

Sierra Signals



Sierra Foothills Amateur Radio Club
Auburn, CA
An ARRL Special Service Club

April 2009

PO BOX 1005, NEWCASTLE, CA



At the key of SFARC

OFFICERS

PRESIDENT

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norm.linda@surewest.net

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amartin4@wavecable.com

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dxwayne@juno.com

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leslie@incite1.com

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Kurt Hess, N6RS

khess01@comcast.net

REPORTERS

Satellites: Greg, KO6TH

History: Gary, KQ6RT

Misc Radio: Fred, K6D6W

RESOURCES

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

Thursdays, 7:30PM, K6ARR/R

145.430

CLUB MEETINGS

Second Friday of the month,

7:30PM at the Library, 350

Nevada St, Auburn CA

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

Norm Medland, W6AFR

Casey McPartland, W7IB

NEWSLETTER EDITOR

Matthew Diridoni, KC6RUO

916-749-3032

matteod@comcast.net

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Calendar of Events

April 10	Club Meeting
April 25	Club Breakfast
April 25	MS Walk, Rocklin, CA (Volunteers needed, Contact George, KG6LSB, grsim@mindspring.com)
May 1-3	PACIFICON 2009 - Circus Circus Hotel, Reno Nv.
May 17	North Hills Radio Club HAMFEST (SWAP)-Natomas High School, off Truxel Rd. Sacramento
Jun 27/28	2009 Field Day!

April Meeting Program

The April meeting will feature a tour of the ARRL Headquarters. This is a DVD from the ARRL Field and Educational Services video library.

The "Tech Ten" presentation will be on Baluns.

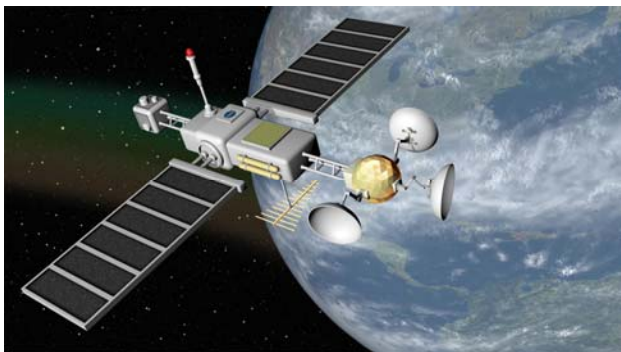
Bring a friend, visitors welcome!
See you all there!

In this issue

At the Key and Meeting Information	Page 1
Satellite Report & quiz	Page 2
ARRL Exam Sessions	Page 3
Board of Directors Meeting	Page 3
Fifty Years ago as SFARC	Page 4
SFARC Membership Meeting	Page 4
FCC Corrects Call Sign Error	Page 5
North Hills Radio Club Swap Meet Info	Page 5

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SATELLITE REPORT, By Greg, KO6TH
AMSAT-OSCAR 7 Goes Digital!

AO-7 is a marvelous little bird that was launched way back in 1974, nearly 35 years ago. If my research and calculations are correct, that makes it older than more than half of the people on this planet. It's one of the oldest "living" satellites in orbit. In fact, it's one of the oldest satellites, period. And, a couple of Hams put it together in one of their basements.

This little satellite is an octagonal cylinder, only 16 inches long and 14 inches in diameter, weighing in at about 60 pounds. It contained a pair of transponders, dubbed Mode "A" and "B", the first Ham satellite with a battery charge regulator (BCR), and several other firsts. One of them was an RTTY-based system for sending telemetry data. Earlier this month, we started hearing it in action.

AO-7 is a lot of fun, just to watch. When it died back in 1981, the cause was determined to be a shorted string of batteries. In the 24 years since, the solar panels, and the Sun itself, have cooked the battery pack, so that it has dried out and opened up. That un-clamped the main voltage rail, allowing the satellite to run just off the solar cells. But it also means that every time the satellite goes into the Earth's shadow it experiences a complete reset, and wakes up in a random mode. Conditions seem to be just right, for reasons not fully understood, for that mode to include the RTTY Telemetry.

