

SCCARA-GRAM



Santa Clara County Amateur Radio Association

Volume 13, Number 7

July 1997



Silent Key

We are saddened by the news of the passing of J. Ferris Norman, KC6VPZ known to us all simply as "Norm."

Norm was a fixture at almost all SCCARA functions in the last few years which was remarkable as Norm was afflicted with Parkinson's disease. He remained a good member until the end asking his wife Barbara to read the news in the *SCCARA-GRAM* to him while in a convalescent hospital. Mrs Norman said that Norm liked to keep up with what was happening in the club in his absence.

I have been provided some information on Norm's life by Mrs. Norman that I present here in our belated tribute to our fellow member.

Born in Kalamazoo, Michigan on March 21, 1918 Norm was adopted by foster parents in a small town where he stayed until he left home at about 16 or 17 years of age. He found work in the mills and auto factories in and around Detroit.

He joined the Navy in 1941 at age 23 and became a radioman. He served in the Pacific area and was honorably discharged in 1945 in San Francisco.

He drove buses and streetcars in San Francisco until he moved down the peninsula to Santa Clara county. He then drove buses in Los Altos for 14 years until financial losses caused he and others to be laid off with no compensation. He then drove buses for Santa Clara Transit District until he retired in 1987 after 14 years of service.

Norm was a DJ for many years and played at many weddings, birthdays, anniversaries and other social events. He walked everyday possible up until the day he fell and broke his hip on November 23, 1996.

Norm's interest in radio after the war was stimulated by CB radio. He later ventured into amateur radio and became a SCCARA member.

He was in a convalescent hospital in Morgan Hill until he passed away May 10, 1997. Services were held May 17, 1997.

Calendar

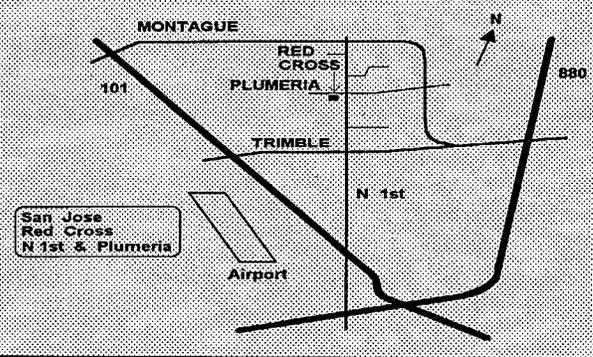
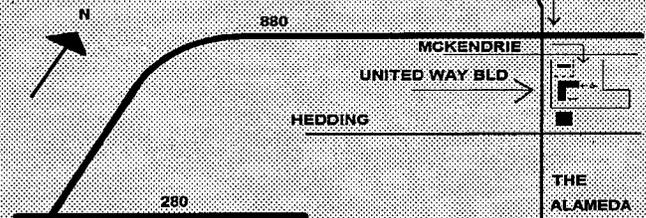
- 7/12 Foothill Flea Market--We host!
- 7/14 SCCARA General Meeting
- 7/21 SCCARA Board Meeting--(San Jose Red Cross, 7:30p, all are welcome)

Next General Meeting:

- Day: Monday, July 14, 1997
- Time: 7:30 PM
- Place: United Way Building
- Agenda: Earl Stevens, KC6ZDJ will talk about ARES/RACES

United Way Building 1922 The Alameda

From 880 in San Jose, take the Alameda turn-off South, left on McKendrie, then right into the parking lot (far end).



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
Secretary	Dan Dietz, WM6M	458-3460
Treasurer	Lloyd DeVaughns, KD6FJI	225-6769
Station Trustee	Stan Getsla, WA6VJY	275-0735
Director	Clark Murphy, KE6KXO	262-9334
Director	Don Apte, KK6MX	629-0725
Director	Don Village, K6PBQ	263-2789
Director	Lou Steirer, WA6QYS	241-7999
Director	Wally Britten, KA6YMD	293-3847

STAFF

Editor	Gary Mitchell, WB6YRU	265-2336
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

Our condolences to his wife Barbara on her loss. It is a loss to us all. A contribution will be made by SCCARA in Norm's memory to the National Parkinson's Foundation.

Dan, WM6M

Meeting Minutes

General Meeting, June 9, 1997



Meeting was held at United Way and called to order at 7:39 P.M. by president Jack Ruckman, AC6FU.

Self introductions were made.

The guest speaker was Roy Ruskin, W6II of Ham Radio Outlet who spoke on operating techniques and new amateur communications equipment.

Don, K6PBQ announced a reduction of the fee for meeting at United way. The new fee is \$70.00 per evening and represents a savings compared to the \$109.00 rate we had been paying. Noted also was that the \$70.00 fee would be a flat fee for the evening up until 10 P.M. Previously we were subject to an additional charge if our meetings lasted more than the prearranged amount of time.

