



The SSB weekend of the CQ World Wide DX Contest is this month, often featuring activity from rare locations. Those operations aren't necessarily major DXpeditions. Here's NO9E's story of his one-ham contest expedition to Easter Island (CEØY) during last year's CQWW SSB Contest.

Easter in October

Impromptu CQWW Contesting From CEØY

BY IGNACY MISZTAL,* NO9E

Photo A. Tourists from around the world visit Easter Island to see the nearly 900 ancient statues, or moai, built by early residents. They are thought to possibly represent deified ancestors. (Photos courtesy of the author)

Last October, I had to attend a conference in Chile, my first-ever visit to that country. It was a very busy conference with many presentations and personal interactions. To completely “digest” the information from conferences and be fully productive afterwards, I usually take a few days off while carrying one of my portable radios. So far, I have operated from nearly 40 countries, with the goal of 100.

Conference materials advertised a number of post-conference trips to interesting parts of Chile: To Patagonia in the south, possibly with a cruise to Antarctica; to the Atacama desert in the north, possibly the driest place on earth and source of some 30% of the world's lithium; or to Easter Island, over 2,000 miles west of Santiago and over 1,000 miles from the nearest inhabited island (Pitcairn, VP6).

The Easter Island trip caught my attention. The island — also known as Rapa Nui — is about 15 miles long and 8 miles wide (Figure 1). It is best known for some 887 moai (statues) dispersed through the island and possibly representing deified ancestors (Photo A).

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Access by Boeing's Dreamliner 10 is facilitated by a 2-mile-long runway built by the U.S. to provide an emergency landing spot for the space shuttle. Nearly all the population of 6,000 lives in the eastern part of the island in Hanga Roa. The island has good tourist facilities and lots of interesting places to hike, swim, or dive. Two places are special: An extinct volcano, Rano Raraku, where the statues were carved, with some partially-carved statues still visible, and a long row of statues next to the ocean in Tongariki (Photo B), where previously-overturned statues were re-erected by the Japanese government.

Pluses and Minuses

The choice of Easter Island was both exciting and troublesome. On the one hand, my trip coincided with the CQWW SSB Contest and could generate intense pileups that nearly every ham craves, as I was likely to be the only active station from CEØY. My new portable compact-kilowatt station wouldn't hurt, either. On the other hand, my busy work schedule did not let me test the new station, providing opportunities for countless encounters with Murphy's Law. Also, my wife was going with me, and while she could be useful as a carrier of delicate equipment, her

vision of visiting a unique island was far from being on the air all the time.

With the contest, another question was which category and bands to choose. The year 2016 had the oddest propagation in my career. Lots of G1 and G2 disturbances when signals were weak and the higher bands were dead; but also periods with decent propagation on all bands. One had to be prepared for any propagation. The last worries were about airport security with six connections and warnings on flights to Easter Island about overweight luggage. It turned out nobody cared about the radios and the Chilean airline, LAN, did everything to make us happy, including carrying a 40-foot Spiderpole for free.

License, Location, and Equipment

While Chile is not part of a reciprocal licensing agreement, a guest license can be arranged free of charge via the Radio Club de Chile, the country's national ham organization (thank you, Eugenia Corvalan). The license needs to specifically list Easter Island (CEØY). To find an accommodation suitable for hamming, I went over CEØY callsigns on QRZ.com, selected those with large number of hits, and asked for informa-

