



Saint Paul Radio Club, Inc. www.stpaulradioclub.org

The Ground Wave

March 2009

SPRC Banquet by Jay Maher, NØJPH

The sometimes-annual Saint Paul Radio Club Banquet was held Saturday, February 7th, on the University of St. Thomas campus. The theme was a Sweethearts' Banquet and we had 34 members and family attending. I had been told that the food service at St. Thomas was excellent, and they lived up to that reputation. If you didn't come, you should make plans to do so next year. John Desmond, KØTG, and Jan Uzlik, KBØQEP, gave a presentation on their 2006 trip to the World Radiosport Team Championships in Brazil where John was a referee. They entertained us with stories of the kinds of experiences you have when people gather from around the world while sharing a common bond. They had time to tour a bit of Brazil, so it was a multi-media presentation with photos that ranged from spectacular waterfalls to the famous Ipanema beach, as well as recordings of some of the on-air contest action.



After the program, president Dale Maroushek, NØPEY, presented a well-deserved Member of the Year award to Jay Bellows, KØQB.

Thanks to all the Board members who helped out with organizing the Banquet. Special thanks go to Dale Maroushek for arranging for roses for every attendee (and an extra dozen as a prize) and to Twila Greenheck, NØJPH, who put considerable thought and effort into making the event a success.

Saint Paul Radio Club Meeting

Friday, March 6th, 2009

7:30 p.m.

Socializing 7:00 - 7:30 p.m.

University of St. Thomas

Murray-Herrick Campus Center

Room 155



Craig Johnson, AAØZZ

Using PIC Microcontrollers in Amateur Radio Projects

Microcontrollers are everywhere. They are certainly in your new radio and might even be in your new toothbrush. Do you use them in your radio projects? Craig Johnson, AAØZZ, has a wealth of experience with microcontrollers and has shared that with the radio community through articles in QST and QEX on his PIC-EL and IQPro DDS boards. He'll be describing his new version of the PIC-EL, a multi-function PIC programmer and development board. The board was originally designed to be used in the Elmer 160 Microcontroller course and can be configured for a variety of uses. Come and see how you might be able to add some more capability to your next project.

(Continued on page 2)

Directions to Meeting: Take the Cretin-Vandalia exit from I94 and take Cretin Avenue six blocks south to the St. Thomas campus. Murray-Herrick Campus Center, site of the meeting, is off of Cleveland Ave. South, which is two blocks east of Cretin. Enter the parking lot from Cleveland Avenue South, between Ashland and Portland Avenues. Go in the door at the west end of the parking lot and turn right after the second set of double doors, then around through an open area to **Room 155, on the 1st floor.**

Parking permits are not needed after 6 p.m. on Fridays in the red and yellow lots.

Maps are available at www.stthomas.edu/campusmaps/stpaul.asp. The color version is easier to read but takes longer to download than the black and white version. MHC is #5 on the map; the most convenient parking is lot G..

Monitor the club repeater, KØAGF, for talk-in help. 145.31—no tone needed

(Continued from page 1)

Craig Johnson, AA0ZZ, lives in St. Paul, Minnesota. He has a Bachelor's degree in Electrical Engineering and a Masters degree in Business Administration. He worked for Unisys for 35 years on the design/development of large computers and now works for Alliant Techsystems, a Defense Department contractor, developing high-tech products with microprocessors for the military.

Craig is married, and has three children. His two daughters graduated from Bethel College in St. Paul and are now elementary school teachers in the St. Paul area. His son also graduated from Bethel, studying physics, and is now in a grad school at the University of Minnesota in Electrical Engineering. His wife, an elementary school teacher for many years, works at Bethel Seminary.

