

Sierra Wavelength

Fall 2005

Inside this Issue

- 1 President's Message
- 2 Repeater News
- 2 What's Next?
- 2 Club Business
- 3 Amateur Satellites

Sierra Wavelength
 P.O. Box 770
 Arnold, CA 95223-0770
 USA
newsletter@calaverasars.org

President's Message

NV6V

This will be my next to last message as president of CARS. After 2 years in this position, I need to concentrate on this newsletter, the web site, the IRLP node and the repeater. So it's time for a new president to step forward. Consider it thoughtfully, and let me know any nominations for president before the Christmas meeting in December. Actually, all officers' positions are renewable every year, so let us know if you are ready to step up to one of the other positions as well: Vice President, Secretary, Treasurer or Net Manager. Our current officers are doing a terrific job and some have done so for many years. Thanks to all of you!

We had a great time at Field Day in June. There weren't as many of us as there had been in the past, but there was certainly just as much enthusiasm! .

I'm looking forward to the presentation that Kit, WB6QVU will be making this Saturday. The quarterly meeting will be at his and

Arturo's (N6PGH) place and Kit will be showing us his satellite station. Look for a map in this newsletter. It should be a real hoot!



Thank you all for allowing me to serve you these last two years (almost). You've all been very supportive and I greatly appreciate it.

73! De Andy

Repeater News

NV6V

Thanks to Doug, WB6MFV for providing the backup controller to fill in for our regular controller that went brain-dead in July. We should be getting it back pretty soon now and be back to normal. Many thanks to Ken, AE6LA and Tim, KD6NRB, in addition to WB6MFV, for their rapid response to that emergency while I was sitting around with my feet propped up on vacation in El Dorado County...blissfully unaware of any repeater trouble.

(Continued on Page 2)



Repeater News

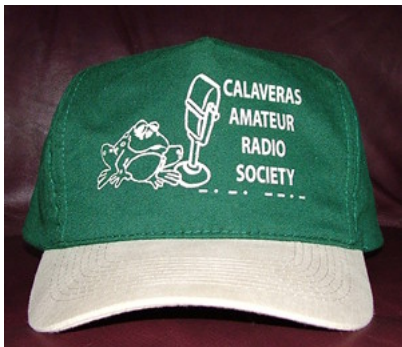
(from Page 1)

With my "career adjustment", I've had to remove the IRLP node from where it was, taking it off the air. I'm working on installing the node at home in the near future. I've been building the computer over the last couple of days out of spare parts. Next will be the link radio, then we should be back to normal there as well.

73 de Andy, NV6V

Club Hats

We have our new club hats, and they look pretty snazzy!



The cost is just \$5.50 for club members, \$6.00 for non-members. See the web site for full color pics!

This is Your Newsletter!

It's up to our membership to keep this newsletter going. I'm willing to edit and publish it, but we need contributions. What have you been up to? What contacts have you made? What projects have you built? Who have you heard from? C'mon, folks...let's hear from you!

E-Mail Forwarding

If anybody would like an address at calaverasars.org (like nv6v@calaverasars.org), please drop me an e-mail. We can point it to an existing mailbox, or set up a new one for you.

73 de NV6V

Next V.E. Session

When:

Saturday, November 19, 9:00 AM

Where:

Sierra Bible Church in Murphys (Main & Jones)

Cost:

\$14.00

Contact:

KN6XW (Patsy) 795-5652

What's Next?

Saturday, September 24

Quarterly Meeting

Home of WB6QVU and N6PGH

10:00 AM

Amateur Satellites

Mondays

7:30 PM Local

CARS Net

145.170

Weekly net. Stay informed!

First Saturday of each month

Monthly CARS Breakfast

9:00 AM Local

Perko's Restaurant, Angels Camp



AE6LA, W6DOM and WB6QVI at Field Day 2005

CARS Officers

President: NV6V

Andy Thomas

795-3928

nv6v@calaverasars.org

Vice-President: AE6LA

Ken Sanders

795-5947

Treasurer: AC6CY

Lynn Bartschi

736-4337

Secretary: KN6XW

Patsy Clark

795-5652

Net Manager: WB6MFV

Doug Hanson

823-9252

Amateur Radio Satellites

Kit Brown, WB6QVU

At the next quarterly CARS meeting I hope to chat with the group about the allure of this aspect of ham radio that has held my interest for some years now. My knowledge and experience is limited, but the amsat.org website is a wonderful source of information from those just mildly interested to those who become active, experienced sat operators.

