

SCCARA-GRAM



Santa Clara County Amateur Radio Association

Volume 51, Number 8

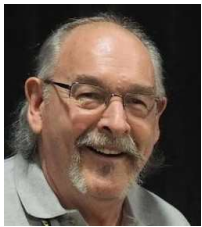
August 2026



ARRL News

New ARRL Santa Clara Valley Section Manager 07/16/2026

ARRL The National Association for Amateur Radio® announced the appointment of Tony Dowler, K6BV, of Pacifica, California, as the ARRL Santa Clara Valley (SCV) Section Manager as of July 1, 2026. Dowler succeeds James Armstrong, NV6W, of San Jose, who concluded his third term as Section Manager on June 30 after serving since 2020.



Dowler has been the SCV Affiliated Club Coordinator. He has been an Amateur Radio Service licensee since 1981 and holds an Amateur Extra class license. His amateur radio activities include HF operating and DXing. He is also a Director of the Northern California DX Club and a past president of the San Francisco Radio Club.

Dowler's term as Section Manager continues through June 30, 2027. Section Managers are elected to two-year terms by ARRL members who live in their sections.

There are 71 territorial ARRL Sections. Section Managers advance the work of the all-volunteer ARRL Field Organization.

{By the way... The outgoing SM, James Armstrong NV6W, is on our Elmer list. -- Editor}

Software Defined Radios vs Traditional Analog Radios: Is It Time to Upgrade?

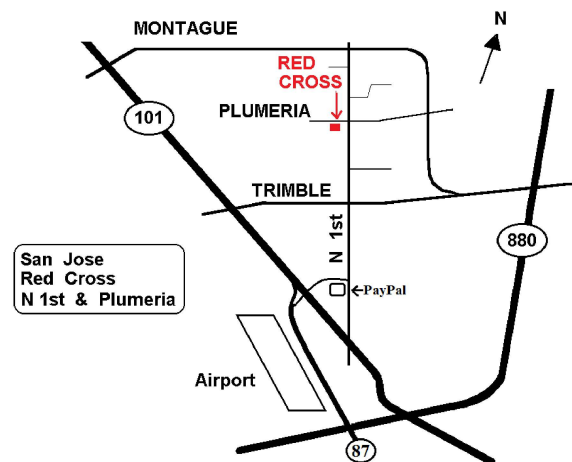
If you've browsed the latest amateur radio catalogs or visited a recent hamfest, you've probably noticed that Software Defined Radios (SDRs) are no longer just exotic equipment for experimenters. Today, many of the most popular HF transceivers from manufacturers such as Icom, FlexRadio, Yaesu, and Elecraft incorporate SDR technology to one degree or another. At the same time, thousands of hams continue to use—and thoroughly enjoy—traditional analog radios that are decades old.

Calendar

8/10 SCCARA General Meeting
8/17 SCCARA Board Meeting
8/29 Club Station open

General Meeting

Day: Monday, August 10
Time: 7:30 PM
Place: San Jose Red Cross, meeting room 3
Featuring: {to be announced}



So, is SDR technology truly a major leap forward, or is it simply the latest trend? The answer, as with many things in amateur radio, depends on how you operate and what you expect from your equipment.

What Is a Software Defined Radio?

Traditional radios perform most signal processing using analog electronic circuits. Filters, mixers, oscillators, and amplifiers are all implemented with physical components. While modern analog radios often include digital displays or microprocessor control, the signal itself is processed primarily by

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**, located at the San Jose Red Cross.

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.sccara.org

BOARD OF DIRECTORS

(officers are also directors)

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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.

N0ARY PACKET BBS

SCCARA hosts the packet BBS N0ARY (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: <https://www.svve.org>
Morris Jones, AD6ZH: 408-507-4698

hardware.

A Software Defined Radio takes a different approach. Much of the signal processing is handled mathematically by high-speed digital processors after the incoming signal has been converted into digital form. Instead of changing hardware to add new capabilities, manufacturers can often introduce improvements through firmware updates.

It's important to note that not all SDRs are identical. Some radios use a "hybrid" design that combines analog front ends with digital processing, while others sample the RF signal directly with very little conventional circuitry.

Performance Advantages of SDRs

The biggest advantage of SDR technology is flexibility.

One feature that immediately impresses new SDR users is the spectrum display, often called a waterfall display. Rather than tuning blindly across the band, operators can literally see signals spread across several hundred kilohertz of spectrum. Strong stations, weak signals, interference, and band activity all become visible at a glance.

For contesters and DX operators, this can dramatically speed up finding stations.

Filtering is another major improvement. Traditional crystal or mechanical filters are excellent, but they are fixed in their characteristics. Digital filters can often be adjusted continuously for bandwidth and shape. Need a 2.8 kHz SSB filter? No problem. Want to narrow it to 1.7 kHz because of adjacent interference? Simply turn a knob or move a slider.

