

MODEL: PM5800

DESCRIPTION OF CIRCUIT OPERATION

BASE UNIT :

1. BASE RF MODULE

SEPARATED RX ANTENNA AND TX ANTENNA TO TRANSMIT THE RF SIGNAL.
THE WIRING ANTENNA IS SOLDERED ON THE 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 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 2468MHz ~ 2479.7MHz 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 OF AMP TRANSISTOR (Q3) AND THE SIGNAL PASS THROUGH THE CERAMIC FILTER (10.73MHz).

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 (3361). THE SIGNAL PASS THROUGH THE LC FILTER. THE OUTPUT SIGNAL IN THE FM IF IC STREAMS FROM THE AF-OUT TERMINAL OF THE CONNECTOR TO THE BASE.

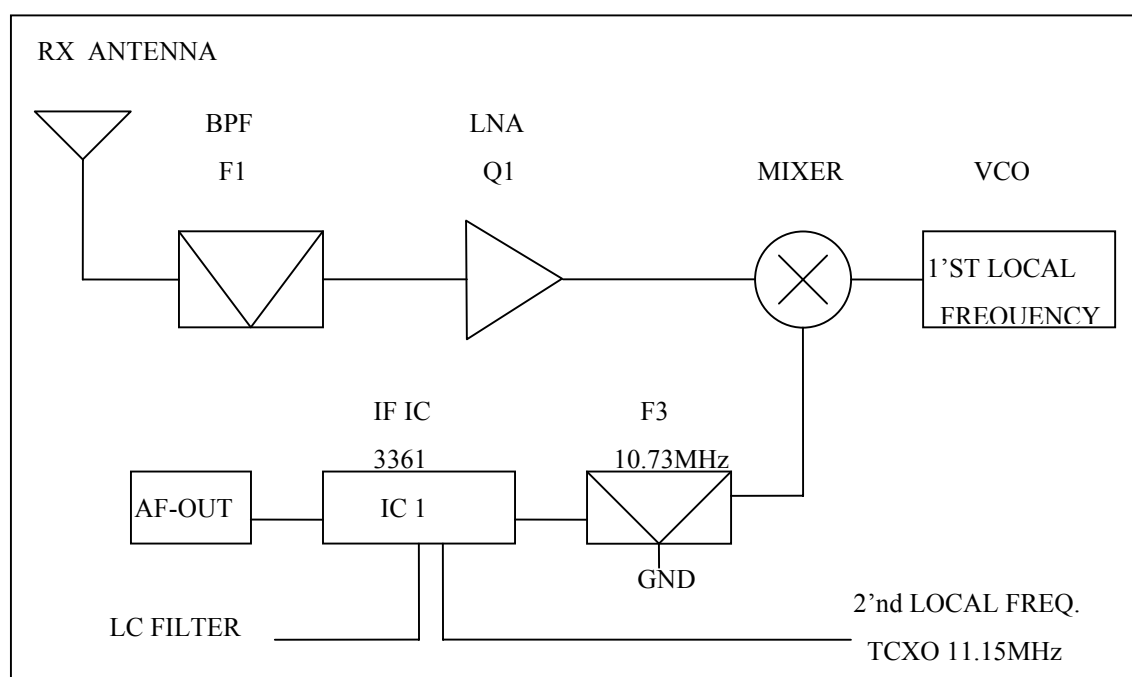


FIG. 1

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 Q7
THE SIGNAL IS AMPLITUDE IN THE Q5,Q10. ENTER BY THE BAND PASS FILTER.
THE RF SIGNAL PASS THROUGH THE BAND PASS FILTER, TOWARDS THE ANT. THE LAST TRANSMISSION RF SIGNAL IS 5803.019MHz ~ 5816.019MHz.

