

# The Feedline



Vol. 2011, #5  
May 2011

## Time for a New Field Day Antenna!

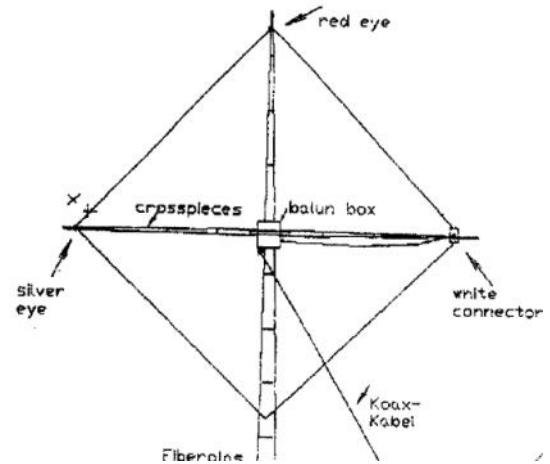
by Mark Volstad, AI4BJ

For many hams, including myself, Field Day is *the* operating event of the year, the one that we start looking forward to the minute the previous Field Day is over. This year I will be doing a solo effort from a new location: the campground at [Big Bone Lick State Park](#).

For at least the past five years I've used my faithful 66 ft doublet, which I described in detail in the May 2009 [Feedline](#). Since I will be somewhat space-limited this year, I thought I would try something new: a vertical diamond loop antenna. This antenna requires just a single support — my 33ft telescoping fiberglass [mast](#). The antenna was designed by the same German ham, Walter Spieth, DK9SQ, who produces the mast. I decided to purchase the antenna rather than construct it myself because the commercial version includes the required telescoping crosspiece. The original design uses zipcord between the included center-mounted balun and the feedpoint (marked “white connector” in the diagram) at one of the sides, and then coax is run from the balun to the antenna tuner. To minimize feedline losses, I plan to instead run window or open-wire feedline directly from the feedpoint to the tuner, eliminating the balun.

There is very little literature on vertical loops in diamond configuration. The most common configuration is the venerable delta loop, and I also found a couple of articles discussing square loops. The antenna circumference is 66 ft, which is a full wavelength on 20M. It is advertised as working on all bands between 40 and 10M, but of course an antenna tuner is required in order to achieve an acceptable im-

pedance match at the transceiver end of the feedline.



The instructions state that the antenna should be operated as a closed loop on 20 and 15 meters, and as an *interrupted* loop on 40 and 10 meters. The loop is interrupted by opening a small switch on the side of the antenna opposite the feedpoint, indicated by the small “x” in the diagram.

The [reviews](#) of this antenna on eHam are all positive, but to see exactly how it will behave, let's fire up the demo version of [EZNEC](#) and model it.

The latest version of EZNEC makes it very easy to create a loop model. From the Wires window, simply select Create|Loop from the menu and enter the loop dimensions:

*Continued on page 4*

### Inside this issue:

Top of the Tower	3
April Meeting Minutes	5
Weaver's Words	6
April Net Report	9

### Dates to Remember:

- May 9 – NKARC membership meeting
- May 20-22 – Dayton [Hamvention](#)
- June 4 – Deadline for Feedline submissions
- [Milford Hamfest](#) – June 18
- [Paddlefest](#) – June 25
- [ARRL Field Day](#) – June 25, 26

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**Repeaters (K4CO):** 147.255+ and 444.350+ Edgewood (PL 123.0), 147.375+ Walton, 146.895+ Highland Heights. The 147.255 repeater is a linked Echolink node, accessible via N4IJS-R.

**NKARC Net:** Tuesdays, 8:30 PM on the 147.255 repeater

**VE Testing:** Testing sessions are held by appointment only on the 2nd Monday of each month, prior to the NKARC membership meeting. Testing begins at 6:00 pm. To make an appointment, contact Lyle Hamilton at [VETesting@k4co.org](mailto:VETesting@k4co.org) or tel. 513-315-4032

**NKARC Web Site:** <http://www.k4co.org>

**NKARC Membership Meetings:** 2nd Monday of each month at 7:30 pm at the [Hilltop Church of Christ](#), 5300 Taylor Mill Rd (Ky. 16), Taylor Mill, KY. Visitors are always welcome!

