- CY9C – St Paul Island
"The Biggest Little DXpedition in North America"

Introduction

One of our co-leaders, Randy, N0TG, and another of the members of the CY9C team are from Texas, so the subtitle is a play on the title of a 'literary' work with a similar name[1]. However, the similarity between our adventure to St Paul Island and the Chicken Ranch in La Grange, Texas ends right there. 'Tweren't no messin' 'round with us! Randy placed that monicker on our trip early on and it stuck. It also gave us a goal to strive for.

As with all trips of this genre, it did not happen overnight. Continuing with the *"... Biggest Little ..."* theme, what you see on stage or in the cinema represents only a small component of the entire production process. Both activities involve choosing a venue, financing, logistics, transportation, staffing, set preparation, rehearsals, publicity, etc., etc., etc. A well executed DXpedition and a well executed musical require more behind the scenes work than the public is aware. Unlike most DXpedition articles I hope to pull back the curtains and concentrate more on the pre and post production aspects of our trip than in just reporting "'X' number of operators went to 'such-and-such' locale for 'Y' number of days and made 'Z' number of contacts." Numbers are important, of course. We measure success with metrics and at the final curtain call, you get what you measure. Indeed, we were successful in our operation and I will substantiate my claim with the metrics - with the numbers. However, even for an engineer or an accountant numbers alone can be boring and this trip was anything but boring

Preparation

The trip began, as with all such operations, with a few individuals 'jacking their jaws' about: someplace neat to activate: someplace high enough on the needs list to generate interest within the ham community; someplace that would not require delicate negotiations; someplace with reasonable physical access but also someplace with an element of adventure and mystic about it. Wayne, K8LEE, had been to Sable Island several times as had Randy, N0TG, and Murray, WA8DAN. Reflecting on those adventures and with our eyes looking at Nova Scotia we hit upon St Paul Island. Murray had operated from Atlantic Cove on St. Paul Island back in 1995. The more we talked, the more excited we got. The more excited we got the more we knew we were going to make it happen. Randy and Murray became our team co-producers and started writing the script. At the 2015 W4DXCC/SEDCO conference in Pigeon Forge, TN, several of the team met in earnest to discuss phase I details. Randy and Murray had already written most of the script. As the core production crew, we decided that the show was a go for the following August!

August? No doubt you question planning such an endeavor in August. I did too. The island sits approximately 15 miles off the north coast of Cape Breton Island, Nova Scotia, Canada. Access to CY9 is controlled by the Canadian Coast Guard and they only grant a land-use permit for the months of July or August because of potential adverse weather conditions outside of those months. In addition, a $2 million general liability insurance policy is required before permit talks get serious. All of the buildings on the main island are in such despair that visitors are explicitly prohibited from using them. As a result any DXpedition from St Paul will, by definition, be a tent and generator operation. The coast line is very rugged, with almost vertical 30 foot plus (9 + meter) cliffs at all potential landing sites. In those areas where some semblance of a beach exists, the submerged rocks and rough seas make access extremely hazardous. I am told that the cliffs at the northeast point are even higher and more rugged. There is no beach area there at all.

While Sable Island (CY0) is known as "The graveyard of the Atlantic", St. Paul is known as

1 *The Best Little Whorehouse in Texas*

"The graveyard of the Gulf" of St. Lawrence. St Paul island consists of one large island and a small one on the northeast point of the main one. The main island is approximately four miles long and between one quarter and one and one-half miles wide.. No mammals live on the island. Most of it is covered by a dense jungle-like growth of trees. In the days of sail, ships would often get blown or thrown by the wind into the steep and dangerous rocks and cliff surrounding the island. Even if survivors made it ashore, most likely they would starve to death, especially in the harsh seasons from late fall till early spring. It is estimated that thousands of souls reached their demise in the throes of St. Paul Island.

