# SCCARA-GRAM



## Santa Clara County **Amateur Radio Association**

Volume 27, Number 1

January 2011



## **President's Prose**

The annual holiday lunch meeting was a success, as usual. Thanks to Don Village, K6PBQ, for making all of the arrangements and to Bob Vallio, W6RGG, Pacific Division Director, as guest speaker. There were approximately 35 people in attendance and the food was terrific-at least the Salmon was. It's always a pleasure to get together with other SCCARA members and their families.

There will be a Technician Class license class in Woodside on January 29. I'm one of the instructors, so contact me (ae6pm@arrl.net) if someone you know wants more information. There will be an exam session conducted by the Silicon Valley VE Group after the class.

The 440 repeater replacement project is chugging along. I'm building up the interface circuit to condition the RSSI signal from the repeater to provide the input to the controller for reporting the received signal strength. The output from the repeater is on the order of 1.55 to 3.0 VDC, and the input to the controller needs to be 0 to 5 VDC. It's not very complicated, just an op amp circuit with an output of the form y = mx + b, but everything takes time. More parts, more trips to the store, more circuit board layout and assembly, more packaging, more cable, more connectors à you get the picture.

If you get past the first page of this issue of the SCCARA-GRAM you'll find an article on using surface mount components written by yours truly. SMD technology has been used in industry for decades but I still hear hams declaring that building homebrew equipment is impossible because some of the components look different than they did 25 years ago. Adding the new technology to your skill set isn't difficult if you're willing to abandon the blowtorch and soldering gun. I've done it, and so can you. Read the article and form your own opinion.

As usual, don't forget the 2-meter FM net on Monday nights, and the 10 meter SSB net (28.385 MHz USB) on Thursday nights. Anyone with a license can operate on the 10 meter net frequency.

Don, AE6PM



## Calendar

1/10 **SCCARA General Meeting** SCCARA Board Meeting--(San Jose Red 1/17 Cross, 7:30p, all are welcome)

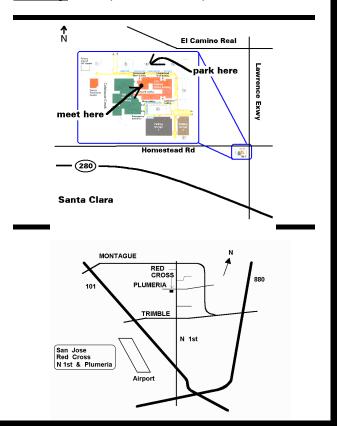
# **General Meeting**

Monday, Jan. 10, 2011 Day:

Time: 7:30 PM

Kaiser Santa Clara, Rm 196, 1 Place: Featuring:

{to be announced}



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#### The deadline for articles is the last Monday of the month.

SCCARA was formed in 1921 and became a non-profit corporation in 1947. SCCARA is an affiliate of the American Radio Relay League (ARRL). The club station is W6UW.

Web page: http://www.qsl.net/sccara.

#### **OFFICERS & DIRECTORS**

(all officers are also directors)

Don Steinbach, AE6PM 867-3912 President e-mail: ae6pm@arrl.net Vice President Fred Townsend, AE6QL 263-8768 e-mail: ftownsend@sbcglobal.net

Past President

Viki Moldenhauer, KI6WDS 738-8781 Secretary

e-mail: vym@comcast.net John Altieri, W6HW

Treasurer

e-mail:

Station Trustee Don Village, K6PBQ 263-2789 e-mail: donvillage7@yahoo.com

Director John Glass

Lou Steirer, WA6QYS 241-7999 Director

e-mail: wa6qys@aol.com

Director Wally Britten, KA6YMD 293-3847

e-mail: ka6ymd@arrl.net John Parks, W6JPP 309-8709

Director e-mail: w6jpp@arrl.net Gary Mitchell, WB6YRU 269-2924 Director

e-mail: wb6yru@ix.netcom.com

#### COMMITTEES

Editor Gary Mitchell, WB6YRU 269-2924 e-mail: wb6yru@ix.netcom.com Wally Britten, KA6YMD 293-3847 Repeater e-mail: ka6ymd@arrl.net NØARY BBS

