3B7RF DXpedition

George Wagner, K5KG

How everything began

Prologue by Karl Graetzer, HB9JAI: "Ten years ago I visited Mauritius for the first time. The beauty of the island and its friendly multi-cultural inhabitants left me with delightful memories. In 1996 I resumed my former links with the intention to celebrate my 75th anniversary and 50 years of Ham activity in a special way: I was thinking about an expedition to the St. Brandon Islands!"

Prior to our 3B7RF operation, St. Brandon was number 17 on the DXCC's most wanted list. There had never been a large DXpedition from this location, and the most recent operation was in 1991 by Jacky Mandary, 3B8CF, operating as 3B8CF/3B7. In recent years, Amateur Radio licenses have not been issued to "outsiders" for operation in St. Brandon.

The team

Karl initially put together a DXpedition team to operate from St. Brandon with members of HB9RF, the Zug Amateur Radio Club. They were Hanspeter Blaettler, HB9BXE, Joe Meier, HB9AJW, René Schmitt, HB9BQI, Christine Tororitschnig, HB9BQW and Eric Seidl, HB9ADP. At the 1996 Dayton Hamvention, Karl invited George Wagner, K5KG, and later Willy Ruesch, HB9AHL, Kurt Wetter, HB9AFI, Urs Hadorn, HB9ABO, Hugo Huber, HB9AFH, Yuuji Yoshitani, JA3IG, Walter Marshall, W7SE and Jacky Mandary, 3B8CF joined the crew.

Planning and preparations

By mid-1997 a budget was established and the group began logistical and technical planning and a search was commenced for sponsors. In September 1997 Karl spent three weeks in Mauritius to obtain a license and charter a ship. By the time he returned to Switzerland, Karl had obtained written permission for a landing at Rafael Island in St. Brandon and a verbal promise from the Mauritius Telecommunications Authority for a 3B7 Ham license! That's how it all began.

Mauritius

On 03 May, Mauritius welcomed the crew with humid and warm air, wind and clouds. Karl, HB9JAI, René, HB9BQI, and George, K5KG, went one week ahead of the rest of the crew with 500 kg of freight to secure the radio license and make last minute preparations for the ship and supplies. When the crew arrived on Sunday, they got their first look at the Umbrina II, the vessel that they would get to know all too well in the weeks ahead. Built 1935 in Glasgow, reconstructed 1955, the Umbrina II was an old but noble lady. She was a cruising yacht with a length of about 30 meters and equipped with two 250 HP Diesel engines. There was sufficient stowing room, modern navigation aids and an experienced crew of four who gave the crew confidence in the venture ahead.

In rough seas

Monday morning, 04 May, the Umbrina II was loaded at the pier in Port Louis. Radio equipment and food were stowed on the lower deck and the antennas, masts and generators were put on the upper deck. All gear was securely lashed down for the expected rough seas, a move that paid off handsomely. Kitchen equipment, food and water, procured by the advance team in Mauritius, were also stowed on the lower deck. The last items of fresh food, procured that morning, were also stowed below.

The crew left the solitude and security of Mauritius mid-day with 470 km ahead to Rafael Island. At first, it was pleasant to sit on the upper deck and enjoy the sunshine. However, after a few drenchings with sea water, the group quickly realized that the salon on the main deck was the only place to be, and the only thing to do was lay low for the long trip ahead. During the night the seas grew to 6-7 meters, and the ups and downs and heavy heel-overs were endless. The Umbrina II made 10 knots, and most of those aboard were seasick. There was no change in the rolling and pitching until more quiet waters were reached on the lee side of the St. Brandon archipelago.

An expected trip of 24 hours actually turned into 30 hours, and the crew finally anchored off Rafael Island on Monday at sunset (1730 hours local time). With darkness imminent, the camp equipment and food was transferred into small boats belonging to Rafael Island fishermen to make the remaining 500 meters to the flat sandy shore. The fishermen helped us offload the boats, and the the camp was erected in total darkness and a hasty meal was prepared. The final destination had been reached!

Bringing life to 3B7RF

Early the next day the heavy equipment, antennas, radios, two diesel generators, and a large supply of fresh water were brought ashore. We decided to concentrate on getting the CW stations operational as rapidly as possible. The CW tent, two stations and one generator were assembled along with two triband yagis. Following some last minute work to eliminate RF from the laptops, and a few introductory QSOs by Karl to announce our presence to the world, the CW operators plunged into the pile-ups, which lasted around the clock for the next eleven days. That evening Joe placed the first-ever telephone call from St. Brandon using the Inmarsat satellite telephone.

