
# Part I: Introduction and Planning

## SITE SELECTION

It is never easy to select a destination for a 6m EME DXpedition. A few of the first considerations in selecting a potential site for a 6m EME DXpedition include trying to find someplace that::

1. Is away from populated areas and potential noise sources
2. Affords good ground gain opportunities during moonrise and/or moonset
3. Has reliable AC power.
4. Provides a safe and secure place to set up the equipment
5. Has access to food and water.
6. Can be reached by affordable/reliable transportation
7. Is free from dangerous sickness
8. Is free from political unrest that would compromise personal safety
9. Provides a clearing large enough to set up and operate the large antenna
10. Has a place to set up the station either north or south of the clearing so the antenna will never have to be aimed at the station
11. Has never before been activated on 6m EME
12. Is rare and needed by most 6m operators around the world
13. Permits licensed amateur radio operation

## PLANNING

But there is much more involved than just finding suitable locations to set up the portable station! Much time was spent comparing flight availability to data generated by my GJTRACKER moonbounce planning program. Numerous combinations were studied in an attempt to:

14. Provide common moon windows with all the active 6m EME stations around the world.
15. Include operating periods during acceptable lower levels of Degradation as predictable through orbital mechanics.

16. Avoid major seasons of ionospheric propagation that could interfere with EME signal propagation.
17. Avoid stormy/rainy seasons
18. Maximize ability to physically be able to aim at the moon
19. Minimize interference from daily high TEC (Total Electron Content) that forms near the equator during the daytime

Then of course, there are the issues of finalizing transportation and licensing. I began planning this trip and searching for potential locations to set up my equipment in early 2019, and applied to ANFR in Tahiti for the licenses to operate from French Polynesia in March of that year. Originally, I had hoped to be able to go there during some very favorable moonbounce operating periods in October 2020, but the Covid pandemic and resulting reduced airline flights made it necessary to make multiple different changes in lodging and flight reservations. Although many countries were still on total lockdown, I was able to finally pull off a DXpedition (actually activations of two DXCC) in October, 2021.

In order to give people plenty of time to plan their availability to contact me, I always provide a detailed tentative operating schedule many months in advance, so they can see the best times and days to try for a contact. These schedules as well as a host of links including operating instructions and how to complete a contact with me are included on the website for each of my DXpeditions.

## RIMATARA, AUSTRAL ISLANDS

The first destination selected was on the tiny island of Rimatara in the Austral Islands. Based on Google Earth investigations, it appeared to be the only place with lodging that also afforded a clearing large enough to set up my antenna. The owner, Kenji Kato, of La Perruche Rouge was contacted via PM on Facebook, and reservations were made. As is the case on most of the smaller outer islands, payment had to be made in cash when I was there. Kenji speaks very good English and can also be contacted by phone at +689 87 30 58 23

*Lodging site on Rimatara in the Austral Islands*

When finalizing the travel, lodging and operating period for Rimatara, I realized there had to be some compromises. The Rimatara operation would have to take place during days that were not optimum for the lowest Degradation. However, most of the operation would take place at night, which is a big plus when operating in the tropics, because it minimizes interference from the diurnal bulge of electrons overhead in the ionosphere during the daytime.

## HIVA OA, MARQUESAS ISLANDS

The second destination was the Marquesas Islands. Because they have such steep mountains and limited accommodations, it was a challenge to find a location that provided enough open space for the antenna and also afforded good views to the east over the ocean for optimum common moon windows with the more distant stations in eastern Europe. I finally selected an Airbnb 200' above the ocean in the tiny village of Ta'aoa in the southwest corner Hiva Oa Island.

Although the mountains to the west created a twenty degree high horizon during moonset, moonrie to the east was below 4 degrees from 35 to 130 degrees azimuth and actually negative out over the ocean between 80 and 117 degrees azimuth. All contact with the European owner, Bruno, were through Airbnb. A convenient thing about Airbnb was the ability to pay for the lodging in advance with a credit card.

*Lodging site on Hiva Oa in the Marquesas Islands*

The operating schedule for Hiva Oa was chosen to include the days of the month with lowest Degradation, which is helpful in trying to contact smaller stations. However, the compromise in doing that was that much of the operation would be during the daytime, which would pose a particularly large problem if my moon was near the horizon in a direction of high TEC. Another issue was the fact that the moon would only be low enough always to have the antenna accurately aimed at it during the first few days of the operation; after that, the antenna could not be raised high enough as the moon moved overhead. An advantage to the moon being so high was that it allowed safe operation from the house that was north of the antenna. The disadvantage was that it would be impossible to aim the antenna at the moon during moonset in central North America after the the first few days. This was pointed out early on my posted operating schedules and in emails, along with pleas for stations to get on the air and call me before my moon was too high for me to elevate the antenna.

