



The *ORC* Newsletter



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May 2022

Number 5

From the President

de Pat Volkman, W9JI



The April meeting was our first in-person meeting in about 2 years. We ran the April meeting as a hybrid, combining the live meeting with Zoom. There were some computer issues at the start of the meeting, but the Technical Committee got everything working in short order. I didn't know what to expect for attendance. We had more people at the Senior Center that were on Zoom. The auction was very lively, with Stan selling a lot of (really good) items in about 15 minutes. I expect we will continue with the hybrid meetings for now.

If you are planning to join us at the Senior Center, just show up. The doors will open about 7 PM and the meeting will start at 7:30. Zoom invitations will be sent out the day of the meeting, just click the link to join. At the end of the meeting, I will hand off the Zoom controls to one of the co-hosts. This will allow the group to continue to chat on Zoom after the meeting, as we have been doing.

The Spring Swapfest was held on April 30th. The weather wasn't very good, with a cool rainy Saturday. The indoor venue is really nice when the weather isn't cooperating. The crowd was good as were table and ticket sales numbers. The Scholarship Committee sales were remarkable – we left the Swapfest with half of what we brought! Thanks to everyone who helped out and special thanks to Tom Trethewey KC9ONY for organizing the event. You did a great job Tom!

The Swapfest was also the first time that I met some of our members that I had only seen on Zoom. The face-to-face meeting is always nice, with a chance to see you in person. One suggestion for future events - wear your Club name tag! It helps to let everyone know who you are and what club you belong to. If you don't have a nametag, contact Gary Drasch K9DJT at gary.drasch@k9dit.com. Gary takes care of ordering all the

Club swag, including shirts, hats, and jackets. All the gear is very good quality, and you can show off your callsign.

At the April meeting I showed some recent work that I had done on my Ameritron AL-1500 amplifier. This month, I am working on getting an Alpha 78 linear amplifier going again. The Alpha 78 was produced in the early 80s and uses three Eimac 8874 triodes and covers 160 through 10 meters. I'll provide an update as things progress.



I'm looking forward to seeing everyone again, both at the Senior Center and in the Zoom meeting.

See you at the meeting.

Pat Volkmann W9JI

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de Bill Shadid, W9MXQ

See Club President, Pat Volkmann, W9JI, right on Page 1. Pat discusses the successful Spring Swapfest and his latest project at the W9JI shack.

Speaking of the Swapfest, check out Tom Trethewey, KC9ONY, in the very first article on the agenda this month. Tom gives his initial take on the Spring Swapfest. Tom, as most us know, served as the 2022 Spring Swapfest Chairman. Or better said, "The Very Successful 2022 Spring Swapfest Chairman!!"

Want to do a good deed for the widow of a former ORC member? Check out Stan Kaplan, WB9RQR's note on page 6. Want to know about Annual Awards within our ranks? Check Ken Boston, W9GA, when he delivers the results of the 2021 Awards Program – on Page 5.

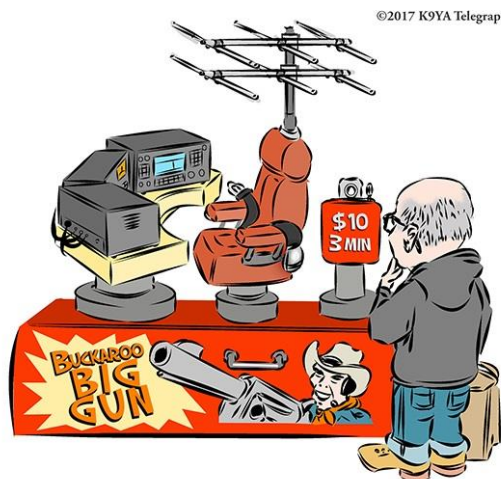
Great regular articles, too from Don Zank, AA9WP, on the latest in ARES and Gary Sutcliffe, W9XT, on Contesting and DX. For Gary, W9XT, notice his separate page on coming operating events that can be printed out and kept on the operating desk. Watch for the always interesting Computer Corner article from Stan Kaplan, WB9RQR. If I may make humble mention, see my article this month on the Drake R7 / R7A HF Receiver.

There is too much to comment on this month!! But I offer a sincere thank you to the members of our club who felt compelled to compliment the Newsletter and this Editor for an Annual Club Award. I enjoy it – and like that you like it!! But I never forget that I am

nothing without an outstanding list of talented authors who are every bit as excited about our Newsletter as the Editor!!

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

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The ORC Spring Swapfest 2022 Finally Happened!

de Tom Trethewey, KC9ONY
Chairman, Spring Swapfest 2022
swapfest@ozaukeeclub.org

Back in January of 2020, I volunteered to be the Chairman of the Ozaukee Radio Club's annual Spring Swapfest. Little did I know it would be another two years before we could actually have the event, due to the COVID pandemic.

The Spring Swapfest finally happened on Saturday, April 30, 2022. It went really well, and I received positive feedback during and after the event.

We had 86 advance tickets, and 243 tickets sold at the door. This year, though not well advertised in advance, we were allowing in kids 12 and under free with a paid adult. I forgot to have the door cashier tally the kids but saw quite a few. So, I would say we had well over 340 in total attendance!

Cub Scout Pack 586 brought a lot of enthusiasm and food and seemed to be selling very well. Their Facebook page shows the totals of all their sales. See their Facebook page for the results and some pics of the selling area:

<https://www.facebook.com/Cub-Scout-Pack-586-447292295334209/>

Jill, KB9PZF, and Scott, KB9AMM, with Tower Electronics, brought their huge setup as our main commercial vendor. All kinds of parts, adapters, and antennas could be purchased. In addition, they brought us 16 six-foot tables for us to use, thus not having to go out and rent tables to bring in to sell. Thank you, Tower Electronics!

Gregg, W9DHI, contacted Icom and Yaesu to see if they had some promotional items to give away. John Kruk, N9UPC, who is the National Sales Manager, Amateur Radio Division of Yaesu USA responded. He said, why don't I just come down and display some radios and talk about WIRES-X? Sure, why not! When I looked over at his booth, he seemed to always be talking to someone. It was great to have a worldwide commercial vendor to display their product. Thank you, John!

We also had Tom KA9KJE, the Emergency Coordinator for Racine and Kenosha, WI as well as District Emergency Coordinator for Southeast WI. He was representing RKARES.org and had an AREDN Mesh Network display.

Our very own Don AA9WP, Emergency Coordinator for OZARES was also presenting a demonstration of WINLINK. I saw several folks interested in his display as well.

Tom KG9EE, Assistant Section Manager for the ARRL in Wisconsin had a booth where one could join or renew their membership right at the Swapfest.

We had some fantastic gift certificates and door prizes from the ARRL, Bioenno Power, DX Engineering, Easy Way Ham Books, N3FJP Software, Tower Electronics, Unified Microsystems, and West Mountain Engineering.

Thank you sponsors!

Thank you so much to the volunteers I had this year. Gregg, W9DHI, Chuck, KC9YEP, Fred W9KEY, Jeananne, N9VSV, Gary, N9UUR, Loren, N9ENR, Jim, K9QLP, John, WA9KNY, John, W9FAD, Pat W9JI, Mark, KD9NOO, Tom W9IPR, and Bill, K9GN, for helping out. Sorry if I forgot a name or two, let me know.

Among the comments received, there were a few negatives. While we can't please everyone, there were mistakes I admit making, or things about which I didn't think. I'm making a list, as I'd like to improve for next year. Feel free to send me your comments and suggestions via email. I'm going to start much earlier in looking (arm twisting?) for volunteers to help out, too.

