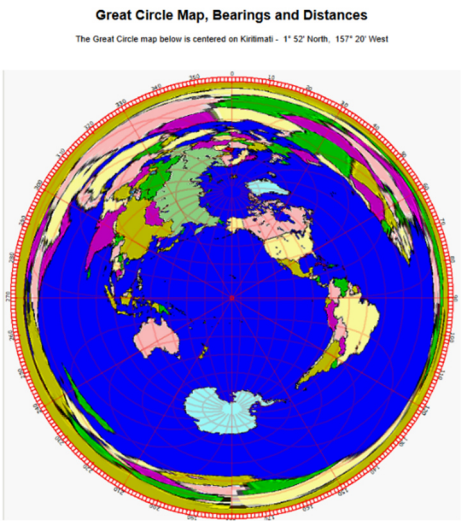
October 2011: T32C - Christmas is. (East Kiribati) big DXpedition.

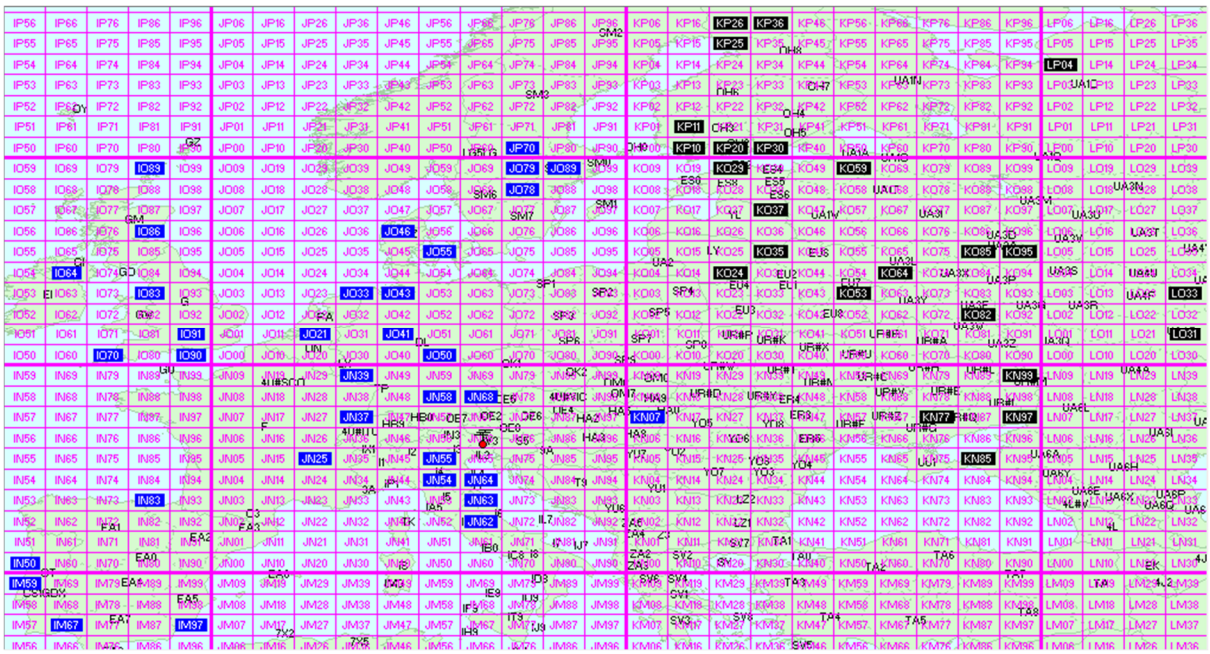
by Pierluigi "Luis" Mansutti, IV3PRK

Between 1 and 24 October 2011, 38 (thirty-eight) radio amateurs from 11 countries activated the Island of Kiritimati (Christmas Island) in the Northern Line Islands, a part of the Republic of Kiribati. The DXpedition was organised by the Five Star DXers Association (FSDXA) and operated using the call sign T32C. The DXpedition was a major success making 213,169 QSOs and establishing at least ten new world records. They made 4.980 QSO's on 160 meters, over four thousand of them with NA, but only 127 with Europe. A glance at the Great Circle Map centred on Kiritimati (BJ11iw) shows that reaching Europe from there is challenging.



