

## DESCRIPTION OF CIRCUIT OPERATION

### BASE UNIT :

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin No.3 of CON1 is sent to U2 (COMPANDER IC) Pin No.16 for Expansion. The expended audio signal output from Pin No.19 is coupled to Q2,3 during the TALK mode.

The audio signal is sent to the Telephone Line via hybrid Transformer HB Y1.

The demodulated data code from CON1 Pin No.3 is fed to Q5.

It's output is connected to Pin No.14(Data Reference Input Pin) and 15(Data input Pin) of IC3.

The Audio signal receiving from TEL-LINE is inputted to U2 Pin No.8 for compression. The compressed audio signal from Pin No.1 of U2 is connected to Pin No.10 of CON1 for Audio signal modulation.

Pin No.31 of IC3 generates data codes that should be transmitted to the hand set.  
the data code is connected to Pin No.10 of CON1 for Data modulation.

Relay control is done by Pin No.18 of IC3.

Ring signal monitored by U4 (PHOTO COUPLER IC) is detected by Pin No.16 of IC3 and Base Unit sends Ring Data Code to hand set.

DTMF dialing is generated by IC3 Pin no.20~25 and this signal is sent to TEL-LINE through the Q2,Q3,Q4 and hybrid Transformer HYB1.

When the hand set is placed on the base cradle, the charging is detected by Pin No.13 of IC3 and IC3 sends I.D data codes to handset for security code setting.

When the handset is far away from base unit, squelch circuit of IC1 in RF part operates and Pin No.13 of IC1 goes "HI". This Squelch Detection Signal will be detected by Pin No.17 of IC3 (the micro processor) and the base set goes to Stand-By mode after 20 sec.

The power of the base set is supplied by U3(5V REGULATOR IC).

LED display is controlled by Pin No.9 of IC3.

## HAND SET :

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin No.3 of CON1 is connected to Pin No.16 of IC4(Expander input). The audio output from Pin No.19 of IC4(Expander output) is output to the Receiver unit with HAC compatibility through Q2.

The demodulated data code from Pin No.3 of CON1 is fed to Q5.

It's output is connected to Pin No.14(Data Reference Input Pin) and 15(Data input Pin) of IC3.

Voice signal from C-MIC is coupled to Pin No.8 of IC4. The voice signal is compressed by Compressor of IC4 and Voice signal output of Pin No.1(IC4) is connected to Pin no.10 of CON1 for Audio signal modulation.

Pin No.23 of IC3 generates data codes that should be transmitted to the base set.  
the data code is connected to Pin No.10 of CON1 for Data modulation.

During the charging, Charging is detected by Pin No.5 of IC3

Key board operation is monitored by Pin No.11,16~18,28~30 of IC3.

Key Tone Signal and the ringing Signal from Pin No.9 of IC3 drives the BUZZER.

## 1. BASE RF MODULE

### 1) RX PART

THE RECEIVER FRONT-END CONTAINS A BAND PASS FILTER, AND RF LOW NOISE AMPLIFIER, A ACTIVE TRANSISTOR MIXER, A CERAMIC FILTER AND 10.7MHz IF AMPLIFIER.

ALSO IT INCLUDES BUFFER AMPLIFIERS FOR THE GENERATION OF LOCAL OSCILLATOR POWER.

THIS FRONT-END RECEIVER RECEIVERS AND RF SIGNAL FROM THE ANTENNA. AND RF SIGNALS WITHIN THIS FREQUENCY RANGE IS 2474.MHz ~ 2475.95MHz PASS THROUGH RF AMP (Q1) AND BAND PASS FITER.

AFTER PASSING THROUGH THE BAND PASS FILTER AND THE SIGNAL IS MIXED WITHIN 1'ST LOCAL FREQUENCY FROM VOLTAGE CONTROLLED OSCILLATOR. THE SIGNAL IS AMPLIFIED ON THE IF AMP TRANSISTOR (Q3) AND THE SIGNAL PASS THROUGH THE CERAMIC FILTER (10.7MHz).

AFTER THE IF SIGNAL PASS THE CERAMIC FILTER, THE SIGNAL ENTER BY THE FM IF(INTERMEDIATE FREQUENCY) IC1.

AND THE SIGNAL IS MIXED IN THE FM IF IC (DBL5018V). THE SIGNAL PASS THROUGH THE CERAMIC FILTER (450KHz). THE OUTPUT SIGNAL IN THE FM IF IC STREAMS FROM THE AF-OUT TERMINAL OF THE CONNECTOR TO THE BASE.

