

AUGUST 2012

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

# SHORT SKIP



## Antenna Analyzers

Most of us use a meter that displays the Standing Wave Ratio (SWR) as a figure of merit of our antenna systems. They are quite simple to make and use and they can provide useful information. There are several products for sale that provide much more information and I went through a "Why Buy" exercise about a year ago and purchased a MFJ 266 the latest version of their line of such products. I thought it would be of interest to describe my choice .

At that time I needed to cover HF, VHF and UHF as this product does and many do not. I wanted some precision in the measurements which implies a digital signal source, a fine control over the frequency and a digital read-out. Of course it had to be battery powered and compact for use in the field, all of which this unit does well. Products of this class can do much more than measure SWR as they measure impedance and provide details of the real and reactive components upon which the SWR is based. This information helps to understand how the antenna and its feed system is behaving and what it might take to make it better. I liked the way the unit behaved with the exception that it does not automatically assign the correct sign of reactance and relies on action by the user to confirm whether the values are positive or negative. This is easy to do so not a big drawback.

I recently sold the MFJ and replaced it with a RigExpert AA30 which has an upper limit of 30MHz which is where 90% of my interest lies. The AA30 has all the HF features of the MFJ, it does assign the correct reactance and it has several features that I value highly. It has a screen that displays information numerically and graphically (including SmithCharts ) A USB connection provides communica-

## National Night Out was August 7

National Night Out, NNO, is a public event sked for neighbors to meet and greet and share some family fun. This year we had ham volunteers appear at several of the neighborhood evening events in Santa Cruz and Monterey counties, sharing their greetings with hams at other sites by ham radio too. It was Fun!

Starting at 4:30 PM as the Net Control Station, NCS, Becky KI6TKB hosted a open informal net (not a closed or formal or directed net) on the local 2 meter linked repeaters to facilitate the NNO discussions and reports, and then she followed with the regular weekly ARES preparedness and practice net at 7:30 PM.

The City of Capitola VIPS had requested presence and demo of our County OES communications Step-Van, COM2, for the NNO event at Jade Street Park. Rick W6REV, Cap KE6AFE, John KI6EAB, Chris KG6DOZ participated there and enjoyed the BBQ food and demos too! Chief of Police Rudy Escalante worked serving the BBQ, and he specifically thanked us hams for participating with COM2. COM2 was parked near the two "kids bounce houses", on display in between the big

fire engine and the big PG&E boom truck. Santa Cruz County Sheriff's Office coordinated five NNO locations around the County, and we heard from some of those on the net, including Loma Prieta.

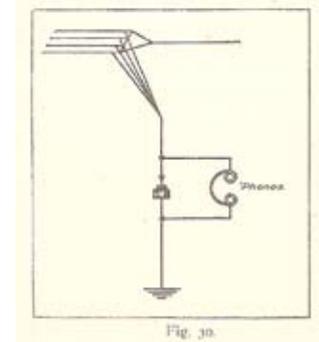
South Santa Cruz County ARES drilled the participating hams in Pajaro Valley on a separate ham net, as well as sharing updates with Becky's "Bay Area" net on the linked repeaters.

Among other reports on the repeaters, we heard of approximately 300 neighbors at Jade Street Park, 500 neighbors at Crest Shopping Center in Marina, and finally 900 neighbors at Pinto Lake County Park!

According to all reports, a good time was had by all. This is a fun chance to see up close and mingle with our neighbors and local public safety staff and vehicles too, including fire engines, law enforcement units with K9 (canine) Units and Bomb Disposal units, American Red Cross, PG&E, and the National Weather Service Forecast Office among others.