Save the date for next year, Saturday, May 6, 2023

Ozaukee Radio Club: 2022 Awards Recipients

de: Ken Boston, W9GA, Awards Chair

The results of the balloting and nominations for the Ham of the Year and Turkey of the Year are presented below:

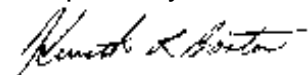
Ham of the year: N9UUR Gary Bargholz
Turkey of the Year: KC9YEP Chuck Meyer

IN ADDITION: The following category awards were earned:

Program of the Year: WH6ZZ Mike Schultz – "Marconi Trans-Pacific wireless site"
Committee of the Year: W9MXQ Bill Shadid - Newsletter

Most of these recipients were clear winners, and one was mentioned repeatedly, with no clear category other than, "This person deserves some kind of reward." [Newsletter]

Respectfully submitted,



Kenneth Boston W9GA, awards chair:

GET A TOWER OR ANTENNA AND DO A GOOD DEED

de Stan Kaplan, WB9RQR

Some years ago, a fellow named Gary Becker (N9SBG) lived in Mequon with his wife, Barbara, and their son. He also had a business there (plumbing), and Gary was a long-time active member of the Ozaukee Radio Club. His son grew up and left to start his own family. Later, Gary had a stroke, was confined to a wheelchair, and pretty much curtailed his ham activities because the stroke impaired his speech as well as his mobility, though he maintained an interest in the hobby and monitored many nets. Several years later he died. His wife Barb continued to live and is still living in their Mequon house.

Barb called me the other day, and she would like to be divested of their antennas and tower. She has a tower in the yard with antenna, and there are several more antennas mounted on their garage, in their attic, and so on. She is not a ham and cannot really describe any of them adequately.

This might be an excellent opportunity for you to get one or more of these for your own use (at a reasonable price) while helping out the widow of one of our members. Call Barb at (262) 241-5488 to arrange and discuss your eyeball evaluation and possible offer for one or more items. **Be sure** to identify yourself as an ORC member. If you later see something you like, be prepared to give her a reasonable offer based on your knowledge. She is not in the process of moving, so time is not a critical factor, but jump on it now to prevent someone else from "scooping" you.



**What happens to you if you have a direct
or close-in Lightning Strike?**

Is your insurance setup to cover your loss?

It's too late to check after you smell smoke!!

Spring and Storm Season is Upon Us!

THE COMPUTER CORNER

No. 290: How Close Are Your Measurements?

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

How close to what? When you measure a voltage in a circuit, for example, if your VOM reports 2.56 VDC (DC volts), what does that mean? If you next measure it at a nearby connection on the other side of a solder joint and it measures 2.53 VDC, what does that mean? That the joint is a bad solder joint and there is a 0.9 VDC drop in the joint? Or your meter needs a new internal battery, and it is rapidly losing accuracy? What is accuracy? Or is it that your meter is simply off a bit when you make repeated measurements. Maybe its measurements are not very precise. What does precise (precision) mean? Shouldn't it read exactly the same thing each time you measure?

Let me give you another example. I purchased two indoor/outdoor thermometers not long ago. These are little square battery powered gadgets that you place outside somewhere, and they transmit a signal to another little square battery powered receiver that sits inside your house. The inside gadget receives a signal from the outside box, converts it to temperature and displays the result on a little screen on its face. It also displays the "indoor temperature" the temperature that the inside gadget senses. So, the inside gadget displays two temperatures – inside and outside. They are not very expensive – on the order of less than \$15 for a set of two – a remote sensor box for outside and another receiver box for inside with its reporting display of indoor and outdoor temperature, with a pair of AAA batteries for each of the two. For less than \$30 you can have four (two sets), and park one outdoor sensor in your front yard and a second sensor in your back yard. Shouldn't the two temperatures be the same at these two sites? Well, that is another bag of worms, because studies have clearly shown that the microclimate in two places such as a front yard and a back yard can vary quite a bit. Think of winds, for example, and how air currents can be affected by buildings such as your house. Let's not get off on that tangent – back to precision and accuracy and such.

Anyway, I was curious, so I put one set of two boxes (outdoor and indoor) on my dining room table 4 inches from each other, followed by a special mercury thermometer. Because I was trained as a biomedical scientist and had need, often, to measure temperature for some of the experiments I was doing over the years, I had in my possession (even 27 years after retiring) a couple of glass mercury thermometers that were verified by what used to be called then the National Bureau of Standards. So that mercury standard is what I trusted as my absolute standard. On the other side of the Mercury Standard were the two little boxes of unit 2. Take a look at the results, rounded to the nearest whole degrees Fahrenheit in the following table.

DAY AND TIME	UNIT 1 OUTSIDE	UNIT 1 INSIDE	MERCURY STANDARD	UNIT 2 OUTSIDE	UNIT 2 INSIDE
5:00 p.m., 18 Aug	80	78	81	78	79
7:30 a.m., 19 Aug	77	76	77	77	76
5:00 p.m., 19 Aug	81	82	83	82	82
7:30 a.m., 20 Aug	77	77	79	77	77
7:30 a.m., 22 Aug	76	76	77	77	76

As you can see, the first day (an hour after unpacking and setting up) they were off by as much as 3 °F, while the next morning they were off from the standard mercury glass thermometer by not more than 1 °F. During the ensuing days, all the little boxes were within 2 °F of the value shown by the standard mercury glass thermometer. Not too bad.

But the point of all this is twofold, accuracy versus precision. First, consider accuracy. Accuracy is how close a measurement is to the true value. In this case, the true value is my glass mercury standard thermometer, whose accuracy can be traced back to the National Bureau of Standards. Unless this sealed glass thermometer has been damaged in some way (there is no evidence of this), it is certainly accurate to within one degree (F). But what about that 25.6 VDC measurement you made that was described in the first paragraph of this article? Guess what? It could just as easily have been 24.6 VDC true value, or truly 26.7 VDC for that matter. Unless you can compare a measurement with some sort of standard, the value reported by your measuring instrument is suspect. You have no way of deciding if it is accurate. For a few bucks, you can build a gadget that will generate voltages that are accurate to 1%. A nice way to check up on your electronic VOM.

Second, is precision. Precision is how close repeated measurements, under the same conditions, are to each other. If I had measured the temperature on my dining room table and it was 77 °F, then I measured it again 1 second later, and again after another second, and so on (if nobody opened a door or started a vacuum cleaner and the furnace did not go on) if all the measurements were 77 °F, we could say the measurements were reasonably precise.

But precision and accuracy are independent of one another. It is possible to be very precise but not very accurate. It is also said to be possible to be accurate without being precise. Think about that for a while. Happy Computing!

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

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

OZARES: Ozaukee Amateur Radio Emergency Services

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



The April article covered additional weather spotter and education training that is available for the public, weather nerds and the interested amateur radio operator. In April I attended the Sheboygan County Weather Spotter Training course, given by Mark Kavinsky, Senior Forecaster and Kevin Wagner, forecaster from the Milwaukee National Weather Office. They both emphasized the importance of weather spotter reports for the office to confirm on the ground weather activity. Amateur Radio was mentioned quite often as a viable source for providing severe weather reports to the office. Unfortunately, Sheboygan County is lacking a focused group of amateur radio operators to do weather spotting at this time. The following week

Mark and Rebecca Hansen, forecaster, provided the Ozaukee County weather spotting class. Fortunately, we had a great turnout of nine amateurs at this class.

The importance of Amateur Radio mentioned by the National Weather Office makes for an interesting comparison with an on-going discussion in the SEC-EmComm Groups.io group. The topic of interest is *How to Keep Amateur Radio Relevant*. The discussion has been lively with over 90 messages addressing the topic.

The topic got kicked off by recognizing how large Emergency Operation Centers that exist at the state and in large city levels have extensive equipment available for emergency communications. The large emergency operation groups have VoIP or voice over internet phones, communication trucks, trunked systems, 700 MHz and 800 MHz interoperability channels, FirstNet, and satellite phones. Then toss in Cell on Wheels (COWS) or Cell on Light Trucks (COLTS) portable cellular phone systems that can quickly respond to restore cell phone service.

So, Michael, KM5BOR asked “My tax dollars help pay for all of this and its very impressive when you see these trucks and operation centers. That said the poor ham radio operator can’t compete with their government bank accounts. What do they need us for? What services can we provide as amateurs to the professionals? I have a few ideas, but I want to learn more and am trying to get everyone to think.”

Does “When all else fails” makes sense in light of the extensive amount of emergency communication equipment available to the states and local governments?

Well, as you can imagine, the question generated quite a conversation. From my take the replies break down into three general themes.

