

 <p><a href="http://www.arrl.org">www.arrl.org</a></p>		<p><b>St. Paul Radio Club</b></p> <h1>Ground Wave</h1> <p><i>Jeff Iverson, WB9DAN, Editor</i>  <i>Dale Maroushek, NØPEY, Publisher</i></p>	<p><b>KØAGF</b>  <a href="http://www.stpaulradioclub.org">www.stpaulradioclub.org</a>          Club Repeaters:          145.310 MHz, 442.450 MHz          114.8 kHz tone          PO Box 9375          North St. Paul, MN 55109</p>
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## NEWS AND NOTES FOR SEPTEMBER 2021 – Volume 81, Issue 9

### NEXT (ON-LINE) MEETING: FRIDAY SEPTEMBER 10, 2021

- 6:00 PM Board Meeting (all are welcome to watch)
  - 7:00 PM Fellowship and (your own) Refreshments
  - 7:30 PM Short Business Meeting with Program Following
- (Zoom details are at the end of the newsletter)

### Program

Because of their construction project, CDH is not ready for us, so our meeting will be on Zoom. No formal program is planned. Join us to discuss what you did over the Summer.

### Program Suggestions

An important part of our member meetings, be they on-line or in-person, is our programs. The board will meet to plan the whole year's programs during the next couple months and we would like your suggestions of what you would like to see in a program over the next year. If you would like to present a program, that's a great idea, too! Please send your suggestions, including potential presenters' contact information if appropriate, to [dk@donkelly.biz](mailto:dk@donkelly.biz) (or [WA6ZMT@arrl.net](mailto:WA6ZMT@arrl.net), if that's easier to remember).

### Dale's Details by Dale Maroushek NØPEY

Welcome back, with bells on! FD just keeps growing. Attendance was higher than I have seen it for many years now. Equipment filled the area. Four RV's, two trailers, the GOTA tent, pop up covers for KD0EAT (Hey, that would now be correct: Kevin Dale 0 EAT) seating, Ralph's push up small monster tower, MARC boys portable tower, Eric's and Pete's light towers and generators, Dawn's push up mast trial. And new this year, the medical tent! Hopefully the results will show it was worth the effort expended by the many helpers and visitors.

Then comes the important part that I write about, keeping the group fed and happy. I had a couple new additions this year, Kevin, W5LNA, joined us as the cook and Pete, KD0SQJ, let us use his new Black Stove Griddle. Without any problems, Kevin took to the griddle and hot happy meat was filling buns all over the place. Pete even made some

bacon for breakfast. I am completely sold on the griddle now, however Black Stones are sold out everywhere, so I may have to wait until next season to get one for the RV. No flare ups or fires, easy to clean, better heat control, has a nice cover, it's a bit heavier but still would fit in the place we have in the RV.

The menu was basically the same as previous years, with a couple items to "kick it up a bit" as Emeril used to say. Pete scored a case of Kurig cups and Don brought his maker out so coffee was fresh by the cup rather than the usually 30 cup brewer. The usual single wrapped pastries and bags of cookies (maybe too rich for our old blood, many left over) for sweets and quick energy. Individual bags of chips (no problem here, they needed the salt for the body to use) for lunch with or kibitz over.

Our meat entrees were supplemented by a large selection of garnishes; chopped onions, sliced onions, sliced tomatoes, sauerkraut, both sweet and dill pickle relish, hamburger dill slices, pickle planks and slices. Toppings included; ketchup, mustard(s), BBQ sauce, horseradish sauce, Mayo, Miracle Whip. With all that waiting for the meat, it just jumped off the griddle.

The entrees consisted of the usual burgers, brats and dogs, with brats being the leader, then burgers and dogs were really down this year. Possible because of the Saturday night special menu items that I thought we should try. Follow my actions if you will, please. I started doing food for FD back in 2008 when we partnered with MARC at Tartan Park. We had a tight budget back then, so price was important. While shopping for all the food I round up for FD, I always keep two things in mind, Price and Quality. Over the years I have tested the quality of the products that Aldi has compared to so called name brand ones. Most often, the Aldi brand was equal or better than the big boys, and cheaper too. All in all, the price of burgers, brats and dogs, where ever and under what sale price, we still pay between 3 and 4 bucks a pound.

