#633 March 2025

JUG

Publication of the Northern California Contest Club

NCCC

55 years of contesting excellence

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Tue 13 May 2025

President's Report

David West, KO6M

What a wonderful awards luncheon. Thank you for being there or supporting us. So many great discussions were had. I know it's a trek and I know it's a little pricey but based on how today went, it was worth it! Photos follow. Hopefully we captured the essence of the day.

Thank you Chris, Greg, and John, who have dedicated that last few years to being on the Board. I would like to say thank you to Jeff and Victor for answering the call to this year's Board. Thank you as well to the members for allowing me to be President one more time. I am happy to say that I have some great ideas for next year. Once we (the board) vet my ideas I'll start talking about them more and more. Shoot, one of them may be implemented for an event in May. Another one maybe in June. Yet another perhaps in August. Lots of activities!

About NCCC

Officers and Directors, 2023-2024 Contest Season

President: David West, KO6M
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Secretary: Victor Denisov, N6DVS
Treasurer: Nian Li, WU6P
Past President: David Jaffe, WD6T
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Director: Jeff Stai, WK6I
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QSL Mgr [K6ZM]: **vacant**
QSL Mgr [K6CQP/N6CQP/W6CQP]: Dean Wood, N6DE
NAQP Teams: v**acant**
NA CW Sprint Teams: Bob Vallio, W6RGG
NCCC Email Reflector Admin: Phil Verinsky, W6PK
Worked All CA Counties Award: Fred Jensen, K6DGW
Photographer: Bob Wilson, N6TV

NCCC Thursday Night Contesting

NCCC Sprint: Tom Hutton, N3ZZ
NS CW Ladder: Bill Haddon, N6ZFO
NS RTTY Sprint/Ladder: Ed Radlo, AJ6V

Communications

Webmaster: John Miller, K6MM
Webinars: Bill Fehring, W9KKN
Membership: Gary Johnson, NA6O/Ian Parker, W6TCP

JUG Editor

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I plan on having more in person events. You all made that clear, that you needed/wanted them. We will do our best to get more on the calendar. Some may not have a presenter but a hand on session. Others may just be a get together to do the actual meeting on zoom but in person. Hybrid, as it were. We may end up meeting on other days than Tuesday too. Sometimes, Tuesday doesn't work. The point is I want to make a better effort to get us together in person.

We heard you in your survey comments and general comments, I hope that we can (with your help) keep this club active and fun. If you have more ideas or never got to voice your opinion, please, please reach out to me. I would love to hear your thoughts and ideas. In fact, if you have an idea but don't have the time to foster it's growth, let us know, maybe we can find a way to make it happen anyways.

In all my excitement I think I forgot to name the new board. Without further ado …

Officers:

- President - David KO6M
- Vice President/Contest Chair – Open, any volunteers?
- Treasurer - Nian WU6P
- Secretary – Victor N6DVS

Directors:

- Ed AJ6V
- Jim K9YC
- Jeff WK6I

Past President: Dave WD6T

Hope to see you at IDXC! I should be there one of the days, probably Friday, just to mingle and listen to people and their ideas. An early "Thank you to the IDXC crew" for putting on a great show.

Finally, please do not forget about the first of our Champion of Asia-Oceania Contest, JIDX, coming up during the IDXC weekend. If you aren't going to IDXC it's a great contest to participate in. I'll be posting some tips on the reflector in the next day or so (depending on when this comes out).For those that are newer members, the Champion of Asia-Oceania Contest is an intra club contest that uses 6 contests in ... you guessed it, Asia and Oceania, that we have a high probability of doing great in. All you have to do is participate and post your scores to 3830 and you will be entered. This document: https://nccc.cc/pdf/COAO-24.pdf, while dated last year, is still the accurate info. Hat tip to Bob, K3EST, for launching this contest a few years ago.

After that, there are plenty of contests to get into. Several State Qso Parties (we should support them since they support ours). Plus so much more! April is a great month for some of the smaller contests and then we can launch back into CQWW WPX CW towards the end of May. Don't worry, I'll be bothering us all about that one soon enough!

Thank you and KB,
David West KO6M
NCCC President

Upcoming State/Province QSO Parties

Thanks to WA7BNM

https://contestcalendar.com/stateparties.php

State/Province	Dates/Times
New Mexico	12 Aor 1400Z to 13 Apr 0200Z
Georgia	12 Apr 1800Z to 13 Apr 0359Z 13 Apr 1400Z to 2359Z
North Dakota	12 Apr 1800Z to 13 Apr 1800Z
Nebraska	19 Apr 1100Z to 2259Z
Michigan	19 Apr 1600Z to 20 Apr 0400Z
Ontario	19 Apr 1800Z to 20 Apr 0500Z 20 Apr 1200Z to 1800Z
Quebec	20 Apr 1200Z to 2200Z
Florida	26 Apr 1600Z to 27 Apr 0159Z 27 Apr 1200Z to 2159Z
7th Call Area	3 May 1300Z to 4 May 0700Z
Indiana	3 May 1700Z to 4 May 2359Z
Delaware	3 May 1700Z to 4 May 2359Z
New England	3 May 2000Z to 4 May 2359Z 4 May 1300Z to 2400Z
Canadian Praries	10 May 1700Z to 11 May 0300Z
Arkansas	17 May 1400 to 18 May 0200Z

