

JUNE 2010

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



Field Day 2010

The SCCARC will collaborate with the San Lorenzo Valley Radio Club again this year. The coordinator is Rich Seifert KE1B, Field Day Event Coordinator, (408) 395-5700 ke1b@richseifert.com

The focus this year is not on achieving the highest score possible. Instead, we intend to make it easy and fun for non-hams to get a taste of our hobby, and to provide as much "contest" experience as possible for new hams,



Installation teams raise the tri-band Yagi antenna in preparation for Field Day operation
Photo by: Rich Seifert, KE1B

particularly Technicians with no HF experience.

Field Day outline is as follows:

Friday, June 25, 11 a.m. to sundown: Setup

Saturday, June 26, sunrise to 11 a.m.: Finish Setup

Saturday, June 26, 11 a.m. to Sunday, June 27, 11 a.m.: Field Day operation

Sunday, June 27, 11 a.m. to 2 p.m.: Tear-down and cleanup

The location is same as for the past two years, the CalFire Training Center on Empire

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Kent Brown (AB6KB) establishing long range communications on 10 Meters using a portable station with 3 element Yagi.
Photo by: Bill Conklin AF6OH

The Efficiency of Vertical Antennas

The relevance of verticals was established at the beginning of the radio era and is never more so with today's small lots and restrictions. Yes I know the old adage "Verticals are equally bad in all directions" and certainly they have little or no horizontal directivity but in general they can achieve effective DX communications. What more can we say beyond these generalities?

To answer that question we can learn a great deal from an article in the July/August 2009 issue of QEX by Robert J Zavrel Jr (ARRL Technical Advisor). W7SX. We may skip most of the math here but the following deceptively simple equation is a foundation to gaining a better understanding of antenna efficiency.

$$\text{Efficiency} = R_r / (R_r + R)$$

R_r is the Radiation resistance

Conceptually R_r is where power is "lost" to space, (just where we want to "lose" it)

R is the ground Resistance

This is where power is wasted and typically R is dominated by losses in the nearby ground. The value of R is hard to establish but is rarely less than 2 Ohms and we usually have limited means to reduce it by laying copper in the ground. The article makes this point and proceeds to focus on what we can do to increase R_r .

R_r is shown to be proportional to the effective height of the antenna (h_e)

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CLUB MEETING FRIDAY JUNE 18, 7:30PM

ARRL Exam Testing

The Tri-City VE Group welcome candidates to our location near highways 680 and 880 at Hurricane Electric, 48233 Warm Springs Boulevard, Fremont.

Here are the scheduled 2010 test dates:

July 10 Saturday 9:00 a.m. – 11:30 a.m.
 August 19 Thursday 6:30 p.m. – 9:00 p.m.
 Sept. 9 Saturday 9:00 a.m. – 11:30 a.m.
 Nov. 13 Saturday 9:00 a.m. – 11:30 a.m.
 Dec. 16 Thursday 6:30 p.m. – 9:00 p.m.

For further information, contact Bernhard AE6YN@arrl.net (510) 364-0611, or check the ARRL website.

Local License Exams Watsonville, Saturday June 12th, 1-5pm

The entry-level Technician Class question pool will change at the end of June. The old study booklets will be out of date by then, and I hope nobody will have to buy a new study booklet (for use after June). Anybody studying

the exam questions (up to now) will want to pass their Tech exam before Field Day this year, before the end of June! If you know someone who will show up to take the exam in Watsonville on the afternoon of June 12, please notify Suellene W6CPA or Matt KI6LTS.

You can search for other ham exam sessions within 50 miles of your Zip Code at <http://www.arrl.org/find-an-amateur-radio-license-exam-session/>

Saturday June 12th, 1-5PM The Church of Jesus Christ of Latter-Day Saints. 255 Holm Road, Watsonville, CA 95076

831-536-4437 Technician, General, and Extra exams \$15

Santa Cruz County ACS



Santa Cruz County ACS members (L-R) Cap, KE6AFE, Ron K6EXT, Alan WB6RWU and Jerry AE6I take part in the weekly Cal EMA Net at the county EOC.

Strawberry Fields Forever, May 16



Memorial Day at Harvey West Park



Antenna continued

squared and is unrelated to the feed point resistance. If we maximize (he) we maximize R_r and the more efficient will be the antenna. W7SX shows that (he) is the product of the average RF current along the length of the vertical element and its physical length. While unloaded, ground mounted quarter wave verticals are common, a half wave version is shown to be optimum (R_r of 99.5 vs 36.8 Ohms) with R_r rapidly decreasing below a quarter wave. In general (but not always) physical length is good

The addition of inductive and capacitive (top hat) loading are the most common techniques used to increase the average RF current. The example given is $R_r=36.8$ for a simple quarter wave vs 74.1 with top loading. Other advantages of elevating the base of a vertical above ground are also described.

Here are a few of the author's conclusions.

