

902-928 / 144 MHz Transverter V1.2

Specifications

	Min.	Typ.	Max.
Frequency range RF	902 MHz		928 MHz
Frequency range IF		144 MHz	
LO Frequency:		see table	
LO Accuracy at 20 deg. C		+/- 1 ppm	
LO temp. stability -20 ...+70 deg . C		+/- 2.5 ppm	
Output Power	2.5 W	3.0 W	3.5W
Power Supply	12 V		13.8 V
Current Consumption		1 A	
Input Power	0.2 W		5 W
Receive Gain , Adjustable	-5 dB		+12 dB
Noise Figure		0.9 dB	
Dimensions			104x114x25mm
Spurious response		< -55 dBc	

Features

3W 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

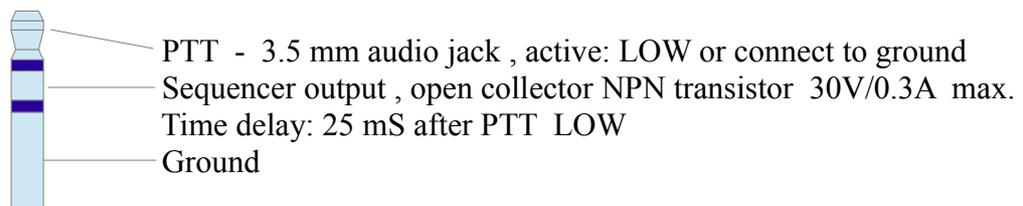
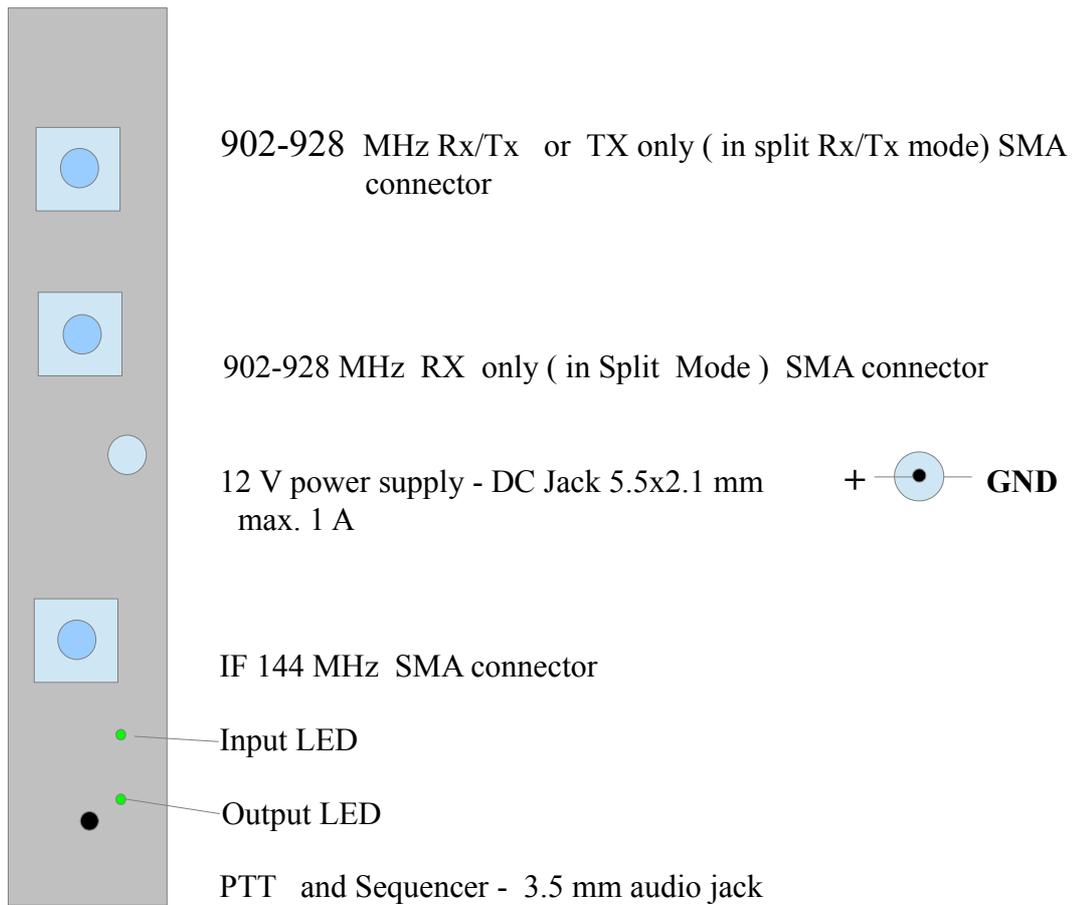
PTT can be switched by connecting PTT to ground, by RF power or by DC voltage

