**VK3NX – LX1DB 24 GHz CW QSO REPORT**

**1st VK-LX CW QSO on 24 GHz**

***DATE*** : 27th April 2014 0530-0550z

* Wx at VK3NX
  + 60% humidity
  + Light cloud
  + Windy 20-25 km/hr gusts
* Wx at LX1DB
* Temperature was 11°C and dew point 4°C so low humidity
* Spreading of signal 120Hz during QSO

Elevation @ V3NX

* @0530 = 9.2 Degrees START QSO
* @0550 = 5.5 degrees END QSO

Loc at VK3NX QF21CT

Loc at LX1DB JN49CO

Great circle Distance = 16324.3 km .. New VK and world CW 24GHz record.

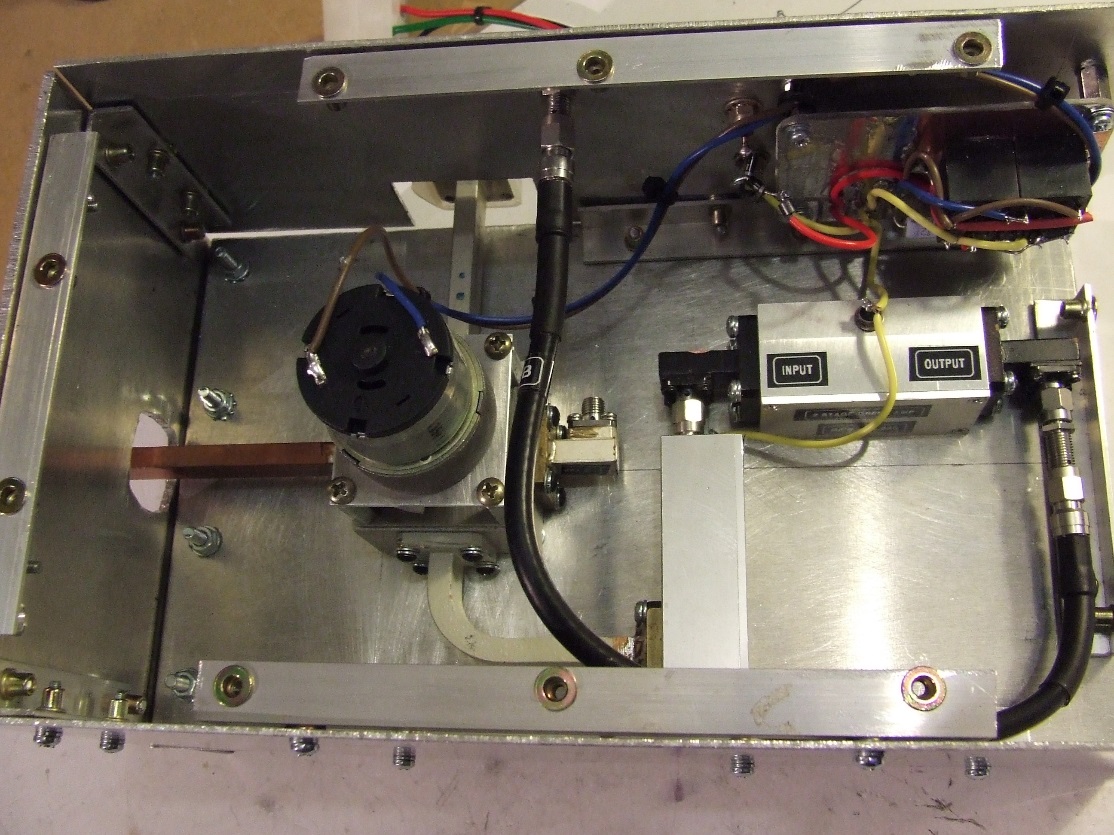
***Equipment VK3NX:***

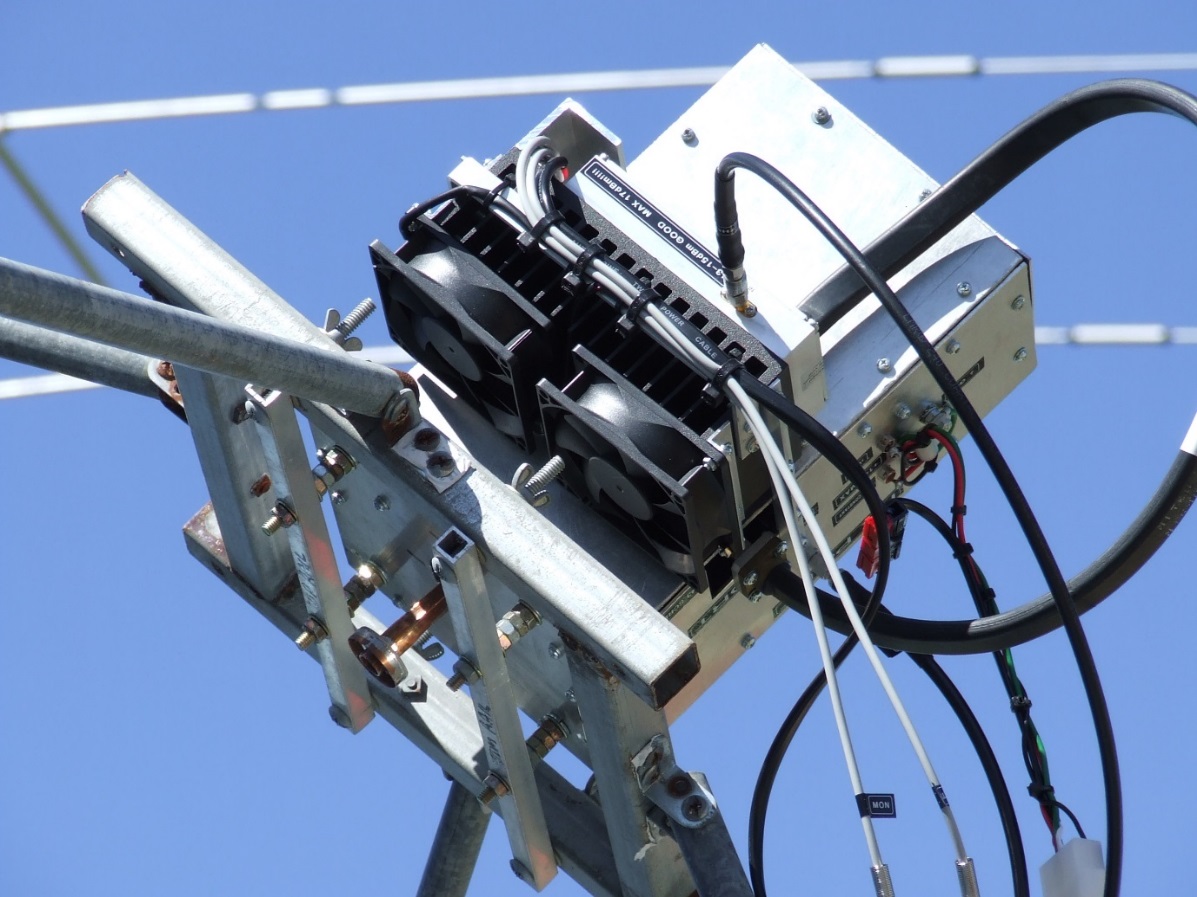
* *2.4 m Solid dish (Andrews)*
* *11.5 W Kuhne SSPA (10 W at feed) short WR42 flexible W/G to W/G Switch (~0.5dB loss)*
* *Feed: Super VE4MA choke flange with Circular to rectangular transition (WR42)*
* *W/G switch: “EVENTS HORIZON”*
* *LNA @ feed*
  + *Kuhne 1.5dB NF 27 db gain + DB6NT design (homebrew) NF= Max 2.0dB Gain = 11.5dB*
  + *Total gain is 38.5dB in “feed box”*
* *LMR240 with Radiall 18GHz connectors for short run on Tx and Rx from “feed box” to transverter*
* *Transverter = Thales 26 GHz units running 1296 MHz IF. Then down-converted to 144MHz IF. IF driver IC-7700*
* *Kuhne 24 GHz W/G filters on Rx and Tx ports of Thales unit. (Absolutely necessary due to very poor image rejection ~4dB only with 1296 MHz IF)*

