

Relay

February 2009

Volume 39, Number 2

February Club Meeting

Date: Friday, February 27, 2009

Time: Socializing at 7 pm, Meeting at 7:30

Place: Covington School, 205 Covington Road, Los Altos

Topic: Echo of the Future - Early Radio in the Valley before Silicon.

Speaker: Ben Koning

Summary: Ben Koning will talk about the making of his documentary "Echo of the Future: A Tale of Sunnyvale." He will show excerpts from the film, and demonstrate a working 3-tube regenerative 1920 Echophone V3 receiver (The mother of all boatanchors!). While interviewing long-time Sunnyvale resident Ann Zarko, he met the late Jack Rowe (a Radio Amateur) who had documented "The Radio Shop," one of Sunnyvale's first businesses and quite possibly the first and biggest consumer technology factory in the Valley at that time. It didn't last long, however. The film weaves this surprising little story together within the larger context of the often-ignored history of Sunnyvale, providing a glimpse of the Valley's future to come.



About the Speaker: Ben Koning has been a software engineer at Apple Computers for 20 years. He was born in The Netherlands. While he was a young boy, his family came to the U.S. He has always been interested in filmmaking, computers, and electronics. Although not an EE, he can pick up a soldering iron by the correct end. Today, he is a private pilot, lives in downtown San Jose, and is single. His love of Taco Bell may explain the latter!

Raffle Prizes: There are three prizes for February. First is a Weller WLC100 Electronic Soldering station 5-40 Watts. Second is an Eton American Red Cross FR 250 Emergency Radio with AM/FM and 7 shortwave bands and a handcrank power generator for Ni-MH-battery pack. Third is a MFJ-260C 300W Dry Dummy Load 0-600 MHz

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 for those who would like to attend at 6:00 pm at the Beausejour Restaurant, 170 State St., Los Altos. There are Great Early Bird specials

Upcoming Events

Feb 27	7:00 PM, Club meeting , Covington School
Feb 28	8:00 AM, CQWW 160 Meter SSB Contest
Mar 5	7:30 PM, Board Mtg at the Los Altos Town Crier
Mar 14	Electronics Flea Market hosted by SCCARA
Mar 21	8 AM to 9 PM, Am-Tech Day , SLAC NAL
Mar 27	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>>

President's Corner



Membership Meeting. Our next regular membership meeting is Friday, February 27th at 7pm). This month's speaker is Ben Koning and his program is "Echo of the Future - Early Radio in the Valley Before Silicon." More details and

directions to the meeting at <http://www.fars.k6ya.org/meeting>.

New Board Member. The FARS board of directors elected Gerry Horn, K6TXD as a new director to fill the vacancy left by Pink Foster, KG6ILA. Gerry has been active in FARS and volunteers at many of our activities. I want to welcome Gerry to the FARS board of directors. For those who don't already know, Pink has moved to Tucson, Arizona to be closer to family.



Am-Tech Day. The next Amateur Radio Technology Day is scheduled for March 21st. We are into our fifth year of Am-Tech Day at SLAC National Accelerator Center. There is always a lot of activity, 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.

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

January Winter Banquet Report

Last month's meeting was the annual FARS/PAARA Winter banquet at Michael's at Shoreline. The banquet was a very enjoyable evening, as it has been in years past. It was a great opportunity to socialize with FARS and PAARA members and others. Dr. Seth Shostak (N6UDK), of the Seti Institute, updated us on the latest developments in the Search for Extraterrestrial Intelligence. Dr. Shostak spoke about the types of signals that they look for (very narrow bandwidth signals) and how the work is going. The presentation was very informative and very entertaining.



**Dr. Seth Shostak, N6UDK
Banquet Speaker**



**Jon (Right) and Matt
Banquet Raffle 1st Prize Winner**

Over \$1200 in prizes were raffled away at the FARS/PAARA winter banquet. The first place prize, a Yaesu FT-450AT radio was won by Jon Kelley, K6WV. Jon is in the photo above with Matt Kelley, N6MLK. Further information on the prizes and winners can be found later in this newsletter. Many thanks go to Howard Califf, W6HOC, and [Ham Radio Outlet](#) for the donation of connectors, books and other items for the raffle.

