



Official Publication of the  
West Allis Radio Amateur Club

# Hamtrix

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Volume 63, Issue 12 December, 2016

## DECEMBER CLUB HAPPENINGS



**NUT NET**  
3.985mhz  
Monday-Saturday  
8:15am CT

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



### Club Meeting

St. Peter's Episcopal Church,  
7929 W. Lincoln Avenue, West Allis  
December 13, 2016

**Swapfest committee  
discussion on swapfest**

[Join us for a pre-meeting dinner  
at Johnny V's Classic Café  
1650 S 84th St at 5:00pm](#)

**2017 Dues will be collected at the  
meeting.**

**West Allis Radio Club  
Swapfest  
January 7, 2017**

More info at the December meeting

**New Repeater: N9BMH Repeater 146.625 (-)  
PL 127.3**

**WARAC 2-meter net**  
Every Wednesday at 8pm  
MATC repeater 146.625 standard (-)offset  
127.3 Hz CTCSS  
if repeater down try 146.55 simplex

Club jackets and hats!  
Go to club Web site and click on  
The GOLD MEDAL IDEAS block  
[For more info or click here](#)



## *The President's Shack December 2016*

The holidays are coming faster than we know, and right after that is our **Midwinter Swapfest on January 7**. And the main focus of the upcoming December meeting will be on the Swapfest, since our January club meeting comes after.

Our co-chairmen Erwin WI9EV, Steve NO9B and Phil W9NAW will conduct the discussion and fill us in on the details. The Swapfest is one of our big events of the year and we need everyone possible to be there to help make it run smoothly. Non-members are invited to help out as well. Come to the meeting and find out more!

As most of you know and appreciate, there is a lot of detail that goes into pulling off a swapfest of this size. Please be at the upcoming meeting to find out what needs to be done and to get your job assignments.

Please note that the Swapfest **VE Testing will be in the Swapfest building**, not at the airport terminal building as previously announced. Enter the Arena through door no. 12, the Fox River Meeting Room, which is just to the left (South) of the Doors 1 & 2 Main Entrance. This change is due to major remodeling at the airport

**County activation data** for 2016 has been **added to the WIQP webpage at**

<http://warac.org/wqp/activate.htm>. Activation data from the last four WIQP events is available there. Also, an error in the 2016 WIQP Results has been found and fixed. Eight entries that should have been in the Rookie category were mistakenly listed in other Single-op categories. One of the misplaced entries turned in the highest score for the Rookie category. He is Bob Hoffman, KQ9J, of Park Falls who set a new all-time record for highest Rookie score with 52668 points.

The January meeting's program will be on **Emergency Government by Jim Burns KD9CIV**. Jim is the Emergency Management Coordinator of the City of New Berlin. You may remember him from his visit to our Field Day site last June.

The **ARRL 10 meter contest** is coming up on this weekend of **December 9-11**. To participate in our WARAC "piggy-back" contest, all you need to do is to submit your log to the ARRL as usual and also submit your log to Chuck, W9WLX. During the contest, work as many club members as possible for points in the club competition. Look elsewhere in this issue for more info.

I want to wish you and yours a happy and safe Holiday. Enjoy and stay warm. And in keeping with the WARAC holiday tradition, the **December Board meeting has been cancelled**. Also, please note that the **Nut Net breakfast** on December 27 **is still on!**

And, as always, the before-meeting dinner is at Johnny V's Classic Café, 1650 S. 84th St. at 5:00PM. See you at the meeting! Bring a friend!  
Tom, K9BTQ

## **From the Editor**

December and it looks like winter has found us. Temperatures are below freezing and snow has been sighted.

Hope everyone got their antennas in shape for the winter. There are myths that antennas are better if put up in a driving snow storm with wind chills in minus numbers. I don't know of many hams who go out of their way to test that myth!

When I worked for a living I did work on some antennas in snow and cold. Our normal way of doing that was to pull the vehicle you were driving up as close to the antenna as you could get, turn the heat up to maximum and leave it running. Not the best for milage but sure nice to jump into, to get feeling back into things that got too cold.

