#626 – September 2024

JUG

Publication of the Northern California Contest Club

NCCC

NCCC – 54 years of contesting excellence

Inside This Issue

NCCC MEETING

https://nccc.cc/meetings.html

ZOOM – 10 Sep 1800-2000

Dean Wood, N6DE

"You Can Be A Winner In CQP 2024"

President's Report

David West, KO6M

It is upon us. Not just shorter days and longer night but Contest Season for 24/25! Did you do better last year than the year before? Will you do even better this year? Remember it's Butt in Chair Time that is the number one ingredient for higher scores. It's also the only item you can control. Murphy takes over the rest. Kick Butt!

Remember to mark down November 2-4th and 16th-18th for Sweepstakes (CW and SSB respectively) as well as December 14th-15th for ARRL 10m. I'll let Chris talk about those as we get closer.

The other thing you should mark down in your calendar is our NCCC BBQ! October 20th at N6RO (5480 Sellers Ave, Oakley). We don't have all the particulars down yet, but we know there will be food, entertainment, and comraderie. It is always a good time. Yes, I know it is the weekend of Pacificon but I've heard that people like that, so here we are.

Short and sweet this month! "See" you all on the air!

About NCCC

Officers and Directors, 2023-2024 Contest Season

President: David West, KO6M
Vice-President/Contest Chairman: Chris Tate, N6WM
Secretary: Greg Alameda, KK6PXT
Treasurer: Nian Li, WU6P
Past President: David Jaffe, WD6T
Director: Jim Brown, K9YC
Director: John Miller, K6MM
Director: Ed Radlo, AJ6V

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Awards Chair: Gary Johnson, NA6O
California QSO Party Chair: Dean Wood, N6DE
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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

Fred Jensen, K6DGW: *k6dgwnv@gmail.com*
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VPCC Report

Chris Tate, N6WM

Greetings KBers.

Contest Season is upon us! Are you ready?

Well, time flies, doesn't it? Welcome to the 2024/25 contest season! With the summer NAQP series behind us as well as the WW Digi contest, and sprints beginning, it's time to start putting focus on finishing any last minute antenna work and shack changes, and batten down the hatches for the whirlwind that the beginning of the primary contest season brings us.

I am preparing press releases soon for the largest annual RTTY contest in the world, the CQWW RTTY Contest that kicks off the busy part of the season. It will be occurring the last weekend of this month, the 28/29th of September.

This contest is near and dear to us here in NCCC territory. In fact, its contest manager is Ed W0YK and I (N6WM) sit on the contest management team providing journalistic services to produce the contest write-ups we all enjoy. That's a lot of NCCC team representation. We also have Rich N1IXF who rounds up our team, managing our plaque and awards for this worldwide contest.

The biggest RTTY contest in the world, but a little different than its cousins

There are some differences between the CQWW RTTY and its SSB and CW cousins. As with most RTTY contests, there is no 160 m operation. A multi-single operation can have 8 band changes per clock hour rather than a 10 min rule, same continent but different country contacts get 2 points, what I find the most intriguing, same-country contacts do count (no zero pointers), and a third multiplier will be available from US/VE stations

A great way to get your SO2R Game on!

One of the great things about RTTY contests are that since you are not decoding or trying to understand verbal communications, your mind is free to use the recouped mental clock cycles to perfect SO2R and 2BSIQ operations if you have the hardware to support it. If you have available radios, antennas and filters, you can often times at least get an opportunity to try this on a band or 2.(some flex radios are capable of this with 1 radio making them popular with some of the rtty crowd) I have to say its quite addicting to start producing the large

scores running on 2 bands at a time. (heck some of us actually do it on 3 and up to 4 bands!).

