

9M0W - Operating from SHANGRI-LA (NOT!) on 160m - Multiple Parts

Hi Gang

Having just returned from Spratly with the team and, while this is still clear in my mind, I thought I would pen a few lines to relate what it was like to be a part of this venture. We will try to organize it into multiple discrete sections:

The Offer to Join the Expedition

The Original Planning for 160m with YT5A and K1LZ

Departure Date Bad Luck and its Consequences

Cooling our Heels in Sabah (and me with LOST LUGGAGE and no clean clothes for 4 days)

Actual Departure on 08 March and Setup on Layang Layang

Day 1 - Results and LESSONS LEARNED!

Day 2 - Total Revision of 160M Approach

Day 3 - Rx Adjustments including an effective RX Antenna for EU

Day 4 - An attempt to get an Rx antenna for NA short path that worked

Day 5 - The decision to keep 160m QRV for one more sunset - and takedown at 0300 in the dark (in the pouring rain)

Operating Impressions - Basically a review of "on the air" impediments that added to fatigue and frustration most of the time

Epilogue - Lessons learned and why certain 160m goals are very hard to achieve on Layang Layang

Since this PC crashes and blue screens at will, we will attempt this in small bites.

73 JEFF K1ZM (on behalf of K1LZ/JT1CO/WD5COV - who were the principal operators of 160m at 9M0W)

Subject: 9M0W - 160M The decision to join this expedition

The decision to join 9M0W took place when K1LZ told me he was going to activate Scarborough Reef - I was pretty sure that was not where he was planning to go and later learned it was indeed SPRATLY.

Once we got that straight, he said "You want to come?"

I said -"Yeah - why not - as long as you and I can do 160m and not be required to operate on the higher bands..."

Krassy called Hrane, YT5A, who was the TEAM LEADER of 9M0W who said it would be okay as long as Krassy and I were totally responsible for the setup of both 80m and 160m - and that we might focus on 160M ourselves in terms of on the air time. Let me note at this point the really incredible will and talent of Hrane in terms of making all of this happen - what he had to overcome every step of the way to secure permission and overcome unreal obstacles when the whole thing almost failed on Sabah - well - he deserves my thanks and total respect because he was tireless and just would not quit on us - and in the end he prevailed and got us there. And back...

Planning commenced with invaluable assistance from Fred PY2XB - who added considerably with antenna recommendations, strategy and a checklist of everything that we might encounter from RFI, to site placement. While he never operated to my knowledge on Topband while we were at 9M0W - he was a part of the lowband team for sure.

We divided things into assigned roles:

Krassy brought 4 spider poles - two at about 75 feet tall for 160m and two for 80m at around 62 feet tall (or so). He brought also the support ropes, antenna wire (really strong strong stuff - silver wire inside the equivalent of phillystran) - and some wire for radials.

I brought everything I have ever known in terms of F/E protection, antenna switching, 160M Rx bandpass filters, jumpers, a KD9SV preamp, power adapters, custom 5 outlet strips designed for both 220v and 110V, a 220-110V 200w stepdown xfmr, and a 2.5A/12V DC TRANSFORMER power supply to power needed accessory devices. Krassy and I both brought noise cancelling headphones. I also had coaxial adapters for everything I have ever seen - with the one exception of not being able to adapt from something ELSE to an F male - that caused us some grief during setup. Eventually we found another way to do it.

The list included So239 females with pre-attached pigtails, some Bymark 2:1 (50/25) Kw UNUNS which proved invaluable to avoid tuning hassles at vertical feedpoints, beverage and pennant matching transformers, 1000 feet of coax (not fun to lift that bag) - but needed for the 3/4 wave phasing lines planned for the 80m and 160m phased verticals, plus wire for a 160m bog and 1000 feet of ground radial wire/or a beverage.

We had constant email reflector dialogues taking place and this helped us to eventually avoid making BIG mistakes. We wanted to go earlier in the year but the resort was closed - we were their first arrivals after opening.

We desperately wanted the CONFERENCE ROOM at the western end of the complex - because from there coax runs are reasonable and might have allowed lowband RX systems that could have been reached with a coax run to acquire NA in reverse mode - while keeping the damned things as far away from man-made noise as possible.

9M0W - Departure Bad Luck and its Consequences

Krassy and I planned to fly together from Boston at 9PM on 02 March via Doha/Kuala Lumpur and Kota Kinabalu (SABAH). Arrival would be 04 March, a TEAM MEETING for all on 05 March and a private charter flight to Layang Layang at 0545 hours on 06 March.

