



FOND DU LAC AMATEUR RADIO CLUB



— FDL 73 —

www.fdlhams.com

January, 2022

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

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Sgt-at-Arms:	Paul Buell KC9NAA
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Education	Jack Heil KG9IN
Scholarship	Jack Heil KG9IN
Field Day:	Jack Heil KG9IN
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Newsletter	Doug Schultz N9EZF
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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

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Newsletter Submissions:

Please email Editor Doug Schultz N9EZF
schultz74@charter.net

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

ELECTIONS IN JANUARY

We are asking all members of the FARC to come to the January meeting on Monday, January 10th, for election of officers for the 2022 year, and for some spectacular entertainment. See you at the meeting and don't forget to bring a friend!

What's Inside This Month?

We meet at Moraine Park in a New Room!
ENTERTAINMENT Steve Brightman - SDRplay

Understanding Solar indices

SDRplay - This Changes Everything

Yaesu Fusion X and Hot Spots

New Testing Dates

Treasurers Report

Meeting Minutes

Saying Goodbye to a Dear Friend

Lots of Other Stuff!

FARC Silent Keys

It is unfortunate to report our club has lost a couple of dear members this last month. We lost Marjorie Heil KC9BEN (see more inside the newsletter) and Barbara Simon W9MER both this month. KC9BEN had been ill with cancer for some time and Jack Heil KG9IN had been taking care of her at home. Barbara Simon W9MER passed in a hospital in Paducah, Kentucky where she and Louie Simon KB9VQM had relocated to be closer to family a number of years ago. Both were members of our club and it is important to recognize their passing.

Our Next Meeting Is January 10

When: Monday January 10, 2022 at 7:00 pm

Where: Moraine Park College (see page 2)

235 N National Ave, Fond du Lac, WI

Please Bring a Friend to the meeting!



FOND DU LAC AMATEUR RADIO CLUB



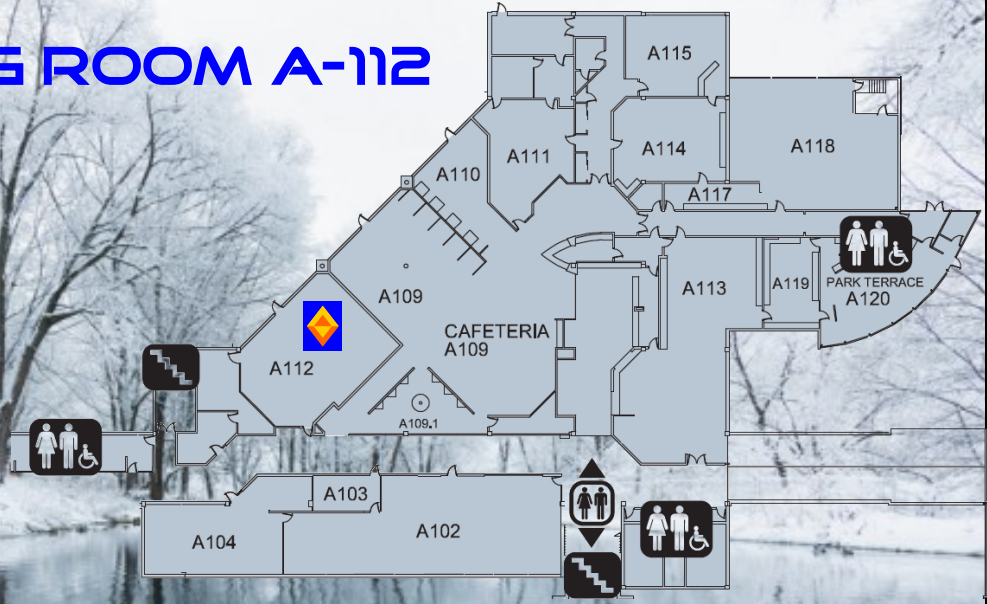
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NEW MEETING ROOM A-112



Meeting Room Change at MPTC

Beginning with our club meeting on January 10, 2022 at 7:00 PM we will be meeting in a new room at MPTC. We will be meeting in Room A-112 which can be accessed from O entrance by going straight down the hall from our old meeting room O-102 past the bathrooms on the left almost to the cafeteria. Our old meeting rooms are being renovated in 2022 and that is the reason for moving. Face coverings are still required at MPTC through at least March, 2022.



Official FARC Goody Table Set Up At Meeting (in January)

Back when we were meeting before Covid, we always had a table set up where you could select from some amazing things that other Ham radio operators would bring in to share. Piles of magazines, books, and even some hardware was brought in to borrow and give away. So it's time to clean out the radio shack of the accumulated stuff you don't want any more over the year of the pandemic. If you have old magazines, this is a great way to help distribute knowledge of our great hobby! Take them home and when you are done reading them bring them back next month and put them on the table for the next ham! And if you have anything to sell, bring it and attach a note to it showing how much you want for the item and who you are. **Older magazines are always welcome!**



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.