Immediately upon return from Pigeon Forge, Randy started lining up potential 'patrons' and informing the ham community of our intentions. Companies like Elecraft, DX Engineering and RadioSport quickly came on board to sponsor our endeavors as did several DX organizations like INDEXA, CDXA and more. I say this in every report I write or presentation I give, that DXpeditions, even those to second tier entities such as this one, do not happen without the assistance of great companies and financial support of clubs and individuals. This confession is not made for political reasons or in a perfunctory manner. It is simply a statement of fact and offered with sincere gratitude.

Aside

Since I am employing a theatrical motif in this article let me employ a theatre *aside topic* here. I have heard many DXpedition audience members express their view that *those who perform* are engaged in an expense paid vacation. While it is true that a significant portion of some DXpeditions' expenses are covered by donations, I have never been on a trip, even to a 2nd tier entity like this one, that I would call a vacation. Granted, before I retired, I used vacation time or holiday time to go, but on most occasions the actual trip and operation has been more like work than work! Of course, we may take some time to enjoy the beauty of the locale, engage in some tourist activities along the way or take a moment or two to step back and reflect on the historical or political significance of the entity. Only a fool would forfeit such an opportunity. However, I remind those front row critics, that in the DXpedition Theatre, the actors usually pony up about one fourth or more of the total expenses from their own pockets. While those sanctimonious critics sit pontificating in their comfortable climate controlled theatre seats, the 'actors on stage' most likely are not sitting in such comfort. Not only do DXpedition operators literally have 'skin in the game', they have a real investment of time and energy.

Preparation (continued)

The QTH of Wayne, K8LEE, was chosen as the central staging area and all pre-deployment equipment was sent their. Randy, N0TG, continued to purchase or solicit such items as radios, head sets, tents, coax, antennas, air mattresses, tables, chairs, porta-pots (5 gal buckets with plastic seat), toilet paper, etc. Each individual was responsible for procuring their own food[2], sleeping bag, computer, CW paddle (if so inclined) and other personal items.

Shortly after our planning meeting at the 2015 W4DXCC/SEDCO event I contacted George, W8UVZ, to borrow a Battle Creek Special (BCS) 160, 80, 40 m. antenna for our trip. We were placed 'on the list' and Wayne, K8LEE, picked it up at Dayton. I have used this antenna on several expeditions now and personally appreciate the effort the BCS team goes through to make this antenna available for DXpedition use.[3] Thanks guys!

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2 Food consisted mainly of freeze dried camping style food or Meals Ready to Eat (military style MREs) On one of the helicopter runs, I jokingly asked Pat, N2IEN, where the pizza was. I could not believe it when on the next day's run, we had hot pizza at our site and the NE point had a hot chicken dish! Be careful what you ask for, eh?

3 The original BCS team consisted of George, W8UVZ, George, K8GG, and Charlie, W0CD (SK). It is a nostalgic trip through DX history to see the calls written on the inside of the packing case of the various DXpeditions that have previously used this classic antenna.

Joe, W8GEX, lent us several antennas and masts from his personal stash. Joe is also the equipment custodian for SouthWest Ohio DX Association's meager supply of stuff. While absconding with Joe's antennas, we commingled a TransWorld TW-2010 with optional 40 and 80 m coils and an original Traffie Hex beam from the SWODXA cache -- with permission, of course. Joe and John, N8AA, assembled and tested each antenna prior to transporting them to Wayne's house.

Randy sent me his K4KIO version of the Hex style beam. I pulled the remains of my homebrewed rendition of the G3TXQ Hex design from my antenna graveyard and resuscitated it. Each was assembled and tested at my QTH and repackaged along with surplus military mast poles, guy stakes, guying materials, etc. for subsequent transport to St. Paul.

Elecraft supplied eight complete sets of the new K3S, complete with second receivers, additional filters, KPA-500 amps, KAT-500 tuners, a/c power supplies and some additional P3s. One set was delivered to Murray, WA4DAN and the rest to Wayne. Between Wayne and I we configured and tested set up every piece of equipment in advance. Configurations were saved and a thumb drive was created for each K3 with its saved configuration, in case we needed to restore in the field. In addition a master stick was created with all of those configurations.