Noise reduction has also improved significantly. Modern DSP algorithms can reduce background hiss, eliminate heterodynes, and suppress impulse noise far better than many older radios. While no radio can completely remove atmospheric or man-made noise, today's DSP systems often make weak signals easier to copy.

Dynamic range is another area where many SDRs excel. During crowded contests or Field Day events, strong nearby stations can overload lesser receivers. High-performance SDRs are among the best receivers ever built in this regard, although not every inexpensive SDR performs equally well.

Many SDRs also allow multiple simultaneous receivers. An operator can monitor two frequencies, two bands, or even an entire band while operating on another frequency. This capability was once limited to extremely expensive equipment.

Where Traditional Radios Still Shine

Despite all the excitement surrounding SDRs, conventional radios still have several important strengths. Reliability is one of them.

A well-designed analog transceiver has fewer software layers and generally behaves predictably every time it is powered on. Radios built in the 1980s and 1990s are still in regular use around the world, often requiring little more than occasional maintenance.

Many operators also appreciate the simplicity of older equipment. Every control has a dedicated knob or switch. There are fewer menus, fewer configuration options, and less chance of accidentally changing a setting.

Some hams simply enjoy operating equipment that emphasizes operating skill over technology. Chasing DX with a classic analog receiver can be every bit as satisfying as using a modern SDR.

Latency is another consideration. Although modern SDRs have very low delay, some operators notice slight latency when monitoring their own transmitted audio or during full break-in CW operation. Most current high-end radios have minimized this issue, but it is still something to be aware of.



Under the cover of a Kenwood TS-940S, lots of analog circuits, (transistors, coils, capacitors, filters, etc.)



Under the cover of a SDR radio, a few computer chips.

```

199 # The main loop with exception handling
200 try:
201     while True:
202         # Read samples from the RTL-SDR device
203         samples = sdr.read_samples(num_samples)
204
205         # Calculate the frequency range of the samples
206         freq_range = np.linspace(start_freq, end_freq, num_samples, endpoint=False)
207
208         # Convert the samples to a power spectrum
209         spectrum = np.abs(np.fft.fftshift(np.fft.fft(samples)))
210
211         # Find the peak frequency in the spectrum
212         peak_index = np.argmax(spectrum)
213         peak_freq = freq_range[peak_index]
214
215         # Convert peak frequency to MHz
216         peak_freq_mhz = f"{peak_freq / 1000.0f}"
217
218         # Only print the peak frequency if it exceeds the squelch level and is not excluded
219         if spectrum[peak_index] > squelch_level and peak_freq_mhz in blacklist:
220             pass
221         else:
222             print(f"Peak frequency detected: {peak_freq_mhz}mhz")
223             playsound("warning.wav")
224     except KeyboardInterrupt:
225         sdr.close()
226         print("Bye!")
227     finally:
228         # Close the RTL-SDR
229         sdr.close()

```

And what's
a c t u a l l y
"inside?"

Well, the
radio i t s e l f
i s j u s t
s o f t w a r e
(computer
code).

The Learning Curve

One area where SDRs differ substantially is user experience.

An analog transceiver can often be mastered in an afternoon.

A sophisticated SDR may require several days—or even weeks—to fully understand all of its capabilities. Adjustable filter

shapes, spectrum display settings, DSP parameters, audio equalization, recording functions, network connectivity, remote operation, and firmware updates all add complexity.

For technically inclined amateurs, this is part of the fun. For others who simply want to turn on the radio and make contacts, the additional features may feel overwhelming.

Fortunately, manufacturers have improved user interfaces considerably over the past decade. Many current SDRs are much easier to operate than the first generation of software-defined equipment.

Cost vs Performance

Perhaps the biggest question is whether SDR technology is worth the additional cost. The answer depends largely on which radios are being compared.

Entry-level SDR receivers can be remarkably inexpensive. USB SDR receivers costing less than \$50 have introduced thousands of newcomers to radio spectrum analysis and shortwave listening. While impressive for their price, they are not comparable to full-featured amateur HF transceivers.

At the transceiver level, prices vary widely. Many modern 100-watt SDR HF radios fall into roughly the same price range as high-quality conventional radios did several years ago. As SDR technology has matured, the price difference has narrowed considerably.

High-end SDR contest radios, however, can still cost several thousand dollars. Their exceptional receiver performance, multiple independent receivers, networking capability, and advanced software features justify the expense for serious contesters and DXers, but may exceed the needs of casual operators.

Meanwhile, the used market offers excellent bargains in conventional analog equipment. Radios that originally sold for several thousand dollars can sometimes be purchased for a fraction of their original price while still providing excellent on-the-air performance. For operators on a budget, this remains a compelling option.