Output SWR indicator - bi color LED

Optimal input power indicator - bi color LED

Integrated Sequencer

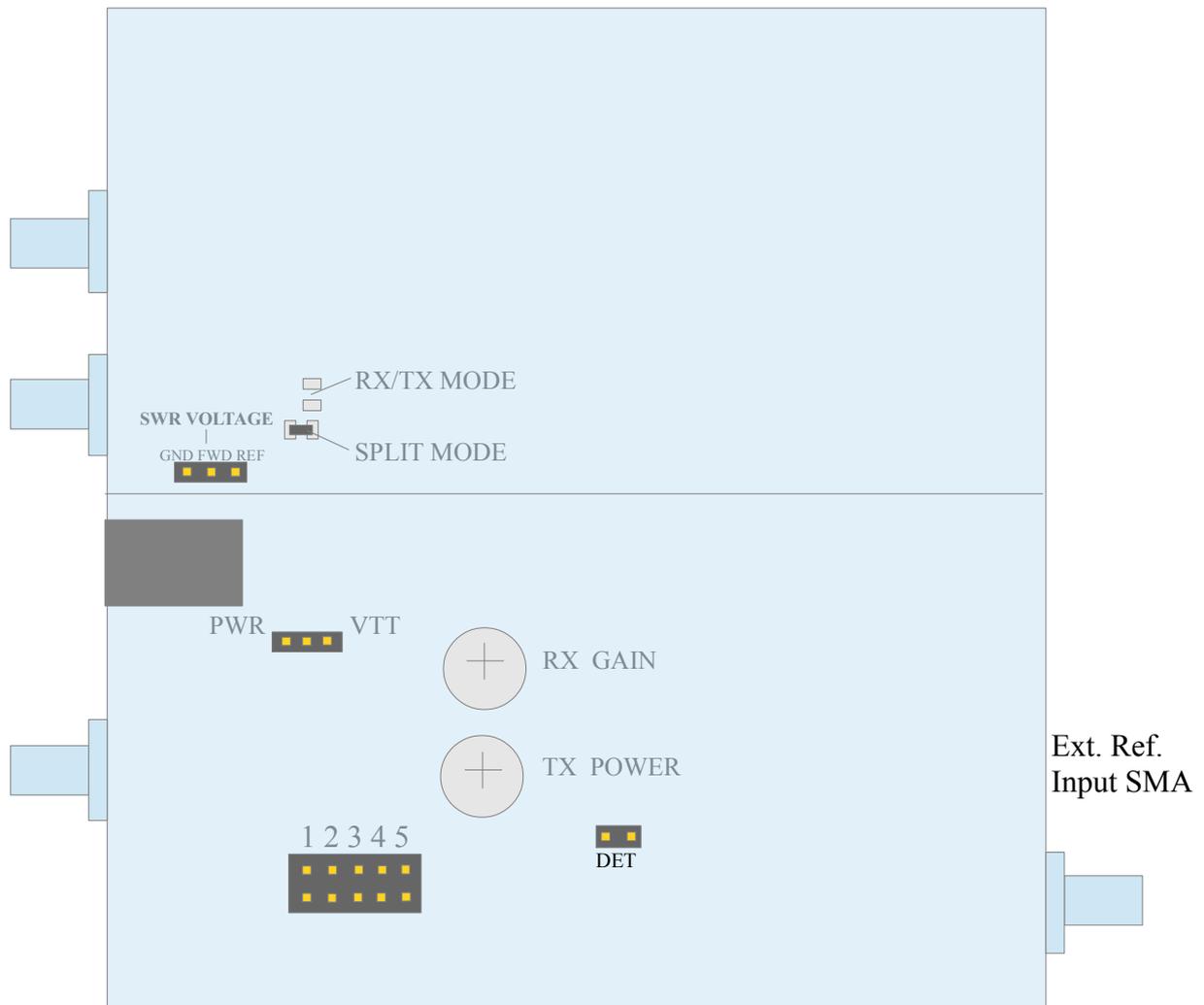
Possibility to work with repeater : -25 /-12 MHz LO shift TX (selectable)



Input power adjustment:

Input LED color: 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 10MHz reference oscillator, switchable by Jumper 5

Trimmers

- RX GAIN - You can adjust the overall gain from -5 to +10dB
- TX POWER - When PTT is LOW and power supplied to the IF input, rotate until Input 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 (144-148 MHz input)

Jumpers

- 1 - OFF : Normal operation ; ON : Repeater mode
- 2 - OFF : LO=782 MHz ; ON: LO=758 MHz
- 3 - OFF : Normal operation ; ON LO frequency shift mode, -2MHz
- 4 - ON : LO=774 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.

LO Frequency

Jumpers	1	2	3	4	LO Freq. , MHZ Rx / Tx
Simplex 1	off	off	off	off	782 / 782
Simplex 2	off	on	off	off	758 / 758
Simplex 3	off	on	off	on	774 / 774
Simplex 2 , -2MHz LO	off	on	on	off	756 / 756
Simplex 3 , -2 MHz LO	off	on	on	on	772 / 772
Repeater -25 MHz , LO=782	on	off	off	off	782 / 757
Repeater -25 MHz , LO=780	on	off	on	off	780 / 755
Repeater -12 MHz , LO=774	on	on	off	on	774 / 762
Repeater -12 MHz , LO=772	on	on	on	on	772 / 760