It was discussed that we still may be approved by the management of Valley Villages to use their facility for meeting nights at no charge. A move to Valley Villages would probably necessitate a change in the hours of our club meeting if we continue to have it on Monday nights or possible a change to another evening.

Lou, WA6QYS announced SCCARA will host the July 12th Flea Market at Foothill College and that more volunteers are needed to staff the event.

Don, K6PBQ announced that the estate of Silent Key Bill Stevens, W6ZM includes some ham gear. A list of those items for sale will be published in the next SCCARA-GRAM.

Break

Wally, KA6YMD announced the persons planning on attending Field Day and having lunch should make their reservation immediately.

Jack, AC6FU announced that member Norm Norman, KC6VPZ became a silent key on May 10, 1977. Services were held on May 17, 1997. Unfortunately, SCCARA members were unaware of his passing. An article about Norm and his

life will appear in the next SCCARA-GRAM. It was also decided to make a donation to the charity of Parkinson's or cancer research in Norm's memory.

Secretary Dan, WM6M read the minutes of the general meeting of May 12, 1997 as they had not been published in the SCCARA-GRAM due to missing the deadline. The minutes were approved as read. The minutes of the board meeting held May 19, 1997 also were read and approved with corrections.

Gary, WB6YRU, newsletter editor remarked that he has looked into the cost of purchasing a suitable printer for newsletter use. It is hoped that we again will feature photographs in the newsletter for which purpose the new printer would be used. It was discussed and decided that the cost of color printing of the newsletter is not viable. Members stated their preference to keep the newsletter black and white.

Repeater committee chairman Wally, KA6YMD reported no changes in this area.

Lou, WA6QYS asked if any member knows the whereabouts the club's R5 vertical antenna. Mike, KB6LCJ made a motion that we make every effort to locate this piece of club property. We would like to use it at Field Day again and then install it at the Red Cross building for our radio room.

Dan, WM6M presented information regarding the club plans for Field Day 97 at Mount Madonna park on June 27-29, 1997.

Adjourned 9:55 P.M.

Dan Dietz, WM6M; Secretary

Board Meeting, June 16, 1997



Meeting held at San Jose Red Cross.

President Jack, AC6FU was absent. Vice-president Barbara, KD6QEI called the meeting to order at 8:08 PM.

Attending were Barbara, KD6QEI; Gary, WB6YRU; Lou, WA6QYS; Dan, WM6M; Don, K6PBQ; Wally, KA6YMD; Don, KK6MX; and Bob, N6PCQ. The start of the meeting was delayed until a quorum was present.

Reports:

Field Day Committee chairman Dan, WM6M reported that a work party consisting of Lou, WA6QYS; Gary, WB6YRU; Doug, WN6U; Wally, KA6YMD; and Dan, WM6M had done

maintenance and cleaning of the club's tower trailer on Saturday, June 21. Pursuant to this topic, a subsequent discussion of the need for have a tarp to cover the trailer was held. The crew had found rust and moisture inside the tool boxes and moisture inside the antenna rotors. Lou, WA6QYS made a motion to look into purchase of a "superior quality" tarp with an estimated price of \$100 to \$150. Motion seconded by Don, K6PBQ and was passed.

The number of persons signing up for dinner and/or breakfast at Field Day is low at this date. It was felt that many would make last minute decisions to attend. The cut-off date for reservations is June 23.

Repeater Committee member Don, KK6MX reported that the Memo of Understanding should be up for city council action this month or in July. It is hoped that action will be swift as our repeater hosts still wish to have the repeater relocated to another site.

Internet chairman Don, KK6MX reported that he has shopped for service providers and finds typical monthly rates to be \$20-25. The setup of a homepage is estimated at around \$500. It should take about one month according to Don.

Flea Market chairman Lou, WA6QYS reported that 18 persons have signed up to assist with the flea market on July 12. Additional helpers are welcome.

Newsletter editor Gary, WB6YRU reported that he has done some price and performance comparisons of printers for the newsletter preparation. It is generally believed that a printer capable of reproducing photographs of good quality will cost about \$800-1000. A software upgrade will be about \$100. Don, KK6MX supported the purchase of a printer and support software as did Barbara, KD6QEI. The printer would be purchased with the understanding it is on loan to the editor of the club newsletter and would be SCCARA property. Motion was made by Don, KK6MX to purchase a printer, second by Wally, KA6YMD. Motion passed. The purchase of the printer will not be made until the software issue is settled. Gary will continue to explore software upgrades and a decision on that will be made later. The point of exploring software is to insure that it will do what we want. Don has WordPerfect version 6.0 so Gary and Don will experiment to determine to best course of action.

Barbara, KD6QEI reported that SCCARA was not approved for use of the Valley Villages facility as the management felt the club would not interact with Valley Villages residents. Barbara stated that she told Pat Martinez that SCCARA would hold some classes in which their residents could participate. We will submit a new request including more information on how SCCARA would involve their interested residents.

