SCCARA-GRAM

Santa Clara County Amateur Radio Association

Volume 10, Number 10 **October 1994**

President's Prose

Hope all of you made it to the September spaghetti feed, it was great! We had 52 members and family show up, one of our best turnouts in recent memory.

While I'm on the subject of food, (one of my favorite subjects!), I should mention the SCCARA holiday dinner which will be on Friday December 9th this year. We'll be moving to a new restaurant this year, so don't go to Renzo's by mistake! The new spot is the Willow Glen Inn at 1072 Lincoln Ave. in San Jose. Our festivities start at 6:30 and dinner will be served at 7:00. The menu this year is a choice of: New York steak, chicken saute, or halibut. We only have room for 60 people in the dining room, so get your reservations in early if you don't want to be left out. There's a form in this SCCARA-GRAM where you can sign up for the dinner.

At the September board meeting, the board members decided to go ahead with the SCCARA contest. This will be a regular radio contest, the object is to make as many contacts as possible in the allotted 3 hrs. The event is open to SCCARA members only and will happen on Saturday November 12th. The starting time is 2:00 PM PST and it will end at 5:00 PM. The frequencies to be used are as follows:

BAND	CW FREQ.	SSB FREQ.	FM FREQ.
40 M	7.125 MHz	7.285 MHz	
15 M	21.125 MHz	21.400 MHz	
10 M	28.125 MHz	28.385 MHz	
2 M	144.125 MHz	144.125 MHz	146.535 MHz

Each CW/digital contact is worth 2 points and phone contacts are 1 point. Hams first licensed in '93 or '94 will get a bonus multiplier: points x 2 if licensed in '93, or points x 3 if licensed in '94. Novices and Technicians also get a bonus: points x 2 for phone contacts, or points x 5 for CW/digital contacts! Single operator, single transmitter (at a time), and 150 watts maximum power. Once again, the contest is for SCCARA members only! A certificate will go to each participant who sends in a log.

Also under discussion at the board meeting was the SCCARA repeater. It has been noted that it is often hard to raise someone on the repeater. We are looking for some club members who might be interested in monitoring the repeater in case someone needs assistance. Please contact Don KO6HH (formerly KC6WMM) or myself if you can help out.

Calendar

10/10 SCCARA General Meeting
10/21-23 Pacificon 94
10/24 SCCARA Board Meeting--(San Jose Red Cross, 7:00p, all are welcome)
11/14 SCCARA General Meeting--elections!

Next General Meeting

Day: Monday, October 10, 1994
Time: 7:30 PM
Place: United Way Building
Agenda: George Washbrun, WA6YYM, district coordinator for Santa Clara County ARES/RACES, will talk about emergency communications

The United Way Building, 1922 The Alameda, San Jose, (about one mile South West from the San Jose Air Port). From I-880: take the Alameda turn-off going South for ½ block then turn left on McKendrie. From the South: go North on the Alameda, ½ block past Hedding turn right on McKendrie. Immediately turn right into the parking lot just behind the small church on the corner. The entrance is up the steps at the South East corner of the building. There is wheelchair access at another door at the North East corner, but for security reasons, only one door is open at a time--someone will have to notify the guard if you need wheelchair access. Also, try not to be too late--the doors may be closed with nobody around to let you in.

NEW LOCATION! The San Jose Red Cross: South-West corner of North 1st St. and Plumeria Dr., San Jose. Plumeria is North of Trimble and South of Montague Expressway. From the South on I-880, take the 1st Street exit, go North. From the North on I-880, take the Montague (Trimble) exit, go West to Trimble then turn right (North) on 1st. From the South on US-101, take the Trimble (De La Cruz) exit going North, then turn left (North) on 1st. From the North on US-101, take the Montague exit going North/West, then turn right (South) on 1st.

The main entrance faces Plumeria, go straight in past the front desk. The radio room is in back of the conference room on the left just past the rest-rooms. **Board meetings are open to all.**

The *SCCARA-GRAM* is published monthly by the **SANTA CLARA COUNTY AMATEUR RADIO ASSOCIATION**. Permission to reprint articles is hereby granted, provided the source is properly credited. SCCARA is an affiliate of the American Radio Relay League.

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

Articles for the SCCARA-GRAM must be submitted to the editor by the last Monday of the month.

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Flea Market	Gary Mitchell, WB6YRU	265-2336
Repeater	Keith Butts, KN6K	248-3849

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 with a small subscription fee. 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 2 meter repeater: Mondays at 7:30 PM, (not the second monday--it's our meeting night). Net control: Joe WA6DXP.

On 10 meters, 28.385 MHz USB, Thursdays at 8:00 PM. Net control: Wally KA6YMD.

Visitors are welcome to join in on the SCCARA nets.

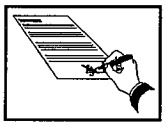
IMPORTANT TELEPHONE NUMBERS

SCCARA HOTLINE:	249-6909
ARRL CLASS HOTLINE:	971-1424
ARRL LICENSE (VEC) HOTLINE:	984-8353

SCCARA's Technician license class is off to a good start this Fall. At the first meeting we had 33 students. The CW portion of the class started with 20 students! The class will run until November 17th.

The speaker at the October meeting will be George Washburn, Deputy EC for Santa Clara County. He will give a discussion on Emergency Communications. Hope to see all of you there!

73 de Doug WN6U



Good and Welfare

We talked to Bob Keller, KB6OHO, who is home now and fast recovering from his five bypass heart surgery. He seems much more like his old self. One more week and he should be able to drive his car. Believe me, you really feel grounded when they take away your wheels. Bob has retired in the interim and can now look forward to the good life! Welcome back!