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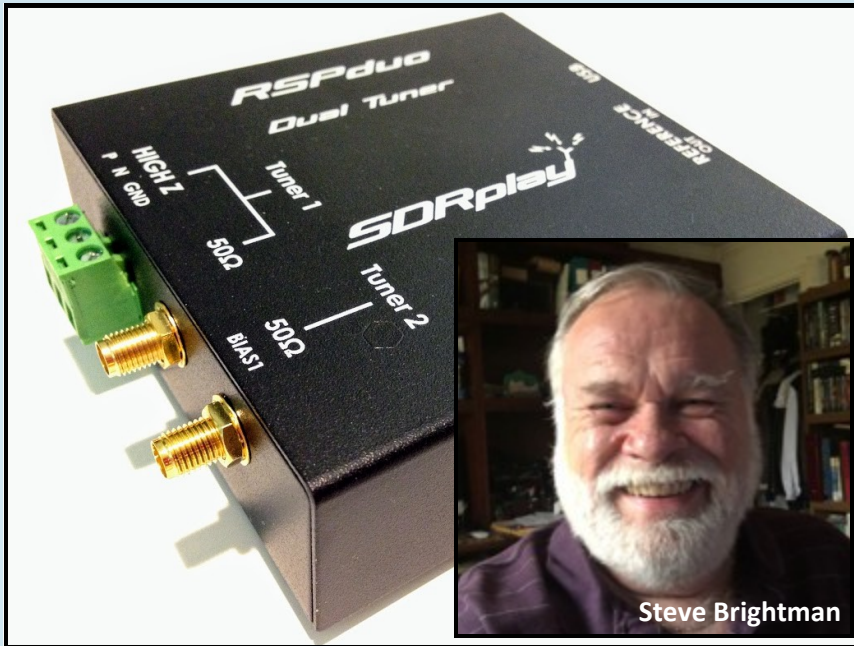
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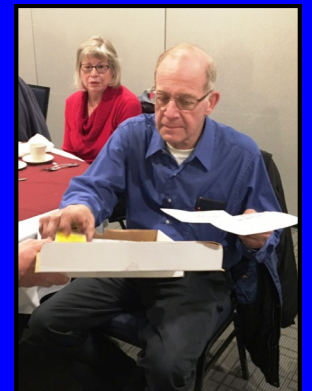
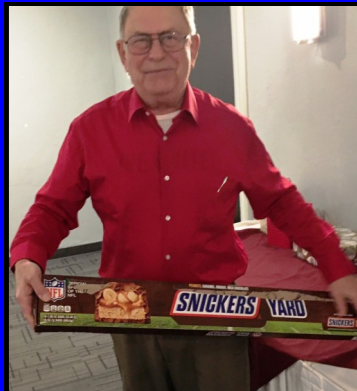
JANUARY

ENTERTAINMENT

THE AMAZING STEVE BRIGHTMAN



You've seen his great YouTube videos, now meet Steve at the January meeting! Steve Brightman is the North American Operations director for SDRplay. Steve will give a great presentation and take your questions. The new SDR systems are simply incredible. They are not your father's dongle! These new systems are incredible to use, with more features than you will ever need, and a receive quality that rivals the big box receivers costing thousands of dollars. SDRplay has 3 models to choose from depending on your needs. They cover an unimaginable frequency spectrum with software adjustable filters, and on board equalizer, and waterfall display. This is the future of Ham Radio.





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UNDERSTANDING SOLAR INDICES

One of the important skills for any HF DXer is to know what band conditions maybe like on a given day and on a given band. HF Band conditions can vary greatly from day to day depending on the solar indices. To be able to gain an idea about band conditions three main indices are used: solar flux, and the “Ap” and “Kp” indices. A good working knowledge of what these numbers represent and what they mean is an advantage even for the ham with the most well equipped station. In this article I hope to explain how you can use the solar indices to help you work more DX stations.

In order to understand HF propagation you have to learn about the ionosphere. The ionosphere can be visualized as containing a number of layers. In fact there is ionization throughout the ionosphere and the layers are really peaks in levels of ionization. The ionosphere affects radio waves because according to the level of ionization are refracted or bent away from traveling in a straight line. Often the level of ionization is sufficiently high to enable the signals to be returned to Earth.

Conditions are continually varying on the HF bands as a result of the varying levels of ionization in the ionosphere. The radiation coming from the Sun hits the upper ionosphere, causing molecules to ionize, creating positive ions and free electrons. A state of “dynamic equilibrium” exists. The free electrons the affect radio waves recombine with positive ions to reform molecules. When levels of ionization are higher (when there are more free electrons) the ionosphere is more capable of bending back signals to Earth. Also high levels of ionization mean higher maximum usable frequencies and better HF conditions.

The level of ionization at any given point above the earth is dependent upon a number of factors including the time of day, the season and most important of all the sunspot cycle. It is found that the level of radiation from the Sun increases as the number of sunspots increases. Accordingly, the level of radiation received from the Sun peaks around the top of sunspot cycle. In the case of the peak of Sunspot Cycle 25 that will be in late 2024 or early 2025.

It is not all good news, though. At the sunspot peak the level of geomagnetic activity also rises. This happens as the Sun emits vast quantities of particles. There is normally a steady flow of these particles, but at such as when there are solar flares the level of these emissions greatly increase. When they hit the Earth’s magnetic field it becomes disturbed giving rise to a ionospheric storm. This will degrade HF communications and when particularly bad it can lead to a total HF blackout which can last several hours.

