

ORCA NewsLetter

Oakland Radio Communication Association
Oakland, California

May 7, 2005

The next meeting will be on the first Saturday, May 7, 9:00 AM at Fire Station 1 media room, 1605 Martin Luther King at 17th Street, Oakland.

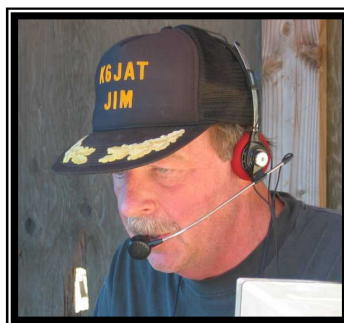
President's Corner

Special points of interest:

- Field Day Update
- MS Walk Report
- April Meeting Notes
- SFO Drill
- Satellite Beacon

Note: If you have a laptop with a wireless card that you would not mind using for logging at Field Day, please bring it to the May 7th meeting.

With HF propagation on a serious decline towards the sunspot minimum, it's gratifying to know how truly robust and gratifying the mainstay of Amateur Radio communication still is. In an effort to convince their government of the real importance of Amateur Radio to their society, a group of dedicated and persistent Indian Hams sought permission to operate from the Andaman and Nicobar Islands of India. These islands were high on the list of "Most Wanted" countries by DXers around the world and "off limits" for a variety of reasons for many years. However, a group of 5 amateurs were able to convince the Department of Telecommunications in the Indian Ministry of Information and Technology to allow a DXpedition from December 3 - 31, 2004.



Not surprisingly, education, international goodwill and emergency communications were the themes emphasized to convince the authorities to grant permission. Little did anyone know that the DXpedition would transform itself into a major emergency communications resource near the epicenter of the largest earthquake and tsunami in recent memory.

I had been fortunate enough to contact both

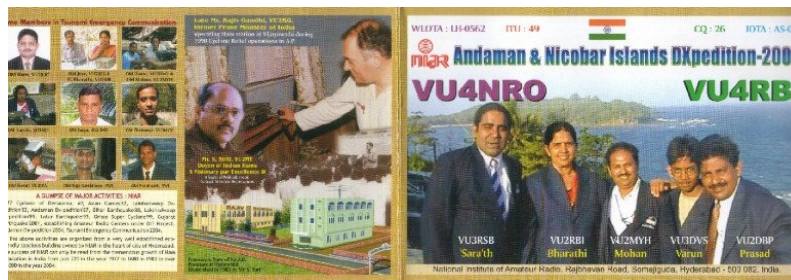
VU4RBI, the expedition leader, and **VU4NRO**, the expedition special callsign, in early December on 20 meters. (See below for a copy of the VU4NRO QSL card.) I remember meeting another ham at a Christmas party who was more than envious that I had already contacted the "all time new one" twice (he got them within a matter of days using 30 year old tube-type radios).

Pre-dawn on the day after Christmas, disaster struck, but the **VU4NRO** team was O.K. Swinging into action, the team got a generator going and converted to low power for communications with the Indian mainland. Government officials requested assistance from the hams which was continu-

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QSL Card from VU4RBI

This Months Meeting

Dennis 'Doc' Franklin, **W6EW** talks about his Airmail-capable station in a laptop case and his hamming experiences on various research ships.

President's Corner

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ously provided for the next few weeks.

By the first week of January, I was in Fiji operating as **3D2TJ** on a long planned vacation. Although I could not hear the low powered **VU4NRO** from my home QTH before I left, I knew they had requested some clear frequencies on 20 meters for emergency communications and I listened for them there when I reached Matangi Island. In Fiji, I could hear them clearly while they were passing traffic, mainly for medical supplies. I thought of volunteering, but a massive relief effort was already well under way.

The islands are now accessible to Amateur Radio thanks to a grateful Indian government, and should disappear from DXers "Most Wanted" list in the near future.

Hpe to C U all on May 7!
Remember, WFWL, 73, Jim **K6JAT**

May 7 Meeting Speaker

ORCA's May 7 meeting at Fire Station One will be highlighted by speaker Denis Franklin, **W6EW**.