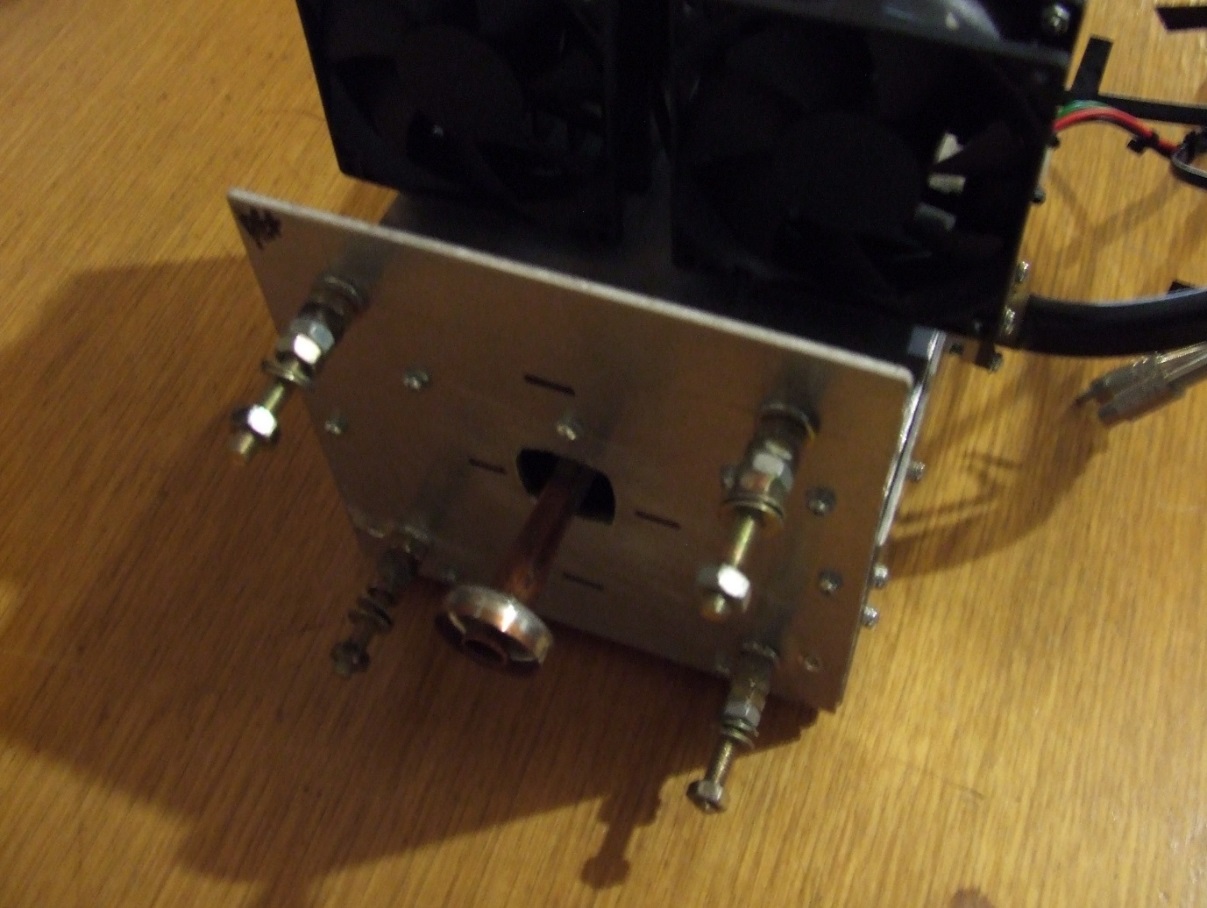
*Perfomance:*

* *Best Moon noise measured at 2.2dB*
* *Moon noise at time of sked = 1.8dB and falling!*