Many of the first replies noted that not everyone lives in large cities or near well supplied emergency operation centers. The small communities will need communication support,

and quickly, if they are hit with any disaster, be it a tornado, an earthquake or, as in many Western states, wildfires. There are many locations now where cell phone service is non-existent or very intermittent during normal times. Any and all communication support will be vital during these emergencies.

Of course, being amateur radio aficionados, learning new modes of operation and continually improving seemed to be the second most popular reply. Expanding, then improving communication skills and abilities, with various modes will help amateur radio maintain its relevancy. This means having the knowledge to use land mobile radio (LMR) frequencies where radio interoperability is needed. This knowledge is found in the Auxiliary Emergency Communications (AUXCOM) program. The state of Colorado has implemented an AUXCOM program because, as stated in their bill “a uniformly trained and credentialed unit of communication volunteers available for disaster response” would “materially assist emergency preparedness and disaster response efforts across the state. While maintaining their traditional roles as Amateur Radio operators, many of these volunteers assist with the establishment and maintenance of communication facilities, assist with programming public safety radios during emergencies, and act as radio operators on public safety channels.”

Acquiring the skills for the AUXCOM role can be found in the State of Wisconsin Training Management System, <https://www.trainingwisconsin.org/>, Auxiliary Communication Workshop. As stated in their description, the course “... focuses on auxiliary communications interoperability, emergency operation center etiquette, on-the-air etiquette, FCC rules and regulations, auxiliary communications training and planning, certification and accreditation and emergency communications deployment. It is intended to supplement and standardize an operator’s basic knowledge of emergency amateur radio communications in a public safety context.”

Lastly, and I think the factor that can play the biggest role in keeping amateur radio relevant, is having visibility with our served agencies and their having confidence in our abilities and knowledge of emergency communication procedures. From past participation in ICS training classes amateur radio is an unknown asset for many of the participants. The image of an older uncle or the neighbor down the block is what many think about when amateur radio is mentioned.

But this is the most difficult task as well.

By creating and running real-world exercises that involve our served agencies, amateur radio for emergency services can create awareness and build its relevancy. Then an after-action review is vital to see what needs to be improved and what went well. But the creation of an effective exercise depends upon two important factors.

One is that the planning for the exercise demands a great amount of time and effort. The second, is that the participants need to be well trained and knowledgeable. And that requires a great amount of time and effort. Which sounds like a great topic for next month’s article.

Vintage Amateur Radio

de Bill Shadid, W9MXQ



Many of the people of this string of articles know that while I am a collector of most items in history for amateur radio, my real focus is from the about 1955 until the early 1980's. So, at one end of my level of interest we have the Collins 75A-4 Receiver and KWS-1 Transmitter – see my column in the October 2017 issue of this Newsletter. The end of my range of interest is perhaps in the 1980's when Drake discontinued the TR7A and TR5 Transceivers. These two Drake radios were covered in the May, June, and July 2019 plus the November 2019 Newsletters for the TR7/TR7A and the April 2020 Newsletters for the TR5 Transceivers.

While I like virtually all of the radios of that time, it is important that you know that my favorites in this period are, primarily, Hallicrafters – followed closely by Drake. Close behind – almost too close to quantify, are Collins, National, Swan/Cubic, and Hammarlund. That all said, these companies dominated the amateur radio marketplace during the years of my primary interest. This month stays in that framework with a look at a longtime favorite of mine – owned new in the 1970's, lost in a trade in the 1980's, and now returned to my collection after a 20-year search for just the right one. This month chronicles the Drake R7 and R7A HF Communications Receiver.



Drake R7 HF Communications Receiver
This one – made in 1980

R7 Version in the W9MXQ Collection

Fellow Drake aficionados will immediately notice a family resemblance to the popular TR7 Transceiver. That is no mistake. Keep reading and you will see them come together and provide a better understanding for that look-alike appearance. Careful attention

to the layout, however, shows some differences in actual controls and purpose for what appear to be similar controls.

Let's stop right here for a moment and clear up a Drake detail – a review of the difference between a TR7 and a TR7A Transceiver and similarly, the difference between an R7 and an R7A Receiver. Primarily the “A” suffix was a marketing idea – not a technical change.

For the R7 vs R7A Receiver and the TR7 vs TR7A Transceiver, check this chart shows the differences: (Some differences relate only to the TR7 vs TR7A)

- The Optional SL-500 500 Hz CW Filter that could be added to the TR7 was standard in the TR7A. The R7 and R7A had the same difference – the addition of a standard SL-500 CW Filter as standard equipment.
- The Optional NB-7 Noise Blanker that could be added to the TR7 was standard in the TR7A. Similarly, the NB7A Noise Blanker was optional in the R7 but was standard equipment in the R7A.
- There was an internal receiver protection circuit (Drake called it “Lightning Protection” in their product brochure) added to the front end of the TR7A that was available as an internal option in the TR7¹. With the R7A, there was no such added receiver front end protection added but Drake offered the optional (external) RP700 Receiver Protector for both R7 and R7A Receivers.
- The “B” selectivity position in the TR7 was connected to an open slot on the filter board. (That board came populated from Drake with only the 2.3 kHz SSB Filter.). On the TR7A, in addition to the SL-500 filter mentioned above, the “B” position had a jumper installed that allowed the use of the radio's roofing filter to act as an AM filter of about 9 kHz². This same feature was added to the R7A in the 4 kHz selectivity position.
- There was an unmarked spare phone connector on the rear panel of the TR7. This connector was marked “TX” on the TR7A and was a parallel connection with the microphone input. Being a transmitter related addition, this change did not apply to the R7 or R7A. Similarly, the AUX7 Board was standard in the TR7A – not the R7A.

Operationally, there was no difference between the TR7 or R7 compared to the TR7A or R7A products. All changes were in the form of options made standard. The wired-in front end receiver protection could be added. The parallel connection to the rear panel of microphone audio was a common modification made by hams setting up Phone Patch or AFSK installations.

The R7 Receiver was a very capable 0 to 30 MHz Receiver (yes, that lowest frequency is zero!). My experience with the R7 Receiver shows it operating well on the 2200 Meter (135 kHz) and the 630 Meter (472 kHz) Bands. I have copied data transmissions on both bands in the winter months (January and February 2022) shortly after the receiver arrived.

When this radio was reviewed in the January 1980 Edition of **QST Magazine**, they were quick to point out, “not just another “*super-duper signal scooper.*” They referenced the radio as being at home in the ham shack or the laboratory. The list of available options was impressive and was befitting a radio of its caliber and price class. Options varied little from the introduction of the R7 model until the last production R7A model. Look at this options list as available at introduction:

Options List – Drake R7 and R7A Receiver		
Option Item	R7 Receiver	R7A Receiver
MS7 Speaker	Optional	Optional
SL300 – 300Hz CW Filter	Optional	Optional
SL500 – 500 Hz CW Filter	Optional	Standard
SL1800 – 1800 Hz SSB/RTTY Filter	Optional	Optional
SL4000 – 4000 Hz AM Filter	Optional	Optional
SL6000 – 6000 Hz AM Filter	Optional	Optional
Gimmick Jumper for 9000 Hz AM	Not Documented	Standard
NB7A – Noise Blanker	Optional	Standard
AUX7 – Range Program/Fixed Board	Optional	Optional
R7/TR7 – R7 to TR7 Interface Cable	Optional	Optional
R7 Service/Schematic Book	Optional	Optional
RP700 Receiver Protector	Optional	Optional
LA7 Line Amplifier	Optional	Optional

The Drake R7 that is the subject of this review is equipped with the MS7, the SL300, the SL500, the SL1800, and SL4000, the NB7A, the AUX7, the R7/TR7 Cable, the R7 Service/Schematic Book, and the LA7 Line Amplifier.



Together in Operation
Drake TR7A Transceiver, Drake R7 Receiver, Drake MS7 Speaker
W9MXQ Collection

Note the similar, but not identical, layout of the TR7A and the R7. Check here for the rather complex antenna feed switch on the right center area of the R7 front panel.

On the next page, look at the two-color system for identifying the antenna feed location by switch setting. When you read the information, remember that the legends on the dial relate to the rear panel connectors of the same name.



