

JANUARY 2005

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKIP



Home Brew- The Agony and Ecstasy

Over two years ago I started to build a high performance computer controlled receiver optimized for 20 meters CW based on a design that appeared in QEX magazine. I really don't need such a receiver but the design incorporated many areas of technology that offered a much needed education. The RF modules presented numerous packaging challenges but were nothing that I had much difficulty with.

The trouble began when trying to get the Direct Digital Synthesiser (DDS) to work. The circuit is made up of a pair of numerically controlled digital oscillators and a pair of Digital to Analog converters. One DDS generates a frequency used by the radio local oscillator, the other generates a frequency used by the BFO. A PIC micro-controller receives commands over an RS232 serial connection from software running in a PC and uses this data to set the frequency of the two DDS chips. As you can tell debugging this involved investigating PC code written in Borland Delphi, microcode for the PIC and a mix of digital and analog chips. Nothing worked and after considerable frustration it became almost a joke amongst my colleagues who would ask if my RX might be ever be completed.

It turned out that there were many problems not just a single error. The circuit diagram had several mistakes such as missing and reversed allocations of pins on each one of the chips. The software involved had been modified after publication of the article and to make matters worse the way the PIC code actually worked did not agree with the comments

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Wave of Destruction Wave of Salvation

Ham Radio Operator on a Chance Visit to a Remote Indian Island Becomes a Lifeline

By Rama Lakshmi Special to The Washington Post Sunday, January 2, 2005; Page D01

PORT BLAIR, India -- About one month ago, Bharathi Prasad and her team of six young ham radio operators landed in this remote island capital with a hobbyist's dream: Set up a station and establish a new world record for global ham radio contacts. In the world of ham slang, it was called a "Dxpedition."

"It is a big honor to come to the Andaman and Nicobar Islands and operate. There is no ham activity here because it is considered a very sensitive area by the Indian government," said Prasad, a 46-year-old mother of two from New Delhi.

In fact, the last ham activity in these scattered islands in the Bay of Bengal, 900 miles east of the Indian mainland, occurred in 1987, when Prasad set up a station in Port Blair and made 15,500 calls. "I had always wanted to come back and break that record," she said.

This time, Prasad set up an antenna in her hotel and turned Room 501 into a radio station. She made more than 1,000 contacts every day and said she operated "almost all day and all night, with just three hours of sleep."

In the early hours of Dec. 26, while the other hotel guests were fast asleep, Prasad's room was crackling with the usual squawks and beeps. At 6:29 a.m., she felt the first tremors of an earthquake. The tables in her room started shaking

violently. She jumped up and shouted, "Tremors!" into her microphone. Then the radio went dead. She ran out and alerted the hotel staff and other guests.

But with that one word, she had alerted the world of radio hams, too.

Within a few hours, the extent of the damage was clear to everyone in Port Blair. But the tsunami had knocked out the power supply and telephone service of the entire archipelago of 500 islands, leaving the capital virtually cut off from the rest of India.

Undaunted, Prasad set up a temporary station on the hotel lawn with the help of a generator -- and put the city back on the ham radio map.

"I contacted Indian hams in other states and told them about what had happened. The whole world of radio hams were looking for us, because they had not heard from us after the tremors," she said later. "But I also knew this was going to be a big disaster. I immediately abandoned my expedition and told all radio operators to stop disturbing me. I was only on emergency communication from then on."

While news of the death and devastation caused by the tsunami in other parts of India was quickly transmitted around the world, the fate of the Andamans and Nicobars was slow to unfold.

Prasad kept broadcasting information about the situation to anyone who could hear her radio. Over and over, she repeated that there was no power, no water, no phone lines.

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Published 12 times per year.
Free to members.

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Waves continued

On Monday morning, she marched into the district commissioner's office and offered her services. "What is a ham?" he asked her. After she explained, he let her set up a radio station in his office, and a second one on Car Nicobar, the island hit hardest.

For the next two days, as the government grappled with the collapsed communication infrastructure, Prasad's ham call sign, VU2RBI, was the only link for thousands of Indians who were worried about their friends and families in the islands. She also became the hub for relief communications among officials.

