

SEPTEMBER 2006

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



From The Prez...

The lazy days of Summer are over. It's time to get ready for Fall activities, club elections, and the Christmas Luncheon.

Electing Club Officers and Directors: is the most important contribution to the club you can make as members of the Santa Cruz County Amateur Radio Club. Election of new officers and directors is conducted according to our club bylaws. Nominations are made by the October meeting, elections are held at the November meeting, and the new officers and directors take office at the December meeting. Please bring your nominations to me Chris Angelos, SCCARC president or a SCCARC Board member. You are certainly welcome to nominate yourself. We want to complete the nomination process and announce the candidates by the October 20th meeting.

Club Raffle in September and annual auction in November: The club board members are planning a raffle for the September 15 meeting, and the annual auction for the November 17th meeting after the election. Please save up items for these events. They can be almost anything, they don't necessarily need to be for ham radio, anything from microwave ovens to a bottle of wine can make a good raffle or auction item. Items for the raffle will be donated as far as I know. If you want money back for your item, then save it for the auction.

Christmas Luncheon: August was not so soon to reserve a room for our December Christmas Luncheon. Mike Dorn, club director, has secured the same room at Marie Calendar's restaurant as last year for only \$1.50 more per person. Saturday, Dec. 9th, was the last weekend day in December they still had available. Please keep this day open to attend our annual club luncheon.

Chris Angelos, KG6DOZ, SCCARC President
Return address: kg6doz@k6bj.org

Home Brew SOA

Two questions are worth asking ourselves from time to time. What is the current state of the art in Amateur radio construction? and How do such radios compare with commercial products? I am only focused here on the first question and offer for consideration the project designed and developed by Peter G3XJP called the PIC-A-STAR. The design was originally published by the RSGB several years ago and has since been built by Hams in many parts of the world. Peter has fully documented this project on-line and you should also visit <http://www.5b4agn.net/> for examples of one builders work and incidentally a review of the TenTec Orion 11

STAR (SoftwareTransmitterAndReceiver) is sophisticated technology, elegant design and by all accounts a superb performer. Here is a diagram of functions implemented in software which is provided free of charge. Imagine what it would take to build this in hardware not to mention cost.

Peter estimates that if the time he took to develop his software was charged at professional rates it would cost close to \$1 million. I like his concluding remarks "When I am having a QSO, I know that it is truly me having the satisfaction and not merely my acting as the surrogate operator on behalf of some RF design engineer a far away land."

W6W0 reality check. This is not a project for the first time builder or even one with modest abilities. I believe it would seriously challenge most of us including myself. As in all cases one has to start somewhere and fortunately there are many points of entry.

I like the comments in the book Experimental Methods in RF Design by W7ZOI, KK7B, W7PUA

" You can't be a gourmet cook if you have never set foot in a kitchen. There is a significant knowledge gap in your receiver background if you haven't performed the

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Skypecast Exercise

Bill Dale, N2RHV, of Milpitas, our SCV Section Manager, and I have been experimenting with Skype, in it's various aspects and find it to be a useful tool in our toolbox of communications, including emergency communications. It was one of many tools that found lifesaving applications in the Katrina Disaster, and in Thailand, following the Tsunami there.

Skype (<http://www.skype.com>) now has a free Skypecasting service tool, which makes remote meetings for groups of up to 100 members, a piece of cake. This powerful tool, combined with tried and true, proven ham radio capabilities extends the reach and effectiveness of ham radio, but like most aspects of ham radio needs to be practiced and exercised to be reliably implemented. Bill has difficult VHF and UHF RF paths to the southern boundaries of his section due to geographic factors of the path to his QTH, and to the MARES Fire Station location of W6MLP. (See: <http://w6mlp.org/index1.html>)

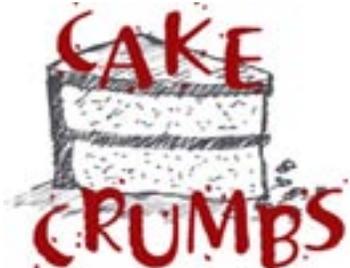
Bill would like to do a Skypecast exercise, on Wednesday evening, September 20, and possibly other times to push the envelope of connectivity. All are encouraged to participate. Participation will entail your installing the free Skype program on your computer, which is very easy, and for you to have a working Mic/Speaker set interfaced to your sound card. Contact Bill (n2rhv@arrl.org) for details. (<http://radiofler.blogspot.com/>)

—73, Pat AA6EG aa6eg@hotmail.com;
Skype: Sparky599

Don't Need Short Skip Mailed

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 remove you from the mailing list.

CLUB MEETING FRIDAY SEPTEMBER 15, 7:30 P.M.



