DESCRIPTION OF CIRCUIT OPERATION

1. BASE UNIT

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin No.3 of J4 is sent to IC1 (COMPANDER IC) Pin No.16 for Expansion. The expended audio signal output from Pin No.19 is coupled to Q14,15 during the TALK mode. The audio signal is sent to the Telephone Line via hybrid Transformer HBY1.

The demodulated data code from J4 Pin No.3 is fed to Q4,Q3.
It's output is connected to Pin No.27(Data input Pin) of IC2.

The Audio signal receiving from TEL-LINE is inputted to IC1 Pin No.8 for compression. The compressed audio signal from Pin No.1 of IC1 is connected to Pin No.10 of J4 for Audio signal modulation.

Pin No.19 of IC2 generates data codes that should be transmitted to the hand set. The data code is connected to Pin No.10 of J4 for Data modulation.

LINE control is done by Pin No.1 of IC2.
Ring signal monitored by IC10 (PHOTO COUPLER IC) is detected by Pin No.61 of IC2 and Base Unit sends Ring Data Code to hand set.

DTMF dialing is generated by IC2 Pin no.24 and this signal is sent to TEL-LINE through the Q14,Q15 and hybrid Transformer HYB1.

When the hand set is placed on the base cradle, the charging is detected by Pin No.59 of IC2 and IC2 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.22 of IC2 (the micro processor) and the base set goes to Stand-By mode after 20 sec.

The power of the base set is supplied by IC3,IC4(5V REGULATOR IC).

IN-USE/CHARGE LED display is controlled by Pin No.28 of IC2.
7 SEGMENT display is controlled by pin No.18,35,48 of IC2.

2. HAND SET

Receiver unit The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin No.3 of J1 is connected to Pin No.16 of IC102-B(Expander input). The audio output from Pin No.19 of IC102-B(Expender output) is output to the with HAC compatibility through Q8.

The demodulated data code from Pin No.3 of J1 is fed to Q105,Q104.
It's output is connected to Pin No.42(Data input Pin) of IC104.

Voice signal from C-MIC is coupled to Pin No.8 of IC102-A. The voice signal is compressed by
Compressor of IC102-A and Voice signal output of Pin No.1(IC102-A) is connected to Pin no.10 of J1 for Audio signal modulation.

Pin No.34 of IC104 generates data codes that should be transmitted to the base set.
the data code is connected to Pin No.10 of J1 for Data modulation.

During the charging, Charging is detected by Pin No.29 of I IC104.

Key board operation is monitored by Pin No.47~54 of IC104.

Key Tone Signal and the ringing Signal from Pin No.46,60 of IC104 drives the BUZZER.

3. 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 Amplifier for the generation of Local Oscillator Power.

This front-end Receiver receivers RF signal from the Antenna and RF signals within this Frequency range is 2474.0MHz~2475.95MHz pass through RF Low Noise Amp (Q1) and Band Pass Filter (F1). After passing through the Band Pass Filter and the RF signal is Mixed with 1'ST Local Frequency from Voltage Controlled Oscillator. The signal is amplified on the IF AMP Transistor (Q3) and the signal pass through the 10.7MHz Ceramic Filter (F2). After the IF signal pass the Ceramic Filter, the signal enter by the FM IF (Intermediate Frequency) IC (IC1). And the signal is mixed with 2'nd Local Frequency in the FM IF IC (IC1). The signal pass through the 450KHz Ceramic Filter (F3). The Output signal in the FM IF IC (IC1) streams from the AF-Output terminal of the connector 1 to the base set.

