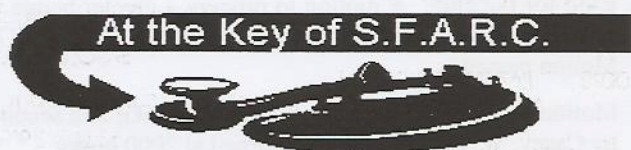


Sierra Foothills Amateur Radio Club

Newsletter

http://www.sf-arc.org
November 2003
P.O. Box 1005, Newcastle, CA 95658



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REPORTERS
Satellites: Greg, KO6TH
History: Gary, KQ6RT
Digital: Rob, WW6G

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
 All welcome to check in
 Thursdays, 7:30PM, K6ARR/R
 145.430

CLUB MEETINGS
 Second Friday of the month,
 7:30PM at the Auburn
 Library, 350 Nevada St,
 Auburn

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
 Joe Sylvia, KF6OQY
 Casey McPartland, W7IB

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2003 Calendar of Events

(Operating Events in Italics)

- | | |
|-----------|----------------------------------|
| Nov 14 | Regular Meeting |
| Nov 15-16 | <i>ARRL Sweepstakes (SSB)</i> |
| Nov 28-30 | <i>CQ WW DX (CW)</i> |
| Nov 29 | Club Breakfast |
| Dec 5-7 | <i>ARRL 160m Contest</i> |
| Dec 12 | SFARC Holiday Dinner |
| Dec 12-14 | <i>ARRL 10m Contest</i> |
| Dec 27 | Club Breakfast |
| Dec 27-28 | <i>Stew Perry 160m Challenge</i> |

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Officers' Reports

Picnic Report

"Its His Opinion"

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From the President's Shack

**Richard
WA6RWS**



Hi Everybody,

November is one month that you want to attend the club meeting because it is election time again. We have some really good candidates running this year and we are counting on your vote as to where the club will go this coming year.

The club has done well this year. Membership has held up well and we have money in the bank.

I regret not being able to make the meeting this month.

Unfortunately, I will be in Hawaii enjoying my honeymoon with my sweetheart, but will be thinking of all of you as I lay on the beach.

See all of you at the Christmas party and who knows who might show up as a special guest this year.

73, and have a great Thanksgiving,

Richard, WA6RWS

Secretary's Report

**Joe
KF6OQY**



SFARC Board Meeting October 3, 2003

President Richard, WA6RWS, opened the meeting at 1933 hours. Officers present: Vice President Rob, WW6B, Secretary Joe, KF6OQY, and Treasurer Mike, KG6EFK. Board members Bob, WA6ULL, Casey, W7IB, were also present. Members George, KG6LSB, Ralph, W6RWL, and Gary, KQ6RT, were also present. President Richard said that the announcement regarding the winning name of our name the newsletter contest would be delayed as one more ballot is to be turned in. Treasurer Mike, KG6EFK, did his treasurer's report. Motion to accept as read was made by Casey, W7IB, and seconded by Rob, WW6G. Motion was carried. Joe made a motion to authorize Gary, KQ6RT, to replace the club ice chest and submit the cost to the club

treasurer for reimbursement. Motion was seconded by Rob, WW6G. Motion carried. Casey, W7IB, mentioned that an emergency drill will take place on April 27 thru 29. More information will follow. The grand prize for the upcoming Christmas party will be an Icom 2720 dual band fm radio. Motion to procure this unit was made by Mike, KG6EFK, and seconded by Joe, KF6OQY. Motion carried. George, KG6LSB, delivered the club patches which are now available to the membership at \$3.50 each. These patches are 3 1/2 inches in diameter. The transition meeting has been scheduled to occur at the board meeting in January 2004. Bob, WA6ULL, has committed to run for the position of secretary. George, KG6LSB, requested that the board consider having an official greeter at each general meeting. A discussion followed and it was agreed that this would be good for the club. A motion to procure a greeter badge was made by Rob, WW6G, and seconded by Casey, W7IB. Motion passed.

Motion to adjourn was made by Rob, WW6G, and seconded by Casey, W7IB. Meeting adjourned at 2000 hours.

