



# FOND DU LAC AMATEUR RADIO CLUB



## — FDL 73 —

www.fdlhams.com

July, 2021

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

### 2021 Club Officers

President:	Tom Karrmann KC9VZY
Vice-President:	Tom Powell, KC9VXR,
Secretary	Lloyd Vandervort N9RPU
Treasurer	Doug Schultz N9EZF
Sgt-at-Arms:	Paul Buell KC9NAA
Board Member	Justin Buell KB9YET
Board Member	Larry Mielke KC9RUE
Board Member	Ron Keller KC9YVL

### Committee Chairs

Contesting	Jack Heil KG9IN
Education	Jack Heil KG9IN
Scholarship	Jack Heil KG9IN
Field Day:	Jack Heil KG9IN
Fund Raising:	(open)
Net Manager	Doug Schultz N9EZF
Newsletter	Doug Schultz N9EZF
Public Service	Ed Beltz N9PJQ
Publicity/Program	Joe Scheibinger K9VY
Repeater	Lloyd Vandervort N9RPU
Testing	Doug Schultz N9EZF
Truck Committee	(open)
TVI	Lloyd Vandervort N9RPU
Web Site:	Tim Braun W9AAB

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

### Mailing Address

Fond du Lac Amateur Radio Club, Inc.  
PO Box 53  
Fond du Lac, WI 54936-0053  
E-mail: fdlhams@fdlhams.com

#### Newsletter Submissions:

Please email Editor Doug Schultz N9EZF  
schultz74@charter.net

*FARC FDL 73 Newsletter design and concept  
by Dick Finn KC9ZVW*

## The Presidents Corner



By: Tom Karrmann KC9VYZ

It's July already, and the year is half over. I am looking forward to hearing about what the club did for field day, but I am also looking forward to being back at Moraine Park Technical College for this month's meeting. As of now, we have a room booked there for the rest of the year.

Please keep in mind that we will be having our annual club officer elections in November, and with any luck, our Christmas party in December. Anyone have any ideas for the rest of the summer and the start of autumn?

Well, I hope to see you all at the meeting.

*Tom Karrmann KC9VZY, President, FARC*

### What's Inside This Month?

**We are Back at Moraine Park for the Meetings  
DMR Radio Presentation by 2 of our own Members!**

**What Is DMR Radio?**

**3 Step Guide to Getting On DMR**

**My FT8 Adventure by Doug Schultz N9EZF**

**Could You Pass the 1933 Exam?**

**Meeting Minutes for July**

**Treasurers Report for July**

**Notices & Announcements**

**Member's Names & Call Signs**

## Our Next Meeting For July

**When: July 12, 2021 at 7:00 pm**

**Where: Moraine Park College (see article inside Page 1)**

**235 N National Ave, Fond du Lac, WI 54935**

**Please Bring a Friend to the Meeting!**



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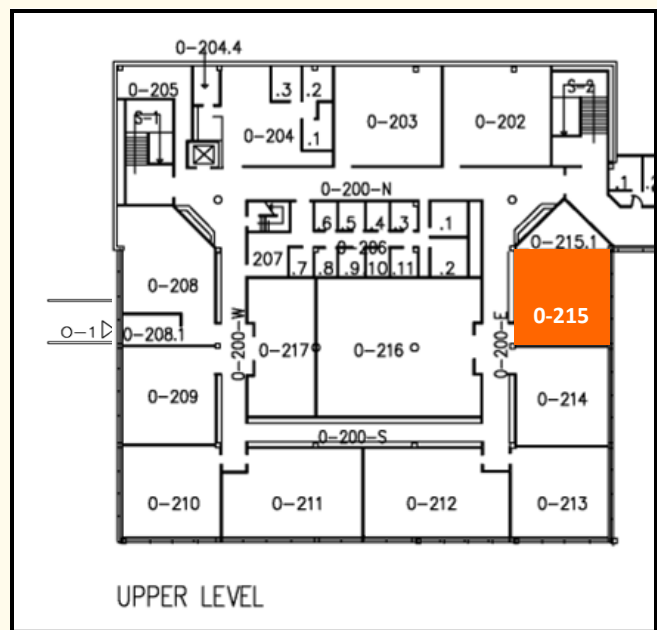
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# *We're Back!*

### Fond du Lac Amateur Radio Club Will Meet Again At Moraine Park College!

It feels good to be back home! The FARC will once again meet at the Moraine park location in room 0-215. We have the room reserved through the November meeting. You can park in the very same location we did back when this was our meeting place before covid. Park in the west lot and enter in the same place as previous meetings, the "O" building. The only change is that we will be meeting upstairs. There are stairs right by the door, or you can use the elevators down the hall.





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July Entertainment

**Cully Kowal KS0D &  
Wally Meyer K9WKM**

### How To Operate a DMR Radio

At the last meeting Cully and Wally were operating something very new in the back of the room. After hearing from them about this new fangled wizardry I had to take a deeper dive into this new way of telecommunications for Hams, something so new and so different it is selling like hotcakes all over the world. So if someone told you that you could make contacts all over the world sitting in your chair at home with a walkie talkie in your hand, and you can do it on a Technicians license, would you take note? Wait until you see the demonstration!

DMR stands for Digital Mobile Radio and is an international standard that has been defined for two-way radios. The DMR standard allows equipment developed by different manufacturers to operate together on the same network for all the functions defined within the standard.

DMR mobile radio offers a number of capabilities including voice and data communications, interfacing to external networks, call alert, emergency call, remote monitoring, silent worker, push to talk ID, radio check, all call, etc . . The DMR Digital technology provides improved noise reduction and protects voice quality over a longer distance than analog, especially noticeable towards the end of the transmission range, where analog radios will have a lot of static and background noise.

The aim of the DMR standard was to create a digital radio system with low complexity and low cost that still allows for equipment from different manufacturers to work together, allowing users to shop around rather than being locked into a proprietary system which would be costly to replace and maintain.

Want to learn more? See you at the meeting!

*Joe Scheibinger K9VY*





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### ***The 3-Step Guide to Getting on Digital Mobile Radio (DMR)***



*(Printed with permission from Bridgecom Systems)*

Are you new to DMR radio or just trying to learn how to get on the air? BridgeCom Systems has created a foolproof and straightforward guide for helping Hams getting on Digital Mobile Radio. It's pretty simple! And with their permission we'll take you through how to get your DMR ID, how to find a quality DMR handheld, and how to make your first DMR contact!