# Part II: Rimatara in the Austral Islands

## THE TRIP

Unlike other trips, Air Tahiti Nui (from Los Angeles to Tahiti) and Air Tahiti (all inter-island flights in French Polynesia) restricted the number of standard checked bags and limited carry-on baggage to one 5 kg (11 lbs) bag. Although I might have been able to carry my laptop computer separately, I put it in my 5 kg backpack along with some spare clothes. After carefully packing my four 23 kg suitcases, I still had 11 pounds more gear, so I loaded up all the pockets of a nylon fishing vest and wore that onto all the flights. Although the extra suitcases could be checked as excess baggage when I boarded in Montana, the extra suitcases would have to be shipped via air freight when I reached Tahiti. Fortunately, I was able to talk to the Air Tahiti air freight people via Skype and pre-pay the air freight on my extra bags from Tahiti to Rimatara and Tahiti to Hiva Oa.

My wife, Karen, was traveling with me to Tahiti, and then used a special Air Tahiti multi-island travel ticket to explore snorkeling opportunities in the Society and Tuamotu Islands while I was in Rimatara. Since she only had one checked bag, I could take advantage of her extra baggage allowance on flights to Tahiti and then again when we flew together from Tahiti to Hiva Oa.

Of course, we filed our special ETIS Covid paperwork with the French Polynesia government, and had the official approval documents in hand weeks before we left home. Then on Saturday, October 9, we both had PCR Covid tests in Missoula, and we received the negative results Monday night. We left before dawn on Tuesday October 12, to catch our Delta flights from Missoula to Salt Lake City and then to Los Angeles. We had a long layover in Los Angeles (to make sure the equipment could all arrive in time for our overnight flight to Tahiti), and were thrilled to be able to meet up with one of Karen's niece's sons who was working in Los Angeles. We enjoyed a take-out dinner on the beach before boarding our flight to Tahiti.

*Waiting to board our overnight flight from LAX to PPT*

We arrived just after 5:00 am local time Wednesday morning in Tahiti, and proceeded to take our arriving Covid tests. We then had plenty of time for errands before our inter-island connections on Air Tahiti. Karen's flight to Moorea was scheduled to leave after 9 am and my flight to Rimatara was not scheduled to leave until after 1:00 pm, so I could drop off my bags at air freight well in advance of the flight.


*Before dawn arrival at PPT*

We did have special Z class round trip airline tickets between Tahiti and Hiva Oa, but were only allowed one checked bag on all other flights. That meant I had to ship three of my 23 kg suitcases via air freight to and from Rimatara. I was waiting at the Air Tahiti air freight office when they opened Wednesday morning, showed them my ID, travel itinerary and prepaid air freight receipt. They were shipped air freight! Voila!

When the local mall stores opened, I took a 10 minute taxi ride to the Carrefour Faa'a Mall, where there was a Vini cell phone store. At the Vini store, I purchased a data-only SIM card for my phone, which allowed me to access the internet. The whole process, including the taxi rides and waiting in line to enter the Vini store, took 45 minutes. In retrospect, it would have been handy to have a card that also permitted phone calls. Vini is the only cell phone company with service throughout French Polynesia (although their service from my bungalow in Rimatara turned out to be next to negligible). I think it provided enough connection with my cell phone hotspot though, to set my computer clock at the beginning of each moon pass.


*Finally boarding the Air Tahiti flight to Rurutu and Rimatara*

The flight from Tahiti was late because of computer problems at Air Tahiti that morning, and after stopping to refuel in Rurutu, I arrived on Rimatara around 5:00 pm local time. Unloading of the baggage was further delayed while a memorial service was held in the baggage claim area for someone on the small island who had just passed away from Covid earlier that day. Everyone was urged to wear their masks at all times, and maintain social distancing.

Kenji from La Perruche Rouge picked me up at the airport and we got up to the pension with all my luggage just before sunset Wednesday night October 26. There were five tourists from France staying there at the time, and we spread out at the large dining table that evening.