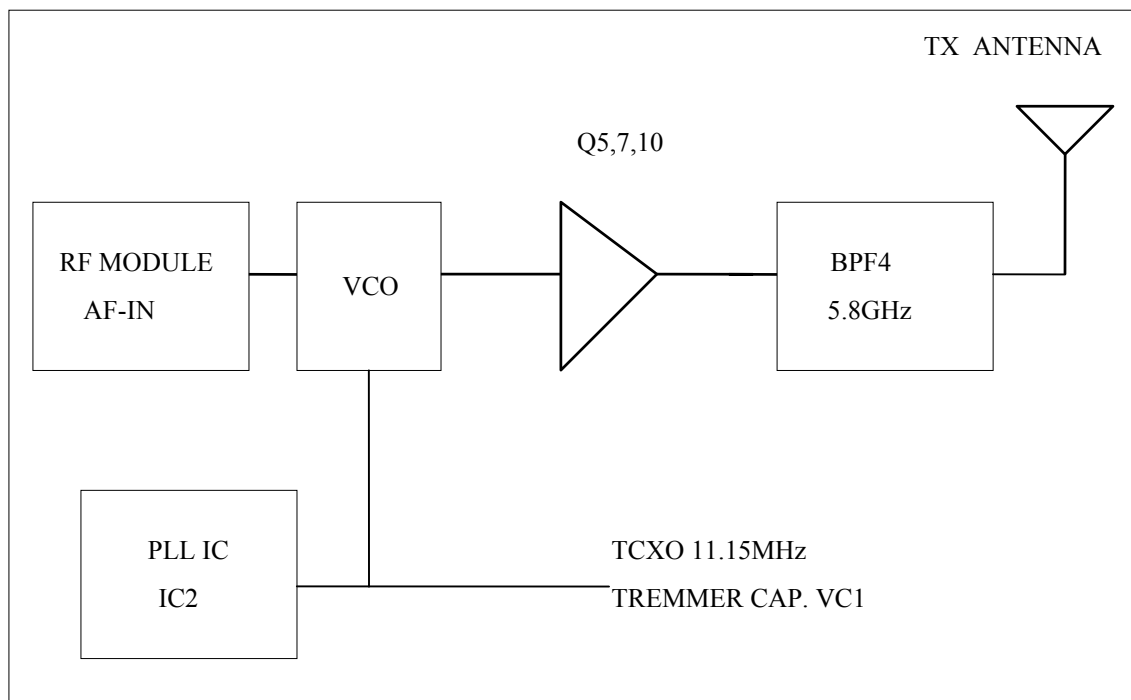


FIG. 2

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin no.3 of J3 is sent to U2 (COMPANDER IC) Pin no.16 for Expansion. The expended audio signal output from Pin no.19 is coupled to Q1,Q3 during the TEL. mode
The audio signal is sent to the Telephone Line via Q3.

The demodulated data code from J3 Pin no.3 is Generated by U5-C, U5-B.
It's output is connected to CODE Input Pin no.14 of IC3.

The Audio signal receiving from TEL-LINE is input to U2 Pin no.8 for compression. The compressed audio signal from Pin no.1 of U2 is connected to Pin no.10 of J3 for TX modulation.

Pin no.31 of IC3 is the output port for data codes that should be transmitted to the handset the data code is connected to Pin no.10 of J3 for modulation.

Line controlling is done by Pin no.18 of IC3.

Ring signal monitored by U5-A is detected by Pin no.16 of IC3 resulting a data code to the handset.

DTMF dialing is generated by IC3 Pin no.20~25 this signal output through the U5-D.

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

When the handset is far away form base unit, squelch circuit of RF module operates and Pin no. 5 of IC3 goes “HI”. This will be detected by the micro processor and after 20 sec. go to Stand by mode.

The power to the base unit is supplied by U3(5V REGULATOR IC).

LED display control Pin no.9 of IC3.

HANDSET :

1. PORTABLE RF MODULE

SEPARATED RX ANTENNA AND TX ANTENNA TO TRANSMIT THE RF SIGNAL.
THE WIRING ANTENNA IS SOLDERED ON THE RF MODULE.

1) RX PART

THE RECEIVER FRONT-END CONTAINS A BAND PASS FILTER, AND RF LOW NOISE AMPLIFIER, ACTIVE TRANSISTOR MIXER, CERAMIC FILTER AND 10.73MHz "IF" AMPLIFIER.

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 5803.019MHz ~ 516.019MHz PASS THROUGH RF AMP (Q1) AND BAND PASS FILTER..

AFTER PASSING THROUGH THE BAND PASS FILTER, THE 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 CERANIC FILTER (10.73MHz)

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 (3361). THE SIGNAL PASS THROUGH THE LC FILTER.

THE OUTPUT SIGNAL IN THE FM IF IC STREAMS FROM THE AF-OUT TERMINAL OF THE CONNECTOR 1 TO THE PORTABLE.