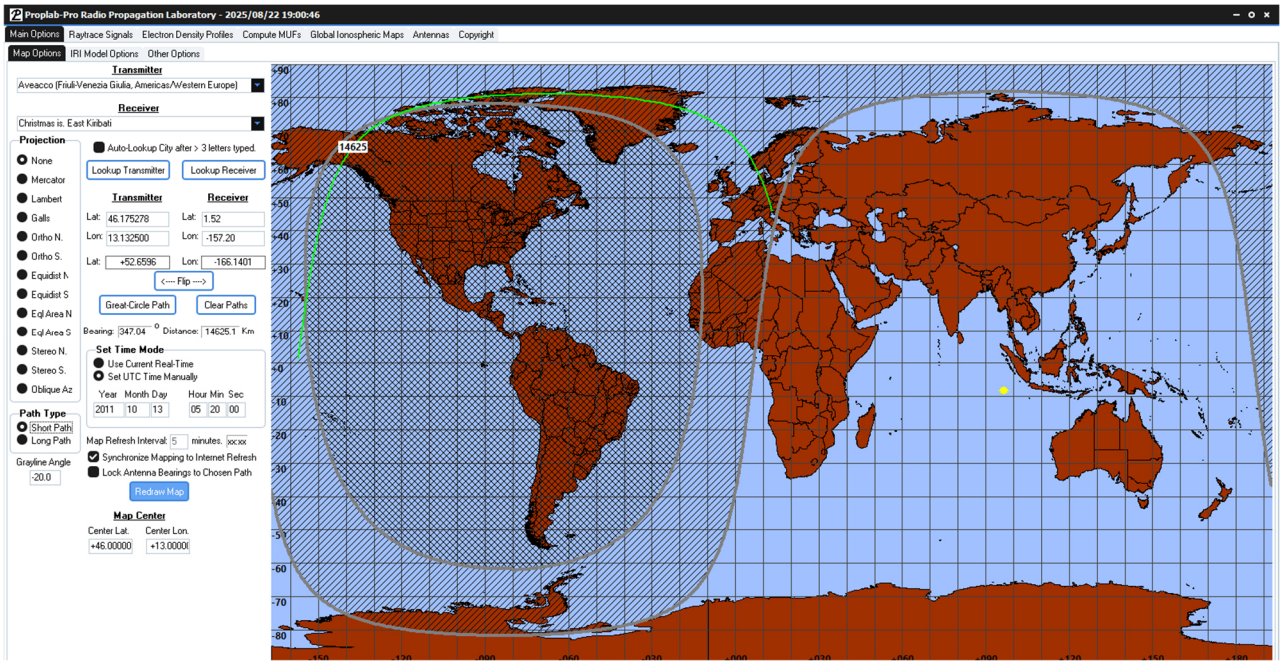
This time I'm making my DXpedition analysis with the on-line logs and statistical data taken from their website http://www.t32c.com/T32C_Log_Search updated daily. Now the DXpedition is over.

I try to find as many European callsigns as I can and, matching them with my database, I'm going to fill, as usual, a DX Atlas map with the grid squares worked. The blue marked grids are for morning (in Europe) QSO's - over a supposed Southwest path - while the black marked are evening QSO's – across the North polar cap.