*Arriving with all my gear at La Perruche Rouge*

## OPERATIONS


*Station set up in my bungalow at La Perruche Rouge*

*Tubing for mast and antenna unpacked and awaiting assembly*

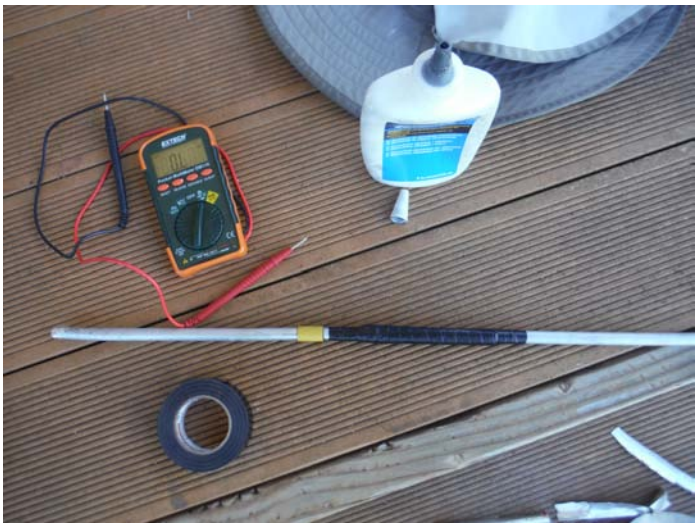
I spent all of the next day assembling the mast and antenna, while the next door neighbor (who was quarantined because of Covid) watched with fascination. I encountered numerous obstacles during my operation in Rimatara. Here are the **TOP 13** challenges faced during the first half of the trip:

**1.** As the antenna was first being raised late on Thursday afternoon, October 15, a mast guy stake pulled out of the soft muddy ground and the antenna fell over top of me and crashed to the ground, bending all the elements and actually breaking one of them.

I spent hours the next day gathering up parts and fabricating a splice for the broken 3/8" diameter element. I took one of the 1/4"x4" long nails I use to hold down my Aiming Circle at the bottom the mast, and some aluminum from a salvaged pop can I found by the side of the road. I had to file the head off the nail and sand all the coating off the pop can so it would be conductive on both sides. Then I wrapped the nail in a layer of aluminum coated with Noalox and taped the element sections together over it.

*Fabricating the splice with a nail and pop can*

*Wrapping the splice with more aluminum and Noalox*



*The finished splice, wrapped in plastic electrical tape*

The two good ends of the element were butted together and spliced, while the broken parts were straightened and the ends filed so one could fit inside the center 1/2" diameter element, and the other repaired end served as the exposed end.

Fortunately, the moon was not up during the day and the weather was good, so I had time to make repairs. I only missed one full moon pass on October 15 and the moonrise on October 16…and some much needed sleep!

*Repaired and aligned antenna awaiting mounting onto the mast*

**2.** Just before mounting the repaired antenna on the mast, I checked to make sure that the mast was still lowering smoothly into the HDPE plastic cradle on top of the prop. When I lowered the mast into the cradle, the cradle split in half, rendering it useless. I had to improvise by turning the prop upside down and tying the guy strings onto what was the base.

*Tradtional use of the cradle support atop the Prop*

I will build a more robust aluminum cradle for use in future DXpeditions.

*Prop turned upside down to use the base to support the mast.*

A new base was created by placing a fender washer over an extra 3/8" x 10" spiral steel spike and driving it halfway into the ground. The top end of the Prop was then placed over the exposed portion of the spike.


*Traditional Prop base as installed on October 15 in Rimatara*

*Upside down Prop mounted over a spike with a fender washer*

Just to be sure this time, the guy lines for the mast were anchored with a pair of smaller spikes rather than a single large spike as was usually done.

*Using two spikes for mast guy anchors in the loose soil*

I calibrated the Aiming Circle on the late afternoon sun and was up and running in time to catch the moon as it was setting in England.

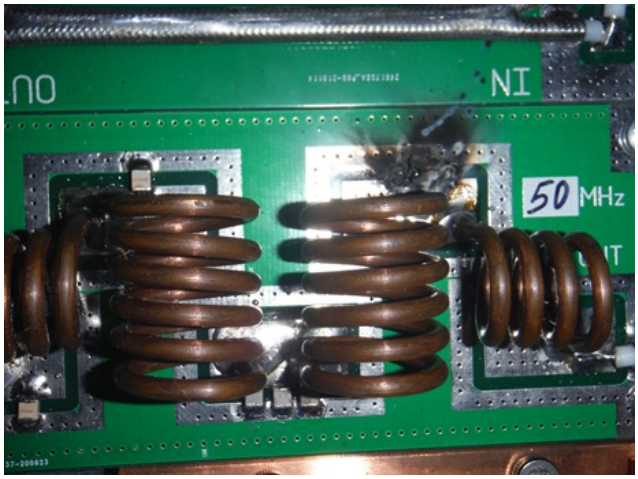
*6M8GJ up after the second raising!*

**3.** On October 18, before the 3rd moon pass, the amplifier stopped working. Fortunately, it was during the daytime when the moon was not up. Apparently, a piece of connector or debris had shorted out one of the N connectors in the output cable. I was able to clean out all the connectors with a soldering pick from my tool bag and some eyeglass cleaning wipes I had brought along. The amp liked the cleaned connectors!

**4.** Severe electrical storms forced me off the air after only two contacts during my moonrise on the 4th moon pass October 19. Fortunately, the storms had become less severe 8 hours later and I was able to get back on and make two more contacts during my moonset.

