



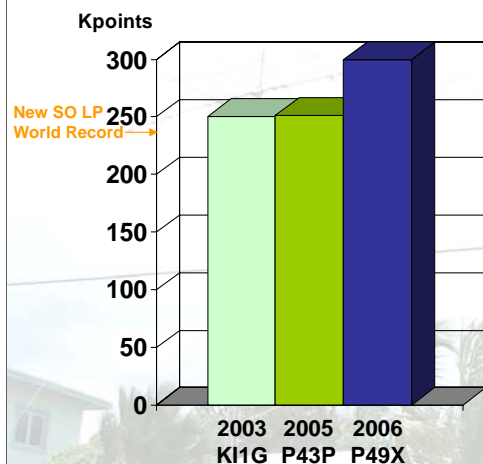
This was a memorable experience for me and I'm delighted to share it with you today.

How many participated in the 2006 Round-Up?

How many worked me? 4 times?

Results

RTTY RU SO HP World Records



- 2455 QSOs, 122 multipliers
- 299,510 points: new SO HP world record
- 20% over prior record
- (new SO LP world record)

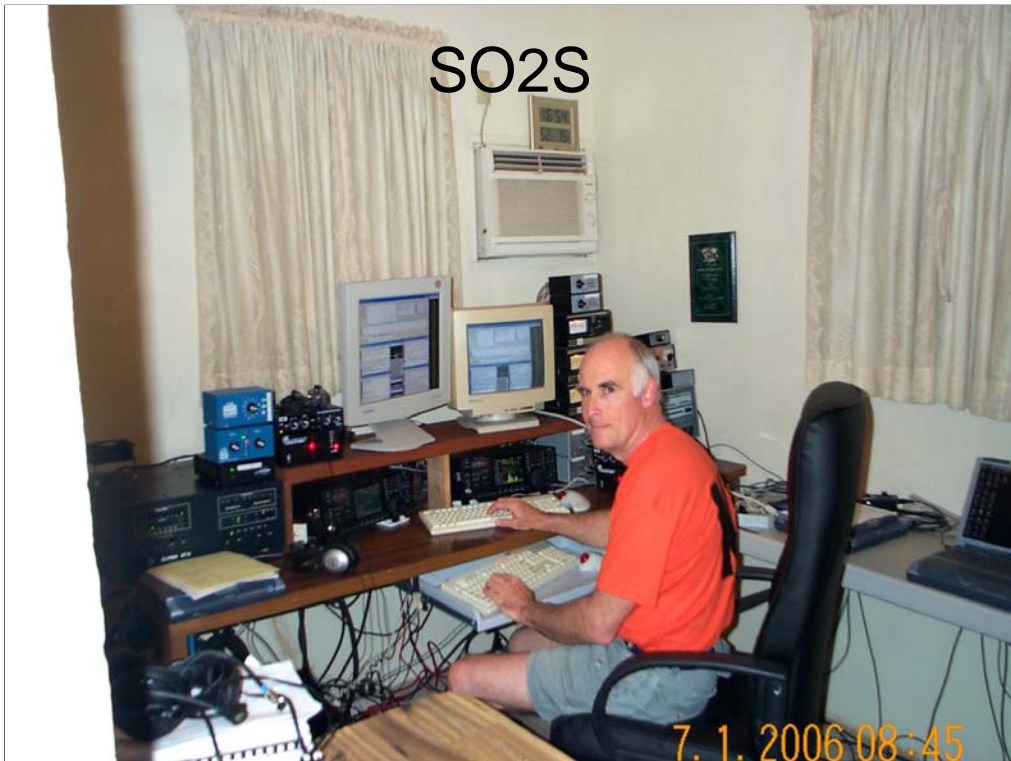
First ... the bottom line: after years of struggling to just barely break the 2000-QSO barrier last year, my operation eclipsed that by another 20%. Some comparative data ...