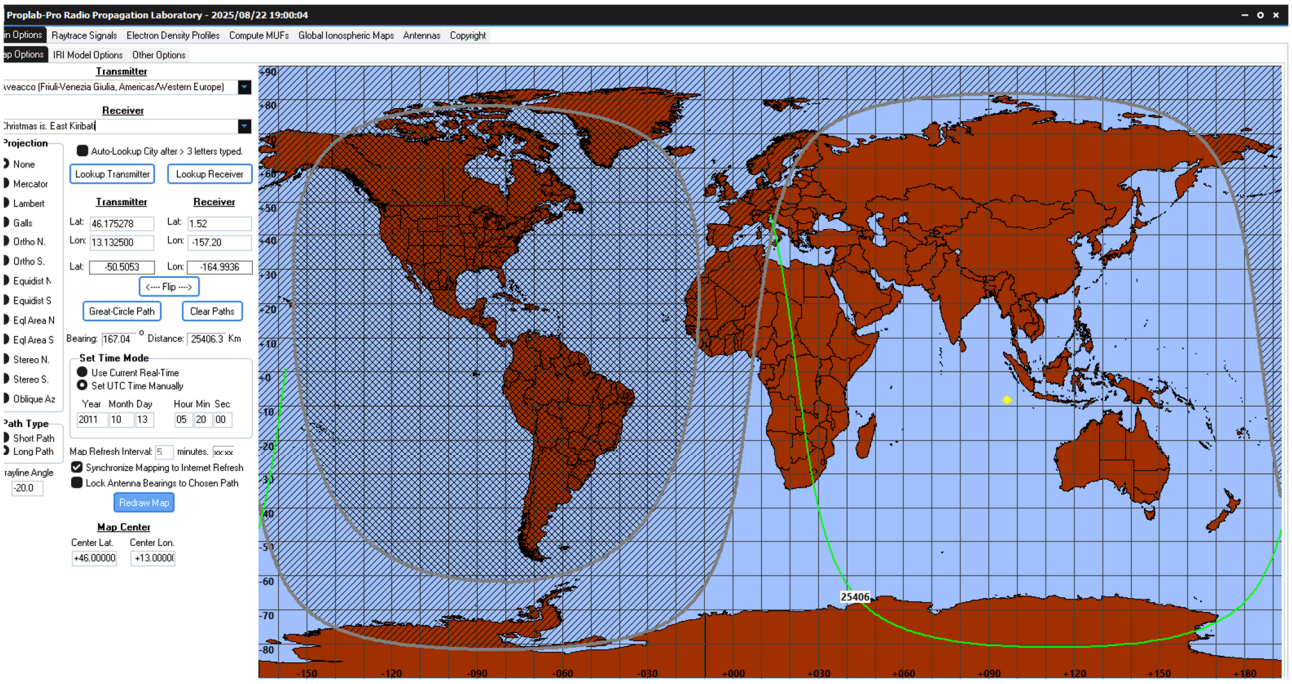


I heard T32C twice, on October 4, 6 and 13 between 05:00 and 05:25z but only faintly (339) and never enough to call. No one in my grid square JN66 managed to work them, not even Slovenian friends up on the mountains with long Beverages. But in those mornings, T32C has been worked by I3MLU in grid JN55 - I4IKW and IK4DCT in JN54 - I4AVG, I4EAT, I4EWH, IK4GME, IK4MGP and IK4WMA in JN64 – IK0YUT in JN63 – IK0HBN, IK0YVV and IZ0AEZ in JN62… wow 13 Italians, a great spotlight propagation, see the map!

But which was the arrival direction of T32C signals? We will read more on this in the letter received by John G3PQA, at the end of the analysis. Let's start examining the possible paths on PropLab Pro set at my sunrise, 05:20z. The first chance should be via short path - 14.625 km at 347 degrees. It crosses the aurora oval, but thanks to the quiet geomagnetic field of all the period, could be done.

