

SCCARA-GRAM



Santa Clara County Amateur Radio Association

Volume 49, Number 8

August 2024



Field Day Report

Santa Clara County Amateur Radio Association (SCCARA) successfully participated in 2024 ARRL Field Day that took place in the last full weekend in June. The event took place at the San Jose Red Cross building, 2731 N 1st Street, San Jose, CA.

Call signs used: W6UW, and W6UU for GOTA station.

Operators: Gregg Lane KF6FNA, Lou Steirer, WA6QYS, Don Village, K6PBQ, Doug Owens N6DPO, Gary Mitchell, WB6YRU, Ned Tufekcic AC6YYU, Don Anastasia AA6W, John Parks, W6JPP, Paul M Gorny KK6HWN. Other club members were present: Janet Motha, KF6PUQ, Wally Britten, KA6YMD, Truman Lindsey N6TRU.

SCCARA participated in 2F category.

Equipment used: Digital and CW station: Yaesu FT-991A and HP Laptop. Phone station: Yaesu FT-847 and HP Laptop. GOTA station: Yaesu FT-991A and HP Laptop. (GOTA equipment was provided by John Parks W6JPP).

Antennas: Three element beam, off-center dipole, vertical antenna and for GOTA station end-fed dipole provided by Goetz Brandt K6GKB.

Logging software used: N1MM. Ned AC6YY created a private network using his wireless router in order to network N1MM software on both laptops to enable multi-computer and multi-op operation. Each computer had its own copy of ALL the QSOs and N1MM+ synchronized the data so that it was the same on each computer.

SCCARA also had a traditional BBQ and potluck for the Red Cross staff and visitors. Grill master was John W6JPP. We had fifteen to twenty visitors and Red Cross students. Unfortunately the number of visitors was fewer this year than usual.

Last but not least Barbara Britten KD6QEI provided crock pot full of homemade chili what was very well received and crock pot was returned empty.

The details:

Contacts made by each operator by band

Calendar

8/12 SCCARA General Meeting
8/19 SCCARA Board Meeting:
8/31 Club Station open, 10 AM - 5 PM

General Meeting

Day: Monday, August 12
Time: 7:30 PM
Place: San Jose Red Cross, meeting room 3
Featuring: {to be announced}

Op.	3.5	7	14	21	28	total
AA6W	0	0	0	26	0	26
AC6YY	6	41	3	53	17	120
KF6FNA	0	11	3	0	0	14
N3DPO	0	0	2	2	0	4
N6DPO	0	0	8	0	0	8
W6UW	0	1	10	82	0	93
WA6QYS	0	0	29	10	0	39
WB6YRU	19	10	3	35	0	67
Total	25	63	58	208	17	371

The **SCCARA-GRAM** is published monthly by the **SANTA CLARA COUNTY AMATEUR RADIO ASSOCIATION**, PO Box 106, San Jose CA 95103-0106.

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.

Permission to reprint articles is hereby granted, provided the source is properly credited.

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

Web page: www.qsl.net/sccara

BOARD OF DIRECTORS

(officers are also directors)

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Webmaster	Doug Owens N6DPO	408-568-9870
	e-mail: doug@n6dpo.com	

SCCARA REPEATERS

SCCARA owns and operates two repeaters under the call W6UU:

2 m: 146.985 - PL 114.8

70 cm: 442.425 + PL 107.2

Phone auto-dial and auto-patch is available. The 2 m 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 2 m repeater: Mondays at 7:30 PM, (not the second Monday--that's our meeting night); net control: Don Village, K6PBQ. On 10 m, 28.385 MHz USB, Thursdays at 8:00 PM; net control: *{to be announced}*. Visitors welcome.

NØARY PACKET BBS

SCCARA hosts the packet BBS NØARY (connect to n0ary-1). User ports: 145.09 MHz at 1200 baud, 433.37 MHz at 9600 baud, and telnet sun.n0ary.org (login "bbs"). Sysop: Gary Mitchell, WB6YRU For general packet info, see the NCPA web site ncpa.n0ary.org.