Craig got his first ham license in 1964 at the age of 14. He credits ham radio with sparking his interest in electronics and as a major factor in pointing him toward a career in electrical engineering. However, during his college years and following, he let his license lapse and concentrated on computers. In 1995, when two of his children (ages 14 and 10) expressed an interest in amateur radio, Craig offered to help them get their licenses. A short time later, all three went together to take the tests and get their licenses. Then Craig went on (in the next 5 weeks) to take the additional tests to get his Extra Class license. Some years later, his other daughter and wife both got their amateur radio licenses too. For several years, Craig led a team of Volunteer Examiners and helped hundreds of people in the St. Paul area get or upgrade their licenses. He still serves as a VE on occasion. He is an active member of the Minnesota QRP Society.

Craig enjoys operating QRP, DXing and contesting. However, he is happiest when he is tinkering, building, or experimenting with his new designs, circuits and software. His current interests are centered around projects that use microcontrollers, Direct Digital Synthesis, and the new digital modes.

Washington School Project Continues

7th and 8th graders in the Washington Middle School Radio Club have been both building and operating.

Each of the students built an "electroscope," which is a simple static charge detector. Despite their simplicity, the kids got a real kick out of seeing their detectors respond to various charged objects. In the process, they learned about soldering and circuits (we hope). The next building projects will be a crystal radio, an audio amplifier, and perhaps a preselector/RF amplifier.

The students also participated in the School Club Roundup, which is a nationwide operating event for school radio clubs. Unfortunately, they were only able to operate for one hour (because the Club only meets one hour per week), but they made contacts on 20 meters with stations in Washington and Minnesota.

The Radio Club was also featured during the school's Open House, where parents and prospective parents toured the school to see what it had to offer. One visiting Dad showed a lot of interest in getting himself licensed!

The class is led by teacher (and SPRC member) **Denise Kapler, KDØCOT**. Club volunteers in the recent classes have included **Jay Maher, NJØM**, **James Klassen, KBØUAZ**, **Keith Miller, AGØH**, **Don Greenheck, NØJPG**, **Twila Greenheck, NØJPH**, **John Hunt, KGØJD**, **Orcy Lyle, WØQT**, **Steve Huntsman, AAØP**, and **Allan Klein, WØNLY**.

AERO Training

The Association of Emergency Radio Organizations (AERO) is offering its Basic Level Radio Operator training class April 25, 2009, from 10 a.m. to 4 p.m. in Chanhassen.

This is a free class to introduce amateur radio operators to common net traffic procedures, operating guidelines, standard area repeaters, and staging areas used during an emergency. This is a good class for new hams, as well as a refresher for old pros.

AERO was formed as a common effort by approximately 20 metro Twin Cities radio and emergency response organizations "to enhance the ability of volunteer emergency radio organizations to support emergency management and disaster response agencies with supplemental communications in times of disaster".

For more information, directions, and to register, contact Dan Peitso, NØPIY (NØPIY at arrl.net, 763-755-3262).

General License Class

Enough students have signed up for the "Upgrade to General" class to ensure that it will go forward, said Allan Klein, the Club's Education Coordinator. The class will meet for eight consecutive Monday nights in Roseville from March 9, through April 27.

"Last year we hardly had enough students to justify holding it," Klein said, "but this year's registration is already much better." Klein credits Skip Jackson with producing a list of all recently-licensed Technicians in the Metro area. The list was used to send each of them a notice of the class.

Instructors will include Dan Meyer, Jay Bellows, Jeff Iverson, Ed Van Cleave, Lou Sica, Jackson and Klein.

There is still time to register—details are on the Club's website.

Membership Meeting February 6, 2009

A meeting of the St. Paul Radio Club membership was called to order on February 6, 2009, at 7:34 p.m. by President Dale Maroushek, NØPEY.

Signed in on Members sheet: 32
Signed in on Guests sheet: 3
Headcount during business meeting: 36

Guests were introduced; members present introduced themselves.

Treasurer Allan Klein, WØNLY, gave a Treasurer's report: auction made over \$700—proceeds to ARRL Spectrum Defense Fund; finances are good.

