

SCCARA-GRAM



Santa Clara County Amateur Radio Association

Volume 13, Number 6

June 1997



President's Prose

Greetings! I hope you are all enjoying the nice weather we are experiencing here in the valley. Two days of "the hots" and Monday was a very nice change as the fog came in just enough to cool us down!

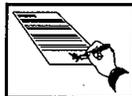
Not much new to report - to my knowledge, we have not yet put up an antenna at the Red Cross Building. We looked for the Cushcraft R-5 last month, but could not find it in the locker. The radio room was coming together and conduits now exist for routing cables into and out of the room. A cabinet was under construction to house our HF rig, but I don't yet know if it is ready.

Field Day will be here soon - please make it a point to attend, and to participate in some form this year. The group can always use operators, as well as hands to set up and dismantle the site. I will not be able to stay all weekend this time - I will try to get up to the site Saturday evening and stay over Sunday - I will be able to help with the dismantling on Sunday, I hope.

We now have a copy of our liability insurance policy, and it has been turned over to the Administration at Valley Village. It is now up to them to meet and decide whether or not to let us meet there. A reminder - if we wish to keep our meeting night on Monday, we will have to move our start time back 1/2 hour to eight (8) o'clock, as they have Bingo in the large room that evening.

Catch you next time,

73, Jack / AC6FU

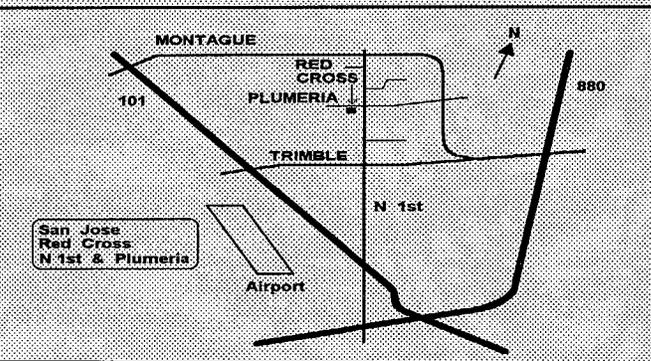
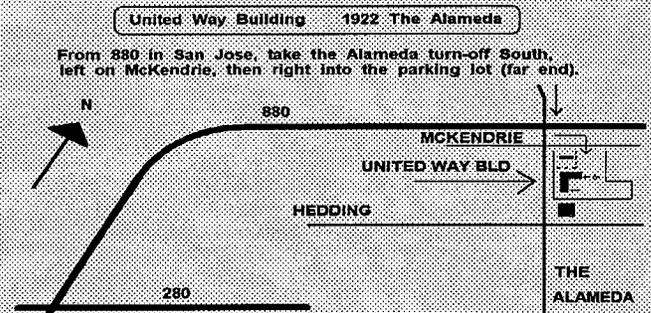


Calendar

- 6/9 SCCARA General Meeting
- 6/14 Foothill Flea Market
- 6/16 SCCARA Board Meeting--(San Jose Red Cross, 7:00p, all are welcome)
- 6/27-29 Field Day!

Next General Meeting:

Day: Monday, June 9, 1997
Time: 7:30 PM
Place: United Way Building
Agenda: Roy Ruskin W6II from HRO will talk about latest ham equipment.



Meeting Minutes

The *SCCARA-GRAM* is published monthly by the SANTA CLARA COUNTY AMATEUR RADIO ASSOCIATION, PO Box 6, San Jose CA 95103-0006. Permission to reprint articles is hereby granted, provided the source is properly credited.

SCCARA was formed as a general interest amateur radio club in 1921 and became a non-profit corporation in 1947. SCCARA is an affiliate of the American Radio Relay League (ARRL).

The club station, W6UW, is currently out of service.

The deadline for SCCARA-GRAM articles is one week before the last Monday of the month.

OFFICERS and DIRECTORS

President	Jack Ruckman, AC6FU	379-4846
Vice President	Barbara Britten, KE6QEI	293-3847
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Director	Wally Britten, KA6YMD	293-3847

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Facilities	Don Village, K6PBQ	263-2789

COMMITTEES

Repeater	Wally Britten, KA6YMD	293-3847
Youth Group	George Brady, AB6OZ	729-9012

SCCARA REPEATERS

SCCARA owns and operates two repeaters under the call W6UU:

2 meter:	146.385 +	PL 114.8 (none for basic use)
70 cm:	442.425 +	PL 107.2

Phone patch capability is available (auto-dial and auto-patch). The two meter repeater is located in the Mt. Hamilton foothills, Alum Rock area. The 70 cm repeater is located at the Alexian Brothers Hospital, North of 280 and 101.

SCCARA NETS

On our two meter repeater: Mondays at 7:30 PM, (not the second Monday—it's our meeting night). Net control: Joe WA6DXP.

On ten meters, 28.385 MHz USB, Thursdays at 8:00 PM. Net control: Wally KA6YMD.

Visitors welcome to join in on the SCCARA nets.

