

# FREQUENCY OF 1602 P.L.L

- \* CHANNEL SPACE : 25KHz
- \* 1st I.F. : 10.7 MHz
- \* 2nd I.F. : 450KHz
- \* TCXO(X-TAL) : 11.15MHz

CH	BASE(MHz)		PORTABLE(MHz)	
	TX	LOCAL(10.7)	TX	LOCAL(10.7)
1	902.125	936.825	926.125	891.425
2	902.150	936.850	926.150	891.450
3	902.175	936.875	926.175	891.475
4	902.200	936.900	926.200	891.500
5	902.225	936.925	926.225	891.525
6	902.250	936.950	926.250	891.550
7	902.275	936.975	926.275	891.575
8	902.300	937.000	926.300	891.600
9	902.325	937.025	926.325	891.625
10	902.350	937.050	926.350	891.650
11	902.375	937.075	926.375	891.675
12	902.400	937.100	926.400	891.700
13	902.425	937.125	926.425	891.725
14	902.450	937.150	926.450	891.750
15	902.475	937.175	926.475	891.775
16	902.500	937.200	926.500	891.800
17	902.525	937.225	926.525	891.825
18	902.550	937.250	926.550	891.850
19	902.575	937.275	926.575	891.875
20	902.600	937.300	926.600	891.900
21	902.625	937.325	926.625	891.925
22	902.650	937.350	926.650	891.950
23	902.675	937.375	926.675	891.975
24	902.700	937.400	926.700	892.000
25	902.725	937.425	926.725	892.025
26	902.750	937.450	926.750	892.050
27	902.775	937.475	926.775	892.075
28	902.800	937.500	926.800	892.100
29	902.825	937.525	926.825	892.125
30	902.850	937.550	926.850	892.150
31	902.875	937.575	926.875	892.175
32	902.900	937.600	926.900	892.200
33	902.925	937.625	926.925	892.225
34	902.950	937.650	926.950	892.250
35	902.975	937.675	926.975	892.275
36	903.000	937.700	927.000	892.300
37	903.025	937.725	927.025	892.325
38	903.050	937.750	927.050	892.350
39	903.075	937.775	927.075	892.375
40	903.100	937.800	927.100	892.400

**MODEL NUMBER ALLOCATION**

Presently, we have a large number of models within each of our various model number series of cordless telephones.

Our clients continually request slightly different cosmetic variations of each registered model such as a different case color .

In order to control all of these permutations, it is constantly necessary to assign and file, with the FCC, new model numbers to cover these cosmetic variations.

**Since all models, within a series of cordless telephones, are electrically and functionally identical, varying only in cosmetic detail** and to avoid the need to constantly file, with the FCC, to register additional model numbers for cosmetic purposes, we request to register our models as listed tradenames and model numbers:

TRADENAMES		MODEL NUMBERS	
BELLSOUTH	}	D(HAC) MH9040(0)(Y)	D(HAC) MH9045(0)(Y)
AMERITECH		D(HAC) MH9041(0)(Y)	D(HAC) MH9046(0)(Y)
BELL ATLANTIC		D(HAC) MH9042(0)(Y)	D(HAC) MH9047(0)(Y)
PACIFIC BELL		D(HAC) MH9043(0)(Y)	D(HAC) MH9048(0)(Y)
UNISONIC		D(HAC) MH9044(0)(Y)	D(HAC) MH9049(0)(Y)

NOTE: (0) Zero = Additional charger base  
 suffix "Y" can be added to the model number to represent color variation, can be any letter/s of the alphabet as follows (but not limited to this list) such as :

- "No suffix" = Gray case
- B/BK = Black case
- HG/VHG = Green case
- W = White case
- R = Red case
- RB = Red/Black case
- PL = Pearl white case

such that :

- MH9043 - Model MH9043 is the standard model in gray case
- MH9043B - Model MH9043 in black case
- MH9043HG - Model MH9043 in green case

# CIRCUIT DESCRIPTION OF 9043 V4

## **1. BASE UNIT :**

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin no.5 of CN1 is sent to IC102 (Compander IC) Pin no.15 for Expansion.

The expended audio signal output from Pin no.19 is coupled to Q107,108 during the TELE mode. The audio signal is sent to the Telephone Line via hybrid Transformer HY101.

The demodulated data code from CN101 Pin no.5 is Generated by IC101A. Its output is connected to CODE Input Pin no.1 OF IC4.

The Audio signal receiving from TEL-LINE is input to IC102 Pin no.2 for compression. The compressed audio signal from Pin no.3 of IC102 is connected to Pin no.11 of CN101 for modulation.

Pin no.55 of IC4 is the output port for data codes that should be transmitted to the handset. The data code is connected to Pin no.11 of CN101 for modulation.

