



Squelch Tales



Newsletter from the Merrymeeting Amateur Radio Association for February 2013



WIN System Link

By Bruce Randall, WIZE/w6

In early December after arriving at my snowbird QTH in Poway, California I started the process of reprogramming my IC-706MKIIG in the car and my FT-897D in the shack with the local VHF and UHF repeaters. There are more repeaters in the San Diego area than there is in the whole state of Maine.

In the process of seeing which repeaters I wanted to store and those I did not, I noted that there are dozens of mountain top repeaters (2000'+) that cover very wide areas. For example, on Mount Palomar (famous observatory) there are four 2-meter, four 70cm and one 1 1/4 meter open repeaters that can be accessed from below the Mexican border to southern Orange County and from the Salton Sea in the Imperial valley (desert) to the Pacific ocean.

I also noted that there are several repeaters that are part of wide area link systems. I stumbled across one that is on 147.21 MHz (go figure) on Mount Otai (east of San Diego) that is connected to an Internet Radio Linking Project (IRLP) link called the Western Intertie Network (WIN System) <http://www.winsystem.org>. The link also appears on the 449.080 K6JSI repeater in Escandito, just a few miles up Interstate-15 from my Poway QTH. These two repeaters are linked to 84 other repeaters throughout the USA, Canada and Australia via the link system. When I listen to the WIN System node repeater it reminds me

of the activity on the KQ1L link system in Maine but with just a bit larger coverage.

If you are traveling around the western US there are so many WIN-System node repeaters that you will almost never be out of hearing range of the system. Here are the states & countries connected to the system:

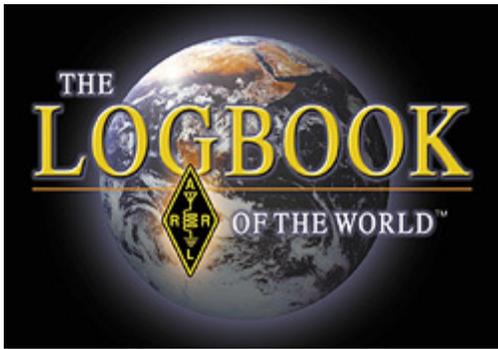
Alaska 3	Minnesota 1	Canada 1
Arizona 6	Montana 0	Australia 2
Arkansas 1	Nebraska 2	
California 48	Nevada 4	
Florida 2	Oklahoma 1	
Hawaii 2	Oregon 6	
Idaho 1	Texas 3	
Michigan 1	Washington St. 3	

There are more nodes slated to be connected in the near future, but unfortunately at this time there are no northeast US nodes. But who knows, maybe one of the low activity two meter repeaters in Maine will connect to the system.

Reporting from sunny southern California,

Bruce, WIZE





Logbook of The World Processing Speed Increases Thanks to New Hardware

The processing queue for Logbook of The World ([LoTW](#)) the ARRL's online log processing system has been shrinking steadily since Monday, January 7, when the system was brought back online after the completion of previously announced maintenance involving the installation of a new database server equipped with solid state drives (SSDs).



Websites that may be of interest to Hams

- **Multiband horizontal wire antennas (Dipoles & G5RV):**
http://ac8gy.com/images/multi-band_antenna/multi-band_antennas/multi-band_antennas1.htm
- **Installing Rohn-25 tower:**
<http://www.kc5wa.net/T/tower/tower.html>
- **G5RV vs Alpha Delta DX LB Plus:**
<http://ve2xip.cactus.net/?p=285>
- **The 80-40-20-10 meter fan-dipole project:**
<http://www.dxzone.com/dx27990/the-80-40-20-10-meter-fan-dipole-project.html>



Mid Coast D-Star update`

By Donnie Dauphin, WD1F

WIEMA

On Saturday January 12th Brit (AB1KI) and I visited the WIEMA site. I delivered the tuned duplexers for the WIEMA site. Unfortunately there was a communications breakdown on what frequency the duplexers were to be tuned for. Brit and I tried a quick on site tuning but gave up quickly. The possibility of incorrect tuning causing the D-Star equipment to get destroyed is too great to take chances. So the duplexers have now been returned to Bill K1MNW for tuning.



While we were there we shut down the 1.2GDigital, 1.2GDigital Voice, 440Digital Voice modules. We used the antennas with the largest vertical separation for the 2M Digital Voice. Scott (AB1MC) and Devin (KB1YME) were both available to do some quick testing and results showed a major improvement in coverage. We experimented in swapping transmit and receive antennas and found Devin could ether hear the repeater or it could hear him but not both. When the duplexers are ready this problem will hopefully be solved.

KS1R

This repeater continues to operate without any RF issues. We have received and installed an isolator for the transmitter. For a 24hour period the isolator was installed on the receiver side and caused

issues with the repeaters reception. Bill (K1MNW) quickly recognized the issue and resolved it so tests show its working as good as ever. This isolator was purchased to fulfill the requirement to filter our repeaters output to only the intended frequencies. It also prevents signals coming down the antenna from mixing in our transmitter potentially causing all kinds of issues. It looks something like this:



Our internet access is not working well. After lots of frustration from many people trying to connect to KS1R through the gateway, I now know the Internet to the repeater building is an issue. Sorry all for the frustrations. Last night I had a QSO with Bryan (N1OXG) who was connecting via the gateway from Missouri. He was having major 'Packet Loss' issues. I quickly went to a command prompt and started a 1sec interval ping to the KS1R gateway. It showed anything from 5ms to over 3 seconds and at times no reply at all. Currently the WiFi is beamed to Bill's house (K1MNW) and we're picking up a signal off the side lobe of the dish on Bill's house for the repeater building. I have moved around our antenna on the repeater building but nothing I do seems to make it reliable. What should be done is to have a dish pointing the signal straight back to my place where the internet access comes from. I'll be talking with Bill soon to discuss a if and where he will allow the equipment on his commercial tower. The existing WiFi antenna is inside the repeater building. I may for a test just move it outside and see if that makes a difference. I'm wondering if multi path may be an issue when inside the repeater building.