Dick Barrett, W6CFK, called me the other morning about the death of a close friend and former SCCARA member, Col. Robert C. Walton, W6SYL. Dick has written an eulogy for his friend, which follows:

September 18, 1994

Col. Robert C. Walton, W6SYL, a former member of SCCARA, died Friday evening, Sept. 16, at his home at 580 S. 15th St., from an apparent heart attack. In his mid 80's, Bob had lived alone for the past few years since the death of his wife at the wheel of her car, also from heart failure. Bob was an active CW operator who made a career in the Marine Corps, serving for 32 years.

As a young fellow, Bob worked part time at Quement's store when it opened, taking electronic parts as part payment. He was attending San Jose State's police school (and eventually was police chief in Carmel). While still a student, he worked for Charlie Litton, 6AO, at the Federal Telegraph Laboratory in Palo Alto, making vacuum tubes, as did Harry Engwicht, W6HC, founder of SCCARA.

"We both pumped 10 KW water cooled tubes," he said in a letter written a week before his death. "In addition, I tested all we made and delivered them to the Mackay stations, KFS among them."

Frank Quement had been commissioned at Lt. jg, US Naval Reserve, to enlist qualified hams as communications Volunteer Specialists. Bob joined up. He was finishing his college work when he was asked if he would accept active duty orders with the Office of Naval Intelligence at 12th Naval District HQ in San Francisco. The invitation was timely, as Federal Telegraph was closing and moving to New Jersey, where he did not wish to go. After two years with the new job, he was offered a commission

as second lieutenant in the Marine Corps.

Bob served in World War II and after duty in Samoa and on Guadalcanal was ordered to report to CINC PAC at Pearl Harbor. He went to the Fleet Post Office at Pearl looking for some stray mail and said he got some lip from a chief postal clerk at the counter. He asked to see the officer in command, and who should appear but Lt. Cmndr. Frank Quement, who was in charge of the post office. Quement stopped, braced, and saluted, Bob being one rank senior. He told his crew he had been Bob's commanding officer and Bob promptly got his long delayed mail.

"We had a pleasant supper and gab-fest at the Makalapa Officers Club," Bob said.

Bob was at various time at Ft. Monmouth, Guantanamo and other bases. When I was in Hawaii in 1954, the Waltons saw my picture in the paper with a tour group and had me come to their place in Pearl City for dinner with them and their three sons. In 1975 when I was on a watercolor workshop in Cabo San Lucas, I got sick and was feeling pretty low when Bob and his wife popped up unexpectedly. They had arrived in a Volkswagen to take a ship to Pueto Villarta, driving from there to Mexico City.

In recent years, Bob had been taking trips to Ireland. He had lost his voice to cancer. He was an "atomic veteran," having witnessed bomb tests in the Pacific, and when he went to a V.A. hospital, got priority service.

He was a good CW operator and was also into computers for on-the-air use. He was active with PARG on 40 meters. He put up my rotary beam for me and was helpful in other ways. We were friends for almost 60 years.

--- Dick Barrett, W6CFK

We thank you Dick for bringing this to our attention and your continuing regard for your departed friend. It is unfortunate indeed that we never get to know a fellow member until he is written up as a Silent Key.

de WD6CHD, Ed

Treasurer's Treatise

I just returned from our SCCARA board meeting. As is usually the case, all board members were present and a fair amount of business was transacted.

The September dinner (53 paying customers) netted $49 after paying for the food ($91) and the room ($125). Not bad for a nights work.

The board voted to keep the dues at the same level for 1995 and as you likely know, 1995 dues (and holiday dinner reservations) will be kicked off starting with this newsletter. We picked up two new members and two renewals at the dinner and they also are our first paid members through 1995. They are Milton O'Hara AA6ON (renew) and Robert Avina WB6VXA (renew) and Thomas Jew KE6FQV (new) and Bill Parent (new and working on his ticket).

Don't forget that election time for your 1995 SCCARA board is moving along. I have been treasurer for two years and its time for me to move along. I would prefer to get "someone" trained up so that the transition can be easy. If our reelection committee calls upon you, why not say YES.

73, Mike KB6LCJ, Treasurer

Meeting Minutes

Santa Clara County Amateur Radio Association General Membership Meeting, Sept. 12, 1994

Dinner Meeting. 7 P.M. Dinner is served.

8:05 P.M. Doug, WN6U, called the meeting to order. Self introductions followed as is our custom.

Doug, WN6U, announced that the new amateur radio class will start September 15, 1994 at the City of Santa Clara Education center on Benton Street.

Gary, WB6YRU, announced that SCCARA participated in its last flea market. No more treasures will be accepted.

Ed, WD6CHD, announced that Bob, KB6OHO, had 5 heart bypasses and is doing fine.

Barbara, KD6QEI, is now Assistant Director for Disaster Health Services for the Red Cross. This is a volunteer position.

Don, K6PBQ, announced that the Christmas dinner will be Dec. 9, at the Willow Glen Inn on Lincoln Ave. in San Jose.

8:19 P.M. Meeting adjourned.

73, Lloyd KD6FJI, Secretary

Election Committee

There are still some openings for officers. Elections will take place at the November meeting. It's important to have at least one person running for each position. Last minute nominations can be made at the November meeting, but it's far better to have all candidates on the list by the end of the October meeting.

