



Official Publication of the
West Allis Radio Amateur Club

Hamtrix

[click here to go to web site](#)

Volume 65, Issue 11 November, 2018

NOVEMBER CLUB HAPPENINGS



NUT NET
3.985mhz
Monday-Saturday
8:15am CT
NUT NET
Breakfast
8:30am fourth
Tuesday
of the month

Milwaukee-Florida Net
Every Day on 14.290 Mhz
7:00AM - 9:15AM ET
6:00AM - 8:00AM CT

Sunshine Committee

If you know of a member who could use a bit of cheer or support, Barb Garnier (KD9HPS) is now the Sunshine Committee Chair. You can get hold of her at 414-529-3536 or barbsewsblue@gmail.com.

Club Meeting

St. Peter's Episcopal Church,
7929 W. Lincoln Avenue, West Allis
November 13, 2018 7:00 PM
Bill Shadid W9MXO
Collins Gold Dust Twins Restoration
Collection of annual Club dues See Page 7
Premeeting dinner
Johnny V's Classic Café, 1650 S. 84th St. at 5:00PM.

WARAC 2-meter net

Every Wednesday at 8pm
SEWFARS W9TJK Repeater 146.820 standard (-)
offset
127.3 Hz CTCSS
if repeater down try 146.55 simplex

West Allis Radio Club Swapfest
Saturday January 5, 2019
See page 8 for more details

The President's Shack November 2018

Yes siree, the nip of cold weather is upon us. As ham operators, that can only mean one thing: 160 Meters is Open for Business!! Just kidding. Well, no, it really is open for business, it's just that my shack is currently 160 meters immune. Ah well, the fall weather and the November club meeting brings us full square with the fall rituals we in Wisconsin have come to cherish. So what is it that happens just after Thanksgiving every year?Swapfest, of course. I mean, what is deer hunting or Christmas by comparison?

But of course the number one November activity is Membership Renewal. That's right, it's that time of year again. Bill, N9KPH, will be at the meeting with his hand out looking to check your name off the list. Seriously, we really need to get this taken care of and not drag it out for months and months. We thank you in advance. There should be a membership renewal form here in Hamtrix, if that helps.

As we go through our litany of fall rituals, make a little time for some ham radio operating. If you can get on in the morning, 17 and 20 have been reliably open to Europe and Africa. Same bands in the early evenings are showing JA activity. And what is going on with 40? It is turning into my favorite band with late evening DX, mostly from Europe. I gotta say, if I'm hearing them with my cobbled together doublet, just about everyone should be able to as well. I know everyone keeps saying we are not a contesting club, but hey, CW WW is only a week away. That always rocks the bands good for the weekend. Join in and make a few contacts...or several hundred. Either way, it is a lot of fun. I played in the CW Sweepstakes this past weekend. It started out great: HI, AK and NWT in the bag in the first hour. Turns out my only operating time was Saturday evening as Sunday I was pulled away. Shucks.

Speaking of fun, a big thank you to all those who made the annual Awards Dinner a success. We had a wonderful time at a great venue. Congratulations go out to our Member of the Year, Barb Garnier, KD9HPS. Barb's infectious enthusiasm and drive sealed the deal for the Awards Committee. She is already planning her next year's Field Day GOTA Station assault. Can't wait to see what she comes up with.

And now for some club business:

- In the kibbles and bits department, we will have a couple of items to vote on this meeting. We have a volunteer for the open Secretary board position, which is great news. Secondly, there is a proposal detailed in this Hamtrix for changing the By-Laws to allow quarterly Board Meetings in lieu of monthly. Both of these items will require membership approval. If you have any questions itching for answers ahead of the meeting, give me a call.

- Finally, this month's program is a real treat. Bill Shadid, W9MXQ will share his Collins "Gold Dust Twins" restoration experience. Bill has graced our club in the past and always puts on a first class presentation. Did I mention Collins Radios? That's all it takes for me, I'm all in.

So get to meeting early and stay late. Should be a memorable evening.

Don't forget the pre-meeting dinner at Johnny V's See you all on Tuesday. Rumor has it that Bill and company will be attending the pre-meeting dinner. An opportunity to break bread with a radio restoration expert.

73's
MJ,WO9B

Check out our Facebook page!!! Start Posting!!!!
<https://www.facebook.com/WestAllisRAC/>

From the Editor

I just got off the 2 meter net after which Mike WO9B, Paul W9PCS, and me tried a little JS8Call. It was an interesting experiment we will have to continue to

Go to pg 13 Editor

WARAC General Meeting Minutes October 9th, 2018

The meeting was called to order at 7:02 pm by President Mike, WO9B.