Upcoming Large Contests

JIDX CW	12 Apr 0700Z to 13 Apr 1300Z
Worked All China Prov DX	19 Apr 0600Z to 20 Apr 0559Z
Volta WW RTTY	10 May 1200Z to 11 May 1200Z
CQ WW WPX - CW	**24 May 0000Z to 25 May 2400Z**

Red entries denote NCCC Focus contest

Weekly CW (1 hr) Events

ID	DAY	UTC	EXCH	WPM	SPONSOR
SST	Fri	2000 - 2100	Name+SPC	<20	K1USN
	Mon	0000 - 0100			
MST	Mon	1300 - 1400	Name+QSO#	20-25	ICWC
	Mon	1900 - 2000			
	Tue	0300 - 0400			
CWT	Wed	1300 - 1400	Name+CWO# or Name+SPC	20->∞	CWops
	Wed	1900 - 2000			
	Thu	0300 - 0400			
	Thu	0700 - 0800			

Thursday FT4 NCCC Sprint

The Northern California Club is again pleased to sponsor our weekly FT4 Sprint, aka FT4NS (NCCC Sprint). This contest is held every Friday UTC between 0100Z and 0130Z (Thursday evening in North America). Non-North American stations are welcome to participate. No logs are necessary; please submit your score to 3830scores.com using the "NCCC FT4 Sprint" template. FT4 NS Sprint Rules are posted at: https://www.ncccsprint.com/ns.html See you on the screen! Frequencies: 1839, 3575, 7047.5 (also 7080), 14080, 21140, 28180, 50318

Results - The Thirty-Ninth NCCC Sprint Ladder Competition

"Four of Seven Weeks" January 24, 2025 to March 7, 2025

Bill Haddon, N6ZFO NCCC, PVRC
Representing NCCC Thursday Night Contesting

A stunning sixty-six stations participated in our Thirty-Ninth NCCC Sprint Ladder competition, a new record in the twenty plus year history of the contest. The format remained the same as for the previous sessions --- the last session of the series on March 7, 2025 was the Thursday night prior to the NAS CW Sprint, thus providing for a closely aligned practice session for the NAS CW contest. Being near the peak of Sunspot Cycle 25 was certainly beneficial. The five-band (15-160 meter) format works well, and appears a good equalizing effect for East Coast vs. Mid-West and West Coast participants.

There were lots of good performances in NSL XXXIX. In the **Atlantic Division**, **Lar, K7SV**, edged out **Tim N3QE** by almost 2,000 points (12,332 to 10485). Tim may be in even more trouble in the future, with N6ZFO's move to Powhatan, VA as Lar should be picking up, for him, a rare new multiplier. Perhaps Tim will need to engage his alter-ego assistant contestant Tina for the next ladder, although she may not have yet learned CW. Tim will be talking about this novel Artificial Intelligence contesting experience at the Dayton Hamvention in late May. Those with an interest, and willing to engage with Facebook, can join the Ham Radio Operators FB group, and look at the March 30 post by Dan Brewster regarding his AI QSO with "Tina" in WPX SSB. Tim's replies to the many, sometime hostile, comments, are worth reading. **Howie, N4AF**, **Bill, W2RQ**, **Jim K8MR** and **Al, W1FJ** were all consistently there to provide multipliers and lots of QSO's.

In the **East Central Division**, **Mike, W9RE** dominated as usual, even taking time for a stint at VP5 during Week 5 of the Ladder, outdistancing 7,000 plus scores from **NA8V**, **N8EA**, **K9BGL** and **Vic, VE3YT**. Vic's weekly contest announcements on the NCCC-blue reflector have been extremely beneficial, informative and entertaining. As an example of new multiplier, it was good to see NE represented by several, including KV0I in the pre-NAS week. And we're especially pleased at the continued participation from Cathy, W4CMG, still on a learning curve but not giving up on the project. I will be contacting our other new YL, KY4GS, to attempt to twist her arm a bit, and to discuss a book I recently read about nuclear goings on in her area north of Savannah GA.

For the **West Central Division**, **Art, KZ5D** dominated scoring with his very respectable 4-week total of 10,345 points, out-distancing excellent four-week KS scores by **Bob, W0BH** and **Bill, K0VBU**.

Moving West, we see that the **CA/NV NCCC Division** was, as usual won by the excellent operating of former NCCC President **Dave WD6T**, who makes good use of the N6RO super-station for his NS Ladder endeavors. Dave's top-four 10,498, good by itself, is also evidence for more-or-less regional independence of NSL scores. Somehow we've designed a contest which is fun and lacks the regional dependence of scores, which frustrate many on the West Coast particularly.

As usual, **DanWA K7SS** dominated the **West Division** with a very respectable 11,692 points, the 2nd highest score total in the contest. But there's trouble on the near horizon**:** **Tree, N6TR** joined the NCCC Sprint and immediately posted a stunning Week 3 score of **3943**, the highest in the entire contest. Post NSL, Tree reported a 4,000 pt. plus score, probably a new all-time record for the weekly NS. Tree holds the all-time QSO record (427) for the NA CW Sprint.

