

# USER MANUAL

Product name : 5W Transceiver

Model : TX125 , TX125-EN

---

## **FCC Warning Statement**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

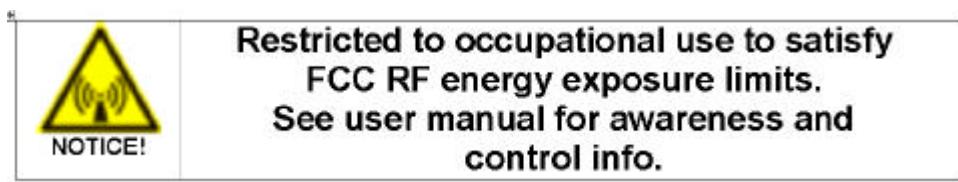
This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### **CAUTION:**

**Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**



## **Prohibition of Co-location**

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter

## **Safety Information**

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 50cm between the radiator and your body. The antenna gain must be below 10dBi .

---

## **Declaration of Conformity for R&TTE directive 1999/5/EC**

Essential requirements – Article 3

Protection requirements for health and safety – Article 3.1a

Testing for electric safety according to EN 60950-1 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

Testing for electromagnetic compatibility according to EN 301 489-1 and EN 301 489-17 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum – Article 3.2

Testing for radio test suites according to EN 300 328- 2 has been conducted. These are considered relevant and sufficient.

## **CE Mark Warning**

This is a Class B product, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

# Attention

## WARNING

This Machine is a high-power and high-radiation product. When user installs the antenna and operates this product , It must be 50cm or above the distance far away form the human body.

## Transmitter

Be aware at following situations ,which will help to extend the life cycle of transmitter:

Don't change transmitter or tamper with its original appearance.

Don't put transmitter close to a heat source or in light direct sun.

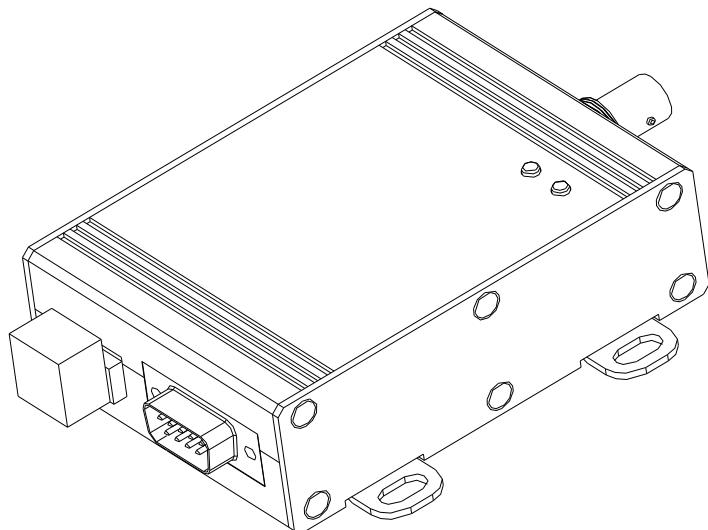
Don't put transmitter in dust , moisture or on uneven surface.

Don't soak transmitter into the water.

Never operate the device with out the correct Gold Apollo antenna , or a suitable artificial load , connected.