Solar Flux

A measure known as the solar flux is used as a basic indicator of solar activity and to determine the level of radiation being received from the Sun. the “solar Flux” is measured in solar flux units SFU is the amount of radio noise or flux that is emitted at a frequency of 2800MHz (10.7cm) The Penticton Radio Observatory in British Columbia reports this measure daily. The solar flux is closely related to the amount of ionization and hence the electron concentration in the F2 region of the ionosphere. As a result it gives a very good indication of conditions for long distance communications.

Continued....



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The solar flux can vary from 50 or so to as high as 300. Low flux values indicate that the maximum useable frequency will be low and overall conditions will not be very good particularly on the higher HF bands. Conversely, high solar flux values generally indicate there is sufficient ionization to support long -distance communication at higher than normal frequencies. Since we are not at the peak of solar cycle 25 we recently had a peak reading of solar flux over Christmas 2021 of 142 and all the bands from 10 meters thru 80 meters were open for DX. Solar flux readings of 200 are common at the peak of the solar cycle.

Geomagnetic Activity

There are two indices that are used determine the level of geomagnetic activity: The A index and the K index. These give indications of the severity of the magnetic fluctuations and hence the disturbance to the ionosphere.

The first of the two indices used to measure geomagnetic activity is the K index. Each magnetic observatory calibrates its magnetometer so that the K index describes the same level of magnetic disturbance, not matter whether the observatory is located in auroral regions or at the Earth's equator. At three hourly intervals starting at 0000 UTC each day the maximum deviations from the quiet day curve at a particular observatory are determined and the largest value is selected. This value is then manipulated mathematically and the K index is calculated for that location.

The K index is a "quasi logarithmic" number and such cannot be averaged to give a longer term view of the state of the Earth's magnetic field. Thus was born the A index, a daily average. At each 3 hour increment the K index at an observatory is converted "a" index using table 1 and the 8 a-index values are averaged to produce the A index for that day. It can vary up to values around 100 or more. The A index reading varies from one observatory to the next since magnetic disturbances can be local. To over come this the indices are averaged over the globe provide the Ap index which is a planetary value.

Similarly the Kp index is the planetary index of all the K indices at observatories around the globe. Values between 0 and 1 represent quiet magnetic conditions and this would indicate good HF band conditions, subject to a sufficient level of solar flux. Values between 2 and 4 indicate unsettled or even active magnetic conditions and are likely to reflected in a degradation of HF conditions. Moving up the scale, 5 represents a minor storm, 6 a larger storm and 7 through 9 represents a very major storm that would represent in a blackout of HF communications.

Continued.....

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Solar Data/Propagation

Click to add to your website

Solar-Terrestrial Data

04 Jan 2022 2058 GMT

SFI 86 SN 12

A 12 K 0

X-Ray B1.4

304A 122 @ EVE

Pf 22 Ef 1140

Aurora 1/n=1.99

Bz 1.4 SW 395.1

HF Conditions

Band	Day	Night
80n-40n	Good	Good
30n-20n	Fair	Fair
17n-15n	Poor	Poor
12n-10n	Poor	Poor

VHF Conditions

Aur Lat	67.5°
Aurora	Band Closed
6n EsEU	Band Closed
4n EsEU	Band Closed
2n EsEU	Band Closed
2n EsNA	Band Closed
EME Deg	Good

