



The *ORC* Newsletter

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Number 9

From the President

de Kevin Steers (K9VIN)



It has been a quiet month in the shack, taking in the last of our summer weather. How in the heck can it already be Halloween season? Speaking of summer weather, I certainly hope that the high winds or heavy rains did not impact any of your radio equipment, etc. It is heartbreaking to see an entire basement's contents stacked on the terrace for trash pickup.

I was not able to attend the Lighthouse Day, where hams around the country, and the world, try to contact lighthouses, and vice versa. Lately it has been a joint effort with LeFrog, and we operate next to the lighthouse in Port Washington, high above the harbor. Weather was good, and it was a great opportunity to bring the family, and listen along or jump on the air, using the Club's call sign. Be sure to put it on your calendar for next year, in early August.

The Fall Swap was this past weekend. I want to thank Tom Ruhlmann W9IPR for all of his leadership through these perennial events. I also want to thank those that showed up early and volunteered as parking attendants, table movers, food and coffee vendors, ticket sellers, and of course manning the tables for the scholarship fund sales.

I also want to thank those that stayed late to help to unload up at the barn. The day brings a bit of hard work, but also fellowship that is hard to come by in this day and age.

Get your antennas shored up folks, winter is a-comin'.

73, K9VIN
Kevin

DX'ing & Contesting

De Gary Sutcliffe (W9XT)



As we move into September and the equinox, HF conditions start to improve. When we have sunspots, it is good to start seeing 10 and 15 meters starting to open into Europe and the Far East. Since we are in the bottom portion of the sunspot cycle, we can't expect much out of those bands but the lower bands will improve as we have longer hours of darkness and QRN from thunder storms declines.

How do you know when certain bands are going to be open? Certainly, if you are very active for many years, you will have a good feel for it. What if you don't have that experience?

There are several computer programs available that do propagation forecasting. You enter information like the station location(s), solar conditions, dates & time, frequencies, etc., depending on the program, and you will get charts, maps or other information on the best times to operate.

Some of the more popular programs are Ham Cap (<http://www.dxatlas.com/hamcap/>), W6ELProp (<http://www.qsl.net/w6elprop/>), and VOACAP. You can download VOACAP, but the easiest is to run it off the web at <http://www.voacap.com/>. This last site also has links to download it if you choose.

A new one that I have not had a lot of time to play with is ITURHFProp. It is a web site that you can go and set up to the end points you are interested along with station info like antenna and power. Then you can select from several different outputs. It is worth spending some time playing with this one. <http://www.predtest.uk/>

Keep in mind these are predictions. Some of them will give you predictions for the month. It is sort of like getting a prediction for the weather for the month of September. You will get the average highs and lows, the number of inches of rain, etc., but that might not be accurate for what will actually happen on September 16.

Last month I went to the Society of Midwest Contesters annual SMC Fest. It is a must-attend event for contesters. Besides myself, ORC members K9DJT, W9GA, and W9MXQ attended. I gave a presentation on antenna signal take-off angles, and how they relate to the arrival angles of the signals. You might get 10 dB gain from your beam, but you can lose 20dB if the signal is arriving at the wrong angle.

The PowerPoint slides for this presentation are posted at www.w9xt.com. Go to the bottom of the ham radio page. There is a section for talks I have presented. It is the first on the list. The slides for my August ORC talk are also located there.

Speaking of my August presentation, while I was giving it, there was a widespread power outage for parts of Dodge, Washington and Ozaukee Counties. Power was restored by the time I got home. We have the TV, phone and Internet package from the cable company. The phone and Internet were out when I got home. The phone came back by morning, but not the Internet. Because the outage was so wide, the cable guy didn't show up until late Saturday afternoon. When the cable guy finally arrived, he measured the signal going into the house. It was over

20dB below spec. He said that the cable to the house went bad and started to lay out a new one. It is over 300' between the box at the road and the house (which he said was longer than the limit).

Having messed around with coax cable and RF signals on them for nearly 50 years in ham radio, I suggested he check the output of the box first. It was not putting out the power it should. The experience of troubleshooting antenna systems saved some wasted effort with the cable system. Unfortunately, it took over a week for the cable company to find the real cause of the problem. There was a Tee connector way down the road that failed. Like the Tee coax connectors we use, these used a spring mechanism to make the 3rd contact. These are always a source of failure in cheap connectors. In this case, the plastic housing holding the spring-loaded pin cracked, and the pin was not making a good connection. It had been underground for probably 20 years, and they had long ago switched over to a newer design.

I mentioned in last month's column I planned to work some meteor scatter during the Perseid meteor shower. Unfortunately, without the Internet, I could not set up schedules so I didn't get a chance to do it. I did listen a bit on the 6M calling frequency. There was a lot of activity and lots of stations making contact, but my primary interest was 2M.

DXpeditions pick up a bit in September. The one I am most interested in is Kyrgyzstan, with the call EX0PL. A large group of hams from Poland will be putting this on until September 10. I don't have a lot of information on this one, but only have it confirmed on one band, so I hope to work them on several bands.