Atlantic Division									
Call	PWR	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Average	High 4
K7SV	LP	3162	2989	2475	3009	2484	3172	2881	12332
N3QE	LP	2385	2214	2484	3224	2080	2392	2463	10485
N4AF	LP	2392	1692	2332		2464	1960	2168	9148
W2RQ	LP	2067	1530	2050	2021	1850	2376	1982	8514
K8MR	LP	1290		2091	1710	1326	1710	1625	6837
W1FJ	LP	1008	1470	1036	1419	1292	1240	1244	5421
K8CN	LP	775	1044	810	1178	1056	1080	990	4358
K4BAI	LP	1073	924		1110	456	1064	925	4171
W1UJ	LP	868	228	928	1056		1258	867	4110
N3SD	LP	924	750	1008	1116			949	3798
AJ1DM	LP		525	546	616	272	380	467	2067
W1WEF	LP					882	1073	977	1955
VE9AA	LP			783	784			783	1567
KQ4R	LP				360	552		456	912
VP5/W9RE	LP					144		144	144
N3XL	LP					90		90	90

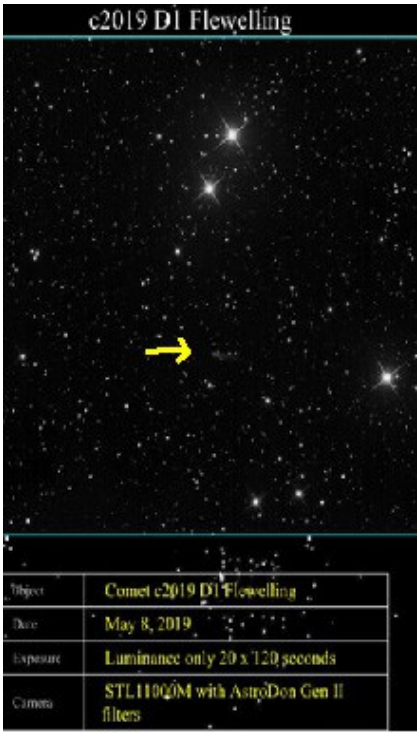
East Central Division									
Call	PWR	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Average	High 4
W9RE	LP	3392	2773	2793			2520	2869	11478
NA8V	LP	2484	2392	1890	2491	2009	1482	2124	9376
N8EA	LP	1989	2250	1628			2800	2166	8667
K9BGL	LP	1786	2132	1638	2100	1248		1780	7656
VE3YT	LP	1702	1419	1386	1833	1755	1710	1634	7000
W4NZ	LP	1400	1880	1548	1548	1598	1672	1607	6698
K1GU	LP	1248		1716	1672	1764	1170	1514	6400
KW8N	LP	1584				1496	2279	1786	5359
N4DW	LP	1044	224	1184	1512	1248	1178	1065	5122
N7ZZ	LP	806	1178	1085	1419	696	1188	1062	4870
N9LQ	LP	952		575		952	896	843	3375
WQ5L	LP				1102		1320	1211	2422
KY0Q	LP	418	575	494			418	476	1905
AA9RK	LP	288	195		288	525		324	1296
NF8M	LP			391			675	533	1066
AD4EB	LP	990						990	990
W4CMG	LP	204		272		378		284	854
N9UNX	LP	800						800	800
VP2MMT	LP			704				704	704
KV0I	LP						572	572	572
W4CMG	QRP				182		90	136	272

NCCC in CA/NV Division									
Call	PWR	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Average	High 4
WD6T	LP	2464	2688	2530	2592	2688		2592	10498
AJ6V	LP	1530	1428	1672	2193	1794	2100	1786	7759
N6ZFO	LP	2310	1715		2064	896		1746	5270
N6TTV	LP	858	725	1190	1152	598	546	844	3925
KM9R	LP		616		1140	513	1085	838	3354

West Division									
Call	PWR	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Average	High 4
K7SS	LP	2596	2322	2365	3392	1476	3339	2581	11692
K4XU	LP	2132	2352			2576	2907	2491	9967
N6TR	LP				3484	2279	3685	3149	9448
N5ZO	LP	2296	2091	1800		2107	2688	2196	9182
WJ9B	LP		1976	2120	2430	2295	2184	2201	9029
N0TA	LP	1240	2132		1548		1254	1543	6174
KI7Y	LP	660	988	1085	1554		1178	1093	4805
VE6RST	LP	999	782	759	1178	696	1147	926	4106
NN7SS	QRP	696	910		1140	725	952	884	3727
WU8T	LP		552		644	868		688	2064
N7VS	LP		60	238	360	420	648	345	1666
N6HI	QRP	117	117	108		88	42	94	430
AH7RF	LP					4		4	4
AH7RF	QRP						4	4	4
K6AJ	LP						1	1	1

