

Relay

September 2009 Volume 39, Number 9

September Club Meeting

Date: Friday, September 25, 2009
Time: Socializing at 7 pm, Meeting at 7:30
Place: Covington School, 205 Covington Road, Los Altos
Topic: Annual Home Brew Contest

Summary: The FARS Homebrew contest is a great venue to see the projects that have been developed by local HAMs. This has always been an exciting and interesting meeting with prizes to the best projects. Bring your friends for a great evening.

The club offers refreshments (great coffee, great cookies) and technical advice at the meeting: Bring your questions for Dr. Know-It-All and get great answers. Be sure to attend for an enjoyable evening.

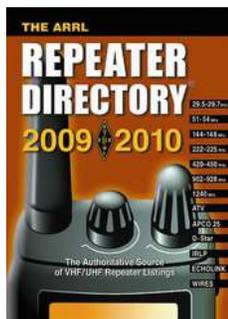
Pre-Meeting Dinner: There is a pre-meeting dinner at 6:00 pm for those who would like to attend. We meet at the Beausejour Restaurant, 170 State St., Los Altos. There are Great Early Bird specials.

Upcoming Events

- Sep 25 7:00 pm, [Club meeting](#), FARS Homebrew Contest
 - Oct 1 7:30 pm, Board Mtg at the Los Altos Town Crier
 - Oct 10 [Electronics Flea Market](#) hosted by [SPARK](#) (Last Flea Market of the Year!)
 - Oct 10 8 am to 9 pm, [Am-Tech Day](#), SLAC NAL
 - Oct 23 7:00 pm, [Club meeting](#), Covington School
 - Thursdays 8:00 pm, FARS net, 145.230(-), 100 Hz PL
- See more events, [FARS Calendar](http://www.fars.k6ya.org/events/calendar) <<http://www.fars.k6ya.org/events/calendar>>

September Raffle Prizes

Prizes: The first prize will be a Yaesu FT-250 2-meter 5-watt handheld with a fast charge stand. It is a compact, rugged handheld with long life battery and power saving design. 2nd prize is a Maha MH-C9000 Wizard One Charger Analyzer, which has digital display, selectable charge/discharge rates, and five modes of operation to keep batteries in top shape. Third prize and Fourth prizes are two ARRL Repeater Directories.



President's Corner



Membership Meeting. Our next regular membership meeting is Friday, September 25th at 7pm). This month's meeting is our **Annual Home Brew Contest** where we ask our members and everyone to bring in their recent amateur radio projects and

experiences and share them with the audience. Don't miss this, since it's always fun and educational. There are cash awards of \$40 (1st), \$30 (2nd), \$20 (3rd), and \$10 (4th) for the best presentations as determined by our audience. If you don't have a project, come anyway to enjoy and help decide.

Am-Tech Day. The next Amateur Radio Technology Day is scheduled for October 10th. We are into our fifth year of Am-Tech Day at SLAC. A new feature is movies at 7pm, so you might want to check that out. There is always a lot of activity and interesting programs, so be sure to check it out. Check the web site (www.fars.k6ya.org/amtechday/) or the email list (www.fars.k6ya.org/mail/) for the date and program information.

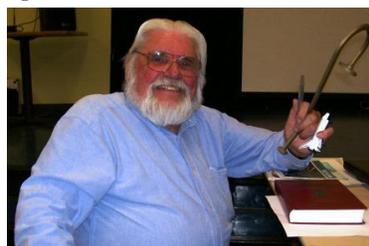
Electronics Flea Market. The next Electronics Flea Market is scheduled for October 10th and is hosted by the by the South Peninsula Amateur Radio Klub. This is the last electronics flea market for this year.

Email Notices. Subscribe to the FARS Announcement list (www.fars.k6ya.org/mail/) to receive reminders of FARS activities and other news..

de Mikel, KN6QI

August Meeting Report

John E. Hill, N6CRA, presented "Antennas I Have Known." John has been involved with advanced antenna development during a long career. He described a variety of antennas for which he has taken part in the development. There were antennas in Italy and Germany to name just a couple of places. He was also the manager of a team building antennas for the space shuttle, 18 in all. He passed around a piece of tile from the Space shuttle for all to see.