17 club members were present, along with one visitor, Dennis, N9HS.

Club elections were held, in accordance with the club constitution. The elected officers and board members are the following:

- President – Mike Johnson, WO9B
- Vice President – Steve Dryja, NO9B
- Secretary – unfilled at this time
- Treasurer – Bill Reed, N9KPH
- Board Member, 2 year term – Phil Tollefson, WA9AQL

The other two board positions are the following:

- Board Member, 2 year term, 1 year remaining – Frank Humpal, KA9FZR
- Past President – Tom Macon, K9BTQ

The main program was by Jim, WB9IXS. Jim described how he remotely controlled his Flex 6500 radio remotely using a telephone interface and a PIC microprocessor. His system consisted of 3 parts, an AC Power Switch, an Antenna Shorting Block, and a PIC microprocessor with a telephone interface and a DTMF tone decoder. He discussed how these three parts interacted to control the radio. Jim also demonstrated the system from the meeting using his cell phone to activate his system at home.

Tom, K9BTQ, and Dave, WB9OWN, talked about their road trip to Seattle, WA, and back. They highlighted their on the air activities during that time.

Erwin, WI9EV, Swapfest Chairman, discussed the upcoming swapfest, and the sponsorship program that he has implemented as another way

to bring in additional funds to the swapfest.

The meeting was adjourned about 8:45 pm.

Coffee, dounuts, and eyeball QSOs followed the presentations.

Respectfully submitted,
Howard Smith, WA9AXQ
WARAC Secretary
November 6th, 2018

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Proposed By-Law Change

As a club, changes to our governing Constitution and By-Laws is not something that comes up very often. However, as part of the Board's normal tasks it is appropriate to monitor our governing articles and when necessary, update them to reflect current practices and developments. As such, the board has reviewed and is proposing amending the By-Laws governing frequency of Board Meetings

As the changes are to the By-Laws, the procedure for Amendments is to publish them in Hamtrix and in the following meeting present them for approval to the gathered membership. By-Law changes require a majority vote of those present (10 minimum). The existing section wording is listed first, followed by the proposed change.

SECTION 2B: The proposed change is to reduce the required number of meetings from monthly to quarterly. As the club demographics and geographic service area has changed over the years, having mandatory monthly meetings is becoming a burden.

Additionally, club business has become standard month to month and the actionable agenda items has become minimal. Given the use of electronic means to disseminate information and facilitate discussions as needed, the monthly meeting format is proving to be overmuch.

Section 2B

ORIG

Board meetings shall be held once each calendar month at a place decided on by the chairman. Notice of the Board meetings shall be given at the regular meeting or in the meeting notice.

Section 2B

Proposed Revision

Board meetings shall be held a minimum of once each quarter at a place decided on by the chairman. Notice of the Board meetings shall be given at the regular meeting or in the meeting notice.

Boy Scouts Jamboree-on-the-Air

Boy Scout's Jamboree-on the Air /JOTA was held on the third weekend of October. On Saturday the 20th of October members of our club and other clubs in the Milwaukee area met at the 3 harbor Boy Scout office on 84 street.

We were able to put 15 Scouts through the boy Scout Radio merit badge. All were able to talk on the HF rigs we set up to other states and some DX which was one of the requirement for the Badge.

Many other Scouts, parents, siblings also got to talk. Ham Radio at its best. Thank you to all that came and helped. I'm sure the scouts will remember it for years to come.

Marine Corps.

- 11/10/2018 1700Z-2359Z, NI6IW, San Diego, CA.

USS Midway (CV-41) Museum 20/40 Meters

- 11/10/2018 | Veterans day @ Chennault Museum
1600Z-2100Z, 40 Meters

Pearl Harbor

- 12/01/2018 | W2W – Pearl Harbor Day
Commemoration

Dec 1-Dec 9, 1300Z-2200Z, W2W, Baltimore, MD.

The Amateur Radio Club of the National Electronics
Museum - W2W in commemoration of the
anniversary of Pearl Harbor Day and the role of
electronics in WWII. Primary operation will be Dec
1-Dec 2 with additional operation possible during the
Dec 3 to 9 as operator availability permits.

- 12/05/2018 | Pearl Harbor Remembrance Day
Dec 5-Dec 10, 0000Z-0000Z, W5W, most HF bands

For Packers Fans Only!