**5.** After the 4th moon pass, it was determined that there was a bug in the Q65 mode software that was making it difficult for people to copy my compound callsign of FO/W7GJ. That was corrected in an updated program release later that week.

**6.** During the 7th moon pass on October 22, the heavy rain caused my SWR to rise , blowing a capacitor on the 50 MHz Low Pass Filter filter board in the amp during my moonrise. Fortunately, I found that the miniature screwdriver tip of my tiny Swiss Army knife was able to open the metric Allen screws holding the amplifier panels together. Obviously, the scorched board could not be repaired on Rimatara. AG6EE and K0DAS encouraged me to try to bypass the entire filter board. Since I was operating in a very rural remote area, I decided it would be safe to try this temporary field repair. The damaged PC board shut me down for a day until Kenji was able to locate someone for me on the small island who had a soldering pencil I could use to bypass the board. I was then able to use the amp at reduced power.




*Damaged 50 MHz LPF board in the amplifier*

**7.** Bed bugs bit me all over, especially on my feet, and I had large pustules on my toes.

**8.** Mosquitoes from a swamp on the property voraciously attacked me every night while I was operating, and even bit through my rain parka to get me. I was covered with bites all over of one kind or another.

**9.** When it rained, the area where the antenna was set up became a sea of red clay gumbo, building up inches of mud all over my shoes making it difficult to walk and that I had to try to scrape off each time I ran out to aim the antenna.

**10.** Even though I purchased a data SIM card guaranteed for internet on all the islands, it rarely worked from my bungalow, so I was basically out of touch almost all the time. And I couldn't make any calls to Karen, who was overcoming her own challenges in central French Polynesia. Even from down the hill with the WiFi at the dining area, it often took hours trying to sent a single email

**11.** I found a wasp nest under the table on the porch when I tried to move it. Fortunately I only got stung on the tip of one finger and eventually the swelling went down. I killed a number of wasps in the bungalow over the course of my stay.

**12.** I had taken a high volume 12 VDC whisper fan to help circulate air around my amplifier and FT-857. I found that it posed quite a hazard taped to the framework of the bed where I was set up; I wound up cutting my fingers twice by getting them in the way of the whirling fan blades. It's hard to avoid hazards in the middle of the night when you are sleep deprived!

*Wild roosters were crowing 24 hours a day*

**13.** And the final challenge to rest was the around the clock crowing of wild roosters.

So that is the short story of my 50 MHz moonbounce experience from Rimatara and how Murphy repeatedly tried to stifle the operation. The amazing thing is that I still completed with 120 stations on 6m EME, surpassing my previous best of 119 stations at C21GJ from Nauru in 2018. The complete list of stations contacted is shown at the end this trip summary report.

I started receiving stations on my moonrise at around 1.8 degrees. But I have to say that my moonset from the most northeastern bungalow up on the bench was especially amazing! My antenna was 106' above the ocean, and had a clear shot at the setting moon over the ocean (a little over half a mile away, beaming over a large swamp (home of Taro plants and the world's most voracious mosquitoes). I still worked people when the moon was down to -1.5 degrees!

Another amazing experience was meeting some visitors from Tahiti who came to spend a couple nights at the pension near the end my trip. Ramon and Chantal only spoke French, and had been given a two day excursion to Rimatara by their kids as a "get-away gift".

*Ramon and Chantal from Tahiti*

During breakfast on Saturday October 20, I was asking Kenji if there was anywhere in Tahiti where I could purchase a piece of 3/8" aluminum tubing to replace the spliced element that had broken at the beginning of my stay. I realized it was highly unlikely to find a source of 3/8" aluminum tubing anywhere in French Polynesia, but I thought I would ask while there might still be some businesses open in Tahiti on Saturday morning that he could call for me.
The new visitors, also having breakfast at the same

table, overheard me talking to Kenji about it and explained to Kenji that Ramon's cousin in Tahiti had a piece of aluminum tubing that he was not using. They called his cousin Guy on the phone and five minutes later, Guy sent them a photo while he held a vernier caliper on his aluminum tubing to show that it was 9.5 mm (3/8") in diameter! Voila! Apparently Guy could also fix me up with a 220 VAC soldering pencil in case I needed to make further amplifier repairs while I was in Hiva Oa later in the trip. UNBELIEVABLE! Everyone we met in French Polynesia was so helpful and, every once in a while, there was a miracle like this one!

