



Sierra Foothills Amateur Radio Club

Sierra Signals

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

January 2012

PO BOX 1005, NEWCASTLE, CA

At The Key of SFARC

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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
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Carl A Schultz, WF6J

Welcome to 2012

Well, there have been some words in the media about 2011 ... a common theme is, "Good bye and good riddance." That seems a tad mean-spirited to me. Yes, the economy, while maybe not in the tank, is pretty anemic, and if you have a job, try to keep it, but ...

2011 gave us sunspots – a lot of them. 10 meters, and of course 12, 15, 17, and 20 also, have been wide open whenever the sun is up and often well before dawn and well after sunset. If you've never experienced 10 when the sun is active, you don't want to miss it. There was an old adage that started during the fabled Cycle 19: "20 watts to the window screen will work the world on 10." It's back!

2010/2011 was a great water year for N. Cal., always an important consideration for us, so much so that both the WSER and Tevis were re-routed.

And, you have a new Interim Editor, emphasis on Interim, I can't take this on indefinitely. Here's the first issue, I'm hoping I'll get back in the groove

Fred K6DGW

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Sat 28 Apr: Multiple Sclerosis Walk in Folsom

TBA May: CERA Enduro in Georgetown

Sat 22 Oct 22: Cystic Fibrosis bike ride-
Newcastle vicinity

We encourage members to receive Sierra Signals via email to save the Club the cost of reproduction and mailing

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President's Report Elmers



Welcome to a brand new year. First off, I'd like to thank each member of the Sierra Foothills Amateur Radio Club for trusting a mere rookie with an important office in the club. I promise I won't let you down. I've learned a tremendous amount about the sport of ham radio during the past year which has in turn grown my interest in radio, causing me to upgrade my license and become more involved with the club. I have many of you, my elmers to thank.

I'm amazed at the level of technical knowledge, experience & passion for ham radio that I as a new ham have experienced since joining the club. As president, my goal for 2012 is to grow the membership of the Sierra Foothills Amateur Radio Club. There have been news stories and statistics showing a steady increase in new ham licenses during the past five years. According to ARRL, new hams range from kids who like to tinker with electronics to church groups and individuals preparing for emergencies as part of the resurgence of amateur radio.

Each month, the club hosts a license test. We have on average, six to eight new license candidates per test. For the most part, these new hams walk out the door, ticket in hand and we never see them again. We can change that. The board is working on several ideas to create interest in the club, increase membership and involve both new and existing members. This is where you, my elmers come in. When I first approached the club for information, the membership welcomed me like a member of the family. Al N12U tutored me in preparation for the test, George KG6LSB took me under his wing and has since become a close friend.

For most new hams though, reaching out to a club may be the exception, not the rule. So, as elmers one and all, I'm going to ask you to extend your hand and make that first contact. Each of you bring something unique and passionate to this club, whether it's your expertise in satellite communications, Yagi Antenna design, QRP, CW, SOTA, Contesting & DXing, or repeaters. All of this together is what we're all about and what has inspired me as a new ham. Talk up the club on local repeaters, invite other hams and prospects to our thursday nite net, breakfast or a meeting.

My second goal for 2012 is to have fun with the club. That should be our "collective" goal, too. We'll have many activities this year and I'm sure a good time will be had by all. I know we all have busy lives, but I want to ask you to make a few minutes for the club and check into the Thursday nite net, and if you've never been to a club breakfast, come try it out. If you haven't been for a while, come on back. We're trying to crowd out the BMW motorcycle club at Suzies. I'll finish up by reminding you that this is your club. If there's something you'd like to see done, contact me. If you have an idea that would help the club let me or another Board member know.

My quote for the month, "Talk Hard".

