

**EXHIBIT B**

[FCC Ref. 2.1033(b)(4)]

"Description of Circuit Functions"

## **BASE UNIT :**

The demodulated signal, resulted from Double Super Heterodyne system, which appears at output Pin no.9 of J3 is sent to IC5 Pin no.5 Amp and the 2<sup>nd</sup> Low-pass filter.

An audio signal output from IC5 Pin no.59 goes out to the Telephone Line via hybrid Transformer Trans\_hyb1.

The demodulated data code from J1 Pin no.10 is connected to Input pin no.93 of IC4.

The Audio signal received from TEL-LINE is input to IC5 Pin no.55 for ACD. The sampling signal from Pin no.8 of IC5 is connected to Pin no.5 of J3 for TX modulation.

Pin no.66 of IC4 is the output port for data codes, should be transmitted to the handset the data code that is connected to Pin no.5 of J3 for modulation.

Tel-line controlling is done by Pin no.89 of IC4.

Ring signal monitored by IC1 (PHOTO COUPLER IC) is detected by Pin no.5 of IC4

DTMF dial from IC4 Pin no.2 is outputted through Trans\_hyb1.

When the handset is far away from base unit and squelch circuit operates, Q6 goes "High to Low". This will be detected by the micro processor and after 30 sec. go to Stand by mode.

The power for the base unit is supplied by U5(5V REGULATOR IC).

Caller ID FSK and CAS data come through C116 and C117 from Tel-line. It's connected pin no.9 of IC4.

### **HAND SET :**

The demodulated signal, resulted from Double Super Heterodyne system, which appears at output Pin no.9 of J1 is sent to IC3 Pin no.5 Amp and the 2<sup>nd</sup> Low-pass filter. The audio output from IC3 Pin no.59 is finally amplified by Q9, Q5 and goes out to the Receiver unit with HAC compatibility.

The demodulated data code from J1 Pin no.10 is fed to Pin no.68 of IC1.

Voice signal from MIC1 is coupled to Pin no.54 of IC3. The voice signal is Analog to Digital converter and Pin no.8 of IC3 is connected to Pin no.5 of J1 for modulation.

Pin no.89 of IC1 is the output port for data code that should be transmitted to the base unit. This data code is connected to the Pin no.5 of J1 for modulation.

Key board operation is monitored by Pin no.84, 92, 93, 94, 95 ,96~99 of IC1

Key tone from Pin no.90 of IC1 drives the BUZZER.

Ring tone from Pin no.2 of IC1 drives the BUZZER

### **ID setting :**

When pressing the channel key of handset and the pager key of base at the same time , the base send security code to handset by an air.

### **Digital Security Coding :**

The device has more than 65,000 digital security codes.

The device will select one of more than 65,000 codes randomly whenever the handset is registered with base.

The device will be programmed at factory preset to one of 65,000 digital security codes.

## 1. BASE RF MODULE

### 1) RX PART

The Receiver front-end contains a band pass filter(BPF), and RF low noise amplifier(LNA), An active transistor mixer, a ceramic filter 10.7Mhz.

also It includes buffer Amplifier for the generation of local oscillator.

This front-end receiver receives RF signal from the antenna and RF signals within this frequency range (2474.Mhz ~ 2476.45Mhz) pass through RF Amp (Q1) and BPF.

It mixed within 1st local frequency from VCO. It is amplified on Amp transistor (Q10) and the signal pass through the ceramic filter (10.7MHz).

After the IF signal pass the ceramic filter, The signal goes the FM IF(Intermediate frequency) IC1.

And the signal is mixed in the FM IF IC (S1T85331). The signal pass through the ceramic filter(455Khz). The output signal in the FM IF IC streams from the Af-out terminal of the connector to the base.

