



Sierra Foothills Amateur Radio Club

SIERRA SIGNALS

<http://www.sf-arc.org/>

DECEMBER 2011

PO BOX 1005, NEWCASTLE, CA

At the Key of SFARC

OFFICERS

PRESIDENT

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DIRECTORS

Mary Ann Balthorpe, KE6EST
Gary Cunningham, KQ6RT
Jim Griffith, KI 6AZH

Field Day Chairman

Dave Hund, N6SHD

REPORTERS

Satellites: Greg, KO6TH
History: Gary, KQ6RT
Misc Radio: Fred, K6DGW
Sunshine: Richard WA6RWS
rkuepper@gmail.com

RESOURCES

REPEATERS

145.430 (-0.6 MHz/PL 162.2)
440.575 (+5.0 MHz/PL 94.8)
223.860 (-1.6 MHz/PL 100.0)

CLUB NET

Thursdays, 7:30PM, W6EK/R
145.430

CLUB MEETINGS

Second Friday of the month,
7:30PM at the Library, 350
Nevada St, Auburn CA

CLUB BREAKFAST

Last Sat of the month at
Susie's Café, Cirby at
Riverside, Roseville - 8:00 AM

NET CONTROL OPS

Dave Jenkins, WB6RBE
Gary Cunningham, KQ6RT
Norm Medland, W6AFR
Casey McPartland, W7IB

NEWSLETTER EDITOR

Matthew Diridoni, KC6RUO
916-749-3032
matteod@comcast.net

WEBMASTER:

Carl A Schultz, WF6J

Calendar of Events



SFARC CHRISTMAS PARTY

December 9th at 6:30 PM

Newcastle United Methodist
Church

410 Buena Vista Ave. Newcastle

Bring your favorite side dish.
The club will provide the Turkey,
Ham and drinks.

Grand prize will be cash.
The ladies can bring a small gift
for the ladies raffle.

In this issue

At the Key and Meeting Information

From The Presidents Shack

SFARC Needs Newsletter Editor

Miscellaneous Radio

Meeting Minutes

Sattelite Report

WF6J Report

Page 1

Page 2

Page 2

Page 3

Page 8 & 9

Page 11

Page 12

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From The Presidents Shack, Al Martin NI2U President's Thoughts



I am happy to be handing off the club to a new person. I am especially happy to have a younger person coming to the helm. It is very good to get young ideas. Thanks Bob, KJ6MOS, for stepping up.

This past year has been great. That happens only when many contribute to the leadership. I thank Chuck, AE6LR; Bob, KD6WTY; Dennis, WU6X; Gary, KQ6RT; Mary Anne, KE6EST; and Jim KI6AZH for their help. They all contributed to the operation. I know I could not run the club without their help. Thank you.

George, KG6LSB, also needs thanks. He picked up two jobs one for the Board and one for the club. George realized that opening the meeting location caused the Vice President to leave the Board meeting early. So George picked up getting the key and opening the library. George also picked up the treats for the meeting. Thanks George.

The field day Chair, Dave, N6SHD and Dennis WU6X contributed to the operation. Thank you.

WA6RWS needs special mention. Richard is very knowledgeable in all areas of the club. As a newbie, I watched Richard coach me on the Repeater and other operations. He filled in for Secretary until Dennis stepped up. Richard thanks.

Matt, KC6RUO, has really done a terrific job publishing the newsletter. He has been at it working in the background for three years. Thank you.

There have been major changes in the website and Public Information arenas. Carl, WF6J. The website has been greatly improved and as Public Information Officer (PIO) Carl has been active with the ARRL and Sacramento Valley Section getting our activities out. Thank you Carl for your help.

There are two people that I leaned on starting my presidency. These folks were a source of club operations for me. I was new to the area and the club. This area is much more active than where I spent most of my life. I had no knowledge of the club and needed insight. I had many conversations with Casey, W7IB, and Leslie, K7NYE, to get assurance on how things would turn out through the year. Thank you Casey and Leslie for your help.

Al

NI2U

SFARC Sierra Signals is looking for a new Newsletter Editor!

It's been about three years since I took over as Newsletter Editor. Prior to that I was newsletter editor in the late 90's and it is time for a change. Due to numerous "irons in the fire" I must step down as newsletter editor to take care of family and work.

There is no real magic to the newsletter really, it is actually done as a team effort mostly by members that submit items already in electronic media and placed into the newsletter and adding graphics. My version happens to be very basic using Microsoft Word and a .pdf writer to make the electronic copy. Then it is uploaded to the web page by Carl, WF6J and sent to the printer and US Mail by Richard, WA6RWS. Ideas and software are endless and you can be as creative as you want.

