

B-PLUS

Albany Amateur Radio Association – AARA

January 2024

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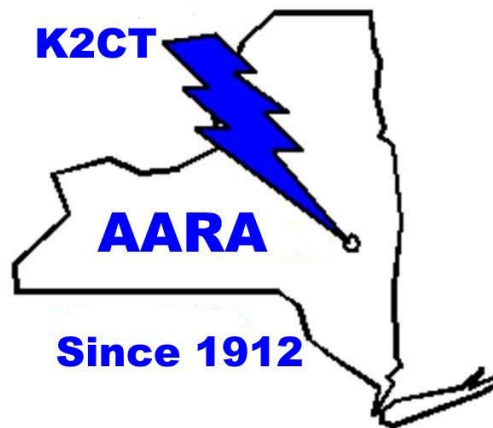
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AARA January Meeting
January 3rd, 2024 @ 7:30 PM
Slingerlands Fire Dept.

Topic:

Winter Field Day

PLEASE Pay Your Dues
Dues are \$20
Checks can be sent to:

Saul Abrams, K2XA
307 Maple Rd.
Slingerlands, NY 12159

From Our New President:

Greetings to all-

I would first like to thank John (K2QY) for his service as the AARA past president.

I would also like to thank the AARA membership for electing me to serve as the AARA President during 2024.

Art (KB2JZJ) will serve as our new Vice President. If you would like to present a program for AARA (or have any program ideas), please contact Art.

Saul (K2XA) will be returning as treasurer, and Bruce (WA3AFS) will be returning as secretary.

I would like to invite everyone to attend the AARA meetings. These are usually held on the first Wednesday of the month. The meeting location is:

Slingerlands Firehouse
1520 New Scotland Road
Slingerlands, NY 12159

The doors will usually be open at 7:15 PM, with a meeting start time of 7:30 PM. If we have to change the meeting date and/or time, this will be announced.

We already have some projects planned for 2024:

Winter Field Day (in cooperation with the Troy Amateur Radio Association (TARA)

June Field Day (in cooperation with the Troy Amateur Radio Association (TARA)

Some new projects have already been suggested:

⇒ Update the AARA membership roster.

⇒ AARA banquet (we have not done this since 2019 due to COVID).

I would like to ask everyone to think about ways of strengthening our membership such as:

Retaining current members

Inviting past or inactive members to return

Recruiting new members.

As noted above, we are teaming up with TARA for Winter Field Day and June Field Day. I would be open to discussing any ideas for additional joint projects with other amateur radio clubs in the area.

If you have any thoughts on any of this, please let me know.

Happy New Year and '73

Gerald W. Murray, WA2IWW
President, AARA

Meet Art, KB2JZJ AARA Vice-President:

I entered into ham radio in 1990 at a HVCC class and became a Tech.

Rensselaer RACES lent me a 2 meter radio and my first QSO was with NY2U, Mr Bill who invited me to a new club TARA which met in his garage. That is how I was introduced into public service. The Uncle Sam parade was one of my first events and the Freihofer's run with a good party after.

Then I got mixed up with the AARA on occasion, always a good time. Next, I stopped by a meeting in December 2023 and left as Vice-President!

Please assist me by suggesting programs.

73

Art, KB2JZJ

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518 496-0714

To all leaders and members of Eastern New York Section ARES:

I have decided, after more than a dozen years in this position, that it is time for me to make some changes. I have tendered my resignation as Eastern New York Section Emergency Coordinator to our Section Manager John Fritze K2QY effective as of January 1, 2024. I have given John my recommendations on succession, but will leave it to him to make any further announcements.

I have enjoyed working with and visiting groups in all 15 counties over these past years. I was first appointed as SEC in 2011 by then Section Manager Pete Cecere N2YJZ (SK) to fill the extended vacancy in the position left by the passing of Frank Stone KB2YUR a couple of years earlier. My appointment followed in the wake of Hurricane Irene and its devastation in the Hudson Valley, particularly in Greene County. The needed reinvigoration of ARES in the Section was underscored by that event and the subsequent arrival of Hurricane (dubbed Superstorm) Sandy and its effects on Westchester County just a year later.