The Feedline is published monthly by and for the members of the Northern Kentucky Amateur Radio Club. It is distributed via direct email to current NKARC members. **If you are a member in good standing but are not receiving your copy, please notify the Feedline editor.** Permission is hereby granted to any non-profit amateur radio group to quote or reprint from this publication provided appropriate source credit is given. Submissions, ad-

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# Top of the Tower

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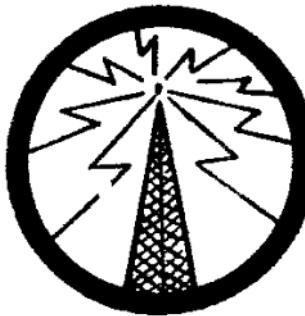
## **Wild, Wild WX**

April showers bring May flowers, right? Well, I guess we are going to have a bumper crop of flowers this month!

It has been amazing the amount of rain we have received during the month of April. But, for the most part, we were spared some of the more damaging WX that other areas have experienced.

Amateur Radio is a unique hobby in that you can combine it with other hobbies you may enjoy. And WX is no exception. There are many ways to help the community when severe WX strikes. Are you a member of WARN? Are you a trained weather spotter? Are you part of the CoCoRaHS collaborative? (Which have all been previous NKARC Monthly Meeting presentations) These are all ways to become involved with WX and to help out.

But, when the really severe WX strikes, are you ready? Are you trained for Emergency Nets – their protocols, the proper phonetics, message handling, FEMA training, etc.? Are your batteries for your handhelds ready to go? Do you have simplex frequencies programmed into your radios? Do you have your “To Go” kit ready? Do you know how to use your radio outside of the programmed memories? When the disasters such as what happened in Alabama and other states occur, Amateur Radio operators will be asked to step in and help. Are you ready? If not, there is never a time like now! Charge up the batteries, learn your radio(s), prepare your “To Go” kit, sit in on the KY7ET nets, brush up on the Emergency Net operations, take the on-line Emergency Management training, etc. I am a firm believer that we may have lucked out this time, but there will be a next time....



## **Other items**

As was discussed in the January “Top of the Tower”, we now have a library for our Membership. Please take advantage of this new benefit. There are a number of resources to tap!

The Repeater Committee is off and running. With this committee in place, we will have much more visibility and accountability into our repeaters. There will be a lot coming from this group over the next few months, so stay tuned and let's help them as much as we can!

## **We need you!**

There are many, many functions that take place in order to help our Club run every day. And, we could use your help! We need more Net Control operators, a Field Day chair, presentation ideas and presenters, [*and Feedline articles! - ed.*] and the list could go on. If you have some time and want to help out, please let me know. I promise you, we will have an opportunity for you to help out the Club and explore some of your own interests at the same time.

## **In closing...**

I would like to hear from you as well. How are we doing? Is the Club meeting your needs? Do you have some ideas to improve the Club? Please let me know your thoughts and how we could make our Club the premier Amateur Radio club in the Cincinnati area.

73 for now,

Robert Kluck – N4IJS

[n4ijs@k4co.org](mailto:n4ijs@k4co.org)

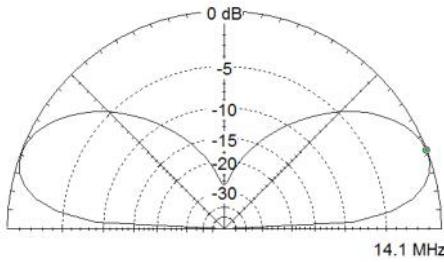
(513) 919-6672 (cell)