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***Equipment at LX1DB:***

Moon noise 2,4db at time of QSO

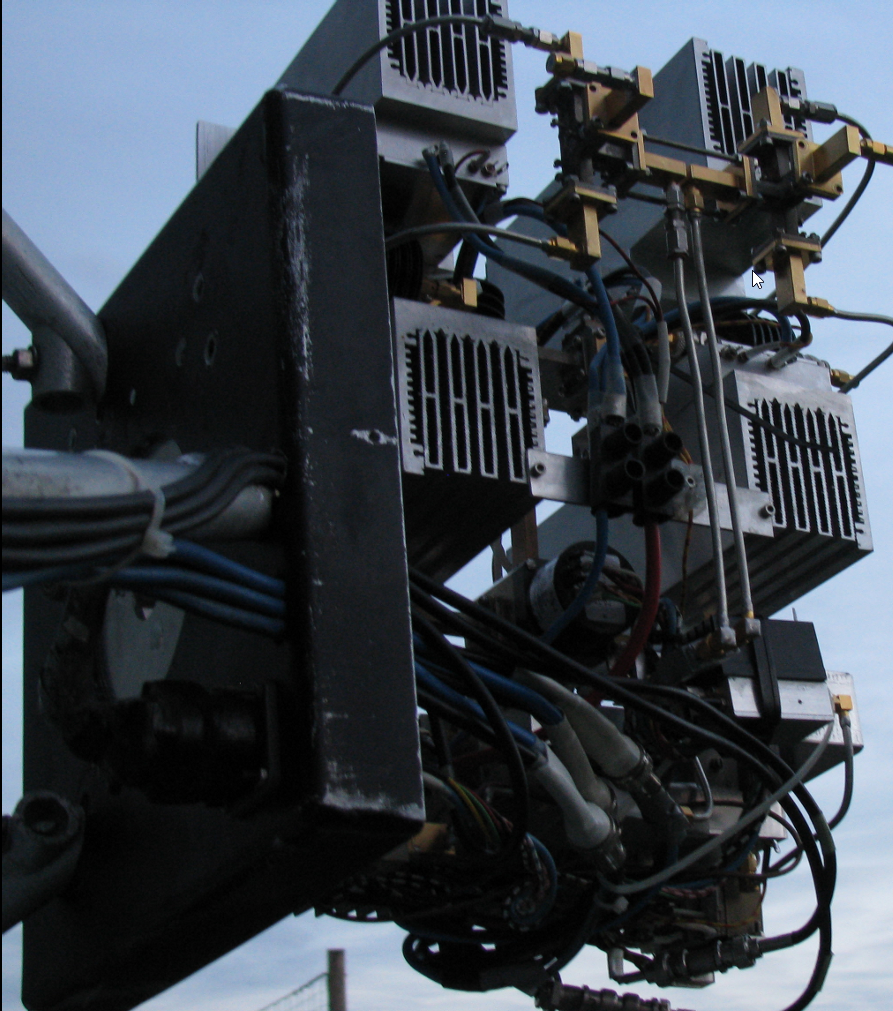
CS/G ratio 3,4db

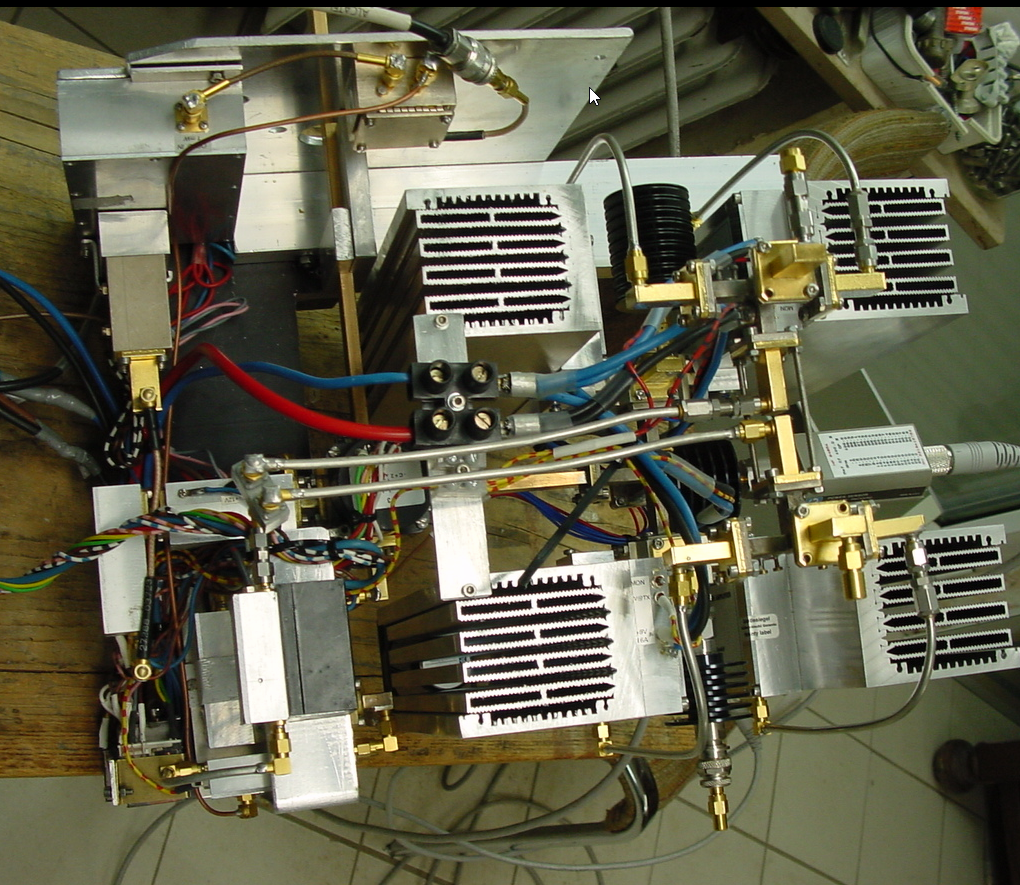
Dish 3m

TX 42W at the feed

Solar noise: 15,db at flux 100

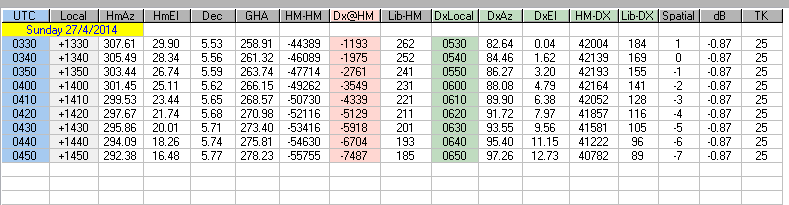
moon noise: 2,5db  at flux 10

