B-PLUS

Albany **A**mateur **R**adio **A**ssociation – AARA

February 2024

Gerald Murray WA2IWW
PRESIDENT
518 482-8700
wa2iww@arrl.net

Art Ceas KB2JZJ
VICE PRESIDENT
KB2JZJ@AOL.COM

Saul Abrams K2XA
TREASURER
518 439-5700
k2xa@arrl.net

Bruce Goldstein WA3AFS
SECRETARY/WEBMASTER
518 765-2893
wa3afs@arrl.net

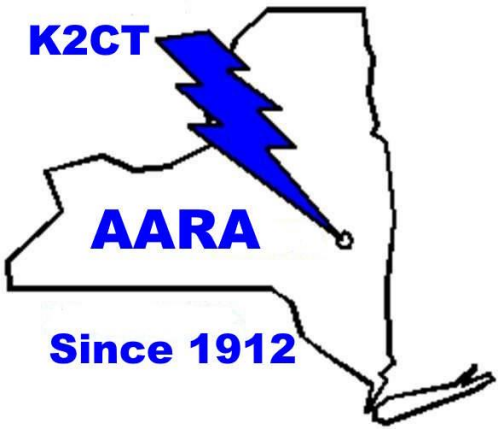
Don Herring KB2SCO
DIRECTOR
518 281-9986
dgherring@hotmail.com

Fred Lass K2TR
DIRECTOR
k2tr@arrl.net

Nathaniel Greenman KB2HPX
DIRECTOR
518 439-5008
ngreenman@verizon.net

John Fritze K2QY
TRUSTEE of K2CT
PAST PRESIDENT
k2qy@arrl.org

Don Herring KB2SCO
B-PLUS Editor



AARA January Meeting
February 21st, 2024 @ 7:30 PM
Slingerlands Fire Dept.

Topics:

Portable Operation

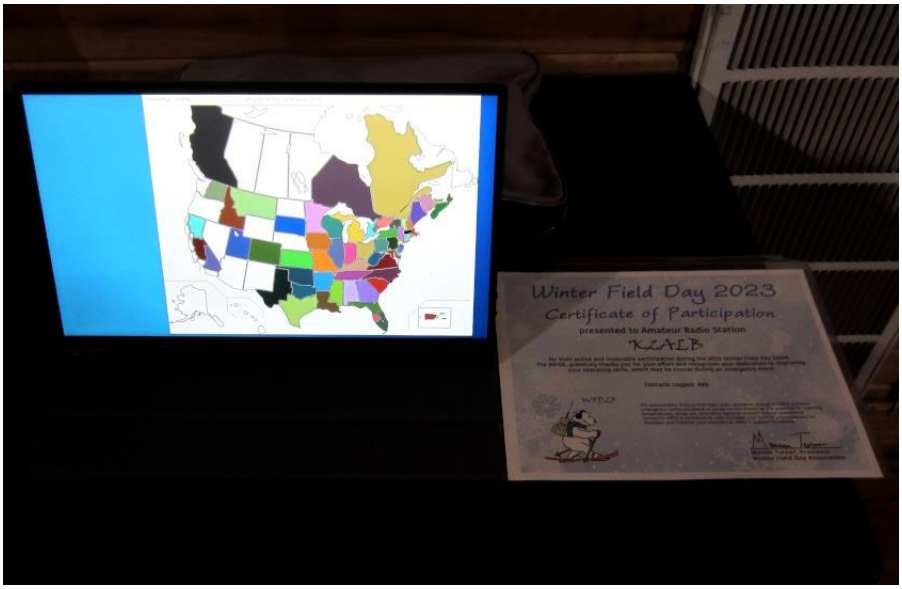
Winter Field Day Results

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

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

2024 Winter Field Day

Snowy Scene on Sunday



Coloring In the Screen With Contacts

Preliminary results, compiled by David Galletly (KM2O):

Total Contacts by Band and Mode:

Band	CW	Phone	Dig	Total	%
160	4	1	0	5	1
80	56	177	35	268	35
40	129	193	64	386	51
20	1	12	42	55	7
15	1	30	12	43	6
10	1	2	1	4	1
6	0	1	0	1	0
2	0	1	0	1	0
70	0	1	0	1	0
Total	192	418	154	764	100

Total Contacts by Operator:

Operator	Total	%	
K2TR	206	27	
W2EG	192	25	
N2KAD	72	9	
K2QY	70	9	
KD2ROS	70	9	
WA3AFS	49	6	(with Zach)
KM2O	42	5	
WD2AJS	28	4	
KD2MPU	12	2	
KE2ATD	10	1	
N2ZPA	5	1	
KB2JZJ	4	1	
KD2TAI	4	1	

Total = 13

Fred's Sandbox: Winter Field Day 2024

I always enjoy Field Day, and again this year we were at the perfect location, Waldman Lodge, in Albany County's Lawson Lake Park. Dave Galletly organized a perfect plan, and the team really came through to make it happen.