Gary Mitchell, WB6YRU 269-2924

e-mail: wb6yru@ix.netcom.com

#### SCCARA REPEATERS

SCCARA owns and operates two repeaters under the call W6UU:

146.985 - PL 114.8 442.425 + PL 107.2 2 meter: 70 cm:

Phone auto-dial and auto-patch is available. The two meter repeater is located at Eagle Rock near Alum Rock Park in the foothills of east San Jose. The 70 cm repeater is located at the Regional Medical Center (formerly Alexian), east of downtown San Jose, north of 280 and 101.

#### SCCARA NETS

On our two meter repeater: Mondays at 7:30 PM, (not the second Monday--our meeting night). Coordinator: Don Village, K6PBQ. On ten meters, 28.385 MHz USB, Thursdays at 8:00 PM. Net control: Wally Britten, KA6YMD. Visitors welcome.

#### NØARY PACKET BBS

SCCARA hosts the packet BBS NØARY (Mt Umunhum). User ports: 144.93 (1200 baud), 433.37 (9600 baud), telnet sun.n0ary.org (login "bbs"). Sysop: Gary Mitchell, WB6YRU (packet info: www.n0ary.org/ncpa)

#### TELEPHONE NUMBERS

SCCARA contact Clark KE6KXO: 408 262-9334 ARRL/VEC Silicon Valley VE group, Morris Jones, AD6ZH: 408 507-4698

## Club Stuff for Sale

The following is a list of club equipment for sale at the January club meeting.

Yaesu FR101s receiver, Yaesu FR301 transeceiver with power supply and tuner 3pcs total. Kenwood TS180s with power supply and MC 50 mike which needs repair.

All equipment except Kenwood TS180 has no minimum. TS180 has a \$150.00 minimum bid.

The equipment condition is unknown and sold as is, except the Kenwood is the only unit we know works with a good microphone.

John W6JPP

### **ARRL News**

From The ARRL Letter, December 9, 2010

#### AMATEUR ALLOCATION AT LOWER MF GAINS FORMAL SUPPORT IN THE AMERICAS

A secondary allocation to the Amateur Radio Service at 461-469 and 471-478 kHz gained inter-American support in meetings held earlier this month in Bogota, Colombia, with the Permanent Consultative Committee II (PCC.II) of the Inter-American Telecommunication Commission (CITEL) adopting the US position for the MF allocation. World Radiocommunication Conference 2012 (WRC-12) Agenda Item 1.23 calls on participants "to consider an allocation of about 15 kHz in parts of the band 415-526.5 kHz to the Amateur Service on a secondary basis, taking into account the need to protect existing services.'

Canada—which had previously supported a secondary allocation at 472-487 kHz – withdrew that support and aligned itself with the US at the meeting in Bogota. Over the course of the meeting, Argentina, Brazil, Colombia, the Dominican Republic, Uruguay and Venezuela signed on to have CITEL present the agenda item at WRC-12 as an Inter-American Proposal (IAP). The support of six countries is required for a proposal to gain IAP status. The US agreed to support the allocation earlier this year, despite initial opposition by maritime interests.

As a member of the US delegation, ARRL Technical Relations Specialist Jon Siverling, WB3ERA, attended the meeting, serving as Rapporteur for the agenda item. IARU Region 2 President Reinaldo Leandro, YV5AMH, was also in attendance on behalf of the IARU. The adoption of an affirmative IAP on Agenda Item 1.23 represents an important milestone in the ARRL's and the IARU's international advocacy efforts.

ARRL Chief Executive Officer David Sumner, K1ZZ, explained that while the milestone is important, there is still work to be done on the agenda item to maximize success at WRC-12: "While we still face an uphill battle internationally, gaining the support of one of the major regional telecommunications organizations this early in the process improves our chances for achieving an allocation at WRC-12."