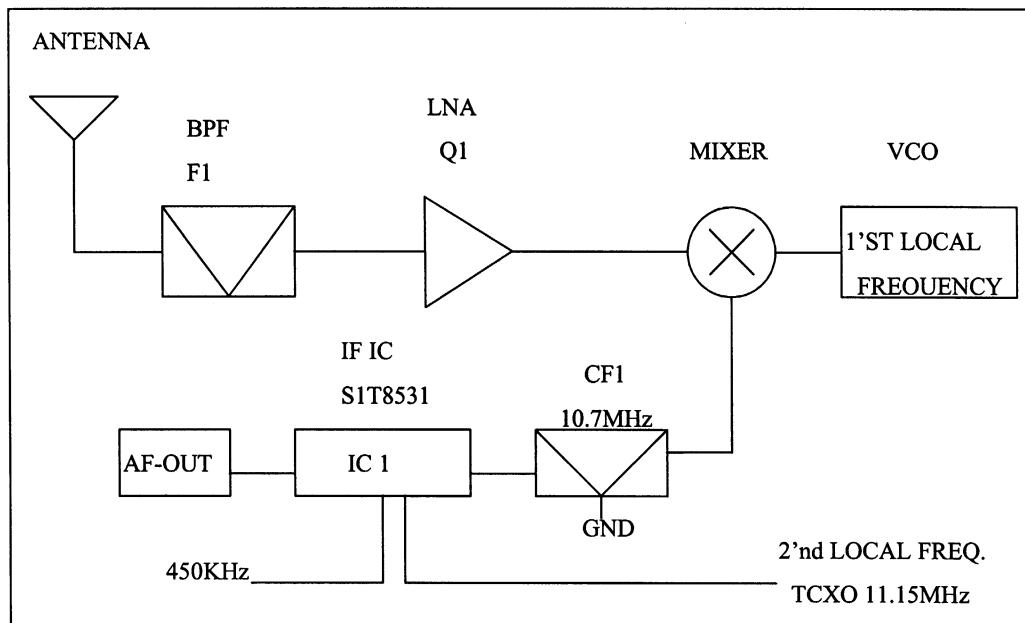


FIG. 1

## 2) TX PART

The signal entering from the Af-In terminal of the connector(Pin no.10 of con1).

The signal is sent to the MOD terminal of the TX VCO.

The RF signal enter to the transmission power Amp transistor Q7. and BPFS FILTER(BPF).

The RF signal pass through the band pass filter, to connect the antenna. The transmission RF signal is 2402.55Mhz ~ 2405hz.

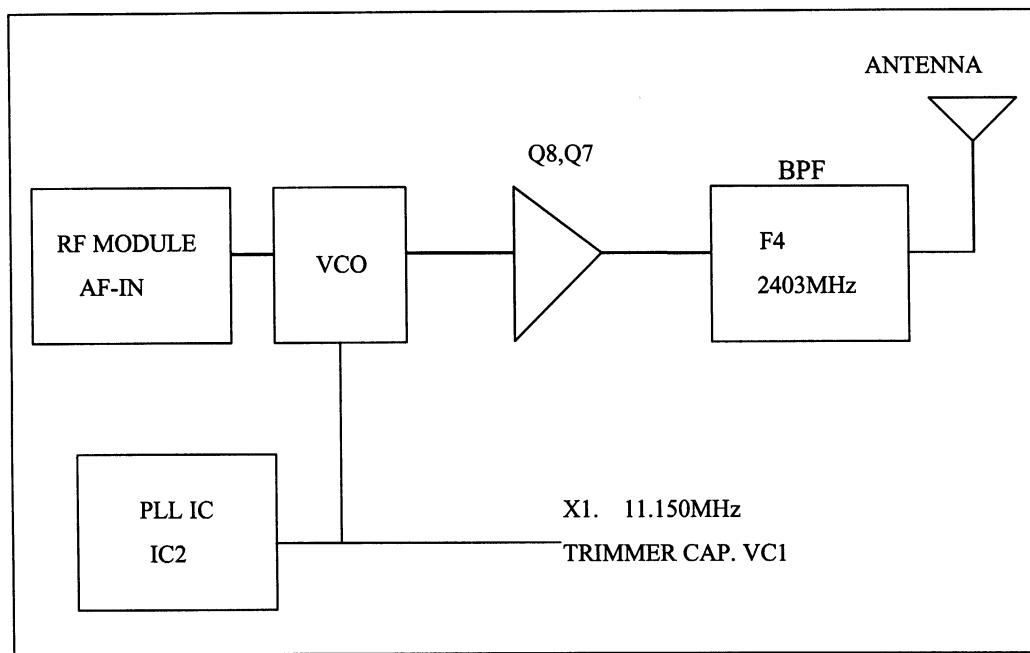


FIG. 2

## 2. HAND RF MODULE

### 1) RX RART

The Receiver front-end contains a band pass filter(BPF), and RF low noise amplifier(LNA). An active transistor mixer, a ceramic filter 10.7Mhz.

also It includes buffer Amplifier for the generation of local oscillator.

This front-end receiver receives RF signal from the antenna and RF signals within this frequency range (2474.Mhz ~ 2476.45Mhz) pass through RF Amp (Q1) and BPF.

It mixed within 1st local frequency from VCO. It is amplified on Amp transistor (Q10) and the signal pass through the ceramic filter (10.7MHz).

After the IF signal pass the ceramic filter, The signal goes the FM IF(Intermediate frequency) IC1.

And the signal is mixed in the FM IF IC (S1T85331). The signal pass through the ceramic filter(455Khz). The output signal in the FM IF IC streams from the Af-out terminal of the connector to the portable.

