

MARCH 2007

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



Thin Film Antennas

Have you ever had trouble opening a package and marvelled at the strength of the plastic? Now new plastic film technology with low RF loss has become available that is ten times stronger than any metal of the same thickness and one hundredth of the weight. This makes possible inflatable structure that were not previously considered. Military and radio amateurs have used inflatable techniques for masts and simple antennas before, Jeff AE6KS has long been a devotee. The state of the art for mobile antennas has recently been demonstrated by W6W0 with an inflatable dish suitable for all bands from 1 MHz to 10 GHz. Field testing in winds up to 1 mph has been conducted with encouraging results.

—73 W6W0

Early Developer of Magnetron/War Effort in Aptos



SCIENCE MUSEUM/SSPL

The Santa Cruz region, sure has some notable Giants in the technology history arena. I just got this message. about Jeffery Thornber, a team player in WWII whose team played a role that changed history, and helped in a big way to win the war, by developing the magnetron, which we all use in our kitchens today with our Costco \$59.95 KW microwave ovens.

—Pat, AA6EG

EIGHT PASS TECH CLASS

Here is an update on the tech class, license test was given on 17 Feb 07. Eight students showed up and all eight passed the tech. license test. Also three people also took the general test and passed it. One of the new students plus two of the instructors, Peter KE6RAX and Chris KG6DOZ (our club president), Chris then took the extra examine at Hamfest and passed.

A total of six club members helped with the class, Peter KE6RAX, AL KM6VV, Vic AE6ID Chris KG6DOZ, Reed N1WC, Cap KE6AFE.

The Santa Cruz VE Group: Steve Peterson AC6P, Erick Castillo AE6UF, Reed Cotton N1WC and John Nogatch, AC6SL.

— Peter KE6RAX

Art and Skill of CW

The Art and Skill of Radio-Telegraphy A Manual For Learning, Using, Mastering And Enjoying The International Morse Code As A Means Of Communication

The art and skill of telegraphy is unique. The psychologists who have seriously studied those who have developed this skill have been fascinated and challenged to try to understand it. Isn't the very idea of being able to communicate your thoughts to another by means of intermittent tones something intriguing in itself?

Third Revised Edition Last edit - July 19, 2001 Copyright - 2001 William G. Pierpont, NOHFF

My uncanny sense of probability tells me that this 210 page book will not be an instant hit with the majority of SCCARC members and I render no judgement in saying this. The question I often ask myself is how satisfactory is my life and where does satisfaction come from. I do know that operating CW is an achievement that contributes greatly and think of it rather like fly fishing, why do it if all you want to do is to eat fish.

—W6W0

Phonetic Alphabet

A = Alfa	J = Juliett	S = Sierra
B = Bravo	K = Kilo	T = Tango
C = Charlie	L = Lima	U = Uniform
D = Delta	M = Mike	V = Victor
E = Echo	N = November	W = Whiskey
F = Foxtrot	O = Oscar	X = X-RAY
G = Golf	P = Papa	Y = Yankee
H = Hotel	Q = Quebec	Z = Zulu
I = India	R = Romeo	

A phonetic alphabet list that is small enough to tape to the side of your computer monitor or in front of your base station radio so it's ready for immediate reference.

— W6ZZZ

March Speaker

The subject of the next meeting will be James Maxwell. Here is the title page:

James Clerk Maxwell:

"Cats, Taxes, and the Heavyside Layer"

The speaker will be Dave Rank

March Raffle: Start Your Spring Cleaning Early

Just think how much easier your spring cleaning will be once you've cleared out all that old radio gear and brought it for the raffle at our March membership meeting! We are not limited to radio-related items, though. Your discards may be someone else's treasure!

--Kathleen, KI6AIE

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



Feb 17 Ladies and Gentlemen,

GIGI's bakery was most likely delighted last Saturday to have no less than 20 customers in one fell swoop. This was a record number for our CAKE sessions. I am pleased to say our noise level was moderate, we did buy their fine food and coffee and cleaned up afterwards. It is always good to see Kathleen and Alicia with us.

As usual a wide variety of topics and articles surfaced. Antennas are always popular and a Wi-Fi 4-element patch array for 2.4GHz isn't something one sees every day. Its Teflon-Epoxy board material is low loss and I would like to find some in a junk pile.

Another commercial product was a switched attenuator by MFJ. This now uses surface mount devices and is a much better RF design than their previous model. Ralph W6ENE brought along an album of photos from his WWII days on-board Navy ships. The many antennas and Collins radios show how dependant the military was on amateurs and HF in those days.

We were able to peruse a copy of the 2007 ARRL handbook. For new hams this is just an essential purchase. You will find it answers so many questions it is really good value for money.

Examples of home brew gear, old and new, are always appreciated. We saw another fine example of a balanced line antenna tuner and discussed its use of link coupling. Dave showed his little 40m Tin-Ear receiver built from an AMQRP kit. This uses a very simple example of permeability tuning in contrast to the more common use of variable capacitor tuning. Having wireless internet access has proven to be useful. Ask a question and Mikey N6IL finds the answer on-line in a matter of seconds. For example he found a tool by Roper-Whitney for punching pads for use in home brew projects requiring a ground plane.

