

NOVEMBER 2006

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



A Surprise Relocation

The Story of Field Day 2006

by JV Rudnick ARS K6HJU Co-Chairman and Donald Kerns ARS AE6RF

The Santa Cruz ARC and San Lorenzo Valley ARC arranged for its traditional field day site at the California Department of Forestry (CDF) training facility about 25 miles north of Santa Cruz California. Both Santa Cruz county radio clubs have enjoyed the use of this site many times in previous years. What can possibly go wrong?

The site had to be evacuated shortly before operations commenced. The site was required by CDF and law enforcement for staging of convict fire-fighters working a brush fire in Henry Coe State Park in southern Santa Clara County. The site is also adjacent to a California Youth Authority (CYA) facility. These inmates are frequently also used to augment fire fighters on fire lines.



On the afternoon before field day a handful of stations began to set up. Tom Guyer KG6AO, setup his tubular crank-up tower on the back of

his motor home. Bob Wolbert K6XX, setting up the 20 meter cw station antenna on a trailer mounted tower. Tom Johnson KQ6DV had completed installing a 15 meter CW wire antenna in a convenient tree. Reed Cotton N1WC, had his tent set up and available for any station needing a shelter. I brought my own trailer mounted 40' Aluma tower but had not setup the station. Since I only lived nearby, I decided to go home for the evening and return early in the morning to finish setting up the 10 meter station.

Upon returning at about 8:30 AM, and thinking there was plenty of time, I started to complete my own station. Dave Stoddert W8FLL, field day chairman came running to shouting to stop everything. That's when we were notified that CDF was asking us to vacate the site. A CDF captain agreed to give up two hours to cleanup and leave. With very little time left we were all in a state of confusion. Where do we go?

Cap Pennell KE6AFE, a retired CDF captain, tried to negotiate on our behalf with the captain in charge operations. The captain apologized for the inconvenience, mentioned that amateur radio had historically has been a good resource for them, but insisted that we leave.

Bob Wolbert, K6XX came to the rescue. He graciously offered an area on his property located

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Auction and Raffle

Our annual auction will be held at the November membership meeting. This event usually generates a lot of excitement as well as funds for our Club, and once again Dave Stoddart W8FLL will serve as auctioneer with the able assistance of Bob Wolbert K6XX. Now's the time to look around your shack and anywhere else you might find items to contribute. For the auction, the Club gets a minimum of 20 percent of the proceeds. For the December raffle at the holiday luncheon, all items are donated. For both the November auction and December raffle, we are not limited to radio-related items. For planning purposes, please email Club Treasurer Kathleen McQuilling at ki6aie@k6bj.org with the number of items you plan to bring for the auction (the sooner, the better). Remember, your discards may be someone else's treasure!

--Kathleen, KI6AIE

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) 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 by email to ki6aie@k6bj.org or by phone to (831) 476-6303ARRL Membership: A Cut For Your Club

You can save yourself 39 cents and make a "painless" donation to your local Club at

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CLUB MEETING FRIDAY NOVEMBER 17, 7:30 P.M.

CAKE CRUMBS

October 21

Your reporter was pleased to fill in as scribe for this session of Coffee Assisted Knowledge Exchange, though somewhat debilitated by a dental condition (now resolved), and is now laboring under the handicap of very sketchy note-taking. My profound appreciation to those who helped by filling in the gaps for me.

Those present included David Stoddart W8FLL, Larry Edler WB6MVK, Mike Furman N6IL, Al Marconett KM6VV, Carol Marconett KD6ZXL, Frank Carroll K6BDK, Wayne Thalls KB6KN, Rich Olsen W1WUH, Vic Linderholm AD6ID, Bob Wolbert K6XX, Art Lee WF6P, Reed Cotton N1WC, David White WN5Y, and Kathleen McQuilling KI6AIE.

Wayne brought a very large item that appeared to be an ostrich egg slicer according to some, although it was later identified as a dinosaur egg slicer instead. Actually, it turned out to be a 160-meter air-gap variable tank capacitor. (This item made a second local appearance the following Saturday at the Wilder Ranch State Park Heritage Festival, where it did double duty as historical artifact--as it came from Melvin Wilder's amateur radio station--and display board support.)