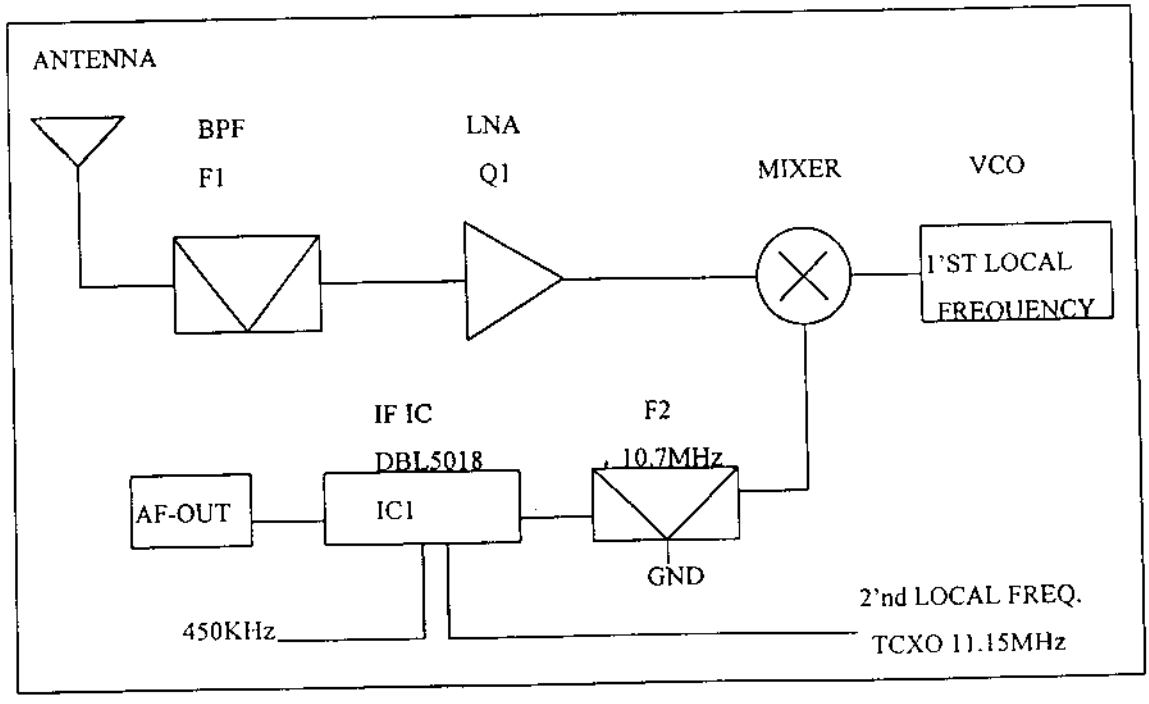

FIG. 1

2) TX PART

The signal is made to the BASE and enter by the AF-Input terminal of the connector (PIN NO.10 of CON1). The signal send the Modulation terminal of the TX VCO and the TX Radio Frequency adjust the Trimmer Capacitor (VD2).

The RF signal enter by the Transistor Power AMP (Q5) and the signal is amplified in the Q7.

The RF signal enter by the Band Pass Filter, to wards the Antenna.

The last Transmission RF signal is 2402.55MHz~2404.5MHz.

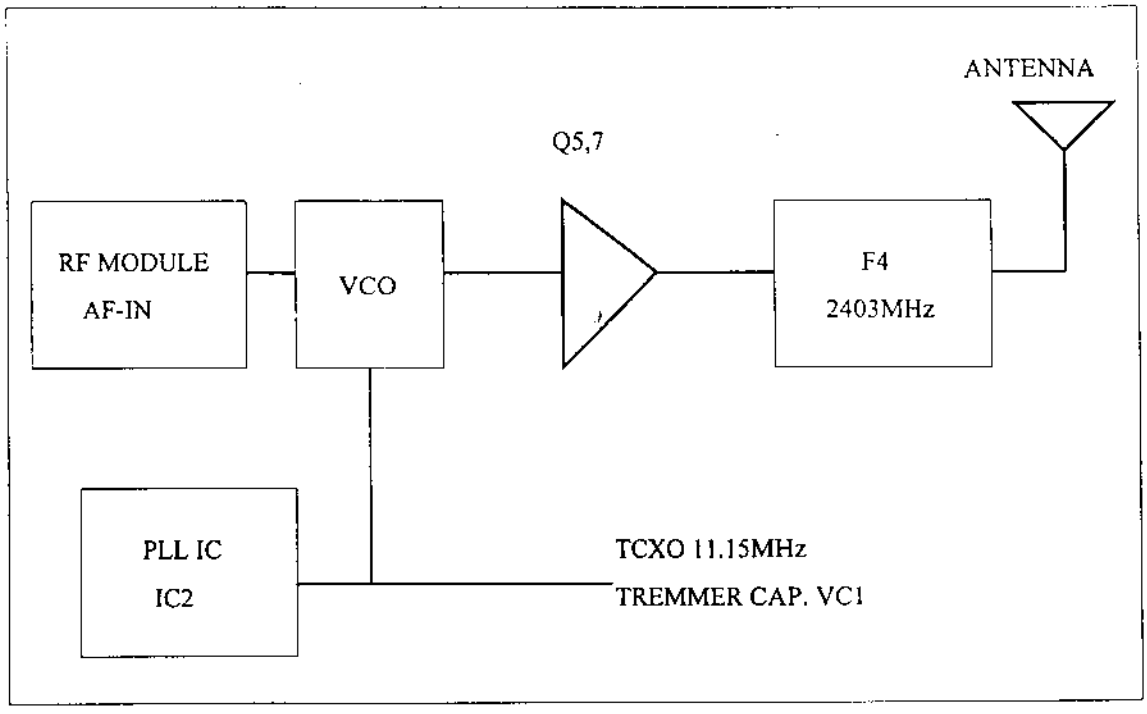

FIG. 2

4. PORTABLE RF MODULE

1) RX RART

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 Amplifier for the generation of Local Oscillator Power.