#### **STEP 1:**

You need to get your unique DMR ID. Visit [RadioID.net](http://RadioID.net), register with your amateur radio call sign, and obtain a DMR ID. RadioID.net has an automated registration process that allows you to get a unique DMR ID instantly. Why do you need an ID? This ID will let you take and use your DMR radio anywhere in the world and be uniquely identified and access DMR networks to communicate.



#### **STEP 2: Find a Quality DMR Handheld**

You need a high-quality, well-crafted radio that's heavily supported by the company you bought it from. Support is critical when considering the purchase of a radio, especially when it comes to DMR. You need to partner with a company that's invested in your success. Because you're going to have a lot of questions probably, frequently folks new to DMR will buy a low-priced DMR handheld and soon after finding themselves lost if problems arise. They'll make an effort to contact the vendor they purchased the radio from and then be told to contact the manufacturer. This creates a great amount of grief and causes a lot of people to simply give up on DMR due to no available support. This can't be stressed enough - you want to make absolutely sure you partner with a good company that has the resources to help you be successful!



#### **STEP 3: Make a Contact**

You'll need to find a local repeater. This is relatively easy. We suggest you visit [www.RepeaterBook.com](http://www.RepeaterBook.com) and search for a DMR repeater in your area. From there, you can obtain the repeater credentials to create a code plug for your radio. Another option would be to contact your local amateur radio club and see if they support DMR. They should be able to steer you in the right direction. You'll want to inquire and see what talk groups are available, what color codes are used, and what network the repeater is connected to. Is your local repeater connected to BrandMeister, DMRMARC.net, or something else?



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### DMR Hot Spot

If you don't have access to a local repeater or want to be as autonomous as possible, the best way to communicate worldwide is through a DMR Hotspot. A DMR hotspot is an internet-based access point that allows you to use your DMR radio to communicate with other connected repeaters or Hot Spots. Simply put, if you have an internet connection, you can connect to the Brandmeister network and talk all over the world. If you're a Do-it-Yourselfer, we hope this 3-step process dramatically helps you get on the air with DMR. However, if this all seems overwhelming and you want to press the EASY button to get on DMR, we have that. We offer a bundle we like to call the Plug and Play package. This package comes in many variations, but our most popular offer is the 878UVII Plus Package. In this ready-to-use bundle comes the AnyTone 878UVII Plus and the SkyBridge Plus Digital Hotspot. Each radio bundle is tailor-made to fit the exact programming specifications of each user. All we need is your DMR ID, callsign, and state of residence. Once we have all your information, we'll program your package with everything you'll need to make your first DMR QSO in only minutes.

*(Printed with permission from Bridgecom Systems)*



### So What Is DMR Radio?

**Digital mobile radio (DMR)** is a limited open digital standard defined in the (ETSI) Standard TS 102 361 parts 1–4 and used in commercial products around the world. DMR, along with other main competitor technologies achieve 6.25 kHz equivalent bandwidth using the proprietary vocoder. DMR and P25 II both use two-slot in a 12.5 kHz channel, while NXDN uses discrete 6.25 kHz channels using frequency division and uses a four-slot TDMA in a 25 kHz channel.

DMR was designed with three tiers. DMR tiers 1 and 2 (conventional) were first published in 2005, and DMR 3 (Trunked version) was published in 2012, with manufacturers producing products within a few years of each publication.

The primary goal of the standard is to specify a digital system with low complexity, low cost and interoperability across brands, so radio communications purchasers are not locked into a proprietary solution. In practice, given the current limited scope of the DMR standard, many vendors have introduced proprietary features that make their product offerings non-interoperable with other brands.

The DMR standard operates within the existing 12.5 kHz channel spacing used in land mobile frequency bands globally, but achieves two voice channels through two-slot TDMA technology built around a 30 ms structure. The modulation is 4-state FSK, which creates four possible symbols over the air at a rate of 4,800 symbols/s, corresponding to 9,600 bit/s. After overhead, forward error correction, and splitting into two channels, there is 2,450 bit/s left for a single voice channel using DMR, compared to 4,400 bit/s using P25 and 64,000 bit/s with traditional telephone circuits.

The standards are still (as of late 2015) under development with revisions being made regularly as more systems are deployed and improvements are discovered. It is very likely that further refinements will be made to the standard, which will necessitate firmware upgrades to terminals and infrastructure in the future to take advantage of these new improvements, with potential incompatibility issues arising if this is not done.



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### DMR covers the RF range 30 MHz to 1 GHz

There are DMR implementations, (as of early 2016), that operate as low as 66 MHz (within the European Union, in 'Lo-Band VHF' 66–88 MHz.)

The DMR Association and manufacturers often claim that DMR has superior coverage performance to analogue FM. Forward error correction can achieve a higher quality of voice when the receive signal is still relatively high. In practice, however, digital modulation protocols are much more susceptible to and fail to provide service in areas where analogue FM would otherwise provide degraded but audible voice service. At a higher quality of voice, DMR outperforms analogue FM by about 11 dB. But at a lower quality of voice, analogue FM outperforms DMR by about 5 dB.

Where signal processing has been used to enhance the FM audio quality then analogue FM generally outperforms DMR in all situations, with a typical 2–3 dB improvement for "high quality" voice and around 5 dB improvement for "lower quality" voice. Where digital signal processing is used to enhance analog FM audio, the overall "delivered audio quality" is also considerably better than DMR. However DSP processing of analog FM audio does not remove the 12.5 kHz requirement.

### DMR Tier 1

DMR Tier I products are for license-free use in the European PMR446 band. Tier I products are specified for non-infrastructure use only (meaning without the use of repeaters). This part of the standard provides for consumer applications and low-power commercial applications, using a maximum of 0.5 watt RF power. Note that a license free allocation is not present at this frequency outside of Europe, which means that PMR446 radios including DMR Tier I radios can only be used legally in other countries once an appropriate radio license is obtained by the operator. Some DMR radios sold by Chinese manufacturers (most notably Baofeng) have been mis-labeled as DMR Tier I. A DMR Tier I radio would only use the PMR446 license free frequencies, and would have a maximum transmitted power of 0.5 W as required by law for all PMR446 radios. Although the DMR standard allows Tier I DMR radios to use continuous transmission mode, all known Tier I radios currently use TDMA, the same as Tier II. This is probably due to the battery savings that come with transmitting only half the time instead of continuously.