## New Antenna, cont'd from Cover

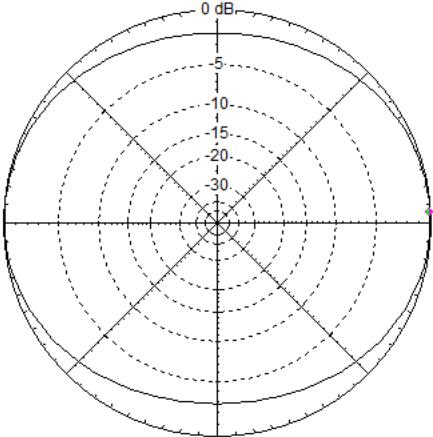
Create Loop

Wires	Wire dia/gauge	#16	in or ga.	<input type="button" value="Ok"/>
	Segments/side	7		<input type="button" value="Cancel"/>
Geometry				
Number of Sides 4				
Loop Size				
<input type="radio"/> Circumference 66 ft <input checked="" type="radio"/> Side Length 16.5 ft <input type="radio"/> Dia of Circum Cir 23.3345 ft				
Position/Orientation				
Axis Direction	Rotation			
<input type="radio"/> X (Vert Loop)	<input type="radio"/> Side Down			
<input checked="" type="radio"/> Y (Vert Loop)	<input checked="" type="radio"/> Corner Down			
<input type="radio"/> Z (Horiz Loop)		X	Y	Z
[0] [0] [16]				
Loop Center ft				

Let's look at the radiation patterns on 20M first. The elevation pattern looks like this,



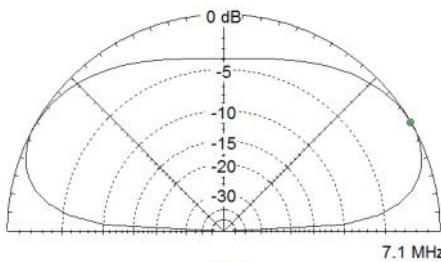
while the azimuth pattern looks like this:



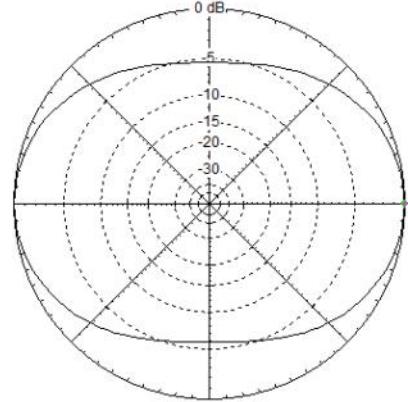
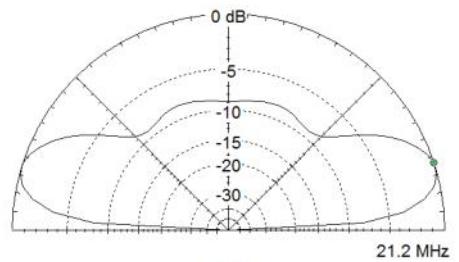
There is slightly more gain broadside to the loop, but there are no nulls in the pattern. It actually seems to radiate much

like a 1/4 wave vertical, but it doesn't need all the radials, and should be more efficient. The feedpoint impedance is 159.4 - J 318.6 ohms at 14.150 MHz. This will of course be transformed by the feedline, but should still be an easy match for the tuner. To leave nothing to chance, I will use [TLW](#) (Transmission Line for Windows) to ensure that I choose a length of feedline that presents a reasonable impedance at the tuner on all bands.

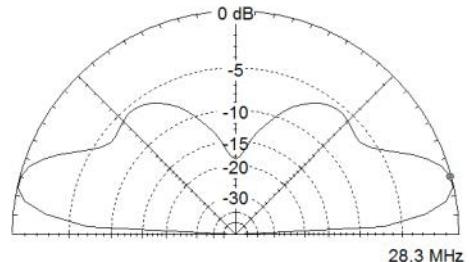
Now let's look at what happens on 40 meters:



Here are the patterns for 15 meters:



And 10 meters:



The most obvious difference is the lack of a null at higher radiation angles. This suggests that it should support [NVIS](#) propagation. The impedance at 7.100 MHz is 16.22 - J 56.07 ohms. This is a bit low, as we would expect since the loop is only 1/2 wavelength on this band, but is still manageable with a tuner. Out of curiosity, I modeled the antenna with the loop closed instead of open on 40M, and found that this causes the impedance to soar to 445.3 + J 6161 ohms!

Now that the sunspots have returned, I expect 15 and 10 Meters to be open for at least part of Field Day, so let's check out those bands too.

Looks like a good DX antenna on these bands. I'll let you know how the antenna performs in its real-world test during the fourth weekend in June!

