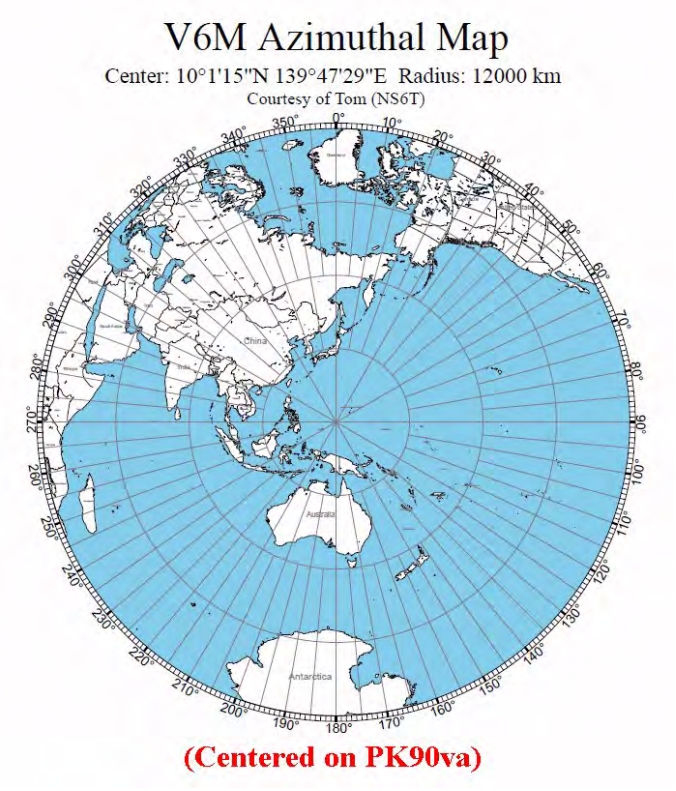
First 6m EME from Micronesia, August 26 – 29, 2015

INTRODUCTION

For the past several years, I had been investigating potential 6m EME DXpedition spots in the Federated States of Micronesia (V6), since it was still needed on that ham band throughout Europe and practically all of North America. However, up until this year, I had been unable to find a suitable spot that met all my site requirements. As demonstrated through my previous trips, much of the success of a 6m EME DXpedition depends on operating from an ideal location.

I had just about given up on V6 as a destination for my 7th 6m EME DXpedition until I saw the announcement early in 2015 that JA8COE was going to westernmost Micronesia in March to operate HF as V63CO from the small Falalop Island on Ulithi Atoll in the Micronesian state of Yap. When he returned to Japan, I emailed Taka and asked him about his experiences there, and at the same time began to research the location as a potential location for my very specialized purposes. The island had around the clock AC power, an airport, and reportedly was a quiet place to operate.



From the start, it was clear that the Ulithi Adventure Lodge would be quite expensive and difficult to reach

from Montana, but it also appeared to meet many of the most important qualities I value for a site that will work well for a 6m EME DXpedition. From this remote location in the western Pacific, it was clear that a good clear view of the rising moon would be necessary to capture the moonset starting on the east coast of North America. Similarly, a clear view over the ocean to the west would also be required to coincide with the moonrise in western Europe.

I booked flights and lodging for a DXpedition starting at the end of August, to coincide with the optimum days of the month for 6m EME over the last weekend of the month. I posted my planned Operating Schedule and announced the DXpedition as far in advance as possible, to give as many 6m operators as possible a chance to adjust their schedules and/or upgrade their stations so they could be available for the upcoming V6M operation.

Unfortunately, at the end of April, Falalop Island was hit by "super typhoon" Maysak, and was virtually destroyed. Reconstruction was slow on the devastated island, and the owner of the lodge suggested that I cancel my trip and offered to refund my money. Since I was not going there for luxury accommodations, but to bounce signals off the moon from a good site for EME, I requested that they let me come if I stayed out of their way and imposed very little on the villagers while I was there. They agreed to let me come with that understanding, and I used protein bars and packages of freeze dried food to fill the open suitcase space around my coaxial cable and other radio equipment. Heavily loading my small carry-on case with as much of the more delicate equipment as possible (such as the compact Elecraft KX3, M^2 6M-1000 amplifier, Mirage KP-1/6M external preamp, 48 and 12 VDC switching power supplies, Iridium Go! Satellite transponder loaned to me by KB3SII, plus my bag of connectors and adapters), I was able to limit my checked airline luggage to three bags. My two suitcases tipped the scales at the maximum allowable 50 pounds and my nylon bag carrying all the aluminum tubing for my portable mast and 6M8GJ yagi always weighs 49.5 pounds.

United Airlines pretty much has a monopoly on flights to Yap, and they very conveniently also fly out of Missoula, Montana, so I was able to travel on a single airline the whole way to Yap Island. (Unfortunately, United was not very accommodating on all my excess baggage, and charged me $270 three times along the way for my checked luggage). I guess that is the price you pay when you travel by yourself.

Since United only flies twice a week from Guam to Yap, there was the added complication of an overnight layover in Guam. And since Pacific Missionary Airlines (the primary way to travel to Falalop) usually flies only twice a week from Yap Island, there also were several nights lodging in Colonia waiting for flights. Although I was a bit worried about all the luggage keeping up with me (because there would be no way for it to catch up with me through two bi-weekly connections), my layovers along the way thankfully proved enough and my equipment was always there when I landed.

20 AUGUST - THURSDAY

The adventure begins! I rose at 4:45 am and arrived at the Missoula airport around 6 am to check in for the 7:15 am (1315Z) United flight to Denver. The three pieces of luggage were checked through to Guam, and the excess baggage fees were paid. By 1642Z, I was in Denver awaiting the flight to Narita, Japan.

I watched movies the entire way to Narita on the 787 Dreamliner, forcing myself to stay awake so I could try to adjust to the time zone when I arrived in Guam. Often on these DXpeditions, I don't try to adjust to the destination time zone because I want to immediately set up the station and stay up all night operating, but on this trip there were so many days involved in getting there that I was pretty much forced to get into sync.

21 AUGUST - FRIDAY

Because of mechanical problems, they had to bring in a plane for the Guam leg, and this resulted in a 6 or 7 hour layover in Japan. At least there was plenty of time to transfer the luggage! Mike Sabin, an engineer and ham from Trans World Radio, picked me up after midnight at the Guam airport and dropped me off around 2 am Saturday morning at Paul and Cathy's guest room in southwest Guam. They provide lodging for people associated with TWR activities, and I am very grateful to W0LD for arranging all this collection and lodging for me through his association with TWR.

22 AUGUST - SATURDAY

I was scheduled to leave Guam at 2025 local time for the biweekly flight to Yap, leg 3 in the journey. In the meantime, I had a great breakfast of some type of baked egg dish and cereal (with a small locally grown banana) with Paul and Cathy. I was picked up around 11:00 am by a VE7 ham named Phil and his wife April. Phil is a jack of all trades working at the TWR transmitting site on the south end of Guam. He took me to meet up at the K-Mart parking lot with Joel Chalmers, KG6DX, where we transferred all my gear to his vehicle for the day. Then we were off to a Chinese restaurant for a lunch buffet with a dozen other hams from the local club. What a great group of very interesting people! One guy, Brad (who used to work for the Coast Guard), suggested the idea of setting up on Aguar Island (southwest of Palau) at a deserted Coast Guard station to activate T88. Hmmmm – it sounds like that just might be a quiet spot to operate 6m EME from T88… One of the hams gave me the QRZ.COM printouts for Albert, V63YAH, and William, V63YWR, both HF hams. They are the only other hams with equipment out in Ulithi Atoll, and both live on Federai Island, the longest island in the atoll.

