

OCTOBER 2006

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



I'm Having a Bad Day.

My unconscious has been processing the input received at our September club meeting. The speaker was Jeff Verges (KG4YSN) on initiatives by the Silicon Valley Wireless Users and Experimenters Group. Jeff is a recent graduate in computer science from Georgia Tech. who gave a spirited and polished presentation on the plans of this group whom he described as "just a bunch of geeks who enjoy anything related to wireless". Jeff illustrated his talk with a description of his involvement to restore communications after hurricane Katrina. This was very similar to the presentation we previously had by Rickey (AE6QE) from the Naval Post Grad School and indeed Jeff had worked closely with the Navy team. In stark contrast to the rapid deployment of wireless systems on the Gulf Coast, Jeff went on to describe their plans for a fixed, broadband infrastructure throughout the SF Bay area. Jeff placed emphasis on the benefits to emergency preparedness and restoration that such a network would bring. Similar to the Katrina exercise his intent is to use unlicensed frequencies and off-the-shelf products.

I thought Jeff was mistaken by characterizing Part 97 operations as essentially slow speed. He was challenged that licensed use of the same 2.4 GHz and 5.8 GHz equipment would provide some protection from unlicensed users. It then became clear to me that Jeff is actually proposing a form of public, common-carrier/ISP service operated by a non-profit entity. It will need money to survive and under Part 97 rules commercial uses would not be possible. So I asked myself what is the possible value added to these activities from licensed amateurs. It is true that in our club there is a great deal of RF expertise and some in the realm of Internet routing but neither require a license. These technologies are becoming common

place, and are already almost to the level of consumer networking.

During our recent training exercises it became evident that in an emergency our technology skills are secondary to our ability as disciplined operators. However we do not need a license to assist the Red Cross and others with handling messages over unlicensed frequencies.

So in the future what will be the value proposition for justification of exclusive frequencies, indeed the very existence of a licensed Amateur Service? Looking around our audience last night I noted that among the 30 or so in the audience, most are over 60 years old and only two looked below the age of 30- one of these was the speaker. So 10 years from now what will the wireless landscape look like and what will it mean to be a licensed amateur? Here's one scenario. The landscape will be totally overlaid with a multitude of unlicensed wireless technologies for fixed and mobile users. These ubiquitous networks will consist of off-the-shelf products comprising elementary antennas, plain boxes without knobs and standard and invisible routing algorithms. The public at large will install and use such networks ranging from intimate ultra-wideband links of a few inches to Nation-wide communications.

I sense that this amounts to a Citizen Band environment on a grand scale. The role of the FCC will be diminished as their mandate stems from a role in inter-state commerce, which by and large will not apply. It follows that a Citizen Band, tower of Babel can arise to such an extent that essential services will have to be protected and that means secure networks and professional Network Managers. Not much room for amateurs there in the long term. Our diminishing numbers

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EME Opportunity



EME opportunity soon on 1296 in Monterey: If you are interested in participating in this event, let me know.... We are lighting up the old 30 meter COMSAT dish in Carmel Valley very soon on 1296.

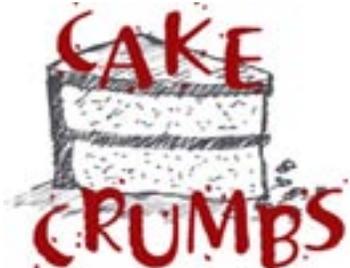
—Pat AA6EG aa6eg@hotmail.com

Holiday Luncheon and Membership Renewal

If you renew your membership when you pay for the December 9 holiday luncheon, you'll get an extra five-count 'em, five-affle tickets for the holiday luncheon raffle! That's in addition to the one raffle ticket that is included with your \$15 for the luncheon. For most of you, that will mean \$40, preferably paid ahead of time, either at a Club meeting or by mail (SCCARC, P.O. Box 238, Santa Cruz, CA 95061-0238). Of course, you may also pay at the door, but reservations must be made by December 2 to ki6aie@k6bj.org.

--Kathleen, KI6AIE, SCCARC Treasurer

CLUB MEETING FRIDAY OCTOBER 20, 7:30 P.M.



Sep 9: For your scribe the session on Sept 9th was limited to just one hour so, although it was well attended, I do not have as much as usual to report. We like to recognize outstanding work, stimulating questions or clear and helpful answers. This week our star surely was Al (KM6VV). Al listens more than he talks, and his home-brew projects always contain his unique software. Two of his projects were on display, one was a direction finder using the Time Delay of Arrival Technique. Briefly with two physically separate antennas the phase of their outputs varies with their orientation relative to the direction of the incoming signal. Al's project switches rapidly between the antennas and compares the phase of their outputs. By aligning the antennas to produce in-phase outputs the direction of arrival is discovered. Al has done this brilliantly using a microprocessor and his own code. For further reading start with the name "Adcock".