### DMR Tier 2

DMR Tier II covers licensed conventional radio systems, mobiles and hand portables operating in PMR frequency bands from 66–960 MHz. The ETSI DMR Tier II standard is targeted at those users who need spectral efficiency, advanced voice features and integrated IP data services in licensed bands for high-power communications. A number of manufacturers have DMR Tier II compliant products on the market. ETSI DMR specifies two slot TDMA in 12.5 kHz channels for Tier II and III.

### DMR Tier 3

A portable radio compatible with the DMR Tier III digital radio standard.

DMR Tier III covers Trunking operation in frequency bands 66–960 MHz. Tier III supports voice and short messaging handling similar to TETRA with built-in 128 character status messaging and short messaging with up to 288 bits of data in a variety of formats. It also supports packet data service in a variety of formats, including support for IPv4 and IPv6. Tier III compliant products were launched in 2012.



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### DMR Association

In 2005, a memorandum of understanding (MOU) was formed with potential DMR suppliers including Tait Communications, Fylde Micro, Selex, Motorola, Hytera, Sanchar Communication, Vertex Standard, Kenwood and Icom to establish common standards and interoperability. While the DMR standard does not specify the vocoder, MOU members agreed to use the half rate DVSI Advanced Multi-Band Excitation (AMBE) vocoder to ensure interoperability. In 2009, the MOU members set up the DMR Association to work on interoperability between vendors' equipment and to provide information about the DMR standard.<sup>[7]</sup> Formal interoperability testing has been taking place since 2010. Results are published on the DMR Association web site. There are approximately 40 members of the DMR Association. The standard allows DMR manufacturers to implement additional features on top of the standards which has led to practical non-interoperability issues between brands, in contravention to the DMR MOU.

### Amateur Radio Use

DMR has seen some use on the Amateur Radio VHF and UHF bands, started by DMR-MARC (Motorola Amateur Radio Club) around 2010. In Amateur spaces, Coordinated DMR Identification Numbers are assigned and managed by RadioID Inc. Their coordinated database can be uploaded to DMR Radios in order to display the name, call sign, and location of other operators. Internet-linked systems such as the DMR-MARC, Phoenix UK DMR Network, BrandMeister network, TGIF, DV Scotland (UK), FreeDMR and several others (including several closed clusters), allow users to communicate with other users around the world via connected repeaters, or DMR "Hotspots" often based on the Raspberry Pi single-board computer. There are currently more than 4,000 repeaters and 15,000 "hotspots" linked to the BrandMeister system worldwide. The low-cost and increasing availability of internet-linked systems have led to a rise in DMR use on the Amateur Radio bands. The development of Raspberry Pi hotspots has allowed users to connect to single or multiple networks (using Pi-Star software). Pi-Star software used for many Raspberry Pi hotspots has also allowed those wanting to host an Amateur Radio repeater, to make a "home-brew" repeater using various radios controlled by a Raspberry Pi utilizing the Pi-Star software, at a fraction of the cost of a commercial repeater.





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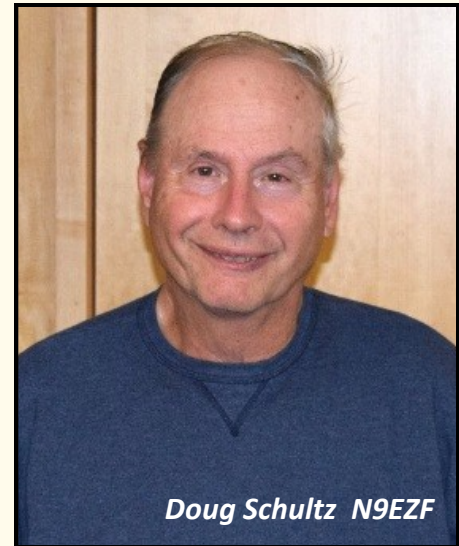
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### ***My FT8 Adventure***

**By: Doug Schultz N9EZF**

It all started at the Fond du Lac Amateur Radio Club's 2019 Field Day event at UW-FDL campus. I would observe Lloyd Vandervort(N9RPU) and Don Chapman (KC9KZQ) working FT8 in the yellow banana. It always seemed like they were having a lot fun operating the FT8 mode. I would ask a number of questions of Lloyd during the year before the Covid 19 Pandemic struck in March, 2020. Fast forward to June, 2020 and I had decided that I would try out the FT8 digital for ARRL Field Day 2020 operating as 1D from home. I had purchased a new radio in 2019 a Kenwood TS-590SG and one of the reasons I bought that radio was because I didn't need a separate sound card interface between the rig and the computer. I had purchased a laptop for logging in 2019 which I would use to run the FT8 software WSJT-X. Let just say as Field Day 2020 approached I ran into a few snags getting the rig to talk the laptop. Thanks to Lloyd for answering all my questions and giving me suggestions to try we finally got the transceiver to work together with laptop the day before Field Day 2020.



*Doug Schultz N9EZF*

It was an exciting ARRL 2020 Field Day for me operating a new mode FT8 versus operating SSB for 30 + Field Days. It was a totally new experience to operate digital modes and I learned a lot working in a contest environment. When I started the contest operating FT8 I knew the basics of operating the mode but by the end of the contest I was more familiar with the digital mode. I worked 101 stations in FT8 in the 2020 Field Day effort which I felt wasn't too bad for a first effort. The mode was so much fun to operate that I decided to operate the digital modes at my home station as often as I could.

I decided to begin operating FT8 on July 5, 2020 as often as I could on the HF bands. Since I was fully retired and had more time this looked like the perfect solution to enjoy the hobby again. I definitely did enjoy operating the digital modes on an almost daily basis. I found out that FT8 is a weak signal mode but it still gets through with a minimum amount of power as long as you have propagation. Relearning HF propagation principles as well as to see what bands are open into various parts of the world. The digital modes also are dependent on having a decent antenna on a particular band to work other stations whether they are DX or stateside. I was able to work quite a few stations with my tri-bander beam antenna on the 10 meter, 15 meter and 20 meter bands. I found out that my fan dipole on 40 meters and 80 meters was a below average performing antenna especially on 40 meters. It worked OK on 80 meters with state side stations but wasn't a DX antenna being only up about 30 feet at the center. The fan dipole would tune on the WARC bands with the rig's tuner but I only was able to work one DX station into Europe on 17 meters and nobody on 30 meters.

