

Big Rapids Area Amateur Radio Club

January 2013

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Presidents Message

As you read this it should be 2013 already unless the world ended on Dec 21 as some interpreted the Mayan calendar.

Get prepared for a busy BRAARC year as we are going to try to cram even more events in this year and keep ongoing the ones we have historically done. The last few events (Festival of lights parade, holiday potluck, and fundraiser at BWW) have been well attended so let's keep our momentum going. By the way, thanks to Jim for organizing the fundraiser and to Patricia for the potluck. Initiative like this is what keeps the club alive. Can we talk a little about digital radio? Folks, it is really taking off and we may be left in the dust if we do not embrace it. What is it? Well it could be as simple as a VHF or UHF rig that is built primarily from digital rather than analog circuits. From a user point of view, you may hardly notice the difference. In the other extreme might be SDR, software defined radio where most of the features of the radio are configured in your computer and only a small box containing final RF amplification stages connect the computer to an antenna. This

might have quite a different feel to it. I have no experience yet in SDR myself but people I know that have usually love it. In between, there are conventional packet rigs, APRS (automatic position reporting system), PSK31, d-STAR and numerous others. It seems like a new one is invented every week. Some of these modes like PSK31 are primarily HF and some like APRS are primarily VHF. Many of these modes become available when you purchase an interface like the Rigblaster Nomic or USBSignalink which are roughly \$100. That is probably the most cost effective way of getting in. Or you can purchase a Kenwood, dSTAR Icom rig or Yeasu FDMA digital rig. What are some of the advantages of digital? Each one has their own advantages. For instance, APRS is a great tracking and mapping system. PSK31 is excellent for low power, weak signal, long distance qsos. You can do packet radio with the International Space Station (my favorite pastime) with any old VHF rig and a terminal node controller (TNC) or Rigblaster or USBSignalink. So literally the sky is the limit with these digital modes. I hope you are not hesitant to try some of these modes. They are really not that hard to learn and several of us



in the club have played with many of them. Just ask for help and we will certainly try. Speaking of digital, have you noticed how handy it is to have QST issues available online? I still like having the hard copy but sometimes I can't find a certain issue and can easily go online to ARRL.org and find it. Good job ARRL for going digital!

Winter field day will be Sat Jan 26, location tbd.

Upcoming meetings: Jan 3 antique radios and stories, Feb 7 history of Big Rapids, March 7 antenna construction.

Jeff, K8OE

December meeting minutes – The meeting was our annual Christmas potluck. We had a great turn out with great food and an excellent silent auction.



Announcements:

Since this newsletter is later than normal due to campus closings the announcements include the January breakfast and February club meeting.

February 2, 2013 – Club breakfast at Sharon's in Rogers Heights, 9am.

February 7, 2013 – Regular club meeting at Big Rapids Public Safety Building, 7pm

March – Tentative plans for a Ham-in-a-day class toward the end of March. More details later.

KB6NU builds an end-fed, half-wave antenna

I've always been interested in end-fed, half-wave antennas before, but until this recently, I'd never built one. One of the reasons for this is that most designs are for QRP antennas and not made to handle more than 5 – 10 W of power.

A couple of months ago, though, I ran across a design rated at 100 W (http://earchi.org/proj_homebrew.html). The design seemed relatively simple to build, requiring only a single toroid and a capacitor made with a short length of RG-174 coax. Well, it just so happens that I bought 100-ft. of RG-174 at Dayton this year, and I found the toroid cores online from the "Toroid King" for a very reasonable price, so I decided it was high time to build one.

All told, the parts cost about \$10, the biggest part of that being a 4-in. x 4-in. x 2-in. plastic junction box (Carlson E989NNJ-CAR) I got from Lowe's for \$6.41. Compare that with the \$60 that LNR wants for their end-fed antenna.

I put up the antenna about three weeks ago, on a beautiful fall Sunday, running 34 feet of wire up a trellis attached to a small deck in my backyard, then out to a tree near the back of my lot. With more than a little anticipation, I put the antenna analyzer on it, only to be somewhat disappointed with the readings. The SWR was 2.6:1 at 14.000 MHz, dropping to about 1.5:1 at 14.900 MHz.

Since the internal tuner on my IC-746PRO is supposed to be good to 3:1, I did use it and made a couple of contacts. A guy in MA even gave me a 599 signal report. So, while I was a little uncomfortable with an SWR so close to the limit of my tuner, it did seem to radiate pretty well.