On Wed Feb 28th I learned of the GIANT Nor'Easter that was going to hit BOSTON about our takeoff time on Friday.

I called Krassy and we changed our departure to THURS night 0850 hours - at a mere additional cost of \$800 per man to re-write our tickets.

I mean - what the HELL!! This was SPRATLY - damned that we were going to back out at this point.....

Departure was okay - we beat the storm and got to DOHA on time. In the re-write process of our tickets Krassy got a good itinerary - mine SUCKED in plain English - he got on a plane to KL - I had about a 9 hour layover and could not get on his plane(without paying another \$280 which I decided not to do.)

9M0W - More Bad Luck and near disaster for me...and the Dx'pedition

I sat in Doha for my 9 hours and boarded the plane at 0145 local. We were supposed to take off at 0245 but at 4AM we were still sitting on the tarmac which I had not noticed as I had the headphones on watching a movie.

The captain said "sorry for the delay in taking off - we were loading cargo!!!!!!!!!!!!+*&%\$#@+++ - GO FIGURE! QFU QFU QFU!

This meant I would miss my connection from KL to SABAH.

As we landed in KL. a QATAR agent had a sign with my name on it at the end of the jetway. I asked why they were looking for me. They had arranged an alternate flight to KK on MALINDO airways - where I was originally on MALAYSIAN AIR.

I asked specifically about my (2) bags of luggage and we stopped at a counter to deal with the issue of getting my bags to KK on MY PLANE!!!!!!

DAY 7 - and again, our hopes are DASHED - at 4PM Hrane advises we have been annulled again!

This time my hotel tells me they are BOOKED SOLID - they have no room for me for the night - but eventually they come through with a smallish room - who cares I told them - it was BETTER than OUTSIDE on the street!

Hrane calls to advise that NO BS - we will fly at 0545 Am - this being DAY 7 and 08 March.

Really?

9M0W - 08 March - We finally take off and our DAY 1 on the island

We all met at 0400Am at KK airport and Hrane organized the MOUNTAIN of excess luggage going out to Spratly.

We took a private charter run by Malaysian Air and took off at 0545. In a little over an hour we were over the reef and the lagoon was below us - landing formalities were quite professional and we all gathered in the lobby - to meet with Mark Peter, manager of the resort.

MARK was tremendously accommodating - but there was some really bad news in his briefing:

- 1) They were down to one generator - thus no power to the conference room - REAL BUMMER!
- 2) They were to swap generators the next day from 80KW to something like 300KW - so there would be frequent brownouts - at unexpected times of their choosing.
- 3) We would have to set up in the middle of the resort - to accommodate computer networking - and our planned antenna placement was basically torn up and we started 160m antenna planning anew with a blank sheet of paper.

Our 160m plans were totally thrown out the window - and a new site plan was arranged. The real downside was that listening antennas would now be FAR TOO CLOSE to the hotel - but we really had no choice as we had no long coax runs that would get to where we really wanted to site the 160m listening stuff. BUMMER - but we were there at last!

Between 0730AM and our sunset many teams all worked like madmen getting all of this stuff up - assisted in large measure by Mark Peter's loan of his maintenance staff to

help us - they were a GODSEND as time was short - we had precious little time to get on the lowbands by dark.

Here's what went up that single day:

2 Rotary Yagis on 10m masts (one for 20/15/10 and one for the WARC bands) - a 4O3A KW triplexer and (6 4O3A Kw passband filters allowed sharing of the HF yagi on the upper bands

A 4 square for 40m brought by Dusko ZL3WW was set up well away from the bldg

Krassy, JT1CO, VK3FN, 9M0KOM and the Layang staff - helped erect two spider pole verticals for 160M - sited one at the shore and one to the SW near the runway - providing 5.5db bi-directional gain SE and NW - in the hopes of LP propagation into the USA East Coast. These were phased with 3/4 wave coaxial lines (electrical) that I brought - and then matched with the BYMARK ununs.

KRASSY near sunset added a single 80m vertical for CW at the shoreline - which had a good SWR on 3503.

Sunset was at 1030z and I missed it by a few minutes due to final antenna work with PY2XB - we tried a FLAG aimed SE and a PENNANT aimed to USA that I brought.

Our plan was to primarily use the XMIT antenna for LP Rx with its gain - and directivity. The other RX stuff was PLAN B and backup.