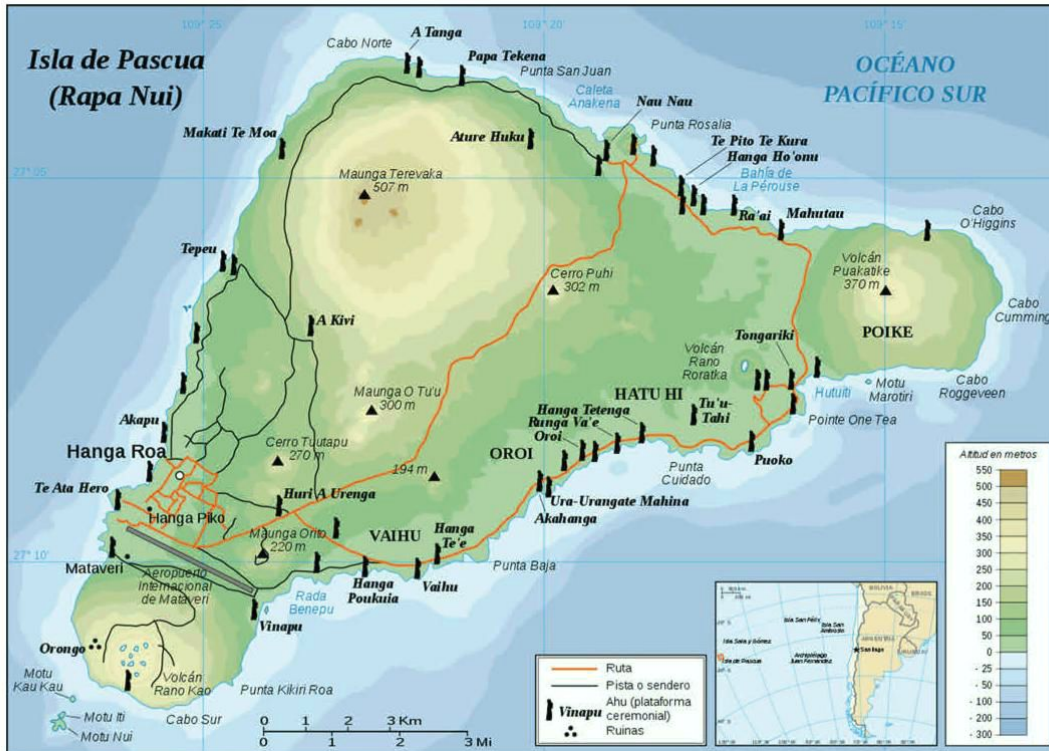


Figure 1. Easter Island (CE0Y), also known as Rapa Nui, is 200 miles west of Santiago, Chile and over 1,000 miles from the nearest inhabited island, Pitcairn (VP6). (Map by Eric Gaba, via Wikimedia Commons)



Photo B. The author in front of a long row of statues at Tongariki, a major island tourist site.

tion. The most useful message came from Gerben, PG5M, who rented a cottage some 15 minutes out of town. He used a K3+KPA500 combo with a 40-foot vertical and a 9:1 balun. That cottage was still available.

My new portable setup included an Elecraft KX3 (1.5 lbs.) and Expert 1.3kfa (22 lbs.) amplifier. The KX3 is a good radio with lots of features, even including a second receiver. After mods for low power drive, the Expert can produce over 1 kilowatt from < 10 watts, so the KX3 can drive it to full power. It has four antenna outputs to let you experiment with more than one antenna, a 3:1 range antenna tuner that makes exact matching unimportant, and can be controlled automatically by the KX3 using cables prepared by KC5PCB. It also has automatic 110/220V switching, an important point as I still remember a loud bang in Australia when I forgot to manually switch a power supply from 110 to 220 volts.

One issue at a kilowatt level is antennas, especially since I had to restrict my baggage to two carry-ons and multiband

operation was a plus, given uncertain propagation. It is hard to make a lightweight dipole or vertical that is resonant on more than two-to-three bands. An antenna tuner would take another carry-on and, if automatic, would wake everyone at night. In the end, I chose the endfed half-wave EFHW-4010-HP antenna from <myantennas.com> (Photo C). It has low SWR on 40, 20, 15, and 10 meters, the main contest bands, and according to the manufacturer, can carry the legal limit. It weighs only 2 pounds and, in an inverted-V configuration, requires only a short run of coax. Easter island has few trees so I also took a 12-meter Spiderpole that collapses to 1.2 meters and weighs 7 pounds. As the setup was not fully tested, I took many adapters, toroids, ropes, an extension cord with multiple outlets, small fiberglass poles, coax cables, a spool of 20-gauge wire, and even my AA-230PRO SWR meter.

Setting Up for CQWW

I arrived on Easter Island early on Friday morning with only a few hours to set up the antennas before the contest began. The cottage was on a slight hill some 200 meters east of the ocean, and the north — a direction to the majority of QSOs — was partially obstructed by a mountain. The inside was too small for a setup, especially with my wife present, so I set up the station under a porch. A pole for drying laundry was strong enough to support the Spiderpole, and the endfed was set as an

Band	NA	SA	EU	AF	AS	OC	%
10	565	71	4	6	50	8	40.3
15	583	70	58	6	116	12	48.4
20	114	38			8	12	9.9
40	5	2	9		7	1	1.4
%	72.6	10.4	4.1	0.7	10.4	1.9	

Band-by-band breakdown of CEØY/NO9E's 1,745 logged contacts during the 2016 CQWW SSB contest.

inverted-V (Photo D). To see how the endfed performed, I also made a 15-meter vertical elevated 10 feet with two drooping radials (Photo E).

