

Transverter HG 144-K

## INTERNAL TRANSVERTER'S FOR 144 MHZ FOR ELECRAFT K3



The transverter **HG 144-K** (144 Mhz) has designed for internal use on Elecraft K3, using the 28 Mhz like IF ..

In reception mode, the amplifier has a low noise factor, <1 db and the IP3 >+29 dbm.

No need external power supply and no need tuned.

The installation of the transverter HG 144-K into the Elecraft K3 ,is very easy and fast.Only you need solder 3 wires , connect 2 coaxial wires and install connector for 144 MHZ Antenna Mhz.You need 30 minutes of work.The transverters is fully assembled and ajusted..

The transverter have installed precision crystal heater with temperature  $40.8\text{ }^{\circ}\text{C} \pm 1.5\text{ }^{\circ}\text{C}$  in 116 Mhz Oscillator.

**This transverters is designed only for Elecraft K3.** For other transceiver,please ask me.

**REQUIREMENTS OF ELECRAFT K3:**

**K3 WITH INTERFACE TRANSVERTER KXV3A...The KXV3 is not valid.**

ELECRAFT K3, KXV3, KXV3A and KRX3 is a registered trademark of Elecraft ,Inc.

## Transverter HG 144-K

### Specifications:

**Installation : Internal (Inside ELECRAFT K3)**

**Full QSK**

**Measures : 73mmX73mmX30 mm**

**Supply Voltage: 12 VDC (Get of ELECRAFT K3 internally)**

**Current Drain :**

**Received : 130 mA...With the precision crystal heater**

**Transmit: About 3 A**

**Frequency Range:144,000-146,000 MHZ**

### TRANSMITTER

**Power output (50 Ohm load) : 8W at 1.1:1 SWR on Bird 43**

**Operatinf modes : SBB,FM,CW,Digital,etc**

**IF range :28,000-30,000 Mhz**

**TX RF Mixer Mini Circuits ADEX-10H (+17dbm)**

**IF input powe range :1mW**

**Full QSK**

### RECEIVER

**Noise Figure : <1 dB**

**Conversion gain :Typical**

**RX RF Mixer Mini Circuits ADEX-10H(+17dbm)**

**3rd-Order Intercept :>+29 dbm**

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## **VERY IMPORTANT**

**REQUIREMENTS OF ELECRAFT K3:  
K3 WITH INTERFACE TRANSVERTER KXV3A...The  
KXV3 is not valid.**

**PLEASE :**

**Preventing Electrostatic Discharge Damage see your K3  
Manual.**

### **NOTICE**

**I do not take responsibility of any damages that you  
produce in your transceiver for the installation of this  
transverter .**

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trademark of Elecraft ,Inc.**

## Transverter HG 144-K

### INSTALLATION OF TRANSVERTER INSIDE ELECRAF K3

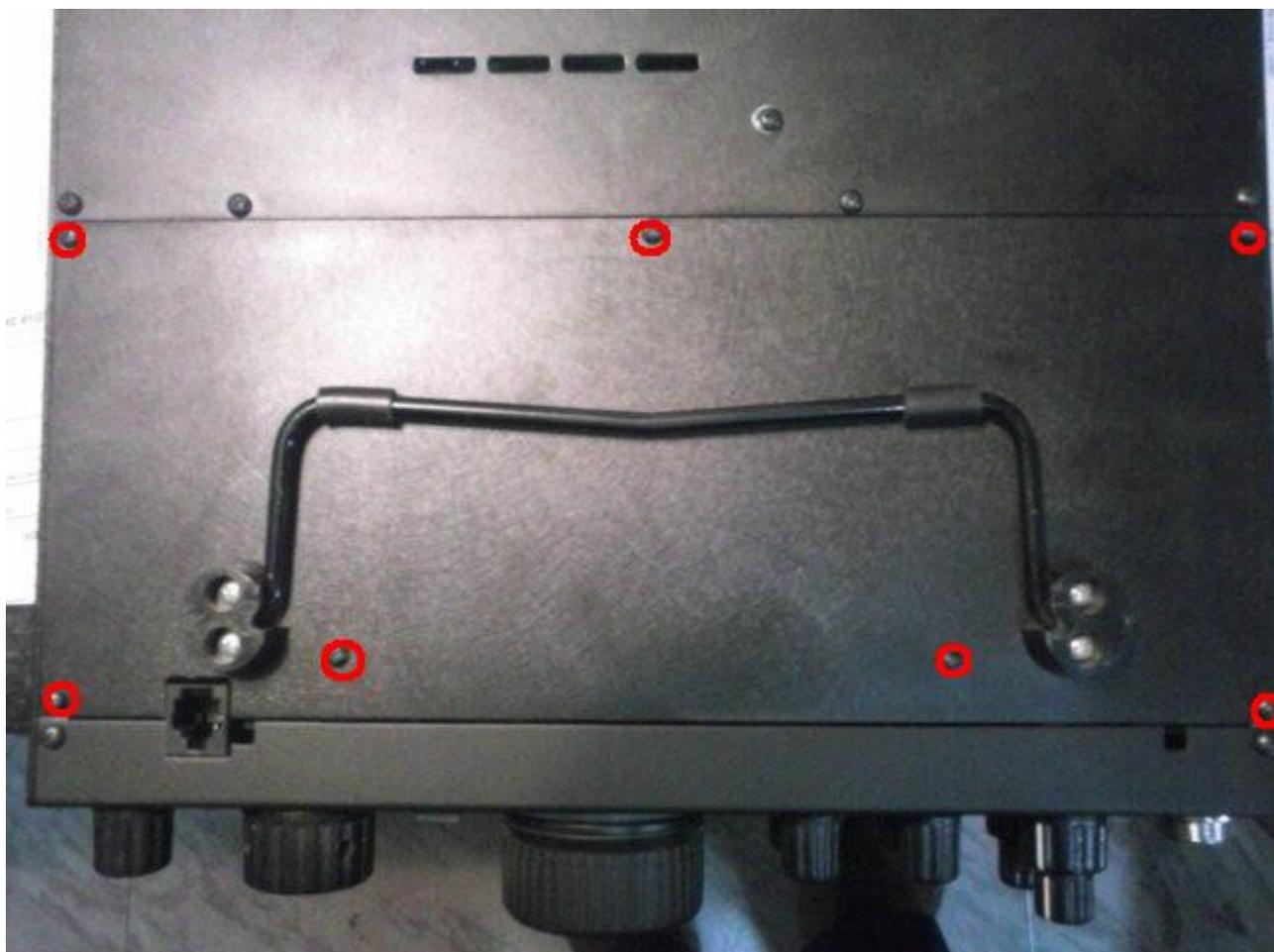
The installation of transverter inside of Elecraft K3 is easy. Only need solder 3 wires for power supply and control, connect to coaxial wire in KXV3A and install antenna connector in rear part of K3.

#### **FIRST :**

Disconnect power and all cables from your K3.

#### **SECOND :**

Remove the forward section of K3's bottom cover. See next picture.