IMPORTANT TELEPHONE NUMBERS

SCCARA HOTLINE:	249-6909
ARRL LICENSE (VEC) HOTLINE:	984-8353

General Meeting, May 12, 1997



[No minutes were received by the deadline. --Ed]

Board Meeting, May 19, 1997



[No minutes were received by the deadline. --Ed]

From ARRL HQ

ARRL Comments On Petition

The ARRL will file comments in response to an FCC Petition for Rulemaking from Checkpoint Systems Inc--a manufacturer of electronic article surveillance (EAS) systems that use frequencies in the 1.7 to 10-MHz range. EAS systems are used to deter theft in retail stores and other locations. Checkpoint has asked the FCC to change its Part 15 rules to expand the frequency range and power level of EAS systems. Checkpoint wants the Commission to permit EAS operations in the 1.705 to 30-MHz band at a maximum radiated emission level of 1000 uV per meter (measured at a distance of 30 meters) and a maximum conducted emission level of 3000 uV. Current rules permit a maximum radiated emission level of 30 uV per meter (measured at a distance of 30 meters) between 1.705 and 30 MHz, or 100 uV per meter between 1.705 and 10 MHz. The current conducted emission limit for such devices operating between 1.705 and 10 MHz is 250 uV.

Checkpoint says its EAS system can detect tags concealed within or attached to protected articles by using an RF sweep over the frequency range of operation. Typically, systems are set up so that customers can only exit via an EAS-equipped gate. Checkpoint's EAS equipment currently operates within the 1.705 to 10 MHz band and is regulated as an unlicensed intentional radiator under Subpart C of Part 15. Under Part 15 rules, such devices may operate without restrictions on bandwidth, duty cycle, modulation technique or application, but must comply with specified radiation and emission limits and protect licensed services from harmful interference. Checkpoint says it needs the higher power levels to overcome "increasing levels of ambient RF noise in commercial establishments." The expanded frequency range, the company says, will allow for greater flexibility in deploying EAS

systems and reduce the potential for false alarms.

The company already holds an experimental authorization to operate EAS equipment within the 7.4 to 9 MHz and 8.2 to 10-MHz bands at up to 1000 uV per meter and says it has received no complaints of interference.

Checkpoint's Petition for Rulemaking was received by the FCC on April 28, 1997.

FCC revises 610s

The FCC has just released a new Form 610, dated March 1997, that includes a space for your Internet address. The new form is available via the FCC's Internet site (<http://www.fcc.gov>) and via the FCC's fax-on-demand service at 202-418-0177, to obtain Form 610, the form number to request is "000610."

The form is much the same as the previous Form 610, dated March, 1995, except that item 3A asking for the applicant's "Internet Address" is included on the same line as the street address. The environmental impact question, formerly item 6, has instead become a statement in the applicant certification section where the applicant certifies that "the construction of the station would not be an action which is likely to have a significant environmental effect (see the Commission's Rules 47 CFR Sections 1.1301-1.1319 and 97.13a)." The former item 7 has become item 6 on the new Form 610.

According to staff members at the Gettysburg FCC office, the FCC will continue to accept any of the three Forms 610 (dated November 1993, March 1995 and March 1997) until further notice.

In addition to the new Form 610, a revised version of the electronic Amateur Station Vanity Call Sign Request form (FCC Form 610V) is now available on the Internet at <http://www.fcc.gov/wtb/amradsrv.html>. Under "Amateur Station Vanity Call Sign System" choose "Interactive Vanity Call Sign Application." This version allows a user to file multiple applications using one FCC Form 159 (Remittance Advice), thus permitting several applicants to file vanity applications at the same time and combine their fee payments. The fee will be calculated and pre-printed on the FCC Form 159, depending on the number of applications submitted. Detailed instructions are available by clicking on the item number on the Internet form. Previously, applicants had to complete a separate FCC Form 159 for each application submitted electronically.

Electronic payment is not yet available, and applicants must mail a completed FCC Form 159 with payment to FCC, Box 358994, Pittsburgh, PA 15251-5994, immediately after submitting any electronic application(s).

For technical assistance, contact the FCC Technical Support Group, 202-414-1250. For general questions regarding the application or fee, call the Wireless Telecommunications Bureau Consumer Assistance staff, 800-322-1117.

Packet Pieces

Downloaded from the packet network:

=====
Date: 31 Mar 97 00:07
From: N8QGE@N8QGE
To: INFO@USA
Subject: Station Protection Pt 1 of 2

Ham Radio Station Protection, Part 1

This is the first of a two part series on lightning protection information for the ham radio community.

Proper lightning protection for a ham radio station can involve more variables than any other type of radio site. The following table shows many of the major combinations available. The bottom line is the antenna location will establish the grounding requirements, while the station location will drive the protection requirements.

The primary rule for surviving a lightning strike is still the same no matter which of the many possible variations you have: all equipment elements must be connected to a single, low impedance ground system. This includes the antenna, the antenna support (pole, tower, etc.), and all of your station's input and output protectors. (I/O's: antenna, power, telephone, rotor, etc.).

Let's examine the significant elements of a good grounding and protection scheme to help you construct a "bullet proof" installation that will survive a direct lightning strike.

We begin with choosing the antenna location. This and the antenna type will dictate the size and location of the earth system needed to disperse the strike's energy. The sooner the ground system is able to spread out the energy, the better the chances of preventing it from traveling to your equipment. Almost 90% of strikes will be a deposit of electrons which, due to like charge, repel and spread out. The antenna ground system provides the location.

As we will see later on, the ground system is formed by a set of ground rods interconnected below grade with bare radials.

Also fundamental to a good protection scheme is the creation of a single point ground within the ham shack. This single point ground is used to mount all of the protectors and to provide a ground for all of the equipment

chassis. This interior single point ground is connected to an external ground system (composed of radials with ground rods) with a low impedance copper strap. The tower ground system and the single point ground system must be interconnected. This interconnection should be below grade and with a bare low inductance conductor. Your coax shield must not be the only interconnection between these ground systems.