Respectfully submitted,

Joe Sylvia KF6OQY
Secretary

Annual White Elephant Sale October 10, 2003

(Many thanks to Joe, KF6OQY, for this report)

As we all know, there was no general meeting this month because of the club's annual White Elephant Sale, so that means that I have no official business to report. I can say that we had a good time and enjoyed the auction put on by Rob, WW6G, and Bob, WA6ULL, who did a great job as well as entertaining all who attended. Seems that when a bid was submitted it was best for the buyer to hope that Rob would say sold quickly otherwise one could end up with more than what was bargained for. My count was twenty five people in attendance.

The building is very nice and it also will be where the club Christmas Party will be held. I might suggest that those who choose to park in the lower lot at the end of Maidu Drive should consider bringing a flashlight as it is rather dark in places. The name of the building is Canyon View Community Center which is the first building on the right if you come in on Maidu Drive. Thanks also to Debbie, KF6LXN, and Gary, KQ6RT, who furnished the snack bar. Debbie also kept a log on who bought items and collected the money. The November general meeting will be election night. We will select the people who will be our officers next year. Sure would be nice to see more people volunteer for nominations as all positions are available.

73,

Joe, KF6OQY

20 & 40 Years Ago In SFARC

**Gary
KQ6RT**



Forty Years Ago at the SFARC

November 1963

The monthly meetings of Oct, Nov 1963 were held at the home of Clay Goodpastor WA6UHV. No formal meetings were held. Reading of minutes was waved as there had been no business conducted at previous meetings. A general discussion was held on what to do about the club. The CD bldg on the Fair Grounds is no longer available to us for meetings. Clay said he would be happy to have the meetings at his place for the winter. The BC 610 transmitter was sold for \$225.00. No plans have been made for the money as yet. Refreshments for served and the meetings were adjourned.

Twenty Years Ago at the SFARC

Meeting opened at 7:30 by Mary Ann, K6HJA, president.

Motion was made by Jack W6YHI that N6HJA is automatically elected on the board of directors for 1984, seconded by Mike WB7DRL.

Nominations closed, passed by majority.

Jack, W6YHI, made motion that officers nominated be passed by acclamation. Seconded by K6APW, Motion carried by majority

New Officers include:

President	Woody Woods	W6ANX
Vice Pres	Jim Standley	KA6GZI
Secretary	Cliff Cottam	KA6UUL
Treasurer	Kay Woods	W6HDG

Board Members:

John	KA6LNC
Jack	W6YHI
Mary Ann	N6HJA

Raffle winners must be present at Christmas dinner to win.

Board meeting will be held 7:00 PM Dec. 9 at Seasons. No net to be held on Thanksgiving.

Club members will receive discounts at HSC surplus sales located on Hemlock near Madison Ave. in Sacramento.

Raffle Winners:

John	W6HIA
Dick	WB6EGR
Bob Coiling	WB6ASU

Bob Rett
Secretary

73,
Gary, KQ6RT

Amateur Satellites

**Greg
KO6TH**



How to make a Space Station Disappear

We've all seen the act. A magician has their assistant squeeze into a brightly painted magic box. The wand is waved, stage lights dim, smoke and fog swirl. The blinding flash of light. The scream. The silence. The box is opened, revealing an empty cavity where a living human once stood. The audience gasps, and then applauds as the magician takes a bow.

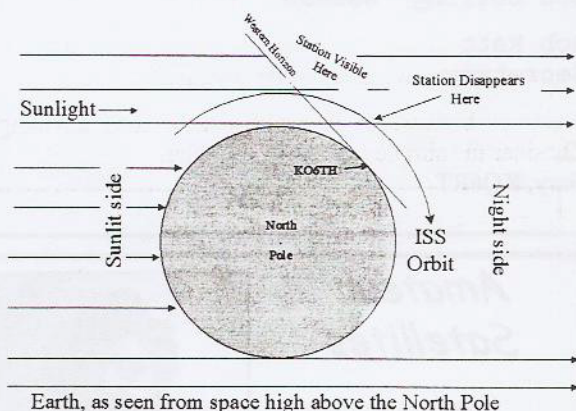
All magicians make things disappear. Coins, eggs, playing cards; it is a basic skill. Some have taken this feat to a higher level, making big things disappear. David Copperfield went so far as to make the Space Shuttle disappear on national TV. But on October 9th, Mother Nature topped them all by making the entire 412,300-pound International Space Station vanish from sight.

It was after the weekly SFARC Thursday night net. I stood outside in the dark with my family and watched as the Station rose from the northwest horizon. Arriving about 10 minutes late due to a changing orbit, it looked like a fast moving star, taking only a few minutes to arc its way nearly overhead. Then it was gone. Blink. Just like that. We felt like breaking out in applause.

