

MAY 2008

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

# SHORT SKIP



## The Tech Shop

A new business called The Tech Shop (<http://techshop.ws/headquarters.html>) opened last year in Mountain View, with a few other locations around the country. This is a large machine shop that you can have nearly free run of for \$30 a full day, or \$89 a month. I took a guided tour a couple weeks ago. They have lathes, Bridgeport milling machines, drill presses and a wide range of other tools and the tooling for them such as a big height gauge with granite slab. They have sheet metal shears, brakes, notchers and a Rotex punch. They have a large tubing bender. They also have a CNC desktop mill for prototypes, a CNC laser cutting machine and a CNC plasma cutting torch. They have MIG, TIG, Heliarc, and other types of welders. They have a huge CNC hot wire cutter that can cut huge block of foam that starts at a 8 foot cube. They have a 3D rapid prototyping machine that takes a 3D CAD model and forms an ABS prototype by polymerizing liquid polymer with crossed laser beams. There are scopes, signal generators and counter. There's a huge room filled with workbenches and vises you don't have to share. It sounds too good to be true and it's up to us help them break even soon.

How do they prevent idiots from shearing off their arms and chewing into the table of the milling machines, you may ask? They require you to qualify by taking a one hour \$30 safety class on the most dangerous of the machines. So far there is very little or no wait to get on the machines after you arrive, except a couple times a week. The laser cutter does have a waiting list. For the ladies, they have tools for heavy duty sewing and other crafts. They don't require you to check out tooling like collets and drills and say the only things that have gone missing so far are a few drills. You can bring in your own tool box as well as

## FD Talk at Meeting

Our next club meeting, Friday, May 16th, at 7:30 pm will feature guest speaker Donald Kerns AE6RF. Donald will be presenting dates, location and information about this year's Field Day activities.

The presentation will include a planning presentation/briefing, a tutorial on N1MM-based computer logging, and a recruitment request for the event.

Please join us at the Dominican Hospital Education center to learn more about this year's Field Day activities and how you can participate.

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## Google Earth

Today, NASA-funded researchers released to the general public a new "4D" live model of Earth's ionosphere. Without leaving home, anyone can fly through the layer of ionized gas that encircles Earth at the edge of space itself. All that's required is a connection to the Internet.

"This is an exciting development," says solar physicist Lika Guhathakurta of NASA headquarters in Washington, DC. "The ionosphere is important to pilots, ham radio operators, earth scientists and even soldiers. Using this new 4D tool, they can monitor and study the ionosphere as if they're actually inside it." (uses Google Earth)

[http://science.nasa.gov/headlines/y2008/30apr\\_4dionosphere.htm?list948869](http://science.nasa.gov/headlines/y2008/30apr_4dionosphere.htm?list948869) or, same but shorter URL:  
<http://tinyurl.com/6elkzy>

—73, Cap

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using their stuff. I'm hoping to build the next prototype of my magnetic loop antenna there. Check it out.

—Rick Meyer KI6LQL

## IRLP at K6BJ

IRLP is now mostly functional on K6BJ 2meters. It will be primarily used to link the W6WLS and W6MOW repeaters to K6BJ and KI6EH for the Monday 7:30PM net. It may be used for linking other repeaters in the future, but until all the bugs and problems are fixed, it's not quite ready for general consumption.

For those not familiar with the operation of IRLP, it connects repeaters to repeaters. It's quite different from Echolink, which connects individual users to repeaters. IRLP also can connect to a "reflector", which ties multiple repeater systems together. See: <http://www.irlp.net>

Saturday afternoon evolved from a few last minute tweaks into a full scale relay rack remodeling and building cleanup exercise. See photos at: <http://www.LearnByDestroying.com/k6bj/IRLP/>

The empty open relay rack (donated by Mike W6WLS) will soon be stuffed with computers and datacomm hardware. The 440 repeater is turned off pending replacement of the radios. The separate IRLP interface in the 2m repeater rack will probably not be used as it's possible to run IRLP and Echolink on a single Linux server. See: <http://www.echoirlp.net>

At this time, we do not have over the air touch tone control of IRLP. That's because of a logic problem with the way the CAT-1000 and LPS-1000 operate when they hear a touch tone digit. Details on request.