The worst antennas were the loc ILS antennas. They were at the end of a runway and because the

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# **WARAC General Meeting Minutes**

## **November 08, 2016**

### **Introduction**

The meeting was called to order at 19:03 by President, Tom Macon (K9BTQ). Overall meeting attendance was 16 members, plus 0 visitors.

### **Future Programs:**

- December, 2016?: FM-38 Repeater System
- December, 2016?: History of Amateur Electronic Supply
- December, 2016?:

### **Tonight's Program:**

- Video – dB for Free – Antennas for Little Pistols, W6SX
- SWR Notes, Tom Macon (K9BTQ)
- Balun SWR, Tom Macon (K9BTQ)

### **Announcements**

- Awards Dinner feedback
- Scholarship winner: Vincent Bensch (KC9JVN) from Madison, WI
- Swapfest January 07, 2017 status – Need new testing location

### **Business**

- Motion was made and accepted to approve the October general meeting minutes as published in Hamtrix.

### **Group Discussion**

Chuck Craven (WB9PUB) put up his tower & rotator

The meeting was adjourned at 20:45.

Respectfully submitted,  
Erwin von der Ehe (WI9EV)  
Secretary, W.A.R.A.C.  
2016-11-08

## **W.A.R.A.C. Board Meeting**

November 22, 2016

Howard Smith (WA9AXQ) called the meeting to order at 19:01

Present: Tom Macon (K9BTQ), Howard Smith (WA9AXQ), Erwin von der Ehe (WI9EV),  
Dave Garnier (WB9OWN), Steve Dryja (NO9B), Frank Humpal (KA9FZR),

Mike Johnson (WO9B).

Club 2015 financial audit will be ready for review in January, 2017.

Suggestion is to project meeting topics for 1 year in advance. Perhaps a committee, rather than board members.

Motion was made, seconded, and approved to forgo the December 27th board meeting due to proximity to Christmas day.

Howard Smith (WA9AXQ) was elected the Chairman of the Board for the next year.

Howard Smith (WA9AXQ) presented the monthly Treasurer's report as well as the 2017 budget was reviewed.

2016 Awards Dinner wrap-up. Awards Dinner Committee manual is in process of being updated.

Swapfest e-blast will use last year's list. Swapfest plans are progressing per expected schedule.

Re-instituting the Sunshine Committee was discussed as an important Club feature.

Steve gave an update regarding the N9BMH repeater. Details are in process of discovery.

Club manuals were reviewed. Statuses and responsibilities were reviewed.

#### **Programs**

December, 2016: Swapfest plans  
January, 2017: History of Amateur  
Electronic Supply

#### **Other Items**

Club equipment storage needs to be addressed due to losing use of existing garage. An enclosed trailer should be investigated.  
2-meter net is meeting on repeater 147.045 PL 127.3 on Wednesday evenings at 20:00.

#### **Future Program Ideas**

Kermit, ARRL  
Logger 32 logging software  
SO2R Contest operating  
WE Energies or Time-Warner Cable noise tracking  
FM38 Repeater System  
Youtube downloads  
City of New Berlin Emergency Communications  
ARES  
Solar weather

Meeting was adjourned at 21:38.

Respectfully submitted,  
Erwin von der Ehe (WI9EV)  
Secretary, W.A.R.A.C.  
2016-11-22 2016-10-25

# ALT-SDR

By Mike Johnson, WO9B

In the past couple of weeks, as I ponder my commitment to an unreliable little Flex 1500, I've been wondering just what kind of barrel I've bent myself over. I am definitely all in on the SDR/Computer relationship. Operating in that style is hard to give up once the switch has been made. But by gosh, there must be alternatives. So I started to look around. Worry not, the wonderful world of garage tech with off-site small production electronics is fueling this explosion of wonderful little radio's. There are definitely alternatives.