This was, in fact, not the first time this has happened. Whenever conditions are right, the properly timed observer can witness all sorts of orbiting stuff disappear. The only

requirements are that it is clear and dark where you are standing, and bright and sunny up in orbit. Let me explain.

Many spacecraft, the Station included, orbit the Earth from west to east at about 18,000 miles per hour. As they do, they experience a complete day every 90 minutes or so. Their daylight time is when they are over the daylight side of the Earth. Their nighttime occurs as they swing into Earth's shadow. But because they are some 200 miles above us, the timing of their sunset is different than ours.



So, if I'm standing in the front yard at KO6TH, looking out to the west, I will see the space station rise up from my western horizon as the Station's orbit crosses the "western horizon" line in the diagram. At that point, it is still being bathed in sunlight, while I'm standing in the dark because I'm in the Earth's shadow. The Station continues in its orbit, still bathed in sunlight, rising higher and higher in the sky as viewed by me. Eventually, the Station's orbit crosses into shadow, and it is no longer in sunlight. At that instant, it vanishes.

Of course, the crew on the station, along with the magician's assistant, is quite alive and healthy. They continue their scientific mission in orbit, while the assistant is probably enjoying a latte back stage, waiting to make her reappearance later in the show. Any time you are out at night, just after it gets dark, take a look up at the sky towards the west. Often you will see some faint stars moving along, and then suddenly vanish without a trace. But, now you know where they went.

73,

Greg KO6TH

**Sac Valley
Section**

**Jetti Hill
W6RFF
SM**



Sacramento Valley Section News October 2003

FIRE WATCH: While Southern California has had several Fire-Storms, North CA has been fairly quiet. As I write, we are having light rains. But, as an example of how things can get out of control – Rick, W6SR, was using a torch to solder ground radials for a vertical antenna, then things got to hot to handle. He dropped the lighted torch, it rolled down hill setting dry grass on fire. His grass was cut short, but the neighbors grass wasn't. A quick 911 call alerted the fire department and a possible disaster was averted. So be careful out there. W6SR will be hosting the Mother Lode DXCC meeting on November 8, for a Bar-BQ. Several MLDXCC members operated from Bill, K6KM's QTH for CQWW phone contest.

CALIFORNIA QSO PARTY: Many SV members were heard working the CQP contest in October. MLDXCC, as usual, ran up a big total score. Will they be top dog another year? Nevada County ARC members W6CWM and KS6S operated from a spot where the corner of 3 counties meet, Del Norte, Siskiyou and Humboldt. They were able to give out 3 CA counties with each QSO.

EL DORADO COUNTY ARC: Dick, K6LRN, made a presentation on "Contesting" to the club. He described the many types of contests for hams. Dick is an avid contester. SEC Dave, K6SOJ, has appointed Frank, W6DHN, as the District Emergency Coordinator for District 4. Frank has appointed Rich, W6YQQ, as the Emergency Coordinator for El Dorado County. District 4 covers Amador, Placer, Nevada, Plumas, Sierra, Alpine and El Dorado counties.

YUBA SUTTER ARC: The club is providing communications for the Lake Oroville Vista Endurance Run and the Veteran's Day Parade in Marysville. Paul, N6XVL, is coordinating the events. The club is preparing for a Pot Luck dinner in November and a Christmas dinner in December.

PACIFICON: The Mt. Diablo ARC put on an excellent convention, as usual. The hotel in San Ramon was good and the attendance was large. They have started plans for the 2004 convention. If you have not attended one of their conventions, you are missing a great time. I was able to meet and speak with many SV members and renew old times with many others I have known for years. K6SOJ made a

presentation on EMCOMM (*Ed Note. I also ran into several SFARC members at Pacificon*)

AMADOR COUNTY ARC: The clubs Swap-Meet held in Martell, in October, was a huge success and was coordinated by Bob, WQ6M, and Dee Garrison. The club is gathering nominations for club officers for 2004, as are most clubs. Its payback time, run for a club office.

WHITE ELEPHANT SALES: Sierra Foothills ARC, as well as the River City ARCS, held their annual fund raising White Elephant Sales. This gave members a chance to get rid of those old "Boat Anchors" and others to get new ones. Rob, WW6G is updating the SFARC's web page and the club just purchased new club patches.

