

Sierra Signals

Sierra Foothills Amateur Radio Club
Auburn, CA
An ARRL Special Service Club

<http://sf-arc.org>

April 2005

P.O. Box 1005, Newcastle, CA 95658

319th Comes Home!!

Our adopted military unit returned home from Kuwait and Iraq on March 10th to a jubilant crowd of family, friends, and well-wishers. Everyone came home, all in good health, and all ready to resume their lives following a year's deployment on active duty.

They received a formal welcome home from dignitaries at the B.T. Collins Reserve Center in South Sacramento, and after the dignitaries were done talking, they finally got to hug their families. (One might wonder if there would have been any dignitary speeches at all if it had been the dignitaries who had been away from their families for a year!).



(Photo courtesy Sacramento Bee/Renee C. Byer, used with permission)

At the Key of S.F.A.R.C.

OFFICERS

PRESIDENT

Casey McPartland, W7IB
w7ib@arrl.net

VICE PRESIDENT

Ed Morell, N6EOD

SECRETARY

Paul Alford, KB6NYB
pla@wizwire.com

TREASURER

Donna Hodge, KD6PJJN
dhodge2644@aol.com

DIRECTORS

Kevin Reid, K7TST
kevin_r89@netzero.net
George Simmons, KG6LSB
grsim@mindspring.com

Larry Hodge, AE6CE

REPORTERS

Satellites: Greg, KO6TH
History: Gary, KQ6RT
Digital/VE: Rob, WW6G

WEBMASTER

Marc North, W6SQL
marc@marcnorth.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, K6ARR/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
Joe Sylvia, KF6OQY
Casey McPartland, W7IB

EDITOR

Fred Jensen, K6DGW
530.885.8251
k6dgw@arrl.net

In a separate story in the March 16th Auburn Journal, Maj. Mike Lewis, the Battalion's Operations Officer, and a Newcastle resident was featured in an article covering the homecoming. Maj. Mike is a good friend and neighbor of our own George Simmons, KG6LSB, and was the contact for delivery of the SFARC "Care Package" earlier. (see "319th" pg x)

2005 Calendar of Events

(Operating Events in Italics)

[Dates are local unless otherwise indicated]

Apr 2	Auburn MS Walk
Apr 4	<i>Spartan Sprint (1800-2000 PDT)</i>
Apr 8	Regular Meeting
Apr 16	Rocklin MS Walk
Apr 24	<i>FISTS/EUCW QRS Contest</i>
Apr 29	Club Breakfast
May 2	<i>Spartan Sprint (1800 - 2000 PDT)</i>
May 13	Regular Meeting
May 20-22	<i>Europe PSK DX</i>
May 28	Club Breakfast
May 27-29	<i>CQ WPX (CW)</i>

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

Sierra Signals is published monthly by the Sierra Foothills Amateur Radio Club for the information of it's members and friends, and is distributed via E-mail and USPS mail. Opinions expressed are those of the authors. Newsletter exchanges with other clubs via E-mail are welcomed. Contact the editor to be placed on the E-mailing list. The contents of Sierra Signals are copyrighted by the Sierra Foothills Amateur Radio Club, and all rights are reserved. That said, we will gladly permit republications for non-profit uses of all text material. Photos require the consent of all persons pictured in them, and some of our material is copyrighted by others and published by permission. You'll need to contact them for permission.

Minutes

Board Of Directors

11 Mar 2005

(The Board of Directors meeting was not held due to a last minute(s) change of venue: new library key malfunction; meeting was moved to the Auburn Veterans hall.)

Regular Meeting

11 Mar 2005

Minutes of the Sierra Foothills Amateur Radio Club meeting, Friday 11 March 2005 at the Auburn, California main library.

1947: President Casey, W7IB, called the meeting to order, introduced officers, invited all present to introduce themselves. Members present: 31. four new members joined tonight.

Casey then led all present in the pledge of allegiance to the flag.

A discussion re: MS Walk training at the Veterans hall Sat. 12 March at 1:00 PM followed. The Auburn MS Walk will be Sat 2 April. There is no special training required for the Rocklin MS Walk on 16 April.

Again, a reminder was made of Field Day ... JUNE 25-26 !

The minutes of the February meeting, were read by Secretary Paul, KB6NYB. Motion was made to accept the minutes as read by Richard, WA6RWS, and seconded by George, KG6LSB. Motion passed.

Joe, WB6AGR, reminded everyone about the Sunday night ARES Net at 7:30 p.m.

VE Chief Examiner Rob, WW6G, discussed future testing and classes for the Technician and General class licenses.