W9MXQ

Switch positions relate to the antenna ports (MAIN, ALTERNATE, and CONVERTER) on the rear panel of the Receiver. For the most part, this rather complicated system can be left as shown to the left so the R7 Receiver and the associated TR7 Transceiver are using the same antenna. Depending on your station setup, you can have the TR7 and R7 using different antennas, selectable with this switch and depending on connections to the ports on the rear panel. This setup is very flexible but also confusing to the new user – due primarily to that flexibility!

The Drake TR7 Transceiver, along with its successor TR7A, as well as the R7 and R7A Receivers took advantage of what was unique technology in their day, up-conversion i-f systems. The i-f frequencies were as follows in their triple conversion scheme:

- First i-f: 48.05 MHz -
- Second i-f: 5.645 MHz
- Third i-f: 50 kHz

Keep in mind that the Drake TR7 Transceiver is dual conversation while the R7 adds the third i-f at 50 kHz. While the TR7 uses a pretty traditional envelope detector for AM, the R7 uses a Synchro-Phase™ (Drake Trademark) Detector that is analogous to the better-known Synchronous Detector. It is similar to the detector used in the Racal 6790 Receiver³. The Racal 6790 puts the R7 in good company. The strength of this detector is very evident when listening to AM Broadcast (North American Broadcast Band, International Shortwave Broadcast, or good old AM contacts on amateur radio). My most recent experience in using a Synchronous Detectors on AM Mode was on the Yaesu FT-1000MP Mark V.

Image Rejection was rated at 80 dB down per Drake published literature at the time for the R7. Dynamic Range as published in ARRL Laboratory tests for the QST Magazine review mentioned previously are as follows:

Drake R7 Receiver Dynamic Range – Worst Case Band of 80 Meters		
Preamp Activated		
Noise Floor	Blocking	IMD
-139 dBm	112 dB	91 dB
Preamp Not Activated		
Noise Floor	Blocking	IMD
-133 dBm	>120 dB	100 dB

Image rejection and strong signal handling performance are the result of the up-conversion design of the circuit, according to Drake's promise in selling this receiver, as well as the similarly designed TR7 Transceiver.

The Preamp mentioned above provides an approximate 10 dB gain across the spectrum. I find it generally unnecessary for my use. It does not seem to overload the receiver in any situation that I have used the feature.

In operation as a vintage radio, the stability of the PTO (VFO) in the R7 is good after about a 15-minute warm-up. The R7, and the TR7, for that matter, seem able to copy W1AW Code Practice without touching the dial after about 15 minutes from power up.

Special Note: Careful attention to alignment, signal path integrity (that is, clean contacts!!) throughout the signal path, and a reasonable warmup period does a lot to insure signal stability. This is especially true in vintage radios where free running oscillators – such as the very well designed VFO in all of the Drake radios – are common. Remember, these radios are not running sophisticated, TCXO based, frequency control circuitry. My attention to alignment and clear signal path in these old radios show.

A nice feature of the R7 Receiver is the Notch Filter – a feature highly revered in the R-4 Series Receivers (R-4, R-4A, R-4B, and R-4C). The traditional Drake Passband Tuning is a mainstay feature of the R7 – and is as effective here as it is in the TR7 and all those earlier R-4 series receivers. (Passband Tuning was also present on the 1-A, 2-A, and 2-B Drake receivers – but conspicuously absent on the 2-C Receiver.)

The R7 does an excellent job connected to the TR7 as a pair for station use. To operate in transceive and provide for proper receiver muting on transceive, the Drake Model 1548 R7/TR7 Interface Cable Kit is required. Those, of course, are no longer available from Drake but they are easy to make with two male 15-pin Cinch Jones Plugs and a circuit widely available on the internet⁴. While not as clear cut in making decisions on which VFO is in control, it is possible to decide to use either the TR7 or the R7 VFO to control the transmit frequency. It is not a single switch setting (it involves two switches) so not as simple as on later radios that usually had a single switch dedicated to the process.

Like the TR7, in theory the R7 was available without the DR7 Digital Readout. My brochure covering the R7 is later in its sales life and by that time the "optional" had been removed from the marketing documentation. I suspect that few, if any at all, R7 Receivers were actually sold without the digital readout. The same holds true of the TR7 but in that case I have actually seen TR7 Transceivers with no DR7 Digital Readout board installed. Whether such occurrences were due to the DR7 being defective and removed or perhaps never installed remains a mystery.

Drake published a bound Service Manual for the R7 Receiver. I was fortunate to have found one of those, in the original blue binder, with a complete set of what appear to be

pages of little or no past use – and certainly no abuse. Schematics were not included with the Operating Manual, so any service to the radio required the Service Manual that included such documentation. Also required are the Extender Boards to gain access to adjustment and test points on the boards. The Extender Board Kit for the TR7 Transceiver suffices for the service of the R7 Receiver. The Service Manuals are available as reprints from several sources⁵.

A word of caution to a user of the R7 interconnected with a TR7 in today's world. An oddity of the R7's design is that it includes its own Receiver Incremental Tuning (RIT) control. Be advised that when the R7 VFO is being used to control the TR7 Transmit Frequency, the RIT function in the receiver is disabled. Check the R7 Manual for details in section 3.2. It would seem that this is when the control SHOULD be engaged. When the TR7 and R7 are each controlling their own frequency the use of the control, which would in that mode be available, would be redundant.

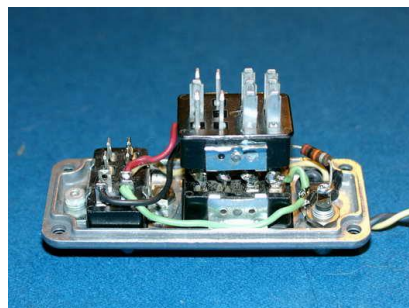
The Digital Readout system in the R7 is useable as a 150 MHz frequency counter. This counter function is engaged with the COUNT button on the front panel of the receiver and connected using the rear panel EX COUNT phono connector.

Late in the life cycle of both the R7 and TR7, Drake supplanted their R7 Remote VFO with a high stability R75 Digital Remote VFO. Like with the RV7 VFO, the RV75 could be brought into the frequency control path by engaging it in TR7 use then using the R7 Receiver under TR7 control – that is, the RV75 is controlling frequency on the TR7 and subsequently the TR7 setup is controlling operating frequency of the R7. As a note from this TR7/R7 station operator, I do not use the RV75 except when running alone with the TR7 Transceiver (that is, the R7 is not connected). I find that the TR7 and R7 VFO's are just as stable as the RV75 for my use on SSB and CW, if as described before, the TR7 and R7 are merely allowed to warm up for 15 minutes.

There is a way to directly connect the RV75 Remote VFO to the R7 Receiver in an adapter Drake made for this purpose late in the production of amateur radio equipment. This involved a Drake Model 1544 Adapter. It reversed the process mentioned above where the RV75 is introduced via the TR7. A clone of this virtually unobtainable adapter (today) is documented on the internet⁶. Here is a picture of the original Drake product and the clone from WB6SSW⁶.



Drake 1544 Original Adapter
WB6SSW



Partly Disassembled 1544 Clone
WB6SSW

Be aware of the fixed frequency (crystal control) limitations as WB6SSW describes them. Like me, I think you will find the limitations of the clone unimportant in today's world.

Special Note: In the 1980's, when I had a different TR7A and R7A combination, I built my own clone of the 1544 Cable. Instead of the box that mounted to the back of the R7/R7A housing the connectors and electronics, I used a separate mini-chassis and handled the connectors with dongle arrangements that plugged into the radio and accepted connections from my RV75 Digital Remote VFO. It worked perfectly. But, alas, the arrangement was confusing with three VFO's (R7A, TR7A, and RV75) and was soon abandoned.