Three Techniques

Every conductor has measurable inductance. Similarly, ground conductors exhibit normal inductance before they go below grade. Once in the ground, the inductance of a bare conductor is shunted by the earth's conductivity.

If the soil at the grounding location is not very conductive, three things can be done to help the situation. First, increase the surface area of the conductor which will decrease its normal inductance. Second, dope the soil to increase its conductivity and thus shunt the inductance of the in-ground bare conductors. Third, install additional bare radial lines with ground rods which will effectively parallel the inductance and reduce the overall system inductance. In some locations it may be necessary to utilize all three of these techniques for the best results. Let's examine each one.

Conductor Surface Area

The most effective material for a ground system conductor is copper strap. Copper as a metal is a good electrical conductor, only moderately attacked by ground and air borne acids, and should have a life-span measured in years.

Since lightning has a large portion of its energy in the VHF range, it will behave like an RF signal. That means the energy will only be conducted on the skin of a conductor (skin effect). Thus, the surge current will only ride on the outermost surface of the conductor. Such currents following a round-member conductor will not make extensive use of its large cross sectional area. With a 1-1/2 inch or larger flat strap of at least 26 gauge (0.0159 inches), both surfaces will conduct the surge.

Soil Doping

Water in its purest form is an insulator. Ionic salts when mixed with water make ions. The earth is a conductor because of the number of ionic salts present in the soil. Therefore, conductivity can be improved by adding more ions to the soil.

Soil doping can be done by either adding water or a saline solution to the soil around the grounding system. If the soil already has a sufficient amount of naturally occurring salts, adding water will free the ions and improve conductivity. The more ions (salts) available, the less water that will be needed to reach a given level of

conductivity.

If few natural ions are available, salts, such as Epsom salts, can be added to the soil to increase the conductivity. Depending on the amount of rainfall, doping the ground system radials with 4 pounds of salt per linear foot and 20 pounds per rod may last approximately two years.

Ground Radials

Radials are the most cost effective grounding technique considering system impedance, material cost, and installation labor. If one radial gives "X" resistance, then two will deliver an equivalent "parallel rule" plus 10%. This rule only holds true when the soil has the same conductivity over the entire radial area. After the first two radials, you will need to double the number of radials each time to continue with the parallel-plus rule.

Radials do have a limit on their effective length. If the surge energy has not been launched into the soil within the first 75 feet, the inductance of the radial will prevent any further effective prorogation. Therefore, as a general rule of thumb, all radials should be at least 50 feet long and no longer than 75 feet.

Ground rods should be placed along the entire length of each radial. The most cost effective spacing between rods for normal (grassy) soil is two times the length of a rod into the ground. If 8 foot rods are used, they should be placed on 16 foot centers.

If the soil is not normal (e.g., very dry or sandy), the separation may be reduced in order to minimize the interconnect inductance. It doesn't hurt to have the rods too close, it only costs more in material and labor.

Ground Measurement

Since most soils are stratified, the best way to determine the effectiveness of a ground system is to measure it. The simplest way to determine the sub-layer conductivity is to measure the first ground rod, one foot at a time, as it is hammered into place. This technique can provide a profile of the lower layers relative to the first foot. (For additional information see our book: The 'Grounds' for Lightning and EMP Protection or the November 1992 issue of Striking News.) Most earth resistance meters measure only dc or low frequency ac resistance of the ground system. Since the lightning strike energy is predominately RF energy, the inductance of the ground system is important. Without using very expensive specialized test methods, the only way to ensure a low impedance ground system is to follow the suggestions given for conductors, doping and radials.

Tower Considerations

No one should consider using a non-conductive structure for an antenna support. Only conductive towers or metal poles should be used for mounting antennas high

into the air. If the tower or pole has sliding contacts (crank-up or push-up), the joints should be jumpered using short sections of copper strap attached with PolyPhaser TK clamps. Normal self support and guyed towers will not need such jumpers.

Guyed towers are better from a lightning protection perspective if the guy anchors are grounded properly. Because the anchors are located away from the tower base, at least some of the strike energy will traverse the inductive guy wire to the ground. The more the strike energy is divided, the less there is to go to your equipment.

Dissimilar Metals

Copper should never touch galvanized material directly without proper joint protection. Water shedding from the copper contains ions which will wash away the galvanized (zinc) tower covering. Stainless steel can be used as a buffer material. However, be aware that stainless steel is not a very good conductor. If it is used as a buffer between copper and galvanized metals, the surface area of the contact should be large and the stainless steel should be thin. Joint compound should also be used to cover the connection so water can not bridge between the dissimilar metals. (For additional information see our book: The 'Grounds' for Lightning and EMP Protection, pages 17 and 18 or the February 1992 issue of the Striking News.)

Magnetic Energy

Lightning has a large magnetic field associated with its typical 18,000 ampere pulse. The magnetic field will couple to all conductive materials. There are two ways to minimize the amount of magnetic energy coupling—shield your equipment or place some distance between the equipment and the likely strike location.

A galvanized steel sheet may be used as a shield to attenuate the magnetic field pulse by 10dB. The steel should be at least 30 gauge (0.016 inch) and should be connected to the ground system.

