3B8GL QO-100 SET-UP

Reception Side

LNB (SR 320) is fitted on a 80cm satellite dish. The dish is calibrated at Azimuth :317 deg ; Elevation :47 deg ; LNB Skew : - 55 deg on my grid locator LG89rr.

The following link can be used to get your calibration values for your dish as per your location.

https://eshail.batc.org.uk/point/

To perform the calibration settings , 2 persons is required … one adjusting the dish and the other one on the laptop checking the signal level obtained.

The signal I received from the beacon and other Oms after calibration was S9 + 10dB.

To mark the 3 main position with a permanent marker (elev, azi and LNB Skew)

From the LNB to the BIAS T, am using around 12mts (as per installation of the dish at my place) of 75ohms cable (TS NFC 90.131 VATC 75 ohms)…. The BIAS T is powered by a 12V DC 1 Amp supply. Output from BIAS T is then fed directly to the RTL-SDR dongle and the software being used for reception is SDR Console.

If none of the above is available, the QO-100 websdr can be used…same is available on below link

https://eshail.batc.org.uk/nb/

Transmission Side

Important :The distance between the Transceiver to the POTI should be the least possible to prevent loss in the cable. RG214 low loss cable to be used with N-type connectors or better cables with low loss capabilities.

To set and calibrate the transmission satellite dish, just take the LNB SR 320 and place it on the dish and perform same operation as for reception. Once same is obtained, remove the LNB and place the POTI.

Am using the FT897 as transceiver and transmitting on the UHF Band 432Mhz (Mode : SSB). The FT 897 is connected directly to the IF IN of the DX Patrol MK4 Upconverter which is powered by a 12 VDC 1 Amp supply. I have tried to adjust the power o/p on the upconverter but there is no difference in the readings obtained.

Power input of DX Patrol MK4 should be between 3W – 5W (6W extreme)

The output of the upconverter (100mW) is connected directly to the Wifi Amplifier 4 W by means of a pigtale cable with SMA connectors.

The output of the 4W Amplifier (after measurement 1.7W was obtained) is then fed to the dish through 12mts of RG214 cable.

Note : 1.7W through 12mts of RG214 has dropped done the power to 400mW-500mW.

An 8W Wifi amplifier (installed in a waterproof box) powered by a 12V DC 2 Amps supply is fitted just under the 90 cm satellite dish. The 400mW – 500mw is enough to drive the 8W Wifi Amp and same is connected to the POTI.

I was using 5W (indicated on display) o/p from the FT897 and my signal report in Brazil was S9 + 6dB.

I have dropped down the power to 3W and am still being received with a signal report of S9 + 3dB.

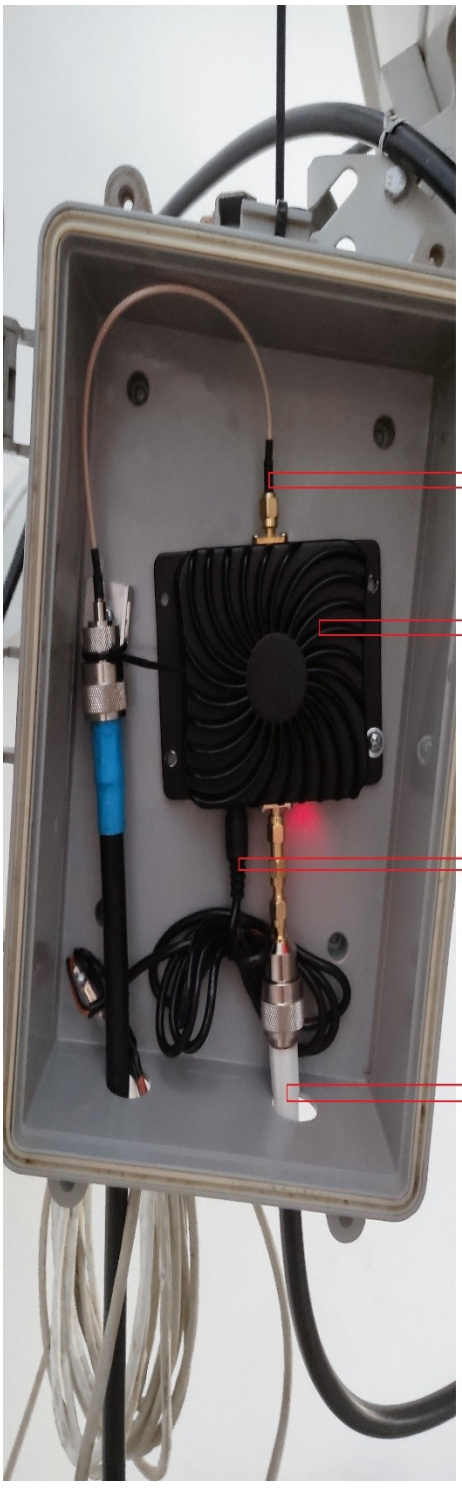
Power o/p from FT897 (indicated)	Signal Level received in Brazil
5 Watts	S9 + 6dB
4 Watts	S9 + 3-5dB
3 Watts	S9 + 3dB

I'll be QRV on SSB and CF will be QRV on CW.

