

# 2300 / 432 MHz Transverter V1.4

## Specifications

	Min.	Typ.	Max.
Frequency range RF	2300 MHz		2410 MHz
Frequency range IF	430	432 MHz	440
LO Frequency:		see table	
LO Accuracy at 20 deg. C		+/- 1 ppm	
LO temp. stability -20 ...+70 deg . C		+/- 2.5 ppm	
Output Power	1.5 W	2.0 W	2.5W
Power Supply	12.0 V	12.0V	13.8 V
Current Consumption			1 A
Input Power	0.2 W		5 W
Receive Gain , Adjustable	0 dB		+10 dB
Noise Figure (Split mode)		1.5 dB	
Noise Figure (Rx/Tx mode)		1.9 dB	
Dimensions			114x104x25mm
Spurious response		< -55 dBc	

## Features

**2 W output power**

**Low noise figure , GaAs HEMT input stage**

**High performance UP / DOWN converters**

**High stability TCXO**

**Input for 10 MHz external reference oscillator**

**Internal Tx/Rx switch**

**Possibility to work with split Tx/Rx (selectable , required soldering)**

**Internal Directional Coupler**

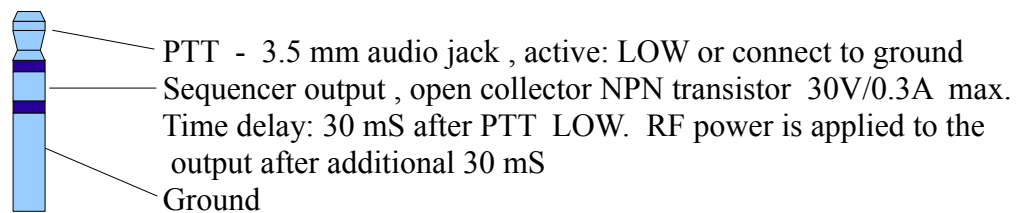
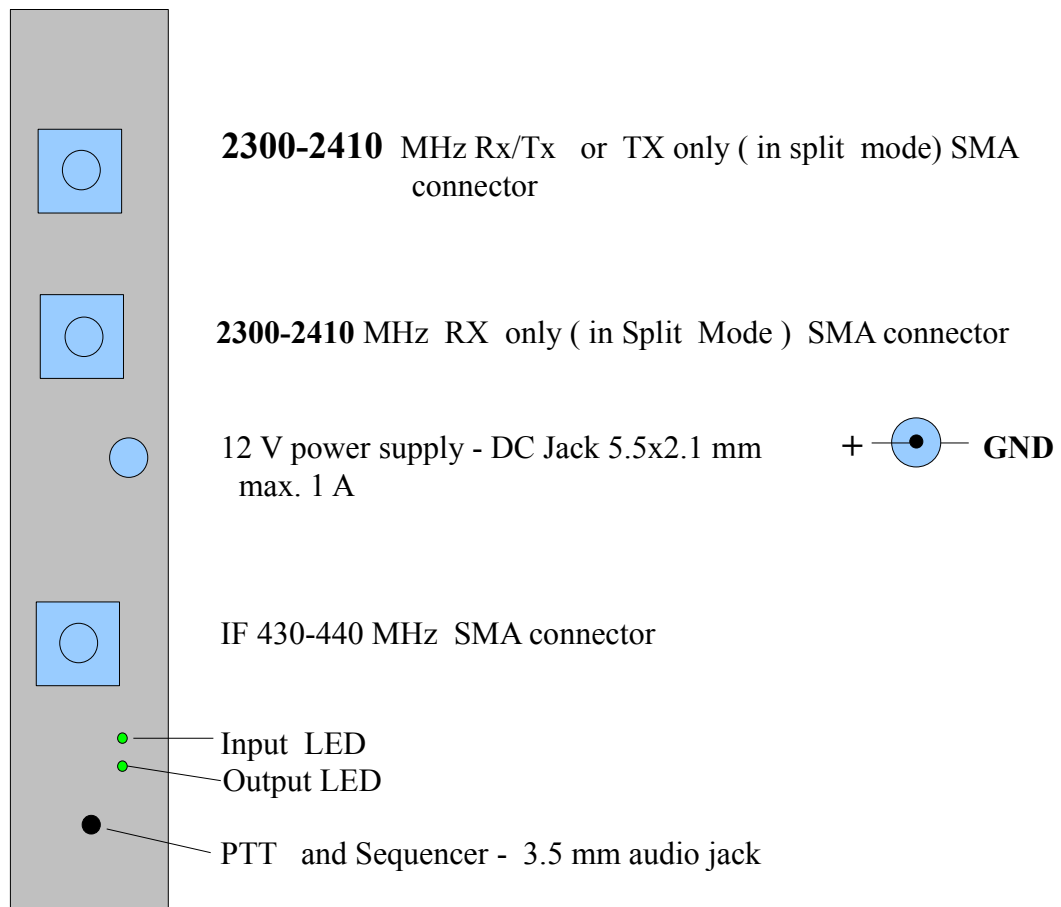
**PTT can be switched by connecting PTT to ground, by RF power (RF VOX )  
or by DC voltage**