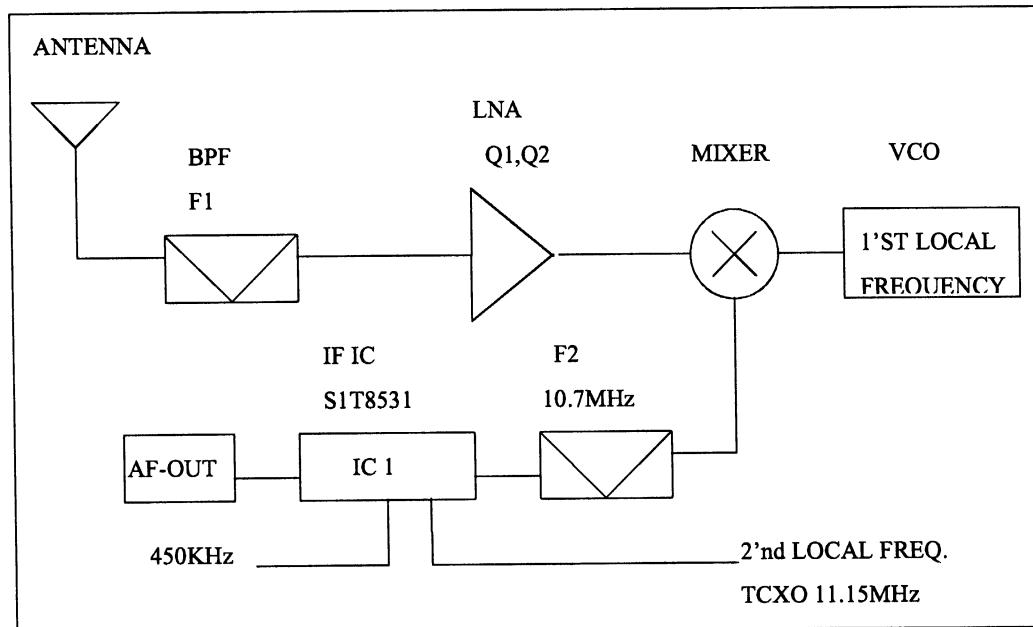


FIG.3

2) TX PART

The signal entering from the Af-In terminal of the connector(Pin no.10 of con1).

The signal is sent to the MOD terminal of the TX VCO.

The RF signal enter to the transmission power Amp transistor Q7. and BPFS FILTER(BPF).

The RF signal pass through the band pass filter, to connect the antenna. The transmission RF signal is 2402.55Mhz ~ 2405hz.

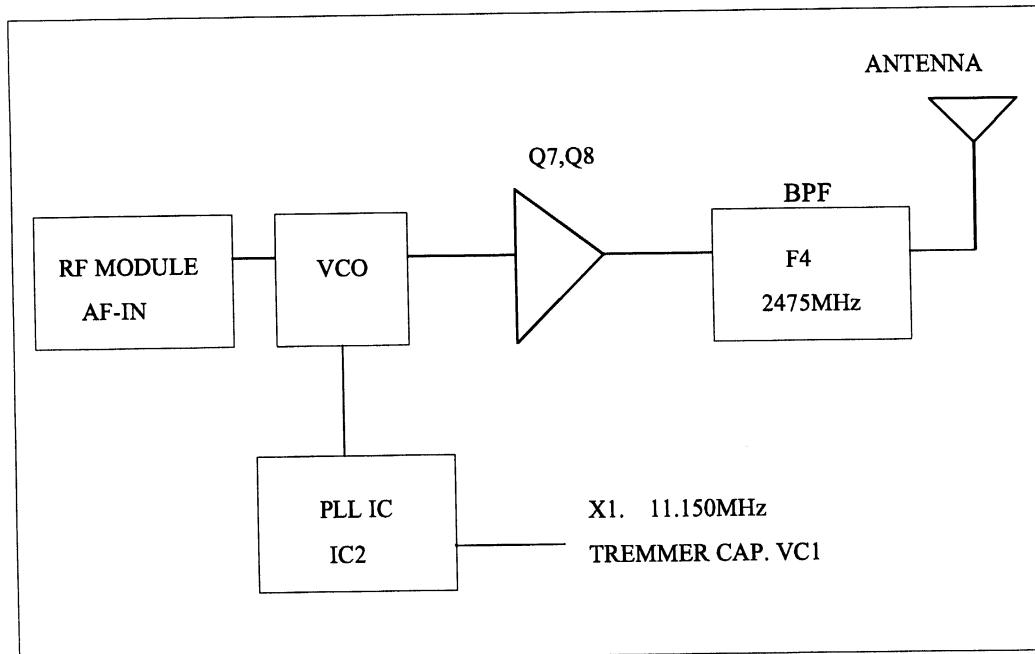


FIG. 4