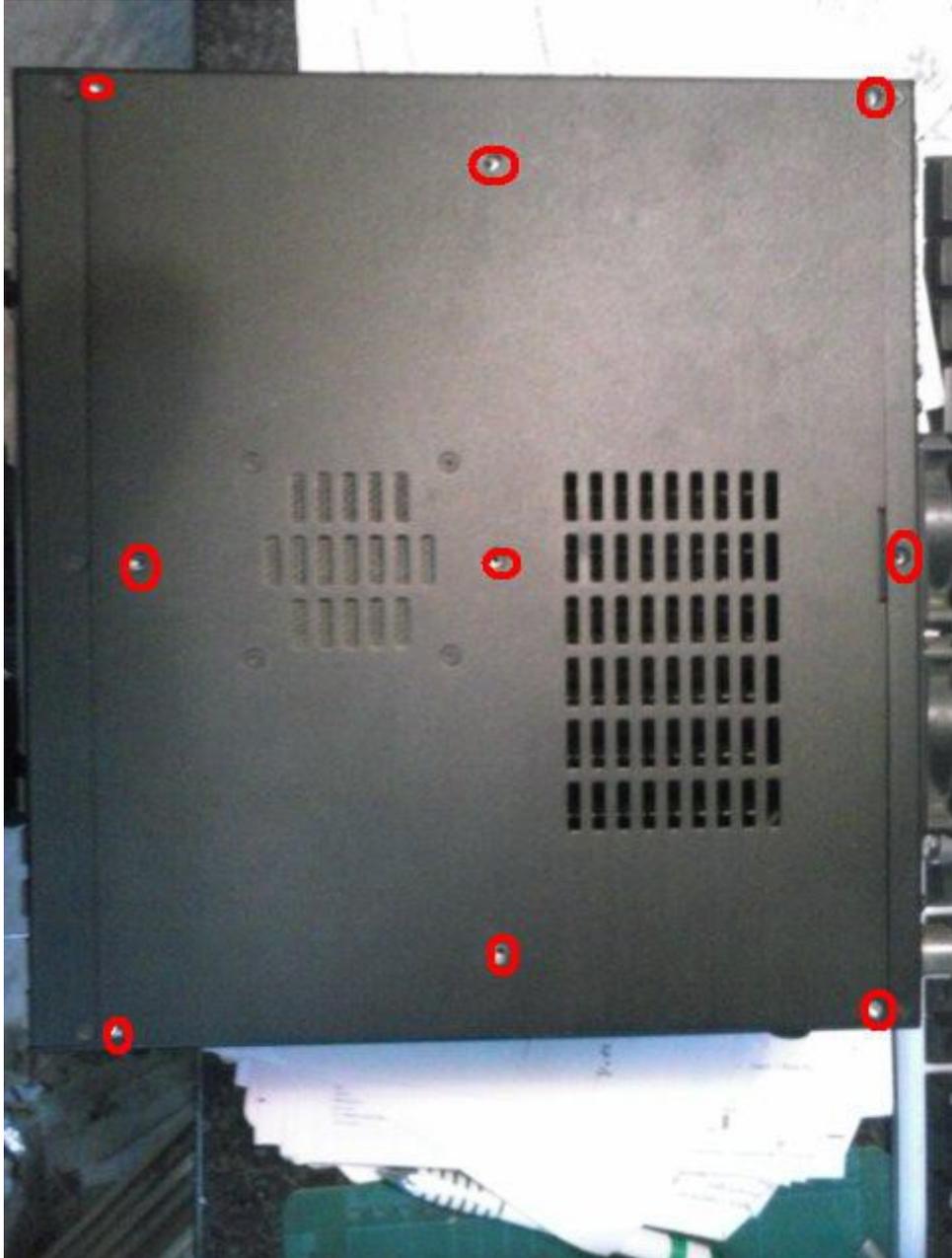
## Transverter HG 144-K

### THIRD :

Remove the 9 screws of top cover. See next picture.

After the cover is free of 9 screws, lift it gently to reach the speaker wire connector.

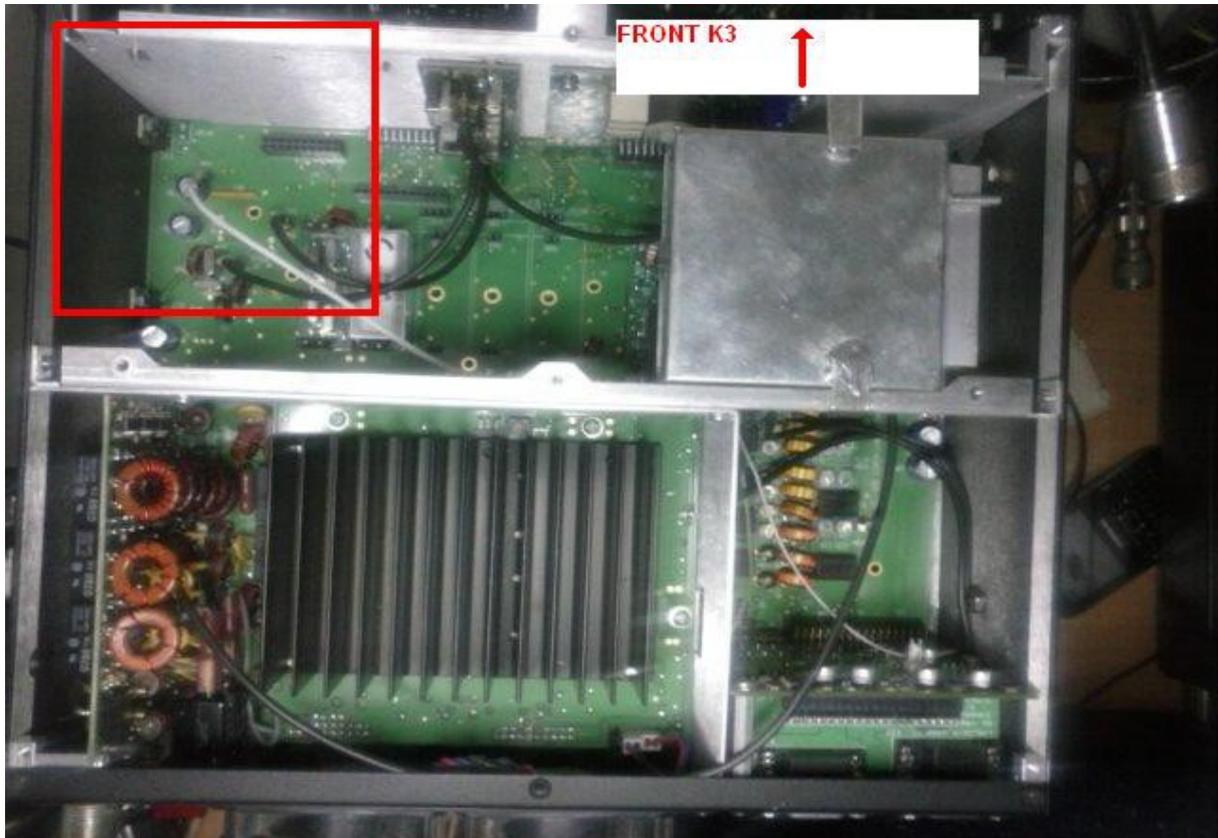
Unplug the speaker connector's.