Phil, VA3QR, procured the Honda generators (EU-2000i's) in Canada and brought them with him to our jumping off point. He also provided almost all of the liaison work with the Canadian authorities. It was our original intention to provide near real time updates to ClubLog and Phil was the man behind the plan. Thanks to Paula, NX1P, both Phil and I had configured and tested Raspberry Pi computers to handle the interface between our logging programs and ClubLog. As it turned out, the Northeast Point site had access to a cell tower on Cape Breton Island, but the one we were to use from Atlantic Cove was down. As a result they were able to directly access ClubLog and we could not. Our logs were placed on a thumb drive and sneaker netted via helicopter almost daily for upload. Because of terrain obstructions, we were not able to directly link our two sites together as Phil originally planned. He did a yeoman's job of assembling the logs, finding and correcting logging issues and keeping ClubLog as accurate as possible. If you did not follow his daily blog about our trip you missed some enjoyable reading. I found it enlightening to read after the fact. You might find it likewise.[4]

Planning Lesson Learned --The plan had been for everyone to bring their own laptops already loaded with N1MM+, dxpedition version. Not everyone is computer literate. Everyone had different versions of operating system. We had computers loaded with every version from Windows XP to Windows 10, including Vista, Windows 7 and Windows 8 and many different keyboard layouts. Everyone was originally going to operate a given rig, with their personal computer only having to switch antennas. That did not work, so as we moved computers from rig to rig, the K3S's USB com port would change and not everyone knew how to reconnect. Some folk's computers did not cooperate completely and we ended up using computers we were not familiar with. The lesson is that all computers should be loaded with the same operating system, same version of the logging software and should remain fixed to a given station configuration. If possible, they should all also have the same keyboard layout.

Act 1: Travel To

Most of the team traveled by air to Sydney, NS, while four hardy sojourners opted for the slow go - the scenic route. We took the highway. Phil, VA3QR, drove from his home in Acton, ON, Canada towing a trailer full of generators, internet linking gear with all the ancillary paraphernalia and 50 twenty-five liter gas containers. He filled those containers approximately 18 miles from Dingwall, our jumping off point. That equates to about 2,039 pounds of gasoline sloshing around in the trailer. That

4 http://va3qr.ca/

is almost 235 million BTU's of energy!

Murray, WA4DAN, drove a rental panel truck from his home near Greenville, NC and met John, N8AA, and me at Willkes-Barre, PA where we spent the first night of our three day journey. For the remainder of the trip we had a loose two vehicle caravan. John and I drove a 26 foot dual axle U-Haul with all the equipment that had been staged at Wayne's QTH. We had originally planned to use a 20 foot truck but had to up-size for lack of enough cargo area in the smaller truck.

As I reflect on the route we drove from our homes in SW Ohio to Dingwall, NS, it was a path through 'Americana' starting at my current home in Lebanon, OH where the Golden Lamb Inn is located. This is the oldest hotel in Ohio and has been visited by 12 US presidents. We passed or came near many sites well known in national or amateur radio folk lore. Some are listed below.

Columbus, OH and Ohio State University; where John Kraus, W8JK, of antenna fame taught.

Tallmadge (Akron), OH; where one of our sponsors, DX Engineering is located.

Alliance, OH; Do you remember Alliance rotors from days of old?

Stow, OH; This was where Dentron started
Sharon, PA; The K3LR antenna farm is on the south side of I-80 just after entering the state.
Oil City/Western PA; First oil discoveries in the USA
Punxsuatawney. PA; Home of the great 'Prognosticator of Spring', Punxsuatawney Phil.
Woodstock, NY; Time for a psychedelic flash back?
West Point, NY; Home of the US Military Academy
Newington, CT; ARRL headquarters
Springfield, MA; Home of the original Springfield Armory and current museum.
Mt Kathadin, ME; Northern terminus of the 2200 mile Appalachian Trail
Houlton, ME; Northern terminus of I-95, gateway to New Brunswick, Canada

