



**Publication of the
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Contest Club**



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NCCC - 50 years of Contesting Excellence

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NCCC October ZOOM Meeting Saturday, October 16, 2021

"CQ-WW"

John Dorr, K1AR

**"CQ WW SSB—Operating Hints"
Bob, K3EST**

For Details see:

<http://nccc.cc/meetings.html>

President's Report - WD6T

October Fest

David A. Jaffe

By the time this goes to press, the California QSO Party will be upon us. Here's hoping for a fun, productive, safe CQP free of fires, floods, pestilence, lice, beasts, blood, etc.

Coming closely on its heels is the big daddy of them all, CQ Worldwide SSB, the last weekend of October. The world's largest contest, CQ WW SSB has over 35,000 participants. Along with CQ WW RTTY -- last weekend in September, and CQ WW CW in November -- it is the best opportunity for the entire year for working DX on all bands.

Our October meeting will feature a presentation by John Dorr K1AR, manager of the CQ WW contests. John will regale us with history, anecdotes, inside scoop and war stories from annals of CQ WW. In addition our own K3EST, himself a former manager of CQWW will give a short presentation on CQ WW SSB operating hints.

Remember that CQWW (with the exception of the RTTY version) does not allow you to work other US stations for points (other than the zone). For that reason, "search and pounce" is often the name of the game. While contesters usually prefer to run when they can, search and pounce has its own thrill, challenges and techniques. Here are a few suggestions:

- Work the loud stations first - if they are loud to you, you are more likely to be loud to them
- Avoid spending too much time on a single station - try later when he is less busy or propagation is better
- Try calling with a different rhythm or tempo than the other callers. In CW, try calling a bit off frequency.



Officers:

President	David Jaffe	WD6T
Vice President /Contest Chair	Andy Faber	AE6Y
Treasurer	Stefan Nikov	AF6SA
Secretary	Gary Johnson	NA6O
Past President	Jack Brindle	W6FB
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CQP Chair	Dean Wood	N6DE
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K6CQP,N6CQP,W6CQP QSL Mgr	Ed Muns	W0YK
NCCC Email reflector Admin	Phil Verinsky	W6PK
Webmaster	John Miller	K6MM
Webinars	Bill Fehring	W9KKN
JUG Editor	Bill Haddon	N6ZFO

Thursday Night Sprint:

The Northern California Contest Club sponsors a Thursday Night Contesting session of thirty minutes duration.

Often, on Fridays prior to a major contest weekend, a special practice session is held.

Generally, on 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. Occasionally multi-week ladder competitions are held. See www.ncccsprint.com for details.

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
Ladder Scores Manager	Tim N3QE
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



- Pay attention to the gray line, particularly on the lower bands. It is your best chance of working Europe, or penetrating deeper into Asia than just Japan. Don't forget the SE gray line path to ZS and VU in the late afternoon.
- Try 10 and 15 meters to South America and the Caribbean, and later to VK/ZL
- Use a panadapter to find signals and jump to them quickly.
- Set your band map to show already-worked stations and enter them so they show up in the band map; that way, you won't keep returning to them.
- Pay careful attention to the zone for US stations, as they may not match their call area (e.g. K9YC in zone 3).
- Be careful not to stray outside of US frequencies. Be careful of band edges with SSB, paying attention to USB versus LSB extent.
- Study propagation predictions so you have an idea where to go when.
- For the SSB contest, record your call sign and a CQ message, so you don't get hoarse.
- Check your audio to make sure it's punchy but not distorted. Use compression sparingly.

Special suggestions for "assisted" operating:

- Use "Available Mults and Qs" (or equivalent in your logger) to pounce on brand new spots.
- Sort "Avail. Mults and Qs" by direction to work all stations at a given bearing before turning the antenna. This can also be used to maximize the Qs to a particular area that has a limited duration opening.
- If you are jumping through the band map and keep losing out to a certain station, skip a few to get ahead of him, or change direction.
- Make sure to listen for the DX's call sign; don't trust the spots. . . many may be incorrect.
- Consider filtering spots to only include those originating from the West Coast.

Of course even in CQ WW, it is possible to run some of the time. Europe may be runnable on 20m and JAs on all bands. When possible, go for it!

One warning: Keep in mind that the last day of CQ WW SSB is Halloween. So don't be surprised if you encounter ghosts (long delayed echoes), pirates (fake DX), zombies (auto-CQ left running while operator goes to the bathroom), vampires (they work you, then steal your frequency), clowns (goofy phonetics), axe murderers (DQRM'ers) and superheroes (SO3R operators).

And don't forget to report your experiences to the NCCC reflector. See you in the pileups.

73, Dave, WD6T



October 2021 VP/CC Report Andy Faber, AE6Y/P49Y

A brief comment on birding/contesting

David, WD6T's, column in the August JUG about the similarities between birding and DX Contesting got me thinking about one element of our sport that is very unusual. It's that ham radio is all about communication, so even if we are competing fiercely in a contest, we are, at the same time, making contacts with our rivals and helping their score as well as our own. Without the element of two-way communication, with its concomitant cooperation among contestants, there would be no RadioSport at all.

When I'm at P49Y and work a rival Caribbean station, I think about the fact that we are really helping each other, even though we may be competing for the same prize. Of course, if he is behind me then I figure I will still be ahead after the contact; conversely, if I'm behind then I think that the additional mult fractionally helps me more than the other guy – so either way it's worth doing (that sounds like fractured logic, I know, but it help keeps the BIC in a long contest!).

This essential element of cooperation may help explain why contesters are such a friendly bunch, and will routinely go out of their way to help a rival in the spirit of pure sportsmanship (do birders do the same, I wonder?)

Here's a pome about that.

The Essence of RadioSport

A contest, like birding, evokes

Competitive juices in folks

But unlike the others

We must help our brothers

(And sisters) as multiplier blokes.