AA5AU improved 34%, 2005 to 2006

P49X improved 41% ... BUT

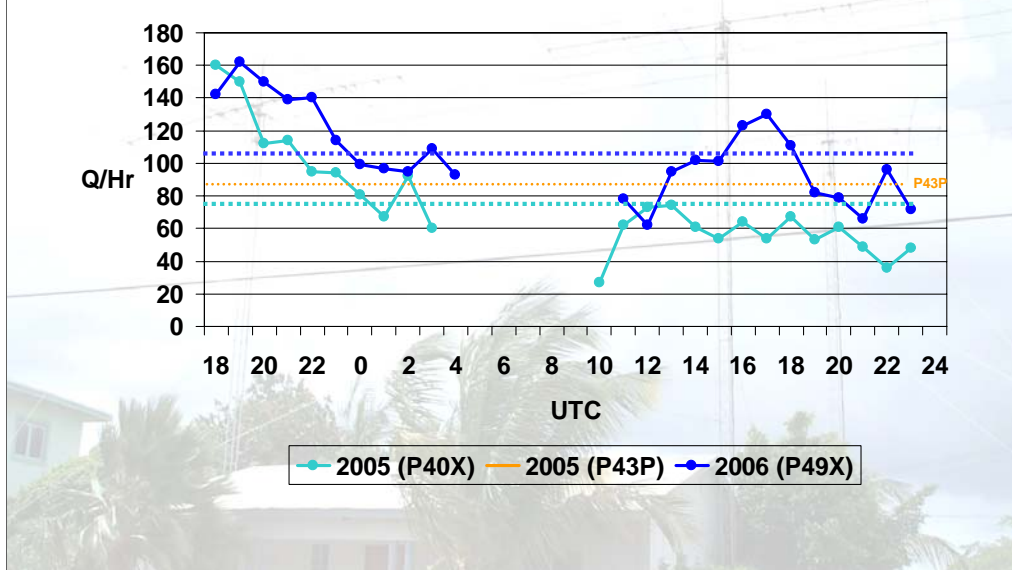
P49X only improved P43P's 2005 results by 22% ... perhaps Jacky could have done even better.

OTOH, AB5K close third to P40X in 2005, but dropped lower in 2006



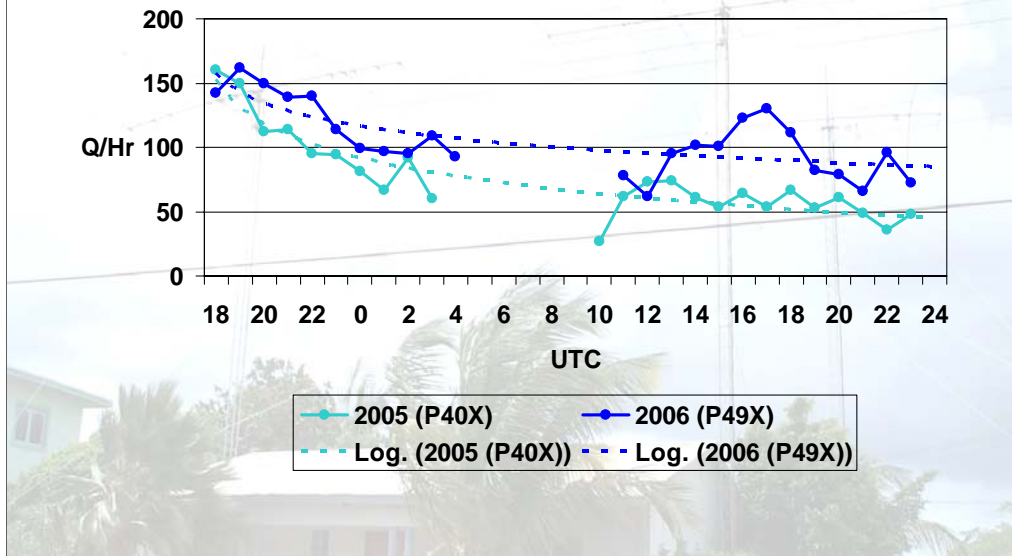
It's always fun to win, and set a new world record and especially to eclipse it by 20%, but for me the actual contest operation itself was even more fun. It was a real high to average over 100/hour for 24 hours. I was one busy guy!

Hourly Rate



This hourly rate chart compares my 2005 and 2006 Round-Up operations. My average rate increased by 30 QSOs/hour, or 38%. P43P's record-breaking 2005 performance fell in the middle.

Hourly Rate Trend Line



An interesting comparison between my two operations is shown with a logarithmic curve fit of the hourly rate chart. My initial rate of about 300 QSOs in the first two hours was the same. But, I maintained a much higher rate in 2006 over the duration of the contest. My ending QSO rate of about 90/hour was double my 2005 ending rate of 45/hour.

