



Official Publication of the
West Allis Radio Amateur Club

Hamtrix

Volume 56, Issue 11 November, 2010

CLUB HAPPENINGS

Club Meeting

November 9, 2010 7:00pm

Program D-Star presented by Dave KA9WXN

WARAC Annual Awards Dinner

Sunday, November 14, 2010

5:00pm QSO time - 6:00pm Dinner

See details on page 7

WARAC 2-meter net

November 16, 30 & December 7, 2010 7:00pm

MATC repeater 147.045 standard offset

127.3 Hz CTCSS



The President's Shack

November 2010.

I would like to thank Lynn, K9KR, who has served as the Secretary, and George, AA9SR, who served on the Board of Directors, for their service to the club. I enjoyed working with both of you. I also welcome the newly elected officers and Board members: Tom, K9BTQ, President; Chuck, W9WLX, Secretary; Jim, KC9KEQ, Board member; and Dave, KA9WXN Board member. In case you missed the last meeting, Chuck, WB9PUB, remains as Treasurer, and I was elected as Vice President.

As long as we are talking about changes, Frank, KA9FZR, is the new editor for Hamtrix. My thanks to Tom, K9BTQ, who has served as Hamtrix Editor for quite a few years. Tom has done a great job as editor, and has been very helpful to me as I wrote this column. The same is true for any of you who wrote articles to be published in Hamtrix. Tom will still be involved with Hamtrix for a month or two, helping Frank ease into his new duties. Thanks, Frank, for volunteering to take on the Hamtrix challenge.

The Annual Awards Dinner is on Sunday, November 14th. If you haven't sent your money to Chuck, WB9PUB, please do so. We will ask one last time at the meeting. The presenter will be Gary Dunco, Senior Financial Advisor, Associate Vice President, with Ameriprise Financial Services. He will talk about various financial issues. The event will be similar to previous years, with door prizes, good food, and a chance to enjoy the evening. Don't miss it!

Dave, KA9WXN, is returning to make a presentation on D-STAR. This is a mode of operation promoted primarily by ICOM. This should be an interesting presentation.

Finally, I have enjoyed writing this column for the last 12 years. Sometimes, it has been a challenge, but other times, it has been a lot of fun. I hope that you have all enjoyed reading it. I will look forward to the new President's column by Tom, K9BTQ.

See you at the meeting.

73..

Howard, WA9AXQ

Notes from a New President -

First, I want to thank the membership for electing me President of WARAC for 2010. The future holds challenges for our club, and I look forward to meeting them with your help. From a personal standpoint, it's certainly going to be interesting to move from Hamtrix editor to President.

We need to recognize the 12 years that Howard served as President (since 1999), far longer than any president has served previously. We owe him a debt of thanks for a job well done. Please let him know that!

And thanks to Frank Humpal, KA9FZR, for accepting the editorship of Hamtrix, our club newsletter. Please welcome Frank to this job and support his efforts. Translation: please write (or at least suggest) articles!

Our club has a lot going for it. A 55+ year tradition. Sponsor of the Wisconsin QSO Party for nearly 30 years. Sponsor of the Mid-Winter Swapfest for nearly 40 years. Over \$45,000 in scholarships awarded over more than 20 years. Sponsor of two ARRL Conventions in the 1970's. Public Service activities, Field Days, Annual dinners and other activities too numerous to mention. There's a lot to look back on and to be proud of.

But let's look the other way – toward the future. Where will we be ten years from now? Or even five years from now? Thinking about this leads me to believe that we have one challenge that stands above all others. We need more members. In particular, we need more younger members, people who can be future leaders of our club.

The Board will be working on a plan for attracting new members. Your input is needed on this and we will be talking about it at club meetings. Please let me or other Board members hear your ideas. Back to the present. Another issue is meeting attendance. It seems that we should have more than 12 or 15 members at a meeting, out of a membership of 45 – 50. We have good programs but attendance has still slipped over the last couple of years. How can we reverse this?

What can we do to make more people want

to come to meetings? My thought is that we need to make meetings as much fun as possible. How about some kind of a raffle at every meeting? Or discussions on band conditions or a topic of the month? Or a (short) show & tell each month? What would you suggest?

WARAC is your club. Please think about these issues and pass your ideas on to me or other Board members. I am only a phone call or email away. Let me hear from you.

- Tom, K9BTQ

From the Editor

As you may have noticed Hamtrix has a new editor. You will also notice that I am at the start of a learning curve on how to put out a newsletter. This month I am keeping it simple to get it out on time and give me time to learn the Scribus word publishing system. The club has 'Microsoft publisher' available but my choice for an operating system is LINUX (the Ubuntu flavor) which makes using publisher a little hard. This also means that Tom's templates are not directly usable on my system. I may be reinventing the wheel to get where Hamtrix has been!

