

## September Meeting

**Date:** Friday, September 26, 2003.

**Time:** Socializing at 7 pm, meeting at 7:30 pm

**Place:** Covington School, 205 Covington Road, Los Altos

**Topic:** Home Brew Night.

Members should bring their Amateur Radio projects to show to the club. The club members will vote to decide the best projects, and the lucky winners will receive cash prizes and get their photos published in FARS Relay.

Pacificon is approaching fast. The dates are Friday through Sunday, October 17-19. The convention is being held at a new location in San Ramon this year. FARS VP Steve Stearns is giving a presentation on J-poles at the Antenna Forum on Friday afternoon. He is also giving a short course on antenna impedance properties and impedance matching networks on Sunday morning. Details are at <http://www.pacificon.org>.

Also be sure to bring your hardest questions to submit to Dr. Know-It-All !!!

- Steve, K6OIK

## August Meeting Report

At the August meeting, we had a wonderful presentation from Stephan, KG6MAO, FARS club board member. He covered propagation of radio waves, the unique characteristics of each band, why one polarization is preferred over another, how signals bend and bounce, refract and diffract, what communication distances are possible and under what conditions. Dave, AE6EO, took away the ICOM T2H prize. The number for Don Miller, KD6KGF, was chosen for the "Wish you were here" prize. Unfortunately, Don was not present.



Stephan, KG6MAO



Dave, AE6EO

## Presidents Column

**Flea Market.** The last Foothill Electronics flea market of the year is Saturday October 11. This one is sponsored by PARC (Palo Alto Red Cross). You can find the schedule on the FARS web site [www.fars.k6ya.org](http://www.fars.k6ya.org). Come out to the last Flea Market of the year.

**Pacificon.** Pacificon will be held October 17, 18 and 19 at a new location – the San Ramon Marriott Hotel in San Ramon California. As usual, there will be presentations covering many topics. Friday will have the antenna forum in the afternoon and a choice of videos on DXpeditions or public service events in the evening. A breakfast will be held Saturday morning and a banquet in the evening. An expanded swap meet will be held at the Hotel as well. It looks to be a great event. For schedule and registration information and driving directions, see [www.pacificon.org](http://www.pacificon.org).

**Programs.** This month we have our annual homebrew contest, so get those projects ready for presentation and prizes. Don't forget to bring your Amateur Radio questions for "Doctor Know-it-all".

- deMikel, kn6qj

## Secretary's Report

The FARS Board held its monthly meeting on the evening of September 2, 2003. It was called to order at approximately 7:35 pm. Members present were Mikel, KN6QI, Frank, K6FCW, Dick, N6ATD, Howard, KG6GRO, Stefan, KG6MAO, Omri, AA6TA, Herb, KF6BKL, Steve, K6OIK, Mike, KG6GUE, and Martin, KD6WJW. The following motions were approved by the Board:

1. Moving the club's bank account from Wells Fargo to Bank of Los Altos.
2. Prizes will be awarded to the three top vote-getters in the Homebrew Contest that will occur at the upcoming meeting. They will be for 40, 30, and 20 dollars, respectively.
3. K6FCW was authorized to contact Michael's Restaurant to reserve a date for the winter banquet.
4. For this event, K6FCW was also authorized to make a deposit, if necessary, not to exceed 500 dollars to Michael's.

PAARA will again be invited to co-sponsor the banquet. The upcoming election of club board members and officers was discussed. The new location for the monthly meeting will most likely be at the Covington School in Los Altos. Kudos to AA6TA for arranging this!

- Martin, KD6WJW

## Upcoming Events

Sep 26	7:00 PM	Club meeting, Oak School
Oct 7	7:30 PM	Board Meeting, Los Altos Town Crier
Oct 11		Dawn to Noon, Foothill Flea Market
Oct 24	7:00 PM	Club meeting, Oak School
Thursdays	8:00 PM	FARS net, 145.230(-), 100 Hz PL

See more events, [FARS Calendar](http://www.fars.k6ya.org)

<<http://www.fars.k6ya.org/events/calendar.shtml>>

## CLUB INFORMATION

President: Mikel Lechner, KN6QI  
Vice President: Steve Stearns, K6OIK  
Treasurer: Frank Weiss, K6FCW  
Secretary: Martin Liberman, KD6WJW  
Radio Officer: Omri Serlin, AA6TA  
Training Officer: Mike Zensius, KG6GUE  
Relay Editor: Mark Hardy KG6GRR

FARS Board: Dick Baldwinson N6ATD, Herb Davidson KF6BKL, David Cooper KE6PFF, Howard Califf KE6PWH, Howard Takaoka KG6GRO, Stefan Goette KG6MAO.

