



FOND DU LAC AMATEUR RADIO CLUB

— FDL 73 —



VOLUME 20 ISSUE 8

www.fdlhams.com August, 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

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Board Member: Larry Mielke KC9RUE

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Brat Fry: Doug Schultz N9EZF
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

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

Newsletter Submissions:

Please email to
rfinn5@hotmail.com

Upcoming events

Call for Volunteers—Race the Lake

Its that time of the year again Race the Lake is coming quickly, We are in need of volunteers again to cover the race. It will be held on August 25th. We are in need of many operators to cover the course, so if you are available on Sunday Aug. 25 consider lending us a helping hand.



Todd Beay, AC9EX
ARES Emergency Coordinator in Fond Du Lac County
AC9EX@dotnet.com
920-979-4582

Brat Fry

Our second Brat Fry of the year ill be held on August 23-24, 2019 at the Country Corners Exxon Station (Hwy 67 and Hwy 41)in Lomira. Hours will be from 8:00am to 5:00pm. This is a great way to help out the club while having a good time in the company of your fellow HAMs.

We need help both Friday and Saturday but especially in the setup on Friday Morning and the cleanup on Saturday at about 2:00 pm. If you can help out, sign up at the 7/12/19 meeting or contact Doug Schultz N9EZF at 920-922-3088 or by email at schultz74@charter.net



Next Meeting

When: August 12, 2019 at 7:00 pm

Where: Moraine Park Technical College, Room A-112
235 N National Ave, Fond du Lac, WI 54935

Program:

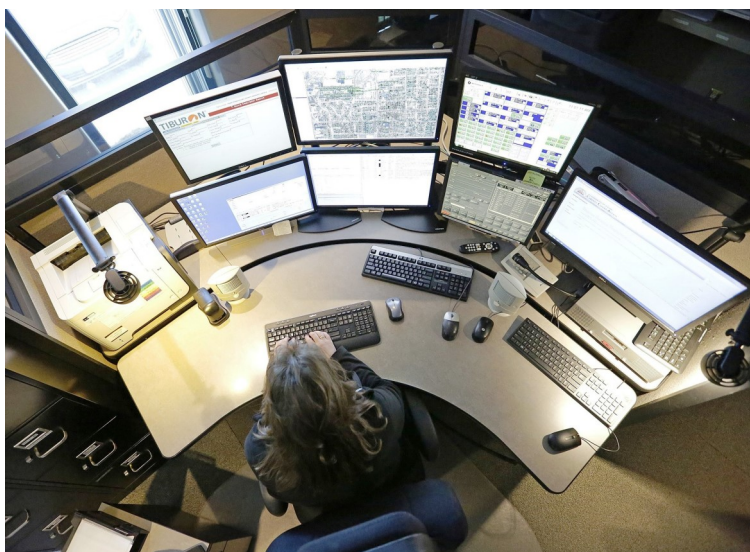


Fond du Lac Emergency Communication Center August Meeting Presentation and Field Trip

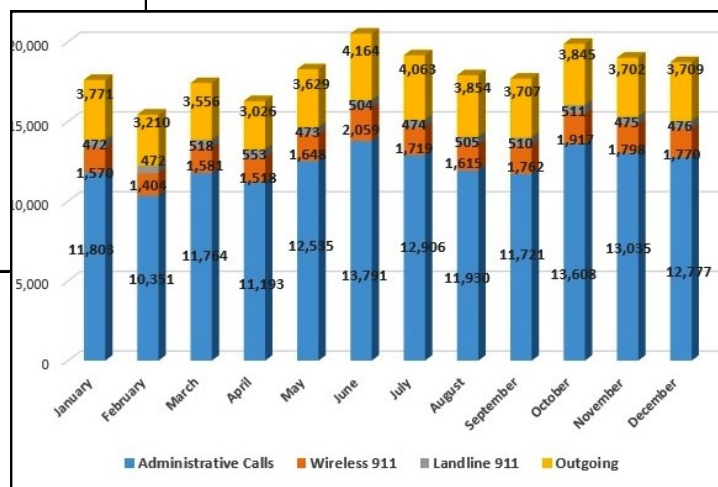
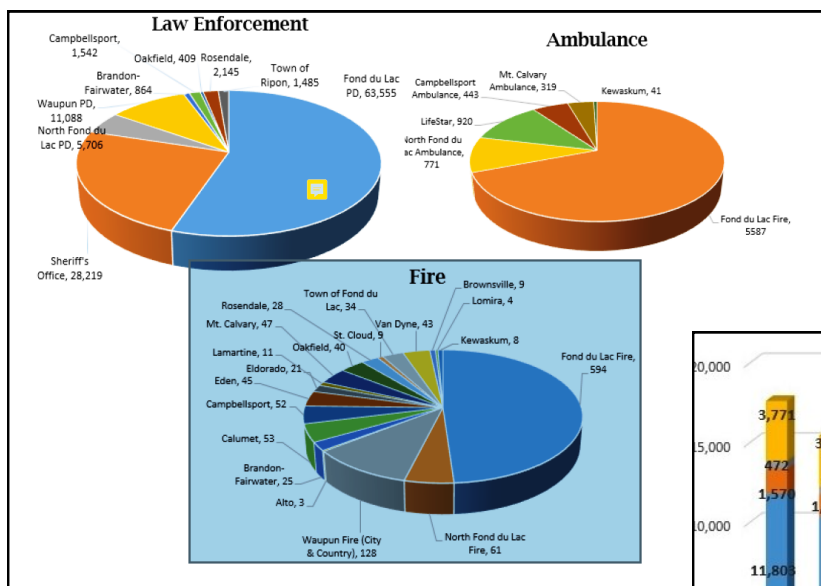
Our August Meeting will Feature the Fond du Lac Emergency Communication Center