CQP Ruminations

Let's hope everyone gets on for CQP this year! Last year was a banner year with Dean, N6DE, and his helpers doing a fabulous job of beating the bushes, and many new records being set, including in SOHP by KI6RRN and in LP by N5ZO (who obliterated the 10-year old LP record that I actually had held from 2010). Activity seemed to be up, and it was a good time, as it usually seems to be, to be operating from the southern part of the State. Of course, one might also observe that KI6RRN is a world-class operator, and the station he used (WA6TQT) is at 5,000 feet and has four rotating 195-foot towers with stacks 40-10 (ranging from 8 elements on 40 to 21 on 10), plus a 4-square for 80.

CQP is a favorite contest for many Club members. You can get on it and pretend to be rare DX, even if you have a modest station. Over the years it has become a CW-centered contest, and while you may have trouble running on 20 phone, you probably will have no trouble running on 20 CW, and hopefully on 15 and 10 if they decide to come to the party this year. While it's certainly true that in a State QSO Party it helps to be loud to attract the casual caller who is just tuning around to make a few Qs, the extensive CW activity in CQP makes it attractive to low power or antenna-challenged stations.

My first CQP was in 1991, and I was hooked. Since then, I've only missed two years, 1997 and 2017, so this will be my 29th entry. In fact, I enjoyed it so much that when I decided to write my own contest logging software (now CQPWIN, in ver. 13.1, which I still use) I called the software CQP, and it was only designed then to work for my three then-favorite contests, CQP, SS, and WPX.

Over the years, I've had mixed success in HP playing with the big dogs. My actual best finish was in 1994, when my 228k score was beaten only by about 10k by the winner, AB6FO (now K6LA, who also shows up every year). In that year, my summary sheet shows 570 CW QSOs and 1117 Phone QSOs, a proportionality that would be way out of whack these days, when there is now so much more CW in the contest. To encourage CW, the rules used to suggest checking for CW activity on the half hour, a suggestion that seems positively quaint these days. And scoring has gone way up since then also; my second place 1994 score would be have been good enough in 2020 only for 12th place – and no bottle of wine! (BTW, thanks Jeff, WK6I, for the bottle of Twisted Oak Tempranillo that arrived yesterday for the 2020 contest, when I had the honor to be one of the SEQUIOA stations as W6U).

In any event, regardless of category, the contest is always great fun for us in CA, and there is so much out of state participation that you never run out of guys to work for very long. One of the reasons for this, I believe, is that the rules do not give multiplier credit to CA stations for working other CA stations. Some other QSO parties do give intra-state mult credit (e.g., PA, which occurs the next weekend), and the result can be that most in-state stations stay on 40 and 80 working each other, rather than chasing the wider world on the high bands.

There are a lot of very helpful CQP statistics on the CQP website at <https://www.cqp.org/Strategy.html>. In fact, if you check out the CA station operator's guide to CQP at https://www.cqp.org/files/ca_operators_guide_to_cqp_v11.pdf you will find a wealth of practical information and statistical analysis, including links to other data pages that do a great job of suggesting best times of operation for individual bands and modes. Congratulations to Dean, N6DE, for putting this information together. It is truly useful, even for experienced CQP operators.

One piece of information that I found fascinating was the summary of CW Speeds taken from the RBN network by examining all spots from CA stations sending CQ in the first eight hours of last year's event. Go to https://www.cqp.org/files/cqp2020_cw_speeds_rbn.pdf

I was surprised to see that the speeds were not higher. The most popular single speed number was 28 wpm at 14.2%. Fully 45.1% were in the 25-29 wpm range, while 15.7% were below 25 wpm. Dedicated CW ops like N6TV usually seem to be cruising along at about 35 wpm most of the time, and it seems that speeds are usually higher in the opening hours of the contest when the out of state CQP aficionados are on the bands looking for CW contacts, so it was surprising to me to see that only 7.9% were in the 35-39 wpm range.

When I first developed CQP software, by accident I did set the default CW speed at 28 wpm, but after many more years of CW operation, I confess that such a speed seems quite slow. However, Dean's statistics must be credited. Do they mean that one will make more CW QSOs at slower speeds? Maybe or maybe not. There are a few advantages from sending faster, for example (a) it's helpful if you are one of the very few ops capable of running 2BSIQ; (b) you sound like a snappy op such that others will expect you to be able to hear them; and (c) if someone is tuning around on their second radio, they may be more likely to call, knowing that they can make a fast QSO and not lose their run frequency. However, particularly later in the contest, more moderate CW speeds may lead to more calls from the casual operators.

I asked for reactions from Bob, N6TV, and Mike, N7MH, who generally operates from W6YX, because my perception is that on average Bob uses higher speeds than Mike, though both make a lot of CW QSOs.

Bob says:

"I vary my speed constantly based on the current conditions. If it's early and there are many callers, I go fast. Towards the end of the contest, with no callers, I go slower. If three guys call at once, I speed up. If someone calls me at a really slow speed or sends QRS, I slow down."

Mike says:

"I agree with all of what Bob says. My speed in CQP already slows down within the first hour once the experienced contesters have mostly already been worked and 3-digit serial numbers begin to require more repeats."

At the start I might go as fast as 34 wpm but soon slow down to 30 and eventually bottom out at 26, though I'll slow down more if I get a slow caller. In other contests I'll maintain higher speeds longer, sometimes even going faster than 40 wpm, but for a contest with a serial number in the exchange like CQP I keep to slower speeds to reduce repeats.

As for the range of CW speeds in CQP I'd guess most are sending either at a speed at which they feel comfortable copying call signs and exchanges or at a speed that they believe is likely to attract more callers."

I also solicited input from Marko, N5ZO, who made the astonishing total of 1486 CW QSOs last year on his way to the new LP record as N6Q. Here's what he says:

"Curiously I was thinking about this CW speed in CQP myself some days ago. I got then curious from your comment about my speed being slower perhaps than normally and I then pulled RBN data myself and made simple plots attached. Yes it is true. Spotted speeds in CQP are definitely slower than usually for me. I find that usually my go to speed in contests is 38 which I usually start with e.g. in weekly CWTs which I must have done more than 1000 sessions by now. In NS sprint it is probably 40 that I start with. I often then adjust this speed up and down based on how busy it is. If I have lots of callers all zero beat and it is difficult to make sense of it I may ramp up speed in effort to thin it a bit, to try to get through callers fast, and I hope that some guys who leave will then come back later when it is not so busy. I think they usually do in contests that has lots of hours, or I may work them from bandmap in assisted events like CWT.