*continued*



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In September, I decided I needed another multiband antenna that would allow me to work FT8 on the all the bands from 40 meters and up through 6 meters. Since my lot in North Fond du Lac is not large and I didn't have many trees to string up a loop antenna I needed to think about a ground mounted vertical as possible solution. I checked on a number of verticals on the internet and I looked at the reviews on Eham.net for these vertical antennas. I found a 27 foot vertical at Zero Five antennas that covered the bands from 40 meters and up. I contacted the company which is located in Bolingbrook, Illinois and the owner of the company called me back in about an hour. Tom Leakakos the owner of Zero Five antennas answered all my questions and I ordered the antenna the next day. It took a couple weeks for the antenna to arrive. In the mean time I had to contact the village to mount it as well as get a hold of Diggers Hotline to make sure where I wanted to put was not a problem. I got approval to put the vertical up around the 20th of October, 2020. Thanks to Dennis Paulin( KB9OFM) for a donating a ground rod, 1000 ft. of radial wire and 5 foot section of well pipe to mount it on that I was able to get it up and operating by the end of October.

I was able to put the Zero Five 27 foot vertical on the air on October 28, 2020 and I had a total of 1,028 digital QSO's in my logbook up to that point. I have 16 radials underneath the vertical which range in length from 27 foot long down to 10 foot long. Let's just say the vertical performed quite well once I became familiar with it. I was able to work stateside stations on 40 meters, 30 meters, and 17 meters that I couldn't work before with the fan dipole. The vertical antenna also allowed me to work DX stations the I couldn't work before on the WARC bands.

The vertical antenna was a great performer for me and it allowed me to confirm 66 DX countries as well as confirm all 50 states on FT8/FT4 during the year. My logbook totals as of June 25, 2021 now has a total of 6,000 digital QSO's. Would I recommend any hams to try FT8/FT4 digital modes? I would definitely give them a try and have some fun operating on the HF bands.

*Doug Schultz N9EZF*



*Blast from  
The past!*



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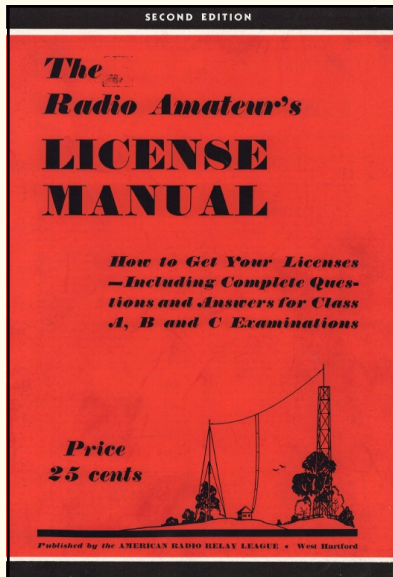
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## Could You Pass the Ham Radio Examination from 1933?

*What a difference 88 years make!*

I remember sitting in study hall back in 1969 with a book about Ham Radio back in the day when you went to the library for your information! Remember those days? The book I had was about 20 years old and filled with stories and illustrations about vacuum tubes, home made antennas, and this hobby called Amateur Radio. I was introduced to the fold by my good friend from Oshkosh Bill Gerdes K9GNE, a call sign etched in my memory. Bill gave me my very first Hallicrafters tube type receiver and I strung a 100 ft copper wire from my bedroom window to a tree. Bill was the head technician for Basler Aircraft.

My father who was also fond of electronics purchased my very first organ from Heathkit and it was fun watching Bill and my dad solder endless components to circuit boards. After 3 weeks of hard work sometimes lasting into the wee hours of the morning and a few cases of beer, we fired the Thomas Heathkit organ up for the first time and it worked! All through high school many other Heathkit products were purchased. A voltmeter, a stereo, and a code keyer. There was nothing better in those days for a father and son to bond with than a Heathkit!

I always wondered about that book back in the day, so I called ARRL and got their permission to reprint segments from a book just like it! The test questions are nothing like the questions today. In the 60's, there was no plug and play world, no Internet, none of the conveniences and luxuries of our hobby today. You had to know considerably more about the core of Ham Radio and electronics in general. Tests were grueling. Back then electronic theory was king. Code was king. Now days there are facets of Ham Radio we would have never dreamed of in study hall in the 60's. (Sometimes detention hall. Whatever worked) Was Ham Radio better back then than it is now? Some would say yes, and some would say no.

But can you answer the questions from 1933? I know a lot of you can, and it's fun to take a trip into the past. Let's look at the test from 1933 on the next page, and good luck! *Joe Scheibinger K9VY*

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### Publication Corrections and Distribution

The "FDL 73" newsletter is compiled and distributed by the members of the Fond du Lac Amateur Radio Club. It is distributed by E-mail free of charge to all its members. Members are encouraged to send copies freely to other Ham Radio enthusiasts, electronic hobbyists, and friends. The newsletter is the heartbeat of the club and members are encouraged to participate by lending stories, experiences, and expertise. Deadline for submission is 10 days before the next advertised meeting. For corrections and submissions please send them to [backstagelive@gmail.com](mailto:backstagelive@gmail.com).



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If you had a frequency meter with a possible error of 0.5%, what is the lowest frequency in the 14,000-kc. amateur band to which you could safely set your amateur transmitter, and why?

14,070 kc. as shown by the calibration curve of the frequency meter, because the possible error is such that a setting between 14,000 and 14,070 kc. cannot be depended upon to be actually within the low-frequency limit of the 14,000-kc. band.

In operating your frequency meter, what is the effect upon frequency when the tuning condenser capacity is increased, and why?

The frequency decreases, because for a circuit containing a fixed inductance and a variable condenser, the frequency varies inversely as the square root of the capacity.

Why does an absorption-type frequency meter give different readings at different distances from the transmitter?

An absorption frequency meter functions by taking a small amount of energy from the transmitter and therefore must be rather closely coupled to the transmitter tuned circuit. When two circuits are closely coupled the resonance frequencies of both are changed to an extent which varies with the degree of coupling or distance between them; hence the resonance readings will be different at different distances.

