

ORCA NewsLetter

Oakland Radio Communication Association
Oakland, California

April 2, 2005	The next meeting will be on the first Saturday, April 2, 9:00 AM at Fire Station 1 media room, 1605 Martin Luther King at 17th Street, Oakland.
---------------	---

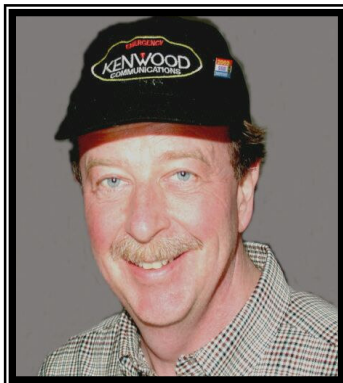
President's Corner

Special points of interest:

- CORE II Class April 2nd
- ECHO Field Report
- Free General Theory Upgrade Class
- Satellite Beacon

For all of you HFers in the crowd, this contest season hasn't been half bad considering we're rapidly sliding to the bottom of the sunspot cycle. On the weekend of our demonstration of the ECHO system last month, the ARRL International DX Contest (Phone) was held. ARCA participated as a club and yours truly joined in the fun as part of the Northern California Contest Club (NCCC). Last year, I was beaten out for the first place spot in the East Bay Section in the Single Operator, High Power category, so I didn't want that to happen again. I decided to put in some real effort and worked approximately 12 of the 48 hour contest.

Surprisingly, countries were available on nearly every band with even a



good opening on 10 meters Sunday morning. Europeans populated 20 meters for much of the daylight hours and were workable even on the West Coast. Conditions were good enough for me to improve my total QSOs by 25% and my score by 20% over last year. Multipliers (countries) stayed about the same; a good result for poorer propagation. Only time will tell if I was able to

reclaim the first place certificate for the East Bay Section since the results won't be known for months. (Contesters love statistics!)

Back at the EOC, I attended the quarterly meeting of the Emergency Management Board on St. Patrick's Day. A wonderful lunch of corn beef and cabbage was provided while we discussed various issues relating to emergency response and the identification of HAZMAT. The OFD is going through another reorganization that has greatly attenuated the role and possibly the effectiveness of the OES, our served agency. Now entitled "Homeland Security/EOC", the City seems to be content to have outside federal interests dictate our emergency pre-

(Continued on page 2)

Inside this issue:

Silent Keys	2
Upgrade Class	2
CORE II Class	2
Satellite Beacon	3
ECHO Field Report	4
Repeater Visit	5
May 7th Speaker	5
Hams Wanted	5
ARRL Class Reminder	5

Upcoming Meetings

April 2nd Meeting TBA

After the meeting, Adele, **KF6HKY**, has volunteered to teach the second block of CORE training. Bring a lunch or snack and stay for the training.

May 7th meeting speaker Denis, (Doc) W6EW

President's Corner

(Continued from page 1)

paredness. We will have to see where this all leads, but you may wish to contact your council member to express your concern.

Spring is finally here, and I'm looking forward to our outdoor operating activities and support of public service events. This is the time to start planning for Field Day and summer Fire Patrols. In addition, this year we have been invited to participate in the big statewide drill scheduled for November called "Golden Guardian". It is currently in the planning stages and we will learn more as time goes by.

... C U April 2 es 73, Jim, **K6JAT**

KK6PH/SK

Henry Primbsch was born February 8, 1939 in San Francisco and died in Richmond on March 6, 2005 at age 66.

He earned a Bachelor of Science degree at UC Berkeley's College of Engineering in 1961. His career supporting research in space physics at Berkeley spanned more than 40 years. Work took him to many states, India, Brazil, Australia, Russia, and Antarctica, for field trips to launch research balloons, rockets, and satellites. He was a master of "kludges" that saved projects in the field. He designed the electronics for the microphone that landed on Mars.

Henry was a sage and mentor to colleagues, family and friends. He could fix most things mechanical and electronic. He was a patient teacher who simplified technical material. He rebuilt a car engine and added a room to his house. He also loved to travel.

Henry has been a ham since 1990, when he wanted to "phone home" daily on his first field trip to Antarctica. Wife Sharon, **AA6XZ**, became a ham at the same time. He volunteered for many public service and emergency preparedness events. He was an ARRL volunteer examiner, and served as the liaison for the EBARC/ORCA VE team. He loved his role as educator,

(Continued on page 5)

KA6NZB/SK

With this issue we are saddened to report a silent key, Chinn Callan, **KA6NZB**, lifelong partner of Sherrick Slattery, **N6NAV**. Our condolences to Sherrick and their families. Both have been ORCA, and before that VHF Repeaters, members for many years.