Mayotte will be activated by a group of Czech Republic hams from September 21 to October 6. They will be using the call TO6OK. Operation will be on 160-10 meters, CW, SSB, RTTY, and FT8.

A group of mainly Italian hams will activate 9X0T from Rwanda from September 26 to October 10. They will use the call 9X0T on 160-10M, CW, SSB, and RTTY. 9X0Y will be active on 20M FT8 only.

VK9XT (you have to love the call!) will be active from Christmas Island September 29 through October 6. 160-10 meters, CW, SSB, and digital. Christmas Island is another anomaly in my log book, only having confirmed on 20 Phone from back in 1985.

As usual, there are a few single ham operations. Mostly they are holiday style and working them requires being on the air when they decide to operate.

The September ARRL VHF Contest is September 8-10 (UTC). Work other stations on the VHF/UHF bands and give your grid square for the exchange. This one does not start until 1:00 PM local time, so you have plenty of time to go to the ORC hamfest in the morning and still get home in time. Rules at <http://www.arrl.org/september-vhf>.

The other big contest is the CQ WW RTTY DX contest. It runs September 29-30. These are UTC dates, so it starts on Friday night at 7:00 PM local time. You can use the 80-10 meter bands. Unlike the CW and SSB versions of this contest, you can work US stations for QSO points. These are worth one point each. Contacts with non-US stations in North America are worth two points, and stations outside North America are worth three points.

Stations other than US or Canadian stations send a signal report and zone. The rest of us will send the signal report, zone, and state/province. (599 04 WI for us). The multipliers are the sum

of countries, zones and states per band. There are many operating classes based on the number of ops, power level, assisted/non-assisted, etc. Rather than taking the time to go over them here, check out the complete rules at <http://www.cgwrrty.com/rules.htm>. If you are interested in increasing your RTTY country totals or finishing up digital WAS, this is a good opportunity.

The annual W9DXCC convention in the Chicago area is on September 15. This is a bit event for DXers in the Midwest. <http://www.w9dxcc.com/>

That wraps up September. As summer ends, the radio season begins.

THE COMPUTER CORNER

No. 247: Adware

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We have all seen it. You go online with your favorite browser, and suddenly, ads slide in from the sides, pop up over what you want to see, and generally act to distract you from your intended task. Sometimes they bug you so much you forgot what you intended in the first place because of their incessant intrusions and your efforts to close them. These are ads by advertising supported software, or adware for short.

So, this is unwanted advertising, thrown on your screen without your permission or consent. As an aside, the definition for a computer virus put forth many years ago is a program that does something to or with your computer without your permission or consent. So, we are really dealing with a type of program that has been around for a long time – a computer virus. There are just a couple of differences between a virus and adware.

A computer virus is a bad actor that often damages your data or programs, sometimes even when that was not the writer's intent. Adware is out to flash unwanted ads in your face, thus generating revenue for the developer. In other words, people write programs to infect your computer with popup ads, and they get paid for doing it. You may see ads for bogus miracle weigh loss schemes, warnings about your virus-infected computer (when it really isn't infected with anything other than the adware), phony dietary supplement ads, and the like. Some would say that it is just good, old fashioned advertising, but it is not. Anything done without your express consent and permission should be illegal and not supported. If it were up to me, I would levy a \$100 fine on the advertiser for each instance of an unwanted popup displayed without permission. That would help stop it!

Signs that you are infected with adware (thanks to Malwarebytes for this list, and for solving some of the problems of adware and other viruses):

1. Advertisements appear in places they should not be.
2. Your browser homepage has changed without your permission.
3. Web pages you visit are not displaying as they typically do.
4. Clicked links take you to unexpected sites – different than you expected.
5. Your browser slows down markedly.
6. Your browser suddenly sports new toolbars, plugins or extensions that you did not ask for.
7. Your machine starts automatically installing unwanted software packages.
8. Your browser starts crashing a lot.

How did you get infected? One way is to download an infected program (the same way you can get infected with a virus by downloading an infected program). The other way is called a **drive-by download**, wherein just visiting a site lets the adware burrow in to your machine without your permission. Either way, you are hooked.

What to do? First, install an anti-popup program into your Firefox, Chrome or other browser. Adblock Plus, Adblocker Ultimate, DuckDuckGo Privacy Essentials are free and easy to incorporate into your browser. Another solution is to clean your machine, kill any existing infections. For a simple adware removal tool, install and run AdwCleaner by Malwarebytes. For the ultimate answer, install and run Malwarebytes Antimalware (free) and run a scan. It will find any PUP (Potentially Unwanted Program), including those that feed ads, and will clean them all up. Its free for 14 days and will watch your back automatically during that time. After 14 days, it still works just as it did before, but you must run it manually each time. Pay their fee and you have the professional version that is totally automatic (I did!). It will prevent future infections, even as you browse. Go to majorgeeks.com for any programs mentioned in this article.

So, fight back! Kill those pain-in-the-rear ads, all of them. The computer belongs to you! Happy Computing!