Do not operate this equipment in environments containing

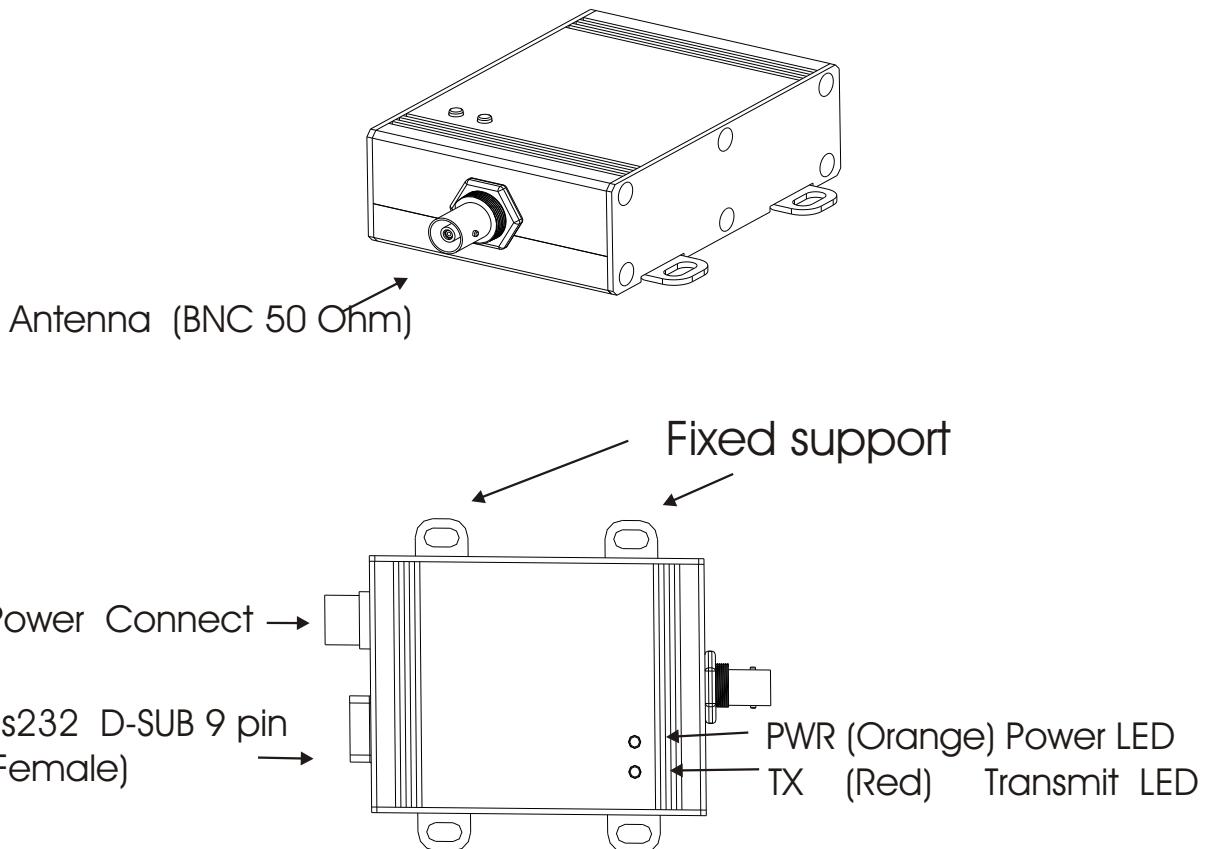
TX-125 Outlook



TX-125 Outlook

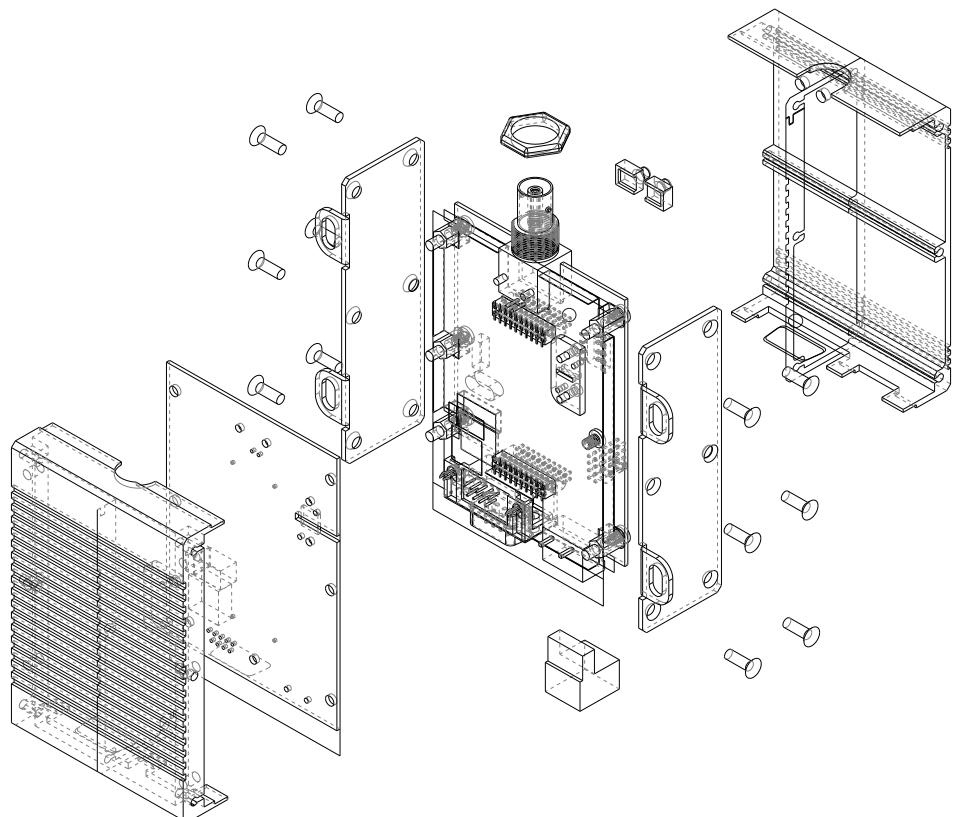
# Function \ Location

## Function \ Location



# TX-125 Internal structure

## Internal structure



# System Specifications

## System Specifications :

1. Frequency Range : UHF = 440MHz ~ 470MHz
2. Channel Spacings : 12.5KHz , 25KHz
3. RF Output Power : 5W , 2W
4. Modulation Type : F1D ,
5. Intermediate Frequency : 45MHz & 450KHz
6. Number of Channels : 16
7. Frequency Source : Synthesizer
8. Power Supply : DC 10V ~ 14V
9. Temperature Range : -30c ~ 50c
10. Current Consumption  
Standby : 100mA ,  
TX(5W) : <2A ,  
TX(1W) : <1A ,

## Transmitter :

### 1. Carrier Power

Hi : 5W +/-1dB ,

Low : 2W +/-1dB .

### 2. Frequency Error : +/-2.5ppm

### 3. Frequency Deviation

25KHz Channel Spacing : 5KHz~3.8KHz(Peak)

12.5KHZ Channel Spacing : 2.5Khz~1.8Khz(Peak)

