

AUGUST 2002

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



BAMBOOZLED

I have always moved a lot in my life. I have a motto "Home is where I hang my antennas." So, when we moved into our rented house in tropical Philippines, I was delighted to discover 40-foot coconut trees in our small yard. I always have my eyes open for antenna possibilities wherever I go.



This new location looked fit for a ham. "Yes!" I thought out loud as my wife eyed me with one of those I-know-what-you're-rethinking looks. For 14,000 pesos a month we got four coconut trees, 6300 square feet of lot . . . and, oh yes, a house.

The longer I looked, the more I wondered just how I would bout hanging antennas when the coconut trees were on only one side of our small 70-by-90 foot lot. Slopers, Inverted-Vs and wire verticals were all possibilities that came to mind. Yet

I had my heart set on a G5RV-type antenna that would yield all bands between 80 and 10 meters with one antenna.

For 160 I planned an inverted-L. Both of antennas would require elevating the wires diagonally across the real estate we had been allocated. So I had a coconut tree on one corner, but what could I use to raise the other side? As I scanned the skyline, I noted many 100-plus foot tall towers that held commercial antennas. Installation of one of those seemed out of the question on a rental property, not to mention out of my price range.

The Bamboo of Inspiration—An idea dawned on me after my wife came home with a bamboo chicken coop. For \$3, she had picked up a three-foot-square box for Lucky and Beatrice, our Chinese chickens. A group of artisans who live near the Bolton Bridge in Davao City use bamboo to make all manner of things, including some pretty tall ladders. I had seen bamboo used as scaffolding on multi-story buildings in China. Could a tower be made out of bamboo, I wondered? I dreamed up a bamboo tower design that would reach 42 feet when placed in the opposing side of the lot. It would span the needed 100 feet for the antennas.

I visited the Bolton Bridge and talked to Nick and Edwen--two bamboo fabricators--to inquire about the possibility. Being new to the southern Philippines, I am only beginning to learn Cebuano, the local dialect. I took a drawing of my tower and gesticulated, drew in the dirt and made models out of sticks to convey my idea to them. I indicated the individual bamboo poles used in the tower would have to be very straight and that crosspieces would be needed. They were intrigued by the job and thought it was possible. We agreed on the price (\$35) and that I would pick it up in a week.

The Finished Product—When the week was up, I could hardly wait to see my tower. I stopped at the bridge on my way home from language school and was taken to the open workshop area where my beautiful tower lay. My first thought was: This is huge! How am I going to

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AUGUST MEETING

Attention all members! Be apprised that our next meeting will be held in the Ed. Bldg. on the 2nd floor of Dominican. The theme of our next session will be "Antennas, UHF, VHF, HF, and etc." We have 3 guest ant.experts; Bruce AC6DN, Jeff WB6SSY, and Dave W8FLL, all speaking on their favorite antenna.

Looking for one more sign-up to round-out this presentation. Your vp, James, KF6YRD will be on vacation, returning the 14th of Aug. Reply to YRD's email

address...welytjn@aol.com

—73's James KF6YRD your vp

The Mysterious Behavior of L

The letter L is the universal symbol for inductance and these comments result from investigating the effects of element diameter in a 445 MHz antenna. I observed that elements with larger diameters produced lower resonant frequencies compared with thinner elements. W4RNL and many others have published figures that show just how much the length required for resonance reduces as wire diameter increases. I have not found any explanation why—hence curiosity took over.

We all know that a wave travels in free space at the speed of light. When combinations of R, L and C guide a wave however, the wave slows down and the distance traveled in a unit of time (the wavelength) is less. So for a given frequency the wavelength decreases and the length needed for resonance is correspondingly reduced. For example when calculating the practical lengths of antennas we modify the free space formula to account for lower velocities. How do we get a short mobile antenna to resonate on HF bands?—we often add inductance in the form of loading coils or helical winding. Now recall that the inductance per unit length of fat wires is less than that of thin wires, which raises the question of why do fat wires have a similar effect to adding inductance.

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CLUB MEETING FRIDAY AUGUST 16, 7:30P.M.

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Free to members.

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W6TUW (SK)



DAVE HARBAUGH, W6TUW (SK). It is with deep regret that we note the passing of Dave as the result of a heart attack. A club member from at least 1961, Dave was my personal Reference Desk for anything associated with Amateur Radio. I could call him anytime and get answers to club history, ancient and forgotten call signs, or people tracking (Where Are They Now?). At the July club meeting members gave their recollections of Dave, each seeing him in the personal or various club functions in which he served. Dave was our President on at least three occasions that I am aware of, and maybe even he lost count. Dave and I used to talk about his hometown of Scranton, Penn, a far away town I always seemed curious about but never visited. Dave was the voice of Santa Cruz on station KSCO for many years before he retired from broadcasting. -Art Lee



By Art Lee WF6P

CHATTER

Received a landline from Gary Baker, N6ARV, last week. He chided me for not being at our club meetings when he attends from time to time on his trips through Santa Cruz. Last year he boarded his motor home and headed east. When he got to Maine, he ran out of road and had to turn around and come back. Gary splits his time between his QTH in Rio Vista and his summer home in Perris, CA. Recently Gary attended a meeting of the Golden Triangle Ham Club in Temecula. One of the QRP members asked him if he knew Tom Guyer, KG6AO. Doesn't every CW op know Tom?