NEVADA COUNTY ARC: Their November meeting will feature Kathy Hoxsie, KC8CLO, of the National Weather Service Office in Sacramento speaking about the Sky-Warn amateur radio weather nets, coordinated by the NWS.

CLUB OFFICERS: I can't stress enough how important it is to have active officers for the clubs. Things that can make or break a club are; Officers, club bulletins, programs of interest and meetings. Dull business meetings turn most members off. There needs to be some socializing between members. Now is the time to do your part in keeping your club active and interesting.

GOLDEN EMPIRE ARS: I will be speaking to the GEARS members on November 21, in Chico. GEARS is one of the section's Special Service Clubs.

SECTION NETS: Remember the second Wednesday of each month is the SV section nets. At 7:00 pm on 146.085 MHz, PL 127.3 and at 7:30 pm the HF net on 3987 KHz. Also check the ARRL web site for the latest news on amateur radio and the FCC. For the latest SV section news, click on Sacramento Valley Section – on the ARRL home page, www.arrl.org.

I hope you all have a great Thanksgiving.

73,

Jettie, W6RFF.

Veterans Day Operations November 8-9, 2003

(Thanks to Danny, AD6SJ)

Please join us aboard the USS Hornet on Saturday, 11/8/03 and Sunday 11/9/03 as we honor the wonderful Veterans of our Military Services!

We will begin operations at 0900 PST on the 8th, and we will be on the air until 1700 PST on the 9th.

SSB Frequencies will be 3.857, 7.260, 14.260, 21.360 and 28.460. (Please note the change in some frequencies from our previous events.)

CW Frequencies will be 3.530, 7.030, 14.030, 21.030 and 28.030. RTTY Frequencies will be announced on the SSB frequencies.

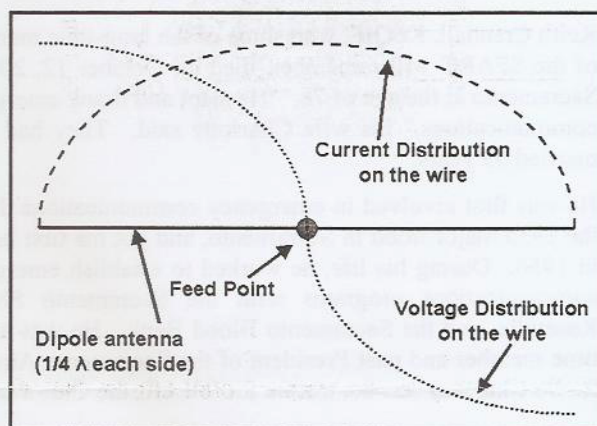
For IRLP you may find us on the Western Reflector Subchannel 1 (aka 9251).

We look forward to working you. Our call is NB6GC. QSL info is good at QRZ.com.

SFARC Trivia

"Why do we always seem to use antennas that are 1/4 wave long? Why not use a half-wave antenna?"

Well, it's because of economics more than anything else. Consider the simple dipole in the figure.



It consists of a 1/4-wave section on each side, connected to the feedline in the center. Since we are putting power into the antenna, we know from $P = EI$, that if there is power, there must also be voltage and current. The far end of each section is essentially open circuited, and open circuits don't pass current, so we know that the current is zero there (well, it isn't exactly zero, but it's extremely small). That means that the voltage there must be extremely large in order to equal the power we put in.

The same is true at the other end, so the current is distributed over the wire in a half-sine wave pattern (2 quarter waves make a half wave). At the center, the current is highest, so the voltage must be at its lowest. High Voltage/Low Current signifies a very high impedance at the ends of the dipole. Conversely, High Current/Low Voltage means the impedance is low at the center, and, as you move outward from the center (in either direction), the impedance rises steadily.

It is thus realistic and possible to feed a dipole anywhere along either of the wires. (Check out the Windom antennas in the Antenna Book). However, two factors conspire to "encourage" us to feed in the center. The first is simply balance. If the antenna is not symmetrical, there will be unbalanced currents on the feedline, and thus it will radiate. It ultimately ends up in your shack, where it radiates RF ...

into your rig, computer, keyer, microphone, telephone, and anything else conductive.