73 Bob -K6UDA

General Meeting Minutes December 9th, 2011

The SFARC General meeting for December was the annual members-only **Christmas Party**. No Board meeting was held, no club business was handled, but the following information and/or reports were compiled:

Party Notes – Lots of great food this year ... The Club donated two turkeys and a ham, expertly cooked, carved and served. A wonderful mix of side dishes complimented the main course, followed by a table of deserts. There was plenty for all to eat, including seconds ... and the desert table seemed to never go empty no matter how many people grazed in that corner of the room. ☺ The Party started about 6:30pm, although many arrived early to setup and some to simply visit with friends. Al led everyone in the Pledge of Allegiance. Officers, Directors and significant others accounted for approximately 30+ participants at this year's Party. Everyone had a good time visiting, talking radio, and contemplating all the fun things planned for next year at SFARC.

Treasurer's report – Bob reports the cash on hand as of November 10th was \$2,248.52; bills paid totaled \$82.74; income received was \$125.00 (dues); leaving a balance on hand of \$2,293.78.

Announcements – At the Christmas Party, Al acknowledged the support of Officers, Directors and volunteers during his tenure as President of the club. He presented beautiful certificates of appreciation to those who stepped up to positions in the Club or volunteered. Al commented that certainly, a Club such as ours would not be successful without these people

being involved and supporting each other on the team. I concur!

VE Report – Dave-NO6NO reported at Net that on December 7th, eight candidates took exams; passing were 3 technicians, 3 generals, 2 extra class. 11 exam elements were actually taken as some took the next class exam as well as the level they needed. We wish these new folks a warm welcome to the hobby, and to greater privileges.

NEW BUSINESS:

Al then introduced the new Officers and Directors for 2012, and passed the gavel to Bob Brodovsky – KJ6MOS – who was voted to the President's station by the membership at last meeting.

In Closing – On behalf of the Officers, Directors and significant others who have served for the past 2 years (somewhat less in my case), I wish everyone a wonderful Holiday season.

DennisWU6X
Secretary

Fifty Years Ago At The SFARC

Home of Sage Otow
January, 10 1962

Meeting was called to order by new President Dick Lund at 8:40 pm. Minutes of previous meeting was read and approved.

Jim Carmen reported that the old Naval Reserve Bldg. was being turned over to the Fair Board by January 30th and suggested that the club should take steps to take over immediately as there are many other departments like the C.D. Dept. and city recreation Dept. which are anxious to get in too.

Dick Lund read the club's annual report, prepared by the secretary, and many remarked that our activities were quite numerous and much was accomplished in 1961.

We are still in favor of holding a Code and Theory class as soon as we acquire a permanent location.

Discussion was held on Field Day and Lin Hunter was appointed to supervise the program, and Otto Ruud the location.

At this time the club members were reintroduced to George Lambert, who is unable to attend our meetings regularly.

There are favorable plans for a club station with equipment that will probably be donated.

Bob Richier, our new program chairman, brought equipment from where he works and made a demonstration which proved very interesting and informative.

A drawing was held on some gear brought by Jim Carmen. Otto Ruud, and Puffy Rogers were the winners.

Meeting was adjourned at 9:40 pm, and refreshments were served.

Respectfully Submitted,
Sage Otow

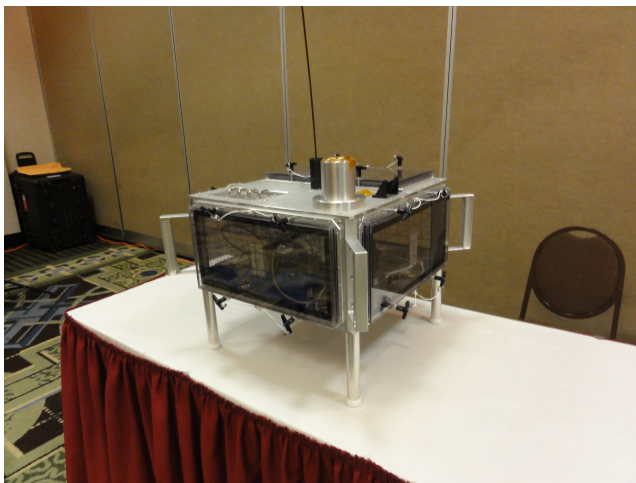
Chicken Little Was Right

By the time you read this, ARISSat-1 will probably have re-entered the Earth's atmosphere, burned up, and be no more. If not (and you're still standing), I suggest you duck and run for cover, for it won't be long before it heads our way.