2026: Break for refreshments .

2046: Casey called the meeting to back to order for "Show & Tell. Bob, KB6BQG, demonstrated a copper, collapsible J pole antenna, and George, KG6LSB discussed and demonstrated the Anderson PowerPole 12vdc connectors and multiple outlet box.

2105: Gary, KQ6RT, held the raffle with many happy winners.

2112: Meeting was adjourned.

Respectfully submitted
Paul Alford, KB6NYB
Secretary

Forty Years Ago at the SFARC

Reported by Gary, KQ6RT

21 April 1965

Meeting called to order by K6ZWZ president.

Secretary read the Minutes..Approved.

Treas.. was not present.

Bill of \$1.78 for Pot luck dinner approved and ordered paid to Jim Carman.

The following members paid dues.

Clay Goodpastor	\$5.00
Glenn Moore	\$5.00
Marie Moore	\$5.00
Bob Coiling	\$5.00

A motion was made and passed to buy a FM-12 by WA6UHV and seconded by K6QK0. No more than \$200.00 was to be spent. This included a kit to convert to tri-band operation.

Rich Ryan resigned from the Club due to his many activities in the DeMolay. Bob Colling was appointed in his place to Activities Chairman.

K6QK0 gave a CD report and Stated a CD test was to be made on 6 and 2 Meters.

No additional report on the Trail Ride.

A motion was made by WA6UHV and seconded by Rich Ryan that no names would be printed in the NewsLetter in regards to the Dues status of members.

Rich Ryan read the proposed new FCC rules.

10 members were present no visitors

Sage will take care of the eats.

No prizes were picked up and therefore none were won.

Frank Carman
Secretary

319th

(cont'd from Front Pg)

The article included a picture of the Major with his wife, Rosemary, and 9 mo old daughter, Grace, on their porch at their home in Newcastle. The Journal quoted Mike: "I never slept eight hours at a time the entire time I was gone," said Lewis. The article went on to state, "He left his [family] behind last March. Grace was two weeks old the last time her father saw her. His wife says she tried not to entertain the thought that her husband could be in danger."



In the article, he said, "Care packages rank high on the [his] list of favorite things. After drinking literally gallons of water per day to combat dehydration in the sweltering desert heat, soldiers were thankful for something flavorful with a bit of sugar to drink.

George, KG6LSB, and their neighbors put up signs in the neighborhood to welcome Mike home.

Thanks Major Mike, and thanks to your Unit for your past support of the SFARC Field Day. We're all glad you are home safely.

51st Poisson d'Avril Contest

(Courtesy the ARRL Contest Rate Sheet 23 Mar, with permission)

The 51st Poisson d'Avril Contest will be held, as usual, from 0000Z to 1954Z 1 Apr 2005. All bands, all modes, including HF, VHF, UHF, WARC, IRLP, TCP/IP, and cellular/PCS bands.

Categories: SO-Assisted (since anyone operating in this event clearly needs help), SO-No_Radio, and MO_Multi Transmitters, and MO_better. SO-NR entrants are limited to Internet connection bandwidth of 155 Mb/s or less. Dial-up entrants count as QRP, QRS, and QRU.

Rover category: Stations must only operate within 100 meters of grid corners, drive in circles and work only other rovers. Self-spotting is not permitted except in the SO-No_Ethics category. Steroids are OK as long as your head doesn't explode during the contest period.

Exchange: IP address or home address. Off-times must be at least 30 minutes long (OK...29...err...28, but that's our final offer) and will be clearly miscalculated by a chicken pecking at a keyboard. All QSO's must be confirmed by e-QSL and uploaded to Logjam of the World.

Severe penalties for early withdrawal. Contacts are worth whatever you put into them. Logs MUST be submitted electronically in real-time, unless you are located on the International Date Line, which we still cannot figure out. For more information visit <http://wattamaroon.com>

Telepathic or carrier-pigeon entries will no longer be accepted although chicken in lemon sauce is nice with a vouvray.

SFARC Major Events

25-26 Jun: ARRL FIELD DAY (Nyack)

20 Aug: Club Picnic (QTH TBD)

9 Dec: Christmas Dinner

Electronics Flea Market Moves

It's official, the Electronics Flea Market is moving to De Anza College starting with the April 9th flea market. Information and directions may be found at the ASVARO web site at <http://www.asvaro.org/> The Electronics Flea Market web <http://electronicsfleamarket.com> should be up shortly.

We apologize for the late notice, but it's been difficult putting together a deal that works for everyone involved.