AMATEUR LICENSE TESTING

ARRL/VEC Silicon Valley VE group:
Morris Jones, AD6ZH: 408-507-4698

Report Summary

Call Sign: W6UW

Operators: AC6YY, KF6FNA, AA6W, N6DPO, WA6QYS, WB6YRU

Operator Category: MULTI-OP

Assisted Category: NON-ASSISTED

Band: ALL

Power: LOW

Mode: MIXED

Exchange: 2F SCV

Gridsquare: CM97AJ

ARRL Section : SCV

Club: SCCARA

Software: N1MM Logger+ 1.0.10338.0

Band	Mode	QSOs	Pts	Pt/Q
3.5	CW	5	10	2.0
3.5	FT8	20	40	2.0
7	CW	41	82	2.0
7	FT8	1	2	2.0
7	LSB	21	21	1.0
14	CW	9	18	2.0
14	FT8	4	8	2.0
14	USB	45	45	1.0
21	CW	114	228	2.0
21	FT8	56	112	2.0
21	USB	38	38	1.0
28	CW	4	8	2.0
28	FT8	13	26	2.0
Total Both		371	638	1.7

Score : 1,276



73, Ned AC6YY

Max. Power Transfer

We worry about our antennas being matched properly. And we should. We test them using SWR (Standing Wave Ratio) meters. Of course the goal is to transfer as much power as possible from the transmitter to the antenna where it's radiated, ideally 100%.

The secret to maximum power transfer is to have the load match the transmitter. That's true of other power sources too, including batteries, generators, photovoltaics (solar cells), etc.

Now, you wouldn't want maximum power transfer from PG&E to your house! That would be spectacular--and not in a good way. But you might want to get the most out of a solar panel. And we certainly want the most from our transmitters.

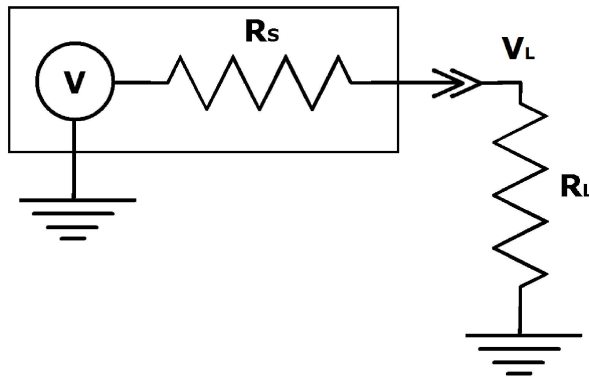
Any power supply has some internal resistance--and that is what limits how much power it can ultimately provide. So we want to know what that internal resistance is.

A battery with a lower internal resistance can supply more power. That's one of the reasons a lithium cell is better than a carbon cell. It's why you can't start your car with a small 12 V Gel-Cell. And wouldn't it be nice to know if a given solar panel will supply enough power to run your radio?

Here's how to find out.

A power supply (including a transmitter) can be modeled as an ideal voltage source in series with a resistor, and the load as

just another resistor. An *ideal voltage source* is one where the supply voltage is constant no matter what the current. Of course there's really no such thing, but if we always include an internal resistor, it works out.



Remember Ohm's law, we'll need that!
Volts = Resistance x Current

And for power:

Watts = Volts x Current

If we replace 'Volts' with 'resistance x current' (from Ohm's law) we get the ole "I squared R" rule ('I' typically being the symbol for current). So that's:

Watts = Current² x Resistance

First we need to know V . Just measure it with a volt meter and NO load. There will be practically no current flowing and the reading will be V . Actually volt meters do have some resistance, but it's on the order of megohms, even 10's of megohms. The current will be so low, for all practical purposes we can ignore it--especially with something designed to supply power.

The basic idea is to put a small load on the supply to draw a little current through R_s . Then measure the resulting output voltage V_L . The voltage drop across R_s is $V - V_L$, and the current is V_L / R_L . **R_s is just that voltage drop divided by the current.** Now we know R_s , and for maximum power transfer, that's also R_L .

We put a test load across the supply so there will be some current through that internal resistor, R_s . But how much? Well, that depends. We won't need much, just enough to cause a measurable drop in voltage.

Now, this works great for a battery or solar cells, but not with a *regulated* power supply. Those have a sense circuit that will effectively adjust R_s to maintain a constant output voltage (within limits). In that case you'll have to draw enough current to make the output voltage drop a little. Then you can find its R_s value. In other words, it will *look* like an ideal voltage source with zero R_s , but only within some limit. So you'll need a stiffer load for a regulated supply than with an un-regulated supply.

Let's look at an example:

Suppose we have one of those small 12 V "wall wart" supplies (which may not be regulated). A 1000 Ohm resistor may provide enough load. Suppose V is 12.0 V but with the 1000 Ohm load resistor we find the output, V_L is 11.9 V. That'll be enough, let's try it:

The voltage drop across R_s will be 12 V - 11.9 V, or 0.1 V. And 11.9 V across 1000 Ω is 0.0119 amps. The current through R_s must be the same. So, $R_s = 0.1 \text{ V} / 0.0119 \text{ amps}$, or 8.4 Ohms.