As I've described earlier, ARISSat-1 was what became of the SuitSat-2 project. That intended reprise of SuitSat-1 was redirected when the development team found themselves short one Suit. Not an insignificant item, that. The International Space Station management team, it turns out, decided that the date-expired Suit was taking up too much room, and threw it away before it could be stuffed with radios and assorted electronics for its final "walk". ARISSat-1 was thus born, sans Suit, using a new custom frame, solar panels, and a re-built wiring harness.

I had the pleasure of talking to some of the designers and builders of ARISSat-1, and listening to their presentations, during the AMSAT Symposium held this past November in the San Francisco Bay Area. The satellite has been a wild success from nearly every perspective, except perhaps not living up to its potential for educational use (a subject for another article). All of the electronic and radio systems have worked as expected, including the much anticipated Software Defined Radio package that comprised the core of the satellite's system. This will be leveraged to the next satellite (code named "Fox"), now under development. Even the Mode-B transponder has worked, in spite of operating with a 70cm receive antenna that is missing most of the receive element. Nobody knows (or is letting on) what happened to the 6-inch long flexible whip, but it was clearly there when unpacked on board the ISS, and clearly missing when launched out of its hatch last August.

Among the unexpected achievements by the ARISSat-1 team was the unique mounting for the six solar panels that are attached to the outside surfaces of the spacecraft. Common practice is to epoxy them to the space frame, but when this was tested the development team found out that the epoxy and space frame had different expansion coefficients from the solar panels, resulting in a warped surface. Their solution: Velcro them on. While this raised eyebrows at NASA (as one might imagine!), the hook-and-loop fabric fasteners passed all of the required tests. In addition, it gave the assembly team a very easy access to the spacecraft internals, something that would have required a bazillion screws and lots of time if done the more traditional way. I am told that NASA engineers have this one scribbled in the margins of their collective notebooks. Score one for the "Amateurs".



ARISSat-1 was "launched" out of the International Space Station's hatch, during an EVA last August 3rd. Starting in a relatively low orbit, even the extremely thin traces of atmosphere at that height have an effect on things moving at 18,000 mph, causing the spacecraft to slow down. Being relatively light for its size (determined by the cube formed from the available solar panels), its orbit is decaying rather quickly. Early estimates had put the orbital life at under a year, and with the increased solar activity pushing our atmosphere around a bit, that life has been shortened considerably. At this writing, estimates are for it to re-enter around January 3rd, plus or minus a few days.

Here's a picture of the ARISSat-1 flight model, with plexiglass replacing the solar panels so we could see in side. This was taken at last November's AMSAT Symposium.

So if it's still in orbit when you read this, you can catch it several times of day on 145.950, or perhaps with an oven mitt if you happen to be standing in the right place. Otherwise, give Chicken Little a pat on the back, because a little bit of the sky will have indeed fallen.

73,

Greg, KO6TH
Satellite Reporter

Morse or static?

I was at the computer working on a report. There definitely was static coming from the radio. It was on in hopes that I could pick up a couple of new Summits on the Air (SOTA) contacts. Something was drawing my attention from the computer to the static. The static was quiet. It had been a steady background noise for some time but now it seemed that I was hearing something more. I listened a bit harder, but didn't really think I heard anything except the constantly varying static. I've listened to enough static to know that if I want to hear a station then I'll be plagued with non-existent ghost signals in the static.