Distance is the other means to limit the magnetic field coupling. The strength of a magnetic field diminishes at the rate of one over the distance squared. Since a moderately high tower is much more likely to be struck than any other nearby structure, the placement of the tower with respect to your equipment deserves significant consideration. Factors that should be considered are not only the magnetic energy which will radiate from the tower, but also the benefit of the distance in terms of the inductive loss provided by the length of the orthogonally run coax. This added inductance of the coax line will help buffer the energy entering your equipment area. In addition, the extra distance will provide a little more time for the tower ground system to dissipate the strike energy and thus have less to share with your equipment.

Both of these factors indicate there should be a

reasonable separation between the tower and the operating equipment. Distances of greater than 20 feet approach reasonable levels.

For towers already located closer than this, it may be necessary to utilize some shielding to minimize the magnetically induced energy.

Antenna Location

A ground mounted vertical antenna is very similar to a ground mounted tower. Both have a substantial and low impedance connection to the ground system. However, if the antenna or tower is mounted on a roof, the inductance inherent in the conductors to the ground system will be very significant. So significant, that voltages in the order of several hundred thousands volts will be present. To reduce the inductance in the ground conductors, increase the surface area of the conductor (wider copper strap) as well as the number of conductors.

For the roof mounted antennas and towers, the multiple down conductors can be spread over the roof and can be brought down to ground in multiple locations. This will require that the ground system will have to be completely around the building (a perimeter ground). As an added benefit, this multiple down conductor approach will reduce the mutual coupling between down conductors and provide a low, unsaturated perimeter ground to absorb the conducted surge. The magnetic fields will also be divided and will, in theory, cancel in the middle of the building. This will help minimize magnetic energy coupling into the wiring inside the building.

Coax Grounding

Since the tower is a conductor and is well grounded, all of the coax lines should be grounded (using a grounding kit) at the top of the tower close to the antenna and at the base of the tower before they come toward your equipment.

During the strike event, the tower and the coax lines will mutually share the strike energy. If the coax lines are not grounded as they leave the tower or they are completely isolated from the tower, more energy could traverse the coax toward your equipment than is conducted to the ground system by the tower. Such a large inductive voltage drop may cause arching between the coax lines and the tower which in turn could cause deterioration (pin holes in the coax for moisture to enter) or destruction of the coax lines.

Notice the word "bottom" in this section. Since all towers have some inductance, leaving the tower at a point above ground will allow some of the strike current to continue on the coax line (both the center conductor and shield) toward your equipment. Once at the equipment, the current will follow the chassis to the safety ground. This will elevate the equipment cabinets to deadly voltages. Deadly for both people and components.

Even though inductive properties of the coax cable

appear to be beneficial, and some extra inductance can be created by adding a few turns to the coax; don't do it. The added turns can also act like an air wound transformer which can couple more energy into the line. This is just the opposite of the desired effect. Instead make sure that coax lines leaving the tower remain at right angles to the magnetic field surrounding the tower.

Control and Coax Line Protection

Rotor control lines should be protected using a suitable protector at both the top of the tower where the lines go to the control motor and inside the shack at the single point ground panel.

If it is not practical to protect the lines at the single point ground panel, they may be protected at the bottom of the tower. The protected lines should then be placed within EMT (metal) conduit that is grounded only at the tower-base end. The EMT will act as a faraday shield from the tower's magnetic fields and will minimize the amount of induced energy.

Coax lines can also be protected from induced energy by using an EMT conduit grounded only at the tower-base end.

Single Point Ground

The next step in a good protection scheme is to provide a single point ground, a plate where all of your equipment I/O protectors can be located. The panel is best located near the ground to keep the inductance of the ground conductor low. However, if this requires the plate to be too far from your equipment (more than 10 feet or so) and if the magnetic fields of a nearby tower can easily couple into the interconnecting wires and cables, then the panel should be located close to your equipment.

An alternative to the single point ground plate is to use a rack panel. This is recommended only if all of the I/O protectors are mounted on the panel and the ground connection is directly to the panel and not to any other piece of equipment.

The grounding of the plate or panel is very important. A low impedance path to ground is a necessity and only copper strap should be considered. Since the strap is flat, its susceptibility to magnetic fields is only towards its edges. To prevent coupling, the strap should be oriented with the flat side parallel to the tower (the most likely strike point and magnetic field source). The single point ground plate should also be oriented with its flat side parallel to the tower for the same reason.

In the equipment room, each piece of equipment must be bonded to the single point ground panel with a low inductance strap. This will maintain all chassis at the same potential during the strike event and minimize chassis-to-chassis current flow.

The power, telephone and coax line protectors on each of the I/O's must be mounted on the single point plate. This will minimize I/O-to-I/O current flow.

Additional protectors may be used to protect the opposite side entrance locations for the power and telephone lines. These will provide added protection for jointly used equipment such as answering machines, appliances and etc. Ideally these should also be grounded and connected by a buried bare conductor to the ground system.

Remember that surge energy can enter your shack in either of two ways: from a strike down the road coming in on the power/telephone lines or from a strike to your tower. In either case, high quality protectors will dump the energy into the ground system. Because of varying propagational times, if the protectors are electrically spread out from each other, they cannot work in unison to keep the voltage levels between the equipment I/O's within a tolerable range for equipment survival.

No Sharp Bends

Route all ground straps and grounding conductors so they have a gentle bending radius. Bends sharper than 8-inch radius will add unwanted inductance to the desired ground path. Even for conductors buried in the ground, try to prevent sharp bends.