Be prepared, next year, the NNO sked is in August again.

tion with a PC for updating and running their AntScope program which is supplied. The principal feature that sold me was the ability to export files for use by other programs such as SimSmith. In this regard the AA30 is very much like a basic vector network analyzer. The RigExpert folks also have the similar instruments for the VHF and UHFbands. They are based in the Ukraine and are well regarded as authors of MixW their multi-mode digital signal decoding and station accessory software



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**CLUB MEETING FRIDAY AUGUST 17, 7:30PM**

## Business Tripping with an Elecraft KX3

by Don K6GHA

Although not your usual destination location, Anacortes Washington (2 hours north of Seattle) is a sleepy port town offering ferry service to the San Juan Islands off Washington's NW coast. This unique small town location just happened to be the destination of my future business travel.

At an informal meeting prior to the trip (lamenting the remote destination, the lack of late evening non-business activity, early flights, and long drive), Bob (K6XX) brightened my travel options by suggesting I operate HF from hotel room. I thanked him for the idea, with a muffled snort of laughter, and under muted breath I said, "Oh sure, like I am going to carry the K3 and an antenna". My negative response was cut short when he offered up his Elecraft KX3 for the trip. My "like lightning" response, while picking up my jaw off the floor, was "uh...Cool!,Äù, this business trip suddenly got a lot more interesting.

For those of you who haven't seen the Elecraft KX3, on the web, or in person, is a portable HF radio that offers exceptional features and performance in a light weight (1.5 lbs.), all HF band (6-160m), 10W PEP, tight sized (3.4H x 7.4W x 1.8D) radio, offering a lot of the features of its bigger brother the K3. It is an easy transition to the KX3 layout and button menu logic if you know the K3.



Packing the KX3 in my carry-on suitcase (KX3, spare AA batteries, dipole antenna, mic, and CW keyer), required less space than a pair of shoes! Notice I said carry-on, I wasn't going to let this little guy out of my sight! Breezing through the airport was completely uneventful, both ways. I was never asked to open my carry-on. It seems TSA was more concerned with my PC being out of its bag, my shoes off, and cell phone to be run through the x-ray machine than the KX3 secure in my carry-on. I am still baffled.



Arriving at my destination, I checked out all the options for operating. To my surprise I found the hotel had a top floor lookout over the city, and a view to the San Juan Islands. The plus was it had sliding windows! Two minutes later, high atop Anacortes, I tossed the dipole antenna out the window and on to the roof surrounding the lookout, turned on the KX3 and scanned the bands. Conditions weren't great that week

for the evenings I operated; the antenna was a quick wire dipole and untested. However, I immediately picked up South America, Florida, and the East Coast on 20m. I used the built in speaker for the first few minutes of operation. Other guests (two Canadians and an Australian couple) were enjoying the view from the lookout and soon focused on what I was doing. They commented on the radio, its size, and what they were hearing! I surely hadn't planned on demoing the KX3, but heck... It is really cool (I think I said that before!).

This little box packs a punch in its small footprint. Anyone thinking of doing remote DX, backpack radio, or even having fun on any trip should consider this light weight, fully featured, little power house.

I reluctantly returned Bob's KX3, and suggested that I need more operating time with it on ANY of my future trips in order to write a more complete review (...wink). He just smiled.



## CAPTION CONTEST



1. "I recommend an implanted hearing aid sir"
2. "This is your brain after the CQWW DX contest"
3. "You're not ready for extra class yet dear!"
4. "No wonder the doctor said your resistance is low"
5. "Here's proof what I say goes in one ear and out the other"
6. "The latest neurological test for radio amateurs"

Let Ron, W6WO know what your favorite caption is or bring own to the next CAKE meeting

## Treasurer's Report

The June 2012 Treasurer's Report presented to the Board of Directors showed that the SCCARC treasury had \$4,370.32 in cash and bank accounts (total less encumbrances: \$3,843.32). At that time all financial obligations for which invoices had been received had been met, including the annual equipment insurance premium. The full Report, incorporating the current working budget as well as actual and projected income and expenditure figures for the full calendar year, will be available for review at the August 17 Club meeting.

## WELCOME NEW MEMBERS!

The following members have joined (or rejoined) our Club:

Michael Usher AG6MK

Congratulations to Linda Bernstein, now K6LTB, on her General class license!



