



www.arrl.org



# St. Paul Radio Club Ground Wave

Jeff Iverson, WB9DAN, Editor  
Dale Maroushek, NØPEY, Publisher

## KØAGF

www.stpaulradioclub.org  
Club Repeater: 145.310 MHz  
114.8 kHz Tone  
PO Box 9375  
North St. Paul, MN 55109

## NEWS AND NOTES FOR JANUARY 2019 — Volume 79, Issue 1

### NEXT MEETING: FRIDAY JANUARY 4, 2019.

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

7:00 PM Fellowship and Refreshments

7:30 PM Short Business Meeting with Program following.

Our January presenter is John Kruk, N9UPC. He was licensed in the mid-1990's when he lived in northern WI. After high school John started working in the two-way radio field while working in Law Enforcement, Fire, and EMS. Today he is still a Community/Critical Care Paramedic in his community while working with radios professionally (Yaesu) or as a hobby. John came to Yaesu from the public safety communications world where he worked with P25 and DMR professionally. This was with conventional, trunked, and other communication systems like simulcasting.

All meetings are in the Commons meeting room in the John R Albert Center at Cretin-Derham Hall High School, 555 Hamline Ave. S., St. Paul MN 55116. From the intersection of Randolph Avenue and Hamline Avenue S., take Hamline southward for 3 blocks. The parking lot entrance is on the west side of Hamline Ave. opposite Watson St. The Albert Center building is about 400 feet west of the lot entrance—use the double-door entrance on the east side of the building.

John started with System Fusion as a means of having an easy and entry way for digital voice in the Amateur Bands. John worked with the different pieces of Yaesu System Fusion equipment to make sure analog and digital can exist together. This included different interfaces to the repeaters, mobiles, and other devices in order to allow people to use the mode they want to talk to the mode the other person wants to use.

John started with Yaesu in June 2017 and has been an avid Yaesu user from his start into ham radio. He enjoys working with different clubs and groups for finding the solution that they need. John is also the ARES/RACES EC for St Croix County, an active Search and Rescue Member for the Sawyer County Sheriff Department Team, State of Wisconsin WISCOM System educator for hospitals, and works with amateur radio/electronic training.

Teaser –

Yaesu has been hard at work this year on many different projects and part of this is with Yaesu System Fusion. This form of digital voice is expanding quickly and John will discuss the technology, equipment, and some other new information.

*(Continued from page 1)*

## **Presidential Ponderings** by Don Kelly, WA6ZMT

Have you noticed that the Ground Wave masthead indicates that the St. Paul Radio Club is an ARRL “Special Service Club”?

The ARRL website declares that “A club that exists to go above and beyond for their communities and for Amateur Radio is what defines a Special Service Club (SSC). They are the leaders in their Amateur Radio communities who provide active training classes, publicity programs and actively pursue technical projects and operating activities.”

To justify the Special Service Club designation, I need to explain our public relations program, how we recruit and develop new hams, and what our members do to gain and maintain emergency communications skills while enhancing their technical competency. I also need to list the operating activities that we use to hone our skills, and other activities that make our club special.

To maintain our status as a Special Service Club, I need your help.

Our Public Relations activities have been a little thin lately. Who would like to step up as our “Public Information Officer” to share information about SPRC with local media a few times a year?

How about education? Is it time to look again at the possibility of licensing classes? Maybe we can just create a list of classes around the Twin Cities and put together a list of Elmers who will make themselves available to new or aspiring hams. We could use an education chair to help with this.

There are a handful of us who try to stay ready for emergency communications by providing communications to community events such as the Twin Cities Marathon and the MS bike rides. Generally we do this on an individual basis—should we participate in more activities as a club? Does someone want to be our ARES liaison?

Many of our monthly programs contribute to our technical advancement, and Circuit Builders provides learning and sharing opportunities (though it’s currently in hiatus). We could use an “internal” education chair, too.

Notable activities are Field Day, Circuit Builders, and our annual Auction. Is there something we should add?

Again, here are opportunities to serve and to participate. What floats your boat?