Protectors

Coax protectors should be units that have dc blocking on the center pin. This serves as a high pass filtering which prevents the low frequency energy of lightning from continuing to your equipment. The strike energy is picked off and diverted into the ground system in a controlled, preconceived fashion. The dc blocking ensures the operation of the protector regardless of the input circuitry of the equipment.

Did you know that protectors with dc continuity will not work on receivers and shunt fed duplexers? This is not a well known fact. The shunt to ground inside a receiver (coil to ground for static draining) prevents the low frequency lightning from being conducted by the dc continuity protector. The coil shunts the energy to ground all right, but it is at the wrong place. If the coil can't handle the energy (half the coax surge energy is on the center pin), the coil will open up and the current will translate to a large open voltage source capable of arcing anywhere within the radio.

The absolute best protector not only dc blocks the center pin energy, but also dc blocks the shield to your equipment. This type protector prevents the shield energy from continuing to your equipment chassis. When the protector's withstand voltage is exceeded during a strike event and if a proper single point ground system is in place, the voltage on the shield to your equipment will not exceed 10 kV.

Lightning protection can be summed up simply: You have control of the lightning strike energy and not Mother Nature. Once control is lost, all can be lost.

=====
Date: 25 Apr 94 02:31
From: VE3ANB@VE3DTV
To: HUMOR@USA
Subject: Three legged chickens

There was this guy driving along the highway at about 40 mph when he noticed in his rear view mirror an object moving up behind him at a rather rapid pace. As it drew nearer, he noticed what appeared to be a chicken. Disbelieving this, he stepped on the gas and increased his speed to 60 mph. To his amazement, the chicken did likewise and came right up to the bumper of his car. The driver thought, I'll show this little critter! He stepped on the gas again and was now cruising at over 90 mph and, sure enough, the chicken was right on his tail. This time, the chicken was now running parallel to the car, looked at the driver with a smirk, and overtook the vehicle and dashed off the highway into a farmers field.

The driver noticed that the chicken had three legs! Bound, bent and determined to investigate this freak of nature, the driver likewise took off into the farmer's field at a high rate of speed until he skidded to a stop in a cloud of dust right in front of the farmhouse. Seeing the farmer, he exclaimed, "My goodness man! Did you see a chicken come through here with three legs?" The farmer calmly replied, "Oh, quite likely, I raise them." The man in disbelief asked, "My oh my!, tell me, what do they taste like?," to which the farmer replied, "I have no idea, I've never been able to catch one."

de Rich VE3ANB@VE3DTV Member of the HAPPY CLUB.

Need Help?

Amateurs have a long history of helping each other. An experienced amateur who helps another is traditionally called an "Elmer." If you have a question or problem, you are encouraged to ask one of SCCARA's Elmers. Below is a list of topics including who to contact for each.

If you consider yourself to be reasonably competent in at least one area of amateur radio and would be willing help others, please ask the club secretary for an Elmer survey form and fill it out.

Antennas, feed-lines, tuners:
WB6EMR, AC6FU, K6PBQ, K6RQ, WB6YRU
Lightning protection, grounding: WB6YRU
Station set-up, equipment: AC6FU, K6PBQ, K6RQ
TVI/RFI: WB6YRU

Homebrew projects, construction:
AC6FU, KD6FJI, WB6YRU
Computers: KB6NP; IBM PC: WN6U, WB6YRU
Packet Network (BBS, forwarding): WB6YRU
Other digital modes (AMTOR, RTTY): WN6U
Code operating and installations:
WB6EMR, AC6FU, K6PBQ, K6RQ
Contesting & techniques: K6RQ
DX (long distance/propagation): WB6MER, K6RQ
Emergency operating/preparedness: WA6QYS
FM (VHF/UHF, repeaters): WA6VJY
HF operating techniques (SSB, CW):
WB6EMR, AC6FU, K6PBQ, K6RQ
Mobile operating: K6RQ, WN6U
QRP (HF low power, all modes): WN6U
TEN-TEN (10 M only): AC6FU
Classes/license upgrading: W6ACW, AC6FU
Legal/FCC rules: WB6YRU
SCCARA (club inner workings):
K06HH, K6PBQ, WA6VJY, WB6YRU, WA6QYS
Math applications: AC6FU
Children's Discovery Museum, volunteer operator:
K6PBQ

W6ACW, Ed Hajny, (408) 739-6105

WB6EMR, James D. Armstrong, Jr.,
day: (408) 995-0621, evening & msg: (408) 945-1202

KD6FJI, Lloyd DeVaughns,
day: (408) 299-8933, evening: (408) 225-6769
packet: home BBS KB6MER

AC6FU, Jack L. Ruckman, (408) 379-4846

K06HH, Don Hayden, (408) 867-4643
packet: home BBS NOARY

KB6NP, Jon Dutra, day & msg (408) 428-2058
evening (408) 867-8654
packet: home BBS NOARY
internet: jad@aol.com

K6PBQ, Don Village, (408) 263-2789

WA6QYS, Lou Steirer, (408) 241-7999
packet: home BBS NOARY

K6RQ, Frank Glass, (408) 356-1026

WN6U, Doug Eaton, (408) 377-3736
packet: home BBS NOARY
internet: wn6u@compuserve.com

WA6VJY, Stan Getsla, day: (408) 738-2888 x5929,
evening & msg: (408) 275-0735

WB6YRU, Gary Mitchell, msg (408) 265-2336
also (408) 269-2924
packet: home BBS NOARY
internet: wb6yru@arasmith.com

ARRL Pacific Division Update

June 1997

Sponsors for Volunteer Services Act

As previously reported in the Pacific Division Update, the Amateur Radio Volunteer Services Act was introduced in Congress in March of this year as H.R. 1013. If passed, it will place volunteers in the VE program and the Amateur Auxiliary under the protection of the Federal Tort Claims Act, which will afford them the same legal protection as employees of the Federal Government while carrying out their volunteer duties. At last report 29 cosponsors have signed up, an increase of 8 over last month's total. Two of the new cosponsors have come from Southern California, but none from any Pacific Division areas. This very important bill will require many more cosponsors before we can have some assurance of its passage. Please contact your Congresspersons and ask them to become cosponsors. A sample letter is on page 16 of May QST.