A motion was made by Don, KK6MX to officially begin board meetings at 7:30 PM instead of at 7 PM. Second by

Barbara. Motion passed. It was again mentioned that club members are welcome to attend board of director meetings.

Meeting adjourned at 9:42 PM.

Dan, WM6M, Secretary

General Meeting, May 12, 1997



Meeting was called to order by President, Jack Ruckman, AC6FU, at 7:37 p.m.

Self Introductions by members and guests.

Jack announced that club liability insurance has been reinstated. A copy will be provided to Valley Villages for their review in consideration of our possible relocation of club meetings to their facility.

Vice President, Barbara Britten, KD6QEI, introduced a Ladies Program as our monthly topic. Participating were: Barbara Britten, KD6QEI; Trish Gibbons, WA6UBE; Virginia Metzger, K6IUU; Ruth Smith, KD6WPC; Joan Hastings, KB6LFZ; Sandra Buckingham, KD6ZDM; Regina Williams,, (call sign unknown); Joan Village, (no call sign); and Fran Elliott, KB6UUS.

The participants spoke of their introduction and interest in amateur radio and interesting experiences they have had related to the hobby. Barbara read a message to the club from Fran Elliott, KB6UUS, who was unable to attend the meeting.

Additional entertainment was provided by El Wirt, K6ZYY, and fellow members of the Fault Finders Barber Shop Quartet. Their program was well done and a new change of pace in entertainment for our club meetings, enjoyed by everyone.

Break. Meeting resumed with reports from various committees.

Lou, WA6QYS, announced that the Foothill Flea Market on July 12, 1997, will be hosted by SCCARA. Lou needs a crew to help-out with set-up through clean-up. Lou has twelve volunteers, additional member help is needed. Please contact Lou ASAP and sign-on.

Dan, WM6M, is the 1997 Field Day Chair. A committee has been formed consisting of: Don, K6PBQ; Lou, WA6QYS; Barbara, KD6QEI; Wally, KA6YMD; Doug, WN6U; and Gary, WB6YRU.

A planning meeting will be announced and held prior to the June general meeting. If you are interested in attending and participating in Field Day 1997, please contact Dan or any of the committee members. Also, please note that a Field Day Sign-up Sheet will be provided in the SCCARA-GRAM for your convenience.

Treasurer Lloyd, KD6FJI, announced no changes in the Treasurer's Report from last month.

Wally, KA6YMD, reported no significant changes in the repeater operation. Note that a Memo of Understanding (MOU) is to be presented to the San Jose City Council soon in the hope that the Club may receive approval to move the repeater from its current site to the City Radio Vault. Gary mentioned that changes in the MOU would be made prior to presentation to the City Council.

Newsletter Editor Gary, WB6YRU, announced that map to the Mt. Madonna Field Day site will be included in the next Newsletter. We should finalize our 1997 Roster soon.

Adjourned at 9:44 p.m.

Dan Dietz, WM6M, Secretary

Board Meeting, May 19, 1997



Meeting called to order at 7:42 p.m. by President, Jack Ruckman, AC6FU.

Present:

Jack, AC6FU; Gary, WB6YRU; Don, K6PBQ; Lou, WA6QYS; Lloyd, KD6FJI; Wally, KA6YMD; and Don, KK6MX

The Minutes of the previous Board Meeting were accepted as printed in the SCCARA-GRAM. Motion was by Lou, WA6QYS, and second by Wally, KA6YMD.

Repeater Committee:

Wally, KA6YMD, reported that Carla and Trish, WA6UBE wishes to know when SCCARA will remove the two meter repeater from their site. Don, KK6MX, reported that the City Council, upon presentation of SCCARA's Memo of Understanding (MOU) could make a decision on Wednesday, May 21, 1997. Gary, WB6YRU, had sent the forms to Station Trustee Stan, WA6VJY, for signing, however as of the time of this meeting, had not received a response. It was discussed that we should make every attempt to obtain the signed MOU from Stan, WA6VJY and deliver the MOU to Don, KK6MX who would be attending the City Council Meeting. Don, KK6MX will be presenting the MOU for

action at that meeting. (Dan, WM6M, picked-up and delivered the signed document to Don, KK6MX on Tuesday, May 20, 1997.)

Gary, WB6YRU announced that the N0ARY BBS upgrade is not complete because of a problem with the Kantronics 9612 TNC which should soon be resolved.

Youth Group Committee:

Jack, AC6FU stated that no Youth Group Report was available. It is not known if the Youth Group is active or will be active as we have not been in contact with George, AB6OZ. The Board expressed a hope that this activity will be reactivated soon.

Flea Market Committee:

Lou, WA6QYS stated that he needs more volunteers for the July 12, 1997 Flea Market which will be hosted by SCCARA.

Filed Day Committee:

Dan, WM6M reported that a committee has been formed and will soon meet.