Log Analysis

- 1512 unique call signs out of 2541 QSOs
- 164 stations worked P49X on 4 bands
- 86 QSOs lost in log check
- 122 multipliers
 - KI1G had 131
 - 16 missed from ARRL logs received:
 - Europe: ES, EU, IS0, LX, UN
 - Asia: 4X, HZ, DU, VR, UA9
 - Caribbean: 8P, PZ5
 - Central America: HP
 - Africa: CN, VQ9
 - Oceania: ZL

While I had 1512 unique call signs in my log, the ARRL only received 1153 logs. So there were a lot of casual callers, perhaps DXers, that are probably more likely to work a DX contest than stateside.

Special thanks goes to the 164 stations who worked me on all four bands. I didn't operate 10 meters due to lack of activity, let alone rate.

There were another 200 or so stations who worked me on three bands and about 300 who worked me on two bands. 40% of my QSOs were stations I worked on 1-3 additional bands.

I lost 86 QSOs in log checking, due to busted call signs and/or exchanges (maybe even NILs) plus penalties. I haven't seen my LCR, so I don't know the breakdown, but on a percentage basis, I lost twice as many QSOs as AA5AU. Lots of room for improvement

I'm also disappointed in my multiplier total. KI1G had the highest multiplier total at 131 and the ARRL received logs from 16 multipliers not in my log. Intuitively, I felt I suffered most on Asia and Oceania multipliers by missing the 40 meter window around 9-11Z. However, from the list here, it looks like that is not the case as only 4/16 missed were from that area.

OTOH, there were multipliers that called me with low serial numbers, e.g., 6W8CK, that probably never CQ'd.

Aruba

- 15 miles north of YV
- 19 miles long; 6 wide
- 100,000 residents
- Desert geography
- Beautiful beaches
- South of hurricanes
- In Dutch Kingdom
- Western democracy
- US-friendly



Here is a one-slide travelogue of Aruba.

Aruba is a desert island located just off the northern shore of Venezuela. It is a somewhat independent entity within the Dutch Kingdom along with the Netherland Antilles and Holland itself. The monarch Queen of Holland also serves as the Queen of the Kingdom. Aruba gained separate status from the Netherland Antilles about 20 years ago. Aruba has a governor and a council of seven ministers headed by the Prime Minister. The government is similar to a Western democracy and the country is very US-friendly. The Governor signs all Ham licenses for the DTZ.

Point out location of P43P, P40W and P49X.

Aruba Hams

- 50 Local Hams
 - Contesters: P43P, P43E, P43JB ...
 - Others: P43A, P43C, P43MB ...
- Visitors: P40E, P40G, P40K, P40W, P49V, P49Y, P40L, P49X ... nearly 100 P40's and 10 P49's
- AARC meets first Wednesday each month
 - P43ARC; www.qsl.net/aarc

There are about 1/4th the percentage of Hams in the population compared to the US. You have probably worked some of the more active ones. J43P is perhaps the best known and most active contester, especially on RTTY. The Aruba main hospital is named after his grandfather. P43E, Emily Thiel, is the P4 QSL Bureau manager and current president of the AARC. Emily is on a YL team going to WRTC in Brazil in July. Joot Bok, P43JB, has the most extensive telegraph key collection in the world.

Famous visitors include P40E (CT1BOH) Jose who has set world records in CQWW CW from Jacky's QTH. P40G is Paulo, I2UIY, the Italian QSL Bureau manager, RTTY contest manager for CQWW and also a frequent guest op at Jacky's station. P40K (KK9A) is frequently on in single-band efforts. P40W (W2GD), John Crovelli, is well-known and has set world records on CW and phone from his station on the island. P40V/P49V (AI6V) purchased the cottage and built the station that I operate from. Carl sold his pride and joy to two of our fellow-NCCC members, Andy, AE6Y (P40Y/P49Y) and John, W6LD (P40L). Under Andy and John's ownership, the station has continued to be excellently maintained and improved. I have operated there for three years now, first as P40X and this year as P49X.

During my last two visits, I overlapped the monthly AARC meeting and enjoyed meeting some of the local Hams.