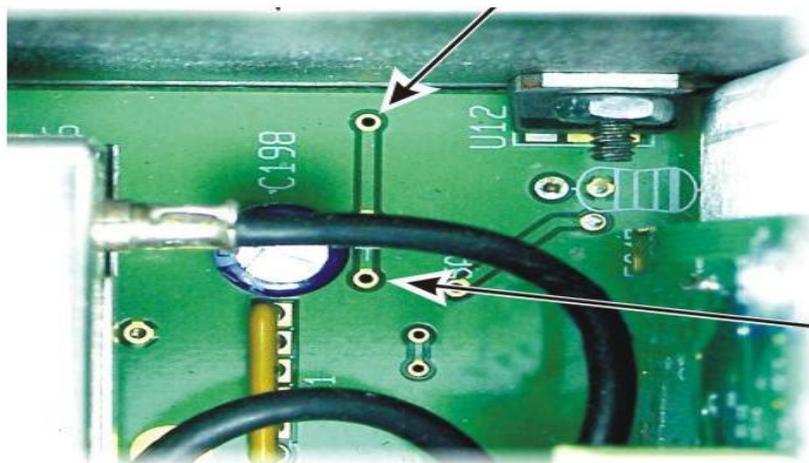
## Transverter HG 144-K

### FOURTH :

If you have installed the KRX3 (SUB receiver), please your manual to remove this.  
Locate this part in your K3 in the next picture. (red square)



Locate the next picture in right side panel of your k3



ARROW.....PIN INSTALLATION

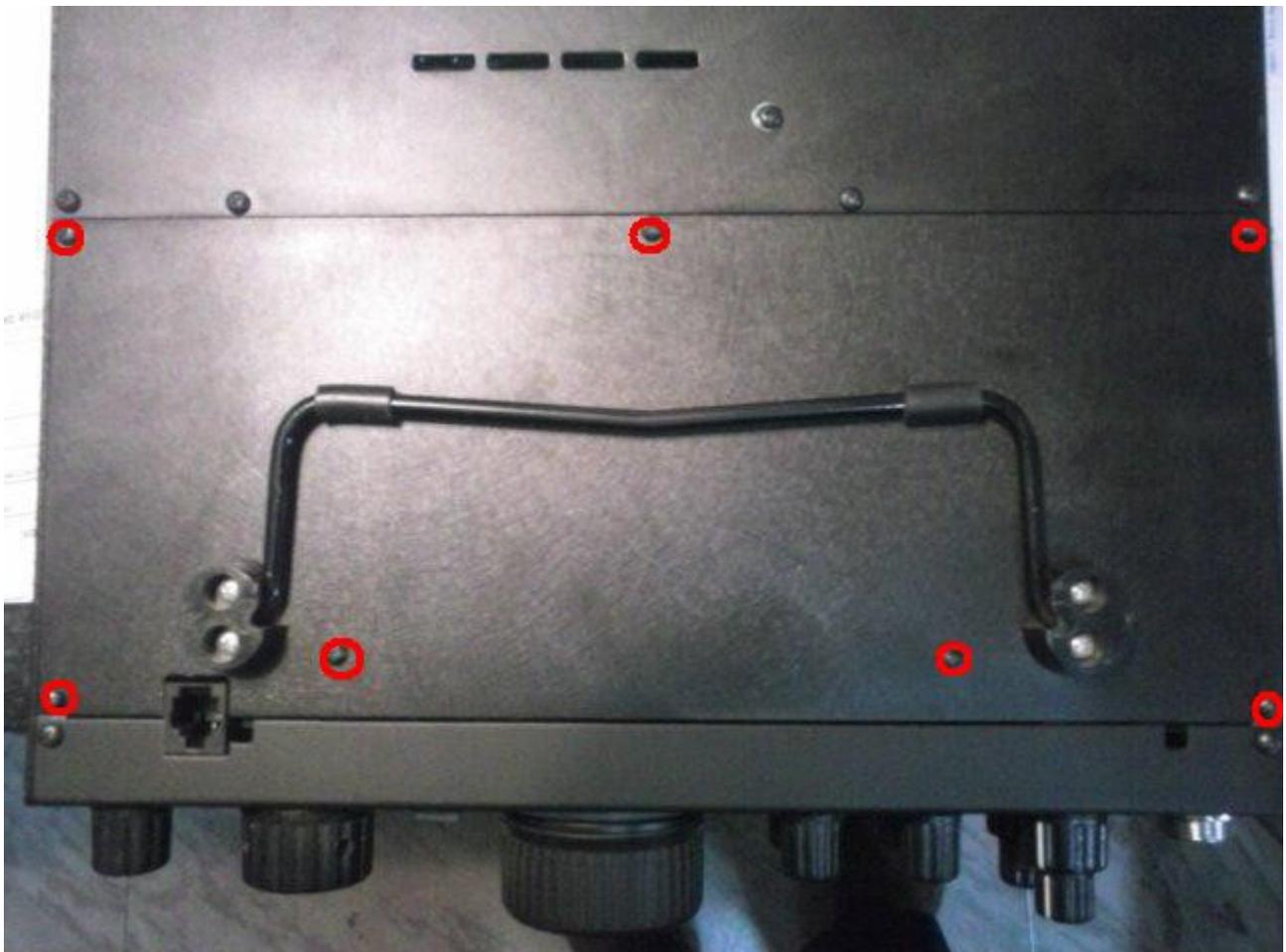
## Transverter HG 144-K

Get the pin to solder in one of the two positions marked by arrows in the previous picture and solder the pin carefully by the bottom .

Pin picture :



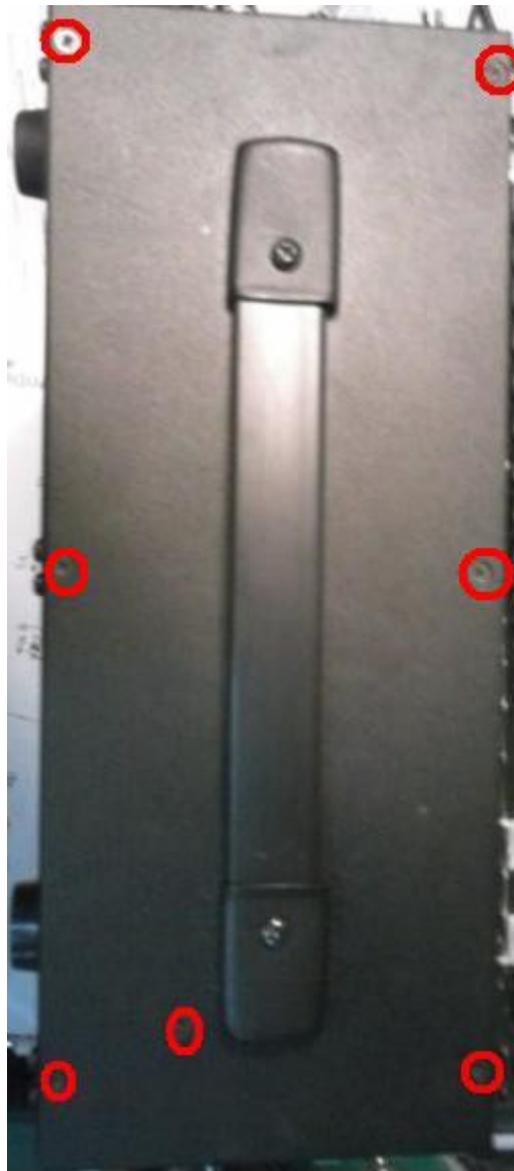
When you have soldered the pin , put the forward section bottom cover and put the 7 screws . See next picture.Later in this pin solder the red wire from the transverter HG 1447K on top part of K3.



## Transverter HG 144-K

### FIFTH :

Remove the 7 screws of lateral .See picture.



# Transverter HG 144-K

## SIXTH :

Remove the screws like next picture and remove KIO3 Board.