Amateur Spread Spectrum NPRM

On March 9, 1997, the FCC issued a Notice of Proposed Rule Making (NPRM), WT Docket 97-12, proposing to make significant changes in the regulations governing Amateur Radio use of spread spectrum (SS) technology. The changes are proposed in order to encourage greater use of this mode, a mode that is expanding very rapidly in the Part 15 commercial world. This NPRM was in response to an ARRL petition submitted on Dec. 12, 1995. The text of the Docket can be found on the FCC web site at <http://www.fcc.gov/bureaus/wireless/notices/1997/fcc97010>. See page 78 in the May QST for more information. Comments were due by May 5. Reply Comments are due no later than June 5.

Committee Proposes New Licensing Plan

One of the charges given to the ARRL WRC-99 Planning Committee by the ARRL Board of Directors early last year was to study the U.S. amateur licensing structure. A full discussion of the Committee's proposals related to the U.S. licensing structure is given in March QST at page 55. Please read it and offer your comments to ARRL and to me.

My thanks to all of you who have written already. I

have read each e-mail and hard copy letter and noted your thoughts. My goal is to respond to each of you in the Division who have written me directly.

Please remember that this is just a proposal and there is no certainty that the ARRL Board will adopt this or any other proposal on this matter. Further, it is not clear that the FCC is even interested in revising the Amateur Radio licensing and testing structure. In addition to the U.S. license restructuring matters, the WRC-99 Planning Committee of the ARRL Board was charged with the task of developing recommendations to be passed on to the U.S. Government delegation to WRC-99, dealing with potential changes in the International Telecommunications Union Rules governing the Amateur Service. This activity resulted in the survey published in QST last August, as well as an additional mail survey subjected to careful statistical controls. The results of this survey were published in QST for Jan., 1997.

ARRL VEC Pac. Div. Phone Number

To obtain all the Amateur Radio license testing information for the ARRL VEC Pacific Division, call (408) 984-8353. Follow the menu to obtain the necessary details.

Continuing New Antenna Ordinances

There is a huge new wave of antenna ordinances being proposed by cities and counties. These ordinances are being driven by the spectrum auctions and by new and expanding Cellular and Personal Communications Services licenses.

All of us need to be aware of this trend. When you first sense any of this action in your community, contact your Section Manager, the ARRL Regulatory Information Branch, and me immediately so that we can get help to you and the rest of the hams in your community. The key to a successful defense is to separate the commercial interests from Amateur Radio in the minds of the city officials. It's vitally important that your city or county officials understand Amateur Radio involvement with emergency communications - this story must be told repeatedly, especially before the antenna ordinance crisis develops!

Latest Band Threat News

The Little LEO companies were not able to advance their position at the April 7-11 meeting of PCC-III (Permanent Consultative Committee III-Radiocommunications) of the Inter-American Telecommunication Commission (CITEL) in Cartagena, Colombia. Practically none of the Little LEOs were there because their issues were stalled in Washington where they continued to be debated as part of US preparation for the

1997 Conference Preparatory Meeting (CPM) in Geneva the first two weeks of May. In other words, they couldn't get any paper out of Washington saying anything substantive until there is agreement between FCC, NTIA and State how far they can go to accommodate the Little LEOs while balancing that against the opposition from land mobile, broadcasting, amateurs and others. The FCC is making a last-minute attempt to improve the CPM text from the Little LEO viewpoint in a small meeting on Friday, April 18.

The basic decision facing the FCC is whether to give some support to the so-called 'flexible-allocation' approach (just give us up to half the spectrum below 1 GHz and trust us not to interfere) or to focus on specific bands. Then, they're likely to reassess the situation in late May after the results of the CPM are digested.

Page 76, May QST contains further background information.

Thanks to all who responded to the last minute plea for comments on the flexible allocation plan. The period for public comment has ended, so no additional comments on the subject will help at this time.

Continue to monitor the progress of this unfolding drama! For the latest news on this volatile issue, read QST, Pacific Division Updates in hard copy. Read ARRL Letter, Pacific Division Updates on e-mail; visit Pacific Division WWW site. Visit the ARRL home page at <http://www.arrl.org/> and select "Band Threat News." If you would like to contribute to the Fund for the Defense of Amateur Radio Frequencies, see page 76 of October QST for all the details. Unfortunately, the future of these threats is unknown. We won't be able to breathe easily about WRC-97 issues until the final gavel comes down on Nov. 21, 1997.

New Volunteer Counsel

It is my pleasure to announce that W. Stuart Home, WB6VRJ, has become a Volunteer Counsel in the Fresno area of the San Joaquin Valley Section. Welcome, Stuart!

