them.

You get more points if you are running low or QRP power. But there is a twist here. You get additional points if the other station is also running lower power. The theory is that the other station has to do a lot of work digging out weak signals from low power and QRP stations. So, should they not also get extra credit?

You don't know how much power the other station is using when you work it. You won't find out until you send in your log. Their website shows the claimed scores of each entry. As more logs come in and low power/QRP stations you work are identified, you watch your score go up. But so do the scores of your competition. So, your standing may go up or down depending on how many smaller stations you contacted compared to the competition.

Another quirk is that there are no multipliers. Instead, your score is entirely the total of your QSO points. There are also a lot of awards, and some are pretty strange. For example, there is a plaque for the best score by a US low power station with a lot under 4500 square feet and a random wire antenna no higher than 35'. There is another for the first low power station to work 100 grid squares, and another for the best score which was 100% search and pounce. One odd one is for the top score in a grid ending in 42 (EN42, CM42, etc.) Fans of the *Hitchhiker's Guide to The Galaxy* will understand that one. Don't forget to bring your towel.

The TBDC is a fun contest. I like that other stations are willing to try to dig you out of the noise, hoping you are a low power or QRP station and worth a lot of extra points. The home page has tabs to the rules, awards, etc. Note that spotting assistance of any type is not allowed in this contest.

The first big contest of 2023 is the ARRL RTTY Roundup, starting on January 7. This contest is getting back to its roots, and only the RTTY mode is allowed. FT8 and other digital modes were tried for a couple of years, but now they have their own contest.

You can work any station once per band. Multipliers are states, Canadian provinces, and DXCC countries, but they count only once. Working another Wisconsin station on a different band does not increase your multiplier total.

If you are currently operating FT8 on HF, you have all the equipment you need to operate RTTY. However, WSJT does not support RTTY, so you will need new software. I use the free MMTY program, but there are others available. If you like digital operating, try RTTY for something different.

DX

I usually don't mention operations to DX countries made by a single operator. These are generally part of a vacation or business trip and working them is more of a hit-or-miss

type of thing. It seems many of them have intentions of doing a lot of operating, but when they get there, they find other more interesting things to do and don't get on the air much.

I am making an exception to one starting around December 20. There is an operation by F6CUK to the Crozet Islands. This group of islands is in the Indian Ocean, roughly halfway between Madagascar and Antarctica. France administers them, and the only inhabitants are stationed on a small scientific base.

The operator will only be there to operate his radio. Crozet is not exactly a tourist hot spot, so he should have plenty of time on the radio. Well, that was the plan anyway. Apparently, there was a lack of communication, and some authorities did not understand that he would be transmitting. They didn't want RFI to mess up their scientific equipment and told him he could not use his transmitter! It looks like there was some sort of compromise, but he will not be allowed to operate at least 5 hours a day. Hopefully, once he is there, any interference problems can be solved, and he will be allowed to operate more.

The operation will last until about January 26 when the next supply ship arrives. No call sign has been announced. The standard prefix is FT4Wx, but the French seem to like to issue a lot of TO calls, making it hard to know where they are. It is likely most operation will be on 30, 20, and 17 meters FT8. This is a rare one. Crozet is #3 on the most wanted list on Club Log. I only worked it once, on 20-meter CW back in 1983.

Another tough one will be activated from the Bangladesh Dal Char Island. It is to activate the island as part of the Islands On The Air (IOTA) program, a popular DX activity. Propagation to that part of the world is hard from here, and I will be happy to work it for DXCC credit. I only have it on two bands, both CW. Five ops will be operating Dec 10-16. SSB & FT8 are the expected modes.

The Republic of the Congo will be put on the air by a large group of Czech operators. It appears they will have several stations set up. They plan to focus extra on the low bands and receive antennas. Some recent DXpeditions to Africa had problems hearing on the low bands. It is good to see these preparations.

Next month I will cover a big DXpedition to the second most needed DXCC entity at one of the most isolated places on the planet. The last two attempts failed. Will the third time be the charm?

FIFA Special Event Stations

If you have not been living in a cave for the last few weeks, you know the soccer World Cup is being played now in Qatar. There are some special event stations on the air. One of the best is from the United Arab Emirates, using the call sign A60FIFA. They will be active until December 19. The UAE is a relatively rare one, and this might be an excellent chance to log the country. Different operators will use the call sign, and you might find a /0, /1, or other designation added. QSL to EA7FTR.