CITEL is one of six regional telecommunications organizations whose formal positions carry significant weight during deliberations at a WRC. The WRC-12 is scheduled for January 23 through February 17, 2012 in Geneva.

## EIGHT AFRICAN OPERATIONS APPROVED FOR DXCC CREDIT

ARRL DXCC Manager Bill Moore, NC1L, reports that eight operations in Africa -- 9Q/DK3MO (Democratic Republic of the Congo), 3C0C (Annobon), 3C9B (Equatorial Guinea), 3V9A (Tunisia), 3V0A (Tunisia), TS7TI (Tunisia, also includes /p operation), TS8P (Tunisia, also includes /p operation) and TS9A (Tunisia) -- have been approved for DXCC credit. All operations -- with the exception for the 9Q/DK3MO -- are 2010 operations. The 9Q/DK3MO operation is good for operations commencing in 2007 through the present.

"If you had cards for any of these operations rejected in recent applications, please send an e-mail to the ARRL DXCC Desk (dxcc@arrl.org)," Moore said. "Please note that due to heavy e-mail volume, you may not receive a reply. Results will appear in Logbook of The World (LoTW) accounts (https://plk.arrl.org/lotwuser/default), as well as online on the daily listings (www.arrl.org/dxcc)."

# Using Surface Mount Componets

by Don Steinbach, AE6PM

Surface Mount Devices (SMDs) are tiny leadless components. They are designed to mount onto the foil side of a PC board, and are soldered directly to foil pads on the board. Most of us have built projects using PC boards, but used components with leads that extend through holes in the board, and that are soldered to the foil pattern on the back side of the board.

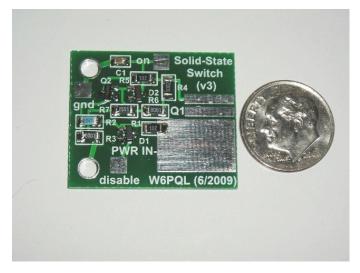


Fig.1. This PC board uses only surface-mount components. It was assembled using the methods described in this article.

Why use surface mount technology? For one thing, since the components don't have leads, they are physically smaller and cheaper to make. They've been used in electronics like ham radios and computers for years. Also, since they mount on top of the PC board directly to pads on the foil traces, there are no holes to drill for component leads to pass through. Component packaging, leads and holes take up a lot of PC board real estate. The board in Fig.

1 is one that I built from a kit. It includes 7 resistors, 2 diodes, a transistor and an electrolytic capacitor. It measures  $1.0" \times 1.2"$  and most of the right-hand side of the board consists of pads for soldering the three leads of a conventional TO-220 package to the board.

Constructing homebrew equipment that uses surface mount components is not as difficult as some would like to think. First of all, the components are usually available in several sizes and only an idiot would choose the tiniest. The common 0805 or 1206 size for resistors and capacitors and similar sizes for semiconductors are not difficult to deal with, but you'll require some new tools. First of all, you can't solder these parts with your soldering gun or a blow torch. You need a pencil style iron in the 25 to 40 watt range with a small tip. The soldering iron I generally use has a 0.03" conical tip. Some method of controlling the temperature is desirable, but not mandatory. Temperature control in the 360-370 ° F range is ideal. Secondly you'll need small solder. I use .020ö diameter Sn63/Pb37 rosin core solder. A 60/40 solder is ok too, but you'll need to hold the part in place a bit longer while the solder cools down. Third, you'll need small tweezers to handle and hold the parts. I prefer the kind that you squeeze to open, that way you don't have to try to position the part and keep a grip on it at the same time. Forth, plan on purchasing some sort of hands-free magnifier; if it includes a light, that's a plus. I use an OptiVISOR® binocular headband magnifier with a 2X lens and a fluorescent desk lamp. Some desoldering wick (0.05") is handy to clean up excess solder or solder bridges. This is everything you need for hand soldering with an iron. Reflow soldering using solder paste is another option for the serious hobbyist. The normal ESD safety procedures should be followed.