With all of that said, The December 2011 issue of Sierra Signals will be my last issue. Any member that wishes to give it a try, please e-mail me if you have any questions.

Matthew Diridoni, KC6RUO

MISCELLANEOUS RADIO

Contesting Diet



Some time back, at a meeting of the Northern California Contest Club, several of us were asked to disclose the diet we used prior to a major contest to assist us in keeping our butts in the chair long enough for a winning score. No one told me why, but I was chosen as one of perhaps five to make a presentation. Now, probably the most likely candidate would have been Rick, K6VVA, otherwise known as “The Locust,” but alas, for some reason, he was not on the program. He got his nickname as a teenager while guest operating at other ham's station where he acquired a reputation for cleaning out the host's fridge and snack cupboard. Rick clearly has a “contest diet-plan” carefully

honed over 50 years.¹

On the other hand, I don't really have one specific for contests and I have a hard time keeping my butt in the chair which leads to the fact that my contest wins tend to be confined to “First Place in W6 CW Low Power – JIDX Contest” where my nearest competitor took second place, and I was also “next to last.” I don't know if that's because of my pre-contest diet, or just because my butt gets tired, but I suspect the latter.

While I was contemplating how long my presentation would be [initially, it appeared that might be perhaps 15 seconds], I recalled a semi-radio-related incident which did involve some very specific dietary rules, and which did have a huge effect on my endurance, stamina, and concentration abilities. It also occurred to me that the SFARC has a number of members who support the Western States and Tevis events, often requiring 24 or more hours of physical and mental effort who could likely benefit from the lessons we learned. If I managed to infect you with the Summits On The Air virus at the last SFARC meeting, you may find this useful for your first summit activation as well, and finally, what I learned just makes good sense for most people. So, to my “pre-contest diet,” starting with its origins.

During the 46 months I was in SE Asia [mainly in the two Vietnams and Laos, with some short trips through Thailand and the Philippines], a number of the initial missions assigned to my combat team were to get various forms of radio equipment to various places, get them on the air and stay on the air, and we were almost always alone on these efforts. Most of them ran perhaps 14-20 days, usually until we ran out of JP4 for our turbine generators. We ate, or at least were planned to eat K-rations on these missions ... dried stuff in bags that tasted like dried stuff in bags ... which we liberally supplemented with snack items from packages from home that we could stash in the many pockets of our CJU's. We were all always awake at night and sort of shift-napped in the daytime when we could. The pattern generally was, “Finish mission – Recover to a base – Stage and pack gear for next mission – Start next mission – Repeat until given different orders” This pattern went on for about 18 months, and, on the premise that consistency was best for our bodies, when on the bases, we slept in the daytime and did our packing at night. This of course meant we missed most meals in the chow halls [except mid-rats], but this was also no problem since we still had snacks in our pockets to munch on.

After about the 5th or 6th such mission sequence, we were dumped into a field hospital for a couple of days to catch up on our shots and prove we could still pee.² The truth was, we were slowly but fairly steadily declining in overall health, endurance, ability to concentrate, and stamina. We were all losing

1 Rick sponsors the “Locust QSO Party” each year on the anniversary of his first license in January. You can find rules for 2011 www.k6vva.com/lqp/lqp54rules2011.pdf His rules are slightly weird, and 2011 was his 54th anniversary so the LQP lasted 54 minutes. It's his contest, he gets to make the rules.

2 Adrenaline tends to shut down internal body functions, and sometimes they don't start back up right away. Kidneys are one, and they wanted to make sure ours were back working OK.

weight and at that time in our lives, we didn't need that, and as we were being released to restart our mission pattern, a Captain approached me and said, "Lieutenant, I can help you and your team get your stamina back if you'd like." We had no idea how many of these missions we had ahead of us, I knew we had to do something to reverse the general trend in our health, so I gratefully accepted his offer. I don't know if he was a doctor, but I doubt that an Air Force MD would have been able to dedicate as much time to us as this Captain did.

We had two weeks get our equipment, ammunition, parachutes, and support items [fuel, water, K's, etc] staged, packed onto aircraft pallets, and loaded into the C-130. Captain Westerfield bunked with us in the transient tents, and we had to promise to follow his instructions exactly. I don't have a photo of him from that time, but I ran into him some time later in Korat, Thailand where I took this one.

It turns out that our attempt at consistency by sleeping all day was exactly wrong. He got us up as the big yellow ball of flaming gas rose in the east, we went out and ran around the runway – about 4 miles – showered, and went to breakfast. We then went to work on the ramp, broke for lunch, went back to work until dinner, ran the runway, ate, showered again, and were on our cots and asleep when the long dark spell had started. He explained that was the consistency our bodies and brains needed ... awake at a fixed time during daylight, asleep at a fixed time at night, and a routine for the daylight hours.

