JUG

Publication of the Northern California Contest Club

NCCC

Issue 573

April 2020

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Inside this Issue:

NCCC April, 2020 Meeting
[Zoom only due to Coronavirus]

Awards Meeting and Election of NCCC Officers

Date: Saturday, April 11, 2020
Time: Chat open at 1230
Meeting is 1300-1500 PDST

Web Access and Zoom instructions: See page 6.

QUICK START Guide to Zoom:

Zoom: How-Do-I-Join-A-Meeting?

Please review prior to meeting if you are new to Zoom

President's Report - W6FB

The current situation with the SARS-CoV-2 virus and associated COVID-19 disease has folks shut in, bored and looking for things to do. Almost all sporting events are shut down, and television is a repeating sequence of reruns. Hams are very good at bucking trends, however. If you listen to the ham bands during the day, you will find something is happening. The ham bands have come alive! Hams are rediscovering our hobby and getting back on the air. Contesters are no exception, we have now seeing increased activity in both the CQ WPX SSB and NA SSB Sprint events, and there is little reason to believe this will decrease in the near future. Once again, we are at the right place at the right time; we should expect to see this translate into new interest in NCCC and our educational efforts.

As I noted almost all sporting events are shut down. The exception is video gaming, as best seen in the recent NASCAR online races, and our own radiosport. Video gaming has already made the transition to being online, with gamers sharing both video of themselves and their screens as they play. It has become a fairly large money-making industry, and shows growth promise. We are now seeing video games on national TV sports networks, filling the void left by the lack of traditional live sports.

But what about radiosport? What would it take to bring our competitions to the screen so that others can watch? Traditionally, radiosport participants are situated in a room by themselves, or with a few others in multi operations. We do not share our information until the end of the event, and we do not share video of what we are doing. Most of this comes from the lack of need to share, or the opportunity.

W6FB Editorial continued on Page 3

Officers:

President	Jack Brindle	W6FB	jackbrindle@me.com
Vice President /Contest Chair	Hank Garretson	W6SX	w6sx@arrl.net
Treasurer	Tom Carney	K6EU	treasurer.nccc@gmail.com
Secretary	Greg DesBrisay	N6GD	secretary.nccc@gmail.com
Past President	Bob Hess	W1RH	w1rh@yahoo.com
Director	David Jaffe	WD6T	k6daj@arrl.net
Director:	Bill Haddon	N6ZFO	n6zfo@arrl.net
Director:	Bill Fehring	W9KKN	bill+nccc@w9kkn.net

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K6ZM QSL Manager	George Daughters	K6GT	k6gt@arrl.net
K6CQP,N6CQP,W6CQP QSL Mgr	Ed Muns	W0YK	w0yk@arrl.net
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JUG Editor	Bill Haddon	N6ZFO	n6zfo@arrl.net

Thursday Night Sprint:

The Northern California Contest Club sponsors Thursday evening (NA local time) contest practice sessions of 30-minute duration.

On the Thursday (and, sometimes Friday also) prior to a major contest weekend, the practice format follows the upcoming contest.

Generally, on other Thursday evenings, a special format is followed, called NS or "NCCC Sprint". The NS began in the summer of 2004 as a snappy, concise contest occurring most Thursday nights, North American time. The power limit is 100 watts.

Thursday Night Contesting Director and Founder	Bill, N6ZFO
NCCC CW Sprint	Tom, N3ZZ (initially, Ken N6RO)
NCCC RTTY Sprint	Ken, K6MR
NCCC Sprint Ladder	Bill, N6ZFO
Sprint Web master www.ncccsprint.com	John, K6MM
non-NCCC:	Tim N3QE (Ladder Scores manager)
Thursday night Contesting Advisory Group:	N6ZFO, Bill (Chair) Mark K6UFO, (with W4NZ, N4AF, W9RE, K4BAI, N3BB, VE3YT and W0BH).
The Thursday night NCCC Net	Ken, N6RO

W6FB Editorial continued from Page 1.

Radiosport originated before the days of the internet and networking, and little provision has been made to change that. There are exceptions, of course. We now have several scoreboard sites that receive log data from contest programs and show participants scores. These have been in place for several years, and their growth seems to indicate that more contesters are connecting their log programs to the systems to see how they are faring against others during contesting events. Still, this is not all that exciting, and not something that will get people to watch.

What is required is live action, the ability to watch as contesters pace themselves through the event. The ability to actually see what they are doing, and how, and compare that to others with the ability to see the scores that are resulting from their efforts, in real time, is what is needed. Imagine being able to see and hear contesters as they fight for QSOs, whether run or S&P (remember, one of each has to occur for each QSO), to hear the participants comments, and even frequency fights ("I've been here an hour" "Well, I've been here TWO hours!"). Add to this a commentator who is able to explain things like propagation effects, timings and other things, and we might actually have something interesting to show.

There are some things that need to be handled properly. Since the viewers may also be participants, there is a real chance that we may violate some current rules. In order to avoid self-spotting, we need to block frequency information from being shared. It is probably OK to show the band each station is on, but the exact frequency would tell viewers where to go to work the contestant they are watching. A viewer might discover the frequency for themselves and post it, but that is OK - we do that today with the spotting network. We do need to watch out for cheerleading. Sports viewers tend to choose favorites, and will do what they can to cheer on "their guy". This may not be a bad thing, however, but rather something to be managed so as not to give anyone an undue advantage. This same issue may manifest itself accidentally another way. Many times we ask other stations to QSY to another band by telling them our run frequency on that band. Of course, this is an opportunity to self-spot as the audio goes out over the network. This may be something that technology is needed to resolve.

Perhaps the biggest challenge will be in adjudicating the final scores. Television viewers are used to seeing a result when the event is finished, not weeks or months later. Would you want to have to wait a week after the Super Bowl is played to find out which team won? How would the NCAA Basketball tournament be played if the results were not known at the end of the game? But in radiosport we must collect the logs and wait for the computer results. This would be the biggest place for change. We now have our logging programs submit running totals to the on-line server, but this would require QSOs to be reported in real time so that the server could not just show but actually do log checking as things happen. It would also mean that all contesters in the event would need to participate in the online scoring so that results could be known not just as the event progresses but at the end.