Please do NOT use the remote HF station during the club net. The HF station and IRLP use the same internet connection and the extra traffic may cause problems.

I would like to thank Cap (KE6AFE), Chris (KG6DOZ), Roy (KF6KVD), and Jeff (KG6YPS) for all the good work and sweat on Saturday.

—Jeff Liebermann

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**CLUB MEETING FRIDAY MAY 16, 7:30 P.M.**

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## Member profile: Rick Meyer KI6LQL



exerted itself so Rick set out to update himself with a new general licence. The work of Gerald Youngblood (AA0ZZ now famous for his SDR products) became one focus of Rick's attention and he joined a diverse group of hams developing state of the art SDR products based on the AD9954 and AD9912 DDS devices. See [www.WB6DHW.com](http://www.WB6DHW.com). The small lot in Aptos prompted Rick to investigate loop antennas. Not content to follow the well trodden path, Rick set himself some severe engineering challenges to solve: efficiency, bandwidth, EMF safety and especially corona limitations for full legal power operation. His aim involves developing an alternative to very high voltage vacuum variable capacitors.

All in all Rick is truly a multi talented fellow and he has already given a lot of his time and attention to our club. Please extend a warm greeting next time you meet.

I met Rick for the first time recently under most unusual circumstances. I was testing 40 meter SSB via remote access to the club HF station and he called me. We had a QSO and I learned he was using a Softrock 40 SDR radio with an octagonal loop antenna. He asked for my QSL card as it was his first contact in 40 years and I then discovered he lives just 5 miles away in Aptos. We have met face to face several times since then and I am very delighted to have him join the club and pitch in with our HF project. Rick grew up in the Boston area and he recalls his high school Ham days in the 60s when he modified a surplus Hamarlund Superpro receiver with a low noise RF amp and a Collins mechanical filter. Following a spell at Yale Rick drove across country in a MG, enrolled in Berkeley and never returned back East. These were exciting times and Rick joined the Free Speech Movement and spent a short time in jail with 800 others! He met and married his wife Sue which is a good enough reason to stay put. Invention is evidently the name of the game for Rick and he has patents in areas as diverse as toys and FAX diagnostics. One of Ricks wilder inventions inventions was a multi-media show for art museums contained inside an inflatable dome. To view the show one enters the dome to lay down on the 12 ton water bed that holds down the floor. His exposure to hi-tech began with a company building circuit boards with 8080 chips for early personal computers and later expanded with companies involved with database technology, hand-held computers and word processing. It was during these years that Rick developed significant expertise as a Product Manager with special expertise in technical documentation. About a year ago the pull of Ham Radio



**SCCARC Starters #3**

**The Phonetic Alphabet**

"Everyone on the repeater knows my name and call sign. Why should I use the phonetic alphabet for my call sign on the SCCARC net and the ARES net?" Because it may not be a local person who is running the net during an emergency. Also you need the practice in case you are running the net in an emergency.

**ITU Phonetic Alphabet**

The International Telecommunication Union (ITU) Phonetic Alphabet along with a very helpful pronunciation guide is available at <http://life.itu.ch/radioclub/r/r/ap14.htm> Note that Papa and Quebec may not be pronounced like you are used to.

Letter to be Transmitted	Code Word to be Used	Spoken as*	Letter to be Transmitted	Code Word to be Used	Spoken as*
A	Alfa	<u>AL</u> • FAH	N	November	NO • <u>VEM</u> • BER
B	Bravo	<u>BRAH</u> • VOH	O	Oscar	<u>OSS</u> • CAH
C	Charlie	<u>CHAR</u> • LEE or <u>SHAR</u> • LEE	P	Papa	PAH • PAH
D	Delta	<u>DELL</u> • TAH	Q	Quebec	KEH • <u>BECK</u>
E	Echo	<u>ECK</u> • OH	R	Romeo	<u>ROW</u> • ME • OH
F	Foxtrot	<u>FOKS</u> • TROT	S	Sierra	SEE • AIR • RAH
G	Golf	GOLF	T	Tango	<u>TANG</u> • GO
H	Hotel	HOH • <u>TELL</u>	U	Uniform	<u>YOU</u> • NEE • FORM or <u>OO</u> • NEE • FORM
I	India	<u>IN</u> • DEE • AH	V	Victor	<u>VIK</u> • TAH
J	Juliett	<u>JEW</u> • LEE • <u>ETT</u>	W	Whiskey	<u>WISS</u> • KEY
K	Kilo	<u>KEY</u> • LOH	X	X-ray	<u>ECKS</u> • RAY
L	Lima	<u>LEE</u> • MAH	Y	Yankee	<u>YANG</u> • KEY
M	Mike	MIKE	Z	Zulu	<u>ZOO</u> • LOO