If you might be interested or just have some questions, please contact Don KO6HH (formerly KC6WMM) or myself. There are also plenty of current and former

officers to talk to if you want to know what it's like.

Gary, WB6YRU, election committee

Moved and Seconded

September Board Meeting

SCCARA currently has 156 members.

The club's station tower at the old Red Cross building is old and not in very good condition. The board voted to relinquish ownership of it. This means that, since it's still connected to the old building, whoever takes over the building also gets the tower.

The board voted to keep the annual dues the same.

The board voted to purchase a brief case for the secretary. This should make it easier for club records to be passed on from one secretary to the next over the years.

The final details of the club contest were ironed out. The maximum power will be 150 watts. It will occur on November 12 at 2 PM PST through 5 PM PST (3 hours). Only club members may be contacted for points and each station may be worked once per band per mode (for example, a given station may be worked on 10 meters CW and again on 10 meters voice). The log report must include the time, band, mode, call, and signal report. The next SCCARA-GRAM will have a sample log sheet.

The club property list is being updated. Any club member who has something belonging to the club should check with Gary WB6YRU to make sure the stuff is listed and the information is accurate.

Flea Market

This will be my last report for SCCARA's regular flea market fund-raiser and the end of my reign as its committee chairman. (Not to be confused with our annual turn at *hosting* the flea market, which I expect SCCARA will continue.)

As I indicated last time, we did not have a booth at the September flea market, which was the last of the season. For the first time in quite a while, I had a chance to leisurely walk around the flea market. I was surprised to find that several people recognized me and asked about the SCCARA table. We've established a significant presence there over the years and evidently are now conspicuous by our absence.

Despite missing September, this fund-raiser earned $1263.23 for 1994. Assuming storage costs start at the first of the year, $360 goes to pay the locker rent through August. (The locker costs $45/mo. or $540 for a full year.) After deducting all expenses, including the locker, the flea market effort has added the following amounts to the repeater fund:

$903.23 in 1994
$793.20 in 1993
$546.04 in 1992

Frank AA6LL turned over the chairmanship to me at the beginning of 1992, the treasurer should have the figures for previous years, if anyone is interested.

Our repeater fund is now well over $5000. This might sound like a lot of money, but the repeater committee may need to buy some equipment soon which could easily run into the thousands. Keep your eyes open for information about that in future SCCARA-GRAM's. If things get tight, we could even supplement the repeater with the general fund; so, I think the repeater is now in pretty good financial shape.

A bit of history and commentary:

Years ago, our repeater could just barely claim to be such. Resembling more than anything else, one of our boxes of junk at the flea market, its performance and reliability was sorely lacking. The story I get is that the club didn't want to spend money, especially on a poor repeater... and of course, the repeater was that way for lack of funds.

Frank McCormick AA6LL decided to break this catch-22 situation by starting a separate fund under control of the repeater committee--something the rest of the club had little control over. He solicited donations of radios and electronics to be sold at the flea market. Acting somewhat like a subsidiary of a larger corporation, the repeater committee kept these proceeds in their separate account. Eventually, the volume of donations required the use of a storage locker. Thus was born SCCARA's flea market fund raiser for the repeater.

When I joined the club in 1990, the SCCARA booth was typically manned by at least three people, usually more. It was as much a social gathering as it was a fund-raiser. One of my reasons for joining was to donate a bunch of electronic stuff to a worthy cause. In that regard, I'm happy to say I was among those who made large donations--mine accounted for several hundred dollars. I was a little surprised to find myself selling my own donations, but that was OK.

Gradually over the years, the "regulars" either moved away, passed away, lost health, or lost interest. Eventually, it became common for the SCCARA table to be manned by just one or two people. Aside from this making the club look bad to the flea market folk, it's just too much work for so few people. I'm sorry to see the club vote to stop this activity, but without more interest and participation, it's the only thing to do.

Perhaps this is a good time to remind everyone that a club like SCCARA is only as good as its members. There is no "them" in this club... SCCARA is YOU. The more active and vibrant its members, the more active and vibrant is SCCARA. If a fund-raising effort at the flea market isn't exactly your cup of tea, that's perfectly OK. You don't have

to be interested in or participate in everything. But DO get involved! If your favorite amateur activity isn't being done, your welcome to make a start here. It would be fun to have a few special interest groups within the club.

In closing of this chapter in SCCARA's history, I'd just like to say, on behalf of SCCARA and the repeater committee, to all the donators, large and small, and to all those who helped turn those donations into money: a great big THANK YOU!

73, Gary WB6YRU, Flea Market Committee Chair

Pacificon 94

Pacificon 94 will be held on Friday through Sunday, October 21-23, at the Concord Hilton Hotel (Diamond near Willow Pass, Concord). Sponsored by the Mount Diablo Amateur Radio Club. Pacificon 94 events will include technical sessions, a swap meet, vendor exhibits, T-hunt, VE testing, the Wouff-Hong Ceremony, foot & fanny contest, drawings and raffles, a bus tour, and the Pacificon Banquet.

Admission is $3 in advance, $5 at the door. The banquet is $29 each (indicate entree choice of prime rib, chicken, or vegetarian). The "Old Town Trip" is $20 each. The deadline for advance reservations is Oct. 15. Hotel room rate is $70 if you mention you're there for Pacificon, (Concord Hilton: 1-800-826-2644).

For more information, contact: Pacificon 94, POB 272613, Concord CA 94527, (510) 932-6125.