September QST mag features ORC

de Tom Ruhlmann, W9IPR

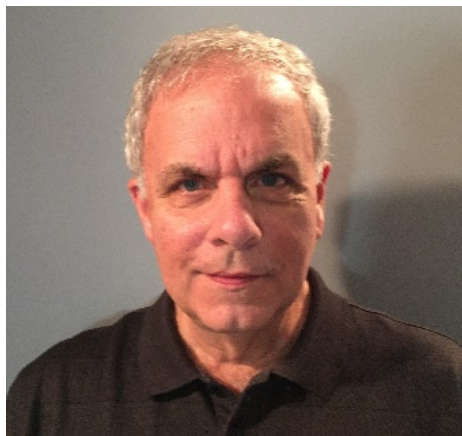
I hope you are an ARRL member and got the September issue of the QST magazine. This issue has 145 pages and the ORC is prominent on three of them. On page 100 is a photo of Emily Palm (KC9VEM), who is the 2018 recipient of the ORC \$2000 scholarship. She was also awarded the scholarship in 2017. More on that next month.

On page 103 is a review of the book “Ham Radio is Alive and Well” as authored by ORC past president Gary Drasch (K9DJT). Gary has done a great job on this book and it is a great read for the experienced and new Ham as well. I really enjoyed it. He brought back many memories and introduced me to the digital modes as well. Again, it is a great read and I am sure he can provide copies upon request or you can purchase it via Amazon.

On page 104 is reference to an article in the September 1993 issue (25 years ago) of QST titled “The Contest Card” as written by ORC contesting columnist Gary Sutcliffe (W9XT). Gary is a retired electrical engineering now but has his own small company providing voice/CW message keys, K9AY receiving antenna termination switching units, LED lighting for rotors and a variety of other interesting products.

Vintage Amateur Radio

de Bill Shadid, W9MXQ



The introduction of the original Drake R-4 Receiver and the T-4X Transmitter proved to be a big success for the R. L. Drake Company. The R-4 Receiver developed into the R-4A and then the R-4B models with incremental improvements. At the same time, the transmitters moved from the original T-4X Transmitter (which was marketed both with the R-4 and the R-4A) and later the T-4XB Transmitter to match up with the R-4B Receiver.

The “B” series receivers and transmitters all used the technology Drake introduced with the front-end crystal filter supplanted with tuned circuit filtering for final bandwidth control. This technology reached its best performance examples in the R-4B and T-4XB. We affectionately know this final version of this set as the Drake Twins, or specifically, the “Drake B-Line.” We use these references to this day. Drake had developed the standard Noise Blanker in the R-4 line to its furthest point in the R-4B. But, times were weighing in on the Drake Twins and something had to be done to keep them competitive.

Drake’s response to the demand for a new radio resulted in one of the most respected and well-designed radio receivers and transmitters of the time. The receiver performs well even today – that is, up to the limitations now solved with microprocessors and totally solid-state circuitry. Enter the revolutionary, Drake R-4C Receiver and T-4XC Transmitter. Hands down, the star player in this pair was the receiver, the R-4C.



**Drake T-4XC Transmitter and R-4C Receiver
with Drake MS-4 Speaker Console**

W9MXQ Radio Collection

The R-4C Receiver turned out to be a very expensive product for the time. So, for Drake to place it in a competitive position, they made many features optional that had been standard equipment with the R-4, R-4A, and R-4B. But, at the same time, the optional components that were added to the base radio made it superior to its predecessors. The options included a Noise Blanker and a wide selection of Bandwidth Filters.

The optional Bandwidth Filters were Eight-Pole Crystal units following the standard crystal front-end (roofing) filter. These very effective units replaced the wide skirt tuned-circuit filters in the earlier R-4 versions. These filters were available in 250 Hz, 500 Hz, 1500 Hz, 4000 Hz, and 6000 Hz bandwidths. Including the standard SSB filter, the R-4C could hold a total of five filters. (Very early R-4C radios held only four filters.) The R-4C that resides at W9MXQ is equipped with the SSB Filter, a 4000 Hz filter (Wide SSB and AM use), a 1500 Hz filter (Narrow SSB and RTTY use), a 500 Hz filter (CW and RTTY), and a 250 Hz filter (CW).

Like the original T-4X and T-4XB Transmitters., the T-4XC used separate eight-pole crystal filters for USB and LSB SSB generation. Drake used Crystal Filter SSB Generation as did most companies in early SSB – only Hallicrafters used Phasing SSB Generation of the major producers – but only in their very early SSB radios. Collins used Mechanical Filters which equate more with the Crystal Filter process than the Phasing process.

The R-4C Receiver had an optional NB-4 Noise Blanker that far surpassed the standard equipment Noise Blanker incorporated into the original R-4, R-4A, and R-4B Receivers. The NB-4 was able to be effective on a much wider variety of noise than the earlier examples. This included acceptable performance against the Russian Woodpecker and some types of power line noise not eliminated by the earlier receiver noise blanker circuits. The NB-4 was an outgrowth of the very effective 9-NB Noise Blanker that was optional on the Drake TR-6 Six-Meter Transceiver.