Bob **KE6IUE** and David **WB6NER**

Amateur Radio General Upgrade Class

West Contra Costa Adult Education, in conjunction with The East Bay Amateur Club, will offer a class on the General License Theory (Element 3) beginning on Tuesday, April 5 at the Alvarado School Campus, 5625 Sutter St., Richmond. The course hours are evenings from 7:00 to 9:30 PM, the course meets for once a week for nine sessions, followed on the tenth week by an examination session.

The class is free, the text is The ARRL General Class License Manual, Fifth Edition, and is available at HRO. The VE test session fee is \$14.00.

For information contact Randy, **KA6BQF** ka6bqf@arrl.net 510.526.4089 or call the Adult School at 510.559.2660.

<http://www.wccusd.k12.ca.us/adulted>

CORE II Class after April ORCA meeting

The CORE II class will be held immediately after the April meeting. Please remember to bring the manual and other paperwork from the CORE I class. During the CORE II session, a short movie will be shown. Everyone, hopefully, will have done their homework and have read the CORE II Manual and will bring any questions to the class.

The CORE III classes will be scheduled as follows:

Wednesday, April 20 and 27, 2005 @ 6:30 PM (1830 hours) to 9:00 PM (2100 hours) at the Oakland Fire Training Center located at 259 Victory Court, off Fallon, in Oakland.

CORE III Hand-on Training Class and Exercise will be held at the same venue on Saturday, April 30, 2005 from 9:00 AM to 3:00 PM (0900 to 1500 hours).

To reach the Fire Training Center; take Oak Street to 4th Street, turn left on 4th to Fallon, turn right on Fallon to Victory Court, turn left on Victory to the Center. Park on the street.

One should pre-register for these classes. How to do this will be discussed at the conclusion of the CORE II class on April 2.



The Satellite Beacon ●●●● ●● ●●●● ●● ●●●● ●● ●●●● ●● ●●●● ●●



This Month's Topic – Can You Build a Satellite?

By: Emily Clarke **W0EEC**, Project OSCAR Vice President

Building and launching satellites has been an amateur tradition for 48 years. “48 years?” you might ask. Yes – in 1957 when the Soviet Union launched Sputnik a group of hams in the San Francisco Bay Area met and at the conclusion of the meeting they walked away with the feeling “We can do this!” That group formed Project OSCAR and launched the first Amateur Satellite in 1961.

Since that time 51 OSCAR amateur satellites have been launched, however, many more amateur satellites have been launched all over the world. Many are small projects built by students for research and amateurs for fun. Some are technically not satellites since they don't achieve orbit, but the activity allows students and hams to learn the skills and techniques that advance the art of satellite building.

High-Altitude Balloon Projects

Hams have been using high-altitude balloons (HABs) to “launch” payloads 30km and more into the upper atmosphere. While technically not “space” the sky is black and the Earth's curvature can be seen. HABs allow hams to build and test transponders, telemetry and camera systems that could potentially be used in satellites. Some may carry live amateur TV cameras and transmitters to relay video back to earth. Building a HAB is not difficult – most use off-the-shelf components and use surplus weather balloons, but recovering the payload can be a challenge. At some point in the journey the balloon gets so high that it bursts, and the payload falls back to earth. Most carry parachutes, and are tracked to earth via APRS.

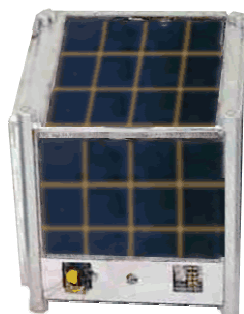


CanSats and BeerSats

CanSats are small satellites launched by amateur rockets that typically reach 3500m (but are being expanded and may reach 30km in the future.) Builders must design CanSats to the exact shape, size and weight as a beverage can, which is inserted into the rocket. When the rocket reaches it's maximum altitude the Can-SAT is ejected, deploys any antennas and a parachute, and functions as it descends back to earth. Though not reaching the same altitude as HABs, CanSats will experience the same G-forces during launch that an earth-orbiting satellite would experience. Due to weight and size restrictions CanSat builders must also build the satellite in a very state of the art manner, though complete CanSat kits are available for about 200 \$US. ARLISS (A Rocket Launch for International Student Satellites) holds international fly-offs at Black Rock Desert in Nevada.

CubeSats

CubeSats are 10cm cubes that form the largest movement in student satellite building. The first Cubesats were launched in 2003 and there will be 13 CubeSats built by students in 5 countries will be launched in June 2005. Over 40 universities and high schools are currently participating in the CubeSat program where students work hands-on to develop the necessary skills and experience needed to succeed in industry. The educational benefits are tremendous.