I e-mailed the guy who published the design and asked why he thought the resonant frequency was so high, and he said that all I had to do was add a couple feet of wire to the antenna. I also did some more reading about end-feds and several websites suggested that adding a counterpoise might be a good idea, too.

A week later, I finally got back to playing with the antenna. I added 24-in. of wire to it, and it did indeed bring down the SWR of the antenna to below 2:1 in the CW portion of 20m. I'm happier with this. I made a couple of contacts that day, too, with both stations giving me good reports.

I still do plan to try a counterpoise. Not so much to improve the SWR, but to see if it makes the antenna a little more efficient.

Overall, this has been a fun project. I learned something about end-fed, half-wave antennas and saved a bunch of money by rolling my own. Isn't that what ham radio is all about?

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When he's not messing with antennas, Dan, KB6NU publishes the "No-Nonsense" series of amateur radio license study guides. The latest in this series is the No-Nonsense Extra Class License Study Guide. For more information, go to KB6NU.Com or e-mail cwgeek@kb6nu.com

Machinist Saves the (Field) Day

When something is broken and a fabricated repair is necessary, leave it to a machinist to save the day. Jon, KD8GGA recently made repairs to the BVT vertical antenna donated to the club for Field day. The antenna base was damaged by corrosion causing the feed point to become unusable. Jon's solution was to fabricate a new insert for the feed point attachment using aluminum. This repair saves the club valuable resources and allows for another option for Field Day antennas. Thank you, Jon, for your hard work making this repair.

Worth Repeating

Jeff, K80E and Mike, KD8DIB visited the 440 repeater to replace the failed cooling fan. The failure was discovered this fall during a routine visit to the repeater by Mike and Jim Hessler. The original fan was making a lot of noise but had completely stopped working by the time the replacement was made. This fan is critical for cooling of the transmit module for the repeater. The replacement fan was obtained as part of a donation to the club. Future repeater updates include replacement of the two 100 amp hour batteries for the two meter repeater. These batteries provide emergency power to the repeater in the event of a power outage at the tower site. Please feel free to enjoy the use of the repeaters. To find out more about the BRAARC repeaters visit the repeater link at www.braarc.net.

What's Up with the Web

Having problems with the website? You may be using an outdated domain name. The club recently made the decision to discontinue the use of the bigrapisarc.com, net, and org domain names. This is an effort to minimize the cost of domain names and to reduce confusion. Please update your records with the www.BRAARC.net domain name. This is the main web address we want to direct everyone to. All club web materials can be accessed via the BRAARC.net address. This includes the main club calendar, forums, and QSL Museum. Check the web site often for updates and club events.

January Club Meeting

It's time again for a good old fashion "show -n- tell." The January club meeting will be your chance to talk about that great equipment, licensing adventure, or radio achievement. We are planning on an old time radio focus for this fun meeting but don't let that stop you from bring a cool piece of gear. If you can't bring the actual equipment, a picture or other description is just fine. There are a lot of great stories our club members have and we want to hear them. Don't think because you've told the story before we don't want to hear it again. We have many new members who are looking forward to your stories. Don't forget that new members mean new stories too!

Thanks! Mike, KD8DIB

BRAARC MEMBERSHIP

APPLICANT INFORMATION

Name:			
Call:	Class:	Phone:	
address:			
City:	State:	ZIP:	Email:
ARRL Member: <input type="checkbox"/> Yes <input type="checkbox"/> No	Newsletter: <input type="checkbox"/> US Mail <input type="checkbox"/> Website – minimizes postage and printing costs		

SPOUSE INFORMATION IF JOINT MEMBERSHIP

Name:		
Call:	Class:	Email:

LICENSED CHILDREN

Name:	Call:	Class:

DUES / DONATION

<input type="checkbox"/> Member (\$25) <input type="checkbox"/> College Student(\$12.50) <input type="checkbox"/> Youth(free if oldest licensed family member<18 yrs)	\$	
<input type="checkbox"/> Club Patch _____ X \$5 each - The club patch supports the repeater systems operated by the club.	\$	
<input type="checkbox"/> Donation – General Fund <input type="checkbox"/> Repeater Committee Donation <input type="checkbox"/> Emergency Committee Donation	\$	
Total:	\$	

Membership runs from January 1 to December 31 each year. Please submit dues by the regular February club meeting to prevent accidental removal from club roster. Mail to: **BRAARC, PO Box 343, Paris, Mi 49338**