As usual, I planned the antenna setup, and there was a twist this year by the need to move to one of the smaller cabins. I spent months figuring out a workable plan, then weeks working on antenna designs, only to find out that we had the main Lodge back again. With two weeks to go I revised the design in a way that kept the 160/80/75 antenna along with the 40/20/15/10 EFHW and other antennas that we have used in the past.

Here's what worked; (and what didn't work).
When first installed the 160/80/75 antenna did not show the SWR curve that I expected. The one part of that antenna that was hard to build was the trap/loading coil, so I expected that I had the wrong inductance. On Friday afternoon I measured the SWR nulls of the antenna, and later that evening I used EZNEC to watch the SWR curve change as I manually entered different values of inductance. Once I matched the the predicted EZNEC curve to the shape of the installed antenna, I knew that I needed more inductance. So Friday evening, before bedtime, I wound a new coil on a larger form. On Saturday I installed the new trap, and the SWR nulls fell on 1.8 MHz, 3.4 MHz and 3.8 MHz. This was fine on 160 and 75, so that's what we used. 160 got 4 CW QSOs and 1 SSB contact. 75 SSB had 177 QSOs. I found that the activity on 75 peaked much later than I expected with many of our contacts occurring after midnight and Sunday morning. I will be able to modify the trap to work as intended, but we might not even use that antenna in June.

Once again, we combined the 80 CW dipole with a 40 meter bow tie INV-V. We made 56 QSOs on 80 CW and then 35 digital contacts using the 80 CW antenna. The 40 meter INV-V worked very well on Saturday afternoon, but later in the evening the 40 offset fed antenna was much stronger. Together. these two 40 meter antennas made 51% of our score. A note for next year, a second very high 40 meter antenna would be useful.

The tribander was the TA-33 JR that Dave Unverhau brought to Thatcher Park. I had rewound the broken trap and replaced the damaged element tip, but never had a chance to test it. Fortunately. the antenna worked properly, but the VSWR curve was not friendly to the low end of the bands. It worked well enough to gain a total of 12 multipliers, all three modes on all three bands. I feel that the antenna worked as well as it can from our valley location, and I can't think of a good way to get it any higher or further from the hill. I did pick up a second TA-33 JR and I have a dream to stack them on the 40 meter tower in Thatcher park. If we do this our signal would be stronger due to both a higher antenna and the two stacked antennas. We would still be able to use the triplexor, so the stacked gain would be on 20, 15, and 10 meters. I will build a 2:1 UNUN to match them on all bands simultaneously. A bonus of stacked antennas is that the SWR curve broadens out, so the CW band will have a better match to the coax than a single antenna.

We got three multipliers from 6, 2, and 440. Thank you Kate!

The antenna that didn't work right was the EFHW that I built. I made two bad solder joints and shorted out the center pin of the PL-259 on the Teflon coax current choke. Once the solder joints were fixed and I bypassed the choke, the SWR was best at 6.9 Mhz, presumably because the un-choked coax made the antenna longer, but the other 40 meter antennas were working well, so we never actually used the EFHW.

After hours of working on baluns and chokes for EFHW and looking at all the credible information that I was able to find my conclusion is that NO ONE knows how to properly choke the feedline of an EFHW antenna. Stop and think for a moment, the EFHW antenna's feedpoint impedance is 2450 ohms (49*50). So, if you want to choke the induced current in the coax by 20 db, you will need a choke with an impedance of 24,500 ohms! Ferrite beads don't even get close to 25K. I didn't find any toroid designs with that much inductive reactance. I spend a lot of bench time trying to work around that limitation. One of the promising solutions I came up with was instead of one 49:1 UNUN, use two 25:1 baluns in series cross-connected like a Guanella balun. yielding a single 50:1 current balun, but I couldn't get one 25:1 balun working properly on all three bands simultaneously, much less a

balanced pair. If any of you have suggestions to solve the problem, please email me at felasstic@yahoo.com Otherwise, we can do what everyone else does, figure out how to live with current on the outside of the coax.

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