After breakfast, I sent out an email announcing that I would operate two additional periods to help make up for all the moon time I had lost. I would operate four hours that evening during my moonrise and then an hour and a half during my moonset Sunday morning. That would give me a chance to nap Saturday afternoon and get about five hours of sleep Saturday night so I would be well rested to take down the antenna and pack up on Sunday after my moonset in the morning. Although I only completed with two European stations during their moonset (my moonrise), I did complete with **NINE** additional stations during my moonset. In fact, it was one of my best moonsets, despite the higher Degradation of -5.9 dB! And an added bonus was finally spotting one of the rare Kuhl's Lorikeets as I was out aiming my antenna during sunrise Sunday morning!

*Rimatara or Kuhl's Lorikeet*

The antenna came down right after breakfast and was dismantled and packed for the plane trip back to Tahiti. Then all the equipment was packed up and brought down to the van for a quick get away in the morning. I was finally able to relax for the first time at dinner that night! Kenji and Brenda were great hosts. Breakfasts and dinners were included in the lodging, and the meals were outstanding. I took freeze dried dinners to eat in my room for the first 4 nights, though, so I would not miss my moonrise windows. I also had brought a carton of power bars for lunches.

*Breakfasts and dinners at La Perruche Rouge were GREAT!*

*Kenji and Brenda, proprieters of Pension La Perruche Rouge*

We had gone down to make arrangements with the airport manager on Friday while the airport was still open for the air freight Monday morning.. So. On Monday morning, October 25, we got down to the airport with all my luggage at 7:30, which was plenty of time to drop off my three extra 23 kg suitcases for air freight. Then we went back up to La Perruche Rouge for a leisurely breakfast before returning to the airport when the plane arrived.

# Part III: Hiva Oa in the Marquesas Islands

## STOPOVER IN TAHITI

I arrived back at PPT (which is actually quite a small airport) in Tahiti before noon and collected my baggage. Remember Ramon's cousin Guy? He met me at the airport when I returned from Rimatara, and sold me a brand new 100w 220 VAC soldering pencil and gave me the requested 1m long piece of 3/8" diameter tubing to replace my spliced element! Even I had a hard time believing this was happening! So, to prove it, I took a photo of Guy holding the goods!

*Guy at PPT with the unobtanium and a soldering pencil*

I then proceeded to check in a single 23 kg piece of luggage, along with the 3/8" diameter tubing (for which there was a slight extra charge), at Air Tahiti air freight for the 6:00 am flight from Tahiti to Hiva Oa the next morning.

My wife, Karen, arrived a few hours later from Fakarava and we headed off by taxi to our lodging for that Monday evening. Kenji has a cousin who runs a bed and breakfast in Papeete, and he was kind enough to call her and make reservations for us. We stayed at Fare Hau (TEL: 87 77 21 06), run by cousin Anita Faaite. It was a great place, and her daughter ferried us downtown to and from the Le Sully French Restaurant for a very memorable dinner that night.


*The pistachio soufflé was particularly remarkable!*


*Delicious appetizer at Le Sully*

On Tuesday morning October 26, we rose at 3:30 am, Anita fed us breakfast at 4:00 and by 4:30 we were on our way to the airport for our 6:00 flight to Hiva Oa.

## MAREQUESAS HERE WE COME!


*Arriving in Hiva Oa late morning on Tuesday October 26*

We stopped first on the more northern island of Nuku Hiva and deplaned while the plane was being refueled. We arrived in Hiva Oa around 11 am and were met by Bruno's brother in law, Tui. He took us and our luggage to Bruno's Airbnb in Ta'aoa, stopping off for 10 minutes in Atuona on the way so we could shop for groceries. Most stores in Atuona are closed between noon and 2 pm, so we were lucky to be able to grab anything as we passed through Atuona.

## SETUP AT THE HOUSE

I am able to elevate higher when the guy anchors are closer to the mast, but I didn't want to take a chance on losing the antenna during the strong prevailing winds from the east. Realizing I was limiting the elevation somewhat by extending the guy anchors further from the mast, I opted for more security because of the extreme wind exposure at the site 200' above the ocean. By sunset, the mast was assembled, guyed and supported by the makeshift upside-down Prop. Now the antenna just needed to be assembled and mounted on the end.

*Mast ready on Tuesday October 26 for the antenna at TX7MB*

Work on the antenna assembly started first thing Wednesday morning. The new full length 3/8" element from Guy would replace the spliced element (which still worked and showed good continuity). The larger diameter aluminum tubing sections often get beaten up by airline baggage handlers, so I re-round them.

*I brought a jar opener to re-round the larger tubing sections*

*Much of the assembly could be done on the covered porch*

*Final assembly and alignment was done out in the yard*

*6M8GJ Wednesday October 27 at sunset waiting for moonrise*

You can see from the photos that the view to the east is out over the ocean on moonrise. I had taken an extra 35' piece of LMR600 coaxial cable because I was not sure where I would be setting up the station and how much feedline would be required.

