

JUNE 2003

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



Field Day 2003 - It's Here!

Summer is here again, and there's nothing like camping out, having a BBQ, and... how about some ham radio operating, too? It's time for Field Day 2003, our fun-in-the-sun, outdoors, overnight, radio operating and camping extravaganza!

Field Day takes place on June 28-29 at the CDF Training Center site adjacent to the CYA camp at the top of Empire Grade in the Santa Cruz Mountains. This will be our ninth year at this fantastic site. As usual there will be water, flush toilets and an outdoor shower available, and we are looking forward to having numerous stations in operation again this year.



We will have access to the site on Friday, June 27 at 11 AM for getting a head start in setting up. Like previous years, we really could use a good turnout of folks that day to come and help us set up antennas and stations. Once again, our goal this year is to have all stations up and ready to go when Field Day starts on Saturday morning. If you can help out this way, that will be great. Meanwhile, volunteers will also be needed on Sunday morning to break down after the event.

Field Day Coordinator Tom Guyer, KG6AO is still in the process of tracking down operators and equipment for the event. If you have not contacted him already about operating at Field Day or loaning us your equipment, please email him ASAP at kg6ao@k6bj.org, as he will need to have the station and equipment list finalized soon. He also will be at this Friday's club meeting, looking for last minute recruits. We would love to have you operate, and we will have plenty of room at our spacious site for you to set up camp as well!

Also, we would like to set up and man a public relations booth, to distribute information about our club and ham radio to any visitors from the general public. Please let Tom know if you can assist with this important public service aspect of Field Day!

By the way, if you want to just come and operate for a few hours or even a half-hour, we would love to have you come up and do so! Even our most die-hard operators will need relief, and this will give you a chance to experience the fun of Field Day without an all-day or night commitment. Even if you don't want to operate, you can still help out with logging. Those of you who want to just come up and observe the action are welcome as well, especially if you are unfamiliar with Field Day and just want to see what it's all about.

Continued page 2

FD—How to Find It!

When: 11 AM Saturday June 28, 11 AM—Sunday June 29 (setup begins at 11 AM Friday June 27)

Where: The CDF Training Center just past the CYA camp at the top of Empire Grade Road in the Santa Cruz mountains.

Directions: Hwy 1 North towards Half Moon Bay. At the second traffic light, turn right on Mission St, and immediately turn right again on Highland Ave. This street becomes High St., which in turn becomes Empire Grade Rd past the UCSC main entrance. Continue 13 miles, watch for Crest Xmas Tree farm on right. Within one mile the CYA camp will be on left side. Look for "K6BJ Field Day" sign just past main entrance to camp, and turn left into the nursery site. Do not enter the CYA camp, please.

Talk-In: K6BJ 146.79(-) / K16EH 147.945(-) from 11 AM to 5PM Saturday.

Bring: Sunscreen, hat, insect repellent, old shoes.

REMEMBER! Make at least one contact, assist an operator to make a contact, or help out in any way, and your reward will be our fabulous BBQ on Saturday night!

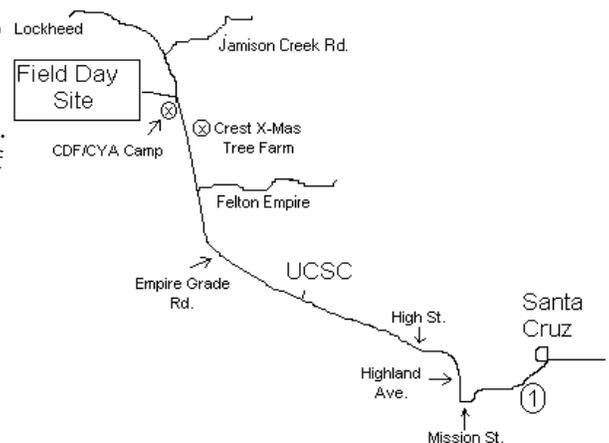
If you can't make it to the site - Please look for us on one of these frequencies:

VHF FM simplex - 146.55 and 146.49 MHz, no PL

UHF FM simplex - 446.0 and 446.5

Other FM simplex - 52.525, 223.5 and 1294.5

SSB - 50.125, 144.2, 222.1, 432.1 and 1296.1



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



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On the Air in Marina

The weekend of May 10/11 was bright and very breezy- just what the participants of the Marina Festival of Winds had hoped for. The event featured all manner of wind-related activities and the size and variety of kites was truly spectacular. Pat (AA6EG) set up an exhibit of Ham Radio as part of the science section. The local QRM was severe but we enjoyed several HF contacts and answered lots of questions about our hobby. We carried out a modest experiment with a Helium-filled radiosond balloon provided by the Naval Post Graduate School. In a fairly stiff breeze the 4ft dia. balloon remained almost vertical and could lift about 30 feet of RG58 plus about 60 ft of 20 GA magnet wire. This showed promise for future field day events as two balloons we expect could lift a respectable dipole or inverted vee.