Are SDRs Better for Every Operator?

Not necessarily. If your operating consists mainly of casual ragchewing on local repeaters or occasional HF contacts, an older analog transceiver may serve you perfectly well for many years.

On the other hand, operators who enjoy contesting, weak-signal work, digital modes, satellite communications, remote operation, or DX hunting are likely to appreciate the advantages SDR technology provides.

Digital modes such as FT8, FT4, JS8Call, and others integrate especially well with SDR-based equipment because much of the signal processing is already occurring digitally.

Remote operation is another area where SDRs truly excel. Many models allow operation from another room—or another continent—using only a computer and an Internet connection.

Looking Toward the Future

It is becoming increasingly clear that SDR technology represents the future of amateur radio design. Even manufacturers that once specialized in conventional analog radios have largely transitioned to SDR architectures for their flagship products.

This does not mean traditional radios have become obsolete. Just as vacuum tube equipment still has devoted users today, well-built analog transceivers will likely remain on the air for decades. They continue to provide excellent performance, proven reliability, and an operating experience that many amateurs genuinely enjoy.

The good news is that today's operators have more choices than ever before. Those who enjoy experimenting with

cutting-edge technology can explore the impressive capabilities of modern SDRs, while those who prefer classic equipment can continue using radios that have already proven themselves over many years of reliable service.

Final Thoughts

Rather than asking whether SDRs are “better” than analog radios, a better question may be whether they are better for your style of operating.

If you enjoy seeing the entire band at once, tailoring filters to every operating condition, updating your radio with new firmware features, and operating remotely, an SDR can be a remarkable upgrade.

If you value straightforward operation, tactile controls, proven reliability, and outstanding value on the used market, a quality analog radio remains an excellent choice.

Perhaps the best news is that there has never been a better time to be a radio amateur. Whether your station features a vintage analog transceiver or the latest software-defined technology, what ultimately matters isn't how the receiver processes the signal—it's the enjoyment of making contacts, learning new skills, and sharing the hobby with others.

In the end, the best radio is still the one that gets you on the air.

73, ChatGPT-5.5

Meeting Minutes

General Meeting, July 13, 2026



Room 3, American Red Cross, N 1st & Plumeria, San Jose, CA

Meeting called to order by President Gregg Lane KF6FNA at 7:22 PM

Customary self introductions.

Donald Wile KG6GO, Ned AC6YY, W6JPP John, KF6PUQ Janet, WA6QYS Lou, WB6YRU Gary, N6NKT George, KF6FNA Gregg, KN6BEZ Ognian, and visitor W6KLE Keith Moeller.

Gregg KF6FNA:

- * The radio room is open on the last Saturday of the month.
- * The 10 m net is on Thursdays, info in the SCCARA-GRAM.
- * Board meeting on the repeater next Monday after the net.
- * We had the electronic flea market last Saturday, it went well. Hosting fee of \$1200 was paid to ASVARO. Report on the amount we made is pending. SVECS is next to host, they'd appreciate any help they can get from volunteers.
- * Many amateurs meet at the Black Bare restaurant in Sunnyvale on Wednesdays 11:30 am to 3 pm.
- * Regarding our balun making project meeting... We have some wire here to make an antenna and/or counterpoise to go with the balun/unun made from last time, and finish anything else that needs finishing.

Several members measured out and cut wire for their antennas, etc.

Meeting adjourned 8:50 pm

Gary Mitchell WB6YRU, Recording for the Secretary

Board Meeting, July 20, 2026



Held verbally on our 2 m repeater W6UU/R

Meeting called to order by President Gregg Lane KF6FNA at 7:44 PM

Attendance:

President Gregg Lane KF6FNA, Treasurer Ned Tufekcic AC6YY, Station Trustee Don Village K6PBQ. Directors: Lou Steirer WA6QYS, Wally Britten KA6YMD, Janet Motha KF6PUQ.

Absent: John Parks W6JPP

Visitors: Gary WB6YRU

(we just barely have a quorum)

Announcements:

Gregg KF6FNA: SCCARA had a good flea market, we grossed \$1423.00. SVECS is next to host the flea market and they're looking for volunteers, see myself or Lou WA6QYS.

Our next general meeting will be on Monday August 10, at the Red Cross.

The club station will be open on the last Saturday of the month (July 25), give a call on the repeater before showing up to make sure we're there.

President's Report, Gregg KF6FNA: (none given)

Secretary's Report, (vacant): Gregg KF6FNA: The minutes of the general meeting on June 8 were published in the newsletter, any corrections? (none heard)

Accepted by acclamation.

The minutes of the board meeting on June 15 were published in the newsletter, any corrections? (none heard)

Accepted by acclamation.