- 12/01/2018 | 100th Season of the Green Bay Packers

Dec 1, 1400Z-1900Z, K9P, Green Bay, WI. Green
Bay Mike & Key Club. Give 'em a go on 40 meters



Hamtrix Sale Corner

So who do you know wants to buy an antenna? Ah, a very BIG Antenna? We have on the ground and disassembled a KLM KT34-XA tri-band beam antenna. It is currently at Betty Junek's QTH and ready to be moved to a new location. It appears to be in good condition. Comments from other owners indicate that it can be used on other ham bands. Club member price is \$200. Manual included. See the picture in this column.

Also available are the following antennas:

Cushcraft R7 vertical (10, 12, 15, 17, 20, 30, 40 meters)

Good condition, includes manual, asking \$100.

See the picture in this column.

Two Comet vertical UHF antennas, good condition, asking \$50 each.

“Thank you” to George, AA9SR; Rich, KC9PEL; Bill, W9ASA and Beaver Tree Service (Bill, WQ9A; Patrick, KC9WJI and Mitchell) for their assistance in getting all of the antennas removed. It was a very big job!

For additional information please contact Phil, W9NAW, 414-617-7029.

Phil, W9NAW 26 Sept 2018





RENEWAL OF MEMBERSHIP

ALL MEMBERS WHO JOIN ED BEFORE October 1 ST
MUST RENEW THEIR MEMBERSHIP BY September 30 TH
*****FILL IN ALL INFORMATION PLEASE*****

NAME: _____ CALL SIGN: _____
(As you want it to appear on the roster)

ADDRESS: _____ LIC CLASS: _____

CITY: _____ LIC EXP: _____

STATE: _____ OCCUPATION: _____

ZI P CODE: _____ E-MAIL ADDRESS: _____

HOME PHONE: _____ WORK PHONE _____

CHECK HERE: _____ IF YOU WANT THE CLUB NEWSLETTER EMAILED TO YOU?

CHECK HERE: _____ If you are an ARRL member?

Would You Be Willing To Serve On A Committee? _____ Officer? _____

Club Activities You Would Like To Participate In?

Field Day _____ Programs _____ Swapfest _____ Hamtrix _____ Elmer Sunshine _____

Education Community Service _____ Public Relations _____ Scholarship _____

QSO Party _____

Class Of Membership: Full Associate New Renewal

Dues Paid: Full \$15.00 _____ Associate \$10.00 _____ Family \$18.00 _____ Student

\$10.00 _____ Retired \$10.00 _____

*****FAMILY MEMBERSHIP *****

A family member ship includes the individual applying and all members of such person's immediate family residing in the same household who possess an Amateur Radio license.

NAME: _____ CALL SIGN: _____

LIC CLASS: _____ LIC EXP: _____

Date of Application _____ Amount Enclosed \$ _____

FOR WARAC OFFICE USE ONLY	
Treasurer Received/ Date:	_____
Sec. Add Roster/Date:	_____

MAIL TO:
West Allis Radio Amateur Club, Inc.
P. O. Box 1072
Milwaukee, WI 53201

**Free!
One Admission Ticket
with 2 Tables! (3 max)**

**Waukesha, Wisconsin
47th ANNUAL MIDWINTER**

**Table Prices
Same as Last Year**

SWAPFEST

Ham Radio, Computer, Electronics

SATURDAY - JANUARY 5, 2019

8:00 AM - 1:00 PM
(Seller setup 6:00 to 8:00 AM)



Over 60 Years



MSRP \$200 Merchandise Grand Prize - Drawing at 11:30 AM (must be present to win)
Raffle - \$1/ticket, 6 tickets for \$5

Adult Admission: \$5.00 Advance - \$6.00 at Door
Youth up to 12 Yrs of age: Free at Door only
Boy Scouts & Girl Scouts in uniform - Free at Door only
*** All door sales cash ***

The concession stand will be open to satisfy your gastronomical cravings.
Amateur Radio License exams will not be held at the Swapfest this year. See <https://www.mracve.c.org/> for dates & location.

The WEST ALLIS RADIO AMATEUR CLUB
Sponsors of: Midwinter Swapfest · WI QSO Party · WARAC Scholarships · Worked All WI Counties Award
For more information please contact Erwin (W19EV@wi.rr.com) 262-271-0630 or visit www.warac.org

Waukesha County Expo Arena
1000 Northview Rd (County Trunk FT)
Waukesha, WI 53188

I-94 west of Milwaukee to Exit 294 (County J)
FREE 1.2 miles south to County FT
PARKING 0.6 miles west to Expo Arena
GPS Coordinates: Lat: 43.03304 Lon: -88.24207

"Thanks" to our Sponsors!