Aruba Call Signs

- P43: permanent resident (one year renew)
P41: special resident (30 days)
- /P4: visitor (one year)
- P40: special visitor call sign (30 days)
- P49: permanent visitor (one year renew)

The Aruba prefix lexicon can be confusing. There are two prefixes used for residents. Visitors sign their home call sign /P4 and can additionally get a 30-day use permit for a P40 call sign. If they let the DTZ know that they intend to return periodically, that call sign will typically not be assigned to others. Finally, the P49 prefix is relatively rare and only available to “permanent visitors”, which is a bit of an oxymoron.

2005 Round-Up

- Same first two-hour rate as 2006
- Ahead of P43P for about 4 hours
 - Rate dropped much faster
 - 15% behind P43P at the end
- Many complaints ... “P40X has no ears”
- Beverages unusable

Here is a summary analysis of my 2005 Round-Up, my third-ever RTTY contest (or any operation). Prior to that contest as P43P and I were warming up our stations during the week before, Jacky noted that many Europeans were calling me on 80 meters, but I was just CQing in return.

2005 Round-Up Critique

- RX-limited
 - Beverage RFI from 2nd transmitter
 - Poor RX audio quality?
- No self-spotting on 2nd transmitter
- Another major P4 operation (P43P)
- P43P location/antennas superior?

My hypothesis is that I had RX problems on any but the strongest stations. I'll never know for sure, but my best guess is that one or more factors contributed to my not decoding a vast number of stations.

Mission Unknown

- Passion to try again in 2006; “do better”
- “No holds barred” RTTY RX chain ... eBay:
 - NIR-12 noise filters
 - DXP-38 TNCs
 - PCMCIA quad RS-232 cards
 - W2IHY iBoxes
 - HP 510 wireless laptops
- Optimized message buffers
- Propagation forecast & operating plan
- 5-day on-site shakedown

My wife, Mary, commented just before I flew down to Aruba this past January that I had “been on a mission” during 2005 since returning from my RTTY Round-Up operation where Jacky solidly trounced me. Until she mentioned it, this was not in my consciousness ... I simply thought I was going back because I had such a good time the previous year and wanted to see if I could solve the RX problem I had then. Well, my “mission” apparently led me on an eBay rampage where I collected large quantities of what I regarded as key components for a top-end RTTY receive chain. I also optimized all other elements of the complete contest setup. Finally, I planned for an intensive week of on-site testing prior to the contest.

5-Day Shakedown

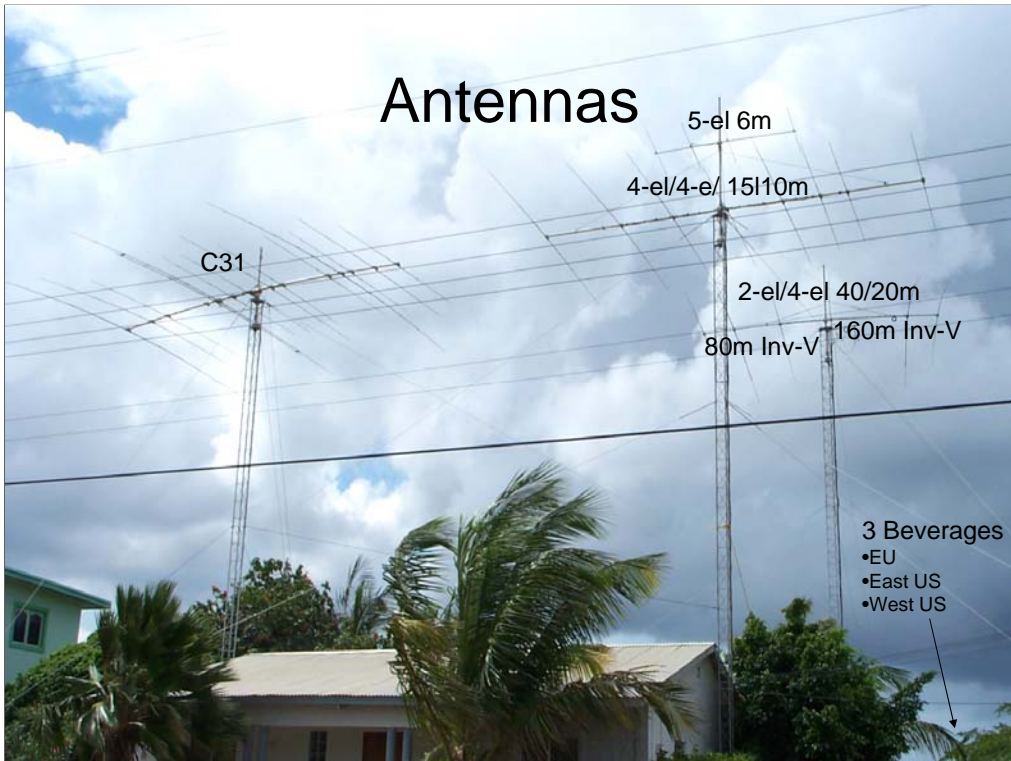
- High quality RTTY RX chain
- Optimized Beverages
- Computer networking
- Inter-station RFI
- Optimized WriteLog
- Practice

