



Official Publication of the  
West Allis Radio Amateur Club

# Hamtrix

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Volume 62, Issue 5 May, 2015

## MAY CLUB HAPPENINGS

### Club Meeting

St. Peter's Episcopal Church,  
7929 W. Lincoln Avenue, West Allis  
May 12, 2015 **6:30pm**

#### Program

Second Annual Pizza meeting  
with an Auction

**Note time change and  
No pre-meeting at Johnny V's**  
see pg 5 for Auction details



#### 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

### ARRL Field Day is June 27-28, 2015

See pg 5 for more details

#### WARAC 2-meter net

Every Wednesday at 8pm

MATC repeater 147.045 standard offset  
127.3 Hz CTCSS



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 May 2015

The upcoming meeting will be our *second annual Pizza meeting* and this year it will feature an **auction**. Rules are simple - you may donate items to be auctioned or you may bring items to be auctioned with a percentage of the proceeds going to our scholarship fund. Look elsewhere in this issue of Hamtrix for more information.

Please note that the **meeting will start ½ hour earlier (6:30)** and our regular **before-meeting dinner at Johnny V's is cancelled** – just for this month.

Our **Field Day meeting** was held on April 21 with about 10 people attending - a good turnout. Chairman Chuck, W9WLX, ran a good meeting that put together plans for the 2015 edition of this popular club activity. This year's event will be similar to recent years at the New Berlin site except for the addition of a **GOTA** station to be coordinated by Bill Reed, N9KPH.

At our June meeting we will finalize our Field Day plans and focus on other FD topics as well. Be sure you have the **weekend of June 27 and 28** reserved for a weekend of Ham Radio fun! In the meantime, watch for more information and don't forget to check the club website for details.

How are you doing with your Arduino microcomputer project? A number of members bought kits and discussion and questions indicate there is activity. For the May meeting, we will skip the monthly update, but at the June meeting, we will revisit the Arduino scene. If you have something you'd like to present, please let me know. You do not need to have a completed

project - just showing and telling about your progress and what you've learned will be great. The Wisconsin QSO Party log submission period ended on April 10 and we have received 285 logs. Logs were received from 70 of our 72 Wisconsin counties, but there was definitely activity in the other two. No Clean Sweep this year, however.

Howard, WA9AXQ, worked on entry of paper logs and also took care of problems with some electronic logs. Chuck, W9WLX, helped by contacting and encouraging log submissions from stations that were seen frequently in other station's logs. Thanks, guys!

This completes the first phase of processing the WIQP results. We hope to have the results finalized in June. Stay tuned!

Don't forget - **dinner at Johnny V's Classic Café is cancelled for May**. We'll be back in June.

See you at the meeting! Come hungry! **Bring stuff to be auctioned** and bring money so you can take home some new treasures. And bring a friend!  
Tom, K9BTQ

## From the Editor

Another month has gone by and spring did decide to come this year. It looks like a fun meeting coming up hope many of you can make it.

We had a fun time last weekend. Our kids gave us a weekend away from home with them for our wedding anniversary. The place they found was near Ontario, WI in a hidden valley.

With underground electricity to the cabins. There was almost no reception for cell phones or Internet. The place was electrically quiet. I had brought my FT-817 along hoping to at least do a little playing Ham radio. Much to my surprised. I did have a few minutes to play. I had brought along my portable 40 end fed zepp antenna. In the past it has worked good as a portable antenna. It worked good there also. Almost positive it was working in NVIS, or Near Vertical Incidence Skywave There were steep hills on all sides.

Editor pg9

# **WARAC General Meeting Minutes**

## **April 14, 2015**

### **Introduction**

The meeting was called to order at 7:04 pm by President, Tom Macon, K9BTQ. Overall meeting attendance was 30 with 3 visitors.

### **Program**

The evening's program topics included:

High Altitude Balloon Presentation was put on by Joe Schwarz N9UX

Arduino: Group updates on individual projects; Tom demo'd a serial monitor technique

### **Business**

Motion was made and accepted to approve the March meeting minutes as published in Hamtrix.

Boy Scout Radio Merit Badge: Erwin, WI9EV, reviewed the program. Troop 580 completed the program and were a great group to work with.