Installation of the SSB tent and the SSB stations was completed the next day. The Cushcraft X-7 antenna was erected by our now well-trained crew (in total they erected 6 Cushcraft yagis on 10 meter steel telescoping masts). Because of its weight, the X-7 was installed at a height of only 7 meters. Prior to commencing full operation of the four stations, the crew took time out for a short meeting to discuss the daily routine that would continue for the next eleven days. By Friday, 08 May, all four stations were fully operational, and by Saturday the crew was QRV on RTTY and PACTOR.

Station equipment

The stations were comprised of four Yaesu FT-1000MP transceivers, one FT-920, two Yaesu VL-1000 power amplifiers and two Ameritron AL-80BX power amplifiers. ICE bandpass filters were used to combat interstation interference. Antennas consisted of six Cushcraft yagis, one Battle Creek Special, one TitanX 80

and one 40 Meter full wave loop. Compaq laptops running CT 9.36 were used for logging and two 5.5 KVA diesel generators provided power for the operation. Equipment failures were minimal and antenna failures were non existent.

Operating

Our task was to operate two CW stations and two SSB stations around the clock for 11 days with 14 operators. In addition, we had one RTTY station to keep on the air as much as possible. A four hour operating shift was chosen and each day's operating plan was laid out by first determining which bands were to be covered by time of day for each of the four primary stations. A propagation study done by Bob Brown, NM7M, and Walter, W7SE, formed the basis of the frequency plan, along with operating results from the prior day. Each operator selected his desired station and shifts, with our operations manager, Hans Peter, filling in the blanks.

We tried to operate with a split window of up to 15 KHz to give us the ability to work the weak stations. However, we often had difficulty in extending the split window beyond 2-3 KHz. Over and over we asked our audience for a wide split by broadcasting "pse qsx up 5 to 20". Those stations who got the message were easily worked. When tuning back to 5 kHz up, however, there was always an unimaginable crowd of stations calling. Under those circumstances only the big guns were able to pound through the QRM.

One day, 14 May, was chosen as the RTTY day. We reallocated a power amp from one of the SSB stations to the RTTY station and concentrated on RTTY for a 24 hour period to meet the demand. On at least two different days we heard a pirate signing 3B7RF. It's hard to say how many stations were tricked by the pirate.

Band selection

It proved to be a challenge to give sufficient coverage to all nine of the HF bands. In general, propagation conditions were quite good throughout our stay, and there were always several bands were open simultaneously with stations waiting for us. It really was a coin toss as to which band would yield the best rates to Japan, Europe or North America. We constantly reviewed the log statistics and the propagation plans when developing the next day's operating plan in order to equalize band coverage. In our planning, we decided to not work SSB on 160 or 75 Meters, as these would yield relatively low rates.

Pilot stations

Our pilots were Albert Mueller, HB9BGN, Kurt Bindschedler, HB9MX, Gerald Smith, W6TER, Ferdinando Bermasconi, 4F3CV, and Kimihiro Okubo, JH3GRO. HB9MX watched the DX scene in Europe and HB9BGN kept in touch with us via Inmarsat. The pilots compiled hundreds of email messages that came in from all over the world and passed the most relevant comments to us daily. Each evening we sent the logs of the day's operation via Inmarsat to HB9BGN, who relayed them to W6TER for posting to the 3B7RF and VE7TCP web sites. (The 3B7RF web site can be found on the Internet at www.3b7-brandon.ch.)

During the expedition the usefulness of the pilots became obvious. We received suggestions every day from the rest of the Ham world as to what we could do to improve, at what times which band is best suited for a specific region and so on. On the second day we were told that we should not work QSOs on our own transmitting frequency! This "slap in the face" impressed us so thoroughly that this mistake never recurred. We were "scolded" on more than one occasion, and rightly so, for attempting to work split with the VFOs on transceive, which caused us to "chase ourselves" up the band. This was a surprisingly easy mistake to make with the FT-1000MPs

Every day life on Rafael

During spare time, the crew slept, took photos, had endless eyeball QSOs and swam in the lagoon, although swimming in deep water was avoided due to sharks. A very easy walk around the island took at most half an hour. As there was no map of the island, Urs surveyed the island by means of GPS satellite navigation and a compass. Drinking water, brought here by ship was scarce and rain water was collected into barrels. Sea water was used for daily baths and laundry.

Good bye Rafael

SSB operations ceased on Saturday, 16 May, and the equipment was disassembled and packed. On Sunday, CW operations were completed, and all of the equipment was loaded aboard the Umbrina II by nightfall. The last dinner on Rafael was a celebration. We had as our guests the kitchen crew of the fishermen who had done our cooking and the officers from the meterological station. Karl conducted a little ceremony with a speech about our successful efforts, his dream coming true, the good team spirit, and the kindness of the fishermen. A few bottles of whiskey and Swiss Army knives with our call sign engraved were given as gifts. After the speeches, our cook surprised us with a lively Sega performance, the island music of Mauritius.