**KPA3 AMPLIFIER MODULE AND SHIELD (IF INSTALLED)**  
**KRX3 AUX ANTENNA CABLE (IF USED)**  
**KRX3 RF MODULE (IF INSTALLED)**

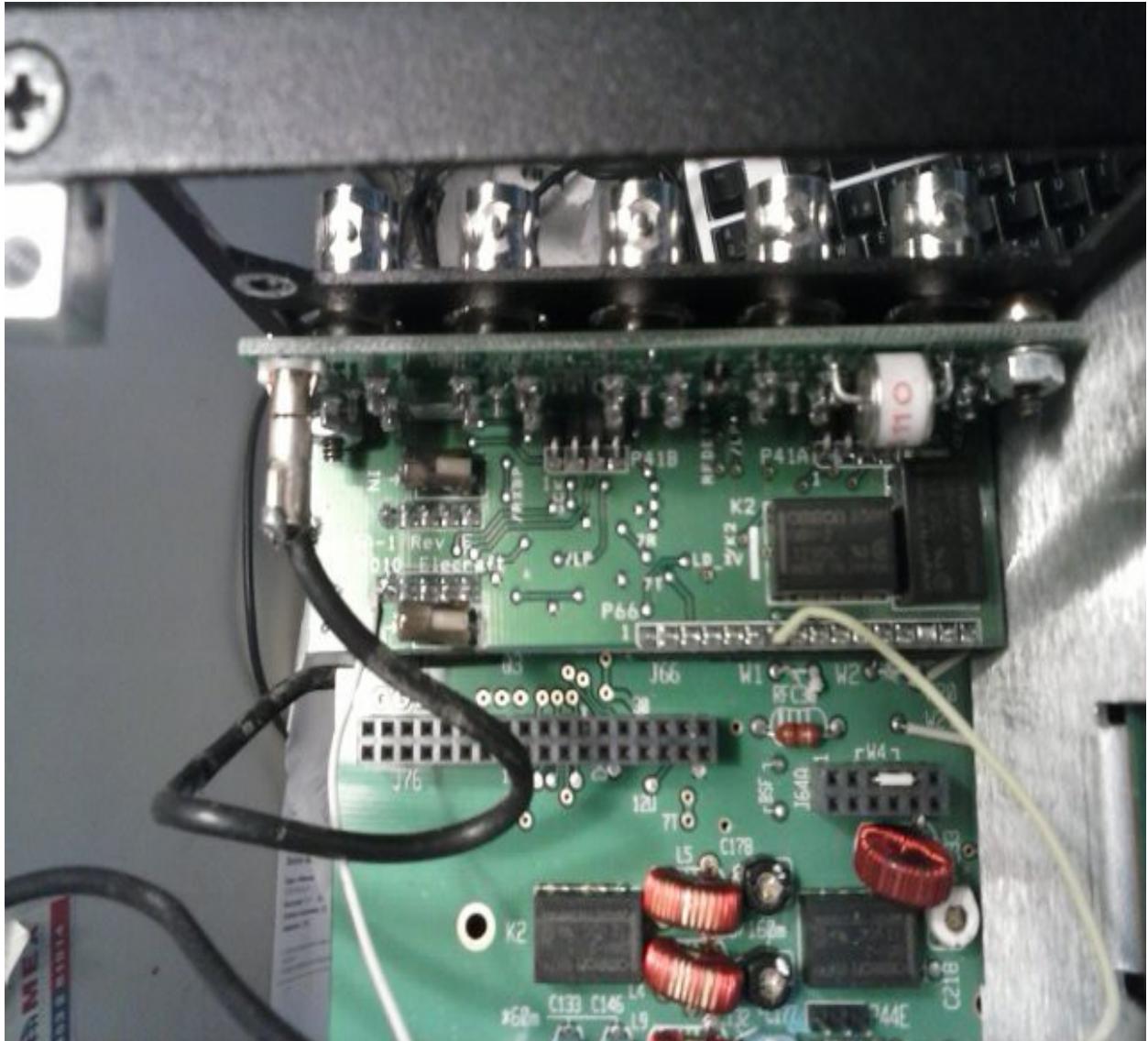
**2** REMOVE THE UPPER STANDOFF, SCREW AND LOCK WASHER.

**3** LIFT THE KIO3 MAIN BOARD UP, UNPLUGGING IT FROM THE MAIN RF BOARD. TILT AS NEEDED FOR THE REMOTE AUDIO MODULE AND LOWER STANDOFF TO CLEAR THE REAR PANEL.

**1** PRESS ON THE BACKS OF J24 AND J23 TO UNPLUG THE KIO3 REMOTE I/O MODULE AND REMOVE IT THROUGH THE REAR OPENING. SUPPORT THE RIGHT CORNER OF THE KIO3 BOARD TO AVOID BENDING IT.

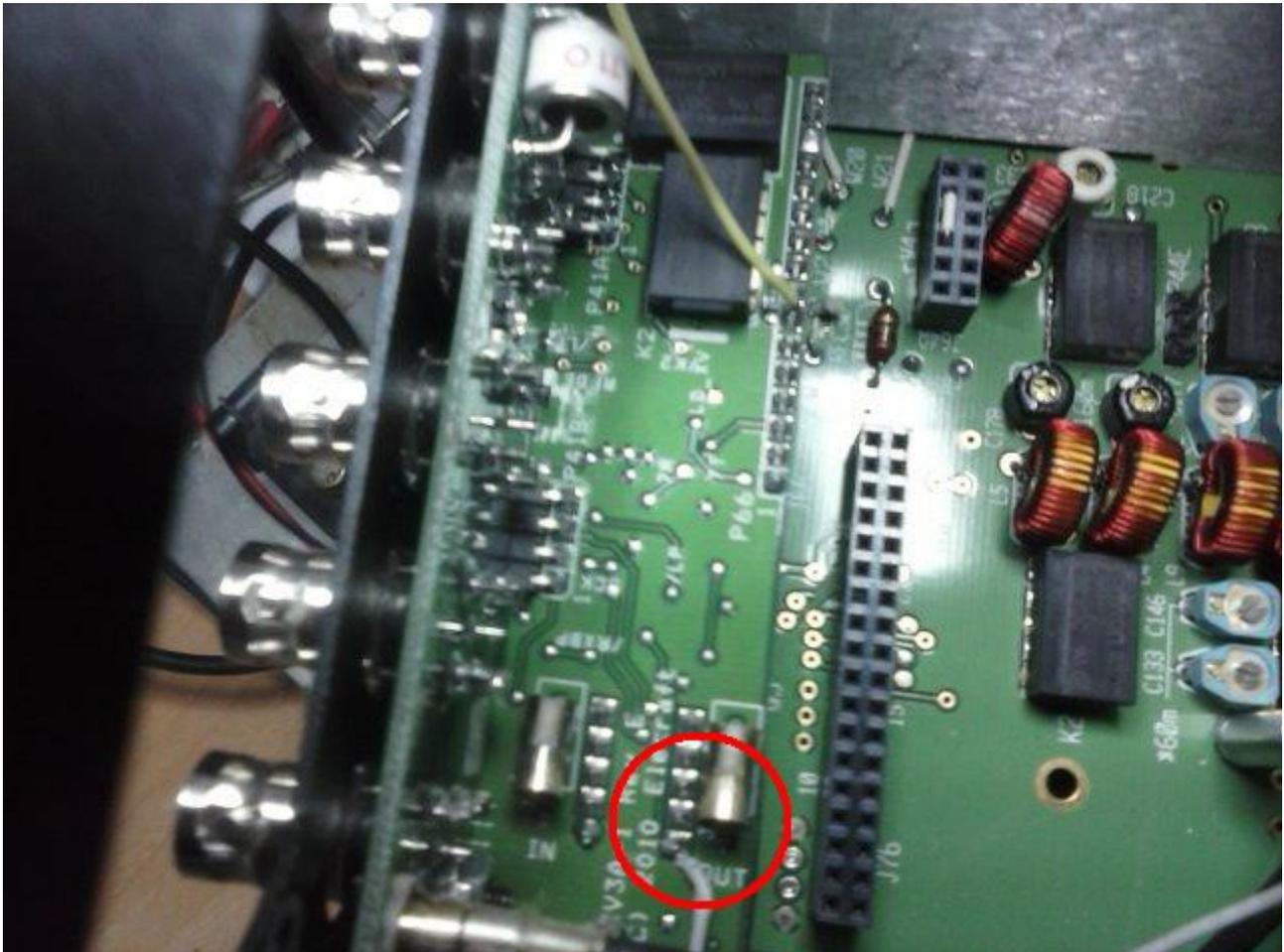
## Transverter HG 144-K

Now, we have the KVV3A board ready to solder 2 wires from transverter HG 144K. The yellow wire of the transverter HG 144K must be soldered on the pin 7 of P66 connector. Pin 1 is on the left of P66. See picture.