Wisconsin QSO Party, Chuck Dellis, W9WLX & Tom Macon, K9BTQ gave an update. Seems about 280 or so logs will be received.

The Wednesday evening 2 meter net is has been well attended; some non-members have been checking in.

Tom K9BTQ brought up the subject of having a Facebook presence or other social media to provide an easy way for the members to coordinate, ask questions, set up scheds, ect.

Field Day Coordination Meeting: Chuck Dellis, W9WLX has set up the meeting for Tuesday, April 21st at St Mary's Parish. All members are invited to figure out this annual club event.

Steve Dryja NO9B, delivered the Arduino hardware that was ordered at the February meeting. He still has a couple of units left to deliver. He also has a couple of Project Book CD's available for the asking.

The meeting was adjourned at 9:05 pm.

Respectfully submitted,  
Mike Johnson, WO9B

# **WARAC Board Meeting**

**April 28, 2015**

Howard Smith, WA9AXQ, called the meeting to order at 7:11 pm.

Present: Tom Macon, K9BTQ, Steve Dryja, NO9B, Howard Smith, WA9AXQ, Erwin von der Ehe, WI9EV, Al Hovey, WA9BZW, Frank Humpal, KA9FZR and Mike Johnson, WO9B.

## **Radio Merit Badge**

Erwin, WI9EV will check to see if another troop is interested in having the program hosted. Frank is checking with the Three Harbors Council to inquire about possible interest.

## **WI QSO Party**

Tom, K9BTQ updated on the WIQP activity. 285 logs have been received. The analysis and scoring part has begun.

## **Programs**

May – Pizza Night, Auction Evening  
June – Field Day, Chuck W9WLX, Arduino  
July – Digital Modes – W9XT  
Aug – Rig Control Presentation  
Sept - Milwaukee Astronomical Society  
Oct -

## **Future Program Ideas**

Logbook of the World  
Spotting – W9XT  
FM38 Operations  
DSP presentation  
Yaesu Fusion System  
Kreg Jig Fastener System

## **Club Operations Manual**

No updates this month.

## **2012 , 2013 and 2014 Audit**

2012 is ready; 2013 is nearly done. Howard will prepare a package to be sent to Bill, N9KPH. Tom will determine another volunteer.

## **Awards Dinner**

Erwin, Frank and Paul are the Dinner Committee members. Erwin will get the group planning function started.

## **Other Items**

2 meter net has been well attended.

Meeting was adjourned 8:46 pm.

Respectfully submitted,  
Mike Johnson, WO9B  
Secretary WARAC



**ARRL** The national association for  
AMATEUR RADIO®

[www.arrl.org](http://www.arrl.org)

**2015 ARRL FIELD DAY**

**HAM RADIO** 

The Field Day meeting took place on April 21st and the basic plan is similar to last year, but an additional GOTA station is planned. We will be at the New Berlin location, 3711 S. Casper Drive, operating 2A with the additional VHF station. Pop-up campers are being secured for all three stations.

Chuck Dellis, W9WLX, will be gathering additional information at the May 12 and June 9 club meetings. Set up will begin at 8:00 AM Saturday morning and tear down at 1 PM on Sunday. Be sure to let Chuck know what your interest is in this year's Field Day. See you there!

## **Pizza - Auction**

As soon as the pizza is gone, it's Auction time! Here's how it's going to work.

There will be two modes. You may donate your items to the club, or you may have your item auctioned with 10% (or more?) of the selling price going to the club. All club proceeds will go to our scholarship fund.

If you want to donate your items, simply put them on the tables indicated for that when you bring them in. If you want your items auctioned, please mark the items with your name, starting price and minimum selling price and put them on the indicated table.

Come hungry, bring your auction items, plus enough money to buy the treasures you will take home. Have a good time! CU there!

- Tom, K9BTQ

## **Arnold Spielberg & the birth of personal computing**

From Thomas Edison to former President Ronald Reagan and novelist Kurt Vonnegut, GE has employed a number of luminaries over the course of its 123-year history. One famous last name that's been missing from this list is Spielberg.

