

# THE KEY

Official Journal of The Riverland Amateur Radio Club



The Riverland Amateur Radio Club is a Special Service Club affiliated with the American Radio Relay League. The club is active in community service as well as actively promoting Amateur Radio in the Coulee Region. The Club is open to all who are interested in Amateur Radio and will help unlicensed persons become licenses thru the FCC.

## WXOW STUDIO TOUR

**Riverland  
Amateur Radio  
Club**  
P.O. Box 621  
Onalaska, WI.  
54636

**Repeater**  
146.970 PL 131.8

**RARC Net**  
8:00 PM Sunday  
night on the  
146.970 Repeater

**Club Meetings**  
Trustee Meeting  
3rd Monday of the  
month at King  
Street Kitchen at  
5:00 PM, all club  
members are  
welcome.

**Program evening is**  
1st Tuesday of the  
month at 7:00 PM,  
Gunderson Clinic  
conference room 1  
in the lower level.



RARC Program Night saw us all heading up the hill to the WXOW CH.19 TV Studios for a viewing of the evening news and a tour of the facility. As shown here, L-R David Rusher kd9epn, Jacque Durnford kc9zgb, and Rick Kolter kd9gvs listens to Dan Breeden tell how the weather is broadcast. It was a very interesting evening so Thank You to Dan Rasmussen, Chief Engineer, for hosting us and to Kevin Holcomb, kc9zgd, for organizing the event.

### May Program on Echolink by KB9EWG

The May program will be on Echolink, a VOIP protocol for licensed amateur radio operators only. We will be discussing accessing by computer, smart phone, tablet and linking by radio as well as internet feed as in by Broadcastify. We will show examples of equipment and actual usage of Echolink and will have some earned awards and photos to display. We will also explain setup and usage of Echolink including examples of how to link via radio using programs such as echo-producer. All of this information will be part of the shack share as well.

"I wish I could type". Have you ever said "I wish I could..." A very wise man once told me that wishing is not going to make it happen. So if I want to type I need to put forth the effort and I will be rewarded with knowing how to type. Same with "I wish I had my General or Extra Ticket", wishing is not going to make it happen. Or putting it off until next year or the year after will not make it happen. You need to pick up that study material, buckle down and set your goals. Maybe find a study group to join or study thru the internet, then you will be rewarded with what you set out to do. Only you can make it happen and it will take some effort on your part. Now, wishing at Christmas time for Santa Claus to bring you that new Kenwood Transceiver, that might work. "I wish I could type, I wish I could type, I wish I could type" Nope, still can't type. Maybe it will work on my guitar.

**Riverland Amateur Radio Club  
PO Box 621  
Onalaska, WI 54650**

President.....Kevin Holcomb, KC9ZGD  
Vice-President.....Dan Abts, AB9TS  
Secretary.....Rick Kolter, KD9GVS  
Treasurer.....Greg Miller, K9LEC  
Trustee.....Carl Thurston, KC9HDS  
Trustee.....Roger Reader, KA9BKK  
Trustee.....Bill Wood, KE9XQ  
Newsletter Editor.....Greg Miller, K9LEC

The Key is published monthly and e-mailed to members and friends of the Riverland Amateur Radio Club. Address any correspondence to: Greg Miller at k9lec@arrl.net.

Visit our website at rarc.qth.com



**Testing for new Ham's or upgrades for 2017 will be on the following dates:**

- June 3
- August 5 (Swapfest)
- September 9
- November 11

Register 5 days in advance with Roger Reader, KA9BKK, 608-783-0723 or readers@centurtytel.net.

**NOTES FOR THE MONTH OF MAY**

- May 2 Program night, this month Dave Peters will give a talk on echo link.
- May 6 Granddad Half Marathon, operators are still needed to help out. See Kevin, kc9zgd if you want to help.
- May 13 Open house at k9lec's qth. Plan is to go over the club assets and make some determinations on storage issues. W7755 A. Johnson Rd. Holmen, WI. 11:00 AM.
- May 15 Executive Committee meeting. 5:00 PM at the King Street Kitchen. All club members are welcome.

.....  
: Just A Thought  
.....  
: A club is made up of the total sum of its members, each one of whom become ambassadors of the club. :  
: They represent all of the club in the community and surrounding area. Each one of us portrays the val- :  
: ues and the reasons for the clubs existence. Always put your best foot forward because you not only :  
: representing yourself but the club as a whole.  
: .....