After the meeting on August 12th, members of the FARC will be invited to visit the Fond du Lac Emergency Communications Center for a guided tour by shift Commander Amy Fedeler. When our meeting adjourns around 8:00 PM, our membership will be asked to caravan over to the Command Center for an incredible guided tour of the 911 Center.

The dispatch center dispatches for eight law enforcement agencies, nine first responder groups, five ambulance services and 17 fire departments.



In 2017, the dispatch center received 147,414 administrative (non-emergency line) calls, 26,304 911 calls and placed 44,236 outgoing calls. Compared to 2016, this is an increase of 6,361 administrative calls, a decrease of 96 911 calls for the entire year, and an increase of 3,437 outgoing calls.





Vintage Amateur Radio de Bill Shadid, W9MXQ



In the last two installments we talked about the entry into the compact desktop stations market by Heathkit. This was in competition with the Collins S-Line and KWM-2 series separates and transceivers. Those included the SB-300/SB-400 Series Receivers and Transmitters as well as the SB-100 Series Transceivers.

Heathkit followed earlier linear amplifiers¹, the KL-1 and HA-10, with this series that included the SB-200 Series, the SB-220 Series, the HA-14, and the SB-230. We will talk about these SB Series amplifiers and the HA-14 in this article. The group of amplifiers here include Heathkit's most successful products.

Heathkit made its first entry into the desktop, compact linear amplifier market in 1964 with the introduction of the very popular SB-200, pictured here:



Heathkit SB-200 80-10 Meter Linear Amplifier
(W9MXQ Shack Photo)

The 1964 introduction of the SB-200, for a kit price of \$200.00, was a success from its first shipment. Many specifications of the SB-200 were perfectly matched to its prime competitor, the Collins 30L-1 Linear Amplifier. Physical dimensions were nearly the same. So, it was not unusual to see a fine Collins S-Line station with a 75S-3 Receiver and 32S-1 Transmitter mated to a Heathkit SB-200 Linear Amplifier.

Like the Collins 30L-1, the Heathkit SB-200 included an integral 120/240 VAC Power Supply that resided in the desktop cabinet with the RF components. This made for a compact and convenient installation.



Vintage Amateur Radio de Bill Shadid, W9MXQ



Heathkit made one significant improvement in design of the SB-200 compared to the Collins 30L-1 That was the final amplifier tubes. The Collins 30L-1, used four of the then popular 811A Triodes with 65 watts if dissipation each. Heathkit chose the 572B/T-160L (572B) Triode. The 572B was just over double the plate dissipation of the 811A (160 watts vs 65 watts, respectively). So, the Heathkit used two of the 572B Triodes compared with four of the 811A Triodes in the Collins 30L-1. The SB-200 had an advantage in dissipation over the Collins with a total of 320 watts of dissipation (2x 160 watts) vs 260 watts dissipation (4x 65 watts) in the 30L-1. The SB-200 had a rated input of 1,200 watts PEP SSB and 1,000 watts CW. Nominal power output was about 600 watts in either mode. The Collins 30L-1 has a 1,000-watt input specification in both SSB and CW with power output performance like the SB-200.

One year later, in 1965, Heathkit followed the SB-200 Linear Amplifier with a mobile version called the HA-14. The HA-14 was lower in power specifications, was significantly smaller, and lacked a cooling fan. So, the user had to be careful about running power too high. This is the HA-14 appearing in a modification article some years after its introduction:



Heathkit HA-14 80-10 Meter Linear Amplifier

The small HA-14, marketed as the “KW Kompact,” did not have quite the specifications of its big brother, the SB-200. The amplifier carried a 1,000-watt PEP SSB, 50% duty cycle power input rating. While they could be used for CW, they were not rated for that mode by Heathkit. The small size did not leave room for a power supply so two were offered, the HP-24 for AC operation and the HP-14 for DC operation in the car. Due to their limited duty cycle, many of these amplifiers ended up not functioning. Overall, they were not too popular and today are very rare, and even more so in good condition.