President's Report:

Jack, AC6FU reported that the club's liability insurance has been reinstated.

Vice-President's Report:

Barbara, KD6QEI was unable to attend the Board Meeting. It is known that the speakers for the June and July meetings have been set. Also, to be discussed at the June meeting will be Field Day.

Internet Committee:

There was discussion of the need and usefulness of establishing a SCCARA Internet presence. Jack, AC6FU appointed Don, KK6MX to chair an Internet Committee. He will report on the feasibility of establishing a site and the estimated cost of authoring a Web Site and E-mail capabilities. (Note that this is a new committee.)

It was generally agreed that having a Web Site would enhance SCCARA's presence and advise of its existence to interested persons throughout the community. It would also provide an additional method of communication between members and future members. Information on upcoming events such as classes, meetings, or other activities would be among the items posted on the Web Site.

Newsletter Editor's Report

Gary, WB6YRU stated that we no longer have the services of Bob, KB6OHO (due to his extended and serious illness) who served as our Club Photographer for many years. Our thoughts are with Bob for a quick and complete recovery. Anyone who would be interested in volunteering to serve as the Club Photographer would be welcome. We would like to again have photos of activities in our Newsletter.

A Motion was made by Don, KK6MX and seconded by Don, KK6PBQ to investigate the possible purchase of a new, high

resolution printer, supplies, and software upgrade for production of the Newsletter. Gary, WB6YRU will report price estimates at the next Board Meeting. The Motion was carried.

It was noted that we should count the number of paid Club members. Dan, WM6M will review and correct the Club Roster and advise the status.

Adjourned at 9:56 p.m.

Dan, WM6M, Secretary

W6ZM Estate Sale

1. Yaesu FT-1000D HF XCVR with all filters	2750
3. ASTRON RS20A power supply new	90
4. ICOM R-71A Receiver w/extra filters	495
5. EF Johnson antenna tuner parts	125
6. Set of 1994 Callbooks	10
7. Weller 8100 soldering gun	25
8. Ungar Soldering pencil	8
9. ICOM IC-228A 2 meter mobile XCVR	225
10. ICOM IC-2400A dual band mobile XCVR	395
11. AEA PK-232 TNC	125
12. Henry Radio 2K Ultra HF amplifier	1125
13. Alinco EP-3030 Power supply	25
14. Heil Sound speakers (3)	30 ea
15. Drake W4 wattmeter	25
16. Alinco DJ-180 2 meter HT w/desk charger	sold
17. ICOM IC-3AT 220 HT w/BC-30 charger	200
18. ICOM IC-micro2AT 2 meter HT	175
19. Heil Microphone equalizer EQ-200P new	40
20. Yaesu FNB-4A Battery Pack new	35
21. Yaesu FT-709R 440 HT new	250
22. Kenwood PS-6 power supply 13.8 V, 3.5 A	35
23. Kenwood HC-10 world clock	25
24. Actronic iambic paddle	30
25. Hamco "The Carson" iambic paddle (similar to Vibroplex Brass Racer)	40
26. MFJ DXer's World Map Clock	15
27. Eimac 8873 vacuum tube (low emission)	50
28. B & W 550A coax switch (2)	20 ea
29. B & W 592 coax switch	15
30. Handy Power System I-6001	50
31. Astatic D-104 microphone (fair, no cord)	35
32. American Leigon 440 mhz J-pole new	15
33. ICOM BP-5 Battery Pack new	65
34. ICOM ICP-2AT 2 meter HT	185
35. Bird Model 43 wattmeter	sold
200-500 MHz 50 watt slug for above A50D	35
100-250 MHz 5 watt slug A5C	35
2-30 MHz 250 watt Coaxial Dynamics 82009	25
37. Swan WM300 wattmeter 3.5-30 MHz	20
38. RG 213/U coax about 50 ft (2)	12 ea

- | | |
|----------------------------|-------------------------|
| 39. Vacuum capacitors | call Don K6PBQ 263-2789 |
| 40. More Vacuum capacitors | " |
| 41. Vacuum relays | " |
| 42. Ham-M rotator | 165 |
| 43. AEA Isoloop antenna | 175 |
| 44. Drake low pass filter | 30 |
| 45. 3 foot tripod | 10 |

The phone number for contact is Delphie Stevens 408-377-6722. Items not described otherwise are very good to mint condition. Call Don K6PBQ at 263-2789 or Don at 867-4643 on the vacuum capacitors and relays.

73, Don KO6HH

Upgrade

On Sat. 6/21/97, Carl Winchester KE6ZXU upgraded to General class. Congratulations to Carl for his hard work.