73,  
Mark, AI4BJ

# April Meeting Minutes

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## MINUTES OF THE APRIL 11, 2011 MEETING OF THE NORTHERN KENTUCKY AMATEUR RA- DIO CLUB

The April 11, 2011 meeting of the NKARC was called to order at approximately 7:30 pm. The Pledge of Allegiance and introductions of attendees followed. A sign in sheet was circulated with a total of 18 people present.

A motion to accept the minutes of the March meeting was made by Greg, W4TSA, seconded by Lynn, WD8JAW. The motion passed with all in favor.

The Treasurer's report was circulated and discussed. Motion to accept the report was made by Lynn, WD8JAW, seconded by John, KY4JD. The motion passed with all in favor.

A decision was made to distribute the Treasurer's Report on a quarterly basis via an email to all Members in good standing. It was further determined to not include the Report in the Feedline nor place it on the web site.

We had one candidate at the VE Session. Our very own Robert Westbrook, KJ4FZS, upgraded to Amateur Extra. Congrats Robert!!

Robert, N4IJS, reported that there is an issue with our EchoLink configuration. The audio from the EchoLink computer to the radio is a bit garbled and the audio from the radio to the EchoLink computer is very low. Robert is looking into the situation and will get it repaired ASAP.

The Officers enacted the Repeater Committee Charter. This charter outlines the organization and functions of the Committee. John Donnelly, KY4JD, Greg May, W2ORO, and Tony White, AI4IP have volunteered to be on the Committee and Tony has also volunteered to be the Repeater Committee Chair. Thank you for stepping up to help with this important endeavor. (If

you are interested in seeing the Repeater Committee Charter, please contact Robert, N4IJS).

Greg, W2ORO, and Judy, W1ORO, May donated a new book to the Club's Lending Library. Thank you for the generous donation! Remember: The library offers all of its items to current Club Members and may be checked out at a club meeting and returned a month later. Please take advantage of this new Club benefit.

A Field Day chairperson is still needed. Anyone interested in leading or assisting with Field Day planning should contact Robert, N4IJS, or Dann, KI4AVO. The shelter house at Lincoln Ridge Park in Independence has been reserved for the event. Robert is looking into sharing the organizing of the even with KY7ET.

Robert stressed the need for program ideas.

Lynn, WD8JAW, updated us on Paddlefest (same weekend as Field Day) and the Flying Pig marathon still needing volunteers (the Pig is ran on May 1<sup>st</sup>). He also informed us that there will be an Emergency Exercise during 5/16 through 5/20 for Kentucky. This test will be unique in that the test will occur in "real time" and only deal with the initial event. In order to help with this Test, please be conversant in Emergency Nets and how to be properly involved. To become conversant, please participate in the KY7ET nets on Thursday nights (which is a great place to get first-hand experience and training), take the free training (available at [k7em.ky.gov](http://k7em.ky.gov)) or on the KY7ET website, or just listen to emergency nets and learn the "feel" of these nets (including things like proper phonetics, message handling, etc.).

Tony, AI4IP made a motion to adjourn the business meeting. Seconded by Dave, KI4QH. Motion passed. The business meeting was adjourned at approximately 7:55 pm.

Respectfully submitted by Robert Kluck, N4IJS.

# Weaver's Words

## Rain, Rain, Go Away

**Jim Weaver, K8JE**  
**Great Lakes Division Director, ARRL**  
**E-mail: [k8je@arrl.org](mailto:k8je@arrl.org); Tel.: 513-459-0142**

### **Hamvention Legislative Action Booth**

It is always comforting to know that a call for help will be answered. This was definitely the case regarding my request for volunteers to staff the ARRL Legislative Action booth at the coming Hamvention(TM). Not only did enough of you volunteer to fill the time slots for the booth, but I was placed in the position of having more volunteers than needed. What a great response. By now, each of you who has been scheduled to work at the booth has received an e-mail from me and additional information from HQ. I also have sent messages to those who volunteered but will not be needed this year. If by some chance I failed to get this message to you, I apologize.

Thanks to each of you who were ready and able to help. It is nice to see so many Great Lakes Division members are willing to help protect and advance Amateur Radio by becoming directly involved in the legislative process. Please let me know if you have any questions or comments.