CLUB INFORMATION

President: Mikel Lechner, KN6QI
Vice President: Steve Stearns, K6OIK
Treasurer: David Cooper K6WA
Secretary:
Radio Officer: Phil Hawkins, KA6MZE
Training Officer: Kevin Weiler, K6XXX
Relay Editor: Mark Hardy, K6MDH
FARS Board: Dick Baldwinson N6ATD, Peter Chow AF6DS,
Robert Flemate KE6TFU, Nimit Hongyim K6XOX,
Gerry Horn K6TXD Charlie Morrin KI6FXI,
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:

Mark Hardy, K6MDH

Mail: P.O. Box 2248

Santa Clara, CA 95055

Voice: 408-243-0701 (Before 9 PM, preferred)

Email: mark.af6do@gmail.com, At FARS meetings.

Winter Banquet Raffle Winners



CQWW Contest

This Saturday February 28th is the 160 meter CQWW phone contest; this is a night-time contest which FARS will be participating. FARS will be operating with our station call sign of K6YA during this contest and you are invited. The location that we will be operating this contest is at Maryknoll Residence on the soccer field where FARS also holds its annual ARRL field day in June. Since this is a single band contest, we will deploy a balloon lifted quarter wavelength (135 foot) vertical antenna for 160 meters, weather permitting; if the weather will not permit the deployment of the balloon lifted antenna, a sloper antenna will take its place. This quarter wave vertical antenna will serve as the transmit antenna while reception will be done on a 300 foot beverage antenna, 5 feet above the ground. Since 160 meters is only useable during the night-time hours, set-up will be Saturday starting at 11:00 AM and contesting will begin just before sunset and terminate shortly after local sunrise. After the contest, tear down will start at 8:00 AM on Sunday.

Since operating 160 meters requires lots of real estate, which most people do not have, this would be a good opportunity to work 160 meters on the large soccer field at Maryknoll. The 160 meter band (1.8-2.0 MHz) during the summer months suffers from a high degree of atmospheric noise which renders communication on this band difficult, while in the winter months the noise on the band is much lower. It is for this reason that 160 meter contests occur during the winter months. If you are interested in operating this contest please email me, Phil, at ka6mze@yahoo.com. Talk-in frequency for this contest will be the W6ASH repeater on 145.270 MHz (-) offset pl 100.0Hz. Come join me and other members of the club in operating this contest and experience contesting on 160 meters aka "the top-band".

- 73, Phil Hawkins, KA6MZE
FARS Radio Officer and K6YA Station trustee

"New" Repeater Available

Most people know that SPECS operates the 145.270 MHz and 440.8 MHz (plus offset) repeaters both with 100 Hz PL (subaudible tone). For the longest time, SPECS also had a repeater on 224.140 (minus 1.6 MHz) also with a 100 Hz PL, but until recently this was permanently linked to the 440.8 repeater. This meant that whatever came in on the 440.8 repeater went out on both the 440 MHz and the 222 MHz bands. Similarly, whatever came in on the 222 MHz band went out on both bands.

In times of emergency, we will need all the channels possible to carry on the emergency communications. To facilitate additional channels, the SPECS repeater group has disconnected the 222 MHz repeater from the 440 MHz repeater. This means we now effectively have a *new repeater channel* to use on a daily basis.

Many of the new HTs have the capability of operating on the 222 band. These include Kenwood TH-F6A, Yaesu VX-6R, Yaesu VX-7R, and Yaesu VX-8R. If you have one of these or a mobile radio that operates on 224.140 MHz, please use that frequency to check into the UHF repeater check-ins on the Monday night SPECS net. When you check in, let Net Control know that you are using the 224.140 frequency so that they will know the repeater is being used. Early check-in usually starts about 7:50 PM, but you can also check in during the regular SPECS net when they call for UHF users to check in on one of the UHF frequencies. If you are considering a new HT, check out the VHF/UHF Handhelds Survey on page 18 of the February 2008 CQ Amateur Radio magazine.

In order to know where we can communicate to/from on the 222 MHz band, we need to start using it for our day-to-day conversations. That way when an emergency happens, we will know what areas this repeater covers. So, program 224.140, minus offset, 100 Hz PL into your radio now.