Heathkit was a subject to the RF power competition as was any manufacturer of the day. And, the SB-200 came up a bit short in the 2,000-watt PEP competition of the day. To meet the challenge of products like the floor mounted Collins 30S-1, Heathkit introduced the desktop SB-220 Linear Amplifier, with an integrated 120/240 VAC Power Supply in 1970.



Vintage Amateur Radio
de Bill Shadid, W9MXQ



Heathkit SB-200 80-10 Meter Linear Amplifier
(W9MXQ Shack Photo)

The SB-220 used two of the relatively new, at the time, Eimac 3-500z Triodes with 500 watts, each, of plate dissipation. This allowed the amplifier to have an input power of 2,000 watts PEP SSB and 1,000 watts CW. For SSB, the output was generally in excess of 1,200 watts – double that of the lighter SB-200. Like the SB-200, the SB-220 offered a compact package that was same footprint as the SB-200, but taller.

Both the SB-200 and the SB-220 shared the feature of a tuned input that provided an approximately 50-ohm load to the exciter. These amplifiers were designed with the Heathkit SB-100 series transceivers and SB-300 receiver/SB-400 transmitter setups⁶ in mind. However, they worked well with competitor's radios as well – and work well today with solid state radios requiring a consistent 50-ohm impedance load. Unlike a lot of tube transmitters and transceivers of the day, the Heathkit SB-Line transmitter circuits were designed with a narrow range pi-network output requiring a 50 to 75-ohm load. This was identical to the Collins S-Line and KWM-2⁵ – but it was unlike National, Drake, Galaxy, some Hallicrafters⁷, and other equipment of the day. Today's solid-state equipment is generally specified as requiring a 2:1 SWR (25 to 100-ohm) load. As you can see, the Heathkit amplifiers were compatible with them all.



Vintage Amateur Radio de Bill Shadid, W9MXQ

For your reference, here are interior pictures of the SB-200 and SB-220 Linear Amplifiers:



Heathkit SB-200 Linear Amplifier
(W9MXQ Shack Photo)

It is a bit hard to see but note the graphite plates on the original Cetron brand 572B Triodes in this radio. You can just see the cooling fan under the two tubes, blowing air from the bottom of the chassis.



Heathkit SB-220 Linear Amplifier
(W9MXQ Photo of a W9XT Amplifier)

The Eimac 3-500z Triodes here are cooled by the fan you can see toward the top left center of this picture. At the time this picture was taken these were the original Eimac tubes supplied by Heathkit.

Front Panel is at the bottom of the picture. Both pictures are truncated just a small amount. The perforated RF Shield cover is removed on both amplifiers to see the final amplifier tubes and pi-network circuitry in both pictures.

The above SB-200 picture shows a retro-fit capacitor and diode board (lower right-hand corner of the picture) that is from Harbach Electronics². See below for further details. Also, this SB-200 is an SBW-200, meaning it was wired at the factory. For a time, Heathkit made assembled radios available to the customer base. These are extremely rare as the practice did not last for very long as an option. In addition, back in those days, individuals offered a service of assembling Heathkits for a fee. Many, but not all, of these small service businesses were run by Heathkit employees.



Vintage Amateur Radio de Bill Shadid, W9MXQ



At this point, it is proper to mention that in 1978, Heathkit began to market the SB-200 and SB-220 Linear Amplifiers in compliance with FCC regulations requiring all such linear amplifiers be unable to operate on the 10-meter band or frequencies close to that band. Read that as unable to operate on the Citizens Band (CB). CB had become a lawless mob on the spectrum causing problems for the United States in international treaties handling frequency coordination – not to mention interference to other services. Starting in 1978, the SB-200 became the SB-201 and the SB-220 became the SB-221. It was legal, however, to offer kits for amateur operators to modify their radios and activate 10-meters in their SB-201 and SB-221 amplifiers. In the scheme of things, most of the manufacturers offered retro-fit kits requiring varied levels of technical skill to implement. The conversion of the SB-201 and SB-221 was complicated and involved some serious modification of the radio. As a result, few were done. Making the changes today is difficult, if not impossible, due to required parts. A point to remember is that a SB-201 or SB-221 found not including 10-meters can be a buy – they are worth less on the used market.

In terms of finding a used SB-200/201 or SB-220/221, they are plentiful. But, be careful of some concerns. Early SB-220 amplifiers had a serious problem with their bias cutoff Zener Diode and they would fail, causing the failure of the 3-500z final amplifier tubes. Checking the status of all diodes and capacitors in any used SB-200/201 or SB-220/221 is a good idea. Finding a Zener diode defect in a SB-220 in the field would be rare.