Al demonstrated the MK4 sniffer, a 2-meter and 121 MHz specialized receiver for fox hunting by VK3YNG. It has an automatic, built-in attenuator (15 db steps up to 135 db). Received signal strength (RSSI) indication is provided by an audible tone that increases in frequency (pitch) with increasing signal level. Various AM and FM modes are available, including the above mode.

Sensitivity Better than -120dBm (about .1uV?).

<http://www.users.bigpond.net.au/vk3yng/foxhunt/foxhunt.html>

Also displayed by Al was a "Tape measure

Fox antenna" for 2 meters. This antenna has flexible elements made from a metal tape measure to make trekking through the bush easier and safe for the antenna. The antenna is optimized to have a good front-to-back ratio ideal for fox hunts.

http://home.att.net/%7Ejleggio/projects/rdf/tape_bm.htm

Dave brought some crystals whose innards were soon spread out for examination; it was touch and go whether all of the pieces would make it back into their proper places, but eventually everything was back where it belonged.



Whew!

Other topics of conversation included 160 meters (Dave), fire extinguishers (Larry), problems with an HQ-170 and ways of reforming old electrolytic capacitors using either a variac or a 200 watt light bulb (David). As usual, there was some discussion of operating systems, this time including Linux, Unix, and Apple.

Mikey was observed accessing the Internet to show some interesting LED displays.

Larry discussed with Wayne, Art, and Frank his adventures using the oxygen demand system as a USAF pilot in Lockheed P-80 fighter aircraft. "The oxygen regulator had a unique display showing when you were breathing. A set of flaps opened -- they looked like a pair of lips -- and closed to show flow. Many times the oxygen hose would become disconnected and result in pilot unconsciousness. This was not good if you were the only guy in the airplane." Art replied that this was old technology and in the late '50s, liquid oxygen replaced the

gaseous type. Pilots reported that when the regulator froze up, liquid oxygen flowed up into their masks and froze their faces. (There's always something!)



We were treated to a platter full of tasty rolls left over from a political gathering. Al took the last apricot jelly filled roll just as Art reached for it. Being an ex-submarine crewman and the gentleman that he is, he offered it to Art, who declined and settled for his second choice, a grape jelly roll.

Reed, arriving shortly before the gathering broke up, delivered a radiogram for FLL concerning the residents' being allowed to return to a Boulder Creek neighborhood. No details or confirmation that this was a "real" radiogram were immediately available.

Wayne gave out volunteer parking passes for the Wilder Ranch Heritage Festival. His exhibit was a great way to promote amateur radio in the context of Santa Cruz County history. Thanks, Wayne!



November 4 Cake

The CAKE session today was very well attended (good to have Ralph W6ENE pres-

ent and Pat AA6EG via Skype) and consequently many and varied topics surfaced.

Dave W8FLL mentioned a vintage Viking Thunderbolt amplifier and this lead directly to heavy duty power supplies. Commentary followed on Swinging and Resonant Chokes that are not often discussed these days. These are not obsolete concepts however and a helpful tutorial can be found here <http://www.geocities.com/SiliconValley/Pines/5440/supply.html>

Bob (K6XX) explained his method of plotting the response of RX filters using a broad band noise source. Mikey (N6IL) spoke about capturing his computer youth by preserving data from old floppy (yes really floppy) disks. Remarkable is the decorative treatment of Mikey's laptop.

De-soldering components on a board can be a real pain Larry (WB6MVK) mentioned a soldering iron that includes suction. I want one!

An Orinoco Wi-fi card was exhibited that has a very tiny RF connector for use with an external antenna. These are MC series and use LMR100A coax. Many such items can be found on the web site operated by Freeman, Anderson & Bird. Check out <http://www.fab-corp.com/>.

Today's mystery item was easily recognized as a pair of Ferrite chokes on a coax cable used to deal with TVI problems. Ron used this same technique back in the 50's to cut out RF pickup on transatlantic submarine cables. Yes some RF does reach the Ocean bottom, see other comments about the Skel-



ton radio Station in the UK.