Denis was featured on the cover of the February 2005 issue of QST with his article on Amateur Radio volunteers for science at sea. And his article "Honey, I Shrunk the Rigs" will appear in the May 2005 issue of QST. Denis's presentation promises to be one you won't want to miss! Plan to attend!

Field Day 2005 Update

David **WB6NER** and Dave **AE6PX** met with the Board of Directors of the Metropolitan Horsemen's Association at the MHA Headquarters on Skyline Blvd on April 12. The purpose of the meeting was to set the groundwork for ORCA's use of the Sequoia Arena during the 2005 Field Day activities.

The MHA Board graciously agreed to the use of the facility and final preparations are scheduled for early May. Sequoia Arena is a great location for the Field Day event. It lends itself perfectly to both radio operations and camping. We are fortunate to have it's use.

If you have not signed up yet for the Field Day Roster please contact Dave at AE6PX@arrl.net. Field Day is a great way to hone old skills and learn new ones! Look for further details via ORCA's weekly net and by email.

ORCA 2005 Membership

The latest check of the ORCA membership roster shows there are 55 full members and 10 family members. 30 of the full members are also ARRL members. That makes the percent of club members 54.5%, which allows us to regain affiliation. The affiliation paperwork has been submitted to the ARRL. Remember, the ARRL is the only organized voice for Amateur Radio interests in Washington, D.C.

License to Learn

Ham radio opens many doors. Open one and it leads down a hallway with windows and cubby holes. Go to the end of that hallway. Another door awaits. Open it and there is a stairway to the next flight up. When you get there you find a ladder that leads you still higher. You can either scale that ladder or stay where you are and explore a bit . Or descend and examine that nook or cranny you passed by on your ascent.

ARRL VEC provides the testing format to open those doors and climb those ladders. Qualifying as an ARRL VE (Volunteer Examiner) requires completing a questionnaire based on FCC rules and regulations. Upon successful completion ARRL will issue a laminated card with name, call sign and license grade, qualifying one as a ARRL VE, allowing one to help in VEC test sessions.

It is very gratifying to be able to help aspiring hams open that first door or help that experienced operator go that extra mile. And, as in all things in ham radio, the VEC session is a learning experience in itself. It is that little secret niche that contains its own rewards.

We all took tests to qualify for our licenses. We read and studied and crammed our brains until bursting, knowing that we must take that test NOW! We were nervous when we answered the questions and nervous when the tests were graded. But when we passed the feeling of elation and accomplishment was unrivaled. And when we failed we were determined to get it right the next time.

As a VE you can see all those emotions in the faces of the test takers. And, as a VE you can relax a bit, knowing you had been there, and your purpose now is to administer that test in an efficient manner, dotting the I's and crossing the T's to the ARRL specifications so the successful candidate can log onto the Internet in a few days and relish in achievement when the new call sign is assigned with a T or that modification contains a G or an E. The session is complete when the license finally arrives in the mail, physical proof of the efforts expended.

At one recent session a person took the CW, General and Extra test. He was the first to start and the last to finish. He passed all tests with flying colors and when he received his CSCE (Certification of Successful Completion of Examination) his grin was ear to ear. He beamed proudly and rightly so. I have seen victors at Super Bowls and World Series and their elation was no greater than his at that moment. That was the payoff. That is what was is was all about.

Earning that ticket is the first step in the great journey that is ham radio. It holds the key to that first door and when that door is opened, there are no limits. That ticket should be viewed not only as a license to operate, but also, and more importantly, the license to learn.

73 Dave **AE6PX**

Visit <http://www.arrl.org/arrlvec/> for more on ARRL VEC.

Triple Play at Alameda MS Walk

by Bob, **KE6IUE**

On Sunday, April 10th, members of ORCA, ARCA and EBARC joined forces to provide communications support for the Alameda MS Walk-A-Thon out of Crown Beach Memorial Park in Alameda.