So I'm standing there and realize that I buy whole or half boneless pork loins, and can get boneless chicken tenders for under \$2 a pound if I watch the ads. In so doing, that opens up the door to get a bag of shrimp for \$6 a pound to even out the costs with the tube steaks. No, everybody did not fill up on shrimp, but chops and chicken were a hot item. Yes, a bit more work to prepare, but with the RV's refrigerator right on site, it is much easier now. Although the picnic fare is a standard, these healthier offerings give others a choice when thinking about coming out and enjoying an evening with us.

I also brought two hot dishes out again this year; number 1, calico beans regular and number 2, beans and ham special. The calico beans is always a sell out and was gone before supper was over. I saved a bowl of beans and ham for Tim on late night, but he forgot and it went home with me. I should have brought number 3, unstuffed peppers, but we had enough trouble thawing out the two we had. Start earlier next year.

Desserts, to bring back the memories of previous years, Pete and Kathy brought out a cake that we enjoyed over the whole weekend. Thanks again to RV refrigerators on site, we can do things like that. Come to think of it, we could have ice cream treats too! Next year...

Pop and water and the ice that cools it. This used to be a major problem of predicting how much of what to bring out and how to resupply if needed. Here again comes cost verse ease of access. I lost George as a gopher this year, but Kathy filled the position. She brought us ice when she came and went from FD to home with the kids. What a trouper, 3 little ones and shopping for us too. Thanks Kathy!

Let us dig into this area and see if we can possibly splint it off as a separate chairman duty. It kind of depends on the weather, the hotter it is, the more they drink and the faster the ice melts. This year was an easy one, but I still ended up with a lot of pop. FYI, my method of cost reimbursement is the club only pays for what we consume. I basically do an inventory IN and an inventory OUT and the club pays the difference. I watch the ads in June and find the cheapest price for the usual soft drinks; Coke and Diet, Mt. Dew and Diet, a selection of flavors to include Root Beer, Orange and others as wanted. I switched over from cans to plastic 16oz bottles this year, almost equal cost with cans when shopped and lets the holder keep it in any position without spilling or bugs getting into it. Believe or not, the cheapest price for most of these are at Menards! Coke is the only search problem I had. We also recycled most of the plastic this year. Coolers to store it in. I will donate two of mine to a new volunteer chair. I'm sure the Club can afford two more. Their job would be purchasing the beverage products at the best low costs in June. I can furnish some counts from previous years to help guide you. Then bring out the four coolers with pop and water bottles on ice Friday afternoon. You can stay the night or go home. Saturday morning they could call us to see what is needed, usually only ice at that time. Saturday after supper, do a quick check and refill/reload that should get us to the end of FD. Sunday afternoon come back and get the coolers and beverages. Do your inventory and figure out what the bill will be for ice and beverages. You will need a vehicle that can carry four or five coolers and some extra pop and water. You would also be making at least three trips out to the site. The cheapest ice is at fast food joints, Arby's has ten lbs for two bucks, whereas twenty lb. bags at grocery or liquor stores are over five bucks.

In conclusion, having a beverage chair would make it possible for me to load the outdoor kitchen and food into the RV, without the need for a trailer from here. So who needs a new job? Step right up and we can give you a practice run at the Auction in January!

## Field Day Results by Pete Guldán KDØSQJ

Most of you who've been around a while know that we have to wait until the December QST to find out how our results compare to all the other stations who have submitted results to the League. Again this year the majority of stations we logged were home stations. I am happy to report we even got that elusive state of North Dakota in the log. But even more important the food was a HUGE upgrade from last year. I want to take this opportunity to personally thank everyone who helped us out this year. In addition to our Benson Airport location there were two home stations who participated with us this year. I do not have their results so I guess I will have to wait until December for the finally tally. I can tell you that at Benson's our score was 3510. Last year we only scored 1300 from there and we had 9 home entries for a combined score of 5245. If anyone is interested in participating in Winter Field Day it is scheduled for January 29-30. You can get the info from <https://www.winterfeldday.com/> and if there are a few hearty folks interested let me know and we could make it a club activity.