## Interesting gadgets I wish I had time for

By Dan Romanchik, KB6NU

I'm on a lot of mailing lists and participate in a bunch of amateur radio forums. As a result, I see a lot of interesting gadgets that guys are buying or are thinking about buying. Here are three of the latest that look interesting to me. I wish I had time (and money) to purchase all of these and try them out.

### Android antenna analyzer

On Reddit ([https://www.reddit.com/r/amateurradio/comments/60nnp1/finally\\_got\\_my\\_mini60\\_ebay\\_antenna\\_analyzer\\_time/](https://www.reddit.com/r/amateurradio/comments/60nnp1/finally_got_my_mini60_ebay_antenna_analyzer_time/)), some of the guys have been talking about the Mini60 Antenna Analyzer (<http://www.ebay.com/itm/CW-USB-Interface-Cable-WINKEYER-compatible-3-5mm-plug-/132121085623?hash=item1ec307c6b7:g:up8AAOSw241YeTei>). Its frequency range is 1 – 60MHz, but the cool thing about this device is that you can use it standalone with the built-in LCD display or with some software ([http://www.jtelectronics.co.nz/information\\_links/MINI60/Add-Bluetooth-Module-To-MINI60-Antenna-Analyser.htm](http://www.jtelectronics.co.nz/information_links/MINI60/Add-Bluetooth-Module-To-MINI60-Antenna-Analyser.htm)) and a tablet with a Bluetooth interface to get fancy frequency vs. SWR plots. See <http://www.kb6nu.com/wp-content/uploads/2017/03/mini60-ant-analyzer.jpg> for a photo of the Mini60 Antenna Analyzer being used with an Android tablet.

Of course, this is made in China, but how can you beat the price? It costs \$112 shipped.

### Multi-functional component tester

Here's another marvel of Chinese engineering and manufacture – a smart component tester ([http://www.banggood.com/3\\_5inch-Colorful-Display-Multi-functional-TFT-Backlight-Transistor-Tester-p-1083042.html](http://www.banggood.com/3_5inch-Colorful-Display-Multi-functional-TFT-Backlight-Transistor-Tester-p-1083042.html)) for only \$30, shipped. It identifies and characterizes NPN and PNP transistors, capacitors, resistors, diodes (including Zener diodes), N-channel and P-channel MOSFET, IGBT, JFET, triacs, and batteries.

This isn't the first smart component tester to hit the market, but the unique thing about this unit is that it has a graphical display that not only identifies the type of component that you've connected to it, but also draws the schematic symbol of the part. You can see a video of this tester in action at <https://www.youtube.com/watch?v=07FH6tjzWg>.

### Make your Raspberry Pi into a desktop PC

Newark/element 14 will soon start selling a kit of part that will make it easier to turn your Raspberry Pi into a desktop PC ([https://www.element14.com/community/docs/DOC-83477?CMP=e-email-SEPO-210317-e14PI&et\\_cid=28941683&et\\_rid=1231362216&cmp=](https://www.element14.com/community/docs/DOC-83477?CMP=e-email-SEPO-210317-e14PI&et_cid=28941683&et_rid=1231362216&cmp=)). The kit includes:

- Intelligent and Safe Power Controller
- Interface to connect mSATA SSD (upto 1TB)
- Real Time Clock to keep track of time
- Heat Sink
- Enclosure

They don't list the price just yet, but this might be what I need to actually make use of the Raspberry Pi 3 I bought several months ago.

If you have one of these gadgets, or buy one in the future, please let me know how you like it. I'll put your review up on my blog, so that everyone can benefit from your experience.

-----  
When he's not drooling over electronic gadgets, Dan blogs about amateur radio at KB6NU.Com, writes the "No Nonsense" amateur radio study guides, and teaches ham classes. You can contact him by e-mailing [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com).

# Verticals, Dipoles, and Beams

By Carl Thurston, kc9hds

Ham radio may be centered around the radio itself, but some thought and planning really needs to be done regarding antennas. It is possible to do great things with a mediocre radio so long as you are using a very good antenna. After all it is the antenna that links the radio to the world. It can be said that the antenna is the most important part of any radio station. Without it, nothing much can happen. In fact, if you were to try to transmit without an antenna, chances are you could do some real damage to your rig. So what makes a good antenna, one that is dependable and easy to work with? What are the characteristics required to make, set up, and use a viable antenna? If you talk to Hams who have been in search of the perfect antenna, you will undoubtedly run into all sorts of opinions about this. A lot of things need to be taken into consideration when deciding what to use. This is no simple matter either, as the topography of the area where the antenna is to be located is often crucial in its ability to perform as intended. An example is the difference between an antenna that is located on a high hill and one located in a deep valley. They both can work, but the one on the hill will most likely out perform the one in the valley, but there are caveats to bear in mind. Atmospheric conditions can make an otherwise poorly performing antenna excel in one band or another. The craftsmanship that went into the building and deployment of the antenna are also vital. The feed line linking the antenna to the rig plays a part as well as does the type of grounding method used. It would be nice if there was one perfect antenna that does all things well, but alas, if there is such an antenna, it is yet to be designed and put to use.