Solar Flare Prb 19%

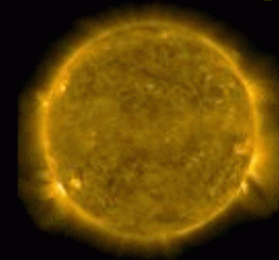


Geomag Field INACTIVE

Sig Noise Lvl S0-S1

MUF US Boulder NoRpt

Current Solar Image



<http://www.n0nbh.com>
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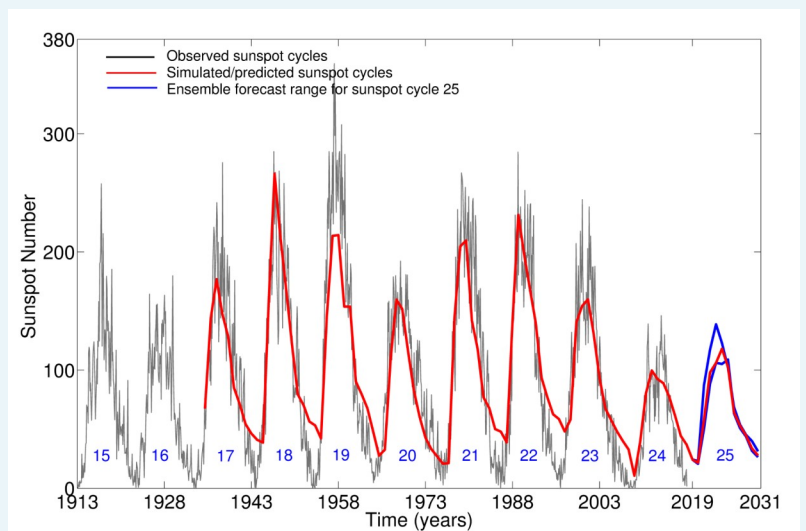
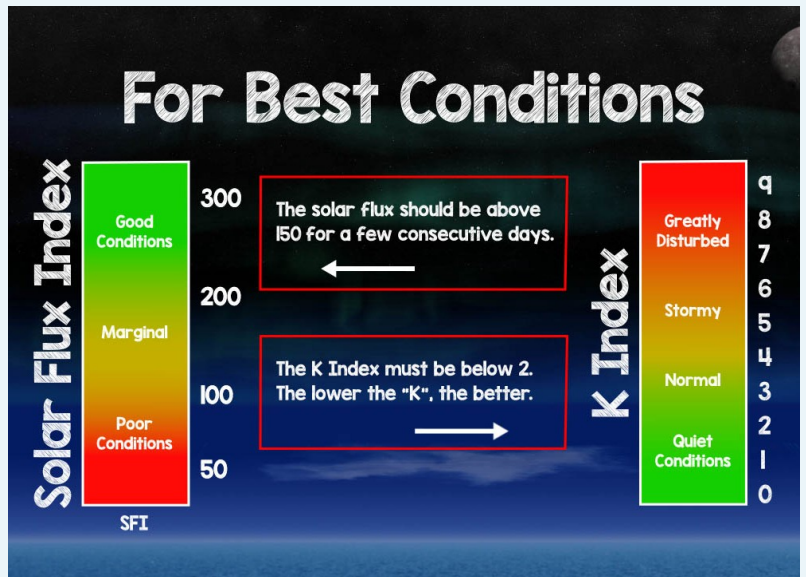
Although geomagnetic and ionospheric storms are interrelated, it is worth noting that they are different. A geomagnetic storm is a disturbance of Earth's magnetic field and an ionospheric storm is a disturbance of the ionosphere.

Table 1

The General Relationship between A and K values

A	K	Comments
0	0	Quiet
2	1	Quiet
3	1	Quiet
4	1	Quiet to unsettled
7	2	Unsettled
15	3	Active
27	4	Active
48	5	Minor Storm
80	6	Major Storm
132	7	Severe Storm
208	8	Very major storm
400	9	Very major storm

Where can you find the solar indices? You can find them at www.eham.net, www.qrz.com and DX summit. Check www.arrl.org for K7RA's solar forecasts since he does an update on a weekly basis for the ARRL News. I personally use the "The Real Band Conditions" on QRZ Now which has the Solar Flux, A index and K index. It also has MUF for various global locations and DX Fun Cluster reports of stations working various bands. Another tool I use is DX Maps.com which shows which bands are open and where the hams are working stations for various modes



*Portions of this article and table were taken from a QST article that appeared in the September, 2002 edition of QST by Ian Poole G3YWX. Ian has written a number of books on HF propagation as well as articles for various amateur radio magazines.



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SDRplay

THIS CHANGES EVERYTHING!



SDRplay RSP DX

This could be the best \$199 I have ever spent! I have been following SDR radio now for a few years and with other projects on the back burner I decided to wait a while to see where the technology is going. And boy am I glad I did!

I was playing a musical gig in Milwaukee a few weeks before our Christmas party. I stopped in to see the manager of HRO. I haven't been there in a few years and I thought with a little extra time on my hands I could go in and play around with the new stuff! All those new shiny radios in a row, all connected to an antenna, and they encouraged me to sit and play! If you haven't been to HRO in Milwaukee I encourage you to pay them a visit. Then I saw the brand new SDR receiver and my jaw dropped. This BRAND NEW SDRplay receiver is a much (very much) different receiver than the ones sold just a few years ago. This one changes everything.



The SDRplay RSPdx is a single-tuner wideband full featured 14-bit SDR which covers the entire RF spectrum from 1kHz to 2GHz giving up to 10MHz of spectrum visibility. It contains three antenna ports, two of which use SMA connectors and operate across the full 1 kHz to 2 GHz range and the third uses a BNC connector which operates up to 200MHz.

The RSPdx is a replacement for the highly successful RSP2 and RSP2pro SDR receivers, which have been extensively redesigned to provide enhanced performance with additional and improved pre-selection filters, improved intermodulation performance, the addition of a user selectable DAB notch filter and more software selectable attenuation steps. The RSPdx, when used in conjunction with

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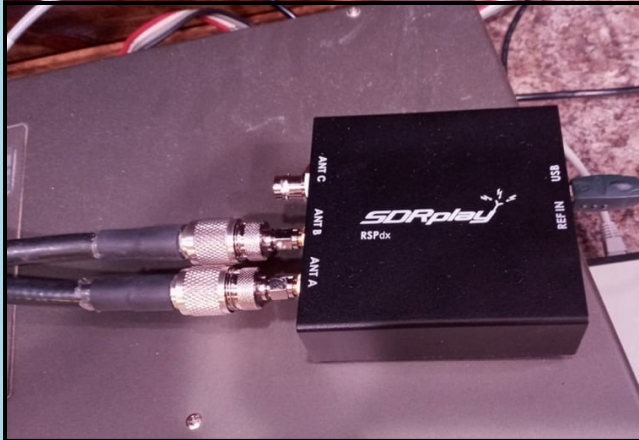


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...SDRplay's own windows based SDRUno software, introduces a special HDR (High Dynamic Range) mode for reception within selected bands below 2MHz. HDR mode delivers improved intermodulation performance and fewer spurious responses for those challenging bands

I always wondered, how does such a little box get such incredible performance? When doing research I went to Google where there are hundreds of videos singing the praises of this box and I found videos of Hams matching their SDRplay with their own expensive rigs and in every video I saw, the SDR wins hands down in almost every category. Why is that?