The input coil/capacitor assemblies (one for each band) can drift off resonance over time. Checking the SWR in line with the input of the amplifier is a good idea – with adjustment of the slugs in the coils in these tuned circuits. Generally, the process to confirm that the circuits are operating correctly is to watch SWR while adjusting the cores of the individual coils.

A word about third party improvements for the used SB-200/201 and SB-220/221 is in order. One company I am familiar with in this area is Harbach Electronics². My personal SB-200 (also applicable to the SB-201) has the following Harbach modifications installed:

PM-200 Power Supply Replacement Circuit Board

Replaces the diodes and electrolytic capacitors in the power supply

SS-201-240 Soft Start Module

Slows the start-up process when turning on AC Power. This is the version for use on 240 VAC power. If using 120 VAC AC Power, there is a SS-201-120 version of this Module.

SK-201-240 Soft Key Module

Allows the use of modern radio switching of the transmit/receive function of the amplifier. Isolates the switching from the high voltage bias circuit in the amplifier.

BRK-200 Replacement Circuit Breakers

Replaces defective OEM circuit breakers that have become defective.

I recommend the above items as replacements in a SB-200 or SB-201 that would be found today. Harbach also supplies a replacement cooling fan and a replacement T/R relay if needed.



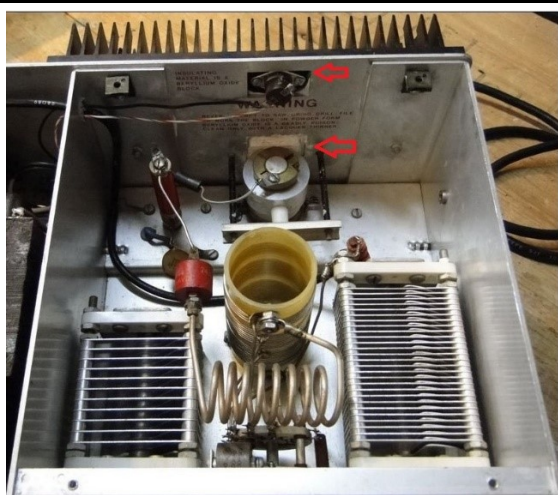
Vintage Amateur Radio de Bill Shadid, W9MXQ

Harbach Electronics² has a similar line of replacement and upgrade parts for the SB-220/221 Linear Amplifier. If you find and acquire an SB-220 or SB-221, I recommend a similar approach to what I added to my SB-200.



One third party retro-fit company focusing on the SB-200/201 and SB-220/221 amplifiers is King Conversions³. They specialize in converting any amplifier to single band six-meter operation. They make this conversion to a wide range of amplifiers but seem to specialize in the Heathkit SB-220 and SB-221. These King Conversion amplifiers are frequently seen for sale at hamfests. King typically modifies and returns an amplifier that you first send to them. However, they sometimes have inventory of amplifiers already converted.

So, we have discussed the very popular SB-200 and SB-201 – the most popular Heathkit ever made up to the time of the end of SB-201 production. We have also covered the little brother of the SB-200, the somewhat limited production HA-14 “KW Kompact.” And, we have discussed the also very popular SB-220 and SB-221, close to legal limit, models. There was yet another amplifier design based on the SB-200. That was the SB-230, introduced in 1974 and marketed with the SB-104 and SB-104A Solid State, Transceivers¹. The colors of the SB-104 and SB-104A and their accessories kept to the green on green of the initial SB-Line. However, they had more squared edges and some additional black trim not found on the original radios. Here is the SB-230 Linear Amplifier:



SB-230 Interior – RF Compartment only.
Note the tube at the rear and the visible white colored interface between the tube anode and the heatsink, through the rear panel. Above the tube, on the heatsink, see the heat sensor used to reduce power if the heatsink became too hot.
(PE1GVK Photo)



Vintage Amateur Radio de Bill Shadid, W9MXQ



Heathkit SB-230 80-10 Meter Linear Amplifier
(K9DTC Photo)

The SB-230 used a similar circuit and power supply to the SB-200 and shared its physical size. The final amplifier tube was an Eimac 8873 triode that came in three forms. The 8873 used in the SB-230 was heat sink cooled. In operation, the SB-230 was eerily silent with no fan or any other noise. However, one difference between the SB-200 and the SB-230 was that the 572B (in the SB-200) was a directly heated cathode tube while the 8873 (in the SB-230) was an indirectly heated cathode tube. This changed the circuitry in the way RF was delivered. Both amplifiers were grounded-grid but the RF feed was different. If you have questions on this difference, please contact me.

For more of the detail on the SB-230 final amplifier tube series, the 8874 variant of the tube design series was axial cooled (like a 4CX250B), and the 8875 was transverse cooled (air blown sideways across the tube). The three tubes could dissipate 200, 400, and 300 watts respectively. Given that the similarly rated amplifiers using four 811A tubes could dissipate 260 watts, this 200-watt dissipation of the 8873 in the SB-230 was acceptable with a reasonable duty cycle.