This front-end Receiver receivers RF signal from the Antenna and RF signals within this Frequency range is 2402.55MHz~2404.5MHz pass through RF Low Noise Amp (Q1) and Band Pass Filter (F1). After passing through the Band Pass Filter and the RF 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 10.7MHz Ceramic Filter (F2). After the IF signal pass the Ceramic Filter, the signal enter by the FM IF (Intermediate frequency) IC (IC1). And the signal is mixed with 2'nd Local Frequency in the FM IF IC (IC1). The signal pass through the 450KHz Ceramic Filter (F3). The Output signal in the FM IF IC (IC1) streams from the AF-Output terminal of the connector 1 to the portable set.

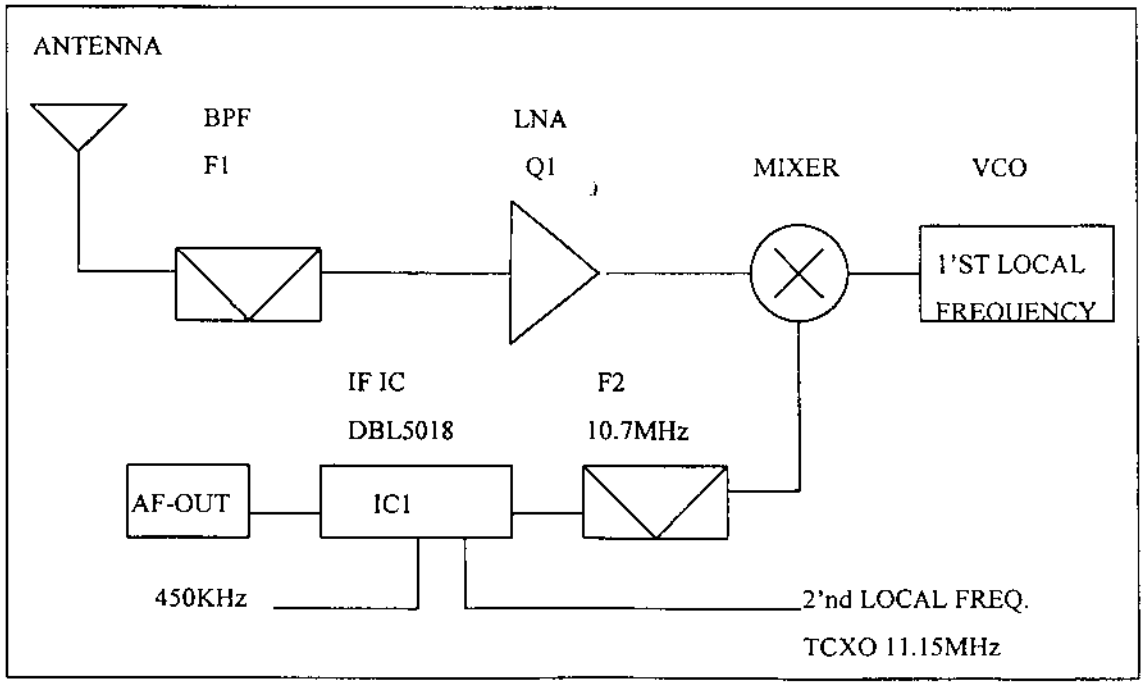

FIG.3

2) TX PART

The signal is made to the BASE and enter by the AF-Input terminal of the connector (PIN NO.10 of CON1). The signal send the Modulation terminal of the TX VCO and the TX Radio Frequency adjust the Trimmer Capacitor (VD2).

The RF signal enter by the Transistor Power AMP (Q5) and the signal is amplified in the Q7.

The RF signal enter by the Band Pass Filter, to wards the Antenna.

The last Transmission RF signal is 2474.0MHz~2475.95MHz.