### **Ohio HB 158 Alive and Well**

Ohio Section Government Liaison Nick Pittner, K8NAP and the legislative team assembled by Section Manager Frank Piper, KI8GW has hit the ground running in the new legislature. HB 158, a PRB-1-type bill, has been referred to the Local Governments Committee and has gone through the first two of three hearings. The first hearing involved testimony by sponsors. The second hearing, held on May 3, allowed the Ohio legislative team to present the pro-Amateur Radio arguments.

Members of the Ohio Section legislative team were received with great interest. The Ohio team now awaits scheduling of the third hearing — opposition to the bill.



HB 158 would essentially write the provisions of the FCC PRB-1 rule into the Ohio State Code. This would place government bodies in the State on clear notice that they cannot enforce ordinances that prevent or overly restrict the rights of amateurs to erect antenna structures.

Good job, guys.

**Wow!**

As this newsletter is being written, essentially 9000 hams have used the letter generating utility developed by GLD member KD4PYR to send letters about HR 607. What a great use of This great product. To generate letters to your US Representative, go to <http://www.kd4pyr.net/hamletter.htm> and follow the simple instructions.

I don't know about you, but I'm impressed.

### **Great Lakes Division Convention September 11**

As previously reported, the 2011 Great Lakes Division Convention will be held on Sunday, September 11, 2011 concurrent with the Findlay Hamfest. It will be the Great Lakes Division Convention at the Findlay Hamfest. September 11 also is the tenth anniversary of the terrorist attack on the US at the World Trade Center and the Pentagon. Keynote Speaker Allen Pitts, W1AGP, will describe how 9/11 has changed Amateur Radio. Allen is ARRL Media & Public Relations Manager and is a former SEC. He was deeply involved in developing the national Amateur Radio response to disasters since 9/11.. Allen is very knowledgeable in emergency communications and, of course, in media relations.

Two series of seminars will follow Allen's presentation. These will be divided into two, concurrent sessions each. An emergency communications series will consist of sessions on the National Traffic System (organized by the Ohio Single Side Band Net), EmComm (organized by Michigan SM WA8EFK who chairs the ARRL's Emergency Communications Advisory Committee), and D-Star (presented by the Ohio Digital Interconnect Group).

The second series of seminars will cover DX (hosted by the Southeast Michigan DX Association), ATV-Digital TV (Art Tosely, WA8RMC) and QRP Contesting (Tony Luscre, N8ZT).

One feature of the Convention will be an appearance of Matt Tinker, AA4XA who will provide Field Checking of QSL cards. This will be a great opportunity to have QSLs checked for a variety of ARRL and IARU awards without needing to send them to ARRL HQ. Increased use of field checking is one way of decreasing the backlog of QSL cards at HQ at the end of each year.

A post-Convention luncheon or “lunchquet” will begin at 2 PM at a nearby buffet restaurant. A feature of the luncheon will be presentation of Division Awards. See below for the call for nominations for these awards.

Convention sessions will begin at 9 AM and end about 1 PM.

### Division Awards Open For Nominations

The Great Lakes Division makes six special awards available to Division members at each biannual convention. In addition, the Director typically provides special Director Awards to members who have performed particularly notable service to the public, Amateur Radio or ARRL. The awards that are open for nomination are:

- The George S. Wilson, III W4OYI Lifetime Achievement Award
- The Great Lakes Division Amateur of the Year Award
- The Great Lakes Division DX Achievement Award
- The Great Lakes Division Young Radio Amateur of the Year Award
- The Great Lakes Division Technical Achievement Award

Nominations for these awards must be submitted to Scott Yonally, N8SY ([n8sy@arrl.net](mailto:n8sy@arrl.net)) by 1 August. Registration will open at 8 AM.

In addition, The Great Lakes Division Joseph J. Phillips, K8QOE Newsletter Award will be given. This competition is among the newsletters that were previously chosen as the best in each of our three sections.

Information about the awards is at <http://arrl-greatlakes.org/>. The list of previous winners can be seen by clicking on AWARDS at the left side of the opening screen. Information for submitting nominations for the awards may be found by clicking on AWARDS CRITERIA at the top of the succeeding page.

Attendance at the Convention is free with the purchase of a Findlay Hamfest ticket.



I often hear that many good actions by fellow amateur operators go unrewarded. Nominating a member for one of the Division awards is an excellent way to say thank you to deserving amateurs.