After lunch, Joel took Phil and I on a tour of the southern half of the island. I picked up a sand sample at Nimitz Beach, saw some Japanese pill boxes there, and we toured the impressive TWR shortwave transmitting site and building.

W7GJ peering out through a Japanese WWII pillbox

After we dropped off Phil, Joel gave me a tour of his yard with all his local fruits and vegetables before showing me his ham shack. He has had other houses move in around him, reducing his space for antennas. However, they do have a number of interesting looking Dragon Fruit cactus plants, along with mint, lemon

Some of the TWR shortwave curtain antennas in southern Guam

W7GJ and KG6DX outside his home in Guam

grass, bananas and other fruits growing in the yard around the house. Seems a lot easier to grow stuff in that tropical climate! Joel dropped me off at the Guam airport around 6:30 pm for my bi-weekly United Airlines flight to Yap Island.

That evening, I arrived in Yap with all the gear and was picked up, along with another passenger from Guam, by a car from Oceania Hotel (the old Pathways Hotel). The Oceania was purchased a few years ago by New Yorkers Mark and Jennifer and Jen was holding down the fort during my stay.

Checking in with all my luggage at the Oceania Hotel in Colonia

I stayed up until after midnight trying to do email on the unbelievably slow and overloaded WiFi available in the "lobby area". I stored my three checked bags in their locked store room for safekeeping, so I was still wearing all the same clothes from when I started on Thursday.

23 AUGUST - SUNDAY

I got up around 9:00 am and had a power bar for breakfast. Then I headed the hill to the lobby to do some emails, where I ran into the other passenger from Guam, as she returned from breakfast at the ESA Hotel down the street (there were no regularly scheduled meals yet at the Oceania). She turned out to be an archeologist in charge of the Guam office of Garcia and Associates ("GANDA"), and had to audit the system of the Yap historical records department during the week. She had rented a car that Sunday and later learned she didn't need it to get down to the office down the block where she would be working all week.

I was very happy to help her enjoy her one day with transportation, and we ventured downtown shopping for snacks (and a case of bottled water for me to take over to Falalop, to at least get me started over there).


Japanese Zero from WWII at the old airfield in Yap

Remote St. Francis of Assisi church at the southern end of Yap

We immediately drove off to downtown, since the grocery store was only open until 1 pm on Sundays. After shopping, we toured the island until around 4 pm, and saw lots of the the more rural part of Yap, including some WWII relics and lots of stone money.

W7GJ with some stone money at the southern tip of Yap Island

Floating restaurant and bar at the Manta Bay Resort

We had an early dinner on the floating restaurant ship at the *Manta Bay Resort* in downtown. Their home-brewed dark beer and special that night (tuna filets) with local vegetable salad were all really great!

After returning to the *Oceania Hotel*, I spent some time in the lobby on the WiFi and turned in early because I had set my alarm for 6:15 am.

24 AUGUST - MONDAY

Local roosters woke me before dawn or my alarm! I took a taxi from the *Oceania Hotel*, arrived at the Pacific Missionary Airways hangar at 7:15 am, and paid for round trip air service to Falalop. With all my

Loading the PMA flight from Yap to Falalop

baggage, the cost was $390. I brought the case of plastic water bottles and figured that, along with the

W7GJ enroute on the PMA flight to Falalop, Ulithi Atoll

freeze-dried food and protein bars from *Costco*, would be a good start toward in keeping me alive while I was over in the outer islands.

We loaded the twin engine plane full of luggage, water, rice, donated chairs, etc., and left around 10:00 am. I sat in the co-pilot seat so I could chat with Amos, the pilot, who has lived in Yap for 10 years.

When we touched down, I was met by Kalvin (known as "K") with his small truck, and we loaded up all my gear and headed for the *Ulithi Adventure Lodge*. Of course, I knew that things had changed since the typhoon, and as I approached the lodge, I realized there would have to be some re-thinking about the plans.

Approaching UAL from the village

UAL as viewed from the beach, facing northwest

By 11:00 am, I was surveying the situation and trying to figure out where to put the antenna. The original plan to set up at the north end of the building was out of the question because only bathrooms were at that end of the building, and the bedrooms south of the bathrooms and the bedrooms upstairs on that end of the building were not habitable anyway. So, the originally planned antenna site on the north side wasn't possible.

I selected a spot to set up the antenna off the southeast end of the building, about 50' from the building, where the antenna could just barely see moonset over the water past the southwest corner of the building as the moon moved northward toward the end my trip. Other than the marginal moonset on far northern declination, the antenna location seemed to be very good, with the antenna never aimed back at the station setup, and no power poles or buildings to the east, south or west. The only problem was a single palm tree that leaned into the clearing, which would have prevented the antenna from rotating around to the west. K instantly gained my gratitude when he quickly solved the problem with a chainsaw! The weather for antenna raising was ideal – hot, sunny and clear.

Selected antenna location southeast of the building

Final antenna site with respect to the rest of southern Falalop

I started assembling elements in the shade on the terrace toward the ocean, then assembled the mast and set up the mast with the guys and prop in the new location to make sure that everything would raise properly when there was an antenna on it.

Terrace at the lodge where I began assembling the antenna

20' mast temporarily raised

Then I went back to the yagi itself. By late afternoon, there was shade beginning to materialize along the southeastern end of the building, so I assembled the boom with the elements there in the shade. The sun and humidity added to my exhaustion as I worked hard to get the antenna set up. A couple of the locals helped me sight down the boom to align the elements. Dominic (KG6TWZ), a retired U.S. Air Force mechanic and Technician class ham without any working radio equipment, kept me company much of the afternoon while I worked assembling the antenna.

He was a great help informing me about the AC power situation, the water supply, and other facts about the island.

Dominic, KG6TWZ, a local villager on Falalop

Antenna mounted on the mast and ready for raising

As the shadows lengthened, we mounted the antenna on the mast and quickly pulled it up. While there was still daylight, I nailed down the Aiming Circle at the base of the mast, and taped my pointer onto the mast, using the compass on my iPhone to make sure it reflected the correct azimuth of the antenna. The antenna was in the air and almost ready for action!

Now it was time to run the LMR600 coaxial feedline into the building and set up the station.

Pointer installed above the antenna aiming circle


6M8GJ antenna raised in the late afternoon the first day

Since I was the only person in the building, I was able to set up the station just about anywhere the coaxial feedline could reach. There was no way it would reach up to my room on the second floor in the center of the building, so I decided to set up inside on the first floor. As it became dark, I fed the last 20' of the 75' of coaxial cable through a slightly cracked window, across the flooded Kitchen area, and hung it in the open doorway between the Dining Room and Kitchen so it could reach an operating position in the hallway at the back of the Dining Room.


The LMR600 cable was hung to line up with the kitchen window


The coax going up over a wooden prop covered with scrap rubber

I set up the equipment and had it tested out by 10 pm. It all seemed to work, and I tried several different arrangements of power cords and outlets. I finally compromised on connecting the long extension cord to an outlet strip powering all the low power gear. The 48 V amplifier supply was connected to the marginal 15 A outlet in the Dining Room wall, which provided 117 VAC without load and 103 VAC under load. As a result, the DC output voltage to the amp was in the low 40's and the best I could put out on JT65A mode was around 850w. I wanted to hook up the amplifier

power supply to the unused 220 VAC outlet in the kitchen, but the kitchen was quite wet and I wasn't sure it was safe to power up the 220 VAC range outlet.