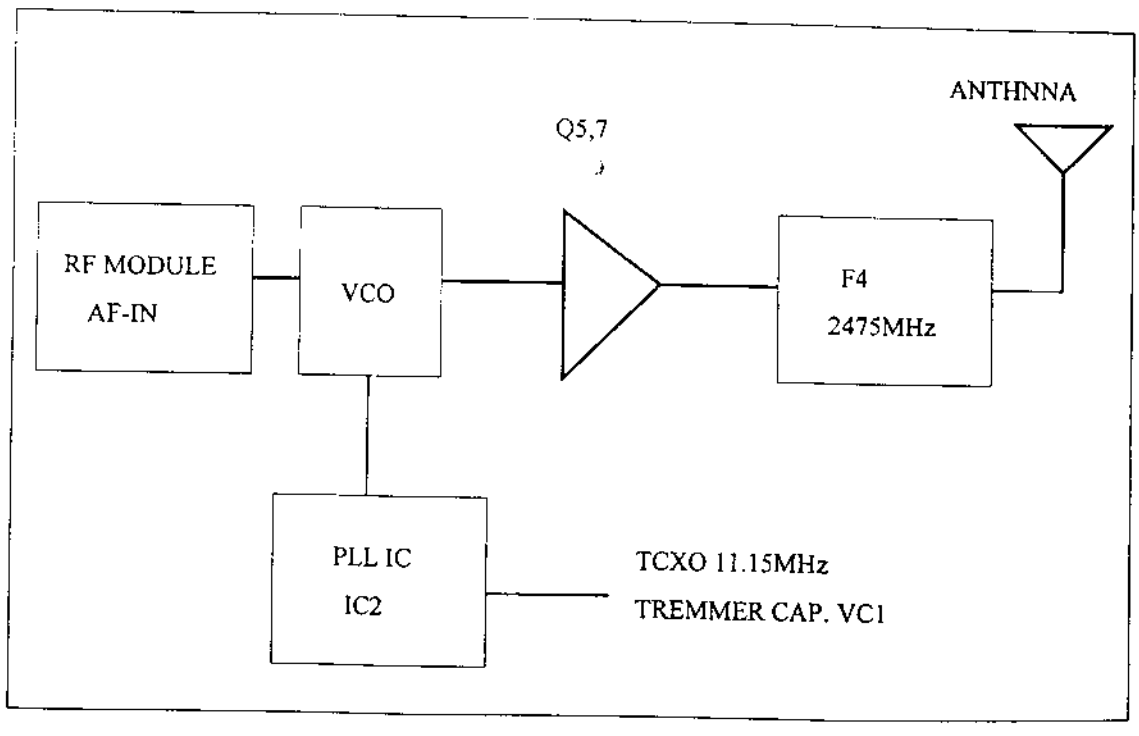

FIG. 4

CHANNEL TABLE

	HANDY Tx(MHz)	HANDY RX(MHz)	BASE TX(MHz)	BASE RX (MHz)
1	2,474.000	2403.05	2403.05	2,474.000
2	2,474.050	2403.1	2403.1	2,474.050
3	2,474.100	2403.15	2403.15	2,474.100
4	2,474.150	2403.2	2403.2	2,474.150
5	2,474.200	2403.25	2403.25	2,474.200
6	2,474.250	2403.3	2403.3	2,474.250
7	2,474.300	2403.35	2403.35	2,474.300
8	2,474.350	2403.4	2403.4	2,474.350
9	2,474.400	2403.45	2403.45	2,474.400
10	2,474.450	2403.5	2403.5	2,474.450
11	2,474.500	2403.55	2403.55	2,474.500
12	2,474.550	2403.6	2403.6	2,474.550
13	2,474.600	2403.65	2403.65	2,474.600
14	2,474.650	2403.7	2403.7	2,474.650
15	2,474.700	2403.75	2403.75	2,474.700
16	2,474.750	2403.8	2403.8	2,474.750
17	2,474.800	2403.85	2403.85	2,474.800
18	2,474.850	2403.9	2403.9	2,474.850
19	2,474.900	2403.95	2403.95	2,474.900
20	2,474.950	2404	2404	2,474.950
21	2,475.000	2404.05	2404.05	2,475.000
22	2,475.050	2404.1	2404.1	2,475.050
23	2,475.100	2404.15	2404.15	2,475.100
24	2,475.150	2404.2	2404.2	2,475.150
25	2,475.200	2404.25	2404.25	2,475.200
26	2,475.250	2404.3	2404.3	2,475.250
27	2,475.300	2404.35	2404.35	2,475.300
28	2,475.350	2404.4	2404.4	2,475.350
29	2,475.400	2404.45	2404.45	2,475.400
30	2,475.450	2404.5	2404.5	2,475.450
31	2,475.500	2404.55	2404.55	2,475.500
32	2,475.550	2404.6	2404.6	2,475.550
33	2,475.600	2404.65	2404.65	2,475.600
34	2,475.650	2404.7	2404.7	2,475.650
35	2,475.700	2404.75	2404.75	2,475.700
36	2,475.750	2404.8	2404.8	2,475.750
37	2,475.800	2404.85	2404.85	2,475.800
38	2,475.850	2404.9	2404.9	2,475.850
39	2,475.900	2404.95	2404.95	2,475.900
40	2,475.950	2405	2405	2,475.950