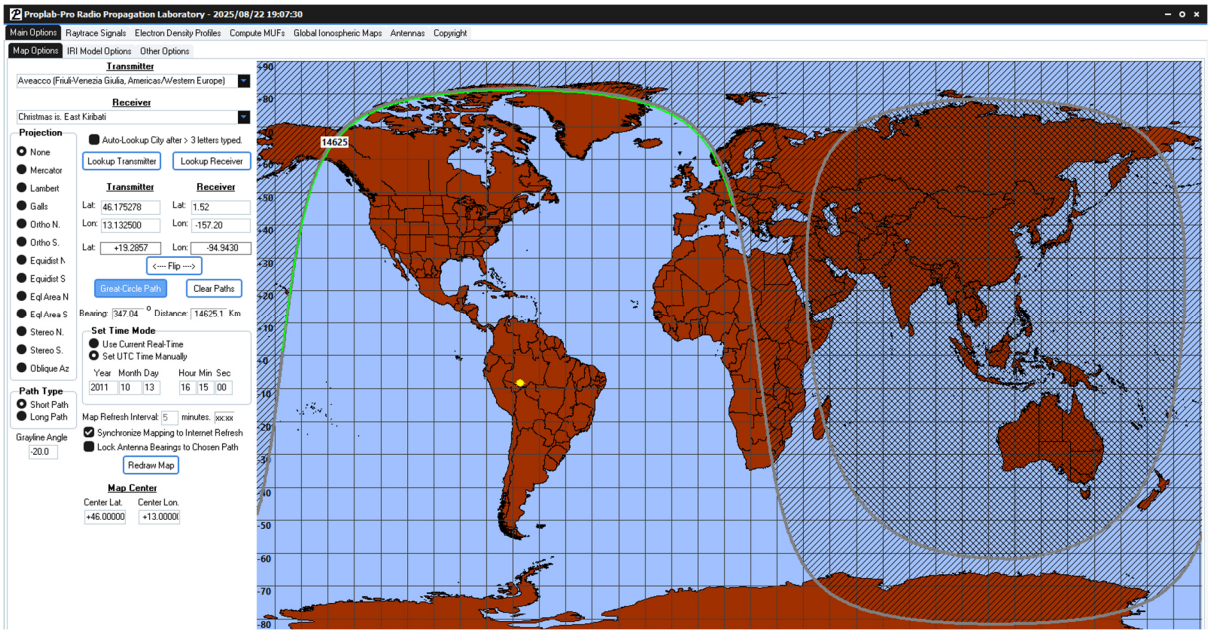


Now, let's check the long-path at the same time - 25.400 km bearing 167 degrees. Signals coming from SSE directions have been sometimes reported (also by John), but that's unlikely because most of the path is in sunlight, crossing all African continent and Antarctica. So, more probably skewed to SSW direction running exactly along the terminator, or grey line.

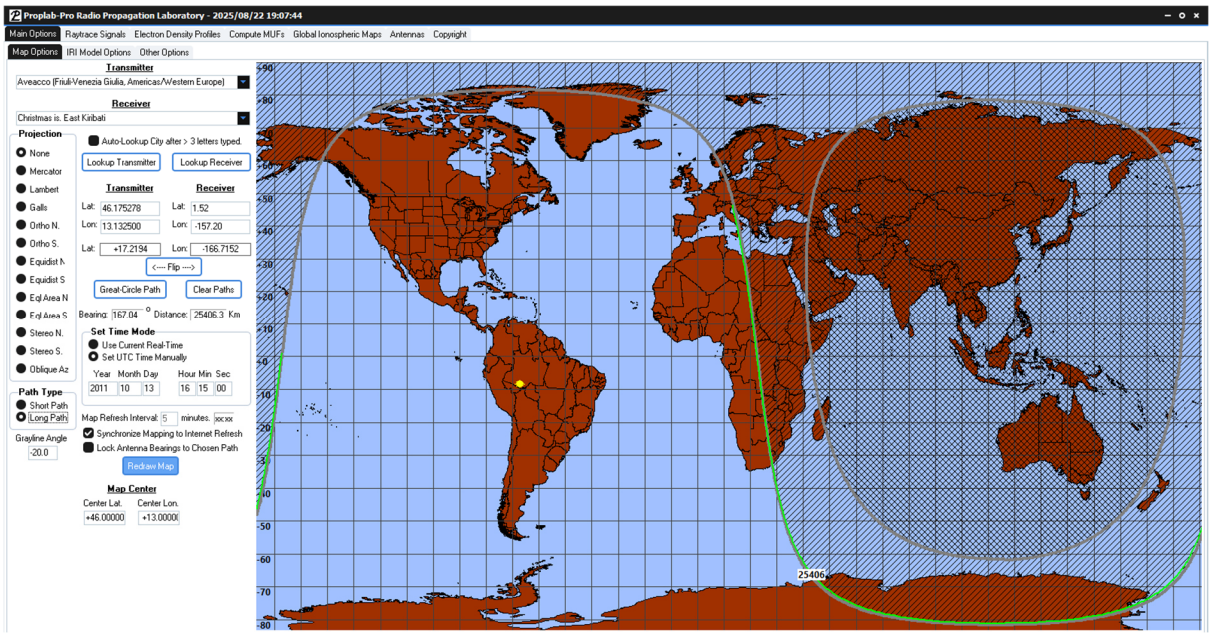


Let's give a look at any chance in the afternoon, at the sunset, which is at 16:15z on this date. Here it could be only a narrow window of few minutes – traveling along the north terminator - since

sunrise on Christmas is. was at 16:10z. Before that time, eastern and northeastern Europe stations had their better chance, as they did, for the contact.

