

Sierra Signals

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

<http://sf-arc.org>

December 2004

P.O. Box 1005, Newcastle, CA 95658

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



PRESIDENT

Rob Carpenter, WW6G

ww6g@arrl.net

VICE PRESIDENT

Casey McPartland, W7IB

w7ib@arrl.net

SECRETARY

Bob Boeckman, WA6ULL

916.987.9910

wa6ull@cwnet.com

TREASURER

Donna Hodge, KD6PJN

larryhodge2000@attbi.com

DIRECTORS

Kevin Reid, KG6RIO

George Simmons, KG6LSB

grsim@mindspring.com

Larry Hodge, AE6CE

REPORTERS

Satellites: Greg, KO6TH

History: Gary, KQ6RT

Digital: Rob, WW6G

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

All welcome to check in
Thursdays, 7:30PM, K6ARR/R
145.430

CLUB MEETINGS

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

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

WEBMASTER

NEWSLETTER EDITOR

Fred Jensen, K6DGW

VOX: 530.885.8251

FAX: 530.745.9622

k6dgw@arrl.net

'04-'05 Calendar of Events

(Operating Events in Italics)

Dec 3-5 *ARRL 160 Contest*

Dec 6 *Spartan Sprint (QRP)*

Dec 10 Christmas Party

Dec 18 *RAC Winter Contest*

Dec 31 Club Breakfast

Jan 1 *Straight Key Night*

Jan 3 *Spartan Sprint (QRP)*

Jan 8-9 *ARRL RTTY Roundup*

Jan 8 *Kids' Day*

Jan 14 Regular Meeting

Jan 15-16 *N. American QSO (SSB)*

Jan 29 Club Breakfast

Feb 7 *Spartan Sprint (QRP)*

IN THIS ISSUE

Officers' Reports

Satellite Report

"The View From Down Here"

Message from Kuwait

Vice President's Report

I'm taking this opportunity to thank all of the members of SFARC for their support and encouragement over the past year. I'm looking forward to more fun and interesting meetings and projects as president in the coming year (I honestly tried to get a recount, but the board wouldn't go for it!)

To all of you from W7IB & K7NYE, all the very best blessings in the Holiday Season and the New Year!

73,

Casey, W7IB
2004 Vice President

Meeting Minutes November 12, 2004

President Rob, WW6G, called the meeting to order at 1945. There were 42 members and guests present. Officers present: Rob, WW6G, President; Casey, W7IB, Vice President; Donna, KB6PJN, Treasurer; and Bob, WA6ULL, Secretary. Directors present: Larry, AE6CC, and George, KG6LSB.

Larry, AE6CC reported that the VE Team had 4 applicants with 3 passing. Exam sessions are held on Saturdays at 0800 at the Raley's in Granite Bay near Roseville. Greg, KO6TH, gave a brief satellite report.

Joe, WB6AGR, reported that the EMSA Hospital Drill went very well. Their net used the K6ARR repeater (145.430). Gary, KQ6RT, reported that the raffle would include (the usual) Atomic Clock, a DVD player, and miscellaneous batteries and books.

Jim, K6ARR, asked that people back of the microphone some to reduce their deviation. He also indicated that the repeater needed a new charger. Mary Ann, KE6EST, moved to buy the charger which was seconded by Bob, KD6WTY, and passed.

The nominees for 2005 officers and directors were:

President: Casey, W7IB
Secretary: Paul, KB6NYB
Treasurer: Donna, KB6PJN
Directors: Larry, AE6CC
George, KG6LSB
Kevin, W7TST

All nominees were elected. Joe, KF6OQY, reported that the care package has been sent to the 319th Signal Battalion in Kuwait (see letter elsewhere in this issue. Ed.)

The annual Christmas Party will be held at the Maidu Recreation Center on December 10 at 1800. Bring a dish -- turkey, ham, rolls, and soda will be provided. The club's web site has been reactivated at <http://sf-arc.org> and webmaster Marc North, W6SQL.

The entertainment was to speak about your favorite ham radio experience, and it was quite interesting with some very funny stories. George, KG6LSB, won the Atomic Clock, and Bob,

KD6WTY won the DVD player. The meeting was adjourned at 2145.

Respectfully submitted,

Bob Boeckman, WA6ULL
2004 Secretary

Forty & Thirty Years Ago

Reported by Gary, KQ6RT, SFARC Historian

Minutes of SFARC December 9, 1964

1. Minutes were dispensed with on a motion of Frank Carman so as to facilitate ending the meeting early in deference to the passing away of Clayton Goodpastor's brother.