Pat AA6EG at lift-off

Thanks go to Pat for all the efforts he made and to others who showed up to assist.



By Art Lee WF6P

CHATTER

Dan Anderson, AA6GD, sadly informed me that Norm Peterson, N6DAC, passed away on May 27th. I worked Norm a few times on the air after his GE net but mostly we enjoyed music together. I rode with Norm and wife Beth, W6RYL, on one occasion to Berkeley to listen to an organ concert. Vivian and Leon Fletcher, AA6ZG, were there, as well as Gary Baker, N6ARV, and Wayne Thalls, KB6KN.

Norm and Beth have been longtime Santa Cruz club members, joining the same time I did in 1980. Norm had played piano in a band back in Pennsylvania with the brother of a mutual friend. Norm and I got together weekly for a couple of years with me on the Hammond organ and him on piano. We had trombonist Sal Basile, N6WSR, join us once, along with string bass player, Royce Krilanovich, AC6Z, and sax player Don McK-alson (ex-ham). Susan Tracy, WA6OCV, plays guitar but we could never get her to join us. We always had a grand time banging out old tunes. Norm played a very excellent "back east" style of piano. Our music must not have been too bad as Beth, W6RYL, always sat through it. Norm graduated from UC Berkeley with his EE in 1936, was in the UC Marching band playing trumpet. Norm spent time in Oakland and was very familiar with the same radio parts stores I frequented. (This was before the term "electronics" was in use.) One, I believe, was called, Zacks, on East 14th street, next to Lake Merritt. That was 1943-6 before I left for the Navy. Later, Norm told me that he had participated in the development phase of the GE-J-79 engine, which powered planes in the fighter squadron I was assigned to. It is always a sad time when we lose a friend - but it is the good times we remember the longest.

When my ICOM IC-761 frequency readout quit, I switched to my old Kenwood 930S. It had been stored in Donna's birdhouse for a couple of years, unused. I scraped some bird residue off the cabinet and hooked up power and the antenna. The rig wasn't getting out on SSB but CW was OK. Finally, I turned the MC-60 desk mic on and off by using the

small switch on the mic shaft. The xmit light was coming on but I wasn't sure it was working. On about 7.263, I said the word "test" a couple of times and was surprised when a voice came back, saying "You're doing fine at this end." Thus began a QSO and friendship with Carrie, KI6QO, in Niles. Turns out she was a WAVE, back in the Treasure Island days when she was an instructor in the Electronics Technicians school there. In 1951 she was stationed in Hangar 24 at NAS Alameda while I was in Hangar 11. Small world.

After a few minutes, I tore into the push-to-talk circuit on the mic base. After some-banging around, out fell something looking like fine sawdust. It still didn't work, so decided to take the board off and spray the switch with contact cleaner. I couldn't get the tiny screws out as they were sealed in. While holding the mic key down, the xmit light suddenly came on! The switch now works perfectly.

Hank, KG6EE, sent me an email with an enclosure showing a spectacular lightning-show. I forwarded it to ham pals with the admonition that if we hadn't grounded our antennas but the time this was happening, it was too late. Suellene, KG6MBT, emailed back that she showed the picture to husband Steve, AC6P, and he got a chuckle out of it. "Reminded him of a field day with W6YL a few years ago when there was a thunder storm in San Jose. Some young SJSU students were holding up a 20 foot antenna (one guy had both hands on the antenna) and there was so much electricity in the air that the hair on his arms was sticking up. One kid said "What do I do?" Needless to say that they got a very short lecture on how to drop the antenna, run and hit the deck."

Field Day Continued

As usual, we plan on having our big Barbecue on Saturday for those at the site! If you want to volunteer to help out with the BBQ (which is always the highlight of our club's Field Day), please let Tom know..

The accent on SCCARC's Field Day operations continues to be on having fun, and educating newcomers and the public about ham radio. Once again, we hope to build upon that tradition, and score more points than ever before! This year, the SILVARC will be holding its own Field Day, so the competition should be heating up along with the weather.

So, let's make this the best Field Day our club has had yet! We hope to see you there!