"Survivors in Car Nicobar were communicating with their relatives in Port Blair through us," she said. When the phone lines were restored on Tuesday, Prasad's team in Car Nicobar radioed information about survivors to her team in Port Blair, whose members then called anxious relatives on the mainland to tell them that their loved ones were alive and well.

Prasad also helped 15 foreign tourists, including several from the United States, send news to their families. Offers of relief aid poured in from around the world through her radio, and she directed them to government officials. She also arranged for volunteer doctors to be sent from other Indian states.

Now she has become so popular in the islands, and in the ham world, that she

Personal Profile— Mike (WA6OUW)

Mike (Kit-Builder Extraordinaire) Huffstetler is a native of the Watsonville area and introduces himself as coming from a "hunting and fishing family with humble beginnings".

Not exactly qualifications you would think might lead to a successful career in Silicon Valley, however, one soon appreciates his remarkable abilities and the underlying reasons for them. Blessed from the beginning with a

devoted father, Mike was also fortunate in meeting Ernie N6HN who became his mentor. It was Ernie who stressed the importance of good soldering and to this day they enjoy hunting together.

In the 60's Mike and his Dad attended a club meeting of W6PIY in Los Gatos and shortly after gained their ham licenses. While still at high school his teachers recognized the value of his ham ticket and Mike was given the task of building their lab equipment. With the coming of the "QRP" revolution Mike built many kits himself and was often asked by others to fix their equipment. Later on Mike ran into Dave Benson of Small Wonder Labs and this was the beginning of his relationship with the wider kit building community. Demand for Mike's work soon became significant and it was his XYL Lorna who suggested forming his current company, KitBuilders. It is a fair question to ask why anyone who purchased a kit would want Mike to build it. Although Mike will

build complete kits or fix the work of others his main focus is the placement of the most complex IC chips and Surface Mount Devices that can be a challenge for many an erstwhile builder.



Today Mike's reputation is very well established for work of the highest quality; fast turn round, and reasonable price. His technique involves initial brushing with an organic solder flux, solder of .015 diameter for the finest pins and .031 for other components.

He uses irons with very fine conical tips at 625degrees F and removes the iron immediately after solder begins to flow—typically just a second or two. He has developed his own post-solder cleaning technique using a toothbrush and Dove liquid dish soap, washing then drying with absorbent paper and a fan. Mike simply loves what he does and the quality of his work is something he is justifiably proud of.

As Depot Manager at Northrop-Grumman Electronic Systems Mike is in charge of fixing issues with aviation electronics. Quite apart from his electronic occupations Mike has a professional resume-writing business and has also patented a new product for fishermen called PolePal, that came from an original idea of his father. You would go far before meeting such a talented hands-on Ham and multi-tasking entrepreneur. As devices get smaller Mike's business will certainly grow and we wish him continued success in the future.

said she has been affectionately nicknamed the "Teresa of the Bay of Bengal."

When the earthquake occurred, Prasad's worried husband called her from New Delhi and asked her to return home immediately.

"He reminded me that I have two children to look after back home," she said, laughing. "I told him that as a ham radio operator, I have a duty in times of disaster."

Under India's strict communications laws, a ham cannot leave home with his or her radio without going through an elaborate

bureaucratic process to obtain permission from various ministries.

Prasad said that after her first expedition to Port Blair, she spent 17 years begging and badgering officials before she was allowed to return.

Now she hopes her work in the aftermath of the tsunami will ease the path for other hams in India.

"She looked like a simple housewife when she checked in," recalled Ravi Singh, the hotel manager in Port Blair. "But now I marvel at the courage she has shown."



By Art Lee WF6P

CHATTER

Was sitting at the kitchen table a couple of days ago and received a landline from pal Gary Baker, N6ARV. He was visiting this area from his QTH in Rio Vista. He stopped by and together, we tore into my long-down, but favorite ICOM IC 761. The doggone readout display wouldn't display. It had been cutting in and out for months and a few taps on the rig usually brought it back on line. Can you imagine how aggravating it can be to try to QSY to another freq and have the digits disappear? Then try to get back to the net frequency to make contact? I resorted to ever-larger hammers after the gentle tapping failed. Then nada.