Station Trustee: Stan Kuhl, K6MA  
FARS Web Page: <http://www.fars.k6ya.org>  
Download Relay: <http://www.fars.k6ya.org/relay>

Club members and non-members are encouraged to subscribe to the FARS Announcement list by browsing [www.fars.k6ya.org/mail](http://www.fars.k6ya.org/mail), clicking on Subscribe/Unsubscribe and following the instructions under "Subscribing to fars-announce."

You may also submit an announcement to the FARS Announcement at [fars-announce@svpal.org](mailto:fars-announce@svpal.org). The list is moderated and messages will be posted as approved by the list moderator.

The FARS board of directors may be reached at [fars-board@svpal.org](mailto:fars-board@svpal.org)

Club meetings are held at 7 PM on the fourth Friday of each month except January (Winter Banquet); and sometimes there are changes for June (for field day) and Nov. & Dec (for holidays).

Annual club membership \$20. Club badges are \$6. Visitors are always welcome! Directions on the back page. Talk-in: N6NFI (145.23-, 100 Hz) or W6ASH repeater (145.27 or 224.36).

The FARS *Relay* is the official monthly newsletter of the Foothills Amateur Radio Society. Contributions to the newsletter from members, family, and guests are earnestly solicited! Contributions subject to editing and/or compression. ASCII files via Internet or diskettes preferred; but all readable forms welcome.

Here is how to reach the editor:

Mark Hardy, KG6GRR  
Mail: 2998 Jerald Avenue  
Santa Clara, CA 95051  
Voice: 408-243-0701 (Before 9 PM, preferred)  
Fax: 408-243-0701  
Email: [kg6grr@arrl.net](mailto:kg6grr@arrl.net), At FARS meetings.

### Club Elections

It's coming up on election time for the FARS Board of Directors. The Board is putting together a slate of nominees to be presented at the October meeting. If you have nominees for Board membership, please contact the Board or make your nominations at the September club meeting.

-- Mikel, kn6qi

## Dr. Know-It-All

September 2003

This month we get historical and examine a question that's puzzled many Amateurs - an enigma of the ages. No it's not the perennial question of why the direction of current flow in metals is opposite to the direction of electron flow or even why electrons are negative. Instead it's...

**Question:** Why is the letter "i" used for current? From Ruth Lacey, KG6RZG.

**Answer:** The lower case "i" for current was introduced by Frenchman André-Marie Ampère (1775-1836) in his 1826 treatise on electrodynamics, *Mémoire sur la théorie mathématique de phénomènes électrodynamiques uniquement déduite de l'expérience*. The "i" stands for "intensité de current." The "i" notation was apparently adopted soon afterwards by George Simon Ohm in Germany. However, it took many years for the usage to become standard. In England, James Clerk Maxwell, Oliver Heaviside, and others used an upper case "C" to denote current during the period from 1870 to the beginning of the 20<sup>th</sup> century. Nevertheless, the letter "i" was so firmly entrenched in popular usage among electrical engineers by 1905 that when Charles Proteus Steinmetz introduced complex numbers for a-c circuit analysis, it was not possible to follow the mathematician's convention of letting  $i = \sqrt{-1}$  because the letter "i" was already taken. Ever since then, electrical engineers have used "j" for  $\sqrt{-1}$ .

An interesting side note is that using "i" for current and "j" for  $\sqrt{-1}$  avoided one confusion but created another because, in electromagnetics, antenna engineers and physicists use "J" for current density. There aren't enough letters in the Latin and Greek alphabets to assign each letter a single meaning in scientific writing!

That's it for this month. You can send your comments or questions about any aspect of Amateur Radio to Dr. Know-It-All. Comments and questions in writing are accepted at the monthly meetings of the Foothills Amateur Radio Society, by email to FARS officers and board members, or through the FARS web site at <http://www.fars.k6ya.org>.