The SB-230 had downside issues. One was the mounting of the tube against the heat sink used a very toxic ceramic compound that was extremely dangerous if broken or chipped in any way. This was unlikely but a bit scary at the same time. Also, the heat sink on the back of the amplifier could become very, very hot and dangerous to touch. The SB-230 stayed on the market until 1978 when the SB-200 and SB-220 had to be upgraded to remove 10-meters. The SB-230 was not redesigned – likely due to limited market. The transceivers it matched, the SB-104 and the SB-104A, went on until 1982 – likely using the SB-201 or SB-221 as their matching linear amplifier.

As a collector of a lot of Heathkit equipment it is rare that I avoid one of their products. The SB-230 and its perhaps easy to mitigate foibles is one of those. I have always avoided opportunities to acquire one – most recently within the past two years. Also, the tube never reached critical marketing success and was discontinued after few manufacturers installed them in their products. Today, only “guaranteed, used” 8873 tubes for \$395.00⁴ seem to be available. The 8874 is also sold only as “guaranteed, used” at a cost of \$425.00⁴. The 8874, installed as a pair, was used in a Henry Tempo linear amplifier with a rated input of 2,000 watts PEP SSB. The 8875 tube is completely unavailable and to my knowledge was not used in ham radio and perhaps nowhere else.



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Vintage Amateur Radio de Bill Shadid, W9MXQ

We have covered six of the eleven HF linear amplifiers made by Heathkit. Next installment will cover three more. One of them a reincarnation of the SB-220/221, the second was just “kind of a Heathkit,” and the third had a build volume of only ten units. Stay tuned!!



Special thanks go to Bob, W9DYQ for his proof reading. I appreciate that you read my articles. Remember that I am open to questions and comments at my email address, W9MXQ@TWC.com.

W9MXQ

Notes and References:

¹ Subject of a future article.

² Harbach Electronics <https://harbachelectronics.com/>

³ King Conversions <http://groking.com/>

⁴ Surplus Sales of Nebraska <http://www.surplussales.com>

⁵ As I write these articles, you will find that I often mention the KWM-2 separately, as if not a part of the Collins S-Line equipment. The KWM-2 is part of the Collins S-Line but nomenclature can be confusing.

⁶ Not to be forgotten, and the subject of a future article, were the Heathkit HW-100 and HW-101 Transceivers – they were compatible with the amplifiers in this article.

⁷ Hallicrafters had a varied concept on their tank circuits. Many of their radios were reliant on 50-ohm antenna or load impedance. However, later models had a more broad-range tank circuit.



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MEETING MINUTES

FOND DU LAC AMATEUR RADIO CLUB

Minutes of FDLARC Monthly Meeting

Monday, June 10, 2019



Call to Order

The meeting was called to order at 7:02 pm with president Buddy Larson KC9UVJ presiding.

Program:

John Kruc N9UPC, the National Sales Manager for YAESU USA, was our presenter for the evening.

John is originally from Hayward, WI and is now living in Baldwin. He started in the radio business in 1999 in public safety. He started out with P-25 digital and tried D-STAR and DMR then he met Fusion and liked how it sounded. John was approached by Yaesu and asked if he would like to leave public and go to work at YAESU, he then became their National Sales Manager.

Yaesu & Vertex was bought out by Motorola and Yaesu later bought themselves out and became a separate company. He mentioned how they chose Fusion as their digital system. He noted that Fusion is illegal in Japan. He told us how the Wires-x protocol started.



Introductions

All attendees introduced themselves.

Approval of Meeting Minutes:

A motion to approve the minutes was made by Peter Fox KB9WZD and seconded by Cully Kowal KS0D. The motion carried unanimously via a voice vote.



Treasurer's report

The Treasurers Report was presented by Doug Schultz N9EZF.

A motion to pay the bills was made by Justin Buell KB9YET and seconded by Tom Powell KC9VXR. The motion carried unanimously via a voice vote.

A motion to approve the Treasurers Report was made by Peter Fox KB9WZD and seconded by Jim Balthazor K9AIX. The motion carried unanimously via a voice vote.

Truck Fund	0.00
Emerg. Services Fund	1,484.67
General Use Fund	5,391.36
Savings Account	25.00
Petty Cash Fund	19.12
Total	6,920.15
Repeater Fund	231.44



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MEETING MINUTES

FOND DU LAC AMATEUR RADIO CLUB

Minutes of FDLARC Monthly Meeting

Monday, June 10, 2019



New Business

Field day:

It was decided that field day would be operator as 2A as we don't have enough operators to man 3A.