Don Village K6PBQ

Spread Spectrum

League files spread spectrum reply comments

Replying to comments filed in response to the FCC's plans to relax Amateur Radio spread spectrum (SS) rules, the ARRL has suggested that the Commission "arrived at a balanced approach" in its Notice of Proposed Rulemaking (FCC 97-10, released March 3, 1997). The Notice proposed to amend Part 97 rules to facilitate spread spectrum communication by means of additional spreading codes and the incorporation of automatic power-limiting circuitry. The League said the Commission's notice was "carefully crafted to accommodate competing interests," including more flexibility for ham SS operation and avoidance of problems with other users, including narrow band ham operation and unlicensed Part 15 devices. The ARRL had originally petitioned for the SS rules changes.

The comments were split among those who felt the rules changes were too liberal and those who felt they didn't go far enough. Among the recurring themes were issues involving the incompatibility of narrow band modes and SS on the same bands and the requirement for automatic power control (amateur SS operations are currently restricted to a maximum of 100 W output). Under the proposed rule, operation about 1 W would require provisions to reduce power automatically to the minimum necessary. Some commenters recommended that the FCC also permit in-mode station identification and permit SS emissions on all ham

bands above 50 MHz. The League noted that concerns about possible SS interference with weak-signal and satellite work in the same bands were beyond the scope of the proceeding, because the Notice "does not propose to either increase power for SS emissions, nor expand the frequencies on which SS transmissions may be conducted." The ARRL said that because commenters cited no instances of interference, "there is thus no justification for imposition of additional restrictions on SS emissions." The ARRL filing added that informal band planning was the best approach to avoiding interference to narrow band users. The ARRL also deflected opposing comments of Part 15 users by noting that they "generally have no [legal] standing to object to Amateur Service rules changes."

The League urged the FCC to adopt the changes spelled out in its March Notice "without delay." The rules changes "will permit increased experimentation and continued protection against any increase in interference potential," the League's filing stated.

From the ARRL Letter June 20, 1997

Packet Pieces

Downloaded from the packet network:

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=====
Date: 31 Mar 97 00:10
From: N8QGE@N8QGE
To: INFO@USA
Subject: Station Protection Pt 2 of 3
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Ham Radio Station Protection

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

Shack Location

The basement is the best location for the shack. It is closest to ground and will have the lowest inductance connection to the grounding system. Because it is below grade, some magnetic shielding may occur. Most basements have concrete floors. Since concrete is a conductor, your equipment must not sit directly on the concrete. Doing so will allow surge energy to enter the shack and find a ground path through your equipment to the floor. Insulate your equipment with material that does not absorb water. Wood is not a good choice. Polypropylene is better than nylon to use as a full footprint sheet insulator. Needless to say, you should not be on

the concrete floor touching the equipment when a storm is near!

The first floor is the next best location. The magnetic shielding is less than the basement and the inductance to ground is higher. If your tower is close to the building, the recommended grounding strap, running down the building's outside, may inductively couple some energy from the tower. This is also true for other lines such as coax, tower lights and rotor lines. The longer this parallel run, the more energy will be coupled. Our recommendation is to protect these lines at the tower base then run them in EMT (electrical metal tubing) steel conduit. The conduit should be grounded to the tower base ground point. This will act as a faraday shield for the cables inside. Do not run unprotected lines in the EMT. The protectors must be grounded to each other as well as to the tower ground. The best way to do this is to place the protectors inside a weatherized NEMA type box. A NEMA 3R or 4X will do nicely. Make sure the box is grounded, as well as the inside mounting plate. To do this correctly, remove the paint from the box's outside and inside surfaces at the ground point and use proper joint compounds to weatherize the connections. Stainless hardware may be used. Crimp lugs must be crimped, soldered and weather covered. Solder (60/40) will not hold up to sun light and ozone without protection. Use a short section of strap or a pig tail to bond between the inside surface of the box and the inside protector mounting plate.

Our definition of a high rise building is different from upper stories of a house in that the antennas on a high rise are not on a ground mounted tower. Therefore, the single point grounding plan is a must for a high rise equipment room. The grounding of the antenna is a different story. Normally common grounding is recommended. Grounding both the antenna and the single point in the equipment room is easy for buildings with structural steel frames - just bond to the building steel. Buildings other than steel construction are not as simple. Some high rise buildings have a fire riser which has a home run to the basement where a super charger pump is usually connected. The riser may be used as a ground path if the pump's power is protected (3 phase) and a strap jumper installed to take the strike energy past the pump's gasket on both its input and output ports. If the riser is over 50 feet away, it may not be the best ground path to use. Check for other paths such as existing building lightning rods with down conductors or large electrical conduits. Do not use drain pipes or vent stacks. If none are available, regardless of the path distance, and it is impossible to run a strap down the side of the building, then the antenna just can't be grounded! When an ungrounded antenna is hit by lightning, the energy will traverse the coax line to your single point equipment ground location. This may be many meters from earth and the inductance/resistance voltage drop will be very large (hundreds of thousands of volts). The grounding plan is to have a single point ground with no

sneak paths. Sneak paths are loops that allow lightning current to flow into the equipment room. The easiest sneak paths to miss are the safety ground and the concrete floor (discussed above). The safety ground can be fixed by adding a distribution panel and protector at the single point ground location or, for small sites, a plug-in protector grounded on the single point ground panel. All I/O's (input/output) must be protected at this single point. The next thing to measure is distance. During a strike, distance equates to voltage drop to earth, the entire room of equipment will be elevated. The sharp corners of equipment cabinets can breakdown the air, causing current to flow. This will be a very low current unless another path is found by these streamers. Heater vents and electrical conduits which are not grounded to the single point can become such paths. It is a good idea to bond (ground) all conductive objects within 1 meter of any single point grounded equipment in the room.

