

Sierra Signals

Sierra Foothills Amateur Radio Club

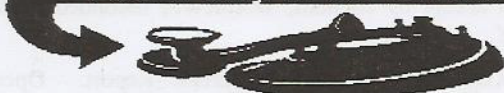
Auburn, CA

An ARRL Special Service Club

July 2004

P.O. Box 1005, Newcastle, CA 95658

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



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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

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2004 Calendar of Events

(Operating Events in Italics)

- | | |
|--------------|--------------------------------|
| Jul 9 | Regular Meeting |
| Jul 10 | <i>IARU World Championship</i> |
| Jul 17 | <i>NA QSO Party (RTTY)</i> |
| Jul 31 | Club Breakfast |
| Jul 31-Aug 1 | <i>Tevis Cup Ride</i> |
| Aug 7 | <i>NA QSO Party (CW)</i> |
| Aug 13 | Regular Meeting |
| Aug 21 | <i>NA QSO Party (SSB)</i> |
| Aug 28 | Club Breakfast |
| Sep 10 | Regular Meeting |
| Sep 25 | Club Breakfast |
| Sep 25 | <i>Texas QSO Party</i> |

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"Where In Blazes Am I"

Sierra Signals is published monthly by the Sierra Foothills Amateur Radio Club for the information of its 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.

From the President's Desk



June was a great month. Despite the parking issue, Frank, W6DHN, gave a great presentation on portable antennas. Based on my observations, some of the great ideas were actually put into practice at Field Day. The club breakfast was enjoyable again. If you get an opportunity in

July, give it a try. We would love to see you !!!

Field day had a very nice turnout and everyone had a great time. Read on to Casey's report for all the details. My thanks to Donna and Leslie for all their help and for managing the cooking. They did a wonderful job and everyone enjoyed the food and friendship.

73, and I hope to see you at our meeting this month !

Rob, WW6G
President

Vice President's Report



Field Day 2004 has come and gone and I'd thank all who participated - you made it a most enjoyable and productive weekend - good times, good company, good food (special thanks to Donna, KD6PJM, Patty, KG6UHQ, and Leslie, K7NYE, for seeing that we all got fed...)!

The bands were fairly cooperative this year and the 6-meter gods provided a lot of excitement on Saturday, we even managed some DX on 15! And an in an unusual turn of events for SFARC, we even managed almost 30 CW contacts. I haven't pulled all of the statistics together yet, but should have them for the meeting on the 9th of July. By the way, the MFJ Antenna Analyzer was won by Paul Alford, KB6NYB! (Jealous!!)

This month I've asked Ed Morell, N6EOD, to make a presentation on his "Station-in-a-box" - work schedule permitting. I know that the membership will enjoy hearing Ed's overview of the development of this great Kenwood-based VHF/HF station - a station that performed flawlessly throughout Field Day. So come on out for the presentation and check out the super craftsmanship that Ed employed in putting this station together.

Finally, don't forget the club picnic coming up in August!

73,

Casey, W7IB
Vice President

Minutes of Regular Meeting June 11, 2004



Meeting was opened by President Rob, WW6G, at 7:30 PM.

Introduction of Officers: Rob, WW6G, President; Casey, W7IB, Vice President; Donna, KD6PJM, Treasurer; Bob, WA66ULL, Secretary; and Directors Larry, AE6CC, George, KG6LSB, and

Kevin, KG6RIO.

Bob, WA6ULL, read the minutes of the previous meeting. Moved to accept by Richard, WA6RWS, seconded by Bob, KD6WTY.

Donna, KD6PJM, gave the Treasurer's Report: Opening balance of \$2,115.00; Income - \$84.00; Expenses - \$110.21, \$12.91, \$100.00; Closing Balance of \$2,011.00 Moved to accept by Bob, KD6WTY, Seconded by Richard, WA6RWS.