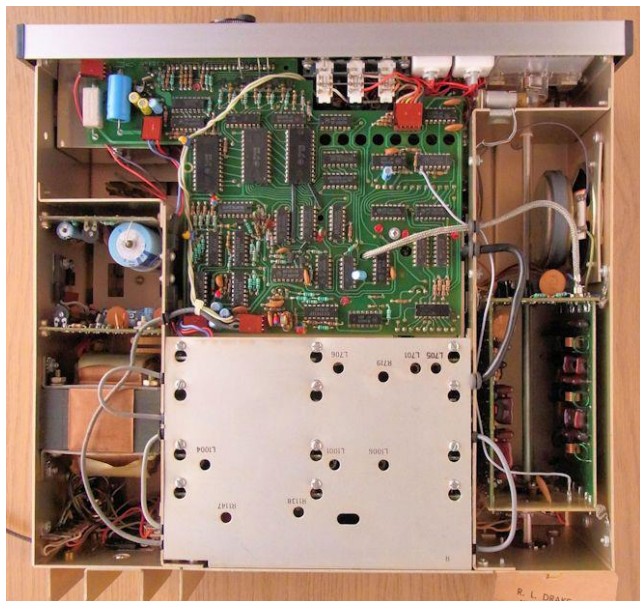
Now a bit of information on band selection on the R7. Look at this illustration and text:



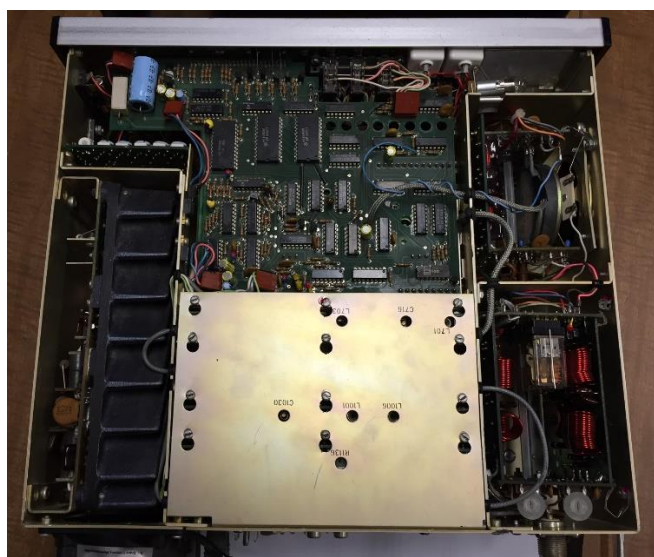
The Drake R7 Receiver has a somewhat odd method to cover the entire HF spectrum with a bandswitch that pretty much switches the traditional amateur radio bands. The 500 kHz bands across the spectrum center on the amateur allocations. Notice to the left that the bandswitch is in the 21 MHz position to cover 21.0 to 21.5 MHz. Pressing the UP or DOWN buttons on the upper center part of the front panel (between the meter and the digital readout) moves the band coverage to a higher or lower 500 kHz portion of the spectrum. Note the yellow color second ring of numbers below the white band positions. Pressing the UP or DOWN buttons allows coverage to be selectable from 15.0 to 22 MHz.

As mentioned earlier in this article, the R7 Receiver in this article has the optional AUX7 Range Program/Fixed Frequency Board installed. While very simplified for explanation, it contains sockets for up to eight immediately selectable 500 kHz ranges in the HF spectrum. The bandswitch needs to be in the correct range position for the module selected. My own AUX7 has range modules to cover the 60-, 30-, 17-, and 12-meter WARC bands. For them to work, the bandswitch would need to be in the 5, 14, 21, and 28.5 positions, respectively.

One last item is to see the difference in interior views of the R7 Receiver and TR7 Transceiver. It further shows the similarities of layout and the way the same mechanical design is used.



R7 Receiver – Front Panel at Top
W9MXQ



TR7 Transceiver – Front Panel at Top
W9MXQ

The interior layout of the Drake R7 Receiver (upper picture at the left) and the Drake TR7 Transceiver (lower picture at the left) is a study of items that are identical or remarkably similar rather than what is different.

Notice the transmitter power amplifier at the lower left side of the TR7. In the R7 that is taken up by the interior power supply. (Recall that the PS7 Power Supply is separate for the TR7 Transceiver.)

The center and upper left areas of the two radios are nearly identical with the majority of the area taken up by the DR7 Digital Readout board. The shielded circuit board area is similar but the hole pattern in the shields is different in a few places. (Not all of the boards are identical.)

The area to the right on both units carries the speaker, toward the radio front (upper right in the pictures). The heavy transmit bandpass filters are absent in the R7 Receiver but present in the TR7 Transceiver.

As already mentioned, the front panels of the two radios are similar – but definitely not identical.

The Drake R7 Receiver that is with me, shown on the first page of this article, was procured from one of the most well-known and capable technicians still doing active repair and alignment focused only on Drake Radios⁷. Finding this R7 is the culmination of a nearly twenty-year search for the right radio. As we collectors often ask each other, “Is the finding up to the wanting?” In this case, the answer is “yes.” The smooth performance of the R7 somewhat runs in contrast to the sometimes-harsh sounding TR7. I cannot quantify that statement. After all, what collector can quantify what he/she likes about the sound of a radio? My only statement is, “I know it when I hear it.”

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 bit more than a proofreader as he often adds commentary that makes it into the article. Bob and I both own several models of Drake equipment – so our discussions focus on what we experience rather than what we read about using these radios.

Credits and Comments:

¹ It has always been my understanding that this internal receiver front end protection circuit could be added as a field modification or as something that could be added with a return to Drake's Service Department. At the time, Drake offered an external protection circuit that they called the Model 3506 RP-700 Receiver Protector.

² The location of this, so called, 9 kHz filter was at the place where an optional SL-4000 (4kHz) or SL-6000 (6kHz) filter could be installed. This "feature" was simply a 470k, 2-watt, resistor connected in place of the optional filter. The 9kHz was good but the skirt was relatively wide – and it did not outperform the SL-4000 or SL-6000 filters. For in the clear AM Stations, it was a capable addition. (Obviously the 470k Resistor does not need to be 2-watt unit. It is that rating because the diameter of the leads allows comfortable insertion directly into the open slots in the crystal filter socket.)

³ This information and the comparison between Drake's Synchro-Phase and Synchronous Detectors come from Peter Gianakopoulos, KE9OA. Reference his article in Google Groups: <https://groups.google.com/g/rec.radio.shortwave/c/2mKDSEMaYH4>

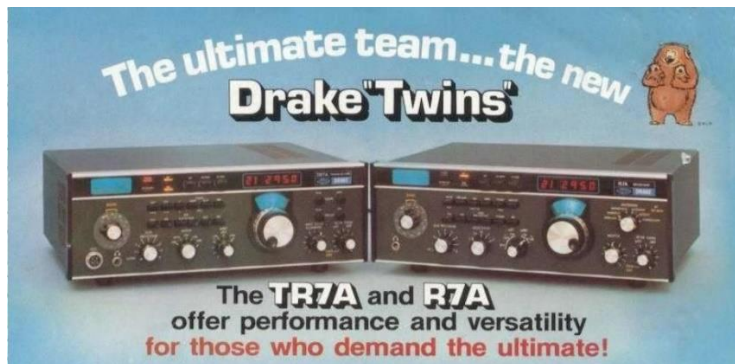
⁴ For details on making a clone of the R7/TR7 Interface Cable Kit, go to this site for a schematic: <http://dl7maj.de/TR7-R7-cable.pdf>. My cable did not come from this schematic – so I cannot testify to its accuracy. A close study of the pinouts on the R7 and TR7 should be more than adequate for most amateur operators to make the cable. It is my understanding that Ron Baker, WB4HFN, makes a clone of the R7/TR7 Interface Cable Kit. Contact him at (<http://www.WB4HFN.com>) for details.

⁵ Before I found an original Drake Service Manual for the R7 Receiver I had purchased one from the Manual Man. <https://manualman.com>. Others may well have the same manual but Manual Man has some of the best reproduction manuals I have ever seen.

⁶ This is WB6SSW - http://www.emmitsfixitshop.com/Projects_Drake_adapter.html

⁷ This radio repair and alignment technician is Ron Baker, WB4HFN. I am pleased to call him my friend. By Ron's permission, I use pictures of Drake radios from his website <http://www.wb4hfn.com/DRAKE/DrakePageHome.htm> when I do not possess the required unit in my own collection. As I do with all other people's pictures and text, I always credit them when their material is used. Ron is also mentioned in Note 4, above.