Another Club competition we have a history with

The CQWW RTTY club competition is a completely separate competition from the joined CW/SSB events. In other words, we can compete in this one exclusively in an attempt to come out on top. In the past the NCCC has been a pioneering club for RTTY contesting. We are consistently in the top 3 clubs year after year. But it's been a while since we have come out on top. The club competition win has a direct correlation to logs submitted. Lets take a quick look at the 2023 club competition:

1	POTOMAC VALLEY RADIO CLUB Logs =60	11,466,317	USA
2	YANKEE CLIPPER CONTEST CLUB Logs=22	11,276,696	USA
3	NORTHERN CALIFORNIA CONTEST CLUB Logs =28	10,120,442	USA

That is a horse race! PVRC clearly and simply won this via numbers of logs received, many of them small ones. YCCC perhaps and a few more big logs. NCCC traditionally has several big logs as well. The difference between us and a win over PVRC last year is approximately 1.4 million points. That can be as little as one big log, but if we produced 40 entrants, we probably would have had this one in the bag. This emphasizes the importance of club participation and no log being to small!

In order for us to emerge victorious, we need to mark our calendars and work as a team to 1. PARTICIPATE and 2. SUBMIT LOGS. This is the same for any Unlimited level club competition, but really is easy and within reach for this contest! No log too small, no effort too insignificant.

Lets get this season started out right!

If you have not started your season already (with WWDigi), I want to encourage as many of you, the NCCC membership, or TEAM NCCC to fix those audio devices, get your Mark and space calibrated and get ready to kick of the season with CQWW RTTY. For newer contesters, particularly ones that use WSJT and other digital modes, the setup process is mostly done already to support those applications, you just need to setup your logger and rtty applcations using the same audio devices.

Resources!

There are many resources online to help you get your RTTY setup operational and optimized. One of the most comprehensive sits is AA5AU's *https://www.rttycontesting.com* here you will find resources in digital interfacing with your transceivers, RTTY starter and setup guides and more.

And of course, our CQWW RTTY website *https://cqwwrtty.com* where you will find everything about this major contest and season starter, including printing award certificates for you prior efforts, rules, statistics and more!

I Hope you all had a wonderful summer, and are looking forward to a prosperous contest season ahead. I look forward to working as many of you as possible and look forward to having some fun!

Upcoming State/Province QSO Parties

A Quick Reference for those participating in the Intra-Club QSO Party Challenge or just looking for a weekend contest fix

CONTEST	DATE(S)/TIME(S)
Texas	9/21 1400Z – 922 0200Z 9/22 1400Z to 2000Z
Iowa	9/21 1400Z – 9/22 0200Z
New Hampshire	9/21 1600Z -- 2200Z 9/22 1400Z -- 2000Z
New Jersey	9/21 1600Z – 9/22 0359Z
Washington Salmon Run	9/21 1600Z -- 9/22 0700Z 9/22 1600Z -- 2400Z
Maine	9/28 1200Z – 9/29 1200Z
CALIFORNIA QSO PARTY	**10/5 1600Z – 10/6 2200Z**
Nevada	10/12 0300Z – 10/13 2100Z
Arizona	10/12 1500Z – 10/13 0500Z
Pennsylvania	10/12 1600Z – 10/13 0400Z 10/13 1300Z – 2200Z
South Dakota	10/12 1800Z – 10/13 1800Z
New York	10/19 1400Z – 10/20 0200Z
Illinois	10/20 1700Z – 10/21 0100Z

CQP 2024

5 Oct 1600Z to 6 Oct 2200Z

It's that time again and you don't want to miss the Sep meeting. CQP Chairman Dean, N6DE, will provide all the late-breaking developments for this year's California QSO Party. There are some changes this year, including awards, three “teasers” supplied by Dean are below. We of course hope to have all 58 CA Counties activated this year by at least one fixed station plus the usual mobile operations.

All the information you need is at the ***Official CQP Website***. You'll find a matrix of the current county coverage, forms to register your plans, award categories and information, and information to assist county expeditions. CQP is the premiere state QSO Party, and everyone wants to work you!