We had our usual high energy discussion this morning and was pleased to meet Bob KF6ZYJ from Carmel for the first time. Bob should have some interesting tales to tell about his travels on the Golden Bear sailboat.

A solar panel was shown that folds up into a package approx 18 x 6 x 2 inches and weighs 4 Lb. It generates 30/40 watts, 2.2 Amps at around 15 Volts. It's primary military purpose is to power a satphone. Looked like it could be worn as a vest! You QRPers should not get too excited unless you have \$600 to spend.

We had some fun with a few FRS radios that Radio Shack were selling for \$2.50 !!!

K6XX showed off his innovative triband radials for a HT.

A tough question came up that no-one-felt confident to answer. "Is the dielectric constant of a material frequency-dependant at any time? Most felt that unlike dielectric loss, the permittivity of a material was frequency independent. However based on what I subsequently found via Google the dielectric constant might not be quite as constant as we think. . . "...the dielectric constant is a complex constant, with the real part giving reflective surface properties (Fresnel reflection coefficients), and the imaginary part giving the radio absorption coefficient".

When in doubt I refer to my trusty Terman college text now 46 years old and lo and behold there I found a discussion on the behavior of polar molecules which may be found in some dielectric materials. " Thus if the frequency is made sufficiently high the polar molecules are not able to follow the alternations of the applied field and the dielectric constant drops". Non-polar molecules apparently do not exhibit these changes but there was no further information so experts please pitch in.

Guys reported fun using HF mobile and 5 Watts. Not bad considering the cndx.

Eric reported good business at Dayton and gave an overview of the new Icom 7800 radio I think I heard the price at around \$10 K. (just in time for Xmas no doubt).

70 CM REPEATER FIXED

As many of you know the club's 70 centimeter repeater in Santa Cruz has been suffering from reduced receiver sensitivity. Now, it's fixed.

In a crisis mode drill last night, various volunteers gathered at the Santa Cruz repeater site to see what the commotion was. Bruce AC6DN had improved the UHF repeater's receive sensitivity and in the process found an anomaly in it's transmitter's power output. Bruce was working with Eric KB6PPQ at the site, and got some technical assistance from Jeff AE6KS and kibitzing from Mike W6WLS, Mike KM6IKE, Roy KF6KVD, and me. After everybody else left the site, Bruce, Eric, and Roy continued with an extra effort that finally produced the desired results.

So, if you haven't had much luck using the K6BJ 440 repeater recently, give it another try. It hears much better now. Transmitter and receiver performance are both improved. Now, Jeff AE6KS can get into the repeater from inside his office with his HT again. It's been some time since the repeater was that sensitive.

These improvements were made to the old mobile radio that's always been in use as our UHF repeater. Our club has also been generously given another base-style UHF repeater radio (currently crystallized around 460Mhz) by JV K6HJU but it is not yet converted for our amateur service use. George K6TAM also gave our club a Motorola receiver preamp module designed specifically for use with the UHF repeater from JV, and for the moment that preamp is already in service in our existing repeater. The future plan is to replace the current UHF repeater (mobile) radio with the more durable base-style one after it has been converted to our 440.925/445.925 frequencies. Anybody with Motorola Micor repeater experience want to work on that conversion?

Thanks to all. 73,

—Cap KE6AFE

Eric also reported significant work being done at N6IJ and invited donations to help make this a premier station on the West Coast.

We discussed what you might find as Spyware and Data-mining software that has found its way onto your computer. Try the free "Ad-Aware" tool and find out.

Ron discussed the innards of a directional coupler purchased for \$1 at a recent flea market.

Thanks to all who made the trip and shared what they know or would like to know.

The Digital Dimension

PSK-31 and a Laptop Computer Too Much Volume

For Field Day 2002 I borrowed a laptop computer to run my 20m Digital station. The plan was to operate mainly PSK-31 and a little RTTY. For PSK-31 I used the free Digipan software [<http://www.digipan.net>]. The setup worked fine but I had a slight problem. Even with the "Line In" volume control adjusted all the way down on the laptop computer the Digipan waterfall display was overdriven (way too much yellow/red compared to blue). This made it hard to see some of the tracks. Luckily this only affected the visual display, Digipan seemed to copy the signals just fine.

I was using the audio output from the back of my transceiver so there was no way to adjust it to a lower level. This setup had always worked fine with the sound card in my desktop computer system at home. I guess the laptop computer sound card was just too sensitive. I was using the "Line In" input on the laptop computer and not the "Mic" input, the problem was worse if I used the "Mic" input.