Rob, WW6G, gave the VE Report: Dottie Sylvia was in the class and took the test at last VE session and passed, making 19 passed out of 21 students. Very Good! July and August test sessions will be in Auburn at the VFW Lodge, not at the college in Folsom, at the usual time.

Greg, KO6TH, gave the Satellite Report: The new Echo satellite is OK. It was delivered by truck to the launch site.

Gary, KQ6RT, conducted the raffle: It included the usual Atomic Clock, and other tools and batteries. Tickets for the MFJ-259B Antenna analyzer to be given away at Field Day were also on sale.

Jim, K6ARR, stated the repeater works fine with no real problems lately.

Refreshments by Debbie, KC6LXN. Good Job Deb.

Rob, WW6G, read a letter from the MS Walk organizers thanking us for a good job.

We received a letter from PG&E asking for a clean up around meter so they can read it. Casey, W7IB, volunteered to clean up the weeds. Thank you.

The Club Breakfast will be moved to Sat the 20th because of Field Day on last Sat. of the month...

Field Day is June 26-27, at Nyack on I-80 above Auburn about 50 miles. Starts at 11:00 AM Sat. to 11:00 AM Sun.

Western States Run is at same time of Field day.

Casey, W7IB, says a new license class will start in September. Place and time to come later.

Casey, W7IB, introduced Frank, W6DHN of Georgetown. Frank gave a very interesting presentation on portable antennas. He brought many antennas to demo how they can be used in portable or emergency situations, from dipoles to verticals, wire to screwdriver antennas. He suggested we try these kind of antennas at field day also.

New ham Dottie, KG6VGN won the Atomic Clock. President Rob, WW6G, closed the meeting at 9:10 PM.

Respectfully submitted,

Bob, WA6ULL
Secretary

Forty Years Ago at the SFARC July 8, 1964

Reported by Gary, KQ6RT

Minutes of SFARC July 8, 1964

1. Minutes were read and approved.
2. Introductions of members present.
3. Jim Carman gave a report on Field Day and reported that 175 stations were contacted for a total of 1188 points.
4. Discussion on 100 mile ride communications was discussed.
5. Most of the members were going to take part and a more detailed coverage will be in a forth coming SFARC NEWS.
6. Glenn Moore won the gift certificate from Lombards.
7. Mike Dickey won the Cal TV gift certificate.
8. Meeting was adjourned and refreshments served.

Respectfully submitted,

Kenneth J. Weger, WA6EMU
Secretary

The Field Day Phenomenon

Casey McPartland, W7IB

Well, Field Day 2004 is over. For many of us it seems to be just the latest in series of these annual events. Having taken a little time to think since wrapping things up this morning, and chatting with a number of the SFARC participants as we "broke it down", and after catching up with Leslie at home, and after many years, and many FD's on both coasts, I've come to some interesting conclusions.

The FD phenomenon mostly isn't about radios and antennas, or operating, or numbers of QSO's. It isn't really about competition or set-up, or non-standard power sources; it isn't solely about the food or the "social aspects", or being with friends old and/or new. And, it's really not about whose got the fanciest, newest, oldest, plainest, most complicated, or simplest. No, Field Day for me is about people being with people, coordinating an effort to achieve – just being people.

What I've done is sit down this evening (after my nap of course) and scribbled a list of words that are the FD

phenomenon for me. I ask that you think about them and if you weren't there, consider the opportunity in the future, even for a few hours. If you couldn't be there for whatever reason, God love you. Either way, you *were* missed! For those of you who were there (wherever "there" was) or, who have been in the past, here's my list – it's dedicated to hams from Jettie Hill to Phillip & Andy to Donna & Patty, and everyone in between (and those who've gone before us, and are no longer with us):

Camaraderie, Fellowship, Learning, Teaching, Working, Playing, Good food!, Nature, Kidding, Experimentation, Laughing, Dirt, Dark Chocolate, Sunburn, Sharing, Acceptance, Rocky Road, Old & Young, Old & New, Bugs, Stories, Advice (good & bad), Finding Common Ground, Sunflower Seeds.