The most curious item, provided by Dr Barry Norris MD (NR6S), was a teaching aid for surgeons doing open heart surgery. Only steady hands need apply HI HI



By Art Lee WF6P CHATTER

Ron, W6W0, is in print in the November issue of QST (pp24). Congrats, Ron. His letter-to-the editor boosts the novel idea of his technical CAKE sessions. His suggestion may just catch on in other ham communities. Our CAKE meetings are excellent in that interesting technical matters are discussed, as well as the always entertaining, "What is this thing" displays. Many are museum pieces and all are passed around for a hands-on, eyeball inspection. Granted, some of the more weighty boat anchors are in position for viewing only as centerpieces. We meet at Gigi's bakery and coffee shop and so far, no ham gear has been brought in that requires the use of a hand truck. (Anyone have a shipboard Collins, rack-mounted transmitter and receiver combo?) Although I missed the November 4th CAKE meet, I'm sure that a good group of new and old faces were seen in attendance.

Another event I missed was led by Wayne Thalls, KB6KN. On Saturday, October 28th,

Ron (W6W0) showed the down converter portion of a R2Pro direct conversion radio. Ron intends to modify the design for use with sound card-based DSP. Winrad is one such DSP program <http://www.winrad.org/> and Rocky found on <http://www.dxatlas.com/rocky/> is another. Try these free programs on the audio out of any RX.

DSP software like Winrad uses fancy math on two channels carrying identical information but 90 degrees out of phase. What then surfaced was a description by Richard (W1WUH) on the use of this form of signal processing to examine the behavior of carbon atoms. It was startling to learn that he did this back in the 60's. Can you imagine what it took to do FFTs in that era!

Just as incredible was Eric (K6EP) reporting that he is involved professionally with just this form of signal processing today at microwave frequencies. Many of you will also know that a combination of DDS signal generation, direct conversion and DSP is

he, Larry Edler, WA6MVK and Kathleen McQuilling, KI6AIE, set up an information table at the Wilder Ranch, the site of the county's first ham operator early in the last century, that seems like a long time ago. (Most of us were born in the last century!) About a decade or so ago our club put on a similar display, complete with an operating HF station. It was fun being there, demonstrating ham radio and operating cw and voice. Many of the visitors expressed great interest in ham radio. Of course at that particular time we had a captive audience as the operating table was adjacent to the long line awaiting a hay wagon ride.

One event I didn't miss was the Simulated Emergency Test (SET) of 10/21/06. Received a telcon from Frank Wyatt, N6FW, the evening before, asking me to participate. I told him that I had not made up any NTS messages in years. (We used to do this as a part of the SET.) He told me that things hadn't changed much. I agreed. In the morning I made up three NTS messages (How in the heck did we used to do the word count?) to friends I hadn't contacted for many years. During the SET, I found that we had not included this element for the session. Shucks. I did check in and monitored the remainder of the exercise. The team worked well together. Bob Wolbert, K6XX, kept us all well informed via the Resource Net.

an architecture increasingly adopted by the cell-phone industry.

For those with healthy appetites I recommend the article "Quadrature Signals Complex but Not Complicated" by Richard Lyons <http://www.dspguru.com/info/tutor/quadsig.htm>

Finally today I want to acknowledge Frank (N6FW) who is always a keen listener and contributor. Frank is also remarkable in his ability to send CW at 18 wpm in spite of a handicap that would put ordinary folk out of action. Cheers Frank and his wonderful XYL Julie KC6DLE.

Tech License Class

Peter Kyryl KE6RAX is organizing a Technicians license class to be held at the Santa Cruz Harbor District meeting room, on January 13 from 1-3pm. For more information contact KE6RAX or listen to the Monday K6BJ net.

near the now empty field day site. The equipment was hurriedly disassembled and moved to the new site. Setting up the stations, on an unprepared site, with very short notice turned into a very real emergency preparedness drill. Our efforts proved that we could setup stations rapidly under emergency conditions. With considerable help from many of the local hams, operations began at about 12:30PM.

Later that evening, when the barbecues were being attended to and some camaraderie was being enjoyed, a CDF battalion chief made an unexpected visit to our new site.

He also expressed his apology on behalf of the local headquarters of CDF. The extra points for the visit were also appreciated.

Our thanks to those assisting also included Ron Baldwin K6EXT brought an abundance of food and helped man the barbecues. Jay Bollenger KG6WIL came from more than 50 miles away. Roy Brayshaw took some great photos. Dr Barry Norris NR6S setup a 40 meter station in his pickup truck. Cap Pennell KE6AFE brought the ARES communications van. Donald Kerns AE6RF operated VHF, UHF, and 6 meters. Jeanette Dunn KI6AJJ a new ham had fun operating 15 meters. KG6YPK Cody Adams also assisted with the 10 meter antenna installation. There were many others who helped to make this a successful field day on short notice.