We stayed in Houlton, ME the second night and made an uneventful crossing into New Brunswick, Canada early the next morning. Scenery aside, there were two, maybe two and a half, significant events as we traversed New Brunswick and Nova Scotia. Someday I would like to return to this area and make the trip in a more leisurely manner in something other that a 26 foot U-Haul hell-bent for a distant destination. It is beautiful up there. I am an engineer, of sorts, but the names of towns and geographical entities along the way suggest significant historical and anthropological ties I would enjoy investigating in more depth. As one journeys from Houlton, ME across New Brunswick to Nova Scotia they transition from the northern edge of the Appalachian mountain range to maritime lowlands. There are only two cities of significant population along the route - the provincial capital, Fredericton, and the province's largest metropolitan area, Moncton. In the 2011 census the population of the entire province was only about 3/4 million. The population of our smallest state, Road Island, is larger than that by a quarter million. Interestingly enough, the population of our largest state, Alaska, is about the same as that of New Brunswick.

The first event of significance occurred after we crossed over into Nova Scotia. John was driving and we passed by where two Royal Canadian Mounted Police (RCMP) vehicles had another vehicle pulled over. As we passed, one of the RCMP pulled out and started following us. After a short distance he decided to "light up our lives" with a "blue light special." John, commented that he did not think he was speeding. He was not. Our take is that the particular stretch of road we were on is sort of desolate and he just wanted to bide some time. He asked to see our log. Did he say log? Say, how did he know we were hams? Hmmmm, that was not the log he wanted to peruse. He noted that we were a rental truck and wanted to know what we were hauling, from where, to where and for what purpose. Was this commercial material? What kind of license does it take in the US to drive a truck this big? What type did we have? Had we been signaled to pull into any truck weigh stations since entering

Canada? He advised us to maintain a log from that point forward, since 'over the road truck drivers' could not drive more than 8 hours in a 24 hour period, In addition, the log was to record that we had checked the integrity of our load at least daily and had done a visual check of the vehicle, including lighting and turn signals. As another aside, when I got out of the truck, he wanted to know if I was carrying (a concealed weapon). I informed him I was not, since I was not allowed to have a personal weapon in Canada and had left my weapons at home. He then wanted to know why I would want to own or carry a weapon in the US? I was polite and tried to dissuade him from believing I was a hold over from the wild, wild west! (The truck had Arizona license plates.) See why I think he just wanted to pass the time chatting with someone? From then until we exited Canada we maintained a log and was never stopped or signaled to pull into any weigh station.

The next event and a half occurred when we stopped in Truro, NS to meet Aaron, VE1AXC for lunch. When not on Sable Island as CY0/VE1AXC, Aaron lives in Halifax. As mentioned before, Murray has been to Sable many times so he knows Aaron well. It was a nice visit, albeit short, because we were in a hurry to get to Dingwall - miles to go before we slept, miles to go before we slept. We made Truro a refueling stop and went directly out of the restaurant drive into the gas station. Because we were in such a hurry to 'destinate', I was not as diligent in minding my credit card and left it in the chip reader. (Could it be the $171.09 CAN fuel bill had me distracted!) Finally, as we were turning onto the limited access highway, the synapses fired properly and I remembered that I had not retrieved the card from the reader. The turn-around added at least 30 minutes to our journey. Sometimes, the *hurrieder* we go the *behinder* we get!

The rest of the odyssey was pretty much uneventful, except John and I took the western side of the Cabot Trail loop from the main road up into northern Breton Island This decision took us on a road(?) that was narrower and steeper than on the eastern side. In addition there were areas of construction on this section that placed us on gravel inclines that would test the mettle of a sane man. Regardless, we arrived at the Markland Lodge in Dingwall after 2200, safe and bodily intact with no damage to the truck!