In my opinion – shared by many – the Drake R-4C Receiver with its variety of Filters and the Noise Blanker provided a communication tool far advanced, in many ways, to all its competition. In fact, I know of at least one personal acquaintance in the local DX Community still using the “Drake C-Line” as his main station for working DX. His choice is still shared by many. As my future article on the much-praised Drake TR7 Transceiver will point out, the Drake R-4C in combination with the Drake T-4XC was never surpassed by its replacement “7-Line” product line in down and dirty, drag out the weak signal DX operation. Both the “C-Line” and “7-Line” designs exist at W9MXQ and I concur with this feeling – without reservation.

All Drake “4-Line” Accessories were used with the Drake R-4C Receiver, T-4XC Transmitter, as well as the Drake TR-4C series Transceivers of the day (as well as the earlier models in the “4-Line” designs). Shown again with this article are the popular accessories of the time. . .



MS-4 Speaker
(AC-4 Power Supply Inside)



W-4 Wattmeter



MN-4 – 300 Watt
Antenna Matching Network



L-4B Linear Amplifier
(2x 3-500z Eimac Tubes)



MN-2000 – 2000 Watt
Antenna Matching Network

Pictures from the W9MXQ Radio Collection (MN-4 Picture from WB4HFN)

The MN-4 Antenna Matching Network has a rather interesting history. Late in the product life cycle of the “C-Line” radios, Drake introduced the TR7 line of transceivers and other “7-Line”

products. In that line there were also Antenna Matching Networks including the 2000-watt MN2700 and the 300-watt MN75. To accommodate buyers of accessories for their still new Drake "C-Line" twins (and the TR-4C series transceivers) Drake made a version of the MN75 Antenna Matching Network to match the R-4C, T-4XC, and the TR-4C. It was the MN-4C. Look at these pictures for comparison . . .



Drake MN75 Antenna Matching Network designed to match the Drake TR7 Transceiver series of products. It had a capability of running 300 watts SSB/CW input power from the radio.

Drake MN-4C Antenna Matching Network designed to match the Drake "4-Line" equipment. Electrically it is identical to the MN75. Note color and cabinetry to match the "4-Line" equipment.

Photos: WB4HFN

Antenna Matching Networks (Drake's fancy terminology for "Antenna Tuner") were very popular products. As the TR7 and its separately styled accessories were introduced, there was determined to be a need for a matching antenna tuner for recent, or earlier, buyers of the Drake "4-Line" separates or the TR-3 and TR-4 series of transceivers. Ultimately few of these seem to have been made – or at least few reach the used market, today. That said, even the original MN-4 Antenna Matching Network is difficult to find. More will appear on the MN75, and its higher power sister, the MN2700, in a later installment.

Note: You may see here a slight model number issue that would appear to be a typo. It is not. Drake used a dash in its model numbers through the "4-Line" equipment. So, the receiver and transmitter were the R-4C and T-4XC, respectively. The transceiver was the TR-4C. But, with the introduction of the "7-Line" this changed, and the dash was omitted. So, while the TR-4C used a dash in its model number, the TR7 did not. This extended to the accessories. So, the MN-4 became the MN75, for instance. Drake remained true to this system and when they made the MN75 into the MN-4C they put the dash back in its place.

Other accessories were also used with the very popular Drake "4-Line" Receivers, Transmitters, and Transverters. By the time of the new "C-Line" radios, however, the line of transverters had vanished as strong contenders for weak signal VHF/UHF stations (SSB and CW – and later, Data) radios with very high performance began appearing from Japan. Interestingly, however, transverters have remained popular from European manufacturers.

In many ways, the Drake T-4XC Transmitters differed in only small items from its earlier versions, the T-4X and the T-4XB. It still used a pair of the 6JB6 final amplifier tubes and ran an input power of 200 watts PEP SSB and CW – netting 100 watts, nominal, output on both modes.

The Drake transmitters in this series had a good quality AM modulator incorporated so the T-4XC (along with the T-4X and T-4XB) could produce a relatively good quality AM signal.

The R-4C Receiver inherited the inductively tuned VFO (more properly said as “PTO” for Permeably Tuned Oscillator) from the earlier versions of the receiver. As mentioned in the previous article on these twins, the Drake radios (like the Collins radios of the time) lacked multi-stage variable capacitors for tuning individual stages in the radios. Again, inductive tuning was used with a rack assembly tuning all stages at once ganged to the PRESELECTOR control on the receiver and the RF TUNE control on the transmitter.

Drake R-4C series receivers continued the use of PASSBAND TUNING that was featured in their earlier receivers. This was much more effective than the Q-Multiplier used by others. Like the earlier Drake R-4 series radios, the R-4C included a NOTCH filter in addition to their very effective PASSBAND TUNING. The PASSBAND TUNING was more effective in the R-4C due to the much sharper bandpass filters in the i-f system.

The Drake R-4C and T-4XC were essentially general coverage and could transmit and receive continuously from 1.5 to 30 MHz in the HF spectrum.

