



# FOND DU LAC AMATEUR RADIO CLUB

## — FDL 73 —



VOLUME 20 ISSUE 1 [www.fdlhams.com](http://www.fdlhams.com) January, 2019

Join Us On Sunday Evenings For Our Weekly Net — 1930 hrs. 145.430 MHz — Tone 97.4 Hz

### Club Officers

President: Buddy Larson KC9UVJ  
 Vice-President: Tom Karmann KC9VZY  
 Secretary: Lloyd Vandervort N9RPU  
 Treasurer: Doug Schultz N9EZF  
 Sgt-at-Arms: Paul Bleuel KC9NAA

Board Member: Ron Keller KC9YVL  
 Board Member: Dick Finn KC9ZVW  
 Board Member: Larry Mielke KC9RUE

### Committee Chairs

Contesting/  
 Education/  
 Scholarship: Jack Heil KG9IN  
 Field Day: Jack Heil KG9IN  
 Fund Raising: Open  
 Net Manager: Doug Schultz N9EZF  
 Newsletter: Dick Finn KC9ZVW  
 Public Service: Ed Beltz N9PJQ  
 Publicity/Program: Joe Scheibinger K9VY  
 Repeater: Lloyd Vandervort N9RPU  
 Testing: Doug Schultz N9EZF  
 Truck: Brad Freund KC9QYP  
 TVI: Lloyd Vandervort N9RPU  
 Web Site: Tim Braun W9AAV

Each committee has several members. If you are interested in serving on a committee, please contact the chairperson and volunteer your services.

### Mailing Address

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 PO Box 53  
 Fond du Lac, WI 54936-0053  
 E-mail: [fdlhams@fdlhams.org](mailto:fdlhams@fdlhams.org)

**Newsletter Submissions:**  
 Please email to  
[rfinn5@hotmail.com](mailto:rfinn5@hotmail.com)

### Award of Excellence

At the annual Christmas Party, Jack Heil KG9IN Peter Fox KB9WZD with the FDLARC Award of Excellence.



As everyone is well aware, Peter has taken on a lead role in many of the club's activities over these past many years. While he has passed the role on, he has been the lead driver for the club truck for quite a few years.

Peter also handles the coordination of the volunteer effort for the Christmas Parade. He also is the lead person in setting up the technical portion of the annual Field Day. He supervises erecting the antennas and connecting all the equipment. Thanks to his pole climbing robot, we are able use the existing poles in the UW Parking Lot to support our antennas.

Peter is always available to help with other activities such as the twice a year Brat Fry's. Thanks to his miracle home made cleaner, our grills are always spotless and ready to go for the next Brat Fry.

Congratulations to Peter on this well deserved recognition.



### Next Meeting

**When:** January 14, 2019 at 7:00 pm

**Where:** Moraine Park Technical College, Room A-112

**Program:** Dave Sumner K1ZZ, Secretary for the IARU



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### Dave Sumner K1zz, Secretary for the IARU

Dave Sumner K1zz, Secretary for the IARU, Will Speak at the January FARC Meeting

Have you ever heard of the International Amateur Radio Union? We are honored to have with us for the [January](#) meeting, Dave Sumner K1ZZ, Secretary of the IARU.

The International Amateur Radio Union (IARU), is the global federation of national amateur radio associations in more than 160 countries and territories. Dave was active with the IARU during his entire 44-year career on the staff of the American Radio Relay League (ARRL), the national association for Amateur Radio in the United States. He retired as ARRL Chief Executive Officer in 2016.

Dave is active in most phases of Amateur Radio operating with special emphasis on CW DX contesting. Active from the first as an ARRL volunteer, he joined the Headquarters staff in 1968 for the summer, became a part of the permanent staff in 1972, and was named Assistant General Manager four years later. The ARRL Board elected him Secretary and General Manager in 1982 with a change in title to Executive Vice President in 1985 and to Chief Executive Officer in 2001.

Much of Dave's career was devoted to defending and expanding amateurs' access to the radio spectrum. In the 1970s he was deeply involved in worldwide Amateur Radio preparations for the 1979 World Administrative Radio Conference (WARC) of the International Telecommunication Union (ITU) and attended the entire three-month conference in Geneva as a member of the IARU observer team. WARC-79 granted new amateur bands at 10, 18 and 24 MHz and made other improvements to amateur allocations. He also served on the IARU team at the World Radiocommunication Conferences (WRCs) in Istanbul in 2000 and in Geneva in 2003, 2007 and 2012. He regards the dramatic improvement in the 7 MHz band that was gained at WRC-03 as a highlight of his career.



While on the ARRL staff Dave was Secretary of the IARU and a member of its Administrative Council (AC) from its inception in 1982 until 1989 and from 1999 to 2009. He served as recording secretary for the AC during the other periods when the position of Secretary was held by a volunteer. He was reappointed as Secretary as a volunteer after his retirement from the ARRL. He has traveled to more than 60 countries in connection with his ARRL and IARU responsibilities. Apart from his ARRL and IARU activities, Dave served on the judging committees of all World Radiosport Team Championships from 2000 to 2014 and was a referee at the 2018 WRTC in Germany.

Dave holds a B.A. degree in Political Science from Michigan State University where he was active from the club station W8SH from 1967 to 1970. He also holds the Master of Business Administration degree from the University of Connecticut and resides with his wife Linda, KA1ZD, on a 15-acre "antenna farm" in rural Coventry, Connecticut, where they are active on the air. Their daughter Deryn, N1UCI, is an attorney in Washington, DC.