\* The syllables to be emphasized are underlined.

**Phonetic Alphabet Cheat Sheet**

Here is a short list that you can tape next to your radios as a reminder from <http://www.ac6v.com/dxphonetics.htm>

A - Alfa	J - Juliet	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	

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**Wikipedia Background Info**

Wikipedia gives some background into the various phonetic alphabets that are in use at [http://www.wikipedia.org/wiki/NATO\\_phonetic\\_alphabet](http://www.wikipedia.org/wiki/NATO_phonetic_alphabet)

I have heard Contest and DX operators who occasionally use "Italy" instead of "India", "Kilowatt" instead of "Kilo", and "Radio" instead of "Romeo". I feel that this is a poor practice to use in nets.

"SCCARC Starters" is a column designed to get you "started" on expanding your ham radio knowledge/usefulness/fun by showcasing information that I have found on the Web.



Larry WB6MVK



Rick KI6LQL talks about the fine points of a large capacitor



Rick KI6LQL, Frank K6BDK, Larry WB6MVK and Ron W6WO at the April Cake meeting



David WS2I demo antenna for Chris KG6DOZ

## TEN NEW SATELLITES IN ORBIT

Ten satellites reached orbit April 28 aboard an Indian PSLV-C9 rocket launched from the Satish Dhawan Space Center. The primary payloads were India's CARTOSAT-2A and IMS-1 satellites. In addition to the NLS-5 and RUBIN-8 satellites, the rocket carried six CubeSat <<http://www.cubesat.org/>> research satellites, all of which communicate using Amateur Radio frequencies. All spacecraft deployed normally and appear to be functional at this time.

The SEEDS satellite was designed and built by students at Japan's Nihon University. When fully operational, SEEDS will download telemetry in Morse code and 1200-baud FM AFSK packet radio at 437.485 MHz. The satellite also has Slow-Scan TV (SSTV) capability. Several stations have reported receiving SEEDS CW telemetry and the team would appreciate receiving more reports from amateurs at their ground station Web page <[http://sat.aero.cst.nihon-u.ac.jp/gs/english/cardform\\_e.html](http://sat.aero.cst.nihon-u.ac.jp/gs/english/cardform_e.html)>.

AAUSAT-II <<http://aausatii.space.aau.dk/eng/>> is the creation of a student team at Aalborg University in Denmark. It will downlink scientific telemetry at 437.425 MHz using 1200 or 9600-baud packet.

Can-X2 <<http://www.utias-sfl.net/nanosatellites/CanX2/>> is a product of students at the University of Toronto Institute for Aerospace Studies, Space Flight Laboratory (UTIAS/SFL). Can-X2 will downlink telemetry at 437.478 MHz using 4 kbps GFSK, but the downlink will be active only when the satellite is within range of the Toronto ground station.

Compass-One <<http://www.cubesat.de/>> was designed and built by students at Aachen University of Applied Sciences in Germany. The satellite features a Morse code telemetry beacon at 437.275 MHz. Compass-1 will also provide a packet radio data downlink, which will include image data, at 437.405 MHz.

Cute 1.7 + APDII <[http://lss.mes.titech.ac.jp/ssp/cute1.7/index\\_e.html](http://lss.mes.titech.ac.jp/ssp/cute1.7/index_e.html)> is a satellite created by students at the Tokyo Institute of Technology. This satellite will not only provide telemetry, it will also offer a 9600-baud packet store-and-forward message relay with an uplink at 1267.6 MHz and a downlink at 437.475 MHz.