If I have no callers, I often adjust speed down, especially in event like CQP or other QSO Party like contests where we have sizeable amount of casual participants. I may be calling at 38, no answers after couple times, I then drop to 36, if still no answers, will drop to 34 etc. I'm hoping it may draw in casual guys who would be otherwise not copying higher speeds or somehow worried about answering and will tune by a too-speedy station. I also try to remember to slow down for anyone answering at significantly slower speed, especially if I don't recognize the station as someone I regularly work at higher speeds.

But regarding last CQP, it is interesting that I seem to have operated just 1st 20 mins or so around 38 WPMs, then dropped to 36 for remaining of hour and then for next almost 4 hours average speed seems to have been around 34 and after that most common speeds seems to be 32 for remaining of whole CQP varying mostly in range 30-34. That is slow for me, but it must have been what I figured worked."

Those are helpful comments for the experienced contester. For newbies, the data also shows clearly that even if you are not comfortable at higher speeds, there will be lots of stations wanting to contact you at whatever speed you find comfortable.

Finally, Dean's activity tables by hour are also very illuminating. One thing you might notice for the 80m CW/75m Phone band is that there are many more CW contacts made than on phone until quite late at night. I noticed myself last year that I had a great CW hour on 80 in the 0300Z hour (in fact my best of the whole contest on any band) but got very little traction on phone. Here's his very sensible explanation in the Guide, which keys on a fact that perhaps should have been obvious, to wit, that since 80 tends to be a noisy band, it is much easier to make long-distance QSOs on that band on CW than on phone. In looking at some past logs, I do sometimes see more success on 75 phone, but those were probably times of unusually quiet conditions.

As Dean says:

"There is more activity on 80M CW than on 75M Phone in CQP. It is difficult to gain any traction in CQP on 75M Phone east of W7. 80M CW will be hopping with activity across the US and Canada. Work 80M CW before the east coast and midwest stations go to sleep on Saturday night. Then work 75M PH. Go back and forth for the remainder of the evening."

Good advice, Dean.

Upcoming contests (the contest season is ramping up!)

Oct. 2-3 California QSO Party!!

Oct. 2-3 Oceania DX, Phone

Oct. 9-10 Mackrothen RTTY

Oct. 9-10 Nevada QSO Party

Oct. 9-10 Pennsylvania QSO Party

Oct. 23-24 Stew Perry Topband Challenge

Oct. 24 NA Sprint, SSB

Oct 30-31 CQWW DX, SSB

Nov. 6-8 ARRL Sweepstakes, CW

The 2021 WW Digi Contest — Revisited

Editor's Note: *The WW Digi Contest continues to grow in popularity, but controversy abounds over the suitability of the FT modes for contesting. Two months ago, Jim Varney's JUG article on September 2021 WW Digi event provided a valuable discussion of the contest and served as a useful contest tutorial to many entrants. You may want to read or re-read Jim's excellent article "Take the WW Digi Challenge!" on page 10 of the August 2021 JUG.*

We invited NCCCr's to submit their experience, post-contest and both K6OK and K6UFO responded. One of NCCC's flagship competitions, the 2022 RTTY Roundup includes the FT modes. Perhaps these articles will help members decide between a mixed-mode entry in RTTY RU or the more familiar, and still much more popular, RTTY mode. In the 2021 RU, NCCC entrants, based on 3830 scores, reported 25,366 RTTY QSO's versus only 1905 Digital (i.e. FT8/4) QSO's, a 12:1 domination by RTTY. [For all RTTY-RU entrants, the numbers were 262,919 RTTY vs. 31,827 Digital Q's, a 9:1 preference for RTTY

*Having grown up as K6OPI on the streets of San Francisco in the late 1950's, I vividly recall the painful transition from AM to the Donald Duck mode, as SSB was known to it's detractors. My radio mentor, Dick Parks, W6UO, Chief Engineer at KGO-TV, encouraged me to ditch the modulator on my Viking Adventure and adopt SSB. A summer and afterschool job at Offenbach-Reimus Radio on Market street eventually provided the necessary funds for an HT-32 **Bill, N6ZFO JUG Editor.***

2021 WW Digi Debrief

Jim, K6OK

In the August ("Take the WW Digi Challenge," Aug. 2021) I encouraged NCCCr's to fire up their computers to whistle into their radios to play in the 3rd annual running of the WW DIGI DX contest. At the same time I threw down the gauntlet and challenged NCCC'rs to dethrone me as the holder of the all-time high score in W6 land across all categories, a mark that I set last year with a paltry 242,268 points.

Merely one week after the contest we've got plenty of information to chew on for this report. Thanks to the rapid number crunchers behind the scenes at the WW DIGI website, we already have raw scores, in addition to anecdotal reports from 3830, reflector posts and private e-mails. So let's get started...

Continuously Cursed Contest. As we all know, FT contesting gets its share of flak, but why does mean old Sol have to pile on too? The solar Ap-index numbers tell the story: 2019, 40. 2020, 25. 2021, 17. We NorCal hams know that when the A-index gets into double digits the California-EU door slams shut and we all say "thank God for South America." That's three years in a row that WW DIGI has suffered worse-than-average condx. FT modes are good, but not *that* good -- they can't punch through an aurora that's lit up brighter than a cheap motel ne-

on sign.