Whether we're pushing a mic-button, tapping a key, slapping the paddles, or tickling the keyboard, we share a strong affection for a common passion – we're all hams.

So when FD is complete and the cleanup is done, and you're standing around shaking hands and sharing a good hug, and trying to figure out why you "don't really want to leave", think of *your* list of words – then I think you'll get it! It's the Phenomenon of Field Day.

Satellite Report

Greg, KO6TH

(Ed Note: As with all of us, Greg's schedule precluded him creating his usual informative column this month. He submitted the following, taken from the AMSAT Reflector. He reports that Echo is alive and well on 435.150 mhz.)

MOSCOW June 29 (Interfax) - A Dnepr rocket carrier, which took off from a Baikonur launching pad at 10:30 AM Moscow time on Tuesday, has put eight foreign satellites into their designated orbits, a Russian Space Troops spokesman told Interfax.

The satellites separated from the rocket carrier's third stage between 10:45:15 AM. and 10:45:31 AM, the spokesman said. "Once they separated, all the satellites were handed over to the customers for operation," he said.

The satellites include France's 125-kilogram Demeter satellite designed for scientific research, Saudi Arabia's 12-kilogram SaudiComsat-1 and SaudiComsat-2 commercial satellites and 35-kilogram SaudiSat-2 satellite, U.S. LatinSat-S and LatinSat-D communications satellites weighing 15 kilograms each, an AMSAT-Echo satellite weighing 12 kilograms, as well as Italy's 12-kilogram UniSat-3 scientific satellite.

Contesting

"The Sport of Amateur Radio"

In it's never ending quest to inform and provide new ways to enjoy this hobby, *Sierra Signals* will begin a regular feature with a contest calendar and occasional information, advice from experts, and tips on enjoying yet another aspect of ham

radio. Well, ok, we also need to fill an even number of pages as well, and editors grasp at any source for that)

There are an amazing number of contests spanning the year. Most (but not all) occur over weekends, and many start at 0000Z on Saturday (that's 1700 Friday here on the left coast in the summer). Many are fairly obscure, and a few draw widespread interest. WA7BNM maintains a master 13-mo calendar at www.hornucopia.com/contestcal/contestcal.html listing more contests than you'll ever want to enter. They all share a few fundamental characteristics:

- The basic goal is to work as many stations (sometimes as many stations in a certain place, like California in the CQP), as you can.
- All require that you exchange some tidbit of information with the other station, ranging from the nearly trivial "RST and CQ Zone" to an NTS message preamble for the ARRL Sweepstakes.
- Nearly all have some sort of "multiplier" scheme whereby, you get multipliers for working stations in different states/provinces, different DXCC countries, different counties in a state, etc. Your final score is then the number of QSO points you amassed times your multiplier.
- Nearly all offer various entry classes (QRP, low power, high power, single operator, multi-operator, etc.)
- By worldwide gentlemen's agreement when we got the WARC bands (10m, 17m, and 12m), no contests is ever done on those bands.

Beyond that, contests vary dramatically in format and rules. For example, the ARS Spartan Sprint is held from 1800 - 2100 PDT on the first Tuesday of every month. There are two classes: skinny (QRP) and tubby (anything else). For the skinny class, your final score is inversely proportional to the weight of your rig, including key, keyer, TX, RX, batteries/power supply, and cables up to the antenna connector.

To start things off, give a shot at the North American QSO Party coming up. It's fun, quite low key, and doesn't consume the entire weekend. This contest, sponsored by the National Contest Journal (www.ncjweb.com) consists of two sets of three contests, one set in the summer and the other in the winter. The summer ones are: RTTY on 7/17; CW on 8/7, and SSB on 8/21. Each runs from 1800Z Sat to 0600Z Sun (1100 PDT to 2300 PDT on Sat). Single operators can operate any 10 of the 12 hours.