Then we got to the food. He restricted us to protein and complex carbohydrates [dark veggies]. No sugar, no starches [which are half-way to sugar before they hit your stomach]. There would sometimes be a box of hard fruit at the end of the breakfast chow line ... apples, pears, etc. ... and we could take one, but we had to eat it with breakfast or give it to someone who wasn't on the team. No missed meals, and what for The Locust would have induced a heart attack -- no snacks. ☺ It basically came down to eating only from the chow hall, and not eating "white food." No pancakes of course or SOS, white bread, or potatoes. Cauliflower, although white, was an exception, but we rarely saw fresh veggies. His explanations made sense, actually.

Sugars filled us up but their energy content was fleeting and when it was expended, our bodies began to burn fat and muscle. Unlike today, there was very little fat in our bodies then and the weight we were losing was from the muscles we needed so badly. He explained that eating is like an auto assembly line. We eat breakfast, our brain tells us we're full, and we go to work involving exercise. Breakfast gets processed in our stomach, starts down the line, and around lunch time, our brains signal us that we're hungry, so we eat another batch of fuel. Now we have two batches moving down the line, so we get some steady exercise before dinner which burns off any sugars and simple carbohydrates in our meals, and we eat dinner, three batches on the assembly line now. Dinner is followed by non-exercise. Eating snacks, which were mainly sugar and simple carbs anyway, screws up that assembly line, our brains can't figure out if we're really hungry or not, and we don't get the good fuel our bodies need to recharge after poor diet, bad or no sleep, and adrenaline on a mission.

Sleep timing is also critical. Homo sapiens are not a nocturnal species. Moreover, we need the day/night cycle to keep everything in sync. So, he had us up at dawn at the same time each day, we worked in daylight [and made a lot of vitamin D in the sunlight], we ate 3 meals a day, as the day was ending we did non-physical things such as reading, playing cards, or writing home, and we went to sleep at the same time each day. He insisted that we came from the oceans and still had water in our distant past. The water in a shower is calming, so we did it twice a day. On mission, we were in our



clothes continuously and became famously filthy – you really wanted to be upwind of us as we got off the recovery aircraft. ☺ During “recharge time,” we went to work and to bed clean, yet another inducement for sound sleep.

Did it work? Well, in a word, “Yes!” There were still 25 of us on the team at that point, and all 25 of us saw serious benefits. We quit losing weight, might have even added a couple of pounds, our energy levels shot way back up, we regained our usual endurance levels, and we all just felt 1,000% better. What I didn't expect was the positive effect on concentration and reactions. After getting to our mission site, we pulled our gear out the back of the C-130 as he made a very low pass over us. This required very careful packing in a very specific order to insure survival of the equipment. Our concentration had been failing, we started making mistakes and had to unpack the pallets down to the mistakes and re-pack them correctly. That just stopped. We did much better on the missions, and it probably contributed to some of us surviving.

I've pretty much stuck to these rules ever since. I eat very few simple carbs [a beer on a summer day is an exception ☺], sticking to complex carbs and proteins. I try not to skip meals, and I don't snack much between meals. When I've been able to, I try to get my sleep-wake pattern in sync with the sun. I weigh more now than I did then, but I'm still in the “OK range” for my height. There are 16 of us still alive, all my troops have pretty much done as I have, with pretty much the same results.

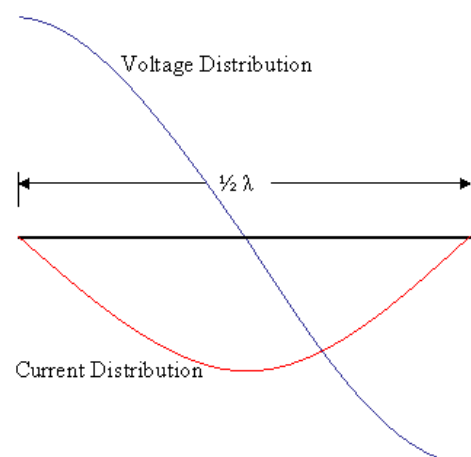
Captain Westerfield's big lesson for us was to view our bodies like a car battery. On a freezing morning, you turn the key and demand a huge slug of energy from the battery. You can do this repeatedly, and it will deliver. Eventually though, you have to recharge your battery. Our bodies are similar. You can demand a lot of energy and performance for say the WSER, Tevis, or climbing a SOTA summit, and your body will deliver. But, you have to recharge it.