December Meeting

Christmas Dinner

Our December meeting will be our annual Christmas Dinner. Our dinner will be on Friday, Dec. 9th, at the Willow Glen Inn, 1072 Lincoln Avenue, San Jose (between Willow and Coe).

The menu choice this year will be three items: N.Y. steak, chicken saute with artichokes, and halibut steak. This is a complete dinner with salad, bread, entree, coffee, and dessert. The price is $16 per person. Space is limited to 60, so get your reservations in early to guarantee a place, but no later than Nov. 25th. Please specify your entree choice on the sign-up form.

Cocktails will start at 6:30 PM and dinner will start at 7:00. Talk-in on our repeater, W6UU, 146.385+. Looking forward to seeing you there!

73, Don Village K6PBQ

Antenna Testing

de WA6VJY, Stan, 9/26/94

A friend of mine asked me about testing antennas recently. He wanted to do some relative gain testing between about three or four different antenna designs. Since he has a real minimum of equipment, I had to think for a while before I was able to outline a way for him to accomplish his testing.

The following items are needed:

1. two transceivers for the band of interest
2. an AC voltmeter with a dB scale
3. a "reference" antenna
4. a step attenuator capable of 1dB steps from 1dB to about 40dB (see any ARRL Handbook for details on construction)
5. various adapters and cables to connect things together
6. a repeater (where you have permission to perform some on the-air testing

Here's the procedure:

1. With the first transceiver, connect the AC voltmeter to the audio output. Set the squelch wide open and audio gain controls such that when there is no signal into the transceiver, the pointer on the voltmeter deflects. Note the level displayed on the voltmeter. Do NOT change the squelch or audio gain controls.
2. Connect your reference antenna to the step attenuator and the step attenuator to the transceiver (do NOT transmit into the step attenuator at any time!) Using the second transceiver, key up the repeater and quickly (before the repeater drops off the air) insert enough attenuation in the line so that the voltmeter now reads 10 db below the audio level when there is no signal being received. (This level of attenuation is what is necessary to reduce the received signal level to the point where the receiver is about 10dB "quieted" from the "no signal" condition.) Make a note of the amount of attenuation used to obtain this amount of quieting. (Note: there should be no audio modulation on the repeater at the time you are making attenuator adjustments and voltmeter readings. This type of test depends on noise generated in the receiver discriminator, not external modulation from the signal source.)
3. Change the antenna to the one you wish to measure relative to the reference antenna.
4. Key the repeater again using the second transceiver and quickly adjust the step attenuator so the voltmeter again indicates the audio level which represents 10dB of quieting. Note the attenuator setting for this antenna.
5. Subtract the second reading from the first. The result is the gain (in dB, positive or negative) of the antenna under test relative to the reference antenna.

Here's an example:

A setting of 17dB is inserted in the attenuator to obtain 10dB of quieting using a 1/4 wave antenna.

Now change to the antenna you wish to test. (By the way, both antennas MUST be positioned in the SAME PLACE, one after the other, for this test to be valid. A change in location of 2-3 inches can be significant, especially at UHF frequencies!) Key the repeater using the second transceiver, and insert or remove attenuation as necessary to obtain 10dB of quieting again, this time using the test antenna. Say you need to insert 22dB of attenuation to obtain the same level of quieting with the antenna under test. Make a note of the attenuator setting. The test is complete at this point and it's time to do the math. If you had to insert MORE attenuation to get the same quieting, you have an antenna with MORE GAIN than the reference antenna (22dB - 17dB = 5dB). Your test antenna has 5dB gain relative to your reference.

Typically, a reference antenna is a dipole, but a 1/4 wave spike will do also. These antennas do not have much gain at all. If you had to remove attenuation to obtain the same quieting, your antenna has less gain than the reference. (If you have less gain than a 1/4 wave spike, you probably now have a dummy load connected!)

If you are testing a Yagi and using a 1/4 wave antenna as a reference, the location of the 1/4 wave antenna should be the same as the first element (director) at the front end of the Yagi (not the director immediately in adjacent to the driven element).

A few words of caution:

1. You should obtain the permission of the owner(s) and users of the repeater you intend to test with prior to starting your testing. Identify and indicate you will be doing some antenna testing. If the owner(s)/users don't object, test away. Otherwise, find another machine. This test can be done with a friend on a simplex frequency, provided the signal source location and power level is fixed throughout the test and has a sufficiently strong signal to fully quiet your receiver when no attenuation is used with the reference antenna.
2. Antenna testing should be done as far away from metallic objects as possible.
3. As always, stay away from power lines. This is supposed to be a fun hobby, not a lethal one!

73 and good luck!

Newsletter Notes

The ELMER questionnaire is here again this month. I know there are MANY people in this club with a wealth of experience and knowledge, AND (I like to believe) a willingness to share that expertise. However, so far, there have only been two responses.

Once (if) there are a significant number of people signed up, the topics will be listed at the back of future SCCARA GRAM's with your names and calls under the appropriate category(ies). This way, people with questions will be able to easily find someone to talk to.

Amateurs have a very long history and tradition of helping each other out. Here is your chance to become part of that tradition--be an ELMER. If you have one or more special interests or skills in amateur radio, please fill out the questionnaire (at end of this issue). Thanks!

73, Gary WB6YRU, editor

Packet Pieces

Downloaded from the packet network:

EDITOR's NOTE: Here is the third and last part of that long packet article on antennas...