Coming Events

- Livermore Swap Meet - 1st Sunday of each month at Las Positas College in Livermore, CA, 7:00 AM to noon, all year. Talk in 147.045 from west, 145.35 from the east. Contact Noel Anklam, KC6QZK, (510) 447- 3857 eves.
- Foothill Flea Market - 2nd Saturday of each month from March to October at Foothill College, Los Altos CA.
- ARRL Field Day, June 28-29, 1997

Brad Wyatt, K6WR
Director, ARRL Pacific Division

18400 Overlook Rd. #5
Los Gatos CA 95030-5850
(408) 395-2501 (voice & fax)



Packet: K6WR @
N0ARY.#NCA.CA.USA.NOAM
Internet: k6wr@arrl.org
Pacific Division WWW Home Page
<http://www.pdarrl.org/>

Newsletter Notes

I have a HP LaserJet IIP which is used to print the *SCCARA-GRAM*. This is a good printer, but the resolution is the older 300 by 300 dots per inch standard. This is fine for characters, but not so great for half-tone photographs suitable for photocopying.

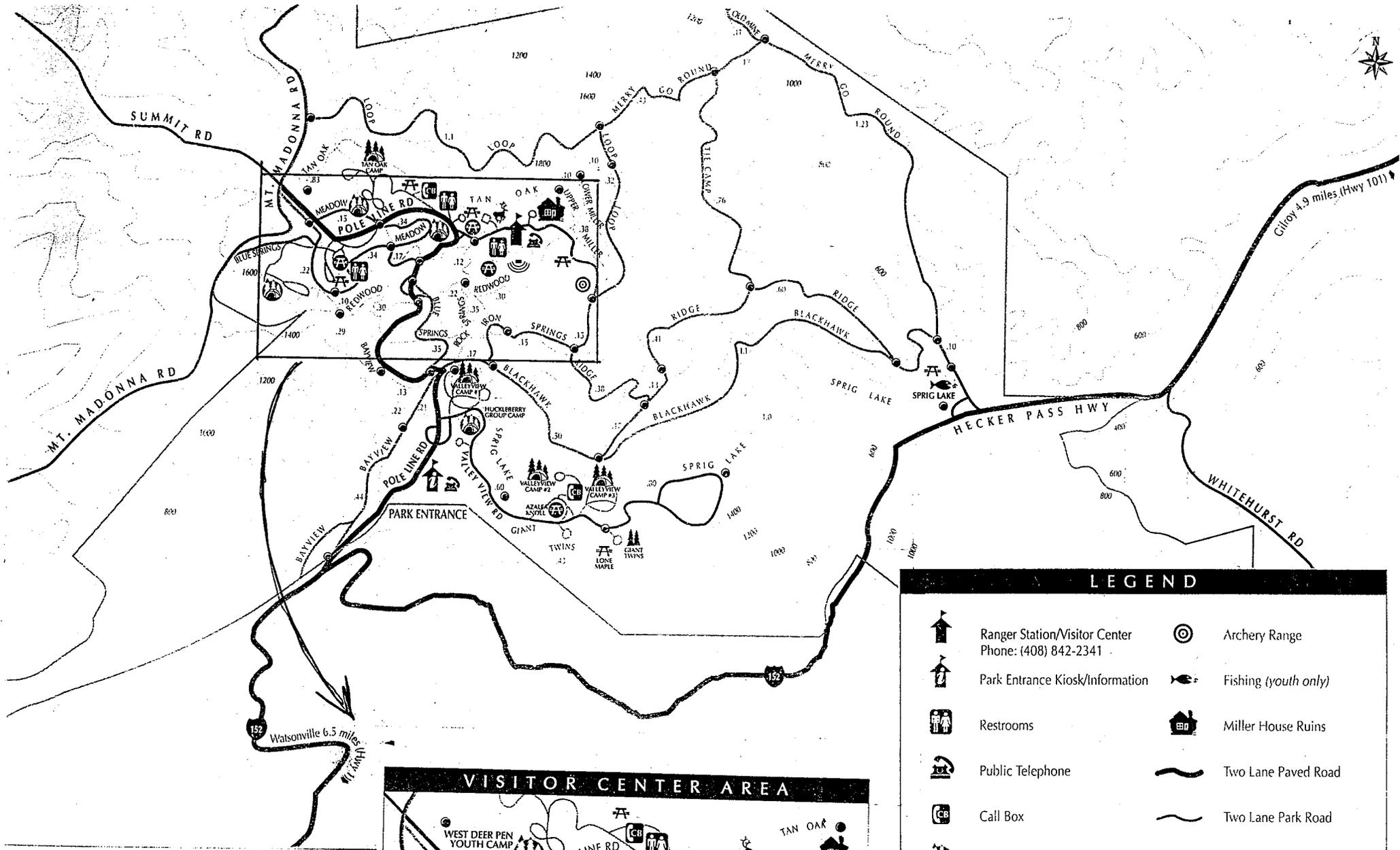
A few years back, Bob KB6OHO had his photos converted to half-tones commercially (at \$10 per page, by the way) for the *SCCARA-GRAM*. The half-tone pitch that produces the best quality is around 85 dots per inch. These days the photos can be scanned in and printed by the printer directly as opposed to gluing the prints to the master and *hope* the copier doesn't snag one. The problem is that a 85 pitch half-tone is really pushing it on a 300 dot per inch printer.

Some modern photocopiers have the ability to produce half-tones on the fly, so we've been doing that for the past few years.