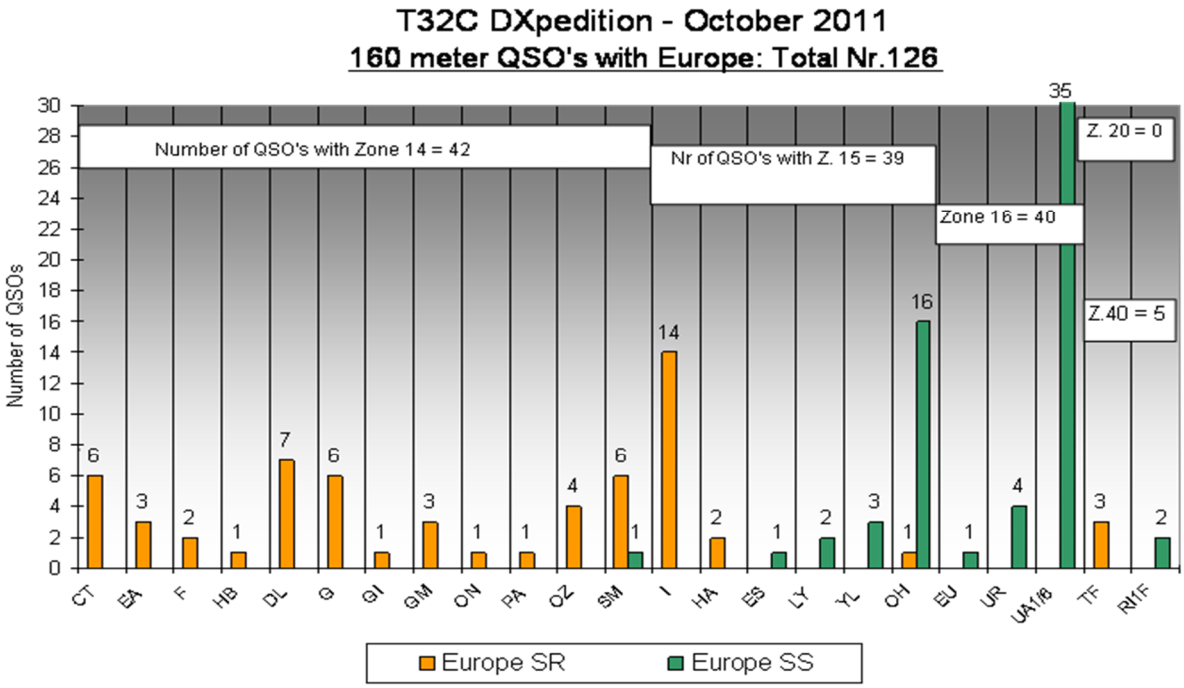


Probably, at this time, it could be possible the true long-path in the SSE direction, along the terminator, but it's a matter of minutes!