## The 102" Whip (from the mailbox of N0AR)

**This email is from Hfpack, a group of hams that enjoy operating outdoors. With the permission of the author I think you'll find this an interesting read. You can check out HF Pack at their web site: <http://hfpack.com/>**

**-----Credit goes to the author Dennis, KB0SFP-----**

### **Origins of 102", 108", 17", antenna lengths.**

From: [KB0SFP](#)

Date: Mon, 07 Jun 2021 07:22:57 PDT

Here's is a little trivia for you on the origins of the lengths found on antennas today.

First 108 inches. While most people would associate this length with that of a 1/4 wave CB antenna, it's use long predates CB. In the 1920's & early 30's there was a great deal of experimentation on the then "ultra high frequencies" above 30mc(5 & 6 meters). The easiest method of coupling an antenna to transmitter was a direct connection to the plate of its output tube. This represented a high impedance load. An end feed 1/2 wave antenna also is high impedance. 108" = 1/2 wave on 52mc! Whips of this length have been in production since the 30's(though the common 3/8x24 thread wouldn't see much commercial use until the mid 50's\*). In the late 50's with the introduction of Citizen's Band at 27mc the industry began producing these antennas at 102 inches to compensate for the springs which became popular.

Skip ahead to 1944/WW-II and the introduction of one of the first radios to me called a "Handie Talkie"(which would result in a copyright grant to Motorola, then Galvin). The SCR-300(BC-1000) the very first VHF FM man portable transceiver ever fielded. It operated 40-48mc and would set the stage for every VHF/FM tactical radio to this day. With the introduction of the SCR-300 came it's long whip antenna, the AN-131. It was a sectional/collapsible antenna that was 126 inches long when extended, and 17 inches long when collapsed. Remember, end fed half wave, 1/2 wave at 45mc is 125 inches.

Though the SCR-300 would remain in service in the US into the mid 1950's, development of a new generation of equipment began shortly after WW-II that would result in the PRC-10 family. Though three

variants operated with the range of 20-54mc, the most common was the PRC-10 at 50-54mc. This shift to a higher frequency required a shortening of the old AN-131 whip antenna down to 109 inches which would become the AT-271(one of the AN-131's 17" sections was removed).

The AT-271 would become the most common military whip antenna EVER! It is still in widespread use today. Even It's 17" collapsed length has become a de facto industry standard. OutBacker, Buddy Pole, and various others, all produce antennas that will collapse to a 17" length, and now you know why.

\*One more tidbit. The use of the now standard 3/8x24 thread on whip antennas began on that WW-II vintage AN-131 whip antenna.

Dennis Starks

Military-Radio-Guy

KBØSFP

HFpack/Milpack/MMRCG

Monitor all: 3996usb, 5357usb, 7296usb, 14342.5usb, 18157.5usb, 29.4fm, 51.0fm

MMRCG.org

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## St. Paul Radio Club 2020-2021 VE Exams

It was a challenging season for the examiners because of the pandemic. Through the generosity of Galilee Lutheran Church in Roseville, we were able to hold exam sessions when all the other normal indoor locations were unavailable. Even with that, everything was shut down during the months of December and January, so instead of our normal 11 exam sessions, we were only able to hold 9. When we were able to resume testing in February, we were inundated with candidates, serving 20 that month in three different sessions to accommodate the required social distancing. We actually ended up turning away a few candidates this year because we just didn't have the space required to handle the number of people wanting to be examined. Hopefully, things will start returning more to the past normal in the coming exam season.

A special thanks to Terry Londroche, NØGOI, for securing the church for us. Terry was around so much, he even became a Volunteer Examiner himself!

Here are some stats from the 9 sessions we did hold:

No. of candidates	91
Unique candidates	80
Average candidates / session	10
Most candidates at a session	20
Fewest candidates at a session	4

No. of New Hams	60
No. of Technician Licenses	52

No. of General Licenses	26
No. of Extra Licenses	10
Total exams given	105

No. of Volunteer Examiners helping

None of this would have been possible, were it not for the generosity of the Volunteer Examiners who helped with the sessions. A big THANK YOU to the following individuals who helped out this season:

Dick Lauhead - WAØLIF  
 Scott Holisky - NØAR  
 Ralph Bierbaum - NØAWN  
 Dale Maroushek -NØPEY  
 Shep Shepardson - NØNMZ  
 Dave Steinberg -WAØRKE  
 Jeff Gubash - KAØUPA  
 Greg Merth - KCØRET  
 Richard Weil - KWØU  
 James Nicklas - NØALE  
 Ann Foster - KØANN  
 Ted Kinear - KDØNPJ  
 Terry Londroche - NØGOI  
 Don Zvareck - KCØDWZ