One of the past times my son-in-law Preston, N6ODW, and I engage in is target shooting. This is done at a Sacramento range where Preston (ex-Navy EOD) is a range Safety Officer. We load our own ammo, which is part of the hobby. We practiced, firing our Colt .45 pistols. Mine is a recently purchased imitation Army model 1911 made by sew-ladies in the Philippines. Although it has what seems like a 40-pound trigger pull, at least it didn't blow apart in my hand. That morning, one of the range instructors asked if I wanted to fire their .50 cal McMillan sniper rifle. Sounded good to me. After a few dry firings, he laid out the round for me to fire. The .50 caliber cartridge looked larger than I remembered them as I put it in the chamber. I dragged

the heavy gun and its bipod into a more comfortable firing position, tucked the stock firmly into my shoulder, sighted in on the 100-yard target and gently squeezed the trigger. "Wham!" the gun jumped and flashed. The telescopic sight slammed into the bill of my National Rifle Association cap, driving it back into my forehead. I felt a little bit foolish. I guess I could have gotten a black eye if I had not been careful. The range charges twenty dollars for three rounds so I won't be using too much of their ammo.

Small world: Was on 40 meters with my Shriner pal, Nolan Katz, KB6LT. We chatted about some mutual friends, Dennis and Candace Fazzio, of Morgan Hill. They own several acres, ideal for a really big antenna farm. They have room for a couple of towers, a cubical quad or two and even a rhombic. Candace is a fabulous pianist and Dennis a retired IBM engineer. All have season tickets to San Francisco musicals, Best of Broadway. Candace said that she only knew one ham radio guy, and she thought he was a Shriner. Yep, turns out that the Fazzio family met Nolan several years ago at the theater. They sit a row apart and met during intermissions.

During our QSO, a breaker asked for a sig report. Steve, KB6HOH, was trying out a new antenna. He was getting in FB from northern California and asked if I knew his cousin, AA6T, Lloyd, living in Watsonville. Told him that I have known Lloyd and Karen for over 20 years. He wanted me to bring Lloyd up on freq but I only got the answering machine. Wudda been fun, but maybe next time.

Been in regular email contact with Suellene Petersen, KG6MBT, who is feeling her way into the ham world. Husband Steve, AC6P, is helping her with their HF station as she studies her code and prepares for round-the-world QSOs. Steve heads up the Electronics program at UCSC.

Gordon West
Radio School
Suzy West
N6GLF

WB6NOA

"Third Party
Traffic to
Follow..."





ARES NEWS

AUGUST 2002

By Art Lee WF6P

Summer is here and barring earthquakes, the weather seems to be beautiful with no threat of calamities requiring ARES services. OK, we have forest fires, but so far, we have not been called upon to provide communications. However, looking at the calendar I see that Old Man Winter will be upon us once again. We can always expect rains, mudslides, and blocked roads or entire rural communities to be cut off. Usually, the first thing lost is power and telephone service. In situations like these, trained amateur radio operators are at a premium and may be called upon to perform life saving communications.

While monitoring the ARES Monday night net, I learned that several, maybe even a half dozen prospective hams, are being trained in Emergency Communications Services to serve in the Watsonville area. This is good news as training is not only nice to have, but vital before real emergencies have to be dealt with.

For our July meeting, we were given a look at what the Amateur Radio Emergency Service can do for our community. Rich Hanset, KI6EH, kicked off the presentation with professional slides displaying equipment, sites, future plans and the makeup of our local group. Bob Wiser, K6RMW, followed with a report of the doings in South County. Jim Piper, N6MED, completed the presentation with a discussion of the value of participation

in community events such as the Santa Cruz Mountain Challenge Bike Race, the Human Race, Air Shows, Walk America, and the Santa Cruz County Fair. In these events, communications to directors from hams in the field helps provide aid to event participants. Injured or fatigued persons are very happy to see the "Sag Wagon" show up after being notified by ham operators. I have seen some big smiles on those who were "rescued."

Copies of the ARES 2002 Calendar of Events were distributed and show that the months of August through November offer plenty of opportunity for hands-on training in various events. This type of training is fun to do and you are always working with nice people.

Speaking of fun, Dan Anderson, AA6GD, spot-



Rich KI6EH, Bob K6RMW and Jim N6MED give a presentation about ARES at the July SCCARC meeting

ted a stretched van at the Capitola beach. He didn't tell me how many antennas were visible, but it was probably a few. Lettered on the side was the call sign, WB6NOA. Dan banged on the door and got an eyeball QSO and QSL card from ham radio guru, Gordon West. (When you gonna auction that off, Dan?) Dan said the van was very well equipped, even with a little kitty cat!

Bamboozled continued

get this thing home? My second through was: Bamboo is supposed to be light and strong. Why is this so heavy? Edwen and Nick informed me that the bamboo was still green and therefore very heavy. I purchased two additional 35-foot poles to act as stays when I erected the tower.