Al's second project was a stepper motor controller using a microprocessor and his own PC based software via a USB port. The stepper motor drives a 4 axis milling machine that Al can use to carve out Printed Circuit Boards. On the topic of PCB's Ron W6WO remains unconvinced that the print and transfer technique is the way to go. Ron will be looking at the technique developed by cbridge.com who promised to add a guide to making PCBs to their web site. Other related topics included Sharpie Marker pens and Eagle PCB layout software. Al says that he mills boards from files produced by this program.

The key question this session came from our VP, Pat (AA6EG). Can you make a non polarized capacitor by using two electrolytics back to back in series? We did not come to a conclusion but the census was that this might cause problems for the very chemical process that electrolytics rely on. Anyone with further insight is invited to speak up. By the way we should all be appreciative of Pat's efforts on arranging speakers at club meetings. This is no small task.

Kathleen (KI6AIE) uses a CAKE meeting once each month to prepare the Short Skip

issue for mailing. We should thank her and the others who pitch in and in future will try to arrange the tables so that more can take part without losing contact with the technical discussions. Our next session will be on Sept 23rd and beyond we will sync up with the monthly Club meetings. WE WELCOME GUESTS ! Looking forward to the bands opening up, CQP, the club auction, and XMAS lunch

Sep 23: A very spirited session today so I hope to be able to communicate the multi-topical discussions well enough.

We discussed the hexbeam project under way by Jeff (AE6KW) for the CQP weekend. It is a tricky antenna to visualize so take a peek at <http://www.hexbeam.com/> A question has surfaced about the reflector and whether or not its two halves need to be connected at the center or not. All agreed that this should be the case and yet at this point in time the construction details are unclear.

Dave (W8FLL) mentioned that low cost fiber poles are to be found via World Radio.

We shifted into the realm of tuners. Dave made a good point that the output stages of a radio or amplifier often serve the functions of a tuner. Ron (W6WO) questioned the power loss in compact auto tuners that are so popular today.

Our plans for CQP this year envisage co-located HF stations and the mutual interference /destruction that can come to pass. Larry (WB6MVK) offered the phrase "RF Crematorium" that we should do well to keep in mind.

Two mystery items were shown, both were identified. One was a socket for the old time acorn tubes which were developed during WWII. Their small dimensions reduced internal reactances and so enabled their use at VHF. The second was a SMA connector designed for hardline of the Succoform type.

A possible use for the packages of dessicant found in some electronics packaging was suggested as Dehydrated Coffee. This was not universally endorsed by those present.

Kathleen (KI6AIE) illustrated a BNC bulkhead connector that lacked a female pin. Reed (N1WC) showed the strip line technology used in an Alinco TX/RX amplifier for 2 meters that he had found, it needs testing. Kathleen explained the danger inherent in using a recliner chair while operating a HT having a long coax cable. Kathleen provided the definitive historical background to the designation of Al materials and I hope

that this will be published in Short Skip.

Bob (K6XX) mentioned his preferred logging program is TR-Log. It provides the useful feature of supporting external paddles to key its internal CW keyer.

More discussion took place on Alkaline/NiCad/NIMH batteries and I think came to the conclusion that any form has it's own particular merit and limitation.

A fair amount of time was spent on the physical aspects of making PCBs and the use of board layout software. Bob (K6XX) described the use of Eagle software that he has used successfully after a modest learning curve. Ron (W6WO) reported that Circuit Bridge specializes in silk screen/ stencil products that will be worth trying as an alternative to the iron-on technique.

Reed (N1WC) made helpful mention to the re-use of enclosures for defunct external hard-drives, Same can apply to the cases for old PC power supplies or even old computer towers.

Ron (W6WO) showed the CISCO radio that will be used at the downtown end of the 2.4 GHz link to K6BJ site and explained that work is proceeding to get the link installed and running. Ron also provided a reference to some free software that emulates a HP Plotter that should make it easier to get instrument data up on a PC screen. Thanks to Jeff AE6KS for this lead. If you have test gear with an GPIB/HPIB port, check it out at <http://www.thegleam.com/ke5fx/gpib/readme.htm>

As the next bi-weekly CAKE session coincides with CQP I think that we will skip it and resume the day after our Club meeting in October. That way it will assist the travel arrangements that out of towners have to make to attend both activities.