© W9MXQ



Drake Advertising Brochure from 1981

On The Air!

de Gary Sutcliffe, W9XT



It is May, and the sun is shining, flowers are in bloom, and the air is filled with the sound of lawn mowers. Well, maybe not. Cold and rain are the rule of the day. On the rare days it is not raining, and you can leave the parka indoors, it has been way too windy to do much, at least not anything having to do with antennas and towers. Well, maybe in a few weeks.

So, with the lousy weather, we might as well be in the warm shack heating up the airwaves.

Solar Activity and the bands

The sun has been very active the last several weeks. We have had lots of sunspots, but unfortunately, many of those sunspots cause flares and CMEs (coronal mass ejections). For a while, it seemed we got one every couple of days.

Many were X-class, the strongest of the classes. We get C class flares regularly, but those don't have much effect. M class flares are less common, and the larger M class flares can affect propagation. An X class is going to cause us problems. The scale is logarithmic, so each level is 10X the strength of the next lower one.

X1 flares have been common, and a few X2 bursts happened in the latter part of April. When we get one of those, there can be a radio blackout on the sunlight side of the planet. We have had a couple of radio blackouts, but some happened during our night and didn't affect us. The blackouts occurred in other parts of the world.

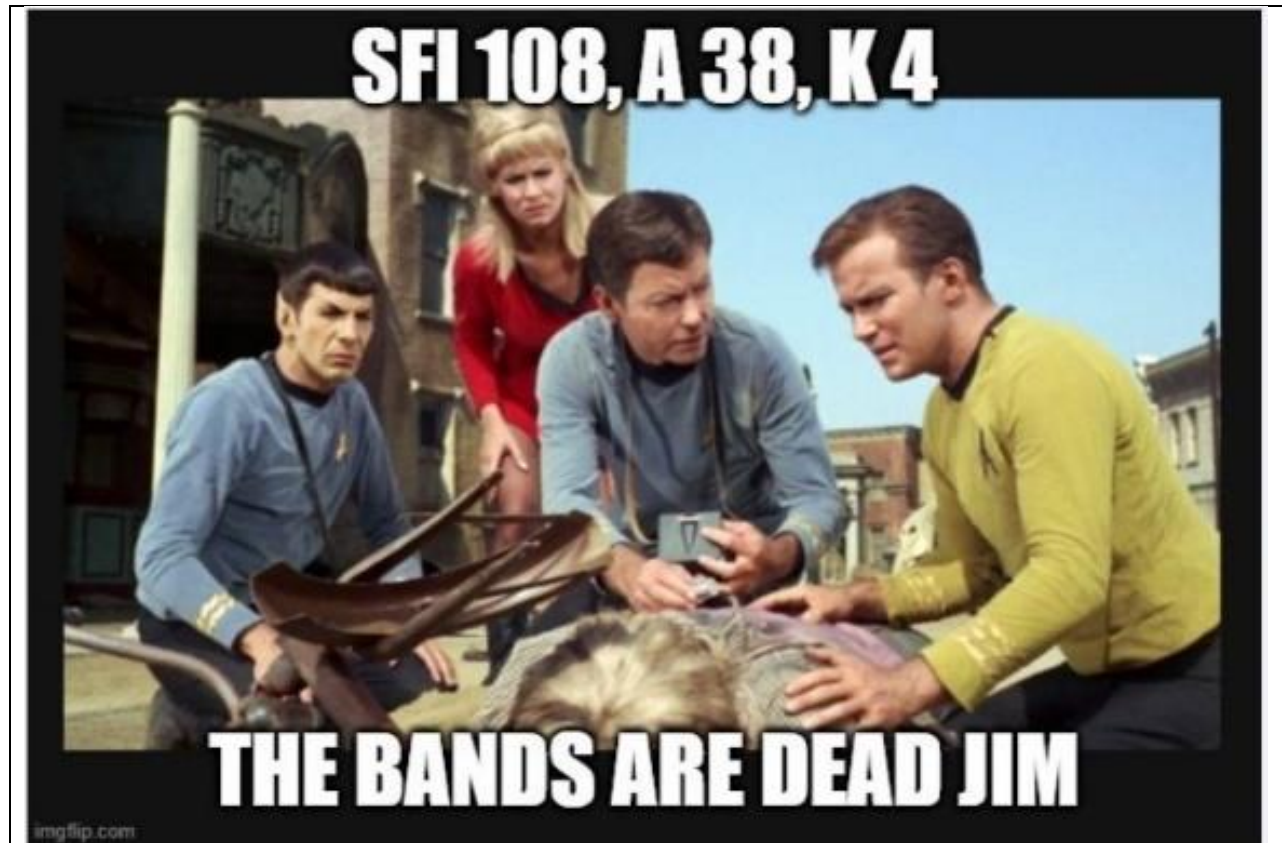
These blackouts, often called SID (sudden Ionospheric Disruption), happen quickly. You might be in a QSO, and suddenly the band goes dead. More than once I experienced one and thought there was a problem with my radio or antenna.

The reason for the blackout is X-rays from the flares cause intense ionization of the D layer. The D layer forms from solar UV light during the day and disappears at night. It is why we can only hear local AM broadcast stations during the day. The D layer absorbs low frequency signals, limiting us to ground wave. This also limits distances on 160 and 80 meters and 40 to some extent. At night, the free electrons recombine with the ions, and low frequencies pass through the D layer to reach the F layers, allowing long distance communications.

X-rays from a flare super ionize the D layer, and absorption goes up through the higher HF bands. The blackout can last a couple of hours before normal propagation resumes. Unfortunately, it does not end with that. We have had solar flux levels in the 160 level. That typically results in excellent HF DX conditions with openings well after sunset to distant locations on the higher HF bands. But flares also send a stream of particles. If

they are aimed at us, they get here in 1-3 days, depending on how fast they travel. This disrupts our geomagnetic field and degrades propagation, especially on polar paths. The results can be with us for several days. When you get a new flare every day or two, just when things start to improve, the next one arrives.

The A and K indices represent the state of the geomagnetic field. Lower numbers are best. The K index is a measurement at a single location and is updated every three hours. If it is 3 or above, conditions will be disrupted. The A index is a global average for the past 24 hours. Once it gets up around 6 or 8, conditions will generally be poor.



There were good conditions on the higher HF bands between the bad periods. Fred, W9KEY, has been working on his 10 Meter DXCC. Gary, K9DJT has added a lot of new 10- and 12-meter countries to his DXCC totals. I have been active on 10 meters for decades and only need a few on that band. DXpeditions will be required for most of them, but I have picked up a few new ones on 12 meters.

Most of Fred's operations have been on FT8. Fred finds the PSKReporter website very valuable. www.pskreporter.info/pskmap.html

You can go to this site and set up your band of interest. It will show a map of the world with stations reporting and the stations they hear plotted with lines between them. It is a great way to see if the band is open to areas of interest.

Fred likes the configurability of the site. He sometimes sets it up so that it only reports stations hearing him. Filtering is all done in a line near the top. Fred relates a time when he was trying to work a station in Georgia, the former Soviet Republic, not the state. The DX had a good signal, but Fred could not work him. PSKReporter showed that no stations in the area were hearing him.