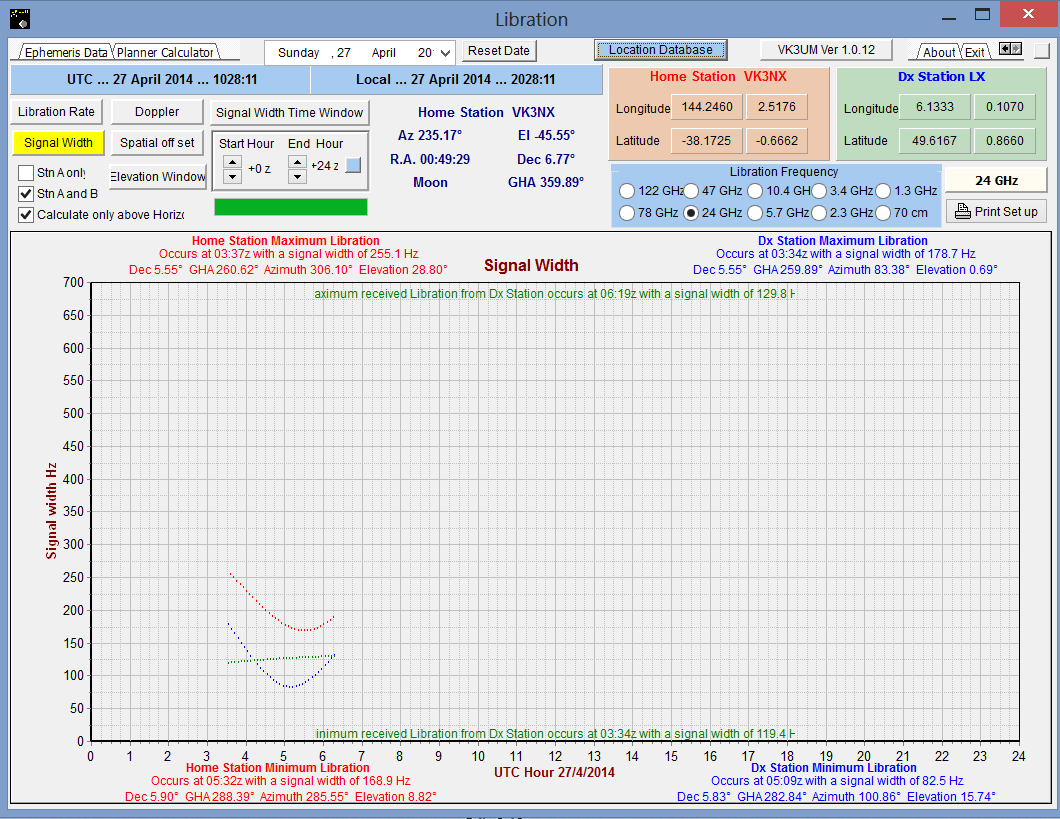
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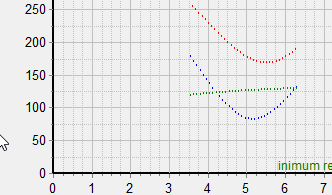
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***INFORMATION @ Time of QSO:***

*FROM VK3UM software:*







***Red = VK3NX***

***Blue = LX1DB***

***Green = LX1DB @ VK3NX***

*Signal width of LX1DB received at VK3NX approximately 125 Hz*