- Bioenno Power (Door prizes)
- Biomoto (Raffle prize)
- CableXperts (Door prizes)
- COMPACTenna (Door Prizes)
- MFJ Enterprises (Door prizes)
- West Mountain Radio (Ticket printing)

Visit www.warac.org/swap for the latest updates & links

R181 103
9<

Swapfest Advance Registration Form

RESERVATION DEADLINE: Dec 28, 2018

Advance Tickets _____ \$5 ea. = _____
8-Ft Tables _____ \$20/24 ea. = _____
Electrical Outlet _____ \$25 ea. = _____
(Advance only) Total Enclosed \$ _____

\$20 ea. before Dec. 29
\$24 ea. Dec 29 or after

Name: _____ Call: _____
Street: _____
City: _____ State: _____ ZIP: _____
Phone: _____ - _____ - _____ Email: _____

NOTE: Table reservation does not include admission. FREE admit ticket with every 2 tables (3 free tickets max).

Mail with S.A.S.E. to:
Please use a #10 business size (9-1/2 x 4-1/8 in.) envelope
WARAC SWAPFEST
P. O. BOX 1072
MILWAUKEE, WI 53201

NOTE: Tables are reserved on a first-come/first-served basis - main floor first, then balconies.
 I will accept balcony tables if no main floor tables are available.



Speaker at the Awards Dinner

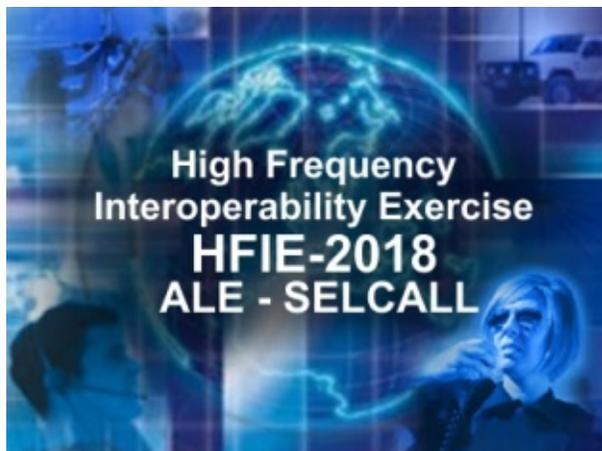


Mike WO9B MC the Awards Dinner



West Allis Radio Club Booth at the HRO Superfest

Thank you to Michael Mikecz WS9I for this email he forwarded to me for Hamtrix I did edit it down



HFIE-2018

October 2018 - Hundreds of ham radio operators around the world have been active for the past several weeks, testing their radio techniques for interoperability. They're not competing in a contest or trying to win awards. They have been participating in the High Frequency Interoperability Exercise 2018 (HFIE-2018), an operating event that takes place on the airwaves every few years, sponsored by [HFLINK](#).

Dialing Up A Ham Friend On HF

The ham operators are initiating contact by dialing up each other's call sign using selective calling (Selcall) and Automatic Link Establishment (ALE). They are making informal calls to engage in voice or texting communications on High Frequency (HF) in the international Amateur Radio Service frequency spectrum.

ICalling Without A Sked or Net

Instead of dialing a telephone or using the internet, the direct calls are initiated on their HF radio transceivers, which are independent of land infrastructure or satellites. Simply dialing a call to a friend may seem like an ordinary task on a mobile phone, but it is surprisingly unusual on ham radios. Most HF ham operators are more accustomed to randomly calling "CQ" or gathering together in scheduled "skeds" and meeting group "nets" to share a frequency together.

HF communications depend on bouncing signals off the ionosphere, which is prone to the variability of solar influence and the changing conditions of the earth's geomagnetic field. It has been particularly difficult with the solar cycle at its minimum this year. This variability has led to a wide variety of reliable operating techniques, procedures, and radio systems designed to benefit from the shortwave spectrum.

[HFLINK](#) Coordinator, Bonnie Crystal KQ6XA, remarked, "We are seeing a lot of recent interest in selective calling. The statistics we gathered during HFIE-2018 show an increase of about 350 percent. There are now about 5000 registered ALE and Selcall callsigns globally in the net."