Six hams participated: Randy, **KA6BQF**, and Texx, **KG6ATH**, from EBARC; Sandy, **KO6JF** and Joe, **KL7IDY**, from ARCA; and Dave, **AE6PX**, and Bob, **KE6IUE**, from ORCA. Randy, Sandy and Joe are dual ORCA members as well. We ran a Resource Net on ORCA's repeater at 146.880 (thank you, ORCA) and then used 146.505 simplex for our tactical net. Joe set up the base station at the Start/Stop HQ using the mobile rig in his car and a mag mount. We sent operators to each of two rest stops (Sandy and Bob) and fielded a bicycle mobile operator (Dave, who else?), a vehicle operator who functioned as the SAG and participated in the tactical net (Randy, who had all the appropriate signage for his vehicle as well!), and an operator who shadowed the logistics truck (Texx) and lugged food and equipment, a true participating shadow.

The event exercise ran from 0700 to 1200 and included a 'hot wash' debriefing session. It turned out that, while there were no serious event problems, we passed a good amount of traffic just keeping track of operators, volunteers and participants and a couple of us burned through our batteries as a result. The 'hot wash' issues and lessons learned included (1) balancing net control's oversight of the tactical net with the flexibility of allowing station-to-station direct contact, particularly for net administration traffic (e.g., rest stop two looking for the bike mobile), and (2) the constant reminder of the bright line that can become rather fuzzy between the served agency and the Ham operator (at one rest stop, the Ham was the first volunteer on-site and when the logistics truck arrived, staff asked the Ham where to set up!).

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The Satellite Beacon

A monthly article presented by the
Project OSCAR Amateur Radio Club



This Month's Topic – Improving Satellite Reception, Part 1

By Emily Clarke, **W0EEC** – VP of Project OSCAR

When investigating people who are unintentionally "jamming" a satellite (transmitting but unable to hear someone respond) the first thing we hear is "everything works fine – I used a repeater just before the pass." Following up we usually discover that the ham is using antennas designed for terrestrial use, or using receivers such as scanners that do not have good specifications. When we tell the ham that the repeater 40 miles away is transmitting 100w or more, and the satellite 1200 miles away is transmitting 0.5w, the ham is usually surprised. So what makes a good satellite receiving subsystem?

Receivers

Receiver specifications are important and the primary number to look at is **receiver sensitivity** as this is the number that will tell you how strong a signal must be before the receiver can detect it. Sensitivity is measured in microvolts (μ volts), and is usually rated for 10 db signal to noise for SSB/CW, or 12db SINAD (signal + noise + distortion) for FM. An excellent satellite receiver will have a sensitivity rating of 0.11 μ volts on SSB/CW but under 0.14 μ volts is adequate. FM sensitivity should be 0.22 μ volts or better (lower is better, higher is worse.) For example, the Yaesu 847, Kenwood TS-2000 and Icom 910H all meet or exceed these figures.

If you are only interested in using FM satellites there is an important caveat that you should consider, and one I was surprised to learn while researching this article. If you check the specifications for some full duplex dual band rigs (including handhelds) you will see that one band (Icom calls these left and right, others may refer to them as main and sub) may not be as sensitive as the other band. For example, my Icom 2720H mobile rig has a sensitivity of 0.2 μ volts on the left band, but 0.45 μ volts on the right band.

The important point to note here is that you should know your receiver specifications and make choices wisely when choosing a radio, and a radio's band.

Coaxial Cable and Connectors

At UHF and above frequencies, standard coax for HF and even VHF doesn't always work very well. If we were to use an example of 50 feet between your receiver and antenna, at 436 MHz (AO-51's downlink) RG-58 will have a loss of about 6db.

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San Francisco International Airport Drill May 25th

Once again, ARCBA (American Red Cross Bay Area) Emergency Services will be participating in SFO's annual exercise. This is a massive event and we are honored to be invited to participate again.

We are in need of volunteers in the following functions: Disaster Mental Health, Health Service, Family Service, Mass Care and Logistics. If you are interested in participating, please contact Lee Philipson at philipsonl@usa.redcross.org or 650.259.1777.

Take a look at images from the May 2003 exercise: <http://www.genedailey.com/2003sfodrill>

Ed. Note: Communications is under Logistics in the Incident Command System that will be used during the exercise. -KG6DER

Triple Play at Alameda MS Walk, continued

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Overall we agreed it went very well, both as a Club community service event and as a training exercise in organizing and operating a tactical net. We all liked the notion that three East Bay clubs joined forces to provide support for our community, and hope to use that model again. People checked in at different times, but stayed through the end and logged a total community service effort of 26 hours (duly reported to our ARRL section leader). Outside that time, but still a pleasure, most of us hung around a little longer and shared the pancake breakfast the MS folks put on for the participants.