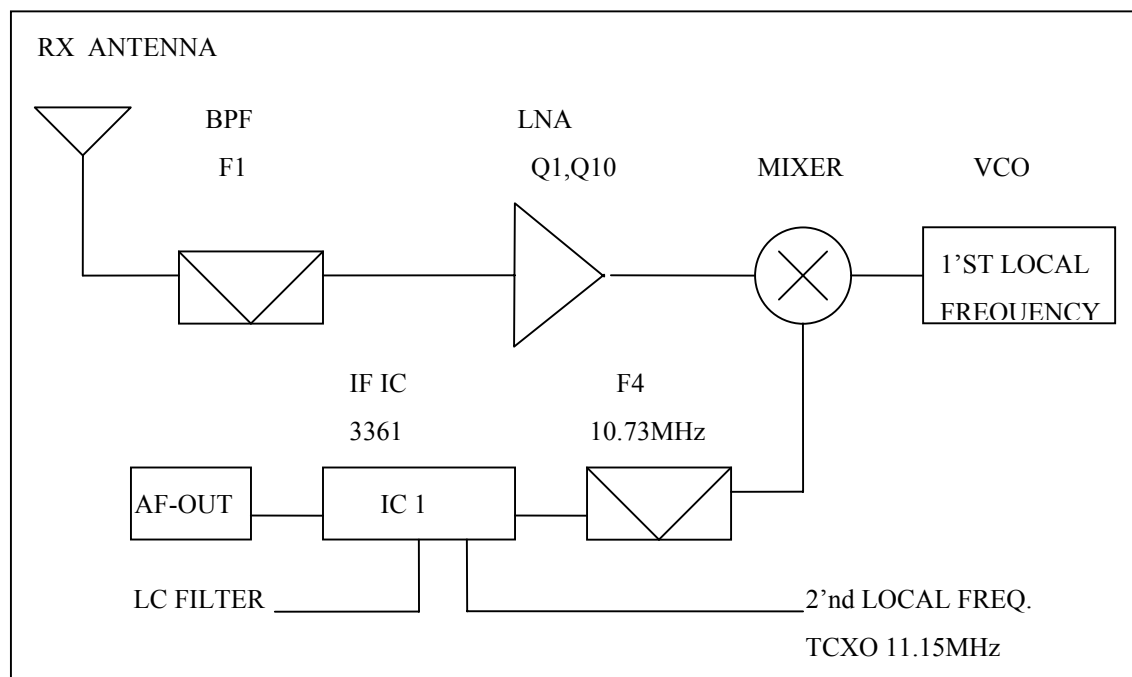


FIG.3

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 2468MHz ~ 2479.7MHz.