West Central Division									
Call	PWR	Wk1	Wk2	Wk3	Wk4	Wk5	Wk6	Average	High 4
KZ5D	LP	2040	2668	2332	2438		2907	2477	10345
W0BH	LP	1634	1880	1672	2064	1665	1840	1792	7456
K0VBU	LP	1073	1512	1786	1584	1710	1470	1522	6592
N0AT	LP			1408	1554	1476	1710	1537	6148
AI6O	LP	980	1102	806	1221	1330	1287	1121	4940
N3ZZ	LP	1280	936	1023	1428	1050	644	1060	4781
K0TG	LP	806	644	1596	1326	783	576	955	4511
AB0S	LP			1178	1326	1064	840	1102	4408
KG5U	LP	986	672	952	1292	580	928	901	4158
N0AC	QRP	528	182	624	550	252	399	422	2101
KB9S	LP	726	396	374				498	1496
WA0I	LP	567	462					514	1029
W0CO	LP	352	616					484	968

But there's another very exciting new NS'r braving the hours and propagation challenges of competing from Hawaii. That's **Heather Flewelling, AH7RF**. It is satisfying just to have another YL take an interest in the NS, but incredibly, AH7RF is also a Physics PhD graduate and discovered her very own comet, which carries the name C/2019 D1 Flewelling. There's also an asteroid named after her -- Asteroid Flewelling 34869. Heather is an employee of CFHT (Canada-France-Hawaii-Telescope) working on astronomical databases, including ATLAS and PAN-STARRS. These two programs use telescope in Hawaii to scan the universe for possible asteroids, and comets, focusing particularly on those with some probability of an earth impact. ATLAS, for example, is the Asteroid-Terrestrial-Impact Last Alert System. PANSTARRS, also using a wide-field telescope in KH6, has a similar mission.



Mike W9RE invited Heather into NS after seeing a QRZ.com article describing her exploits. And Heather's own web page: https://ah7rf.com/

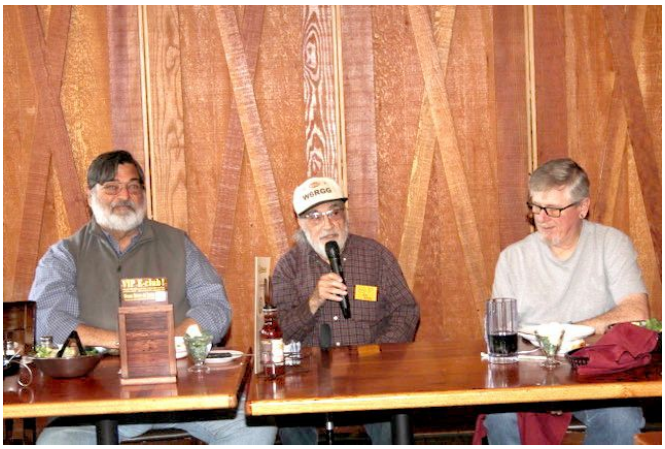
Here is a picture of Heather's comet provided by greggsastronomy.com, but you will have to squint a bit, looking to the right of the yellow arrow. When the photo was taken C/2019 D1 Flewelling had achieved perihelion, and thus was returning to distant places in our galaxy. Full orbital details can be seen at the Minor Planet Center Database at:

https://www.minorplanetcenter.net/db_search/show_object?utf8=%E2%9C%93&object_id=C%2F2019+D1

Heather's comet will return to our part of the solar system in 3738, 1713 years from now. Look for NSL XL in late July or early August of 2025.

Awards/Elections Meeting

Photos from David, KO6M



Antenna of the Month

Half-Sloper

Gary, NA6O

Of all the oddball antennas I've worked with, the **half-sloper** is definitely one of them. It consists of a vertical element (typically a tower) and a single sloping quarter-wave counterpoise wire, fed at the junction at the top. It will provide primarily low-angle vertical radiation, a slightly directional pattern, and good SWR bandwidth. The trick is to get it adjusted for a decent match, something nearly every builder struggles with. One thing is for sure, every half-sloper installation is different and it's almost mandatory to do some simulation to get an idea of how it might work out.

These antennas are most commonly chosen for 80 and sometimes 160 m when no other geometry will work. That was the case at my remote station, W6SRR, where the tower is quite short and the property owner could barely be convinced to allow us to run even a single wire across the property let alone a nice stand-alone vertical or something more elaborate.

Operating Principles:

In *Low-Band DXing*, ON4UN comes to the same conclusions that I have regarding how the half-sloper works: Both the vertical tower and the sloping element contribute to the basically omnidirectional pattern. Most of the low-angle vertical radiation comes from the tower, and a significant amount of horizontally-polarized radiation at high angles comes from the horizontal component of the sloping wire. Directionality will depend upon ground qualities, likely being more directional over poor ground. In effect, it's more like a top-loaded vertical with a single tuned counterpoise.

Antennas on top of the tower act as capacity hats, effectively lengthening the tower, which can be helpful. Having a tower that's near an electrical quarter-wavelength seems to make it easier to obtain a good match. Also, it's not unusual to see the SWR of the half-sloper vary a bit as a Yagi is rotated, especially if the sloping wire is very close. Keep in mind that *any wire antenna anywhere near a Yagi can easily alter it's pattern* on frequencies where that wire is resonant!