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Date: 13 Jul 94 20:54
From: AA2KH@WA2UMX
To: HINTS@ALLUS
Subject: SWR, BALUNS, ANTENNAS, PART 3

We have discussed the four ingredients:

1. Antennas of non-resonant length.
2. Line attenuation.
3. The transmatch.
4. The balun.

This brings us to the "bottom line" THE EASY WAY. What I have been leading up to is the suggestion we tune our antenna systems at the other end of the feed-line, IN THE SHACK.

To nail this point down, let us listen again to Walter Maxwell, who starts first with a few philosophical comments, then follows with some hard, practical applications. Mr. Maxwell:

"Why match at the feed-line input? The answer is that matching elsewhere gives very little operating flexibility. In the absence of a line-matching network we are restricted to operating in a narrow part of the band (especially on 80 meters) unless effective measures for widening the antenna bandwidth have been taken. We are restricted because, as we deviate from the antenna's resonant frequency, a resulting increase in feed-line-to-antenna impedance mismatch is transferred to the line input as an increased transmitter-to-feed-line

impedance mismatch. As a result, the transmitter load impedance varies beyond acceptable limits, the transmitter fails to load properly, and it can be damaged by arcing over due to under-loading. These phenomena (plus unawareness of the remarkable performance capability of line matching) are largely responsible for the traditional low SWR mania. On the other hand, simple impedance matching at the feed-line input provides stupendous improvement in operating flexibility because the line matching network compensates for the impedance changes at the feed-lind input, and provides the correct load impedance for the transmitter at whatever frequency we select.

"So, the next question is: 'Why not broaden the bandwidth of the antenna and avoid re-tuning a matching device when changing frequency?' The answer is that we can, but only to a limited degree because, for example, the typical techniques which would permit coupling the average amateur transmitter directly into the feed-line over the entire 80 meter band (with no adjustments other than re-tuning the transmitter) are not practical in the average amateur setup. This includes the coaxial dipole (sometimes called the double bazooka) which, contrary to prevalent opinion, fails to deliver any significant bandwidth improvement over a simple dipole when it is fed with the usual 50 ohm coax.

"In the Tiros-Essa weather satellites, of which the entire multi-frequency antenna design was the work of the author, the dipole terminal impedance at the beacon frequency of 108 MHz was 150-J100 ohms, for a VSWR of 4.4 (reflected power 40%). Matching was performed at the LINE INPUT, where it was fed by a 30 milliwatt telemetry transmitter (we can't afford much power loss here!). The feed-line and matching network attenuation was 0.24 dB (5.4%), for a total loss of 0.44 dB (9.6%).

"On the prevalent but erroneous assumption that all reflected power (40%) is lost, only 18.1 milliwatts would reach the antenna, and efficiency, determined on the same erroneous basis, would be only 60%. But 27.1 milliwatts was measured! Of the 2.9 milliwatts lost in total attenuation, only 1.6 milliwatts of it was from the 4.4:1 SWR! So the real efficiency would have been 95.5% if perfectly matched at the load, but it reduces to 90.4% by letting the 4.4 VSWR remain on the feed-line.

"Another example is the Navy Navigational Satellite (NAVSAT), used for precise position indications for ships at sea. The antenna terminal impedance at 150 MHz was also matched at the line input, where flat line attenuation was 0.25 dB, and the additional loss from SWR was 0.9 dB, for a total system loss of 1.15 dB (approximately 1/6 of an "S" unit). This is an insignificant amount loss for this situation, even in a space environment where power is at a premium. Match was done at the line input because critical electrical, mechanical, and thermal design problems made it impractical to match at the antenna. Line matching provided a simple solution by permitting the matching elements to be moved to a non-critical location. This design freedom afforded tremendous saving in engineering effort with negligible compromise in RF efficiency, in spite of SWR levels many hams would consider unthinkable."

Walter Maxwell's experiences give you the real thing, not just opinions, and I hope you are beginning to believe that what I am talking about REALLY WORKS. I have been doing it "the easy way" for some 10 years. It's been a long time since I walked through rain or snow to adjust a tuning capacitor at the base of my tower, change a clip lead or change out a remote-tuning motor that gave up the ghost during a critical QSO! I use an 80 meter dipole at 65 feet, 450 ohm balanced line and a transmatch, performing with high efficiency from 3.5 to 29.9 MHz.

My "folded umbrella" is a seven-band folded unipole using 450 ohm line and a transmatch, showing 50 ohms (R) to the rig on all HF frequencies. The antenna proper is resonant at 1.9 MHz, but it works DX on all bands. It's also a bonus for general coverage receivers and the new WARC bands.

At my desk in the shack I have a 3KW transmatch. Under the glass desktop I have all pertinent transmatch settings, across a all appropriate bands and for each antenna. Most hams today enjoy all the conveniences afforded by broadband "no-tune" rigs, memories, scanners, computer controls, etc; so, it seems quite strange that we should be content to remain in the dark ages when it comes to tuning our antennas. Believe me it is a real pleasure to be able to do it all at your desk.

What kinds of antennas can we tune this way? Actually, just about any kind. A ham friend called me saying that he had a 60 foot tower with beams on top and had put a gamma rod down the side. I asked him to try feeding it with 450 ohm line and a transmatch. I worked him later that evening, he was S9 on 160 meters and a bit stronger on 80 meters and he was barefoot from Indiana, (I was near Dallas).

I have tuned delta loops, quads, zepps, ground-plane verticals, and others. However, don't expect instant success every time. For instance, if you want to employ a multiband antenna, there will be an optimum length of feed-line which gives the best compromise in SWR across all the bands. Your feed-line should be approximately a quarter wavelength (or any odd multiple) at the lowest frequency. Depending on the environment, this length will vary slightly, but it is not critical.