The RTTY subsystem takes a significant amount of power to run. When AO-7 first came back to life in 2002, the command crew managed to re-construct a ground station and took parts of the satellite through a delicately executed checkup. They found that the RTTY system would only produce a carrier, and a bad one at that. Now suddenly, it's alive. Apparently, in addition to considerable luck with the turn-on mode, it's also in a magical orientation where the solar cells (which degrade significantly over time) can muster enough power to bring the circuitry to life.

Why this is an even more amazing event requires a bit more explanation about Space, and the satellite itself. Space is not a nice place to be. Besides being either very hot or very cold (depending on whether you are in sunlight or shadow), and having a complete absence of air with which to blow over your parts to keep them cool, there's this nasty stuff floating around called "radiation". The first satellite launched by the USA, Explorer-1, discovered several layers (belts) of energetic particles trapped by the Earth's magnetic field. Some of the radiation belts are very strong - lethal, really. Anyone or anything that takes a leisurely stroll through one has a strong chance of being zapped. The faulty launch of AO-10 put that satellite in an orbit where it spent some considerable time in one of those belts, eventually frying the main computer. While AO-7 was luckily not in that kind of orbit, no where in space is entirely free of radiation.

"Radiation hardening" is a process of designing and manufacturing electrical components that are resistant to the effects of radiation.

The techniques include the choice of materials, manufacturing processes, shielding, and circuit design. As one can imagine, these space-age techniques do not come cheaply, and being on an amateur budget, AO-7 was built with very few high-reliability components, and had an anticipated lifetime of only 3 years. They've certainly exceeded expectations.

So, if you happen to be tuning around 435.100 MHz some sunny afternoon, and hear a warbling tone with a steady drop in pitch, you might try cranking up your RTTY equipment, with rate of 45 baud, and an 85 hz shift. Not your usual settings, but then, this is a very unusual bird.

73, Greg KO6TH

BRAIN TEASER

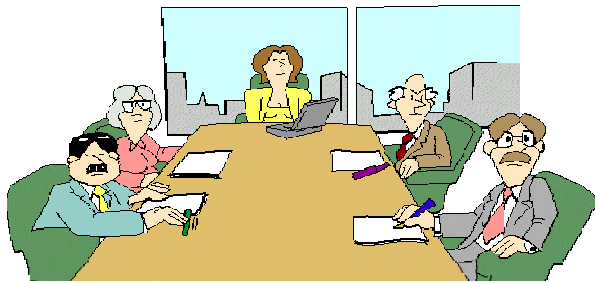
By Greg, KO6TH

Thinking in 3 dimensions is important in satellite work... So, here's a question for you:

You're driving home after a long day's work. It's sunset. It was raining earlier in the day, and there, directly in front of you, is a gorgeous full rainbow, centered on the highway, begging you to drive through its magical arch. Which direction are you driving?

- A. North
- B. South
- C. East
- D. West

Answer on page: 4



Board of Directors Meeting

The meeting was called to order at 7:09 by Vice President Al, NI2U, as President Norm, W6AFR, was out of the country. A quorum was present.

Al, NI2U, advised that Chuck, KG6FFK, and his family would not be able to attend the next meeting and thus we needed to make other plans for snacks. A decision was made to ask the membership for volunteers.

A question was raised as to the auto patch in the repeater and it was decided to cover this in a report on the repeater during the membership meeting.

George, KG6LSB, reported that the MS Walk in Rocklin will be held again this year with a date of April 25. Approximately 8 people will be needed. A request will be made to the membership.

Al, NI2IU reported that a convoy of historical military vehicles would be passing our way in June and it was decided to bring it up to the membership.

The club received a flyer offering a discount on screen printed banners and clothing. It was decided to bring it to the attention of the members.