WRTC already does this to some extent but not at the same level as needed. In WRTC the event stations report their activities in groups of QSOs at a set time (perhaps every 15 minutes), but these are not used for log scoring. Instead, the logs are collected at the end of the event and submitted to the scoring computer. The catch is that there are many more contesters that matter in this event whose logs are needed. IARU participants are given most of a day to submit their scores, and those logs in addition to the WRTC participants are used to check and adjudicate the scores.

For an on-line event to properly show results within a few minutes of the end, the logs of the vast majority (if not all) of participants would need to be collected in real time, allowing the scoring computer to perform its task as logs arrive. It would be possible to see results of dupes or miscopied calls or exchanges shortly after they occur, but these should not be made visible to the contestants since it would alter their behavior. The trick would be to allow non-participating viewers to see this action without contestants also seeing it.

Continued on Page 4

President's Report — continued from page 3.

This is the most difficult part of the entire task — getting the log programs to submit QSOs in real time (several can do that now for local multi-station activities like Field Day) and have the entrants all participate in real time reporting. As we know, having just a few contesters in an event is not very good, so this needs to be done on a large-scale basis. The good news is that we are talking hundreds or a few thousands of contesters, not millions.

Until we take the initiative to put together all the parts for this kind of event we will not know its potential. There may be other unseen (for now) pitfalls to overcome. Most of the technology is already in place, we would just need to modify the logging programs, create a good scoring server and add video cameras for the participants, but this does seem achievable. We have the abilities, we just need to do it. The next question is, after we do all this, will the viewers and TV networks come?

News

We have a very good slate of officers proposed for the NCCC 2020-2021 year. We will be electing officers in the April 11th on-line meeting. See details of the meeting elsewhere in this issue.

President: David, WD6T
Vice President/Contest Chair: Bill, W9KKN
Secretary: Gary, NA6O
Treasurer: Tom, K6EU
Board Member: Bob, K3EST
Board Member: Rich, N6KT
Board Member: Bob, K6XX
Past President: Jack, W6FB

On a personal note, I have enjoyed serving with great officers/boards the past two years. I would like to extend a huge thank you to both boards. You guys have made this a fun and exciting time, and we have achieved much in our efforts. I really look forward to serving as Past President with the next set of officers!

While the COVID-19 situation has put everyone's plans up in the air, KB4TGE and I plan to retire later this year, moving to our native Louisiana. It has been a great 25 years in Silicon Valley, with many great friends, especially those in the ham radio community. NCCC is a very large part of that, and while we will miss seeing everyone in person, we will continue as associate members. Look for us in the coming years as W6FB or KB4TGE.

73!
Jack, W6FB

Vice-President / Contest Chairman Report - W6SX

There has been a lot of hand wringing lately about the death of ham radio.

One hears that the thrill of contacting distant places with the magic of radio isn't there any more. Passé in today's world.

I became a ham at age eleven. For me, it wasn't the thrill of distant places. For me, it was being part of something. It was camaraderie and friendships.

Sixty-four years later, it's still camaraderie and friendships—some over sixty years old. They are what keep me in ham radio.

Today some people find camaraderie and friendships with Facebook, texting, and gaming. I still find them with ham radio.

Sixty-four years ago I felt I was part of a special fraternity. I was warmly welcomed by my fellow hams, both on and off the air. I was warmly welcomed at the local club.

Sure there were exceptions. I remember the "No Lids, No Kids, No Space Kadets" guy the first time I got on seventy-five meters. (Yes Kadets—he didn't like newfangled K calls.) Fortunately his ilk were few and far between.

How are we doing today? We are all good people. But sometimes we put people into categories.

"Anyone can talk." "QRPer." "Shack on belt." "Contester." "His computer made an FT8 contact." "RaTTer." "Pig Farmer." Ad nauseam.

Innocent remarks are sometimes heard as disparaging, unwelcoming. They can drive needed new blood away.

We are all hams. Let's be careful about innocent remarks that divide us. Let's be careful about innocent remarks that may be perceived as unwelcoming.

We are all hams. We all have our individual ways of enjoying our wonderful hobby. There is no right way. There is no wrong way. Have an open, welcoming, curious outlook. Just enjoy.

We are all hams. We are fraternity, community. Let's make everyone feel welcome in our fraternity.

Inclusiveness and welcoming aren't a magic wand that will save ham radio, but they are the right thing to do and there will be more fun for everyone.

73,

Hank, W6SX

NCCC Meeting– Saturday, April 11 2020

Awards Meeting and Election of NCCC Officers
Hosted by Jack, W6FB with Awards Chair Gary, NA6O and CQP Chair Glen, W6GJB

Date: Saturday, April 11, 2020

Time: Open Chat: 12:30 PM Meeting: 1:00 PM to 3:00 PM

Location: On-Line only due to continuing Corona virus pandemic.
Menu: We encourage you to consume delicious foods and enjoy appropriate (or inappropriate) libations while sheltering in place.

Cost: Free Zoom access provided, courtesy of Bill, W9KKN

Instructions for connecting to the meeting by Zoom Video Conferencing:

WEB ACCESS: https://zoom.us/j/370799717

Meeting ID: 370 799 717
One tap mobile 1 669 900 6833,,370799717#
One-tap mobile 1 929 436 2866,,277454491# US (New York)

Or. . Join Zoom Meeting audio by dialing in and then typing in the Meeting ID:

Phone number: (669) 900-6833
Meeting ID: 370 799 717#

Need help with Zoom? Here's an excellent tutorial for study prior to the meeting.

Zoom: How-Do-I-Join-A-Meeting?

Editor's Comments — Bill, N6ZFO

Dean, N6DE leads this issue of the JUG with an excellent synopsis of five important factors for high level expedition performance in CQP. It's the third of his multi-part series that will examine CQP from a statistical viewpoint and make recommendations for fine-tuning contest performance. Please feel free to respond to Dean's article, and any other, with email to the authors or with a letter to the JUG.