The difference between My Kenwood and my SDR is shown in the picture. The SDR gives me much better reception than my Kenwood because it gives me a noise floor much less than the Kenwood's! Inside the Kenwood you have the front end receiver, the transmitter, the power supply, the audio amplifier, and the transmitter. With the SDR you just have the front end! Everything you need to hear the signal is in your computer! You are in a totally different circuit and a different enclosure and that may keep the noise down.

This thing performed right out of the box! I thought it would take a while to set up and tinker with like so many other software designed products. My friend Randy Nelson came over and the first receive contact was Russia! Within 10 minutes, it was up and working perfectly.



When I designed my very inexpensive antenna farm I had SDR in mind. It was in it's infancy back then but I knew that this will be the way all Ham's make contact in the near future. Even the big box transceiver makers now advertise their products as SDR. I have a long inverted dipole on a 40 ft tower and a Discone up about 35ft so with this I am covered from the very low bands all the way up to 1.5 gig in receive!

So my first night with the receiver, I picked up all the ham bands including 2 & 6 meter, police, aircraft, the TV stations, FM radio, police and fire, and the most amazing thing is that I could SEE the signal! I could see the shape, the width, and I could look at the entire band and count how many stations were on the frequency, and pick the strongest to listen to.

Continued...

Music Machine Recording Studio & Ham Shack!



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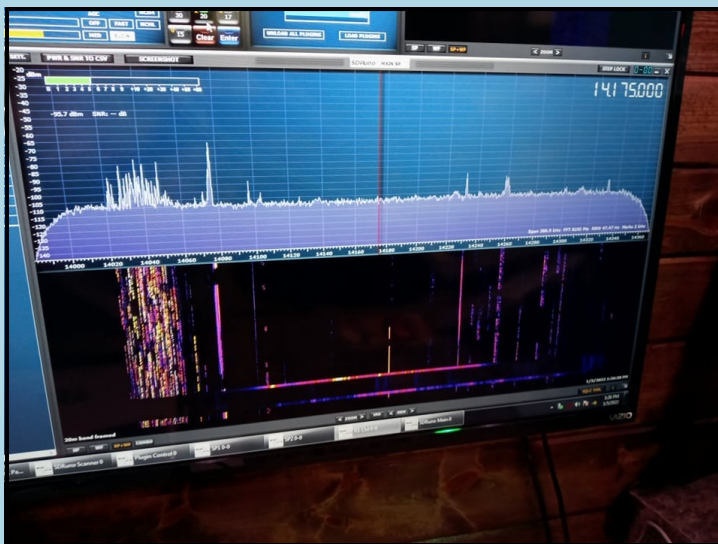
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Back when I purchase the Kenwood I had a professional 32 channel equalizer that I pumped the audio into and ran that into my studio speakers. It's amazing how that cleans up a bad signal and makes it much easier to understand the contact. I wanted to do the same with the SDR. When I looked at the manual. The new SDRplay has an equalizer already built in as a plug in! And it works almost as good as a professional recording studio's equalizer! You got to love the software revolution.

And when you want to expand the receiver, you just download a plug in! Some of the more interesting plug ins are code, and every digital mode available to Hams, a slow scan TV plug in, even a ADSB aircraft plug in to show where all the planes overhead are flying, where they are going, speed, altitude, direction of flight, even their N number!



So what CAN'T this thing do? It can't transmit. But as they say, there's an app for that! If you have a transceiver with CAT control or an IF out, you can link it to your SDR and have a complete system.

Will this make you a better Ham? I have a thought on that. As you know I am in the music field as a performer and song writer. Almost all of the fellow musicians that write and compose are keyboard players. In the world of monotone instruments like the clarinet, sax, etc, don't have the same understanding of the music piece as the keyboard player. In fact some of the very best horn players *are* keyboard players!

Keyboard players have the ability to look at the entire spectrum of 88 frequencies and they understand and go to those frequencies to play just as a Ham radio operator spans the dial looking for that special frequency. The Ham

can actually see the signal with SDR, look at it's shape, it's type and history by using the waterfall, and it's signal strength. The SDR ham looks at the entire frequency spectrum just as a keyboard player look at the entire spectrum of music. Some operators in the early days of Ham radio used scopes to look at their signals. The visual always enhances the audio, and it enhances the pleasure of operation.