As it turned out, the open yard south of the house was just barely large enough to raise the antenna, and the only reason I was able to rotate it is because I never had to aim to the south. As was the case in Rimatara, I had to raise the antenna while it was held at a partially elevated angle in order to clear nearby obstacles such as trees and the house.

The station was set up in the master bedroom on the south side of the house, and the feedline of only 54' of LMR600 Ultra Flex low loss coax was just able to reach the amplifier through a gap in the screen window, which I stuffed with foam packing material.

*Feedline supported to just reach the amp through the window*

I try to find sites where I don't have to point back at the house when I am operating, but since the house was due north of the antenna, and I would be at maximum elevation when aimed to the north, this site worked. As discussed earlier, the high moon elevation on these days had its advantages and disadvantages.

*TX7MB station in the bedroom on the south side of the house*


*6M8GJ yagi elevated in the small yard*

Compared to the challenges encountered in Rimatara, operating from Hiva Oa was quite relaxing. However, I knew before I left Montana that there would be two growing problems as the days progressed. The first was that the maximum elevation of the moon was increasing on every pass, and it was physically impossible to elevate the antenna more than 65 degrees because of the guy ropes holding the mast.

The second predictable problem was that the moon was up more during the daylight hours. This meant that the high TEC would increasingly move in line with the path the signal had to pass through to and from the moon. And this would become especially more problematic at lower elevations such as my moonrise.


*Closeup of hinged elevation mount with the yagi at high elevation*


*6M8GJ at maximum possible elevation during NA moonset*

That is why I strongly urged stations to call me during the early days of the TX7MB operation, when both the previous problems would be minimal. As it turned out, stations that followed these suggestions and were able to take advantage of the more favorable conditions earlier in the operation were more successful.

And then there was a third problem that could not be so accurately predicted far in advance. During the 4th moon pass, the Kp index rose to 5, and by the 8th

moon pass it had risen to 7! That level of geomagnetic activity was causing visible auroras in the higher latitudes, and also was creating very difficult and unstable conditions for EME communications for me.

My first moon pass was on October 28, and although I had originally only planned to stay on the air long enough to test the ground gain during moonrise, there were so many callers that I that I remained on through the night until my moon set behind the mountain to my west. Later I was glad I had taken full advantage of these favorable conditions!

After moonset, we took our first drive up over the island to Hanaiapa on the central north coast.

*The narrow road had many switchbacks but was in good shape*

*Locals visiting in downtown Hanaiapa*

On October 29, I found a source of noise in the house from the ceiling fans, and turned them off when the moon was up. The amplifier was still able to stay cool enough using extra cooling fans I brought for it. My moonrise to the northeast, though, initially was very noisy, since I had a street light just below the antenna, and the town of Atuona not too far off the front of the beam. Because my antenna was over 200' above the ocean, the ground gain lobes were quite sharp and low, and I found I had to elevate and aim at the moon by the time it had reached 7 to 10 degrees elevation. When I elevated the antenna, the noise was reduced and I was suddenly able to copy callers again. The moonrise moved further south every day, and became much quieter as I beamed away from the noisy terrestrial areas and more directly out over the ocean. I had worked 50 contacts after the first two moon passes. However, a large solar flare was a harbinger of more difficult geomagnetic conditions that were on the way.

After moonset, we headed into Atuona for lunch and to visit the grave of famous painter Paul Gauguin.

*Cemetery east of Atuona looking toward Ta'aoa in the distance*

*Paul Gauguin's grave overlooking the bay*

The 3rd moon pass on Saturday October 30 provided 30 more contacts. Since the moon pass ended before noon, we took advantage of the daylight time to drive

the steep, winding road through the mountains to Puamau on the east end of the island. The largest tikis can be seen there at a famous sacred site.

*The narrow steep winding road to Puamau often had large rocks*

*The road passed through many different elevations and forests*

*Unique "fish tiki" at Puamau*

*Large tikis in Puamau*

*The most revered tikis are those carved from the soft red stone*

As stated earlier, the Kp index had risen by the 4th moon pass on Sunday October 31, making Halloween comparatively unproductive. Only 14 new contacts were added to the log.

The 12 hour long 5th moon pass on Monday November 1 only yielded 6 more contacts. However, one of them was with ZS4TX in South Africa, who was just starting to get a common moon with me during my moonrise. As stated earlier, I was making a conscious effort to try to be available for serious 6m EME operators on all continents. Anyway, after reaching 100 contacts, most of the experienced 6m EME stations were already in the log.

By Tuesday, November 2, the contacts were coming harder due to the ionospheric conditions down near the equator during the daytime. Also, the problem of the moon's high elevation was becoming more of an issue since I was was unable to elevate high enough to

aim at the moon during moonset in central North America. I had planned to be off the air when the moon was above 65 degrees, but continued stay on the air anyway, since the horizon-only stations with no elevation capability were still anxious to contact me.