Have the Captain's lessons improved my contesting skills on the radio? Well – for the Cal QSO Party in Alpine County at N6A, I can hold my own at the CW rig with my colleagues, and sometimes I can out-do them. At home, alone -- maybe not so much -- but then again, I've always needed to be on a team. Rich, NU6T, and I did Field Day this year from nearly 10,000 ft on Leviathan Peak. One other guy is a team, and we did well, far better than had I been alone.

The photo is my Buddipole, in a vertical ground plane configuration, on Leviathan Peak [9,500 ft] on Field Day this year. That's Rich, NU6T in the distance; he has an older Buddipole and was using it in a horizontal dipole configuration. Leviathan is also SOTA summit W6/SN-039, and we wanted to activate it for the SOTA Summit Chasers too. Both of us had been to the top several times, the N6A crew for the Cal QSO Party used to set up at its base at what we called Camp FYNO³ [we all got old and now we're in a cabin at the Lake Alpine resort ☺], so we knew what to expect. All told we made 58 contacts before the wind got so cold we headed down.

The Buddipole is a great field antenna ... except for two little factors: It is fairly heavy [~10 lbs], and the canvas bag is moderately large. There are equally effective wire antennas that weigh a lot less, and can be rolled up and stuffed into a pack. Essentially all of them are based on the half-wave dipole. I am indebted to Steve Yates, AA5TB, who graciously provided me with the diagrams that follow.

The half-wave dipole is pretty simple – just a wire a half-wave long. Why is it called a “dipole?” Well, when you feed RF to it at its resonant frequency [we'll get to that issue next], a standing-wave is set up. The ends are open circuits, so the current has to be zero and the voltage infinite. Zero and infinite don't actually occur in real life, but the current will be very small and the voltage very high. At the center, the two halves of the wire are shorted together and the voltage has to be zero making the current infinite, well very high, and voltage very low.



Those voltage maxima at the ends are “poles” and there are two of them [“di-”], hence “dipole.” It doesn't matter where you connect the power, this is the result. Remember that ... “You can feed the power anywhere along the wire, it doesn't matter, this will be the result.”

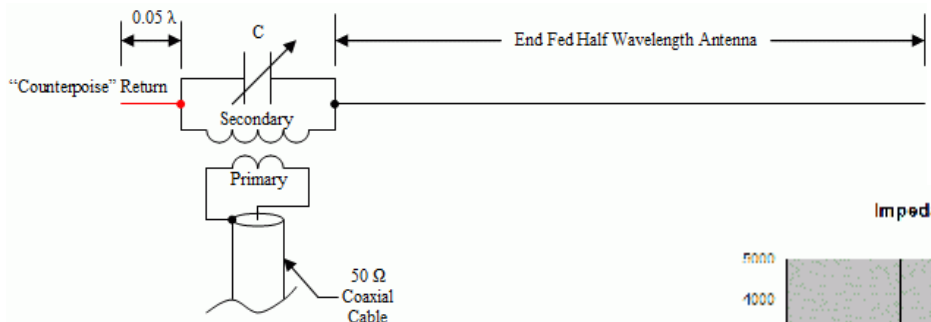
Actually getting the RF power into the wire efficiently does require that the transmission line carrying the power “see” an impedance that matches its own impedance. Recall Ohm's Law: $R = E / I$ That is, the resistance [impedance] of a circuit is simply the voltage divided by the current. At the center of the wire, the voltage is fairly low and the current is fairly high, so the impedance is fairly low. In fact, it's around 50-70 ohms, which just happens to be in the range of impedances of most coaxial cable. Thus, we can cut the wire in the center and connect a 50 or 70 ohm piece of coax to the two halves and get a pretty good match. This is how the majority of dipoles are fed.

But, remembering that you can feed power anywhere along the wire, if we move the feed point out towards one of the ends, the current in the standing-wave will decrease and the voltage will increase, so the impedance at the feed point will go up as we move out – Ohm's Law again. In its horizontal dipole configuration, the Buddipole is fed a little off center. Because the elements are too short for a half wave on anything but 10 meters and maybe 12 meters, inductors are inserted to “lengthen” the elements electrically. This results in a lowered impedance at the center ... 25 – 30 ohms, and a less than optimum match to 50 ohm coax. Moving the feed point out toward one end a little brings the impedance up to around 50 ohms.