In the late 1950s, Arnold Spielberg, the father of Hollywood director Steven Spielberg, helped revolutionize computing when he designed the GE-225 mainframe computer. The machine allowed a team of Dartmouth University students and researchers to develop the BASIC programming language, an easy-to-use coding tool that quickly spread and ushered in the era of personal computers. (Young Bill Gates, Paul Allen, Steve Wozniak and Steve Jobs all used the language when they started building their digital empires.)

"I remember visiting the plant when dad was working on the GE-225," Steven Spielberg told GE Reports. "I walked through rooms that were so bright, I recall it hurting my eyes. Dad explained how his computer was expected to perform, but the language of computer science in those days was like Greek to me. It all seemed very exciting, but it was very much out of my reach, until the 1980s, when I realized what pioneers like my dad had created were now the things I could not live without."

The Dartmouth team ran BASIC, or Beginner's All-Purpose Symbolic Instruction Code, on the GE-225 for the first time a half-century ago, on May 1, 1964.

Arnold Spielberg, who is now 98, has been fascinated with electronics from an early age. "[It] was sort of a way of life for me, because I started playing around with radios when I was about eight or nine years old," he told Anne Frantilla, a historian from the Charles Babbage Institute at the University of Minnesota.

During World War II, he served as the communications chief of a U.S. bomb squadron in India and later started making early vacuum tube computers at RCA Corp. GE engineer Homer R. "Barney" Oldfield hired Spielberg to set up GE's Industrial Computer Department in Phoenix, Ariz., in 1957.

The department's name, however, was a ruse. Unlike Oldfield, Ralph Cordiner, then GE chairman and CEO, didn't want to make business computers. "Every time a plan was sent to him that mentioned going into business computers, he would write 'No' across it and send it back," Arnold Spielberg told Frantilla. Cordiner apparently believed that an industrial company should make products for industry.

Still, Oldfield forged ahead without Cordiner's blessing. Spielberg and his colleague Charles Propster, whom he brought from RCA, designed the GE-225 in 1959. It was a 20-bit computer that filled an entire room and contained 1,000 circuit boards, 10,000 transistors and 20,000 diodes. It stored data on disks, magnetic tapes, punch cards and paper tapes. It also allowed operators sitting at up to 11 external terminals to access the memory independently. The possibility of this embryonic form of personal computing led the Dartmouth team to develop

BASIC.

When Cordiner found out what the team was doing, it was too late. They already had Bank of America as a customer. “[He] came out to attend the dedication ceremonies and promptly fired Barney Oldfield right after the ceremony for violating his rules,” Arnold Spielberg told Frantilla. “He gave the company 18 months to get out of the business.”

It took longer than that. The GE-225, which cost \$250,000, was a hit and the marketing team described early orders as a “landslide.” The business sold dozens of them to customers and also to other GE units “The GE-225 can add 30,000 six-digit numbers in one second and can calculate the ages of every man, woman and child in Schenectady in 5 seconds,” wrote the Schenectady Works News, a GE newspaper. One machine working at the First Union National Bank in North Carolina predicted the results of the 1964 Johnson-Goldwater presidential race within 5 percentage points, reported the GE Monogram magazine. The Cleveland Browns football team used a GE-225 to manage season ticket sales. “Who knows,” quipped the Browns’ president Art Modell in 1966, “there might come a time when computers will help call the next play.”

Arnold Spielberg left GE in 1963, the same year Dartmouth’s “BASIC team” traveled to Arizona to learn how to program the equipment. GE sold the computer division to Honeywell in 1970. The IEEE Computer Society recognized Spielberg as a computer pioneer in 2006 for “contribution to real-time data acquisition and recording that significantly contributed to the definition of modern feedback and control processes.”

GE’s current Chairman and CEO - and Dartmouth graduate - Jeff Immelt has, in a sense, finally carried out Cordiner’s vision of industrial computing. The company is now developing software and cloud analytics for the Industrial Internet, monitoring and making more efficient everything from oil rigs to power plants and jet engines.

Full article at [http://www.ecnmag.com/news/2015/05/arnold-spielberg-birth-personal-computing?et\\_cid=4552799&et\\_rid=353748193&type=headline](http://www.ecnmag.com/news/2015/05/arnold-spielberg-birth-personal-computing?et_cid=4552799&et_rid=353748193&type=headline)

## **Near Vertical Incidence Skywave (NVIS)**

The following is a discussion of a technique VITAL to SHTF comms. This technique picks up where short range VHF/UHF and conventional HF methods leave off.