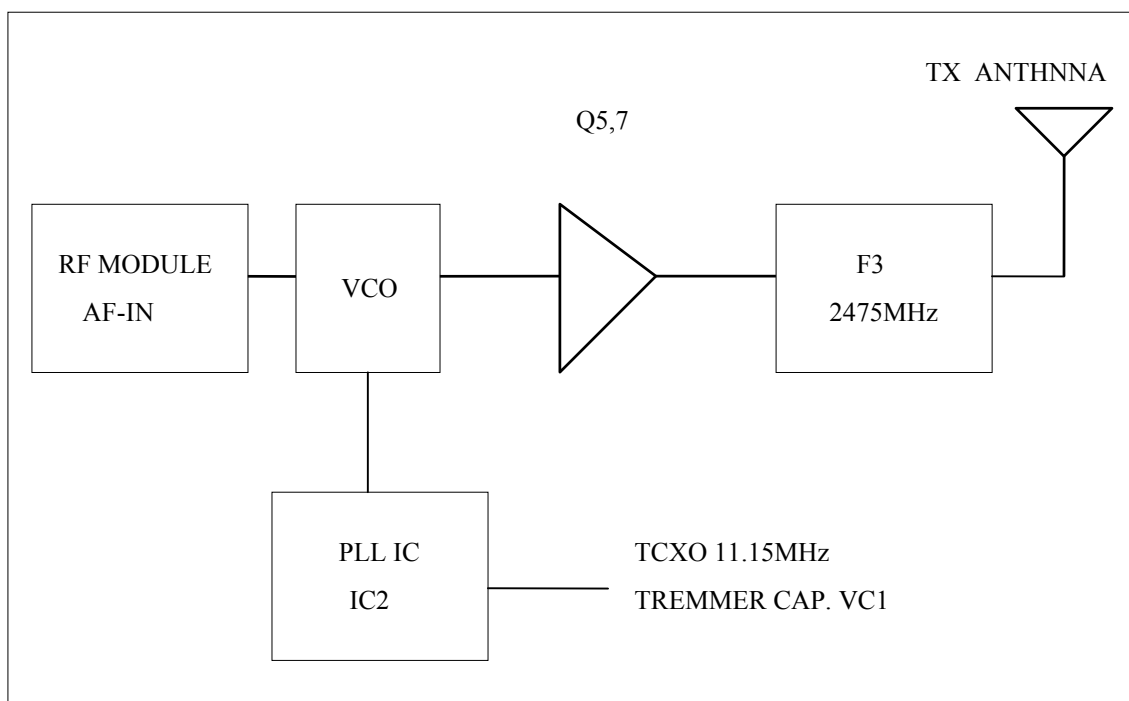


FIG. 4

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin no.3 of CON1 is connected to IC4 Pin no.16 Expander input. The audio output from IC4 Pin no.19 is finally amplified by Q2 and A.C coupled to the Receiver unit with HAC compatibility.

The demodulated data code from CON1 Pin no.3 is fed to Q4,Q3. Q3 is connected to (DATA IN) Pin no.13 of IC3.

Voice signal from C-MIC is coupled to Pin no.8 of IC4. The voice signal is compressed by

IC4 and output Pin no.1 is connected to Pin no.10 of CON1 for modulation.

Pin no.23 of IC3 is the output port for data code that should be transmitted to the base unit.
This data code is connected to the Pin no.10 of CON1 for modulation.

During the charging, it is detected by IC3 Pin no.7.

Key board operation is monitored by Pin no.14~ 18, 28~30 of IC3.

Key Tone from Pin no.31 of IC3 drives the BUZZER, and the ringing from Pin no.9 of IC3 drives the BUZZER.

5.8G(40CH) FREQ

HANDY(IF 10.73M)			BASE(IF 10.73M)		
CH	TX VC0	RX VC0		TX VC0	RX VC0
1	2468	5813.749		5803.019	2457.27
2	2468.3	5814.082333		5803.352333	2457.57
3	2468.6	5814.415667		5803.685667	2457.87
4	2468.9	5814.749		5804.019	2458.17
5	2469.2	5815.082333		5804.352333	2458.47
6	2469.5	5815.415667		5804.685667	2458.77
7	2469.8	5815.749		5805.019	2459.07
8	2470.1	5816.082333		5805.352333	2459.37
9	2470.4	5816.415667		5805.685667	2459.7
10	2470.7	5816.749		5806.019	2459.97
11	2471	5817.082333		5806.352333	2460.27
12	2471.3	5817.415667		5806.685667	2460.57
13	2471.6	5817.749		5807.019	2460.87
14	2471.9	5818.082333		5807.352333	2461.17
15	2472.2	5818.415667		5807.685667	2461.47
16	2472.5	5818.749		5808.019	2461.77
17	2472.8	5819.082333		5808.352333	2462.07
18	2473.1	5819.415667		5808.685667	2462.37
19	2473.4	5819.749		5809.019	2462.67
20	2473.7	5820.082333		5809.352333	2462.97
21	2474	5820.415667		5809.685667	2463.27
22	2474.3	5820.749		5810.019	2463.57
23	2474.6	5821.082333		5810.352333	2463.87
24	2474.9	5821.415667		5810.685667	2464.17
25	2475.2	5821.749		5811.019	2464.47
26	2475.5	5822.082333		5811.352333	2464.77
27	2475.8	5822.415667		5811.685667	2465.07
28	2476.1	5822.749		5812.019	2465.37
29	2476.4	5823.082333		5812.352333	2465.67
30	2476.7	5823.415667		5812.685667	2465.97
31	2477	5823.749		5813.019	2466.27
32	2477.3	5824.082333		5813.352333	2466.57
33	2477.6	5824.415667		5813.685667	2466.87
34	2477.9	5824.749		5814.019	2467.17
35	2478.2	5825.082333		5814.352333	2467.47
36	2478.5	5825.415667		5814.685667	2467.77
37	2478.8	5825.749		5815.019	2468.07
38	2479.1	5826.082333		5815.352333	2468.37
39	2479.4	5826.415667		5815.685667	2468.67
40	2479.7	5826.749		5816.019	2468.97