Seems it's a Family Affair

The Skelton transmitting station is a radio transmitter site near Skelton, Cumbria about 8 km north west of Penrith UK.

The main purpose of it is shortwave broadcasting.

A VLF transmitter is also located there. It is used to transmit coded orders to submarines. It uses as its aerial a 365 metre high guyed steel lattice mast, which is insulated against ground and is the second tallest structure in the UK. The transmitter went into service in 2001 and is the successor to GBR at Rugby VLF transmitter, which was shut down on April 1, 2003.

PS. Are Short Wave radio genes inherited?

—Ron Skelton (W6WO)

Treasurer's Report

At the October 2006 Board of Directors meeting, Treasurer Kathleen McQuilling, KI6AIE, reported that the SCCARC treasury had \$4675.25 in cash and bank accounts. At that time all financial obligations had been met, including the annual equipment insurance premium.

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.

Renewal continued

the same time by joining ARRL or renewing your ARRL membership through the Santa Cruz County Amateur Radio Club. Just bring your check, made out to "SCCARC" instead of "ARRL," along with your ARRL membership form, to the next Club meeting. We will send ARRL your paperwork and dues (less \$15 for a new membership or \$2 for a renewal).

HRO Discount for Club members
SCCARC members are eligible for a 5 percent discount at HRO in Sunnyvale on any purchase over \$20 excluding radios. Show them your current membership card once and they will update their database for future discounts.

—Kathleen, KI6AIE, SCCARC Treasurer

The Wild Bunch on the Ranch

Wayne Thalls, KB6KN

On Saturday October 28, a small band of local hams gathered to participate in the Wilder Ranch State Park annual Harvest Festival event. This provided a rare opportunity to familiarize folks with our hobby. We like to think everyone knows what ham radio is about. The fact is that few people have any real knowledge of the hobby. Events like this are important for validating our continued occupancy of radio spectrum. They are also crucial for recruiting newcomers to our ranks.

Kathleen McQuilling, KI6AIE and her friend David White, WN5Y, from Pampa, Texas, joined me. Larry Edler, WB6MVK joined us too.

The purpose of our participation was to demonstrate the historical role of ham radio on the Wilder Ranch. Our exhibits demonstrated how electronic digital communication began more than 150 years ago, predating wireless. Hams played a major role in this evolution.

I had several interesting conversation with visitors during the day. One was with a mother accompanied by her two young daughters. She was quite interested in the antique communications modes. During our chat, I learned that she was an engineer working on communications satellites with Loral in Palo Alto (the old Philco-Ford operation). After studying some sample QSL cards, she asked who had relayed my communications with Siberia, Norway, and New Caledonia. She was flabbergasted to learn that this communication had been direct, benefiting from ionospheric bounce. We discussed grey lines and propagation fore-



casting. She turned to her eleven-year old daughter to point out that the screensaver on their home computer shows grey

lines, as well as trajectories of scores of satellites.

The working key and telegraph sounder fascinated another visitor. I learned that he was an RF engineer working on wireless devices over the hill. His transceivers are tied to the Internet.