Near Vertical Incidence Skywave (NVIS) is a radio propagation technique that uses antennas closer to the ground than with conventional techniques to enhance 1.8 to 10 MHz communications in the approximately 30 to 500 mile range. Typically, as applied to amateur radio, the 40 meter band (7.0-7.3 MHz) is used during daylight hours and the 80 meter band (3.5-4.0 MHz) is used during hours of darkness.

It would likely prove fruitful to experiment with NVIS on 160 meters (1.8-2.0 MHz) during hours of darkness, especially when sunspot numbers are low and during winters. 60 meters

(five discrete frequencies from 5330.6-5406.4 kHz ) would be a good band to try during sunrise and twilight hours.

NVIS was first employed by the Germans and Russians in WWII and then by the United States in Vietnam when extensive testing was conducted. The tests indicated that significant improvements in the reliability of fixed, portable and mobile tactical communications can be realized with NVIS when compared to conventional techniques.

Advantages of NVIS include the following (some don't necessarily apply to amateur radio):  
-Increased signal strength, especially when stations at both ends of a "circuit" employ NVIS. Enhanced signal-to-noise ratios because long-range signals are reduced. -Lower probability of intercept by hostiles and less interference from/to other stations on the same frequency. Reduced low angle ground wave signal results in less chance of being "DFed". The ability to use lower power transmitters and thus reduce the need for large batteries or other more robust energy sources. Typical successful transmitter power ranges from 20 to 100 watts on SSB voice. -The ability to communicate from/to valleys and over mountains and other obstructions that would otherwise block communications. Enhanced reliability of digital "keyboard" modes such as the very popular PSK31 (1.838, 3.58 and 7.035 MHz) and DominoEX (1.805, 3.584 and 7.072 MHz) modes due to reduced distortion introduced over the propagation path.

NOTE: Suggested American Radio Relay League (ARRL) low power LSB voice frequencies are 1.916, 3.985 and 7.285 MHz.

The advantages of NVIS derives from the fact that low, horizontal antennas favor high angles of radiation. That is, the majority of the signal is transmitted at high angles from the horizon. The high angle radiation results in the transmitted signal being reflected from the ionosphere back to earth at distances relatively close to the transmitting station.

article from

<http://thesurvivalpodcast.com/forum/index.php?topic=10078.0>

***Looking up "Near Vertical Incidence Skywave (NVIS)" on the internet will give one many options for reading. the editor***



## Ham Radio on the Internet (click on red web address)

Anyone can submit websites for this column. I'll check them out and include them. The editor

"The New DXer's Handbook"

Second Edition

<http://www.k7ua.com/>

Free download good ideas for any operating.

Latest info on security threats (new)

[http://www.pcmag.com/article2/0,2817,2482998,00.asp?mailing\\_id=1243401&mailing=SecurityWatch&mailingID=94F8749536A0D06B97AB807A57FFD6AE](http://www.pcmag.com/article2/0,2817,2482998,00.asp?mailing_id=1243401&mailing=SecurityWatch&mailingID=94F8749536A0D06B97AB807A57FFD6AE)

Possible improvement in hearing aids

[http://www.ecnmag.com/news/2015/03/electrical-engineer-build-more-efficient-integrated-circuits-better-hearing-aids?et\\_cid=4494437&et\\_rid=353748193&location=top](http://www.ecnmag.com/news/2015/03/electrical-engineer-build-more-efficient-integrated-circuits-better-hearing-aids?et_cid=4494437&et_rid=353748193&location=top)

### Editor

The fact that it was only about 7 or 8 foot high also has something to do with it.

I did end up with 3 or 4 contacts with Indiana each in a different county. I listened to a little of the nut net Saturday but didn't have a way to match the antenna to the rig so wasn't able to transmit. Will have to see what I can come up with for 80 meters. That's a challenge just for the wire length if nothing else.

I'm getting a little better at this portable operation. And having fun as I do it. What more can you ask for!

73

Frank KA9FZR

### Officers and Board

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***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.