### 4. Audio Frequency Response : 300Hz~2.5Khz-6dB

### 5. Adjacent Channel Power : <70dBc

### 6. Conducted Spurious Emission : -57dBc

## Receiver

1. Sensitivity (@12dB SINAD) : <-118dBm
2. Adjacent Channel Selectivity
  - 25KHz Channel Spacing : >60dB
  - 12.5KHZ Channel Spacing : >52dB
3. Spurious Response Rejection : 70dB
4. Image Response : >70dB
5. IF Response : >70dB
6. Intermodulation Response Rejection
  - +/-25kHZ/50kHZ : 65dB
  - +/-50kHZ/100kHZ : 65dB
7. AF Distortion : <5%
8. LO Frequency Temperature Stability : <3ppm

# System Specifications

## 1.I/o PORT : DB-9 Connector

PIN 1.----PTT	PIN 2.----TXD
PIN 3.----RXD	PIN 4.----Audio MOD IN
PIN 5.----GND	PIN 6.----Carrier DET OUT
PIN 7.----Digital MOD IN	PIN 8.----RTS
PIN 9.----Audio OUT	

2.PTT Input Level : 0-5V (TTL)

3.Digital Modulation Input Level :0-5V (TTL)

4.Audio Modulation Input Level : 1Vp-p@1kHz

5.Audio Output Level : 1vp-p@8 OHM Load

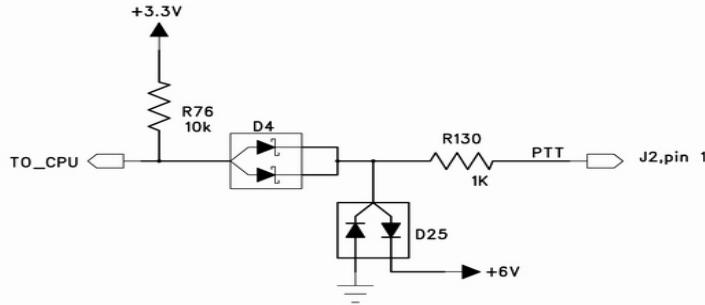
6.Carrier DET Output Level : 0-5 V (TTL)

7.TX IND Output Level : 0-5V (TTL)