A Technology Timeline

- 1837 Morse patents first electrical telegraph system (electronic digital communications)
- 1858 Underwater telegraph cable connects England and U.S.
- 1861 Transcontinental telegraph provides high-speed communications
- 1862 Telegraphic communications first used in combat. U.S. Civil War
- 1874 Alexander Graham Bell develops telephone
- 1899 Marconi patents wireless in England
- 1901 First transatlantic wireless signal
- 1905 Estimated 150 amateur wireless stations on the air in U.S. Most other stations are military or maritime.
- 1912 HMS Titanic sinks. First major demonstration of value of wireless telegraph
- 1913 Amateurs provide emergency communications during severe Midwestern floods
- 1914 American Radio Relay League founded to form a network of amateur wireless relay stations
- 1915 Transcontinental telephone service begins
- 1916 Santa Cruz County Amateur Radio Association founded
- 1917-18 World War I - Amateur operators called to military service to fill critical need for qualified technical personnel
- 1919 Heald College offers maritime wireless operator training at its Santa Cruz campus
- 1920 Amateurs account for 2 out of 3 U.S. radio stations
- 1921 First play-by-play broadcast of a baseball game
- 1927 Amateur radio station W6YG established at Santa Cruz High School
- 1921 Santa Cruz amateurs host a convention of wireless operators
- 1921 Melvin Wilder acquires wireless equipment for first station
- 1922 Amateurs provide critical emergency communications during severe Midwestern winter storms
- 1924 First Presidential broadcast from the White House
- 1929 First demonstration of color TV, by Bell Laboratories
- 1931 Amateur radio station installed at U.S. Naval Reserve unit in the Santa Cruz Veterans Memorial Building. Most members of the unit were licensed hams. Most would be called to duty in WWII.
- 1932 Amateur operators provide emergency communications during flash floods in Tehachapi Pass, California.
- 1936 Amateurs provide emergency communications during the Great Flood of 1936, which devastated the Eastern and Midwestern U.S.
- 1941 Pearl Harbor. Amateur stations ordered to shut down
- 1941-45 World War II - Amateur operators called to military service to fill critical need for qualified technical personnel
- 1969 The beginnings of the Internet
- 1989 Amateurs provide vital Loma Prieta earthquake communications supplementing failed normal resources.
- 1991 SCCARC 75th anniversary special event station at Wilder Ranch July 4 bash
- 1992 Students conduct amateur radio communications with space shuttle Endeavour, STS-47. Sponsored by the Santa Cruz County Amateur Radio Club



The two code practice oscillators were especially popular with the youngsters. Isn't that also ironic?

SCCARC Board - 2006

President	Christopher Angelos	KG6DOZ	688-3562
Vice President	Pat Barthelow	AA6EG	
Secretary			
Treasurer	Kathleen McQuilling	KI6AIE	476-6303
Board	Mike Doern	KM6IKE	477-1161
	Allen Fugelseth	WB6RWU	475-8846
	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	K6BJ 146.790- PL 94.8 Santa Cruz
County ARC	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	WR6AOK 147.120+ PL 94.8 Ben Lomond
Valley ARC	• 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 W6JVS 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	Nov 17
Board Meeting	Wednesday	Nov 22
Holiday Luncheon	Saturday	Dec 9
Short Skip Deadline (December)	Wed	Dec 13
Short Skip Deadline (January)	Monday	Jan 8
SCCARC Meeting	Friday	Jan 19

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.

SHORT SKIP

NET CONTROL SCHEDULE

(Subject to Change)

11/13	Tom K6TG
11/20	Cody KG6YPK
11/27	Phil KE6UWH
12/4	Allen WB6RWU
12/11	Chris KG6DOZ
12/18	Tom K6TG



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

VOTE FOR NEW CLUB OFFICERS AT THE NOVEMBER CLUB MEETING

The nominees for office in Santa Cruz County Amateur Radio Club, Inc were announced at the October 20th general Club meeting. The slate was presented by the Nominating Committee appointed by President Chris Angelos KG6DOZ and approved by the Board as prescribed in the Club's By Laws. The Nominating Committee consisted of Rich Hanset KI6EH and Allen Fugelseth WB6RWU. The slate of officers nominated is:

OFFICERS:	DIRECTORS:
President: Chris Angelos, KG6DOZ	Vic Linderholm, AE6ID
Vice President: Pat Barthelow, AA6EG	Bruce Hawkins, AC6DN
Secretary: Cody Adams, KG6YPK	Allen Fugelseth, WB6RWU
Treasurer: Kathleen McQuilling, KI6AIE	Mike Doern, KM6IKE
	Ron Skelton, W6WO

ADDITIONAL NOMINATIONS: Nominations from the floor may be made at the November club meeting prior to the ballot. The person being nominated has to agree to run for the office.

VOTING: The voting will be by paper ballot at the November meeting. The By Laws say: "The OFFICERS shall be elected by ballot at the November Meeting. Their term of office shall begin at the December Meeting (i.e., Christmas Lunch Meeting) and they shall serve for one year. The (DIRECTORS or) BOARD MEMBERS "...shall be elected by ballot at the November meeting and their term of office shall begin at the December meeting..." The By Laws make no provision for absentee ballots.