### Balloon Carrying Amateur Radio

While on the hamfest tour in Ashland, KY this past weekend I had the rather unique opportunity to participate in a test of an Amateur Radio balloon uprising. A balloon carrying a 2M simplex repeater was launched from Morehead University. Elijah Brooks, KJ4FZX, son of Kentucky SM Jim, KY4Z came to the 'fest prepared to operate through the repeater. Soon after the appointed launch time he connected his HT to a homebrew fox hunting Yagi and began to search the skies. A few minutes of searching brought results. After talking through the repeater for a few minutes, he offered me the opportunity to say hello to those on frequency.

Neat job, gang. Thanks Elijah.

### ARRL Membership through Local Club

I recently spoke at a club in rural Ohio. As expected, it was a very pleasant evening and I was able to renew acquaintances with several friends. My principal topic were the services provided by ARRL to Amateur Radio. Of these, the several awards and activities for which the League is best known are probably the least important.

At the end of the meeting, the club received two or three new ARRL membership application plus a couple of ARRL renewals. Why would the club want to get involved in encouraging ARRL membership and in taking applications and dues for it? The several works the League performs for amateurs and the fact that clubs can receive \$15/new ARRL member and \$2/renewed ARRL member are good enough answers for me. There is no

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added cost to the member and the local club gains. Sounds like a win:win situation to me.

Go to <http://www.arrl.org/affiliated-club-benefits> to learn the benefits of affiliation with ARRL. The dues benefit mentioned above is described under Club Commission Program.

### This Month's Final

The overwhelming majority of the time, members tell me they have had excellent experience when dealing with staff at ARRL Headquarters. This is what I would expect. ARRL staff is made of good people who work diligently to do good jobs.

Considering the number of contacts made by members with HQ, it is nearly inevitable that an occasional experience is less than desired. This is particularly expected when we are dealing with people we've never met hundreds of miles away. Consequently I sometimes hear from a member who is displeased over the results of communicating with staff.

What we need to remember is that we . . . and they (staff) . . . Are humans. We all deserve to be treated with kindness and respect. We all have good days and bad days. We come from a variety of subcultures which means our outlooks on topics often vary a little. Add to this the fact that very little of our communication is face-to-face so that we are denied the opportunity of seeing facial expressions and other forms of body language that are so important to good communications. Never forget the Golden Rule.

I am always eager to learn of experiences members have when contacting HQ. This is true whether these experiences are perceived as being good or not so good. In telling me of your experiences . . . Especially those that are not favorable . . . please tell me as many of the facts as you can. Copies of e-mail exchanges could be very helpful. The dates of contacts as well as the people contacted are also usually helpful.

Simply telling me that the person at the other end of the telephone was not helpful or was impolite is not particularly helpful. It also isn't really very helpful to say only that you had asked for something, that it was promised to you and that you have never received it. Who you contacted, when you contacted them and copies of communi-

cation (when available) are critical to reviewing just what happened — what went wrong — and how it can be prevented from recurring.

Please keep in mind that communication requires active listening as well as inputting by both parties. It generally is a poor idea to telephone or to write when "you" are quite upset and are not open to good listening. Waiting until after one has cooled off will generally result in a more useful and helpful discussion.

Incidentally, most of what I've said in the above paragraphs has dealt with interactions that seem to have gone wrong. Don't forget to tell me when a contact with staff proved very pleasing. It is always nice to pat someone on the back for service above and beyond the call of duty. I believe very pleasant outcomes far outnumber instances of unfavorable responsiveness.

### Tentative Travel, Hamfest and Activity Schedule

Hamfests in the following list have received ARRL sanctioning as of press time. Hamfests and other events for which a Great Lakes Division representative is scheduled to attend are identified with the representative's name. Now that I have additional free time, I intend to attend more hamfests than initially planned. The schedule can be expected to be fine-tuned from time to time.

Patronize ARRL-sanctioned hamfests. Hamfests, conventions, symposia and similar events sponsored by ARRL-affiliated clubs may be eligible to be sanctioned by the League. For information on sponsoring and sanctioning a hamfest or convention, go to [www.arrl.org/hamfest-sponsor-support](http://www.arrl.org/hamfest-sponsor-support). To have your hamfest sanctioned, go to <http://www.arrl.org/hamfest-convention-application> to apply on line. Hamfests are already being sanctioned for 2012!. Please be sure to read the requirements for having an event sanctioned before submitting a request.