I think I speak for all who were there in encouraging you (that's "you" as in the folks who check in frequently to the net and come to many meetings, but don't get out in the field), to join us next time. It's great practice (but the nice thing is it's a real event) one step closer to the call up we are all preparing for, but hoping doesn't come.

The Satellite Beacon, continued

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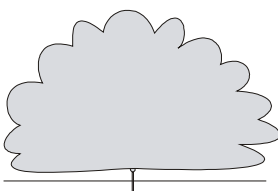
This means that the signal will be only 25% as strong at the receiver as it is at the antenna. Replacing RG-58 with RG-8X may help, but you will still lose 4db or more than half the signal.

Replacing RG-58 or RG-8X with LMR-400 or 9913 will get the losses below 2db, which make a huge difference. For example, LMR-400 at 436MHz will only lose about 1.3db. So the rule of thumb is "Use the best coax you can afford."

If there were ever to be a Murphy's law about amateur radio it's that the connectors on the cable and the connectors on the thing you are attaching it to will not be the same. My rig has type-N connectors but the antenna has a UHF connector on it. The first reaction is to use an adapter, and while this will make the connection, it will introduce additional loss. So it's a good idea to build cables that match up with connections.

Antennas

There are a number of factors here to consider about antennas and it isn't just gain. Gain is good but radiation pattern (and it's inverse, the receiving envelope) is equally important. One mistake we see is that the type of antenna being by our jammer is a 5/8 wave collinear, which has very good gain (typically 8db or better) and a narrow envelope. The problem is that the antenna is mounted vertical and the radiation pattern is horizontal, so 50% of the envelope is under ground. This is good for ground based repeaters, but really defeats the purpose for satellites as it will only receive the satellite when it is very low on the horizon.



One solution is to use an antenna that raises the envelope above ground and is rounder. Eggbeaters, quadrafillar helix and discone antennas work, but the tradeoff is gain. The rounder the pattern, the lower the gain and pattern is omni-directional. So in addition to receiving the satellite an omni will receive noise from other sources. In a suburban neighborhood this can be a problem. While an omni-directional antenna may eliminate the need for rotators, one should really consider the best solution.

A yagi antenna with an az-el rotator is always the best solution because the antenna is pointed directly at the satellite, but may not always work depending on where you live. If you absolutely have to be omni-directional make sure you have one that has a pattern that is higher than ground level, not below it.

Next Month – **Part 2, Pre-Amplifiers.**

April Meeting Recap

Bob, **KE6IUE**

Having survived the hijinx of April Fool's Day, about 25 of us gathered Saturday morning April 2nd for our monthly meeting. President Jim, **K6JAT**, called us to order and shared a contester's tip for running pile-ups that is useful for net control: don't obsess with getting people's full call signs when they first come up. Just record whatever you can hear and get folks to come back by fishing with partial calls, like "station beginning kilo six foxtrot, please come now", or "station ending in tango tango, please come back". People will figure out you are calling them and you can log their full call at a more leisurely pace when they come back. At worst you'll have to sort out a double, but the net will proceed more crisply when you can keep the check-in moving forward.

Vice President Dave, **AE6PX**, followed with a plug for the May meeting and our speaker, QST-featured contributor 'Doc' Franklin, **W6EW**, and a reminder for us to take advantage of reimbursements for ARRL members to take on-line EC courses—they will be ending this June. Field Day was the next subject: Dave and David, **WB6NER**, will meet with the Metropolitan Horsemen's Association to settle the details for Sequoia Arena for the weekend of June 24-26. We won't be entering an EOC station this year, so all are encouraged to plan to participate at the Arena. As usual, there will be early set-up on Friday featuring high-wire antenna archery by Richard, **K6GT**, power connectivity by George, **W6BUR**, and various generators, gel cels and solar panels. Gourmands Tom, **KG6MAC** and Michael, **KG6DER**, volunteered to lead the commissary efforts, and others are urged to find a role or just show up and lend a hand in all the obvious places. As always, overnight camping is available and encouraged—it's fun!