I arranged with Edwen and Nick to transport this monstrosity to my place. I looked around for the truck and found none in sight. I was approached by a man who pointed to his tricycle as he informed me he was the one to transport the tower and poles. I was skeptical. How could this much weight and length fit on a motorcycle-powered tricycle? He assured me that he had taken more than a dozen 40-foot poles once and had no problem. I was still leery, but when all of my purchases were piled on top, and the trike loaded with six men, we took off.

Driving down a busy street with bamboo sticking way out front and back would have been comical if it didn't seem so dangerous. Thinking back, the extra men were used as ballast to keep the trike on all wheels. It took four of us to get it into the carport of the house for storage until I could figure out a way to put it up. The Antennas Rise—Some of our friends who were in town for a while wanted to come stay overnight. I co-opted them to help me raise the behemoth skyward. It is common knowledge among my friends that they are welcome to stay at our house. The only compensation I require is a little help on my latest antenna project. It took two tries, but we finally righted the antenna. Another half-day's worth of work securing the tower, and I was ready to hoist the main sail . . . the G5RV. The inverted L followed shortly.

This kind of project was more work than I imagined, but it has taught me a few things. Bamboo is strong, relatively lightweight, plentiful (in some places) and a renewable resource. In the Philippines the price is right, too.

From ARRL Editor's note: Jon Rudy, NONM, is an ARRL member and QST author. You can contact him via e-mail at mccarpnc@yahoo.com.

L continued

An antenna is made up of R, L and C and we know from basic AC theory that the frequency of resonance is an inverse function of the product of L and C. When we reduce L by using a fat conductor apparently its associated C increases such that the product of L and C actually increases, if so this would result in reducing wavelength. This is the only idea I have come up with and if anyone can shed more light on this topic please do so.

The good news is that with fat elements my mini-Moxon beam became very compact indeed. Additionally since the bandwidth of an antenna is inversely proportional to its Q ($2 fL/R$), fatter antenna elements help to increase performance over a relatively broadband. I remember long ago making circular hoops to support a dozen wires in parallel for broadband antennas at very low frequencies and VHF verticals made from a stack of beer cans. Antennas are full of surprises both in theory and in practice.

—Ron W6WO

SCCARC Officers - 2002

President	Richard Trebbien	KG6AXD	426-0169
Vice President	Jim Welty	KF6YRD	685-9225
Secretary	Elaine Pennell	KE6FRA	429-1290
Treasurer	Cap Pennell	KE6AFE	429-1290
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	Tom Johnson	KQ6DV	464-3120
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	Mike Doern	KF6UXB	477-1161
	Ron Skelton	W6WO	477-1021
K6BJ Trustee	Royce Krilanovich	AC6Z	475-4798

MONTEREY BAY ACTIVITY

SCCARC Repeaters: K6BJ 146.790- PL 94.8 Santa Cruz (linked w/Watsonville full time)
 KI6EH 147.945- PL 94.8 Watsonville (linked w/Santa Cruz full time)
 K6BJ 440.925+ PL 123.0 Santa Cruz
 • SCCARC Net Monday 7:30 PM 146.79- /147.945- /440.925+ linked
 • SCCARC 10 Meter Net 28.308 MHz USB Monday 7:00 PM
 • SC ARES Net Monday 8:30 PM 146.835-(PL 94.8)
 • Watsonville ARES Net Thursday 8:30 PM 147.945-
 SLVARC Repeater WR6AOK 147.120+ PL 94.8 Ben Lomond
 • SLVARC Net Thursday 7:30 PM
 SLV ARES N6IYA 146.745- PL 94.8 Felton
 • SLVRC Net Thursday 7:30 PM
 • ARES Net Monday 7:30 PM
 NPSARC K6LY 146.97- PL 94.8 / 444.700+ PL 123 (linked) Monterey
 • Monterey ARES Net Wednesday 7:30 PM
 • NPSARC Net Wednesday 8:00 PM
 • Monterey Bay Traffic Net Nightly 9:00 PM
 • Newslite (Ham News) Broadcast Wednesday 8:30 PM
 6 Meter Local Net 52.8 MHz (PL-114.8) Sunday 8:00 PM
 Mont. Bay Chapter 191 QCWA :Tuesday, 7:30PM, AA6T repeater, 146.700- PL 151.4

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

SCCARC Calendar of Events

SC ARES	Tuesday	Aug 13
SCCARC Board Meeting 6:30	Friday	Aug 16
SCCARC Meeting	Friday	Aug 16
Short Skip Deadline	Monday	Sep 9
SCCARC Meeting	Friday	Sep 20

MONTHLY MEETINGS.

The SCCARC Meets at 7:30 PM, on the THIRD FRIDAY of the each month (except December). Meeting are at Dominican Hospital, 1515 Soquel Drive, Santa Cruz.

Visit the SCCARC Website at -

www.k6bj.org

CLUB E-MAIL: yourcall@k6bj.org



SANTA CRUZ COUNTY AMATEUR RADIO CLUB
 P.O. BOX 238
 SANTA CRUZ, CA 95061-0238

Meeting: August 16, 7:30PM

First Class