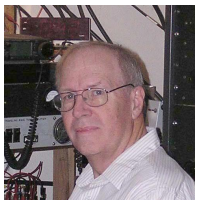
Don't miss Dean's presentation at the Sep ZOOM meeting on 10 Sep! This is the weekend when NCCC shows the rest of the world how it's done! We're at the peak of Cycle 25, what more could we ask for?

Tube of theMonth

Norm Wilson, N6JV

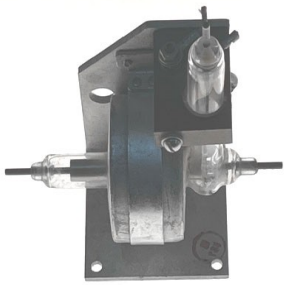
Visit the Tube Museum at *n6jv.com*

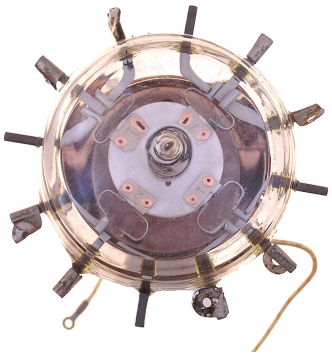
Vacuum Relays



I am not sure when the first vacuum relays were commercially produced, but the Sperti Electronics Company was making a small unit in about 1938. Collins Radio produced the famous AN/ART-13 autotuned airborne transmitter in 1940 that used a Sperti relay for an antenna switch. These were mechanically actuated where the common pole is mounted in rubber. I think they were only rated at 1500 volts. Photo (1) shows one in a piece of Navy gear from 1952. In about 1942, EIMAC starting making a series of high voltage relays designated VS-2, 4, 5 and 6 (2) that were rated at 20,000 RF volts at 5 amps up to 30 MHz. These relays could handle 14,000 volts DC. Copies of these relays were made by TORR and Kilovac.

1 

2 

3 

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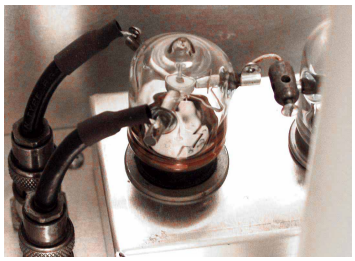
5 

6 

8 

At the end of WWII, Jo Jennings, as he did with vacuum capacitors, decided to develop and expand the production of vacuum relays. Their first products were relatively large such as the 4-inch diameter, 4-pole double throw unit shown in (3). When Jennings developed some very small units like the RB1 (4) they became very popular because no more cleaning burned relay contacts. They were rated for 14 KV at 5 amps and a million operations. The SPDT units could be used in pairs as is shown in (5) from my 6-meter amplifier. They stacked the decks to make DPDT relays like the RB3 in photo 6 and the more modern Kilovac H14 (7) which currently lists for $3012. The RE6 (8) is a larger unit rated at 30 KV at 25 amps. Modern vacuum relays are ceramic and

are made in many sizes and configurations by Jennings and others.

While I was doing research on the date of the invention of the vacuum relay, I found an odd use of the early EIMAC VS2 type units. In 1985, movie prop builders were tasked with making some fake electronic equipment. They found some of these relays and mounted them in a box with LEDs etc. The movie was *Back to the Future* and the box became the "Flux Capacitor". Today the cult followers of this movie all want a Flux Capacitor and are willing to pay good cash for these relays. I have the relays, but I haven't been in a DeLorean in 50 years and my stash of plutonium is depleted.