Delfi-C3 <<http://www.delfic3.nl/>> was designed and built by students at Delft University of Technology in the Netherlands. It includes an SSB/CW linear transponder. The satellite will be in telemetry-only mode for the first three months of the mission, after which it will be switched to transponder mode. Delfi-C3 downlinks 1200-baud packet telemetry at 145.870 MHz. The linear transponder, when activated, will have an uplink passband from 435.530 to 435.570 MHz and a corresponding downlink passband from 145.880 to 145.920 MHz.

—From ARRL Newsletter



By Art Lee WF6P

## CHATTER

While talking to Wayne Thalls, KB6KN, the other day, I mentioned that at one time he, Dave Harbough, Royce Krilanovich and I did some antenna work for the repeater. Al Crowell was there and impressed me when he used TWO soldering irons on a PL-259 plug. The wind was blowing and the extension cord very long. We were all up on the roof of the stroke center with several coaxes to replace. Sometime later, about a dozen of us were taking down a vertical antenna from the repeater shack. Due to some miscoordination, the antenna got away from us and laid against the (fortunately) telephone lines. We all had a firm grip on the antenna. Isn't this how hams get fried?

I always take my 2-meter hand-held rig when I go sailing. While everyone on board is carrying at least one cell phone, my little Kenwood TH-28A is always ready for that through-the-repeater phone call. Yesterday, a Sunday, a bunch of us took the Cal 34 Misty out for a spin. And spin it was: 25 knots of wind and four foot waves. The boat was bashed around a lot and a big wave splashed up over the dipping bow, soaking us all. When I went down into the cabin, the usual sight greeted me. Everything was in a jumble on the cabin sole. Digging around beneath spare dock lines, life jackets and foul weather coats, I found my rig. It had fallen out of my open but upside down sea bag. The rig works fine. Regrettably, a couple of the new crewmembers got seasick for a time or two. Never fun.

I had lunch in Felton with Leon Fletcher, AA6ZG, a week ago. We had removed his IC-28A from his car, which he is trading in on a new one. The antenna was glued to the windshield with the coax running up inside the plastic trim. I gave it the old prying-with-a-screwdriver bit but was afraid of breaking the brittle stuff. His auto mechanic was more successful. For my reward, Leon presented me with the rig for installation in my granddaughter's car. Cheri, KB6BOP, said

## W6TUW - ACS Club

Today the FCC granted the W6TUW callsign to the new Santa Cruz ACS Club.

Trustee Allen WB6RWU received permission from Dave Harbaugh's widow Alda before we applied for the callsign, and we intend to use the call for operations involving a Auxiliary Communications Service around Santa Cruz County.

<http://wireless2.fcc.gov/UlsApp/UlsSearch/license.jsp?licKey=3006124>

Dave was a faithful ACS volunteer, single-handedly staffing the "Santa Cruz Relay" station on 40 meters from our County EOC on Wednesday mornings for many years before passing away suddenly from a heart attack in July 2002. Now, after a long absence without Dave, a group of us have again been regularly operating that weekly California statewide emergency services net (CESN) from the County EOC. You can meet with us at the EOC any Wednesday morning at 10 a.m.

Dave W6TUW's Member Profile, including a photo of Dave staffing the County EOC HF station, appeared on Page 5 in "Short Skip" in May 2002.

<http://www.k6bj.org/shortskip/2002/SSMAY02.pdf>

—73, Cap KE6AFE

she'd use it but her cell phone is handier. She used to be a good rag chewer. Her old rig was sans PL so of no use.