2. Treasurers report on some \$168 in the checking account. \$200 in the savings account.

3. Report on dinner was given and decided by majority to have a pot-luck affair. Last ten names on list are to bring salads. Next twenty to bring hot dishes. Club to provide desert.

Frank Carman is committee chairman to get everyone together on a smooth operating affair.

4. Motion was made and carried to have the building committee purchase a body for the trailer and assemble same.

5. Election results are as follows for the year 1965.

President: Sage Otow

Vice-Pres: Joe Merryman

Secretary: Frank Carman

Treasurer: Jack Shrawder

Activities Mgr: Rich Ryan

6. Civil Defense report by Frank Carman and Joe Merryman. A show of hands was asked as to those interested in belonging. A large majority said they did. A fine number will have or already have mobile capabilities.

7. Phil Harless won the gift certificate from Cal Radio. Less Miller won the gift certificate from Zackit. Clay Goodpastor won the gift certificate from Lombard's.

8. Meeting was adjourned early and refreshments served. Respectfully submitted,

Kenneth J Weger, WA6EMU
Secretary.

Dec. 22, 1974

K6CBP/WR6ADI is now controlled remotely through UHF-445.575 in, and 440.575 out, which CARC granted. Three members, WA6EMU, WB6OVH, and K6ARR are now in control of WR6ADI via operating stations.

73,

Gary, KQ6RT

EMSA Drill Report

Our ARES team had our annual EMSA (Hospital) Drill on November 18th. We had 10 participants and it went well, in the fact that everything didn't go well. So we can make improvements to better ourselves in future Drills and Operations. We had operators at 2 hospitals and OES. We had a lively critique on our Sunday Net, following the exercise to discuss how we can improve.

I would like to add to this on a side note that I am in talks with the Boy Scouts of America on how we can help them in their communications interests and maybe get some younger people into the hobby.

Joe Park, WB6AGR
EC Placer Co. ARES

Satellite Report

Reported by Greg, KO6TH



As every Ham knows, eventually things wear out, die, break, become inoperative, and for all intents and purposes, utterly inert. So it had come to pass with my satellite antenna rotor system.

I knew it would happen some day. It was, after all, a White Elephant Sale item, rumored in fact to have once graced the towers at

W6SUP. A simple rotor, rescued from the trash heap by a budding satellite operator, who at the time was actually using something much worse. The new Azimuth rotor would become the foundation for a new and improved AZ/EL Rotor System, driven by a homebrewed, microprocessor driven controller. "Foundation" is the important word here. Foundation, as in "at the bottom".

About a year ago, I began having intermittent problems with the Azimuth rotor getting stuck - just for a moment - then all would be well. But as winter turned into spring, the problems disappeared and all was forgotten. Until last month. October, 2004, got old, fast. Plants went dormant. So did my rotor.

Fortunately last summer I picked up a replacement at the North Hills swap meet, just in case. Now it was time to get it installed. Preparation consisted of drilling and modifying the upper mounting holes to accept the existing elevation rotor, which fortunately appears to still be in good shape. Also

testing the rotor with the controller to be sure they are compatible, listening for signs of bad bearings, that sort of thing. And, waiting for a day that I'm home when it's not raining. That day was the Friday after Thanksgiving.

After waiting for the sun to warm things a little, I haul the ladders out (it takes two to get to the upper roof), trudge up to the roof, and assess the situation. I mentally walk through the steps. It's simple. Unbolt the Elevation rotor from the Azimuth rotor, letting it slide down the tower pole about two feet to rest on the top of the tripod. Disconnect the wires - yellow, red, green, white; remember where they go. Unbolt the rotor. Swap in the new one, and reverse the steps.

The first problem was that the elevation rotor, cross-arm, and antennas are heavy, and not all that well balanced. But they aren't heavy enough to convince me that I have to take everything apart first. I only have one day to do this before it rains again. Getting the assembly unbolted and moved brings to mind images of the weight lifting events in last summer's Olympics. I get it moved, but no points for style. Now for the Azimuth rotor. Can't disconnect the wires - a clamp is in the way. Can't move the clamp. Ok, remove the rotor first. The bolts holding the old Azimuth rotor all come free easily enough, except for the last one. Which way does it turn? Get out the monkey wrench. Umph; ok. Now the wires. Yellow, red, green, white. Take the rotor down, set it on the roof. Set myself on the roof next to it. Rest.