67. Why do not amateur regulations permit radiotelephony by modulating a self-excited oscillator?

Because modulation of a self-excited oscillator results in frequency modulation as well as amplitude modulation, since the frequency of a self-excited oscillator is affected by changes in the plate and grid voltages.

162. Draw the schematic circuit diagram of a modern amateur radiotelephone transmitter, complete with plate and filament power supplies and antenna system, showing a crystal-controlled oscillator, a buffer amplifier, a modulated amplifier, a modulator, a speech amplifier, and a speech input circuit including microphone.

69. Why must a transmitter intended to be modulated for radiotelephony be so arranged that the modulation can not affect the carrier frequency?

To prevent frequency modulation.

Explain how a heterodyne frequency meter calibrated for the 1715-2000 kc. band may be used to adjust a transmitter for operation within the band 3500-4000 kc.

The answer to this question is the same as to the general question on the use of a heterodyne frequency meter in setting transmitter frequency, except that in this case the heterodyne frequency meter is not set directly to the desired frequency but to exactly half that frequency. The receiver or monitor is tuned to the *second harmonic* of the frequency-meter oscillator; the second-harmonic signal has exactly twice the frequency given on the calibration chart for the dial setting used.

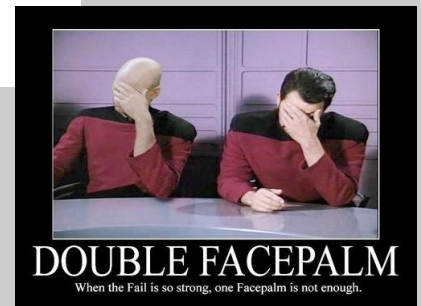
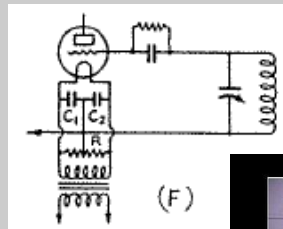
183. What adjustments of a Class-A speech amplifier should be made if the plate current increases with excitation?

This may be an indication either of improper grid bias or excessive excitation. In the first case, the negative grid bias should be reduced; in the second, the grid excitation should be decreased.

184. What adjustments of a Class-A speech amplifier should be made if the plate current decreases with excitation?

A decrease in plate current indicates that the grid of the tube is being driven positive when the exciting grid voltage is delivered by a high-impedance source such as a voltage amplifier. Either the excitation should be reduced so that the driving stage is not overloaded, or, if the tube has been improperly biased, the negative bias should be increased to set the grid potential at the correct operating point.

40. Draw a simple schematic circuit diagram showing grid-return connection to the electrical center of a filament circuit where the filament heating transformer has no center tap and briefly explain its operation.





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### Treasurer's Report

July 2021



	Previous Month	Income & Expenses	Current Total	Cash	Savings Account	Checking Account	CD	Other
<b>FDL RADIO CLUB</b>								
Truck Fund	0.00	.00	.00			.00		
Emergency Svc Fund	1,496.26	.00	1,496.26			1,032.52	463.74	
General Use Fund	4922.59	45.00	4,967.59			3,779.80	1,187.79	
Savings Account	25.00	.00	25.00		25.00			
Petty Cash Fund	19.12	.00	19.12	19.12				
<b>TOTALS</b>	<b>6,462.97</b>		<b>6,462.97</b>					
<b>FDL REPEATER ASSN.</b>								
Repeater Fund	235.25	.00	235.25			81.97	153.28	
<b>TOTALS</b>				<b>19.12</b>	<b>25.00</b>	<b>4,894.29</b>	<b>1,804.81</b>	

INCOME FROM DUES	\$45.00
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EXPENSES	.00
TRK Insurance	<u>351.00</u>
	<b>351.00</b>

### FCC Updates

If you are applying for amateur license for the first time you will be required to provide a Federal Registration Number or FRN on your application. Your Social Security Number will not be accepted by the VE team. There are You Tube videos on the Internet that go through the steps needed to get an FRN on the FCC ULS website.

On May 29, 2021 all FCC applications will require that you provide a valid email address since that will be the main method for the FCC to contact you. If you don't have an email address you can get a free one at [www.gmail.com](http://www.gmail.com) or at [www.yahoo.com](http://www.yahoo.com). Another way to solve the email requirement would be to use a relative's email account or a friend's email account with their permission.



# FOND DU LAC AMATEUR RADIO CLUB



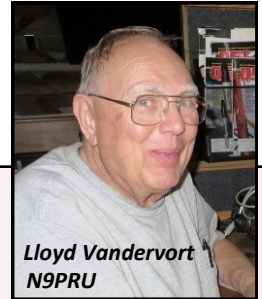
## — FDL 73 —

www.fdlhams.com

July, 2021

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

### Meeting Minutes



Lloyd Vandervort  
N9PRU

#### Meeting Minutes for the June Meeting

At 7:00 PM the pizzas arrived before the meeting started. At 7:15 PM President Tom Karrmann KC9VZY called the meeting to order. We then went around the room and did introductions of all attending the meeting.

A motion to approve last month's minutes was made by Justin Buell KC9YET and seconded by Doug Schultz N9EZF. No objections were raised and the motion passes. Doug Schultz N9EZF gave the Treasurer's report. There are no bills due this month. A motion to approve the Treasurer's report was made by Tom Powell KC9VXR and seconded by Paul Bleuel KC9NAA. No objections were raised and the motion passes.

The President brought up Old Business: Field Day: Buddy Larson KC9UVJ left the laptops that were used in previous Field Days. Paul Bleuel KC9NAA will take them to the yellow banana. Joe Scheibinger K9VY volunteered his RV for Field Day. In other old business MPTC has opened up their campus for outside groups to hold meetings beginning in late June for 50% capacity and beginning in September it will be 100% capacity for the meeting rooms. MPTC has instituted an online room reservation system today,

A motion to return to Moraine Park Tech. for club meetings next month by Charle Mahnke K9HXI and seconded by Cully Kowal KS0D. Approval on condition of room availability. All approved the motion.

New Business: Dennis Paulin KB9OFM says that he has been contacted by Silent Key Mike Miller KC9DOA's partner that wants him to sell his amateur equipment. Dennis says there is lots of antennas and radios that will have to be priced and put up for sale. This list will be put in the newsletter.