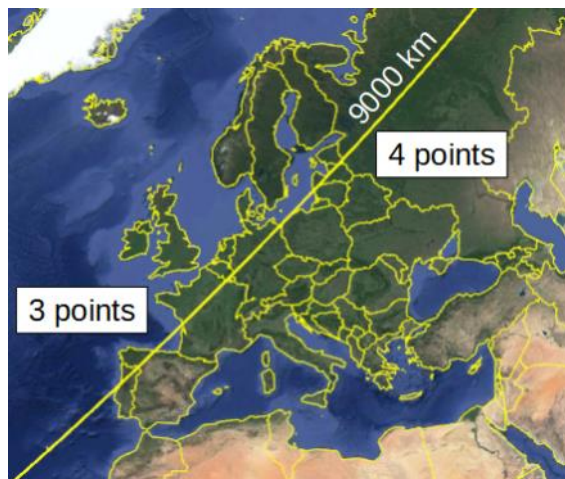
ET Phones Home. Our resident alien, Mark **K6UFO**, traded in his bicycle for a Millennium Falcon, assembled a crack digi team in Multi-Two category, and demolished my high water mark with a raw score of 483,824 points, composed of 1,089 QSOs and 174 grids. Unless there's a sleeper M/2 out there not on 3830, the K6UFO team will, by a large margin, hold the highest score ever in W6 across all categories. But that's small potatoes: they will likely hold the highest ever M/2 score for North America. The team worked the Mt Umunhum K6MTU station remotely in shifts. Team members were Mark **K6UFO**, Tom **ND2T**, Kevin **K6TD**, Ed **W0YK**, and Dave **WD6T**. Excellent job guys!

Could Team K6UFO Take the World Record in M/2 Next Year? Yes, a bit of a reach, but doable. Their 483k score beat the existing world record set last year by **S51A** at 461k points. But **S51A** raised the ante this year with a reported 522k points!

So how can K6UFO do it? Here's a fascinating wrinkle in WW Digi scoring: *you can beat another station even though you have fewer QSOs and fewer mults than them.* I can hear the pileup of my dear readers all saying "Again, again?" No problem, cool your amps, I'll explain.

Call	Score	QSO	Grids	Pts/Q	
S51A	522,210	1382	206	1.83	
K6UFO	483,824	1089	174	2.57	source: 3830, ww-digi.com

In this contest the quality of each QSO matters, not just the mults. Watch this: if K6UFO next year makes 1100 Q's, 176 grids -- slightly better than what they had this year -- and they raise their points per Q to 2.70, they will score 523,000 pts. How do you raise your points per QSO? By working more 4-, 5- and 6-pointers (remember, in WW DIGI each Q gets 1 pt plus extra pts for each 3,000 km). It's obvious S51A is feasting on tons of QSOs from local EU's and east coast NA stations, which are in the 1- to 3-point range. That's S51A's weakness. While your opponent is doing busy work with little onesies and twosies, the smart DIGI operator fishes for the DX.



This map shows where NCCC's 4-point boundary lies:

Imagine that, a contest with a west coast advantage. All we need now is some cooperation from the Sun so we can use it to its fullest.

Other Notable Efforts. RTTY wizard Jeff **WK6I** took the brave leap into FT modes with a full BIC effort from the W7RN superstation with 905 Q's and 374k points... Giuseppe **KE8FT** improved on his existing W6 record in SOSB20 with 276 Q's and 32k points... Doug **WE6Z** worked Asia for 2.5 hours, 74 Q's and 26 grids(!) for 5,772 points and will likely hold the W6 record for SOSB40. To get the latest on raw scores, records and more visit ww-digi.com.

Misc QRN. A number of operators opined that the two annoyances that continue to dog FT mode contesting are uncompleted QSO's and non-contesters who want signal reports... I wish more FT contesters would warm up to FT4, which would raise rates... I had 70% FT8 and 30% FT4, causing my overall rate to be a leisurely 26 Q's per hour... We'll end on this positive note from Jim **WX6V**: "A fun contest this year. Much improved interaction between N1MM+ and WSJT-X software. Really enjoy these digital mode contests!"

Hope to C U in 2022 WW DIGI... RR73, Jim K6OK

WW-Digi Contest Three years – Three Records!

Mark, K6UFO

The WW Digi Contest started in August 2019 recognizing the explosion of activity in FT8. Each year, Mark K6UFO, has entered and set a new North American record in a new category.

Year	Category	Call	QSOs x Grids	Operators	Note
2019	SO QRP	NN7SS(K6UFO)	189 x 37	K6UFO	NA Record
2020	Multi-One	K6UFO(@K6MTU)	574 x 123	K6TD ND2T K6UFO	NA Record
2021	Multi-Two	K6UFO(@K6MTU)	1089 x 174	K6TD ND2T K6UFO WD6T WØYK	NA Record*

* = before log checking



The last two years of multi-operator efforts have used the fabulous K6MTU station on Mt Umunhum near Los Gatos, CA. The station was started in 2015 by W6SMQ, K6GSF, N6LXA, K6TU, and K6TD. The station operates in about ten weekend contests a year, and is fully remotely operated - there is no house or conveniences on the mountaintop. It has stacked tribanders at 43 and 95 feet, a 40m yagi at 110 feet and a four-square array for 80m. The station is capable of SO2R or Multi-two, with two radios (Flex 6700), two amps (Elecraft KPA1500 and SPE Expert 1.3k), and all the switching and bandpass filters to allow two independent receivers and transmitters. Kevin K6TD maintains the station for contest use, and is an vital member of the team for solving technical problems.

Antennas at K6MTU



When we decided to go from Multi-One to Multi-Two we recruited additional operators Dave WD6T who had Flex experience operating remote to N6RO, and "newbie" Ed WØYK, telling him "he would learn a lot about remote, and a lot about about Flex." First, living in the mountains, Ed had a poor internet connection, with adequate speed, but big delays and large variation (jitter). Working with his internet vendor made only minor improvements, so finally Ed and Kevin installed a point-to-point link from the WØYK tower to the K6MTU tower, about 3 miles. This link has worked well, and now Ed has the "best" internet access to K6MTU. Second, Ed had to get up to speed on using a Flex radio. His basic opinion seems to be "it works, sort of, but is not designed for contesting." Luckily FT8 operating does not depend on a lot of hands-on radio dial-twisting. You just set the frequency and mode - and then let the logger and FT8 software do the rest of the radio control.