In the early 1920s it was generally assumed that Radiocommunication could only take place over long distances using very long waves -- the lower the frequency, the better. Very large antennas and very high power were the rule at commercial and government stations. Then, radio amateurs found that short-wave signals could be heard all over the world. The rush soon began to exploit this newly discovered phenomenon. Radio amateurs, the very people whose experiments had revealed the value of the short waves in the first place, were in grave danger of being pushed aside.



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### Dave Sumner K1zz, Secretary for the IARU

At the time there were very few countries in which radio amateurs had been able to organize themselves into national associations. In many countries, Amateur Radio operation was actively discouraged or even illegal. Fortunately, there were far-sighted individuals who understood the problem and were able to find a solution. In 1925 they met in Paris and formally created the International Amateur Radio Union, or IARU.

Initially the IARU had individual members. Once there were enough members in a given country to do so, a section of the IARU would be formed. Soon there were enough sections of the IARU that it became a federation of national associations.

The first major challenge for the IARU occurred in 1927 at the Washington International Radiotelegraph Conference. Radio amateurs easily could have been forced into bands that would have been too narrow to support future growth. Instead, allocations were won that we still know today as 160, 80, 40, 20, and 10 meters, with a 5-meter band that was moved to 6 meters after World War II. The other amateur bands we now enjoy were the result of decades of patient effort through the IARU. From less than 30,000 radio amateurs who were licensed as of 1927, the Amateur Radio movement has grown to three million. From the representatives of 25 countries who formed the IARU in 1925, the IARU has grown to include 150 national associations representing virtually every country with enough amateurs to form an organization.

Individual radio amateurs support the work of the IARU through their membership in their own national IARU member-society. That support is vital to the future of Amateur Radio. The IARU is recognized by the International Telecommunication Union (ITU) as the representative of the interests of radio amateurs throughout the world. It is our voice in the offices and meeting rooms of the ITU and regional telecommunications organizations, where the decisions affecting our future access to the radio spectrum are made.

All licensed radio amateurs benefit from the work of the IARU, whether or not they are members of their national IARU member-society. But every licensed radio amateur should be a member. Only by combining our efforts in this way can we ensure the future health of Amateur Radio, for ourselves and for future generations.

Bring a friend to the meeting. Have a Happy and prosperous new year!

Joe Scheibinger K9VY





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### Officers for 2019

As there is traditionally no meeting in December, we took advantage of the November meeting to elect new officers for 2019. Actually, saying “new” officers is a bit false as many of the officers retained their existing roles.

We would like to thank Dave McCumber N9WQ for his services over the past year.

Dave is certainly one of our more knowledgeable members and was able to turn many of our meetings into learning experiences thanks to his mini-lectures and anecdotes.

Peter Fox KB9WZD was finding his life a bit too full and declined to stand for re-election as a Board Member. Peter has contributed his time and skill set to virtually all our activities. Many thanks to him for his efforts.



*Buddy Larson KC9UVJ will be reprising his role from several years ago and will be our 2019 President. As he will only be able to fill one elected position, he has resigned his Board Membership.*



*Doug Schultz N9EZV will be continuing in his role as Treasurer.*



*Lloyd Vandervort N9RPU will be continuing in his role as our Secretary.*



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### Officers for 2019



*Tom Karrmann KC9VZY was elected as our new Vice President*



*Paul Bleuel KC9NAA will take on the role of Sargent at Arms.*



*Dick Finn KC9ZVW will be filling the remaining two years of Buddy Larson's Kc9UVJ Board Member Term which he resigned in order to serve as our President.*



*Ron Keller KC9YVL was elected to fill the Board Member position left open with Peter Fox retiring. This is a full three year term.*



*While Larry Mielke KC9RUE was not up for election this year, he will continue in his role as Board Member.*



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### A New HAM Joins the Ranks

Our fourth (and last) testing session of 2019 was held on Dec. 8, 2019 at the regular location—Moraine Park Technical College. Many thanks are due to Doug Schultz N9EZF for his ongoing efforts in scheduling and coordinating the VEs for these sessions. Doug mentioned that over the years he has handled the testing for about 400 people who have earned or upgraded their tickets.

Thanks are also due to Kyle Ruesch AB9AX who is a regular VE at these testing sessions. Kyle drives up from West Bend to help out. He is also a VE for the Milwaukee testing held at HRO. Doug and Kyle were joined by the absent minded Dick Finn KC(ZVW who actually remembered to show up at this session after missing the last one.

Congratulations are due to Steven Sheldon from Neshkoro who passed his Technician Class exam.



Steven Sheldon receives his Technician Class certificate from Kyle Ruesch AB9AX

### Ham of the Year 2018 By Dick Finn KC9ZVW

I feel a bit timid about writing up this years Ham of the Year award presentation as I really feel as if I have not contributed as much as many other members of the club. Still, I am grateful for being selected as the 2018 Ham of the Year. The award was presented at the Christmas Party by Jack Heil KG9IN who was last years winner.

My contributions were mainly in the area of producing the monthly newsletter although I do try to help out with the four testing sessions each year, the Brat Fry's and other club activities.

My thanks to all of you who make our club so much fun to be a member of.





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### FDLARC 2018 Christmas Party

Thanks to the fine efforts of our new President, Buddy Larson KC8UVJ, we held our annual Christmas Party on Sunday evening, December 9, 2018. As usual, it was at Jim and Linda's Lakeview Supper Club.



The cocktail hour started at 5:00pm with dinner to follow at 6:00pm. Things were more than a bit crowded when we arrived as the restaurant had seated others in the room we reserved. Most were gone by 6:00 but there was one huge birthday party that stayed on for some time. After they left, things quieted down and we were able to move on with our party.