When everything was turned on, I was shocked to see an S8 noise level, with nothing else heard. After a few hours, the noise dropped to S2, then appeared again. Over the course of my stay, the high noise stayed on half the time and was a curse of my operation. I tried to trace it briefly, with little success. And communication with the owner was hard as he did not speak English.

For the contest, I used the N1MM+ program installed on a small laptop. With everything connected, QSY was instantaneous. On Friday evening, I did not operate much but went with my wife for dinner along the coast. Very nice walk with statues, ocean waves, a sunset, rocks, restaurants and vacationers. After dinner, it was too cold to operate (remember, I was set up outside). On Saturday morning, I heard many stations on 15 meters, but nobody could hear me. Apparently the propagation to Easter Island was still weak while all the beams were turned in different direc-

tions. After calling CQ for some time, I was spotted and then the endless pile-up started. Mostly a mix of U.S. and Japanese stations, with a few from Europe, South America, and Oceania in between. At one point, I switched between the endfed and the vertical. The vertical was equal or slightly stronger but much noisier. So the endfed was good enough.

Preserving Voice and Fingers

The KX3 has two voice memories. I programmed one to CQ and the other to my callsign. Two extra memories ("59 12" and "thank you") would have been useful. I activated memories by pressing buttons on the KX3 and by using the MOX button as I did not take a foot switch. Because the buttons were hard to press, I made many mistakes, sometimes erasing the memories or turning the radio to tune instead to operate. My finger ached. And then the noise level went up to S8 and I could not copy anybody any longer. It was time to program voice memories into N1MM+ and to set up the VOX. After lots of fiddling, the VOX became very smooth — except



Photo C. The author's main antenna was a multiband end-fed half-wave, the EFHW-4010-HP, from myantennas.com. It's lightweight and easily packed for travel, but will handle a kilowatt of RF.

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when it was inadvertently activated by wind gusts. Sometimes covering the headset with a hat helped, but sometimes it was necessary to switch back to MOX. When the noise disappeared, 10 meters opened up, presenting new pileups for which I had not been prepared. I was able to achieve some very good rates on 10 meters but then the noise would spike again.

A Quickie 10-Meter Beam

I had four lightweight fiberglass poles with me, as well as a small spreader made of L-shaped aluminum and a spool of 20-gauge wire. Why not make a 10/15-meter square 2-element beam as described by G3TXQ <www.karinya.net/g3txq/wire_beams/>? Twenty-gauge wire can carry a kilowatt, but its weight is half that of 18-gauge insulated wire. Wire cutting started, but I was in too much of a hurry and made too many mistakes, so I ended up with only a 10-meter version. The wires were attached with electrical tape and the beam weighed just one pound (poles 10 oz., wire 2 oz., spreader 2 oz. and center insulator 2 oz.). I did not fiddle with adjustments as SWR was not too important with the ATU in the Expert (it was 2:1), and while F/B greatly depends on the tuning, the gain does not. When attached at 17 feet on the Spiderpole, the signals were 1-2 S stronger than on the endfed and the beam opened up a new layer of signals.

Once 10 meters was dead, I switched to 20. An intense pileup commenced, with six QSOs in the first minute. But once the superstations were worked, the remaining stations were harder to work. In one hour, the propagation was over and my wife called for dinner.

In the evening and the following morning, I tried 40 meters.

Completing a QSO usually required a few calls as my station was not strong enough. On Sunday, both 10 and 15 were open, and I worked the pileups whenever the noise was low. When the contest was coming to an end, I saw a guest entering an adjacent cottage, with the noise appearing shortly afterwards. Perhaps it was a TV, a laptop, or a touch-sensitive lamp that was behind the noise.

Wrap-Up

In the end, I made 1,745 QSOs in about 14 hours, running in non-assisted SOAB (single-operator, all-band). After log-checking, that was reduced to 1,650 QSOs and 900,000 points, with time extended to 20 hrs. That still gave me #1 CEØY (all time SOAB record) and #6 in South America (see Table for band breakdown from my original log).

While my craving for intense pileups was satisfied, I felt I could have done much more. With no RFI, my QSOs could have been doubled and scores perhaps quintupled. If operating indoors, I could have stayed longer and perhaps had a good run on 40 meters. And if I'd been alone, I could have skipped dinners for perhaps for 30% more QSOs and 50% more points.

After the Contest...