CubeSats are built mostly by universities and high schools and are launched into space in a pod that will eject several into space simultaneously, thus reducing launch costs. Most CubeSats are launched into 700km high polar orbits and will operate for months and possibly years. Most of these will carry 70cm band transmitters that will send either 1200 or 9600 baud data, and transmitters will output .5 to 3 watts.

To participate in a CubeSat Program, all that is necessary is to design and build a satellite conforming to the CubeSat Standard, created by CalPoly and Stanford Universities. There is a lot of information about building and testing Cubesats provided by the universities. There are even pre-fabricated CubeSat kits available at reasonable costs, though most builders prefer to build from scratch.

Launch costs are the limiting factor as launching a CubeSat can cost at least 40K \$US.

So Can You Build One? YES!

(Continued on page 4)

ECHO from the Ground

by Bob, **KE6IUE**

There's a certain excitement that accompanies an exercise, the mid-point between the safe harbor of our basic training, skills and weekly nets and the certain chaos of a full-scale activation around a disaster not yet defined. It's a chance to mobilize and operate without putting anything at risk except our pride. Unexpectedly back in town in time for our March 5th ECHO Fire Stations Net, I quickly got David, **WB6NER** on the horn and volunteered to cover whatever station was open. The assignment list having departed his care already, he suggested I just present myself on the resource net at one of the open stations.

Battling a bad cold, I decided Friday night to get some rest and then prep my equipment the next morning—we had the extra hour anyway. Rising to a sunny dawn, I soon realized that my go-bag had up and gone, a flashlight borrowed for this, water bottle for that, a clipboard loaned, spare batteries scavenged for other more pressing needs. I had to laugh at myself—this is the other good reason for an exercise: are we ready? I cobbled together an acceptable substitute, not unlike what I might carry to a weekly net at a fire station: writing materials, post-its, tape, water, an extra sweatshirt, name tag, flashlight, simple tools and, of course, my new VX-7R, spare battery, microphone and all. It wasn't the activation kit, but it made me operational.

There was already chatter on the net frequency when I got mobile, some people checking in from their assigned fire stations before the resource net had even opened. I decided to drive toward the unassigned stations, 18 and 29, both south of Lake Merritt, figuring I'd want to be close to my assignment so I could get there and, in the worst case, have plenty of time to reconnect and reprogram the station radios and find all the accessories, which, like my go-bag, sometimes drift away. Nine-thirty came and went and I realized that by the time net control checked everyone in I might be caught too far from a station. I just drove to 29. By the time the net opened, I was stuck there; too far from 18 and hoping there weren't any issues waiting inside the station.

I checked in from my car and immediately violated protocol—instead of giving just my call sign, I added my location, hoping net control would figure out that since I was at 29, it made sense to assign me there. I'm not sure I was acknowledged, because by then my only focus was getting in the station and getting its radio on the air. If I wasn't going to be assigned there, I'd just be a pleasant surprise filling a hole on the list.

At least the station door was open. The first firefighter gave me a quizzical look, but seemed to know that 'ham radio operators' were to be there that day and was helpful in trying to figure out where the radios might be. It was after 9:50 and I was sweating a bit as I contemplated reprogramming that ICOM with the tiny buttons and small fonts—and my glasses home on the dining room table. I thought I might have to find the antenna and trace the coax to the source, but then the station officer appeared and he knew both what was happening and where—the 'phone' closet, cum broom closet and literature storage ECHO radio room.

We opened the door and...where were the radios? Or so I thought, until the Lieutenant said they're in the box on the side of the locker, a nifty vertical installation in a two-door ORCA-made cabinet. Pushing aside a few boxes and dusting a bit, I opened them up and, indeed, there were radios and a power source. And a note saying the battery had been replaced in November 2004—maybe I wouldn't have to fathom the secrets of this radio after all. Power on, presto—the net frequency, and, as we had set them up in the very beginning, next on the dial was the simplex frequency. Something was ready for this exercise and so I stood by for net control, promising myself that sometime in the next few days I'd get my go-bag back into the functional world and maybe even program the repeater simplex output on my handheld. There's a reason we do these exercises.

The Satellite Beacon, continued

There are no limitations about who can build and launch an amateur satellite other than the control operator must be a licensed amateur and the purpose of the mission must not be commercial. This applies to balloons, CanSats and CubeSats, regardless of where and how long the satellites remain operational.

However many hams can participate in satellite construction projects indirectly. Colleges, university and schools are always in need of volunteers who will act as advisors to help with mentoring students to become licensed hams, helping with ground station construction, testing and construction. In some cases hams have been proactive and have helped start satellite projects.

So yes! Getting involved in satellite projects is something every ham can do. Here are some resources to help.