Are you having fun yet ? Where else in Ham Radio can you get more fun for the price of a cup of coffee ?



Treasurer's Report

At the September 2006 Board of Directors meeting, SCCARC Treasurer Kathleen McQuilling, KI6AIE, reported that the SCCARC treasury had \$5032.01 in cash and bank accounts. At that time all financial obligations had been met.



By Art Lee WF6P

CHATTER

Maritime communications are tough at times. Chris Doutre, KG6SK0, is crewing aboard the Bobby McGee, a Hunter 46' sloop, embarked on a two week cruise to Catalina. This is the same fine yacht I helped bring down from San Francisco last November. Chris got word to me through Steve Smardon, N6TGM. Steve said that Chris checks in with the Pacific Seafarer's Net on 14.300 at 2000 PDT. I could not copy him on receive using my 80 mtr and 40 mtr dipole antennas. Via Steves cell phone, I got word to him to come up on the Baja Maritime Mobile Net at 0800 on 7.230 no luck there either, even when they were at anchor just south of Point Sur. With the sunspot cycle being at the lowest point, the bands are not friendly. Things have got to get better. Chris sailed a transpac racer back from Hawaii a few months ago. He's quite a blue water sailor. I prefer to stick within a few miles from shore.

Was reading a fascinating book, Last of the Flying Clippers. In the 1930s, Pan Am was flying four-engine seaplanes from Alameda, then Treasure Island, to the Orient. These huge aircraft landed and were serviced at Pearl Harbor, Midway, Wake, Guam and Manila. One of the China Clippers was strafed and hit at Wake Island during a Japanese air attack. Years after the war, I

visited the old Pan Am seaplane facilities at each site. Many of the old columns for the docks in the lagoons were still visible. In those years, CW was the preferred or most used form of communication. To be a radioman on a Clipper, one had to be very proficient in code. One operator had completed radio school in the US Army at Chanute Field, IL. Employed by Pan Am, he was skilled in code, installation and adjustments of field radio and telegraph equipment, electricity and magnetism theory, elements of radio, circuits and radio and telegraph equipment problem-solving, testing, knowledge of radio nets and procedures and basic radio practice. One radioman, Walter Dalglish, held a 1933-earned Army Air Corps degree in technical radio



Radio operator's station, "China Clipper"

mechanics and operation, a 1935 degree in radio electronics issued by Fort Monmouth, N.J., plus a 1939 FCC Second Class Radio Telegraph Operators license given him in Washington, D.C. He first manned the radio shop in Baltimore, then became an assistant radio operator flying the Lisbon route. He then earned a degree in radio engineering. Whew! That was a lot of work and study. Pilots these days have the luxury of space-age communications.

Bad Day continued

and irrelevant expertise will relegate us to a lowly hobbyist level. We will no longer justify the spectrum allocations and license privileges that we now enjoy and can expect to lose them, or at least have to share them.

When all it takes are plug and play commodity products, where is the challenge, the excitement, the magic of wireless communications? Ten years from now there might be only a small cadre of diehard HF enthusiasts

(hopefully like myself) left. It was good enough for me as a boy but I doubt it will be enough for my grandson. For much of the future wireless needs of society—no licensed amateurs need apply. I am uncomfortable with this doomsday outlook and hope to spawn vigorous and positive alternative scenarios. Being essentially an optimist I can come up with other projections, but not today. How about you?

Have a nice day

—Ron W6WO

K6BJ Special Event Station

A couple of months ago my article in Short Skip discussed Melvin Wilder, W6CEH. I mentioned that I believe Wilder Ranch State Park may be the only state or national park in the country to have a bona fide amateur radio connection. We have presented demonstrations of the hobby several times at past holiday festivities on the ranch. This year we have been invited to do so as part of the Fall Harvest Festival on Saturday October 28. These special weekend celebrations typically attract several thousand visitors to the park.

I am assembling some graphic displays and I have a few small pieces of antique gear. We need 2-3 other vintage oriented hams to participate. It would be great if someone had a vintage xmtr and rx to display. By vintage, I mean pre-WW2. While we have operated K6BJ as a special event station in years past, it was not a great success with makeshift antennas. Even 2 M is not very good at the site. (Wilder experimented for years with a wide variety of antennas. I have interviews of his ranch foreman on tape, where he describes some of the experimentation in detail.)