LMR600 suspended from the kitchen window to the Dining Room

Final setup on a separate table in the Dining Room hallway

When I set up everything, I also found that there was an extra 1 dB of noise when I turned on the amplifier power supply, and found that there must have been some interaction from the little power supply for the external preamp. So, I powered the external preamp off the same power supply used for the KX3 instead. It pays to bring along a number of extra cables and to run noise tests before the first weak signal session!

With the flight over, and the other unknowns regarding finding an antenna site, station set up location, power availability, etc., I had not originally expected to be able to set up the station the same day I arrived. However, with perfect antenna weather and diligent work, I was able to get everything all set up on the first day! I announced via satellite that I would be QRV per the previously published schedule. At that point, I was just waiting for the Degradation to start dropping down before trying EME, so I went to get some sleep.

My bedroom - the only sleeping room that was habitable - was upstairs in the center of the building under the only intact tarp still over what was left of the roof. A large cockroach by my bed greeted me as I entered the room, and one woke me up the first night by crawling on my arm. Ah, the tropics! I noticed significant amounts of water running down into the bathroom and the vanity area of my bedroom. No wonder there was such a strong smell of mold and mildew in the room! During the subsequent days, I often left the screened window open to try to air it out.

That night there were light showers and since I had no running water anywhere, I tried to rinse off around midnight but the rain was not sufficient for a proper shower. I finally took off my sweat-soaked clothes from the previous Thursday and hung them out in the rain overnight on a rope outside my room. There were mosquitoes but they weren't too bad. At least they don't carry malaria on Falalop Island!

25 AUGUST - TUESDAY

On Tuesday morning local time, there was a big thunderstorm just before dawn and it rained heavily for some time. I took advantage of that opportunity to go outdoors and rinse off some of the built up sweat with the natural outdoor shower. I also got to the equipment downstairs and disconnected the antenna and power cords just before the water piling up on the Dining Room table reached the gear. I put out some pots and pans to collect the water dripping into the first floor

rooms, and went back to bed for a few hours. When I got up around 9 am, I dressed in some clean anti mosquito pants and shirt, and it felt great. However, I knew I would be drenched in sweat by evening.

I spent a couple hours moving all the equipment over to the folding table set up in the hallway between the kitchen and the living room, physically separated from the dining room table, which was becoming very wet. I placed additional pots and pans out on the table to collect water from the leaking ceiling and electrical outlets, and wound up emptying all these containers daily. I felt much more optimistic about the equipment location staying dry in this new final setup location.

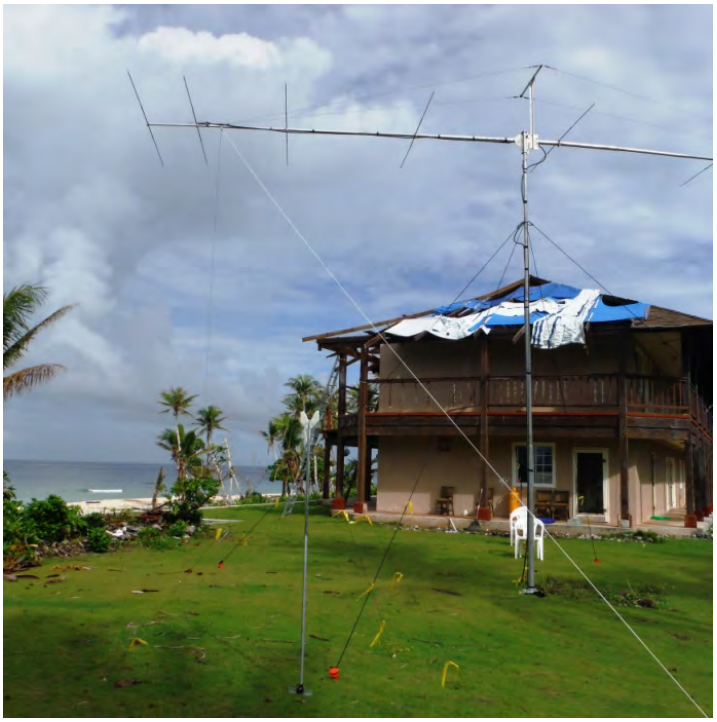
Since I was too far from any windows to use my GPS unit to set the computer clock, I made a note to remember to carry the laptop and the GPS unit outside to set the computer clock prior to any EME operation.

Waiting for the Degradation to come down

That morning, I went outside and picked up all the electrical tape scraps generated from the antenna raising activities Monday. I also put yellow streamers on the coax, and mast and prop guy lines and set plastic chairs over the coax so locals (as well as a tired moonbounce operator in the middle of the night) hopefully would not step on the coax or run into anything.

I had a protein bar and another bottle of water with ***EMERGEN C*** in it for lunch and noticed the sky to the south looking very stormy. It did rain on and off and was cloudy most of the day. I worked 3 Guam stations around 5 pm on 6m SSB. I also worked two of the

Proper guy flagging and protection installed for the coax



View toward moonset with antenna aimed toward Guam

Guam stations again around 8 pm (1000Z) and they suggested I aim north. I moved the antenna north and copied TV birdies and heard somebody calling me weakly on CW, but there was too much QSB to copy their weak call. I continued automatically calling CQ

on SSB on 50.110, but the TV birdies faded away and the band sounded dead.

Antenna aimed north at Japan

K said that the power people had just replaced a power transformer next to the building, which reportedly still only had one phase. The plans were to add new transformers, and I saw 3 new pole transformers sitting on the ground in front of the lodge. In the meantime, K thought he knew who had salvaged the ruined range, and told me he would check to see if the plug and power cord were still available. I thought that if I could plug into the old range outlet in the kitchen, I could splice the 220 VAC range cable onto one of my small 110 VAC power cords, and then borrow a 25' heavy duty extension cord to bring 220 VAC around to my station set up in the dining room and finally get some steady robust AC voltage for my 48 VDC switching power supply.

26 AUGUST WEDNESDAY

I got up around 7 am, donned my bug-repellant long pants and long sleeved shirt, doused myself with mosquito repellant and had one of my precious protein bars for breakfast. I left the screened window in my bedroom open to try to air out the room during the day. There were still puddles of water in the bathroom and in front of the sink, and it still smelled strongly of mold. Of course, it is really tough to dry things out, with the humidity so high.

K had indicated that he may need some help raising tarps onto the south end of the building, which had been blown off. I gave him my two spare 50' long pieces of 1/8" nylon line (which I use to aim the antenna) to use to pull up the larger polypropylene rope that will in turn pull up the tarps. He said they were a big help to him. He worked whenever the weather permitted to install rafters so he could nail down more tarps so they didn't keep tearing and blowing off in the strong winds. He was trying to get the south end of the building covered, which would cut down the leaking in my bedroom as well as in the Dining Room and Kitchen areas downstairs. After four months of water damage, you can imagine the state of the wiring, fixtures and furniture!

I worked Wednesday afternoon trying to connect to the old range outlet in the kitchen. K had found the 220 VAC cord from the discarded kitchen range, so I had a way to plug into the 40A 220 VAC outlet. So, with ring connectors from Dominic, and 1/4-20 bolts, washers and nuts from my "Extra Hardware" bag, I cannibalized my extra 3' extension cord and connected its female end the to lugs on the end of the 220 VAC power cord. However, I discovered that the way the kitchen power was rewired after the typhoon, there was only one phase of power to the plug outlets, and the 220 outlets had the same 113 VAC on each side! So the voltage across the 220 outlet turned out to be zero. In retrospect, perhaps I could have at least gotten reliable 110 VAC by tapping into one side of the 220 outlet and ground.