- de Rich, W6APZ

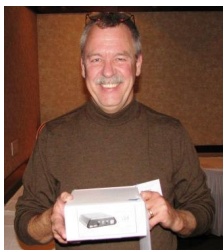
Winter Banquet Photographs



Winter Banquet Raffle



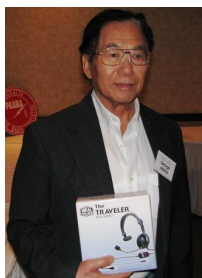
1st Prize, Yaesu FT-450AT
Jon Kelley (right), K6VW, and
Matt Kelley, N6MLK



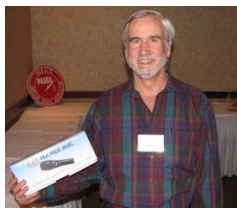
2nd Prize, LDG Z-100
Doug Teter, KG6LWE



3rd Prize, MP1 SuperAntenna
Ron Nelson, W3RN



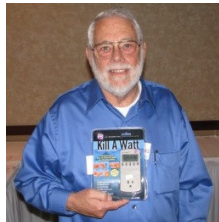
4th Prize, Heil Traveler Mic
George Choi, AB8PQ



5th Prize, Heil Handi Mic
Dave Crocker, W6VYC



6th Prize, Deltran Batt Tender
Mike Pechner, KI6QNZ



7th Prize, P3 Int'l Kill-o-Watt
Mike Gavin, W6WZ



8th Prize, MFJ-392B Headphones
Joel Wilhite, KD6W



9th Prize, Red-Dee-2 PS8
Alice Stiebel, W6ANT



10th Prize, MFJ-1724B Antenna
Del Harbold, K6JPX



11th Prize, ECG Soldering Iron
Byron Beck, KG6UOB



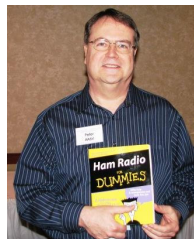
12th Prize, MFJ-108B Clock
Lynn Gentry, KG6JPV



13th Prize, MFJ-281 Speaker
Pamela Klibo, KG6EDX



14th Prize, Pro-Am MM270B
Steve Sabram, KI6FYG



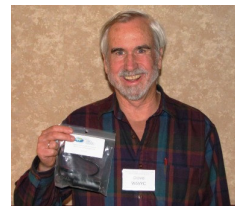
15th Prize, Ham for Dummies
Peter Johnson, AA6V



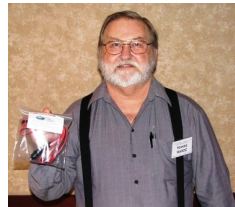
16th Prize, 100' Antenna wire
Rich Stiebel, W6APZ



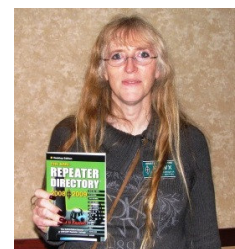
17th Prize, MFJ-107B Clock
Mark Meltzer, AF6IM



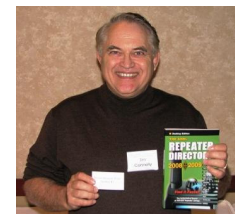
18th Prize, Socket2Power Pole
Dave Crocker, W6VYC



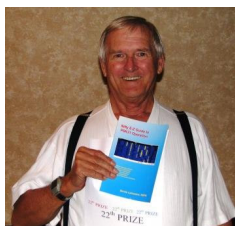
19th Prize, Power Pole2Socket
Howard Califf, W6HOC



20th Prize, Repeater Directory
Kristin McIntyre, K6WX



21st Prize, Repeater Directory
Tim Connelly, KI6LCQ



22nd Prize, E-Z Guide PSK-31
Ron Green, KG6RLG



23rd Prize, Coax Seal
Ron Chester, W6AZ

Battery Packs for Amateur Radio – Part 1, de Umesh Ghodke, K6VUG

Objective: To have a battery pack that would work with modern mobile VHF/UHF transceivers and would not weigh a ton.

This project began after seeing some the hams lugging around the Gel Cells and SLA batteries, I figured there had to be better way. The following is written in a non-technical relational manner to make it easy for everyone with a basic knowledge of common terms.

The following table lists a summary of different kinds of rechargeable batteries.

