

# 1296 / 144 MHz Transverter V2.3

## Specifications

|  | Min.     | Typ.   | Max.         |
|--|----------|--|--------------|
| Frequency range RF   | 1240 MHz | 1296 MHz   | 1300 MHz     |
| Frequency range IF   | 144 MHz  |  | 148 MHz      |
| LO Frequency: Normal mode<br>LO frequency: LO shift mode<br>Repeater Mode: Shift -6 MHz<br>Shift -28 MHz |          | 1152 MHz<br>1150 or 1154 MHz<br>1146 or +/- 2MHz<br>1124 or +/- 2MHz |              |
| LO Accuracy at 20 deg. C   |          | +/- 1 ppm  |              |
| LO temp. stability -20 ...+70 deg . C  |          | +/- 2.5 ppm  |              |
| Output Power   | 2 W      | 2.5 W  | 3.0 W        |
| Power Supply   | 12 V     |  | 13.8 V       |
| Current Consumption  |          |  | 0.85 A       |
| Input Power  | 0.2 W    |  | 5 W          |
| Receive Gain , Adjustable  | -5 dB    |  | +10 dB       |
| Noise Figure   |          | 1 dB   |              |
| Dimensions   |          |  | 104x114x25mm |
| Spurious response  |          | < -55 dBc  |              |

## Features

**2W 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**

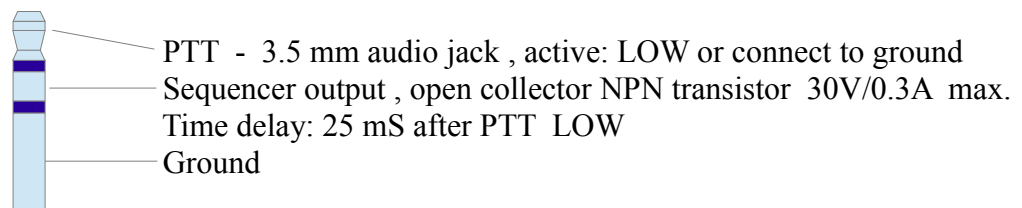
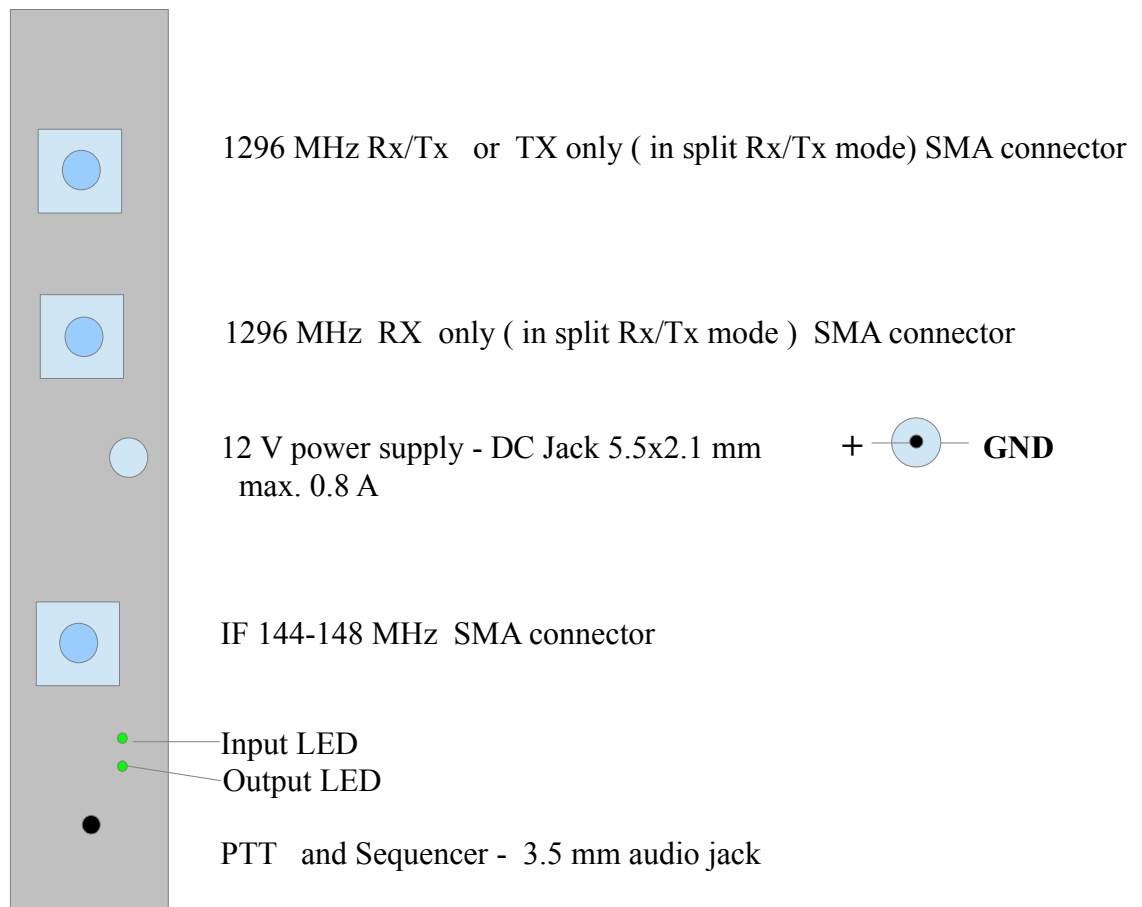
**PTT can be switched by connecting PTT to ground, by RF power (selectable) or by DC voltage**