Reverse the process, he says. New rotor goes up. Reconnect the wires. Can't get the white wire to stay put while I hold the rotor with one hand, the screw driver with the second hand. So, I do the others. Green, red, yellow; I can get the white one from below later. Mount the rotor; 4 screws. They all bottom out before cinching tight; so that's what the fat washers were for. Remove 4 screws, add the washers and re-insert. Oh yeah, the white wire.

Take a deep breath and do the Olympics thing. Snatch and lift. Elevation rotor, cross bar, and antennas lifted into position. The bolts don't match the holes!



I ease the Elevation rotor assembly back to its resting place. Reverse the reversed process and remove the new Azimuth rotor (4 wires, yellow, red, green, white, and the 4 bolts with the fat washers), and take it back down the two ladders to the garage. Compare with the old one. Subtle differences in the

construction are getting in the way. More drilling, filing, and sawing. The sun is starting to set. It's got to fit now. Back to the roof. Two ladders. Reverse again the process. Three wires, 4 bolts, fat washers. Don't forget the white wire. Elevation rotor assembly. LIFT. Quick!, get one nut on to hold it. Now the other three. Tighten. Wiggle. Tighten again. Wiggle some more. Tighten. Don't strip the threads. Ok. Phew. Done.

Well, it was worth 'it. The new rotor purrs as it spins, unlike the old one which had the family wondering "What's that awful noise?". And late at night, even these past cold ones, the microprocessor commands, and the antennas obey, allowing me to lean back in my chair and chat with folks far away, through the magic of satellites and Amateur Radio.

73,

Greg KO6TH

The View From Down Here

Oscar, W7IB/K9

[Disclaimer: the person with whom this dog lives, herein called "Dad", takes absolutely no responsibility for the content...the author is, after all, a dog!]

I'm only 3 ½ years old, but in human terms I'm a young male on the move! I have an unusual view of amateur radio, generally from the floor at a little higher than Dad's shoe tops. However, I am privileged to hear his most confidential QSO's and sometime get to proof read the goofy, often cryptic, articles he writes. (BTW, I have questions for another column, like who's HPM and what is so special about being the Old Man, and why does LSB call me "Grouchy"???)

One thing that has struck me, since I was a small, long puppy curled up on Dad's lap in the shack, is the clear difference between SSB and CW. Dad calls SSB "fone" - I thought "fone" was the thing on the wall that makes funny noises occasionally, or was it the little thing he carries in his pocket that also make funny noises--confusing. Anyway, back to the point...I found that SSB was disturbing, too many voices, some that sound like the ducks down the trail at the pond, sometimes they even talked about OSCAR and boy is that confusing! It's very hard to nap with all the talking! The CW thing on the other hand is interesting, and the rhythm of it makes me very sleepy - I can barely concentrate on chewing on my bone (I understand that's nothing like chewing the rag or tugging the sock...). Very relaxing!

Dad tells Mom (K7NYE) that there are a number of problems involving the CW thing these days. It seems that there is a pack (dog talk) of folks who wish that CW would dry up and blow away - I'm not really sure what that means, but there is this other, maybe smaller, pack that doesn't want that to happen. Dad says that both sides are rabid (scary!) about their position...he sometimes says that there are whiners on each side (he thinks it's cute when I whine, but somehow I don't think he feels this way in this case!) Boy there seems to be a lot of barking (more dog talk) going on in the hobby these days. Let me see, there's BPL (Bassets, Poodles, and Lhasa Apso's??), incursion into the ham bands by commercial

interests (I think commercials are a waste of time myself, and they wear me out with their doorbell sounds - inside dog joke), then there's Part 15 devices (whatever!)

I guess from what I've heard there's always been controversy in ham radio, and constant and recurring threats to the band space (I'm sorry, I don't know what that means either, I'm just a reporter, and furthermore I was bred to hunt badgers, but there's just not a lot of that work around Granite Bay these days.)

Now to the crux of this column, I really don't care about the plight of amateur radio. I'm a dog, but Dad treats me right and rubs my tummy a couple of times a day, and lets me nap on his ample lap, and tells me I'm a good boy, so guess I owe him an article every once in a while. Dogs really don't care about radio or antennas. You see we have been "working" each other both close-in VTW (Variable Tail Wag) and long haul ARF (Amplitude Relay Frequency) for eons. I hate to brag, but I am both a co-record holder of the ARFL world speed and pitch record, and a lifetime member of the League! Y'see we don't need to take exams, although we should be licensed. All we have to do is practice, practice, practice!