Awards and elections comprise the April on-line meeting, scheduled as a Zoom video conference to meet the shelter-in-place requirements of the SARS-Cov-2 virus and associated COVID-19 disease. At least this virus will not infect your computer software, although that's small consolation. On-the-air activity, including contesting, has increased. In the NCCC Sprint weekly Thursday night activity has reached a crescendo, aided by the efforts of N3ZZ for CW and K6MR for RTTY.

Looking to the future, **in the May 2020 JUG look for a wrap-up article from Andy, AE6Y** featuring changes at his team's Carribean station P40Y. The first in his two articles on the station appeared in the December, 2019 JUG.

Current goals for the JUG: 1. publish near the beginning of the month— we're doing OK on that. 2. Format the rag into something more closely resembling a magazine or journal— that's a learning process in MSPublisher. 3. Not started, is to index past issues with respect to authorship and maybe content.

Please e-mail or call by phone with any ideas, comments you have regarding our JUG publication.
n6zfo@arrl.net or 415 209-3084

73, Bill, N6ZFO — Jug Editor

The NCCC 50th Anniversary

Guess the Contester

Prominent NCCC Member, competing, at age 17, in a regional picnic somewhere. Picture edited to remove call sign. The submitter notes that this was a QLF competition that he did not win, possibly because of the inappropriate choice of footwear.

CQP Corner

Dean, N6DE

cqden6de@gmail.com

This is the 3rd in a series of articles by Dean, N6DE, on statistical analysis of CQP performance. The first, appearing in the February JUG, dealt with 75 meter operation. Then March featured a discussion of CQP Multipliers. N6ZFO, Ed.

CQP 2019 County Expeditions: What Made the Best Ones Successful?

We received 44 expedition logs in CQP 2019. There were a few more expedition stations in addition who either participated and didn't submit a log, or who tried to participate but made no QSOs. I examined each expedition and found **five characteristics** that made the best ones successful: 1) TX Signal, 2) Rx Noise Level, 3) Operating Skill, 4) Presence on CW, and 5) Preparation/persistence.

1.TX Signal.

For all the 2019 expedition stations that operated CW and called CQ, I analyzed their received signal strength on the Reverse Beacon Network (http://www.reversebeacon.net) for CQP 2019. I reviewed SNR data from RBN stations in W0,W1,W2,W3,W4,W5,W8,W9 and VE2 call districts.

Three high power expedition stations were consistently louder than the rest:

- **K6T: W1SRD, W1RH, AA1ON, K0BEE in Tehama County**
- **KU6W: W6GJB, K9YC, K6SRZ in Merced County**
- **K6QK: N7CW, K6ZH, N6EEG, N6ERD in Imperial County**

Two low power expedition stations were consistently louder than the rest:

- **NS6T: NS6T, W6RGG in Tulare County**
- **K6MI: K6MI, NI6G, WB6HYD in Kings County**

All five of these stations shared two key factors regarding signal strength:

a) Low Angle Signal Enhancement of TX Signal

At the bottom of the sunspot cycle, energy needed at low elevation angles for HF is more important than at the top of the sunspot cycle, even for stateside QSOs. This will undoubtedly apply for CQP 2020, as solar cycle predictions appear to converge on 2020 being the minimum.

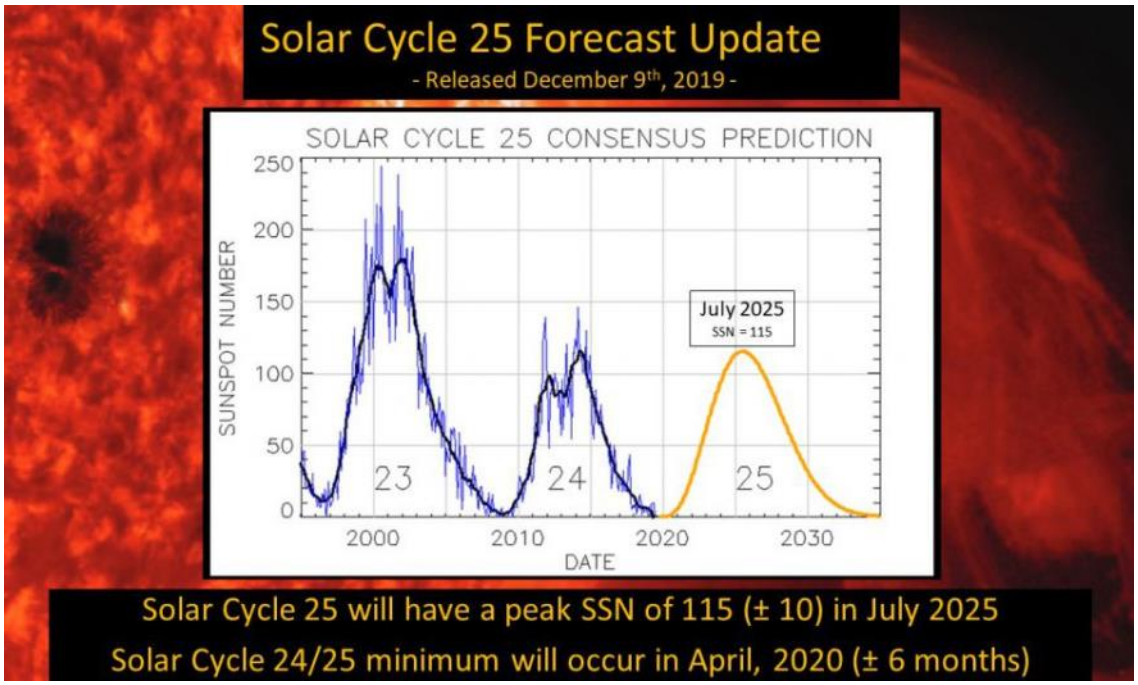

Figure 1. **NOAA Solar Cycle Prediction, December 2019**

K6T, K6QK and KU6W were all located at sites with down-sloping terrain toward the east. NS6T and K6MI were both located on flat terrain, but had their antennas on tall tower trailers. For example, NS6T and W6RGG operated from US Tower in Tulare County, and used a 100ft. tower trailer.

I ran an HFTA simulation of the K6T, KU6W and NS6T setups at 14.0MHz. Figure 2 shows the result toward 80°.