Work anyone in the world. The exchange is your name and state or province (if you're in Canada), or country if you're in one of the other North American countries. DX stations will give you their name and "DX" or country prefix. (Note that it doesn't have to be your real name, and often isn't. In the 2000 winter contests, most FL stations signed either CHAD, DUBYA, or JEB. In the contest just after the passing of Jim Maxwell, our Division Director, all of the members of the No. Calif. Contest Club [NCCC] signed "JIM" in his memory).

You may work the same station again on each band (160, 80, 40, 20, 15, and 10). Multipliers are the 50 states, 13 Canadian provinces, and the other North American countries on the

ARRL DXCC list. Multipliers count only once regardless of the band on which you worked them.

Somewhat unique to NAQP is the limitation on power ... a maximum of 100 watts. This really tends to cut the usual Big Guns down to size! There is also substantial Novice/Tech participation on their HF segments, although it is unlikely we'll see any big openings on 10 for the next couple of years. But then again, look what happened to 6m over FD.

Generally, stations will call "CQ NA" When you hear them, just drop your call on the frequency. They'll reply with your call, their name, and their state/province/country. You respond with their call, a "roger", your name, "California", and generally a "Thanks" or "Good Luck" (on CW and RTTY it's generally "TU"). That's it. He'll probably resume calling CQ and you search for another. If you can find a clear spot, try calling CQ yourself.

Feel free to log on paper logs. Just record the time, call, name, and state/province, and mark the log where you change bands. No fooling, this is how it was always done before the invention of computers. Initially, don't worry if you inadvertently call someone you've already worked on a band, they'll usually advise you, and if they don't, it won't matter ... the log scoring folks will eliminate your duplicate QSO's. Check the NCJ web site for the rules, and some paper log templates you can print and use.

If you're working on improving your code speed some, NAQP is a good place. The exchange is short (the guy named Maximillian is certain to be "MAX", and I never use my real name [Frederick], although I was once "PHRED" just to confuse those whose logging program coughed up "FRED" from a previous year's contest). You'll be surprised at how, in an hour or so, you will be copying these short exchanges just fine. Also, you can always listen to the fellow work the next guy to get a repeat on his name and QTH.

By all means, submit your log the NCJ (addresses listed in the rules at www.ncjweb.com) even if you only make a few contacts. It helps them validate the logs of the people you worked. Besides, what fun is a sport if you don't record the scores?

As space in *Sierra Signals* permits, and it usually always permits -- we volunteer editors are always scrambling for interesting stuff to print, we'll cover other upcoming contests, logging software, rig setups, operating strategies and techniques, VHF/UHF contesting, etc.

And, mark your calendar for October 2 and 3. That's the weekend of the California QSO Party sponsored by the NCCC, arguably the premier and best attended of all of the State QSO Parties. As a CA station, you work anybody in the world. And as a Californian, everyone wants to work you! Multipliers are the 58 CA counties (and Placer County is semi-rare). Your multipliers are the 50 states and 8 Canadian provinces (they lump a few of the arctic provinces together into one multiplier). We'll have more on CQP as it approaches. I'll be at Monitor Pass with an NCCC group operating N6A in Alpine County (active ham population = zero).

73,

Fred K6DGW

Where in Blazes Am I?

The Four-Course Radio Range was one example of a technique for using radio to navigate an aircraft that required nothing more than a receiver in the aircraft. Another example are "Markers," most of which are gone now, at least in North America. As the aircraft approached the runway, the pilot needed to know: "Am I lined up with the runway?" and "How far am I from the end of the runway (and thus, at what altitude should I be)?"

The first question was answered by the radio range. If one of the four courses was lined up with the centerline of the runway (as it was at LAX), all the pilot needed to do was "fly the course." If it wasn't, then he needed to calculate the wind speed and direction and pilots carried a slide rule device to do this. How about the second question?

