



KARS KEY KLICKS



JOURNAL OF THE KANKAKEE AREA RADIO SOCIETY

Volume 90 Issue 2

Editors: K9QT, K9NR,
Photos: K9QT, K9NR, N9LYE, W9KVR, K9BYT
Contributors: K9CT, N9LYE, W9KVR

February 2015

HIGH ALTITUDE BALLOON LAUNCH PROGRAM AT FEBRUARY MEETING

The next KARS meeting will be held on Tuesday, February 3rd, at 7 P.M. in the first floor meeting room of St. Mary's Hospital. Following a brief business meeting, there will be a program on high altitude balloon releases presented by special guest, Darryl Hedges KD9AUK of Bartlett, Illinois. This should be a very interesting program. Be sure to attend and find out how you can participate in a launch and subsequent chase coming soon to the Kankakee area.



High altitude balloon pic from the edge of space showing the curvature of the earth

BOARD MEETING

The next KARS board meeting will be held on Feb. 17th in the banquet room at El Mexicanos Mexican Restaurant on Riverstone Parkway off the 308 I-57 exit.

All KARS members and spouses are welcome to attend.

Eat at 6:00. Meet at 7:00

HAPPY BIRTHDAY

February 3	K9XI
February 4	K9QT
February 8	KM9Z
February 11	KD9CFX
February 14	KC9QXV
February 14	K9BAC
February 15	NI9H
February 20	N9LYE

Let the newsletter editors know if we miss your birthday or get it wrong.

NCS FOR FEBRUARY

February 2	N9LYE
February 9	W9EJM
February 16	N9OE
February 23	N9FD

Don't forget the net!

Mondays at 2100 hrs. local time

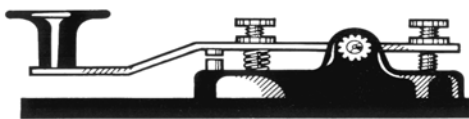
KARS KALENDAR

Feb 3.....	KARS General Meeting
Feb 14-15.....	CQ World Wide WPX RTTY
Feb 17.....	KARS Board Meeting
Feb 21-22.....	ARRL International DX CW
Feb 27- Mar 1.....	CQ 160 Meter SSB
Feb 28.....	NAQP RTTY Rules in pdf
March 3.....	KARS General Meeting
March 7-8.....	ARRL International DX SSB
March 8.....	Sterling Hamfest
March 15.....	NA Sprint RTTY Rules in pdf
March 17.....	KARS Board Meeting
March 21-23.....	BARTG RTTY
March 28-29.....	CQ World Wide WPX SSB

The Kankakee Area Radio Society operates repeaters on:

146.34/.94	107.2 PL Access
449.8/444.8	100.0 PL Access
145.130	107.2 PL Access

Additionally, KARS sponsors:
[144.39](#) [2 Wide Area APRS digi-peaters](#)
[145.53](#) [KARS DX Cluster](#)



W9AZ

K1N Navassa Island DXpedition 2015

NAVASSA ISLAND UPDATE

As we go to press, the DXpedition operators are rendezvousing in Jamaica for a couple days of staging preparation.

Operations are planned to start, at least on a limited basis, on February 2nd. The latest news and updates can be found at: www.navassadx.com More or less tied with North Korea as the most needed DX entity, there is enormous interest in this operation...the only in a 32 year span.

LATE UPDATE! 1/30/15 @ 0335Z (from Jamaica by Craig K9CT)

"We prepped all the gear for the helicopter today. It had to be staged by weight and importance priority along with team arrival. The helicopter arrived late this afternoon. All of the team was at dinner tonight. We hosted the helo team and the JARA club members from Kingston. Meeting tomorrow about setup and operating. Everyone is well and in good spirits!" 73 de Craig K9CT



K1N

QRZ.COM & LOTW

"QRZ.Com", the popular free ham radio database web site has added a new feature. If you use their on-line log, it will now interact with your LOTW log.