**Output SWR indicator - bi color LED**

**Optimal input power indicator - bi color LED**

**Integrated Sequencer**

**4 LO frequencies , programmable by PC ( RS-232 , 3.3V levels )**



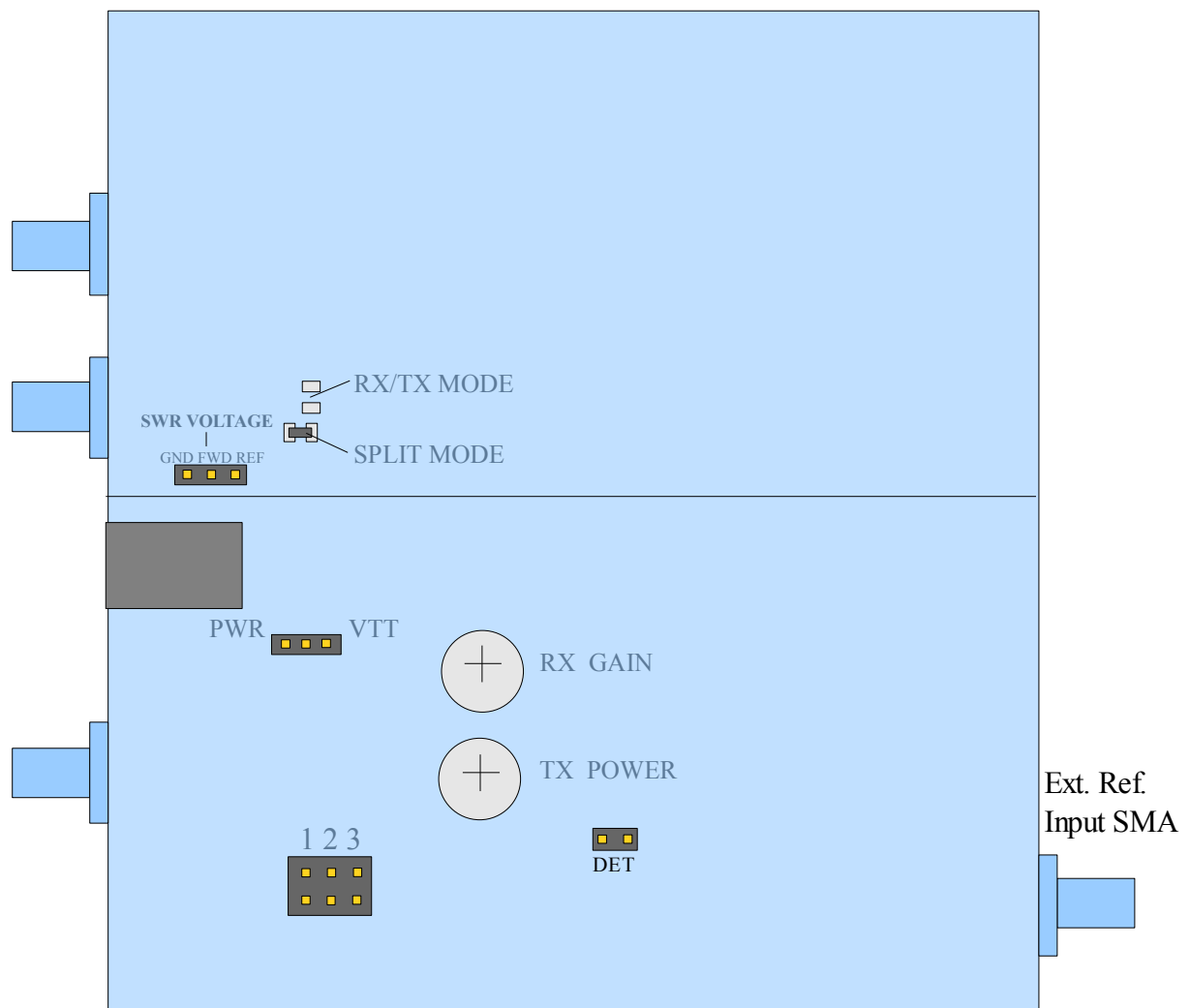
### Input power adjustment:

Input LED color:

- dark - Input power is too low
- orange - Input power is low
- green - Input power is normal
- red - Input power is too high

Output LED color :

- green - Excellent output SWR
- orange - Moderate output SWR
- red - High output SWR



## Trimmers

- RX GAIN - You can adjust the overall gain from 0 to +10dB
- TX POWER - When PTT is LOW and power supplied to the IF input , rotate until the LED lights up green

## SWR Voltage

Can be measured by high impedance voltmeter

FWD - voltage of forward wave

REF - voltage of reflected wave

GND - ground

## PWR / VTT

PWR ON: The Transverter can be DC powered by coaxial cable.

VTT ON: PTT can be switched on by applying DC voltage 5-15 V in coaxial cable  
A bias tee is needed to insert DC power into coaxial cable.

## DET

- OFF - RF VOX detector time low
- ON - RF VOX detector time high ( 0.3 - 0.5sec.)

**RF VOX** is always switched ON. The Transverter automatically switches to the TX mode when RF power is applied to IF (430-440 MHz input )

## Jumper 3

- ON - Internal frequency reference is used
- OFF - Internal reference is switched OFF. External reference with 10 MHz frequency and -10...0 dBm power must be connected to **Ext Reference Input SMA**  
The transverter needs restart to switch between two modes.

**PLL unlock indicator:** Blinking Input LED in Red means a PLL unlock.

## Default LO Frequencies

Jumpers	1	2	LO Freq. , MHZ Rx / Tx
LO Frequency 1	off	off	1870 / 1870
LO Frequency 2	off	on	1886 / 1886
LO Frequency 3	on	off	1888 / 1888
LO Frequency 4	on	on	1968 / 1968