While I “think” my RTTY RX chains were high quality, I don’t have any data-driven proof, only the anecdotal evidence of greatly improved results. The Beverages were optimized in two ways. First, during 2005 W6LD discovered that our European Beverage was actually aimed at the US East Coast. He and KX7M (another NCCC member and part of the four-man MS team that won CQWW CW in November 2005) installed a true European Beverage and repaired the other two Beverages which we now know are aimed at opposite coasts of the US. In CQWW CW, John said the three Beverages were outstanding on 20-160 and were true beams, nulling out the other areas in pileups. During my testing week, I did not find this to be the case (in fact, the European feedline was severed), but miraculously, during the Round-Up and for two days following, the three Beverages performed just as John reported. I could work Europe on 80 and 160 RTTY, completing eliminating US callers from the pileup, and vice versa. We attribute this to varying conditions that alternately favor and disfavor these receiving antennas. In short, I was quite lucky in this regard. Second, there is now a Dunestar bandpass filter on the Beverage system which helps tremendously in keeping the TX signal from the other station out of the RX chain.

I spent an entire day troubleshooting simple peer-to-peer computer networking of my three wireless laptops, wallowing around in the morass of Microsoft networking security.

I was very concerned about the inter-station RFI I was seeing from one station into the other. We still had ICE-419A bandpass filters on each station and had added W2VJN coax stubs during 2005. However, I could not get the RFI to either improve or worsen when I disconnected applicable stubs and even the bandpass filters themselves. I even constructed new coax stubs to null out the specific RFI I was seeing, but to no avail. So, this remains a problem, although even with 18dB of hash from 80 TX into my 40 RX, I seemed to be able to decode more than enough stations to work. And, this year I received no reports of poor hearing.

I have optimized WriteLog for efficient operation and I spent much of the week practicing and testing the station. I participated in the Thursday and Friday night one-hour practice sessions sponsored by NCCC prior to Round-Up. However, I only worked about 95 stations in each of those practices, so I was quite anxious about whether I had improved things over 2005.



Three 50-70 foot towers with the capability to beam two directions on the high bands and choose or combine signals via a StackMatch. All antenna feedlines come into the shack where configuration and switching is done.

Radio Equipment

- 2 ICOM 756Pro2s
- Alpha 87A, 89
- 2 ICE-419A band pass filters
- 2 Top-Ten band decoders
- Array Solutions Six-Pak & Stack Match
- Dunestar band pass filter for Beverages
- AMECO pre-amp for Beverages
- W2VJN coax stubs

There are two FT-1000Ds and a FT-990 as well, but in recent months we have used the newly acquired ICOM 756Pro2's which I think are outstanding on RTTY. In fact, I brought the second ICOM down with me on this trip. I had never seen, let alone used, the 756 but they were easy to learn. I'm tempted to get a couple for my home station for RTTY use.

RTTY/Computer Equipment

- 3 HP OmniBook 510 wireless laptops
 - networked multi-2 style (3rd spare/email)
- Socket Quad Serial I/O PCMCIA cards
- 2 Hal DXP-38 TNCs
- 2 W2IHY iBoxes
- 2 JPS NIR-12 DSP noise filters
- Homebrew FSK cables
- WriteLog 10.55D & MMTTY 1.65D

All of the RTTY/computer gear I hand-carried down and back. I did leave a set of RTTY cables there for all the Yaesu and ICOM rigs. In the future, I may just leave two sets of all the RTTY gear (TNCs, iBoxes, noise filters) there since I overachieved my eBay acquisitions!

