

DX-Patrol QO-100 Down Converter

The new Down-Converter for QO-100 from DX-Patrol with is a complete receiver Set with PLL lock for LNB, Bias-T, IF conversion for 4 possible Ham bands 28MHz, 144Mhz, 432Mhz and 1296Mhz

It's a easy set box *plug and play* ready to use on narrow or wide modes.



Fig 1 a complete boxed Down converter

Features:

- 1- Input voltage 12V to 18V (LBN polarization mode)
- 2- Internal 10Mhz Reference TCXO 0,5PPM
- 3- External 10MHz GPSDO Input optional*
- 4- PLL lock LED indication
- 5- Internal RX pre-amplifier 12dB gain
- 6- RX gain adjust
- 7- Output IF rf protection
- 8- Four possible IF reception conversion selectable
- 9- Aluminum box

- 10- F- TV cable connectors
- 11- SMA IF and 10Mhz input connectors
- 12- DC voltage input connector (ground on shield)
- 13- Extremely accurate and stable frequency reception from QO-100
- 14- Easy operation PC free
- 15- Loud and clear reception on radio speaker

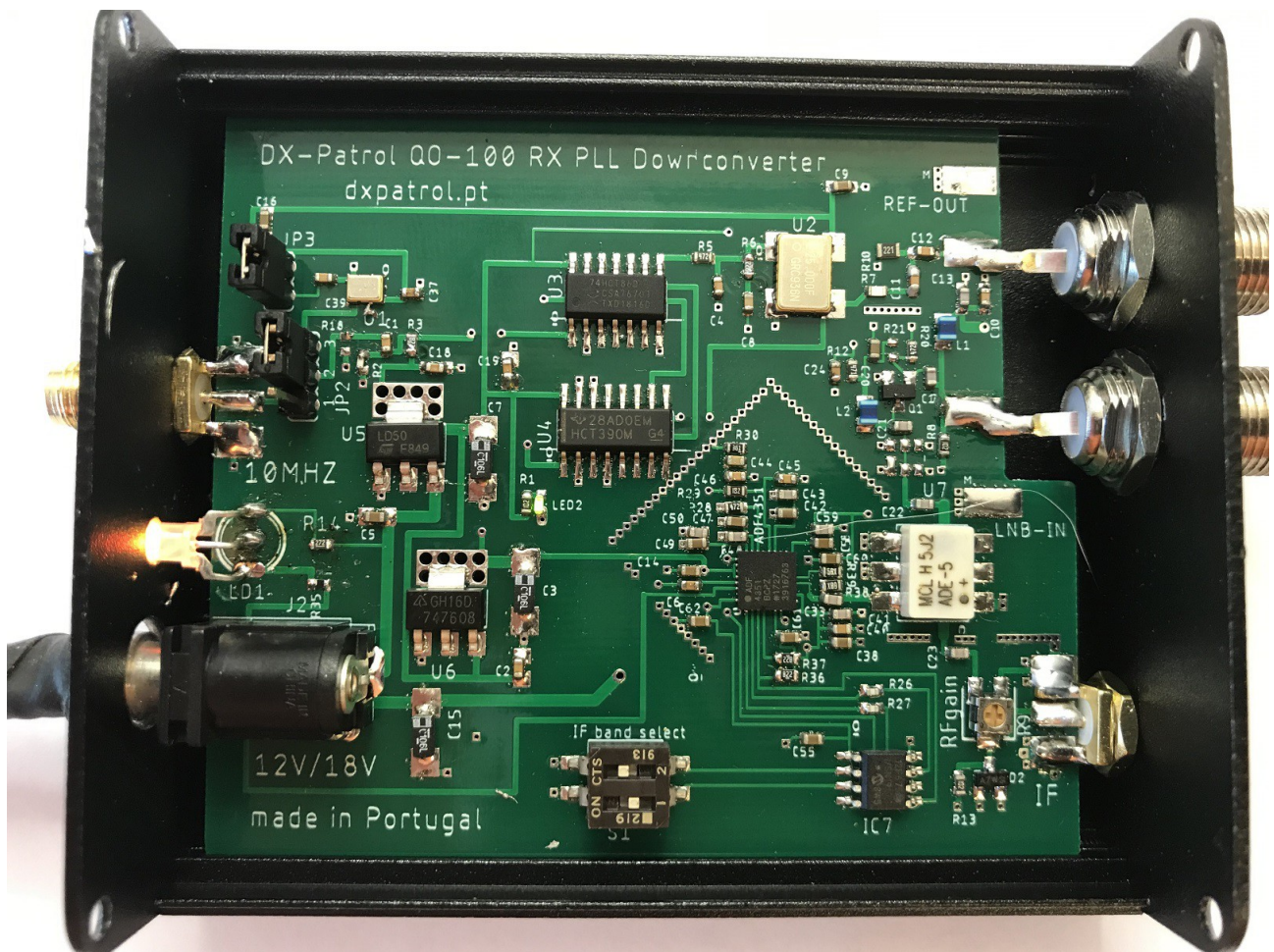


fig 2 Inside PCB view.

REF-OUT = 25Mhz from PLL up to LNB

LNB-IN = RF signal input from LNB

IF= 28MHz, 144MHz, 432MHz, 1296MHz output.

IF Band Select= IF selection deep switch *

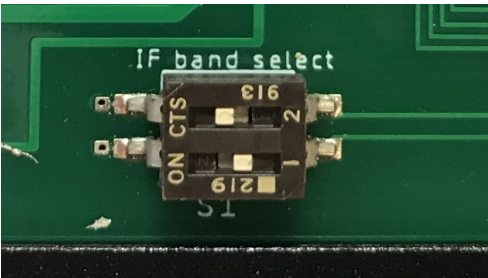
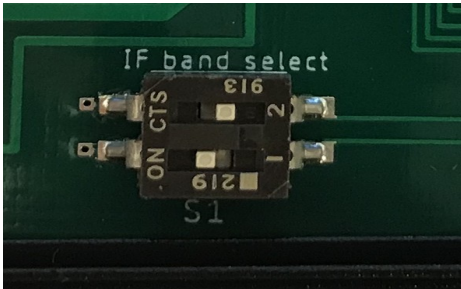
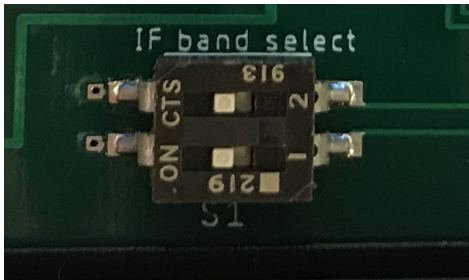
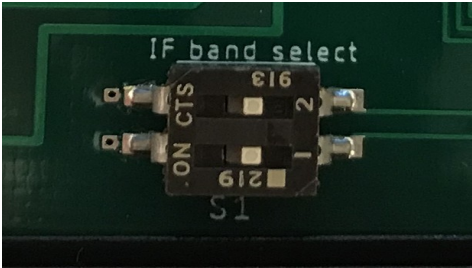
LD1- Orange Color = LOCK PLL Red Color= No LOCK

10MHz= Optional GPSDO 10Mhz reference input

JP2 and JP1= Reference selection internal/external

RFgain= pre-amplifier RFgain adjust (set for noise floor below s1 on radio)