John E. Hill, N6CRA
August Speaker



Nimit, Peter, Kieth and Robin
Raffle Winners

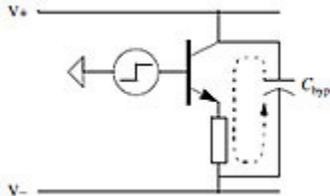
There were Four prizes at the August meeting. First Prize, a APC Back-UPS was won by Nimit Hongyim, K6X0X. Robin Yee, KI6YTA, won the 2nd Prize, an ARRL book "Hands-on Radio Experiments." The 3rd Prize, an ARRL 2009 Repeater Directory was taken home by Keith Remillong, KG6ZJI (after Nimit graciously redonated the prize). The 4th prize, also a Repeater Directory, was won by Peter Chow, AF6DS. The Wish You Were Here (WYWH) number for Toshi Sugiya, KJ6Q, was chosen. Unfortunately, Toshi was not present to claim the prize.

CLUB INFORMATION

President: Mikel Lechner, KN6QI
Vice President: Steve Stearns, K6OIK
Treasurer: David Cooper K6WA
Secretary:
Radio Officer: Phil Hawkins, KA6MZE
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Gerry Horn K6TXD, Charlie Morrin KI6FXY,
Barbara Neuhauser AE6RM.
K6YA Trustee: Phil Hawkins, KA6MZE
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, clicking on Subscribe/Unsubscribe and following the instructions under "Subscribing to fars-announce."
You may submit announcements to the FARS Announcement at fars-announce@svpal.org. The list is moderated and messages will be posted as approved by the list moderator.
Contact the FARS board of directors at 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 is \$20. Club badges are \$9. Visitors are always welcome! Directions in this newsletter. Talk-in: N6NFI (145.23-, 100 Hz) or W6ASH repeater (145.27-, 100 Hz).
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 are subject to editing and/or compression. All readable forms welcome.
Here is how to reach the editor:
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Voice: 408-243-0701 (Before 9 PM, preferred)
Email: mark.af6do@gmail.com, At FARS meetings.

Power Supply Noise Reduction: A Free How-to Guide

Power supplies can cause noise and spurious oscillations that can force the designer into a frustrating glitch hunt. **Learn what you can do about it in this free guide!** The topics covered include bypassing, reducing, inductance, decoupling, damping, and more!



<http://www.designers-guide.org/Design/bypassing.pdf>

An Experiment with Gravity Chart These Strange Forces with Your Receiver

By Cdr. Thomas Appleby

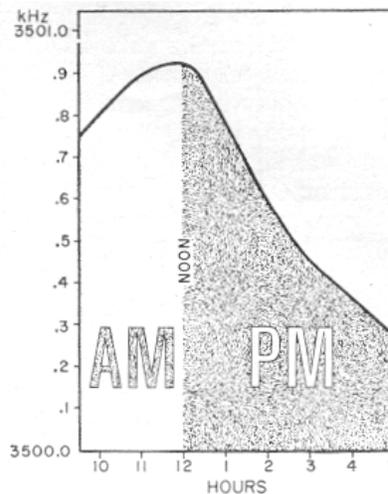
We are all familiar with the natural phenomenon known as gravity; but most of us tend to think of gravity on the surface of the earth as being constant. In fact, it is always changing in magnitude, due mainly to the forces exerted on the earth by the sun and the moon. The variations are, of course, so minute that only in the past few years have they been detected by specially designed, highly sensitive instruments. Oddly enough, my years of research into the phenomenon have shown that the average ham radio CW receiver can apparently "detect" changes in gravity.

The effects of gravity on a receiver might account for its drifting off frequency. Even after communications receivers have had time to become thoroughly temperate stabilized, frequency drifting and periodic returning are common occurrences.

Taking advantage of the effects the forces of the sun and the moon have on the earth's gravity, you can experiment on your own. All you need is a receiver with an ultra-fine scale on its tuning dial (One that has 10 divisions for each minor division on the main tuning dial scale). Remember that gravity variations are on the order of only 10^{-6} part of the weight of the mass in which they are produced. Although the effect of the variations is greatly amplified by your receiver, the end result is still minute.

To perform the experiment, disconnect the antenna and any other leads that might pick up a signal at either 3500 or 7000 kHz. In the morning, set the tuning dial of your CW receiver to either of the above frequencies and adjust the BFO for zero beat.

Allow the receiver to warm up for several hours. Then reset the BFO for zero beat. Every half hour or so after this, see if it is necessary to retune for zero beat. Record the new dial setting and make up a graph similar to that shown here. The frequency changes you record will be very small so use an expanded scale.



Sample graph shows the plot of frequency changes versus time. Note that plotted line peaks out shortly after noon.

The recorded frequency variations will increase or decrease, depending on whether the magnitude of gravity is increasing or decreasing, respectively. You will notice that after the sun or moon passes the zenith, the curve will begin to bend downward. Also, the curve will change from day to day because of variations in the orbits of the sun and moon.

[This article appeared in the January 1970 issue of *Popular Electronics*.]

This article may be found at

<http://www.signalharbor.com/pe-gravity.html>.