Enough of this! If your ever are around Granite Bay, and you're feelin' lucky, come by and try to pet me (I dare you!)

73,

Oscar (the 7.5 wpm Dachshund), W7IB/K9

Bark-bark-arf-arf-arf arf-arf-arf-bark-bark

Low Frequency Amateur Activity **(Ham Radio on the 1.444 kilometer band)**

Courtesy of the ARRL Letter

With no Amateur Radio low-frequency allocation in North America, stations operating under FCC Part 5 Experimental licenses in the US or under special experimental authorizations in Canada nonetheless continue to research the nether regions of the radio spectrum. By and large, LF experimentation is occurring in the vicinity of 136 KHz--typically 135.7 to 137.8 KHz--where amateur allocations already exist elsewhere in the world. The FCC rejected the ARRL's 1998 petition for LF allocations at 135.7 to 137.8 KHz and 160 to 190 KHz, however, after electric utilities objected that ham radio transmissions might interfere with power line carrier (PLC) signals used to control the power grid. *(Ed Note: Ironically, these are the same utilities who assert that their power lines do not radiate or receive signals in the HF range in their argument for relaxed BPL standards)*

"Most of the new LF activity of Part 5 licensees has been in the shared 137 KHz amateur allocation available in some parts of the world," says low-frequency experimenter Laurence Howell, KL1X/5. "Although not in the Amateur Radio Service, these Part 5 experimental stations continue to add to our knowledge on propagation and engineering."

The holder of Part 5 Experimental license WD2XDW, Howell--who's also GM4DMA--previously operated LF from Alaska. He's since relocated to Oklahoma, and has now resumed his LF work on 137.7752 and 137.7756 KHz.

Already he's reporting some spectacular success, despite antenna limitations. On October 28, New Zealand LFER Mike McAlevey, ZL4OL, copied WD2XDW's 137 KHz carrier "bursts" over a path of more than 13,000 km (8000 miles).

Howell believes the reception probably marked the first transpacific reception of a US-generated signal. "The land mass between Oklahoma and the ocean was considered to be a large obstacle to long-range communications," Howell remarked, "but obviously not."

The next day, Jim Moritz, M0BMU, copied the LF signals of three North American in the vicinity of 137 KHz (137.777 kHz)--including Howell's WD2XDW and WD2XES, operated by John Andrews, W1TAG, in Massachusetts--using Argo software, which can detect signals not otherwise readable. The third station, Joe Craig, VO1NA, in Newfoundland, has been operating a beacon on 137 kHz. Howell says, VO1NA's signals serve as a bellwether of LF transatlantic propagation. LF signals of European amateurs likewise are heard in North America.

On November 12, Andrews and another LF experimenter in Massachusetts completed the first two-way data exchange between Part 5 Experimental license stations on 137 kHz. Andrews worked Warren Ziegler, K2ORS, operating as WD2XGJ in Wayland, using conventional CW. The stations are about 25 miles apart, and both used loop antennas for transmitting. Jay Rusgrove, W1VD, some 100 miles to the south in Connecticut, monitored and recorded the QSO.

In British Columbia, Lorne Tilley, VE7TIL, and Steve McDonald, VE7SL, have been heard throughout North America on LF. Howell says both are starting a formal study of variances in ground wave propagation.

Howell says the disturbed solar conditions earlier this month wiped out long-haul paths through or close to the auroral oval during nighttime hours--especially at higher latitudes. He notes, however, that daytime signals over paths of between 1000 and 1500 km (620 and 930 miles) showed increased signal strengths during the disturbances. Howell has more LF information on his Web site myweb.cableone.net/flow.

(Ed Note: A half wave dipole for 137 KHz is 2,369 ft long, and would need to be 1,184 ft above ground to be a quarter wave high!)

Where In Blazes Am I

Global Positioning System

We are closing in on the end of this series, and this month, we'll investigate the one navigation/positioning system that is available and used by "regular people." GPS was funded, designed, built, launched, and is run by the US Department of Defense for the use of the US Military, certain Allies, and a few designated US Government agencies. To have made it useful to us "regular people" was thus a gift to the world from the DoD and US Taxpayers. While the nitty gritty details of exactly how it works are way too complex for Sierra Signals, we can get a good understanding of the concepts and mechanisms that make it function.