Our new design using a pre-programmed IF's switchable easily by dip-switched

28Mhz IF	
144MHz IF	
432MHz IF	
1296MHz IF	

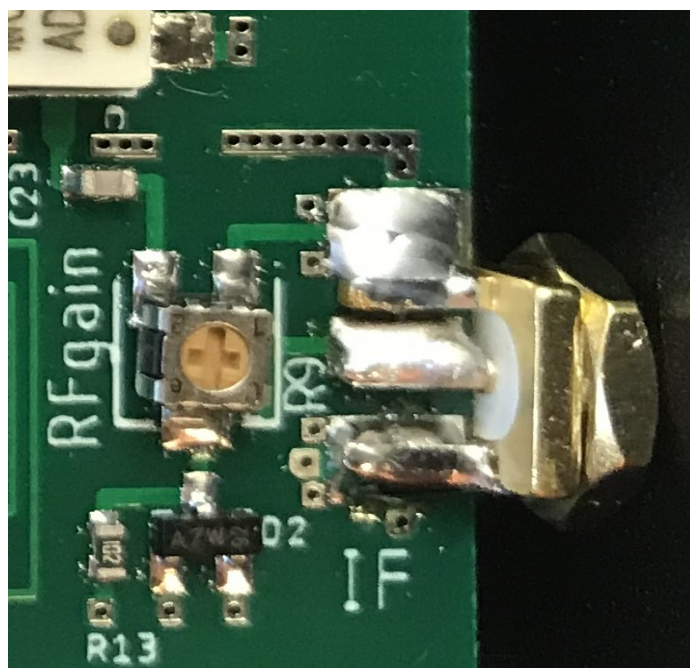


Fig 3- RX-gain adjust

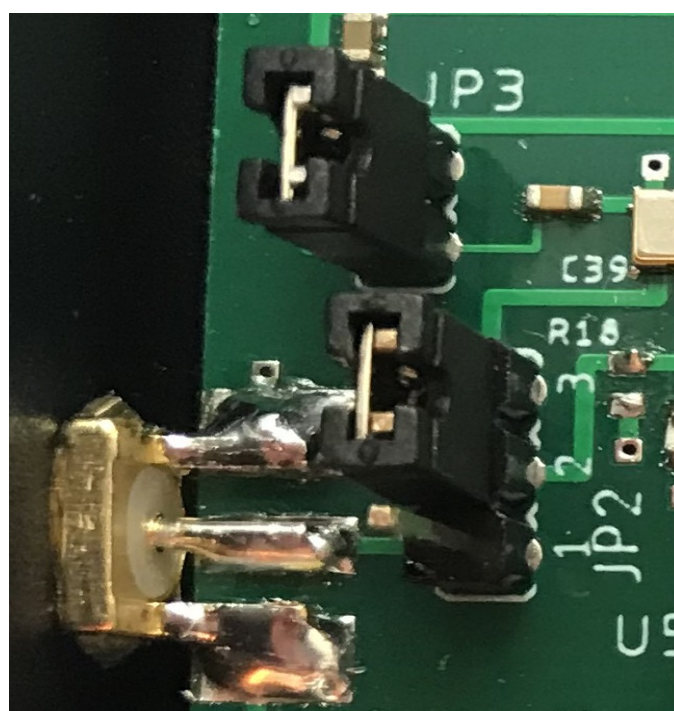


fig 4- Internal 10MHz ref jumper set

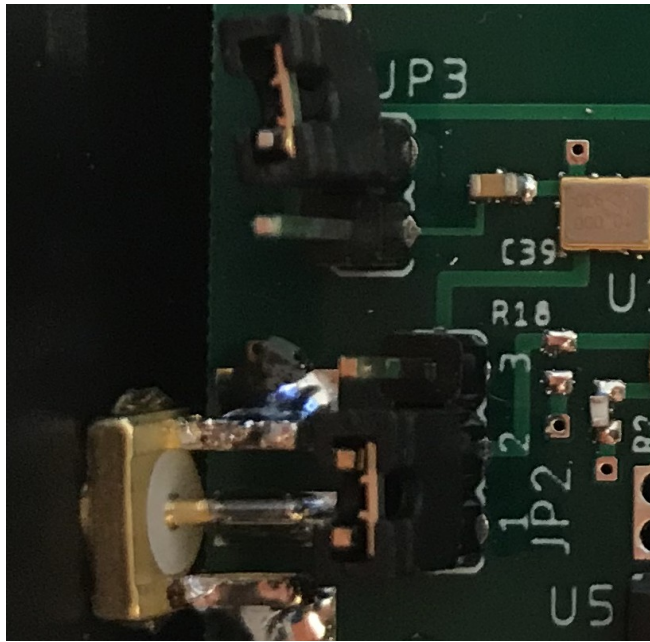


fig 6 External 10 Mhz reference (GPSDO) jumpers set



Fig 7 Orange LED = PLL LOCKED



Fig 8 RED led = No Lock

Notes:

The reception signal level can be different from band to band.

The adjust it's easy on Rfgain potentiometer. Adjust the Satellite ground noise to s1 or a little less.

External 10Mhz input level:

Minimum- 0,7VPP

Maximum- 3v3 VPP

Power consumption: 150mA (without LNB)

Minimum voltage : 11V

Maximum voltage 25V (note 18V is LNB polarization rotation)

TCXO stability: 500 PPMilion

Maximum Temperature: 40°C (after 1hour ON @ 13.8V DC)



Fig9 F-connectors and SMA