January Meeting Minutes were accepted as printed in the *Ground Wave*.

Education Committee Chair, Allan Klein, WØNLY, announced that the club will be sponsoring a General Class: 8 Mondays beginning March 9th, 7-9 PM, at Roseville Fire Hall. We need a volunteer to teach the safety chapter.

Jay Maher, NØJM, gave an update on the Washington Middle School project: Class went on a field trip to the Bakken Museum; is looking forward to participating in the "School Roundup" event; new helpers from the club are always welcome.

Field Day Chair, Jim Klassen, KBØUAZ, put out a request for volunteers for sub-committee chairs—the earlier these are filled the better.

Annual Banquet is tomorrow night (2/7); 34 people are registered.

Membership Registrar, Skip Jackson, KSØJ, reported that club membership stands at 95.

Emergency Services Liaison Ralph Bierbaum, NØAWN, coordinated club participation in a call-in at Twin Cities Public television to answer

public questions re the Digital TV conversion.

Orcy Lyle, WØQT, reported that the Circuit Builders group is inactive at the moment.

Orcy Lyle, WØQT, has completely redone the club website. It looks real good.

Announcements:

St. Cloud Hamfest, Sat. February 14.

Eau Claire Auction, Sat. March 14.

MN QSO Party, Sat. February 7.

Twin Cities Regional Science Fair, Feb. 27-28, UofM Fieldhouse (<http://tcrsf.org>).

TCFMC Ham Jam, Tues. Feb. 24.

Vintage Radio Swap Meet, Pavek Museum, Sat. February 7.

Volunteer Coordinator "Friendly" Fred McCormick announced that we currently have a full slate of volunteers. Approximately 1/3 of club membership is involved in a volunteer position. New volunteers are always needed for new tasks or replacements.

The meeting was adjourned at 8:06 p.m.

Post-adjournment, Orcy introduced the program, Steve Levins, ABØYQ, talking about Cable and Amateur Radio: *How We Really Are Best Friends*.

Board Meeting February 13, 2009

A meeting of the St. Paul Radio Club Board of Directors was called to order on February 13, 2009, at 7:11 p.m. by President Dale Maroushek.

Board members present: Dale Maroushek, NØPEY, President; Orcy Lyle, WØQT,

Past-president; James Klassen, KBØUAZ, Vice President; Jeff Iverson, WB9DAN, Secretary; Skip Jackson, KSØJ, Board Member At-Large (via telephone).

Others present: Jay Maher, NJØM, Refreshment Coordinator and Banquet Chair.

As of now, we will not be sponsoring a Skywarn class this year. Logistics were not coming together for use of a room at either of our usual facilities, University of St. Thomas or Roseville municipal buildings. There are multiple other sessions in the Twin Cities area. If the need, interest, and room availability comes together, we may sponsor one later in the season.

If he is still available on our March date, we will plan on having Craig Johnson, AAØZZ, present his updated program on microcontrollers and amateur radio. April program will be John Thomas, W3FAF, on propagation. May program will be Orcy on APRS.

Banquet was a success thanks to the efforts of Jay and others. Club expenses will be about \$400.

Auction profit was \$774. Orcy moved that we round our donation to the ARRL Spectrum Defense Fund up to \$800. Seconded by James. Carried.

Ground Wave has looked good the last couple of months. Dale presented the work he and James had done in defining how the *Ground Wave* should look. These guidelines, as modified and agreed upon are:

- There should be ten issues per year, Aug/Sept, Oct, Nov, Dec, Jan, Feb, Mar, Apr, May, June/FD
- August/September *Ground Wave* should be out 2 weeks prior to the September meeting. October-May