Act 2: Activation

Scene 1 – Dingwall, NS

The next day was the only day for the entire team to be together. This was the first occasion for some of us the meet other team members. Pleasantries were exchanged and new friendships begun. Part of the day was spent trying to standardize all the computers to one version of N1MM+. While playing with the computers, I was asked to step out on the porch. There was someone they wanted me to meet. The individual's name was Hamilton Carter, VP8CAY. "Ham" was the Captain of the vessel, the Abel-J, that took the 1992 VP8SSI/VP8SSG team to South Sandwich/South Georgia. I had just returned from the VP8STI/VP8SGI expedition to the same two entities earlier in 2106! Captain Carter now lives in the Dingwall, NS area and was very helpful to us, even hosting Phil, VA3QR, at his QTH after Phil returned from St. Paul before we returned on the boat the following day.

Scene 2 – St. Paul Island

I failed to mention that Pat, N2IEN, owns and flys his own helicopter. In addition to the chopper, Pat's mechanic, Barry Smith, was also there to provide support. What a plus they were to our operation! Before, Pat; Ray, W2RE, and Lee, WW2DX, joined the team, we had explored the possibility of using a helicopter for transport. Various options were explored concerning where to physically set up camp on the island. After myriad iterations Randy and Murray finally settled on making this a two site expedition. One site would be the traditional Atlantic Cove site, where most previous operations operated. The second site would be the northeast point on a small islet separated by a channel between it and the main mass of St. Paul. The northeast point was the preferred site as it was unobstructed for RF in almost all directions while Atlantic cove had serious terrain obstructions,

especially to Eastern Asia and Oceania. We could not have operated from the northeast point with out helicopter support.

Pat ferried the initial loads of personnel and equipment to those chosen sites on St. Paul Island. Phil was the first to Atlantic Cove with the intent to get our internet set up going as soon as possible. Unfortunately, as reported earlier in this write up, the cell site he had intended to use was damaged prior to our arrival in the area and had not been repaired. Plan 'B' was implemented with linking from the northeast point site.

The remainder of the Atlantic Cove point team consisted of John's non-ham son, John, and me. We were deposited on a subsequent sortie with a couple of tents and minimum supplies to initiate site surveillance in anticipation of arrival the next day of the remainder of the team. After ascending the hill to the old governor's house area we determined it was not a viable site for operating. Afterwards, we set up our tents and scoped out the lower area for arrival of the remainder of the team the next day. We had no equipment so no operation from this site took place the first night. As a matter of fact it took two full days before we had all the equipment and personnel for this site. Initially we were on the air with the TransWorld TW-2010 and one of the K3s's with KPA500.

Eventually we had two operating tents with 4 stations on the air. All stations consisted of K3S's, KAT500's and KPA500s, except one. That station used my personal SPE 1.3K FA amp instead of the KPA500 and was dedicated to 160, 80 or 40 whenever any of those bands were activated from Atlantic Cove. For antennas: we had the Battle Creek Special, for 160, 80/75 and 40 m; two hex type beams for 20 through 10 m, including WARC bands, plus separate 30 and 40 m verticals. Murray erected a 5 element 10 m beam which produced a few SSB Q's. By the way, thank you to the former(?) CBer who gave me a “6 by 9, come back” report! 10-4, good buddy.

The Atlantic Cove team was, Randy, N0TG, Murray, WA4DAN, John, N8AA, John's son, John, Bill, K5DHY, Wayne, K8LEE and yours truly. Wayne was the primary RTTY op and I would spare him on rare occasions. Bill did SSB, John did CW and the rest of us would gravitate to fill the empty rig/mode where propagation permitted.

The northeast point team consisted of Phil, VA3QR; Will, AA4NC; Lee, WW4DX; Ray, W2RE, and Pat, N2IEN. According to LEE, they were making their first contacts within 4 hours of landing. The QRN was non-existent, the DX was loud and the pileups were huge. They were energized!

Northeast point was the home of our EME and all other special ops except for RTTY. They even usurped our plans to be “The” 160 m source by erecting a full size ¼ wave vertical from the lighthouse and tied into an existing ground plane system. They rocked. On the first moon pass, Lee made 64 2 m EME Q's. On the second, he managed to contact HA0DU for the only 6 m EME Q on this trip. He then switched to 2 m EME and had another 31 Q's in the log before the wind took his antenna system to its knees. It was so badly damaged he could not salvage enough to return to that mode.