First, a little history (as usual). The first GPS satellite was launched in 1978, however the planning and design stretched back at least a half dozen years. The original goal was to provide precise navigation for US military forces world-wide. To use it, you had to have a set of cryptographic keys (they don't distribute these on the Internet!), and specialized receiving equipment. Originally, the system was to provide aircraft and soldiers with positioning accuracy of 22 meters, accurate enough for artillery and missile targeting. It has since way surpassed this goal.

Somewhere along the line, a second "channel" or capability was added to the design to provide 100 meter positioning accuracy, and this channel would be unencrypted. This was the moment of conception for the Garmins and Magellans, the Trimble, and all the other GPS receiver manufacturers.

The Satellites

GPS was to consist of 24 satellites in 12 hour orbits. Often, there are a few more, launched to replace those that have reached the end of their lifetime. The "official" description is:

"There are six orbital planes (with nominally four satellites in each), equally spaced (60 degrees apart), and inclined at about fifty-five degrees with respect to the equatorial plane. This constellation provides the user with between five and eight satellites visible from any point on the earth"

The basic result is that each satellite traces approximately the same ground track on the earth at roughly the same time each day (two times around in 24 hours). Every GPS receiver I've seen has a display that, if you hold it over your head and point it in the right direction, will graphically show you where the satellites are in the sky at that time.

The Concept

Like all the other systems we've looked at, the concept is very simple -- "Establish a Line of Position from more than one known point or station, and where they cross, you are 'there'." Everything we've looked at so far did/does it in two dimensions -- GPS does it in three, and gives you the exact time, within 350 ns or better.

Each satellite 'knows' precisely where it is (more on that later), and transmits that information repeatedly to the GPS receivers. In addition, each satellite transmits a pseudo-random (PRN) code on 1575.42 and 1227.60 MHz. There are two PRN codes transmitted. One, for all of us, is 1,023 bits long and repeats every millisecond. The other, for "them" is very long and takes seven days to repeat. When the US military decides it needs to, it also encrypts the long code to prevent its use by the other guys (hey, they paid for it, they get to control it).

Now, the concept is this: You are a receiver, and you know where the satellite is, and you know the repeating digital sequence of the 1,023 bit PRN code. You also know the exact time (more on that later too), and you know the time that the satellite began this 1,023 bit sequence. So, you decode the signal from the satellite, and measure the time-delay between the bits you received and when you know they were originally transmitted (sound familiar?). This and the speed of light tell you how far you are from that satellite. In essence, you are somewhere on a sphere of that radius surrounding the satellite.

Do it with two other satellites, and you have your 3D position. How this all happens is a bit more complex, but that's the big picture.

The Urban Legend

In 1999, an email began circulating that said you should not fly between a couple of dates in August because aircraft navigation was going to be totally screwed up, and you plane would probably crash. It was based on the precision PRN code, and quite false, as are most (but not all) urban legends.

The precision PRN code repeats every 7 days, and the system maintains a "week number" corresponding to the number of times the code has repeated. This number is important when the DoD encrypts the precision signal, which is, more or less, usually. In August, 1999, this "week number" was about to overflow it's computer word length and reset to zero. It had never happened before, although it had been well planned for, and hence the urban legend. The date happened, the "week number" rolled over to zero, no planes fell from the sky, and all was well with the world, at least in most parts.

How Does It Work?

As with all the position-determining systems we've seen, it all depends on knowing time. In this case, time is kept by atomic clocks (probably better ones than the ones at Gary's raffle!) that are on the ground and in each satellite ... they're real cesium beam clocks and they are accurate to a few nanosecond over centuries. The satellites use the clock to determine when to start sending their code, and how fast to send it.

The satellites are tracked by radar, and regularly their orbital elements (that would be the answer to their question, "Where Am I?") are uploaded to them from an Air Force base near Denver CO. They send this information to any GPS receiver that is turned on, and it is called an "Ephemeris." The controllers also upload corrections to the clocks and other data.

The good news is that, in space -- a vacuum with no air drag -- Isaac Newton figured out how to predict where something will be after some time if you know where it is at some previous time. Your GPS receiver does that, and as it computes your position, it takes the information it last got from the satellite about its position, and computes where it really is at this instant.

Then, knowing the time delay between it and the satellite (remember, everybody is keeping the same time), it computes the distance to the satellite. It does this for two more, and Voila! It knows where it is and tells you too. It also tells you things like sunrise and sunset times where you are, your speed, your altitude (GPS is 3D), and other great things, all done with the computer in your receiver. The GPS satellites do not even know that you're listening.