To say I am happy with this is an understatement! I am going to study this new addition to the shack and write some articles as I go. During the January meeting I would like to ask the members if they would like to come over and play with this, have a few beers, and throw an SDR party! If you are interested let me know at the meeting. And if you want to double your ham radio pleasure and you have a few hundred bucks to spare, this will change everything.

Joe Scheibinger K9VY



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YAESU FUSION WIRES X AND HOT SPOTS

By Doug Schultz N9EZF

Yaesu Fusion is a C4FM digital mode that is proprietary to Yaesu digital transceivers and digital repeater. It is similar to DMR and D-Star that it offers clear audio. It also differs from the other digital FM modes in that all Yaesu digital transceivers and repeaters have Automatic Mode Selection which allows analog FM transceivers to utilize the repeaters during a net along with digital stations. We have a number of Fusion repeaters in the area. Some of them are: W9EBV on 145.43, KB9RUE on 147.18 on 2 meters. On the 70 CM. band there is: W9TCH at 442.995, N9WQ at 443.875 and W9RIC at 442.175. You can operate Yaesu Fusion digital voice on them all as well as analog FM. You have to enter your callsign and first name into any Yaesu digital transceiver or it won't work in the digital modes. That information goes out when you transmit in Digital Narrow (DN) mode or (VW) Digital Wide mode. Digital Wide mode allows you to send photos from an optional camera mike as well GPS coordinates.

Now we come to WIRES X which is Wide Area Internet Repeater Enhancement System which allows Fusion repeaters to set up a Fusion room at their repeater which allows Fusion amateur stations to connect to other Wires X rooms all over the U.S. and the world via the internet. The repeater owner needs to use a Yaesu HRI-200 interface and software to connect his room via the internet. The only Yaesu Fusion repeater in the area that has a room or node is W9RIC at Menasha. You have to register your Fusion room with Yaesu which assigns that room a 5 digit number. All Wires-X rooms have 5 digit numbers such as America Link which is 21080, MN/WI Fusion which is 21493 W9RIC which is 28429 or Fort Myers Fusion room is 21805. In order to connect to these Wires-x rooms you have to put your Yaesu transceiver in the Digital Narrow (DN) mode at the rooms repeater frequency and activate the Wires-X mode. You put in the Wires-X room number via the DTMF pad on your HT or the DTMF pad on your mike for a base station. Once you have done this once the Yaesu transceiver remembers the room numbers. A good place to find which Wires-X rooms that are active at any given time is at www.hamoperator.com.

Next we come to Hotspots and where they fit in the world of Yaesu Fusion. The original reason hotspots were developed was because hams with digital transceivers didn't have Wires -X rooms or nodes close enough to reliably use them. Hotspots are connected to your computer via a USB port and they work with open- source software to allow you to connect with YSF or FCS rooms over the internet. The first thing you learn about hotspots is that they don't connect to all Wires-X rooms. The most popular Wires-X rooms have setup a bridge to the internet so hams can connect with the YSF or FCS rooms.





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There are a number of brands of hotspots from Zumspots, MVDm PiStar and Open Spots. A hotspot is a mini low power UHF digital transceiver connected to your computer that transmits via a simplex frequency to your digital HT. The Zumspot that I have uses open source software called Blue DV which was developed by Dutch ham that you download to your computer in order for you to connect to YSF or FCS rooms. The Blue DV software has several thousand of the most popular YSF or FCS rooms around the world setup in it. You have to set the Zumspot software for the digital mode you want to use since it can be used for Fusion, DMR or D-star. Then you have to pick the YSF room you want get into and link the hotspot up in the software. I use it to check into some digital nets on America Link which has the International Wires-X Net on Saturdays at 8:00 PM or MN/WI Fusion Tech. Net on Mondays at 7:30 PM with my Yaesu FT-70DR HT. One thing you will notice if you use a hotspot is there is more latency or lag since you're going through the internet as well as a bridge to connect the FCS room. On the above nets they also say to give yourself three or four seconds after you push the PTT key and then speak your comment and when you're done speaking keep the PTT down a couple of seconds. I haven't found that lag or latency using the Wires-X system when I check into the Ft. Myers Fusion Digital Net on Wednesdays at 7:00 PM. The America Link International Wires-X Net on Sat. night has check-ins from all over the world and I have found it to be an interesting net. A listing of YSF reflectors can also be found on: www.hamoperator.com.

Doug Schultz





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TESTING DATES

2022 Ham Exam Dates

The Fond du Lac Amateur Radio Club VE team will be holding Amateur Exams on Feb. 19, 2022 and April 9, 2022 at MPTC in room O-122 from 9:00 AM until noon both days. Everyone taking amateur exams is required to get a FRN from the FCC website to put on their FCC application as well as provide a photo ID. I have a suggestion for people taking the Technician exam to also study for the General exam since if you pass the Tech. exam on the first try you can take the General exam for free. Cost of the exam is \$15. Preregistering is encouraged but walk-ins are allowed at the exams. To pre-register for either exam session call Doug Schultz at 920-922-3088 or via email at: schultz74@charte.net. Face

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HAMRADIO.COM

KA9JDE's Digital Tip of the Month

(NOTE: This tip is for experienced users)

Operate FT8/FT4 in "split" mode.
Why "split"? So you don't transmit on the other station's "slot" on the waterfall.