Jeff AE6KS showed his nifty Cellphone/Pocket PC from Verizon. Shape of things to come no doubt. Jeff also demonstrated pen-sized tool for detecting 60 AC electric fields it does not require any contact or current to be flowing.

We talked about the amazing restoration of the 30m diameter dish being carried out by Pat AA6EG and an illustrious team of engineers and scientists. Seeing this mother move is a sight to behold. Extreme low noise microwave communications brought out the little known issue of the noise temperature of vegetation and the even lesser known noise temperature of pigeon droppings. Remember that for your next Ham cocktail party.

The mystery item was brought by Bruce AC6DN and I never heard what it was, perhaps he will bring it next time

March 3 '07

It was a pleasure to welcome Don KI6HST and applaud his success in gaining a general license. Don is the son of Dave Taylor SK. Don admits that he needs to have more radio theory under his belt as his expertise lies in software. The ARRL handbook will be a very effective way to progress Don. Chris



KG6DOZ recently upgraded to Extra Class Congratulations to you both!

Bruce AC6DN provided a detailed presentation on a 900 MHz bar code reader made by the company he works for. It was particularly interesting in its use of quadrature mixers, filters, phase lock loops and many other components we find in Amateur gear these days. Great job Bruce, thanks. Dave W8FLL always has an interesting item of home-brew, nice marker generator Dave.

Mikey N6IL gave us some insight into the homework on his plate, very tough software assignments to be sure. Not content with that challenge Mikey wants to understand in detail how the code in very early PCs actually works. He showed a Radio Shack TRS80 user manual that included detailed assembly drawings, circuit diagrams and loads of other information. What a difference 20 years makes HI HI

A discussion on the multiplicity of software languages followed with some reminiscences of the likes of FORTH that one hears so little of these days.

Pat AA6EG came through very well via Skipe

and he summarized the remarkable efforts and results at the Jamesburg earth station.

The mystery item provided by Ron W6WO turned out to be the base for an active antenna. Ron explained this was designed for use at low frequencies ie around 100 kHz together with an upconverter to 3.5 MHz. Communications at these frequencies is very demanding due to high noise levels, inefficient antennas, and very strong commercial



and military signals. "Low-fers" as they are called also must love late nights and early mornings.

As usual we had a fun time but I apologize for not catching

all that transpired. BCNU on the 17th Be there and be Green !

Welcome New HF Ops

See the March QST "Welcome" insert.

Also available to everybody at [639,434 bytes, PDF]: <http://www.arrl.org/HFWelcome/Welcome.pdf>

Topics:

Time to Roll Up Our Sleeves and Mentor!
- Invite! Inform! Inspire! Involve!

The ARRL Volunteer Exam Coordinator -
We'd like to help you earn your new license or upgrade.

The Top 10 Reasons to Try Morse Code - If you still need a reason to get on CW, here are 10 of them!

Qualify for Ham Radio Awards Instantaneously with LoTW - You'll find

Logbook of The World to be an invaluable resource.

Which HF Transceiver is Right for You?

- Well, that depends on how you intend to use it.

HF Propagation: The Basics - When's the best time to check out the high-frequency bands for those globespanning contacts you've been hearing about from long-time hams? Now!

The Considerate Operator's Frequency Guide - A guide to where on the HF bands various modes and activities are generally found.

—W6ZZZ

Jamesburg and Microwaves

It appears that the talk by Brian Yee, W6BY, on Jamesburg and Microwaves was well received by SCCARC at the meeting.

If any of our SCCARC members are in the teaching profession, and want to bring kids to the coming EME QSO events at Jamesburg, please do/contact me for coordination. Kids are going to be a crucial part of our coming activities.

There is an interesting post about lack of engineering/Math track students in the pipeline, made by the CEO of Raytheon, URL copied below.

A Raytheon CEO recently published an alarm call (URL below) pointing out that the US is severely lacking in Science/Math track students, who are germinated in the middle school level. I feel that we MUST have kids at the EME event that is rapidly approaching.



W6WO with Jamesburg Antenna attached to van... hi hi

I am sending a formal invitation to the CEO of Raytheon to tour Jamesburg, and see our EME project early on, hopefully accompanied by selected, local students, who will literally hold the mic, and in addition to 2 way qsos hopefully, the scenario with a lot of impact, will be kids hearing, and being taught the profound observations of the 2.5 second delay from when they say "Hello!" to the time THEY hear their own voice returning.

<http://www.longandflatsociety.com/Galleries/JamesburgEarthStation/tabid/466/Default.aspx>

See this recently published News from Raytheon CEO "Do the Math."