Respectfully submitted,  
 Leon Dill – WØCOE  
 St. Paul Radio Club VE Liaison

### **CDH install report from July 27<sup>th</sup>**

I've helped Bob the last two weeks up on the roof. It's hard when you only get an hour each night, you can only do so much. And it's a lot of driving back and forth from Stillwater. I can tell you it's close to being done however. All beams are up on the roof, coax attached to each and weatherproofed. They just need to be mounted on the masts for each tower which takes more than 2 people when you're dealing with a 40m Yagi like

we had at W0MR. Bob was waiting for a couple of U-bolts to show up from DX Engineering for his 6m tower rotor (the existing ones were galled up and both snapped). Also he needed to order some 5 wire Belden cable for the antenna switch going on the main tower. Initially he was going to use really heavy rotor cable for that, but it was expensive overkill and wouldn't fit in the switch box. So if these things arrive and we have enough bodies we can mount beams, tip the towers back to vertical, tighten down the guy ropes and pull up the dipoles. Bob will have to work with his CDH maintenance staff to get the coax feed lines and antenna switch wire inside the building. They will need to drill some holes in the sheet metal roof cap, put some grommets in and seal that up. But that can be done on their time, including fishing wires thru the ceiling to the shack. No weather concerns once everything is indoors. The earth ground for the towers is a bit of a problem, the closest earth is hundreds of feet away and 3 stories down. I looked inside the mechanical room below the tower and there are electrical panels in there but no separate building ground that I could see for us to attach to. There is water piping in there too for the HVAC units, another possibility. It's interesting that there was no lightning protection at all on the roof, no spikes or perimeter cable running to earth in the area. If they had that it would have been perfect to attach our tower grounds to. This may be another problem for the school maintenance school to solve their own way. Not a show-stopper but a proper tower ground (shortest path) really needs to be done. Anyway, it's all getting closer to completion, I would hope by the end of next week Bob will have a usable HF / VHF station to play with. BTW the K0AGF station room has zero forced air ventilation. Going to get really hot in there if the amp is running and the door is closed (no louvers in the door either). Figured we work that out later once things are up and running, maybe a louver over the door, etc. That's my field update.....all good.

73,

Ron, K0RJW







## Ramblings from the VP's Work Bench - Kevin Welna - W5LNA

Summer is fading and fall is almost upon us. Time for me to be more "Radioactive". It was a fine summer, and I did do a bit of Ham Radio. but most of my summer was spent attempting to rid the world of that most dangerous of prey....the Skeet.

I attended my first field day where my culinary skills and abilities were put to the test. I enjoyed cooking for everyone and would be willing to do the same thing next year (Assuming I am free for that weekend and voluntold to do so. HiHi) I have a couple of ideas for ramping up the edible offerings for next year as well, but I will leave that as a surprise for those who attend and should I be elected to do the cooking.

I am pretty excited, as by the time you receive this newsletter, I will have started my beginner level class offered by CW Ops. It runs from September through October, and I have high hopes to be able to FINALLY complete my learning of Morse Code and will have gotten on the air at least a few times and made my first couple of QSOs using Morse Code. I'm sure this will be yet another article that I will try and get into the ground wave before next summer.

I have a couple of projects that I completed over the summer that I will talk about in future issues of the *Ground Wave* and I hope to include some pictures:

I built a rather sturdy but relatively light antenna tripod using/repurposing a surveyor's transit tripod It is specifically designed to work with the Wolf River Coil antenna.

Although I am sure it can be easily modified to another antenna. It is somewhat compact and worked quite well. Alas having 20/20 hindsight, I can see a couple of deficiencies in the original design that might require a bit of reengineering based on my personal observations as well as some innovative changes made by my friend Steve - N0YQ. Since this project incorporated parts produced on my 3D Printer, updates and alterations/improvements will be both easy and inexpensive. Once all the parts have been updated, this project will probably be another future article for the newsletter. Additionally, I will post the STL files for anyone else that would like to print off a set of parts.

My Go Box is done and seemed to work well the few times I have used it. It was a fun project, and I was able to again incorporate some (3D Printing) in the process of completing the box. It is however a bit on the heavy side. I think if it a more as a LugBox than a GoBox. But it is great for on the RV so long as I only have to bring it out to the closest picnic table. I will be posting this project as an article in a future ground wave as well.