TI1GOAL is another special event station for the World Cup. I'm sure there are others

WRTC 2022

The World Radio Team Competition is coming up in July of next year in Italy. Wait! You said 2022 above. Next year is 2023. Yes, it was supposed to have been held in 2022, but uncertainty with COVID resulted in delaying it a year. They didn't want to change everything, so they decided to just keep calling it WRTC 2022.

The WRTC is sort of like the Olympics of ham radio. Two operator teams from around the world come together to compete in the IARU contest in July. To qualify, you have to operate a lot of contests over a period of a year or two. You get points depending on how well you do. There are about 40 teams.

Ham radio contesting is inherently unfair. Someone always has a better location or station, so it is hard to know if the station or the operator made the difference between winning and losing. WRTC attempts to level the field. Each station has identical antennas, and great efforts are made to ensure all the stations have conditions for noise, etc.

The WRTC will be held in July. I will cover it in more detail as we get close, but there is a special event for WRTC during January. It is the WRTC 2023 award. Are you confused yet? The WRTC 2023 award for the WRTC 2022 held in 2023? Well, they had a WRTC Award 2022, so I guess they had to use the actual year.

Anyway, it is to publicize the WRTC in July. During January, they will have the award activity. You try to work the special stations. Most of the call signs will have the suffix WRTC. So far, 45 stations are listed, but it appears they might add more. You get five points for SSB contacts and 10 points for CW contacts. You can work the same station on a different band or mode to earn points. The basic award requires 100 points. There are many other awards for working them all, working them all on the same band and mode, etc.

The event only includes the bands and modes legal for the IARU contest. That means 80-10 meters, less the WARC bands, and CW/SSB only.

The list of stations is on their website. It looks like they tried to have a station from every qualification area. The one from our area will be using the call N9W. All the US stations will use N#W, where # is the call district number.

The qualifier from our area is NE9U. Scott is from Wisconsin and chose Craig, K9CT, as his teammate. They are very serious about this and went to Italy last summer to operate the IARU to get an idea of what propagation is like from there.

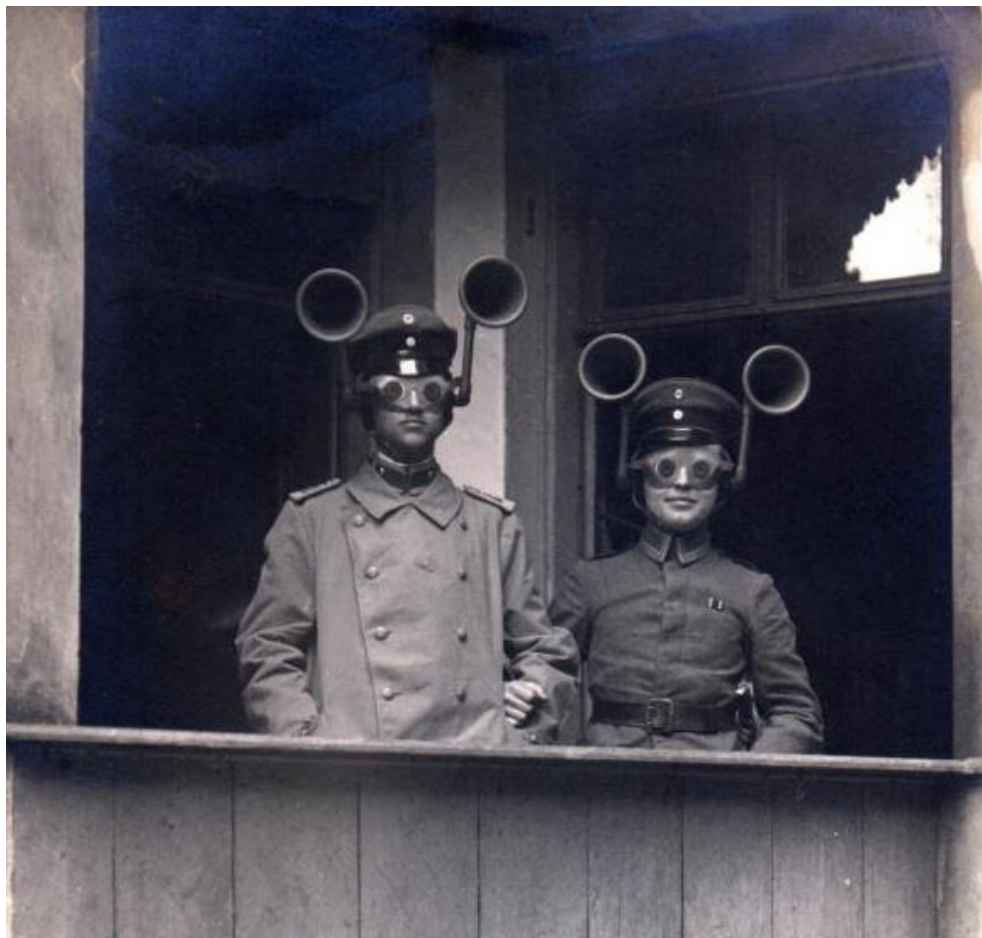
So, if you like events like the 13 Colony event around the Fourth of July, you might enjoy this one. Check out the website for more information, lists of calls, etc.