During my tenure we responded to an urgent call for reinforcements for shelters in Westchester following Sandy. We also instituted the monthly ENY ARES/RACES nets that continue. We went through the rise and fall of ARRL's ARES Connect system, of which Eastern New York was a leading successful user. The loss of that system continues to be missed. A section emergency plan was instituted and revamped over the years. We embraced the technologies of Hamshack Hotline, Winlink and groups.io, which continue as a means of alerting and communicating. New ARES training routines have been implemented and a Task Book made available for members to keep track of their training activities.

There is still much to be done, but as I said, it is time to pass this on to new leadership. For the future, I will remain active and available to assist in whatever capacity in which I may be of use.

My sincere thanks go to each and every one of you for the support you have provided me during my tenure.

Best wishes for a happy holiday season and a good new year!

73

Dave KM2O

→ Thank you, Dave for making a great difference ←

Field Day 2023 Results

The results of Field Day 2023 were published in the December issue of QST. Here is the "tale of the tape" of the K2CT/NY2U joint operation at Thacher State Park.



There were 1,186 contacts made by our 5A plus GOTA operation. This included 249 CW, 283 Digital and 654 Phone QSO's. 41 participants were on site during the weekend.

We scored 5,871 points. This included the QSO score times our 2x power multiplier for operating on generator plus bonus points. We scored 2,435

bonus points. We missed maxing out the bonus by a couple of under 18 operators.

The operation did quite well when compared to all 4448 stations submitting logs. We came in 156th of all stations in North America. We were 4th overall of all stations in Eastern New York. As to our 5A category, we were 11th in North America and number 1 in Eastern New York.

This was a very good showing as the combined members of AARA and TARA came together for the first time. Many thanks to all who participated! Make plans to be there in June 2024 when we do this again.

73
Dave KM2O

PS: Watch for details of Winter Field Day on the 4th weekend of January! Operators are needed.

Fred's Sandbox: Why an EFHW isn't perfect

A 160 & 80-75 broadband trap dipole with gain!



I have gone down the rabbit hole analyzing EFHW antennas for our Winter Field Day operation. What I've learned is while an EFHW may have a good SWR on all bands,

the radiation pattern is ideal only on the lowest band that the antenna is cut for, and all higher bands have either gain problems in desirable directions or unusual takeoff angle elevation patterns, and sometimes both. My conclusion is that the best EFHW for our Winter Field Day would be a design limited to 40-10 meters, foregoing 160, 80 & 75.

But we do want an antenna for 160 and 80/75 meters. (Can you sense another rabbit hole excursion?) I found an interesting antenna configured by K5GP. It is an offset fed 160 antenna with a single broad-banding trap for 80 & 75 that is designed for both CW and SSB sub-bands. K5GP's design was low to the ground and oddly shaped to fit in his limited space residential yard. I optimized it for Winter Field Day for our taller trees and to have SWR nulls at 1845, 3555, and 3810 Khz. Take a look at the EZNEC analysis of this design and see if you like it as much as I do.

The screenshot displays the EZNEC Pro/2+ software interface for a "160/80 meter broadband dipole".

Project Tree:

- File: LAST.EZ
- Frequency: 3.85 MHz
- Wavelength: 269.472 ft
- Wires: 5 Wires, 132 segments
- Sources: 1 Source
- Loads: 3 Loads
- Trans Lines: 0 Transmission Lines
- Transformers: 0 Transformers
- L Networks: 0 L Networks
- Y Param Networks: 0 Y Param Networks
- Ground Type: Real/High Accuracy
- Ground Descrip: 1 Medium (0.002, 13)
- Wire Loss: Copper
- Units: Feet
- Plot Type: Elevation
- Azimuth Angle: 90 Deg.
- Step Size: 1 Deg.
- Ref Level: 0 dBi
- AR SWR Z0: 200 ohms
- Desc Options: OFF
- End Wave Dist: OFF

SWR Plot: Shows SWR vs Freq (MHz) from 1.8 to 3.9 MHz. The plot shows a resonance at approximately 3.85 MHz with an SWR of 1.79. Other SWR nulls are visible at 1.845 MHz and 3.555 MHz.