## Transverter HG 144-K

The white wire of the transverter HG 144K must be soldered on the pin of relay near OUT RF connector .Soldering pin is the first from the left .See picture

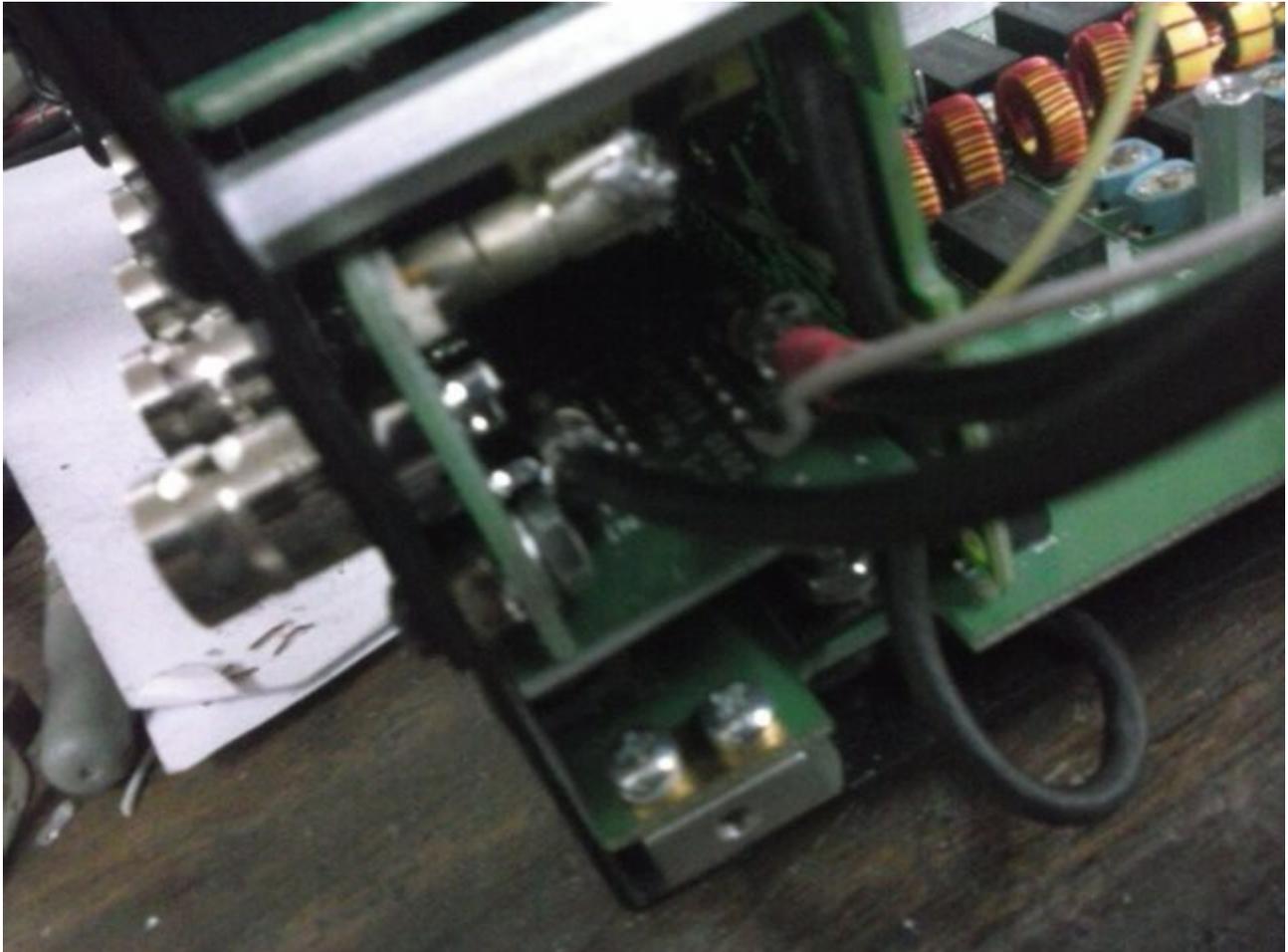


## Transverter HG 144-K

Now we reassembling the KIO3 board. Once mounted we connect the 2 coaxial cables on KXV3A female connector.

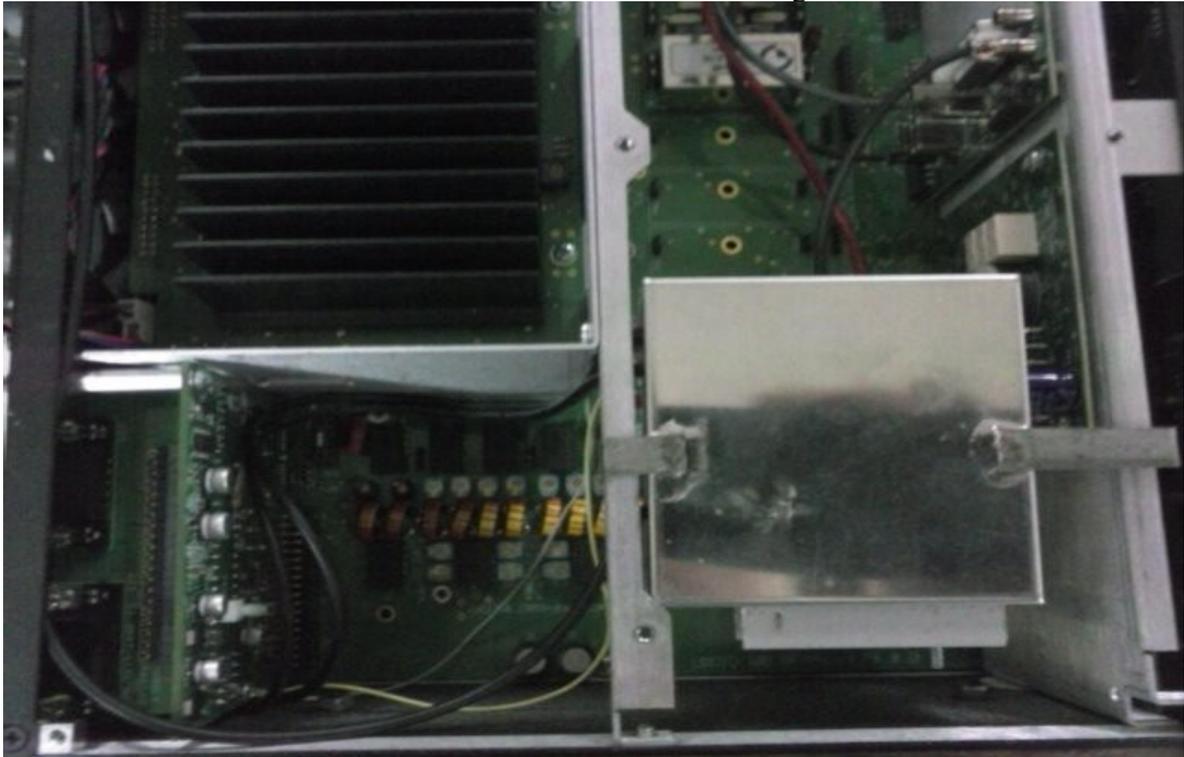
The coaxial cables are black but one of them has a red ring.