However, I continued using the 110 outlet in the Dining Room on the marginal 15A circuit breaker and cranked up the amplifier power supply to 52 VDC, which dropped down below 44 VDC during transmit periods. The amp seemed to barely tolerate this. Since I was the only person in the building, I could turn off everything else in the building so the voltage did not drop any further and cause the amplifier to cut out.

I worked DU7/PA0HIP (1179 miles to the west) on SSB at 0930Z and I chatted again with KG6DX in Guam. That night after my freeze-dried dinner, I began drinking the distilled water they provided me in large plastic water bags from the island's recently installed desalinization unit. I still boiled it first though, just to be safe. There certainly was no extra time to be sick!

EME conditions were beginning to improve, so I planned to start EME, as scheduled, during the European moonrise at midnight my time. I started calling CQ 30 minutes before midnight local time and

called for 2 hours before copying anyone. Aside from the heat and the mosquitoes, it was a perfect night for EME – bright moon and clear skies for visual tracking and absolutely calm with no winds. Toward my moonset direction, there was flat grassy lawn for the first 100'. Then it gradually sloped down about 15' over the next 200' to the ocean.

When I lowered the antenna down onto the horizon, it was magical! I really love being able to set up someplace where the antenna can look out over the ocean when the moon is below 20 degrees elevation!

For my first EME effort, S59A was the first station copied but the first station worked was SM7FJE, an hour later. 4 stations were worked before my moon set. Despite the fact that the -5.5 dB Degradation was still a bit toward the high side, the first EME contacts were made SM7FJE, IW5DHN, S57RR and YU7EF. I also copied G5WQ, G8BCG, G8VR, GD0TEP, OH2BC, ON4IQ, and S59A. Everyone was doing a great job spreading out their calling frequencies and I copied stations down to zero degrees on my moonset. It seemed the little KX3 was doing an excellent job, at least on receive.

27 AUGUST - THURSDAY

The Degradation was dropping rapidly, and was a couple dB better by my first North American moonset window later in the day. However, I suspect that the high Kp index and aurora taking place, coupled with the high TEC over my area at the time of day of my moonrise was not helping the EME propagation to North American stations at all. During my first moonrise session I only completed with KB8RQ, KJ9I, and KG7H. I copied K1WHS, K2ZD, K4PI, N3CXV, N3XX, N7NW, N8JX, W5ADD, W6BBS, W6XU and W9RM. The fact that I worked BV2DQ on JT65A via some terrestrial ionospheric propagation (off the back of my beam) during the NA moonset certainly suggests that there was some of that strange TEP Zone high TEC up there somewhere...

Thursday I ran the external Mirage KP-1/6M preamp AND the internal KX3 preamp, and I seemed to be hearing extremely well. With both those preamps, I had about S7 noise level without any signals, but I did not expect to have any really strong EME signals, so dynamic range was not an issue for me. I ran the KX3 Noise Blanker at 1 rather than 15 like I did the first night. DU1GM asked that I look for him on 50.110 CW after I finished with the North American moonset, but the only contact I had then was with DU/PA0HIP. That was the first time I used the CW keying program on the laptop, and it seemed to work OK once I got the hang of it. I am not much of a CW operator in weak signal conditions, but I must admit, V6M sounds pretty neat on CW!

It was another clear night with only light breezes, which made it a great night for EME - and it sure helped to have the Degradation coming down, too! There was never ionospheric TEC in the way at the time of day of my moonset, and having the lagoon just west of the antenna certainly helped make great ground gain on my moonset too! On the third European moonrise, I worked ES6RQ, YT1AR, ZL3NW (also on his moonset), ON4GG, OK1RD, OH2BC, ON4IQ, GD0TEP and CT1HZE, bringing my total EME contacts to 16. I also copied G3WOS, G4IGO, G8BCG, G8VR, GW4WND, LZ2WO, OZ1DJJ, S53K, S59A, VK5PO, YT0EME and ZS6NK. The polarity seemed to be changing very rapidly.

28 AUGUST – FRIDAY

On the second North American moonset (during my moonrise), there seemed to be a lot of one-way propagation with the polarity not changing much at all. I answered many stations who indicated they were seeing my trace (by calling me with callsigns and OOO signal reports) , but when I answered them they did not reply to by sending “RO”.

6M8GJ aimed at V6M moonrise for North American moonset

So, I would jump to the next person who indicated they were copying my traces at that particular time, often only to have the same result. A lot of time was wasted trying to call people who apparently were not really seeing my trace, or who were having difficulty decoding me when I did answer them. North American stations worked were K2ZD, W8PAT, N7IP, N9IW, W6BBS, N7NW, N6BBS, W9RM and K6MYC. I also copied K4PI, K7CW, N3CXV, N3XX, N8JX, VE1JF, W1JJ, W5ADD, W6XU, W7JW and W7UT.

After my moonrise session, I took a nap and then grabbed a water bottle and set out on a hike for a couple hours around the island. The waves were crashing against the reef on the eastern side facing the open ocean. I crossed the northern section of the island by walking down the airport runway. I passed the little bay on the northwest corner of the island, where they bring in the supply barge, and saw the boat ramp where fishing boats are launched.

Wildflowers in the cemetery between the lodge and village

Beautiful flowers everywhere

Walking on the runway by the Ulithi airport terminal/post office

Village woman weaving a lavalava

Fishing boat with nearby Asor Island just to the northwest

Inlet where the supply barges are pulled in

View to the south from the UAL

Children playing tetherball in the village

The sky was mostly clear, so it was possible to do visual aiming almost all the time. The big problem was that toward the end of the NA moonset, the amp kept kicking out when I ran more than around 600w. Often it would not allow the automatic sequencing to start (or stop) without shutting down the amp. It HAD been working OK, with the key down voltage staying around 43.5 VDC or above, and sometimes even around 50 V! I was connected to the the highest current 110 VAC circuit I could find down there, but I realized it was very marginal and I had wanted to find at least 20 A to run the amplifier power supply. KB3SII later suggested that the voltage instability was very probably due to the circuit breaker being taxed near its maximum rated current, coupled with the fact that everything had water damage and corrosion.

Regardless, the voltage spikes caused by the cutting out under full load can really destroy the solid state equipment and there were some bad odors coming from somewhere! When the key down DC voltage from the power supply drops too low, the amp simply shuts down. Rather than repositioning the antenna, I

had to be there all the time to adjust the drive level from the KX3 up and down and reset the amp to put it back in operation. And the results showed: I only worked 3 new stations on the European moonrise: S59A, GW4WND and DL8YHR. Copied but not worked were EA6VQ, G4BWP, G4IGO, HA7TM, HA8FC, JR1LZK, LZ2DF, LZ2WO, OH3MIK, OZ1DJJ, OZ4VV, SP3RNZ, VK5PO, YT0EME, ZS4TX and ZS6NK.

I chatted again on Saturday (local time) with Dominic who said he had talked with the people who had been responsible for wiring the building. He assured me that there WAS still 220 VAC somewhere in the building and I needed to keep looking for it.

So, I continued snooping around and found the main power panel where the AC power comes into the building over in the corner where the mice were nesting in the "Dive Shop" corner of the building. I found that there was in fact 220 VAC coming into that panel! I went to bed around sunrise, vowing to try to correct the situation after I had had some sleep! No point in sticking your hands into a live power panel after you had stayed up all night!