Now let's review what we've been talking about: First, realizing that I needed "third party credibility" to support me in presenting a controversial subject, I quoted Jim Fisk, Walter Maxwell, and Walter Anderson with their "endorsement," I developed four "axioms":

1. Don't fear antennas of non-resonant length.
2. Put line attenuation in proper perspective.
3. Understand and trust the transmatch.
4. Know what you can and cannot do with baluns.

I realize how difficult it is to change a concept that

has been maturing for years... I have only to tune in the 75 meter phone band late at night to remind myself that, as Dale Carnegie says, "A man convinced against his will is of the same opinion still!"

Some have told the author, "Your story is interesting but you'll never convince me that I won't get out better with a perfect 1.0:1 SWR." Remember, the information presented herein is not simply a recitation of the ideas or opinions held by the writer, but has been taken from the professional and scientific literature and has been paraphrased specifically for the radio amateur with great care not to change the meaning. Moreover, in striking contrast to the many differing opinions heard on the subject during amateur discussions there are NO SUCH DIFFERING OPINIONS AMONG THE PROFESSIONALS (including textbook authors), because the principles involved are completely understood and based on scientific facts, which are not subject to divergent opinions as found in politics or religion.

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Date: 25 Sep 94 16:49
From: N7PTM@KE2VW
To: FCC@ALLUS
Subject: Contact FCC via 1-800 #

QST de W1AW ARRL Bulletin 74
ARRL Headquarters Newington CT September 22, 1994

A new FCC service

The FCC has instituted a toll-free phone line at its Gettysburg, Pennsylvania licensing division for customer service inquiries. Amateurs may call 800-322-1117 weekdays between 8 AM and 4:30 PM Eastern Time to access an automated information system with recorded messages on interference complaints, form requests, records, and Amateur Radio call sign assignments.

Other messages give fee information and processing times. A TouchTone telephone is required.

The FCC said the new service was part of its response to a presidential order that the federal government be "customer driven." The FCC said it used a series of focus groups with external customers to identify the desire for an 800 number at its licensing division.

"Within the next 18 months," the FCC said, "customer service standards will be developed for other areas of Commission operations to ensure that FCC customers receive the highest quality of service possible. As these new standards become available, the FCC will inform its customers."

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Date: 4 Apr 94 01:17
From: KC4JMF@KF4OJ
To: TRIVIA@ALLUS
Subject: IT IS STILL THE LAW

IT'S STILL THE LAW

1. No one shall walk upon the street in Elko, Nevada without wearing a mask.
2. It's against the law to gargle in public in Louisiana.
3. It's illegal to hunt or shoot camels in Arizona.
4. It's illegal to dance cheek-to-cheek in Compton, California.
5. It's illegal in Pueblo, Colorado to raise a dandelion or permit one to grow within the city limits.
6. City ordinance in Los Angeles prohibits poking a turkey to see how tender it is.
7. In Hanford, California, people may not interfere with children jumping over water puddles.
8. It's illegal at Lake Charles, Louisiana to let a rain puddle remain in your front yard for more than twelve hours.
9. It's illegal in Walden, New York to give a drink of water to anyone unless you have a permit.
10. It's illegal to slap a man on the back in Georgia.
11. In the District of Columbia, all Taxicabs must carry a broom and shovel.
12. It's illegal in Vermont to whistle underwater.
13. A Kansas game rule prohibits the use of mules in hunting ducks.
14. In Cleveland it is unlawful for more than two people to drink out of the same whiskey bottle.
15. It's illegal to march your goose down the main street in McDonald, Ohio.
16. Turtle racing is illegal within the city limits of Key West, Florida.
17. A Fort Madison, Iowa law requires the fire department to practice for fifteen minutes before attending a fire.
18. It's illegal in Carrizozo, New Mexico for a man or woman to go unshaven.
19. In California a housewife may go to prison if she doesn't cook her dusting cloth after using it.
20. In Rochester, New York firemen on duty must wear ties.
21. A Colorado law forbids the serving of food in a room used for any other purpose.

This information was send by John, N6HI

From the Happy Club, 73 de Armando, KC4JMF @ KF4OJ.#ARCFL.FL.USA.NA

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Keep smiling! ☺ Gary WB6YRU

ARRL Pacific Division Update

October 1994

October is Pacificon'94 Month:

October 21 - 23 is the date for the Pacific Division Convention at the Concord Hilton. Ticket sales are going full blast. The programs are set with "something for everyone." Members of the Mount Diablo ARC and others, including the Director and Vice Director, have been visiting clubs throughout the Division with advance publicity and brochures all across California, and into Nevada and Hawaii to support the Convention. Don't miss this event! For additional details call the hotline at (510) 932-6125.

Update on effort to save 13 cm band:

There is no new public news on this matter since the Aug. 10 release of the FCC report described below; however, there is a great deal of behind the scenes action by many different groups each of whom have views that differ from those of the NTIA. It is very unclear what will happen, but it appears that by all your activities, we have slowed the process and perhaps have turned around the potential grab for the 13 cm. band. ARRL will keep working the problem!

The 1993 Omnibus Budget Reconciliation Act requires that the FCC analyze all public comments on the NTIA proposal, and add any comments or recommendations the FCC deems appropriate. The FCC responded by issuing a 32-page report to the Secretary of Commerce.

The report strongly supports continued Amateur Radio presence in the band and disagrees with NTIA's preliminary recommendations that large portions of the band be reallocated for other uses.