	SLA	Ni-MH	Li-PO	Li-Ion
Nominal Voltage	6 or 12 volts	1.2 volts	3 volts	3.3 volts
Nominal Capacity	6 AH	2500 mAH	2000mAH	3000 mAH
Rechargeable	Yes	Yes	Yes	Yes
Relative Weight	Heavy	Medium	Low	Low
Relative Safety	Safe	Safe	Safe with Protection	Safe with Protection
Relative Cost	Low	Median	High	High

The newer Ni-MH (Nickel-Metal-Hydride), Li-PO and Li-Ion batteries are much lighter for the equivalent energy capacity. The Li-PO and Li-Ion batteries are the most powerful but need to be handled with care. Neither of them have the “memory effect”, that was common to older technologies.

NiMH Battery Pack

It is pretty easy to put together a battery pack made up of commercially available AA-size NiMH batteries.

For a 12 volts, 2.5AH battery pack, you will need 10 AA NiMH batteries in series. Inexpensive battery holders are available in several combinations, that can hold 2 through 10 batteries each. You can get the most easily available holders and wire them together. For example, two 4-battery-holders and a 2-batteries-holder in series will put 10 batteries in series. Please note that ham radios are not very happy at 12 volts but are most happy between 13.8 to 14.8 volts, so I generally use three 4-packs in series.

For greater current capacities, you will need to put more such units in parallel. So, to get 14.4 volts at 5 AH we will need two pairs of 12-battery-pack in parallel. At this point it is best to note that connecting batteries in parallel-series is better than series-parallel.

This is a parallel-series configuration:

```
|Battery| |Battery| |Battery| |Battery| |Battery| |Battery| |Battery|
-|Battery|-|Battery|-|Battery|-|Battery|-|Battery|-|Battery|- more -|Battery|-
|Battery| |Battery| |Battery| |Battery| |Battery| |Battery| |Battery|
```

This is a series-parallel configuration:

```
|Battery-Battery-Battery-Battery-Battery-Battery-Battery- more -Battery|
-|Battery-Battery-Battery-Battery-Battery-Battery-Battery- more -Battery|-
|Battery-Battery-Battery-Battery-Battery-Battery-Battery- more -Battery|
```

I currently am using a battery pack made up of twelve series units of 5 AA batteries in parallel, this provides 14.4 volts at 12.5 AH and weighs about a fifth of a comparable SLA battery. The only protection necessary is a non-breakable box preferable made of ABS plastic and 10Amp inline fuses on both leads.

Similar, commercial built compact battery packs can be purchased from battery vendors like Batteries America Inc. Battery Space Inc. and others.

Charging the battery pack

I use a Maha Smart Charger to charge the battery pack between uses. It charges the battery pack over night and the parallel series configuration makes sure all cells are charged uniformly.

Congratulations you now have a battery pack like no other – high powered, dependable and lighter than a SLA. When connecting to the radio make sure the radio is off, the voltage of the pack is in accordance with the radio and the connector is connected correctly.

In the next article we will discuss building a high capacity battery pack with Li-Ion and Li-PO batteries, which is more challenging.

February Raffle Prizes



Weller WLC100 Electronic Soldering station 5-40 Watts



Eton American Red Cross FR 250 Emergency Radio with AM/FM and 7 shortwave bands



MFJ-260C 300W Dry Dummy Load 0-600 MHz

FARS 2009 MEMBERSHIP RENEWAL FORM

Date: _____

PLEASE fill out the form for all new/renewal memberships.

Name(s) & Callsign(s) & Class (E-A-G-T-N-None): _____

Mailing Address: _____

Home phone: _____ Work phone: _____

Fax (H or W?) _____ Packet BBS Address: _____

E-mail: _____ ARRL Exp Date(s): _____

Preferred modes: (e.g. HF-SSB/VHF/QRP/Other): _____

I'm willing to Elmer new hams with: _____

Special topics of interest / suggestions for club meeting speakers: _____

Dues: \$20 per year, new members add \$9 for badge fee. **Please note:** Membership runs from January 1 to December 31.

Send your check payable to FARS, to:

David A. Cooper
PMB 41
270 Redwood Shores Parkway
Redwood City, CA 94065-1173



How to get to FARS Club meetings (Visitors always welcome)

Meetings are 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 Northeast. 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., 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 above at point (A).

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