*Moonrise was moving closer to daytime high TEC to the east*

I have to confess that it was a bit frightening with the antenna raised at maximum elevation during the daytime when the prevailing winds were strongest. The top of the antenna was over 47' above the ground, and when at maximum elevation, the antenna was at right angles to the wind. This was causing the mast to bend and I was worried about whether the guy lines would hold.

During the 7th moon pass on November 3, I only completed with two stations. After moonset, we visited the sacred site (Upeke) up the mountainside above our little village of Ta'aoa.

*Ruins of ancient sacred gathering place at Upeke above Ta'aoa*

*Site of ancient human sacrifice at Upeke in Ta'aoa*

November 4 was another challenging and frustrating day fighting the high winds and trying to hold the antenna together while pointed at maximum elevation. However, it did have its rewards in 4 new contacts.

By the 9th moon pass on Saturday, November 6, the Degradation had increased to over 4 dB, on top of the other difficulties. I did persevere, though, and was able to complete with four more stations by moonset in North America. After a break for an outing, I was able to complete a final contact with YB2MDU in Indonesia as my moon was going down. That brought the total contacts from TX7MB to 119.

And in other exciting news, Karen returned from a drive to the airport with a FEDEX care package from K0DAS which includes a replacement 50 MHz LPF to replace the damaged one in my amplifier. Over 2

months later, my replacement amplifier, shipped from home in Montana, is still hung up in customs in Tahiti I have no idea if/when I might see it again. Hopefully I can get it returned to Montana in working condition!

I guess the moral of this story is that you can't count on receiving any repair parts even by what are thought to be "fast delivery" methods when you are off on a remote island somewhere. In reality, you will be amazingly lucky if you actually receive anything before you leave to go home! Fortunately, the temporary repair on my amplifier in Rimatara allowed me to continue operations in Hiva Oa.

*Lance sharing a smile with the Tiki Souriiant*

After moonset we had just enough time for another cross-island trip to Hanaiapa on the north coast to check out the petroglyphs and beautiful bay there. Since we were going right by the trail to the Tiki Souriant (smiling tiki), I stopped for a quick photo opportunity with him. We both had smiles, but there were other visitors, so mine was covered by my mask.

Like all the small villages, including Ta'aoa, where we were staying, Hanaiapa had beautiful plants along the road when you arrived at the village.

*Hanaiapa's roads were lined with beautiful plants*

*Park bench overlooking the bay at Hanaiapa*

Although the Degradation was over 6 dB, I decided to give a last try during my 10th moonrise on Saturday November 6. I copied five stations, and had some close calls, but no contacts were made.

*Antenna down and off the mast just before the downpour*

On Sunday November 7, I started before dawn to take down the antenna just before the high winds and heavy rain started. Sunday was the only day we had a significant rain storm, although it was windy every day.

*All our baggage waiting for the desks to open at AUQ*

*Our Air Tahiti flight landing on the high plateau at AUQ*

Monday November 8 we headed off early to the AUQ airport to make sure that we got there in plenty of time to check our excess baggage with Air Tahiti air freight. We pretty much had the terminal to ourselves for a couple hours, though, since the air freight desk didn't open until about an hour before boarding - just like the regular baggage check-in at the ticket counter.

We arrived at PPT in Tahiti in mid afternoon, and took the Covid tests that were required for re-entry into the USA. We received the results an hour later by email and were able to show these at the ticket counter to receive our boarding passes.

Our return flight to the USA was again an overnight flight, which provided plenty of time the next day to make connections through Salt Lake City and get us back to Missoula by sunset.

Although the body is giving out, the spirit is still strong, so I hope I can pull off some more of these trips in the future. I really regret that I was unable to work all the many people that I copied, and I hope maybe through improvements in the station and/or software that I can do better on future trips. I am sure as people become more familiar with Q65 mode and learn about EME, there will be even more stations in the log next time!

# Part IV: Acknowledgements

Many thanks to the many folks who provided financial support to make these DXpeditions possible:

AC0RA, AG6EE, DK2PH, DK8NE, DL8YHR, EA8DBM, F5LNU, F6BKI, FK8CP, G4BWP, G8BCG, G8VR, GD0TEP, GM3POI, HA0DU, HB9Q, I0KIB, I4YRW, IW5DHN, JA7QVI, JA9SJI, JE3GRQ, JG1TSG, JG2BRI, JO1PSX, JR3DVL, JS2CQA, K0DAS, K2ZD, K4PI, K4RX, K5DU, K5NA, K5QE, K5XI, K6EME, K6QXY, K7CW, K7KX, K7RWT, K8CX, K8MOM, K8OM, K9RX, KA1R, KA9CFD, KB7Q, KC0SKM, KJ9I, KL7HBK, KY7M, LY2IJ, LZ2CC, N0TB, N1DG, N3XX, N6BBS, N7IP, N7NR, N7NW, N8DX, N8GTI, N8RR, NJ6P, NV9L, OH2BC, OH6MW, OH7KM, ON4GG, ON4IQ, OZ4VV, PA5Y, PA7MM, RW5C, S51DI, S57RR, SP3RNZ, SP4MPB, SP7VC, UA4CC, UR0MC, UT7QF, UT7UJ, UW7LL, VE1JF, VK2XN, VK5PJ, W5ADD, W5TRL, W5WP, W6BBS, W6UC, W6XU, W7IV, W7JW, W7KNT, W8IW, W8OI, W8PAT, W9GA, W9JN, WB9Z, YL2AO, ZL3NW, ZS4TX, ZS6NK

# Part V: Stations Contacted

This was the first VHF EME DXpedition to exclusively use the new Q65-60A mode for all the EME contacts. These also were the first ever 6m EME contacts from each of these two DXCC.

### 120 STATIONS CONTACTED FROM FO/W7GJ IN RIMATARA

AC0RA, DK2PH, DL8YHR, EA8DBM, ES6RQ, F5LNU, F6BKI, FK8CP, G4BWP, G4IFX, ,G8BCG, G8VR, GD0TEP, GM3POI, HA0DU, HA7TM, HA8FK, HB9Q, IW5DHN, JA7QVI, JA9SJI, JE3GRQ, JG1TSG, JG2BRI, JH2COZ, JO1PSX, JS2CQA, K0DAS, K2ZD, K4PI, K4RX, K5DU, K5NA, K5XI, K6EME, K6MYC, K6QXY, K7KX, K8CX, K8MOM, K8OM, K9CT, K9RX, K9TVG, KA1R, KA9CFD, KC0SKM, KG7H, KJ9I, KL7HBK, KL7UW, LY2IJ, N0TB, N1DG, N3XX, N4BAA, N6BBS, N7NR, N7NW, N8DX, N8GTI, N8JX, N8RR, N9GEP, N9IW, NJ6P, NN7J, NR0X, NU0P, OH1LEU, OH2BC, OH6MW, OH7KM, ON4GG, ON4IQ, OZ1DJJ, OZ4VV, RW5C, S57RR, S59A, SM7FJE, SP3RNZ, SP4MPB, UA4CC, UB7K, UR0MC, US0LW, UT2XQ, UT4MF, UT5UGR, UT7QF, UT7UJ, UT8MM, UW7LL, VK2OO, VK2XN, VK3DUT, VK3ZL, VK4MA, VK5PJ, W0GN, W3UUM, W5ZN, W6BBS, W6UC, W6XU, W7IV, W7JW, W7MEM, W8IW, W8OI, W8PAT, W9GA, W9JN, WA5VGI, WB8CQV, YB2MDU, YL2AO, ZL1RS, ZS4TX

### 119 STATIONS CONTACTED FROM TX7MB IN HIVA OA

AA7A, AC0RA, AJ7LL, DK2PH, DK8NE, DL8YHR, EA8DBM, ES6RQ, F5LNU, F6BKI, G4BWP, G4FUF, G8BCG, GD0TEP, GM3POI, HA0DU, HB9Q, I4YRW, IW5DHN, JA7QVI, JA9SJI, JE3GRQ, JG1TSG, JG2BRI, JO1PSX, JR3DVL, JS2CQA, K0DAS, K2ZD, K4PI, K5DU, K5NA, K5XI, K6EME, K6MYC, K6ND, K6QXY, K7KX, K8OM, K9RX, K9TVG, KA9CFD, KB7Q, KC0SKM, KC8ENN, KG7H, KJ9I, KL7HBK, KL7UW, KY7M, LY2IJ, N0TB, N1DG, N2RVU, N3XX, N4BAA, N6BBS, N7NR, N7NW, N8DX, N8GTI, N8JX, N8RR, N9GEP, N9IW, NJ6P, NN7J, NR0X, NU0P, NV9L, OH1LEU, OH2BC, OH6MW, OH7KM, ON4GG, ON4IQ, OZ4VV, PA5Y, PA7MM, PA9RX, RW5C, S57RR, S59A, SP3RNZ, SP4MPB, SP7VC, UA4CC, UR0MC, US0LW, UT7QF, UW7LL, VK2XN, VK3ZL, VK5PJ, W0GN, W5ADD, W6BBS, W6UC, W6XU, W7GJ, W7IV, W7JW, W7KNT, W8IW, W8OI, W8PAT, W9GA, W9JN, WA5VGI, WA9LFO, WB8CQV, WB9Z, XE2OR, YB2MDU, YL2AO, ZL1RS, ZL3NW, ZS4TX, ZS6NK