To get the most *power* out of it, the load must also be 8.4 Ohms. Likewise, for a 50 Ohm transmitter, the load (antenna) needs to be 50 Ohms.

But why? Let's think about that...

First of all notice if the load is zero (dead short), then all the power would dissipate in R_s . No power would dissipate in the load because that resistance is zero, and anything times zero is zero. This is why your power supply gets hot with a shorted

output.

At the other end of the scale, a load of infinite resistance (open circuit) will also dissipate no power because in that case the current will be zero.

So the sweet spot **MUST** be somewhere between. Exactly half way is when the load matches the source resistance.

Suppose R_s and R_L are each 50 Ohms (most transmitters) and V is 12 V. The current will be 12 V / 100 Ohms, or 0.12 amps, ($R_s + R_L = 100$ in this case). Remember, power is $I^2 R$. So the power dissipated in the load will be 0.7200 W.

Now let's make $R_L = 55$ Ohms. The current is 12 V / 105 Ohms, or 0.1143 amps. And the power is 0.7184 W.

Now let's try $R_L = 45$ Ohms. The current is 12 V / 95 Ohms, or 0.1263 amps. And the power is 0.7180 W.

So, the maximum power is 0.720W when $R_L = R_s$. And any value of R_L that's either higher or lower than R_s results in less power.

Fortunately it's very close if the load is off by 10%, so we don't have to get too carried away getting it exact.

By the way... Notice the power in the 50 Ohm load was less than one Watt with 12 V. If you're transmitting with 100 W and it's matched, you've got an average of 1.4 amps at 71 V across the load (feed point). If you're running 1000 W, it'll be 4.5 amps at 224 V.

That's the *average*, the peak value will be more. And that's at the low resistance feed point--it'll be higher at other spots along the antenna. It can be 1000's of volts at the end of an antenna even with relatively low wattage. So, use caution near an antenna when transmitting.

Back during the CB craze, you could buy these neon bulbs with a clip for attaching to the end of the antenna. It lit up when you transmitted. Cute... right? Those neon bulbs needed some 90 V, and CB only ran 5 W AM or 25 W peak SSB. Let that be a lesson.



73, Gary WB6YRU

Meeting Minutes

General Meeting, July 8, 2024



San Jose Red Cross, 2710 N. First St.

Meeting called to order by President Gregg Lane KF6FNA at 7:40 PM

Customary self introductions.

President Gregg KF6FNA:

First, the SCCARA-GRAM deadline is July 29th.

Second, we'll be at the club station at the Red Cross on July 27th. The SCCARA 2 m net is on Mondays at 7:30 pm on the W6UU repeater except for SCCARA General Meeting nights.

Additionally, the SCCARA 10 m net is on 28.385 MHz every Thursday at 8:00 pm.

The Electronics Flea Market will be on Sunday, July 14th hosted by FARS (Foothills Amateur Radio Society).

Field Day 2024 - Review

Editor Gary WB6YRU:

There was some difficulty with one antenna. The problem was fixed by removing the antenna tuner, but it resulted in some lost

time. This happened during Field Day 2023 as well.

Pres. Gregg KF6FNA: Also, I'm thinking additional beam antennas might be helpful in the future.

Doug N6DPO: For next Field Day, we should thoroughly check the equipment before operating it. We should also focus on actively promoting the ham radio hobby more. Maybe more of an open house?

Pres. Gregg KF6FNA: We over-purchased on BBQ supplies as well. A picnic might be set up soon to use up these excess goods. Thanks to George N6NKT for allowing us to use the Red Cross this year for Field Day 2024. Thank you to Gary WB6YRU for the signage.

Editor Gary WB6YRU: I think the brochures could be improved for future Field Days.

Meeting adjourned at 8:49 PM

Truman M. Lindsey N6TRU, SCCARA Secretary

It's Summer, 2024, and it's HOT!

This year is the hottest summer on record. Most people like the warm weather. Warm but not hot, 100 degrees or more for days. All they want to do is find a cool place to cool off and vegetate.