Specials Thanks for this project :

S.Mandary – 3B8CF
J.M.Momple – 3B8DU
P.Randamy – 3B8GF
P.Momple – 3B8FA

F.Yeung – 3B8BAN
G.Moutou – 3B8FV
K. Mandary



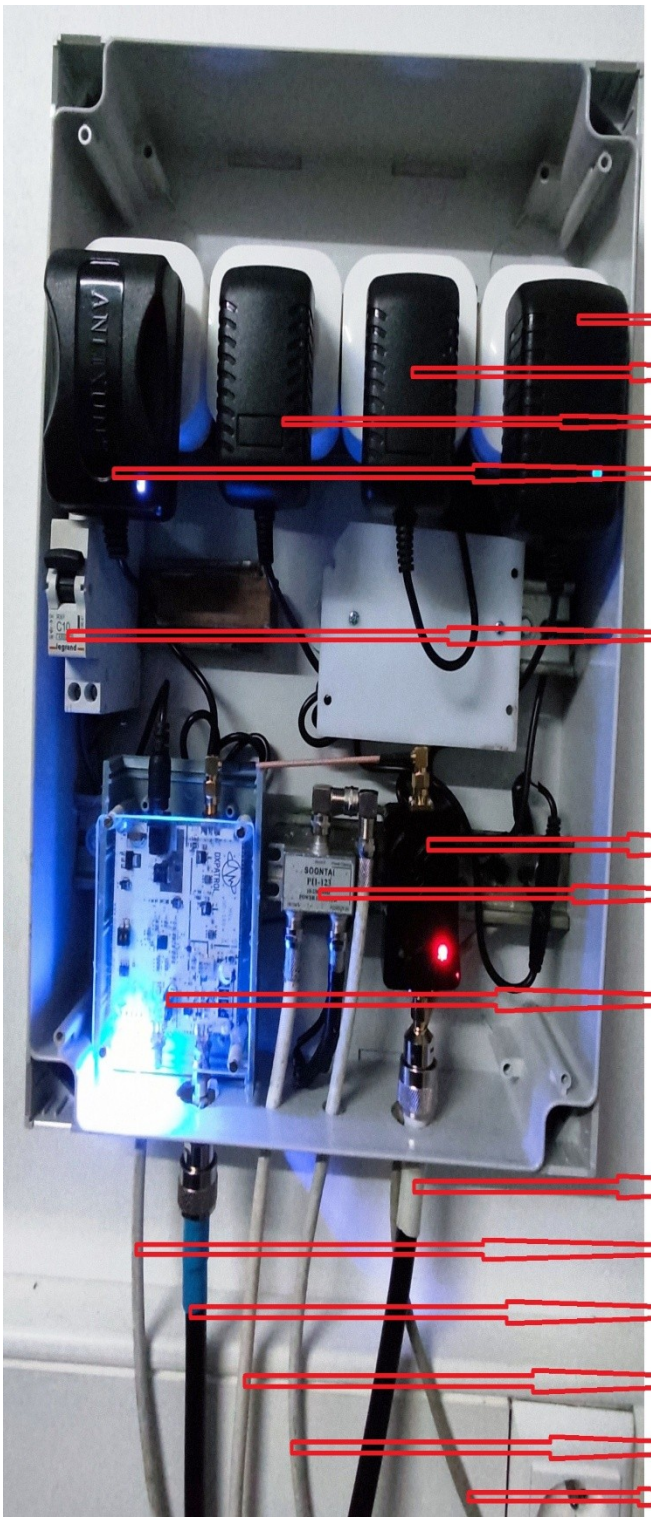
THIS WATERPROOF BOX IS FITTED JUST UNDER THE 90CM SATELITTE DISH FOR TRANSMISSION

O/P FROM 4 W WIFI AMP TO I/P OF 8W WIFI AMP

8W WIFI AMP

12V DC SUPPLY

O/P OF 8 W WIFI AMP TO I/P OF POTI



QO-100 SET UP BOX LOCATED INSIDE SHACK

12 VDC 2A - DX PATROL MK4

12 VDC 2 A - 8W WIFI AMP

12 VDC 1 A - 4W WIFI AMP

12 VDC 1 A - BIAS TEE

16 AMPS MAIN CIRCUIT BREAKER

4 W WIFI AMP

BIAS TEE

DX PATROL MK4

O/P FROM 4W WIFI AMP TO I/P OF 8W WIFI AMP

MAINS INPUT 240 VAC

O/P FROM FT897 TO I/P OF DX PATROL

TO RTL-SDR DONGLE

O/P FROM LNB SR320

12 V SUPPLY TO 8W WIFI AMP


TRANSMISSION DISH
RECEPTION DISH


80CM SATELITTE DISH
Parabole Réunion
LNB SR 320
QO-100 RECEPTION SATELITTE DISH


POTI
WATERPROOF BOX FITTED WITH 8W WIFI AMP
QO-100 - 90CM SATELITTE DISH FOR TRANSMISSION