Note: There were some work-around issues close to the system i-f in the 5 MHz area. It is difficult – but not impossible – to use these radios on the 60-meter band.

In addition to great strides in i-f filtering and noise control in the R-4C Receiver, Drake made significant strides in the incorporation of solid-state circuitry in both the R-4C and the T-4XC. They also made a significant upgrade in the dial readout mechanical system making it much easier to read frequency. This feature also spread to the TR-4C series Transceivers. Frequency readout on the “C” series radios was much easier and more precise. Time was running out for vacuum tubes at Drake – the R-4 had 13 tubes that progressed to 6 tubes in the R-4C. The balance of the circuitry had moved to solid-state devices by the time of the R-4C. The T-4XC also benefited from this shift. All this allowed for lower current consumption and less heat as the line progressed through its life cycle.

Separate receivers and transmitters – models that could be interconnected to allow for transceive operation – were becoming rare when the “C-Line” was released. Kenwood and Yeasu also had separate receivers and transmitters in that time frame, but the Drake system was on the market after Kenwood and Yeasu left the scene and focused totally on transceivers. Use of these separate (receiver and transmitter) systems required a lot of interconnection. The VFO systems had to be switched between receiver and transmitter. Lower level i-f systems were interconnected to provide for best on frequency performance between the two radios, as well as transmit/receive antenna switching, indicator lamps to show which VFO was active, etc. The “C-Line” had simplified these interconnections compared to the earlier Drake “4-Line” separates but did require interconnection for. . .

1. Mute Line – allowed for receiver standby during transmit.
2. Anti-VOX – allowed for low level receiver audio to inhibit transmission caused by receiver audio.
3. Injection – Connects the R-4C Premixer System to the T-4XC.
4. Carrier Oscillator – Provided a means of connecting the T-4XC Carrier Oscillator to the R-4C. This phase locked the two units to insure same frequency operation when transceiver operation is used on either VFO.
5. PTO Lamp – allowed for the VFO in use to illuminate showing which was in control of operating frequency.
6. Antenna – this connection feeds the antenna line from the T/R relay in the transmitter.

There are other connections for the system, such as antenna input to the transmitter, ground, and all the items we are used to seeing. But, this was the beginning of the end for the separates concept – replaced by sophisticated transceivers with dual receivers (and more than “dual” these days) and the need for only an antenna and ground connection as well as a microphone and/or key.

We cannot leave the transition to the “C” series Drake radios without details on the improved dial mechanism and the change in front panel design.



R-4B (common to the R-4 and R-4A) front panel showing the tuning dial with the single clear disk handling tuning to 25 kHz marks. Note then the main tuning knob with 1 kHz registration marks – 25 of them on the knob skirt. Calibration of the 1 kHz dial skirt required moving the knob while holding the skirt in place to zero against the calibrator. The 25 kHz upper dial window readout is adjusted using the red lever to the right of the readout.

Notice the trim (satin clear aluminum) around the edges of the front panel. That feature is missing on the R-4C Receiver, below. This difference is present on all “C” series radios – and later accessory pieces. For instance, the MN-2000 Antenna Matching Network front panel changed after the introduction of the “C” series equipment.



R-4C front panel showing the dual disk clear dials for the readout. The 1 kHz marks are on the front clear disk while the 100 kHz markings are on the rear of the two clear disks. Holding the unmarked skirt of the tuning knob while turning the main dial allows for adjustment of the correct frequency. You can see that both units provide measurement accuracy to better than 1 kHz, but with the R-4C, one merely watches one readout area (vs. two with the R-4B).

Upper Picture: K9VSK
Lower Picture: W9MXQ

Knob layout changes rather significantly between the R-4/R-4A/R-4B and the later R-4C. Efforts were made with the R-4C to use any filter with any mode. Mode and AGC settings were more flexible with the R-4C than with the earlier receivers. Separating the common shaft Bandwidth and Passband Tuning controls on the earlier receiver with separate controls on the R-4C cause the R-4C to combine the AF and RF gain controls onto a concentric shaft. These were separate controls on the earlier receivers. My personal feeling is that the position of those controls – especially the AF Gain control – on the earlier receivers – was better ergonomics. Not all R-4C users would necessarily agree with me on that point, however.

The R-4, R-4A, and R-4B Receivers allowed for 10 extra 500 kHz coverage ranges between 1.5 and 30 MHz – in addition to the five crystals covering the 80, 40, 20, 15, and 10-meter bands. (Note that 160 meters appeared on the main band switch, but its range crystal must be accessed from the accessory 10 optional crystals.) The R-4C was similar but had 15 accessory crystal positions. The T-4XC was also general coverage but had only 4 accessory crystal positions in addition to the standard ham bands. This was identical to the accessory crystal availability on the T-4X and T-4XB.

During the run of the “C-Line,” Drake introduced a rather revolutionary accessory, the FS-4 Synthesizer. The unit provided output for all necessary injection frequencies allowing the R-4 and T-4X series radios to run from 1.5 to 30 MHz. The FS-4 could feed the receiver and transmitter simultaneously – so only one unit was required. This now very rare accessory would also be made to work (with an internal oscillator crystal replacement) with the Drake SPR-4 and Drake 2C Receivers).