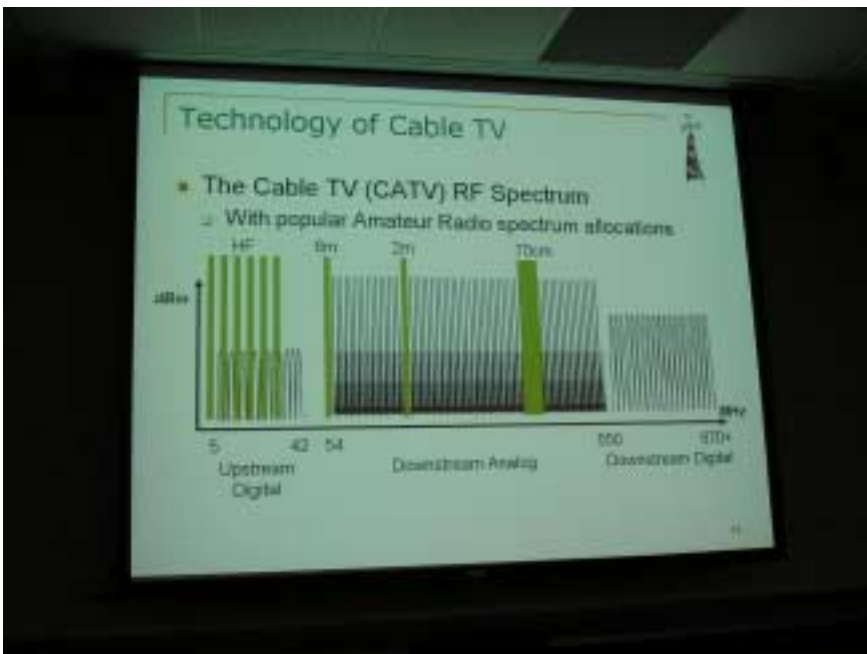
(Continued on page 6)



Steve Levens, ABØYQ presented the program "Cable and Amateur Radio How We Really Are Best Friends" at the February SPRC meeting.

Photo above courtesy of Dawn Holmberg, WXØZ.

Photo below courtesy of Orcy Lyle, WØQT.



St. Paul Radio Club Wearables

When people want to order a total of 10 items, we will put in an order. If you are interested in ordering Wearables,

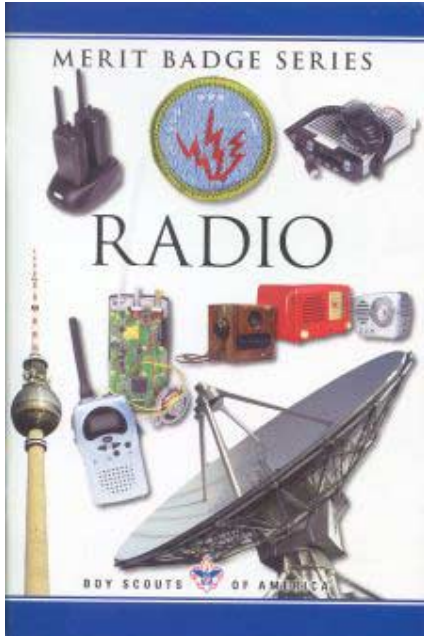
Boy Scout Merit Badge by Dan Meyer

Most all of us know about the Boy Scouts, and if you are an amateur radio operator you are probably aware that there is a merit badge for knowing something about radio--some of you might have even earned this merit badge if you were involved in scouting. For those who were not in this organization, do you think you could achieve this recognition?

The Radio Merit Badge worksheet is 10 pages of fill-in-the-blank questions. There are some basic questions you need to explain to earn the award. A few examples are: explaining what radio is and the difference between broadcast radio and hobby radio; what call signs are used for and how the phonetic alphabet is used are just a few other examples. Other topics are somewhat more advanced--you are asked to explain DC ground, power ground and antenna ground. More important, you must explain how to work safety while working with radio gear. There are also a number of other questions that are specifically about amateur radio. For example, why does the amateur radio service exist, what do hams do on the air? Q signals, license classes and various kinds of amateur stations are the topics of some of the questions as well.