Enter the Outer and Inner Marker, small buildings on the centerline extension of the runway several miles out. They contained a very low power transmitter, again in the LF range (later in VHF), with an antenna that radiates straight up. As the aircraft passed directly over it, the pilot heard the signal briefly and thus knew how far he was from the runway. He also knew from his charts the altitude he should be at when he crossed the marker. Another closer station, the Inner Marker, did likewise. Right after the inner marker, he would either see the runway or go around.

We have a relic of one of these marker stations in our area, on Baseline Road in Roseville. Heading west, just after Watt Ave., watch on the left for a deserted building surrounded by a chain link fence. There are two telephone poles ... they supported the LF antenna. There is a metal frame over the building which supported the ground screen and antennas when the markers went to VHF frequencies. When you pass it, you pass the centerline of the runway at the former McClellan AFB.

Complicating Things for the Navigator

It wasn't long before antenna technology developed to the point where directional antennas were more or less understood. The first was probably the small loop. A loop of wire whose circumference is small compared to the wavelength responds to the magnetic field component of the electromagnetic wave. Such a loop will exhibit two things: 1) It is very inefficient; and 2) The efficiency of its reception depends on its orientation. In fact, if you place a loop vertically, receive a station on it, and turn it, you'll see a gradual increase in signal to a maximum, then a gradual decrease, and a very pronounced and very sharp null where the signal disappears altogether.

This opened the way for a new form of radio navigation ... one that put more complexity on the navigator, but offered the opportunity to give her more control too. The concept is simple: Provide stations at various places that just transmit a signal and ID, and publish their locations in charts and books. A ship's navigator tunes in one of them, turns the loop antenna to null it out, compares that bearing with the ship's heading, and plots a line from the station. The ship is somewhere on that line. Find another such station, plot that line, and where they cross is the ship's position. Simple, but it does require a

rotatable loop antenna (visible on old photos of DC-3's/C-47's) and some calculations. Not as simple as the 4-course, and it also requires some mechanical linkages to rotate the antenna, but the electronics are still simple ... just an AM receiver.

These stations are called "NDB's" for Non-Directional Beacons. They operate in the LF range and there are still some left. Try 339 KHz for "PBT" in Red Bluff at night. Receiving at these frequencies is a challenge, even if your rig receives that low. Try using your longest antenna, and unscrew the coax connector so only the center conductor makes contact. With some practice you'll hear others, and you can find listings of them by searching Google with "non-directional beacons". In fact, with a narrow CW filter, tune down just a bit from PBT and, at about 333.9 KHz, you'll maybe hear "CC."

A possibly interesting ham-related sidelight -- NDB-harmonic problem for Top-Band aficionados. The method used to generate the NDB signal varies. The common one is a continuous carrier AM modulated with the keyed ID using a 1KHz tone. However, some NDB's do it with two separate transmitters, 1KHz apart, one of which is keyed, and the other isn't. In an AM receiver, the two signals heterodyne, and it sounds like a 1KHz keyed tone modulating the transmitter. Regardless of how the signal is generated, however, these beacons just sit where they are and send their calls over and over, forever, pretty much ignored by maintenance people until someone reports a problem. As a result, antenna connections rust, operating characteristics change, and they develop harmonics, some of which fall into the 160 meter band. For NDB's using two transmitters, the spacing between the two signals is multiplied in the harmonics as well, so the "tone" you hear will be much higher in pitch, often outside the passband of your receiver. If the transmitter that is generating the harmonics is the one that isn't keyed, identification of the spurious signal in our ham band is extremely difficult.

NDB's aren't used much by aircraft any more, however they still find some use by ships plying coastlines. Until the advent of GPS, they remained the only coastal navigation mechanisms in some remote parts of the world.



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SIERRA FOOTHILLS AMATEUR RADIO CLUB
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