A Maritime Mobile DXpedition in Antarctica

Seeing natural wonders up close — and operating as rare DX — made this trip the experience of a lifetime.

Steve Kaatz, K8SDK

The seed for my trip to Antarctica was planted years ago by friends describing their own trip: the remote, pristine wilderness, the abundant wildlife viewing, and the adventure. It sounded perfect for my family, as we relish active vacations in far-away places with natural beauty. For me, the allure was heightened by the hope that I could play radio from such a remote location! My wife warmed to the idea over time, and our twin sons were excited. The pieces fell into place in the autumn of 2011, when we struck a deal for an expedition-style cruise to be taken in December 2012.

Figure 1 — Steve, K8SDK, at his operating desk on the bridge of the *National Geographic Explorer*.

There are many companies that take cruises to Antarctica, ranging from luxurious bigger ships, to small converted ice-breakers or research vessels. We decided to go with Lindblad Expeditions (**www.expeditions.com**), which partners with National Geographic, because the ship, the *National Geographic Explorer*, looked to be the most capable and technologically advanced. We chose a 10-day cruise that included 4 days (round trip) across the Drake Passage from Argentina, and 6 days exploring Antarctica.

Figure 2 — The dipole set up for 20 meters, among the other antennas above the bridge.

The Drake Passage is the narrow sea between the southern tip of South America and Antarctica. It is known for having some of the roughest waters in the world, due to the flow of the strong Antarctic Circumpolar Current through the narrow gap, and the high winds that are characteristic of polar latitudes. Travelers are warned to be ready for severe conditions, and our friends who had been there confirmed they had a rough ride, but it was worth it.

Laying the Groundwork

Once timing and reservations were settled, my focus during the intervening months before the trip turned to the possibility of making this a one-man maritime mobile mini-DXpedition. When I asked the Lindblad representative about it, she said it was no problem, and that they had actually done that before! Then I e-mailed the Head Captain for his permission. His response was even better: "Well, since you will obtain the necessary Reciprocal Permit from Bahamas, everything should be set for your operation." He went on to say that there was an Amateur Radio workstation on the bridge, where I could set up with the crew's assistance.

The next step was to obtain operating permission from the Bahamas (**www.urcabahamas.bs**), where the ship is registered. Their process was straightforward and efficient, cost $35, and was done in 4 weeks. My assigned call was K8SDK/C6A.

Then the technical planning fun began. In addition to the radio (my trusty Yaesu FT-100D) and travel power supply, I knew I would need an assortment of temporary antenna mounts, because there was no way to know what the antenna placement options would be. I also had to think about weight restrictions, and keeping the packing logistics reasonable for the three flights from our home, near Detroit, Michigan, to the port in Ushuaia, Argentina. With this in mind, in addition to the radio and power supply, the kit consisted of a small SWR analyzer, a travel tuner, and two 16-foot telescoping whips, a long hank of RG-8X coax, several different styles of mounting clamps for vertical or dipole installation, and various accessories, connectors, etc.

Finally, a packing strategy was needed to help everything arrive in one piece, and to assure any TSA or customs officials that my equipment posed no threat. I carried the electronics in my carry-on luggage, and everything else went into my checked luggage, with a note in English

Figure 3 — Icebergs and mountains as seen from the Lemaire Channel.

and Spanish identifying it as Amateur Radio equipment, along with a copy of my license.

With much time to contemplate and anticipate the trip, I searched the Internet for photos of the ship to further assess antenna mounting options. This turned up Thaire, W2APF, as a ham who had traveled with Lindblad. He emphasized the importance of good communication with the Expedition Leader. So, I sent an introductory e-mail to provide a "heads up" about my plans, emphasizing my desire to be as unobtrusive as possible with respect to the ship's operations and the other passengers.

Getting Set Up

December 27 finally arrived and we took off for Buenos Aires. We boarded the ship on December 29 in Ushuaia, Argentina, and I met Lisa, the Expedition Leader; Captain Kruess; and James, the first officer. Although we dreaded crossing the Drake, we got lucky. On the way out it was calm, and we had a nice cruise on the "Drake Lake," as it is called on these rare instances!

