

DESCRIPTION OF CIRCUIT OPERATION

AUTOMIC DIGITAL SECURITY

A special security code (up to 65,536 combinations) is automatically and randomly generated to insure privacy.

1. BASE UNIT

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin No.3 of CON1 is sent to IC2 (COMPANDER IC) Pin No.16 for Expansion. The expended audio signal output from Pin No.19 is coupled to Q8 during the TALK mode.

The audio signal is sent to the Telephone Line via Q3.

The demodulated data code from CON1 Pin No.3 is fed to U5-B.

It's output is connected to Pin No.31(Data Reference Input Pin) of IC4.

The Audio signal receiving from TEL-LINE is input to IC2 Pin No.8 for compression. The compressed audio signal from Pin No.1 of IC2 is connected to Pin No.10 of CON1 for Audio signal modulation.

Pin No.21 of IC4 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.

Line control is done by Pin No.10 of IC4

Ring signal monitored by U5-A is detected by Pin No.9 of IC4 and

Base Unit sends Ring Data Code to hand set.

DTMF dialing is generated by Pin no.38 of IC4 and this signal is sent to TEL-LINE through the Q8 and Q3.

When the hand set is placed on the base cradle, the charging is detected by Pin No.8 of IC4 and IC4 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.30 of IC4 (the micro processor) and the base set goes to Stand-By mode after 20 sec.

The power of the base set is supplied by IC5(5V REGULATOR IC).

IN-USE LED display is controlled by Pin No.23 of IC4.

2. HAND SET

Receiver unit 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 U2-A(Expander input). The audio output from Pin No.19 of U2-B(Expander output) is output to the with HAC compatibility through Q8.

The demodulated data code from Pin No.3 of CON1 is fed to Q10,Q9.

It's output is connected to Pin No.26(Data input Pin) of U1.

Voice signal from C-MIC is coupled to Pin No.8 of U2-A.

The voice signal is compressed by Compressor of U2 and Voice signal output of Pin No.1(U2-A) is connected to Pin no.10 of CON1 for Audio signal modulation.

Pin No.29 of U1 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.23 of U1

Key board operation is monitored by Pin No.50~53,66,67 and 58~61 of U1.

Key Tone Signal and the ringing Signal from Pin No.62,68 of U1 drives the BUZZER.

LCD display is controlled by Pin No.1~9,70~100 of U1.

Volume is controlled by Pin No.11,12 of U1 and drives the Q7,Q15

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 10.73MHz IF Amplifier.

Also it includes buffer Amplifier for the generation of Local Oscillator Power.

This front-end Receiver receives RF signal from the Antenna and RF signals within this Frequency range is 2468.0MHz~2479.7MHz 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 1ST Local Frequency from Voltage Controlled Oscillator. The signal is amplified on the IF AMP Transistor (Q3) and the signal pass through the 10.73MHz Ceramic Filter (F3). After the IF signal pass the Ceramic Filter, the signal enter by the FM IF (Intermediate Frequency) IC (IC1). And the signal is mixed in the FM IF IC (IC1).

The Output signal in the FM IF IC (IC1) streams from the AF-Output terminal of the connector 1 to the base set.