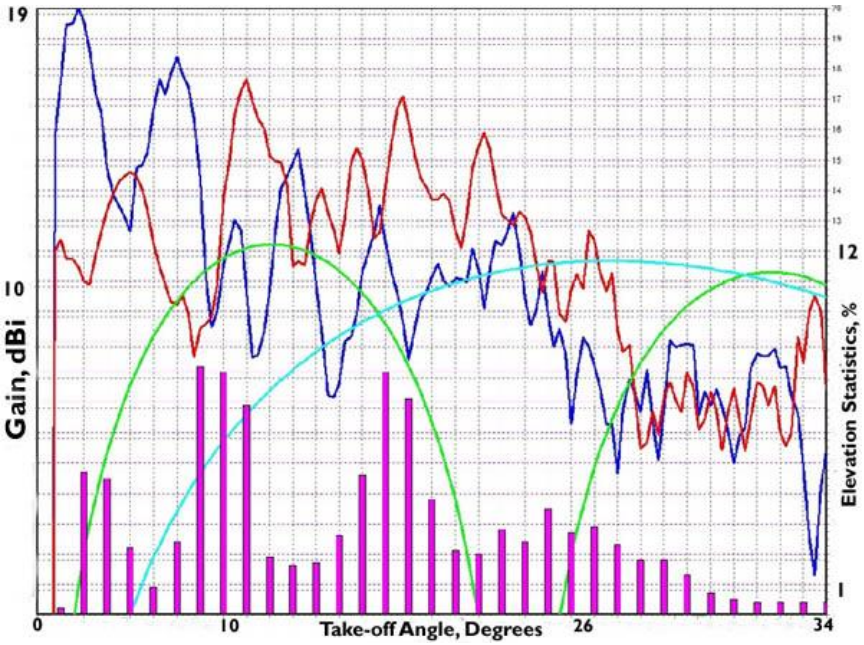

Figure 2. **CQP 2019: 20m Elevation Angle Analysis of Loud Expedition Stations.**

Blue: KU6W in Merced County, 2-el Yagi at 40ft.

Red: K6T in Tehama County, 2-el Yagi at 40ft.

Green: NS6T in Tulare County, 2-el Yagi at 100ft. over flat terrain

Teal: Reference 2-el Yagi at 40ft. over flat terra

HFTA v1.03 by N6BV, Copyright 3-2004 ARRL. Elevation data set from ALOS World 3D 30m, Copyright JAXA, https://www.eorc.jaxa.jp/ALOS/en/aw3d30/data/index.htm

Low angle enhancement from down-sloping terrain was impressive at the K6T and KU6W locations. One might conclude that these must have been stunning locations with thousands of feet of down-sloping terrain. In actuality, low angle enhancement is more reachable than one might think it is. See Figure 3.

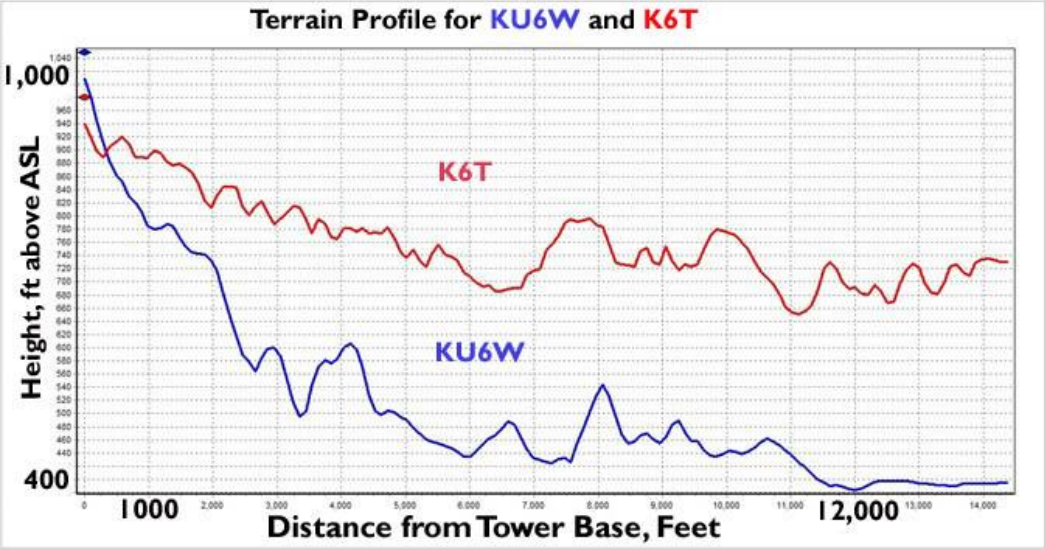

Figure 3. **CQP 2019: KU6W (Merced) and K6T (Tehama) Terrain Toward 80°**

Both of these locations were at about 1000ft. elevation. The key similarities were immediate downsloping terrain from the antenna, no taller obstacles within about 20 tower heights outward from the antenna (W6NL rule of thumb), and continued gentle downslope for thousands of feet.

The NS6T operation at US Tower was on flat ground, so their low angle enhancement was achieved with a tall tower. Note the difference in Figure 2 between the NS6T antenna at 100ft. and the same reference antenna at 40ft., both over flat terrain. (see next page for NS6T photo).

Figure 4. **CQP 2019: KU6W antennas: 2-el 20m Yagi, 40m Dipole used on 15m&40m. Antennas at about 40-45ft.**

Thank you to US Tower for their generosity in hosting Tom NS6T and Bob W6RGG for CQP 2019, and for the use of their portable trailer which supported a 100ft. tower! https://www.ustower.com

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Figure 5. **CQP 2019: NS6T antennas: 2-el Force12 C3S Yagi at 100ft., 40m Inv-Vee at 85ft., 80m Inv-Vee at 70ft. All supported by a US Tower portable tower trailer**

b) Antennas—effect on TX Signal.