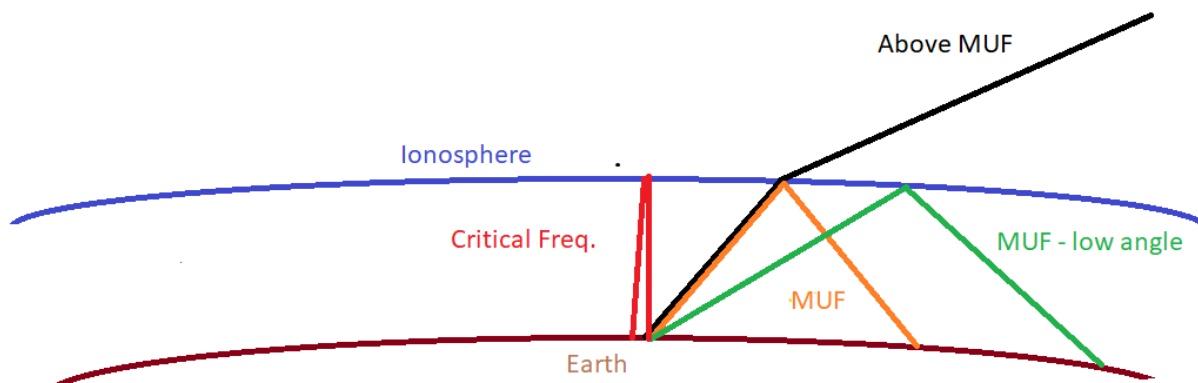
One-way propagation has been a controversial topic for years. Some hams claimed it existed, and some said it did not. However, sites like PSKReporter give pretty good evidence that it does exist. A given station might not hear you because of local noise or some other issue, but if many stations in a region do not hear you, but you can hear them, you become a believer.

If you want to contribute to the PSKReporter site with stations you are hearing, you can go into the WJST File | Settings | Reporting tabs to enable it. It will send a list of stations decoded every sequence.

Gary, N9UUR, has also been active on the digital modes. Gary says he has mic fright, so he concentrates on the digital modes. I believe he has completed WAS on 80-10 meters and needs a few more on 160 and 6 meters, including Hawaii. Hawaii was the last one I worked on my 6-meter WAS. It took me a couple of years to finally work it after getting the first 49.

With a lot of stuff already worked on FT8, Gary is shifting to FT4. FT4 does not dig weak signals out of the noise as well as FT8, but it is twice as fast. I don't understand why, when a band is open, and you can't find a clear frequency, why more stations don't go to FT4. Gary has FT4 WAS on 40 and 20 meters but has a tough time working states on the higher bands.

The higher bands require more ionization than the lower bands to refract the signals back to earth. This is because you need high angle signals to work short distances (red line in the diagram). But if you are transmitting above the maximum useable frequency (MUF), the signals just go out into space like the black line in the diagram. If the take-off angle is low, the signal does not have to be bent as much to come back to the ground, as is shown in the green path. But the hop distance is very long. Essentially, the higher

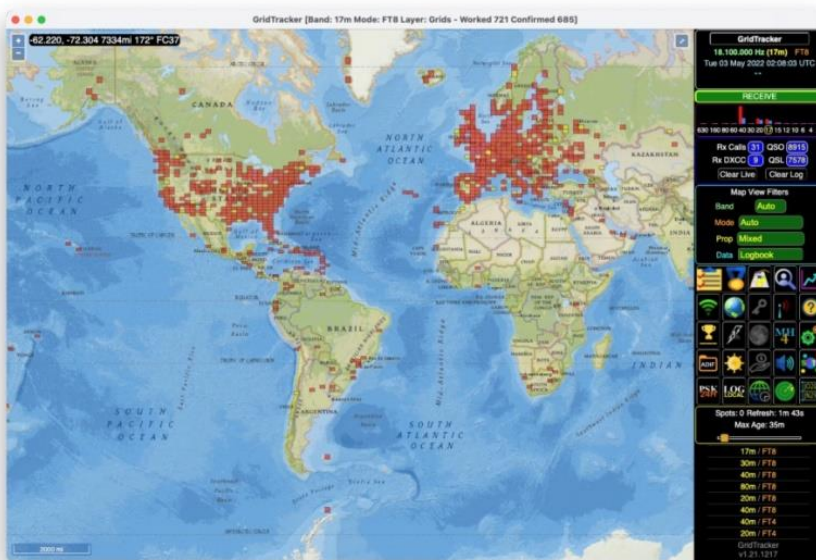


the angle, the higher the ionization needed for a given frequency.

The sporadic E (Es) season will be starting shortly. I have been talking about it on 6 meters a lot in this column because that is often the only propagation mode available on the band.

Those wanting to work closer states on the higher HF bands should be spending their time looking for Es openings. They can appear at just about any time of the day. They might last for a few minutes or many hours and can cover tiny areas or broad regions. Sporadic E will happen more often on the higher HF bands than it does on 6 meters.

Gary, N9UUR, also noted he came from a VHF and satellite perspective before getting active on HF. He was into working grid squares and has carried that interest to HF. He is using a free program called GridTracker. <https://gridtracker.org/grid-tracker/>



GridTracker eavesdrops on WSJT, and Gary has it linked to Aether, an older Mac logging program. This notifies him when a new grid pops up and keeps track of those already worked.

Meteor showers

Last month I mentioned the Lyrids meteor shower in April. Gary, K9DJT, was very active during the Lyrids. Gary reports that he joins a group that meets

just about every morning to work each other via meteor scatter, but others show up during the showers. Gary made 51 contacts during the shower. He worked Wyoming and Maryland for new grids on 2M, and Maryland was also a new state on the band.

There were a couple of rover stations on for the shower. One was hitting a couple of grids in New Mexico that he needed, but he could not make a contact. More distant contacts are more difficult. Gary hopes to catch them this summer on Es.

I was concentrating on 2 meters during it for new grids, but there weren't many meteors when I was on, and I didn't work anyone.

The Eta Aquarids is the next shower, peaking May 6-7 but will continue until the end of the month. The Eta Aquarids are debris from Halley's Comet.

Disturbed geomagnetic fields caused by solar flares and CMEs can cause auroras that create a propagation mode on the 6- and 2-meter bands. CW signals sound like a buzz

saw, and SSB signals get distorted, maybe to the point of being unintelligible. I caught a short 6M opening one night in April during one of the very disturbed periods. I worked a station in northern Wisconsin and heard a station north of Minneapolis calling a station in Montana.

Activity was very light. Maybe too many 6-meter ops are only watching the FT8 frequency. The aurora phase distortion makes the digital modes useless. Slower speed CW is usually the best mode for auroras.

It is not a radio event, but there will be a lunar eclipse on the evening of May 15-16. It will start at about 9:30 PM our time. Totality will begin at about 10:30, and it will end at 12:55. This lunar eclipse is special because it will be in totality for 24 minutes. This will be the longest one of the century.

Upcoming contests and the new ARRL FT8 contest

There is a new ARRL contest for FT8 enthusiasts. For a couple of years, they added FT8 and FT4 as allowed modes in the RTTY Roundup. This was unpopular with many contesters, so the ARRL made a separate contest for FT8 and returned RTTY as the only mode for the RTTY Roundup. That was a good move in my opinion. The new contest debuts on June 4. One interesting thing is this contest covers 160-10 meters, but also 6 meters. Early June is prime Sporadic E season. Those wanting to finish some of the closer states on 10 and 15 meters for their digital WAS might also want to check this one out. Complete rules at <https://contests.arrl.org/ContestRules/Digital-Rules.pdf>

This is a new contest and has some special rules and suggestions. Be sure to read them if you plan to operate it. Also, consider that if you win your class, you, by definition, set the record!

The big contest in May is the CQ WPX CW contest. The idea is to work everyone, and call sign prefixes are the multipliers. I discussed the phone version in the March newsletter. QSO point scoring is complex, so I suggest you read the rules if you plan to operate. The downside of this contest is that it is the Memorial Day weekend. I find it hard to spend a nice spring holiday weekend inside on the radio. But the way it is going, it may be more like a December 160 meter contest outside.

DX

An operation to the Andaman Islands came up without much notice. It went on the air on May 2. I usually don't go into details on operations by a single ham. Many of those are vacations or work-related operations, and ham radio is fit in between other activities. Activity is often very limited, and we don't have propagation when they operate. This one is a serious operation by YL2GM using the call sign VU4W. I have worked him several times on his previous trips to rare locations.

The Andaman Islands is a tough one to work. First of all, the path is challenging from Wisconsin. Second, it is difficult for foreigners to get permission to operate from this is-

land owned by India. There have been some operations, but they have not been very serious for the most part. I only worked it once on 20-meter SSB way back in 1987.

So far, I have seen him on 17-meter FT8, but the world is calling him, with Europe and Japan getting most of the contacts. He seems to be working CW on one band while operating FT8 on another band.