QRP - The Addictive Mode

(Well, no one so far has offered to take us on a new journey into some aspect of ham radio, electronics, or operating so we'll give this one a shot for a couple or three issues)

QRP? -- "Shall I decrease power?"

QRP -- "Reduce power."

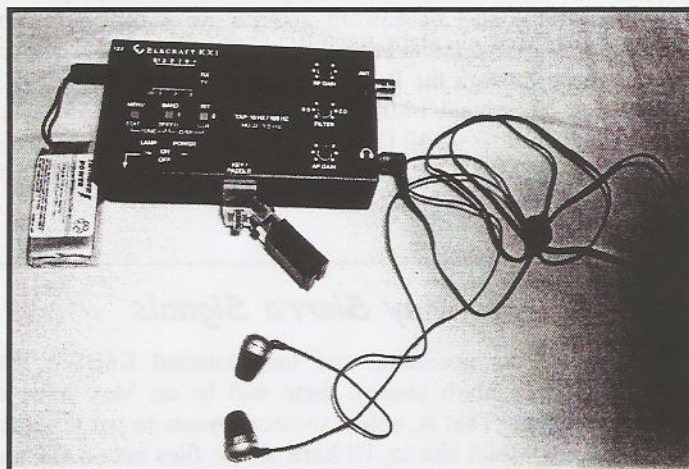
The official listing of International Q-signals includes the somewhat hilarious note next to QRP: "Aeronautical Note: Relates to communications." Apparently there are, or were, pilots who might have interpreted QRP as "throttle engines back." Hams often turn Q-signals into nouns, verbs, and adjectives, and most everyone understands that "operating QRP" means intentionally operating with low power. It also often is synonymous with trail-ready radios, back-packing, and the like.

The generally accepted meaning of QRP operation is not more than 5 watts. In the last few years, two other terms have arisen: QRPp and QRPpp. Although the power levels aren't really standardized, the first seems to mean "not more than 1 watt," and the second "not more than 100 milliwatts."

Many, but not all 100W rigs will go down to 5 watts (my TS-850S goes to zero if I try to get it below about 15 watts), and if yours will, you can give it a try. Most contests have a QRP category, and there are a lot of special QRP activities. Incidentally, whereas "59" or "5NN" is the standard signal report in hamdom (after all, why would I care how strong I am at the other end so long as he can copy me?), the standard QRP signal report is "56" or "569."

But, the real fun in QRP is capitalizing on the portability, small size and weight, and ability to operate off of batteries and field antennas. There are a number of QRP rigs out there, and so we'll review a few of them, discuss some field antennas, and cover some operating events and procedures.

I'm going to start with the single most addictive transceiver ever conceived and marketed -- the Elecraft KX1. It is a kit, and is a bit pricey -- one with the 30m module and auto-antenna tuner will set you back a tad over \$500 -- but I have one, so that's where we'll begin.



The photo shows a complete amateur radio station! The KX1 measures 5.5" x 3" x 1.25" and, without the 6 AA internal batteries, weighs about a half pound. The doober sticking out

at an angle is the paddle for the internal keyer. With a 12V supply (or close, the Lithium-polymer battery in the photo is good for 11.7V), it will produce about 3.5 - 4W on 40m and 20m (and 30m if you have that option). It will also run on 6 AA dry cells, with about 2.5W output for a surprisingly long time. 6 AA NiMH or NiCd batteries will give you 1.5-2W for an even longer time and are rechargeable. I've tried using a 9V alkaline battery to lower weight for the Spartan Sprint, but they don't really have the capacity for a 2 hr contest.

The receiver sports a sensitivity equal to or better than any Yaesucomwood radio, has a variable bandwidth crystal filter that is unbelievable, and the blocking dynamic range is very good. Jack, KF6T, is 1.7 mi LOS from me, and I can easily copy signals within 20 KHz of him when he's running a KW. The internal keyer speed is adjustable and it has two message memories.

The removable paddle is really quite cool! It consists of two circuit boards at an angle from a machined aluminum block that carries the 3/16" stereo plug and a captive screw. Above the circuit boards are two shaped spring leaves which, when pressed to the board contact a silver wire. Two rubber boots go over the two boards and spring leaves. When you're sending, nothing appears to move, but the rubber boots transmit enough force to compress the springs and make contact. You adjust everything by sliding the boots in and out. The paddle is reversible in case you send that way. I'm left handed, but I've always sent CW right-handed because I can't write legibly with my right hand.