## **Input tone**

Reminder: Our SPRC Repeater (145.310 MHz, -600) has had a tone of 114.8 kHz added to its input. Please remember to program this into your radio. Also, the repeater has been moved a couple of miles ENE of its old location, so its radiation pattern may be slightly different.

*(Continued on page 3)*

*(Continued from page 2)*

## **Dale's Details** by Dale Maroushek, NØPEY

Preparing to change the calendars in a few days. 2019, there must be something special about this new year.  $DOB\ 1949 + 70 = 2019$ , that's it, I'll be 70 and have to take money out of my funds. More tax crap.

I'm hoping to have the fusion UHF repeater up this week. It may not be perfect, but we can test it out and see what happens. I'll watch the Yaesu YouTube instructions, again. The big event is the Auction on the 26<sup>th</sup>. I've been sorting and cleaning the basement shop and have four boxes ready to go now with more to come. When I get it all done, I may be able to work in it again. Then I have the four already in the garage, so expect to see some interesting stuff. Save the date and have a good time.

I'll keep this short, too much holiday activity, not doing much radio. Except for the Friendly Net, 28,320 Mhz Wednesday night at 1950, and the Two Meter, 145,310 Mhz net at 2030. Tune in and say hi!

## **Minutes of the SPRC Board – December 7, 2018**

President Don Kelly (WA6ZMT), called the meeting to order at 6:10 PM. Attending: Don Kelly, Dale Maroushek (NØPEY), George Power (KØGCP), John Faughn (KDØCAC), Jay Maher (NJØM), Allan Klein (WØONLY).

### **Reports and topics discussed**

#### Club Storage

On November 27, club volunteers moved the club's equipment from the Public Storage facility into our new storage space in the basement of the Christian Brothers residence hall. The board is very thankful for Br. Bob's offer of the storage area. SPRC members who are storing club equipment are requested to bring it to the next meeting so we can put it into storage.

With a lower priority, we are still looking for an inexpensive used trailer (10' long, enclosed, single axel, under \$1000) for storing non-temperature sensitive equipment for club events, such as field day and the auction.

#### Repeater

To help eliminate some noise issues on the club's VHF repeater (145.310), we have added a PLL tone of 114.8. George will update our repeater listing information at the MN Repeater Council and ARRL websites.

We found that it is difficult to monitor our VHF repeater from within the Commons Areas hall, so we will explore using the NØGOI repeater (monitoring it) for the auction and our membership meetings.

#### Finance

Allan provided current balances for our three accounts (general, education and repeater funds) and we are solvent. Expenses being paid: \$150 for shelving and materials for

*(Continued on page 4)*

(Continued from page 3)

the storage area at CDH, \$77 for our last month at the November Public Storage Area, \$300 for the UHF repeater upgrade, and our USPS mail box and Ground Wave mailing costs.

On the records side, Allan has a collection of ARRL letters to the club which will be added to the storage area (Don will provide a file cabinet).

### Banquet

Jay is waiting for a contract with the food service (Taher).

### Website

Jay is working with a new site host, QTH.COM, to get our website up and running with current information. George will help.

### Circuit Builders

The group has been put into "hold mode", pending finding a meeting space and a volunteer to drive it.

### Future Programs

Don will ask members about their suggestions about future programs.

The meeting was closed at 6:48 PM

:gp

Revised 12/17/2018

## **Saint Paul Radio Club — Member Meeting — December 7, 2018**

President Don (WA6ZMT) opened the business meeting at 7:30 PM.

Since the December meeting is the Holiday social gathering, and it started around 7:00 PM, there is no formal program and the business meeting was very short.

### Officer/Committee Reports:

President Don reminded us that the next regularly scheduled VE session occurs next month (1/5/2019).

Vice-President Dale (NOPEY) reported that our 2018-2019 membership is over 100 as of tonight.

Treasurer Allan (WONLY) reported that the club's three funds are solvent and in good shape.