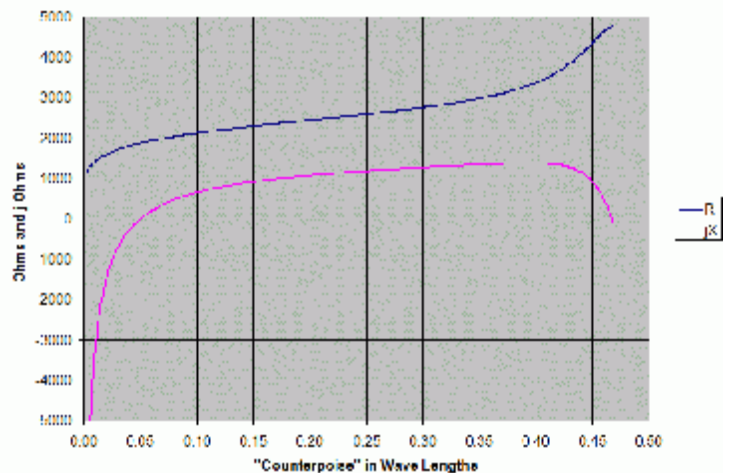
Horizontal, center-fed dipoles have two real disadvantages in the field ... A) It takes two supports, one on each end. We can cut that to one if we support the center and let the ends droop down which is the classic inverted-vee. This will work too but – B) They have a tendency to radiate straight up or at very high angles unless the center is well elevated. This usually requires organic towers [trees], rope, and a way to get the rope up in the tree ... more stuff, more space, more weight.

You can feed the half-wave dipole at the end ... remember, it doesn't matter, it's still a dipole. Because the voltage is high and the current is low, the impedance is high – usually a couple thousand ohms or so. But, in earlier days of radio, end feeding the half-wave dipole was hugely common. WW2 cargo aircraft used trailing wire antennas [actually they were used 20 years later during the Vietnam conflict too.] They're fed at the end, the rest dangles out the back of the airplane. Ships had

sloping wires up to masts, fed at the bottom, and for HF, they were often a half-wavelength long. What happens when we feed at the end?



Impedance versus “CounterPoise” Length



Well, coax doesn't come with characteristic impedances of several thousand ohms, it would be hugely big. But, borrowing from history, a parallel tuned circuit exhibits a high impedance. They used to be the output circuit of the power amplifier in our transmitters, and those trailing wire antennas were connected, through a capacitor to keep the HV off the antenna, to the output tank coil, and that will match a couple thousand ohms easily. We can couple power into the circuit with a few turns in a link around the main inductor. This is a transformer; the high impedance of the parallel tuned circuit appears as a low impedance at the 2 or 3 turn “link” coil.

If it doesn't matter where we feed the half-wave dipole, what's the big deal about the end fed dipole? The answer is that, when fed at the end, the antenna is pretty much decoupled from ground. This is why it works as a trailing wire antenna out the back of an airplane, and why it doesn't care as much about how high it is. Note the little "Counterpoise" Return stub on the other end of the tank circuit. Strangely, it doesn't need to be very long. At 14 MHz, 0.05λ is 3.3 feet. Just leave a wire hanging out of your coupler 3.3 feet long if you're on 20, and the antenna doesn't really care about where the "earth" is. This means that you can raise your wire on a very light support, stretch the end out as far as it will go, and being low doesn't count. OK ... it counts some, but not nearly as much as a center-fed dipole.

Steve has done a lot of antenna modeling and come up with the graph at the right. Note that, at a counterpoise length of 0.05λ , the reactance [lower curve] is zero. The resistance is just under 2,000 ohms [around 1,800 actually], which is easily matched by the parallel resonant circuit. Typically, field operations are at QRP power levels, the inductor is usually wound on a ferrite core which reduces the number of turns required, and the capacitor can be one of those small "polyvaricons."

A lot of operators use either a "jackite" collapsible pole [www.jackite.com], or crappie fishing poles [Google "crappie poles"]. The matching network goes at the bottom; the wire runs up the pole and is then stretched out to some convenient anchor. Height above ground matters of course, but to a much less degree than a horizontal center fed dipole. I have my wire marked with tape for each band, and I have a little reel to wind it up. I just stretch out a half-wave for the band I'm on from the reel and leave the rest wound up, get the pole vertical, and I'm in business. Fred, KT5X, who also likes to run up and down 14,000 foot mountains in Colorado and New Mexico, uses the EFHW antenna for SOTA summit activations. His ATS-3B QRP radio and the little matching network are fastened to the bottom of his pole, and collapsed; it makes a very light, small package. I've worked him on a number of summits, his signal isn't the biggest on the band, but it's strong enough to have a short CW conversation.

So, take your radio outside! Aside from getting some sunshine and making some vitamin D, which is good for you, you'll also get some exercise, have fun, and your body will be making "feel good" chemicals for you along the way. Our winters are milder than many areas of the country; you can even do this on nice winter days.