The second factor is that practical transmission lines (i.e. those that can be easily constructed) inherently have fairly low impedances. Thus, to feed the end of the wire instead of the center, we need a circuit to transform the low impedance of practical transmission lines to the extremely high impedance at the end of the wire. It takes expensive high voltage components to do this, so we hams tend to current-feed rather than voltage feed our antennas. Half-wave, voltage fed antennas are somewhat common for AM broadcast and short wave broadcast stations, but they have bigger budgets than we do.

Keith Crandall, K6QIF, SK

Keith Crandall, K6QIF, who some of the long-time members of the SFARC will remember, died on October 12, 2003 in Sacramento at the age of 78. "He slept and drank emergency communications," his wife Charlotte said. They had been married 59 years.

He was first involved in emergency communications during the 1955 major flood in Sacramento, and got his first license in 1956. During his life, he worked to establish emergency communications programs with the Sacramento Sheriff, Roseville, and the Sacramento Blood Bank. He was a long time member and past President of the Sacramento Amateur Radio Club and was the trustee for W6AK, the Club's call.

Iridium Flares

Satellites Visible In Daylight!

(Ed. Note: Timing is everything\ I prepared this little account for this issue before receiving Greg's ISS visibility article. Unplanned ... but the two do fit together very well)

On a Thursday afternoon, while at Monitor Pass in Alpine County for the CQP in early October, Arnold, KQ6DI, said "Come on, let's watch an iridium flare." (Arnold is a treasure-trove of interesting information and a GPS genius) He had a print-out with the azimuth and elevation and we all stood there and peered at that spot in a bright blue sky.

Sure enough, right on schedule, a bright, moving point of light winked on ... no kidding, it "winked" like someone had turned on a switch. It moved about the width of my fist at arms length, and then, just as Greg describes for the ISS, it winked out. While visible, it was about as bright as aircraft landing lights are here as they make their approach from the east over the canyon and N. Auburn. On a time-exposure, it would have looked like a bright dash in the sky.

Iridium was a project, headed by Motorola (with some partners) to build a satellite communications system that would work like cell phones do, only it would work anywhere on the planet. I say "was" because it apparently turned out that there weren't enough people on the planet

who were willing to pay \$5/minute to talk to someone else on the planet. They discovered this after having launched several dozen or so of the satellites. Arnold did not know what, if anything, the satellites are now being used for.

The Iridium satellites' solar cells are very highly polished and act as mirrors. They are in low earth orbit, and when in sunlight, they reflect it, much like the glare from the sun in an oncoming car's windshield. From outer space, it would look like a spot of light moving across the earth. Depending on the orientation of the satellite, where it is in its orbit, where the sun is, and where you are, occasionally the reflected spot of light passes over or very near to you. It doesn't last long ... satellites move very fast.

Obviously, Arnold's printout was the key since it told us where and when to look. Like everything else, it seems the magic is on the web. www.heavens-above.com will do it and it's free. You'll be asked to register, and then you'll need to give your geographic coordinates. (If you don't know, drop me an email and I'll bring my GPS over and find out for you).

The Iridium flare link on the main page gives you the information for the next few days and weeks, including how bright it will be, and how far from you the center of the spot will be (very close is good). There will be one on Nov 8 at 08:32:08, at an azimuth of 156° and an elevation of 77°. The center of the spot will be only 800 meters from my house, and it will be a magnitude -8. (Magnitudes go backwards ... the more negative, the brighter) I'll be up to watch for it if it is clear.

Sun Goes Berserk

(Compiled from the ARRL Letter, K7RA, and NOAA)

The last few weeks have been anything but calm for those living on the Sun, and fairly exciting for us on the Earth as well. Despite being a year or two into the downside of Cycle 23, a massive sunspot group, said to be at least 11 earth diameters in breadth rotated into view. Several major X-class flares, accompanied by Coronal Mass Ejections (CME), have played havoc with radio communications, as well as creating auroras visible over much of the US.

The mid-latitude K-Index has been up to 9 on more than one



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occasion, A-Index has been in the low 100's, and the 10cm solar flux has hovered around 230 - 250. The news for hams is both good and bad:

The Bad: High K-Index number indicate strong geomagnetic storms and instability, mainly caused by the interaction between the CME -- some 10 billion tons of "stuff" the sun belched out directly at the Earth at about 5 million miles MPH -- and the Earth's magnetic field. It is the particles in this gob of sun-stuff that get trapped in the field and cause auroras. Not all bad, of course, auroras reflect VHF and UHF signals very well.