VOACAP predicts the best time to work VU4W will be in the afternoon on 20 and 17 meters. It should peak around 6:00-8:00 PM local time on 17 meters, with 15 and maybe 12 meters on some days. Note this is the definition of a polar path, and if the solar disturbances continue, it could be a washout. So far, we have had three Class M or larger solar flares just on May 4.

Kyrgyzstan has not been very common for several years but has recently become more active. Perhaps part of it is better propagation. Two Russian hams will be signing EX/home calls May 9-14.

Several hams are going to The Gambia in western Africa from May 22 to June 8. They will be on 10, 15, and 20 meters.

Armed Forces Day Cross-Band Test

Hams are allowed to contact US military stations cross band for Armed Forces Day each year. Armed Forces Day is May 21, but the interoperability test is a week earlier, on May 14, to avoid the Hamvention® conflict. They will be transmitting outside the ham bands and announce what ham frequency they are listening.

This is a fun event if you have never done it before. Check out the website for participating stations, frequencies, and times. Most of the operation will be on USB, but some RTTY and CW will occur.

<https://www.dodmars.org/mars-comex-information-website/armed-forces-day>

Wrap up

I had a request to put the contest and DX tables next to each other so that they can be printed on a single sheet and placed next to the calendar in the shack. So, they will now appear together at the end of my column.

That wraps up May. Don't forget that Field Day is not that far away!

<http://www.arrl.org/field-day>

Contest and DX Tables follow on the next page – as a printable, standalone document:

W9XT Contest and DX Calendar

W9XT's contest picks for May and early June 2022					
Name	Start	Length	Bands	Mode	Link
CQ WPX	00:00 May 28	48, work 36 max	160 + HF	CW	cqwp.com/rules.htm
International Digital Contest	1800Z June 4	30 hours, operate 24 max	160, HF, 6	FT4/8	https://contests.arrl.org/ContestRules/Digital-Rules.pdf

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 May and early June 2022					
QTH	Dates	Call	Bands	Mode	Link/notes
Andaman Is	May 2-16	VU4W	160 + HF	C/S/D	https://www.lral.lv/vu4w/
Kyrgyzstan	May 9-14	EX/R5AF, EX/R4FCN	40-10M	C/S/D	
Armed Forces Day	May 14	Various	Various	Mostly USB	https://www.dodmars.org/mars-comex-information-website/armed-forces-day
The Gambia	May 22- June 8	C5C	10, 15, 20	C/S/D	

Modes: C = CW, S = SSB, D = Digital (may include RTTY) HF = 80-10 Meters including WARC

User Notes:

Ozaukee Radio Club Minutes of Membership Meeting. 4/13/2022

de: Ken W9GA, secretary

At long last the ORC meeting returned to the senior center for the first in-person meeting to be held since the COVID pandemic had closed groups gathering for in-person participation. In addition, the technical committee has brought gear to the meeting to support adding a zoom component to the meeting, which was employed by several members who joined in over the internet.

ORC President Pat W9JI officially initiated the meeting at 7:33 PM; and with actual members attending, a go-around was conducted. Zoom attendees were also in attendance but were not addressed individually. After some initial conversation regarding the upcoming Swapfest, some trouble was encountered with the online zoom hookup, and associated computer. W9JI called for a break, and the meeting resumed in earnest at 8:05PM. Commentary included an announcement that Tom KC9ONY had tickets for sale; and Tom W9IPR commented on his use of HRD and his items for sale in a silent auction.

Program:

The program was given by Pat W9JI on updating and renovating an Ameritron AL1500 RF power amplifier. This amplifier was bought used in 2001 and was used for a time, then put aside on the shelf for many years. Pat brought the amp out of retirement and proceeded to update the HV power supply and filter capacitor bank, using one of the W7RY circuit boards as an update. He also found a few modifications that would allow the cooling fan to run with less noise heard from the amp. Other minor updates were added, and Pat fielded a few questions from some of the attendees.

Scholarship Auction:

Stan, WB9RQR held a rather extensive auction, with a ton of items that were offered and sold at our first auction in a long time

Committee reports:

2nd VP: Bill K9GN talked about the need for food items to be provided at the upcoming Swapfest, with a mention of the boy scouts possibly filling that need. Soda and coffee supplies were also discussed briefly.

Repeater: No report this meeting

Treasurer: Gary N9UUR noted that the auction generated \$109.00, and that the scholarship fund is at \$32,891.00. The April treasurers' report was accepted; motion made by KC9FZK 2nd by W9QLP and carried.

Secretary: Ken W9GA reported the April 2022 minutes will be posted; N9VSV moved, WB9AZH 2nd, motion to accept and carried.

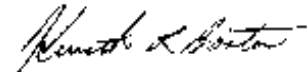
Scholarship/STEM: Tom W9IPR is offering for sale from a list of items from Nels WA9JOB's estate; anyone is encouraged to make a 'reasonable' offer on any item listed if they are not happy with the listed price. Tom also needs help at the barn loading scholarship items for the Swapfest.

OLD business: It was announced that a General class radio course will be starting up on May 7, at W9IPR's location. W9GA announced the winners of the Ham and Turkey of the year, and winners of a couple of additional awards

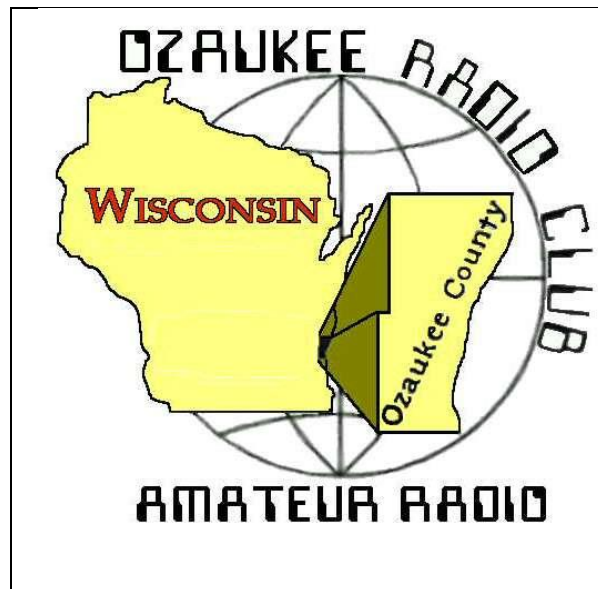
NEW business: There was no new business

Adjournment: WB9RQR moved to adjourn, WB9AZH 2nd, motion carried; time ending was 9:08 PM. There were 22 in-person attendees, 16 Zoom attendees.

Respectfully submitted,



Kenneth Boston W9GA, Secretary



Upcoming ORC Monthly Meeting Programs

de Pat Volkmann, W9JI

May – Carl Luetzelschwab, K9LA – Latest Update on Solar Cycle 25

June – Ken W9GA – Field Day and

Michael WH6ZZ – Everything you Wanted to Know About JS-8, Michael WH6ZZ

July – Field Day Member Reports

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

September - Open

We need some programs for later in the 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

May 11, 2022

- | | |
|-----------------------------------------------------------------------------------|------------------------------------------------------|
| 1. 7:15 – 7:30 PM – Check-In and Introductions | 6. 1 st VP Report:
Ben Evans (K9UZ) |
| 2. 7:30 PM Call to Order:
President Pat Volkmann (W9JI) | 7. 2 nd VP Report:
Bill Greaves (K9GN) |
| 3. Announcements, Bragging Rights,
Show & Tell, Upcoming Events, etc. | 8. Repeater VP Report:
Gregg Lengling (W9DHI) |
| 4. Presentation: Carl Luetzelschwab,
K9LA – Latest Update on
Solar Cycle 25 | 9. Secretary's Report:
Ken Boston (W9GA) |
| 5. President's Update:
Pat Volkmann (W9JI) | 10. Treasurer's Report:
Gary Bargholz (N9UUR) |
| | 11. Committee Reports |
| | 12. OLD BUSINESS |
| | 13. NEW BUSINESS |
| | 14. Adjournment |

**Next ORC Meeting
Planned Hybrid In-Person/Zoom Meeting
11 May 2022**

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