At first we tried to pull the front face off, then consulted the manual and removed the top cover. We removed two small screws and pulled the readout component up to where we could work on it. Gary checked the 50 or so solder joints on the circuit board with a bright flashlight and magnifying glass, finding a couple he suspected were bad. With my 15 watt soldering iron he expertly dabbed at the connections, adding a bit of solder, using the solder sucker to remove the excess. He gave me some pointers on soldering, noting that my solder would be fine for heavy-duty soldering of roof drains. I protested, showing him that I had purchased the solder from Quement's. He was used to using smaller diameter solder. He also added a bit of solder to a through-hole where the two circuit boards made contact. "Let's button it up" he said. We

put everything back together and the top cover back on. Gary let me plug in the power cord and hit the "on" switch. Voila! The readout lit up like a Christmas tree. Boy was I happy. The rig had been down for nearly a year while I used my trusty Kenwood 930S for daily contacts.

Gary checked out my 80 meter wire, up only ten feet above the ground. The temporary make-shift tower supporting the dipole had slipped down a few feet from its nylon straps lashing it to my sun deck. The last wind storm had caused the shift and the tower's base slipped off a 4x4 on the deck. It didn't look too good. I sheepishly admitted that the "temporary" antenna had been up for a year. My temporary 40 meter dipole was up about 10 feet. It had been blown down in the latest wind storm when a tree branch fell on it. I told Gary that despite all that, I received 10 to 20 over nine signal reports most of the time.

The next day I put the ICOM back on line. It has a lot more bells and whistles than the 25-year-old Kenwood. It might have been my imagination, but the incoming signals seemed to be coming through the speaker in a much clearer tone. When I got back on the air, I had to refamiliarize myself with the various features and punch in freqs on the memory. The built-in keyer was nice. I had been using my straight key with the Kenwood. My next action will be to set the Kenwood up in my office. For that I have a Butternut vertical that should work fine.

W8FLL's 80th

Dave W8FLL invites you to attend his 80th Birthday Party on Jan 29th from 1-5 PM. Please watch for details and RSVP

— 73, Ron W6W0

Home Brew continued

included in the code itself. This only became evident through the use of a logic analyzer that is like an oscilloscope which can capture the bit patterns appearing on the pins of the PIC.

I had just about given up because having checked and rechecked the simple circuit surrounding the PIC it's code just wasn't running. As you might know a micro-controller requires a local clock provided by a XTAL oscillator. I had checked and observed that I was getting some nice sinewaves however as XTAL oscillators are among the most reliable of components it had not occurred to me to check its frequency. When I finally did I couldn't at first believe what I saw- the XTAL was correctly marked but it oscillated at 18 MHz instead of 7MHz. This meant the PIC didn't have chance to deal with the commands coming over the connection. Replacing the XTAL provided the answer that I was looking for at last.

Just to be clear, I have now some confidence in all the individual modules of the RX but what remains is how they all perform together as a complete system. I expect some more agony and ecstasy lie ahead and hope that within the next year or two to report success.

—73, Ron, W6W0

WX6MTR - NWS Monterey SKYWARN

Congratulations to Scott KG6TDA and the folks at the National Weather Service Forecast Office (NWSFO) in Monterey (MTR) on finally receiving their new club callsign, WX6MTR.

Recent ham activity in our local Forecast Office, with photos:

<http://www.wrh.noaa.gov/mtr/04skywarnaday.php>

As winter begins and the sun is starting to return, the new license was granted and became effective on the winter solstice, December 21.

Keep an ear open for them, from now on. With this new WX6MTR amateur callsign the Monterey NWS Forecast Office joins the following NWSFOs with similar callsigns who participated in SKYWARN Recognition Day this year.

<http://hamradio.noaa.gov/>

—Cap KE6AFE

Interesting Web Sites...