Updating and making changes in the bylaws was discussed.

Treasurer Leslie, K7NYE, reported a new balance of \$1948.07 and gave the details of the monthly activity.

Wayne, W6DT, suggested a program, either a Tech Ten or full presentation on how to comply with RFI measuring and record keeping for the home QTH.

The meeting was adjourned at 7:25 PM.



Radio Supply Company

We've moved! Now located at:
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Local ARRL Exam Sessions

Courtesy of the ARRL

04-Apr-2009

Sponsor: UNSPONSORED

Time: 8:00AM (Walk-ins allowed)

Contact: LARRY R HODGE

(916)361-2476

Email: LARRYHODGE2000@COMCAST.NET

VEC: ARRL/VEC

Location: RALEY'S COMMUNITY EVENT CENTER

6845 DOUGLAS BLVD

GRANITE BAY, CA 95746

18-Apr-2009

Sponsor: RIVER CITY ARCS

Time: 8:00 AM (Walk-ins allowed)

Contact: KENNETH M HALL

(916)492-6115

Email: WO6J@ARRL.NET

VEC: ARRL/VEC

Location: CARMICHAEL ELKS LODGE-USE EAST ENTRANCE

5631 CYPRESS AVE

CARMICHAEL, CA 95608

02-May-2009

Sponsor: RUBICON TRAIL FOUNDATION

Time: 8:30AM (Walk-ins allowed)

Contact: BARBARA D OLSON-ARENZ

(530)644-1135

Email: BDOA@COMCAST.NET

VEC: ARRL/VEC

Location: OAK RIDGE HIGH SCHOOL

1120 HARVARD WAY

EL DORADO HILLS, CA 95762

02-May-2009

Sponsor: UNSPONSORED

Time: 8:00AM (Walk-ins allowed)

Contact: LARRY R HODGE

(916)361-2476

Email: LARRYHODGE2000@COMCAST.NET

VEC: ARRL/VEC

Location: RALEY'S COMMUNITY EVENT CENTER

6845 DOUGLAS BLVD

GRANITE BAY, CA 95746

16-May-2009

Sponsor: RIVER CITY ARCS

Time: 8:00 AM (Walk-ins allowed)

Contact: KENNETH M HALL

(916)492-6115

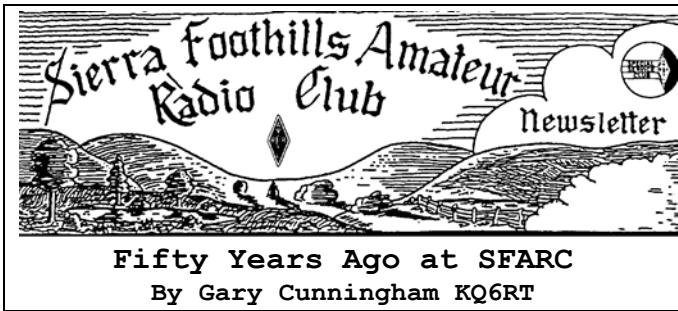
Email: WO6J@ARRL.NET

VEC: ARRL/VEC

Location: CARMICHAEL ELKS LODGE-USE EAST ENTRANCE

5631 CYPRESS AVE

CARMICHAEL, CA 95608



Fifty Years Ago at SFARC
 By Gary Cunningham KQ6RT
 Auburn, California
 Meeting of April 1, 1959

Because cards were mailed too late, membership was poor at this meeting. Meeting postponed till April 8, 1959.

Otto Ruud, won gift certificate, but gave it back to Secretary for next meeting.

Present: Charles & Lucius Waterman, Earl Wilson, Bob Hicks, Sage Otow, Otto Ruud, Walter Dowdy, Dick Lund and W.C. Bauman.

Sage Otow will conduct beginners group at 7:30 on April 8th.