Volume Control

In November 2002 I saw a posting to the WriteLog reflector that solved my problem [<http://lists.contesting.com/mailman/listinfo/writelog>]. Radio Shack makes a "Volume Control Headphone Extension Cord". It's a small cord 12" long with 1/8" stereo phone connectors at the ends (one female and one male). There is a thumbwheel in the middle that lets you attenuate the audio signal. This thumbwheel allowed me to adjust the input audio signal to the laptop the way I wanted on the Digipan waterfall display.

It's Radio Shack part number 42-2559, \$5.99

<http://www.radioshack.com/>. You may have to order it; the store I went to only had one in stock.

—Marc, W6ZZI@arrl.net

Funny Farads

When the voltage across a capacitor changes, a current flows and the faster the change the more the current. With a rate of change of one volt per second (1 V/s), a current flow of 1 A results in a capacitor having a capacitance of 1 Farad. (named after the famous scientist Michael Faraday). 1 Farad is an extremely large amount of capacitance and in practice the capacitors we use have units of microfarads (μF), where $1 \mu\text{F} = 10^{-6} \text{ F}$ (1 millionth of a Farad), and picofarads (pF), where $1 \text{ pF} = 10^{-12} \text{ F}$ (1 millionth of a millionth of a Farad).

At radio frequencies (RF), typical capacitors range from about 1 pF to 1,000 pF in tuned circuits, and from about 0.001 μF to 0.1 μF for blocking and bypassing. At audio frequencies (AF), capacitors range from about 0.1 μF to 100 μF and in power-supply filters they can be as high as 10,000 μF .

Capacitors are often marked using a 3 digit code where the value in pF is the first two digits multiplied by the number of decimal places defined by the third digit. For example 103 has a value of 10,000 pF and with arithmetic this is $= 0.001 \mu\text{F}$, 104 is 10,0000 or 0.1 μF and so on. Letters following the 3 digit code indicate tolerance for example "J" represents +/-5%. More details are in the ARRL handbook.

Another unit of capacitance that we use is the nanofarad, shown on diagrams as nF. It is left as an exercise for the reader to figure out what 1,10 and 100 nF components are equal to in decimal form and by 3 digit codes.

And try this one at your next cocktail party " Hi there, did you realize the daraf is the unit of elastance, the reciprocal of capacitance?"

—W6WO

SCCARC Officers - 2003

President	Richard Trebbien	KG6AXD	426-0169
Vice President	Jim Welty	KF6YRD	685-9225
Secretary	Cap Pennell	KE6AFE	429-1290
Treasurer	Elaine Pennell	KE6FRA	429-1290
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	Allen Fugelseth	WB6RWU	475-8846
	Mike Doern	KF6UXB	477-1161
	Ron Skelton	W6WO	477-1021
K6BJ Trustee	Royce Krilanovich	AC6Z	

MONTEREY BAY ACTIVITY

SCCARC Repeaters: K6BJ 146.790- PL 94.8 Santa Cruz (linked w/Watsonville full time)
 K16EH 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
 • SCARES Net Monday 8:30 PM 146.835-(PL 94.8)

SLVARC Repeater WR6AOK 147.120+ PL 94.8 Ben Lomond
 • SLVARC Net Thursday 7:30 PM

SLVARES 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
 • Newsline (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, NS6G repeater, 146.700- PL 151.4

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

SCCARC Calendar of Events

SCCARC Board Meeting 6:30	Friday	June 20
SCCARC Meeting	Friday	June 20
Field Day	Fri-Sun	Jun 28-29
Short Skip Deadline	Monday	July 7
SCCARC Meeting	Friday	July 18

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

NET CONTROL SCHEDULE (Subject to Change)

6/16 Jeff KF6BKG

6/23 Phil KE6UWH

6/30 Tom K6TG

7/7 Allen WB6RWU

7/14 Joseph KG6NRI

7/21 Ron W6WO



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

MEETING FRIDAY JUNE 20, 7:30PM —Building Change!

Our next "sccarc" meeting will be June 20th. **We will meet in basement of Dominican Hosp. in Conf. Rooms #1,2,and 3.** We will be hosting a silent auction, of which 10% of sales goes to the club. Bring all of your goodies, radio related, or otherwise to the auction. Remember "one man's junk is another man's treasure". See you all there, Friday June 20th at 7:30. —(kf6yrd) your vp

First Class



STRAWBERRY FIELDS CENTURY

Tom Johnson KQ6DV, providing communication support for the Strawberry Fields Century. SCARC and ARES have a long history of providing necessary communication between the various check points along the ride.