While 2 m EME was now kaput, 6 m was not. As mentioned earlier, late August is not considered prime DXpedition time. It is usually considered too early for the low bands and too late for 6 m. On the morning of the 24th, Lee found the band open and thanks to E-layer propagation logged 700 contacts in six hours. All total over 800 6 m. Q's were bagged on this trip.

After the destruction of the EME array and coming off the high of the amazing 6M opening it was time to get the satellite station up and running. During the storm that took out the EME array, the satellite tripod and AZ/EL rotor was partially built. The storm also knocked that tripod over and cracked open the AZ rotor casing. We were able to piece meal the two damaged rotor systems and get the satellite antennas operational for the remainder of the stay.

Pat attempted to hit every good pass that was available in between good HF openings, helicopter runs and very limited sleep. At the end of the stay we ended up working 166 satellite contacts and a number of contacts were made into EU, the Caribbean and Alaska.

Ray and Will did the lion's share of HF operating from northeast point, with BIC (butt in chair)

time in the 18 to 20 hour range on many of the days. Phil would spell them on SSB when not correcting and uploading logs or performing other support duties. Will worked the 'channel band' between other bands and made quite a show of it. This was the first time CY9 was activated on 60 m so the audience was eager to see how we performed. Even the most severe critic must admit that Will played them like a virtuoso to the tune of 693 all time new band slots filled – not bad for someone whose personal band total for 60 m. prior to this trip was ONE!

St Paul Island is called the *Graveyard of the Gulf* for a reason easily discernible to anyone who has been there. Prior to our opening debut members of our troupe were in contact with members of previous St. Paul productions. From almost every previous participant the common caveat was the weather. The weather being experienced on St. Paul may be very different than that of Cape Breton, only 15 miles away. As a matter of fact the weather on one side or one end may be different than that on the other side or end. Wayne made the observation that we experienced all four seasons in the same day. It may not have been that extreme, but if it had been a member of our cast, it would have been the quick change artist!

Because of impending adverse weather we completely tore down the northeast point set and transported all personnel and equipment back to Dingwall on Sunday, August 28. At the Atlantic Cove site we began site clearance on Sunday and sent 4 of our 7 team members back that day. Almost everything was packaged for eventual transport back by boat except our sleeping tents, one of the operating tents and the low band antennas. We tried to operate as long as we could, knowing that the boat was to arrive at daybreak and we expected to have minimum time to load before the expected storm hit us. As it played out, we could not have left the island ***any*** later. While the height of the waves and velocity of the winds were not of titan proportions, the combination effect would not have permitted another run to have been safely made between the shore and the boat. We looked like wet puppies as we clamored aboard the boat and bit adieu to St. Paul slowly fading in the rain and sea mist off our stern.

Scene 3 – Dingwall, NS

Upon arrival at the dock in Dingwall, we were met by Phil. The rest of the team that left the island on Sunday had already departed for Sydney for their flight back to the US. Phil, Murray, Wayne and I, along with the boat crew and some other seamen 'impressed' into service unloaded the boat and as quickly as possible loaded Murray's truck, Phil's trailer and the 26 foot truck that Wayne and I were to Drive back home. Phil and Murray decided to see how many miles they could put behind them that day and set sail, so to speak, as soon as they were loaded. Wayne and I decided to start fresh the next morning and made way back to the Markland resort and a real meal that night.

The St Paul lighthouse museum is within walking distance of the hotel, so Wayne and I stopped there as we drove from the dock to the resort and had an enjoyable tour given by a lady whose grandfather was one of the keepers when the lighthouse was on St. Paul. After making a small donation and purchasing the obligatory souvenirs, we went on to the resort for that excellent meal and a shower not originating from a 5 gal bucket of seawater.