K6MTU/WØYK
Link at K6MTU



Switching Network at
K6MTU

We used Writelog logging and the DigiRite software for the FT modes. DigiRite has several features to improve FT operating over the WSJT-x software, like simple, full integration with Writelog, ability to manage queues of callers, easy selection of Multipliers, and several ways to invoke alternate messages. Why do we need "alternate messages?" The contest rules specify an exchange of Grid Squares only, but 90 percent of the non-contest operators want to exchange Signal Reports, e.g. -10 dB and R-15 dB. When you run out of serious contesters on the published contest frequencies, you have to go to the regular FT frequencies and work non-contest operators, doing your best to get a Grid Square, and giving them a Signal Report if they insist and will not proceed to RR73 or 73 without one.



K6MTU Ops: K6TD, ND2T, K6UFO, WD6T ,W0YK

We spent the weeks before the contest getting everyone familiarized or re-familiarized with accessing and controlling K6MTU, the Writelog and DigiRite software, how to change bands and control the antenna rotators, etc... We spent the last couple days before the contest in more intensive practice - our pre-contest log had over 770 FT8 QSOs in the log!

We carefully tweaked the operating schedule to keep operators returning to the same radio on different shifts. We have found that moving operators to different radios through the contest is quite trouble-prone as the Flex and Writelog software try to automatically connect to the last radio and the last frequency that operator was on. This would often "steal" the radio and antennas away from a current operator, leading to now TWO operators trying to adjust their radios and antennas and software. That was surprise, downtime and frustration to be avoided. We kept the operators in voice communication over the "huddle" feature of slack, so the keyboard and mouse focus could stay on the logging. The voice channel helped us feel like a team, and had a few amusing moments when something went wrong, or Tom opened the loud crinkly wrappers on his snacks.

The actual operating was less surprising, as the operator "ran" a queue of callers - trying to always picking a Mult or the greatest DX (higher points) - while looking for decodes of new Mults anywhere else in the passband. FT8 seemed to have the best combination of good DX and fewer repeats and retries. But when signals were very strong, like early evening on 40m, FT4 could be used to run stations faster - but they were lower point stations. I think Jim K6OK had it right when he called it "Speed DXing."

Moving from Multi-One to Multi-Two we hoped to "double" our score, but we managed to make a "triple." I think it was due to our new strategy of always looking for Mults and distance. It is also likely that operator skill has been increasing and the FT contest operating is not as unusual as it might have been in the first years of the WW-Digi contest. If you like FT8 or the digital modes, the WW-Digi is a great experience, and is good preparation for the FT Roundup in December and the RTTY Roundup in January. Thanks for the contacts!



2021 All Asia SSB Contest

Dave, KA6BIM

As with most weekends, the first weekend of September offered a wide choice of contests to play in. For the last 18 months I had been concentrating in the state QSO parties working towards the goal of confirming all US counties. The July 2021 Issue of the "Jug" newsletter announced the NCCC Asia-Oceanic Challenge competition. Since our club has initiated and promoted this challenge, I decided to give it a try and concentrate on the All Asian SSB contest. The Colorado and Tennessee QSO parties, which I had on my calendar took a back seat. I also decided to skip the Russian RTTY contest altogether. (But it looked like it would be fun too!)

The NCCC Asia-Oceanic Challenge consists of 3 pairs of contests: The JIDX CW & SSB, the Oceanic CW & SSB & the All Asian DX CW & SSB contests. I have played in the JIDX for many years, and recently have been playing in the Oceanic contests, but had only dabbled in the All Asian contest once before on each mode. The CW weekend of the All Asian contest was back in June. I missed that, so did not have that experience or log to draw on. So this new challenge would literally be a new challenge for me. The next two contests in the challenge are the Oceania DX Contests on the first 2 weekends of October. Warning: the Oceania DX SSB coincides with some contest called CQP.....

Preparation started with digging out my one past log and studying it for times and rates. Looking to see when I had contacted various parts of Asia. I also had to examine the dividing line between Asia and Oceania. Did you know that West Malaysia (9M2) is considered Asia while East Malaysia (9M6) is considered Oceania? And the Middle East that I tend to work during European openings is also Asia. I ran a contest strategy propagation chart from K6TU's propagation service to see what times bands were supposed to be good, and tried to develop an operating plan. I will have to admit that even though I put effort into making a plan, during the contest my plan often devolves down to just seeing what band has the most activity. DXmaps and PSK Reporter are both excellent resources for seeing what is going on real time.

One nice thing is that the All Asian DX contests start at 0000 UTC like most major DX Contests. (The Oceania & JIDX contests start at 0600 & 0800Z) Another nice thing is that we don't usually have round the clock propagation to Asia, so we can actually get some sleep during non propagation hours (That is, if you don't try and squeeze in some qso's in other concurrent contests J)

My main goal in every contest is to beat my previous years effort. One of the things I do, is keep my laptop on the side of my desk, open with the last years log. That way I can see how I am doing, and can also see where I was working, band changes etc. So, glancing over at the log I can see last time I had switched bands already, or if I am falling behind.

Play by Play:

Well Friday at 5 PM finally came around and it was time to start looking for Asians. 10 & 15 are dead so I started on 20 mtrs. The big JA stations were coming thru, but no high rate openings. I worked 17 JA's plus a China and Asiatic Russian in the first hour. It was about the same for the second hour. Then it got really slow.... 4 stations in the 0200 hour and only 2 in the 0300... I came back to the contest at 0600. I found a few more JAs on 20 while waiting for 40 mtrs to open. About 0730 the floodgates opened up on 40. I parked on 7146 and ran stations for the next 2 hours. Then I spent an hour or so S&P on 40 & 80. I ran a little on 80 but there was not a lot of activity. By 1300 I was back on 40 meters running again. Band finally dried up just before 1500. Then there was a 6 hour break before we had propagation again. That's enough time for some rest. (or to play in a different contest...)