## Cake Crumbs

Our group of July 28 surfaced many out of the ordinary topics as always. David (KG6IRW) illustrated the PSK reporter program which creates a global map showing the origins of JT65 signals received at his station and where his signals were received around the globe. David had inadvertently left his beacon on overnight which produced a record of the world-wide range of his QRPP beacon. David mentioned watching the map as the grey-line passes through. Tom (KW6S) brought a very well engineered multi-pole coaxial switch for use up to uwave frequencies. Each output can be individually selected and even combined via a cable under the control of his radio to form a small automatic antenna farm. The switch requires 24V DC and Tom's solution is a neat DC-DC converter. Kerry (K3RRY) can be relied upon to bring something novel which in this instance was a digital video broadcast receiver being a tiny USB dongle that works in conjunction with software to comprise a software defined radio. To turn your computer/laptop into Digital TV/FM radio for \$25 check <http://www.dealextreme.com/p/dvb-t-digital-tv-usb-dongle-stick-with-fm-dab-dab-44326>

In general we are either engineers or practitioners in the radio arts and comfortable with questions that begin with What, Where and When but much less so with questions of a philosophical nature that begin with



Kerry K3RRY, CAKE and a tiny USB dongle



By Art Lee WF6P

## CHATTER

Many of us in our ham radio club are interested in both keeping touch with friends and U.S. or world history. I regularly see traces of this in emails I receive and the blurbs on the K6BJ reflector. An unusual event along both lines happened to me a few days ago. My friend George Lewbel, the father of Hannah Lewbel, KC6NXB, responded to a letter I wrote to the alumni association of Roosevelt High School in Honolulu. For over 30 years I searched for my next-door neighbor and school chum, Glenn Black. He and I survived the attack on Pearl Harbor on December 7th, 1941. We were only 13 and 15 years old when the event happened and I wanted his story to supplement mine. For years, I posted notices in various military publications and the internet without success. Two days after George received my email, he sent me a copy of the obit of my boyhood friend. I was saddened until he told me that he had contact info for Glenn's older sister, Jeanne.

My telephone call to her in Maryland where she lived with her daughter lasted over an hour. Although she did not remember me at all, our shared experiences were vivid in both our minds, despite the intervening 70 years. She was 18 at the time. When the

Why. This is especially true with regard to antennas. We have a mixed bag of metaphors of Volts, Amps and Ohms from circuit theory and Waves, Near Fields, Far Fields from Maxwell, Hertz et al to help us understand just Why does a short piece of wire or metal can provide unconstrained communication. At our session we pondered the specific question- Why does an antenna not radiate off the ends of its elements? We had only vague and incomplete answers.

It is quite uncanny but the very next day I received a note from

bombs fell and torpedoes exploded it brought us all out of bed to see what was happening. She described the attacking airplanes, and in particular, one which flew circles over our houses, strafing the base. Her father was the Marine C.O. of the defense force of about 50 Marines. My father, a Navy lieutenant, went to his battle station at Pearl Harbor. Neither Jeanne nor I saw our fathers for three days.

When the second wave of attackers struck the ships and airfields, my family and Jeanne's were directed to a nearby underground bunker, a part of an army anti-aircraft site. There were seven of us, three women and four children. I sat no more than three feet from Jeanne and her mother.

At the end of the raid, an army sergeant opened the hatch on the bunker. Surprised, he couldn't believe we had sought refuge there. "You will all have to get out," he told us. "This is where we store our ammunition!" My brother Clint and Jeanne both said that we were given the choice to stay. Although we all recall the conversation clearly, my version was that we were ordered out. At the time, I asked myself, whatever happened to the rule of women and children first? I thought a while and decided that the defense of Hawaii was more important than three military families.