We made it on the air at about 1045z and DU7ET Bob was there as planned to announce on ON4KST our xmit and RX frequency. Bob was there every day to help out and I am especially grateful for his being there to help us at every sunset opening.

DU7ET was also our first 160M qso - followed almost immediately by Don KH6DX.

By 1130z - initial results were in - BUMMER! NO3M/AA1K and other ECJ's say they cannot even hear us - (we did not hear them either!)

The first night included some West coast and N5DG I think - plus many JA's and quite a few EU stations.

(KRASSY AND I DECIDED TO GIVE UP ON LP TO THE EAST COAST - AND A COMPLETE 160M ANTENNA REWORK WAS PLANNED FOR SUNRISE THE NEXT MORNING).

At least we were on the air and making some noise!

9M0W Day 2 on 160M - A Better Showing

At sunrise after breakfast Krassy and I wired in a 180 delay transformer that could be switched from the operating position to switch the 2 el array from BROADSIDE to end FIRE - and also to unidirectional NE or SW.

Thus night 2 at 1030z was far better for us on Topband - DU7ET was there again and we were ON TIME at 1015z for our SUNSET at 1033z.. Instantly N4WW was worked with a respectable signal (this means we could hear him at about RST 349.)

Since Dragan YT3W has the logs and I am now doing this from memory, I do not remember if we then worked NO3M - or if it was the next night - but Eric became our Northeastern most qso on 160M - so congrats to Eric for hearing us and for making us be able to hear him (barely!) Water-weak like would aptly describe our side of this qso (HI)

We worked quite a few USA mid-western and Far Western stations this night - plus at least 300 Europeans. My son Patrick KK6ZM had a great signal near his SR peakl - it was among the loudest signals we worked on night two.

At SR after this night, Krassy and I decided to take down the runway 160M radiator and use only the single 160m radiator at the edge of the lagoon - and we threw its 20 odd radials into the salt water lagoon.

We moved the runway spider pole to the north side of the island and placed it on the seawall - and used it for 80M SSB thereafter.

We also decided we had to try to find a way to get a beverage up on 160M for RX - even if it was one that could only be aimed at EU.

ZL3WW came up with a scheme to use the 2nd abandoned vertical feedline for this beverage and by relocating the coax slightly. We started at the runway and got a NW beverage straight for about 800 feet toward the seawall - then we crossed a pathway in the air - and ran it at least another 500 feet along the seawall.

This turned out to be a real gem - as we ran the table for HOURS into EU after SR had passed in W6/W7. It made a huge difference in our ability to work the 2nd and 3rd tier EU callers.

It worked so well that ZL3WW and I tried our hand the next afternoon on a USA beverage to the NE.

The plan was to switch the feedline to the USA at our SS and then at 1430 after W7 SR move the feedline over to the EU beverage again. This was easy to do at 10:30PM in the dark as it was an open field and with a flashlight it took all of 5 mins.

This was a pretty fair beverage - about 650 feet long - straight as an arrow - but it also ran close to the hotel complex for most of its run. As I feared, this one was not stone cold quiet like the Eu beverage was - when I switched to it there was some kind of background hash that covered up most weaker signals. Listening on the EU beverage did not work well either towards NA - as while it was super quiet - it was at least 90 degrees off of a true NE shortpath NA heading - some USA signals could be heard on it - but not the East Coast weaker guys we desperately wanted to work.

So night 4 we spent listening for NA on the single 160m vertical located at the seawall - and listened to EU on its quieter NW beverage.

AGAIN Eu was bedlam all night long - 160M to NA was only so so - we worked into the mid-west and then the NW USA at their SR pretty well.

Near SR Krassy (who had departed for 80CW late into the EU opening) - went to sleep - and YT3W took over on 80m CW near our SR grayline peak.

I nearly fell out of my chair when I saw his 80 CW Grayline contacts come onto my screen.

In the space of 10 mins, he logged K1CP (Maine), N1RJ (also Maine) - and W1JR (NH) - followed by PY5EG - Atilano - and then the LP sunset peak had passed on the eastern seaboard of NA because we went into daylight on our side at SR.

9M0W - Night 5 on Topband - then takedown at 0300 hours local time - in a pouring rainstorm!

At our SS time of 1033z, Bob DU7ET was again there to greet us and help out.;

While it was quiet for 25 mins or so - I alone mis-logged W4ZV as N4IS (this was entirely possible due to the doppler effect on this path on a RST 219 signal!) - me BAD - so sincere apologies to Bill - but I know he did not need the country - at least he now knows he was HEARD!