That wraps up the final installment for 2022. Thanks to Gary, K9DJT, and Vic, WT9Q, for their comments. If you have any operating things you would like to comment on, please send them to me by the Monday before the first Wednesday of the month. Earlier is even better!

They don't have to be on contesting or DXing. Maybe you participated in some public service event or had a really special QSO. Perhaps you fired up that old Novice rig and relived your first days as a ham. Whatever you made an impression on you is fine! It would also be an excellent place to publicize some upcoming events you enjoy.

73 & Enjoy the holidays!

Check my monthly Operating Aid – Next Page . . .



Gary, W9XT, and future XYL on a date night early in their relationship. They are testing a new theory from W9XT on weak signal detection. Actually, not known at the time, Gary was secretly modeling head gear for Walt Disney's future Mickey Mouse Club.

W9XT's Contest, Operating, DXpedition, and Special Event Picks for December 2022 and early January 2023

W9XT's contest picks for December 2022 and early January 2023					
Name	Start	Length	Bands	Mode	Link
ARRL 10 Meter Contest	Dec 10 000z	48, work 36 max	10	CW, SSB	www.arrl.org/10-meter
Stew Perry TBDC	Dec 17, 1500Z	24, work 14 max	160	CW	https://www.kkn.net/stew
ARRL RTTY Roundup	Jan 7, 1800Z	30, work 24 max	HF	RTTY	https://contests.arrl.org/ContestRules/RTTY-RU-Rules.pdf

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

W9XT's DXpedition picks for December and early January 2023					
QTH	Dates	Call	Bands	Mode	Link/notes
Crozet	Dec 20 – Jan 26	TBD	TBD	TBD	
Bangladesh	Dec 10-16	S21DX	HF	S-D	
Rep. of the Congo	Jan 6-21	TN8K	160, HF, 6	CSD	https://www.cd xp.cz/

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

W9XT's operating & event picks for December and early January 2023			
Event	Dates	Details	Link/notes
World Cup special event	To Dec 19		A60FIFA, TI1GOAL, others
Geminid meteor shower	Peak Dec 13-14	6 & 2 Meters MSK144	+/- a week or so
WRTC 2023 Award	Jan 1 0000 – Jan 31 2359Z	80, 40, 20, 15, 10 CW & SSB	https://www.wrtc2022.it/en/wrtc-2023-award-31.asp

Just Get On the Air!!

de: Bill Shadid, W9MXQ



As many, if not most of you know, in my other life in the next country to the west, I have been the long-time President of the Wisconsin Amateur Radio Club in Germantown, Wisconsin. One of my passions has been to get the majority of the people in that club to actually get on the air from time to time. I do understand how things work and while I am a very active on the air ham radio operator, I am also a model railroader without a model railroad, and an amateur astronomer but currently have no telescope. Does that make me less of a model railroader or amateur astronomer? Well, yes it does!! For this short article, however, we will forget about what I don't do and focus on what I do – as well as maybe what you don't do.

I have been a ham since 1964 and except for a short stint in the US Army, have never in all of those years been inactive. I have had large HF beams on big towers in three different locations with property filled with various wires and VHF/UHF weak signal arrays. I have been an active repeater owner and for years owned a repeater in central Illinois. I have been active in contesting, DX'ing, rag chewing, repeater operating, HF social nets, HF technical nets, and a million other things. SSB, CW, RTTY, SSTV, PSK31, Digital Modes of various flavors all have come, gone, or in several cases, stayed with me. So, how has my intensity in the hobby changed? It has only increased. At times when first married and living in an apartment, I had no outside antenna. So, I got on the air every day, on HF and local VHF (AM in those days), with inside the apartment antennas.

When I was in the working day scene and traveling all over the world, I was reluctant to leave large antennas at home when I was not there to talk care of them, I moved to simple vertical and dipole arrays for when I was at home. While traveling I visited hams in foreign countries, operated at club stations in many parts of the world – even worked FM repeaters while driving in Germany and the United Kingdom, using a trusty FM portable that many times traveled with me. (Last one that traveled with me was a Drake TR-22C that still resides here.) I have been in the homes and shacks of hams from every continent and in many countries – and attended their club meetings.