The PC board will have a pad for every terminal of every component. Tin just one of the pads with a small (as in tiny) bit of solder. Pick up the component with the tweezers and position its terminals on the PC board pads. Use the iron to melt the solder on the pad and then slide the iron toward the component. When the iron touches the component, the solder should flow to join the component to the pad. You'll feel the component sink a bit as it settles into the molten solder. Remove the iron and hold the component in place for a second and you're done with that pad. It's ok to melt the solder again to reposition the component if necessary, but let the component cool down first. Next, solder the remaining terminals on that component to their respective pads by applying solder first to the pad and then moving the puddle of solder to the component. Repeat this process until all of the components are soldered to the board. If a component has several terminals, I'll usually solder one and then move to a different component and come back later just to avoid cooking the component. The first thing you'll probably learn is that you will want to use very little solder, especially if you're soldering a component with side-by-side terminals on 0.050" centers.

What can go wrong? Well, the markings on the components can be difficult to read or sometimes nonexistent. Once the component is separated from its carrier (typically a piece of tape or cardboard or plastic) its identity can be lost forever. The next most exciting thing is when the component, formerly held in the tweezers, decides to eject and fly across the workbench or the room. If it lands on the carpet, you'll probably never see it again. Always have some spares.

If you would like something to practice on, Chaney Electronics has a kit called the C6719 Deluxe SMD Learn to Solder Kit that I can recommend. The assembled product appears in Fig. 2. It cost \$8.25 the last time I looked. One section of the board is just for practice and the other section is a Dual LED Flasher circuit. The practice section includes 5 ceramic capacitors, 4 diodes, 5 resistors, 4 transistors, 2 electrolytic capacitors, 3 8-pin ICs and a 44-pin PLCC (plastic leaded chip carrier) IC. By the time you've

soldered all of these parts in place, you should be fairly comfortable with the process. The Flasher section is a real working circuit consisting of 5 resistors, an electrolytic capacitor, an 8-pin IC and a dual LED. The instructions with this kit say to glue the parts to the board first and them solder them later. That's a little unorthodox for single sided construction, but whatever works for you is OK. Too much glue will create a real problem if it gets on the pads and component terminals.

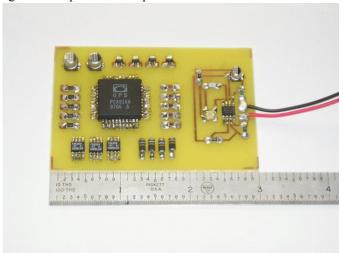


Fig. 2. The Chaney Electronics C6719 "Learn to Solder" kit fully assembled. An excellent way to become familiar with handling and soldering surface-mount components.

See www.chaneyelectronicsstore.com/servlet/the-65/ Deluxe-SMD-Learn-to/Detail for more information on this kit.

# **Meeting Minutes**

General Meeting, Jan. 11, 2011



{No December minutes were received. – Editor}

#### Board Meeting, Dec. 20, 2011



Red Cross Building, 2731 N 1st St, San Jose CA Status: Unreviewed

The SCCARA Board Meeting was called to order by Don AE6PM at 19:41.

Attendance: President: Don Steinbach AE6PM; Secretary: Viki Moldenhauer KI6WDS; Treasurer: John Altieri W6HW; Trustee: Don Village K6PBQ; Directors: John Glass NU6P, Wally Britten KA6YMD, Gregg Lane KX6FNA; Excused Absence: Vice President Fred Townsend AE6QL, Director Lou Steirer; Visitors: Ned Tufekcic AC6YY.

Announcements: Don AE6PM announced the SCCARA-gram inputs are due to Gary no later than Monday December 27.