Some of the general characteristics of antenna types are plain enough. Dipoles are quieter than verticals, so if noise is an issue, then dipoles are favorable for listening. But that is only half of the equation; in addition to listening one also needs to transmit. Dipoles tend to be directional with strong signal sending in a polarized direction, whereas verticals transmit might more or less equally in all directions.

This can be a mixed blessing as a lot of energy is being dispelled in directions other than the desired direction. So what might be needed here is an antenna that can be moved to be more precisely aimed at in the desired direction. This is where beam type antennas come into play. Where a fixed dipole may work well in one direction but not in another, the vertical is said to "work equally badly in all directions," the beam antenna with a rotor allowing it to be pointed in a specific direction has the advantage of sending and receiving signal very strongly in a direction, but not so good at weak signals in another direction. It's a little like the difference between a rifle and a hand grenade. The beam being the rifle and the vertical being more of a hand grenade.

Confused? You are not alone. So what do you do; if a dipole is quieter on the receive but less accurate on the transmit, and the vertical is noisier on the receive, but more encompassing on the transmit, and the beam can be quiet on the receive and transmit a more directed and more focused transmitted signal, which one is the best choice?

Beyond this there is the consideration of cost. Most Hams start out with simple antennas. Usually wire types, either dipoles of one form or another, end fed types, or long wire types. To commit to a beam array is costly and requires a lot of planning to be sure of a successful outcome. One possible alternative, if your rig has the capability of using two antennas at once; one to receive and one to send, a fairly economical alternative is to have a dipole for the receive and a vertical for transmitting. This results in a compromise arrangement that may or may not be acceptable depending on your goals. Hams are inventive and they will try everything that might work, and some do and some don't. It all comes down to what you can afford, where you can put it and what you can live with when transmitting and receiving signals. Whatever works is best, you can't argue with success.

# **RIVERLAND AMATEUR RADIO CLUB**

## **Monday April 17, 2017 Executive Meeting**

### **MINUTES**

**Call to order:** 5:07 PM

**Members Present** : Kevin Holcomb KC9ZGD, Greg Miller K9LEC, Roger Reader KA9BKK, Dan Abts AB9TS, Carl Thurston KC9HDS, Rick Kolter KD9GVS

**Approval of Minutes:** 3-20-17 approved without comment

**Treasurer's Report:** Report available to members upon request.

### **Officer's Reports:**

Rotary lites check and 3 memberships turned in to the Treasurer. We have a total of 31 paid memberships and 4 complimentary memberships.

### **Committee Reports:**

Greg-swap fest- Our ARRL section manager will be sent an invite. Security issues during our swap fest were discussed, due to recent incidents at neighboring clubs.

TNT – May 13<sup>th</sup> has been set aside for an open day for everyone to come up to Greg's place for inspection of trailer, and come up with a direction to take.

Kevin still in need of more volunteers for May 6 Grandad half marathon event, if in fact we are requested. Kevin will contact Keith Butler to confirm.

### **Old Business:**

Kevin will take care of e-maiing or otherwise sending a thank-you to WXOW for their hospitality at our April program nite.

### **New Business:**

\$25 will be donated to Handi-Hams or the charity of Dave's (KB9EWG) choice due the recent death of his brother.

Dan would like time at our next Tuesday program nite for project nite set-up and introduction.

Plans need to be made for our 146.970 repeater antenna and feedline removal and replacement, due to WXOW tower replacement. Due to happen by Fall 2018. Have Dan Rasmussen/WXOW engineer, e-mail Kevin when time gets closer.

Roger and Carl presented revisions to the Standing Rules, as well as some minor revisions to the Constitution. All revisions were reviewed and approved. Some minor corrections will be made, and then presented again at the next Executive meeting for final approval.

**Motion to Adjourn** : 6:41 PM