The all black coaxial cable must be connected to the female connector marked IN in KXV3A board. The coaxial cable with the red ring must be connected to the female connector marked OUT in KXV3A. Install them carefully.



## Transverter HG 144-K

Place the transverter HG 144K in the bracket as shown in the image



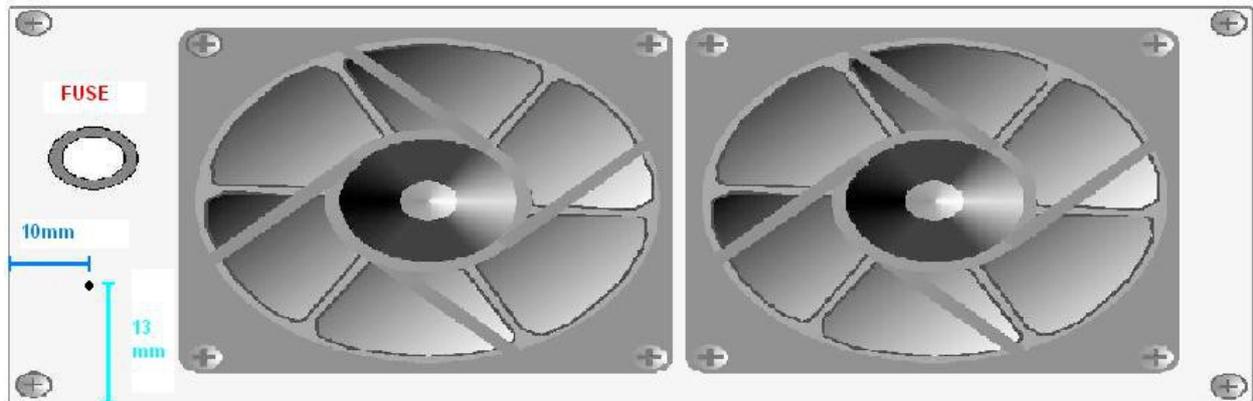
Mount the lateral panel with the 7 screws and beware with all cables from KXV3A.



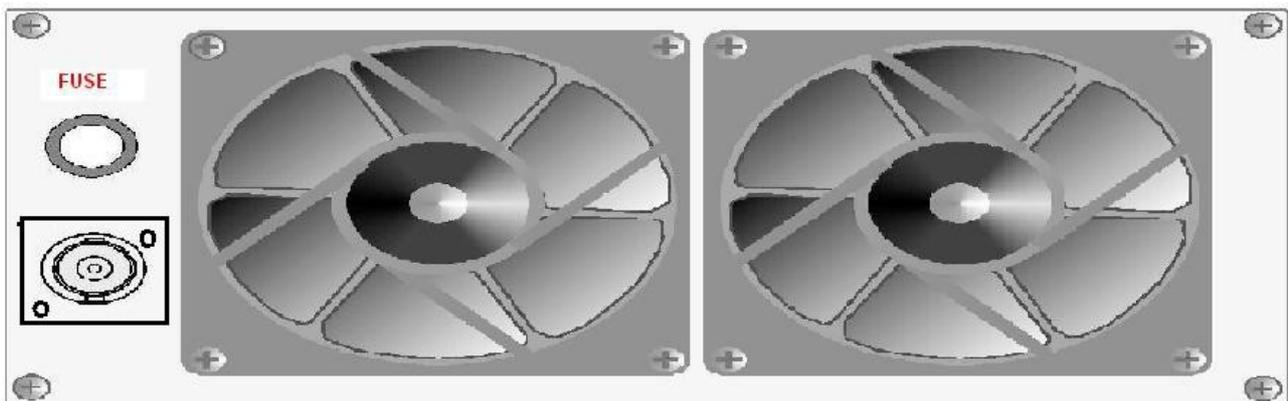


## Transverter HG 144-K

Remove the 4 screws of Fan panel and remove it. Disconnect the wires of fan carefully. Install BNC Female Connector for 144 Mhz Antenna at the rear of K3. In some versions of K3 hole for the connector is covered with a plastic



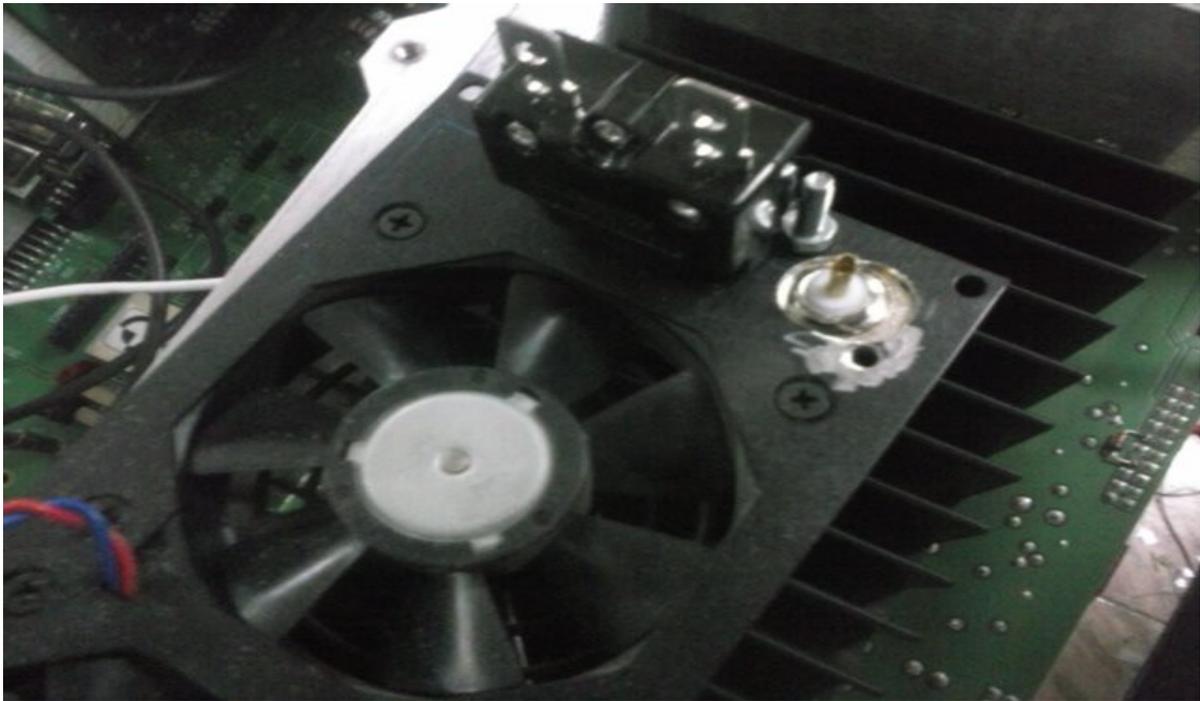
Make a hole of 11mm of diameter in fan panel K3. See you the distances. After 2 hole of 3mm for screws of connector.