Since the LugBox ended up a bit heavier than expected, I will be attempting a different design using a Pelican style case later this winter in which the case will contain a complete operable system including a Wolf River Coil antenna, coax, radio 20ah batt etc.

all in a Pelican 1500 size case (18.50" x 14.06" x 6.93") and come in under 20 lbs. OK it ain't no Mountain Topper, but it will be a heck of a lot lighter than the LugBox! I hope to have a write up of this little adventure in the not too distant future.

Which brings me to my last item. In the hopes of sparking some interest in building and home brewing, I would like to propose a simple building project. It's called the PIXI transceiver. It is a kit to build a simple transceiver on the Technician part of the 40-meter ham band (7.025mhz – 7.125mhz). I have contacted the supplier of this radio and have been given a discounted price for this radio on the above frequencies. This means it is legal for Technicians to build and use! I will be purchasing 10 of these all on the same frequency for giving away to the first 9 people (1 is for me.) that contact me [kwelna@gmail.com](mailto:kwelna@gmail.com) and that will commit to building it this winter and meeting up a couple times over the winter season to share their experience and show off their work. We can also use these times to assist those who have issues and for testing the units once completed. You can check out the kit online at <https://www.pixiekits.com/product-category/pixie-kits/> More to come on this in the next month or two. If you are interested and can commit to building it this winter and attending the meetings, email me. I think it will be a fun club project. P.S. If I can find a location where we can meet and build these kits, I will try and secure the location for us.

Well, that's about it from my workbench, I hope you all had a great summer and are ready to become more "Radioactive" as the temps plummet in the coming months. 73 for now

Kevin Welna – W5LNA

### **Editor's Notes – by Jeff Iverson, WB9DAN**

I would like to remind everyone about our St. Paul Radio Club Facebook page. We have over 100 members who are interested in what we are doing. Find the group and ask to join.

Remember, contributions to the *Ground Wave* are always welcome. Send them in a Word document (.docx) or Open Office document (.odt) as an email attachment to [jaiverson@juno.com](mailto:jaiverson@juno.com). Deadline is one week before the next meeting.

### **Officer Contact Information**

President	Michaels, Lou WD8NOV	<a href="mailto:louthephotoguy@gmail.com">louthephotoguy@gmail.com</a>	612-638-8159
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## Zoom Information

Our September meeting will be in Zoom. Simply click (or copy and paste if that doesn't work) the link below or call in from any phone. If you're not familiar with Zoom and would like to arrange to practice, text Don at 651 276-4838 or email [dk@donkelly.biz](mailto:dk@donkelly.biz).

The Saint Paul Radio Club is inviting you to a scheduled Zoom meeting.

Topic: SPRC September Meetings

Time: Sep 10, 2021 6:00 PM Central Time (US and Canada)

6:00 SPRC Board Meeting (all are welcome to attend)

7:00 Ragchew

7:30 Member Meeting

Join Zoom Meeting

<https://us02web.zoom.us/j/6518421000?pwd=djluU3dha0FBN1hERIRoUVA0RVNUQT09>

Meeting ID: 651 842 1000

Passcode: 6512764838

One tap mobile

+13126266799,,6518421000#,,,,\*6512764838# US (Chicago)

Dial +1 312 626 6799 US (Chicago)

Meeting ID: 651 842 1000

Passcode: 6512764838

Find your local number: <https://us02web.zoom.us/j/6518421000?pwd=djluU3dha0FBN1hERIRoUVA0RVNUQT09>

### *SPRC Calendar*

Sat Sept 4	10 AM VE Exams at Galilee Lutheran Church in Roseville
Fri Sept 10	6PM SPRC Board meeting.
Fri Sept 10	7PM SPRC Membership meeting (7-7:30 ragchew, 7:30 meeting).
Sat Sept 18	9AM SPRC Breakfast.
Fri Oct 1	6PM SPRC Board meeting.
Fri Oct 1	7PM SPRC Membership meeting (7-7:30 ragchew, 7:30 meeting).
Sat Oct 2	10 AM VE Exams at Galilee Lutheran Church in Roseville
Sat Oct 16	9AM SPRC Breakfast.