

144 MHz Transatlantic Propagation

Considerations

BY NQ2O

I have been following the subject of 144MHz Transatlantic Propagation for some time. I have noticed the great efforts made by European Groups to establish TA Beacons. These efforts are commendable, especially in the light of great dedication and personal time spent on the project. However one can also see a tremendous amount of club support to the groups from individuals, local and national level. Another especially noteworthy fact is the enormous international cooperation on the European and African Continent to a common goal. Many attempts have been made by individuals to bridge that gap under more or less favorable conditions, be it equipment, locations, weather or personal sacrifice. I tip my hat, to all, with great respect.

It seems to follow that one would see a similar enthusiasm and effort on this side of the Atlantic as well. Somehow though, it seems that there is no such efforts underway. If there is, it is one of the best-kept secrets. Communication held in communicato should describe it adequately. Actually, not exactly new here. To be fair one has to mention the efforts by some neighbors to the North, the Canadian Maritimes. It takes no less effort there and the Canadian Hams deserve the same consideration and respect afforded to the Europeans colleagues.

I wonder though, if there might not be a hidden problem in all these efforts? I have noted the beacon frequencies and looked at the band plans for Region I and Region II. The beacons are located according to Region I band plans but collide with the band plan in Region II. Here in Region II that part of the band is assigned to digital transmissions and heavily used as such. Thus, reception of beacons or Qso's could prove to be extremely difficult even under favorable conditions. The TA Beacons being located in an FM part of the band and 200KHz + above our standard operating SSB/CW segment is not an overly big inducement to listen intently for them.

My considerations do not take into account what agreement our Canadian neighbors might have with the RAC or possible participants to the South, outside, of the US.

Analyzing past attempts to bridge the gap one sees a pattern of repeats in methods. Shortest distance to bridge; Highest points plus shortest distance; Higher power plus the above, or larger antennas and all the above. Mixed with all the mechanical efforts were high activity times on the band such as a contest on the other continent. There is no doubt that the attempts were carefully planed, the best equipment available used and great operating skills utilized. None of the operations would have materialized had the participants hesitated to take risks for fear of failure or

disappointment. While it was clear from the beginning that propagation will play a large role it also became clear that propagation is the most formidable part of any undertaking. Clearly, more and exhaustive propagation studies are needed to bridge the Atlantic and possibly even on a more regular basis.

May I suggest a possible alternative to the present approach?

Suppose a series of receivers were built, capable of receiving at least one, better two or more beacon signals at the same time. Record time, date, signal strength, temperature and geographical location. Store this info on a media that could later be retrieved and analyzed. The data could be scanned before storage for pertinent info such as the presence of a clear CW sign or other info to ascertain the presence of a signal. Thus allowing for maximum collection of info before overflow or loss of such.

How and were to deploy these receivers. I believe that it should be possible to interest some Shipping Companies, in the name of science, to allow the placement of such receivers on their Ocean going Freighters. Many companies cross the Atlantic daily to and from North American Ports. Halifax, Quebec, Montreal, Ca. Boston, NYC, Philadelphia, Savannah, Miami USA and others in between. Many Commercial Fishing Vessels operate in and outside the territorial areas of North America. Beacon data could then be analyzed according to geographical location of the vessel, when signal acquired or lost, time of day and prevailing weather condition. Offering the shipping companies free and positive publicity for their cooperation, and especially a fair share of the glory, should almost guaranty success.

In addition to Ocean going Vessels, Air Cargo Carriers might be a useful source of information also. Radios placed on Airplanes could provide information about propagation that ship borne radios cant. Example, Airplanes traveling 10 000 meters above ground have a considerable further reach on certain frequencies versus earth bound vessels. The possibility to compare earthbound data with airborne data is opening new doors.

By employing moving targets across the Atlantic, at all times, would fill a void that otherwise would not be able to be filled. The in between areas are just too large to place stepping-stones for incremental exploration.

The writer firmly believes that a bridging of the Atlantic on 144 MHz is possible. The efforts, the skills and determination of the European Ham Community are legendary and success can't far behind. He wishes that the same could be said about the Western side of the Atlantic.