Like every editor I'll be looking for ideas, articles, etc. to add to the paper. Let me know your thoughts.

I want to thank Tom for his work and help on my start of this project
Frank KA9FZR
fhump@milwpc.com

WARAC General Meeting

October 14, 2010

The meeting was called to order at 7:12 PM by President Howard Smith. MINUTES – the membership approved the minutes as printed in Hamtrix.

ANNOUNCEMENTS

CLUB DINNER – Howard mentioned the upcoming annual Club Awards Dinner, scheduled for November 14 at the Machine Shed Restaurant. The speaker is unknown at this time, but there will be a speaker. Use the flyer in the current issue of Hamtrix. There is a November 9 deadline to let the Treasurer know if you plan to attend.

TEN METER CONTEST – Chuck Craven spoke to the upcoming 10 Meter contest, that will happen on the second weekend of December, i.e. the 11th and 12th. Chuck will be doing an article on the event, which is also a WARAC activity, wherein club members compete against other club members. Chuck did mention there was one major change in the ARRL rules – there will be now be a multiplier for each of the 32 Mexican states. Chuck also mentioned he is expanding the club entry categories to include digital CW, digital phone and digital mixed modes.

ELECTION – at this time our annual election of officers was held. Tom Macon, K9BTQ, was nominated for President and elected by motion. After discussion, Howard Smith, WA9AXQ, was nominated for Vice-President and elected by motion, with two in opposition. Chuck Dellis, W9WLX, was nominated for Secretary and elected by motion. Chuck Craven, WB9PUB, was nominated for Treasurer and elected by motion. Jim Wilkins, KC9KEQ, was nominated for a two year at-large Board position and elected by mo-

tion. After discussion regarding the Past Presidency position, a motion was made by the membership to accept Howard Smith's resignation from the Past President position, for the next term (for one year). Motion passed with two in opposition. Lastly, Dave Schank, KA9WXN, was nominated for the position of "Past President," for a one year term. Dave was elected by motion.

HOME BREW CHALLENGE – Chuck Craven asked that those who plan to participate please let him know so he can track the event properly.

PROGRAM – Digital TV – An Update. Dave Schank, KA9WXN, who works at Channels 10/36, started out with some background. Analog TV stopped and Digital TV started June 12, 2009, instead of the original date of February 17. The changeover just happened to occur during a huge band opening, which created more problems than anticipated. Most of the channels now use UHF, with a few still on VHF. There is still a 6 Meg bandwidth but now there are 8 little carriers in that space. Dave talked about problems. The biggest problem is antennas – using rabbit ears in particular. Second is the ghosting and multi-path problems that cause complete cancellation of the signal. Then there is EMI, from some of the many electronic devices now found in most homes. In solution to the antenna problems, Dave suggested that anyone not using cable or satellite service, make sure they have an outdoor antenna. For those who are using a digital converter box, besides the outdoor antenna needs, Dave spoke to be sure to use the "signal" meter in that box for best reception. Lastly, do not use RG59 but be sure to use only RG6.

The meeting was adjourned at 8:50 PM, followed by refreshments and eyeball QSOs.

Respectfully submitted,

Lynn Tamblyn, K9KR
Secretary WARAC

WARAC Board Meeting

October 26, 2010

The meeting was called to order at 7:05 PM. by Chairman Howard Smith.

Board members present were: Charles Craven, Chuck Dellis, George Dunco, Frank Humpal, Tom Macon, Howard Smith, and Lynn Tamblyn. Newly elected Board members for 2011, Jim Wilkins, KC9KEQ and Dave Schank, KA9WXN, were also present.

ELECTIONS - the Board discussed the "Past President" position that needs to be looked into. Suggestions were made, with the idea that the club Constitution might need to be visited.

AUDIT OF CLUB BOOKS - Howard said that things were moving slowly but were moving forward.

TUESDAY NITE NET - Three participants last week. The repeater system does appear to be working well.

PROGRAMS - The November program is to be on D-Star by Dave, KA9WXN. December will be on Mobilizing in the Alps by Dick Wood, W9JBE. January is a possible program on vintage equipment. Charles Craven will be doing his homebrew project wrap-up at the February 2011 regular club meeting. Future programs could include a program on the history of ham radio – equipment evolution, a storm and severe weather spotting program, a

2010 WARAC 10 meter Contest By Chuck WB9PUB

Each year on the second weekend in December, the ARRL sponsors a contest for 10-meters only. In addition to the League contest, WARAC members have the opportunity to join an additional contest just for our club members.