Tower mounted equipment is similar to the above high rise situation. The I/O's must be protected and the protectors must be located and bonded together. Single point grounding should be easy to do if the equipment is mounted inside a metal enclosure.

Antenna Support

We covered grounding towers last issue using radials with ground rods. Ground mounted vertical antennas require the same type grounding for lightning protection. If you are operating on 160 or 80 meters, the lightning ground should make a great counterpoise for the vertical. Remember, a vertical's impedance is half of a dipole's. This means, the better the ground plane the worse the VSWR match to a 50 ohm cable. A vertical with a poor ground plane may give a better match. As the ground plane is improved, the match will get worse (35 ohms approx. for a full sized 1/4 wave). Don't stop short of a good ground plane. The better the ground plane for RF, the better the grounding for lightning. This is assuming that the RF ground plane is in the ground. (See GLEP page 20 for more information.)

Last issue we talked about not using trees and wooden poles to support antennas. If you are already using one, the best thing is to place two copper straps on the pole/tree. The straps will ground a VHF/UHF antenna and divide the strike currents with the coax cables. By using two straps, the inductance is further reduced. It is best to place the straps on opposite sides of the pole to reduce mutual inductance. The coax line should be run down between and clear of the straps. If you have a transmatch fed long wire and the pole is just supporting the antenna wire, it would be a good idea to have the grounded straps extend higher to intercept a strike or to divert energy to ground if the wire is struck. This can be done by either placing a high voltage gas tube between the long wire and the straps or by making an arc gap between the wire and the ground straps. A gas tube will

not be adversely affected by temperature, humidity, pollution, wind or other environmental factors, while the gap will be affected. It may be difficult to calculate the voltages present at the gas tube and it will change when switching bands. A rule of thumb is for about 7 kV. A gap would be about 0.175" at sea level with 50% humidity and grows larger with elevation/humidity. (Humid air is less dense. This is why clouds float!) Another gas tube may be added closer to the match box. For dipole antennas with baluns, use the same gas tube technique. Place gas tubes around the balun. Place one across the balun at the dipole wires and one from each side of the balun to the ground straps. This will protect the balun from a strike to the dipole wires and the more strike energy you can divert to the ground before it reaches your equipment, the better off you and your equipment will be.

Continuing with the chart, roof mounted antennas on a single story building were covered in the last issue and the high rise situation was discussed above.

Just a word to those who tell us that they are safe from lightning because they always disconnect the coax from their equipment. When asked what they do with the disconnected line(s), they invariably respond that it is placed on the floor. Now if you stop and think about the last few thousand feet that the lightning has jumped, you can see the fallacy of their thinking. In fact, they made it worse since arcing involves ignition temperature plasmas inside your house. True, the radio may still work, if it survives the fire. Throwing the coax out the window is not without problems, especially if the coax has already entered the house from the antenna or the antenna is roof mounted without a ground path. Grounding switches will not last long with direct hits unless other good ground paths are provided. Remember that grounding the antenna line and not disconnecting the coax shield can still allow strike energy to be shared with the equipment. The shield connects to chassis and if a single point ground is not present with power/telephone protectors, the equipment will be damaged.

Power/Telco entrance

The story of full protection for a ham shack must cover not only strikes to your tower but also hits from down the road to utility lines. By using single point grounding, your ham equipment will survive the hit to your tower. If your outside (tower/perimeter) ground has a low impedance, most of the strike energy will be dispersed into the ground and little energy will enter the shack. This is fine, but what if your ground has deteriorated over time or was never very good because of yard size? The ground system can absorb only so much energy and becomes saturated. In 90% of the strikes, a traffic jam of electrons will be coming down your tower. If they can not spread out in a reasonable time frame, the back up pressure (voltage) will find or create another path. The ground system, if too small in area, will cause more energy to

traverse the cables and other lines to the shack. The I/O protectors can keep the voltage levels between the single point ground and the signal line(s) at survivable limits, but the energy is only diverted elsewhere. This could be onto the house phone lines and power lines. Other house appliances may be at risk. When the ground system is saturated, the energy is actually coming from the (utility) ground system and can go through your TV, for example, in an effort to leave the area by way of the cable TV drop. Satellite dishes will also have the same problem. The best way to protect the rest of the house is to provide protection at a single point. The easiest single point will be at the power and telephone entrance. The utility ground rod (which should have been already interconnected to your ground system) is used by both the power neutral and the telephone protector installed by the phone company. By placing a power mains protector and a secondary phone line protector at this location, the entire house will be protected. The cable TV or outside antenna coax should be rerouted and a good coaxial protector installed at this point. The cable company installed protector is usually just a grounding block which will earth only the outside shield and does nothing to the center conductor energy which can have as much energy as the outside shield!