Then there was something. A few high, pure tones seemed distinct from the static. I got up and wandered over to my station. I rotated the big knob on the Elecraft K3. Nothing. I rotated the knob counter-clockwise. Something? I narrowed the filters to improve signal to noise. Yes! Faint. Up and down. ESP level. No chance. Except one. The K3 has a special weak signal filtering routine. I punched and held the filter button.

Yes, definitely there but not strong. Still up and down in the noise. The filter works best with a wide filter (counter intuitive, yes?). A quick jab at the filter button and the wide filter was on. Not strong, but now I could catch K6TW on Kelso Dunes (SOTA: W6/CD-019) in the Southern California desert. A first activation for this “peak” that is worth 2 Chaser points for a complete QSO. I listened to a few other chasers as a pile up built. I was running 50 watts. After losing out a couple of times, I turned on RIT and called high a couple of times. Then low a few more. Then I pushed power up to 99 watts. The signal was not strong when I started, now it was fading. One more call...and I hear “NU6T” coming back to me! 559. In the log! I set the frequency to 14.285 in anticipation of the next scheduled activation. I drop the volume so I don’t hear too much static. ShhHHHHhhHHHhhh. Back to work.

I had heard of SOTA, and listened a bit. I’m still learning the code, and QRP has not excited me. I have enough trouble at 100 watts. Many of the SOTA operations are QRP. The idea is that you hike up to a peak, and then play radio until it gets too cold or you need to head back down to your transportation home. Although a few people will lug a big battery and a 100 watt radio and antennas, most quickly opt for small, trail friendly radios and light LiPo batteries, especially as we get older. Rules require that you walk up to the summit and use non-gas, portable power.

Fred Jensen, K6DGW, invited me to join him for a SOTA activation of Leviathan Peak last summer. You may remember the article Fred wrote on that trip. That hooked me. I’ve been working harder on my CW hoping to be able to activate a few peaks in 2012. An activation requires only four contacts from an SOTA-listed peak. I managed three CW contacts with my K1 while up on Leviathan Peak, but switched to my IC-706mkII and SSB for my last and qualifying QSO.

So, once hooked, I’ve been doing the “Shack Sloth” thing and chasing activators. I watch the SOTAwatch2 web page (<http://www.sotawatch.org>) for alerts of upcoming activations and for spots of ongoing activations. I also watch the QRP Spots (<http://qrpspots.com/qrpspots.php>) web page where good SOTA spots may be found. I make myself a list of upcoming activations and try to be available when a peak gets activated.

Position	Chaser Callsign	Activators Worked	Points	Avg. points Expedited
1	NU6T	39	190	4.87
2	K6DGW	40	187	4.68
3	N6ZA	28	134	4.79

Time	Chaser	Activators	Points	Notes
17:00	KJ4HSB on W4/WM-011 (10)	14.285-ssb, 18.130-ssb, 28.885-ssb		
9:00	K6TW on W6/CD-019 (2)	14.060-cw, 28.060-cw		Tim in Mojave Desert. (Posted by K6J)
19:00	KU6J on W6/CN-006 (8)	14.062-cw, 14.342-ssb		Will start on CW. 11 pts including winter bonus. (Posted by KU6J)
21:00	KD5ZZK on W5/SC-001 (10)	7.28-ssb, 14.285-ssb, 28.405-ssb, 146.52-fm		Will be operating past 00:00 UTC into the new year! (Posted by KD5ZZK)
23:00	K7NEW on W7/NO-171 (2)	14.061-cw, 10.106-cw		

Wait! There’s KD5ZZK on 14.285 SSB. Andrew has been making a SOTA tour of the west this week. He is scheduled for W5/SC-001, Sierra Blanca Peak. That is a ten-pointer in the Sacramento Mountains in New Mexico. I’ve missed potential QSOs so far and would like to make this one. He’s in QSO. “NU6T,” I call. He comes back to a “NJ”. I wait. No response. Still at 99 watts. He calls CQ. I call again and he comes back! I give him a 59—he sounds clear here. He gives me a 58 but tells me he has 58 noise and I’m up and down. He is running 5 watts! But, he is not on the scheduled peak—that explains why he is on the air later than the alert notice said. He’s on W5/SC-007, Monjeau Peak. Nice to have a 9,642 foot tall antenna support!