Earthquakes	http://quake.wr.usgs.gov/recenteqs/Quakes/nc51151992.htm
RF Exposure calculator	http://n5xu.ae.utexas.edu/rfsafety/
Project Oscar	http://www.projectoscar.net/beacon.php
WiFi HPWREN network	http://www.npaci.edu/online/v6.25/hpwren.landsat.html
Winlink 2000 network	http://winlink.org/features.htm
Remote Camera Mission Peak	http://64.124.190.26/view/view.shtml



If the CAKE session on Jan. 6 is anything to go by we are in for a very entertaining year.

Thanks to all who participated but especially Roy's (KF6KVD) friend Cody for bringing a mystery object. This was a 10 inch cube wooden box with a small glass panel and a couple of terminals. It was not long before we guessed it to be some form of projection device. Upon opening it was confirmed as a micro-ammeter that used an elaborate arrangement of lamp and mirrors to project its needle movement. Evidently a most sensitive laboratory instrument from the 50's era.

Alan (KC6VJL) brought along a copy of the latest ARRL handbook that gained the approval for its fresh content and CD and also showed a copy of the ARRL VHF/Microwave CD

We revisited the topic of soldering techniques again as it is of special interest these days with the dense chips now appearing in ham projects. It is clear that we love both old and new subjects and were intrigued by books Pat AA6EG brought about Don Wallace W6AM, an Army Wireless reference and photographs of a 650 kHz antenna all from around the same 40s-50s era. Snide remarks alluding to Ron's age were studiously ignored.

Bob K6XX entertained us with his tales of fighting bizarre parasitic effects in a

linear or should it be called a spark transmitter. Bob also provided some insight into how well his Beverage antennas are working and reported some more EU DX on 160. We noted that Beverage antennas do not usually involve beer cans. The ARGO/QRS software combination for weak signal work surfaced once again.

Peter (AB6WM) mentioned some emerging high capacity battery technologies and a demo of a full-size car running on a pair of AAs.

An article in the current issue of QEX has the appealing title of "How antennas radiate". It is not often these days to find articles that are based on the foundations developed by Gauss, Lenz, Faraday, Maxwell, Newton and Einstein. How dielectric



antennas behave is something to be looked into.

Ron (W6WO) mentioned that you can purchase a useful size RF-tight, aluminium project box at Trader Joes that comes complete with two layers of simply wonderful English Toffee. Ron also bragged about finally getting his computer controlled DDS to work having solved many layers for issues in the circuit and software design.

Where else can you get two hours of edutainment for the \$1.50 price of excellent coffee!

—73, Ron W6WO

Ham Radio another View

Joe Tomasone (AB2M) November 23, 2004

Yes, yes, I know. You've heard this before. It's been pronounced when FM was introduced, screamed from the mountaintops when no-code came to be, and continues even today with BPL. However, I have seen some disturbing trends lately, and I think that they point towards the slow and painful death of the hobby we hold dear. Please, indulge me for a moment as I explain.

Whenever there is any threat to Amateur Radio, be it potential band reallocation, Part 15 intrusion, or any other issue that threatens to upset the status quo, we hams immediately raise the one sacred, (usually) FCC-scaring, blood boiling rallying cry that we have - WE PROVIDE EMERGENCY COMMUNICATIONS. We never justify ourselves anymore as advancers of the radio art (we'd be hard pressed to do so these days), so the only value we can provide to justify our continued occupancy of billions of dollars of spectrum is merely emergency communications. I believe that very soon, certainly in my lifetime, we will be all but out of that game. Allow me to explain.

I have been a resident of Tampa, FL for the past few years. 2004 will certainly be remembered around here for a long time - and should have been a shining example of emergency communications saving the day time and time again. You didn't hear that this time. Wonder why? I spent time in some of the hardest hit areas here in Florida, and what I saw from an emergency communications perspective scared me silly. Before we tackle that, however, let's go back in time a little:

1991: A newly licensed ham living in Long Island, NY; I am called up to help provide communications in support of Hurricane Bob, which would up dealing a glancing blow to the eastern end of the Island. We were activated by the local emergency management office, and assigned to various government and first responding agencies to allow for intercommunication if needed. Fortunately, we were not tasked in my immediate area.