They offered a nice selection of entrees ranging from Prime Rib, Tenderloin, Fried Haddock and several other selections so that everyone could find something that appealed to them,



I made an effort to get pictures of all the tables, I sincerely hope I didn't miss anyone. See the next page for more pictures of the tables.

Many thanks to everyone who came.



FDLARC 2019 Christmas Party

I will try to arrange for all of the pictures I took to be added to the club website so you can download any you want.



After dinner, Buddy Larson KC8UVJ MC'ed the gift exchange. I took way too many pictures to include here but I have a few worth showing.





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## FDLARC 2019 Christmas Party





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## FDLARC 2019 Christmas Party





### Vintage Amateur Radio de Bill Shadid, W9MXQ



As the market for ham radio equipment was changing, Drake Radio Company made a major leap into the fray with the 1963 introduction of the all vacuum tube TR-3 HF Transceiver. This radio continued the theme introduced by Collins Radio Company with the KWM-2 and KWM-2A Transceivers. The TR-3 was soon replaced with the visually similar Drake TR-4.

The TR-3, and the similar TR-4 designs, lived into the late 1970's. For a time, the last TR-4C version was made in parallel with the much-touted Drake TR7 all solid-state transceiver. Before the Drake TR7's introduction, the design competed head to head with American and Japanese solid-state and hybrid radios. We should not underestimate the success of this line of transceivers – the first TR-3 to the last TR-4C.

This Drake TR-3 article is the first of a two-part series on the Drake Vacuum Tube Transceivers. This article shows the TR-3 while the next one shows the TR-4 and TR-6.



**Drake TR-3 80-10 Meter SSB/AM/CW Transceiver in 1963**

(Picture from Universal Radio)

Drake took the same approach as Hallicrafters in meeting the demand created by Collins with the introduction of their S-Line series. Like Hallicrafters, Drake introduced a transceiver first and then later introduced a separate receiver and transmitter in the same line. Subject of a later article, Drake introduced the separate R-4 Receiver and T-4X Transmitter in 1965. Like the Collins KWM-2, but unlike the competing Hallicrafters SR-150, Drake did not include Receiver Incremental Tuning (RIT) in the TR-3 Transceiver.



## Vintage Amateur Radio (Cont.) de Bill Shadid, W9MXQ



Drake, like everyone other than Collins, made the TR-3 an acceptable transceiver on CW with proper and automatic offset for hearing the other station. The lack of RIT (Receive Independent of Transmit), however, offset that advantage in a time when drifting VFO's could play havoc in a longer QSO – both parties would move across the band while adjusting for the other's drift.

In a league of its own, Drake, unlike Collins and Hallicrafters provided real AM mode receive in the TR-3 with a diode detector. But they only went so far – as with all crystal filter SSB generation transceivers, there is only one sideband present on AM. In those days, “real AM guys” would watch for that and call you out on it – those were the big days of the AM vs SSB battles!

Drake did offer an alternative to RIT by offering a full external VFO, the model RV-3, for use with the TR-3 Transceiver. With the RV-3 one could separate receiver and transmitter frequency – perhaps leaving the transmit frequency static while adjusting the receiver.



**Drake RV-3 External VFO**



**Drake RV-3 showing the  
AC-3 Power Supply mounted in the rear**

(Pictures from Universal Radio)

Did you notice (left picture, above) the speaker grill in the RV-3? That was the way Drake managed to compress the table top requirements of the TR-3 station. This is like the feature set in the Collins 312B-5 External VFO for the KWM -2. (Collins' appearance was a bit more elegant.) To the right you see a rear view of the RV-3 showing the matching AC-3 AC Power Supply for the transceiver. Note the three cables coming from the rear of the RV-3/AC-3 Assembly – left to right they are AC Power Cord, Control/Supply Cables to plug into the TR-3 Power and External VFO connectors, and the cable from the speaker going to the TR-3. The bias set potentiometer is between the AC Power Cord and Control/Supply Cable and sets standby bias for the 12JB6 finals – part of the setup procedure for the initial installation.

Note: Standby Bias should be checked frequently on tube transmitters. In my opinion, it is more important to be a little more frequent with checks when using sweep tube finals.

Drake also offered a Speaker Console alone, the model MS-3. This was for users that needed a speaker and a housing for the AC-3 Power Supply but did not want the RV-3 External VFO. The rear view of the RV-3 and AC-3 shown above would be identical to a rear view of the MS-3 and the AC-3. In fact, the MS-3 and the RV-3 used the same Drake outer cabinet. Pictures of the MS-3 are rare and I could not find one I could legally use. The MS-4 Speaker is shown in next month's article about the TR-4 and is accessories. The MS-3 was identical except that no front panel nameplate appeared on the MS-3 Speaker.



### Vintage Amateur Radio (Cont.) de Bill Shadid, W9MXQ



Drake offered a variety of microphones for the TR-3 – both hand microphones and desk microphones. The ones I have seen – and I may not have seen them all – were private label units from Electro-Voice and Astatic. Personally, my favorite and best sounding microphone, with my voice, on the TR-3 or TR-4 series radios is the Astatic D-104 – the model without the amplifier in the base. I also have successfully used the Shure 444 (the high impedance model or the 444D with the setting at High Impedance). But, alas, my Shure 444 contains a Heil retrofit microphone element, so it is not authentic – yet it garners audio compliments.

Drake also offered a DC-3 DC Power Supply for running the TR-3 in an automobile, boat, airplane, or anywhere 12 Volts DC was the available power source. Below is a picture of the DC-3 Power Supply . . .