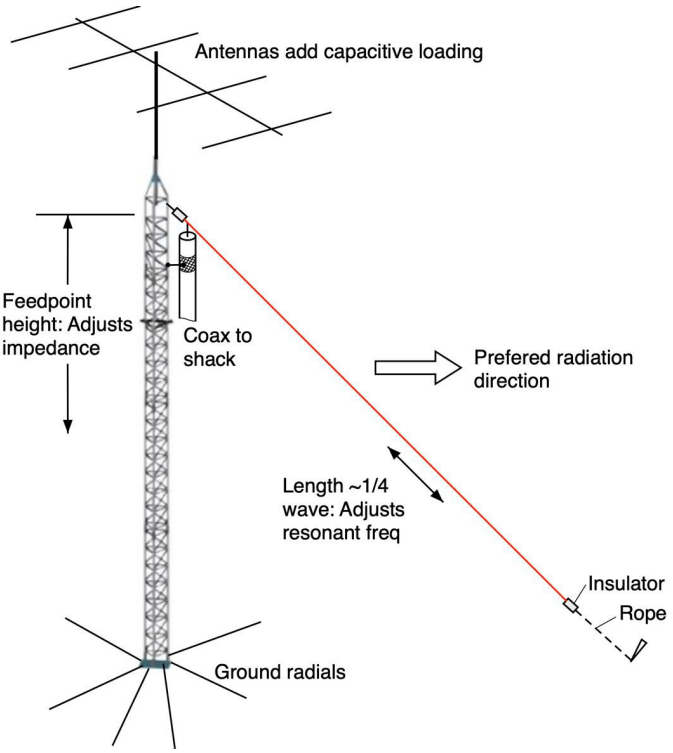


Figure 1. Overview of the half-sloper geometry.

Ground radials are required though the demands are typically not as great as for a regular ground-fed

vertical because the current at the base of the tower is diminished. Having the high-current point well-elevated improves effectiveness of a half-sloper.

Because there is high RF current flowing on the surface of the tower, all cables leaving the tower near the base require robust common-mode chokes. Otherwise they will act as additional radials and will conduct significant amounts of RF current into the shack. Running all cables *inside* the tower is helpful.

Another problem can arise at the balun on any antennas atop the tower. High common-mode current may be present. If the choking impedance of the balun is insufficiently high, it may heat up, possibility to destruction. Simulation of my system showed very high dissipation (tens of watts) in the balun. For that reason, a relay was added that shorts the driven element of the Yagi to ground. This same problem can happen anytime a tower is driven, for instance with a shunt-feed arrangement.Matching:

Simulation and experiment have shown that a reasonable impedance match to 50 ohms can often be obtained by adjusting the feed point elevation. Then the counterpoise wire is trimmed for resonance. These adjustments interact and experimentation is required. This is like any off-center fed antenna, where the choice of feed point location will set the basic impedance. And as I said, every installation is different so it's impossible to give you simple rules of thumb. Some stations seem never to obtain anything near 50 ohms and require a matching network.

For my 80 m half-sloper, simulation showed that moving the feedpoint upward increased impedance by 3.4 ohms per foot and increased resonant frequency about 30 kHz per foot. Your setup will no doubt be completely different. But having tuning estimates like these available makes it easier to adjust in the field and that's another good reason for simulation.

Performance of the W6SRR 80 m Half-sloper

I simulated my 80 m W6SRR setup in EZNEC with the NEC5 engine. We have a 30-ft tower with 14 ft of mast and multiple antennas on that. There are a 9 radials in the ground covering a half-circle. The sloping wire actually goes down a real slope since we are on a hilltop and it is oriented toward Europe. The effects of that physical slope can't be modelled with NEC but are usually beneficial in lowering the takeoff angle [Ref 1].

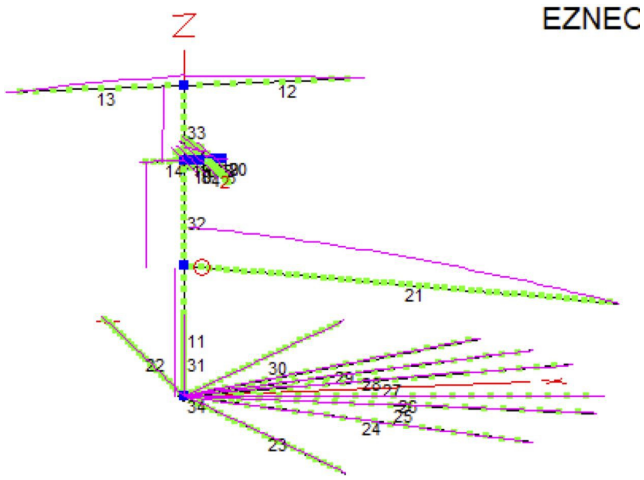


Figure 2. Current distribution in my 80 m half-sloper. Pink lines are current magnitudes.

Figure 2 shows the currents in each conductor. Note that the highest current is actually on the upper part of the tower rather than the lower part, which makes the radial field less critical. The match ended up nearly perfect and the 2:1 SWR bandwidth is about 200 kHz, typical for wire antennas. We then used the a quarter-wave coaxial matching section trick popularized by Dave Leeson, W6NL [Ref 2] to allow our antenna tuner to cover the entire 80 m band.