1996: TWA Flight 800 crashes off the coast of Long Island. Hams assist the Red Cross in providing communications for mass care operations (primarily). This, I will later realize, is the first operation I have been involved with in which hams were merely augmenting a cellular system that was overloaded for an agency that has radio com-

munication equipment of its own but rarely uses due to training and equipment issues.

2001: 9/11. I am forced by my employer to sit this one out in Florida (where I have arrived earlier in the year), but manage to scrape together a web-based database to manage the load of volunteers. I quickly realize that this, again, is a Red Cross/Salvation Army support operation. I never heard of any assistance to FDNY, NYPD, Port Authority Police, the EMO, or anything else.

2004: Four hurricanes in almost as many weeks. Hardly anywhere in Florida has not been affected by these storms. People are without food, shelter, electricity, water, telephones, cell phones (in many cases). Essentially, much of Florida has dialed the clock back 100 years or so. Tensions are high. The EMOs consider how to prevent civil disturbances and looting of incoming food and supplies. Fire Departments are going door to door looking for survivors. Driving through the main street of a town at night is hazardous at more than 5mph due to the amount of overhead and downed debris and electrical wiring (which probably is dead, but who knows?).

So, you might ask, how did Amateur Radio respond?

I'm not sure we did.

I responded to 3 seriously hit areas: Wauchula (in Central Florida), Punta Gorda (in South Florida) and Pensacola (in the Florida Panhandle).

In Wauchula, we delivered a portable repeater system so that the responding agencies could communicate. That sounds like a fine use of ham radio - except it was a Forestry repeater, on their frequencies. Sure, we hams brought it and deployed it, but anyone familiar with the setup could have. The Sheriff's Department lost a huge tower (and thus their repeater) in the storm, leaving them with no communications save simplex, which didn't even come close to covering their operating area. Therefore, deputies in the furthest reaching areas had no communications. We were able to move their repeater to another location that had a working antenna and saved the day. But once again, we did not operate OUR radios, save for local simplex communications to get this all accomplished.

As the EMO had no tasking for us (by now the cellular providers had their mobile cell sites around), we left.

Punta Gorda. Ground Zero for Hurricane Charley. I arrive there a week after Charley hits to help relieve the operators from the

local area. I get there to find no tasking other than Red Cross communications, and a Section Manager so starved for something to do - ANYTHING to do - that he cooks up a plan to have hams drive around the community soliciting health and welfare traffic. Remember, folks, this is a full WEEK after the Hurricane. If you haven't gotten a message out to your loved ones in a week, you probably don't want to. Again, there's little to do - the Red Cross is using Nextels - which are working.

Pensacola. In the wake of Hurricane Ivan, the call goes out - hams are needed - BADLY. I kiss the YL goodbye, load my Jeep, and start out on the 8 hour drive. Upon arrival, I am sent to the local Red Cross (here we go again) headquarters to relieve operators. There, I meet two hams who inform me that they have passed 3 messages in the past 24 hours. Three. One ham has extensive damage to his home and, quite frankly, this is a better place for him to sleep at the moment. The other ham wonders what we are doing there. He departs the next morning.

In the morning, I am informed that Red Cross operations are moving from the Chapter Headquarters to a larger facility in the donated basement of a commercial company. I am asked to establish communications from there to the EOC. Getting there, I am staggered to find that I am expected to provide communications to a building that has working telephones, internet access, email, a slew of Nextels that are being handed out, and, to add insult to injury, 2 Red Cross comm vans with every type of radio known to man (including ham), satellite links into the National Red Cross Network, and WiFi.

I tell the hams running the show at the EOC what the story is - I'm providing communications for a building that has more communications than I think I have ever seen in one location before. They respond by sending a total of 4 more hams to assist. I speak to the local EC and tell him that if he doesn't want a boatload of really perturbed hams, he'd better find some taskings for us to justify putting out the ARES equivalent of an All Points Bulleting screaming for ham help. He promises that we will have something to do in the morning.

I spend a part of the night helping the Red Cross folks set up WiFi so that they don't have to run cabling to each workstation for network access. I begin to wonder if I could have left my license at home.