The Drake DC-3 Power Supply was a neat, compact package with a switching circuit, like most all DC supplies of the day, to allow a high frequency oscillator and transformer to convert 12 volts to the various voltages needed by the TR-3 Transceiver. It was designed to mount on the bulkhead of the vehicle.  
(Picture from Universal Radio)

The front panel size of the TR-3 was shared with all similar Drake equipment of the era. It was 5-1/2" high x 10-3/4" wide – quite compact for the day. The depth of the TR-3 was substantial at 14-1/2" – deeper than all of its accessories. The TR-3 was virtually all vacuum tube circuitry with little use of solid state devices except in the AC-3 and DC-3 Power Supplies. For the day, the TR-3 was quite stable and later solid-state versions of the Drake PTO were not substantially better than the excellent design that Drake provided in 1963. Like in the vacuum tube PTO provided by Collins in the S-Line, the well-designed Drake product was exemplary for the time. (To be sure, I would not want to attempt FT8 QSOs' today with a Drake TR-3!)

Unlike Collins, Drake did not choose the tried and proven 6146 tetrodes in the TR-3. Instead they went for three 12JB6 Sweep Tubes. Each of these tubes is capable of 100 watts input power – for an input on SSB of 300 watts PEP. CW operation was a bit less at 260 watts input, key down. Output power was about 50% to 60% of those numbers. The trio of tubes is capable of more - but not without unacceptable distortion and a significant shortening of their life.

As I will cover in a later article on the TR-4 series of transceivers, Drake did not keep this tube model. Instead they moved to the more common 6.3-volt version of the tube, the 6JB6. Drake was a firm partner with Sylvania in those days – and nirvana in a vintage Drake transmitter circuit are Sylvania 12JB6 or 6JB6 tubes.

In the day of the TR-3, Drake did not manufacture a linear amplifier. Provisions for working with an amplifier, however, were included. And, it must have been known at the time that the Drake L-4 Linear Amplifier (not to be confused with the later L-4B) was close behind. The grid driven, untuned input of the amplifiers of the day (for the most part) could accommodate the high output of the TR-3. More advanced, tuned input amplifiers would perhaps require a 3dB pad between the transmitter and the amplifier or careful adjustment of the output of the transceiver by loading the transceiver a bit light. One suggestion I recently heard on the Drake Net (7.238 MHz on Sunday afternoons) was to offset the Driver Tune a bit. That is an interesting thought given that such action also offsets the receiver's front-end tuning and the receiver sensitivity rapidly drops off. Perhaps noted by a non-user of the radio. But as with all such advice, I generally "take it under advisement."



### Vintage Amateur Radio (Cont.) de Bill Shadid, W9MXQ



Drake had a procedure for using a second receiver with the TR-3, instead of a separate VFO, like the RV-3 mentioned above. But, you could not transceive with this arrangement. With this procedure, one could connect and even control the muting of a separate receiver. The manual shows such an arrangement working with their premier receiver of the day, the Drake 2B HF Receiver. One flaw in the arrangement, corrected on the later TR-4 Transceiver, was the requirement to use an external switch and a relay to engage the remote receiver and to switch the antenna from the transceiver to the receiver. A complicated arrangement to be sure but back in the days of a brand-new TR-3, ham operators were more tech-savvy and willing to make such adjustments to gain features. And, manufacturers were more willing to encourage modifications of their equipment. In this case, it was a “procedure,” not a “feature.”

Note: Drake used a different conversion scheme in the TR-3 and TR-4 Transceivers from what was used in the 2-Series Receivers and the 4-Series Receivers and Transmitters. There was no convenient way for frequency control of the TR-3 or TR-4 Transceivers to work with any Drake Receiver.

In the 1950's and 1960's – certainly in the time of the Drake TR-3 – it was all the rage to copper plate a radio's chassis. “Better conductivity,” “easier to solder directly to the chassis,” and “looks very nice” were all reasons for this trend. Now, move forward over 50-years and most of these chassis have turned black and/or some sort of iridescent black, brown, and green that is, well, just plain ugly. It does not impact operation, but it sure does look bad – no, not bad, “terrible” is the word!! Flawless ones are around – a Drake copper chassis receiver and transmitter set I bought new in about 1970 is still perfect and resides with the person I sold it to many years ago. I aligned it for him a few weeks ago and marvel at its appearance.

Drake radios starting with models that included a “C” in their model number stopped this process. Those chassis used the same steel construction but were cadmium plated and chromate dipped. They look nice unless subjected to enough moisture to allow them to rust. I will add that this “C” in the model number identifier was true but other models also had stopped using copper plating by that time. I no longer have any copper plated chassis Drake products in my radio collection.

Drake had a rather odd crystal i-f filter mechanical design in the TR-3. Their design used a separate filter for USB and LSB. So, there were two filters – and those filters existed in the circuits through the entire “3” and “4” product line. For the TR-3 however, both filters were encapsulated inside a can that looked like a miniature soup or tuna can – hence the nick name of “soup can” filters. These filters, as the years would prove, were problematic. They are now what we collectors like to call, “unobtainium,” or “no longer available.” The filters were used in early TR-4 Transceivers as well. If found in a radio today, they either work – in which case they are likely to keep working – or they are not working and no replacement (other than one sacrificed from a parts unit) will restore the radio to operation. Also, the TR-3 and early TR-4 radios with the “soup can” filters are working with a 4-pole design. The older units have less selectivity than the later, separate units with 8-pole filters. Filters to replace the late TR-4 separate filters are available from INRAD (<http://www.inrad.net>). However, there are a lot of interface issues that makes this solution less satisfactory for retrofit to a TR-3 or early TR-4.

I should add to the crystal filter story that Drake's very first crystal filter in a transmitting model was the TR-3 Transceiver. Drake stayed with inductive tuned circuit i-f filtering in its receivers (but not its transmitters) until the Drake R-4C Receiver was introduced along with its quantum leap in selectivity with very well-designed crystal filters. That is a story for a future article.