The K6T, KU6W and NS6T expeditions all used a Yagi with 2 elements on 20m. The enhancement of a 2-element Yagi compared with a dipole at the same height on 10m-20m is approximately 4dB in the primary lobe direction. Since an S-unit on our radios is about 5dB, it's clear that using a 2-el Yagi provides a huge improvement toward the east, where a huge majority of our CQP QSOs are made. Having a portable mast or tower onto which the antenna could be safely installed and erected to an effective height for the site terrain, makes an ideal combination. If you are on flat terrain and faced with the choice of putting up a 20m dipole at 60ft. in tall trees, or putting up a 2-el Yagi at 20ft on a push-up mast, you should choose the high dipole in the trees without hesitation. On 20m, the 60ft. high dipole will provide a 4-6dB improvement on flat terrain over the 2-el Yagi at 20ft. for takeoff angles at 15° and below, which is where we want to concentrate for CQP 2020. However, if you are on the edge of impressively downsloping terrain, the 2-el Yagi at 20ft. will probably perform better than a 60ft. high dipole on 20m, worthy of an HFTA analysis to confirm for your site. Alan AD6E went on CQP county expeditions successfully for many years using an A3S Yagi and a push-up mast as high as he could safely muscle it up on his own, usually about 20ft. He always selected locations with great downsloping terrain. His results and county records speak for themselves.

On 40m, the K6QK Imperial County expedition uses a 2-el 40m Yagi. The effect showed on RBN, where on 40m they generally were the strongest expedition station of them all. Stations that installed a 40m dipole at a decent height saw the next level of performance.

Several expeditions used other antennas, such as ground mounted verticals or low Inv-Vees. The RBN signal strength readings for these stations were usually well down the list. Comparing an Inv-Vee with a dipole where the apex is at the same height, the Inv-Vee will usually be down 1-2dB, depending on the angle that the antenna legs are extended out from the center apex. A ground mounted vertical on flat terrain with poor soil conductivity will struggle to keep up with Yagis and dipoles, however there are exceptions. One is when the vertical is mounted very close to salt water. The other exception is that a vertical dipole can be within about 1-2dB of a horizontal dipole installed a half-wavelength above ground when the vertical dipole is located at the edge of steep downsloping terrain. See the article by Tom N6BT regarding vertical dipole characteristics over sloping terrain in the May/June 2019 issue of NCJ. https://ncjweb.com/features/mayjun19feat.pdf

c) **High Power.** Most stations we are contacting in CQP are likely battling some level of RFI from themselves or their neighbors. As more noise sources continue to emerge from electrical power lines, wall wart power supplies, LED lighting and dimmer switches, and other consumer electronics, the ability for our signal to rise above this noise level is crucial.

On SSB, success in CQP 2019 highly depended on whether the expedition station was operating high power or low power. The difference between running 100W and 500W output is 7dB. There are several robust amplifiers that run off of a generator's 120V which have been used successfully in CQP: Elecraft KPA500, Acom 1010 or the Ameritron AL-811. If your Airbnb expedition site has a 240V dryer outlet, or if you have a generator that puts out 240V, you can use your full legal limit amplifier and lift your signal nearly 5dB more versus using a 500W 120V amp.

2. RX Noise Level.

Operating from a location with a low receive noise level is more important than ever. Due to station downsizing as we all age, antenna restrictions where we live, and the increasing inability to use an amplifier without causing RFI to one's neighbor, most of the stations calling us in CQP throughout the U.S. are not going to be particularly strong during the sunspot minimum. The ability to lower your receive noise floor is key to accessing new layers of stations calling you.

The K6T group operates from an Airbnb location in Tehama County which is off the electrical grid and has no power lines for miles. The property is on 40 acres and the nearest neighbor is two miles away. There are RF quiet generators that are used to power the house and the ham setup. The location is incredibly quiet.

Jim K9YC, Glen W6GJB and the W6BX team have placed a great deal of importance over the years on operating from a quiet expedition location in CQP. They have taken many scouting trips to evaluate the noise on the HF bands from prospective CQP locations.

Figure 6. **CQP 2019: K6T antennas: 2-el SteppIR at 40ft, 40m Dipole at 50ft, 80m CW Inv-Vee at 37ft.**

3. Operating Skill

It's a fallacy that operating a state QSO party requires less skill than other big contests of the year.

a) From CA, CQP requires proficiency in calling CQ and running stations on both CW and SSB. This is a big one that we often take for granted as NCCC members. Many CQP expedition participants are not seasoned contesters who have a lot of practice running stations at 100 Qs/hr on CW or SSB. For some, FT8 may be their primary mode, and this is their one CW or SSB contest per year. For others who participate in other contests, it might mostly be search & pounce.

b) CQP requires the ability to copy a serial number and QTH, which could be a state, province or CA county, and to enter it all into a contest logger that expedition operators may be unfamiliar with.

c) CQP requires operating strategy, knowing when to switch modes and bands, when to take off-time, and where to be to catch the best propagation to rare mults. This is not obvious to those who aren't on HF all year.

One example of great operating skill overcoming points #1 and #2 above is the K6MM expedition to San Francisco County in CQP 2019. The team of K6MM, ND2T, K6TD, AD6TF, AF6RT and N0NKJ combined for over 850 QSOs. They experienced severe RX noise levels from their location. They had respectable SNR readings on RBN but were not at the top. I am convinced it was their operating skill, undoubtedly led by successful world DXpeditioners and contesters K6MM, ND2T and K6TD, that propelled them to keep making QSOs through the noise to an excellent QSO total from San Francisco County and a huge improvement of getting SFRA into more logs in CQP 2019 compared with CQP 2018.

Figure 7. CQP 2019: K6MM SFRA team: (L-R) AF6RT, K6MM, N0NKJ, ND2T, K6TD, AD6TF

4.Presence on CW

The ratio of the total number of CW contacts to Phone contacts made in CQP 2019 was the highest in CQP history. I believe this is due to five factors:

a) At the bottom of the sunspot cycle, QSOs naturally gravitate toward CW over SSB, as it is easier to make CW QSOs with weaker signals.

b) CW QSOs count for 3 points in CQP, while SSB QSOs count for 2 points. SSB QSO rate had to be 50% higher than the CW QSO rate in order to even keep up with CW. At the bottom of the sunspot cycle for CQP 2019, many stations rightly determined that spending more time on CW would give them a higher score.

c) Several stations that ordinarily would have been on SSB during better conditions were most likely on FT8, or went QRT, during CQP 2019. I know of a few stations that started CQP 2019 on SSB, gave up because it was too hard, and made a few QSOs on FT8 instead.

d) Some stations capable of making hundreds of Phone QSOs on 20m opted not to, considering 20m Phone too much work. 15m and 10m Phone would be considered by these stations as a lot more fun than 20m, but 15PH was anemic during CQP 2019, while 10m was non-existent.

e) As we age, some have less tolerance for Phone contesting, and elect to just stay on CW.