As most of you probably know, there are generally two types of orbits employed by ham satellites. The Lower Earth Orbit (LEOs) with roughly circular orbits whose orbital altitudes range from a low of about 800 kms. for some to a high of over 1300 kms. for others. The High Earth Orbit (HEOs) have a highly elliptical orbits with perigees (low point of orbit) of as low as 3000 kms. to apogees (high point of orbit) of over 60,000 kms. (Placing a ham sat in a geo-synchronous orbit was considered some years ago, but abandoned due to the high cost of "station keeping" and the fact that it would have served less than half the

globe and that 3 such "birds" would have been required for full earth coverage.) LEOs, due to their relatively low altitudes, are closer and generally require a simpler ground station than that needed for the HEOs. The "disadvantages" of the LEOs is their limited "footprints", mainly covering a circle of no more than 6K miles diameter and are in view for only 10-15 minutes. At apogee an HEO can "see" all of North and South America and most of Europe and Africa and can be used for at least 12 hours at a time. However to fully utilize an HEO, better antennas and transceivers are needed. The few operational ham sats now in orbit are all LEOs.

Some ham sats are voice relays, some configured to provide data communications and many have both capabilities. For voice communications there are the "easy sats" that are really just cross-band FM repeaters. The other type translate a "passband" from one frequency band to another. This allows a number of stations, usually with SSB or CW, to use the "bird" at the same time. Also, an operator needs to listen to the downlink signals and tune their uplink transmitters to place their downlink signal at an appropriate place in the downlink "passband". Then there is the matter of adjusting ones frequency during the "pass" due to Doppler shift.

Knowing when a sat is in view is clearly essential. This can be as

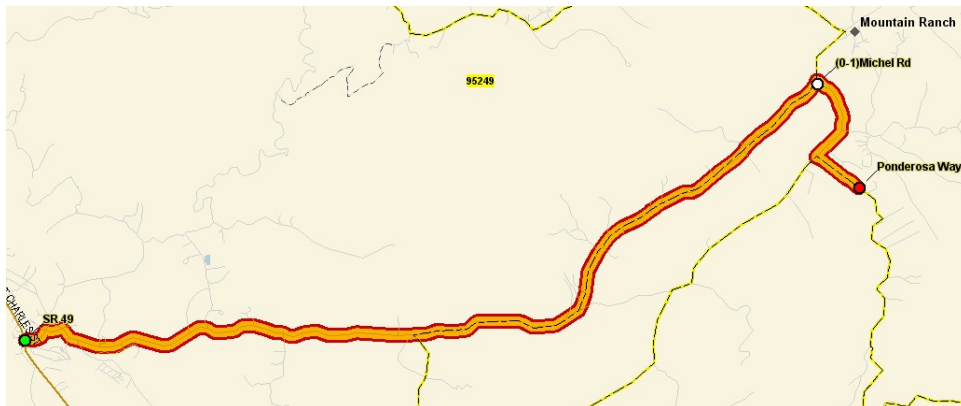
simple as knowing about when the pass is to take place and listening for downlink signals or as sophisticated as having a computer system driving an azimuth-elevation rotor system and automatically tuning receiver and/or transmitter frequencies to correct for Doppler shift. Most operators, myself included, use a tracking program to display the current position and the uplink and downlink frequencies, with their Doppler shifts, even though using manual tuning and antenna pointing.

My preference is for voice contact through an HEO. The system that I am currently completing is geared towards that type of operation. My first satellite contact was in May, 1990 through the HEO, AO-13. Until this bird failed due to orbital decay in the mid-90s, I was able to make a have a number of QSOs. In 2001, while still in San Francisco, I was able to make a few contacts through HEO AO-40 before its early demise. During the next few years several HEOs are planned for launch.

Hopefully during the quarterly meeting we will be able to make a contact through AO-51, an FM LEO. Looking forward to seeing everyone then.

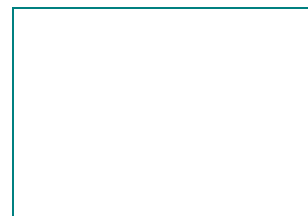
Directions:

From San Andreas take Mountain Ranch Rd. for 8.2 miles to the second intersection of Michel. Turn right and follow Michel to Ponderosa Way. Turn on Ponderosa to 7791.



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Sierra Wavelength
P.O. Box 770
Arnold, CA 95223-0770
USA



ADDRESS CORRECTION REQUESTED

Subscriber Name
Number Street Address
City, State Postal Code
Country

General Meeting

Saturday, September 24

Home of WB6QVU and N6PGH
Mountain Ranch (directions inside)

Meeting starts at 10:00 AM
Potluck Follows



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