There is also an oddity in the Drake TR-3 (and all TR-4) transceivers that is the result of the conversion scheme. Check the PTO dial in the TR-3 picture at the start of this article. Note that on 80, 40, 15 and 10 meters the frequency goes up as the dial progresses to the right. But on 20 meters it progresses downward for the same dial direction.



### Vintage Amateur Radio (Cont.) de Bill Shadid, W9MXQ



Notice in that same picture, the UPPER and LOWER (sideband) lamps on the front panel. Instead of Upper or Lower Sideband being verified by position of the bandswitch or the mode switch (not labeled as such), it is verified instead by those lamps – since it changes in relation to the conversion scheme. You will note that to switch to the opposite sideband you use the SIDEBAND switch. On AM and CW modes, the SIDEBAND switch must be in the “X” position. Again, this covers some “smoke and mirrors” trickery to deal with the radio’s conversion scheme – which could be the topic of another article! In another time, Drake would have added a wafer or two on the bandswitch to get around the rather confusing front panel layout. In operation with the TR-3, or TR-4, the issue fades away after a few seconds of operation.

For conservation of panel space and the desire to eliminate the need for a meter switch, Drake equipped the TR-3 with two horizontal meters. The top meter reads plate current on Transmit and the bottom meter is an S-Meter on Receive. The S-Meter (bottom meter) monitors transmitter AGC in the transmit mode (we now call that ALC).

Drake made a Noise Blanker for the TR-3 that I have never seen and have rarely seen mentioned. I will rely on a bit of what may be tales here when I mention the 34-NB Noise Blanker that may, or may not, have been made for the TR-3 and early TR-4 Transceivers. The later TR-4’s onward did use the 34-PNB Noise Blanker – one of which is in my own TR-4C. A TR-4 owned by my friend, W9JI, may actually have the mysterious and rare, 34-NB, retrofit into the TR-4 chassis. Especially at the time of the TR-3 and TR-4 in mobile service, a Noise Blanker would have been a nice accessory to have.

Today, given the choice, I would choose as somewhat more advanced Drake TR-4 Transceiver. In fact, I do have and use a TR-4C. But, to the point, the TR-3 is a pleasure to use with a very respectable barefoot signal of 150 watts output. I once had a TR-3 Transceiver with the RV-3 External VFO and the AC-3 Power Supply – but it is long ago gone in a trade. One of my fellow club members, in one of the clubs to which I belong, has a very nice example of a TR-3 that works – and that he loves after bringing it back to life. So, I guess it is better said that there are no bad radios – just radios with a different story to tell.

If you are interested in a Drake vacuum tube transceiver – look for a TR-3 or any of the various TR-4’s. If a TR-3, make sure it is working. Look forward to QSO’s that follow QSO’s with each new contact wanting to hear the story of your vintage Drake radio. Drake radios carry bragging rights!! AND, they are all made in the good old USA. The filter in the TR-3 notwithstanding, most Drake radios work and get on the air once you know the power supply is safe. Old Mr. Drake knew how to make long lasting radios!

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

Thanks to Universal Radio for the use of their pictures, to KB9PRF for letting me mention his TR-3, to W9JI for letting me look over his TR-4 and make comparisons to my TR-4C, and, most important, to W9DYQ and K9DJT for keeping me honest by proofing every article.



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### MEETING MINUTES

#### FOND DU LAC AMATEUR RADIO CLUB Minutes of FDLARC Monthly Meeting Monday, November 12, 2018



#### Call to Order

The meeting was called to order at 7:00 pm with president Dave McCumber N9WQ presiding.

All attendees introduced themselves.

#### Program:

Mike Malone KD5KXF editor of QRP quarterly magazine was our presenter via SKYPE.

Mike discovered Ham radio as an adolescent, and was an avid SWL. He bought an HW-16 when he was 16 but could never get his head wrapped around the code. He came into the hobby as a no code tech and learned CW with a computer program to upgrade to General with a blistering 5 wpm fist nearly 20 years after fist studying for the Novice.



Mike had discovered W1FB's books and was avidly interested in QRP and construction. His first rig was a HW8 and he covered a bulletin board with QSL cards. Shortly after, he built a OHR 100A on 40 meters and then became interested in 30 meters so he built a SW+ and operated that rig exclusively for nearly a year.

He has built and owned numerous QRP rigs including a K-1, K-2 and K-3. Of those, he only has the K-1 now. Mike enjoys operating from local nature preserves in his local area using portable gear. His gear changes pretty often as he is an avid builder and operate a mixture of home brew and kit built gear. QRP CW is less than 10 watts , SSB less than 10 watts.

#### Approval of Meeting Minutes:

A motion to approve the minutes was made by Buddy Larson KC9UVJ and seconded by Dawn Krause KD9CAW .The motion carried unanimously via a voice vote.

#### Treasurer's report

The Treasurers Report was presented by Doug Schultz N9EZF. A motion to approve the Treasurers Report was made by Peter Fox KB9WZD and seconded by Justin Buell KB9YET .The motion carried unanimously via a voice vote.

Truck Fund	0.00
Emerg. Services Fund	1,480.85
General Use Fund	5,131.52
Savings Account	25.00
Petty Cash Fund	19.12
Total	6,656.49
Repeater Fund	230.21



A motion to pay the bill was made by Dawn Krause KD9CAW and seconded by Buddy Larson KC9UVJ. The motion carried unanimously via a voice vote.

Doug Schultz N9EZF mentioned that the 501.c3 is a big job as it entails a 5 year financial audit.