Today, some of my best friends are DXers and Contesters of recognizable names but my passion in operating has moved on – I appreciate their talent and their installations to make their success. But the fact that I do not intensely do that has no bearing on my enjoyment of the hobby. I measure my success in terms of how many different people I have talked to and that I know something about them, their families, and their passion in

the hobby. I have graduated – yes, that is the right word – to a focus on simple antennas that no longer worry me about their ability to stand up on a windy winter Wisconsin night or a stormy Wisconsin spring storm.

So, what do you do? Does the passion for the hobby burn in you? Or, like so many, do you become discouraged when you hear stories about 100-foot towers whose owners are complaining that's they have not yet worked some rare DX on all nine HF bands (actually there are ten bands if you count 60-meters, but that is another story). I feel their pain, but I do not share it. If I connect with one DX station on one band (and I do quest to do that!!) then I am a happy man. (How many times can I need to say "59 Wisconsin" to the same person?) But if you are one of those that likes that kind of thing, thinks it is important, and that is your passion then my hat is off to you. But do it – don't just talk about it!!

Back to my question, so what do you do? Are you sitting in a chair wishing for that 100-foot tower or have you gotten over to HRO and walked out with a \$190 Hustler vertical and some coax, put it up, and gotten on the air. Oh, you say, "I cannot complete with all those big stations." You think?

I got the idea to write this article, yesterday – a typical day at W9MXQ. I had just finished returning a vintage Drake TR5 to the air. The TR5 is a very rare radio (only 300 made at the end of Drake's time making amateur radio equipment) and this one had suffered the fate of being very heavily modified by a previous owner. I had finished the loose ends of the modifications – funny how you can put yourself in the mind of a total stranger and figure out what he had not done when you have no idea what he did in the first place!! The dirty little secret about the Drake TR5 was that it did not measure up in many hams' eyes by not running 100-watts output. 100-watts output had, and still is, the norm. This little radio puts out 50 to 60 watts on 20-meters – a bit more on 160-meters and a bit less on 10-meters. While it possesses a receiver that is ultra-quiet and rivals the best of the breed (even today) it produced only a third to half the power of its big brother, the Drake TR7 Transceiver. Do you think that is a handicap.



**The Drake TR5 Transceiver with RV75 Remote VFO
(Did you think I could write an article without a picture included?)**

W9MXQ

I had finished the corrective surgery on the radio and put it on the air – answering a CQ from a station in New Jersey. We talked for about 15 minutes, and then he had to leave the air. We talked about the TR5 and his remembrance of the radio when it was introduced in the 1980's (1981 and 1982 were its only marketing years). When he signed off, another person called asking about the TR5 – and related that he had read my articles on the TR5 in the Ozaukee Radio Club Newsletter. He was from the UK – near Swindon, England. We talked about Collins and Drake equipment for about 45 minutes with him giving me a “59+” report. This continued for another two hours and for 21 total contacts. The TR5 was running 50 watts carrier, 60 watts PEP on SSB to my ground mounted GAP Titan DX Vertical Dipole Antenna. Did that turn out to be a handicap?

See what you, too, could be doing? Challenge yourself to get on the air, forget your perceived impediments, and just go for it. Check out the events in Gary Sutcliffe's “On the Air Activities” column here in this Newsletter. Watch for Special Event stations, look for Parks on the Air (POTA) and Summits on the Air (SOTA) stations, check out the group called “100 Watts and a Wire,” and see what people are doing with minimal antennas and power. Hey, get on the 10-meter contest going on as this Newsletter is being released.

Some Related Links:

- ARRL “Get On The Air:” <https://www.arrl.org/on-the-air>
 - ARRL membership may be required to access
- Parks on The Air (POTA): <https://parksontheair.com/>
 - Many Available Contacts – every day, 365 days a year
- Summits on the Air (SOTA): <https://www.sota.org.uk/>
 - Many Available Contacts – every day, 365 days a year
- 100 Watts and a Wire: <https://100wattsandawire.com/>
 - Great Fun – any simple antenna qualifies
- On the Air Activities! – Monthly Column . .
 - https://www.ozaukeeradioclub.org/news/Current_ORC_Newsletter.pdf
 - Author dedicated to getting you On the Air.

Good luck – see you on the air!!