In the absence of Treasurer Bill, **KF6VOG**, assistant Bob, **KE6IUE**, reported the fund balance of \$6083.92 and, in the absence of a 2005 budget, gave a brief overview of a typical year's expenses, with the conclusion that we had several thousands available from the existing balance to put towards capital needs.

Jim, **K6JAT**, followed with an update on Chabot Space & Science Center efforts, dazzling the crowd with reports of expected serious financial involvement by dot com sponsors, ICOM and HRO, including a list of radios and other equipment the Center could expect to have donated. Further exploration of these efforts is anticipated at the Dayton Hamvention which Jim and David are planning to attend. After a brief update on his visit to the repeater with Engineer Art, **W6THD** (it's in good shape, though the long-awaited controller installation is still that), Dave reminded us all to make an effort to operate from fire stations as often as possible—keep those ECHOS reverberating around the system.

Jim, **K6JAT**, gave a lengthy RACES report, highlighted by summaries of the quarterly meeting with OES (an effort is afoot to proclaim the week of Field Day as Amateur Radio Week in Oakland; Fire Patrol for the July 4th weekend is on the radar already; and there is a major drill planned for the fall in which our participation is anticipated, among other items too numerous to mention). Other Business featured a list of opportunities for ORCA Hams to get involved in community events, supporting good causes while honing radio skills, and the reminders that EBARC is hosting a General level theory class through Contra Costa Community College, there will be a VE license test session at the end of April and that all are invited to the next ORCA Board meeting, scheduled for 1800 hours, Tuesday, April 26th, at the Kerry House bar, 4092 Piedmont Avenue. The net control assignments flew out the door, as has been our recent experience, another good reason for Hams to take advantage of community events for serious practice.

Following a lively break for networking, during which Dave and Bob set up the ORCA 'Radio in a Box' (a self-contained dual band radio station, minus antennas, replicating the ECHO installations in fire stations), Dave gave an orientation to the Box equipment, with generous assistance from Mike, **KB6MP** and Michael, **KG6DER**. A good suggestion was made to supplement the manuals with a one-page quick start sheet showing the most basic functions—power, frequency, memory, accessing the repeater—in type large enough to read. The meeting adjourned after Dave's session and a group clustered around the Box for further instruction and some hands-on training, before we all drifted off to the rest of Saturday.

Help Needed for Bay to Breakers 2005

What do Red Cross volunteers, 4:30am, and May 15th have in common? Hopefully, the answer is you!

We're looking for volunteers to help support our First Aid Stations at San Francisco's Bay to Breakers race on Sunday, May 15th. For over 20 years, our chapter has been providing medical care to the thousands of runners, walkers, and spectators who participate in Bay to Breakers. We need over a hundred volunteers to make this possible. We're looking for medical caregivers, volunteers who have current First Aid and Adult CPR certificates, Ham Radio communicators, drivers, youth volunteers to man the Lost Children Stations, and various logistics volunteers.

For more information or to volunteer, contact Grace Pun at HSSupport@usa.redcross.org. Breakfast, coffee, lunch, and t-shirts will be provided. We hope to see you there!



Speaker: Dennis 'Doc' Franklin, W6EW

Monthly events

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

Amateur Radio Club of Alameda meets 7:00 PM at Building 522
West Midway on Alameda Point.

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

Hayward Radio Club meets at 7:30 PM 1401 West Winton Ave.
in Hayward behind Hayward Fire Station 6, next to the
Hayward Air National Guard Base.

Mount Diablo Amateur Radio Club meets at 7:30 PM
at Our Savior Lutheran Church,
1035 Carol Lane, Lafayette.

*Note: The Swap meet will continue at
Las Positas Collage thru June 2005*

ORCA on the web:

ww6or.com

Weekly 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
Mondays Hayward RACES
7:30 PM 145.130 MHz minus PL 127.3

ORCA Officers and Board

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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
May 19 to Michael **KG6DER** kg6der@arrl.net or
fax to 707 215-6124. Thanks again!