[Max Haselbach HB9ZEI](#) in Switzerland, commented about the exercise, "I didn't know much about ALE at the beginning of this event. While operating and chatting on [hflink.net](#), I met a lot of very helpful operators. I made links to [Ced F4GFZ](#), and exchanged AMD texting and received calls from [Thorsten DK1ESD](#). They guided me through on how to do it better."

Selcall and ALE Equipment

Selcall and ALE are slightly different formats that achieve a similar purpose: call up a specific ham operator or group of operators over the air using incidental tones. Both selcall and ALE are common in the radio equipment of HF commercial, governmental, or non-governmental organizations (NGO); but, amateur radio equipment manufacturers have traditionally been slow to advance their technology in the area of selective calling features. So, many of the operators working the HFIE-2018 event are utilizing commercial land mobile HF SSB radios with built-in ALE and Selcall, that have been adapted for ham radio service. Most are using computer-connected ham transceivers, running program apps such as **PC-ALE, MARS-ALE, MULTIPSK, or HamRing.**

ALE is a standard or optional feature in HF land mobile radios such as: [Micom](#), [Codan](#), [Barrett](#), [Ico](#), [Harris](#), [Rockwell](#), [Rohde & Schwarz](#), and [Kenwood TK90](#).

Antennas for ALE and Selcall

While any type of antenna system can be used for ALE and Selcall, the techniques of HF scanning and frequency agility often leads to a different approach

from traditional amateur radio single-band or slowly-tuned antennas. Broadband antennas are the choice of many ALE operators, especially the T2FD broadband folded dipole or [BBTD antenna](#), which can cover the whole HF spectrum without needing a tuner. Autotuners are very popular for mobile HF operation, as well as base stations. The objective for the system is to constantly scan receive channels at about 1 or 2 channels per second, and then be able to respond to a call on any given HF frequency within 2 or 3 seconds.

About Selcall in Ham Radio

Hams have been using the HF Selcall standard, which is known as CCIR493-4 Selective Calling, for about 25 years. It consists of incidental tones in the audio range that can selectively call, trigger an alarm tone, or open the squelch. It was originally developed in the early 1970s by CCIR (Consultative Committee on International Radio), a forerunner group for ITU (International Telecommunication Union) advisory and technical standards. This selcall system became the basis of the Global Maritime Distress and Safety System (MDSS DSC) which is now widely utilized in ships and boats. The HFLINK information resource has supported it since 2003 as implemented in [4-digit \(Open Selcall\)](#) and [6-digit \(United Nations Selcall\)](#) format, and has published the open standards on the web.

[CCIR493-4 Selcall](#) is available in many different types of equipment suitable for ham radio use. Selcall is an embedded feature in HF land mobile radios such as: Codan (all models), Barrett (all models), QMAC HF-90, Vertex VX-1210, Icom IC-F series, and Micom Z. The SC2 selcall microphone by Jenal can be adapted to most ham radios to easily.

[The Naidia COOEE board](#) by [Richard VK5ZLR](#), is a plug-in unit that provides selcall for Icom ham radio transceivers.

A new computer app called [HamRing](#), has just been released for Selective Calling, in an experimental demo version, coinciding with the HFIE-2018. Devin K6DRS developed [HamRing](#) in collaboration with Bonnie KQ6XA. [HamRing](#) is available for download at <http://hfink.com/hamring>

HamRing developer, Devin Butterfield K6DRS in

California, commented, "HamRing is focused on an intuitive user interface and easy set-up. In a pinch, it even works with good old acoustic coupling, where you hold the mic up to the speaker. Many innovative features are planned beyond the normal selcall."

[Varuliantor YD0OXH](#) is Coordinator of a large group of active ALE stations for the HF Emcomm ALE net, which covers many islands of Indonesia.

About ALE in Ham Radio

Ham operators have been utilizing ALE in the Amateur Radio Service for about 20 years, since the late 1990s. The ALE standard was developed in the early 1980s in USA as MIL-STD 188-141 / FED-1045, and is known internationally as [2G-ALE](#). It grew out of an effort to improve interoperability of selective calling radio equipment made by various manufacturers. It became the de facto standard for adaptive HF radio systems, which keep track of HF propagation and available frequencies to improve the dependability and speed of calling stations. An active international net of ALE ham operators was formed in 2001 and has been in continuous 24/7/365 operation since 2007.

[PC-ALE](#) is a very popular computer program (Windows) among ham operators that provides a world-class ALE controller when combined with an amateur HF SSB transceiver. The scanning capability and a wide array of advanced features found in PC-ALE can basically turn a ham radio into an ALE radio system. PC-ALE is available for free and was created by [Charles G4GUO](#), with new development and improvements by [Steve N2CKH](#). The [MARS-ALE](#) program by Steve N2CKH, is also utilized by hams who are [MARS](#) members and operate ALE on the [MARS](#) systems.