On days when it's up in the mid to upper 90's, it's wise to schedule work or exercise, or a walk in the morning or evening when it's not too hot. After being out in the sun for an hour or more, your body begins to heat up past the normal temperature of 98.6. That's when things could get dangerous. Normally, when the body heats up, you start to sweat. Sweating is the body's mechanism to cool it down. When your body temp is above 90.0, and you DON'T sweat, is cause for alarm. If you don't cool the body so, it can cause death. Now is the time to take some drastic measures. Here's what you can do.

Weather it's heat stroke, no sweating, or heat exhaustion, sweating, the steps to cool down are about the same. First, get-out of the sun. Get into a building where it's cooler. Take time to rest in a chair or on the couch. At this time you may be thirsty. Get glass of cool, tap water, NO ICE FOR NOW, and take small sips for 15 to 30 minutes. Give your body time to re-acclimate to the out of the sun environment. After 30 minutes, you can go back to the kitchen and add ice to the glass of water or Gatorade. Continue to rest for at least another 30 minutes. No strenuous activity should be done during this time. Watch TV, read a book, or newspaper, do crossword puzzles, knit, crochet. Only quiet stuff. There's one more thing you can do to cool off. Take a cool, tepid bath.

Let me tell you what happens when you put iced water into a hot body. You've just come in from outside and you are sweating, sticky and uncomfortable. Body temp is about 90 or higher. you get that glass of ice water and you start chugging it. Your body, like a warm front, is hit with ice cold water, like a cold front. When they meet in your stomach, it's like thunder and you end up throwing up. Now you have lost the water you just drank plus whatever was already in your stomach. You have defeated the purpose for drinking the water, and staying hydrated. Hydration is just using common sense. Stay away from soda, coffee, tea, anything with caffeine in it. Those drinks are dehydrating, normally. If you have any questions regarding this article, call me. I will be only too happy to keep you safe. Everybody needs to

drink 6-8, 8 once glasses of water a day to stay hydrated and keep your body working at its best. Have a great summer.

Barbara Britten, KD6QEI

Packet Pieces

Downloaded from the BBS packet network:

=====
Date: 26 Mar 2020 23:23
From: GM3YEW@GB7YEW
To: HUMOUR@WW
Subject: jokes 27/3

The Wongs

Su Wong marries Lee Wong. Next year the Wong's have a new baby. The nurse brings out a lovely, healthy, bouncy, baby. But he's definitely a Caucasian baby boy. "Congratulations," says the nurse to the new parents. "Well Mr. and Mrs. Wong, what will you name the baby?" The puzzled father looks at his new baby boy and says, "Well, two Wong's don't make a white, so I think we will name him... Sum Ting Wong."

A man boarded an aircraft at London's Heathrow Airport for New York, and taking his seat as he settled in, he noticed a very beautiful woman boarding the plane. He realized she was heading straight toward his seat and bingo - she took the seat right beside him.

"Hello", he blurted out, "Business trip or vacation?" She turned, smiled enchantingly and said, "Business. I'm going to the annual nymphomaniac convention in the United States."

He swallowed hard. Here was the most gorgeous woman he had ever seen sitting next to him, and she was going to a meeting for nymphomaniacs! Struggling to maintain his composure, he calmly asked, "What's your business role at this convention?"

"Lecturer," she responded. "I use my experience to debunk some of the popular myths about sexuality."

"Really", he smiled, "what myths are those?"

"Well," she explained, "one popular myth is that African-American men are the most well endowed when in fact it's the Native American Indian who is most likely to possess that trait. Another popular myth is that French men are the best lovers, when actually it is the men of Greek descent. We have also found that the best potential lovers in all categories are the Irish."

Suddenly the woman became uncomfortable and blushed.

"I'm sorry," she said. "I really shouldn't be discussing this with you, I don't even know your name!"

"Tonto," the man said. "Tonto Papadopoulos, but my friends call me Paddy."

=====
Date: 30 Mar 2020 22:09
From: GM3YEW@GB7YEW
To: HUMOUR@WW
Subject: jokes 31/3

For those of you who missed church on Sunday, and I'm

pretty certain that could be you, here is a recap:

Four worms and a lesson to be learned!

A minister decided that a visual demonstration would add emphasis to his Sunday sermon. Four worms were placed into four separate jars.

The first worm was put into a container of alcohol.
The second worm was put into a container of cigarette smoke.
The third worm was put into a container of chocolate syrup.
The fourth worm was put into a container of good clean soil.

At the conclusion of the sermon, the Minister reported the following results:

"The first worm in alcohol - Dead
The second worm in cigarette smoke - Dead
The third worm in chocolate syrup - Dead
Fourth worm in good clean soil - Alive."