Do you think you could earn a radio merit badge if you were a boy scout? I'd bet that most of us could. Take a look at the worksheet on-line at <http://usscouts.org/mb/worksheets/Radio.pdf> and see if you know what a Boy Scout knows about radio.

Also see ARRL Special Bulletin 3 on the facing page.



BSA Updates Radio Merit Badge Requirements

The new BSA Radio Merit Badge Pamphlet includes color pictures and updated charts and text. The Boy Scouts of America (BSA) has updated the requirements needed to earn the Radio merit badge. The new requirements became effective with the publication of Boy Scout Requirements 2009. While no new content has been added to the program, the new merit badge pamphlet features lots of new information—including color pictures and updated charts and text—that reflects the changes in the Amateur Radio Service since the last pamphlet update in 2002. Approximately 4000 Radio merit badges are earned each year.

According to ARRL ad hoc Scouting Committee member Larry Wolfgang, WR1B, the new Radio Merit Badge pamphlet had been in the works for some time. "BSA has been replacing all merit badge pam-

phlets with new booklets using color graphics and more modern presentations," he said. "With attractive color photos and clear text explanations of the requirements, the new merit badge pamphlet is a pleasure for the Scouts to read. The new text is due in large part to the efforts of longtime Radio Merit Badge Counselor and K2BSA National Jamboree Staff member Mike Brown, WB2JWD. I am looking forward to using the new pamphlet to teach Radio merit badge at our Council's Merit-Badge-O-ree this spring, and to having a supply of the new books available for Scouts during the 2009 summer camp season."

Wolfgang said that the requirements for the badge have been shifted around: "The old Part 4 of Requirement 7(b) Broadcast Radio was pulled out and placed in the main body of the requirements as Requirement 8. In addition, the old Requirement 8 (to visit a radio installation and discuss what types of equipment, how it was used, what types of licenses are required to operate and maintain the equipment, and the purpose of the station) was moved up to Requirement 7, so that now the three options appear as Requirement 9. The main result is one additional full requirement."

ARRL Rocky Mountain Division Director and Chairman of the League's ad hoc Scouting Committee Brian Milesosky, N5ZGT, called the Radio Merit Badge "a perfect avenue to introduce Scouts and Scouters to the wonderful world of ham radio. Ham clubs across the nation should locate a local Boy Scout Troop, secure permission from their Scoutmaster and/or committee to teach the

merit badge and deliver an exceptional Radio merit badge class. What the boys -- and their leaders and parents -- will learn in the process is a fair amount of what is part of the Technician license exam, so the next logical step after a merit badge class is an all-out recruiting effort to get that Troop involved in Amateur Radio. They'll meet new friends and have a great way of communicating while in transit to and from the field, as well as additional peace of mind through an effective means of emergency communications while in the backcountry."

Additional information -- which includes the new 2009 requirements—can be found on the web at, <http://www.arrl.org/news/stories/2009/02/24/10667/?nc=1>.

St. Paul Radio Club Nets

The St. Paul Radio Club has two nets: The 2 meter net at 7:00 p.m. on Wednesdays on 145.310- MHz (no PL tone), coordinated by **Andy Lokken, KCØTUD**, followed by the "Friendly Net" at 8:00 p.m. ("pre-net" at 7:45 p.m.) on 28.310 MHz, hosted by **Marty Gammel, KAØNAN**.

Anyone wishing to serve as net control on either net, please contact the relevant person via contact information on the Volunteer page of this *Ground Wave*. The 2 meter net takes place via the SPRC repeater, which is located at the University of St. Thomas in St. Paul. The 10 meter net takes place via ground wave, so needs to have NCOs who are centrally located in the Twin Cities Metro area.

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Ground Wave should be out on the fourth Friday of the previous month, or 7 to 10 days prior to the next meeting date. June/Field Day *Ground Wave* should be out 1 week prior to Field Day.