73,
Fred K6DGW



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SFARC has testing sessions on the first Saturday of each month at Raley's on the corner of Auburn Folsom Road & Douglas Bl. in Granite Bay. Sessions are in the multi-purpose room in the back left hand corner of the store. The session starts at 8:00 AM

SEARC Board of Directors Meeting Minutes

11 November 2011

The November Board meeting commenced at 1800 hours at Elm Avenue Round Table Pizza in Auburn.

Officers present: President Al Martin-NI2U; Vice President Chuck Baker-AE6LR; Secretary Dennis Gregory-WU6X; Treasurer Bob Balthorpe-KD6WTY; Directors Gary Cunningham-KQ6RT; Jim Griffith-KI6AZH and Mary Balthorpe-KE6EST were present. Guest in attendance: Jim Carman-K6ARR.

Discussions were held on the following subjects:

By-Laws: The By-Laws were approved by the Board and membership approval will be called for at the General Meeting later this evening.

Welcome Kit: no further progress

Standard Operating Procedures (SOP): The Board discussed the creation of SOP's for the offices and for major functions or procedures such as the website, finances, newsletter, awards, etc. The intent is to document these processes to assist new officers with understanding the details beyond what is outlined in our Bi-Laws, and ensure we don't forget an important function like changing the names/contacts for officers relative to the Special Service Club and IRS. The Board agreed that each officer write a short description of functions and procedures. The Secretary offered to edit all submissions and also format and organize the content.

Property Officer: Discussion was held on the need for a "property officer" to manage the Club's electronic test equipment. The club is expected to receive a donation of an oscilloscope soon.

Treasurer's Report: Bob and the Board reviewed details of the Treasurer's report. In summary, beginning balance as of November 7th was \$2,234.25. Expenses in October included Newsletter printing, Placer County Library reservation, PG&E for the repeater, nametag, and AT&T for the repeater phone connection. Total expenses were \$321.73. Income included proceeds from the White Elephant sale of \$336.00. Net increase and cash on hand as of November 10th is \$2,248.52.

Repeater Report: No report

Website: No report. Carl asked via email if we had a credit card to charge GoDaddy hosting fees to.

Elmer Help: Al gave a report of outstanding submissions and follow-up actions. A discussion was held relative to whom we should respond with Elmer help to, brought to light by the recent request to "check-out" a marine band radio. The Board agreed that Elmer help should be exclusive to amateur radio related requests ONLY due to the potential liability to the Club with working on non-ham equipment. The Webmaster will be asked to add a "note" to the website regarding ham-only requests will be honored.

ARRL Pacific Division Leadership Meeting: Attendance and club representation at the upcoming ARRL Leadership Meeting on December 3rd at the Livermore City Council Chambers in Livermore was discussed; 2 people can attend. The Board agreed that the President and one Board member should attend.

PIO Report: No report

Liability Insurance: Liability insurance is up for renewal and it was the Board's recommendation to use an ARRL sponsored carrier.

Records Retention: Records retention requirements were briefly discussed reference to the requirements in a document presented by the Secretary for non-profits.

Officers & Board Candidates: Candidates for all offices were reviewed. The candidate list will be presented to the membership for approval at the General Meeting later this evening.

Meeting adjourned at 1900 hours. Submitted by *Dennis-WU6X, Club Secretary*

SFARC General Meeting Minutes

Date: November 11th, 2011

The SFARC General meeting for November commenced at 1930 hours at the Placer County Library in Auburn. Present were officers Al Martin-NI2U, President; Chuck Baker-AE6LR, VP; Dennis Gregory-WU6X, Secretary; Bob Balthorpe-KD6WTY, Treasurer; Directors Mary Ann Balthorpe-KE6EST, Gary Cunningham-KQ6RT and Jim Griffith-KI6AZH. Absent were Richard Kuepper-WA6RWS, Sunshine Reporter and Carl Schultz-WF6J, PIO/Webmaster. Al led everyone in the Pledge of Allegiance. Officers, Directors, and approximately 36 members and guests were introduced.

REPORTS:

Past minutes – The October meeting minutes were approved as published in the Newsletter.

Treasurer's report – Bob presented the Treasurer's Report. Balance on hand as of November 7th was \$2,234.25; bills paid totaled \$321.73; income received was \$336.00 (White Elephant auction); leaving a balance on hand of \$2,248.52.

Sunshine Report – Gene reported in Richard's absence, that George, KG6LSB was in the hospital having stints installed, and is doing well. He is expected to stay over-night only and be home the following day.