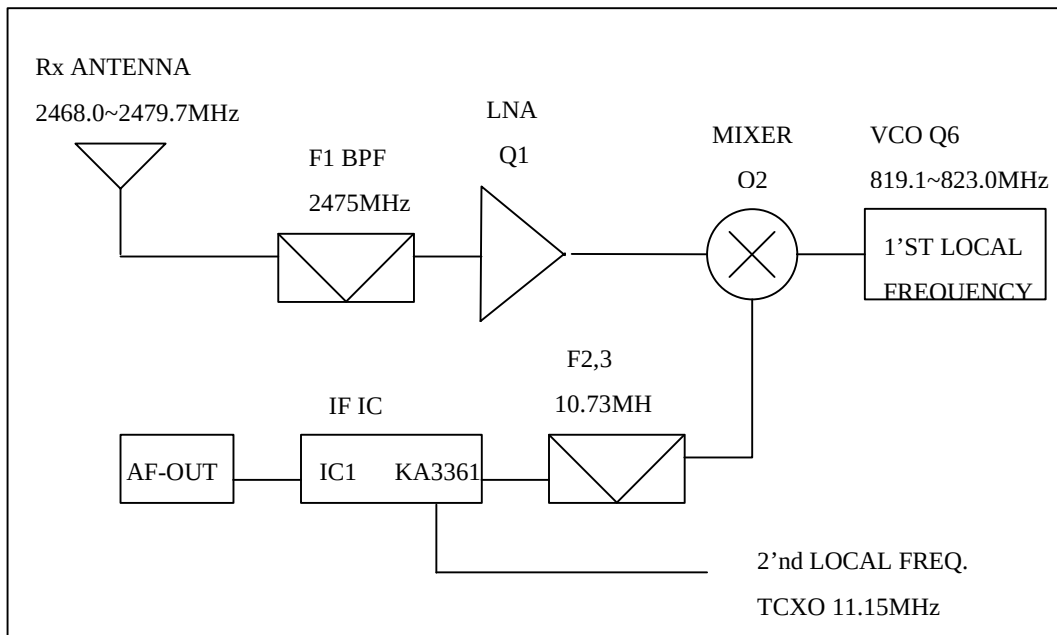


FIG.3

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 (VC1).

The RF signal enter by the Transistor Power AMP (Q7) and the signal is amplified in the Q5,Q10.

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

The last Transmission RF signal is 5803.019MHz~5816.019MHz.

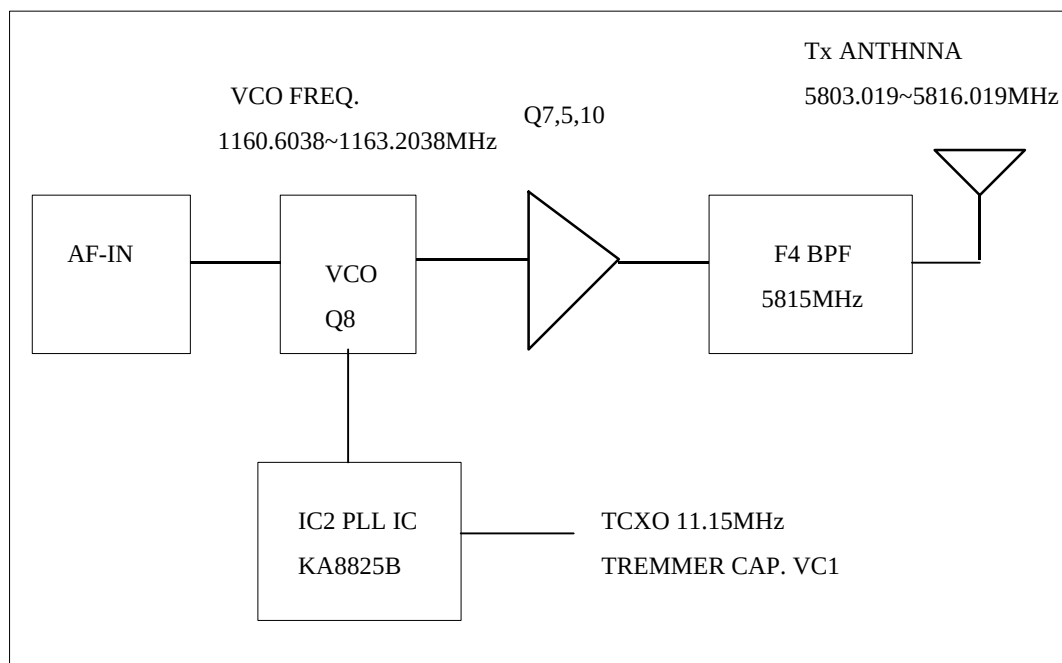


FIG. 4

3. 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 10.73MHz IF Amplifier.