President Tom Karrmann KC9VZY asked what are we going to do for Field Day? Paul Bleuel KC9NAA replied they were planning to setup at Dave McCumber's shop in the parking lot in North Fond du Lac.

Peter Fox KB9WZD has the two Icom 746 HF radios at his place.

Tom Powell KC9VXR brought up that in the newsletter it was mentioned that we were going to sell the truck and auction off some of the excess equipment in the truck we thought we would discuss that tonight. Should we discuss it tonight? Tom Karrmann KC9VZY asks what does the club constitution say?

Tom Powell KC9VXR says there is no mention in the constitution except for dissolution of the club. Tom Karrmann KC9VZY then said we should make a list of excess equipment. Joe Scheibinger K9VY suggested that we can sell on Ebay and get a better price than if we sell it at an auction. Tom Powell KC9VXR said do we want to sell all the transceivers? Maybe we can loan it to some of the new members that don't have any equipment. What about the event grill and other things were used for brat fries?

*(continued)*



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The club also has 3 10X10 tents and 10X20 tent as well. We have lots of radios that we don't use. We can look up prices on Ebay, QTh or Eham for the radios. Tom Karrmann KC9VZY then said the things we decide to sell should be offered to club members first then sell other ways. Dennis Paulin KB9OFM will try to price the radios and ham equipment we decide to sell. Tom Karrmann KC9VZY said we should keep the 4 HF transceivers. A motion was made by Peter Fox KB9WZD to price out the equipment we want to sell and post it in the newsletter and the motion was seconded by Lloyds Vandervort N9RPU. No objections were raised on the motion and the motion was passed. Tom Karrmann KC9VZY then suggested we table the discussion on the excess equipment. No objections were raised..

President Tom Karrmann then asked if there was any other new business? Lee Clausen KC9ZVZ suggested the club buy a used travel trailer and remove what we don't want. The only with that suggestion is we need a place to store it and a truck to pull it. Joe Scheibinger K9VY has a proposal for the club to get 10 volunteers and ask Menards for \$1000 donation to refurbish to refurbish the inside the truck in 30 days. Then go to Mercury Marine for donation that would keep the truck license and insurance for 5 years. Buying a trailer is ridiculous because the truck is restorable..

Tom Powell KC9VXR with all due respect Joe, this has been discussed at the last two meeting the club has voted and decided. Joe Scheibinger K9VY said I'm making an offer I will get the money first and take the truck to my shop with 10 volunteers to refurbish the truck. You can take it or leave it.

Tom Karrmann KC9VZY then asked for any discussion on Joe's offer. Lloyds Vandervort N9RPU then asked who would give the truck. Joe Scheibinger K9VY said he could drive it.

Peter Fox KB9WZD said the reason we are downsizing our equipment is that our club is dwindling as our club is getting older. Joe Scheibinger K9VY I have made an offer to restore the truck that's what I do for a living. I will go to Menards for \$100 donation for materials and then go to Mercury Marine for a donation for license and insurance for five years. Tomm Karrmann KC9VZY said that we should table this offer until everyone can see this in the newsletter and take the time to read through it. Are there any objections?

Tom Powell KC9VXR I object point of order that the club voted to have the officers and board member to decide on path forward on the truck and equipment. That has been done and a decision has been made. Tom Karrman KC9VZY but Joe's offer is to buy the truck. Tom Powell KC9VXR said I thought Joe's offer was to refurbish the truck for club. Joe Scheibinger K9VY if the club decides to purchase a trailer I will bid on the truck. Tom Karrmann KC9VZY then says I don't want to go back on something we have already voted on. A motion has been made by Peter Fox KB9WZD to decline the offer to refurbish the truck while the club owns it however what happens after sale doesn't matter to the club. Joe Scheibinger K9VY If you're dead set on getting rid of the truck its all right with me. But its like going to the doctor for a toenail and then having cutoff your foot. We are not gaining anything by selling the truck and getting a trailer. Peter Fox KB9WZD said he made a motion and Tom Powell KC9VXR said he seconded the motion. Tom Karrmann KC9 VZY the asked if there was any discussion on the motion. Peter Fox then said that we would use the truck during the year and they are Field Day along with Race the Lake. Tom Karrmann KC9VZY we have a motion and a second we need a vote on it What do we want to do? We need to find a trailer before we sell the truck Tom then asked for a vote Peter's motion. Twelve members voted to approve the motion and 4 were opposed. Motion passed. A motion has been made by Justin Buell KB9YET to adjourn the meeting and Wally Drees KD9JAD seconded the motion to adjourn. Lee Clausen KC9ZVZ has on more thing there will be a outside swapfest at Kaukauna. Tom Karrmann KC9VZY said a motion has been made and seconded to adjourn. All approved the motion and we adjourned the meeting at 8:04 PM.



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### NOTICES / ANNOUNCEMENTS

#### 2021 Fond du Lac Amateur Radio Club Dues

The 2021 club dues are due now. Club membership dues are \$15 for individuals, \$7.50 for students and family memberships are \$20. You can pay Doug Schultz at the club meeting. If you can't attend, you can mail them to:

Fond du Lac Amateur Radio Club,  
Doug Schultz N9EZF  
Chief Caretaker of the Club Hamster  
P.O. Box 53,  
Fond du Lac, WI 54936



#### 2021 ARRL Field Day Wrap-up

The band conditions were challenging on Saturday, June 26 with only two bands carrying the bulk of the contestants. I worked 1D again this Field Day. On FT8/FT4 20 meters was wall to wall stations so I had to operate on 40 meters which was crowded as well. Luckily Saturday evening I was able to work quite a few contacts on 80 meters. Sunday was much better operating the digital modes since 15 meters and 10 meters were also open. Overall I would have to rate my results average at 166 QSO's for the contest in the digital modes. Lloyd Vandervort found out the our Kenwood TS-480S transceiver had a receive filter issue so they had to use the Icom 746 Pro on HF in the yellow banana. They also had problems with one of the offset center fed dipoles later in the contest and Ron Keller replaced it with a dipole. Lloyd said they worked a couple hundred contacts from the yellow banana. Dennis Paulin worked 1D this Field Day on SSB and said he struggled on Saturday with the bands being very congested as well. He felt Sunday was better for operating SSB stations.