8/12

This session of Coffee Assisted Knowledge Exchange was attended by (in no particular order) Dave Stoddart W8FLL, Larry Edler WA6MVK, Tom Tengdin WB9VXY, Wayne Thalls KB6KN, Art Lee WF6P, Jim Brown K9YC, Bob Wolbert K6XX and his daughters Sarah "K1D," Lisa "K2D," and Emily "K3D," Ron Baldwin K6EXT, Jeff Liebermann AE6KS, and Kathleen McQuilling KI6AIE. (Apologies to Bob for neglecting to mention he was at the July 15 CAKE.)

Kathleen brought her "new" Lafayette KT-200 receiver (circa 1960), which was rescued from a local basement. The dust and spider webs have been removed from it, and it needs a few parts to be put back into operation, but it has a good start on its "patina."

Larry brought his Drake TR-22C transceiver, which uses 10 AA batteries! He also brought from his library a copy of "The Mathematical Theory of Communication," which is allegedly worth a couple thousand dollars (the marked price was \$3.95). Maybe this could be the highlight of our November auction-how about it, Larry?



Wayne brought today's mystery item, a Western Electric telegraph repeater, No. 20C, patented 9/21/1903, along with a photo of a portrait painted by Samuel F. B. Morse of the Marquis de Lafayette.

Jim brought a 1943 copy of the Radio Engineers' Handbook (Terman), 1st edition, 10th printing.

Bob brought his latest flea market find: a green laser pointer, new in the box, which he got for 25 cents.

Jeff brought a vintage Panasonic Toughbook, showing signs of wear and tear but still working.

Art brought a very impressive camera; I didn't

note any of its operational specifications, but it looked to me like it could probably do everything except tie your shoes!

Other topics of conversation ranged from piano moving to technical writing to Bach organ music to acoustics and beyond. You never know what you might overhear at CAKE-all the more reason to come whenever you can.

Special thanks to all who helped with folding, stickering, stamping, and labeling Short Skips!

Last but not least, welcome back to Ron W6W0! Thank you for the opportunity to MC and write up our CAKE sessions during your travels, and thanks too for the awesome slide show at last Friday's Club meeting!!

—Kathleen KI6AIE

8/26

Greetings. First a hearty vote of thanks to Kathleen KI6AIE and you all for keeping the fires burning over the past 5 months. It feels good to be home and all the many welcomes have been appreciated.

We had a big turn out today and I was pleased to welcome Jean (Like the girls name with a slight French accent) KI6DXX who I had not met before.

True to form and indeed our purpose, we had a fair mix of technical and social chat with many exhibits both ancient and modern.

Mike N6IL showed his Hickock Valve tester which is a masterpiece and it was used it quite recently to test tubes from some Heathkit gear. A meter on this instrument was calibrated in Micromhos. The question was posed what is such a Micromho. In case you missed it let's look at it this way. The unit of resistance is an Ohm, the inverse of resistance is a property called conductance. Some bright spark reversed Ohm to become Mho with the symbol G. MegOhm inverted then becomes Micromho. Also consider that $R=E/I$ so $G=I/E$. This is an important parameter for voltage driven devices like valves as it showed the change in output current with input voltage. Incidentally the unit Mho is now obsolete having been replaced by the unit of Siemens.

Dave W8FLL showed a nifty RF probe and field strength meter. Of special interest is the use of a basket wound sectional RF choke. This was a technique often used to reduce self capacitance and the level of spurious resonances. Modern components have made this component less common.

We discussed inductors quite bit and to my mind they are the most fascinating of all if for no other reason than they are often the most problematic. Mention was made of a Gyrator and here is what Wikipedia has to say . The gyrator is an electric circuit which

inverts an impedance. In other words, it can make a capacitive circuit behave inductively, a bandpass filter behave like a band-stop filter, and so on. The concept was invented around 1948 by B.D.H. Tellegen of Philips Research Laboratories, Eindhoven ("The gyrator, a new electric network element", Philips Res. Rep. 3 (1948) pgs 81-101). It is primarily used in active filter design.

Ron W6W0 showed his project to build a DDS VFO with quadrature outputs and wanted help to convert a knob with a 1/4" dia shaft into one of 1/8th to turn the optical encoder. This is a non-trivial problem and lots of helpful suggestions came forward. Seems like one approach is to find a volunteer with a TNC machine to actually make one. N6NAC might be a candidate. N1WC may be on the hook also.

Our fun today include awards of \$50, \$500 and \$5,000 to be spent on ham radio. W8FLL would spend \$40 to pick up a surplus tower and \$10 for gas to get there. WF6P would spend his \$500 getting his Icom 765 fixed, he must love that radio! NR6S would buy a solar powered HF radio and go live in Micronesia, with \$5,000 K6EP would go on a DXpedition, and K6XX would buy another couple of towers and antennas.

Several laptop owners were looking hard at their Sony batteries.

We briefly discussed where we are in the sun-spot cycle and I would like to have spent more time on that.