2D Plot: Shows the radiation pattern at 3.65 MHz. The plot is a polar plot with a maximum gain of 7.27 dBi at an elevation angle of 72.0 degrees.

Segmentation Check: Shows warnings for the antenna design:

- Load 1: Segment connects to mult wires
- Load 2: Segment connects to mult wires
- Load 2: Adjacent segment not in line
- Load 3: Segment connects to mult wires
- Load 3: Adjacent segment not in line

Wires Table:

No.	X (ft)	Y (ft)	End 1 Z (ft)	Conn	End 2 X (ft)	Y (ft)	Z (ft)	Conn	Diameter (in)	Segs	Insulation	Loss Tan
1	0	54	65	0	76	65	W/2E1	#17	99	1	0	0
2	0	76	65	W/AE1	0	77	65	W/3E1	#17	1	0	0
3	0	77	65	W/SE1	0.5	76.5	65	W/4E2	#17	1	0	0
4	0	76	65	W/TE2	0.5	76.5	65	W/3E2	#17	1	0	0
5	0	77	65	W/2E2	0	198	65	#17	30	1	0	0

Loads Table:

No.	Specified Pos. Wire #	% From E1	Actual Pos. % From E1	Seg	R (ohms)	L (uH)	C (pF)	R Freq (MHz)	Config	Ext Conn
1	2	50	50	1	Short	55	Short	0	Ser	Ser
2	3	50	50	1	Short	55	Short	0	Ser	Ser
3	4	0	50	1	Short	Short	143	0	Ser	Ser

Sources Table:

No.	Specified Pos. Wire #	% From E1	Actual Pos. % From E1	Seg	Amplitude (V, A)	Phase (deg)	Type
1	1	35	34.8485	35	1	0	1

As you study this design you may notice that the elevation pattern on 80 meters is slightly directional. This is caused by the way in which the tapped tank circuit resonates this antenna by changing the phase of the signal instead of trapping it. The result is an end-fire 2 element array on 80&75 plus a full-sized half wave dipole on 160 with a common 200 ohm feedpoint. The feedpoint is 35% offset of end #1 of wire

#1, which is 45.5 feet. 4:1 baluns are readily available and/or simple to make, especially at the power levels used on Field Day.

The next question is where to put this fantastic antenna on the property at Lawson Lake. My first option was from a tall tree near the nurses' cabin, over the driveway in front of the Lodge, to a tree on the far side of the Lodge. Unfortunately, while the antenna would be very convenient to install in that location, the null would be facing West and the major lobe would be East, neither of which are good options.

Up the Hill above the nurses' cabin there is a dirt road that runs North/South with tall trees at each end and a third tree in line with the road but closer to the North end. By installing the 160-80-75 antenna at the south end of that road, the null would face North, or toward VE2, which is probably the ideal direction for a null, with some gain in all other useful directions. The North end of the same road is a perfect spot for a 40-10 EFHW. That gets us only two antennas on the top of the hill but with 5 good bands, and an 2:1 VSWR option for 6 meters on the EFHW!

The remaining antennas would be near the operating location at the bottom of the hill. On 80 or 75 we'd hang a dipole between trees across the front of the Lodge, an off-center fed 40 meter dipole that is tuned for either CW or SSB, and the Spider beam for 20, 15, & 10. These antenna groups at the top and bottom of the hill are so far apart that operation on CW and SSB simultaneously on any band will work extremely well. I will bring a 3 element 6 meter beam and a 20' mast in the event that we can't find anyone to work on 6 meters using the EFHW. There is plenty of room to hang VHF and UHF antennas in the trees next to the nurses' cabin. The amphitheater even has a stage for our satellite antenna.

I am anxious to try out these two fantastic antenna designs. Please join us at Lawson Lake. The rules allow set-up to start Friday, January 26 at 2 PM. We will work until dark and be back at it at 8 AM on Saturday. I look forward to seeing you there!

Important Links:

Find a license class in your area: www.arrl.org/class

Find a license exam in your area: www.arrl.org/exam

The Eastern Iowa DX Bulletin:

<http://www.eidxa.org/EIDXBulletin.html>