



P.O. Box 6421 Auburn, CA 95604

September 2014

<http://w6ek.org> info@w6ek.org

At The Key of SFARC:

PRESIDENT

Tyghe Richardson, KD6MLH
tyghe@tjrauctions.com

VICE PRESIDENT

Dave Albright, NO6NO
no6no@pacbell.net

SECRETARY

Dennis Gregory, WU6X
wu6x@hotmail.com

TREASURER

Richard Kuepper, WA6RWS
rkuepper@surewest.net

DIRECTORS

Mark Graybill, W8BIT
Robert Bell, W6RBL
Jim Jupin, WA8MPA

FIELD DAY CHAIRMAN

Bob Naylor, WE6C

REPORTERS

Satellites: Greg, KO6TH
History: Gary, KQ6RT
Misc Radio: Fred, K6DGW
Sunshine: Richard, WA6RWS
rkuepper@surewest.net

REPEATERS

145.430 (-0.6 MHz/PL 141.3)
440.575 (+5.0 MHz/PL 162.2)
223.860 (-1.6 MHz/PL 110.9)

CLUB NET

Thursdays, 7:30PM, W6EK/R
145.430

CLUB MEETINGS

Second Friday of the month,
7:30PM at the Auburn City Hall,
1215 Lincoln Way, Auburn CA

CLUB BREAKFAST

Last Sat of the month at Mel's Diner
1730 Grass Valley Hwy, Auburn 7:30AM

NET CONTROL OPS

Dave Jenkins, WB6RBE
Norm Medland, W6AFR
Bob Brodovsky, K6UDA
Al Martin, NI2U

NEWSLETTER EDITOR

Barbara Anderson, W6EVA
916.624.1343
anderson51@wavecable.com

WEBMASTER & ARRL PIO:

Carl A Schultz, WF6J

Calendar of Events

**September 6th:
Overlook Endurance Runs**

**September 6th:
WPARC Hamfest**

**September 12th:
Club Meeting**

**September 23rd:
First Day of Autumn
(Fall Equinox)**

**September 27th:
Club Breakfast**

**October 18th:
Cystic Fibrosis Bike Ride**

**October 25th:
CERA Motorcycle Ride**

Inside this issue:

- *From the Mic*
- *Public Service Event*
- *Volunteering to Support the Community*
- *Miscellaneous Radio – Origin of the Solar Cycle*
- *Board & General Minutes*



We encourage members to receive Sierra Signals via email to save the Club the cost of reproduction and mailing

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. The contents of Sierra Signals are copyrighted by the Sierra Foothills Amateur Radio Club, and all rights are reserved. That said, we will gladly permit republications for non-profit uses of all text material. Photos require the consent of all persons pictured in them, and some of our material is copyrighted by others and published by permission. You'll need to contact them for permission.



From the Mic

By Tyghe Richardson – KD6MLH, President

The White Elephant Sale

It is getting to be that time again...the white elephant sale is right around the corner! This year I am happy to say I will be providing auctioneer services for us, which will make for a very fun night! There are a few things that we need to make the sale a success, however. First off, we need a white elephant...let me know if you have one. Secondly, we need gear that no one wants in their shack any more. I will sell any ham related gear that you may have but no longer want.

I hope to have a lot of items, as well as a lot of fun! The white elephant sale is going to be at the October meeting. So bring all your unwanted items and your wallets. Just remember all you have to do is raise your hand and you can buy anything we are selling that night!

Helping out

Over the last few weeks I have had the opportunity to help an older ham, **Doug WB6HEV**. I have worked with several hams to help him get back on HF. Over Doug's ham radio life he has helped numerous hams in many different ways. For a long time he has been a repeater owner and kept a 2 meter repeater on the air for all to enjoy. I am happy to say he is now playing on HF and having fun, however I am sad that he had been off the air for at least 7 years. I would like to see more hams helping hams. We as a group should keep an eye out for hams that are in need of help. After a few hours, he was back up and running. It does not take long to help and there is not much of a commitment, but the reward of a smile on an older hams face is priceless.