The club previously published a copyrighted cartoon in one of our back newsletters and wanted \$85 for the rights to do this.



# FOND DU LAC AMATEUR RADIO CLUB

## — FDL 73 —



VOLUME 20 ISSUE 1 [www.fdlhams.com](http://www.fdlhams.com) January, 2019

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### MEETING MINUTES

#### FOND DU LAC AMATEUR RADIO CLUB Minutes of FDLARC Monthly Meeting Monday, November 12, 2018



#### Old Business

The final testing session of 2018 is scheduled for Dec 8, 2018.

Our annual Club Christmas Party will be held at Jim and Linda's Supper Club on Dec. 10, 2018. Buddy Larson KC9UVJ will send out a link to the signup sheet in a few weeks.

The decision on the truck / trailer is waiting on the completion of the 501-c3.

Code classes will resume next year. See Rick Robinson NI9Z to sign up.

#### New Business:

##### OFFICER NOMINATIONS:

PRESIDENT: Buddy Larson KC9UVJ  
VICE PRESIDENT: Tom Karmann KC9VZY TOM Powell KC9VXR  
SECRETARY: Lloyd Vandervort N9RPU  
TREASURER: Doug Schultz N9EZF  
SGT AT ARMS: Dawn KD9CAW , Paul Bleuel KC9NAA  
Board Member: Ron Keller KC9YVL , Dick Finn KC9ZVW

##### RESULTS 2019 OFFICERS

PRESIDENT: Buddy Larson KC9UVJ  
VICE PRESIDENT: Tom Karmann KC9VZY  
SECRETARY: Lloyd Vandervort N9RPU  
TREASURER: Doug Schultz N9EZF  
SGT AT ARMS: Paul Bleuel KC9NAA  
Board Member: Ron Keller KC9YVL (three years), Dick Finn KC9ZVW (two years)

#### Adjournment

A motion was made to adjourn by Lloyd Vandervort N9RPU. The motion was seconded by Jim Balthazor K9AIX. The motion carried unanimously via a voice vote and the meeting was adjourned at 8:20 pm.

Raffle # 555029





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### NOTICES/ANNOUNCEMENTS

#### FDLARC On YouTube



Many of you may not be aware, but Lloyd Vandervoort N9RPU, our Club Secretary, has been making videos of the presentations at our meetings. There is now a pretty large collection of them on You Tube. Do yourself a favor and take a few minutes to scan the list and play some of them. Enjoy!

- FARC - W3AO Field Day Presentation <https://youtu.be/UK1A47pNKyo>
- FARC - Bob Heil Ham Radio Presentation [https://youtu.be/t3Ueh9IN5\\_U](https://youtu.be/t3Ueh9IN5_U)
- FARC - WWV Presentation [https://youtu.be/w3-DP9DEv\\_U](https://youtu.be/w3-DP9DEv_U)
- FARC - Pacific Antenna Talks Kit Building <https://youtu.be/SBreL2YIsn0>
- FARC - Scanner Master Presentation <https://youtu.be/dlSIAufGkv8>
- FARC - WBAY Field Trip TV Nov 17 2015 <https://youtu.be/sfQvJ1fV6eo>
- FARC - WBAY transmitter tour [https://youtu.be/NnZ21O\\_6HvA](https://youtu.be/NnZ21O_6HvA)
- FARC - NooElec [https://youtu.be/s\\_pxYkH4xds](https://youtu.be/s_pxYkH4xds)
- FARC - Elecraft Radio <https://youtu.be/3Ou1Qpx9Vg8>
- FARC - Ed Tobias & Morse Code <https://youtu.be/9uu4PFMrH2U>
- FARC - Salvation Army Emergency Communications <https://youtu.be/oxXoZjuTTNE>
- FARC - KFIZ Interview <https://youtu.be/UVFMCvRGEJE>
- FARC - HAARP Presentation <https://youtu.be/cdeNXLMuyEE>
- FARC - The DZKit Ham Radio Kits [https://youtu.be/giZcfQW\\_tpA](https://youtu.be/giZcfQW_tpA)
- FARC - The DZKit Ham Radio Kits [https://youtu.be/giZcfQW\\_tpA](https://youtu.be/giZcfQW_tpA)
- FARC - The Christmas Island DXpedition with Bill Kendall (4/9/18) <https://youtu.be/XgjYL0vAhlw>
- FARC - Restoring Old Antique and Classic Radios (5/17/19) <https://youtu.be/3I352v4gYdw>

#### Newsletter Back Issues

When I took over as the newsletter editor I simply continued the volume numbering that existed then. Unfortunately, I don't have copies of those old newsletters. I would appreciate it if you have any newsletters earlier than October, 2014 you would send them to me. Electronic copies are ideal but I would also be pleased to accept hard copy. I'll scan them and return the originals to you.

Many Thanks, Dick Finn KC9ZVW



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### NOTICES/ANNOUNCEMENTS

#### HAM Testing Session

The Volunteer Examiners of the Fond du Lac club will be holding Amateur License exams on a date to be determined in February 2019 from 9:00 AM until Noon in Room O-104 at Moraine Park Technical College in Fond du Lac. If you have questions or want to reserve a spot please contact Doug Schultz at 920-922-3088 or via email at [schultz74@charter.net](mailto:schultz74@charter.net).



There's still plenty of time to crack the books and prepare to upgrade your ticket.