Further Reading:

1. <http://www.ece.rice.edu/~dhj/History/>. Click on Electrical Science and Signal Theory.
2. <http://cnx.rice.edu/content/m0004/latest/?format=pdf>. See page 1, last paragraph.
3. [http://www.ieee.org/organizations/history\\_center/board/messages/28.html](http://www.ieee.org/organizations/history_center/board/messages/28.html).
4. [http://www.ieee.org/organizations/history\\_center/faqs.html](http://www.ieee.org/organizations/history_center/faqs.html).
5. L. Pearce Williams, "André-Marie Ampère," *Scientific American*, pp. 90-97, Jan. 1989.

## **Eyeball DX**

Field Day weekend, shortly after midnight (PDT), propagation on 40 meters was good.

CQ FD K6YA

K6YA de KH6J

KH6J copy 2A SCV

QSL 1A Pacific

QSL What's your QTH in Hawaii?

Kaneohe

Good. I'll be in Kaneohe later this summer. Maybe we will see each other.

Fast forward to August on the windward side of Oahu. The monthly meeting of the Koolau Amateur Radio Club begins. The agenda was pretty much like a typical meeting of Foothills Amateur Radio Society. Casual conversations as people assemble; president starts by asking everyone to introduce themselves; main program goes first so the speaker doesn't have to wait through the business portion (but the speaker is a club member so he isn't going to leave early either.) The business meeting reviewed Field Day and what to do better next year.

The August program for KARC was a talk on Internet Radio Linking Project. The concept is to use the Internet to extend the range of VHF or UHF radios to anywhere in the world.

Typically the hams on both ends are using HTs. Once the link is established, you might think you were using a conventional repeater. IRLP is popular in England, so you can work real DX. In Hawaii, mountains restrict coverage of normal repeaters. Hams are starting to use IRLP to link opposite sides of the island. The ARES people see a lot of potential in this capability. I wonder if someone has tried using IRLP to link Santa Cruz and Half Moon Bay with the Bay side of the SF peninsula?

If you want to operate IRLP first you need to do a little web surfing starting at <http://www.irlp.net/> and then get access codes from the control operator from an IRLP station (node) near you. The only equipment you need for operation is an HT with a DTMF (touch-tone) pad. The requirements to set up a node of your own are also modest. In California, probably the toughest problem will be finding a suitable unused frequency.

The August meeting for Foothills Amateur Radio Society featured Radio Propagation by Stefan, KG6MAO. He had a lot of great charts showing how radio signals interact with the ionosphere. While the presentation covered everything from 160 meters to UHF, he did explain why 40 meters would be open between California and Hawaii at night.

K6YA will be looking for KH6J again next FD.

Meanwhile, anytime you are planning a trip, think how you can use ham radio to meet up with some of the locals.

- de AA6PZ

## **Electronics Museum History**

Jack Eddy, WA6YJR, the past President of FARS is writing a history of the Electronics Museum. We plan to include excerpts from the history in the Relay. Below is Part of Chapter 1, with more to come in future issues. See the Nov. 2002 issue for the introduction.

### **Chapter 1, The First Year**

Just one month after the museum opened, EMARC was born on March 19, 1973 with Jack Eddy, museum curator, chairing the meeting.

At this meeting, the following were elected as officers to guide the club through its birth pains:

President Fred Barry, K6RTU;

Vice President Fred Canham, K6YT;

Secretary Jack Eddy, WA6YJR;

Treasurer Sy Stein, WA6ROM;

Radio Officer Ross Forbes, WB6GFT;

Activities Officer Jerry Starkey, WA6LIJ;

Board Members Bill IteL, W6VF, and Bob Smithwick, W6CS; and

Station Trustee Thorn Mays, W6AX.

Following are brief profiles from the first Relays of the officers who were to guide the club at its start and prepare it for service in the years to come.

#### **Fred Barry, K6RTU**

Fred was a native of Seattle, Washington. He was 14 when first licensed as W7CPS in 1932. He graduated from Washington State University with an Electrical Engineering degree. During World War II, he helped develop radar while on staff at the Massachusetts Institute of Technology. He became W3OIX when he moved to Philadelphia, PA. He worked for Philco-Ford for 29 years. Fred loved to operate Ancient Modulation and did so for a good many years after SSB was in.