Treasurer's Report: checking = \$5085.00; savings = \$3847.03; cash = \$285.89. The Christmas lunch cost us \$770, and we collected \$850, leading to the observation we should do this more often. There is \$490 income so far from members who have paid

for 2011; a list of paid members was given to the Secretary.

Secretary's Report: The November Board Meeting Minutes were reviewed. Don K6PBQ moved to approve the minutes unchanged; Wally KA6YMD seconded; motion passed unanimously. Gary WB6YRU requested a count of the number of members.

There was no Vice President's Report.

Old Business: - Regarding the SCCARA equipment for sale, it was confirmed that the TS-180 radio works, it is the mic or cable that is bad. Further discussion was tabled until the general meeting.

- HF transceiver upgrade: discussion was held about having a go-kit set up complete with computer interface, available for club members to take to parks (other than field day). A loaner program would require a property master among other details. The current club radios are a Yaesu 847, a Yaesu 757, a Kenwood 450 and a Kenwood 140. Don K6PBQ offered a slightly used Heathkit mic.
- The 70cm repeater is alive and well. Don AE6PM is building the S-meter interface. Gary and Wally are working on the issue of the phone line into the hospital.
- There is no new news on the 2-meter repeater backup. John NU6P is trying to get price information, Don AE6PM is trying to contact the city, to see if we can fix the tower.
- Software for Secretary: exploration of Access continues. Viki KI6WDS will get with Wally KA6YMD to reconstruct how to generate mailing lists.

New Business: - on Monday 12/27 Don K6PBQ will make a reservation for Mt. Madonna park for Field Day. - Don AE6PM received an email from Chris Allsup KI6ZIF offering his help on the trailer repairs and correcting his membership information,

Station Trustee's Report: Don K6PBQ announced the club station will next be open on Saturday Jan 29, possibly slightly later than usual.

Editor's Report: Gary WB6YRU noted that the newsletter is copied at Office Depot, and the rewards card points accumulated over the last year paid for copying the last newsletter! Discussion was held about having two tiers of membership, with a higher charge for a print newsletter. A financial report is needed for the newsletter costs.

N0ARY BBS Report: Gary WB6YRU is looking into an antenna change, from horizontal to vertical. This would allow better support top and bottom.

Repeater Chairman's Report: Wally KA6YMD said it is working ok, but that the clocks need to be changed. John NU6P will send him directions.

Web Masters Report: Wally KA6YMD had nothing to report.

Future Actions: No change: the Fixit List still consists of moving the axle, attaching the jack wheel, and fixing the aux tail light on the trailer; repairing coax cables, adding antenna rotator connectors, and troubleshooting and repairing the FC-757AT antenna tuner at the Red Cross.

The meeting was adjourned at 20:40. Viki Moldenhauer, Secretary

## **December Luncheon**



Joyce & Bob Wharton, Lou Steirer, Bob Schwimmer, Terese Nemeth, Clark Murphy.



Bob Schwimmer, Theresa Nemeth Therese Nemeth, Gregg Lane, Ned Tufekcic, David Paul



Joan and Don Village , Joan and Mike Hastings.



Therese Nemeth, ?, Gregg Lane, Ned and Rose Tufekcic,



Joyce Wharton at the presents table: Decisions, decisions...



Don Village and Alvin Wong at the presents table



Erik and Marilyn Ankney, Wally Britten, Jeannie Felix, Barbara Britten, Herman DeKruyff, Henry DeKruyff



Incoming and outgoing officers: Lou Stierer, Don Steinbach, Ned Tufekcic, Viki Moldenhauer, Gregg Lane, Wally Britten, Jeannie Felix, Don Village

## **Packet Pieces**

# Downloaded from the BBS packet network:

\_\_\_\_\_\_

Date: 19 Mar 2010 01:35 From: W1GMF@W1GMF To: HUMOR@USA

Subject: The Case of the Missing Cow

A big city lawyer was called in on a case between a farmer and a large railroad company. The farmer noticed that his prize cow was missing from the field through which the railroad passed. He filed suit against the railroad company for the value of the cow. The case was to be tried before the Justice of the Peace in the back room of the General Store.