Station Setup



Here is the physical station setup using all the aforementioned components. I prefer the keyboards side-by-side, but there was no room when using the standard size keyboards that were there at the cottage. I have several mini-keyboards that I really like and they can be more easily setup horizontally rather than vertically as done here. I'd also like to experiment with a KVM-switchable single keyboard/trackball UI.

Describe the various pieces.

WriteLog Configuration

- SO2S ala Multi-Two setup
 - Lockout “Last One Wins”
- Stateful Enter key
- Multi-purpose keys
- QSL/Next message buffer
- “PSE 14081” message buffer
- Super Check Partial with AA5AU database
- ADI pre-fill database from prior logs

I prefer a Multi-2 type setup for SO2R (which I call “SO2S”) rather than the two rigs integrated into a single computer as is traditionally done. The WriteLog lockout between the two rigs is set to “Last One Wins”, meaning that if I start a transmission on the second radio, it first truncated the transmission on the first radio. However, I rarely, maybe 2-3 times, aborted my first transmission ... only if a needed multiplier appeared on the second radio. I was paranoid about starting a second transmission before the first one was complete because that would kill my rate.

Except for RTTY contesting, I am a TR-Log addict for all my other contesting, mostly CW. Therefore, I really appreciate the option in WriteLog for making the Enter key “stateful” depending on the phase of the QSO.

I also use all the options for multi-purpose keys that perform two functions with one key-press such as logging the QSO and sending the QSL/QRZ message.

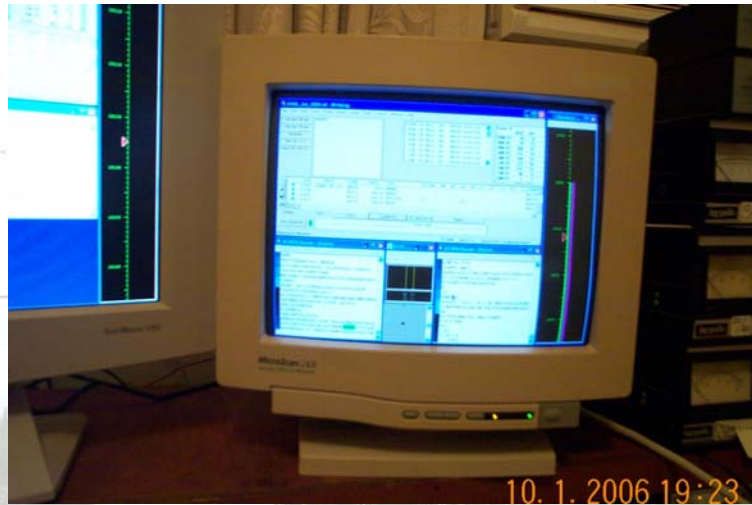
I use AA5AU’s trick of setting up a message buffer to QSL one QSO and simultaneously answer a second caller that was in my RX buffer.

This year I set up “PSE 14081” messages in each computer to self-spot my other run frequency. This obviously worked and many stations worked me on the second band just seconds or minutes later.

Super Check Partial is necessary for rttwrite to highlight needed stations, new multipliers and dupes that can be quickly clicked into the log entry line.

In addition, I create an ADI pre-fill database constructed from prior RTTY logs of mine and others. This stuffs the QTH into the log entry line based on prior exchanges. However, deploying pre-fill, even SCP, is a double-edged sword. It is very easy, especially when fatigued, to inadvertently use the pre-fill (or, believe SCP on the call sign) and log a busted exchange. However, if you are diligent, these two features can greatly increase your high run rate efficiency. Over 95% of my contacts had correct call sign and QTH pre-fill from my databases. Particularly with SO2S, reducing the amount of keyboard typing is a tremendous benefit. With an “ideal” pileup, I believe I could sustain rates for 180-200/hour. BTW, I had eight DX QSOs with missing serial numbers. I don’t know for sure, but I suspect that I either neglected to click in the received serial number in those cases, or else I attempted to click it in and botched it but didn’t notice because I was distracted by the my other computer/rig.