Everything in the near field must be considered part of the antenna and will determine directivity, efficiency and gain including radiation and loss resistances

Power loss also occurs in the far-field which affects propagation and reflections.

Overall communication effectiveness is determined by the sum of near and far-field losses

R_e is a function of the physical length and current distribution, and nothing else

Efficiency can be optimized by orienting the maximum current point half-way along the vertical element

The use of EZNEC and other modeling tools can provide a convenient view of the current distribution while experimenting with loading configurations.

A practical application of the principles just described can be found in QEX July/August 2005 A Space-Saving Antenna for 40 Meters by yours truly

—Ron W6W0



By Art Lee WF6P

CHATTER

I almost never miss seeing a fellow ham when I visit Costco. Loitering around the computer/TV area, one in particular can always be seen: Sal Basile, N6WSR. If I ever need a computer or cell phone upgrade, Sal is the guy I will call for advice. (He plays good trombone, too!)

My daily check-in on the Baja Pacific Maritime Mobile net is always fun. I try to make contact with my pal Terry Parks, N6NUN, on his boat in Sausalito. Through relays, we arrange for a switch to 80 meters from 40. Just about every net controller or relay always advises Terry to "wait two minutes while Art hooks up his 80 meter wire." The coax is temporarily coiled on my deck, just outside my patio door. This "temporary" condition has been on-going for about four or more years. Someday.

I'm glad to see that it is nearly Field Day time again. Seems like only a few months ago that we were up on the hill, banging away on straight keys and yacking on microphones to fellow amateurs. Planning is always half the fun and I see that those endeavors are in full swing. I remember a couple of Field Days ago when I drove down the hill after dark. I was totally amazed at the number of lights from cabins and homes back in the woods. It is a real city in those hinterlands.

I recently received the May/June issue of the Northwest magazine OREGON COAST. Club member Pat Henry, WA6PKM, moved to Gold Beach, Oregon, many years ago but his interest in History prompts him to send me interesting articles. The last one is of my particular interest in that Oregon was bombed by a Japanese pilot, Nobuo Fujita, flying a submarine-launched seaplane. While the firebombing did little damage, it was, nevertheless, a remark-

able one-time happening. Within a few months of the December 7th, 1941 attack on Pearl Harbor, I experienced a second bombing attack on the island of Oahu. As a schoolboy, we often hid in trenches with our gas masks as air raid sirens blew. Only once did Japanese seaplanes return to drop their explosives. I believe it was about February, 1942 when two Emily seaplanes landed at French Frigate Shoals, north of Honolulu. They refueled from submarines, then launched their attack at night. Several bombs landed in the hills behind Roosevelt High School. We lived a few short miles away. The second aircraft dropped her bombs off shore, near Pearl Harbor. Both of these bombing attacks were kept secret lest they alarm the U.S. populace.

After WWII, I met the leader of the December attack on Pearl Harbor. Commander Fuchida visited all the Pacific Island naval bases to tell his story. I was on Guam at that time. It felt a bit odd to shake his hand after witnessing his sinking of our battle fleet. Several of his raiding aircraft strafed our house, military quarters on the West Loch ammunition depot. In 1962 Pilot Nobuo Fujita was an invited guest of the City of Brookings, near the site where his bombs landed. He presented the City with his 400 year old samurai sword, the same one he carried on his bombing flights.

Field Day continued

Grade.

Field Day operation will be class 2A. We expect to have

- One HF CW station (80/40/20/15/10 m)
- One HF SSB station (75/20/15/10 m)
- One "Get On The Air" (GOTA) station (40 m SSB) for non-hams and newbies
- One VHF/UHF station
- One satellite station

All area hams are invited to participate, whether or not they are members of the SCCARC or SILVARC clubs. The public is invited to visit on Saturday afternoon. Visitors will be given a chance to operate under the supervision of a licensed ham.

SCCARC Board - 2010

President	Bruce Hawkins	AC6DN	689-9923
Vice President	Greta Steinbruner	KI6NTL	325-9482
Secretary	David Copp	WS2I	708-2206
Treasurer	Kathleen McQuilling	KI6AIE	476-6303
Board	Christopher Angelos	KG6DOZ	688-3562
	Mike Doern	KM6IKE	477-1161
	Rich Olsen	W1WUH	464-7474
	Cap Pennell	KE6AFE	429-1290
	Jeff Watson	W6NA	
K6BJ Trustee	Allen Fugelseth	WB6RWU	475-8846

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) • 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 Newslines 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	Jun 18
SCCARC Meeting	Friday	Jun 18
Cake Meetings	Sat	Jun 12, 26
Board Meeting	Thursday	Jun 24
Field Day	Sat-Sun	Jun 26-27
Short Skip articles due	Mon	Jul 5
SCCARC Meeting	Friday	Jul 16

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

(Subject to Change)

6/14	Greta KI6NTL
6/21	Phil KE6UWH
6/28	Chris KG6DOZ
7/5	Tom K6TG
7/12	Byron KI6NUL

Short Skip is published 12 times per year.
Free to members.

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