73, Donnie

The program for the MARA meeting on Thursday January 31 will be presented by Andrew Eckman from the Red Cross:

Operation Lifesaver is an international organization dedicated to increasing public awareness of the safety issues around railroad tracks. We will discuss the hazards involved, what injuries and fatalities may result, and how to mitigate these problems. With the recent extension of the Amtrak Downeaster to Brunswick and the anticipated increase in rail traffic between Brunswick and Rockland, the possibility of a multi-casualty incident (MCI) increases as well. In the event of a major MCI, or any major disaster near an active rail line, ARES/RACES members could find themselves in a potentially extremely dangerous situation. This presentation will help the members recognize and mitigate such hazards.

Andrew W. Eckman

Special Projects Coordinator

Emergency Services Chair

Mid Coast Chapter, American Red Cross



How Do You Choose an Antenna Analyzer? By Dan Romanchik, KB6NU

A reader recently e-mailed me:

"In the past you told me you started with the Autek RF-1, and later moved to the Palstar ZM-30. I am finally getting around to thinking about purchasing an antenna analyzer, but I am stumped by the choices. In order of increasing purchase price this is what I've turned up:

- * Autek RF-1 - \$139.95
- * Autek RF-5 - \$229.95
- * Rig Expert AA-54 – \$340.00
- * Palstar ZM-30 \$399.99
- * W4RT Electronics MiniVNA \$399.99
- * Rig Expert AA-230PRO \$690.00
- * Timewave Technology TZ-900S \$899.99

"How does one decide? Where does one go to find out the differences? Other than asking a fellow ham, how does one find out which one is the best antenna analyzer without paying an arm and a leg (unless the feature(s) so purchased are deemed worth the cost)?"

"Thanks! 73"

When I replied, I noted that he had actually missed several other good choices:

- * Autek VA1 – \$199.
- * MFJ 259B - \$240.
- * YouKits FG-01 – \$250.
- * Comet CAA500 – \$450.

The Autek VA1 is actually the antenna analyzer that I first purchased. The MFJ 259B is arguably the most popular antenna

analyzer on the market. MFJ has several other models with different feature sets. The YouKits FG-01 is a very cute, little analyzer with a small graphical display. It is made in China and sold in the U.S. by TenTec.

So, how do you choose just one from this list? Well, I think the first thing that you have to ask yourself is how you're going to use the analyzer. If all you're going to do is to check the SWR of your HF dipoles, then buy the Autek RF-1. It's the least expensive unit, is reasonably accurate, and is small and lightweight, making it easy to use outside where your antennas are located.

If you want to do some more serious frequency analysis, then you should be looking at the W4RT miniVNA or, if you have more cash, the Timewave TZ-900s. These instruments can help you do a lot more in-depth analysis of your antenna system. The software for the miniVNA, for example, will easily plot the SWR of a multi-band vertical antenna from 3 – 33 MHz.

Some antenna analyzers do more than just SWR. For example, what sold me first on the Autek VA1 and then on the Palstar was that they also measured reactance. So, you can use the antenna analyzer as an LC meter as well. Palstar also says that you can use the ZM-3 as a low-level signal source. While I have used my Palstar to measure inductance and capacitance, I have yet to use it as a signal source.

Next, you need to consider what bands you'll be using it on. Many antenna analyzers only cover the HF bands. That's a bummer if you like operating 6m, or like to experiment with VHF/UHF antennas. A friend of mine bought the Palstar antenna analyzer after talking to the company at Dayton. At the time, they said that they were

planning to come out with a model that covered 6m, as well as the HF bands.

Unfortunately, they never did come out with a 6m version, and he was sorely disappointed. He ended up buying a miniVNA instead. The miniVNA can be used up to 170 MHz right out of the box, and up to 1.5 GHz with an optional extender.

Asking your fellow hams about the antenna analyzers they have is actually a good way to figure out what's best for you. If you ask nicely, they might even let you borrow their analyzers or come over and show you how it works on your antennas.

Reading the reviews on eHam is also a good way to gather information before making a purchase like this. You certainly have to take the reviews there with a grain of salt, but if several reviewers mention a particularly good or particularly bad feature of a product, then it's certainly something worth taking a hard look at.

If you're new to the hobby, starting out small and working your way up might be a good strategy. You could buy one of the less expensive models and get used to how they work, then sell it and make the leap to a more sophisticated unit. The way things are going, you should be able to sell your first antenna analyzer for at least 80% of what you paid for it.

The March 2012 QST contains an in-depth review of four analyzers (available online to ARRL members), including the Comet CAA-500, MFJ-266, RigExpert AA-54, and the Youkits FG-01. Each analyzer reviewed had various plusses and minuses. Even if the unit you are considering was not reviewed, the article provides a guide to the kinds of

questions you should be asking as you go through the selection process.

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When he's not analyzing antennas, Dan, KB6NU blogs about amateur radio at KB6NU.Com, writes and publishes the "No-Nonsense" series of amateur radio license study guides, and just has fun with amateur radio. You can reach him by e-mail at cwgeek@kb6nu.com, @kb6nu on Twitter, or on 40m CW many evenings.