29 AUGUST – SATURDAY

Desperate for reliable AC voltage, in the morning I removed the 220 circuit breaker going to the water heater (which was superfluous anyway, since there was NO running water, let alone HOT water), and retrieved the little extension cord parts I had given to Dominic when I cannibalized my cord to try to connect to the non-functional 220 VAC range outlet in the kitchen.

I prepared the ends of the wires on the longest half of my little extension cord and attached them to the old circuit breaker, and installed it back in the box. I had to move the operating table and all the equipment a few feet closer to the main panel box, but the extension cord I had (using my other 3' extension cord and the lengths provided by the one that I cut up) allowed me to reach the amp power supply with the 220 VAC line. The little power supply simply LOVED the 220, and I finally got a reliable 1000 watts output again from the amp. I thought I was out of the woods…

Finally tapped into 220 VAC where the power enters the lodge!

Feeling very encouraged about the morning's activities, I turned in for a 4 hour nap before moonrise. However, after about an hour, I awoke to dripping noises, which I think were coming from the room next to mine, which still didn't have much of anything for a roof. I got up and caught the end of a light, but very welcome rain shower. I ran out onto the open concrete patio in front of my room, and washed myself with soap to get the first shower all week. The light rain quit a bit suddenly, and I still had some soap on me, but it was refreshing nonetheless to rinse off all the sunscreen, sweat and insect repellant. Then I went back for a couple hours of napping.

My moonrise was around 6:30 pm local time and the sky was mostly cloudy, with light rain and a very refreshing breeze. I opened up all the doors on the first floor of the hot deserted building to get some cooling going on, and doused myself totally with *REPEL*. I had a power bar for dinner, and got ready for what would undoubtedly be a madhouse during my moonrise.

A happy moonbouncer after finally finding a 220 VAC source

It actually turned out to be yet another beautifully clear, visual tracking kind of night. The North American stations seemed to be having problems decoding me, but I attributed that to locked up polarity. I did complete with 5 more stations. On the third North American moonset, I completed with W1JJ, W7JW, W3UUM, W7UT, and KR7O. I also copied K4PI, K7CW, K7RWT, N3CXV, N3XX, N5DG, N8JX, VE1JF, W3XO, W6XU, and W8TN.

On the fourth European moonrise, I completed contacts ZS4TX, SP3RNZ, SP4MPB, and HA8FK. I also copied IT9YTR, LZ2DF, LZ2WO, OZ1DJJ, S51DI, S51V and ZS6NK. Then at 1830Z, with flames shooting out the bottom of the amp, I shut everything down!

Apparently, even though I had finally solved the reliable AC supply problem, the damage had already been done to the amp and power supply from abuse suffered during previous days. You can't imagine how disappointed I was to have to shut down just as the EME conditions were reaching their optimum, and operators who were waiting until the weekend to be able to contact me were starting to come onto the air. It was truly a disaster – especially to come all that way for so many days at such expense, and only achieve a few days of operation.

However, I temporarily shook off the shock of it all so I could alert anxious callers not to waste their time and electricity to try for a contact with V6M. Thanks to KB3SII's Iridium satellite transponder, I was able to send out an SMS text within 5 minutes to the Magic Band EME email group advising them that I was unfortunately QRT due to equipment failure.

30 AUGUST – SUNDAY

Since there was not much I could do with the barefoot KX3, I decided to take advantage of the good weather to completely tear down the antenna and pack up the station to go home. I was hoping to grab a seat on the Monday PMA flight and maybe even get a seat on the early Wednesday morning United flight out of Yap.


Rainbow over the lagoon at the end of my stay at UAL

Dominic came by and brought me some fish and rice for dinner and visited with me while I ate it outside on the patio. He told me that there was a brand new ship making its maiden voyage from Pohnpei to Yap, and it would be stopping at Falalop Tuesday morning to pick up passengers. He said he was planning to try it out.

31 AUGUST – MONDAY

Monday morning, I learned that PMA decided not to fly that Monday, so it looked like I would be stuck there until Friday's flight. I tried to splice some some scrap wires together and run them out of my room for an HF antenna for the KX3. I did work a few JT65A stations on 15 meters, but there was interference between the KX3 and my computer, making it almost impossible to operate the computer. Without a good earth ground up in my room, HF operation was impossible. I started thinking about the food situation.

My food inventory was 5 freeze dried meals and 5 protein bars left. That meant I could use one of the

freeze dried meals for breakfast/lunch some day during the week, have a protein bar for breakfast the rest of the week, and splurge one day with a extra protein bar for lunch. I was feeling pretty weak and worn down, but attribute that to working so feverishly Sunday to take down and pack the antenna and all the gear to be ready to depart. The thought of actual running water and real food was sounding quite appealing after the huge disappointment with the aborted EME operation.

1 SEPT. – TUESDAY

All by luggage waiting to go out to the Four Winds

When I awoke Tuesday morning, I saw the *Four Winds* moving along the shore and realized that it was my only option for getting off the island before Friday. I grabbed my remaining protein bars and quickly hauled all my baggage downstairs again, and headed into the village looking for K and his truck. I was directed to his house, where I explained my plan. K quickly readied himself and we headed out to the lodge to collect my baggage and transport it to the point on the beach near the village where the shuttle boat would be coming back for a final collection. After 15 minutes or so, the shuttle boat arrived.

The baggage was handed out to the boat, and I waded over and got in the boat. When we reached the ship, I hopped out onto the ladder on the side of the ship and

Farewell to Falalop Island as we head for the Four Winds

climbed up onto the deck. The shuttle boat with my gear was hoisted up onto the deck. I was welcomed aboard the *MV Four Winds* and asked what type of accommodations I wanted. For $21, I bought passage in a shared cabin to ensure security for all my gear.

Bringing the small island shuttle boat aboard the Four Winds

Fellow passengers on the same deck as my cabin

Hammocks were a popular way to sleep on deck

My small cabin was located up the stairs one level above the main deck, and I was helped to haul all the heavy gear up the steep stairways and into the small cabin. Although there was already someone in the cabin when I arrived there, the occupant disappeared mysteriously when he saw me move in with all my gear, so I wound up being the only inhabitant for the 24 hour trip to Yap.

The ship headed out to the next stop, which turned out to be Mogmog Island, the most traditional island of Ulithi Atoll and home of the atoll's high chief. After a brief stop there to drop off and pick up some supplies and passengers, we made the short trip across the atoll to Federai Island, the longest island of the atoll. We were told that there would be a stop there of a couple hours at Federai, if anyone wanted to go ashore. I had been informed by the hams at the lunch in Guam that

Many of the ship's passengers were living on the deck for 2 weeks

Passengers occupied themselves however they could to pass time

there were a couple ham radio operators on Federai, although I never imagined I would run into them. When Dominic came aboard the *Four Winds* (he had taken a small boat from Falalop to catch the ship at Federai), he told me that both those hams were sitting at the landing.

Albert, V63YAH and Lance, W7GJ/V6M on Federai Island

So, I hopped into the little shuttle boat to go ashore, and wound up meeting both Albert and William and chatted with them for about 30 minutes, until the shuttle collected everyone to head back to the ship.

Lance, W7GJ/V6M and William, V63YWR on Federai Island

As it turns out, William has a rig that does cover 6m, and I encouraged him to try to load it up into his HF Hex Beam. I am sure he could make some TEP contacts from down there with that system. The only way to coordinate with them is via HF or mail, though, since there is no internet or telephone service anywhere on Ulithi Atoll.