To be fair, many of these options don't exactly fit into the unbox it and slap it on your desk mode. Most are kits requiring some assembly. You can even buy some of them fully assembled, but then what's the fun in that? Also, they will all be in the QRP power range. If you want to go QRO, that's an amplifier project away and a whole different article. We are not going in that direction today.

First up, **GenesisRadio** <http://www.genesisradio.com.au> This Australian company makes the G59 160-6m transceiver kit. It only puts out 10 mW, so you need to add the associated amp kit to get you up to 10 W's. The specs are amazing and the reviews positive. As is typical of this type of kit, the SMT components are premounted, so building the kit consists of installing thru-hole parts and winding torroids. Panadaptor settings range from 48 khz to 192 khz widths. That's pretty cool. Completed, this project will end up costing around \$700. It is not the cheapest option.



SDR Cube Transceiver

Our next contender is the **SDR Cube**, <http://www.sdr-cube.com>. This one has been around for a few years. What sets it apart is that it can operate stand alone, with out having a computer hooked up to it. The bandscope provides only a 4 khz width, but then again, no computer is attached. The design is based on a Softrock RXTX board so it will interface with existing, if you happen to have one. This is a mature product and the kits come in a wide array, from fully assembled to just an i/o board. There are also limitations regarding band coverage as module boards need to be switched out to change bands. Still, the full kit is under \$350 and you get KNOBS.

Going for total bleeding edge gear, up pops the **Omnia SDR Proficio**, <http://www.omnia-sdr.com/>. This one is so new it won't be available until mid-December. As a kit, it is under \$250 and boasts a 96 khz bandwidth, 160 – 10 m operation, 5 W output. This one is a kit only product with the SMT's already mounted on the board. This will also require a computer



sound card to operate and use open source SDR software to interface. Products such as the Proficio are aimed squarely at the Flex 1500 market. The limiting factor is the available software, which is not as refined as the Flex's PowerSDR. Still, the performance and feature set are impressive and desirable.



Rounding out the bleeding edge department is the **HobbyPCB RS-HFIQ xcvr**.

<http://www.hobbypcb.com/rs-hfiq>. This is a direct competitor to the Omnia SDR listed above. It is the focus of a KickStarter funding campaign at the moment. Product should be ready to ship in a couple of months. This will come in a kit form and will also be under \$250 covering 80 – 10m. This kit is from the same folks that sell the Hardrock 50 amp, and I can vouch for their customer support and quality. If you have any concerns building a kit, HobbyPCB includes parts and repairs as part of the price. They will get your radio up and running.



To be complete and offer some goodies for the more traditional plug and play types, the following products are very much in line with the Flex 1500 and Icom 7300 products.

**Apache Labs ANAN-10E** <https://apache-labs.com/al-products/1044/ANAN-10E--HF---6M-10W-All-Mode-Transceiver.html>. This is sized similar to the little Flex but has more horsepower. It's a bit pricier as well, but worth a look

**ELAD FDM-DUO** <http://shop.elad-usa.com/sdr-radio/fdm-duo-black/> This nifty little radio can be stand alone or plugged into a computer. And it has a KNOB. This is a top performing SDR.

**Elecraft KX3**: Technically it is an SDR. I think it is a stretch, but it is a really good radio, SDR or not. So it is on the list.. wink, wink, wink.

There are a ton of one board SDR type TX/RX deals available. Heck you can use your Raspberry Pi if you wish. While they can all transmit at minute power levels, they are not filtered and for the most part, at best, form a component of a larger system to function as a operating transceiver. I won't even attempt to list them, but if you take a stroll through Ebay, you will find more than can be processed.

So have some fun and scratch that urge to mess around. You will be surprised how well these little radios operate and what can be done with them.

## Sunrise Sunset Tool

HF propagation is often enhanced within minutes of sunrise/sunset times. This enhancement may occur at either end of the path and is usually most pronounced when sunrise at one end of the path occurs just after sunset at the other end of the path.