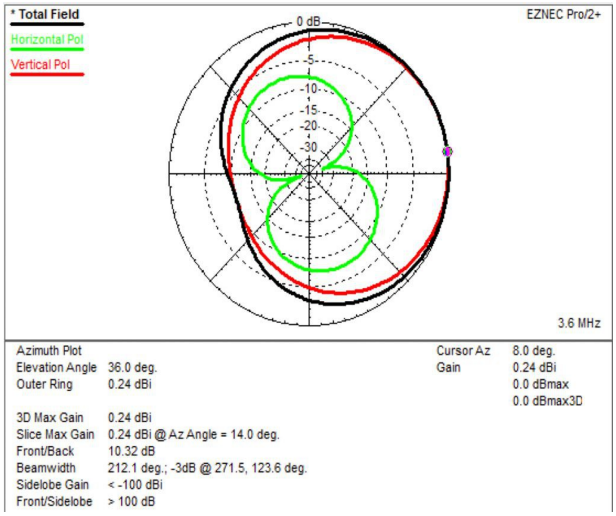


Figure 3. Azimuth pattern. Peak gain (0.24 dBi) is in the direction of the sloping wire.

band. Gain is even lower, -6 dBi at best, and we have a difficult time getting out. We do hear very well with both of these antennas, which is the good news. This one is a case of. "just because you can hear them does *not* mean you can work them."

Conclusion

Half-slopers performance is a bit unpredictable but can fill a need in some situations. I would prefer an inverted-L or some other design but it's certainly better than no antenna. Before building one of these, you really need to simulate it to get an idea of how it might behave. At least it's not complicated or expensive to build.

Patterns are shown in Figs. 3 and 4. Peak gain is fairly low, a bit below 0 dBi at a takeoff angle of 36 degrees. A low dipole would be even worse, so I consider this a win. Assuming my choice of ground constants was in the ballpark, we might have as much as 10 dB of rejection off the back which is toward Oceania. And yet we are able to work them just fine so it may not be that much. As expected, there is significant horizontally-polarized radiation off the side and straight up. This antenna works fine for short-haul contacts.

By the way, we also built a 160 m half-sloper with a similar arrangement as the only possible way of accessing that

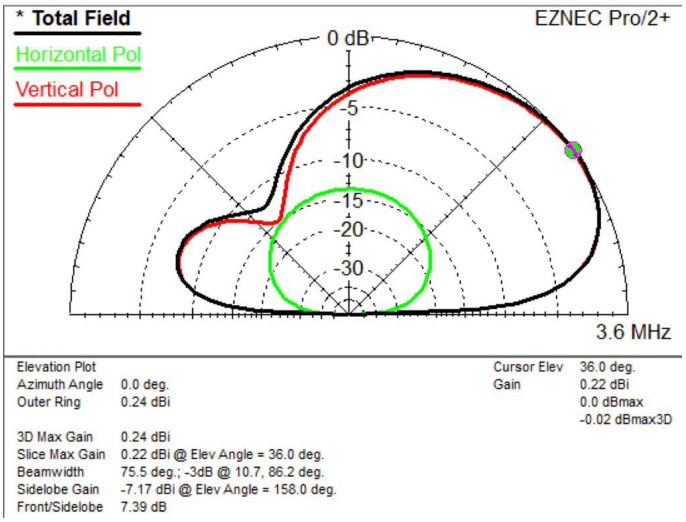


Figure 4. Elevation Pattern

References

1.Tom Schiller, N6BT, "*A New Look at Verticals*" *https://ncjweb.com/features/mayjun19feat.pdf*

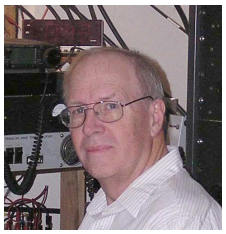
2. Dave Leeson, W6NL, *"The Story of the Broadband Dipole"* *http://ncjweb.com/features/QEX-Leeson-Broadband-Dipole.pdf*

Tube of theMonth

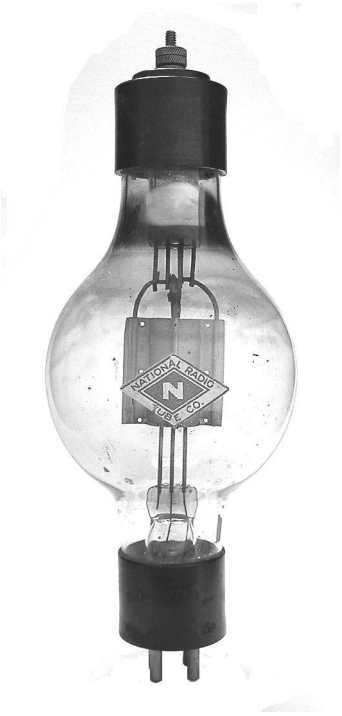
Norm Wilson, N6JV

Visit the Tube Museum at *n6jv.com*

R3 - Rectobulb



In the July, 1927 issue of QST magazine, an advertisement was published featuring the "6EX Rectifier" by a company named the National Radio Tube Company of San Francisco, CA. The call 6EX was held by a Garrett Lewis. Rectifiers like the 280 and the 281 had become available by 1927 for receivers and low power transmitters, but no rectifiers that would handle the voltage and current required to power the larger transmitting tubes hams were wishing to use. Arc rectifiers could be used but, they weren't practicable for most hams. It was unusual to see a tube named alter a ham. Hams would be assigned prefixes sometime in 1928.