**Output SWR indicator - bi color LED**

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

**Integrated Sequencer**

**Possibility to work with repeater : -28 /-6 MHz LO shift TX (selectable)**



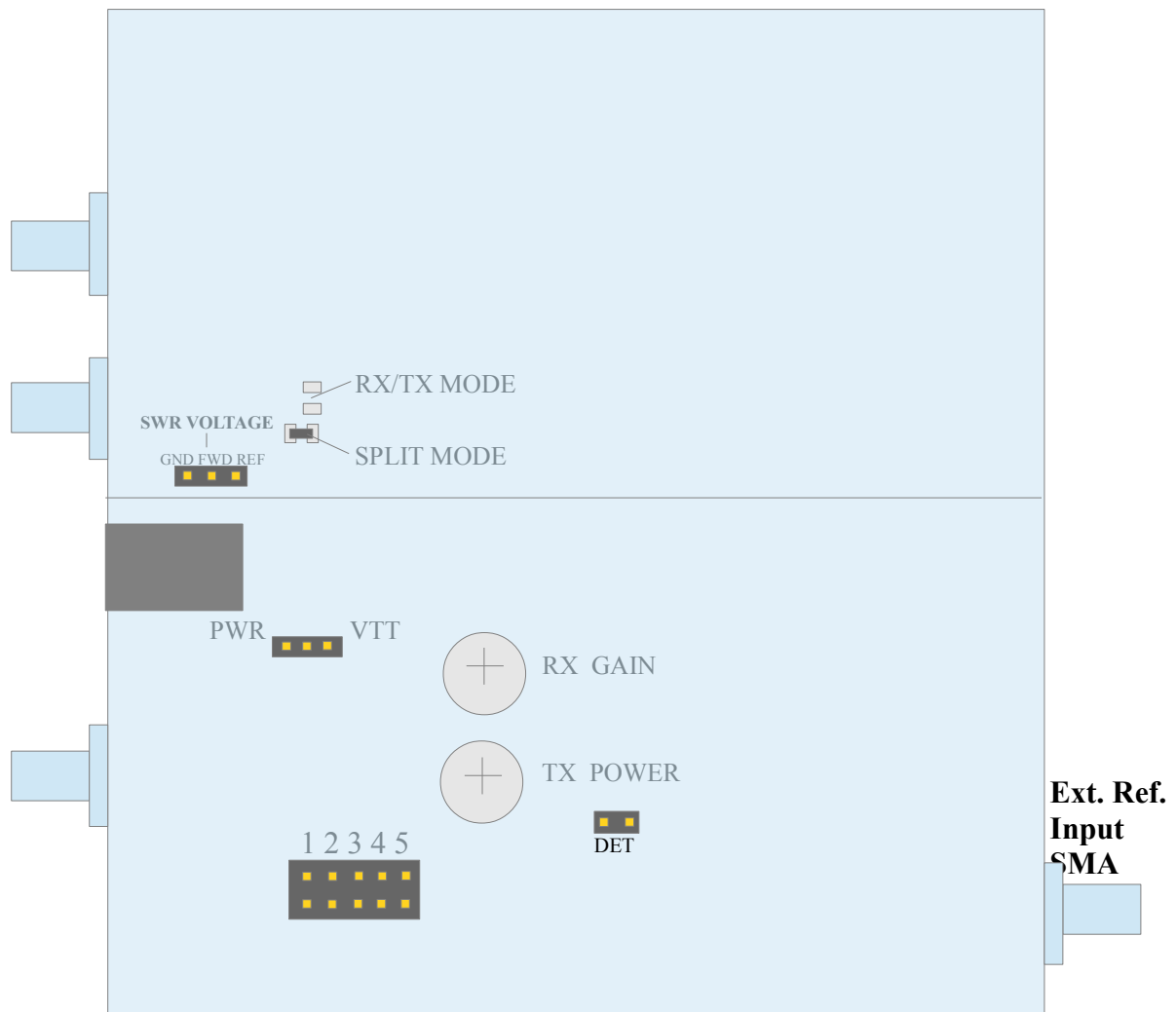
### Input power adjustment:

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



**Ext. Ref. Input SMA** - Input for optional external high stability reference oscillator, switchable by **Jumper 5**

### Trimmers

- RX GAIN - You can adjust the overall receive gain from -5 to +10dB
- TX POWER - When the transverter is in TX and power is supplied to the IF input, rotate until Input LED lights up green

### Jumpers

- 1 - OFF : Normal operation ; ON : Repeater mode
- 2 - OFF : Normal operation ; ON LO frequency shift mode, -2MHz or +2 MHz LO shift
- 3 - Repeater shift: OFF: 28 MHz ; ON: 6 MHz
- 4 - OFF: LO=1150MHz, when Jumper 2 is ON  
ON : LO=1154 MHz, when Jumper 2 is ON
- 5 - ON - internal reference oscillator 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.

**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 (144-148 MHz input )

**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.