Hamfest Chairmen, please remember to order your free brochures that are available from ARRL. These brochures are to be displayed on the table you provide for ARRL use per your agreement to become a sanctioned hamfest. The free brochures you order replace the box of assorted goodies HQ previously sent automatically. The reason for the change is to allow you to select only the materials you believe will be of value and interest to your attendees.

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The simple procedure for obtaining these free goodies is described in the letter you received along with the free prize certificates sent by Gail Iannone. There is no shipping charge for these freebies provided one follows the simple procedure for ordering them.

1 May: Athens Hamfest, Athens, OH - Jim  
7 May: Cadillac Hamfest, Cadillac, MI  
14 May: Louisa Hamfest, Louisa, KY (QSL Checking) - Gary  
20-22 May: Dayton Hamvention(TM) w/ARRL Expo, Dayton (QSL Checking), OH  
- Gary, Jim  
4 Jun: "Good Old Days" W8IRA/R Hamfest, Hudsonville, MI (QSL Checking)  
-Jim  
4 Jun: Fulton Co. ARC Hamfest, Tedrow, OH  
5 Jun: Chelsea Radio Swap n Shop, Chelsea, MI - Jim  
11 Jun: LARS Hamfest, Newberry, MI  
10-11 Jun: ARRL National Convention/Ham-Com, Plano, TX  
14 Jun: Cuyahoga ARS meeting, Brecksville, OH - Jim  
18 Jun: Milford Hamfest, Milford, OH - Jim  
18 Jun: Midland Hamfest, Midland, MI (QSL Checking)  
19 Jun: Monroe Hamfest, Monroe, MI - Jim  
8-10 Jul: Michigan Family Outing symposium, Hale, MI - Jim  
14 Jul: A&F Committee Meeting, Newington, CT - Jim  
15-17 Jul: Board of Directors Meeting, Newington, CT -

Gary, Jim  
16 Jul: NOARSFEST, Elyria, OH  
15-16 Jul: ARRL Board Meeting, CT - Gary, Jim  
17 Jul: Van Wert Hamfest, Van Wert, OH  
31 Jul: Portage Hamfair 11, Randolph, OH - Gary  
6 Aug: Voice of Aladdin Hamfest, Columbus, OH - Jim  
6 Aug: UP Hamfest, Escanaba, MI  
14 Aug: Central Kentucky ARRL Hamfest, Lawrenceburg, KY - Jim  
14 Aug: Lapeer County Swap & Shop, Lapeer, MI  
21 Aug: Warren ARC Hamfest, Cortland, OH - Jim  
28 Aug: Cambridge ARA Hamfest, Cambridge, OH - Jim  
10 Sep: Louisville Sunrise Hamfest, Shepherdsville, KY  
11 Sep: Great Lakes Division Convention at the Findlay Hamfest,  
Findlay, OH (QSL Checking) - Gary, Jim  
17 Sep: Richmond Hamfest, Richmond, KY - Jim  
18 Sep: GCARA Hamfest, Cincinnati, OH (QSL Checking)- Jim  
18 Sep: Adrian ARC Hamfest, Adrian, MI  
25 Sep: Cleveland Hamfest & Computer Show, Berea, OH - Jim  
4 Oct: OH-KY-IN Meeting, Cincinnati, OH - Jim  
16 Oct: Kalamazoo Hamfest, Kalamazoo, MI (QSL Checking)  
23 Oct: 26th Annual USECA Hamfest, Sterling Heights, MI  
29 Oct: Hazard Hamfest, Hazard, KY

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## April NKARC Net Report

By Robert Kluck, N4IJS

DATE	NCS	CHECKINS	TIME (MINS)	TRAFFIC
April 5	AJ4DK (Don)	9	29	0
April 12	KB4VKS (Mike)	9	20	0
April 19	N4IJS (Robert)	8	20	0
April 26	KB4VKS (Mike)	13	25	0
TOTALS:		39	94	0

Return to:  
Northern Ky. Amateur Radio Club  
P.O. Box 18215  
Erlanger, Ky. 41018

**FIRST  
CLASS**

ADDRESS SERVICE REQUESTED



NKARC Feedline May 2011  
Volume 2011 Issue 5