The attorney immediately cornered the farmer and tried to get him to settle out of court. The lawyer did his best selling job, and the farmer finally agreed to take half of what he was claiming to settle the case. After the farmer signed the release and took the check, the young lawyer couldn't help but gloat a little over his success.

He said to the farmer, "You know, I hate to tell you this but I put one over on you in there. I couldn't have won the case. The engineer was asleep and the fireman was in the caboose when the train went through your farm that morning. I didn't have one witness to put on the stand."

The old farmer replied, "Well, I'll tell you, young feller, I was a little worried about winning that case myself because that durned cow came home this morning!"

From: W1GMF@W1GMF To: HUMOR@USA

Subject: Why do we love children?

#### 1) NUDITY

I was driving with my three young children one warm summer evening when a woman in the convertible ahead of us stood up and waved. She was stark naked! As I was reeling from the shock, I heard my 5-year-old shout from the back seat, 'Mom, that lady isn't wearing a seat belt!'

#### 2) OPINIONS

On the first day of school, a first-grader handed his teacher a note from his mother. The note read, 'The opinions expressed by this child are not necessarily those of his parents.'

#### 3) KETCHUP

A woman was trying hard to get the ketchup out of the jar. During her struggle the phone rang so she asked her 4-year-old daughter to answer the phone. 'Mommy can't come to the phone to talk to you right now. She's hitting the bottle.'

#### 4) LOCKER ROOM

A little boy got lost at the YMCA and found himself in the women's locker room. When he was spotted, the room burst into shrieks, with ladies grabbing towels and running for cover. The little boy watched in amazement and then asked, 'What's the matter, haven't you ever seen a little boy before?'

#### 5) POLICE # 1

While taking a routine vandalism report at an elementary school, I was interrupted by a little girl about 6 years old. Looking up and down at my uniform, she asked, 'Are you a cop? Yes,' I answered and continued writing the report. My mother said if I ever needed help I should ask the police. Is that right?' 'Yes, that's right,' I told her. 'Well, then,' she said as she extended her foot toward me, 'would you please tie my shoe?'

#### 6) POLICE # 2

It was the end of the day when I parked my police van in front of the station. As I gathered my equipment, my K-9 partner, Jake, was barking, and I saw a little boy staring in at me. 'Is that a dog you got back there?' he asked. 'It sure is,' I replied. Puzzled, the boy looked at me and then towards the back of the van. Finally he said, 'What'd he do?'

7) ELDERLY

While working for an organization that delivers lunches to elderly shut-ins, I used to take my 4-year-old daughter on my afternoon rounds. She was unfailingly intrigued by the various appliances of old age, particularly the canes, walkers and wheelchairs. One day I found her staring at a pair of false teeth soaking in a glass. As I braced myself for the inevitable barrage of questions, she merely turned and whispered, 'The tooth fairy will never believe this!'

8) DRESS-UP

A little girl was watching her parents dress for a party. When she saw her dad donning his tuxedo, she warned, 'Daddy, you shouldn't wear that suit. "'And why not, darling?" You know that it always gives you a headache the next morning.'

9) PROPER WORDS

While walking along the sidewalk in front of his church, our minister heard the intoning of a prayer that nearly made his collar wilt. Apparently, his 5-year-old son and his playmates had found a dead robin. Feeling that proper burial should be performed, they had secured a small box and cotton batting, then dug a hole and made ready for the disposal of the deceased. The minister's son was chosen to say the appropriate prayers and with sonorous dignity intoned his version of what he thought his father always said: 'Glory be unto the Father, and unto the Son, and into the hole he goes.'

10) SCHOOL

A little girl had just finished her first week of school. 'I'm just wasting my time,' she said to her mother. 'I can't read, I can't write, and they won't let me talk!'