We worked KJ9I and others - W5IZ was in for at least an hour and finally heard his report on a peak - congrats Alan - you were good copy the whole time and glad you finally heard US!

As the sun marched across the US to the West coast - our noise (QRN) became unbearable and a few guys like AE6C we just could not put together amidst S9 incessant crashes.

I heard C, I heard 6C but never could get the rest - I tried for a solid 10 mins with him - then he went into daylight - so sorry - I really tried hard on that one. Again, we only had

the xmit antenna for RX into NA - and under that kind of noise (it was the storm coming at us!) - the final two hours into W7 and W6 were a major disappointment for us - we apologize for really being MORE THAN DEAF.

Krassy and CHAK JT1CO took over for the final 4 hour EU run on 160m and worked at least another 150 stations.

Eu signals compared to NA are about 3-4 s units louder on Spratly on Topband - it is always the way.

About 3:45AM local time, we decided we had to abandon the EU pileup to take down our stuff - basically three verticals, a tribander and something for 40 came down in the rain in 2.5 hours - was packed and we prepared for our departure at 0700 hours local time.

We thanked our host Mark Peter and his staff for their wonderful support and we only wish we could have worked more NA east coast. There really is not enough common darkness on 160m into W1 at this time of year - & while we hoped for AA1K in Delaware and N4RJ in GA - we just could not make that happen either - but we did try on all the right openings. I do know our PINGS were heard in NE - but not enough signal to make QSO's = pity!

Layang Layang 160m Epilogue

Here are a few random thoughts and suggestions for anyone else who tries to do this:

1) If you are a HOUND chasing the FOX (THAT'S US!) and you hope to get in some Dx'pedition log on a tough path with noise and super weak signals

PLEASE PLEASE do not call only once at 30 wpm and then not xmit again until you hear the next CQ.

What we are trying to do is PIECE together a letter or two of your call - so you have to do two things to help us:

a) SLOW DOWN - PLEASE!!

b) Call over and over and over - and we will then have a chance to figure out ur callsign

Calling once at a "rabbit-like" speed - is not likely to get you in our log. Those that kept at it - usually had a far better chance. It was maddening to hear a fairly good signal that we would try to respond to - who just waited as long as 2 mins to call again - PLS KEEP CALLING.

2) If we blow your call (it happened a lot at 9M0W) - keep at us trying to get our attention to fix it on the fly. I blew KJ9I as KJ9B due to doppler fading - but he kept calling and he is in our log as a result - congrats on doing it right!

3) If anyone ever goes out to Layang Layang again (I personally will not be doing this - Krassy and I have other things on the drawing boards)

a) Get the conference room at the Western end of the complex - put your Rx antennas for Eu and NA - as FAR out into the open spaces that are out there as you possibly have coax feeders for - and then you probably can hear with a quiet noise floor.

b) CONSIDER a K7TJR listening array and put it out there as an alternative to using beverages - again as far to the west as possible - and you will be rewarded as a result for doing so..

WE WANTED THE CONFERENCE ROOM - but it was beyond our control - so we were compromised as a result - HUMAN devices make NOISE!

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IF WE DID NOT WORK YOU FOR ANY OF THE ABOVE REASONS - HERE ARE A FEW MORE TO LAUGH (CRY ABOUT!)

Happiness is NOT having this happen at your exact SUNSET - or at other optimum listening times:

1) Having the staff cut power at 1040z to swap generators (NOT GOOD!)

2) Having one of the other ops shout something at the worst possible time during a listening cycle (we tried our best to maintain a quiet room)

3) Sometimes the staff was rolling carts for our evening meal at 1015-1045z from the kitchen past us to the dining area - which was a great concentration breaker!

4) Another unavoidable dilemma was almost getting a weak caller and then having a local area station decide to call us at the worst possible time - despite our pleas for NA NA NA NA only! (It happens!)

Anyway - no complaints really - but this is what we had to deal with out there - and nothing is perfect - we tried as hard as we could and only wish we could have worked a few more of you in NA on Topband.

73 and thanks for the memories guys - we had fun trying to work you - I hope you had fun trying to hear and work us

73 JEFF K1ZM/VY2ZM

For the 160m team of K1LZ/K1ZM/WD5COV/JT1CO/PY2XB (and DU7ET!)