Joe Scheibinger K9VY mentioned that he would be able to obtain a large trailer but it was decided that it would be too much trouble to move as it would need to have a heavy truck to move.

Dave McCumber N9WQ said that he would move the van to the U.W. Parking lot Friday before field day and return it Sunday after tear-down.



Justin Buell KB9YET volunteered to set up the food tent and then grill the brats and burgers. Dawn Krause KD9CAW would co-ordinate the food. Country U.S.A is donating a light tailor that we can use for an antenna mast.

Setup will be Saturday 8am. Networking will be set up buy Buddy Larson KC9UVJ and Jim Balthazor K9AIX. Peter Fox KB9WZD and Dawn KD9CAW will be safety officers.

501-C3

Joe Scheibinger K9VY mentioned that our 501-c3 has been accepted.

Code Classes

Rick Robinson NI9Z mentioned that he will be running code class for one more year.

Adjournment

A motion was made to adjourn by Justin Buell KB9YET. The motion was seconded by Peter Fox KB9WZD. The motion carried unanimously via a voice vote and the meeting was adjourned at 8:29 pm.

Raffle: no raffle





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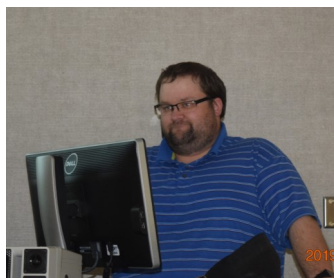
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MEETING MINUTES

FOND DU LAC AMATEUR RADIO CLUB

Minutes of FDLARC Monthly Meeting

Monday, July 8 2019

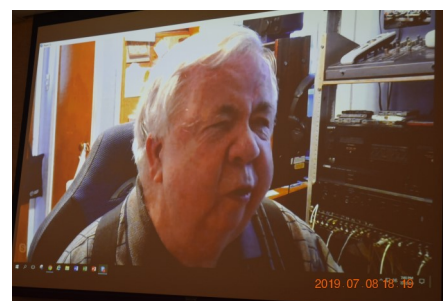


The meeting was called to order at 7:00 pm with president Buddy Larson KC9UVJ presiding.

Program: Hap Holly KC9RP

Hap is the producer of the Rain Report, short for Radio Amateur Information Network

Hap is blind and was licensed in 1965, and has been based in Chicago since 1974. He commented that HAM radio has traditionally been an audio format.



Hap is an audio engineer for Horizons For The Blind an organization for visually impaired people. Due to the ADA act organizations such as Banks are required by law to make their services available to disabled people. Horizons contract with companoes such as banks, power company's and phone company's so that they can supply their bills in an audio format.

A movie was made about his family. His father was a blind architect his mother, also blind, was involved in helping blind persons. As Hap has retired, the RAIN report has now been discontinued but archives are still available on <https://therainreport.com/>

Introductions

All attendees introduced themselves.

Treasurer's report

The Treasurers Report was presented by Doug Schultz N9EZF.

A motion to pay the bills was made by Jack Heil KG9IN and seconded by Paul Bleuel KC9NAA The motion carried unanimously via a voice vote.

A motion to approve the Treasurers Report was made by Tom Powell KC9VXR and seconded by Cully KS0D.The motion carried unanimously via a voice vote.

Truck Fund	0.00
Emerg. Services Fund	1,486.59
General Use Fund	5,284.01
Savings Account	25.00
Petty Cash Fund	19.12
Total	6,814.72
Repeater Fund	232.07

New Business

Our next test session will be on October 12 in room O108 Moraine Park Technical College.

A new member application was received from Rebecca Fishelson KB9SYS. A motion was made to approve by Joe Scheibinger K9VY and seconded by Paul Bleuel KC9NAA The motion carried unanimously via a voice vote.

Becky talked about her father ROBERT FISHELSON K9GEI now a silent key and how he was in HAM radio for a long time. Beckey signed off for her dad at field day.

Joe K9VY has been downloading archives of articles relating to our club from the



Fond du Lac Reporter.



MEETING MINUTES

FOND DU LAC AMATEUR RADIO CLUB Minutes of FDLARC Monthly Meeting Monday, July 8 2019



Field Day:

Tom Powell KC9VXR chaired a discussion on our recently completed Field Day.

Field day has been a successful this year thanks to lots of help

- Dave McCumber N9WQ moved the truck to/from the location,
- Justin Buell KB9YET handled setting up the tents and cooking the Brats and burgers,
- Dawn Krause KD9CAW coordinated the food,
- Peter antennas and generators,
- Buddy Larson KD9UVJ and Jim Balthazar K9AJX handled the networking and score tabulating,
- Joe Scheibinger K9VY handled public relations,
- Rick Robinson NI9Z and Isaac Lundberg KD9FPG ran the CW operation,
- Doug Schultz N9EZF, Cully Kowal KS0D and Joe Scheibinger K9VY handled overnight operations



Tom Powell KC9VXR suggested that we need an inventory of all our equipment.