Use the following web site to enable this feature for yourself:

<http://www.arrl.org/news/grz-logbook-now-offering-reciprocal-confirmation-credit-and-lotw-download>

It's time to plan your Dayton agenda!

KARS HOMEPAGE— WWW.W9AZ.COM —KARS HOMEPAGE

W1AW/9 YOUTH OPERATION
by Troy W9KVR

2015 KARS HOLIDAY BANQUET

Good Food, Good Fun, Nice People



W9GRS students Rylie and Courtney with Troy W9KVR using PSK31 operating W1AW/9 during their shift as W1AW/9 in December.

W9GRS was able to help the W1AW/9 Team Illinois cause by operating PSK31 during the ARRL Centennial Celebration. It was a great honor and privilege for the school station to be asked to operate during the special event, as Jerry WB9Z, thought it would be a great opportunity for students to be a part of the once in a life time excitement of signing as W1AW/9. The W9GRS crew had a great time working the stations answering their CQ and this time being the one being chased instead of chasing.

We are looking forward to the new year with an opportunity to add Navassa to the log and of course the February edition of School Club Round-Up.



I also had the opportunity to help Sophie and my nephew Austin contact Santa Clause at OF9X on December 25 at their grandfather's Mike KC9HHT's QTH. Sophie was at the mic and completed the QSO including thanking Santa for the new electric scooter she got the day before! Side note: Marti OH2BH was operating as Santa and did a great job talking with Sophie with an extended QSO!
73 de W9KVR



KARS ELECTION RESULTS

KARS 2015 election of officers was held at the December meeting. The results were:

- | | |
|----------------|---------------|
| President | Don K9NR |
| Vice President | Harry WD9FYF |
| Secretary | Ken W9IE |
| Treasurer | Francis KE9MG |
| Director | Bill N9OE |
| Director | Rollie N9RJM |
| Director | Carl K9CS |
| Director | Craig N9FD |
| Director | Ed W9EJM |

Several other members who are key committee chairmen also serve as board members as needed.

ARTICLES NEEDED

KARS newsletter is only as good as the articles submitted by KARS members. Let us know what you are up to. Send us a picture and/or a few words.

2015 DUES ARE DUE

If you were unable to pay your dues at the annual Banquet, be sure to get them to Francis KE9MG at the earliest opportunity.

Dues remain unchanged:

- | | |
|-----------|------|
| Regular: | \$30 |
| Family: | \$40 |
| Student: | \$15 |
| Senior: | \$15 |
| Disabled: | \$15 |

Active military dues are waived

MEETING PROGRAMS

If you have an idea or a suggestion for an interesting program, please let Don K9NR or Harry WD9FYF know.

A good program really makes for a good meeting! So what's your idea for a good program?

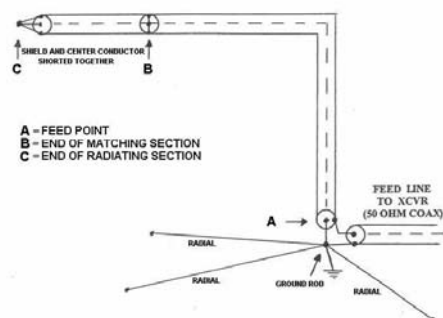


Figure 1

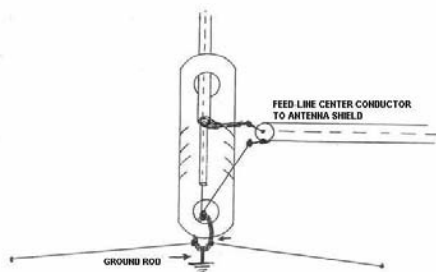


Figure 2



Figure 3

Coaxial Inverted L for 160 Meters

By John N9LYE

Few amateurs have room for full sized vertical antennas on 160 meters. Even fewer have room for a dipole up at least half a wavelength above ground. For many years, I used a simple wire inverted L and a tuner to get on Top Band, just like many others before me. In an instant, that all changed.