Also it includes buffer Amplifier for the generation of Local Oscillator Power.

This front-end Receiver receives RF signal from the Antenna and RF signals within this Frequency range is 5803.019MHz~5816.019MHz pass through RF Amp (Q1,Q10) 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 (Q2,Q3) and the signal pass through the 10.7MHz Ceramic Filter (F2,F4). After the IF signal pass the Ceramic Filter, the signal enter by the FM IF (Intermediate Frequency) IC (IC2). And the signal is mixed in the FM IF IC (IC2). The Output signal in the FM IF IC (IC2) streams from the AF Output terminal of the connector 1 to the portable set.

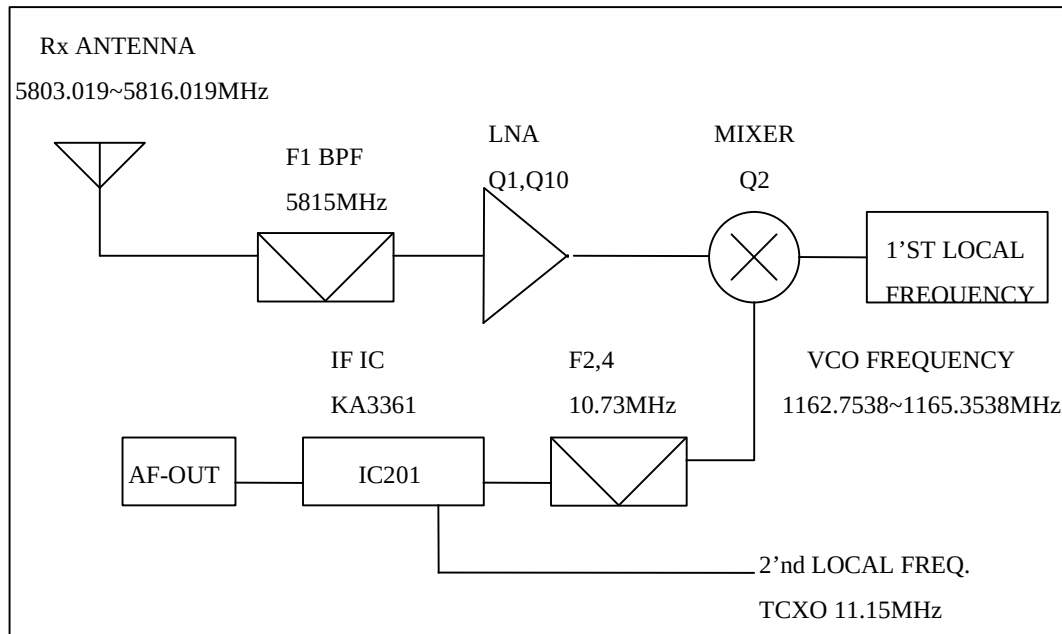


FIG.3

2) TX PART

The signal is made to the handy main 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 (VC1).

The RF signal enter by the Transistor Power AMP (Q5,Q7) .

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

The last Transmission RF signal is 2468.000MHz~2479.700MHz.