20 meters opened back up a little after 2100UTC. It stayed solid for about 3 hours then propagation dropped out about 0000Z. I was able to run stations most of that time and picked up an occasional station of the cluster spots. 20 opened back up about 0530Z, and I had a great 90 minute run of Asians. At 0700 I switched to 40 mtrs, and had another great 2 hour run. By 0900 it slowed down and I only worked 20 or so stations over the next 6 hours. I got on 20 mtrs for the morning EU opening and heard several Middle East (Asia) stations. I managed to work A42K and 5B4AMX. I had heard a few others Saturday morning, but no luck then. 20 opened back up at 2130Z and I managed to find another 20 or so Asians before the contest ended at 2359.

Results:

3830 shows that I have the top North American score for single operator and K3EST@N6RO has the highest (and only) Multi-Multi score. There are actually only 51 logs shown there. One thing to consider though, was that this was not a North American or European centric contest. I would guess that many of the Asian and Oceania operators don't submit to, and probably don't even know about 3830. We will only know the results when the final scores are published.

My total score was almost 8 times last years. I was only able to work 10 Asian countries, but I did hear several others from Western Asia or Middle East. They either could not hear me, or the pileups were too big. The propagation was very frustrating at times. I could hear S9+20db Asian stations, but I could not get thru even with full power. But they were working many YB's. I ended up with a few YB's in my log as well. (Quicker to give them a signal report than explain the rules.) VK & ZL were wide open. 2 hours later I could finally get thru to the Asians. Never heard anything on 160, but found 2 stations on 15 around 2200Z on Sunday. Best band was 40 meters at 55%, then 20 meters at 39% and 80 meters was 5.8% Sunday afternoon was extremely propagation challenged. Lots of noise. I only worked 25 stations in the last 10 hours of the contest. (But 2 on 15 meters!)

I was four q's short of my 500 qso goal, but if you counted the 0 point YB's and dups, I made it. (508 q's in the log) But I still needed 1 more multiplier qso to break 100K I was very surprised to see that I beat K3EST on 80 mtrs! But they cleaned my clock on all the other bands. Great job guys!

From here on the West Coast, the Asian and Oceania hams are our bread and butter DX contacts. We rely on them as much, if not more than the East Coast stations rely on Europe. It is much easier for us to work a 5-watt JA station than to try and bust thru the East Coast wall to work a 9A or DL station.

<u>Countries</u>	<u>QSO's</u>	<u>Countries</u>	<u>QSO's</u>	<u>Band</u>	<u>QSOs</u>	<u>Mults</u>
Japan	457 (90%)	Cyprus	1	80:	29	20
Asiatic Russia	12	Singapore	1	40:	270	85
China	10	Oman	1	20:	195	86
Indonesia	8	Thailand	1	15:	2	2
Korea	7	Taiwan	1	-----		
				Total:	496	193
				Total Score = 99,588		

Best 1 min rate 4/min; best 10 minute rate 1.9/min; best hr rate 1.4/min

Best clock hours were 0800Z Saturday morning and 0600Z Sunday morning.

First Day was 60% of qso's. Second day was 40% . N1mm reported 26 hours of on time.



KA6BIM Operating Desk



The KA6BIM Oregon Antenna Farm

The NCCC 5-Meg Award

Bill, N6ZFO and Gary, NA6O

Some radio clubs reward cumulative contest score performance. The PVRC has a rather complex program in which a member's progress toward 5 Megs is awarded with a certificate and endorsement at each 1 meg level, followed by a plaque at 5 meg and subsequent endorsements above 5 Meg. See <https://www.pvrc.org/5M/5milrules.pdf>

The NCCC 5 Meg program is simpler and has a single straightforward procedure: When a qualifying member exceeds 5 megs in total contesting points, a one-time plaque is awarded. While the award is available to (almost) all NCCC members, the emphasis is on new members and those members with smaller stations. The NCCC Awards Chair, Gary, NA6O administers the award.

Since its inception in 1987 almost 100 members have received the 5-Meg award. The most recent, #98, goes to Bob, KO6LU, who has worked toward the award for many years.

Let's suppose you are a serious competitor and happen to be a good friend of Kim Jong Un, of the DPRK. . And you convince him to build a contest station for you in Pyongyang and give you permission to operate remotely as P5 in the WPX CW. Of course 5 million points will accrue quickly. But sorry . . .that doesn't count . . .points have to be made from a station operating in California with antennas, transmitters and receivers inside the state. Thus if you're an expatriate NCCC'r who has moved to North Dakota, points accumulated there do not count. However, operating a multi at N6RO is fine, but your contribution will be the total score apportioned according to your participation.

Gary, NA6O, administers the award according to rules and guidelines posted at <http://nccc.cc/5meg.html>

Perhaps you're a new member and want to pursue the 5-Meg award. You may want to be selective in the choosing the contests to enter. Here's one approach to making your contest choices: Look at the list of contests which qualify for NCCC KB award program at <http://nccc.cc/misc/kbaward-rules.pdf>. Then, if you can't enter all 30 plus contests, emphasize the ones that have KB multipliers between 1 and maybe 10, as these are the events with the highest raw point totals; (but the KB multipliers will not be applied to your 5-Meg qualifying score). Or perhaps you prefer state-side contests. The six NAQP contests, ARRL Sweepstakes and of course CQP are good choices. If you can average 30,000 points in the NAQP events 70,000 for ARRL Sweeps and maybe 50,000 in CQP then achieving 5-Meg will take you about fifteen years. Suppose you have a focus on 160 meters and love the two yearly Stew Perry TBDC contests. . . You might average 333 points per Stew Perry event with a modest station. Achieving 5-Meg with this contest alone will take you just 3,000 years.