Secretary George (K0GCP) reported that the minutes for the November Board meeting and the Member meeting were posted in the *Ground Wave*, with an invitation to correct the same by emailing George. Since no corrections were received, both sets of minutes were accepted as posted (K9NJ's name spelling error was noticed and corrected in the

(Continued on page 5)

*(Continued from page 4)*

records later).

Don announced that our club storage space is now in CDH, and requested that those members who have been storing club equipment should talk to one of the club's officers and make arrangements to get the gear to our CDH storage area. We will be separating club-owned equipment from equipment destined for the auction next month. We are still interested in acquiring an inexpensive trailer, to store larger equipment (which is not temperature sensitive) and which can be used to haul field day materials. There is some interest in establishing a scholarship fund in honor of SK Paul Bittner (W0AIH). Donations are being accepted via a GoFundMe page or through the ARRL Foundation.

The business meeting was adjourned by (popular) consensus at 7:30 PM, and the party continued into the evening. The evening ended around 9:15 PM with the customary raffle.

:gp

Revised 12/17/2018

### **My Neighbor's Sister's TV** by Scott Holisky NØAR

It seems that every year about this time I get asked for advice about TV antennas. Usually starts with "Say, you've got a lot of antennas and wires — what do you think my sister should get for her new TV?" and the questions start. How far away? House or apartment? Top of the hill or bottom of the river valley? Just enough information to know what your best guess is. And yes, until it's proven to work or not, it's a guess.

Just like running an indoor ham antenna, an indoor TV antenna is a compromise at best. Gone are the aural and visual discrete signals--now it's just a data stream. Interrupt that stream and the show stops. Good reception only requires a constant signal that is free of sudden level changes or varying reflections. So what do you do? Put the antenna on the roof. A simple vent pipe mount and bring the RG-6/u coax right to the TV set.

Over the years I've probably tested a couple of dozen different HDTV antennas and compared notes with another Chief Engineer from a local TV station doing the same. Hey--you wanted to be able to offer an informed opinion to your viewers, so it made sense to know the choices. After all the hype and promises were put to rest, the last one standing was the old-style yagi or bow-tie reflector screen antenna. My personal choice is a product called "ClearStream" (<https://tinyurl.com/y9zkb3I>). My first choice is their antenna with a back panel mesh reflector and is a UHF/VHF unit.. That kit comes with everything you need to do an installation down to the mast if you want.

I like RG-6 coax for just about every receiving application. It's low loss, holds up well to the weather, and is inexpensive. One thing that has changed is how we now attach

*(Continued on page 6)*

(Continued from page 5)

connectors. It used to be that you would put on a connector, crimp it down with the hex tool and tape the whole mess up. No more. The new compression connectors are easy to use, waterproof and make a solid “tug proof” attachment. The compression tool (<https://tinyurl.com/ycpg2ery>) should be a must have for every ham tool box. They are now priced within reason and connectors are available on-line or in the big box stores. There is also a whole assortment of adapters to go from the “f” end to just about anything you need.

I almost always give the finger tight “f” connectors a taste of the wrench before calling it done. You don't need to reef on the connector, just make sure it's a bit beyond finger tight. I've seen the effect of a marginal finger tight connector on a network analyzer and it can make a big difference in performance. I've also been playing with that dielectric “toothpaste” that DX Engineering sells. The jury is out, but it seems to fill the voids and the connectors work.

One more tip. Installing compression connectors in cold weather can be a real PIA. The connectors must seat inside the outer jacket of the coax in order to make a secure connection. Warming the cable makes it all work as expected.

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

The *Ground Wave* is a bit shorter this month, but that's okay. Everyone is busy this time of year.

Piggy-backing on Scott's article about TV reception, *Jeopardy!* had a contestant the other day from Milltown, WI who said she could watch the program at home only in the winter, when the leaves were off the trees. Alex Trebek and the audience had a good hoot with that, but all of us hams who work VHF/UHF know how true it is.