W9MXQ Photo

This FS-4 is part of the “C-Line” station at W9MXQ. Today the FS-4 units are very hard to find for sale. The unique crystal required for “4-Line” receivers and transmitters is no longer obtainable so an FS-4 buyer must be certain that the unit is not setup for SPR-4 or 2C receiver use. This is rarely easy to determine because in many cases the FS-4 units are traded repeatedly, and the seller has no idea of its internal set-up.

Those familiar with the R-4C Receiver know that there were at least four changes in the radio over its life cycle. One of them, the third of the four (that we know about), involved an additional position for selectivity options, a changed front panel, and the addition of a crystal filter position on the radio’s chassis.



The upper picture (to the left) shows the original R-4C front panel. Near the upper center of the panel you will see the Mode Switch with four position for AM, SSB, CW 1, and CW 2.

The lower picture shows the later (after the third revision) R-4C where the Mode Switch has five positions for AM, SSB, CW 1.5, CW 500, and CW 250.



In the later receiver the CW positions relate to specific filters. The CW 1.5 position is very handy for “Narrow SSB” reception in times of heavy QRM.

Upper Picture: W9DYQ
Lower Picture: W9MXQ

The four updates that are known to us today involved other significant changes that were not always visible. Many updates involved improvements in i-f capability. Some involved mechanical changes inside the radio that improved inter-stage shielding. Looking at a top view of the inside of an early and late R-4C shows much added shielding over the entire i-f tuning area in the center of the chassis.

Much of what you read in my previous article about the R-4, R-4A, R-4B and the T-4X and T-4XB relate also to the R-4C and T-4XC. And, small pieces of the previous article are repeated here. Most important of that repetition is the picture below that appears on the WB4HFN website for Drake radio collectors and appreciators. He says it all in this picture that chronicles all lines of Drake radios – so it is worth repeating . . .



<http://wb4hfn.com/DRAKE/DrakePageHome.htm>

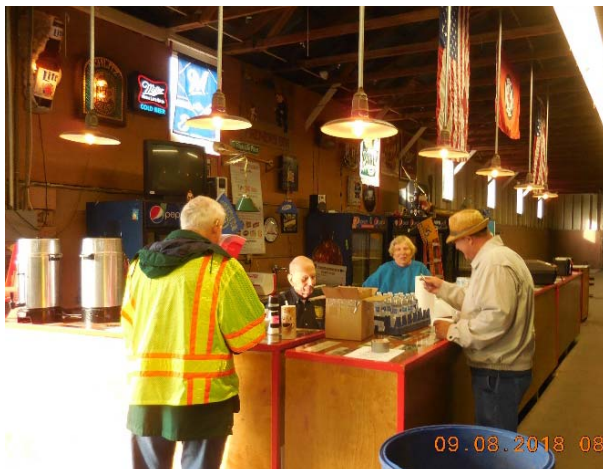
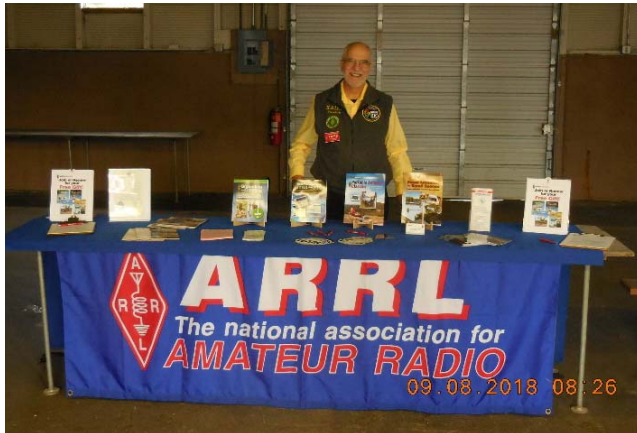
I appreciate that you read my articles. Remember that I am open to questions and comments at my email address, W9MXQ@TWC.com.

Thanks to W9DYQ, K9DJT, and KC9PIF who have proofread this article.

ORC Fall Swapfest – a great success

De Tom Ruhlmann (W9IPR)

Great weather, great facility, great coffee & pastry, great buys on great equipment, great conversations and great help – what more could we ask for? The 13th annual ORC Fall Swapfest was a real success and we had good attendance as a result of the good weather and no event conflicts.



Pat, (W9IRB), our ARRL section leader was here and he brought a few Technician License Manuals to support our upcoming license class starting Sept. 15th. The attendance was our best yet with two rows filled with vendors and the browsers' parking area was full. Bill Church, Nels Harvey and Pat Ruhlmann did a great job pushing the coffee and pastry while Mike Harrington handled all the announcements and drawings. It was a great time, ending at noon, and we put approximately \$440 in the club treasury and \$490 in the scholarship fund account.