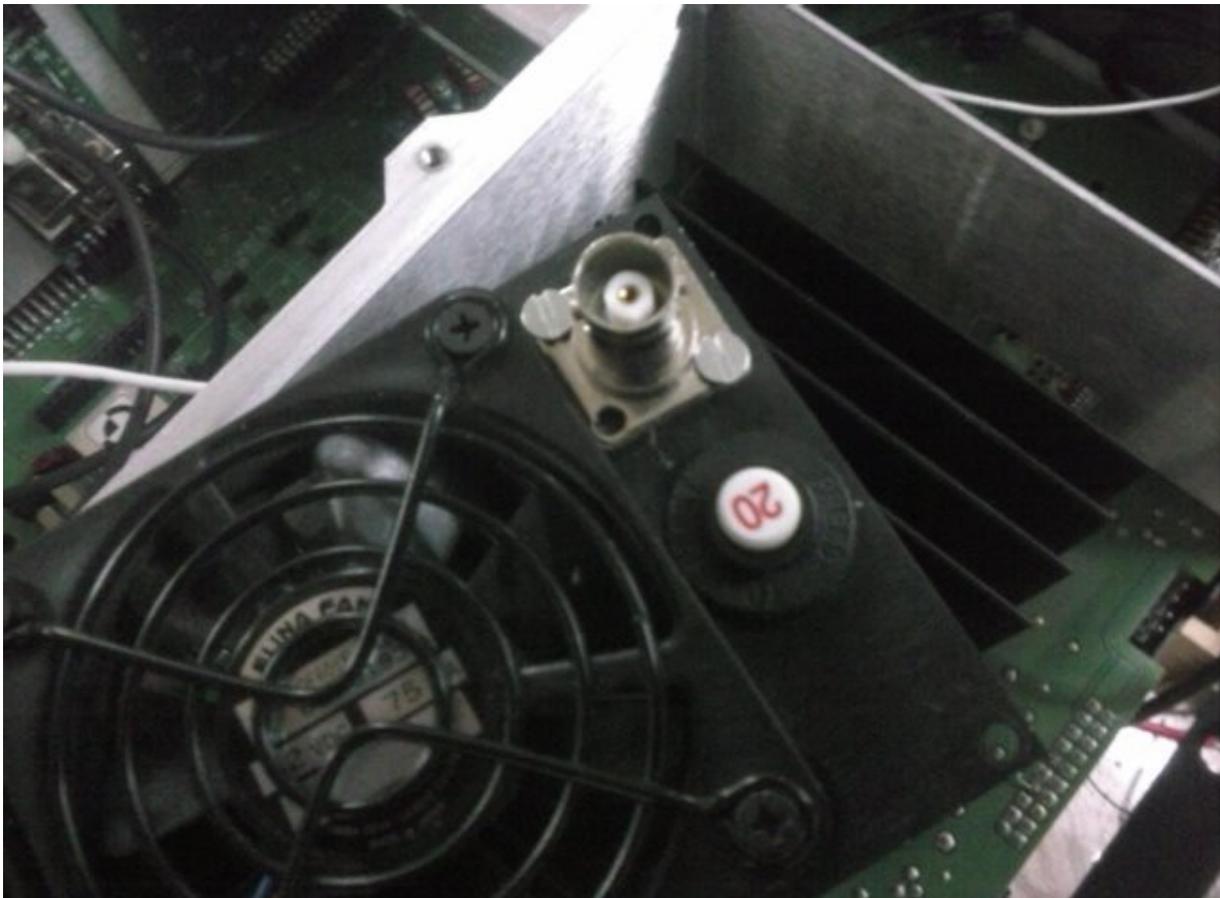
Scrape the paint in hole of 3mm in rear part of fan panel for better contact and screws the BNC female connector.

## Transverter HG 144-K

Scrape the paint in hole of 3mm in rear part of fan panel for better contact and screws the BNC female connector.



And solder de coaxial cable on BNC Female connector for 70 Mhz Antenna



## Transverter HG 144-K

Now connect the fan wires and fuse wire and reassembling the fan panel.



## Transverter HG 144-K

**Check all installation one more time.**

Pass the speaker wire below the transverter HG 144K and connect it on KIO3 board and close and screws the top cover. Your transverter is installed.



## **Transverter HG 144-K**

### **K3 SETUP FOR HG 144-K TRANSVERTER**

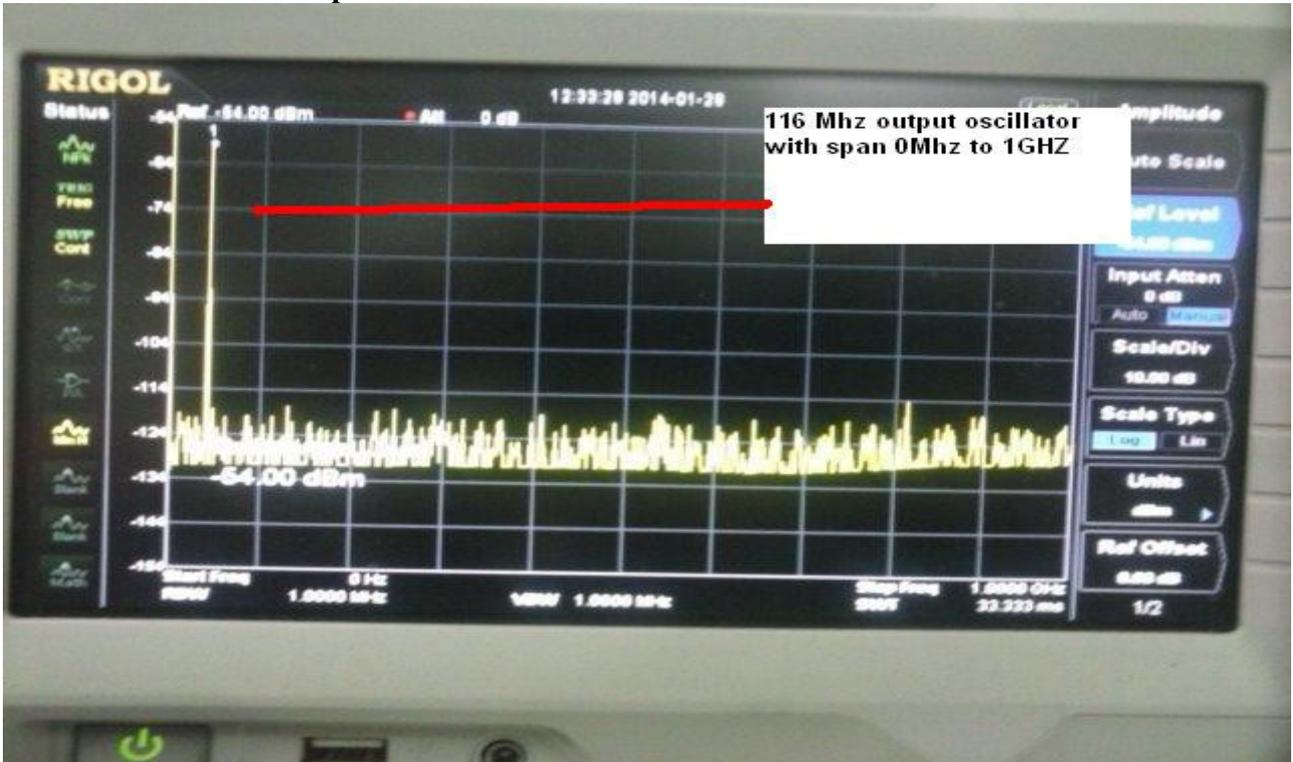
#### **MENU :**

**XV1 ON ..... YES**  
**XV1 RF ..... 144**  
**XV1 IF ..... 28**  
**XV1 PWR..... L 1.00**  
**XV1 OFS ..... 0.00**  
**XV1 ADR..... Int. Trn0**