If anyone in the club knows of a ham who can no longer put up an antenna, or needs help to set up a new station, please let the club know.

THE BOARD MEETING FOR SEPTEMBER (12TH) WILL BE HELD AT DENNYS (BACK ROOM) ON AUBURN RAVINE, JUST OFF THE FORREST HILL EXIT ON HWY80 IN AUBURN.

DIRECTIONS: TRAVELING N. ON HWY80, TAKE THE FORREST HILL EXIT AND TURN LEFT BACK OVER THE FREEWAY, THROUGH THE STOPLIGHT; GO ABOUT 100 YARDS ... DENNYS IS ON YOUR LEFT. TRAVELING W. ON HWY80, TAKE THE FORREST HILL EXIT AND TURN RIGHT; DENNYS IS 100 YARDS DOWN AUBURN RAVINE ON THE LEFT.

SFARC BOARD MEETINGS ARE OPEN TO ALL CLUB MEMBERS IN GOOD STANDING. THE MEETING STARTS AT 6PM, BUT BOARD MEMBERS AND DIRECTORS TYPICALLY BEGIN ARRIVING AT 5:30 FOR DINNER. DENNIS-WU6X

A September Public Service Event

Here is another forwarded request for ham radio support of a significant athletic event.

Thanks to **Ralph, W6RWL**.

"We are looking for amateur radio communication volunteers to support **Ann Trason's (Overlook Endurance Runs) inaugural endurance running event on September 6th, 2014**. This event consists of 100km, 50mile and 50km distances and covers areas of the historic Western States Trail, Tevis Cup Trail and the American River Canyon. All distances start at the Foresthill Elementary School and finish at the American Canyon Park Overlook (Auburn Dam Overlook).

If you are interested in volunteering please send email to: rfnoise@gmail.com indicating your interest, availability, and contact information and I will contact you directly to confirm.

More information about the Overlook Endurance Runs and this event can be found here: <http://trasontrailruns.com/oer/>

Volunteering To Support The Community

The Club has been asked to provide radio support for 2 events in October.

The **first is the 4th annual Cystic Fibrosis fund raising Bike ride on Saturday October 18th**. The ride starts at 0800 and is usually over by 1300. A free catered meal is provided at the start/finish located at 6100 Wise Rd in Newcastle. Also identifying T shirts are provided to all volunteers at the event. Newer Hams are encouraged to come out and see what volunteering is all about. You will not be by yourself--you would be shadowing an experienced operator for the event.

The **2nd event is the next weekend on Saturday October 25th**. This one provides support for the California Endurance Riders Assn (CERA) motorcycle ride through the El Dorado National Forest near Georgetown. The Club has supported this event for at least 12 years and gives our newer Hams an opportunity to use their radios in an actual event. This event starts at 0800 and in done by 1330.

Nothing is provided- you are on your own in the woods. We prefer to have two people at each station for safety reasons.

Any questions can be directed to **George, KG6LSB**

MISCELLANEOUS RADIO

Origin of the Solar Cycle

It is not widely known ... OK, it isn't known much at all ... but we owe our existence – and the important solar cycle -- to fruitcake¹. Not kidding here, it's a phenomenon of astrophysics and who would argue with Carl Sagan (RIP) or Neil DeGrasse-Tyson?

You see, all the fruitcake in the entire universe was created at the Big Bang², along with a lot of hydrogen and some helium, which began to float up towards the top of the universe, we all know how that works. Now, the fruitcake, being the densest and thus heaviest thing in the universe, began to gather in the floating hydrogen and helium because of its extreme gravitational pull into great clouds of ... well ... hydrogen, helium, and fruitcake ... you expected something else?