These trends will certainly continue for CQP 2020.

A great example of a successful CQP 2019 expedition on CW is the N6ESL team of K6EI and W6ESL in San Joaquin County. This group operated dipoles, running low power M/M with one station dedicated to CW and another station on Phone. Combined, they made 607 QSOs. 534 of them were made on CW by Jim K6EI in less than 15 hours of operating time. Jim called CQ the entire time, and was able to establish impressive runs on CW. The Phone station understandably could not achieve the same results as CW, making 73 hard-earned QSOs. Having very little time to plan for the expedition, they made smart decisions with the antennas they used, and how they made the most of their antennas during CQP. Their expedition with mostly CW QSOs helped propel San Joaquin County to the largest gain of any CA county logged by stations outside of CA compared with 2018 (see my March 2020 JUG article). It also got them a new San Joaquin County M/M LP record, and the Top M/M LP Expedition plaque for CQP 2019. You can read all about their story in the November 2019 WVARA newsletter, starting on page 4, at:
https://archive.wvara.org/het%2F2019%2Fheterodyne-11-2019.pdf

Figure 8. CQP 2019: Jim K6EI running CW from N6ESL M/M LP expedition to SJOA

5. Preparation and Persistence.

These may seem obvious, but often times CQP expeditions could have been more successful if these points were practiced.

Preparation involves many facets of an expedition: site selection and reconnoiter of the site, obtaining and testing all gear beforehand no matter how trivial it seems, planning to have more time available for setup when everything takes longer in the field, practicing logger and CW skills well in advance, developing an operating schedule and strategy, and planning for backups when problems arise.

The ability to persist through adversity is sometimes considered a personal trait where you either have it or you don't. However, I don't think that's entirely true. Depending on the situation, I think we usually choose whether we have the willingness to persist past that adversity, or whether we choose to quit. It's the people who choose to push forward through adversity who tend to be the most successful CQP expeditioners and who attain the most respect from the rest of us.

A great example of both qualities in CQP 2019 was Kent N6WT and his expedition to Mendocino County. Kent tested his primary expedition antenna at home, but prepared for any problems by bringing his SOTA antenna as a backup. It turned out that his primary antenna developed a problem in the field in Mendocino County. Having his SOTA antenna and short mast available allowed him to be on the air. His SNR readings on RBN showed he was far from being loud, but he adjusted by operating more CW.

Kent faced adversity during the contest when his Flex 6500 radio failed with a CPU fan error. Some would have stopped there and quit. Kent did not. He diagnosed the failure to a fan bearing issue in the Flex. He came up with an ingenious plan: take the weight off the fan bearing by turning the radio upside down. Sure enough, this solved the problem, and Kent was able to continue making contacts in CQP with his Flex radio belly-up!

Kent ended up with over 200 QSOs in CQP 2019: 154 on CW and 48 on PH. Kent was the only station on CW from MEND in CQP 2019. Without these contacts, Mendocino County would have been a lot rarer. This is the kind of expedition spirit I love to see.

Figure 9. **CQP 2019: N6WT's Flex 6500 radio upside down, still making QSOs**

Recommendations

I hope this article provides insight into what makes CQP expeditions successful, and inspires more NCCC members to go on expeditions in 2020. If you did not go on an expedition in CQP 2019, you can still play an important role for CQP 2020 expeditions:

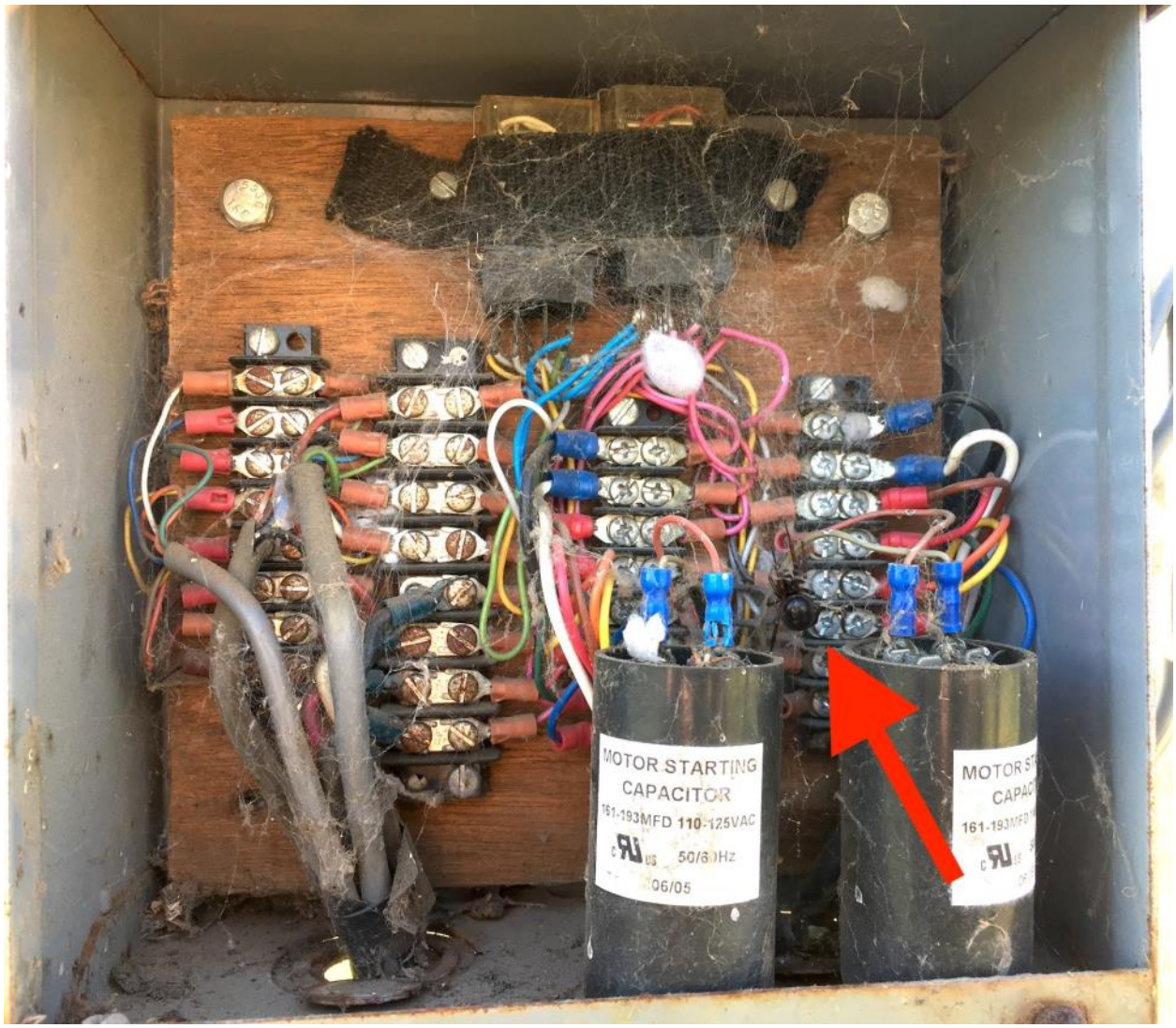
- Consider providing spare equipment to expeditions. Many of us have spare antennas, radios, amplifiers, masts, AB577 portable towers, and even tower trailers that would make a huge difference to several expeditions this year.
- Be a CW operator for a day at an expedition. Some folks on expeditions enjoy the outdoor experience and the setup more than they do the operating aspect. Being the experienced CW operator can make an enormous impact to expeditions during the sunspot minimum, instead of several expeditions going through all the trouble and then struggling as Phone-only.
- Be a technical advisor or a contesting mentor to expedition groups leading up to CQP. Whether it is site selection advice, HFTA support, N1MM+ training, or antenna guidance, many of us can provide valuable help to expedition groups who are not experts in these areas.

I look forward to hearing any comments you have. (Email Dean at

Bugs in Your Station?

Gary, NA6O

Gary, NA6O, notes that the bug you have in your station may not be the one used for classic CW. This one discovered at N6RO.



NCCC Annual KB Competition Rules

Revised March 11, 2020

Current rules and standings are always available at http://nccc.cc/awards.html.

Purpose: To provide a means of rewarding NCCC members who are DX contesters, sprinters, VHFers, and especially active contesters in all modes.

Time period: The contest year starts at 0000 March 1 UTC. ARRL DX SSB is the first contest of the year. NAQP RTTY is the last.

Eligible contests: Currently, points from 29 contests are counted. See the table on the next page

Scoring: Score = N_Contests * sum of (points for each contest * each contest's multiplier).
Where N_Contests is the number of contests in whcih you participated.
NCCC weekly sprints:. Points for the entire year are added up, but it is only counted as a single contest.

Multi-ops: Points = total score divided by the number of operators.

Station owners: A station owner who *does not participate* in a particular contest receives 25% of the points.

Valid scores: Only scores posted to 3830scores.com are counted. Scores obtained by use of High Power in the 6 NAQP competitions and the NS CW/NS CW Ladder series will not be counted for the KB competition, either as scores or as contest multipliers. Scores are counted regardless of which club received the contest points (NCCC, MLDXCC, REDXA, PL259, etc.). The only requirement is that you MUST be an NCCC member to receive credit for the contest, and to be eligible for an award.

Brackets: There are four independent brackets for the purpose of awards: 1-Platinum, 2-Gold, 3-Silver, and 4-Bronze. Brackets are assigned at the beginning of the contest year according to your final position in the previous year's standings.

Awards: Paid NCCC members may receive awards.

How to Improve Your Standing

Post all your scores on 3830. Those are the only ones that count.

Participate! Even the smallest score has value. Every contest on the list is a multiplier.

Try a new mode or a new band (VHF, 10, 160).

Try the sprints. Small score, big multiplier.

Go for a big score in WPX: Exponential score growth.

Join a multi-op: The score is split among ops.

Let someone else use your station: You get 25%.

Comments are welcome, as always. I log and track every comment and suggestion and try to improve the KB Competition each year. The one thing I can guarantee is that each year will be different! 73, Gary

2020/21 KB Competitions—Contest List

Gary, NA6O NCCC Awards Manager

With Matt, WX5S providing invaluable support.

Contest	Month	Mult
ARRL DX Contest SSB	March 7	10
CQ WPX SSB	March 28	2
7QP	May 2	20
NEQP	May 2	150
CQ WPX CW	May 30	1
ARRL June VHF	June 13	500
RAC Canada Day	July 1	15
IARU HF World Championships	July 11	10
NAQP Summer RTTY	July 18	25
NAQP Summer CW	August 1	25
NAQP Summer SSB	August 16	25
NA Sprint Fall CW	September 13	150
CQWW RTTY	September 26	5
CQP	October 3	10
Makrothen RTTY Contest	October 10	1
CQWW SSB	October 24	6
ARRL Sweepstakes CW	November 7	15
ARRL Sweepstakes SSB	November 16	15
CQWW CW	November 28	3
ARRL 160 Meter Contest	December 4	30
ARRL 10 Meter Contest	December 12	100
ARRL RTTY Roundup	January 2	50
NAQP Winter CW	January 9	25
NAQP Winter SSB	January 16	25
NA Sprint Winter CW	February 7	150
CQ WPX RTTY	February 13	2
ARRL DX Contest CW	February 20	4
NAQP Winter RTTY	February 27	25
NCCC Sprint CW	Weekly	50