Instead, always have the
"Hold TX Freq" box in WSJT-X checked.

Pick an empty "slot" on the waterfall with your mouse arrow, then press Shift / Left Click to lock in your "slot".

The **RED** bracket at the top of the waterfall will now stay put instead of changing to the other station's "slot".

WSJT-X's left "Band Activity" window shows ALL transmissions from 0-3000Hz. WSJT-X's right "Rx Frequency" window **ONLY** shows stations on the **GREEN** bracket receive "slot".



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CONGRATULATIONS JUSTIN BUELL HAM OF THE YEAR!

Justin Buell KB9YET has been awarded the FARC “Ham of the year” award for his organizational work for the Fond du Lac Amateur Radio Club. Justin was not able to make the Christmas party in December so he will be given the honor at the FARC meeting in January this coming up Monday night. Accepting the award for Justin was the FARC President. Congratulation Justin for this well deserved award.



Justin Buell KB9YET

The Fond du Lac Amateur Radio Club

IS PROUD TO AWARD THE TITLE

Ham of the Year for 2021

IN RECOGNITION FOR OUTSTANDING SERVICE TO THE CLUB AND THE FURTHERANCE OF AMATEUR RADIO
AS A HOBBY IN THE FOND DU LAC AREA DURING THE YEAR 2021



To

JUSTIN BUELL **KB9YET**

December 13, 2021

Tom Karrmann KC9VZY - President FARC



FOND DU LAC AMATEUR RADIO CLUB



— FDL 73 —

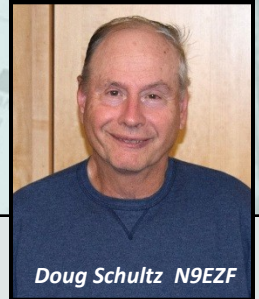
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January, 2022

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Treasurer's Report

Month of November 2021



Doug Schultz N9EZF

CONGRATULATIONS DOUG SCHULTZ!

Long time member of the FARC, Doug Schultz N9EZF was awarded the “Award of Excellence” at this year’s FARC Christmas Party in December. Doug has been the Treasurer of our club since the Romans minted the first coin! Doug is an outstanding example of what dedication looks like in an organization. And his love and knowledge of our hobby is incredible! Congratulations Doug!



2021

Fond du Lac Amateur Radio Club
Presents
The Award of Excellence

To
Doug Schultz
N9EZF

December 13, 2021

Tom Karmann KC9VZY – President FARC



FOND DU LAC AMATEUR RADIO CLUB



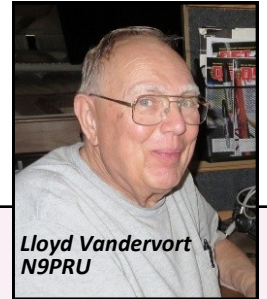
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January, 2022

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Meeting Minutes



Lloyd Vandervort
N9RPU

CONGRATULATIONS LLOYD VANDERVORT!

Does Superman really exist? In our club he does! Long time FARC member and club secretary Lloyd Vandervort received the "Award of Excellence" for his many duties in our club. He has helped countless members in so many ways including electronic repair, antenna assembly, Secretary, Videographer and photographer, and all around knowledge bank of anything Amateur Radio. An incredible club asset. Congratulation Lloyd.

FOND DU LAC AMATEUR RADIO CLUB, INC.
2021

Fond du Lac Amateur Radio Club
Presents
The Award of Excellence
To
Lloyd Vandervort
N9RPU
December 13, 2021

Tom Karmann KC9VZY – President FARC



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In Memory of Marjorie Heil

It is with incredible sadness that I announce the passing of a very cherished and long time member of the FARC Marjorie Heil. Marjorie held a General Class license and although she was not active as a Ham, she was active with our club and it's many projects through the years. She has active with out Field Day exercises making sure the participating Hams were well fed! She was always happy to work with people and in her husband Jack's words, "she always saw the better, brighter, positive side of life. Although at this time no service is scheduled, Jack has mentioned there will be a Celebration of Life planned for this summer for the club. Jack has mentioned that he will be attending the meeting this Monday night. He is asking that memorials be sent to the link listed below in her name. Jack, on behalf of the entire club you have our condolences and we wish you and your family the very best. We are here for you. God bless you Marjorie.

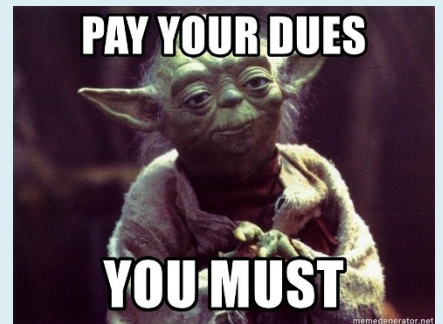
Obituary

Marjorie J. Hennessy Heil, loving mother and wife, died December 22, 2021 after a 37-year fight with breast cancer. She is survived by her husband of 57 years, Dr. John "Jack" Heil, sisters Virginia and Irene, brother Richard, daughters Joyce and Rose, son Brian, and nine grandchildren. Though she obtained a bachelor's degree in psychology from Beloit College, her work and interests were varied and included: working as UW-FDL librarian; teaching computer science abroad at the University of United Arab Emirates; writing scripts for the UW-FDL Quiz Bowl programs. Examples of the organizations she enjoyed are: South Shore Chorale; Amateur Radio (KC9BEN); Boy Scouts and Girl Scouts; Astronomy Club; Young Astronauts; Mid-America Geographic. She loved contributing to the education and welfare of others and will be missed. Covid-19 cancelled plans for a funeral. Cash memorials may be sent to Jack and Marjorie's STEM Scholarship at the UWOSH-FDL Foundation. Foundation link: <https://uwosh.edu/fdl/alumni/foundation/>