My special thanks to Jim Albrinck who arranged for the park and handled the event gate ticket sales, and the following others who helped in so many ways and made the event a success:

Ed Rate, Ken Boston, Gary Sutcliffe, Tom Trethewey, Loren Jentz, Mike Harrington, Bill Church, Nels Harvey, Ben Evans, Bill Schnell, Robert Eskola, Tom Nawrot, Kevin Steers, Stan Kaplan, Nancy Stecker, Kristian Moberg, Dick and Kate Holt, Curtis Smith, Vic Shier and Pat Ruhlmann.

International Lighthouse Lightship Weekend 2018

de Tom Trethewey (KC9ONY)



On Friday, August 17, 2018, members of the ORC and LeFrog radio clubs gathered in the rain to load up LeFrog equipment for use for the International Lighthouse Lightship Weekend. It wasn't supposed to rain as much as it did. We were delayed by about 90 minutes, but the rain finally stopped.

Surprisingly, it was not as wet in Port Washington as it was in Cedarburg. We started around 2:30 pm, with the sun coming out, and under warm, muggy conditions. Setup finished about 5:30 pm, thanks to Loren N9ENR, Tom AA9XK, Steve W9MCU, and Mark AB9CD, the tower was put up safely and antennas tested. We also set up an area for 1.2 GHz and UHF D-STAR.

Saturday morning, the band conditions were not in our favor. We had a tri-band beam (10/15/20m) and were not making many contacts. The D-STAR tent was using 1.2 GHz to access the internet, though we had already downloaded the database for the HF logging into the N3FJP's Amateur Contest Log program. It worked great. Around 4:30 pm, things started to pick up. We had planned to stop at 5 pm, but thought we'd let the operators continue for a while. About 25 contacts were had, including DX to Spain and Italy! This was Fred W9KEY's first time at the lighthouse event as well as not having logged with anyone before. He also did some operating. It was close to 8 pm, when they finally pulled the plug. Radios were packed up, as we did not have a place to store them overnight at the lighthouse as in the past. The weather was a bit warm, but thankfully, no rain.

Sunday morning, another first-time lighthouse operator and new ham Robert K4WTH arrived with donuts and orange juice. Again, conditions were not good on 20 meters. Stan WB9RQR was with Robert, and Stan only made one contact. He said 40 and 80 were much better, but we only had the 10/15/20 beam. The D-STAR tent became a rag-chew area, which was fine because in the past, if others were talking near the HF radio, it was hard for the operators to concentrate. The North American QSO Party was going on, so it was hard to grab a frequency.



Things picked up after the Collins Net around 11 am or so. Lighthouse "rookies" Robert K4WTH and Fred W9KEY started to get a pileup going. Apparently, someone had "spotted" us on a spotter's website. Both Fred and Robert said it was exciting and seemed to be having a great time, so we decided to let them continue while we tore down the D-STAR tent. They went until about 1 pm, when another Net came up 500 kHz away, and the QRM caused them to stop. That was good, as it takes time to safely take down the

tower, and pack things up. I believe we were finished at the 1860 Light Station by 4:30 pm or so. After that, we had to get back and unload the tower sections and radio gear.

Overall, we logged 96 contacts, which was less than in some previous years, but I would still say it was a success. Everyone who attended said they had fun, whether it was operating, rag-chewing, or helping with setup and teardown. Thank you to Tom AA9XK, Robert K4WTH and Amanda, Mark AC9CD, Steve W9MCU, Loren N9ENR, Kate KB0SIO, Dick AB0VF, Fred W9KEY, Roland KB9TMB, Tony AB9PN, Greg KB9BU, Bill AC9JV, Tom W9VBQ, Stan WB9RQR, Nancy KC9FZK, Julia KB9WBQ, and Nels WA9JOB for coming out to support, operate, rag-chew, and help make this a fun event.

Wisconsin Parks on the Air debuting Sept. 15th

Have you heard about the first annual **Wisconsin Parks on the Air?**

It's coming on Saturday, September 15, 2018 from 11 am - 6 pm.

For the flyer, contest rules, WIPOTA park designations, a list of all parks in the Wisconsin Park System, and activated (participating) parks, see <http://wipota.com/>.

"The purpose of the Wisconsin Parks on the Air (WIPOTA) operating contest is to promote public awareness of ham radio within Wisconsin's beautiful state park system.

"The objective of WIPOTA is to have competing stations operate from as many Wisconsin parks as possible and work hams in other WI parks, as well as hams not located in a park in any state, province or country."

Other states do this. Why not Wisconsin? This could be fun!

73, Tom KC9ONY

Saturday, September 15th – License classes start at Tom Ruhlmann's home at 9 AM – call Tom at 262-377-6945 to enroll.

Ozaukee Radio Club August 8th Meeting Minutes

Ben Evans (K9UZ), Secretary



President Kevin Steers (K9VIN) called the meeting to order at 7:29 PM. All the attendees introduced themselves.

Announcements, Show-and-Tell, Bragging Rights:

Tom W9IPR: Showed the group an 813 power amp tube from a 1942 BC-348 receiver and a melted CFL light bulb.

Gary N9UUR: Made a QSO in Lithuania on 6 meters.

