



Hamgram

Newsletter of the Winona Amateur Radio Club, Inc.

-- When All Else Fails...AMATEUR RADIO --

December 2015

www.w0ne.org

WARC December Program- Dec. 17

WHAT: We are pleased to announce that Dr. Glenn Johnson ,W0GJ, will be able to join us for the December program where he will present two dynamic, fast-paced talks: "The 2015 K1N Navassa DXpedition" and "Is 3 dB Worth a Divorce...What is a Little Pistol to do?" Glenn has been a leader of several big DXpeditions and was co-leader of this year's DXpedition to Navassa Island. He also has held several world contest awards and is a member of the Amateur Radio Hall of Fame. See more about Glenn and the planned talks on Page 3

As usual, there will be a brief social time during the evening.

DATE & Time: Thursday, December 17, 2015 – 7:00 PM

WHO: All amateur radio operators and other interested persons are encouraged to attend.

WHERE: Conference Room B, Winona County Office Building, 202 West 2nd Street, Winona, MN. Doors will be unlocked from 6:45 to 7:15 PM. If you are late, please try the 146.835 repeater to have someone let you in.

UPCOMING CLUB ACTIVITIES

Winter Holiday Party Mark your calendars. Thursday, Jan. 21, 2016. Location: Winona Family Restaurant. Program: Dan and Nancy Goltz (WK0W & KA0RJM) will entertain us with a talk about their recent trip to Alaska. More details in the Jan. Hamgram.

Technician Licensing Course The club is sponsoring another tech Class licensing course beginning in early February with VE testing planned before Easter. Start talking the course up with any ham prospects you may know.

MN QSO Party This fun event comes up on February 6-7. The club has been setting records every year for “personal best” scores and county scores. Let’s set our sights high again this year and keep moving up!

Winona ARC 2016 dues are payable at any time. Amounts are still \$25 per individual or \$30 for a family membership. Bring your dues to the program on Thursday or mail a check to Winona ARC, ATTN: Treasurer, P.O. Box 1264, Winona, MN 55987.

More About the December Program

Glenn Johnson, W0GJ:

Glenn's interest in amateur radio started as a youngster listening to his grandfather's short-wave radio. He was licensed at age 15 and within three months had contacted all 50 states using Morse Code with a homemade crystal transmitter. He has always been interested in contesting and working DX. He has several first place world scores and holds several records in international competition. He has worked all of the countries and has confirmation cards from 360 countries/entities. Further, he has achieved #1 Honor Roll, 5BDXCC and 5BWAZ awards.

Glenn has three consecutive First Place World scores with QRP in the ARRL 160M Contest. He has led three major DXpeditions to #2 Most Wanted areas (Kingdom of Bhutan in the Himalayas (2000), Lakshadweep in the Arabian Sea (2007)), and Desecheo (2009), all of which were awarded DXpedition of the Year. Glenn is also a member of the Amateur Radio Hall of Fame.



*Glenn, W0GJ, on his tower
in Winneshiek Cnty, IA*

The Program:

The 2015 K1N Navassa DXpedition was 13 years in the planning and was a once in a 32+ year opportunity to activate this #1 or #2 Most Wanted Entity. You will learn how physically remote, politically remote, financially remote and logistically remote this entity truly was. It was the DXpedition of the Year for 2015. Co-leader Glenn Johnson, W0GJ, will give insights and details to this most challenging entity that is so geographically close, but yet so very remote in every other way.

"Is 3 dB Worth a Divorce....
What is a Little Pistol to do?"

This fast paced talk brings 3 dB into proper perspective and gives simple and economical solutions to make you and your station more competitive in contesting or

DXing *e without* breaking the bank....or getting a divorce.

SKYWARN Recognition Day 2015

What a fun day at the National Weather service Office in La Crosse this year. The weather was the warmest for the event and so was the food, the camaraderie of NWS staff, hams, and others participating.

The stations were great also, with four HF rigs operating plus a dedicated VHF rig and some interesting Echolink and D-Star set-ups. There were 338 QSOs into 46 states (oops on OR, ID, AK, & HI). Thirty-six NWS stations were contacted as well as 4 DX entities.

Thirty-five hams and other visitors participated including a new ham, 14 year old Rhyse Jensen of Rochester, who had received his Tech license in August this year and upgrade to general in mid-November. Rhyse, KE0FMX, was making QSOs and handling mini pile ups like an old hand!



Rhyse with a smile on his face!