The next morning, we do indeed have a

tasking. The Red Cross is making a push into the hardest hit local area on the beach near the Gulf of Mexico - as close to the landfall point as we're gonna get. (It literally is described almost like an offensive against rebels in Iraq). Given the amount of sand that was blown over roadways, I am chosen along with another of my overnight compatriots for the task since we both have 4-wheel drive. We depart, with instructions to meet and team up with two other hams at the parking lot of a local supermarket just outside the devastated area. There, we are to await the Red Cross team that will push Mass Care into this area.

Upon our arrival, we meet the two hams immediately, and they are NOT happy. They've been waiting there for this Red Cross team for HOURS, and each time they ask where the Red Cross is, they are told "any time now". Seeing us, they quickly decide that we are their relief. They've had it, and head home. Net Control doesn't sound too surprised to hear that they have abandoned ship.

My new partner and I wait for three hours. Yes, that's right, THREE HOURS. No sign of the Red Cross. During our wait, we take some time to take a look at the shopping center in this hard-hit, hurricane ravaged area. The supermarket is open. OPEN? We look inside. They have milk. MILK? I can't buy milk in TAMPA, and we never came close to being hit by Ivan! Further inspection here reveals that they have ice, bread, bottled water, and everything that people in a hurricane-ravaged area should be waiting in long lines and mugging their fellow citizens for. All the while, my cell phone has a great signal, and I am able to make and get calls at will. Now, really starting to question our mission here, we begin asking Net Control the tough questions: WHERE IS THIS TEAM, AND WHAT IS OUR MISSION? A great deal of scurrying is heard over in the EOC, and eventually we are told that they don't know where the Red Cross team is, but we should await them.

Sorry. We've been here for three and a half hours, and the team before us was waiting almost as long. I snap. I drive back, collect my belonging, and without so much as a word, I begin the drive home, arriving at 4am, the stomach acid churning in my stomach having proved quite adequate to keep me awake for the drive. The other ham (and a few others) leave the area as well, ranging from disillusioned to plain old mad.

Sitting back afterwards, I began to realize a few trends that had been slowly emerging:

1. Ham Radio (well, ARES anyway) has largely become the free communications auxiliary to the Red Cross.

Worse, they already have enough communications capability to more than cover themselves. Their problem? A lack of trained communicators. Suddenly, I grasp why we always seem to be assigned to the Red Cross. I try to remember the last time I was assigned to anyone other than the Red Cross during an emergency. I have to go back almost ten years.

2. The Red Cross doesn't need us.

Even while assigned to the Red Cross, the only task consistently put to hams is to relay shelter census counts. I almost couldn't believe my ears as I heard hams relaying shelter census counts to an EOC when both had fully working landline phones. Why are we used in this scenario? Because they don't have to use Red Cross personnel to do it. For their critical comms, they use Nextel. I can't remember the last time I saw the Red Cross even use their OWN radios, which they have in abundance.

3. Cell phones, mutual aid repeaters, Blackberries are replacing Ham Radio as the inter-agency communications glue.

None of the Emergency Management Offices I worked with had any need for communica-

tions outside of these. Cell phone providers rush in mobile cell sites (called "COWs" - Cellular On Wheels - a cell site on a trailer) when an emergency hits - and registered Emergency Management personnel get higher priority on the cell network - so overloaded cell sites are becoming a thing of the past for our served agencies. Blackberries run on the cellular networks and are low bandwidth devices. Even in areas with no electricity, the Blackberry owners were tapping away like mad.

Now, you may say that this isn't the case in your area. You might even be right. However, I think we have seen the end of the era in which Amateur Radio saves the day as a matter of course in this country. In fact, the only example I've seen lately of Ham Radio coming through where all else fails is in the Hurricane Nets to the islands like Cuba, Grenada, and Haiti. In other words, those outside the US.