The frequencies that NTIA had identified for possible reallocation consist of 2300-2310 MHz, 2390-2400 MHz and 2402-2417 MHz, all of which are shared by Amateur Radio on a secondary basis with Government services.

It should also be noted that a number of "responsible" commercial entities who are interested in new frequencies joined our cause by pointing out that they could not use these small segments, but rather need segments in 40 MHz pieces for their applications. As a result they said "thanks, but no thanks" to the NTIA. We can use all the help we can muster!

While the FCC report praised NTIA for its efforts, it stated that the NTIA proposals require modification. FCC cited concerns in the Amateur community that reallocation would disrupt Amateur operations in the band, and that NTIA failed to meet the statutory requirement that it attempt to determine the extent to which the band could be shared with the Amateur service. The report noted that "the largest factor affecting the future use of these bands is their existing availability for use by the Amateur service."

The important contributions to this 13 cm. band effort made by West Coast hams were recognized by ARRL President George Wilson, W4OYI. Wilson stated "While we're not out of the woods on this one yet, it is beginning to look like the comments filed by knowledgeable West Coast hams combined with the League's Washington effort may well succeed in carving out territory for continued Amateur development in the microwave bands."

Many thanks to all of those who have helped!

FCC Proposes HF Digital Changes:

On June 13, 1994, the FCC proposed to amend the amateur rules to allow automatic control of digital stations under certain conditions on the HF amateur bands. The Notice of Proposed Rule Making in PR Docket 94-59 was released June 23 with a comment deadline of Oct. 1, 1994, and a reply comment deadline of Nov. 1, 1994. See the ARRL Letter of June 24, 1994, for the announcement details. The August 1994 QST, page 71 carried all the details of the proposal. Please review this material and send me your thoughts as soon as possible so they can be factored into the ARRL comments by Oct. 1.

Preferred call signs - latest news:

At the ARRL National Convention and at a later meeting, FCC officials indicated that the vanity call implementation should occur by the end of the year or early 1995. The basic outline of the ARRL Comments filed on FCC Docket 93-305 by the April 21 deadline is contained in the June 1994 Update. The latest news is that Congress has decided to change the $7 per year fee for the licenses to a ONE TIME application fee of $150. It was the judgment of Congress that this change was "revenue neutral" and would ease the burden of billing and collection on the FCC. Also, it would get the dollars up front which is an advantage to Congress and the Administration.

Congressional Legislative Report:

The big news is that HJR 199 has been added to HR 4522, the FCC Authorization Act of 1994, as part of that bill. HJR 199 no longer exists on its own. This "bundling" is a favorite tactic in Congress to get various bills which mutually support each other tied together. The FCC Act has passed all House Committees although amendments on the floor are technically possible, but not likely. The FCC bill has now been placed on the "consent calendar" (non-controversial bills) to be passed in one big vote by the House.

Before merging, HJR 199 had 246 co-sponsors in the House for a majority.

The identical resolution in the Senate (SJR 90) now has 47 co-sponsors. We still need 5 more for a majority. What will happen to this bill is as yet unclear, but our goal is

to attach SJR 90 to the Senate version of the FCC Authorization Act by inserting the same language contained in the House version. In this manner both bills will be consistent so there will be less likelihood of a change in conference. With this goal accomplished, we feel that passage is markedly helped.

We still need to continue to try to convince California Senator Boxer and Nevada Senators Reid and Bryan to become co-sponsors. Hawaii is 100%! There is still time to write, but not much!

We have the best chance in years of getting some basic Amateur Radio support legislation to become law. The long term result should be better enforcement activity and more material to help with the antenna ordinance and similar problems!

HR 2623 (Amateur Radio Volunteer Service Act) has 82 co-sponsors in the House. We have 2 in the Pacific Division. The bill has not yet been introduced in the Senate. Late-breaking information suggests that no action will be taken on the bill this year, but if we are not successful this time around, we will try again in the next Congress.

Massive FCC Reorganization:

The Aug. 1, 1994, reorganization announced has only been partially implemented as of this date as various aspects must be approved by the Administration, Congress and the union of the officials involved. One of the changes, installing a new Chief of the Field Operations Bureau has happened, but other structural changes in the FCC are still pending.

While the end result of all the changes is difficult to forecast, there appears to be hope for better enforcement activity and support for Amateur Radio in the long term.

ARRL President George Wilson, W4OYI, and the ARRL Washington Staff continue to call at the top of the FCC (Commissioners and Civil Service Staff).

FCC - processing new licenses:

Evidence continues to build that the FCC is now issuing licenses in about 6 weeks or less from the time of examination. This is down from the 12-14 weeks experienced in the recent past. As promised, FCC apparently has applied additional resources and new computer equipment to the process.

Looking to the future, expect some sort of electronic filing of 610s. The procedures are now being worked out in collaboration with some VECs. The FCC plans to try test downloads with the VECs in the fall of this year. If all goes well, the FCC could be fully on-line with the new 610 process by December 31.

New Pacific Division Appointments:

With great pleasure I announce that Erwin Mattes, WB6ZUT, has accepted an appointment as Assistant Director in the Eureka CA area. Many thanks to Pete Spruance, KE6LF, who has served in this position.

It is also a great pleasure to announce that Marc L. Simons, KC7CIA, has accepted an appointment as Volunteer Counsel in the Las Vegas NV area. There has not been a Volunteer Counsel in NV for several years, but now we have one.