CW Sprint Request

Ward Silver, N0AX

(*If you live in Nevada, or can get on the air from Nevada, Ward wants you!*)

Hi friends,

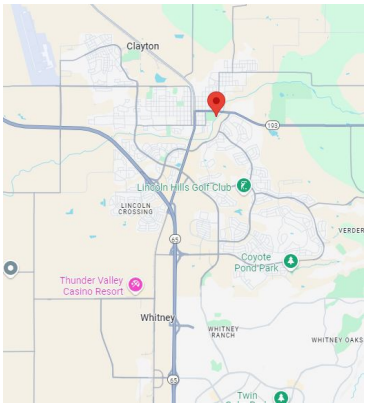
I'm sending out email to all of the NV stations on my list, hoping you'll get on for this coming weekend's NA CW Sprint (0000 UTC Sep 8 - Sat evening) from your coveted multiplier! Nice to hear so many of you in the NAQP CW a couple of weeks ago, too.

20 and 40 meters should be good all over for a couple of hours. Depending on noise levels 80 should be a lot of fun after dark. If you can make it - full-time or part-time - thanks and good luck!

73, Ward N0AX
CW Sprint Manager
https://ncjweb.com/north-american-sprint/

Lincoln Hamfest

Western Placer Amateur Radio Club 18th Annual Hamfest



Saturday Sept 21, 2024

65 McBean Park Drive (HWY 193), Lincoln, CA

0700 to 1200 hours

https://www.wparc.us

Antenna of the Month

Gary Johnson, NA6O

The "Sloper"

Another modification to a simple half-wavelength dipole is the *sloper* where the dipole is erected at a steep angle, often 45 degrees. This only requires one relatively tall support, making it somewhat more convenient. Most often slopers are used on the low bands, 160 through 40 meters. They don't make much sense on the higher bands where a regular dipole or more complex antenna is probably just as easy to erect.

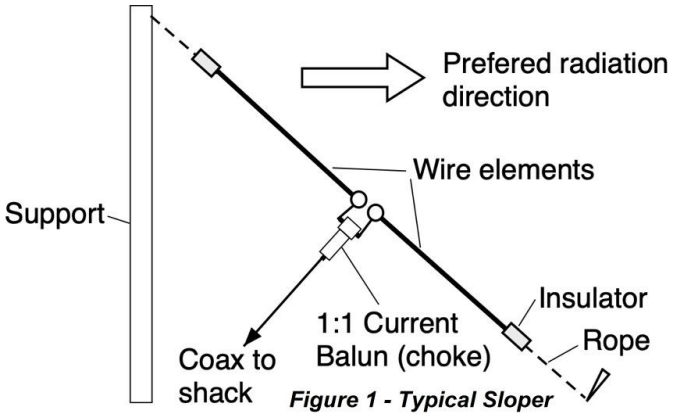


Figure 1 - Typical Sloper

What are the properties of sloper, compared to a flat dipole? What you'll add is some vertically-polarized radiation and perhaps a somewhat directional pattern in the direction of the downhill slope. What you'll lose is gain since the pattern of the dipole has diminished and because you have lost some of the horizontal radiation, which would otherwise be reflected by the Earth. Exact results will depend upon the height above ground and the slope angle.

I did some simulation in EZNEC to compare a 40 m dipole to a sloper. I placed the dipole at a height of 30 ft (about a quarter wavelength, which is really too low for optimum performance), and the sloper was hung from 65 ft and at a 45 degree angle. The SWR chart in Fig. 2 shows some differences but either of these are completely acceptable to any radio with an antenna tuner. Height is the biggest driver of absolute impedance and low antennas often end up closer to 50 ohms. Both of these antennas are actually a better match to 75 rather than 50 ohms which is not unusual.