Shuttle boat preparing to leave Federai Island

Around 4 pm we headed out toward Yap Island. As the sun was setting it brightly lit up the flying fish that were shooting along just above the waters as we left Ulithi Atoll. Since our arrival time around midnight would be too late to dock or unload, we spent the night anchored off Yap, waiting for a chance to dock in the morning.

2 SEPT. – WEDNESDAY

Four Winds moored at the wharf in Colonia, Yap

After a container ship was first led into the wharf in Colonia, Yap Island, we headed in and were docked by mid-morning. After letting many of the passengers disembark, I checked out of my cabin and was helped out onto the wharf with my gear. By 10:30 am, I got a taxi over to the *Oceania Hotel* on the other side of the town and checked back in a few days earlier than planned, to wait for my Sunday morning United Airlines flight from Yap.

After checking in again at the hotel, I walked down to the nearby *ESA Hotel*. Since I had used up my remaining protein bars on the voyage from Ulithi, I was anxious for a refreshing and nourishing meal! Afterward, I took a taxi out to the Yap airport and collected my refund for the unused PMA flight segment from Falalop to Yap.

3 SEPT. – THURSDAY

Despite the unfortunate interruption halfway through the V6M operation, a couple of very interesting and potentially positive things DID come out of this early return to Yap Island. On the overnight ship from Falalop I met a woman from Pohnpei (a two week trip to Yap for her!) and I explained the difficulty I had in finding a DXpedition site meeting all my particular requirements of reliable AC power AND a 60-70' clearing next to a secure operating position so I could set up and use the big 6M8GJ AND a clear antenna shot over the ocean on the moonrise and moonset AND be away from any village and RF noise. I know I am asking for a lot, but if you want to get the best results, it pays to do a lot of investigation and make the effort to go to an appropriate site where you will have a quiet location with good ground gain. Google Earth has been very helpful to me, and is the main way I assess potential DXpedition sites, but not all the images are current, and not all lodging places are identified. Anyway, she suggested a small island near Pohnpei (which has daily flights, followed by a trip on a small boat) that does have 24 hour power and sounds like it may have enough clearing for me. However, it is turning out to be difficult to get any information about things on Lenger Island.

Also when I got back to Yap, I met a group from Tuvalu, also staying here at the little *Oceania Hotel* bungalows. They were there for a small islands association annual meeting taking place that week in Colonia, Yap's capital. I explained that the only suitable spot I had found in Tuvalu for a 6m EME Dxpedition, didn't seem to have any listed email or phone number anymore. Several of them knew the place I was describing and promised they would check to see if it was still in business, and forward me the current contact information as soon as they returned to Tuvalu. Tuvalu has been pretty high on my potential destination list for some time because I am afraid that if somebody doesn't activate it soon on 6m EME, it will become very difficult. Already their islands there are being completely washed over during "king tides" - especially if there is a storm at the same time. So it will only become more difficult to activate as the oceans continue to rise. I am still eagerly waiting to hear from them, though...

Interesting painted Yap money signs on the court lawn in Colonia

4 SEPT. – FRIDAY

During lunch at the *Manta Bay Resort*, I ran into the conference contingent from Nauru. I learned some interesting things about Nauru and will pursue those leads about potential operating sites there.


Cultural center in downtown Colonia, Yap

5 SEPT. – SATURDAY

I had an early dinner at the *Oceania Hotel*. They were experimenting on guests from time to time, even though their kitchen is not yet certified to serve to the

Playing in a tree across the street from the Oceania Hotel

public. I have to say, the dinners I had there were excellent! At 6:30 pm, I took a taxi out to the airport so I could check my baggage in early. After some minor transfer of clothes between suitcases, all three pieces of checked baggage met the 50 pound limit. I paid the $270 excess baggage fees and checked the bags through to Missoula, Montana. My taxi driver had been waiting for me in the parking lot, and after he stopped at the taxi control to sign out for the day, he dropped me off at the *Oceania Hotel*, where I went to bed for a few hours.

6 SEPT. – SUNDAY

At 1:30 am, I was driven out to the airport again to clear security and wait for the bi-weekly 3:15 am *United Airlines* flight to Guam. In the departure lounge, I seemed to be seated in front of the only person coughing in the whole room...maybe that is why I wound up getting home with a sore throat and a fever! We arrived on time in Guam, and transferred to the next flight which departed at 8 am, and arrived in Hawaii on Saturday at 5:30 pm. The process for clearing customs to enter the USA took a long time because of the hundreds of people arriving from Asia at the same time, but the four hour layover in Hawaii was plenty of time do get everything done and wait at the gate for the flight to Denver. After a bumpy flight as we skirted a hurricane off the coast of California, we arrived in Denver on Sunday morning. My flight from Denver wound up in Missoula slightly ahead of schedule, just before noon on Sunday. Not that it matters so much on the trip back home, but all my luggage also arrived along with me.

CONTRIBUTIONS

I can't express enough gratitude and appreciation for all the support I received from so many dedicated Magic Band operators. It was your help that made this trip possible, and I only regret that the operation did not last long enough for me to contact all of you. I hope I can make it up to you by giving you a 6m EME contact from another rare DXCC next year.

Special thanks to the following hams whose very generous contributions made this V6M DXpedition possible:

SM7FJE, K7CW, ZL3NW, K2ZD, EA8DBM, W7FI, K5QE, YO9HP, SP3RNZ, W8PAT, NW0W, W1JJ, N3XX, GW4WND (DX SHOP LTD), G8BCG, W6XU, KJ9I, KB3SII, N3CXV, KB7Q, G8VR, OH2BC, K7RWT, ZS4TX, W3UUM, W0LD, K9CT, F6BKI, N7IP, N8OC, W7EW, K8JA, GM4WJA, W9JN, G3WOS, VE1JF, W6BBS, W8TN, S59A, VE5UF, OH7KM, N8JX, K4PI, K4YMQ, G5WQ, S57RR, IW5DHN, OZ4VV, S51DI, W9GA, YU7EF, N7NW, ON4IQ, SP4MPB, ZS4TX, KG7H, S57RR, W5ADD, KT1J, DL8YHR, GD0TEP, W9RM

Again, many MANY thanks to everyone for your support!!

CONCLUSION

Also many thanks - especially to all of you North American stations - for making the effort to get up in the middle of the night to try with me. I know it was an especially inconvenient window for you, and based on the fact that I worked Taiwan off the back of the beam during one of my moonrises while I was beaming southeast, there apparently was some TEP zone ionization taking place for me during those North American moonset times. It seems like those latitudes always have some kind of terrestrial propagation on 6m to interfere with the "true long path" weak signal contacts! I was hoping to get past these periods of the day as my moonrises became later during the second half of the DXpedition, but the equipment failure prevented me from being active during those times.
I did receive a number of comments from people having a hard time decoding my JT65A signal from the little KX3 when signals were weak. I had no problem

receiving extremely well, but I appreciate that the KX3 certainly does not afford the stability of the K3. I will try to figure out a way to take a K3 or other more stable rig with me on future DXpeditions.

However, I want to explain to newcomers to EME and JT65A, who have never worked a DXpedition station before, that you very well may have trouble decoding me when I am weak – even if I am using my K3. If you usually run schedules with other stations, you may be used to decoding them even when their traces are only barely visible on the SpecJT screen. That is because the program acts just like the human brain does on weak CW, and decodes better when it knows what callsigns it is looking for. Remember, if I am calling someone else, my signal will usually have to be steady at -24 dB to be decoded reliably. If there is no quick QSB to interfere with it, sometimes weaker signals can be decoded, but they are not the norm.