Mike KD9GCN: Saw and took pictures of an AM CW (13 MHz?) radio attached inside a B-17 plane that he flew in in Oshkosh at

the Air Show.

Kevin K9VIN: A reminder of the 2-meter net held every Tuesday night at 8:00 PM.

Program:

Gary W9XT gave a presentation on the fundamentals of HF propagation.

50/50 Drawing:

Curt N9CBS was the winner of the 50/50 drawing.

Auction:

Stan WB9RQR conducted the auction. Many items were sold, including a 12-volt battery float charger, a Dell Inspiron computer with Linux Mint installed, a 2-meter transceiver, and a pair of Vietnam-era army walkie-talkies.

Officer Reports:

Kevin S. (K9VIN), President – The Fall Swapfest is coming on Saturday, September 8th at Firemen's Park. Also, if anyone wants to volunteer for the vacant position of Second Vice-President, please see Kevin.

Pat V. (W9JI), 1st VP – No report.

Tom T. (KC9ONY), Repeater VP – No report.

Ben E. (K9UZ), Secretary – This month's newsletter has been posted on the website which includes the July meeting minutes. A question was asked if a notice is sent when the newsletter is posted, to which Ben responded that a mass email is sent to members at the same time the newsletter is posted. If you're not getting the emails, write your email address next to your name on the meeting attendance sheet. Motion to accept the minutes was made by Robert K4WTH, seconded by Jeananne N9VSV and approved by the members.

Robert E. (K4WTH), Treasurer – The profit and loss report for July was emailed by Ben to the members. If anyone has any receipts from Field Day that weren't turned in, please do so. A motion to accept the Treasurer's report was made by Kristian KC9TFP, seconded by Stan WB9RQR and passed by the members.

Committee Reports:

Tom R. (W9IPR), Classes – Tom will conduct classes for Technician and General Class license exams. It will be seven sessions long, held on Saturdays, 9 AM to noon, at Tom's house and will begin September 15th.

Tom R. (W9IPR), Fall Swapfest – We need volunteers! Please sign up! We're not using an outside group for concessions this time, so members are needed for that. It will probably be mainly donuts and coffee. Is there somebody with a second trailer to haul stuff from the

barn? We have prizes from ARRL and we'll have a \$50 gift certificate from HRO rather than the gold coins. There will be an organizational meeting at Tom's house on August 15th at 7:00 PM.

Ken B. (W9GA), Field Day – Thanks again to people who participated in Field Day. We had a number of people come through and help with the setup and teardown. We were a bit short on operators and didn't reach the goal of 3,000 QSOs but we managed to get a good number of contacts and hit almost all of the bonus points. The approximate breakdown is about 1,500 CW, about 1,100 phone and 28 digital. Scoring is about 10,300.

Old Business:

There was no old business.

New Business:

Tom KC9ONY: Regarding the Lighthouse Event, we still haven't gotten permission from the lighthouse people to erect the towers. Tom AA9XK will talk to somebody and get it straightened out. Assuming it's a go, an email will be sent out. Setup Friday afternoon August 17th, operate 8 to 5 Saturday and 8 to noon Sunday. Location is the 1860 Light Station Museum in Port Washington.

Stan WB9RQR: "Give me your old computers, don't throw them away. If they're too old, I'll recycle them and wipe the hard disk or take it apart. Otherwise, I'll fix them and bring them for auction."

Adjournment:

Nels WA9JOB moved to adjourn the meeting, seconded by Curt N9CBS, approved by members. The meeting was adjourned at 9:10 PM.

Attendance:

There were 39 members and three guests present at the meeting.

A copy of the attendance sheet is available upon request in PDF format. Please contact Ben Evans via email at ben@evansengsolutions.com for a copy.

Respectfully submitted,



B. Benjamin Evans, K9UZ
Secretary

ORC Meeting Agenda

September 12, 2018

1. 7:00-7:30 PM – Network & Rag-Chew
2. Call to Order & Introductions
3. Announcements, Bragging Rights, Show & Tell, Upcoming Events, etc.
4. Program: Bernie Barr K9JAT, Grounding & Resonances
5. Fellowship Break
6. 50/50 Drawing
7. Auction – Stan Kaplan (WB9RQR)
8. President's Update – Kevin Steers (K9VIN)
9. 1st VP Report – Pat Volkmann (W9JR)
10. Repeater VP Report – Tom Trethewey, (KC9ONY)
11. Secretary's Report – Ben Evans (K9UZ)
12. Treasurer's Report – Robert Escola (K4WTH)
13. Committee Reports:
 - A. Fall Swapfest
 - B. FCC License Classes
 - C. Other
14. OLD BUSINESS
15. NEW BUSINESS
16. Adjournment to ?

Return undeliverable copies to:

The ORC Newsletter

465 Beechwood Drive
Cedarburg WI 53012

First Class

Next ORC Meeting:

Grafton Multipurpose Senior Center

1665 7th Avenue, Grafton
Wednesday, Sept. 12th, 2018

7:00 PM – Doors Open

7:30 PM – Meeting Begins