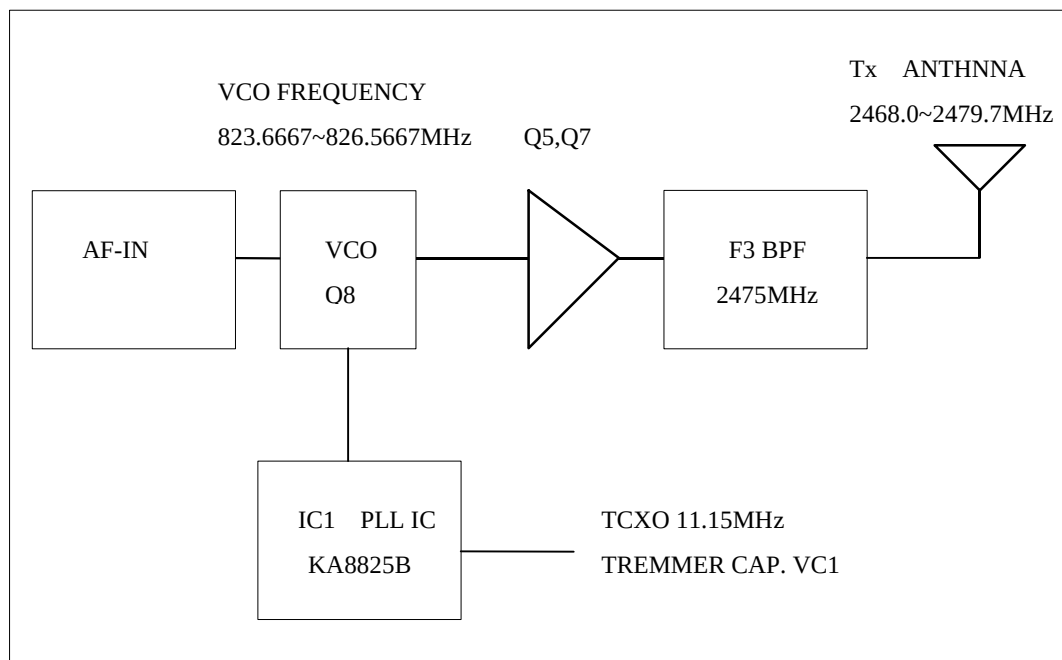


FIG. 4

USA 5.8GHz FREQUENCY TABLE

BASE UNIT		HANDY UNIT	
Tx(MHz)	Rx(MHz)	Tx(MHz)	Rx(MHz)
5803.019	2,468.000	2,468.000	5803.019
5803.352333	2,468.300	2,468.300	5803.352333
5803.685667	2,468.600	2,468.600	5803.685667
5804.019	2,468.900	2,468.900	5804.019
5804.352333	2,469.200	2,469.200	5804.352333
5804.685667	2,469.500	2,469.500	5804.685667
5805.019	2,469.800	2,469.800	5805.019
5805.352333	2,470.100	2,470.100	5805.352333
5805.685667	2,470.400	2,470.400	5805.685667
5806.019	2,470.700	2,470.700	5806.019
5806.352333	2,471.000	2,471.000	5806.352333
5806.685667	2,471.300	2,471.300	5806.685667
5807.019	2,471.600	2,471.600	5807.019
5807.352333	2,471.900	2,471.900	5807.352333
5807.685667	2,472.200	2,472.200	5807.685667
5808.019	2,472.500	2,472.500	5808.019
5808.352333	2,472.800	2,472.800	5808.352333
5808.685667	2,473.100	2,473.100	5808.685667
5809.019	2,473.400	2,473.400	5809.019
5809.352333	2,473.700	2,473.700	5809.352333
5809.685667	2,474.000	2,474.000	5809.685667
5810.019	2,474.300	2,474.300	5810.019
5810.352333	2,474.600	2,474.600	5810.352333
5810.685667	2,474.900	2,474.900	5810.685667
5811.019	2,475.200	2,475.200	5811.019
5811.352333	2,475.500	2,475.500	5811.352333
5811.685667	2,475.800	2,475.800	5811.685667
5812.019	2,476.100	2,476.100	5812.019
5812.352333	2,476.400	2,476.400	5812.352333
5812.685667	2,476.700	2,476.700	5812.685667
5813.019	2,477.000	2,477.000	5813.019
5813.352333	2,477.300	2,477.300	5813.352333
5813.685667	2,477.600	2,477.600	5813.685667
5814.019	2,477.900	2,477.900	5814.019
5814.352333	2,478.200	2,478.200	5814.352333
5814.685667	2,478.500	2,478.500	5814.685667
5815.019	2,478.800	2,478.800	5815.019
5815.352333	2,479.100	2,479.100	5815.352333
5815.685667	2,479.400	2,479.400	5815.685667
5816.019	2,479.700	2,479.700	5816.019