73, Bill, W9MXQ



Ozaukee Radio Club Minutes of Membership Meeting. 11/09/2022

de: Ken Boston, 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 7:32 PM; and with actual members attending, a go-around was conducted. Zoom attendees were also in attendance and were introduced individually. Pat mentioned that we need a club member to pick up the Senior center key the afternoon of the meeting. Tom KC9ONY now has a donation from WB9NEA of various items, like a matchbox and antenna parts to be auctioned off, with proceeds to go to the repeater fund. Vic WT9Q managed a clean sweep [1st time!] in the ARRL sweepstakes; other members also were active in the event; W9XT, W9KHH. Gary N9UUR made a QSO with 'Godzilla'; station callsign W9G.

Program:

We were supposed to have a re-start of the presentation by Dave W7UUU on his shack fire and restoration, but technical difficulties [again!] rendered that impossible. Pat offered to run a video of a Nat Geo program about a young ham, or a program from the BBC about WW2 where the British intercepted German intel [Bletchley park] but difficulties cancelled that as well

50/50 Raffle: This was won by Bill AC9JV; winning an award of \$14.

Scholarship Auction:

Stan WB9RQR held a short auction, GE Mobile Speaker, Yaesu FT-726 Transceiver, a couple of desktop computers, and some books.

Committee reports:

[there were no First or Second VP reports and no Repeater VP report]

Treasurer: Gary N9UUR presented balance sheets and mentioned a dues increase may be necessary. The October treasurers' report was accepted; motion made by WB9RQR; 2nd by K9GN and carried.

Secretary: Ken W9GA reported the Oct 2022 minutes are posted; mention was made by N9VSV about clarifying the duties of the club officers; a motion to accept was made by KA9PZG; 2nd by K9QLP, and motion carried.

Scholarship/STEM: no report, W9IPR was not present; Pat reminded all that there would be a scholarship committee meeting via zoom on the 15th.

Tech committee: no report, as W9DHI was not present.

OLD business: Stan WB9RQR and Nancy KC9FZK will be picking up the center Key prior to the meetings. W9GA is working on our club update at ARRL. W9JI, WB9RQR

and W9MXQ are working on a club history project, gathering, and scanning old newsletters and the like with the intent of putting digital copies up on the club website.

NEW business: N9UUR brought up the fact that we are exceeding our club income over the last couple years, and suggested we look at increasing our dues pricing. [\$15 > \$20] and several members were in agreement. This will lead to a formal motion in the near future. Elections are coming up; the club needs nominees for 1st VP and 2nd VP, please consider stepping forward! Fred K9IGO asked about simple tech questions and was advised to bring these forward outside of the business section of the meeting. Gary K9DJT asked why we were continuing to conduct a zoom link during the meetings, which he felt was taking away from the general meeting. Others stressed that the zoom hybrid model had other advantages. Bill K9GN talked about various radio clubs that were conducting HR 'Boot camps' for which he had joined one club doing this successfully.

Adjournment: WB9RQR moved to adjourn, K9DJT 2nd, motion carried; time ending was 8:31 PM. There were 18 in-person attendees, 16 Zoom attendees.

Respectfully submitted,



Kenneth Boston W9GA, Secretary



Upcoming ORC Monthly Meeting Programs

de: Pat Volkmann, W9JI

- December – Fred LeMere KD9IGO - Horizontal Loop Antenna and Feedline
- January – Elections, “The Secret Listeners” video
- February – Open

We really do 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.

ORC Meeting Agenda

December 14, 2022

- | | |
|---------------------------------------------------------------------------------|------------------------------------------------------|
| 1. 7:15 – 7:30 PM
Check-In and Introductions | 7. 2 nd VP Report:
Bill Greaves (K9GN) |
| 2. 7:30 PM Call to Order:
President Pat Volkmann (W9JI) | 8. Repeater VP Report:
Gregg Lengling (W9DHI) |
| 3. Announcements, Bragging Rights, Show & Tell, Upcoming Events, etc. | 9. Secretary’s Report:
Ken Boston (W9GA) |
| 4. Presentation:
Fred LeMere, KD9IGO
Horizontal Loop Antenna and Feedline | 10. Treasurer’s Report:
Gary Bargholz (N9UUR) |
| 5. President’s Update:
Pat Volkmann (W9JI) | 11. Committee Reports |
| 6. 1 st VP Report:
Ben Evans (K9UZ) | 12. OLD BUSINESS |
| | 13. NEW BUSINESS |
| | 14. Adjournment |



**Next Month's ORC Meeting
Hybrid In-Person/Zoom Meeting
11 January 2023**

Program
Elections
"The Secret Listeners" Video

7:00 PM – Doors Open
7:15-7:30 PM – Zoom Check-In
7:30 PM – Meeting Begins