These clouds were rotating ever so slowly, mostly to the right since the new universe was right-handed³ as would be 90% of humans as soon as they came along. As the fruitcake pulled the hydrogen and helium inward making the cloud tighter, the rotation sped up just as a twirling figure skater will twirl faster if she draws in her arms more tightly.⁴

Now, gravity operates on the inverse-square principle: Or, for the non-mathematical, if you make the distance of some hydrogen from the dense fruitcake half of what it was, the strength of the fruitcake gravity goes up by a factor of four, and this kept the clouds together as they rotated faster and faster and got smaller and smaller. Eventually, the hydrogen atoms got so dense around the fruitcake that the atoms decided that, if they're going to be this close, they might as well fuse together. When two hydrogen atoms decide to fuse together, they become one helium atom ... sort of.

But, a strange thing happens – the new helium atom weighs just a tiny bit less than the two hydrogen atoms did before they fused. The hydrogen and helium atoms didn't know why this was because it would be awhile before Albert Einstein could explain it to them, but that little difference in weight showed up as a huge amount of energy, making the cloud very hot and it began to emit light and other stuff.⁵ These hot, bright clouds of hydrogen, helium, and fruitcake would later be called “stars” but at that time, there was no one around to name them so they just called each other “Hot Bright Clouds.”

As the hydrogen in the HBC's began to disappear into more and more helium, the helium atoms discovered that two of them could fuse together making one atom of lithium, and this was the beginning of cell phone and laptop batteries. And again, the lithium atom weighed just a little less than the two helium atoms resulting in? If you guessed more energy, you're sharper than people give you credit for! This fusion process goes on, two atoms fuse into a slightly lighter atom ... until the HBC's turned everything into iron – well most everything, there was still the fruitcake. Nothing fuses with fruitcake.

You see, if you have two iron atoms who want to fuse, they really can't because the product would be heavier than the two iron atoms meaning it would create negative energy which hadn't been invented then.⁶ With all the fusing over and all that dense fruitcake in the center, there wasn't much left for the HBC to do but collapse and then explode, blowing all those new atoms, and the fruitcake, into

¹Chemical symbol: Fc

²No one knows why

³No one knows why

⁴This of course is the source of the dictum: “Righty tighty, lefty loosey”

⁵A technical term used by astrophysicists

⁶And still hasn't been

space. That was the first solar cycle.



Some of those new atoms were Aluminum [Chemical Symbol: Al] a great deal of which collected into vast sheets which scientists call Reynolds Wrap [Chemical Symbol: Rw], and which turned out to have a strong affinity for fruitcake and began wrapping around all that Fc wandering

around in space from the explosions. The process is similar to "Glad Press-and-Seal" which wraps around and sticks to everything in the kitchen, including you, except the bowl you want to cover. To this day, fruitcake is almost always associated with and covered by Rw.

With most of the Fc tied up with the Rw, one might think that there was nothing to make a new generation of HBC's but if you do, you'd be wrong. Those heavy atoms from the first HBC's could substitute for the Fc. They weren't as heavy as fruitcake so the HBC's did their fusing thing at a more leisurely pace, and in the process found that instead of one big explosion for one solar cycle, they could have small explosions followed by rest periods to catch their breath. And this became the solar cycle we all know.

After awhile, DX was invented, and it became clear that the amount of DX around seemed to depend on the solar cycle. When the HBC was having its little mini-explosions, the population of DX increased dramatically, and when the HBC was catching its breath, the population of DX went way down. No one knows where the DX goes, or how more DX is born, but that's the cycle.

There are some things in the universe that you simply can't do, such as outrun the light from a HBC, or throw away angular momentum or mass-energy. We call these "Conservation Of (blank) Laws," ... well not the first one, that needed to wait for Albert too ... and like angular momentum, fruitcake is conserved. You can't destroy it. You can give it away, but you can't destroy it. Fortunately, it has many uses. For example, it makes an ideal doorstop, or, in its ubiquitous Rw, it can hold things down inside your freezer during gravity outages.