Several antennas were in use including a multi-band Yagi for the upper HF bands, a multi-band long wire inverted L, the NWS's 2-meter Yagis, and other wire dipoles. How does one describe the antennas used for the Echolink and D-Star contacts? They were the built-in cell phone antennas!!!

Special thanks to the Mississippi Valley ARC and Riverland ARC for providing the HF stations, antennas and organization to make the day successful. It was a great time for all.



Todd Shea giving Dan & Dale details about the NWS operation.



Only two CONUS states to go!

The Syed, Dale, & Erik Duplexer Shop

Duplexers—those mysterious cans at the bottom of the repeater rack at remote locations. What are they, what do they do and what kind of care & feeding do they require? This mystery is being unraveled bit-by-bit by the “Syed, Dale, & Erik Duplexer Shop.”

What prompted this endeavor? Several things: a concern about the performance of the 146.835 repeater, the donation to the club of several VHF duplexers no longer needed for new generation of Winona County radio systems, and the desire to have complete back up 2-meter capability in case of a major disaster in the area.

So, what is it about duplexers that makes them so mysterious. Do you think that it might be that duplexers are devices required to provide RF pass filters with deep notch filters a few hundred kHz away and doing it with extremely low insertion loss while concurrently providing a 50 Ohm match between the transmitter/receiver, duplexer, and antenna system? Do you think that’s it, maybe???

Well, the Duplexer Shop is figuring it all out—and doing it very nicely. The crew has tackled the job working



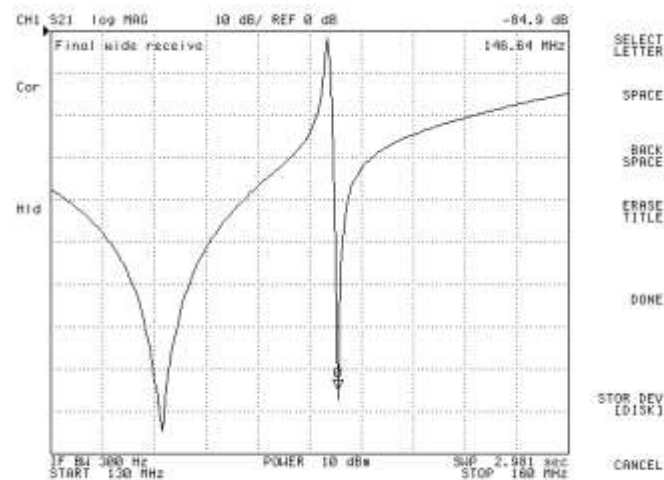
Syed and Erik making fine-tuning adjustments together to analyze the 146.835 site duplexer and finding it to be off frequency on the receive path. A “partner” in the shop is the TRW operations in Winona, which has made some of their sophisticated (and very expensive) network analyzer equipment available to use on their premises. With some researching, experimenting and sleuthing, the crew has been successful in providing an “in spec” duplexer for the 146.835 site—and one which has improved performance dramatically!

Now the Duplexer Shop crew is re-tuning the Winona County donated duplexers to amateur frequencies and will have a set of back up duplexers for both 146.835 and 146.640 at the Witoka site. And the crew still has more tricks up it's sleeve.



My goodness, what kind of trace is THAT???

Lessons learned??? Plenty. The shroud of mystery is being pulled back. Good work, guys.



*146.640 Duplexer Receiver Section—
Big notch at 146.640 and pass at 146.040.*

Progress at the Witoka Tower Site

Mike W0IH, Harro KG6RLM, Mike W0VTT, Paul K0ZYV, Dan WK0W, and others, have been working at the Witoka site to provide a remote HF station. The main rig will be the club's IC-718 and antenna will be a multi-band ZS6BKW, a good 50 Ohm wire antenna similar to the G5RV.

This will be a lot of fun once the Internet connection is set up and other components are in place and de-bugged. No more problems with antenna-restricted abodes or operating "out of a hole"!!!

Minutes of the November WARC Board Meeting are below. Minutes of the December meeting will be published when approved.

Minutes of November 2015 WARC Board Meeting held at Watkins Hall, Winona State University.

Present: Tom (W0MK), Lance (KB0YJU), Syed (AC0VA), Harro (KG6RLM), Dan (WK0W), Mike (W0IH)Paul (K0ZYV), Erik (WB0NIU), Dan (WK0W), Les (K0BAD)

Call to order by Paul at around 7 PM.

Agenda

Minutes

Treasurer Report

Notes from Bob(W9LSE)

Committee Reports

Holiday Picnic

Other

Paul called the meeting to order at 7 PM. Paul mentioned few items will be added to agenda and it might turn into long meeting.