**Club Nets**

Sunday Evenings - Open to all  
 6:15 pm Ten Meter SSB Net-28.450 MHz  
 7:30 pm Two Meter FM Net-145.430 MHz  
 PL 97.4



**FDL County ARES Net**  
 Sunday Evenings  
 For ARES Team Members. Now combined  
 with the Club Net at 7:30 pm.  
 ARES Coordinator: Todd Beay (AC9EX)



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### Free, For Sale or Wanted

#### Upcoming HAMFESTS and Conventions From ARRL

# Hamfests

HAMFEST/CONVENTION

#### 01/05/2019 | 47th Annual Midwinter Swapfest

**Location:** Waukesha, WI

**Type:** ARRL Hamfest

**Sponsor:** West Allis Radio Amateur Club

**Website:** <http://warac.org/swap/index.htm>

[Learn More](#)



HAMFEST/CONVENTION

#### 03/09/2019 | Amateur Radio Equipment Auction

**Location:** Eau Claire, WI

**Type:** ARRL Hamfest

**Sponsor:** Eau Claire Amateur Radio Club

**Website:** <http://www.ecarc.org/>

[Learn More](#)





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# — FDL 73 —



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## 2019 CALENDAR

**Jan. 14, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

**Feb. 11, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

**Feb. TBD, 2019**

License Exams, 9:00 am-Noon, Moraine Park Technical College in Room O-104  
Contact: Doug Schultz N9EZF



**Mar. 10 & 11, 2019**

Wisconsin QSO Party



**Mar. 11, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.  
Annual Membership Drive-Contact Joe Scheibinger

**Apr. 8, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

**Apr. TBD, 2019**

License Exams, 9:00 am-Noon, Moraine Park Technical College in Room O-108  
Contact: Doug Schultz N9EZF



**May 13, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

**May 17—19, 2019**

Dayton HAMFEST



**June TBD, 2019**

Brat Fry at the Country Corners Exxon Station, Hwy 67 and Hwy 41 in Lomira.  
8:00am to 5:00pm—Contact: Doug Schultz N9EZF



**June 10, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

**June 7—9, 2019**

Walleye Weekend. Contact Joe Scheibinger K8VY

**June 22 & 23, 2019**

ARRL Field Day, 1800 UTC Saturday and running through 2059 UTC Sunday



**July 8, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC O-102.

**July 21, 2019**

RMC Triathlon



**Aug. 12, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

**Aug. 25, 2019**

Race the Lake

**August 24-25, 2019**

Brat Fry at the Country Corners Exxon Station, Hwy 67 and Hwy 41 in Lomira.  
8:00am TO 5:00pm—Contact: Doug Schultz N9EZF



**Sept. 9, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.

**Sept. 20—22, 2019**

Fox Cities Marathon



**Oct. 8, 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112

**Oct. TBD, 2019**

License Exams, 9:00 am-Noon, Moraine Park Technical College in Room O-104. Contact: Doug Schultz N9EZF



**Nov., 11 2019**

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.  
Election of 2019 Officers

**Dec. TBD, 2019**

FdL Parade of Lights, 4:00, Downtown

**Dec. TBD, 2017**

License Exams, 9:00 am-Noon, Moraine Park Technical College in Room O-104  
Contact: Doug Schultz N9EZF



**Dec. 8, 2017**

Christmas Party: Jim and Lind's Contact Buddy Larson KC9UVJ





# FOND DU LAC AMATEUR RADIO CLUB

## — FDL 73 —

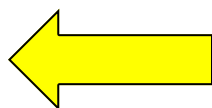


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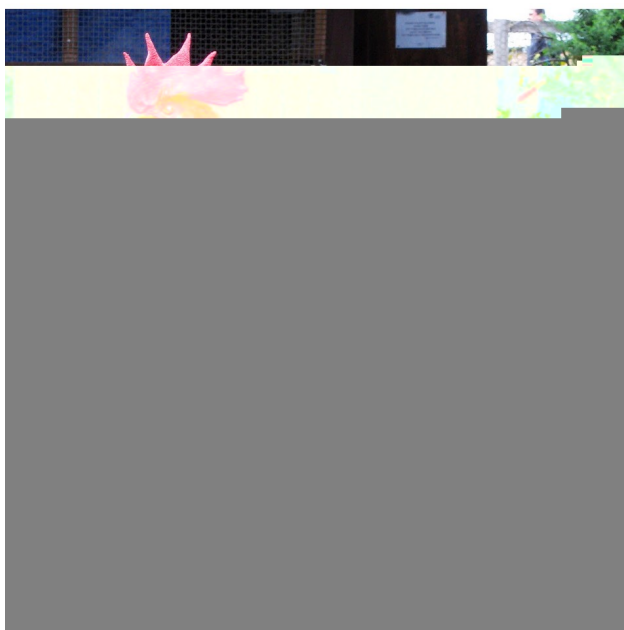
First	Last	Call Sign
Reinholt	Aschmotat	N8VDH
Donald	Bakke	KD0HCW
Jim	Balthazor	K9AIX
Todd	Beay	AC9EX
Ed	Beltz	N9PJQ
Donna	Blend	KC9TFN
Paul	Bleuel	KC9NAA
Blend	Bowen	KC9VXV
Timothy	Braun	W9AAV
Marjean	Buck	KC9LFI
Neal	Buck	KC9LFN
Justin	Buell	KB9YET
Don	Chapman	KC9KZQ
Dean	Choate	KC9TGM
Jim	Cole	N9WAP
Stan	Cram	A10M
Walter	Drees	KD9JAD
Kirk	Everson	KC9FZE
Dick	Finn	KC9ZVW
Debra	Florian	
Mark	Forss	WD9CYM
Peter	Fox	KB9WZD
Brad	Freund	KC9QYP
Derek	Giese	KD9IAN
Ray	Grenier	K9KHW
Ted	Gustavus	KD9IAH
Marjorie	Heil	KC9BEN
Jack	Heil	KG9IN
Richard	Jarzynka	KD9EMX
Tom	Karrmann	KC9VZY
Ron	Keller	KC9YVL
Joyce	Keyes	KC9KIJ
Mike	Keyes	KE7ES
Cully	Kowal	KS0D
Dawn	Krause	KD9CAW
Scott	Kreis	
Lorelei	Kreis	
Annika	Kreis	
Larry	Lamont	KB9POP
Buddy	Larson	KC9UVJ
Joe	Lauber	KC9MDY
Mike	Lawrence	N9UA
Michelle	Lawrence	N9RQL
Isaac	Lundberg	KD9FPG
Chuck	Mahnke	K9HXI
David	McCumber	N9WQ
Larry	Mielke	KC9RUE
Tom	Murray	N0HOR
Doug	Murray	KC9ZVT
Nancy	Myers	K9ANA
Randy	Nelson	KC9MYG
Matt	Nett	KD9BBN
Ted	Neuburg	W9LUQ
Dot	Olig	K9FDL
Gene	Olig	KD9ZP
Tony	Pass	KC9QYR
Dennis	Paulin	KB9OFM
Gene	Peterson	KD9IAG
Tom	Powell	KC9VXR
Gerry	Radtko	WA9GON
Rick	Robinson	NI9Z
Walter	Rueger	KC9WQ
Kyle	Ruesch	AB9AX
Fernando	Salazar	KC9ZVX