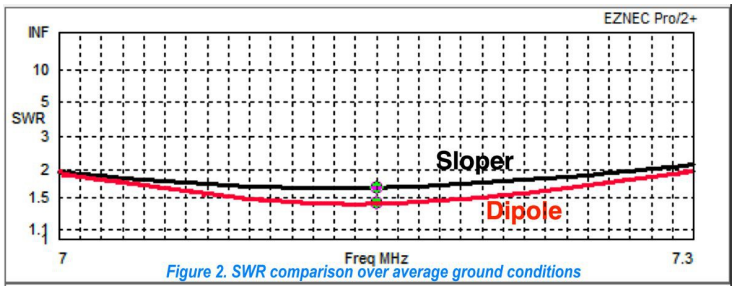


Figure 2. SWR comparison over average ground conditions

Looking at the pattern in azimuth (Fig. 3), the two are similar in peak gain. However there may be cases where the small (~8 dB) null off the back of the sloper could assist in rejecting QRM. There also is significant gain in the far field—actually *more* gain—off the sides of the sloper! That's because the polarization is primarily horizontal off the sides and vertical along the direction of the slope. See Fig. 4. Again, horizontally-polarized radiation reflects off the Earth and at some angles you get constructive interference that can be worth as much as 5.5 dB. So it's funny that this antenna is normally sold as

being directional along the slope.

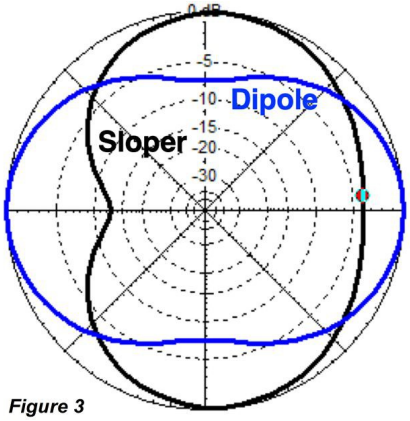


Figure 3

Often, a sloper is hung from a tower. The tower may or may not interact, depending upon whether it's resonant due to its height and what antennas are mounted on it. Sometimes it acts as a reflector that makes the sloper more directional with some added gain in the expected direction... And sometimes not. Simulation can give you an idea what to expect but every installation will be different.

The azimuth patterns in Figure 3 compare total fields. The sloper element wire goes downward to the right. Elevation angle is 35 degrees. Outer ring is 4 dBi.

Figure 4: Investigating vertical and horizontal polarization in azimuth. The sloper element wire goes downward toward the right.

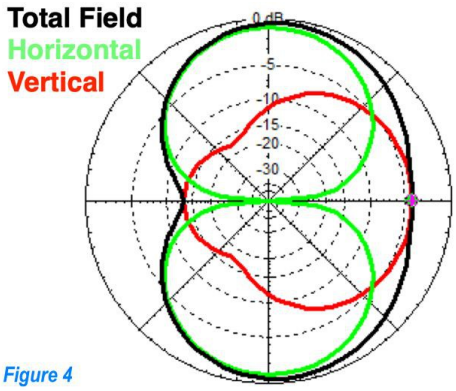


Figure 4

Comparing the elevation patterns in Fig. 5, things are fairly evenly matched at low angles, and with the dipole radiation most strongly straight up since it's so low. The sloper shows its symmetrical broadside pattern (H polarized) and its forward-skewed pattern (V polarized) along the sloping wire. A higher dipole may be best of all, but it needs at least two supports way up there instead of the single one needed by the sloper.

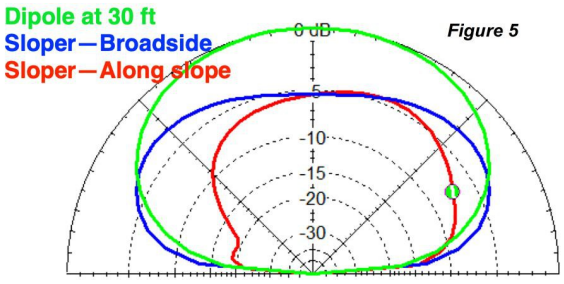


Figure 5

Figure 5. Elevation pattern comparison showing total fields. The sloper goes downward toward the right. Outer ring is 4 dBi.