#### Amateur License Exams Resume at MPTC this Fall

The Fond du Lac Amateur Radio Club VE's will be holding a couple of Amateur Radio exam sessions at MPTC this fall. We need to firm up dates and locations with MPTC and I will be putting them in the next Club Newsletter.

*Doug Schultz N9EZF*



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### FARC CLUB INVENTORY

	A	B	C	D	E	F	G
1	<b>FOND DU LAC AMATEUR RADIO CLUB EQUIPMENT</b>						
2	<b>Description</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial Number</b>	<b>Location</b>	<b>Approx. Value</b>	<b>Date Updated</b>
3							
4	10X10 Pop-up Tents (2) with ropes and stakes	NA	NA	NA	Justin Buell KB9YET		4-18-2021
5	10X20 Tent with walls, ropes and stakes	NA	NA	NA	Justin Buell KB9YET		4-18-2021
6	10x10 Pop-up tents(2)	EZUP	Express III		Truck		5-15-2021
7	4 propane tanks				Truck		5-15-2021
8	Propane turkey cooker (burner & pot)	Bayou Classic			Truck		5-15-2021
9	2 large cooler chests	Coleman	Extreme		Truck		5-15-2021
10	(2) 18 qt. roaster ovens	Nesco			Truck		5-15-2021
11	2 crock pots (3 qt.?)	Hamilton Beach			Truck		5-15-2021
12	Round folding table				Truck		5-15-2021
13	4 stacking chairs, plastic				Truck		5-15-2021
14	Plastic tote (green top) "picnic supplies" (brat fry)				Truck		5-15-2021
15	2 black totes with Brat Fry supplies				Truck		5-15-2021
16	(1) 5 gal. liquid cooler	Rubbermaid			Truck		5-15-2021
17	(1) 6 foot stepladder	Keller			Truck		5-15-2021
18	(1) 21" box fan	Lasko			Truck		5-15-2021
19	Rchargeable spotlight	HDC			Truck		5-15-2021
20	Tool box w/ various tools				Truck		5-15-2021
21	2 sandwich board brat fry signs				Truck		5-15-2021
22	box w/ WI QSO Party plaques '09,'10, '12, '15				Truck		5-15-2021
23	Misc. banners & signs				Truck		5-15-2021
24	3 blue adjustable office chairs				Truck		5-15-2021
25	4 chair cushions				Truck		5-15-2021
26	(7) 26" orange traffic cones				Truck		5-15-2021
27	(2) 18" orange traffic cones				Truck		5-15-2021
28	(1) 30 ft. 8 section portable mast in green bag				Truck		5-15-2021
29							
30	Grey plastic case containing the the following				Peter Fox KB9WZD		4-18-2021
31	Desktop HF radio	Icom	IC-746-Pro	1703	"	\$1,000.00	4-28-2021
32	Power supply				"		4-18-2021
33							
34	Grey plastic case containing the the following				Peter Fox KB9WZD		4-18-2021
35	Desktop HF radio	Icom	IC-746-Pro	2060516	"	\$1,000.00	4-28-2021
36	Power supply				"		4-18-2021
37							
38	Repeater	Yeasu	DR2X	8G040148		\$1,000	04-28-2021
39	Repeater Duplexer	Sinclar	23301	244317		\$1,000.00	04-28-2021
40	Repeater Antenna	???					
41	Triband Antenna		TH3 JR		Jack Heil KG9IN		
42	Beam Antenna	Cushcraft	A3		Larry Lamont KB9POP		05-10-2021
43	40 meter hamstick	Hustler	RM40		Truck		05-15-2021
44	20 meter hamstick	Hustler	FM20		Truck		05-15-2021
45	75 meter hamstick	Hustler	RM75		Truck		05-15-2021
46	"3977" hamstick	Hustler			Truck		05-15-2021
47	2 meter antenna & mast	Diamond	X5A		Truck		05-15-2021
48	6 misc. whip antennas in tube				Truck		05-15-2021
49							
50	Antenna Tuner	Icom	AH-4		Truck		05-15-2021
51	400 Watt DC-AC power inverter				Truck		05-15-2021
52	1.5amp battery maintainer	Schumacher	SE1-12S		Truck		05-15-2021
53	isolater	Powergate	PG40		Truck		05-15-2021
54	2 fuse boxes	Rigrunner	4005		Truck		05-15-2021
55	power distribution panel	MFJ	1129		Truck		05-15-2021
56	20 amp power supply	Astron	RS20		Truck		05-15-2021
57	USB Sound Card for Kenwood 480	Tigertronics	Signalink		Truck		05-15-2021
58	USB Sound Card for Icom 746	Tigertronics	Signalink		Truck		05-15-2021
59	antenna analyzer	MFJ	247		Truck		05-15-2021
60							
61							
62	HF Transceiver	Kenwood	TS480SAT	80700011	Truck	\$1,000.00	05-15-2021
63	HF Transceiver	Kenwood	TS450		Jack Heil		#N/A
64	Dual Band Tranceiver	Yaesu	FT8800R	31030997	Truck	\$375	05-15-2021
65	2 Meter VHF Tranceiver	Yaesu	FT1802M	6E060688	Truck	\$130.00	05-15-2021
66	2 Meter VHF Tranceiver	Yaesu	FT2800M	3H090057	Truck	\$140.00	05-15-2021



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### FARC CLUB INVENTORY (continued)

69	MURS Transceiver	Radio Shack	19-210	90704359	Truck	\$125.00	05-15-2021
70	CB Transceiver	Cobra	19DXIV	H504007697		\$50.00	04-28-2021
71	GMRS Transceiver	Fujitsu	FTM 40-309	300188	Truck	\$100.00	05-15-2021
72	PS Transceiver	Motorola	D51mja935e	428atg3287		\$100.00	04-28-2021
73	Power Supply	MFJ	4125	152000293RC00		\$100.00	04-28-2021
74							
75							
76	5500 Watt Generator	Honda	EM5000		Truck		5-15-2021
77	4500 Watt Generator	Generac	05567-1	1120634	Truck		5-15-2021
78	6 Burner Event Grill	Aussie		7000001211	Truck		5-15-2021
79							
80							
81							
82							
83							
84							
85	plastic tote "CW" w/ various wire antennas & coax				Truck		05-15-2021
86	plastic tote "SSB" w/ various wire antennas & coax				Truck		05-15-2021
87	(2) 6 outlet power strips				Truck		05-15-2021
88	box of 6 road warning triangles				Truck		05-15-2021
89	(2) 25 ft. extension cords				Truck		05-15-2021
90	(3) heavy duty extension cords 50-100ft?				Truck		05-15-2021
91	2 outlet splitters				Truck		05-15-2021
92	1 spool of 18 guage wire				Truck		05-15-2021
93	1 spool of 14 guage wire				Truck		05-15-2021
94							