And, possibly the greatest feature -- well maybe not the "greatest," but neat -- is a high-intensity white LED (lower left corner where the right-angle arrow is) that you can use to illuminate your log (everyone does still keep a log, no?).

So, what can you do with a KX1 (or other QRP radio). Well, at the Cactus-Intertie meeting this year in Tucson, while Andrea was scouting out needlework shops in town, I parked at the hotel pool, threw a 21' wire up into the tree, and played ham radio in the sun on 6 AA dry cells. I made a total of 18 contacts, all but one rag chews (the non-rag chew was OH1SY on 20m who stuck with me to complete at RST 119!).

Some folks have taken up /PM (Pedestrian Mobile) operation using a some sort of a whip antenna on a back-pack and dragging a ground radial behind them. I'm taking KX1 with us on a cruise through the Panama Canal from 4/17 through 5/3. I'll be on 20 (around 14.050 MHz), 30 (around 10.115 MHz), and maybe a little on 40 (7.040 MHz) at night, so give a listen for K6DGW/MM. I'll have my GPS so I can even tell you exactly "Where In Blazes I Am."

No May Sierra Signals

Because of the upcoming and long awaited K6DGW/MM operation (see blurb above), there will be no May issue of Sierra Signals. That is, unless someone wants to put it out for me. If you would like to, I'll burn all the files onto a CD and mail it to you. Everything is in MS Word 97.

Oscar-11 turns 21

Reported by Greg, KO6TH



This past month marked the 21st birthday for UO-11. 21 years of continual operation is a remarkable achievement for any piece of electronic equipment, but doing it in outer space is nearly unbelievable. Controlled by a screaming 1 Mhz 8-bit processor, this is the story of some really old technology. But more than that, it is the story of achievement in building a really good battery pack.

UO-11 was launched on March 1, 1984, as the secondary passenger along with NASA's Landsat 5. The orbit that both satellite were placed in is called a Polar orbit, where the orbital path is inclined 90 degrees from the equator. Traveling from pole to pole while the Earth spins underneath gives an Earth observation satellite such as the Landsat series a view of the entire planet. It also means that the satellite spends nearly half of its life on the dark side of the world, in Earth's shadow. With an orbital period of about 99 minutes, that works out to well over 100,000 orbits in 21 years, and as many charge / discharge cycles for its battery pack. I don't know about you, but my HT batteries died with considerably less use.

The life of a satellite is determined by a number of things, but even that long ago it was clear that the construction of a reliable battery pack was critical. For UO-11, the job of building that battery fell to battery guru Larry Kayser. Larry said the trick to efficiently assembling a battery is to use battery cells with identical performance.

The problem with battery packs is that they are constructed with a number of individual cells, all connected in series. Like stacking poker chips one on top of the other, each cell contributes to the total voltage output of the stack. But what happens as the cells are drained is that typically one of the cells becomes discharged first. Then, instead of contributing to the stack's output, the cell becomes part of the load. The remaining cells begin charging the drained cell, but because its position in the circuit, it becomes charged in reverse. Batteries don't like getting charged backwards. In fact, it is nearly always fatal.

The battery pack in UO-11 was created by painstakingly testing and selecting individual cells from a batch of some 200 samples. "If you have done a careful matching job of the cells that make up your battery, there should be almost no chance of cell shorting or reversing early in life," Kayser said. "The battery in UO-11 has had, on occasion, terrible treatment; it was out of control from several months early in its life and was subjected to brutal discharge levels." But, even with that treatment, Larry's batteries were so well matched that they have survived and are still operating today.

So, the next time you read the instructions that came with your HT, and see a comment about not running your HT batteries all the way down before recharging them, think about UO-11 and Larry's battery pack. Chances are very good that your batteries weren't hand selected like the ones still up there in orbit. Every time you push the batteries all the way to empty, one or more

of the cells is getting hit by a reverse charging current, shortening its life. Then, when you need the HT to perform, you might be unpleasantly surprised.

Take care of those batteries!

73,

Greg KO6TH

National Ham News

License Restructuring NPRM Likely This Year

(From ARLB008)

The FCC continues to work toward developing a Notice of Proposed Rule Making (NPRM) that will spell out what the Commission has in mind with respect to possible changes in the current Morse code requirement and Amateur Radio licensing.

A total of 18 petitions have been filed, including one from the ARRL, seeking Part 97 rule changes addressing the future of the 5 WPM Morse requirement (Element 1) and revisions to the overall Amateur Radio licensing structure. The FCC plans to tackle all 18 in a single proceeding.