Antenna Ordinances:

Rusty Epps, W6OAT, continues to lead a Pacific Division-wide effort to develop a database of antenna ordinances and related materials. Rusty reports that data is coming in from all parts of the Division -- thanks! Send all the material to Charles K. (Rusty) Epps, W6OAT, 651 Handley Trail, Redwood City, CA 94062.

ARRL Letter Available - Free to Affiliated Clubs:

For details on a one year subscription, write to Jim Cain, K1TN, ARRL Letter editor at ARRL HQ.

Scholarships and Awards:

There are many scholarships and awards covering a wide range of situations available to licensed Amateurs. The ARRL Foundation, The Dayton Amateur Radio Association, The Foundation for Amateur Radio, to name only a few, will be announcing their dates for applications for their 1995 scholarships. Watch QST and other amateur radio publications for details. Nominations for 1995 awards can be submitted starting now.

Coming Events:

* Livermore Swap Meet - 1st Sunday of each month at Las Positas College in Livermore, CA, 7 AM to noon, all year. Talk in 147.045 from west, 145.35 from the east. Contact Noel Anklam, KC6QZK, (510) 447-3857 evenings.
* Pacificon'94, Hilton Hotel at Concord CA, Oct. 21 - 23, 1994. For more information contact Lauren Styles, WA6CIE, 1910 Sunshine Dr., Concord, CA 94520, or call the MDARC/Pacificon Hotline at (510) 932-6125.
* National Amateur Radio Examination Day, Oct. 29, 1994. Contact ARRL Public Relations Department at (203) 666-1541, ext. 328, for a publicity kit consisting of a tip sheet, press releases, copy for radio spots and more.

Brad Wyatt, K6WR
Director, ARRL Pacific Division

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

Packet: K6WR @ N0ARY.#NOCAL.CA.USA.NOAM
Internet: bwyatt@arrl.org

December Dinner Meeting Sign-up

Our annual December dinner meeting will be on Friday, Dec. 9th, at the Willow Glen Inn, 1072 Lincoln Avenue, San Jose (between Willow and Coe). There is room for 60 people, so get this form in soon to reserve your place--but no later than Nov. 25th.

Holiday dinner meeting in December, sign me up for ____ dinner(s) at $16 each: $ _____ (Total)

_____ N.Y. steak, _____ Chicken Saute Sec with artichokes, _____ Halibut steak

You are encouraged to renew your membership in SCCARA at the same time using the form on the reverse side. Memberships expire the first of January. You may combine both payments here: GRAND TOTAL: $ _____

Give this form (or a copy) and your payment to the treasurer or mail to: SCCARA Treasurer, POB 6 San Jose, CA 95103-0006

ELMER SURVEY

If you consider yourself to be reasonably competent in one or more areas of amateur radio and would be willing to spread the intellectual wealth around, please fill out this form (or a copy) and send it in.

Name: _____

Call sign: _____

Telephone(s):
day _____

evening _____

msg _____

Packet: _____

Internet: _____

Other: _____

_____

_____

Please circle the number for each area of expertise:

HARDWARE, HARDLINE, & HARD-DRAWN:

1 – Antennas, feed-lines, tuners
2 – Lightning protection, grounding
3 – Station set-up, equipment
4 – TVI/RFI
5 – Homebrew projects, construction

BITS, BYTES, & BAUDS... OH MY!

6 – Computers (Apple, IBM PC)
7 – Packet (HF/VHF, keyboard, nodes)
8 – Packet Network (BBS, forwarding)
9 – Other digital modes (AMTOR, RTTY)

OPERATING AND TECHNIQUES:

10 – Code operating and installations
11 – Contesting & techniques
12 – DX (long distance/propagation)
13 – Emergency operating/preparedness
14 – FM (VHF/UHF, repeaters)
15 – HF operating techniques (SSB,CW)
16 – Mobile operating
17 – NTS and traffic handling
18 – QRP (HF low power, all modes)
19 – QRP (VHF/UHF low power, SSB/CW)
20 – Satellite (OSCAR, AMSAT)
21 – Television (fast and slow scan)

EDUCATION - LAW - POLITICS:

22 – A.R.R.L./national issues
23 – Classes/license upgrading
24 – Legal/FCC rules
25 – SCCARA (club inner workings)

ANY OTHER TOPICS or COMMENTS:

26 – Other, please describe:

_____

_____

_____

_____

_____

S.C.C.A.R.A. Membership Form for 1995

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

Address: _____ Licensed since (yr): _____

City: _____ State: _____ Zip: _____ - _____

Telephone: ( ) _____ New member: Yes No A.R.R.L. Member: Yes No

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 annual membership dues.

Annual Membership dues: Individual $15 Family $20 Student (under 18) $5 ..... _____
Renewing? Please help update our database: What year did you first join? _____

Send the *SCCARA-GRAM* by **first class mail** for $3.50 extra ..... _____

I want _____ *SCCARA* badges @ $3.00 each. Badge name & call: _____ .... _____

Please send the repeater Auto-Dial codes (no charge, circle one): Yes No
Please send the repeater Autopatch codes $10.00 ($15 if family membership)..... _____
A COPY OF YOUR LICENSE IS REQUIRED FOR ALL REPEATER CODES

TOTAL: _____

Give this completed form (or copy) with payment to the treasurer at any meeting or mail to:

SCCARA membership POB 6 San Jose CA 95103-0006

SANTA CLARA COUNTY
AMATEUR RADIO ASSOCIATION

P.O. BOX 6
San Jose, CA 95103-0006

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