My new Western Digital external hard drive is working fine. It is interesting to note that two years ago when I bought the Seagate it had a capacity of 1 terabyte. The new drive has a capacity of 2 terabytes and cost about the same. I guess Moore's Law sort of works for storage as well as processing power. Another tip: if your computer supports it, always get an external drive that uses USB 3.0 or higher (this includes thumb drives). Data transfer rates are about 10 times higher than USB 2.0. If you need to use an extension cord, be sure it is USB 3.0 compatible. Usually the plastic insert in the plug will be blue instead of white. If your computer has both USB 2.0 and USB 3.0 ports, connect your keyboard, mouse, and older peripherals to the 2.0 ports and save the 3.0 ports for data transfer.

Some of you know that I have been collecting books for years — three degrees and two hobbies will do that to you. Well, I have finally had some success clearing out 5 or 6 boxes of books to a used book store, netting over \$400. The reason I mention this is that I used some of the proceeds to purchase a Mirage B-310-G 2 meter 100 watt SSB/

(Continued on page 7)

(Continued from page 6)

CW/FM amplifier to use with my FT-817ND. I operated 2 meter SSB back in the early 1970s from Hudson with a HW-100/SB-500 combo. It was a lot of fun. Contacting Chicago was almost routine. But I got caught up in the FM craze and sold my SB-500. I am looking forward to getting back on 2 meter SSB again. Actually, that SB-500 was lucky if it could put out 60 watts. 6146 tubes fall off quickly in the VHF region. I only have vertically polarized antennas now, so I won't be able to do much serious work over the winter. In the spring I hope to put up a pair of 8-element Quagis. Antenna party anyone?

73, Jeff, WB9DAN (GW.SPRC@GMAIL.COM).

### CDH is Tobacco-Free

Cretin-Derham Hall is a tobacco-free school. Tobacco includes any kind or form of tobacco, nicotine products, e-cigarettes, cigarettes, cigars, chew, snuff, plugs, etc., prepared in such manner as to be suitable for chewing or smoking in a pipe or other tobacco-related devices.

### Can you contribute to the Ground Wave?

It's nice to have the "regulars," but it would be even nicer to include tales, advice and what not from other St Paul Radio Club members (or non-members!). Not everything needs to be radio-related.

**Send your contributions  
to GW.SPRC@GMAIL.COM**



**Look for our group:**

**“St. Paul Radio  
Club”**



St. Paul Radio Club, Inc.  
 PO Box 9375  
 North St. Paul, MN 55109

### ADDRESS CORRECTION REQUESTED

Fri Jan 4	6PM SPRC Board meeting, Commons Meeting Room, John R. Albert Center, Cretin-Derham Hall High School. *
Fri Jan 4	7PM Socializing followed by 7:30 PM SPRC Membership meeting. Commons Meeting Room, John R. Albert Center, Cretin-Derham Hall High School. See Page 1.
Sat Jan 5	10AM VE testing. Ramsey Cty Library, 3025 Southlawn Dr., Maplewood. Contact Leon Dill, WØCOE@arrl.net or 651-425-0338
Sat Jan 19	9AM SPRC Breakfast. Denny's, 1664 University Ave, west of Snelling.
Sat Jan 26	8:30 – 1PM SPRC Annual Auction. Commons Meeting Room, John R. Albert Center, Cretin-Derham Hall High School.
Fri Feb 1	6PM SPRC Board meeting, Commons Meeting Room, John R. Albert Center, Cretin-Derham Hall High School. *
Fri Feb 1	7PM Socializing followed by 7:30 PM SPRC Membership meeting and Holiday Party. Commons Meeting Room, John R. Albert Center, Cretin-Derham Hall High School.
Sat Feb 2	10AM VE Groundhog testing. Ramsey Cty Library, 3025 Southlawn Dr., Maplewood. Contact Leon Dill, WØCOE@arrl.net or 651-425-0338
Sat Feb 9	9AM - ? St. Cloud Amateur Radio Club Cabin Fever Reliever Hamfest. National Guard Armory, 1710 Veterans Drive, St. Cloud, MN 56303
Sat Feb 16	9AM SPRC Breakfast. Denny's, 1664 University Ave, west of Snelling.

\* Depending on business to be considered, Board Meetings are sometimes held electronically. Check with a Board member beforehand to confirm a meeting.