Rough seas again

Beginning at 0500 local time on Monday personal gear was packed and we prepared for embarking once again on Umbrina II. Once on the ship, however, we were faced with bad news. Due to bad weather we are unable to start our trip back. After some discussion it was decided to go to the Île du Sud, the southernmost island of the archipelago. We had no problems on the two hour trip as we were on the leeward side of the reefs. The captain continued for a few miles into the open sea, but had to return due to high seas and strong gusts. Twice we were hit by a so called double wave, which made the vessel roll as much as 40 degrees! We anchored on the west of the Île du Sud for an overnight stay.

The next morning at 0730 we received the latest weather report. A high pressure area to the south and a low pressure system stalled to the north were the reasons for the bad weather. The previous night there were gusts up to 55 knots, almost 100 km/h. The weather had not changed since yesterday! "Bad weather" in this context meant sunshine, slightly cloudy, temperature around 28°C, but a strong wind that blew apart the white crests of the high seas within the reef.

In the seemingly endless hours of waiting, Eric and helpers repaired the ship's onboard Raytheon HF transceiver with lots of improvisation. A defective inverter within an integrated circuit was replaced by a transistor scavenged from an old sonic depth finder. The ship's crew was ecstatic when they realized their HF radio was working again. Now contact with Port Louis was again possible, and we were able to receive weather reports. The weather bulletin at 1100 hours was unchanged and we remained stuck. Our captain conducted a crew briefing where he explained the weather situation with a carefully prepared chart. There were proposals to return to Rafael as food on board was becoming scarce.

Some insatiable Hams among us mounted a 40 Meter dipole between the main mast and the flag pole and an FT-847 was installed on the table on the quarter-deck. Shortly before launching a CQ, we debated about going QRV. Our 3B7RF license expired two days earlier! Jacky's 3B8CF license was not valid in any moving vehicle or vessel, and our home country licenses (/MM) were invalid because we were in the territorial waters of Mauritius. Not wanting to jeopardize our successful 3B7RF operation or violate any regulations, we relegated ourselves to being SWLs. Short wave broadcasts telling about the world's catastrophes, such as India setting off an underground nuclear test earlier in the week, told us that we were about to leave our peaceful life on St. Brandon and return to the real world.

The stormy weather remained all night. By dawn it became a bit more calm and the captain decided to depart. Still in the lee side of the island, we enjoyed a breakfast with only moderate rolling and shaking. After this meal there were only biscuits and water on board. The third night on board was a long one and the ship rolled and pitched heavily until we reached the waters off Maurititus which, by then, was a welcome sight.

On Thursday, 21May at 1100 Umbrina II stopped her engines at the pier in Port Louis. The manager of Rafael Fishing Co. treated us with sandwiches and coffee which we eagerly gobbled up after three days on a very limited menu. Unloading equipment, transport to the airport and clearing customs occupied the balance of the day. The first fresh water shower back in the St. George's Hotel after 14 days of sea water was just great! Dinner in a Chinese restaurant was delightful and finally there was enough cold beer for everyone!

Farewell

On Friday we took a sightseeing trip to the southernmost part of Mauritius. In the evening we hosted a farewell party for the ship's crew, government representatives and radio amateurs of the Mauritius Amateur Radio Society (MARS). We had decorated the place with our national flags and our sponsors' banners.

Results

Contacts by band and mode are as follows:

Band	160M	80M	40M	30M	20M	17M	15M	12M	10M	Total
SSB	0	0	1915	0	4638	3336	4829	2974	2004	19696
CW	511	2231	2976	1707	5124	4809	7315	4553	3961	33187
RTTY	0	0	0	0	296	0	477	0	0	773
Total	511	2331	4891	1707	10058	8145	12621	7527	5865	53656

Zones with more than 1000 contacts:

Zone	14	15	25	5	4	16	3	20
QSOs	14428	13137	9797	4903	3422	3221	1112	1016

The remaining 2000 contacts were spread among the remaining 32 zones with only one contact in zone 34.
All 40 ITU zones and 150 countries were worked

Numbers of stations working us on multiple bands:

1 Band	2 Band	3 Band	4 Band	5 Band	6 Band	7 Band	8 Band	9 Band
8847	3083	1865	1319	950	672	411	301	163

QSL cards

QSLs are being handled by the club station, HB9RF. Mail address: HB9RF, Postfach 37, CH-6319 Allenwinden, Switzerland