As your ground system rises from a strike, the protectors will take the ground system energy and place it on the power, telephone, and cable lines while keeping the voltages between earth and the active lines within the limits of equipment survival.

We stated above that the utility ground rod for the house should have already been interconnected to your ground system. What if this can't be done? If this is not done, the energy from the tower strike will traverse the house safety ground wires to this rod, causing problems. The reason to interconnect them in the ground using bare conductors was to reduce the inductance of the interconnecting path. It is true that the house wires are a parallel path and there is nothing we can do about it. If the interconnect path is better (lower inductance and resistance) the majority of the current will bypass the house wiring. The only alternative is to provide a copper strap path through the house. This may not be a sufficiently low inductance path and it will radiate to other wires/equipment inside the house.

The power and telephone feeds to your house can be either aerial or underground. Most people think underground is better from a lightning standpoint. This is really iffy. Buried underground, it will not be hit directly, but if a nearby tree is hit, the amount of energy coupled through the conductive ground medium can be almost equal to a direct hit. By being underground, the shielding effect to the wires is not great. The buried depth does little when compared to the depth low frequency strike energy penetrates. When you consider the cost of underground utilities, these and the aesthetics must be weighed.

=====
Date: 30 Sep 94 05:44
From: AC4CU@KF4OJ
To: HUMOR@USA
Subject: A knight returned

A knight returned to his castle at twilight. He was a mess. His armor was dented, his helmet scarred, his face was bloody, his horse was limping. The rider was listing to one side in the saddle. The lord of the castle saw him coming and went out to meet him, asking "What hath befallen you, Sir Knight?" Straightening himself up as best he could, he replied "Oh, Sire, I have been laboring in your service, robbing and burning and pillaging your enemies to the west"... "You've been what?" cried the startled nobleman. "But I have no enemies to the west!" "Oh!" said the knight, after a pause "Well, I think you do now."

From the Happy Club, 73 de Alfonso,
AC4CU @ KF4OJ.#ARCFL.FL.USA.NOAM

=====
Date: 12 Oct 94 21:32
From: N5EQO@N5UXT
To: HUMOR@USA
Subject: CHAPTER 11

When the preacher's car broke down on a country road, he walked to a nearby roadhouse to use the phone. After calling for a tow truck, he spotted his old friend, Frank, drunk and shabbily dressed at the bar. "What happened to you, Frank?" asked the good reverend. "You used to be rich."

Frank told a sad tale of bad investments that had led to his downfall. "Go home," the preacher said. "Open your Bible at random, stick your finger on the page, and there will be God's answer."

Some time later, the preacher bumped into Frank, who was wearing a Gucci suit, sporting a Rolex watch, and had just stepped out of a Mercedes. "Frank," said the preacher, "I am glad to see things have really turned around for you."

"Yes, preacher, and I owe it all to you," said Frank. "I opened my Bible, put my finger down on the page and there was the answer: 'Chapter 11'."

Nancy Carson
From The Happy Club de Nick N5EQO

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): WB6EMR, K6RQ
Emergency operating/preparedness: WA6QYS
FM (VHF/UHF, repeaters): WA6VJY
HF operating techniques (SSB, CW):
WB6EMR, AC6FU, K6PBQ, K6RQ
Mobile operating: K6RQ, WN6U
NTS & traffic handling:
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.,
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

July 1997

New Legal Protection for Volunteers

On June 18, President Clinton signed into law S. 543, "The Volunteer Protection Act of 1997" which should provide Federal protection from "frivolous, arbitrary, or capricious" lawsuits against our OO/AmAux and VE volunteers as well as other volunteers. The law is known as Public Law 105-19 which becomes effective on Sept. 16, 1997. The text is now available on the WWW at <http://thomas.loc.gov/cgi-bin/query/z?c105:S.543.ENR>. The text should also be available from other sources soon.

PL 105-19 is much broader in scope than the Amateur Radio Volunteer Services Act of 1997, discussed briefly below. To quote PL 105-19:

"The purpose of this Act is to promote the interests of social service program beneficiaries and taxpayers and to sustain the availability of programs, nonprofit organizations, and governmental entities that depend on volunteer contributions by reforming the laws to provide certain protections from liability abuses related to volunteers serving nonprofit organizations and governmental agencies."

See July QST, p. 15-16 for more details based on information available at QST press time. The legal community continues to review the details.