After the contest, I only worked in the evening as operating all the time without seeing the island would have been like visiting Paris without seeing the Eiffel Tower. Most of my post-contest QSOs were CW on 20 meters, but many were also on 40, with healthy pileups. Everything worked well, especially since CW does not need MOX or VOX. The laptop did freeze once and the amplifier switched from HIGH to



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Photo D. The end-fed half-wave set up as an inverted-V atop a 40-foot (12-meter) Spiderpole.

MID on its own a few times. I found out that I was overdriving the amp because I relied on the power meter in the Expert that was not peak reading, and the house wiring was weak. The correct setup would have been to find the drive power in CW. In fact, a kilowatt in output required only about 6 watts of drive on 20 meters and 8 watts on 10.

Visits From Fellow Hams

The island had actually two ham operators who visited me at one point. Jose, CEØYHO, lives on the island and just got a Spiderbeam. He would have been a good person to rent from as his QTH is quiet. Some of my pileups were due to Jose, who spotted me a few times. Estaban, XQ7UP, came for few weeks for some airport work and worked over 100 QSOs in the contest.

How Could I Have Done Better?

What could I have done differently to improve my contest score? Coming a day earlier would have given me time to find a quieter accommodation. Coming the same day, I should have rented another cottage within the same complex that would allow 24-hour operation inside. That cottage was not likely to have had the same magnificent view of the ocean, but then I was looking mostly at my radio and computer screen.

In general, the operation by KX3/1.3k/endfed was flawless. But many dupes on 20 meters and struggles on 40 meters



Photo E. A 15-meter vertical with drooping radials was set up in front of the house for comparison with the EFHW.

showed that my signal was not strong enough in a major contest environment. Tests at home showed that the speech processor in the KX3 was not too effective, and using a Ten-Tec 715 external speech processor improved signals by 1-2 S-units and signal quality dramatically. Unfortunately, the TT715 is as big as the KX3, requires extra wires, and my TT715 had intermittent connections.

My lightweight 10-meter beam was at least 1 S-unit stronger than the endfed. With the beam, running 10 meters only would have guaranteed the #1 spot in South America and would have made my wife happier due to shorter operating hours. But working more bands was more enjoyable and gave more people CEØY multipliers. With a bit more time, I also could have made the beam dual-band for 10-15 meters, for longer operations on 15. The operations on 40 meters were certainly hampered by the endfed being hung too low. With more time, the spiderpole could be ideal for supporting a 40-meter vertical with two elevated radials. With a coil made of an iron core, such a vertical could also work well enough for 80 meters if conditions were good enough.

The curse of my DXpedition was high RFI, and a separate receive antenna could possibly have helped. Magnetic loops are less susceptible to noise and additionally can be oriented to minimize noise. Active loops such as Wellbrook, Pixie, or the new one from W6LXP are wideband but require bias and have weak signals, especially at higher frequencies. Tuned loops have stronger signals and do not require bias, but do require tuning. A more complicated solution would be

a noise canceler like MFJ-1026. While the KX3 does not have a receive antenna input, the 1.3k does.

My gear had a few unsung heroes. A BNC binding post that, with a PL259 adapter, fed the 15-meter vertical, was light and easy to use. A spool of 20-gauge wire, light to carry but strong enough to carry a kilowatt. Nite-ize fixtures were able to secure a rope in a second. The lightweight 12-meter Spiderpole was small enough to be treated by the airlines as a fishing pole, sometimes bending but never breaking. Finally, lots of electrical tape.

From my perspective, the compact kilowatt of KX3 plus Expert 1.3k-fa plus endfed antenna opens new possibilities in lightweight but efficient operations. Operating QRP takes lots of challenge and does not work in poor conditions. Operating 100 watts is an improvement but often it takes lots of calls and many repeats. With a kilowatt, even with a wire antenna one can work pretty much everyone.

Lessons Learned...

Two lessons from DXpeditions from remote locations concern past experiences and spotting. If someone reported a site as suitable for hamming, it is not a guarantee of future suitability as many things can change. It is good to have a plan B. The other lesson is that a remote station away from major locations needs to be spotted to be heard. This can take a long time. But once spotted, be prepared for a pileup of a lifetime.

I am ready for the next DXpedition during a contest where I will be the only station active in a multiplier. I will take my compact kilowatt. I will also take a foot switch, TT715, and a lightweight magnetic loop. I will try to arrive at least a day earlier and have a few antennas to compare. My lightweight beam will be pre-cut, and apart from the Spiderpole, I may also take a Spiderbeam 10-meter aluminum mast (in the same golf bag).

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