Keeping Time

Clearly, everyone who wants to use GPS needs to know "what time it is," and that would be UTC. And, we can probably all tell that my Garmin GPS-III+ does not actually have a real atomic clock inside it given that it is powered by four AA dry cells and fits in my hand. What to do? Well, it turns out that, using a bit of mathematics and a 4th GPS satellite, we can

resolve this problem, and my receiver can, in fact, know the exact UTC at any time. Ok, it was a little more than a "bit" of mathematics, but computers are powerful these days and they do it well.

Errors

All measurements have intrinsic errors, and these are not equivalent to mistakes ... i.e. reading the meter wrong. We're talking about errors in the overall process. A big one for GPS, and for other LOP systems, is "Dilution of Precision" or DOP. When the lines of position cross at right angles (and remember, GPS is 3D so there are three of them), it is easiest to determine exactly where the crossing point is. Unfortunately, they don't usually cross exactly at 90° and so we incur some error in finding that exact point. This is called Dilution of Precision, or DOP, and is generally divided into HDOP and VDOP for horizontal and vertical DOP. The DOP at any time is a function of the distribution of the satellites in the sky. If they happen to be sort of "all over the place," DOP will be low. If they're sort of in a line, it will be high.

VDOP will always be larger than HDOP because finding your position on the surface of the earth requires a good distribution of satellites overhead. Finding your elevation requires a good distribution of satellites above and below you. You only see the ones above you, so elevation measurements are inherently less accurate.

GPS Elevation Readings

The other major GPS error is in elevation. When I drive down State Route 57 from Valiejo to Sear's Point, the road is about 10 ft above sea level ... I know this because I can see SF Bay. My GPS reads +65 ft. The reason is that GPS doesn't really know where sea level is, it just estimates it using a mathematical model of the earth's surface. At our latitude, that model is about 50 ft. high and that's what the GPS tells us.

"Where Am I?"

The satellites get regular uploads of their ephemerides ... the data that tell them exactly where they were at some point in the recent past. They broadcast that to all the receivers who then calculate where they are right now when telling you your exact position on the surface of the earth. The USAF also uploads clock corrections as required to keep all the satellites in sync. It's a really cool, but incredibly complex system, but it works. Your editor's tower is at 38+56+26.90N 121+03+26.42W. Incidentally, that's an accepted way to transmit coordinates.



Randy & Pamela Ubry
RPU, Incorporated
Owner - Operators

Indian Hill & I - 80
P.O. Box 788
Newcastle, CA 95658

Featuring Metropolitan Fine Coffees®
& Royal Konaccino® Iced Beverages

Phone 916-663-9220
Fax 916-663-9205

AFRC-CCA-SG-319-S3

15 November 2004

MEMORANDUM FOR: Sierra Foothills Amateur Radio Club c/o CW4 George Simmons

SUBJECT: Thank You for Supporting the Troops

1. George, I'm sending you this Thank You to pass on to the Sierra Foothills Amateur Radio Club on behalf of every member of the 319th Signal Battalion.
2. It was very touching to hear from you all and receive the care package from the Radio Club. I know that a tremendous amount of effort and expense went into this. It was a big surprise to me and a nice treat for all the soldiers who live and work on Camp Virginia, Kuwait. It has been a long year and it is beginning to wear on us, so your timing was impeccable.
3. Most of us will probably not receive any medals or awards; we won't be "war heroes" or even see any fighting action. But all of us will work extremely hard this year-and-a-half in tough conditions, away from family, for very little material reward. Many with a pay cut. In learning about and leading people in the military for the past 16 years, I've found that most of us will gladly give all our effort, and our lives if necessary, if we know what it's for. For most of us, it is these types of outpourings of appreciation from the people around us, the folks that we know back home, that make us feel that our effort has meant something.
4. Thank You from the bottom of our hearts. Your generosity has brightened many days over here. I'm trying to spread the packages around so that everybody gets some. You guys sure included a lot of great stuff - all of it things that troops enjoy and need. Please tell every one of the Radio Club members that on behalf of myself and the Soldiers of the 319th Signal Battalion, we extend our deepest heartfelt thanks for your support of the troops over here in Kuwait and Iraq.

Very Respectfully,

MICHAEL D. LEWIS

MAJ, SC

S3

SIERRA FOOTHILLS AMATEUR RADIO CLUB
P.O. Box 1005
Newcastle, CA 95658



SIERRA FOOTHILLS AMATEUR RADIO CLUB
2004 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:	\$6.50
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: _____