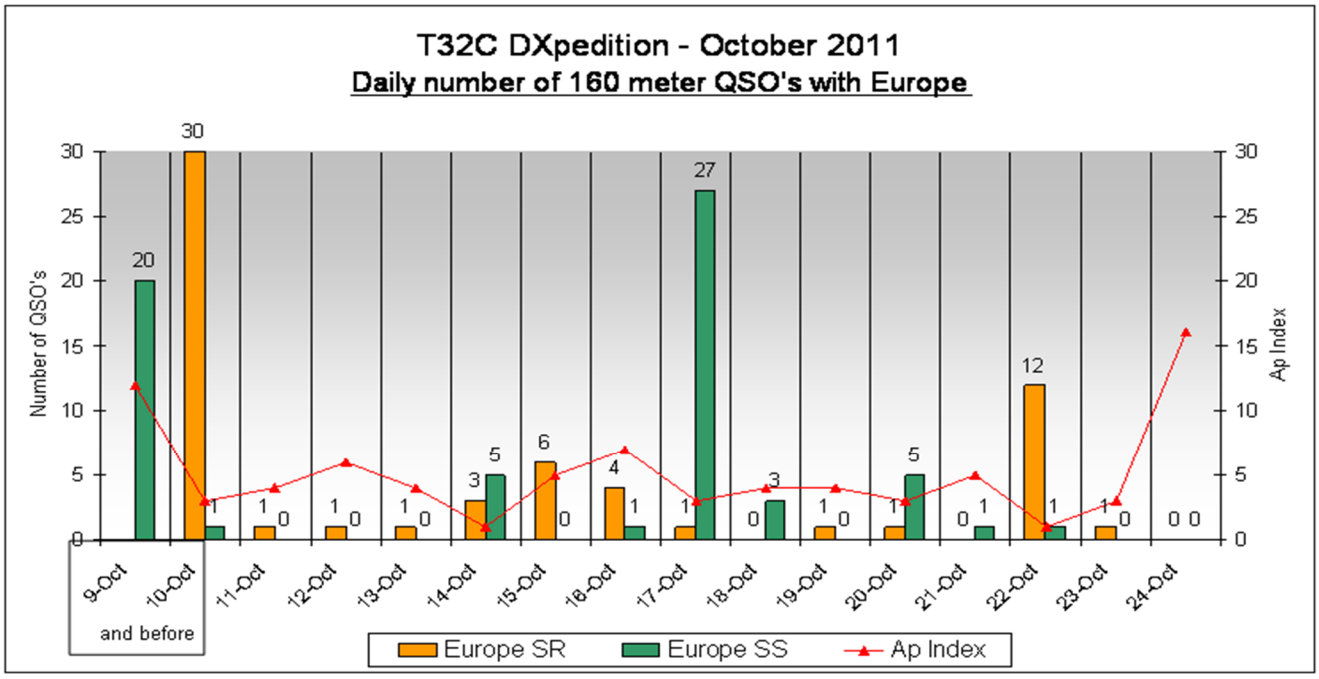


In conclusion, for such a challenging DX, you need not only a good receiving antenna, but also to point it in the right direction or – as in most cases – just to be in the lucky spotlight!

Working further with log data and ordering them, I produced this summary graph, which matches with the T32C statistical data, less 4 busted calls (in EA, LA, HA and OK), i.e. n. 126 QSO's with Europe, of which 62 around sunrise (Western Europe) and 64 around sunset (mostly Eastern Europe). Worth to note that, for the first time, nobody has been worked in zone 20 (Greece and Bulgaria), while 5 QSOs have been made with zone 40, confirming the quiet aurora conditions.



This graph, with the daily number of QSO's, shows the different propagation conditions from one day to another, despite the T32C operator always keeping CQ EU until sunrise! This is one of the toughest paths from Europe and the few short openings with very selective spotlight propagation have been blessed by two weeks of almost quiet geomagnetic field, as shown by the Ap index line.



The last European QSO was on October 23 with G3PQA, the only one on that day! John is an old friend and one of the best Topband operators of the World, and he sent me his MP3 record file . ..\..\..\T32C 1823r9 kHz 0630z 23Oct11.mp3 with the following very enlightening comments:

Dear Luis,
Sorry that you were not lucky with skip for T32C. You must be very disappointed as the path was open to other parts of Italy many days. I heard many Italians and DLs calling, particularly early in the DXpedition. However, I note from your map that you are on the far east side of the "magic zone" for west eu qsos, and with the SW path there is a little more land between you and the other Italian stations to the sea which may be made rx more difficult.
I noticed in UK that stations as little as 100 KM apart had different condx for T32C. Real spotlight, I guess similar to G-ZL condx. On the day that G3SED was hearing him, NIL here. G3RPB heard him on 11/10, NIL here.
The only days I heard them were:
- 15, 16th Oct at 0500z, to the South East (big skew !!), but only Q2 because of QRN in Slough (big town to east) in that direction. On 15,16th, NIL from SW or NW when other EU called or QSOed.
- 23rd Oct 0615-20z when I QSOed. I heard them CQing in the SP contest!
This was the only day I heard them SW direction, and other UK stations in east, west and north said they could not copy. Propagation appeared to be a narrow band north from CT up through the centre of England. In summary, most QSOs were in SW direction and for my QTH this path was only open 1 day in 24 days. I think the SE path opening was very strange, perhaps a "once per year" event.
I think the NW GC path to T32 was quite rare, only happening to the GM and far west G stations perhaps on one or two days.
I spent about 60 hours total listening for T32C, mostly to noise and filter ringing - hi. We must be crazy.
The GM stations seem to work everything up there. Better propagation and perhaps "big-ears" with quiet noise levels like Marko OH3XR! I am in crowded SE UK, 30KM west of London with towns all around. (Slough 8KM, Windsor 10KM, Maidenhead 5KM, Reading 15KM, Marlow 8KM). However because there are fields all around the QTH it is reasonably quiet most of the time (s3/4 from Beverages with 20dB preamp) unless there is a specific noise source, but am sure the general background noise must be at least a little higher than open land to sea or in the hills of Scotland.
The best G locations are G4AMT and G3XRJ, who are on the cliffs close to Lands End Cornwall and the sea on 3 sides within a few miles. I know that area well, because I was 2.5 years at the Cable and Wireless Engineering College at Porthcurno, close to Lands End, in 1967 and 1971.
Wishing you better luck with TX7M and good DX160 this season!
73's
John G3PQA

Despite his wishes, unfortunately, I had no luck also on the upcoming TX7M DXpedition!

October 2011 Luis IV3PRK