What about the Amateur Radio Volunteer Services Act?

Now that PL 105-19 is law, it is likely that H.R. 1013 will be withdrawn from further consideration.

As previously reported, the Amateur Radio Volunteer Services Act was introduced in Congress in March 1997 as H.R. 1013, by Congresswoman Anna Eshoo (CA 14th) from the Pacific Division area. This bill was designed to protect volunteers in the VE and the Amateur Auxiliary/OO programs. At last report, 29 cosponsors have signed up, an increase of 8 over last month's total. For now, let's see what PL 105-19 is and what Congresswoman Eshoo plans before we attempt to secure additional cosponsors for H.R. 1013.

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 of May QST for more information. Comments were due by May 5. Reply Comments were due on June 5. The text of the known Comments and Reply Comments can be found on the TAPR WWW site -- <http://www.tapr.org/ss>. Only 14 entities filed Comments, while a few more filed Reply Comments -- a very low number of filings for such an important issue. I urge you to read the filings and participate now even after the deadline.

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. It is interesting to note that so far there seem to be as many views on this matter as letters and messages received. There is clearly no consensus of opinion.

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 proposal it developed, the WRC-99 Planning Committee of the ARRL Board was charged with the task of developing recommendations to be passed 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, 1996, as well as an additional mail survey subjected to careful statistical controls. The results of this survey were published in the Jan., 1997, QST.

VEC Pacific Division 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.

Avalanche of 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 number of Cellular and Personal Communications Services licenses being issued.

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 responsible 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

After another round of meetings in Geneva concluded in mid June, it appears that the Little LEO companies have not been able to advance their proposal for the "broad allocation" scheme they submitted to the US delegation to WRC 97. The FCC/NTIA apparently have not been able to develop a position on this whole matter as yet.

This situation may remain this way until WRC 97 opens in Geneva in November. However, other country's delegations may yet propose this or some other scheme as the Little LEO companies have been busy in other parts of the world trying to sell their ideas. Also, while it is possible that in WRC 97 nothing may come of this matter, the Little LEO companies are not giving up. Regardless of what happens at WRC 97, they are sure to be back for WRC 99. However, their fate may be resolved for them by the financial markets as it evaluates Little LEOs with other competitive satellite programs. See page 71, July QST for more information.

On another topic, unhappily we may be coming closer to having the wind profiler devices in the 70 cm band. Details are very sketchy, but ARRL is trying hard to be sure that if there are any allocations they are not in certain key parts of the band. Remember that our allocation at 70 cm is secondary not primary.

There is some interesting news on the entire Spectrum Auction process. Some in Congress are having second thoughts on several aspects of this process. See page 16, June QST and page 16, July QST.

Amateurs Named to CQ Hall of Fame

At the Dayton Hamvention, Bob Ferrero, W6RJ, and Bob Vallio, W6RGG, were named to the CQ DX Hall of Fame, and Carl Cook, AI6V, was named to the CQ Contest Hall of Fame for their contributions and accomplishments in their respective fields. Congratulations guys!

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 Hills, CA.
- ARRL Field Day, June 28-29, 1997.
- Humboldt ARC Hamfest, Aug. 2-3, 1997, in Eureka, CA. Contact Wayne and Cynthia Carlson, KF6AAP & KF6CMC at (707) 668-4396.
- River City Hamfest, Aug. 16, 1997, at Bella Vista High School, Fair Oaks, CA. Contact Lewis Tuttle, AC6QP, (916) 771-2336.
- Sonoma County Radio Amateurs Hamfest, Sept. 20, 1997, at Sebastopol CA. Contact Rick Reiner, K6ZWB, (707) 575-4455.
- Pacificon'97 (Pacific Division Convention) to be held at the Concord Hilton, Concord CA, Oct. 17-19, 1997. For information: (510) 932-6125; PACIFICON@designlink.com; WWW <http://www.mdarc.org>. Hotel reservations 1-800-826-2644 for the special room rate.

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.pdarrrl.org/>



Newsletter Notes

The board has approved the purchase of a printer capable of printing reasonably high-quality half-tone photos in the newsletter. This will allow any electronic photo to be printed directly on the page along with text. (I have a scanner, so any photo submitted can be turned into electronic form.) The advantage is that we won't have to glue photos directly to the masters and hope they survive the trip through the copy process.

There is still some question about the software's ability to deal with this properly. Don KK6MX has a later version of WordPerfect (the software use) so we can experiment. The printer will be purchased only after the software issue is settled.

The only thing remaining is a club photographer! Bob KB6OHO is too ill to continue as club photographer (thanks, Bob, for the years of service to date), so we need someone to take over. It doesn't have to be a big deal, just a few snapshots here and there to help spice up the newsletter and record our activities such as Field Day.

73, Gary WB6YRU, editor

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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AMATEUR RADIO ASSOCIATION

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