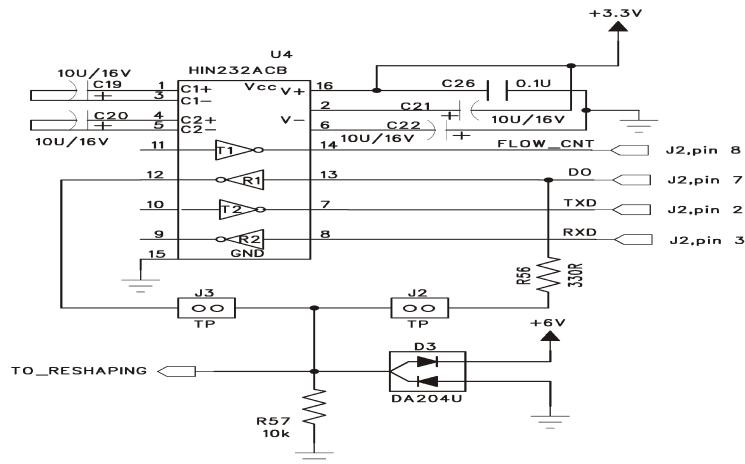
8.TXD & RXD Level : +/-12V (RS-232)

## TX-125 I/O PORT DESCRIPTION

1. CONNECTER J2 PIN 1. PTT control input. TTL level ,active low.

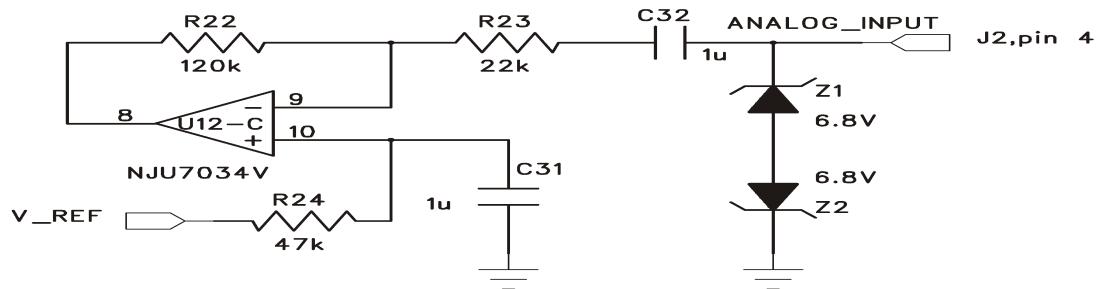


2. PIN 2,3,7,8. Digital modulation signal input (pin7) and RS-232 input (pin2,3,8). Digital modulation signal use TTL level or +/-12v , change by J2 and J3 setting.



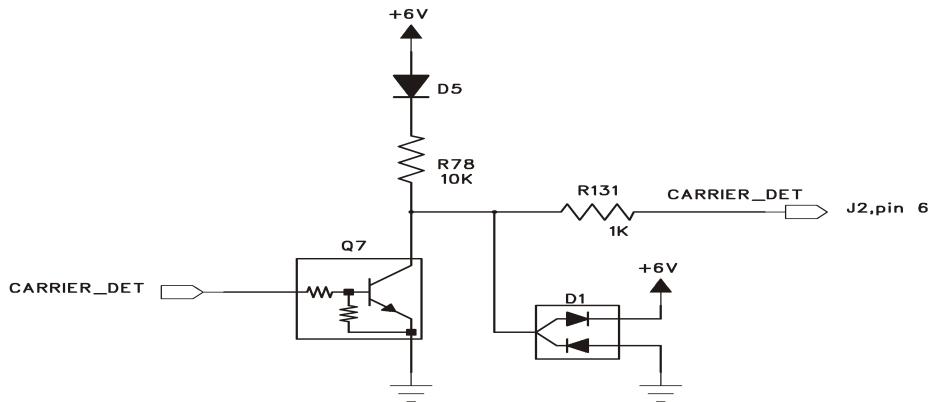
### 3. PIN 4. Analog input .

Analog modulation input, 1V p-p for +/-4kHz deviation.