- Five items are required, but page count may vary (*i.e.* it does not have to have 8 pages).
 1. Next Meeting date, time, location and program info on front page, supplied by the Program Coordinator. Include directions to specific meeting room at UST, but need not include directions to the UST campus, which are widely known and publicly available.
 2. Minutes of the last membership and board meetings, supplied by the Secretary.
 3. Any special announcements from committees or SPRC event info, supplied by chairs.
 4. A summary calendar of events for the next 3 months, currently supplied by Jay Maher, NJØM. Usually located on the split back page with mailing label. (Includes planned upcoming meeting dates and programs, classes and VE schedule.)
 5. The current volunteer page, as it is now. (There was consideration for eliminating this, as the information will be available on our new brochure, but there was considerable sentiment that the information is helpful to have in the *Ground Wave*).

- Special pages:
 1. Membership applications in September and October.
 2. Auction flier in December and January.
 3. Registration forms for other SPRC events, as required.
- Additional contributions from members or other sources: articles, want ads, for sales, pictures or cartoons, local interest items, critical ARRL announcements, are all acceptable but not required.
- Format may be 2 or 3 columns, supplied in PDF format to the email list, printed and mailed to the limited mailing list. (A plain text version was previously produced to meet a member's special needs, but as far as we know, it is no longer required.)
- All input must be to the Editor by the third Friday of the month.
- *Ground Wave* Editor may (and is encouraged) to delegate sub-tasks to helpers, but remains responsible for the final product. These sub-tasks may include:
 1. Collating information from various sources.
 2. Editing texts.
 3. Conversion from page layout to PDF format.
 4. E-mailing PDF to membership e-mail list.
 5. Printing/Folding/Mailing paper copies to limited mailing list.

Picnic/Field Day: We will once again hold a club picnic during Field Day.

Orcy has completely re-done the SPRC website. It is looking good and getting hits.

The St. Paul Red Cross has contacted us to confirm that we no longer have any property at their office. We do not.

There was a brief discussion as whether the club may be well-served to rent a public storage unit to consolidate club property in one location. Club property is currently scattered at several members homes/garages, making it difficult to keep track of and putting us at some risk if those members suddenly become sick, pass away, move, or quit the club. There was concern about how much a storage facility may cost. Board members will informally research alternatives, including perhaps purchasing a storage trailer.

The meeting was adjourned at 7:52 p.m.

This Space Available

Contributions to the Ground Wave are always welcome

Send your report, story, monthly column, ad or whatever to

dk@donkelly.biz

or

Fax: 651 842-1001

or

Don Kelly
1547 University Ave W #350
St Paul MN 55104

The St. Paul Radio Club, Inc., has served the amateurs of this area since 1931 except between 1941-45 when most of the members were in the military service. The first issue of *The Ground Wave* was published in November 1938, under editor Frank Vowles, W9BBL. The club call is KØAGF issued in 1956.

Club Meetings are held monthly (except June, July and August), generally on the First Friday at 7:30 p.m. Consult current Ground Wave or club website for meeting location. Social time 7-7:30 p.m. If you have any interest in radio communications, whether you are licensed or not, please accept this cordial invitation to join us as a member or come visit us at one of our meetings or events. All are welcome!

Annual dues are payable on September 1. Individual or family: \$20.00, student: \$10.00. Children 18 and under are free. Members joining mid-year are prorated.

Want Ads... *The Ground Wave* solicits your want ads...free to club members, \$1.00 to others.

Free Classes... The club usually conducts Technician level classes in the fall and General level classes in the spring.

The Mission of *The Ground Wave* is to bring a good blend of local, national and world news affecting amateurs in addition to technical knowledge, club events and humor. The editor solicits your letters, knowledge and first-hand experiences and stories for future articles.

The St. Paul Radio Club is affiliated with the ARRL.