Minutes

Minutes of last Meeting was approved. Board members took a bit of time to read through the last Board Meeting Minutes. No further discussion in the Minutes.

Treasurer Reports

Treasurer report was next. Treasurer report was approved. Lance asked if we did write a check for liability insurance and Harro replied in the affirmative. Erik submitted a bill for the project he completed. Erik made a motion to pay Jim (aprsworld) and motion was approved. Cost of the expense should be covered by donation by club members. Harro mentioned club had a donation from Aprsworld and inquired if we are 501-C 3. Les/Erik/Lance affirmed we are 501-C3 for tax purpose. Les mentioned club should send a letter acknowledging the donation and the value. Paul and Syed will draft a letter and will send to aprsworld.

Note from Bob (W9LSE)

Paul received a letter from Bob about Fundraising. The contents of the letter follows:

“I am not able to attend this Month’s board meeting. The group can still discuss fundraising and start answering questions:

- Why does the club need your (donor) money?
- What will be the money spend on?
- Why should the donor care?
- How much must be raised for the club?
- Who are likely donors – businesses and individuals with an affinity for club projects”
- That’s a starter
- 73, Bob”

Paul asked if board needs to discuss further today or let a sub-committee work on it. Dan mentioned it is not expected that Bob will do it himself. Bob will need people to work with him on this fundraising project. Dan thinks we should talk to other people also interested to this project and get answer to these questions. But the answer to the questions will not happen tonight. Les mentioned fundraising is very important responsibility and Bob has raised the right and important questions for fundraising project. Les thinks Board should setup some guidelines to a committee to work with fundraising project. Lance suggested to reflect on these questions and come back on December meeting with ideas from each of us to discuss.

Lance mentioned when a committee is formed, vice president will be part of the committee.

Dan mentioned more questions could be added to these questions. Dan is in agreement that we discuss more and come back in December meeting with more input. Board asked Paul to send Bob a thank you email and that Board was very appreciative of Bob’s initiative on the project.

Committee Reports

Erik’s Report:
APRS:

Erik was not sure what is going with “APRS Node”. Erik did swap TNCs. He is not sure if it is SWR problem or something to do with Antenna. Erik wants a volunteer to take the lead on APRS investigation. Lance will take the lead on investigating APRS node issues.

Erik’s report on 835:

Erik reported worst part of the road leading to 835 site is ‘crushed rocked” now. So, it would be much easier to drive there safely. Last Saturday team went to 835 site after rainfall. Coming back after the wired gate was a bit treacherous but team got back safely. Erik was all praise of Dale for his engagement, commitment, efforts and knowledge to work on 835 and 640 sites. Erik measured some powers on 835 site and found that cable from duplexer to lightning arrester was not working. Erik found that N connector on lightning arrester was shorted out. Mike (W0VTT) donated a new cable. Erik thinks someone can rebuild the damaged cable. Erik did work more on the site and Erik posted some of the pictures on facebook. Also, Erik went back on Sunday and took more power measurements. It really appears that duplexer is out of wack. Erik thinks it is uncharacteristic of duplexer because club bought the duplexer good twenty years ago and it is just sitting there and has not been tweaked. Dan was asking if there could be any thermal coefficient issue of being hot and cold. Erik also stated that we have 65 Watt transmitter and expect 48 watt out of duplexer but we measured 95 Watt out of transmitter and 35 watt out of duplexer. In a nutshell, loss through duplexer was quite high. Also, isolation between transmitter and receiver is supposed to be 91 dB but we measured 66 dB. Dan asked if we have cable problems. Erik replied that is a possibility. Erik then explained connections of the duplexer system and the Antenna system. Harro asked if there is any visible damage to duplexer. Erik mentioned there were strange bugs in the control room one time and it has since been taken care of. Paul will provide a radio for Erik to work on. Next to do on 835 issues will be to tune duplexer with available network analyzer (syed). Erik then asked Dan if we have two duplexer available from county. Erik mentioned on possibility of taking one these duplexer and tune to 835. Potentially also, if we can tune successfully, we can tune the other one for 640 Repeater site. So, Erik is working on these solutions. Dan will contact Mike to see if he can get the duplexer so Erik can tune it with Syed’s help of equipment.

Board then discussed club requirement for climbing our towers. Club has requirement of certification before anyone can climb the towers. Les mentioned it should stay that way. Paul thinks we should stipulate “Qualified Climber” instead of “Certified Climber”. Erik asked does our club cover insurance for climbers and Paul did not have an answer. Les stated climbing tower is the most dangerous industry in the country right now. The discussion continued.