Technically, the SI unit of fruitcake is the "loaf [Lf]," but in most places, that is shortened to "brick [Bk]." The total amount of fruitcake in the universe is more or less the same everywhere since fruitcake is inert, doesn't react with anything, and it's been around since the Big Bang. Because of this uniform distribution, it is highly likely that it will recycle. Try making a small, easily overlooked mark on the next brick of fruitcake you get with a Sharpie before giving it away. That very brick is likely to appear in your freezer or behind a door sometime later.

Many things in the universe have a half-life ... the amount of time that half of it will have disappeared or transmuted into something else. Fortunately for all of us, the half-life of Disco and Leisure Suits was fairly short, and we still don't know the half-life of "Dancing With The Stars" or "Survivor." The half-life of fruitcake is forever.

So there you have it. Did you ever think Science could be this cool?

73,

Fred K6DGW
Resident Rocket Scientist



DENNIS H. GREGORY
Instructor/Technician

Computer Repairs and Support
Reasonable rates, free consultation
Placer County Business License #92311

Phone: 530-305-0180
Auburn, CA

Email: WU6X@hotmail.com
www.yourmissioncontrol.com



METRO ELECTRONICS
ELECTRONIC DISTRIBUTORS
MEMBER OF GENIE GROUP

7:30 AM to 5:00 PM Monday - Friday
9:00 AM to 3:00 PM Saturday

1831 J Street
Sacramento, CA 95811
info@metro-electronics.com

(916) 442-1512
Fax: (916) 442-1586
www.metro-electronics.com



BOARD OF DIRECTORS MEETING MINUTES

August 8, 2014

The SFARC Board meeting for August commenced at 1811 hours at Round Table Pizza in Elm Avenue shopping center in Auburn.

Roll Call: All officers and Directors were present with the exception of Board members Robert-W6RBL and Mark-W8BIT. Guest present was AI-NI2U.

REPORTS and DISCUSSIONS

President's Report: Tyghe-KD6MLH had no report or business for the Board.

VP Report: Dave-NO6NO had no report or business for the Board.

Secretary's Report: Dennis-WU6X had no report or business for the Board.

Treasurer's Report: Richard-WA6RWS reported finances for July show us in the black for the month, and reported expenses, income and balance on hand to the Board.

Repeater: Richard-WA6RWS reported that the Tevis Cup event would again be using the 2 meter repeater on Saturday and suggested we remind Members at the General meeting.

Directors: Jim-WA8MPA reported he will be absent for the meeting on September 12th and asked that we ask for a volunteer; discussion on changing our coffee vendor; Pete's was more expensive; Jim to seek pricing from Dutch Brothers and offer to advertise in our Newsletter. Jim sent a "thank you" letter to McDonalds for their continued donation of ice. Also, he reminded us of the upcoming Lincoln Swap meet on September 6th.

Other Business: Richard reminded the Board that we will be providing communications for the Cystic Fibrosis bicycle charity ride this year on October 18th; Carl is still looking for someone to assist with the website; both items to be announced at the General meeting.

The subject of newsletters from other clubs came up again and any interest in publishing or posting to the website; a short discussion ... too expensive to attach to our Newsletter which has grown to 10 pages, but possible "links" on website; no decision.

Dave-NO6NO queried the Board if he thought it would be proper to ask vendors at the Lincoln Swap if they would like to participate in the SFARC swap; short discussion, no decision.

Meeting adjourned at 1822 hours.

Submitted by *Dennis Gregory - WU6X, SFARC Secretary*

GENERAL MEETING MINUTES

August 8, 2014



The SFARC General meeting for August commenced at 1930 hours at the Auburn City Hall Rose Room, President Tyghe-KD6MLH presiding. All Officers and Directors were present except for Robert-W6RBL and Mark-W8BIT. Tyghe led approximately 33 members and guests in a Pledge of Allegiance to the flag followed by an introduction of Officers, members and guests.