Ron W6W0 brought documents describing a home brew radio with exceptional interest called the PIC-A-STAR. This was brought to my attention by Gert OE3ZK. It may well be the state of the art in home brew and perhaps also commercial gear. It is the brain child of Peter Rhodes BSc, G3XJP I suggest that you visit his site and browse to Part 2 of his documentation. Figure 2 shows what an amazing amount of function Peter has provide in software and of course all this software is FREE. While you are at it look at the site www.5b4agn.net to see fine examples of how one ham has built the STAR.

Plans are being developed for the CQP event this year let me know if you would like to become involved.

Next CAKE probably Sept 9th stay tuned

-- 73 Ron W6W0

Treasurer's Report

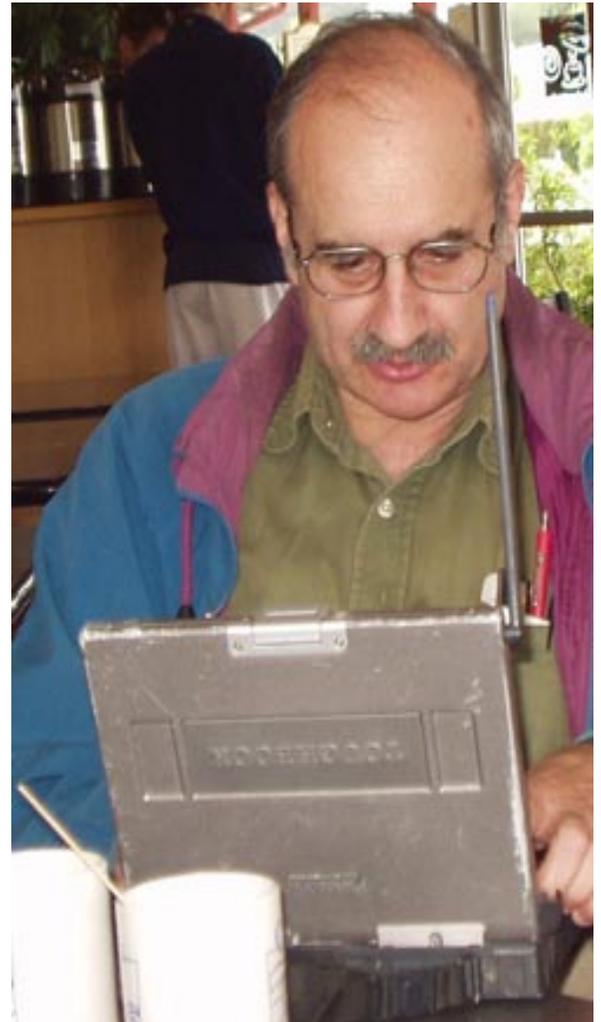
At the August 2006 Board of Directors meeting, SCCARC Treasurer Kathleen McQuilling, KI6AIE, reported that the SCCARC treasury had \$5,152.54 in cash and bank accounts. At that time all financial obligations had been met.



Wayne KB6KN, Larry WA6MVK and Dave W8FLL



Above Wayne KB6KN, right Jeff AE6KS



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 Fugelseh	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 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	Sep 15
Board Meeting	Wednesday	Sep 27
Short Skip Deadline	Monday	Oct 9
SCCARC Meeting	Friday	Oct 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.

The California QSO Party

Oct. 7, 9:00AM - Oct. 8, 2:59PM

If you are an HF mobile enthusiast you can drive to San Benito county and have a BIG pile-up.

There are currently no big stations scheduled to represent San Benito county.

W6WO and AC6KW will be in Merced county...

See <http://www.cqp.org/Counties-Plan-2006.html>

contact either WB6S wb6s@arrl.net or W6ZZZ ziegler@accesscom.com



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

Nominating Committee

The Nominating Committee has openings for 2 DIRECTOR positions on the Board of Directors. The term is for one year, December through November 2007.

The SCCARC Board of Directors (BoD) consists of 9 members; the four Officers of the Club and 5 Directors. They are elected by ballot at the November Club meeting. The BoD meets once per month for a couple of hours on the Wednesday evening following the Club meeting.

RESPONSIBILITIES of a Director include: a) The management and control of Club affairs; b) The making of rules and regulations; c) The making of recommendations to the Club; d) The appointment of committees; and e) The management of the Club's revenues and expenses.

If you are interested in serving as a Director for a term of one year in support of our Club, please contact the Nominating Committee. We would like to hear from you. SCCARC Nominating Committee, Richard Hanset, KI6EH, Ph: 831-438-0615, Email: <<mailto:Rhanset@debcorInc.com>> Rhanset@debcorinc.com
Allan Fugelseh, WB6RWU, Ph: 831-475-8846; Email: <<mailto:Allen@cruzio.com>> Allen@cruzio.com

First Class