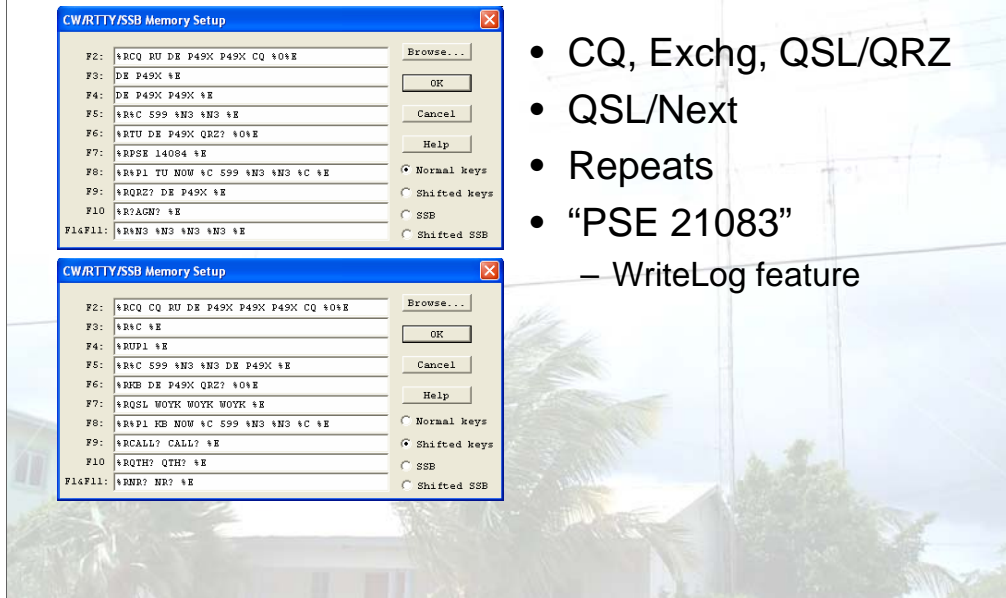
WriteLog Screen Layout



This is not a good picture, but the attempt is to show the WriteLog screen layout I used. The band map is on the far right-hand side and the log window occupies the upper half of the screen. Within the log window, I only show about three lines of the log and use the rest of the space for the SCP window, prior station history window, rate window and score summary window. On the lower half of the screen, I have the MMTTY rttwrite window on the left and the DXP-38 rttwrite window on the right. In the middle are the RTTY signal windows for each decoder. In the past I actually had an additional 2-3 MMTTY windows open, each with different decoding profile algorithms. But, in January, I couldn't keep all the MMTTY windows operating reliably, so I cut back to just one MMTTY rttwrite window using the Standard profile. I have seen in the past that having multiple MMTTY rttwrite windows with flutter, multipath, etc profiles can be an advantage in marginal copy.

In this contest, MMTTY was used 98% of the time and only when I didn't have a workable call sign appear in that window, did I even look at the DXP-38 window. Early morning 40 meter operation into JA was almost impossible to copy with MMTTY whereas the DXP-38 gave nearly 100% copy. The point is that multiple decoders is an advantage a small percentage of the time, but this can be significant when maximizing QSOs. I don't know if the lack of the other MMTTY profiles hurt me much in this particular event, but it certainly could have. So, I need to figure out how to get multiple MMTTY windows working like it has in the past for me.

Message Buffers



- CQ, Exchg, QSL/QRZ
- QSL/Next
- Repeats
- “PSE 21083”
 - WriteLog feature

These are the normal and shifted message buffers I used. Note that every buffer is programmed. Also note that several of these buffers were never used in the entire contest.

I have the normal CQ, exchange and QSL/QRZ message buffers, including alternate ones for each that throw in a “KB” for the benefit of NCCC operators, KB being our club’s mantra. If there was any question about the extra three characters (K, B, space) slowing my rate, then I went with the shorter message.

I try to anticipate what questions or info I might need to send in extraordinary situations, like repeats, and set up message buffers to accommodate that. Anything to avoid going into keyboard mode to communicate ... its all I can do to keep both keyboards running smoothly using only message buffers.

Finally, this year I extensively used the “PSE 21083” message to spot my other frequency. I only sent that when my prior station history window showed that I had not worked the station on my other run-band. Anecdotally, I believe this was very effective as I noted many stations who almost immediately worked me on my second radio. I am appealing to the WriteLog people to add a parameter to the message buffer syntax that will automatically pick up the frequency of the other radio. Currently, I have to take time to program in the frequency whenever it changes. I know this sounds petty, but again for high rate, this is one more time saver and efficiency improvement.