#### **Fred Canham, K6YT**

Fred was born in Oakland California and was first licensed as W6QWF in 1938. In 1972 he became K6YT. He studied radio communications at Loney College, Oakland and began his career with Pan American at the Treasure Island Teletype Communication Center. December 1941 found Fred operating the ground station on Midway Island some 1300 miles Northwest of Honolulu (not too healthy for Americans in those waters at that time). On 26 December 1941, he departed Midway to begin 1 year at a Honolulu ground station, and then began flying as a Radio Operator on Pan American flying boats. In 1973, Fred was president of the Palo Alto Club, past president of the Ampex Club, delegate to the CCRC, and very active on Field Day Committees.

## Sailing the South Pacific

August 16, 2003

Today has been a rare day in paradise. At least we hope it is rare, it has been raining all day (almost like a Chicago rainy day). Oh sure, it rains here, often, but usually in short bursts and frequently at night. Then we have to jump out of bed and start closing all the hatches. Anyway, today is the type of day where one holes up below decks reading "Rain" by Somerset Maugham or types out a letter like the one you're reading. (We actually received about 10 inches of rain in 24 hrs).

We are anchored in Baie d'Avea at the south end of Huahine in 40 ft. of water. We are inside the lagoon, between the island and the reef. So, basically we have a coral hazard on two sides and other boats on the other two sides. We really don't want to drag an anchor here.

Unfortunately, the water under us is a little murky, but we can still see our anchor when the water is calm. Sue was checking it the other day and saw a nice spotted eagle ray swimming around 20 feet under her. Occasionally, a 2-ft turtle swims by. On the reef side of us, nudibranchs are mating and laying ribbons of eggs that look like strings of orange pearls. These 4-inch nudibranchs look somewhat like dolled-up slugs with one bunch of 1/2-inch plumes on the middle of their back. The whole nudibranch is white with red dots. Pretty interesting.

It's pretty nice here, even though we share this spot with around 10-15 other boats. There's a nearby hotel with very good food, but you expect that of the French. There's also a pension nearby where we can eat (one dinghy trip in) if we make a reservation (another dinghy trip).

We went scuba diving the other day and saw lots of different fish: barracuda, parrotfish, lionfish, a variety of butterfly fish, surgeonfish, etc. We saw a fish that we thought was a leaf until we looked at it closely. About 10-20 black tip reef sharks stayed around us. They're not aggressive and don't bother us. We're at the point now that we "almost" think of them as just another fish, which they are. If we ever go diving again in California (not likely, the water is too cold), we'll have to remember that those sharks are not reef sharks.

We drove around the island the other day. The most exciting things we saw were the "Sacred Eels". They're a tourist attraction and we fed them. They had thick ugly flattened 3-foot long bodies and blue eyes.

At this point, almost nothing in Polynesia seems aggressive, though the kids can be somewhat rambunctious. About two weeks ago, we pulled into a little bay at the SE corner of Moorea that rarely gets cruisers. As soon as we dropped anchor, some kids swam out to the boat. We invited them on board, and then more kept coming. There may have been as many as twenty onboard at one point. They had a great time using our boat as a diving board. They kept asking to climb the mast so they could dive off of it. That was one occasion when we wish we could have spoken enough French to carry on a conversation. They kept asking about where we sleep. We couldn't figure out if 1) they wanted to see our bed, 2) they wanted to know if we were looking for a hotel, or 3) they wanted to sleep on board.

Sue spent all that evening printing out pictures of the kids from our digital camera. She passed them out the next day to the delight of the children (modern Polaroid diplomacy). They never seem to be in school. Some of them then took us around their village, showing us their "river," a 5-foot wide stream and climbed various trees to get us a few papayas, mangoes, soursop, pamplemousse, etc. It was a nice cultural exchange.

Jackie and her boyfriend paid us a visit in mid-July. They flew into Papeete and we spent the first few days seeing the sights of Tahiti. Thank heaven they came because we really hadn't been doing much sightseeing before they arrived. One day we rented a car and drove the 60 miles around the island of Tahiti. We hiked into a waterfall and went for a swim in the pool at its base. After we got out, a local who had also been swimming showed us the two-foot fresh water eels and the fresh water shrimp that live in the pool.

Another day we took the Le Truck, local transport, to the Tahiti Museum to see the Gauguin exhibit. Lo and behold, the President of China was there at the same time. Sue was really impressed by the tight short shorts the French military wear. She photographed them when their backs were turned.