On the night of June 30, 2014, winds measuring in excess of 100 MPH tore through the area that knocked down trees and power lines. The branch that was holding up the wire came crashing down and was blown out onto the road, pulling my remote tuner along with it. Fortunately, that was the only damage I suffered, but it would be several months before I would have time to conduct any repairs to my station.

Fast-forward four months. Contest season was rapidly approaching, my remote tuner was lying in pieces on my shack floor and most of the wire I was using was nowhere to be found. I needed a solution, AND FAST! A late night of searching online yielded an idea that would suit my needs. An antenna broad banded enough to cover most of 160 meters without using a tuner. Perhaps not the best of ideas, but it works. All I needed was a piece of coax that was long enough.

Remember that simple equation that we all learned? 234 divided by the frequency equals length in feet. Forget about it for now. It's based on the use of insulated 12 to 14 gauge wire that has a velocity factor of 95 percent, which is fine for making dipole antennas. Since most of this antenna uses a coaxial matching section, the equation 246 divided by the frequency will be used instead. You can also use this equation to calculate overall length and not have to worry as much about trimming to resonance.

In Fig. 1, the section between points A and B is the coax type of your choice. The section between points B and C can be wire or whatever coax you have left over. Typically, the larger the diameter of coax used, the more broad banded the antenna becomes. The matching section can use almost any type of coax, even if it's 50 or 75 ohm, as long as you compensate for the velocity factor (Table 1). Most foam dielectric has a velocity factor of about 82 percent. Most solid dielectric is about 66 percent. Check the manufacturer's specifications of the type of coax to be used.

Since I had a bunch of foam RG-6 75 ohm lying around, the matching section length worked out to be 106.17 feet long. The end farthest from the feed point (B) is shorted together and at least 23.3 feet of wire is added to the end (B to C). When laid out, the overall length will be slightly over 129 feet

If you decide to use solid RG-58, the matching section length works out to be 84.45 feet and the end section will be 45.02 feet for a total of 129.47 feet.

After you get the main part of the antenna together, it's time to put a feed line to it. The feed point connections are reversed from normal. It may not seem like this would work, but it does. In Figures 2 and 3, you can see the shield of the matching section is connected to the center conductor of the feed line and the center is connected to the shield of the feed line. The use of a chassis connector mounted to some kind of enclosure will help keep out moisture and simplify installation but it is not mandatory. From there, a ground rod and at least one radial is required. Although I have noted that the antenna will tune up with only a single ground rod and no radials but efficiency due to ground losses will be much lower. Conversely, the more radials connected to the feed point will decrease ground losses but it will also narrow the 2.0:1 SWR bandwidth. It's a trade-off between bandwidth and efficiency. A mix of two 1/8 wave (65 Foot) radials and one 1/4 wave (129 foot) radial tied to a ground rod at the feed point seems to be a good starting point. Your results may vary.

Now comes the time to haul the antenna up in the air. The vertical section going up from the feed point should be at least 30 feet. The longer the vertical section, the better for low angle take off, which seems to be true for most vertical antennas. And just like a typical inverted L, this also can be mounted using stand-offs from an existing tower or held up by a nearby tree limb. Keep in mind that other nearby antennas and metal objects will affect the overall length. Also, the added benefit of a wider bandwidth means that I could easily move up and down the band without having to retune when moving more than 50 kilohertz. This is very helpful when contesting and also reduces QRM to other nearby stations.

Hopefully this will inspire you to test the theory of this design and join the many others on Top Band. And in conclusion, this theory may also be scaled for other bands of interest.

Table 1:

Matching Section Length (A to B)

$246 \times .82 / 1.9 = 106.168$ Feet (Foam)

$246 \times .66 / 1.9 = 85.45$ Feet (Solid)

Overall Length (A to C)

$246 / 1.9 = 129.473$ Feet