On the way, James showed me a small desk on the bridge that I could use (Figure 1) and called the ship's electricians, Florian and Ignacio, with whom I discussed the options for mounting an antenna. While searching for a suitable railing or flat surface, we found an unused mast among the antennas on the deck above the bridge that was perfect for the "hamstick" type dipole center adapter I brought. The next challenge was routing the coax feed line into the bridge. There were many wires and cables leading to the bridge, but when we couldn't find room for the coax through an existing pass-through, I started to get worried.

Florian offered to drill a hole, but I replied that we could find an alternative, and that I had promised not to affect the ship in any way. He insisted it was no problem, and drilled a hole through the bridge wall, installed a waterproof strain relief, and fished the coax through the ceiling to the operating position. We installed the dipole and balun on the mast so that I could extend the telescoping whips as needed for the HF bands. Luckily, the mast was near a corner, so the whips could extend out at an angle to the deck, in such a way that no passengers could come in contact with them. There was plenty of room for a full size 20 meter dipole (Figure 2).

Setting up the rest of the station was simple. 120 VAC power was available at the desk. Although I brought several power adapters, Murphy's Law prevailed, and I was missing the one I needed — Florian lent me one. I had a great view from the bridge and easy access to the ship's navigation displays to keep track of our position and the wind speed. This was important because the whips sagged a lot, and whipped in the wind quite a bit, so I could only deploy them when the wind was less than about 13 – 14 m/s (~30 MPH) on the ship anemometer.

There was one last thing to check before getting on the air. Would my radio interfere with the array of electronic gear on the bridge? I keyed the transmitter in AM mode, and heard interference from one of the ship's radios. Oh no! But James said not to worry, it was the backup VHF marine radio, and he turned the squelch up a couple of notches. Things just kept getting better!

Natural Beauty

Antarctica is stunningly beautiful (Figure 3), and worthy of a separate article. The itinerary of each trip depends on the time in the season, and the sea and weather conditions. Because our trip was in the middle of the season, and the polar ice sheets were thinning out, we were able to venture far south, to just below the Antarctic Circle. (We were the first trip in the season to do so.) Also, in at this point in the season the penguin chicks have hatched, to the delight of penguin lovers! The scenery was exquisite and the isolation added to the thrill. However, it also brought to mind the risk of being in such an inaccesible place. But we had confidence in the ship and crew. Every detail, from steering around icebergs,

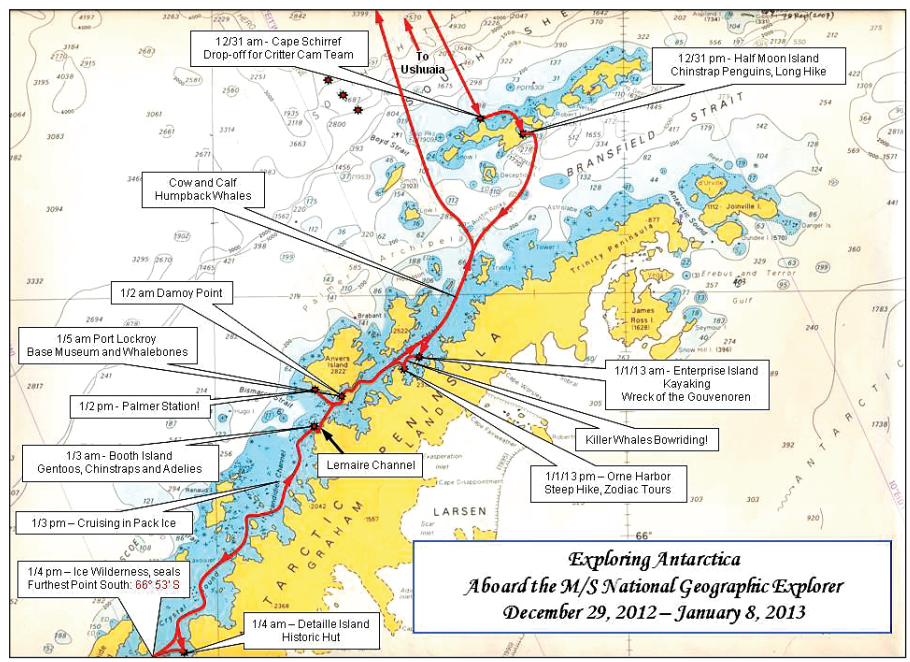

Figure 4 — A map of the expedition's route. [Copyright Lindblad Expeditions, used with permission]

Figure 5 — The former British Antarctic Survey station on Detaille Island.