Act 3: Travel From

The next morning Wayne and I began our 3 day drive back to Ohio/Indiana. Although we maintained our truck log, there were no encounters with the RCMP as we reversed our trek. However, unbeknownst to me, Wayne had been fighting a kidney stone for a few days. Finally about halfway through New Brunswick, he made his plight known, but would not succumb to medical evaluation or treatment until we hit the US border. He was driving and the first words out of his mouth once we were cleared to reenter the US were, “Where is the nearest hospital?” After a short visit to the emergency room he felt he had the situation enough in control to continue the trip. That was where we had

planned to RON (remain overnight) so we did.

The remainder of the trip was really uneventful. The remaining two days were just a reverse of what was experienced in Act 1, with the exception that when we got to Tallmadge, OH we pulled in and met many of the crew there. As mentioned earlier, DX Engineering was one of our sponsors and we wanted to thank them personally. While there Tim Duffy, K3LR, did a video interview of us. That film is available on line for viewing[5].

Once we arrived home, the event was not over. We had to check out the loaner equipment, and ship it all back. Wayne took the lead for this part of the play. Randy is directing QSL design. Now that Phil has corrected script errors in the log caused by errant computers and loggers, Murray has center stage for handling the QSL chores.

Final Curtain Call & Critics Review

So how good a production was this? Was it truly "The Biggest or Best Little DXpedition in North America" ? We think so. The charts below were extracted from our ClubLog data. As best we can tell from an absolute number of QSOs standpoint, this show produced more contacts than any previous CY9 DXpedition. This was an all time new activation on 60 meters and we made a reasonable showing on the bands above 10 meters, including a very creditable showing on EME and satellite. Our totals for 160 meters are nothing to sneer at and the balance between modes is evenly distributed..

5 **https://www.youtube.com/watch?v=2smmzVzVDu4&feature=youtu.be**

Operating Time

First QSO: **2016-08-18 02:46:10**
Last QSO: **2016-09-21 04:16:08**

Band/Mode breakdown

Band	PH	CW	RTTY	JT65		PSK	FM	JT65B	Total	Total %
160	130	1273	9	0	0	0	0	0	1412	2.2%
80	1285	1440	54	0	0	0	0	0	2779	4.3%
60	262	435	0	0	0	0	0	0	697	1.1%
40	3732	5365	514	0	0	0	0	0	9611	14.9%
30	0	6321	1322	0	0	0	0	0	7643	11.9%
20	12137	5969	1415	1	11	0	0	0	19533	30.3%
17	7673	5308	980	0	0	0	0	0	13961	21.7%
15	2242	2578	46	0	0	0	0	0	4866	7.6%
12	835	616	10	0	0	0	0	0	1461	2.3%
10	707	633	0	0	0	0	0	0	1340	2.1%
6	497	292	0	1	0	17	0	0	807	1.3%
2	83	0	0	1	0	0	10	16	110	0.2%
70	165	0	0	1	0	0	0	0	166	0.3%
Totals	29748	30230	4350	4	11	17	10	16	**64386**	

Our major disappointment was the lack of favorable sunspots. This is glaringly obvious by the anemic numbers in the upper HF bands. We did check those bands frequently but most of the time we were playing to an empty theater. Another shortcoming was our ability to reach our brethren in Asia and Oceania. Again, it was not because we were trying. During those times we expected openings we were listening. Whenever we heard a station from those areas we would check to see if there were any others.

Yeah, I think the metrics support our claim. I hope you do too. If we gave you a new band or mode fill we achieved our minimum goal. If you worked us for an all time new one (ATNO) that is even better. If you did not make it into the log and you made a serious effort, we regret your misfortune and hope you make it next time. It was our pleasure to be players in this production and are grateful for your support and participation.

Breakdown by Continent

Continent	Total QSOs	%
Africa	443	0.7
Antarctica	1	0.0
Asia	2520	3.9
Europe	26619	41.3
North America	33183	51.5
Oceania	261	0.4
South America	1359	2.1
Totals	**64386**	**100.0**