I see this as an inevitable slide down a slope towards more and more communications capability in the hands of the masses. Look at the revolution in smart cellphones - I carry a Treo 600 - a device from which I can surf the web, get and send email, and make and get phone calls - all in one little device. It wasn't all that long ago (fifteen years, perhaps?) that a cell phone was considered

small if it fit in a briefcase. Where will we be in fifteen more years? Will we be able to still claim that we provide a critical, unique, robust communications capability? I think that once so many forms of communications saturate the general public that they can't all possibly go down during a disaster that we will have lost that argument. Remember when CW was the mode that got you through when all else failed? Now, make that argument to anyone but a CW buff and you'll be laughed at. I remember being able to show my HT to a teenager and see the look of amazement when I made a contact over a repeater to the next County. Now, that same teenager will ask if that big cell phone I'm carrying can play cool ringtones. I rapidly see the day approaching in which we will be relegated to the museums like the dinosaurs that we will have become - a quaint memory of what once was. A nostalgic trip down communications lane. We will, as a hobby, become the macrocosm of CW - outdated, outmoded, and universally laughed at as we try to claim that we are needed somehow.

And then the spectrum vultures will come.

—Fred Lloyd, AA7BQ, Founder, QRZ.COM

Have You Renewed Your Membership? — Please fill out and return application.

Santa Cruz County Radio Club 2005 Membership Application

NAME _____ CALL _____

SPOUSE _____ CALL _____

PHONE _____ E-MAIL _____

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CITY _____ STATE _____ ZIP _____

MEMBERSHIP RATES

Regular memberships \$25.

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Full time students under the age of 18 \$10.

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NO, I do not want to receive Short Skip in the mail. I will view it at <http://www.k6bj.org>

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MONTEREY BAY ACTIVITY

- SCCARC Repeaters: K6BJ 146.790- PL 94.8 Santa Cruz (linked w/Watsonville full time)
 KI6EH 147.945- PL 94.8 Watsonville (linked w/Santa Cruz full time)
 K6BJ 440.925+ PL 123.0 Santa Cruz
 • SCCARC Net Monday 7:30 PM 146.79- /147.945- /440.925+ linked
 • SCCARC 10 Meter Net 28.308 MHz USB Monday 7:00 PM
- SLVARC Repeater WR6AOK 147.120+ PL 94.8 Ben Lomond
 • SLVARC Net Thursday 7:30 PM
- LPRC Repeater WR6ABD 146.640-(PL 162.2)
 • LPRC Net Tuesday 8:00 PM
- NPSARC Repeater K6LY 146.97- PL 94.8 Naval Post Graduate School, Monterey
 • NPSARC Net Wednesday at 8 PM on K6LY/R
- 6 Meter Local Net 52.8 MHz (PL-114.8) Sunday 8:00 PM
 ARES Nets • SC ARES Tuesday 7:15 PM K6BJ 146.790-(PL 94.8)
 • SLV ARES Tuesday 7:00 PM W6JWS 146.745-(PL 94.8) & WR6AOK 147.120+(PL 94.8) on alternate Tuesdays
 • South County ARES Tuesday 7:15 PM K6RMW 147.00+ (PL 94.8)
 • LP ARES Tuesday 7:15 PM AE6KE 146.385- (PL 98.4) & AB6VS 440550+ (PL 94.8) linked
 • SC County ARES Tuesday 7:30 PM 146.79-/ 147.945-/ 440.925+/ 147.180+ (all PL 94.8) (linked)
 • Monterey ARES Net Wednesday 7:30 PM K6LY 146.970- (PL 94.9)

FOR MORE INFO SEE: <http://www.k6bj.org/freq.html>

SCCARC Calendar of Events

Short Skip Deadline	Monday	Jan 10
SCCARC Board Meeting 6:30	Friday	Jan 21
SCCARC Meeting	Friday	Jan 21
SCCARC Meeting	Friday	Feb 18
Radio Fest	Saturday	Feb.26

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.

SCCARC Website at - www.k6bj.org

CLUB E-MAIL: yourcall@k6bj.org



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

CLUB MEETING FRIDAY JAN 21, 7:30 P.M.

RADIO FEST 2005

February 26, 2005	Flea Market
7:00 AM – 2:00 PM	Vendor Booths
	Ham Radio Demos
Location	Free Ham License Exams
General Stillwell	Fantastic Speakers
Community Center	Door Prizes
Ord Military Community	Talk-in: 146.97- PL 94.8
4260 Gigling Road	More Information Here
Seaside, California	http://www.radiofest.org

First Class