11) BIBLE

A little boy opened the big family Bible. He was fascinated as he fingered through the old pages. Suddenly, something fell out of the Bible. He picked up the object and looked at it. What he saw was an old leaf that had been pressed in between the pages. 'Mama, look what I found,' the boy called out. 'What have you got there, dear?' With astonishment in the young boy's voice, he answered, 'I think it's Adam's underwear!'

Date: 21 May 2010 01:17

Date: 31 Mar 2010 01:17 From: W1GMF@W1GMF To: HUMOR@USA Subject: Census Taker

The old man was setting on his porch, when a young man walked up with a pad and pencil in his hand.

"What are you selling, young man," he asked.

"I'm not selling anything, sir." the young man replied. "I'm the Census Taker. We are trying to find out how many people are in the United States."

"Well," the man answered. "You're wasting your time with me, I have no idea."

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 fill out an Elmer form from the club secretary.

Antennas, feed-lines, tuners: WB6EMR, W6JPP, K6PBQ, WB6YRU Lightning protection, grounding: WB6YRU Station set-up, equipment: K6PBQ, W6JPP TVI/RFI: WB6YRU Homebrew projects, construction: Computers: older IBM PC: WB6YRU KD6FJI, WB6YRU Packet Network (BBS, forwarding): WB6YRU Code operating and installations: WB6EMR, K6PBQ DX (long distance/propagation): WB6EMR Emergency operating/preparedness: WA6QYS HF operating techniques (SSB, CW): WB6EMR, K6PBQ Legal/FCC rules: WB6YRU SCCARA (club inner workings): K6PBQ, WB6YRU, WA6QYS KK6MX EchoLink:

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

KD6FJI, Lloyd DeVaughns, (408) 225-6769 e-mail: kd6fji@arrl.net

KK6MX, Don Apte, (408) 629-0725 e-mail: kk6mx@aol.com

W6JPP, John Parks, (408) 309-8709 e-mail: w6jpp@arrl.net

K6PBQ, Don Village, (408) 263-2789 e-mail: donvillage7@yahoo.com

WA6QYS, Lou Steirer, (408) 241-7999

e-mail: wa6qys@arrl.net

WB6YRU, Gary Mitchell, (408) 269-2924

packet: home BBS NOARY
e-mail: wb6yru@ix.netcom.com

## **Newsletter Notes**

A big thank you to Don AE6PM for another interesting technical article. I know I'm going to start looking into doing some surface mount projects.

Please take note of the ARRL news article regarding the possibility of amateur radio gaining spectrum in the 600 meter band. Some time ago they decommissioned the Loran A navigation system—and we got our 160 meter band out of it. More recently the maritime CW emergency frequency of 500 kHz was decommissioned. This time we have a chance to gain new spectrum in the lower part of the MF band. Let's stand ready to give support when the time comes.

73, Gary WB6YRU, editor

# Need Help?



#### SCCARA Santa Clara County Amateur Radio Association PO Box 6

SAN JOSE CA 95103-0006

Affiliate of the ARRL, American Radio Relay League



FIRST CLASS

#### ADDRESS SERVICE REQUESTED

# SCCARA Membership Form for 2011 If none of your info has changed, fill in name and call only

Name:		Call:	Class: E A G T N
Address:			Licensed since (yr):
City:	State:	Zip:	Licence Expiration —— Date (mo/yr):
Telephone: ()		ew Member	
E-mail:			
Memberships begin January 1 and expire December 31.  If renewing: annual membership dues (base rate) are: \$20 Individual, \$25 Family, \$10 Student (under 18)  For new members:  If joining in January: base rate  If joining in February through October: base rate x (11 - month) x 10% (e.g. for June, that would be: base rate x 50%)  If joining in November or December: free for November and December if paying the base rate for the following year			
$\square$ Dues payment for: $\square$ individual $\square$ family $\square$ student			
For family memberships (at the same address), please include a separate form for each family member.			
I want the newsletter by:	☐ U.S. Mail	☐ internet (make sure yo	ur e-mail address is legible and correct)