# FOND DU LAC AMATEUR RADIO CLUB

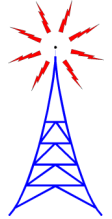
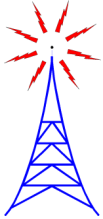


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### HAMFEST/CONVENTION

**07/10/2021 - [WI9SM South Milwaukee ARC Hamfest](#)**

**Location:** Oak Creek, WI

**Type:** ARRL Hamfest

**Sponsor:** South Milwaukee ARC

**Website:** <http://www.wi9sm.org>

### HAMFEST/CONVENTION

**07/17/2021 - [Chippewa Valley Amateur Radio Club Ham-Fest/Tailgater](#)**

**Location:** Chippewa Falls, WI

**Type:** ARRL Hamfest

**Sponsor:** CVARC Chippewa Valley Amateur Radio Club

**Website:** <https://w9cva.org/hamfest>

### RIPON MEDICAL CENTER/ GREEN LAKE TRIATHLON

July 18, 2021

### HAMFEST/CONVENTION

**08/07/2021 - [Hamfest 2021](#)**

**Location:** Jefferson, WI

**Type:** ARRL Hamfest

**Sponsor:** TCARC / Jefcares

**Website:** <http://w9mqb.com>

### HAMFEST/CONVENTION

**08/07/2021 - [Riverland Amateur Radio Club Swapfest](#)**

**Location:** Onalaska, WI

**Type:** ARRL Hamfest

**Sponsor:** ARRL

**Website:** <http://rarc.qth.com>

### HAMFEST/CONVENTION

**08/21/2021 - [Northwoods Hamfest](#)**

**Location:** Tomahawk, WI

**Type:** ARRL Hamfest

**Sponsor:** Tomahawk Repeater Assoc. & Rhinelander Repeater Assoc.

### RACE THE LAKE BIKE RACE

August 22, 2021

### HAMFEST/CONVENTION

**08/28/2021 - [Circus City Swapfest](#)**

**Location:** Baraboo, WI

**Type:** ARRL Hamfest

**Sponsor:** Yellow Thunder Amateur Radio Club

**Website:** <http://yellowthunder.org>



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Jeremiah	Ilderden	KC9SGL
Reinholt	Aschmotat	N8VDH
Donald	Bakke	KD0HCW
Jim	Balthazor	K9AIX
Todd	Beay	A C9EX
Ed	Beltz	N9PJQ
Donna	Blend	KC9TFN
Paul	Bleuel	KC9NAA
Blend	Bowen	KC9VXV
Timothy	Braun	W9AAV
Marjean	Buck	KC9LFI
Neal	Buck	KC9LFN
Justin	Buell	KB9YET
Robert	Burrier	N2TSQ
Don	Chapman	KC9KZQ
Dean	Choate	KC9TGM
Lee	Clausen	KC9ZVZ
Jim	Cole	N9WAP
Frank	D'Imperio	KD9OXO
Walter	Drees	KD9JAD
Debra	Drees	
Kirk	Everson	KC9FZE
Dick	Finn	KC9ZVW
Mark	Forss	WD9CYM
Peter	Fox	KB9WZD
Brad	Freund	KC9QYP
Brad	Gehrt	KA9JDE
Derek	Giese	KD9IAN
Ray	Grenier	K9KHW
Erling	Gruel	WB9OJD
Ted	Gustavus	KD9IAH
Ben	Haack	KD9LVQ
Marjorie	Heil	KC9BEN
Jack	Heil	KG9IN
Doug	Iverson	AC9XW
Richard	Jarzynka	KD9EMX
Tom	Karrmann	KC9VZY
Ron	Keller	KC9YVL
Cully	Kowal	KS0D
Dawn	Krause	KD9CAW
Scott	Kreis	
Larry	Lamont	KB9POP
Buddy	Larson	KC9UVJ



Amateur Radio operators come from all walks of life -- doctors, students, kids, politicians, truck drivers, movie stars, missionaries and even your average neighbor next door. They are of all ages, sexes, income levels and nationalities. Whether through Morse Code on an old brass telegraph key, voice communication on a hand-held radio or computerized messages transmitted via satellite, all hams use radio to reach out to the world.

These are the devoted members of one of the best Amateur Radio Clubs in the Midwest, dedicated to community service, and dedicated to preserve and protect one of the greatest hobbies in the world.

***We are the members of the Fond du Lac Amateur Radio Club***



Joe	Lauber	KC9MDY
Michelle	Lawrence	N9RQL
Mike	Lawrence	N9UA
Isaac	Lundberg	KD9FPG
Chuck	Mahnke	K9HXI
David	McCumber	N9WQ
Walter	Meyer	K9WKM
Larry	Mielke	KC9RUE
Doug	Murray	KC9ZVT
Tom	Murray	N0HOR
Nancy	Myers	K9ANA
Randy	Nelson	KC9MYG
Ted	Neuburg	W9LUQ
Dot	Olig	K9FDL
Gene	Olig	KD9ZP
Tony	Pass	KC9QYR
Dennis	Paulin	KB9OFM
Gene	Peterson	KD9IAG
Tom	Powell	KC9VXR
Fernando	Salazar	KC9ZVX
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
Raymond	Teschke	KD9QLE
Brian	Turkiewicz	KC9LFR
Paul	Tvrdy	N9KLK
Danny	Vandekolk	KC9IGD
Lloyd	Vandervort	N9RPU
Ted	Willett	W9NHE
Laurie	Winchell-Beltz	KC9YQS
Dave	Witt	WD9W
Mathew	Yates	KD9CSD
Laura	Yates	
Matthew	Zimmerman	KD9KTY
David	Zittlow	K9DUI