SOTA offers awards to those so inclined starting with certificates for earning 100, 250, 500 and 1,000 points. At 1,000 points, Activators become “Mountain Goats” and Chasers become “Shack Sloths.” It looks like I’m

eligible for a 100 point Chaser certificate with my 37 contacts and 180 chaser points. That puts me number two in W6, right behind Fred, K6DGW. Wait, there’s K7NEW on sked from W7/NO-171, Burnt Hill in the Northern Olympic Mountains of Washington State. It’s a two pointer. Got him! That puts me five points behind Fred on the W6 Chaser list. No more skeds today. The SOTA day ends at 23:59 UTC. Its 23:55 UTC now, and a new day and a new SOTA year begins in 4 minutes. I think KD5ZZK was going to try 7.280 and he is on a ten-pointer.

Fred, thanks for getting me involved...and watch your six. [I always do, Buddy! Fred]

Rich
NU6T

Remote Rig Control via iPhone by Dennis Gregory, WU6X & Howard Nurse, W6HN

[Ed Note: Remote control of radios has become a major effort for many hams. Rick, K6VVA, in Morgan Hill has successfully operated a number of contests remotely controlling rigs in Alaska and the Virgin Islands, as well as his own site called Locust Peak. Technology moves fast these days, here's a way to do it from your iPhone ... which you may or may not use to also make ordinary phone calls?]



I had been looking for a quick and inexpensive way to control my HF station remotely when traveling out-of-town. ... A quick web search will reveal there are many ways to do this, some more expensive than others. My goal was to use the equipment and technology I already owned without having to make a lot of changes or modifications.

On the way home from work one afternoon, I heard a couple guys on 40m talking about a free application for the iPhone ... This conversation, as well as the fact that one of the guys in the QSO was talking remotely through his home station using this method, put me on a mission to do the same thing. The list of included features and functions are pretty impressive as follows:

- Transmit SSB or CW
- Built-in CW keyer
- Watch current DX spot activity
- Look up calls and display DX info on an Instant Web Page.
- Show the location of DX stations on a world map.
- Listen to DX audio clips
- See photos and bios for hams
- Send e-mail to other hams
- Control your radio from your iPhone/iPod/iPad.
- Log and edit contacts using your MyQSLX log.
- View and edit your MyQSLX log with any browser.
- Create a personal web page for your station on MyQSLX.net
- Show your activity on the MyQSLX World Activity Map
- Turn your station rotor to the DX bearing (w/compatible rotor)

The software and concepts were developed by Howard Nurse, W6HN, and the documentation and HELP menus are superb. So, before I explain the "how", I'll list the hardware and software required so you can decide upfront if this is something you might want to explore as well, given your own existing equipment.

Requirements:

- iPhone (3GS+), iPod touch (3rd gen+), or iPad running iOS4 (for Skype multitasking)
- CommCat Mobile (free)
- Two Skype accounts to receive and transmit audio (free)
- Internet access (Wi-Fi or Cellular)
- MyQSLX account for logging (free)
- CommCat v4.3+ (\$25) or QSLXer 2.0+/Ham Radio Deluxe (free) programs for radio control
- Wideband Internet connection (dial-up won't work)
- Signalink or other audio adaptor between the computer sound card and the radio mic/PTT
- CAT controllable radio and cable

- Laptop or desktop computer

If you are still with me at this point, let's take a look at the hardware, software and connections as referenced in Figure 1.0 Connections diagram below.