Then we motored sailed over to Moorea, about 15 miles from Papeete. It took about 3 hours including time to clear the harbor. We spent a few days anchored in Cooks Bays then we moved to Opunohu Bay, about 2 miles away. Cooks Bay is named for Capt. James Cook who actually anchored in Opunohu Bay in the 1769. Such are the vagaries of history. Cooks Bay is the more developed; there are a number of restaurants (expensive) and grocery stores (magasins), which meant fresh baguettes in the morning (to which we have become addicted). However, Opunohu is the more beautiful. Tall cliffs rise abruptly all around.

With Jackie and her boyfriend there, we again took the opportunity to see the sights. We walked to the Moorea Distillery where they produce flavored rums in addition to fruit juices. Imagine tasting 50 to 80 proof liqueurs as one does wine in Napa Valley. We drove around Moorea, this time only 40 miles. One of the best stops was at Le Belvedere, overlooking both Cooks and Opunohu Bays and Mt Mouaroa, Bali Hai of South Pacific fame. However, the highlight of our stay on Moorea was feeding the sting rays while standing waist deep in water. Imagine being jumped upon by a stingray (much like a hungry dog) while holding out food. Their stingers are only a problem if you step on the rays, but these were all so lively, none stayed on the bottom. Besides, in the clear water, you could see them easily.

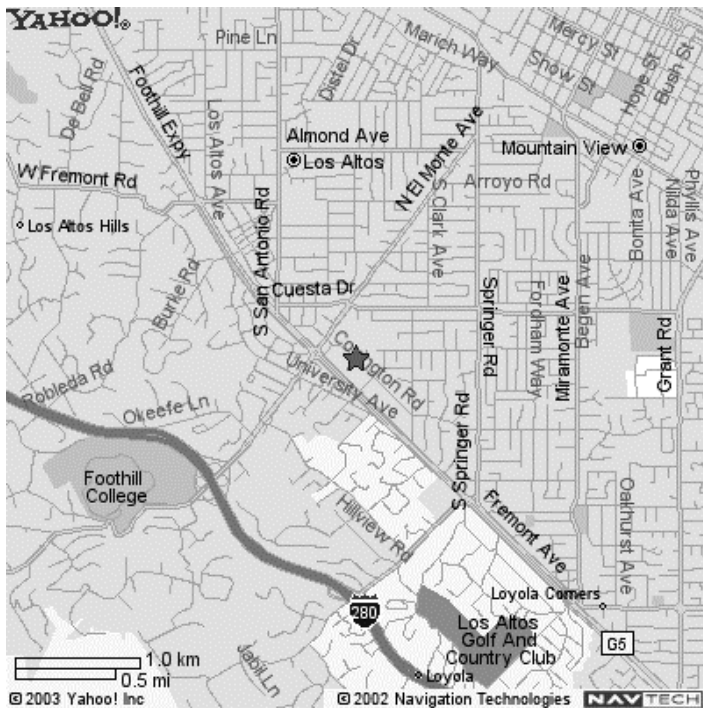
The second reason we were glad Jackie visited is because she brought us parts for the watermaker. It is now working, though not perfectly. The manufacturer has offered to replace most of the parts. That's great, but we can't really get them now. The watermaker is working well enough so that we don't have to locate potable water and haul it to the boat in 5-gallon jerry jugs. That is very time-consuming and tedious.

As you can see, life is interesting.

We uploaded a few pictures to our web site:

<http://groups.msn.com/WindSpirit/>

- Barry (KF6SCT) and Sue (KG6HFV) Swackhamer



### How to get to meetings:

(Visitors always welcome)

Our meetings will be held at the Covington Elementary School (directions below) on the fourth Friday. Socializing at 7 PM with the regular meeting at 7:30 PM. There may be changes in the meeting dates for January, June, November, and December.

#### DIRECTIONS:

**From Interstate 280.** take the El Monte exit (same as for the Flea Market) but go Northeast (rather than West to the college). Cross Foothill Expressway. (A) At the first traffic light turn right on Covington. (B) Immediately at the fork take the left street (Covington). Go about 1/10th of a mile. Turn left into the parking lot. The gym is the tall building to your right with red and white stripes.

**From Foothill Expwy.** From Foothill Expressway, take the El Monte exit and go Northeast; then follow directions as above at point (A).

**From US101 or El Camino:** take San Antonio Road west (to Foothill Expressway). Then follow directions as above at point (A).

**TALK-IN** via the [N6NFI](#) (145.230-; 100Hz PL) repeater or the [W6ASH](#) 145.27- (100Hz PL) repeater.