VHF NETS

- 145.17 MAGIC Repeater Net Saturday 7:00 p.m.
- 146.76 Saturday Swap Shop Saturday 9:30 a.m.
- 146.85 MARA Bulletin Board Sunday 7:00 p.m.
- 145.31 SPRC 2 meter Net Wednesday 7:00 p.m.

HF NETS

- 28.310 SPRC Friendly Net Wednesday 8:00 p.m.
- 3.860 Minnesota State Phone Net Noon and 5:30 p.m. daily
- 3.860 Minnesota ARES Net 6:00 p.m.
- 3.710 Minnesota Slow Speed CW Net 6:00 p.m. daily
- 3.605 MN State CW Traffic Net 6:30 p.m. and 9:50 p.m. daily
- 3.925 MN PICO Net 9-Noon Mon-Sat, 3-5 p.m. Mon-Fri

SPRC REPEATER KØAGF 145.31 – 600 Open access no tone

ST. PAUL RADIO CLUB VOLUNTEERS

President	Dale Maroushek	NØPEY	651 777-5309	president
Vice President	James Klassen	KBØUAZ	651 451-8612	vp
Treasurer	Allan Klein	WØNLY	651 291-8815	treasurer
Secretary	Jeff Iverson	WB9DAN	763 560-4458	secretary
Past President	Orcena (Orcy) Lyle	WØQT	612 827-2707	past president
Board of Directors	Don Greenheck Skip Jackson	NØJPG KSØJ	651 483-1214 651 451-2313	n0jpg ks0j
Nominations	Fred McCormick	KBØNVC	651 633-1103	nominations
Membership Liason	Twila Greenheck	NØJPH	651 483-1214	membership
Membership Registrar	Skip Jackson	KSØJ	651 451-2313	registrar
Call Trustee	Tom Sturm	NØBGO	651 699-4270	trustee
Education Coordinator	Allan Klein	WØNLY	651 291-8815	education
VE Exams	David Buending	AD2B	952 486-0836	ve
Ground Wave Editor	Don Kelly	WA6ZMT	952 474-2766	editor
Club Historian	Joe Zwirn James Klassen	WØXL KBØUAZ	651 483-4784 651 451-8612	historian vp
Field Day	James Klassen	KBØUAZ	651 451-8612	fieldday
Parliamentarian	Tom Sturm	NØBGO	651 699-4270	parliamentarian
Annual Banquet/Picnic Coordinator	Jay Maher	NJØM	612 850-0810	banquetpicnic
January Auction	Coordinated by the board			auktion
Refreshment Coordinator	Jay Maher	NJØM	612 850-0810	refreshments
Emergency Service Liaison	Ralph Bierbaum Janet Bierbaum	NØAWN KDØBZZ	651 490-9859 651 490-9859	ec
Skywarn	Dallas Fogg	NØLKD	651 644-2361	skywarn
Door Prizes/Drawings	John Hunt, Chair Tom Bredemus	KGØJD KCØINP	651 647-1341 651 414-5535	doorprizes kc0inp
Member Technical Assistance	Brian McNerney	NØBM	651 738-5932	technical
Circuit Builders Chair	Jake Jacobson	NØEIZ	651 554-0441	circuitbuilders
Friendly Net	Marty Gammel	KAØNAN	651 646-5428	friendlynet
2 Meter Net	Andy Lokken	KØAJL	651 224-5553	2mnet
Repeater Committee	Joe Zwirn, Chair Tom Sturm Skip Jackson Keith Miller Joe Kreitzer Jeff Iverson	WØXL NØBGO KSØJ AGØH KCØJK WB9DAN	651 483-4784 651 699-4270 651 451-2313 651 777-0109 651 785-9402 763 560-4458	repeater trustee ks0j ag0h kc0jk wb9dan
University of St Thomas Liason	Tom Sturm	NØBGO	651 699-4270	ustliasion
Webmaster	Orcena (Orcy) Lyle	WØQT	612 827-2707	webmaster