[MULTIPSK](#) by [Patrick F6CTE](#) is an advanced ham computer program that also provides excellent ALE calling operation and other functions.

[Brian Lloyd WB6RQN](#), flew the historic [Amelia Earhart route around the world in 2017 with ALE HF](#) in his plane. Later that same year, he led the [Dominica Airlift Angels To Eden](#) relief operation after hurricane Maria wiped out the island. The project lifted supplies and communications, including ALE radios, to

Dominica.

This year, Brian had some sage advice for some of the other operators in the HFIE exercise: "So, just having an HF station on-the-air, or even in a go-box, doesn't make you part of an effective communications solution... You also need to know how to get another station at the other end set up and interfaced with the people on the other end that need to communicate back to where you are. Only then do you become an effective component in a disaster and relief communications process."

About The High Frequency Interoperability Exercise (HFIE-2018)

The HFIE 2018 went from 12 to 22 October. For more information about upcoming events, please check the HFLINK websites and forums.

Amateur Radio Service operators in the event activated their stations on the air using the same standards as non-governmental (NGO) and government organizations worldwide for interoperable HF communications. The focus of operation during this exercise was ALE (Automatic Link Establishment) and SELCALL (HF Selective Calling).

Ham operators in the exercise were invited to participate at any time during the 10 days of the free and open informal event. Operators got real-world experience and become proficient in HF Interoperability communications using the following suggested methods:

- Initiating and responding to ALE calls
- Initiating and observing ALE soundings
- Linking up with fellow operators for texting
- Linking up for SSB voice QSOs
- Sharing helpful information on setting up ALE
- Initiating and responding to SELCALL calls
- Sharing information on setting up SELCALL
- Exchanging local status and infrastructure reports

There are thousands of amateur radio operators worldwide with ALE-capable and SELCALL-capable stations. All are invited to discuss, learn, and ask questions using the HFN Comm Centre chat room on HFLINK.NET. The experience gained by operator participation in the exercises can also be useful for HF Emergency/ Disaster Relief communications (EMCOMM).

==HFpack NEWS==



What a FCC action looks like

<https://docs.fcc.gov/public/attachments/DA-18-801A1.pdf>

Fox Cities Amateur Radio Club, is hosting the Wisconsin Parks on the Air event this September. We also have a website, <http://wipota.com/> with information. The event will take place on September 15th 2018 from 11 am local to 6 pm local. Please go to the web site for more information!

Archive of Radio Constructor magazine,
a UK mag that ran from from 1947 to 1981.

https://www.americanradiohistory.com/Radio_Constructor_Magazine.htm

Editor from pg 2

watch and work with it. JS8Call is in the developmental stage and it is interesting to watch it change

Included an article I received Michael WS9I on High Frequency interoperability which gives you the ability to call up a given operator. It sounds like it tries to find the best band to do this on and then calls the other operator. Sounds interesting. I'm sure lots of computer power is involved.

On the home front my elbow is healing nicely so I'm happy with that. Looks like winter is on the way so will do a last minute antenna check.

Frank KA9FZR

Officers and Board

President

Mike Johnson WO9B

Vice President

Steve Dryja, NO9B

Secretary

Howard Smith WA9AXQ

Treasurer

Bill Reed N9KPH

Directors

Frank Humpal, KA9FZR

Dave Garnier WB9OWN

Newsletter Editor

Frank Humpal, KA9FZR
fhump@milwpc.com

Webmaster

Tom Macon, K9BTQ

West Allis Radio Amateur
Club
P. O. box 1072
Milwaukee, WI 53201



WEST ALLIS RADIO AMATEUR CLUB, INC.

PO Box 1072
Milwaukee, WI 53201
W9FK
<http://www.warac.org>

***See our Web Page or contact us
for more information on***

- WARAC Memorial Scholarships
- Wisconsin QSO Party
- Midwinter Swapfest
- Worked all Wisconsin Counties Award
- Amateur Radio Classes

WARAC holds meetings on the second Tuesday of each month and board meetings on the fourth Tuesday of each month. Meetings are held at 7:00 PM at:

**St Peter's Episcopal Church
7929 W. Lincoln Avenue
West Allis, WI**

Entry is off the alley at the rear of the church.
A wheel chair ramp and chair-lift are available.