A useful tool for determining sunrise/sunset times for any day of the year (for any location on the planet) can be found at:

[http://aa.usno.navy.mil/data/docs/RS\\_OneYear.php](http://aa.usno.navy.mil/data/docs/RS_OneYear.php)

If you use the world wide entry form with lat/long of your QTH and select zero hours east/west of Greenwich, the chart will be in universal time

Ron Gorski N9AU

## Get Ready for the ARRL 10 Meter Contest

**By Chuck Dellis, W9WLX**

WARAC 10m Contest Chairman

The ARRL 10 meter contest takes place this weekend, starting at 0000Z on December 10 and concluding at 2359 on December 11. Once again this year, the West Allis Radio Amateur Club will have its friendly club competition.

The standard ARRL contest rules for contests below 30 MHz apply. Additionally, take a few minutes to fill out the club contest form and submit it and your log to participate in the club event. You are awarded 5 additional points for every club member worked and any logs submitted electronically will automatically be checked for club member call signs.

Don't let the recent propagation trends discourage your participation. The 10 meter band may provide conditions for an active contest. 10 meter aficionados typically rely on E and F layer propagation as their QSO enablers. With E and F layer propagation on the down turn, we turn to sporadic E, another phenomenon that occurs at 10 meters. According to the Space Environmental Services Center, sporadic E is defined as transient, localized patches of relatively high electron density in the E region of the ionosphere which significantly affects radio wave propagation. The reason sporadic E occurs is not completely understood and the behavior of mid-latitude sporadic E is unpredictable.

It is generally accepted that sporadic E occurs most often in the summer with a secondary occurrence during the winter. The peak activity is centered close to the solstices. During the winter peak, sporadic E is most common just after sunset.

So how does this play out for a 10 meter contest in December? Well, there are three elements of sporadic E that factor into a December contest. First, the contest happens close to the winter solstice, one of the peak times of sporadic E activity. Second, although it may be most common just after sunset during the winter, sporadic E can occur anytime, day or night. And lastly, single hop sporadic E propagation at 10 meters is around 1300 miles. When 10 is open, high power and a big antenna are not required. Pick up your microphone, key, or both and join in the fun.

## 2016 West Allis Radio Amateur Club 10 Meter Contest

Summary Sheet for WARAC sponsored contest portion

Saturday, December 10, 0000Z to Sunday, December 11, 2359Z

Rules: ARRL General Rules and Rules for HF contests apply.

Operator Name: \_\_\_\_\_ Call Used: \_\_\_\_\_

Entry Category (Check one) CW Only: \_\_\_\_\_ Phone Only: \_\_\_\_\_ CW & Phone: \_\_\_\_\_

Power Level (Check one) QRP \_\_\_\_\_ (0-5 watts) Low Power: \_\_\_\_\_ (5-150 watts) High Power: \_\_\_\_\_ (>150 watts)

### Scoring

CW QSOs \_\_\_\_\_ X2 = \_\_\_\_\_ CW Points

Phone QSOs \_\_\_\_\_ X1 = \_\_\_\_\_ Phone Points

CW Points + Phone Points = \_\_\_\_\_ Contact Points

Class	Power Range	Power Multiplier
QRP	0-5 Watts	2.0
Low	5-150 Watts	1.5
High	>150 Watts	1.0

Contact Points \_\_\_\_\_ X Power Multiplier \_\_\_\_\_ = \_\_\_\_\_ Total QSO Points

### Bonus

Number of Club Members Worked \_\_\_\_\_ X5 = \_\_\_\_\_ Club Member Points

Total QSO Points \_\_\_\_\_ + Club Member Points \_\_\_\_\_ = \_\_\_\_\_ Final Score

Send this summary sheet and a copy of your log to:

Chuck Dellis  
3542 S. Massachusetts Ave.  
Milwaukee, WI 53220-1118

Or submit electronically at [cjd@wi.rr.com](mailto:cjd@wi.rr.com)