However, if I am answering YOUR CALL (or calling CQ), you should be able to decode me when I am at least 3 to 4 dB weaker than when I am calling someone else. Since I almost never call CQ when I am in the field (I am usually trying to answer callers), you should expect that I will have a trace that cannot be easily decoded if it is weak. That is the reason that I ask you to call me with OOO reports if you see my trace at that particular time, so I will know you will very likely be able to decode me if I answer you. That indicates that the polarity is reciprocal and we have a very good chance to make a quick contact. That is the only way I can know who to call when, and it greatly increase the number of stations I can work during the very limited moon windows available to us.

Please note that I don't usually need to get a full decode of you to know that you are seeing me. I watch for a "#" after the partial decode from you (and I know who is on that frequency, because I record all the DF's of everyone as I DO decode them). So I may have already received calls from you, and as long as you STAY ON THE SAME FREQUENCY, when I see a partial decode with "#" on a certain DF, I know that if I call you with reports, you are very likely to copy me. And of course, if you reply with "RO" (which is very easy to decode even when signals are quite weak), then I know you got calls and reports from me and I can reply with final "RRR". So that is why I encourage people to call me with OOO even if they only are seeing a trace from me, and why it is SO IMPORTANT for them to stay on the same frequency the whole time.

So, although I dearly love my KX3 and its great features and portability, and appreciate that many of the reports about my "traces not being decoded" were actually related to something other than the KX3, it does appear I will have to use a different rig on future 6m EME DXpeditions. There just is too little time during such an operation to waste with a signal of questionable stability. And everyone (including me) seems to have been spoiled by the rock solid stability and reliability of my K3 during previous 6m EME DXpeditions.

In summary, despite the AC power problems and resulting equipment failures, I completed 6m EME contacts with 37 stations in 17 DXCC over the 3 moon rises and 3.5 moon sets during which I was operational. I added 5 more contacts in 3 more DXCC via terrestrial propagation, for a total of **42 contacts in 20 DXCC on 6m**.

In addition, I copied but did not complete with, an additional **34 stations in 7 more DXCC**.

Given that I was off the air before the weekend when EME conditions were optimum and it would be most convenient for people to be on the air at the strange time of the day for our common moon windows, I am very encouraged by these numbers. I believe they indicate a very strong growth in 6m EME activity. I am confident I would have completed with many of these stations - and additional stations that are not on the copied list - if I had been able to remain operational throughout the schedule as originally planned.

RESULTS

A detailed summary of the above 6m results is shown on the following page. I look forward to the next outing and wish you much fun and success on 6m EME. See you from the next rare DXCC!

#	6M EME STATION WORKED	DB SIGNAL STRENGTH
1	SM7FJE	-23
2	IW5DHN	-13
3	S57RR	-26
4	YU7EF	-25
5	KB8RQ	-21
6	KJ9I	-28
7	KG7H	-23
8	ES6RQ	-25
9	YT1AR	-24
10	ZL3NW	-26
11	ON4GG	-16
12	OK1RD	-25
13	OH2BC	-24
14	ON4IQ	-17
15	GD0TEP	-17
16	CT1HZE	-22
17	K2ZD	-23
18	W8PAT	-21
19	N7IP	-19
20	N9IW	-20
21	W6BBS	-28
22	N7NW	-26
23	N6BBS	-26
24	W9RM	-25
25	K6MYC	-22
26	S59A	-27
27	DL8YHR	-26
28	GW4WND	-21
29	W1JJ	-22
30	W7JW	-24
31	W3UUM	-25
32	W7UT	-25
33	KR7O	-26
34	ZS4TX	-23
35	SP3RNZ	-27
36	SP4MPB	-26
37	HA8FK	-22

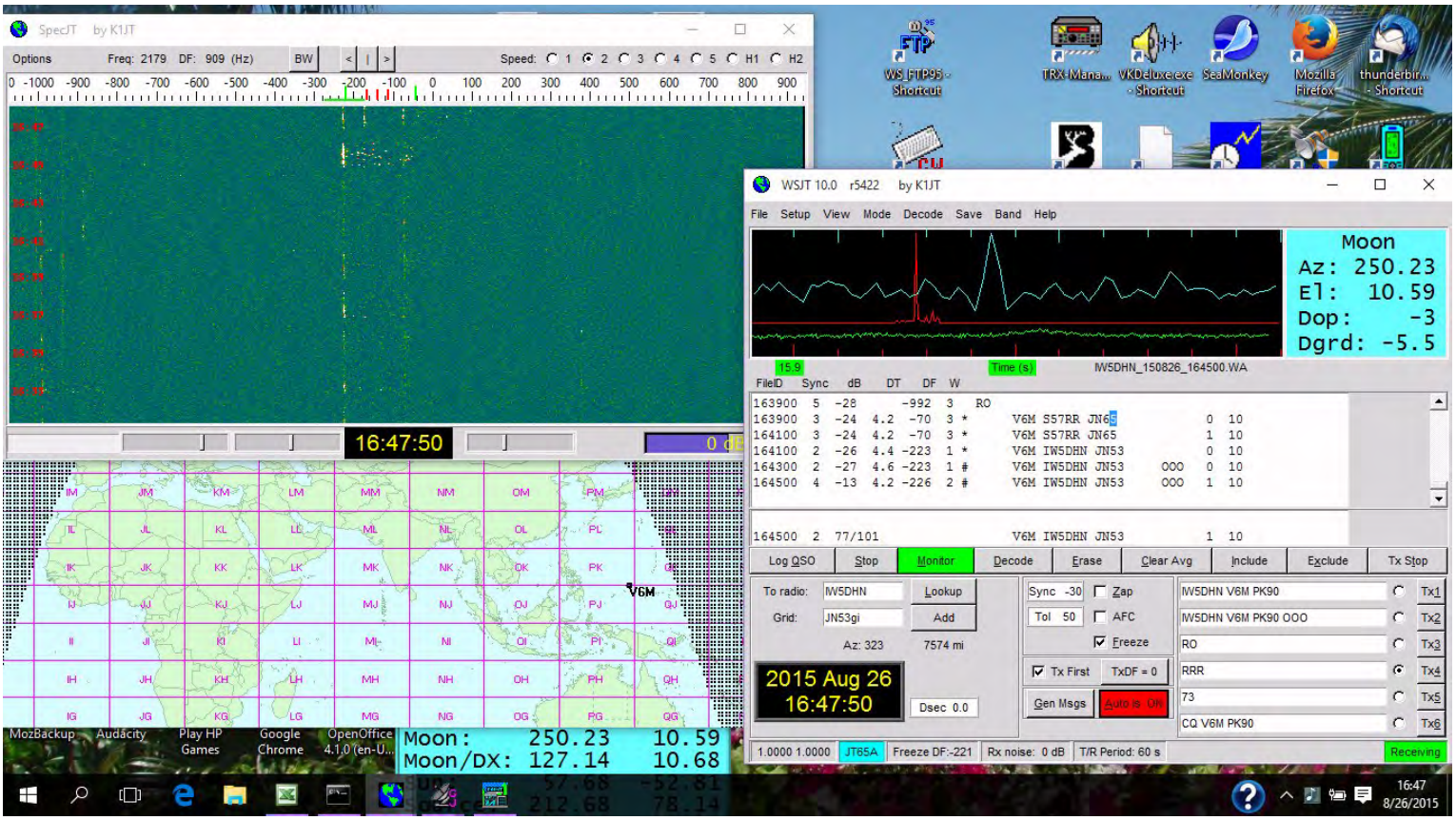
#	TERRESTRIAL 6M STATION WORKED
1	KG6DX
2	KG6JDX
3	KH2L
4	DU7/PA0HIP
5	BV2DQ

#	6M EME STATION COPIED
1	EA6VQ
2	G3WOS
3	G4BWP
4	G4IGO
5	G5WQ
6	G8BCG
7	G8VR
8	HA7TM
9	IT9YTR
10	JR1LZK
11	K1WHS
12	K4PI
13	K7CW
14	K7RWT
15	LZ2DF
16	LZ2WO
17	N3CXV
18	N3XX
19	N5DG
20	N8JX
21	OH3MIK
22	OZ1DJJ
23	OZ4VV
24	S51DI
25	S51V
26	S53K
27	VE1JF
28	VK5PO
29	W3XO
30	W5ADD
31	W6XU
32	W8TN
33	YT0EME
34	ZS6NK