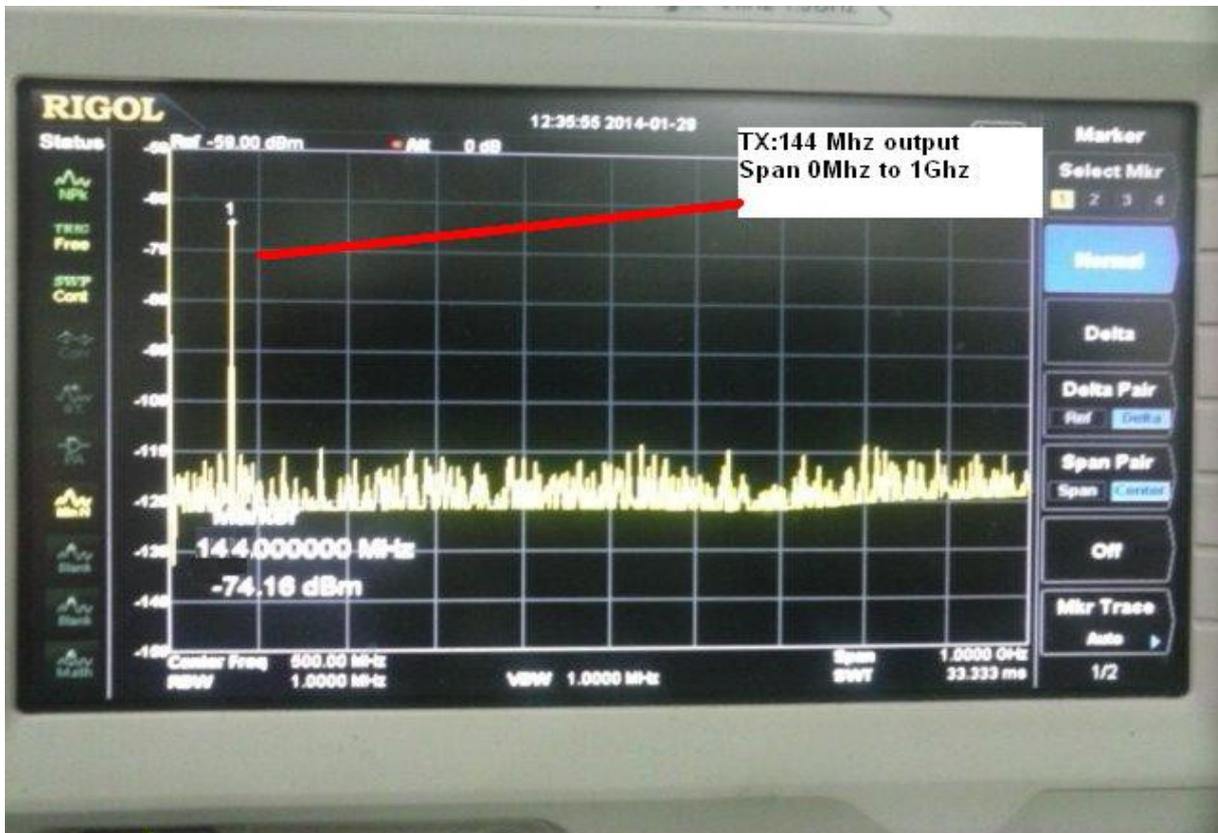
When you select by band button and change for transverter you have 144 Mhz and the transverter is power on. If you change of band for example at 50 Mhz the transverter is power off.  
CONNECT YOUR ANTENNA AND ENJOY ON 144 MHZ.

# Transverter HG 144-K

Some measures in spectrum analyser: NOT SIMULATION... REAL MEASURES  
116 Mhz oscillator out Span 0 to 1GHZ

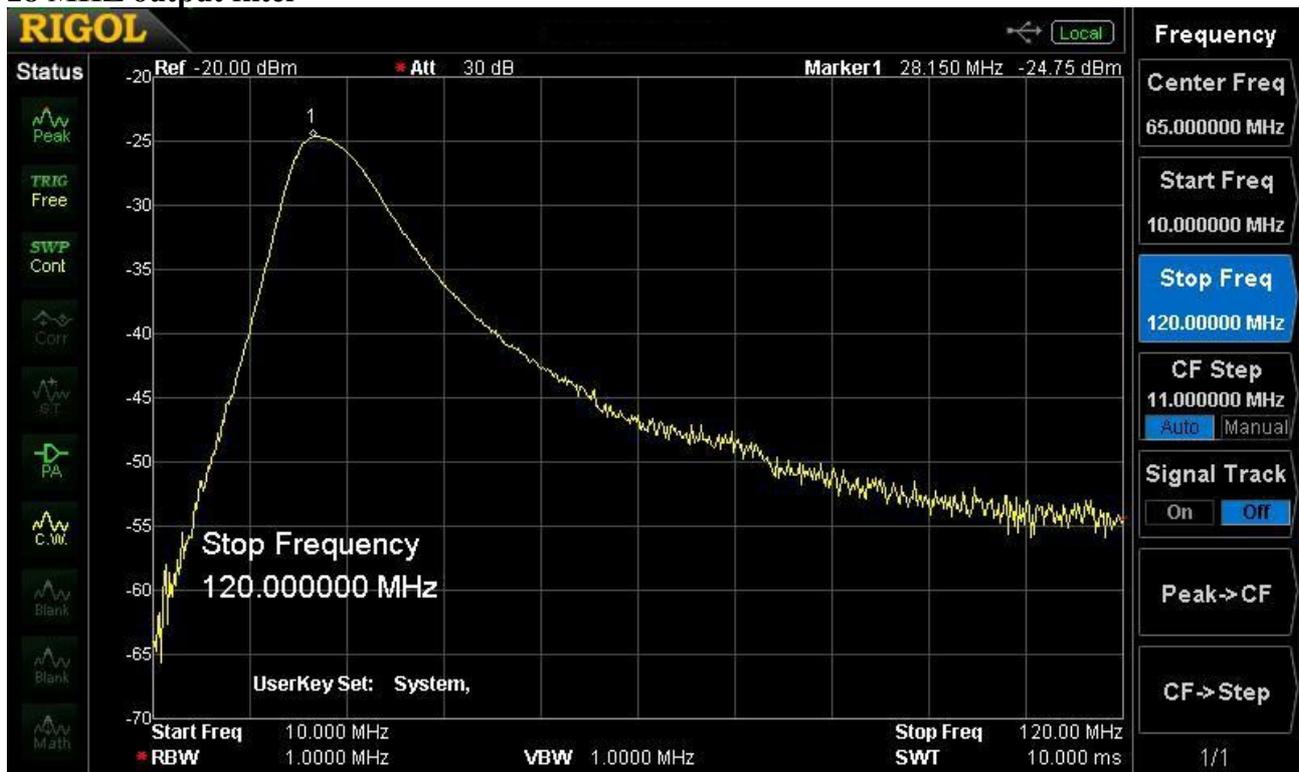


144 Mhz output transverter Span 0 to 1 GHz



# Transverter HG 144-K

## 28 MHz output filter



more info:

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MANUAL Rev 1.0

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