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

Waukesha, Wisconsin  
45<sup>th</sup> ANNUAL MIDWINTER

Table Prices  
Same as Last Year

# SWAPFEST

Ham Radio, Computer, Electronics

**SATURDAY - JANUARY 7, 2017**

8:00 AM - 1:00 PM

(Seller setup 6:00 to 8:00 AM)



Over 60 Years

**\$200 Grand Prize - Drawing at 11:00 AM (must be present to win)**

ADMISSION:	\$5.00 Advance - \$6.00 at Door
RESERVED TABLES:	\$20 each before Jan. 1
8 foot	\$24 Jan. 1 or after
ELECTRICAL OUTLET:	\$22 (advance only)

AMATEUR EXAMS: 9:00AM-11:15AM

Fox River Room in the Expo Arena  
Enter Arena via Door No. 12 (South side)

Bring your: • Original license plus copy • CSCE (if you have one) plus copy • Photo ID

## The WEST ALLIS RADIO AMATEUR CLUB

Sponsors of: Midwinter Swapfest • WI QSO Party • WARAC Scholarships • Worked All WI Counties Award  
For more information please call Steve, NO9B, 262.993.9470 or visit [www.warac.org](http://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)  
1.2 miles south to County FT  
0.6 miles west to Expo Arena

**FREE PARKING**

**GPS Coordinates**

Lat: 43.03304 Lon: -88.24207

## Swapfest Advance Registration Form

RESERVATION DEADLINE: Jan 1, 2017

Advance Tickets \_\_\_\_\_ \$5 ea. = \_\_\_\_\_  
Table Reservations \_\_\_\_\_ \$20/24 ea. = \_\_\_\_\_  
Electrical Outlet \_\_\_\_\_ \$22 ea. = \_\_\_\_\_  
(Advance only) Total Enclosed \$ \_\_\_\_\_

\$20 ea. before Jan. 1  
\$24 ea. Jan. 1 or after

Name: \_\_\_\_\_ Call: \_\_\_\_\_  
Street: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_  
Phone: \_\_\_\_\_ Email (optional): \_\_\_\_\_

**NOTE: Table reservation does not include admission. *FREE* admit ticket with every 2 tables (3 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.

## Help wanted for the January Swapfest.

Please sign up for a job at the W.A.R.A.C. 45th annual Swapfest! Opportunities abound for you to sell advance tickets prior to the event, monitor doors, sell tickets at the door, watch the floor, watch the balconies, administer door prizes, etc. If you cannot be at December's club meeting to sign up, please e-mail your preference to Erwin (WI9EV) at [erwinv@wi.rr.com](mailto:erwinv@wi.rr.com). You should be at the Arena by approximately 05:30 A.M. In addition to the feeling of accomplishment of helping your club put on a successful event for everybody involved, you'll get a donut & coffee.

73



## NPOTA info

Official ARRL NPOTA page - this is public page - you don't need an FB account

<https://www.facebook.com/groups/NPOTA/>

Auto login LOTW software & Generation of XLS spread sheet:

Single Page ARRL NPOTA Checklist <http://software.ad1c.us/NPOTA/index.html>

### from editor pg 2

building housing the electronics was hundreds of feet away, off to the side of the runway. There was no wind protection. That's where the warm vehicles came in handy.

Those antennas were all phased together to produce the needed signal. Freezing rain or heavy wet snow on the antenna would shut them down and we had to go out to get the snow off. They tried different things to prevent this from happening but never really came up with a good answer. So we hoped for the cold dry snow that didn't stick.

All this did keep the job interesting!

Frank KA9FZR

### Officers and Board

#### President

Tom Macon, K9BTQ

#### Vice President

Steve Dryja, NO9B

#### Secretary

Erwin von der Ehe, WI9EV

#### Treasurer

Howard Smith WA9AXO

#### Directors

Frank Humpal, KA9FZR

Dave Garnier WB9OWN

Mike Johnson WO9B

#### Newsletter Editor

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## WEST ALLIS RADIO AMATEUR CLUB, INC.

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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.