Platinum	Gold	Silver
AD6E	K6DGW	AE6JV
AE6Y	K6GHA	AE6YB
AF6SA	K6KM	AI6JZ
AJ6V	K6LRN	AJ6T
K3EST	K6MM	K0JP
K5RC	K6NV	K0MKL
K6AW	K6OK	K2RD
K6MR	K6RIM	K6CSL
K6SRZ	K6ST	K6ELE
K6XX	K6TD	K6EU
K7XC	K6TQ	K6IJ
K9YC	K7NV	K6JAT
KA6BIM	KH2TJ	K6JS
KE6GLA	KH6LC	K6KR
N3RC	N0KQ	K6MI
N6EE	N3ZZ	K6RB
N6IE	N6DW	K6UFO
N6JV	N6GD	K6UM
N6KT	N6RK	K6XV
N6RO	NC6R	K7GK
N6TV	NQ6N	KE8FT
N6WM	OH1VR	KG6O
N6ZFO	W1RH	KM6I
N7MH	W1SRD	KU7Y
NA6O	W6DR	KW6S
NW6P	W6EU	KX7M
W0YK	W6FA	N5KO
W2SC	W6IA	N6DE
W6NV	W6JTI	N6GEO
W6SX	W6LD	N6JS
W9KKN	W6OAT	N6PN
WC6H	W6RC	N6TVN
WD6T	W7IV	N6XI
WK6I	WE6Z	N6YEU
WX5S	WU6W	N9YS
		ND2T
		NF6A
		NJ6G
		VE3RUA
		W6FB
		W6GJB
		W6NL
		W6RGG
		WA6O
		WX6V

KB Competition—2020/21 Station Assignments, Platinum, Gold, Silver

Gary, NA6O

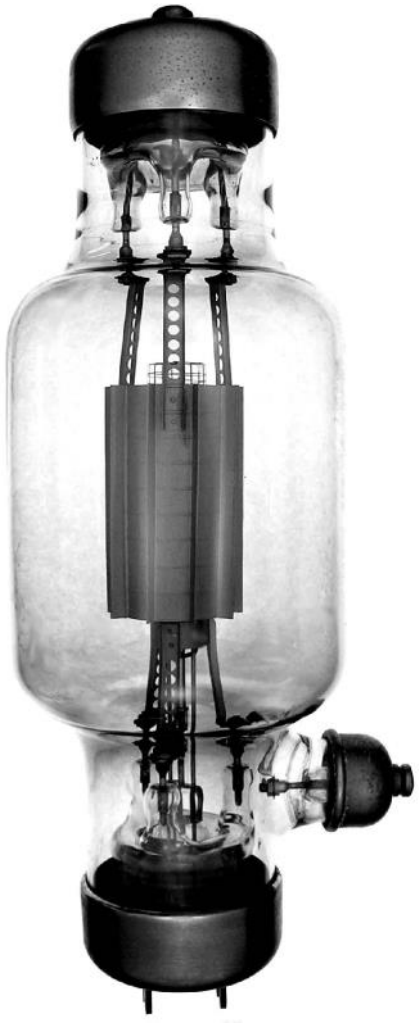
KB Award Brackets

There are four independent brackets for the purpose of issuing awards: 1- Platinum, 2- Gold, 3-Silver, and 4-Bronze. Your bracket is assigned automatically at the beginning of the contest year according to your final position in the previous year's standings. **New members or those who have never posted a score to 3830 default to the Bronze level.**

Tube Of The Month

Norm, N6JV

HK-1554 GAMMATRON



The HK-1554 GAMMATRON is a high power triode made by Heintz and Kaufman in South San Francisco beginning in 1935 or 36. It was one of the first three conventional triode tubes types made by H&K. The company was still making the Gridless Gammatrons at that time and kept the brand name Gammatron long after the gridless tubes were discontinued. It has a mu of 12.5 so will work in both RF and audio. Maximum voltage is 5000 volts at 1 amp. The dissipation is 1000 watts and could be pushed to 1500 watts with forced air. Maximum frequency was 60 megacycles. Tantalum metal was used for the plate and grid. The tantalum withstands heavy overloads and acts as a "getter" to remove any gas when it gets hot. At the time it was made, it was one of the largest all glass transmitting tubes being produced. The overall length is 18.5 inches and it has a diameter of 5.5 inches. Original price in 1936 was $250. The three heavy element supports were a feature of all the H&K tubes. The heavy support straps, as seen in the photo, added more plate and grid surface to increase heat dissipation and they added mechanical strength. H&K made a slightly larger tube called the HK-3054 with similar features and a dissipation of 1500 watts. The 3054 was advertised (1936) as the largest glass tube made.

This example was found at a ham swap and I didn't know what it was at the time. This tube isn't marked. I suspected H&K but it was some time before I found complete H&K tube manuals and data sheets. I have never seen another example and don't know how many were actually produced although H&K was still advertising them in 1946.

Visit the museum at http://n6jv.com.

NCCC Membership Information

If you wish to join NCCC, you must fill out an application for membership, which will be read and voted upon at the next monthly meeting.

To join, you must reside within club territory which is defined as the maximum of:

- Northern California, anything north of the Tehachapi's up to the Oregon border, and
- A part of north-western Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles North of Auburn on Highway 49).
- Life Memberships.— $250.-00 Contact . secretary.nccc@gmail.com. The 80/20 Rule**:**

Members who have reached 80 years young and been a NCCC Member for 20 years are eligible for Honorary life membership. Contact secretary.nccc@gmail.com

JUG Articles Wanted!

Without your help we cannot reproduce a quality newsletter so please consider submitting a suitable article!

We welcome any and all relevant articles for inclusion in the JUG.

The soft deadline is 7 days before month end. The preferred format is MS Word, Arial 12 point. Pictures should be full resolution. Send your material to Bill, N6ZFO at n6zfo@arrl.net . Don't worry about the formatting, we can take care of that if necessary! For pictures: Include them in–line with the text, OR identify them by file name at the insertion point.

Northern California Contest Club Reflector—Guidelines

This reflector is devoted to the discussion of contesting.

This includes contests, station building, dxpeditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/conventions, and membership achievements.

This does not include personal attacks, politics, or off-subject posts which will be considered a violation of the Guidelines.

Violations may result in removal of the violator from the reflector and possibly from club membership in good standing.

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