Lessons Learned

- No compromise RTTY chain
- Optimized SO2S
- ICOM 756Pro2
- Need more multipliers
- Practice!
- Two run-bands for 24 hours
- Lots of stations calling
- SO is a bit of a myth

Here are some of the key things I've learned that contribute to high rate and score. More and more I conclude that there really is no such thing as a "single operator" category. Instead, I see all contesting as multi-op because it takes thousands of other stations to work the so-called single-op and help produce his score. The thing I am most grateful for is the 1512 stations who called in and worked me on one or more bands last January.

Success Factors

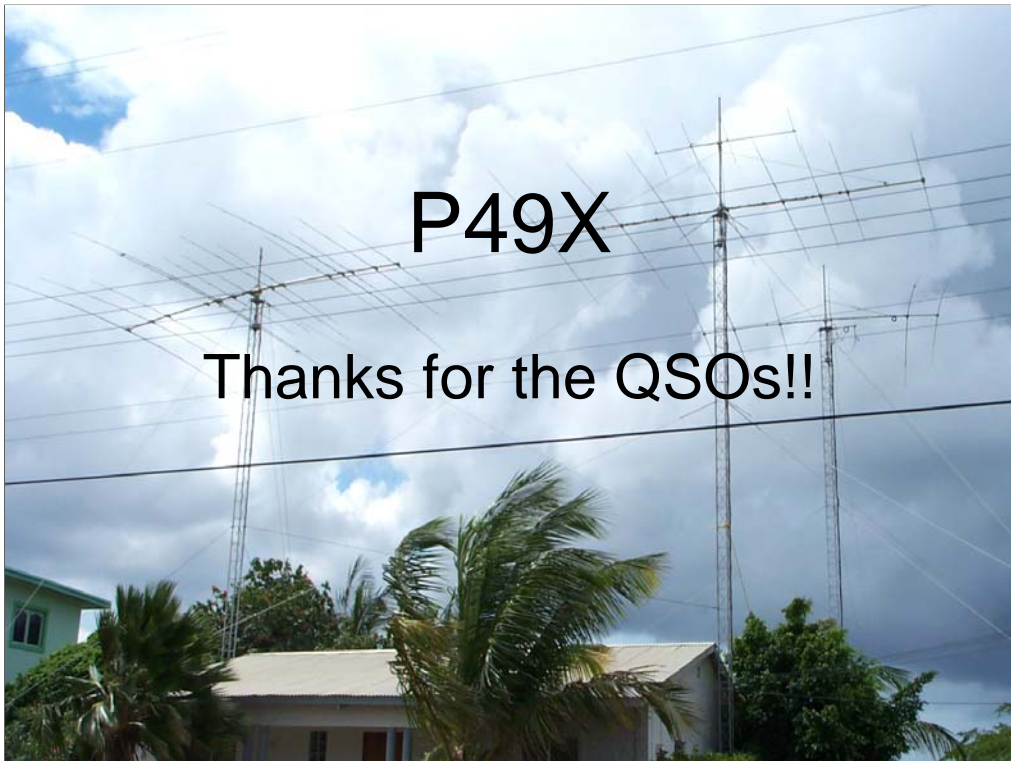
- Great location
- High quality station
- Single P4
- Excellent propagation
- Increasing number of RTTY contesters
- Planning, preparation, practice
- Clear run frequencies
- Luck!

Here are the success factors I've identified as key to my setting a significantly higher world record. Luck was a big one, and not the least of which was the fate of having all the other factors occur on the same contest weekend!

2007?

- Reservation in Aruba for Round-Up
 - But, would like to do Round-Up from home
- Propagation iffy; 10 meters doubtful
- CQWW WPX? CQWW?
- Multi-Op, but unfavorable bandchange rule

What about the future? On the one hand, I so thoroughly enjoyed the 2006 Round-Up, I can't wait to go back to Aruba or HC8 or some other equally ideal DX location. I've have a reservation at this same QTH for 2007. On the other hand, I kinda miss doing the Round-Up from home. And, it is iffy that all the stars will line up again in 2007 for an equal or better performance from Aruba.



As a thank you for all the stations that called in during Round-Up, I operated RTTY on 160 and the three WARC bands on Monday and Tuesday following the contest.