Our most recent 5-Meg Award winner is Bob, KO6LU. For background on Bob and his station see W1RH's Point Generator Profile on Bob in the January, 2016 JUG. Bob's approach to contesting is low –key: Quoting from the PGP: "I'm a casual tester...never expect to win anything...just do it for fun. The nice thing about NCCC is that I can operate at my own pace without peer pressure for "more". [But Bob does have many ARRL Section wins. Ed] Bob's station is on a typical urban 10,000 square foot lot on the SF peninsula, and he uses a vertical antenna and wires. Using both LP and HP Bob takes advantage of all modes, including the FT modes recently introduced, and participates in VHF contests. Bob notes: "My set up has been modest... Icom 775 and R6000 vertical initially then upgraded many years later to an R7 and now Kenwood TS990 and KPA1500 (I never exceed 500W) along with a conversion making the R7 in to a wannabe R9 vertical. The verticals are terrible rcvr antenna, but I have no trees from which to hang wires and the traps on this one severely restrict output power... So I make do with what I have. "

Bob's quest for the 5-Meg award began in 2003, so it's been an 18-year effort, involving 37 different contests, and a total of 139 entries. Bob's award plaque is on order and will be presented at the April awards program, hopefully in person. It was the 2021 WW Digi and 2021 WPX RTTY contests that put Bob over the top with a current total of 5,027,966 points.



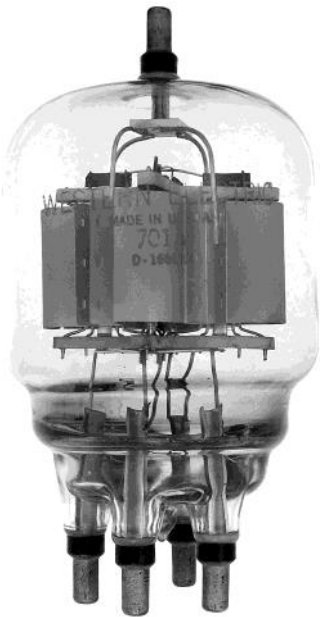
Tube Of The Month

701A Norm, N6JV

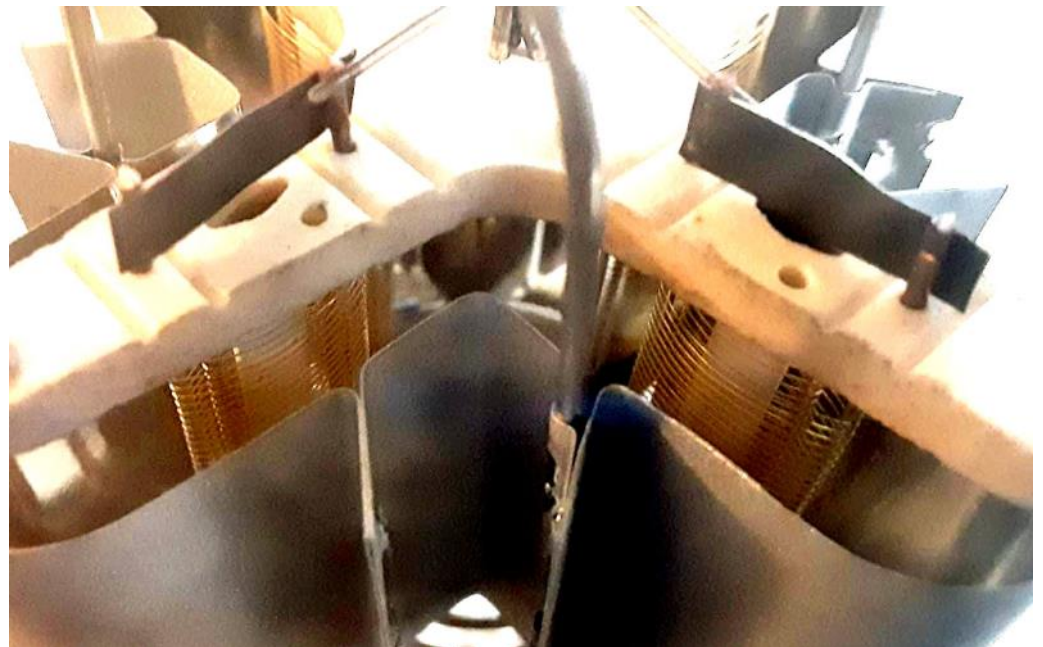
In the early days of RADAR development, many tubes were developed and tested for special applications. The output tubes and pulse modulators were the subjects of much of the research. Some oddball pulse modulators were intended only for this application. In 1940, Western Electric introduced a hard pulse tube, the **701A**. It is large, fat and has 4 base pins arranged in a non-standard arrangement. The 701A is a tetrode made by paralleling the insides of four WE 350A tubes. The filament is 8 volts at 7.5 amps and with 12.6 kV on the anode, you could pull 12 amps in pulse mode. The average power is only 100 watts.

The 701A only had a short period of service but is still popular with tube collectors. They were replaced by better and less expensive tubes that had standardized bases. I had one in a tube display at a swap meet and was asked why it was special. I ask them to look inside at the grids and they noted that the grids looked gold. The grids are actually gold plated. It took a while to explain that feature as best as I understand it.

The 701A is a high-speed switch used to transmit pulses of voltage to the RADAR output tubes. This required very fast pulses with a sharp rise and a very steep trailing edge. In between pulses, the RADAR needs to go into receive mode. If the voltage doesn't drop off fast, the receive period would be compromised and could mask close in targets. When you take a 100-watt tube and pulse 150,000 watts through it, a lot of heat is generated on the plate and the grids. It was found that when a grid got white hot, it started emitting electrons like the filament. This is called secondary emission and it was a big problem. It was discovered that plating the grids with platinum or gold would reduce this emission and helped make sure the Navy didn't miss a threat that was trying to sneak up on them. Gold plated grids were a feature of many subsequent pulse tubes throughout the War.



701A



Interior view of the 701A radar tube showing gold-plated grids.



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 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 of age have and been a NCCC Member for 20 years are eligible for Honorary life membership. 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 MS Word (.doc or .docx), Arial 11 point. Indicate the insertion point and title of diagrams and pictures in the text and attach photos separately. Pictures should be full resolution. Avoid PDF files and email text. Please contact us if that's your only format.

Send material to Bill, N6ZFO at n6zfo@arrl.net 415 209-3084

Northern California Contest Club Reflector—Guidelines

The NCCC reflector is devoted to the discussion of contesting.