New Member: Craig Tindall, 111 Village Lane, TU 5-4157

Walt Dowdy

Meeting of April 8, 1959

Visitor present: Pete Busk of 133 Skyridge Drive. Davis paid \$5.00 toward dues. Treasurer reported about \$101.00 in the treasury. 18 members present. ARRL Field Day was discussed. There will be a 7:30 code practice conducted by Sage at the next meeting. Discussion on the moving of wire from Theron Woods home. Next meeting on May 6, 1959.

W.G. Dowdy, Sec.

SFARC Membership Meeting

The meeting was called to order at 7:30 PM by Vice President Al Martin, NI2U. President Norm, W6AFR, was reported to be in Egypt. There was no report, however, that he had taken any gear or had made any arrangements to hand out a few contacts to the deserving.

Introduction of the officers and directors followed and then the introduction of members started. Midway through that introduction, it was realized that the flag salute had not yet occurred so it then took place. The remaining members and guests were then introduced.

Treasurer Leslie, K7NYE, reported that the club had \$1948.07 after payment of the electricity and phone bills for the repeater.

A VE report by Casey, W7IB, noted that there were 9 volunteers at the last examination and 12 test takers who were all successful, some more so than others.

In his satellite report, Greg, KO6TH, noted that the space station was active on packet. He also talked a little bit about space junk floating around out there.

Jim, K6ARR, provided the current status of our repeater, noting that the receiver had been changed due to some complaints of lack of sensitivity.

In the Ten Tech feature, Al, NI6U, gave a primer on transformers including a nice hand out.

Under old business, Leslie, K7NYE reminded members that it was time for members who belong to the Cal Star Air Rescue group to renew their membership. The cost is \$35 per year.

Starting new business, Pat, AA6EG, advised the club of a Radio Moon bounce event to occur on June 26, 2009. It is to celebrate the 40th anniversary of Apollo 11 and groups at the very large antenna dishes will talk to each other via moon bounce. Details can be found at Echosofapollo.com.

George, KG6LSB, asked for volunteers to assist with the Rocklin MS Walk. It will be held on April 25, 2009. About 8 people are needed and newcomers were encouraged to join the group.

When the flyer announcing 10% off of banners and clothing with screened logos on them was brought up, Gene, KG6NYH, suggested that if there is an interest, we might check with the store for the Tevis Cup as we have a working relationship with that group.

Members were informed that the Military Vehicle Preservation Association were driving across the country on old Lincoln Highway and should be in our area in mid June.

A reminder was made that the club net meets on Thursday night at 7:30 PM on the club repeater. All are welcome, members as well as non members. Also, the club has a breakfast on the last Saturday of the month at Susie's Cafe near the intersection of Riverside and Cirby in Roseville. It starts at about 8AM although some get there earlier and some get there later.

Volunteers were sought to bring refreshments for next months meeting as the Minton family will be unable to attend.

Richard Hill, NU6T, then gave the evenings presentation. It was an introduction to radiosport in the form of contesting. Richard is the current president of the Mother Lode DX and Contest Club which can be found on the web at mldxcc.org. Richard gave a very organized presentation using slides to make his points. The theme was that when starting out in contesting the goal is to just have fun. The best station to start with is the one you now have. There are also contests for all interests and at all times of the year. Richard had pictures to illustrate some points as well as charts used in contests that help determine where and when to look for contacts.

The drawing was held, sans atomic clock, and the meeting was adjourned at 9:30 PM.

Respectfully submitted,
 Wayne Stilwell, W6DT
 Secretary

ANSWER TO BRAIN TEASER PAGE 2

The answer is: C. East. For the rainbow to be directly in front of you, the Sun must be setting behind you, because a rainbow is formed by light reflected back to you by the water droplets in the sky. Since the Sun sets in the West, you must be driving East.