Shortly after, all military dependents were evacuated by ship to the states (Hawaii was a Territory). Glenn and Jeanne's father was assigned to Rhode Island to train Marines invading Pacific islands. My father was assigned as a battalion commander at Shoemaker Naval Training Center (Pleasanton), CA. He trained sailors in the amphibious forces for island invasions.

a friend of mine Tony Wakefield VK3ZTR who is involved with an organization called The Natural Philosophy Alliance and he published some research at their recent conference. [http://www.worldsci.org/pdf/abstracts/abstracts\\_6554.pdf](http://www.worldsci.org/pdf/abstracts/abstracts_6554.pdf). The conference was focused on "Reforming Electro-magnetic Units, Equations and Concepts". Mind-boggling to say the least but it relates well to our dilemma of understanding why antennas behave as they do. Here's some examples of their questions. "If a light with a switch is connected to a battery a long way off how does the battery know when to cease sending current when the switch opens?" When is a capacitor a transmission line and vice versa? What happens to the energy in an antenna when it reaches the tips of the elements?

Well excuse me but I have some down to earth soldering to do HI HI

—Ron W6WO

**SCCARC Board - 2012**

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	Cap Pennell	KE6AFE	429-1290
	Jack Ragen	W3IVQ	476-1406
	K6BJ Trustee	Allen Fugelseth	WB6RWU

**MONTEREY BAY REPEATER ACTIVITY**

Santa Cruz County	K6BJ 146.790- PL 94.8 Santa Cruz (linked to KI6EH) KI6EH 147.945- PL 94.8 Watsonville (linked to K6BJ) K6BJ 440.925+ PL 123.0 Santa Cruz (not linked) K6BJ D-Star 441.675 +5MHz (D Star link: <a href="http://tinyurl.com/dstar-sc">tinyurl.com/dstar-sc</a> ) • SCCARC Net Monday 7:30 PM 146.79- /147.945- /147.180+ linked • SCCARC 10 Meter Net Monday 7:00 PM 28.308 MHz USB
ARES Net	SC County Wide ARES Tuesday 7:30 PM on 147.180+ PL 94.8 and 443.600+ PL 110.9 linked
San Lorenzo Valley	WR6AOK 147.120+ PL 94.8 Ben Lomond • SLV Net Thursday 7:30 PM
Loma Prieta	AB6VS 440.550+ / AE6KE 146.835- PL 94.8 (linked for net) • LP ARES / LPARC Net Tuesday 7:15 PM
Monterey	K6LY 146.97- PL 94.8 / 444.700+ PL123 (linked for net) Monterey • Monterey Co. ARES Net Wednesday 7:30 PM K6LY 146.970- (PL 94.8) • NPSARC Net Wednesday at 8 PM on K6LY/R
LPRC	WR6ABD 146.640- PL 162.2 / 442.900+ PL 162.2 (winsystem.org) • LPRC Net Tuesday 8:00 PM 146.640-(PL 162.2) • Amateur Radio Newsline broadcast Tuesday

• Santa Clara Valley Section Traffic NET Tuesday 9:00PM 146.640- (PL 162.2)

FOR MORE INFO SEE: <http://www.k6bj.org/freq.html>

**SCCARC Calendar of Events**

ARES Meeting (prior to club meeting)	Friday	Aug 17
SCCARC Meeting	Friday	Aug 17
Cake Meetings	Sat	Aug 11, 25
Board Meeting	Thurs	Aug 23
Short Skip articles due	Mon	Sep 10
SCCARC Meeting	Friday	Sep 21

**MONTHLY MEETINGS.**

The SCCARC Meets at 7:30 PM, on the THIRD FRIDAY of the each month (except December). Meetings are at Dominican Hospital, Education Center, 1555 Soquel Drive, Santa Cruz.

**Net Control Schedule:**

8/13	Chris KG6DOZ
8/20	Lou KJ6CAI
8/27	Phil KE6UWH
9/3	Keith KJ6TXJ
9/10	Tom K6TG
9/17	Chris KG6DOZ

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