4. PIN5. GND. Input signal reference point. PIN6. Carrier detect output

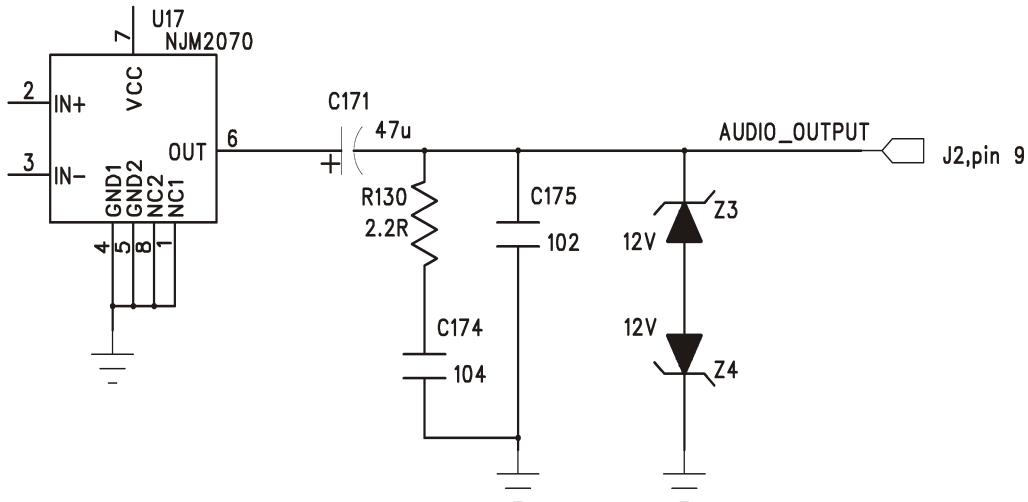
Indicate on the receiver frequency have a signal . TTL level active low. The trigger level can setting by programmer software.



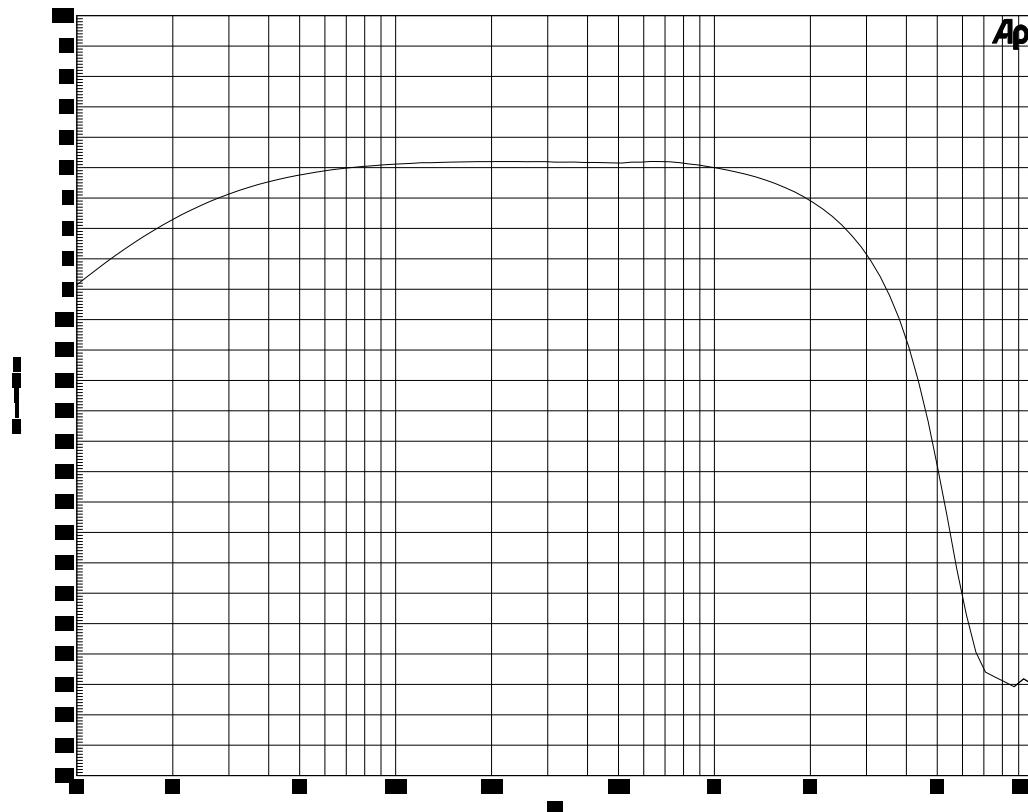
# I/O PORT DESCRIPTION

## 5. PIN 9. Audio output.

Demodulation signal output. Output level is 1vp-p @1kHz sin wave, 4kHz deviation.



# ANALOG MODULATION FREQUENCY RESPONSE



Analog Modulation Frequency Response