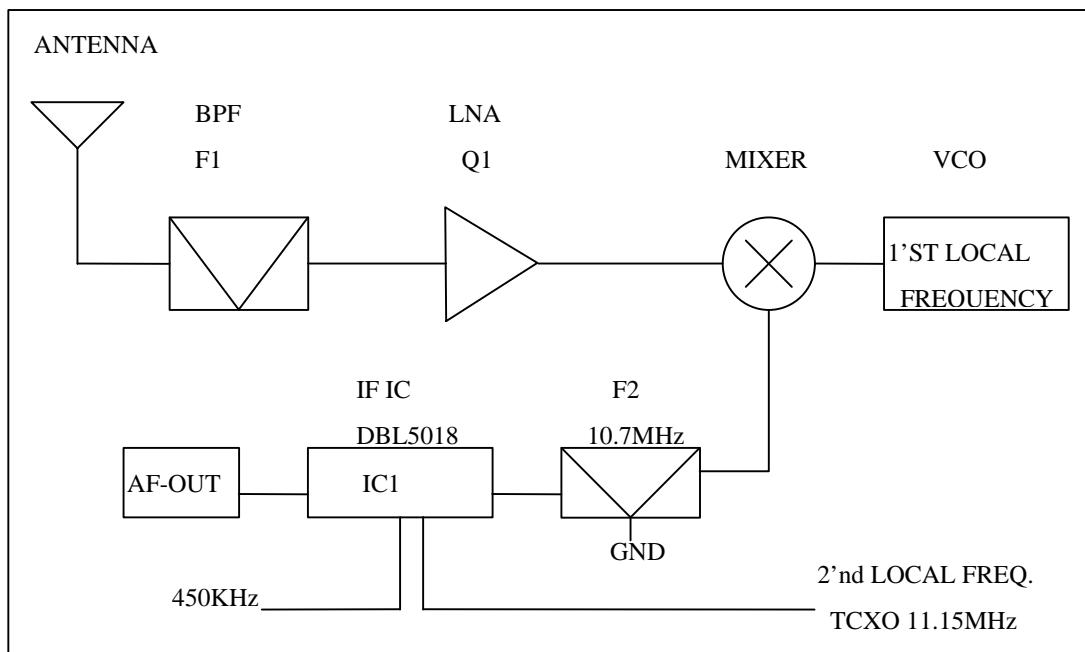


FIG. 1

## 2)TX PART

THE SIGNAL IS MADE TO THE BASE, ENTER BY THE AF-IN TERMINAL OF THE CONNECTOR(CON1 OF PIN NO.10).

THE SIGNAL SEND THE MOD TERMINAL OF THE TX VCO.

THE SIGNAL IS MIXED IN THE TX VCO MIXING THE RF SIGNAL, THE RF SIGNAL ADJUST THE TRIMMER CAPACITOR (VC1).

THE RF SIGNAL ENTER BY THE TRANSMISSION POWER AMP TRANSISTOR Q5

THE SINAL IS AMPLITUDE IN THE Q7. ENTER BY THE BAND PASS FILTER.

THE RF SIGNAL PASS THROUGH THE BAND PASS FILTER, TO WARDS THE ANT. THE LAST TRANSMISSION RF SIGNAL IS 2402.55MHz ~ 2404.5MHz.