In conclusion, the sloper is rather a degenerated dipole, giving up some gain in exchange for a more convenient installation. Some stations use a set of slopers as a directional array. In that case, two or more elements are driven via a phasing network thus combining to provide additional gain and steerable pattern.

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Editor Notes

32 R W1*** 9 BILLERICA MA AUG 29
VIRGIL THOMPSON
BLACK ROCK NV
BT
HOPE YOU GOT TO CLIMB THE BURNING MAN TOWER
BT
TOMMY
AR

Received during a casual QSO when asked if I could deliver a message for NV. It morphed into one of my longer CW QSO's, explaining the geography of N. Nevada and that finding one guy in a crowd 70,000 people crammed onto a dry lake bed was a non-starter – even if I could get there before it ended. Burning Man 2024 is over now leaving a lot of $$ in Reno-Sparks.

Hamming on the Black Rock: Is there a Burning Man special event station on the ham bands? After all, it does have it's own "Municipal Airport [88NV] and an FM station, and one can easily conjure up a host of ham radio services for the Burners and public… radiograms, Worked All Black Rock Desert, local lost/found ... AA7BM is available.

JUG Typography: All of two (2) responses to the query regarding ragged vs aligned right margin for the JUG favored aligned so we'll continue with that for awhile.

Digital Modes: What began as a single esoteric mode called JT65 has morphed into a variety of related modes for various applications … Super Fox? The JUG is looking for a contributor to explain them to the uninformed [e.g. your Editor], possibly in a one mode/month format. And, thanks to Gary, NA6O, for Antenna of the Month.

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

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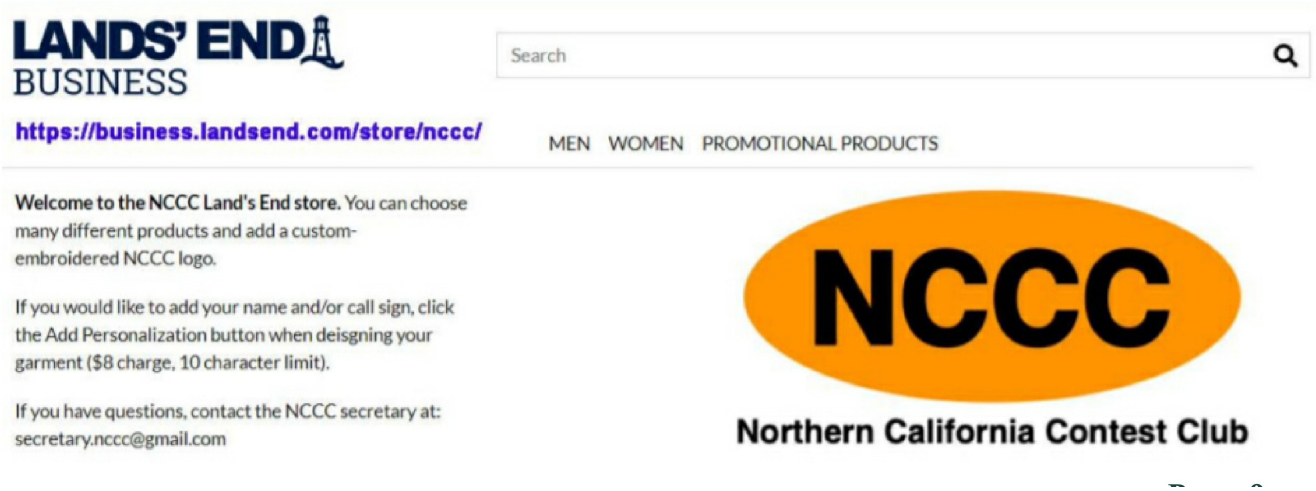

NCCC Lands' End Store

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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• 1200/9600bps APRS® Data Communications • 2" High-Res Full-Color TFT Display • High-Speed Band Scope • Advanced C4FM Digital Mode • Voice Recording Function for TX/RX

FTM-400XD | *2M/440 Mobile*

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