VE report – Dave-NO6NO was absent. Al reported that 6 examiners served 8 candidates taking exams; passed were 1 extra class, 3 generals, and 3 technicians; 1 candidate did not pass their exam.

Satellite report – Greg-KO6TH gave a report on the reentry of AIRSAT-1 and resultant contests emerging to guess when it will arrive, who will copy the last telemetry sent, etc. Also, there is a contest to copy a burst of CW recording of contacts made by the satellite while in orbit.

Newsletter – no report.

Repeater – Al reported the Board discussed the status of the backup repeater project, simply to “keep it alive”.

SOP's – Al reported on the Board's discussion to develop standard operating procedures to ensure we don't miss important functions that are not detailed in the By-Laws. Officers will detail their functions and any procedures such as Special Service Club requirements, IRS reporting, records retention and other topics in the SOP's.

OLD BUSINESS:

By-Laws – The updated By-Laws were approved by the membership as published in the Newsletter.

NEW BUSINESS:

Officer and Board Nominees – Candidates are as follows: for President: Bob Brodovsky-KJ6MOS; Vice President: Al-NI2U volunteered as there were no candidates; Secretary candidate is Dennis Gregory-WU6X; Treasurer is Richard-WA6RWS. Board candidates were Gary Martinez, Jim Griffith, and Chuck Baker. A motion was offered and seconded to accept all candidates and volunteers as noted. The motion was passed unanimously to accept all officer and Board candidates for 2012.

Announcements – *Donations*: Ed Morell-W6OSC was introduced and graciously donated a Tektronix 2246 oscilloscope with manuals and probes to the Club. *Elmer Help*: will be exclusive to ham-related equipment only and will be so noted on the website. *Christmas Party* (December 9th): a sign-up sheet was passed around, and raffle prizes were discussed. A motion was offered and seconded to give cash prizes of \$75, \$50, and \$25; club members only will be eligible. *ARES Meeting*: Marty-W6TOC reported an ARES meeting will be held at the Auburn Red Cross office off Hwy 49 on November 17th at 6pm. Membership and special projects will be discussed as well as linking to the Tahoe basin during emergencies. *ARRL Leadership Meeting*: In Livermore, will be attended by 2 club members, the President and one other member. *Other announcements*: Al reminded the membership of schedules for the Club net on Thursday's at 7:30, Board meeting time of 6pm on general meeting nights being held at Elm Avenue Round Table Pizza; the General meeting schedule, club breakfast (last Saturday at Susie's Café) and referenced the Club website for more information.

Tech-Ten – Jim Piper – N6MED gave a show and tell on a portable “go kit” radio he put together for emergency or field day use. This beautifully constructed hard-shell suitcase kit contains everything including multi-band transceiver (ICOM-7200), 12v battery, and Buddipole portable multi-band HF antenna.

Presentation – Summits on the Air (SOTA) by Fred Jensen, K6DGW. SOTA is an award scheme for radio amateurs and shortwave listeners that encourages portable operation in mountainous areas. SOTA has been carefully designed to make participation possible for everyone - it is not just for mountaineers! There are awards for activators (those who ascend to the summits) and chasers (who either operate from home, a local hilltop or are even Activators on other summits). More information can be found at the website: <http://www.sota.org.uk/>

The meeting adjourned at 2130 hours. Submitted by, Dennis – WU6X, Secretary

SFARC WEB PAGE

Don't forget to visit our web page at <http://www.sf-arc.org/> for up to date information, advertisers that support our club and informative links related to amateur radio.

Carl Schultz, WF6J, Webmaster



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SFARC Satellite Report - By Greg Dolkas, KO6TH

Goodbye AO-51

While much of the attention of late has been focused on ARISSat-1, and its various modes, contests (Chicken Little, and others), and so forth, the command team for AO-51 have been busy in the "ER" keeping their bird alive. With the battery pack failing, the command team has been carefully adjusting the transmit power and other settings to balance power input and output to keep the satellite alive through the every 90 minutes eclipse the satellite experiences while in orbit.

The satellite has been in space for some seven years, and batteries have always been the weak link in the chain for many satellites. The few shining examples to the contrary have been some of the oldest birds, such as AO-7 (launched in 1974) which, not having a computer to keep alive during eclipse, is operating from solar cells alone, and UO-11, which includes a PHD-level piece of work by Larry Kayser, VA3LK (SK) in painstakingly matching individual battery cells to form the pack. Newer satellites, such as the afore mentioned ARISSat-1 are incorporating power system and memory technologies to allow operating without a battery, but in ARISSat-1's case, that only works if the battery pack fails open-circuit, which it's battery fortunately did.