The Good: High solar 10cm flux causes the ionosphere to become heavily ionized, raising the Maximum Useable Frequency (MUF) dramatically. 10 meters has been wide open fairly continuously, and 6 meters has probably seen a number of openings. And, auroras are great for VHF and UHF DXing.

For the ARRL CW Sweepstakes last weekend, K declined dramatically, fortunately, and 80 - 10 were all going strong in the contest ... except about 10AM PST on Sunday morning. Another major X-class flare at that time created so much ionospheric absorption that in the space of perhaps 5 minutes, almost all (not making this up!) of the signals on 20, 15, and 10 just faded away. All one could hear were a few locals on ground wave. It's being called "The Great Solar Suck Out."

About 60 minutes later, signals began reappearing, and after 90 minutes, things were totally back to where they had been earlier. Hearing the entire band fade into the noise in the middle of Sweepstakes caused a real sinking feeling for most everyone. No one knew that it would be so short lived, of course.

(The SFARC News is looking for one or more authors who will contribute either articles or perhaps a monthly or bi-monthly column on propagation matters)

National Ham Radio News

Courtesy ARRL News

FCC Reiterates Request for Amateur Help in Identifying Unlicensed 10m Operations.

A concerted effort begun last spring to monitor for and possibly identify unlicensed operators on 10 meters will continue through October. The FCC already has asked the ARRL Amateur Auxiliary/Official Observers <http://www.arrl.org/FandES/field/org/oo.html> for assistance. Now, FCC Special Counsel Riley Hollingsworth is inviting hard information on suspected interlopers from all amateurs.

"If I don't receive reports, we'll have to conclude that unlicensed operation on 10 meters no longer is a problem," Hollingsworth said this week. His initial request to beef up monitoring came in the wake of complaints from the amateur community that rose to the level of a major enforcement headache. He's expressed some disappointment,

however, that the number of solid reports received so far has been few, although he's aware that a problem exists.

Hollingsworth asks amateurs to be specific in what they report. "Everybody should police their own neighborhood," he suggested. "Turn on the radio, and take a listen on the band. If you hear a loud signal that's obviously an unlicensed interloper, see if you can track it down."

Hollingsworth said that in the case of a suspected unlicensed trucker on the highway, amateurs should try to get the license plate number of the tractor--not the trailer--or at least the company name and, if possible, the DOT number.

The FCC does not require direction-finding data but would appreciate, where possible, names and addresses of alleged or suspected operators. Audio recordings of apparently illegal transmissions also can prove helpful.

Individual amateurs with solid information on alleged unlicensed operation on 10 or even 12 meters should report it to the FCC via e-mail fccham@fcc.gov. Official Observers should file their reports through normal ARRL channels.

ARRL Field and Regulatory Correspondent Chuck Skolaut, K0BOG, says the FCC wants to pin down specific areas where unlicensed operation is prevalent in the US. He and Hollingsworth concede, however, that not all illegal 10-meter operation is of domestic origin.

The FCC's initial request last May request was made in accordance with the Communications Act and a longstanding agreement between ARRL and the FCC regarding the use of Amateur Radio volunteers to assist in enforcement.

SFARC Trivia

Both AM and FM create sidebands on either side of the carrier frequency that actually contain the intelligence being transmitted.

1. Does CW create sidebands?
2. In SSB, we start with an AM signal, and then eliminate the carrier because it actually "carries" no information. We also eliminate one of the sidebands because both carry the same information. Why don't we have "single sideband FM?"

Get Out and Vote!!

The November general meeting is SFARC's annual election night. Be sure to come out and vote. The meeting will be held at the usual time and place. Hope to see everyone there.

SIERRA FOOTHILLS AMATEUR RADIO CLUB

P.O. Box 1005

Newcastle, CA 95658



SIERRA FOOTHILLS AMATEUR RADIO CLUB 2003 MEMBERSHIP APPLICATION

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 received in the middle of the year will be pro rated. Contact the President or Treasurer for exact rate.

Membership:	\$22.00	Name Badge:	\$6.50
Associate:	\$ 7.00	Repeater Donation:	\$ _____
Auto Patch Donation:	\$ _____	Newsletter Booster:	\$ _____
Miscellaneous Donation:	\$ _____	Christmas Donation:	\$ _____
Worldradio Renewal:	\$ _____	TOTAL:	\$ _____

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