To participate in the Club contest, enter the ARRL contest, but while operating, keep an ear open for club members. For every club member worked you get bonus points in the WARAC contest. Follow the ARRL contest rules when operating the contest. They may be found in November QST, or at the ARRL web site: <http://www.arrl.org/10-meter> under "On the air" and then "Contests 10-meter". The ARRL Ten Meter Contest begins at 6:00

possible program on HD radio, as well as one on amateur television.

SCHOLARSHIP 2011 – Howard still needs to do some research on providers, and do a comparison for the Board to discuss.

FUTURE OF CLUB – President Tom Macon would like to have discussions at future Board meetings, with some sort of action plan being developed. Does WARAC need to seek collaboration or a merger with other clubs, combined meetings, etc ? Some discussion followed with no conclusions.

MEETING ATTENDANCE – President Macon also asked Board members to think about ways to increase attendance. Perhaps changing the structure of meetings by doing more show & tell, doing more band reports, holding a raffle at each meeting, or having a goodie box at meetings ? Does the program need to be at the beginning of a meeting ? Tom is going to be looking for suggestions from the Board and the membership.

The meeting was adjourned at 8:00 PM.

NOTE: It has been my pleasure to serve WARAC in the Secretary position for these past years.

Thank you for putting up with me.

Respectfully submitted,
Lynn Tamblyn, K9KR
Secretary WARAC

PM CST local time on Friday, December 10, and runs for 48 hours. You may operate any 36 hours during this time. Note that in Universal time the contest runs from 0000Z December 11, to 2359.59 UTC December 12.

For the Club's piggy back contest you may operate CW only, Digital assisted CW/Digital modes, phone only, Digital phone, CW and Phone or any mix of the four modes. Note: Digital assisted CW is the use of decoding software and Digital modes like RTTY, Packet and other types of recognized modes. Digital phone is the use of externally enhancement software or the use of digital phone equipment that is not receivable by an analog receiver. CW/digital CW contacts get a multiplier of two per contact. There are three power levels that apply multipliers to your score, QRP (5 watts or less), low power (5.1 watts to 150 watts) and high power (150 watts or more). The power multipliers are listed on

the Summary Sheet below.

Your Club score consists of three steps that are included on the summary sheet. First, multiply your CW/digital CW QSO's by two and then add your phone / digital phone QSO's to get your Contact Points. Second, multiply your Contact Points by your power multiplier to get Total QSO points. Third, multiply the number of club members worked by five. Add this number to your Total QSO points to get your Final Score for WARAC.

It is recommended that you submit an entry in the ARRL contest, but it is not required for the WARAC contest. Note that the League

submission rules require either an electronic log in Cabrillo format or a hand-written log – no computer printouts. See ARRL rules for details. N3FJP has a 10-meter contest program for \$6.00. It's specifically for this contest and it outputs directly in Cabrillo. You can't go wrong for six bucks!

To submit your entry for the Club contest, send a copy of your ARRL log and a filled-out Club Summary Sheet (below) to Chuck Craven at the address listed at the bottom. Certificates for winners will be given out at next year's Club Awards Dinner.

Happy contesting!

2010 West Allis Radio Amateur Club 10 Meter Contest

Summary Sheet for WARAC-sponsored portion of contest

December 11 Saturday 0000 UCT to December 12 Sunday 2359.59 UCT

Rules: See the ARRL General Rules and Rules for HF contests.

Operator's Name: _____ Call Used _____

Entry Category: CW only: _____ Digital CW only: _____ Phone only: _____ Digital Phone only: _____
CW and Phone: _____ Digital CW/Digital Phone: _____ Mix of Analog and Digital modes: _____
(Check one category)

Power level: QRP (5w or less) _____ Low power (5w to 150w) _____ High power (150w and up) _____

Scoring

CW QSO's _____ x 2 = _____ CW Points

Phone QSO's _____ x 1 = _____ Phone Points

CW Points + Phone Points = _____ Contact Points

Contact Points _____ x Power Multiplier _____ =
_____ Total QSO points

Bonus: No. of Club Members worked _____ x 5 =
_____ Club Member points

Total QSO points + Club Member points = Final Score: _____

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

Chuck Craven, WB9PUB
W2292 Beulah Heights
Road East Troy, WI 53120

Power Multiplier		
Class	Power Range	Mult.
QRP	0 – 5w	2.0
Low	5 – 150w	1.5
High	150w and up	1.0

The WARAC Homebrew challenge.

How is your project doing?