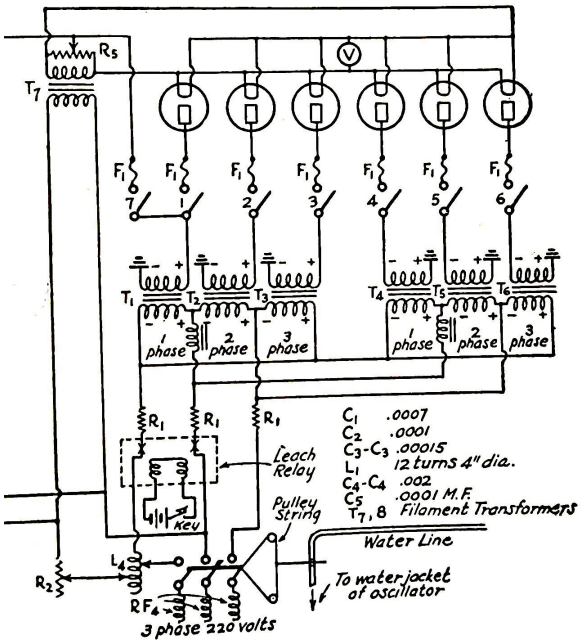


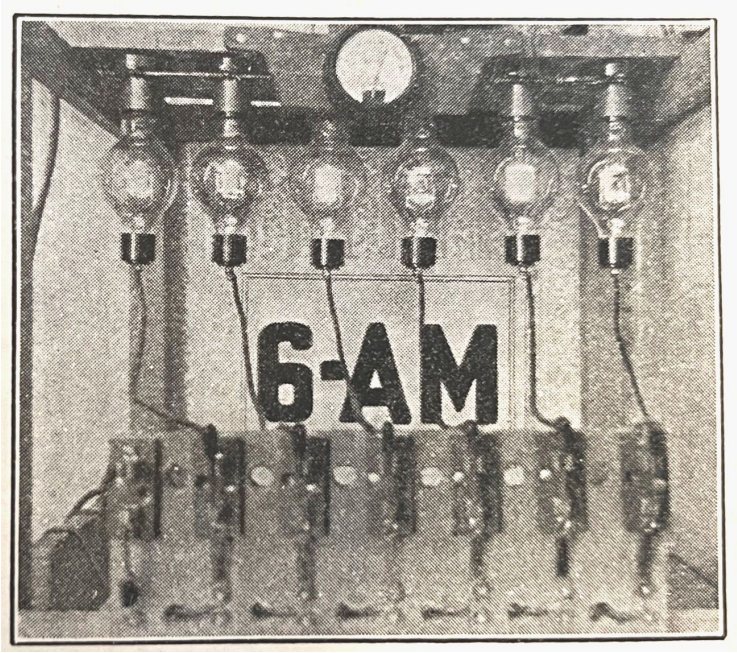
The 6EX was later designated the R-3 and started life as a high vacuum type, but the final product was mercury vapor with an indirectly heated cathode. The maximum plate voltage was 7500 peak inverse volts at 250 ma. The filament ran on 10 volts at 1.7 amps. The tube had a standard UX base and a threaded stud out the top for the plate connection.

I don't know how well the tubes were selling, but Lewis had a ham friend in Southern California who wanted to replace the ARC rectifier he had sold him and build a new power supply. The friend was Don Wallace, 6AM, and he wanted to go big. Lewis had also sold Wallace a re-built F328A which was a water cooled, 5 KW triode. Don didn't like QRP.

Don bought six 3 KVA pole pigs that were 220 volts in and 6000 volts out from the power company and mounted them in a rack with six of the new R-3 rectifiers. The new power supply would be wired for six phase operation. The schematic and rack photo are copied from QST magazine of February, 1928, where Don and Robert Kruse of the QST staff, wrote a 9-page description of the final power supply.

Six phase rectification results in an output ripple of six times the input ripple frequency. In 1928, 360 Hz was considered a good CW note and adding a filter condenser would be very expensive. The R-3 may have never been a commonly used tube as in a few years, the RCA 866 went into production and the R-3 became only a collectable. Before WWII, Lewis moved to Silicon Valley where Lewis Electronics was formed and participated in tube production for the war effort. In 1949 Lewis and Kaufman was organized and operated into 1956. In about 1962, I bought two 3 KVA pole pigs from PG&E for $3 per KVA.





Ed Note: In 1956 when I was 16, a HS Senior, and new Extra class operator, I had the opportunity to visit W6AM in Rolling Hills in SoCal with a couple of radio clubs. The "Shack," … all Collins … was dominated by 5 Collins KW1 1-kilowatt CW/AM transmitter racks, one ea for 80, 75, 40, 20, and 10. 160 was unusable on the West coast then due to the racket from LORAN-A. An adjacent building contained some of his early equipment, and I'm pretty sure we saw the cabinet in Norm's photo above. I recall, "Tubes hanging from the top?"

Note that this was apparently the power supply for a water-cooled transmitter [*"oscillator"*]. Everything Don did was "BIG" including a huge antenna field filled with rhombic antennas.