**Name Sort**



**Call Sort**



Joe	Scheibinger	K9VY
Gregory	Schmude	KD9EHB
Doug	Schultz	N9EZF
James	Scovronski	N9WAM
Louis	Simon	KB9VQM
Barbara	Simon	W9MER
Ed	Sipple	W9VYO
Steve	Smith	W9GPI
Ed	Steinfeld	KB1ZJK
Brian	Turkiewicz	KC9LFR
Paul	Tvrdy	N9KLLK
Danny	Vandekolk	KC9IGD
Lloyd	Vandervort	N9RPU
Doug	Wagner	KC0RNS
Ted	Willett	W9NHE
Laurie	Winchell-Beltz	KC9YQS
Dave	Witt	WD9W
Mathew	Yates	KD9CSD
Laura	Yates	
Matthew	Zimmerman	KD9KTY
David	Zittlow	K9DUI

Paul	Tvrdy	N9KLLK
Ed	Beltz	N9PJQ
Lloyd	Vandervort	N9RPU
Michelle	Lawrence	N9RQL
Mike	Lawrence	N9UA
James	Scovronski	N9WAM
Jim	Cole	N9WAP
David	McCumber	N9WQ
Rick	Robinson	NI9Z
Timothy	Braun	W9AAV
Steve	Smith	W9GPI
Ted	Neuburg	W9LUQ
Barbara	Simon	W9MER
Ted	Willett	W9NHE
Ed	Sipple	W9VYO
Gerry	Radtko	WA9GON
Mark	Forss	WD9CYM
Dave	Witt	WD9W
Debra	Florian	
Scott	Kreis	
Lorelei	Kreis	
Annika	Kreis	
Laura	Yates	

First	Last	Call Sign
Kyle	Ruesch	AB9AX
Todd	Beay	AC9EX
Stan	Cram	A10M
Jim	Balthazor	K9AIX
Nancy	Myers	K9ANA
David	Zittlow	K9DUI
Dot	Olig	K9FDL
Chuck	Mahnke	K9HXI
Ray	Grenier	K9KHW
Joe	Scheibinger	K9VY
Ed	Steinfeld	KB1ZJK
Dennis	Paulin	KB9OFM
Larry	Lamont	KB9POP
Louis	Simon	KB9VQM
Peter	Fox	KB9WZD
Justin	Buell	KB9YET
Doug	Wagner	KC0RNS
Marjorie	Heil	KC9BEN
Kirk	Everson	KC9FZE
Danny	Vandekolk	KC9IGD
Joyce	Keyes	KC9KIJ
Don	Chapman	KC9KZQ
Marjean	Buck	KC9LFI
Neal	Buck	KC9LFN
Brian	Turkiewicz	KC9LFR
Joe	Lauber	KC9MDY
Randy	Nelson	KC9MYG
Paul	Bleuel	KC9NAA
Brad	Freund	KC9QYP
Tony	Pass	KC9QYR
Larry	Mielke	KC9RUE
Donna	Blend	KC9TFN
Dean	Choate	KC9TGM
Buddy	Larson	KC9UVJ
Tom	Powell	KC9VXR
Blend	Bowen	KC9VXV
Tom	Karrmann	KC9VZY
Walter	Rueger	KC9WQ
Laurie	Winchell-Beltz	KC9YQS
Ron	Keller	KC9YVL
Doug	Murray	KC9ZVT
Dick	Finn	KC9ZVW
Fernando	Salazar	KC9ZVX
Donald	Bakke	KD0HCW
Matt	Nett	KD9BBN
Dawn	Krause	KD9CAW
Mathew	Yates	KD9CSD
Gregory	Schmude	KD9EHB
Richard	Jarzynka	KD9EMX
Isaac	Lundberg	KD9FPG
Gene	Peterson	KD9IAG
Ted	Gustavus	KD9IAH
Derek	Giese	KD9IAN
Walter	Drees	KD9JAD
Matthew	Zimmerman	KD9KTY
Gene	Olig	KD9ZP
Mike	Keyes	KE7ES
Jack	Heil	KG9IN
Cully	Kowal	KS0D
Tom	Murray	N0HOR
Reinholt	Aschmotat	N8VDH
Doug	Schultz	N9EZF