This is where my project is as of today. Well this month has been busy I got the 5 Watt RF amplifier all put together. The heat sink is part of the chassis, so I had to mount the transistor to the bottom of the board. With the Power Transistor mounted directly to the heat sink with a mica insulator and thermal grease. I also had to modify the PC board by drilling the transistor mounting hole larger. This is so I can get the screw driver down there for tightening the screw that holds the power transistor to the heat sink.

I applied DC power to the completed amplifier, with out any RF drive and with a 50 ohm load to the output connector. The amp did not self oscillate which is good. It does not draw any current, just like a class C amp is suppose to. Then I connected up my watt meter between the amp and dummy load and use the signal generator to drive the amp. The watt meter shows some RF power coming out of the amp with about 3 dBm of drive power. The amp has 17 dB of gain, just what the article clams it has. Next is to connect it up to the transmitter and see how it works at full power.

The second part of my project is to build a matching super heterodyne receiver. I want a good basic function receiver with as few parts as possible. I found a circuit that fit the bill in a book that is printed by the ARRL. It's called 'Low Power Scrapbook' by RSGB. The article in this book is called 'The Minicom Superhet Receiver' by Basil Dale VK2AW. Minicom means Minimum component. It uses three IC's the first is a FM receiver chip by Motorola which is no longer made by Motorola. But NET makes a direct replacement chip. The next part is a SA602 Mixer/ oscillator chip that is used as the Product detector. The third chip is an audio amplifier chip that drives the speaker. With the FM receiver chip, only the front end Osc /mixer and the IF amplifier is used the rest of the chip is just floating / unused. There is a homemade filter between the mixer and the If amp that is now in construction. I bought 10, 12 MHz crystals at

\$.35 each to make the crystal ladder filter. The first thing to do is to find three crystals that are close to each other by matching each



crystals basic parameters. Plus I need a crystal for the BFO which is part of the SA602.

To do this I had to build a two transistor test oscillator with a series capacitor for the crystal, which can be switched in and out of the circuit. This gives me the natural frequency and the delta, warping frequency. With this information all I had to do is plug in the frequencies, crystal measured capacitance and the oscillator's series capacitance values in to a program that is on the "www.qrp.pops.net" web site. The program gives me the crystals internal Lm Cm values. The filter only uses three crystals, five capacitors and a wideband impedance matching RF transformer, wound on a ferrite core. I am shooting for a filter that will be 800 to 1000 Hz wide. The oscillator board is built and of course did not work at first. Found that the 2N3904's out of my junk box had the emitter and collector wires backwards from the data sheet. This is common for plastic transistors, from manufacture to manufacture. All I had to do is turn the transistors around 180 degrees and now there is RF coming out of the board. See the picture of the crystal test board. I built this board using Manhattan style construction which is quick and easy. The second and third picture is using the frequency counter to get the two frequency data points of each of the crystals. I have found, on the same web site, free ware filter design software and I will see if it works.

See next months Hamtrix. I should have the filter built and the progress of building the receiver. At the November club meting can you give us the current progress of your project?

Chuck Craven
WB9PUB



WARAC ANNUAL AWARDS DINNER

SUNDAY, NOVEMBER 14, 2010

5:00PM QSO TIME — 6:00PM DINNER

THE MACHINE SHED RESTAURANT

N14 W24145 TOWER PL

(I-94 & HWY J, EXIT 294)



<p>WARAC Activities the year in review</p> <p>Swapfest WIQP</p> <p>Field Day more</p>	<p>Presentation of:</p> <p>2010 Scholarship Certificate</p> <p>Years of Membership Awards</p> <p>Contest Awards</p> <p>2010 Member of the Year Award</p>
--	---

Dinner Menu

Country Fried Chicken and Ol' Fashion Pot Roast

Served 'family style' with potatoes, vegetables, cole slaw, cottage cheese, bread, beverage and dessert. Tax and gratuity included in \$16.00 price. Cash bar.

Program

(To be announced at October 12 meeting)



Contact Phil Gural or Tom Macon if you need transportation

Sign-Up sheet below—Fill out and bring to the Club meeting!



AWARDS DINNER

RESERVATION FORM

SUNDAY, NOVEMBER 14, 2010

5:00PM QSO TIME — 6:00PM DINNER

Name _____	Call _____
Number of people attending _____	Amount (\$16 each) _____

Sign-Up Deadline: November 9

Bring form and money to club meeting or mail to:

Make checks payable to:
W.A.R.A.C. Inc.

Chuck Craven, WB9PUB
W2292 Beulah Hgts Rd
East Troy, WI 53120

West Allis Radio Amateur Club, Inc.
Tom Macon, K9BTQ
3547 S. 95 St
Milwaukee, WI 53228



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. Meet-
ings 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.