2022 Fond du Lac Amateur Radio Club Dues

The 2022 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 January meeting. If you can't attend, you can mail them to:

Doug Schultz N9EZF
Fond du Lac Amateur Radio Club,
P.O. Box 53,
Fond du Lac, WI 54936



Don't Miss an Episode!

All Podcasts can be downloaded!

Click here! [Podcasts](#)



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FREE FARC DOWNLOADS



Recorded Meetings Videotaped by Lloyd Vandervort N9PRU

FARC - W3AO Field Day Presentation <https://youtu.be/UK1A47pNKyo>

FARC - Bob Heil Ham Radio Presentation https://youtu.be/t3Ueh9IN5_U

FARC - WWV Presentation 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

FARC - NooElec 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, Morning Show with Bob Hoffmaster <https://youtu.be/UVFMCvRGEJE>

FARC - HAARP interview from Alaska <https://youtu.be/cdeNXLMuyEE>

FARC - The DZKit Ham Radio Kits https://youtu.be/giZcfQW_tpA

FARC - 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/3l352v4gYdw>



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GREEN LAKE COUNTY AREA FREQUENCIES - PRINT OUT AND SAVE

Green Lake County ▶

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
155.49000	KSB267	RM	136.5 PL	GLSO	Sheriff Dispatch	FMN	Law Dispatch
155.55000	KSB267	M	136.5 PL	GLSOTAC	Sheriff Car-to-Car	FMN	Law Talk
159.09000	KSB267	RM	627 DPL	GLJAIL	Sheriff Jail	FMN	Corrections
155.07000	KSB267	RM	114.8 PL	GLEMS	County EMS/Mutual Aid	FMN	EMS Dispatch
155.22000	KSB267	M	91.5 PL	GLEMSTAC	County EMS Mobile	FMN	EMS-Talk
155.34000	KUQ875	BM	91.5 PL	Berlin HospB	EMS to Berlin Memorial Hospital	FMN	Hospital
154.40000	KSB267	RM	136.5 PL	GLFIR	Fire Dispatch	FMN	Fire Dispatch
155.95500	KSB267	RM	114.8 PL	GLPAG	Paging	FMN	Multi-Dispatch
453.37500	KSB267	RM	114.8 PL	GLEM	Emergency Management	FMN	Emergency Ops
159.12000	KCT689	RM	127.3 PL	GLHWY	Highways	FMN	Public Works
159.19500	WNPD793	M	127.3 PL	GLHWYTK	Highways Truck-to-Truck	FMN	Public Works

Berlin ▶

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
154.16000	WPGU990	BM	167.9 PL	Berlin FD	Fire Dispatch	FMN	Fire Dispatch
154.07000	WPGU990	M	167.9 PL	Berlin FG	Fireground	FMN	Fire-Tac
453.35000	WPGU990	RM	114.8 PL	Berlin EM	Emergency Government	FMN	Emergency Ops
453.72500	WPGU990	RM	141.3 PL	Berlin DPW	Public Works	FMN	Public Works

Green Lake (City) ▶

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
155.14500	WNNQ938	BM	114.8 PL	Green Lk DPW	Public Works	FMN	Public Works

Green Lake (Town) ▶

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
159.19500	WNNS955	BM	136.5 PL	Tn Grn Lk PW	Public Works	FMN	Public Works

Markesan ▶

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
154.04000	WNXS928	BM	136.5 PL	MarkesanLink	Emergency Management Link to UHF	FMN	Emergency Ops
155.04000	WNXS928	RM	114.8 PL	Markesan EM	Emergency Management	FMN	Emergency Ops
155.92500	WNXS928	RM	114.8 PL	Markesan DPW	DPW	FMN	Public Works

Markesan School District ▶

Frequency	License	Type	Tone	Alpha Tag	Description	Mode	Tag
451.32500	WPRH729	RM	116 DPL	Markesan Sch	Markesan School District	FMN	Schools
452.15000	WPRH729	M		Markesan Sch	Markesan School District	FMN	Schools



FOND DU LAC AMATEUR RADIO CLUB



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Jeremiah	Alderden	KC9SGL
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
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
Brad	Hansen	
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



FARC Membership Roster

Alphabetized by Last Name

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



Buddy	Larson	KC9UVJ
Joe	Lauber	KC9MDY
Michelle	Lawrence	N9RQL
Mike	Lawrence	N9UA
Pete	Leonard	W9ZMF
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	N9KLL
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