FCC Corrects Call Sign Error

Courtesy of the ARRL, March 24, 2009

In October 2006, Peter Birk (formerly WB2DCG) of Virginia Beach, Virginia, applied for a vanity call sign, K4ZL, under the FCC's Vanity Call Sign Program. This call sign was previously held by Elmer B. Jackson, Jr of Lavergne, Tennessee. Jackson held this call sign since before 1978; it was set to expire June 11, 2008. In October 2006, the Commission received notification that Jackson had passed away February 14, 2004, so the FCC canceled his license as of this date. More than two years after the date of Jackson's death, Birk applied for and received K4ZL.

Per FCC rules pertaining to vanity call signs, certain family members and previous holders of the call sign are eligible to receive the dead person's call sign; after the two year period, the call sign is open for anyone to acquire it under the vanity call sign program.

In June 2008, Jackson notified the FCC that he was still very much alive and that he wished to renew his license. According to the FCC, based upon information they had received, "it appears that the call sign K4ZL was made available under the vanity call sign system as a result of a defective cancellation of the license originally held by Jackson. Further review determined that the information submitted to the Commission in 2006 pertained to a different person with the same name."

On March 23, the FCC released an *Order Proposing Modification* and concluded that cancelling K4ZL in 2006 "was defective" and that the call sign should not have been made available in the vanity call sign pool. To correct this error, the FCC "propose[s] to exchange K4ZL with the call sign previously assigned to Birk's amateur radio station, WB2DCG; and concurrently to assign call sign K4ZL back to Jackson's license, which was reinstated under call sign AJ4JT."

The Commission cited *Section 316(a)(1)* of the *Communications Act of 1934, as amended*, saying it "provides the appropriate vehicle for resolving this matter. Section 316(a) permits the Commission to modify a station license if the action will promote the public interest, convenience, and necessity. In this connection, we note that the proposed modification would serve the public interest by ensuring that a licensee is not harmed by having his or her license canceled based on erroneous information submitted by a third party."

In accordance with *Section 97.27(b)* of Title 47 of the *Code of Federal Regulations*, the FCC will not issue a modification order "until Birk has received notice of our proposed action and has had an opportunity to file a protest." Birk has 30 days from March 23 to submit a written statement to the FCC "with sufficient evidence to show that the modification would not be in the public interest." If Birk chooses not to file a protest, he will have waived his right to protest the modification and will have deemed to have consented to the modification.

North Hills Radio Club 2009 SWAP

Meet Information

<http://www.k6is.org/>

MAY 17, 2009

Natomas High School, 3301 Fong Ranch Rd
Sacramento, CA 95834

Talk-In: 145.19(-) (PL 162.2) & 224.4(-) (no tone), For more information, contact, Les Cobb, W6TEE, 916-481-6040, Email: w6tee@qsl.net.



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1831 J Street • Sacramento, CA 95814 •
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**SIERRA FOOTHILLS AMATEUR RADIO CLUB
 2009 MEMBERSHIP APPLICATION**

Please Print

Name: _____ Call: _____ Class: _____ e-mail: _____

Address: _____ City: _____ State: _____ Zip: _____

Associate Name: _____ Call: _____ Class: _____

Phone Number: _____ Application: (Circle One) New Renewal

Member Dues: Circle Amounts That Apply. Applications (for new members only) received in the middle of the year will be pro rated. Contact the President or Treasurer for exact rate.

Membership: (P)	\$22.00	Name Badge: (R)	\$7.00
Associate: (Q)	\$ 7.00	Repeater Donation: (S)	\$ _____
Auto Patch Donation: (T)	\$ _____	Newsletter Booster: (V)	\$ _____
Misc. Donation: (X)	\$ _____	Christmas Donation: (W)	\$ _____
TOTAL: (Y)		\$ _____	

OFFICE USE ONLY:	DO NOT WRITE BELOW THIS LINE		
Date: _____	Treasurer: _____	Secretary: _____	Roster: _____
Payment: _____	Check Number: _____	Cash: _____	