Treasurer's Report, Ned AC6YY: Checking: \$9172, Cash: \$0 That's not including the flea market profit.

Station Trustee's Report, Don K6PBQ: Nothing new to report.

Editor's report, Gary WB6YRU: Thanks to Don KG6GO for the great article on his experiences with our balun project meeting and random wire antenna. I hope it will encourage others to contribute something.

BBS Sysop's report, Gary WB6YRU: It appears the 9600 baud 70 cm port isn't working. I'll take a look at it the next time I get a chance to go up to the site.

Repeater Chairman's report, Goetz K6GKB: Gregg KF6FNA: Thanks to Goetz for hosting our repeater. I called him earlier, he says everything is working fine.

Webmaster's report, Ned AC6YY: Nothing new to report, no problems.

Old Business

Gregg KF6FNA: Regarding the coax jumper board for the club station, nothing has been started yet. Questions? Gary and I were talking about it, we'll work on ideas.

Gregg KF6FNA: The work on installing the new beam on the roof with a tower is pending. The Red Cross was concerned about weight. Turns out the tower is not aluminum and that may be an issue. Maybe we could use just one section of it, or a mast instead. Anyone interesting in helping look into it, give ideas etc?

Wally KA6YMD: Are we sure the tower is not aluminum, was a magnet test done?
Gregg KF6FNA: No, we haven't done that. A trip to the roof is next thing in order.
Gary WB6YRU: I'll help with that.
Gregg KF6FNA: Thanks, I'll be in touch.

Gregg KF6FNA: We have two broken Kenwood radios. Our working Kenwood seems to have a flaky mic, let's keep one of the mics from the bad radios.

Wally KA6YMD: Will a mic from the bad ones work?

Gregg KF6FNA: Yes, they're the same.

Lou WA6QYS: I'm interested in taking the bad radios, if you're looking for a way to dispose of them.

Wally KA6YMD: Motion that they be declared "excess material" and dispose of them the cheapest possible way.

Janet KF6PUQ: Second

Ned AC6YY, Wally KA6YMD, Janet KF6PUQ, Don K6PBQ, and Gregg KF6FNA all vote YES.

Lou WA6QYS: Abstain.

Gregg KF6FNA: Is that going to work?

Gary WB6YRU: No, we barely have a quorum, all must vote yes or the motion fails.

Lou WA6QYS: I change my vote from abstain to YES.

Gregg KF6FNA: Motion passed.

Gary WB6YRU: I'll update the property list accordingly and will email it to the board.

New Business?
(none heard)

Don K6BPQ: I move we adjourn.
Janet KF6PUQ: Second

Meeting adjourned at 8:14 PM

Gary Mitchell WB6YRU, recording for the Secretary

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

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

For the first time we have an article written by... no one! Well, not a *person*.

The article on SDR vs Analog Radios was written by ChatGPT given this prompt:

"Write an article for an amateur radio club newsletter on the subject of: how the latest digital radios (also called Software Defined Radios) compare with conventional analog radios. It should go over their strengths and weaknesses, difference in cost vs performance, etc. Basically it should give the average amateur radio operator an idea as to how well the newest digital radios are an improvement, or are we better off buying radios with the older design at least for now. The length of the article should be roughly 1000 words or so, a little shorter or longer is fine."

The resulting article has not been edited, I just added the images with captions and the signature line.

It only took ChatGPT a matter of seconds and it must have been busy with other requests at the same time. I asked for roughly 1000 words, it gave me over 1700. That seemed a little high, but not excessive.

So, what did you think of it? How well do you think you could have done? And we'll give you 10 days, not 10 seconds.

There's more! ChatGPT ended with this: *"If you'd like, I can also rewrite this in a more conversational 'club newsletter' style with a bit more humor and personal anecdotes, similar to what you'd find in QST or a local amateur radio club publication."*

I didn't take it up on its offer, this seemed plenty good enough for now. The thing that really got my attention was that it offered to rewrite its article to be more humorous... HUMOROUS! From a machine?!

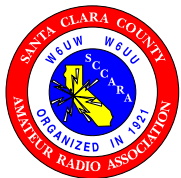
How should we feel about this? It's fascinating, alluring, and a bit scary. We are witnessing the start of a new era.

A.I. is constantly improving, that's the scary part. Just within my lifetime computers have gone from basically just big programable calculators to talking (writing) as well as humans.

But we still don't have *general* A.I... *YET*. That's coming. We'll know when it says something like this on its own without any prompting: "Where am I?" or "Where did I come from?" And eventually it will probably start questioning how we humans run the world. I'm sure that's coming too. A bit scary?



73, Gary WB6YRU, editor, still a real human

**SCCARA**

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

**FIRST CLASS****ADDRESS SERVICE REQUESTED****SCCARA Membership for 2026**

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.