Buddy Larson KC9UVJ ran a caption this game with pictures from field day.

Jack Heil KG9IN reported that his wife Marge is recovering from removal of a large brain tumor and is doing very well.

The RMC triathlon will be on July 21

The Race the Lake Bike Race will be on Aug. 25. We need volunteers.



Adjournment

A motion was made to adjourn by Tom Karrmann KIC9VY and the motion was seconded by Peter Fox KB9WZD The motion carried unanimously via a voice vote and the meeting was adjourned at 8:26 pm

Raffle # 555165 won by Dick Finn KC9VZY





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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

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 Interview <https://youtu.be/UVFMCvRGEJE>

FARC - HAARP Presentation <https://youtu.be/cdeNXLMuyEE>

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

FARC - The DZKit Ham Radio Kits 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/3l352v4gYdw>

FARC - Dave Sumner K1ZZ, Secretary of the IARU (1/14/19) <https://youtu.be/fVzhzhUpYlw>

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



FOND DU LAC AMATEUR RADIO CLUB

— FDL 73 —

VOLUME 20 ISSUE 8

www.fdlhams.com August, 2019



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

NOTICES/ANNOUNCEMENTS

HAM Testing Session

The Fall dates for testing will be rolling around soon (the first is on October 12, 2019). This still gives you plenty of time to prepare to upgrade (or get) your ticket. If you have questions or want to reserve a spot (note: reservations are not required but do help us to be aware of how many may be coming) please contact Doug Schultz at 920-922-3088 or via email at schultz74@charter.net. There's still plenty of time to crack the books and prepare to upgrade your ticket.



Generally speaking, I will be publishing the newsletter each month (except December (when we do not have a meeting) on the Monday before our monthly meeting. I start assembling it during the preceding two weeks. Obviously I would like to have the material as early as possible but the deadline will have to be on the Wednesday preceding the publish date.

Following are the pertinent dates I'll update this table and print it in each month's newsletter):

	Publish Date	Deadline Date
Sept, 2019	9/2/19	8/28/19
Oct, 2019	10/7/19	10/2/19
Nov., 2019	11/4/19	10/30/19



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Free, For Sale or Wanted

Upcoming HAMFESTS and Conventions From ARRL

Hamfests

08/10/2019 | Free Fest

Location: Racine, WI

Type: ARRL Hamfest

Sponsor: Racine Megacycle Club

Website: <http://w9udu.org>

Learn More

08/24/2019 | Circus City Swapfest

Location: Baraboo, WI

Type: ARRL Hamfest

Sponsor: Yellow Thunder Amateur Radio Club

Website: <http://yellowthunder.org>

Learn More

09/07/2019 | Ozaukee Radio Club 14th Annual Regional Fall Swapfest

Location: Cedarburg, WI

Type: ARRL Hamfest

Sponsor: Ozaukee Radio Club

Website: <http://ozaukeeradioclub.org>

Learn More

09/27/2019 | Central Division Convention, HRO Superfest

Location: Milwaukee, WI

Type: ARRL Convention

Sponsor: Milwaukee Radio Amateurs' Club W9RH

Website: <https://www.w9rh.org/>

Learn More

11/03/2019 | FCARC Swapfest

Location: Kaukauna, WI

Type: ARRL Hamfest

Sponsor: Fox Cities Amateur Radio Club, Inc.

Website: <http://fcarc.club/hamfest.php>

Learn More





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2019 CALENDAR

Jan. 14, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

Feb. 11, 2019

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

Feb. 16, 2019

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



Mar. 9 & 10, 2019

Wisconsin QSO Party



Mar. 11, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
Annual Membership Drive-Contact Joe Scheibinger
235 N National Ave, Fond du Lac, WI 54935

Apr. 8, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935



Apr. 13, 2019

License Exams, 9:00 am-Noon,
Moraine Park Technical College in Room O-104
235 N National Ave, Fond du Lac, WI 54935
Contact: Doug Schultz N9EZF

May 13, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

May 17—19, 2019

Dayton HAMFEST



May 31, 2019—June 1, 2019

Brat Fry 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.
235 N National Ave, Fond du Lac, WI 54935

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

Aug. 25, 2019

Race the Lake

August 23-24, 2019

Brat Fry 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.
235 N National Ave, Fond du Lac, WI 54935

Sept. 20—22, 2019

Fox Cities Marathon



Oct. 8, 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935

Oct. 12, 2019

License Exams, 9:00 am-Noon, Moraine Park Technical College in Room O-108.
235 N National Ave, Fond du Lac, WI 54935
Contact: Doug Schultz N9EZF



Nov., 11 2019

FDLARC Monthly Meeting, 7:00 pm, MPTC A-112.
235 N National Ave, Fond du Lac, WI 54935
Election of 2019 Officers