The Minister then asked the congregation: "What did you learn from this demonstration?"

Maxine was sitting in the back, quickly raised her hand and said, "As long as you drink, smoke, and eat chocolate, you won't have worms!"

That pretty much ended the service

An elderly gentleman had serious hearing problems for a number of years. He went to the doctor and the doctor was able to have him fitted for a set of hearing aids that allowed the gentleman to hear 100%. The elderly gentleman went back in a month to the doctor and the doctor said, "Your hearing is perfect. Your family must be really pleased that you can hear again."
The gentleman replied, "Oh, I haven't told my family yet. I just sit around and listen to the conversations. I've changed my will three times."

Hospital regulations require a wheel chair for patients being discharged.

While working as a student nurse, I found one elderly gentleman already dressed and sitting on the bed with a suitcase at his feet. He insisted he didn't need my help to leave the hospital. After a chat about rules being rules, he reluctantly let me wheel him to the elevator. On the way down I asked him if his wife will be meeting him. "I don't know," he said. "She's still upstairs in the bathroom changing out of her hospital gown."

Three old guys are out walking.
The first one says, "Windy today, isn't it?"
The second one says, "No. It's Thursday!"
The third one says, "So am I. Let's go get a beer."

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 and who to contact for each. If your topic isn't listed, ask one of the Elmers under the topic that comes closest and we'll ask around.

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 (available from the club secretary or on our web site).

Topics:

Antennas, feed-lines, tuners: **NV6W, W6JPP, K6PBQ**
CW (Morse code): **NV6W, K6PBQ**
DX (long distance, propagation): **NV6W**
EchoLink: **K6GKB**
Emergency operating, preparedness: **WA6QYS**
HF operating techniques: **NV6W, K6PBQ**
Homebrew projects, construction: **WB6YRU**
Legal, FCC rules: **WB6YRU**
License testing, new amateurs: **W6JPP**
Lightning protection, grounding: **WB6YRU**
Packet Network (BBS, forwarding): **WB6YRU**
SCCARA (club inner workings): **K6PBQ, WB6YRU, WA6QYS**
Station set-up, equipment: **K6PBQ, W6JPP**
TVI, RFI: **WB6YRU**

Contacts for the above topics:

K6GKB, Goetz Brandt, 408-259-7287
e-mail: goetz@ix.netcom.com

NV6W, James D. Armstrong, Jr.,
evening & msg: 408-670-1680

W6JPP, John Parks
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 N0ARY
e-mail: wb6yru@ix.netcom.com

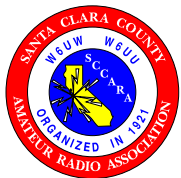
Newsletter Notes

There seem to be some errors in Barbara's article. I contact her for possible corrections, but no response was received before the deadline. Stay tuned for that next month.

In the Field Day report, it's interesting to see some details about how we did. However, it may not be completely accurate. During the event I noticed more than one operator at the CW/Digital station and the default "W6UW" was listed as the operator in the log. To some extent that may be true of the Phone station too. So, in the statistics of how many contacts each person made, the count could be a little low. If you're one of the operators and remember making more contacts than listed, you're probably right. However, the final total should be correct.



73, Gary WB6YRU, editor

**SCCARA**

Santa Clara County Amateur Radio Association
PO Box 106
SAN JOSE CA 95103-0106

**FIRST CLASS**

ADDRESS SERVICE REQUESTED

SCCARA Membership for 2024

If renewing and none of your info has changed, please only fill in your name and call

Name: _____ Call: _____ Class: _____

Address: _____ Licensed since (year): _____



City: _____ State: _____ Zip+4: _____

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

E-mail: _____

For delivery of the SCCARA-GRAM (pdf) and club announcements

Membership type and dues: Individual, \$20 Family, \$25 Student, \$10 (under 18)

 All memberships start January 1 and expire December 31. 

Family memberships (more than one member per household): please include the above info for each member, use separate forms.

New members:

Dues are prorated: dues x (11 - month) x 10% For example: July would be \$20 x (11-7) x 0.1 = \$8)

If joining in November or December: normal dues for next year, the rest of this year is included free.

I want the paper newsletter delivered by U.S. Mail for an additional \$15 per year

(Prorated, \$1.25 per month. That's \$13.75 if starting in February, \$12.50 if starting in March, etc.)

\$ _____ **Total** enclosed

Give this completed form and payment to the Secretary or Treasurer at any meeting or mail to the club address.