Figure 6 — The radio room at the Port Lockroy station.

to safely kayaking, to great meals, was smartly handled by the superb crew.

Figure 4 shows a map of our route. The expedition included hikes on various islands and the Antarctic Peninsula, as well as kayaking and cruising on Zodiac boats to observe the scenery and wildlife. Some of the islands featured abandoned British research stations that had been restored to show life as the explorers lived it. The stations at Detaille Island (Figure 5) and Port Lockroy even included the old radio rooms (Figure 6). On this trip we were also lucky enough to visit and get a tour of the United States Research Station on Palmer Island. Every day there were frequent announcements, when interesting wildlife or icebergs were spotted, and the Captain would maneuver the ship to optimize viewing. The ship also had resident naturalists and professional photographers who gave presentations in between excursions and in the evenings.

Maritime Mobile

When not on excursions, or watching whales or seals, I was on the bridge calling CQ. The background noise was quite high on all bands, but the first afternoon I tried, I contacted a VK on 20 meters. After dinner I made more calls. After one or two return calls, I had a small pileup! Over the next few days I tried calling at various times and bands, but found that for the most part, only 14 MHz was open, (often with S-5+ noise) after dinner and into the evening. At these latitudes, dusk lasts until late into the night. Some of the crew were quite amused by my repeated calling of CQ, and nicknamed me "CQ."

I made contacts all up and down the Western hemisphere, including Alaska, and even got into Japan and Northern Russia — and one contact with a ZS on 15 meters. No joy to Europe, unfortunately, in the afternoon or evening. It was interesting (and frustrating) that for many calls it was a struggle to dig the signals out of the noise, and I gave many reports in the RS 31 to 44 range, but people were hearing me at 55 to 58! I was told I was getting a lot of calls that I was just not hearing. I'm not sure if this may have been due to some kind of polar effect on propagation. But other than that, it seemed that grayline propagation was quite good.

I had several evenings of great fun, and the thrill of being the DX is one I'll never forget. I also gained an appreciation for the effort and patience required of DX operators. I was limited only by occasional high winds, and one night when the seas were indeed rough, when all I could do was look out the window at the horizon to keep my stomach where it belonged. I made about 175 QSOs in all, and I'm glad to have helped many callers add Antarctica to their logs. I also created a special QSL card (Figure 7) for those requesting one.

The return trip across the Drake was also relatively calm, but we were sailing at fairly high speed, so the wind prevented extending the antennas. On the last night I was able to operate until rather late. When the time came to pack up, I didn't want to bother the electricians to uninstall the coax feed line so late at night. So after packing up, I left them a note to please seal up the exposed ends for use by the next ham. So if you are planning a trip on the *National Geographic Explorer*, you're already ahead of the game… tell them "CQ" sent you.

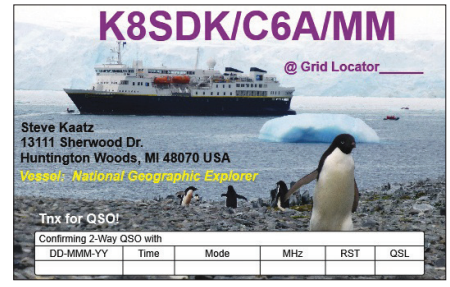

Figure 7 — The QSL card for Steve's Antarctic DXpedition.

Steve Kaatz, K8SDK, an ARRL member and Amateur Extra class licensee, was first licensed in 1974 as a First Class Radiotelephone Operator. After a stint in broadcasting and communications, he earned Bachelors and Masters degrees in Electrical Engineering and entered the automotive industry in the Detroit area, eventually specializing in powertrain NVH (Noise, Vibration, and Harshness). Bitten by the radio bug again in 2000, Steve earned his Technician ticket as KC8PBO that year, and his Extra ticket in 2002. He is employed at the Ford Motor Company, and recently moved into battery cell development for hybrid and electric vehicles. Steve enjoys travel, portable operating, and fixing up "hamfest specials." You can reach Steve at 13111 Sherwood Dr, Huntington Woods, MI 48070.