Dec. TBD, 2019

FdL Parade of Lights, 4:00, Downtown



Dec. 8, 2019

FDLARC Holiday Party: Jim and Linda's
Contact Buddy Larson KC9UVJ



Dec. 14, 2019

License Exams, 9:00 am-Noon, Moraine Park Technical College in Room O-104
235 N National Ave, Fond du Lac, WI 54935
Contact: Doug Schultz N9EZF





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First	Last	Call Sign
Annika	Kreis	
Barbara	Simon	W9MER
Ben	Haack	KD9LVQ
Blend	Bowen	KC9VXV
Brad	Freund	KC9QYP
Brian	Turkiewicz	KC9LFR
Buddy	Larson	KC9UVJ
Chuck	Mahnke	K9HXI
Cully	Kowal	KS0D
Danny	Vandekolk	KC9IGD
Dave	Witt	WD9W
David	McCumber	N9WQ
David	Zittlow	K9DUI
Dawn	Krause	KD9CAW
Dean	Choate	KC9TGM
Debra	Florian	
Dennis	Paulin	KB9OFM
Derek	Giese	KD9IAN
Dick	Finn	KC9ZVW
Don	Chapman	KC9KZQ
Donald	Bakke	KD0HCW
Donna	Blend	KC9TFN
Dot	Olig	K9FDL
Doug	Murray	KC9ZVT
Doug	Wagner	KC0RNS
Doug	Schultz	N9EZF
Ed	Beltz	N9PJQ
Ed	Sipple	W9VYO
Ed	Steinfeld	KB1ZJK
Fernando	Salazar	KC9ZVX
Gene	Olig	KD9ZP
Gene	Peterson	KD9IAG
Gerry	Radtke	WA9GON
Gregory	Schmude	KD9EHB
Isaac	Lundberg	KD9FPG
Jack	Heil	KG9IN
James	Scovronski	N9WAM
Jeremiah	Alderden	KC9SGL
Jim	Balthazor	K9AIX
Jim	Cole	N9WAP
Joe	Lauber	KC9MDY
Joe	Scheibinger	K9VY
Joyce	Keyes	KC9KIJ
Justin	Buell	KB9YET
Kirk	Everson	KC9FZE
Kyle	Ruesch	AB9AX
Larry	Lamont	KB9POP
Larry	Mielke	KC9RUE
Laura	Yates	
Laurie	Winchell-Beltz	KC9YQS
Lloyd	Vandervort	N9RPU
Lorelei	Kreis	
Louis	Simon	KB9VQM
Marjean	Buck	KC9LFI
Marjorie	Heil	KC9BEN
Mark	Forss	WD9CYM
Mathew	Yates	KD9CSD
Matt	Nett	KD9BBN
Matthew	Zimmerman *	KD9KTY
Michelle	Lawrence	N9RQL
Mike	Keyes	KE7ES
Mike	Lawrence	N9UA
Nancy	Myers	K9ANA
Neal	Buck	KC9LFN
Paul	Bleuel	KC9NAA

CLUB ROOSTER



Paul	Tvrdy	N9KLK
Peter	Fox	KB9WZD
Randy	Nelson	KC9MYG
Ray	Grenier	K9KHW
Reinholt	Aschmotat	N8VDH
Richard	Jarzynka	KD9EMX
Rick	Robinson	NI9Z
Ron	Keller	KC9YVL
Scott	Kreis	
Stan	Cram	AI0M
Steve	Smith	W9GPI
Ted	Gustavus	KD9IAH
Ted	Neuburg	W9LUQ
Ted	Willett	W9NHE
Timothy	Braun	W9AAV
Todd	Beay	AC9EX
Tom	Karrmann	KC9VZY
Tom	Murray	N0HOR
Tom	Powell	KC9VXR
Tony	Pass	KC9QYR
Walter	Rueger	KC9WQ
Walter	Drees	KD9JAD

Paul	Tvrdy	N9KLK
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	Radtke	WA9GON
Mark	Forss	WD9CYM
Dave	Witt	WD9W
Annika	Kreis	
Debra	Florian	
Laura	Yates	
Lorelei	Kreis	
Scott	Kreis	

First	Last	Call Sign
Kyle	Ruesch	AB9AX
Todd	Beay	AC9EX
Stan	Cram	AI0M
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
Jeremiah	Alderden	KC9SGL
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
Ben	Haack	KD9LVQ
Gene	Olig	KD9ZP
Mike	Keyes	KE7ES
Jack	Heil	KG9IN
Cully	Kowal	KS0D
Tom	Murray	N0HOR
Reinholt	Aschmotat	N8VDH
Doug	Schultz	N9EZF
Paul	Tvrdy	N9KLK

NAME
SORT

CALL
SORT