<http://knowledge.wpcarey.asu.edu/index.cfm?fa=viewfeature&id=1351>

We now have an email reflector. For more information see:

<http://www.bambi.net/jamesburg.html>

—73, DX, de Pat AA6EG



By Art Lee WF6P

CHATTER

The last club meeting was very informative. Ron, W6WO, gave us a fine presentation: "A Software Toolkit," illustrating various methods of calculating filter, circuit and antenna designs. (Thanks, Ron, for putting it all together.) One of my former Cabrillo College students, Reuben Gonzales, attended and announced his new Extra class call sign, N6RG. Also attending the meeting was Don Taylor, son of Dave Taylor, K6GHA (SK) "Great Hairy". For many years, Dave managed the ham radio communications and equipment for ARES at the Red Cross headquarters. Don is newly licensed and was a student of Eddy Pollock, W6LC, also at Cabrillo. Don has worked for HP for the past 25 years. As a young boy, Don used to climb his Dad's 40-foot tower and test small package parachutes drops, all of which were successful. Note: Several years ago, the Cabrillo College Electronics Department was disbanded and converted to the Computer Science department.

16 of the 26 attendees at the meeting are regulars at the bi-monthly CAKE meetings held at GiGi's bakery and coffee shop.

I received a note from Ron, KD6BD, and Miggles, N6FAC. They are selling their house and moving to the Northwest.

"Ham Radio ... Getting the message through for your family and community"

The Web site provides page space for emergency communication and disaster relief organizations to tell about their work. "So far, SKYWARN, MARS, SATERN and RACES have taken advantage of our offer, showing the versatility of ham radio in disasters and emergencies,"

<http://www.emergency-radio.org>

<http://www.arrl.org/news/stories/2007/01/30/100/?nc=1>

Both are long-term club members. Also selling and moving are Rich, KI6EH, and Lee Hanset, KC6BML, not so far, but to their new QTH at Discovery Bay. Rich gave me a 100 pound box of reloading tools for rifle and pistol ammunition. We were going to carry it from Rich's basement but he ended up carrying the whole box up the hill and placing it in the back of my truck. That was a heavy box but too awkward for the both of us to handle at once. Also received a clipping from Patrick Henry, WA6PKM, up in Gold Beach, Oregon, where a 9-year-old girl and her father received their ham tickets. She, her father and mother are all now licensed hams.

Our last CAKE meeting was another "guess what?" event. It was show and tell with about 15 souls on board. Kathleen, KI6AIE, had her talking computer on line and gave us a taste of a wireless QSO. On the other end was our club VP, Pat, AA6EG, up in Rockland, just North of Sacramento. Bob Wolbert, K6XX, showed us his impressive log of contacts on 10-160 meters for a recent cw contest. It was pages and pages long. I think he will be a winner.

Wayne Thalls, KB6KN, is teaching a free two-weekend class for prospective Genealogists at the public library. If you are searching for lost relatives, he can show you how to find them.

County-Wide ARES Net

County-wide ARES net control operators scheduled for March:

3/6	Donald AE6RF
3/13	George AE6KE
3/20	Dan N6RJJ
3/27	David N2RDT
4/3	Greg KG6DPC

(7:15 PM Tuesday evenings on AB6VS and W6WLS and AE6KE repeaters)

Other Services Radio Net

Also the First Tuesday is the monthly "Other Radio Services" net is scheduled at 7 PM (until 7:05 PM) around Monterey Bay area. Who can you actually reach on FRS or MURS or GMRS or CB? Your family members? Your neighbors? CERT? Make a few transmissions giving your general location and see what happens. Talk over your results, prepare for future operating, and try it next month.

—73, Cap

SCCARC Board - 2007

President	Christopher Angelos	KG6DOZ	688-3562
Vice President	Pat Barthelow	AA6EG	
Secretary	Cody Adams	KG6YPK	
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	Bruce Hawkins	AC6DN	
	Vic Linderholm	AE6ID	476-5567
	Ron Skelton	W6WVO	477-1021
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	Mar 16
Board Meeting	Wednesday	Mar 28
Short Skip Deadline	Monday	Apr 9
SCCARC Meeting	Friday	Apr 20

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.

Don't Need Short Skip In Your Mailbox?

If you're getting Short Skip by postal mail but would rather just read it on the Club's web site, just let me know at ki6aie@k6bj.org and I'll take care of it. If you're on the K6BJ email reflector, you'll get notification when each month's Short Skip has been posted to the Club web site.

—Kathleen, KI6AIE

Short Skip

Published 12 times per year.

Free to members.

Santa Cruz County Amateur Radio Club, Inc.

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Treasurer's Report

At the February 2007 Board of Directors meeting, Treasurer Kathleen McQuilling, KI6AIE, reported that the SCCARC treasury had \$5,613.31 in cash and bank accounts. At that time all financial obligations had been met.

SCCARC Membership Renewals and Data Update

If the date on your mailing label isn't in 2007, your membership renewal has not been processed for this year. The renewal deadline to be included in this year's member roster is March 31; this is also the deadline for address/phone/email updates--please review the information on the data sheet enclosed with your Short Skip, make any changes needed, and return the form to me by mail or at the March 16 meeting. Annual dues are \$25 for full members, \$6 each for each additional member at the same mailing address, and \$10 for full-time students age 18 or under. Dues may be paid in cash or check (payable to SCCARC) at regular Club meetings, or checks may be mailed to SCCARC, P.O. Box 238, Santa Cruz, CA 95061-0238. Remember, ARRL dues may also be paid through your Club.

--Kathleen McQuilling, KI6AIE, Treasurer, SCCARC