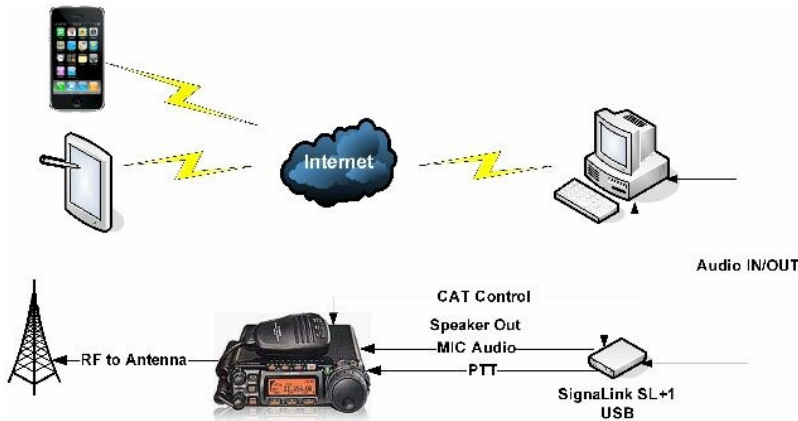


Figure 1.0 - Connections

Let's start from the top, left side of the diagram.

1. The iPhone or Tablet PC is where free software **CommCat Mobile** is installed. These devices must be able to connect to the internet (cloud) via cellular network or Wi-Fi.
2. The PC is the next in the chain. The PC will be running either **CommCat or Ham Radio Deluxe** (HRD-free). If HRD is used, you also need QSXer (free) running on the PC. Both HRD and CommCat have built-in, selectable configurations for most popular CAT controllable radios. This

software controls the radio while receiving frequency and band updates, S-meter, to forward back to the iPhone or Tablet via the Internet.

3. The SignalLink, RigBlaster, or other audio interface receives/sends audio to/from the computer, performing audio buffering and level adjustments. It also connects to the radio to perform push-to-talk, sends mic audio, and receives speaker output from the radio.
4. Lastly, the AUDIO going between the computer and iPhone or Tablet PC is handled by Skype software. Two different accounts are required so you can connect between them.

A typical connection goes like this ... CommCat or HRD+QSXer are started on the computer and CAT control is established. CommCat Mobile is started on the iPhone and connection between the iPhone or Pad PC is verified by changing frequency or band. Finally, Skype is started on the computer and the iPhone, and a connection is made between both.

Testing and Adjustments

Of course, these are the "basics"; there are levels to set properly, hand-shaking and IP addresses to verify, and many "check boxes" to check or un-check, depending on the features you need or the radio interface you choose. Also, if you use QSXer and HRD, you get a free website that is automatically assembled for you by answering a few questions. The website provides a cool place to go for others to see when you are on the air, S-meter readings and other great information. You can view mine at: <http://myqsx.net/qsxer/qsxermail1.php?call=WU6X>

I plan to put a presentation together for an up-coming meeting showing how this all works "real-time", and answer your questions. Meanwhile, you can go to the following websites and learn more from the excellent documentation.

- Help files and configuration assistance: <http://myqsx.net/ccMHelp/>
- iTunes: Search for CommCat Mobile to download the free iPhone application
- QSXer (if using HRD): free download at: <http://www.qsxer.com/>

The author, Howard Nurse, W6HN, has offered to sell the software to Club members at a reduced price (\$25) and donate the entire fee to the Club. This is a very generous offer ... and my thanks to Howard for supporting us and a very interesting and effective rig control method.

OK, that's it for Jan 2012. We're going to hang in with the 1-column format since most of the Club members read it via PDF and 2-column format is really annoying unless you print it. Makes for better photos too. It's been awhile since I've done this, it will take another issue or so for me to work out the kinks in composition, but we'll get there. Content is solicited, with or without photos or graphics, plain email text is fine. Other than Misc. Radio, which will resume next month [I hope], I'll publish what I get.

Fred K6DGW