REPORTS:

President's Report: Tyghe called for approval of the minutes from last meeting as posted in the newsletter. A motion and 2nd to approve as posted passed unanimously with no corrections. Tyghe reminded the Membership to sign the attendance sheet, and asked for a volunteer to take over refreshments from Jim-WA8MPA for next meeting, September 12; interested parties please contact Jim-WA8MPA as soon as possible.

VP's Report: Dave-NO7NO gave an overview of the Tech-10 and main presentation for the evening. He also called attention the TYT mobile radios he brought in for viewing.

Secretary's Report: Dennis-WU6X asked guests and new members to pick up a Welcome letter at the break containing important information about the club.

Treasurer's Report: Richard-WA6RWS reported finances "in the black" as of August 1st; full details available upon request.

Sunshine Report: Richard-WA6RWS reported that Jettie-W6RFF is still in an assisted living home, but welcoming visitors. The facility is in Lincoln Hills, off 12 Bridges and Hwy 65 (visiting hours 11-7pm); contact Richard for details. Bob-WE6C reported that Dave-N6SHD is doing better, and might appreciate a call. Dennis-WU6X's mother-in-law passed during the past weekend at age 96 (Dennis: thank you for your thoughts). Jeff-AK6OK reported on looking for volunteers on Saturday to move a disabled ham's station from the garage into his house where he can more easily operate it.

Repeater: Richard-WA6RWS reminded the membership of the upcoming Tevis Cup and that 220 and 440 repeaters would be "unlinked" and standalone to allow the Tevis 2m-only use. He reminded the Membership of the MFJ Antenna Analyzer available to Club members, and of other items of general interest available at the sign-in table.

Satellite Report: Greg-KO6TH was not present, but gave a report on Thursday's Net as follows: NASA has repositioned its satellites to avoid a comet passing close to Mars, to be better able to view the tail. MOEXR is launching balloons with APRS tracking, some of which have gone around the globe (see the APRS tracking website for more info). Problems with CubeSat's being too close together has been resolved.

VE Report: Dave-NO6NO, reported VE testing results of: (16) candidates took (24) exam elements with (13) Techs, (2) General and (1) Extra passing, including a 10-year old boy from Reno. 14 new hams!

PIO Report: Carl-WF6J reported on new updates on the website; he still needs more pix of Field Day; also the spoke about the Yahoo! Groups and ability to stay "connected" with Club events calendar; Carl is still looking for an assistant in maintaining the website and would be willing to setup someone and provide training. Please contact Carl if you can assist.

Picnic Report: Jeremiah-W6DLO presented awards (portable mini-log and repeater directory) for the QLF contest and Q&A contest, respectively, held at this year's Club Picnic. Earl-K6GPB won the QLF award with AI-NI2U and Jim-WA8MPA tying for the Q&A contest and having to do a "rock, paper, scissors" contest to break it; WA8MPA winning.

Drawing/Refreshments: George-WB6LSB reviewed items planned for the drawing, while Jim-WA8MPA reported on the many refreshments for the break.

Membership: No report

OLD BUSINESS:

None

NEW BUSINESS:

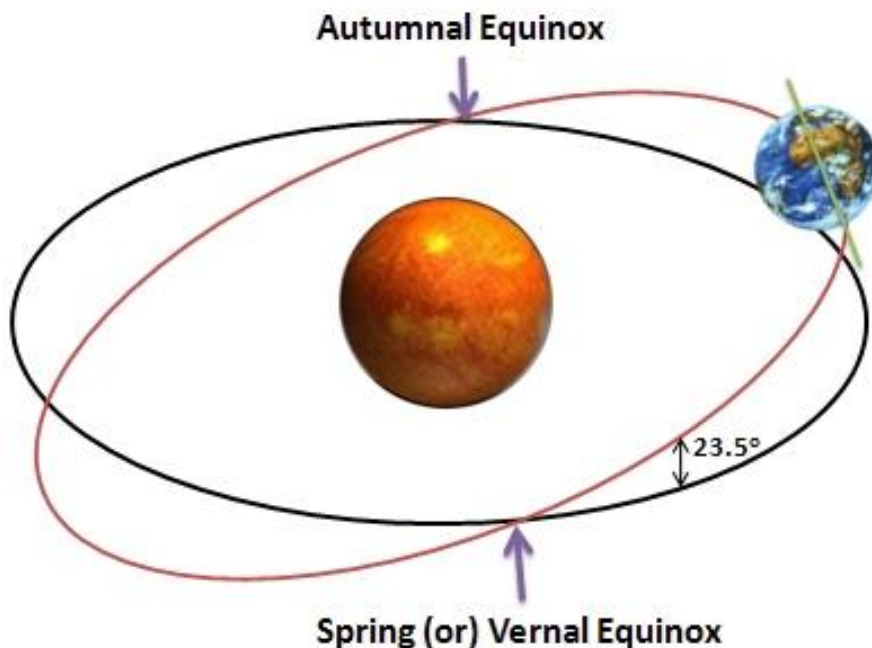
For Sale: Joe-KN6FH has a crank-up tower he wants to sell and will donate the proceeds to the Club. Call Joe if interested.

Opportunities to Volunteer: The Cystic Fibrosis bicycle charity ride is on October 18th (George-KG6LSB will be seeking volunteers soon).

General Announcements: The Club Net meets every Thursday's at 7:30pm; Board and General meetings occur on the 2nd Friday, Board is held at **Round Table Pizza** in on Elm Avenue at 6pm (location subject to change – see Yahoo! Groups event calendar), and General meetings at 7:30pm at **Auburn City Hall**. The Club breakfast is held on the last Saturday at **Mel's Diner** in Auburn; an Elmer Net is held every other Wednesday night at 7:30pm on the 2m repeater. See www.w6ek.org for more information.

Tech-10 & Presentation: The Tech-10 was presented by AI-NI2U as a discussion on basic receiver design. The main Presentation was by Jeff-AK6OK who set up a spectrum analyzer and signal generator, and then demonstrated how the equipment could be used to test cables for frequency response issues. Jeff also demonstrated how the equipment could be used to tune repeater cavities for a "frequency *notch*" or "frequency *pass*" function.

The meeting adjourned at 2108. Submitted by **Dennis-WU6X, Club Secretary**



SIERRA FOOTHILLS AMATEUR RADIO CLUB
P.O. Box 6421, Auburn, CA 95604

SIERRA FOOTHILLS AMATEUR RADIO CLUB
P.O. Box 6421, Auburn, CA 95604

2014 MEMBERSHIP APPLICATION

Name: _____ Call: _____ Class: _____ e-mail: _____
Address: _____ City: _____ State: _____ Zip: _____
Associate Name: _____ Call: _____ Class: _____ email: _____
Phone: _____ Cellphone: _____ Application is: (Circle) New Renewal

Dues / Donations:

| | | | | |
|----------------------|----------|---------------------|--|------------------------------|
| Membership: yearly* | \$ 22.00 | Name Badge: | \$ 7.00 | Yes (special name)_____ |
| Associate: yearly* | \$ 7.00 | Repeater Donation: | \$ _____ | |
| Auto Patch Donation: | \$ _____ | Newsletter Booster: | \$ _____ | |
| Misc. Donation: | \$ _____ | Christmas Donation: | \$ _____ | ARRL member? (circle) Yes No |
| TOTAL: | | \$ _____ | Please add \$1 if paying via PayPal | |

*Prorated dues for NEW Members/Associates Only

| | | | |
|-----------|---------|----------|--------------------------|
| July | \$ 20/6 | October | \$ 14/3 + following year |
| August | \$ 18/5 | November | \$ 12/2+ following year |
| September | \$ 16/4 | December | \$ 10/1 + following year |

OFFICE USE ONLY:

DO NOT WRITE BELOW THIS LINE

Date: _____ Treasurer: _____ Secretary: _____ Roster: _____

Payment: _____ Check Number: _____ Cash: _____ PayPal: _____