On the code issue, petitions--and comments in response to them--run the gamut from retaining or even beefing up the Morse requirement to eliminating it altogether. (The ARRL's proposal would retain the 5 WPM Morse examination for Amateur Extra class applicants only.)

The League and others have also put forth proposals for a new entry-level Amateur Radio license class. At this point, personnel in the FCC Wireless Telecommunications Bureau are continuing to review the thousands of comments filed on the 18 petitions.

While the FCC appears unlikely to release an NPRM any sooner than mid-year, the issue still may be a major discussion topic during the FCC Forum at Dayton Hamvention, May 20-22.

Once public, the NPRM would initiate another round of public comments on what the FCC has proposed. An FCC Report and Order implementing any new rules is unlikely before the second half of 2006, although it's possible the Commission could wrap up the proceeding before then.

ARRL Asks for Texas BPL Shutdown

(BPL hasn't hit our area yet [that I know of], but it may be on the way since many utilities, and particularly the smaller ones like SMUD and Roseville Electric often see it as a revenue source with little cost. Ed.)

The ARRL has requested that the FCC immediately shut down an Irving, Texas, BPL pilot project and fine its operator for causing extensive harmful interference to Amateur Radio communications. The League's March 15 filing to the FCC's Enforcement Bureau, the FCC Office of Engineering and Technology and the system's operator comes in the wake of--and supports--a complaint from ARRL member Jory McIntosh,

KJ5RM, of Hastlet, Texas, who regularly commutes through the BPL test zone in the Dallas-Fort Worth area.

The FCC has yet to respond to a formal complaint he filed last fall. "The results of tests conducted by ARRL Laboratory Manager Ed Hare are that this facility, which has been the subject of an unresolved interference complaint dating back to November, 2004, is still regularly causing harmful interference to Amateur Radio stations and must be required to cease operation immediately," said the League's complaint, signed by ARRL General Counsel Chris Imlay, W3KD. Hare visited the Texas site last October.

The ARRL said the levels of interfering BPL signals Hare measured and documented "are sufficient to obscure virtually all Amateur Radio received signals and preclude Amateur Radio communications in the areas and on the bands identified in the report."

This week's ARRL filing, which included a summary of Hare's measurements, recounted McIntosh's complaints last summer to utility TXU and BPL equipment provider Amperion. TXU and Amperion representatives accompanied McIntosh on interference demonstrations and made some unspecified adjustments. But, the League notes in its complaint, "Nothing has changed since the complaint was first lodged." As of March 9, 2005, the ARRL said, the system was producing the same amounts of interference within and outside the amateur bands that McIntosh already had reported.

Test results attached to the complaint "are sufficient to demonstrate that this BPL test site should be shut down immediately," the League said. The ARRL also called on the FCC to impose monetary forfeitures on Amperion.

The ARRL's test report points out that the interference is not confined to Amateur Radio spectrum but covers a wide swath of HF as well as low-VHF and "various aeronautical, commercial and government spectrum." The report noted that many of the bands the FCC's new BPL will require to be notched are not now protected.

Regulation by Bandwidth

Just in case it slipped by you, there is a proposal currently making its way through the ARRL Staff and Board of Directors to petition the FCC to radically change the way various emission modes would be allocated within our bands.

Historically, the separation has been made between CW and Phone, with data modes generally populating the upper portions of the CW segments. The new concept, motivated primarily by those using and promoting data modes, would reallocate on the basis of bandwidth. This would solve the "problem" faced by new emerging data modes (e.g. is a digital signal carrying voice "phone" or "data").

The outcome could have wide-ranging impacts. See "It Seems to Us (www.arrl.org/news/features/2004/09/01/1/) for more information.

SIERRA FOOTHILLS AMATEUR RADIO CLUB

P.O. Box 1005

Newcastle, CA 95658



SIERRA FOOTHILLS AMATEUR RADIO CLUB 2005 MEMBERSHIP APPLICATION

Name: _____ Call: _____ Class: _____ e-mail: _____

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

Associate Name: _____ Call: _____ Class: _____

Phone Number: _____ Application: (Circle One) New Renewal

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

Membership:	\$22.00	Name Badge:	\$7.00
Associate:	\$ 7.00	Repeater Donation:	\$ _____
Auto Patch Donation:	\$ _____	Newsletter Booster:	\$ _____
Miscellaneous Donation:	\$ _____	Christmas Donation:	\$ _____
Worldradio Renewal:	\$ _____	TOTAL:	\$ _____

OFFICE USE ONLY:

DO NOT WRITE BELOW THIS LINE

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

Payment: _____ Check Number: _____ Cash: _____