APPENDIX

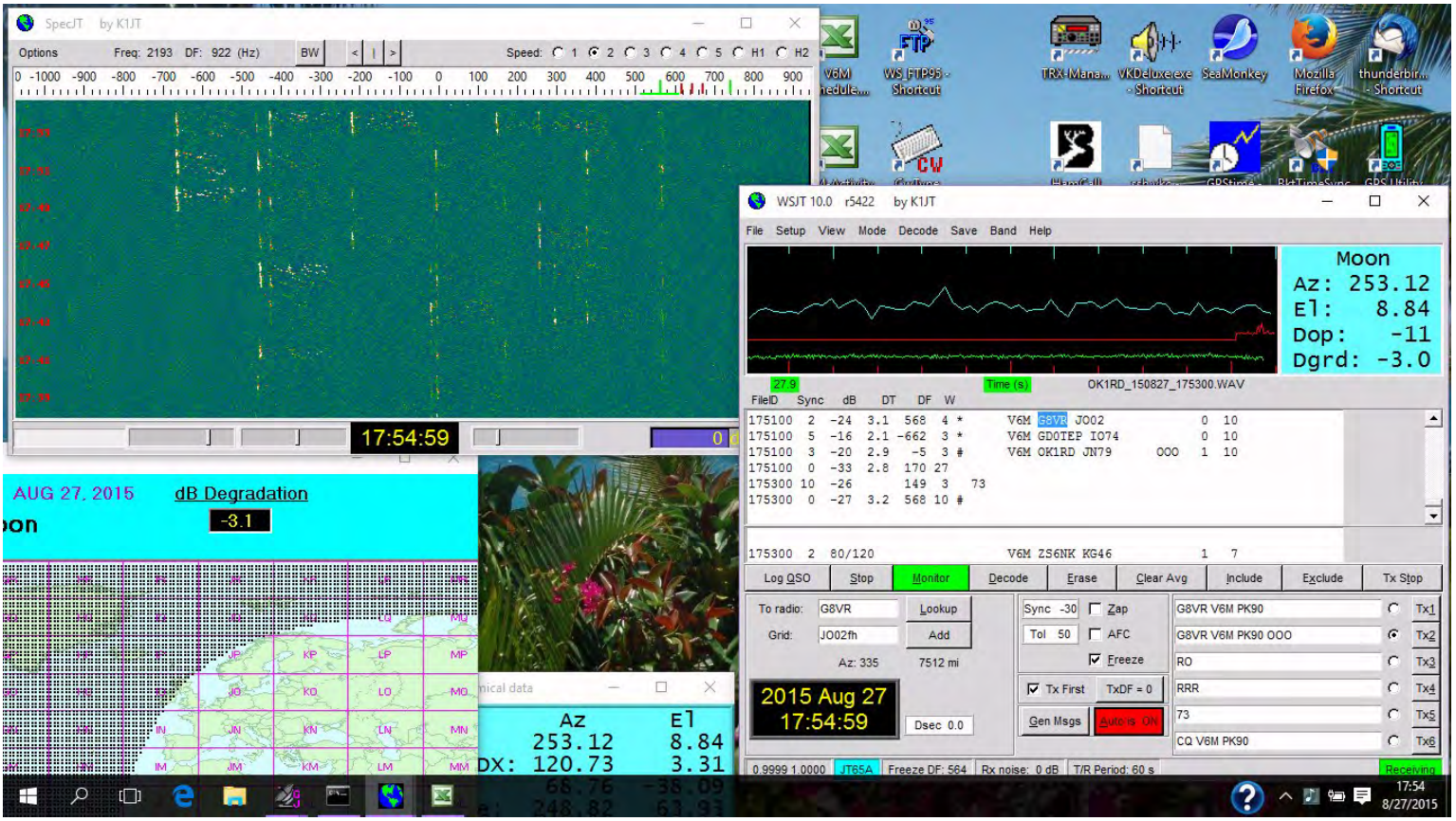
The following screen captures provide a feeling what what was going on at that point on the V6M operation.

The first photo below is from my first EME activity on Wednesday August 26 at 1647 UTC. It was my moonset and the European moonrise, and the Degradation was still quite high at -5.5 dB. My 6M8GJ yagi was aimed at the horizon, and the moon was in my very broad main ground gain lobe. I had just finished a contact with SM7FJE at a DF of -992 - you can see his traces indicating "73" a few minutes earlier on the SpectJT screen. At 1647, I was receiving "RO" from IW5DHN at a DF of -226 (although the photo was taken about 2 seconds before that message was decoded. I had already set my next transmit message selected be "RRR", and I completed with IW5DHN at 1650Z. You also can see S57RR calling me on a DF of -70; I completed with him at 1700Z. The note in my logbook at that time was that it was "very calm – no wind". The earlier trace at DF of +380, which had disappeared by the time this screen was captured, had been ON4IQ. I never was able to decode the station down around DF of -730.



The screen shot below shows activity during my second moonset (second European moonrise). Note that the Degradation was already down to -3.0 dB and I was receiving significantly more stations. Again, my antenna was on the horizon and the moon was in my broad main lobe. I was calling G8VR, but he did not copy me. I went back to OK1RD and completed with him few minutes later. The "73" trace on DF of +149 was a false decode, apparently from the sync traces of YT0EME on that frequency and OH2BC on +258.

Callers identified on this SpecJT screen (from left to right) are GD0TEP on -662, S59A on -439, G3WOS on -425, ON4IQ on -218, OK1RD on -5, YT0EME on +148, OH2BC on +258, G8BCG on +377 and G8VR on +568.



The photo below shows my third (and final) moonrise and North American moonset on August 29. The Degradation was down to -1.9 dB, and you can see what happens with a more optimum Degradation! No, those faint consistent traces are not birdies – they are neatly spread out callers from North America! The 6M8GJ was on the horizon and the moon was in my main ground gain lobe, although I had been copying signals from a moon elevation of 1.2 degrees. That antenna site seemed to work very well for both moonrise and moonset. Note that the traces seemed to last for quite a long time, but all exhibited very rapid QSB, as exhibited by the "dotted line" structure of the traces. It seemed like I was "locked out" of North America by the polarity, since most of these consistent stations appeared to not be copying me at all. At this particular moment, I was making a last try for VE1JF, whose moon is already negative, but he unfortunately was not copying my call. A few minutes later, I did complete with W1JJ and followed by W7JW.

Callers identified on this SpecJT screen are (from left to right) N3XX on -790, N3CXV at -571, W3UUM at -405, VE1JF at -188, K7RWT at -16, W7JW at +291, K4PI at +420 and W6XU at +653.