While it is possible that AO-51's battery will eventually open up, chances of that happening are unusually rare. It did, in fact, happen to AO-7, but only after being dead and inert for some 20 years. But many other birds have been silenced forever by power system failures.

Here is the announcement made by Drew, KO4MA, posted to the AMSAT Bulletin Board on 29-November, 2011: ("IHU" is the Internal Housekeeping Unit, the main spacecraft controller.)

It is with a heavy heart I report that AO-51 has ceased transmission and is not responding to commands. The last telemetry data indicated that the third of six batteries was approaching failure to short, and observations indicate the voltage from three cells is insufficient to power the UHF transmitters. The IHU may continue to be operative. Initial tests with the S band transmitter were also not positive, although more attempts are in order. We have tried leaving the satellite in an expected state where if voltages climb high enough, the 435.150 transmitter may possibly be heard.

The command team will regularly attempt communications with the satellite over the coming months (and years). There is always the possibility that a cell will open and we could once again talk to our friend while illuminated. Thanks to all who helped fund, design, build, launch, command, and operate AO-51. It's 7 year mission has been extraordinary. Please support AMSAT's Fox-1 project, and other AMSAT projects worldwide with your time and money.

For the AO-51 Command Team,

*73, Drew KO4MA
AMSAT-NA VP Operations*

Greg KO6TH

THE WF6J REPORT

As the club's Public Information Officer I receive many emails via the ARRL PR reflector about many subjects of Ham Radio interest. There is a special section on the ARRL website containing pdfs, links, and stories that can be used to help promote our Amateur Radio hobby. Locally my duties are to report club events and information for Ron Murdock, W6KJ's Monthly SV Section Report, plus provide information to the press or other groups about activities.

Did you know that the number of new licensees is on the upswing? This is great news for us that others are discovering our hobby. You too can be a "Club Ambassador" by talking about your interest to others. When was the last time someone asked you what you did? Try answering that question with something interesting like: "I talk to people all around the world, sort of an Ambassador of the airwaves. Did you know we can talk to the international Space Station?" That will surely start a conversation.

Don't forget the kids, they are the future of the hobby. Listening to the ARISSat-1 can become a public event. Take you HT and Satellite antenna out to a local shopping center parking lot. Stand there with your antenna pointing skywards. If there are any kids about surely they will ask what you are doing (maybe a security guard will also hi). That could very well be an introduction to radio to that person (young or old) and create a new interest. Operating from a public park doesn't have to be limited to Field Day either, give that a try. You never know what any of us can accomplish and what the result could be. Have fun, promote Amateur Radio!

WF6J, the Webmaster. The club's website is showing information about the Christmas Dinner and 2012 activities. Don't forget that technician classes start in January! Know anyone that wants a class? Get them in contact with Dave, NO6NO.

The club roster and the net roster are both available (via password) on the site. Ask for the password at the meeting. We are always adding new links to things of interest. Do you read the propagation data on the homepage? that and the time are "running" in real time.

The 2012 Membership form is on there so you can print it out and bring that (and your check) to the meeting. Hopefully by late January we will have an online form that you will be able to fill out.

While we have a lot of photos, am in process of converting the slide shows to a javascript function for ease of viewing. our website is a constantly changing item. you should 'refresh' your browser to make sure you are getting the latest rater than what your memory cache stored.

Your inputs will help enrich the site content, please send me any photos or items you wish to have added to the site. Meanwhile, enjoy and hope to see you all on December 9th at the dinner!

73,
Carl, WF6J

**Sierra Foothills Amateur Radio Club
2012 Membership Application**

Please Print

Name: _____ Callsign: _____ Class: _____ email: _____

Address: _____ City: _____ State: _____ Zip: _____

Associate Name: _____ Callsign: _____ Class: _____

Phone number: _____ Application: (circle one) NEW RENEWAL

Member Dues: Circle Amounts That Apply: Applications (for new members only) received in the middle of the year will be pro-rated. Contact the President or Treasurer for exact rate.

Membership: (P)	\$ 22.00	Name badge: (R)	\$ 7.00
Associate: (Q)	\$ 7.00	Repeater Donation: (S)	\$ _____
Auto Patch Donation: (T)	\$ _____	Newsletter Booster: (V)	\$ _____
Misc. Donation: (X)	\$ _____	Christmas Donation: (W)	\$ _____
		TOTAL: (Y)	\$ _____

ARRL member? (please circle) Yes No

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Date: _____ Treasurer: _____ Secretary: _____ Roster: _____

Payment: _____ Check Number: _____ Cash: _____