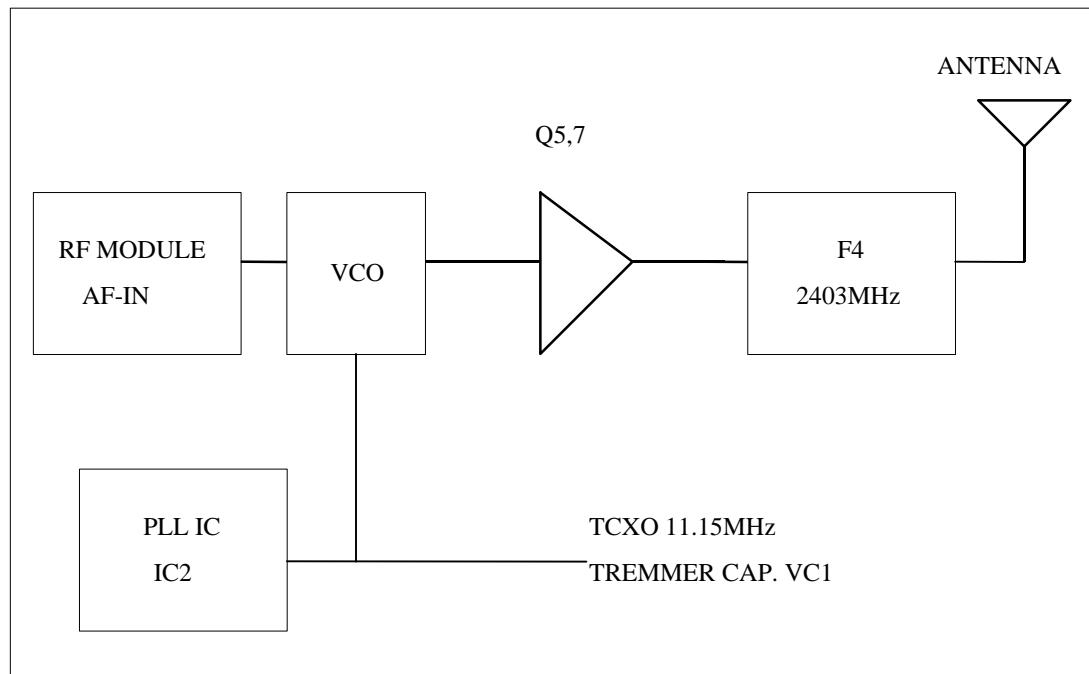


FIG. 2

## 2. PORTABLE RF MODULE

### 1) RX RART

THE RECEIVER FRONT-END CONTAINS A BAND PASS FILTER, AND RF LOW NOISE AMPLIFIER, ACTIVE TRANSISTOR MIXER, CERAMIC FILTER AND 10.7MHz “IF” AMPLIFTER.

ALSO IT INCLUDES BUFFER AMPLIFIERS OR THE GENERATION OF LOCAL OSCILLATOR POWER.

THIS FRONT-END RECEIVERS AND RF SIGNAL FROM THE ANTENNA. AND RF SIGNALS WITHIN THIS FREQUENCY RANGE IS 2402.55MHz ~ 2404.5MHz PASS THROUGH RF AMP (Q1) AND BAND PASS FILTER..

AFTER PASSING THROUGH THE BAND PASS FILTER, THE SIGNAL IS MIXED WITHIN 1'ST LOCAL FREQUENCY FROM VOLTAGE CONTROLLED OSCILLATOR. THE SIGNAL IS AMPLIFIED ON THE IF AMP TRANSISTOR (Q3) AND THE SIGNAL PASS THROUGH THE CERANIC FILTER (10.7MHz) AFTER THE IF SIGNAL PASS THE MCF FILTER, THE SIGNAL ENTER BY THE FM IF (INTERMEDIATE FREQUENCY) IC. AND THE SIGNAL IS MIXED IN THE FM IF IC (DBL5018V). THE SIGNAL PASS THROUGH THE CERAMIC FILTER (450KHz). THE OUTPUT SIGNAL IN THE FM IF IC STREAMS FROM THE AF-OUT TERMINAL OF THE CONNECTOR 1 TO THE PORTABLE.

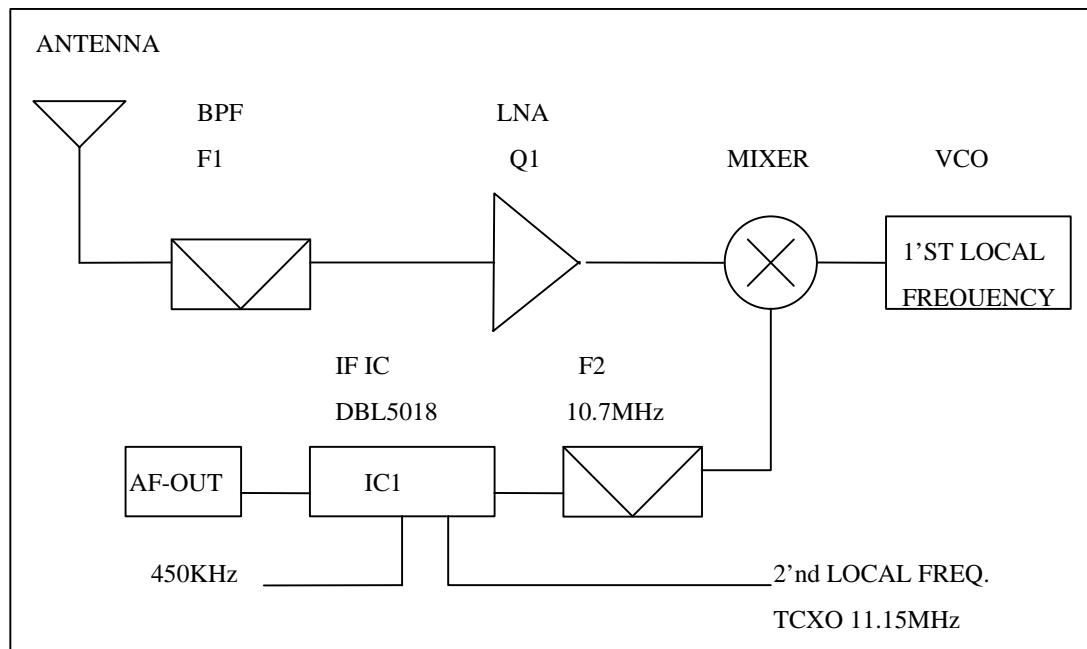


FIG.3

2) TX PART

THE SIGNAL IS MADE TO THE PORTABLE, ENTER BY THE AF-IN TERMINAL OF THE CONNECTOR.