The CubeSat Website – <http://www.cubesat.org>

WORPK's Amateur Radio HAB Links - <http://users.crosspaths.net/~wallio/HABLinks.html>

ARLISS's CanSat Information - <http://www.arliss.org/>

The Association of Experimental Rocketry of the Pacific (AERO-PAC) - <http://www.aeropac.org/>

KK6PH/SK Continued

(Continued from page 2)

Elmer, and mentor.

Henry had a wonderful sense of humor, and was generous and easygoing. He loved animals, kids, and all things scientific. He is survived by loving family and friends. At his request, ashes will be scattered at sea at a private service. Memorial donations can be made to the American Cancer Society.

Repeater Visit

Art, **WW6THD**, and Dave, **AE6PX** visited the repeater site for 2 1/2 hours on Sunday morning March 20 2005.

They performed routine maintenance on the equipment and made evaluations and measurements for the installation of the repeater console and the new controller into the existing equipment rack.

The site and equipment passed inspection and the repeater seems to be in good working order.

The next repeater visit is scheduled for sometime in mid May 2005

73 Dave **AE6PX**

May 7th Speaker

ORCA is fortunate to have secured Denis "Doc" Franklin, **W6EW**, as featured speaker at our May 7 monthly meeting at Fire Station One, 1605 Martin Luther King, Oakland.

Denis was featured on the cover of the February 2005 issue of QST magazine with an intriguing article on ham radio operations aboard ocean going research vessels.

The May 2005 issue of QST will include his article "Honey, I Shrunk the Rigs!" in the Public Service Section. It promises to be a meeting you won't want to miss!

So plan to attend-and bring a friend!

73 Dave **AE6PX**

Hams Wanted

Sunday, May 1 is the Grizzly Peak Bicycle Ride in the Berkeley Hills

Please contact Richard, **KD6JCT** at kd6jct@yahoo.com

Emergency Communications Courses

These are the final months for the on line Emergency Communications Courses offered by the ARRL and sponsored by The Corporation for National and Community Services and The United Technology Corporation.

Upon successful completion of courses, ARRL members are reimbursed the \$45.00 registration fee, courtesy of these grant sponsors.

Act now to take these fun, educational and useful classes for free.

For more information, visit the ARRL Certification and Continuing Education Web page.

<http://www.arrl.org/cce>

73 Dave **AE6PX**



Federal Emergency Management Agency

Emergency Management Institute Independent Study Program

FREE online courses in assorted emergency topics.

<http://training.fema.gov/EMIWeb/IS>



April 2nd Meeting: TBA—CORE II After

Monthly events

1st Saturdays ORCA - Oakland OES 9:00
1st Sundays Livermore Swap meet Las Positas CC
2nd Saturdays Electronics Flea Market in Sunnyvale
2nd Fridays East Bay Amateur Radio Club
3rd Fridays Mount Diablo Amateur Radio Club
3rd Fridays Hayward Radio Club
3rd Wednesdays Rocky Ridge Repeater Group
4th Fridays Amateur Radio Club of Alameda

East Bay Amateur Radio Club meets 7:30PM at the
Salvation Army, 4600 Appian Way, El Sobrante.

Hayward Radio Club meets at 1401 West Winton Ave in
Hayward behind Hayward Fire Station 6, next to the
Hayward Air National Guard Base.

Amateur Radio Club of Alameda meets 7pm at Building 522
West Midway on Alameda Point.

Mount Diablo Amateur Radio Club and the Rocky Ridge
Repeater Group meet at Our Savior Lutheran Church,
1035 Carol Lane, Lafayette.

Nets

Thursdays Oakland ARES/RACES Net
7:30 PM 146.88 MHz minus PL 77
Thursdays Alameda Emergency Preparedness
7:00 PM 146.88 MHz minus PL 77
Thursdays NALCO ARES/RACES
7:15 PM 147.480 MHz simplex

ORCA Officers and Board

President:	Jim Tiemstra	K6JAT
Vice Pres.:	Dave Clemes	AE6PX
Treasurer:	Bill Hardy	KF6VOG
Secretary:	Art McLaughlin	W6THD
Director:	Adele Bertaud	KE6HKY
Director:	Michael E. Hole	KG6DER
Director:	David Otey	WB6NER
Director:	Brian Treusch	W6LL
Director:	Alan Whitman	K6ZY

Ex-Officio Directors:

ARES Liaison	Mark Violet	N6RCG
Repeater Trustee	David Otey	WB6NER
RACES RO	Jim Tiemstra	K6JAT
WW6OR trustee	Jim Tiemstra	K6JAT

ORCA on the web:

ww6or.com

The ORCA NewsLetter is published monthly. Any articles can be used with attribution. Articles, news and photos submitted make for a more interesting newsletter; thank you!

Please submit materials for the next issue by April 21 to Michael **KG6DER** kg6der@arrl.net or fax to 707 215-6124. Thanks again!