Erik mentioned we have to understand insurance before we let any member or anyone else climb our towers. Dan mentioned our contract with county is still being reviewed. Few people supposed to be working on it, left the county.

640 site report by Erik:

Last Saturday Dan, Dale and Erik went to the site and did some work on cleaning up the connections of the site. There were issues of touch tone decoder. Erik went back on Sunday with Dale and did troubleshooting. Matt offered to help troubleshooting if the repeater is brought to him. Erik would like a swap of 640 Repeater and that will allow troubleshoot the repeater. Les took on the task to swap 640 Repeater and then bring the repeater to Matt.

Dan on Witoka Repeater:

Dan asked the question if Witoka site is good spot for 440 Repeater because people in the valley have difficulty accessing the repeater. Dan mentioned there is lot of possibility with Witoka tower but is it best place for 440 Repeater? Dan's concern was people did purchase handhelds for accessing the Repeater but now they can't. Erik's opinion on this was: "First, we have to investigate other places of the county on 440 Repeater access. St. Charles has good coverage. And that tells installation is fine. Erik going to advocate leaving it there for reasons that it gives third site that is active (redundancy) and since we have access there and using with a repeater." Paul asked where was 440 before and the answer was it was at 640 site. Erik answered it is easy to move back and forth with 440 Repeater. Erik also stated we need to have APRS at the Witoka site. Erik thinks we might get into same problem with APRS at Witoka site as 440 Repeater. Les suggested to try VHF frequencies with Fusion Repeater at Witoka site. The suggestion was warmly received by all. Erik replied we need duplexer. Erik continued with more suggestion of Witoka site use like repeating with different tone. Les also provided other suggestion. Duplexer seems to be much needed here. Dan will look into getting those two County duplexer as soon as possible. Mike mentioned he had great success with 440 Repeater recently. Paul/Lance/Les discussed more about advantage or disadvantage of moving 440 Repeater back to KG site. Finally, Board decided to keep the 440 Repeater at Witoka site. The emphasis was, it is not permanent solution but information gathering and finding more about Witoka tower capability. Erik also wants to go ahead with APRS /HBC wireless. Erik than provided more technical details on use of Witoka tower with Raspberry Pi/Router etc.

Paul had question on how to get cables inside Witoka control room. Erik explained how it can be done. Les talked about conduit and there being room there. Paul mentioned technicians had trouble routing cables through the conduit.

Board then discussed more on the topic including setting up internet on the Witoka site. Dan mentioned our knowledgeable persons should be on-site when internet is installed to get the most out of it.

Board then approved Syed's proposal to hold yearly Holiday Party at "Winona Family Restaurant" and also board approved \$50.00 for any expenses if needed.

Dan's Report:

Dan's full report on behalf of Public Service Committee is appended below [not appended]. Dan also mentioned that Mike Peterson of County is very pleased that we are using Witoka tower for Repeater operation.

**The Winona Amateur Radio Club, Inc.
P.O. Box 1264, Winona, MN 55987-7264**

Executive Board

President: Paul Schumacher, KØZYV pschumacher@winona.edu	Vice President: Lance Tagliapietra, KBØYJU lancetag@hbc.com
Secretary: Syed Faruque, ACØVA sfaruque@yahoo.com	Treasurer: Harro Hohenner KG6RLM Harro@hohenner.com
Custodian: Erik Brom, WBØNIU ewbrom@hbc.com	Members: Dan Goltz WK0W Leslie Hittner K0BAD

Dues: \$25.00 per calendar year per license holder.
\$30.00 per calendar year for all licensed members of the same family within the same household.
Dues should be sent to: Harro Hohenner, Treasurer, P.O. Box 1264, Winona, MN 55987

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Editor: Len Litvan (KC0RSX)

Please address comments and **Hamgram** correspondence to: Len Litvan
25567 Miner Valley Road - Winona, MN 55987 or email to: KC0RSX@arrl.net

Board meetings are announced in advance (WEPNet).

Monthly club programs are held on the third Thursday. The submission deadline for the **Hamgram** is Wednesday of the week *prior* to that of the club programs.

When All Else Fails...AMATEUR RADIO

Winona ARC Repeaters:

146.640 (100.0 Hz) *

146.835 (131.8 Hz) **

444.225 (100.0 Hz) FM Voice & C4FM Digital

* SKYWARN Net When Activated.

** Sunday Night Net—8:30 PM Local Time.



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