To send email to these club volunteers, use the prefix listed followed by an at-sign and "stpaulradio.org" (note: The word "club" is not included)

DAKOTA DIVISION ARRL OFFICERS

Director	Jay Bellows	KØQB	651 222-7253	k0qb@arrl.org
Vice Director	Greg Widin	KØGW	651 436-8811	k0gw@arrl.org
Asst. Directors	Michael Siegelman Brian McNerney	KØBUD NØBM	612 542-8450 651 738-5932	n0oel@aol.com briann0bm@aol.com
MN Section Manager	Richard (Skip) Jackson	KSØJ	651 451-2313	ks0j@arrl.org

St. Paul Radio Club - Summary Calendar of Events

- Fri Mar 6 7pm Socializing, 7:30pm St. Paul Radio Club Meeting, UST room MHC 155
Program – Craig Johnson, AAØZZ – PIC Microcontrollers in Amateur Radio (see page 1)
- Sat Mar 7 9am SPRC VE followed by EC Exams – Call David M. Buending AD2B, 952 486-0836, or ad2b at arrl.net for info
- Fri Mar 13 7pm SPRC Board meeting. University of St. Thomas OSS 435 (4th floor lounge, across from elevators)
- Sat Mar 14 9am 20th Annual Eau Claire Amateur Equipment Auction, Grace Lutheran Church, Eau Claire, WI (doors open 7am)
- Sat Mar 21 9am St. Paul Radio Club Breakfast. Perkins Midway on University east of Snelling
- Sat Mar 21 11am SPRC Circuit Builders. University of St. Thomas OSS 415*
- Sat Mar 28 8am – 1pm Midwinter Madness Hamfest, Buffalo Civic Center
- Fri Apr 3 7pm Socializing, 7:30pm St. Paul Radio Club Meeting, UST room MHC 155
Program – John Thomas, W3FAF – Propagation Predictions
- Sat Apr 4 9am SPRC VE followed by EC Exams – Call David M. Buending AD2B, 952 486-0836, or ad2b at arrl.net for info
- Fri Apr 10 7pm SPRC Board meeting. University of St. Thomas OSS 435 (4th floor lounge, across from elevators)
- Sat Apr 18 9am St. Paul Radio Club Breakfast. Perkins Midway on University east of Snelling
- Sat Apr 18 11am SPRC Circuit Builders. University of St. Thomas OSS 415*
- Sat Apr 25 10 am – 4 pm AERO Basic Level Radio Operator training class, Chanhassen (see page 2)
- Fri May 1 7pm Socializing, 7:30pm St. Paul Radio Club Meeting, UST room MHC 155
Program – Orcy Lyle, WØQT– APRS Demystified
- Sat May 2 9am SPRC VE followed by EC Exams – Call David M. Buending AD2B, 952 486-0836, or ad2b at arrl.net for info
- Fri May 8 7pm SPRC Board meeting. University of St. Thomas OSS 435 (4th floor lounge, across from elevators)
- Sat May 16 9am St. Paul Radio Club Breakfast. Perkins Midway on University east of Snelling
- Sat May 16 11am SPRC Circuit Builders. University of St. Thomas OSS 415*

* Visit <http://groups.yahoo.com/group/SPRCCB> or email [circuitbuilders at stpaulradio.org](mailto:circuitbuilders@stpaulradio.org) to confirm CB schedule.

NOTE: The dates listed above for VE exams are the usual session dates for each VE team; occasionally sessions are canceled or changed. We urge our readers to call the contact number to confirm the test time, place and space.

The calendar is provided as a service to our readers; the St. Paul Radio Club is not responsible for errors or omissions.

To list your general interest amateur event in the calendar, contact the editor. Priority given to SPRC events, area events and national/international events in that order, space permitting.

SPRC Meeting Friday March 6th—UST Room MHC 155. See page 1

ADDRESS CORRECTION REQUESTED

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