Since I bought a scanner and since higher resolution printers are much cheaper these days, the board has decided to look into buying a 600 dot per inch printer and software upgrade for yours truly to use on the newsletter. Now, I wouldn't mind upgrading my word-processor and plugging in a better printer, but without a club photographer, I wonder how much good it will do. What the club needs to do at the same time is talk one of you into becoming the new club photographer.

So, if you're something of a shutter-bug, please give it some thought. Since Bob became too ill to continue producing photos, the newsletter hasn't been the same. It would be nice to spice it up again with pictures--and to do it with modern techniques. Field Day is coming up and it would be nice to get a few pictures of the club in action for the newsletter. If you are interested, contact me or one of the club directors.

73, Gary WB6YRU, editor



Watsonville 6.5 miles
 152

Enter the Manzanita
 camp area at the upper
 right.

WE WILL BE HERE



LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | Ranger Station/Visitor Center
Phone: (408) 842-2341 | | Archery Range |
| | Park Entrance Kiosk/Information | | Fishing (youth only) |
| | Restrooms | | Miller House Ruins |
| | Public Telephone | | Two Lane Paved Road |
| | Call Box | | Two Lane Park Road |
| | Reserved Campground | | One Lane Paved Road |
| | Campground | | Equestrian/Hiking Trail |
| | Reserved Group Picnic Area | | Footpath (hiking only) |
| | Picnic Area | | 1400
Elevation Contours (feet) |
| | Amphitheater | | Trail Distance (miles) |

Field Day is coming up!

1997 Field Day contest weekend is June 28-29. Mark your calendars!

For those who are new to amateur radio: Field Day is one of the biggest radio contests of the year. The underlying idea is to give amateurs practice making contacts under disaster conditions. This means the participants are encouraged to set up and operate portable stations. You can operate at home, but it's better (worth more points) to "setup shop" elsewhere. For the past several years we have been going up to Mt. Madonna County Park (Southern end of the county). We usually have a variety of stations and antennas. The stations have included phone, CW, digital, novice, solar, VHF, etc. The antennas have been: beams on towers (one is a sizable crank-up on a specially made trailer), a long wire, and miscellaneous dipoles and verticals. The more exotic the power source, the better. We usually use batteries, generators, and solar cells. We operate under a classification where several transceivers are on the air at one time. We are allowed a certain amount of time to set up--that's why some of us go up Friday afternoon. Once set up, we have 24 hours (starting at a specific time) to make as many contacts as possible. It's a lot of fun and a great way to hone those operating skills! Everyone is encouraged to participate. You can make a weekend of it or just show up for part of it, whatever you like.

The SCCARA Field Day weekend will again be held at Mt. Madonna County Park on June 28 & 29. Anyone who joins the set-up group going up on Friday, June 27 and stays through Sunday helping with both setup and tear-down will be able to stay for free. All others need to pay the camping fee of \$8.00 per night per vehicle. Those who won't be staying overnight will be responsible for paying the "day use" fee themselves at the Park entrance.

The Field Day Committee / set-up group will be forming soon. Dan WM6M agreed to be the SCCARA 1997 Field Day Chairman. If you are interested, contact Dan.

The club will be serving a BBQ dinner at 1:00 PM on Saturday and breakfast on Sunday morning. The Saturday dinner will be your choice of steak or chicken, plus all the "fix'ns." Please indicate your choice on this sign up sheet. The cost of the dinner is \$10 per person and the Sunday breakfast is \$5 per person. You must pay for these meals in advance so that we know how much food to buy--**Monday, June 23 is the cutoff date.** All other meals are pot-luck (nobody goes hungry) or fend for yourself if you wish.

We're expecting a great Field Day this year, so please come join us!

Name _____ Call _____

Address _____

City _____ Zip _____

Overnight camping fee @ \$8.00 / night / vehicle: \$ _____

OR

_____ I will join the set-up group going up Friday, then help tear-down Sunday.

_____ Saturday steak dinner(s) @ \$10.00 / person: \$ _____

_____ Saturday chicken dinner(s) @ \$10.00 / person: \$ _____

_____ Sunday breakfast(s) @ \$5.00 / person: \$ _____

Total: \$ _____

Please fill out this sign up sheet (or a copy) and get it to me before Monday, June 23. I can take it at the next club meeting or mail it with your check (payable to SCCARA) to:

Barbara Britten KD6QEI
585 S 14th ST
San Jose CA 95112

S.C.C.A.R.A. Membership Form for 1997

(Fill in name and address if there is no mailing label below; make corrections if the label is incorrect)

Name: _____ Call: _____ Class: E A G T+ T N

Address: _____ Licensed since (yr): _____

City: _____ State: _____ Zip: _____ - _____

Telephone: () _____ New Member I'm also an
 Renewal ARRL member

E-mail: _____ Packet: _____

For family memberships (at the same address), please list other name(s) and call(s):

Annual membership dues are payable at the first of the year and expire the following December 31. New members joining on or after July 1, pay half the membership dues.

Annual Membership dues: Individual \$15 Family \$20 Student (under 18) \$5 _____

I want _____ SCCARA badges @ \$3 ea. Badge name & call: _____

Please send the repeater Auto-Dial/Auto-Patch codes (no charge, circle): Yes
WE MUST BE ABLE TO VERIFY YOUR AMATEUR LICENSE
BEFORE ANY REPEATER CODES WILL BE SENT TOTAL: _____

Give this completed form (or copy) with payment to the Secretary or Treasurer at any meeting or mail to the return address below:

== PLEASE DO NOT TEAR/CUT ==

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