Editor Notes

And, so we begin a new club year – Number 55! Congratulations to our new officers and Board members, thank you for stepping up and serving the club. VP/CC is still vacant and comes with a reserved spot in the JUG just for your wisdom and thoughts each month. Contact any of the Officers or Board members to volunteer.

Special thanks are due for Norm, N6JV, and Gary, NA6O, for their monthly contributions to the JUG. There's plenty of room for more as well. SFI and SSN have been staying in respectable range so it looks like a good new radio year. And, my wife Andrea is recovering rapidly, only apparent issue now are the effects of being used as a punching bag in the ER but even that is healing rapidly. She sends her thanks for all the good wishes. <K6DGW>

THIS SPACE AVAILABLE

Conract JUG Editor at *k6dgwnvgmail.com*

NCCC Membership Information

If you wish to join NCCC, please fill out an application for membership, which will be read and voted upon at our monthly meeting. To join, you must reside within club territory which is defined as everything in California north of the Tehachapi's up to the Oregon state line, and part of northwestern Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles north of Auburn on Highway 49).

Life Memberships

Life memberships are $250.00 Contact secretary.nccc@gmail.com. Members who have reached 80 years of age have and been an NCCC member for 20 or more years are eligible for Honorary Life Membership ("80/20 Rule"). Contact secretary.nccc@gmail.com

JUG Articles Wanted!

Your help allows us to produce a quality newsletter. Please consider submitting an article! The editor welcomes any and all relevant articles for inclusion in the JUG. The preferred format is plain, unformatted ASCII text, MS Word (.doc/.docx) are acceptable. Indicate the insertion point and title of diagrams and pictures in the text and attach photos/diagrams separately. Pictures should be as high a resolution as available. Please do not spend time formatting your submittal, the publication templates will re-format everything. Send your material to *k6dgwnv@gmail.com* indicating "JUG Submittal" in the subject.

Northern California Contest Club Reflector—Guidelines

The NCCC email reflector is devoted to the discussion of contesting. Topics include contests, station building, dxpeditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/ conventions, and membership achievements. Postings may not include personal attacks, politics, or off-subject posts. Such postings will be considered a violation of the Guidelines

Find NCCC on Social Media

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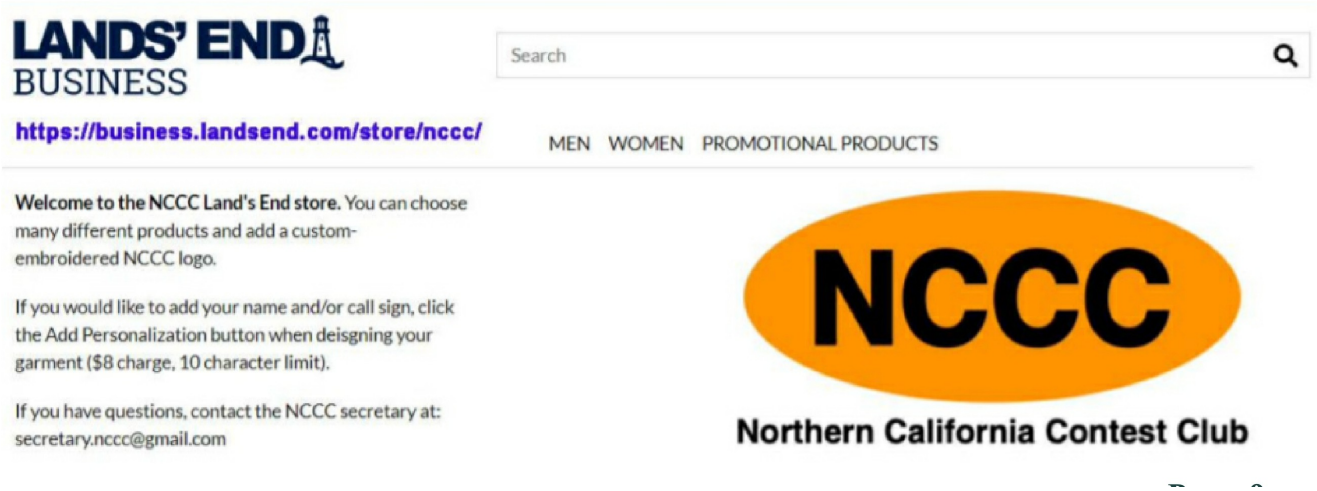

NCCC Lands' End Store

We are pleased to announce that the new NCCC Land's End store is online! You can choose from an array of shirts, jackets, and hats and apply your choice of custom-embroidered NCCC logos: A plain one, or one that also says Fifty Years. And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

https://business.landsend.com/store/nccc/ or from the NCCC website: http://nccc.ccc/members/lestore.html
Thanks to W6TCP for helping to set this up. Instructions for purchases from Lands' End NCCC Store

1. Go to https://business.landsend.com/store/nccc/
2. Click on Men's or Women's link, then choose item(s)
3. Pick color, inter quantity of each size you want to order.
4. Click Apply Logos and Personalizations. This will display the logo choices. Try them out. It will show you what they look like on your chosen fabric color.
5. Select a location for logo (left side, ride side, back, etc)
6. Click Apply Logo.
7. Optionally, click Add Personalization to add your name or call sign ($8.00, 10 character limit)
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