Topics include, for example, contests, station building, dx-peditions, 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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K4 HIGH-PERFORMANCE DIRECT SAMPLING SDR



A direct-sampling SDR you'll love to use

Our new K4 transceiver harnesses advanced signal processing while retaining the best aspects of the K3S and P3. It features a 7" touch display, plus a rich set of dedicated controls. Per-VFO transmit metering makes split mode foolproof. Band-stacking registers and per-receiver settings are versatile and intuitive. Control usage information is just one tap away thanks to a built-in help system.

Modular, hybrid architecture adapts to your needs

The basic K4 covers 160-6 m, with dual receive on the same or different bands. The K4D adds diversity receive, with a full set of band-pass filters for the second receiver. (Thanks to direct RF sampling, there's no need for crystal filters in either the K4 or K4D.) The K4HD adds a dual superhet module for extreme-signal environments. Any K4 model can be upgraded to the next level, and future enhancements—such as a planned internal VHF/UHF module—can be added as needed.

Single or dual panadapter, plus a high-resolution tuning aid

The main panadapter can be set up as single or dual. Separate from the main panadapter is our per-receiver *mini-pan* tuning aid, with a resampled bandwidth as narrow as +/- 1 kHz. You can turn it on by tapping either receiver's S-meter or by tapping on a signal of interest, then easily auto-spot or fine tune to the signal.

Comprehensive I/O, plus full remote control

The K4's rear panel includes all the analog and digital I/O you'll ever need. All K-line accessories are supported, including amps, ATUs, and our K-Pod controller. The Video output can mirror the K4 screen or display a high-res Panadapter only screen. Via Ethernet, the K4 can be 100% remote controlled from a PC, notebook, tablet, or even another K4, with panadapter data included in all remote displays. Work the world from anywhere—in style!

K4 KEY FEATURES

Optimized for ease of use

Modular, upgradeable design

7" color screen with touch and mouse control

ATU with 10:1+ range, 3 antenna jacks

Up to 5 receive antenna sources

Full remote control via Ethernet



The K4 interfaces seamlessly with the KPA500 and KPA1500 amplifiers

'The performance of their products is only eclipsed by their service and support. Truly amazing!' Joe - W1G0

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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.

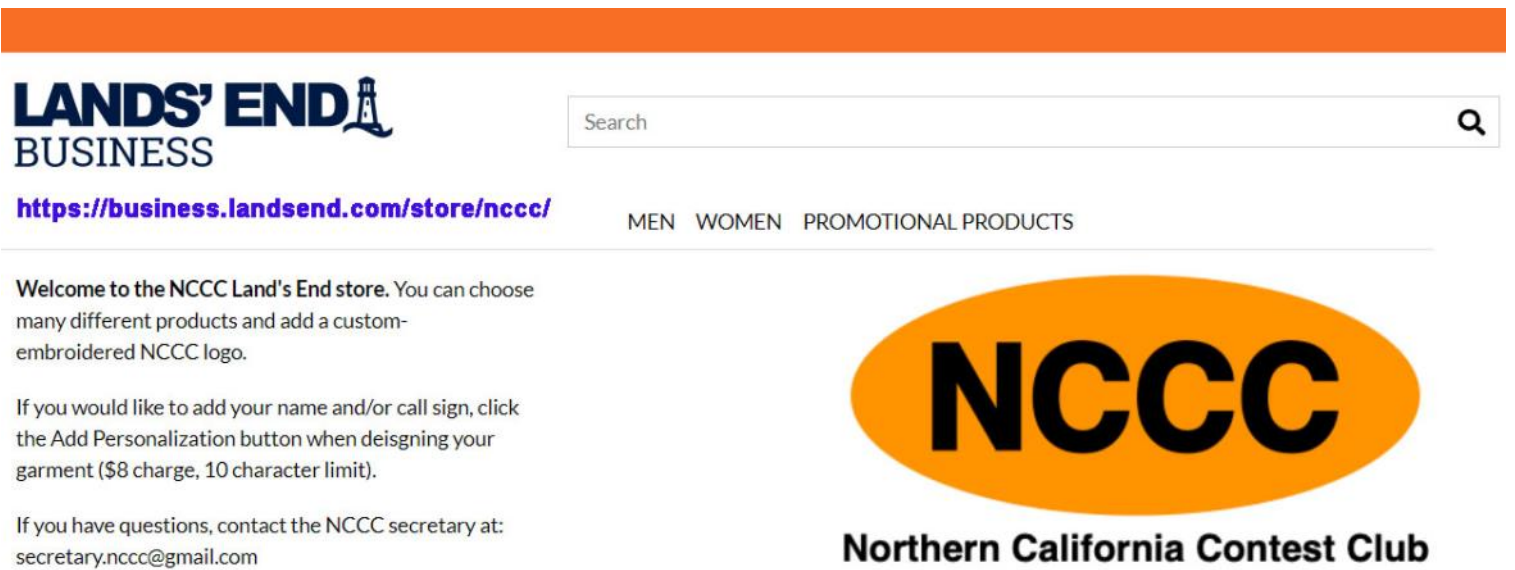
And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

Go to <https://business.landsend.com/store/nccc/>

It's easy to use.

From nccc.cc: <http://nccc.cc/members/lestore.html>

Thanks to W6TCP for helping to set this up.



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If you would like to add your name and/or call sign, click the Add Personalization button when designing your garment (\$8 charge, 10 character limit).

If you have questions, contact the NCCC secretary at: secretary.nccc@gmail.com

NCCC

Northern California Contest Club

Instructions for purchases from the Lands' End NCCC Store:

1. Go to <https://business.landsend.com/store/nccc/>
2. Click on the Men's or Women's link, and then choose an item.
3. Pick a color, then enter the 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. On shirts, for instance, you can place the logo in one of several locations.
6. Click Apply Logo.
7. Optionally, click Add Personalization to add your name and/or callsign (\$8 charge, 10 character limit)
8. Click Add to Bag. Keep shopping, if you like.
9. Click Start Secure Checkout. Account creation and credit card required.

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KENWOOD



TS-590SG
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TM-D710G
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TM-281A
2 Mtr Mobile



TH-D74A
2M/220/440 HT

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