THE SIGNAL SEND THE MOD TERMINAL OF THE TX VCO.

THE SIGNAL IS MIXED IN THE TX VCO MIXING THE RF SIGNAL, THE RF SIGNAL ADJUST THE TRIMMER CAPACITOR VC1.

THE RF SIGNAL ENTER BY THE TRANSMISSION POWER AMP TRANSISTOR (Q5,7). ENTER BY THE BAND PASS FILTER.

THE RF SIGNAL PASS THROUGH THE BAND PASS FILTER, TO WARDS THE ANT. THE LAST TRANSMISSION RF SIGNAL IS 2474.0MHz ~ 2475.95MHz.

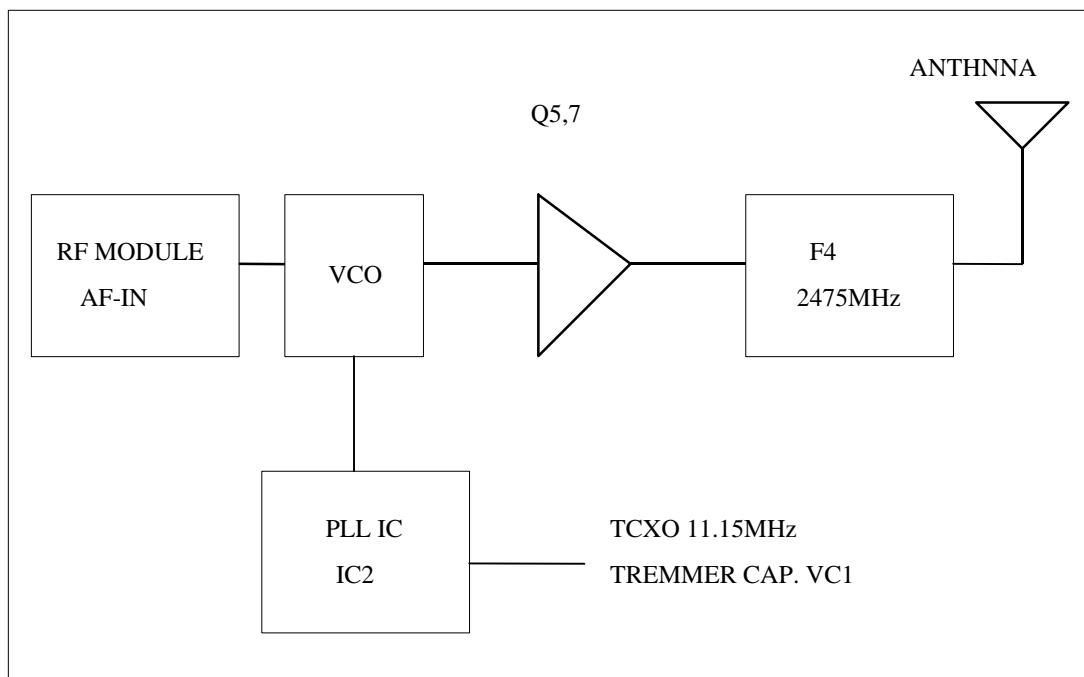


FIG. 4

CH	BASIC Tx(Mhz)	HANDY Tx(Mhz)	REMARK
1	2402.55	2474	
2	2402.6	2474.05	
3	2402.65	2474.1	
4	2402.7	2474.15	
5	2402.75	2474.2	
6	2402.8	2474.25	
7	2402.85	2474.3	
8	2402.9	2474.35	
9	2402.95	2474.4	
10	2403	2474.45	
11	2403.05	2474.5	
12	2403.1	2472.55	
13	2403.15	2474.6	
14	2403.2	2474.65	
15	2403.25	2474.7	
16	2403.3	2474.75	
17	2403.35	2474.8	
18	2403.4	2474.85	
19	2403.45	2474.9	
20	2403.5	2474.95	
21	2403.55	2475	
22	2403.6	2475.05	
23	2403.65	2475.1	
24	2403.7	2475.15	
25	2403.75	2475.2	
26	2403.8	2475.25	
27	2403.85	2475.3	
28	2403.9	2475.35	
29	2403.95	2475.4	
30	2404	2475.45	
31	2404.05	2475.5	
32	2404.1	2475.55	
33	2404.15	2475.6	
34	2404.2	2475.65	
35	2404.25	2475.7	
36	2404.3	2475.75	
37	2404.35	2475.8	
38	2404.4	2475.85	
39	2404.45	2475.9	
40	2404.5	2475.95	