The event runs from 11 AM until 4 PM. We could work out a shift arrangement so no one has to spend excessive time tied to the exhibit.

Let me hear from you by the end of this week if you can help out.

—73 de Wayne, KB6KN
waynetha@cruzio.com

Wilder Ranch is located 2 miles north of Santa Cruz, on Highway 1. Admission is free; parking is \$6.00 per car. For more information, call (831) 426-0505.

Nominations for Special Recognition

The Board of Directors are soliciting nominations for acknowledgement of outstanding contributions to the Club. Recipients will be honored at the December holiday luncheon. Nominees do not need to be Club members. Please email your nomination, with a brief description of the contribution, to our Club Treasurer, Kathleen McQuilling, at ki6aie@k6bj.org no later than Monday, November 20.

SCCARC Board - 2006

President	Christopher Angelos	KG6DOZ	688-3562
Vice President	Pat Barthelow	AA6EG	
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Treasurer	Kathleen McQuilling	KI6AIE	476-6303
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	Rich Hanset	KI6EH	438-0615
	Bruce Hawkins	AC6DN	
	Vic Linderholm	AE6ID	476-5567
K6BJ Trustee	Royce Krilanovich	AC6Z	475-4798

MONTEREY BAY REPEATER ACTIVITY

Santa Cruz County ARC	K6BJ 146.790- PL 94.8 Santa Cruz KI6EH 147.945- PL 94.8 Watsonville K6BJ 440.925+ PL 123.0 Santa Cruz • SCCARC Net Monday 7:30 PM 146.79- /147.180+ /440.925+ linked • SCCARC 10 Meter Net 28.308 MHz USB Monday 7:00 PM
San Lorenzo Valley ARC	WR6AOK 147.120+ PL 94.8 Ben Lomond • SLVARC Net Thursday 7:30 PM
Loma Prieta RC	WR6ABD 146.640-(PL 162.2) • LPRC Net Tuesday 8:00 PM
Naval Postgraduate School ARC	K6LY 146.97- PL 94.8 / 444.700+ PL 123 (Linked) Monterey • NPSARC Net Wednesday at 8 PM on K6LY/R • Monterey ARES Net Wednesday 7:30 PM K6LY 146.970- (PL 94.9)
ARES Nets	SC County Wide ARES Tuesday 7:15 PM on AB6VS 440.550- W6WLS 147.180+ AE6KE 146.835-(Linked repeaters / PL 94.8)
Followed directly by	• SLV ARES W6JWS 146.745-(PL 94.8) & WR6AOK 147.120+(PL 94.8) on alternate Tuesdays • South County ARES K6RMW 147.00+ (PL 94.8) • LPrieta ARES AE6KE 146.835- / AB6VS 440.550+ (Linked /PL 94.8) • Santa Cruz ARES K6BJ 146.79- / (PL 94.8)
	• Newline (Ham News) Broadcast Wednesday at end of NPSARC Net • 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

SCCARC Meeting	Friday	Oct 20
Board Meeting	Wednesday	Oct 25
Short Skip Deadline	Monday	Nov 6
SCCARC Meeting	Friday	Nov 17

MONTHLY MEETINGS.

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

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Santa Cruz County Amateur Radio Club, Inc.

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NET CONTROL SCHEDULE

(Subject to Change)

10/16	Cody KG6YPK
10/23	Phil KE6UWH
10/30	Allen WB6RWU
11/6	Chris KG6DOZ
11/13	Tom K6TG



SANTA CRUZ COUNTY AMATEUR RADIO CLUB
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Some Interesting Web Sites

Pannable online aeronautical charts
<http://skyvector.com/>

Converting Addresses to Latitude/Longitude
<http://www.stevemorse.org/jcal/latlon.php>

FCC Consumer Facts, Communicating During Emergencies
<http://www.fcc.gov/cgb/consumerfacts/emergencies.html>

Restoring/building telegraph keys
<http://www.wrsmithclocks.com/books.htm#telegraph>

Schematic capture and PCBdesign package for windows and Linux.
http://www.lis.inpg.fr/realise_au_lis/kicad/kicad_files/LogicielKicad_en.htm

Ham radio software
<http://www.dxatlas.com/MorseRunner/>

Photos of Jamesburg Comsat Station (pg 1, Short Skip)
<http://groups.msn.com/towertrailers/shoobox.msnw?action=ShowPhoto&PhotoID=50>
http://www.comsat-history.com/gallery/Jamesburg/Jamesburg_June_28_68_Anrenna_structure_during_counterweight_checkout