Received a nice telcon from Gary Baker, N6ARV. Gary travels around the country in his RV when not at one of his two homes in Rio Vista or Perris. In Perris, he is chief electrical engineer on the trains and ancient streetcars at the museum. If you are there when he is, he will give you a tour of the inner workings of early 1900s technology. It's impressive. My brother Clint lives nearby and Gary and he get together on occasion. On Gary's last trip, they shared a brew at the Perris VFW Chapter. Gary recently attended his high school 50th reunion. He purchased two lots in Goldfield, NV. There is no house and few neighbors and not far from Art Bell's digs. When Gary searched out the Building Department for a building permit to construct a house, the clerk told him, "Well, here in this county

## ANTENNA EXPERT

### L. B. CEBIK, W4RNL (SK)

L. B. Cebik, W4RNL, ARRL Technical Advisor and antenna authority, passed away last week of natural causes. He was 68. An ARRL Life Member, Cebik was known to many hams for the numerous articles he wrote on antennas and antenna modeling. He had articles published in most of the US ham journals, including QST, QEX, NCJ, CQ, Communications Quarterly, Ham Radio, 73, QRP Quarterly, Radio-Electronics and QRPP. Larry Wolfgang, WR1B, QEX Editor, called Cebik "probably the most widely published and often read author of Amateur Radio antenna articles ever to write on the subject."

Cebik maintained a Web site <<http://www.cebik.com/>>, a virtual treasure trove to anyone interested in antennas. Besides a few notes on the history of radio work and other bits that Cebik called "semi-technical oddities," the collection contains information of interest to radio amateurs and professionals interested in antennas, antenna modeling and related subjects, such as antenna tuners and impedance matching. Cebik said that his notes were "geared to helping other radio amateurs and antenna enthusiasts discover what I have managed to uncover over the years -- and then to go well beyond."

there is no permit process. We work on the principle that if you build it and it falls down, it's your fault." OK.

Rich Hanset, KI6EH, and XYL Lee, KC6BML, are also touring the USA in their wonderful new (and big!) motor home.

I received several flyers from our club member Patrick Henry, WA6PKM, up in Gold Beach Oregon. They are going to have a Hamfest and Swapmeet on July 19th; plus a SEAPAC ham convention on May 30th, 31st and June 1st. Pat also belongs to the Pelican Bay ARC in Brookings, OR ([www.pbarchams.org](http://www.pbarchams.org)).

With the writers: I was happy to see my article, "Morse Code: Still Fun" appear in the May issue of Monitoring Times. As we all can imagine, Morse is a hard sell these days with so many other means of communications available. For some hams it is still a small but intriguing part of the hobby.

## SCCARC Board - 2008

<b>President</b>	Rich Olsen	WIWUJ	510 415-8920
<b>Vice President</b>	Don Taylor	K6GHA	k6gha@k6bj.org
<b>Secretary</b>	Kathleen McQuilling	KI6AIE	476-6303
<b>Treasurer</b>	Cody Adams	KG6YPK	
<b>Board</b>	Christopher Angelos	KG6DOZ	688-3562
	Reed Cotton	NIWC	460-1801
	Mike Doern	KM6IKE	477-1161
	Bruce Hawkins	AC6DN	
	Ron Skelton	W6WO	477-1021
<b>K6BJ Trustee</b>	Allen Fugelseth	WB6RWU	475-8846

## MONTEREY BAY REPEATER ACTIVITY

Santa Cruz County	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 Monday 7:00 PM 28.308 MHz USB
ARES Nets	SC County Wide ARES Tuesday 7:30 PM on 147.180+ PL 94.8 443.600+ PL 110.9 (Linked repeaters)
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 94.8) • LP Net Tuesday 7:15 PM
Monterey	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) • Newsline (Ham News) Broadcast Wednesday at end of NPSARC Net
LPRC	WR6ABD 146.640- PL 162.2 / 442.900+ PL 162.2 (winsystem) • LPRC Net Tuesday 8:00 PM 146.640- (PL 162.2) • Newsline (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	Apr 18
Board Meeting	Wed	Apr 23
Short Skip articles due	Monday	May 5
SCCARC Meeting	Friday	May 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, 1555 Soquel Drive, Santa Cruz.

## NET CONTROL SCHEDULE

(Subject to Change)

5/12	Chris KG6DOZ
5/19	Tom K6TG
5/26	Diane KI6IFS
6/2	Cody KG6YPK
6/9	Phil KE6UWH
6/16	Allen WB6RWU

## SHORT SKIP

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## 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](mailto: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