Relay controlling is done by Pin no.50 of IC4. Ring signal monitored by PC102 (PHOTO COUPLER IC) is detected by Pin no.4 of IC4 resulting a data code to the handset.

DTMF dialling is generated by IC4 Pin no.31 this signal output through the Q110.

When the handset is placed on the base cradle, the charging is detected by Pin no.48 of IC4 and IC4 sends data codes to handset for security code setting.

When the handset is far away form bas unit, squelch circuit of IC302 operates and Pin no.11 of IC302 goes "HI". This will be detected by the micro processor and after 20 secs. go to Stand by mode.

The power to the base unit is supplied by IC12 (6v REGULATOR IC).

Key det, answering system control by pin no.56~63 of IC4.

LED display control Pin no.38,39 of IC4.

Mail box INDICATOR controled by Pin no.8,40,51 of IC4.

Answering System control by Pin no.35 and Pin no.12~24 of IC4.

ICM signal come through IC1A.

All of the voice signal memoried in IC7 through IC6.

## 1). RX PART

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

ALSO IT INCLUDES

BUFFER AMPLIFIERS FOR THE GENERATION OF LOCAL OSCILATOR POWER.

THIS FRONT-END RECEIVER RECEIVES AN RF SIGNAL FROM THE ANTENNA. AND RF SIGNALS WITHIN THIS FREQUENCY RANGE IS 926.125MHz;-927.100MHz PASS THROUGH RF AMP (Q303,Q306) 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 (Q305)AND THE SIGNAL PASS THROUGH THE MONOLITHIC CRYSTAL 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 (DBL5018).

THE SIGNAL PASS THROUGH THE CERAMIC FILTER (450KHz).

THE OUTPUT SIGNAL IN THE FM IF IC STREAMS FROM THE AF-OUT TEMINAL OF THE CONNECTOR TO THE BASE.

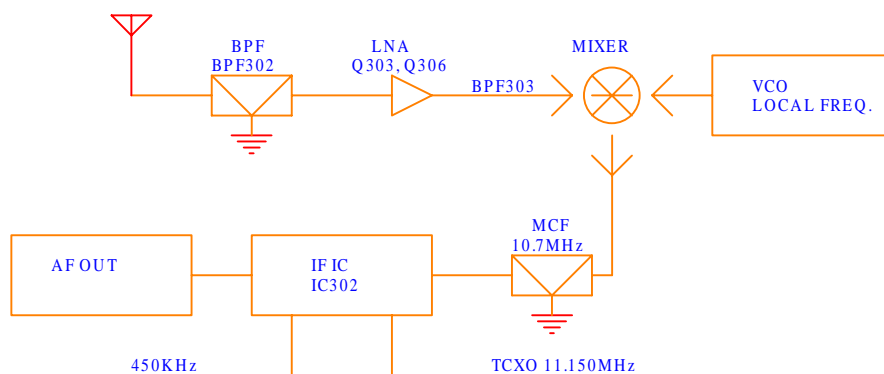


FIG.1

## 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 (VC301).  
THE RF SIGNAL ENTER BY THE TRANSMISSION POWER  
AMP TRANSISTOR (Q301,Q302)  
THE SIGNAL IS AMPLITUDE IN THE TR Q301,302.  
ENTER BY THE BAND PASS FILTER.  
THE RF SIGNAL PASS THROUGH THE BAND PASS FILTER, TOWARDS THE ANT.  
THE LAST TRANSMISSION RF SIGNAL IS 902.125MHz;-903.100MHz

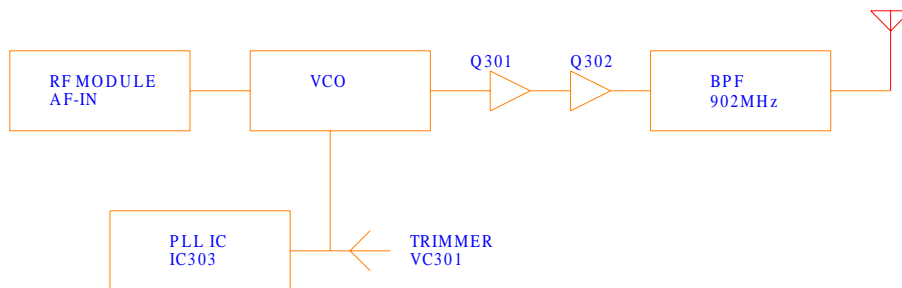


FIG. 2

## **2. HANDSET MAIN :**

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin no.5 of CN1 is connected to IC2B Pin no.15 Expander input.

The audio output from IC2B Pin no.19 is finally amplified by Q2 and a.c coupled to the Receiver unit with HAC compatibility.

The demodulated data code from CN1 Pin no.5,6 is fed to IC1B Pin no.8 of IC1B is connected to (DATA IN) Pin no.14 of IC4.

Voice signal from C-MIC is coupled to Pin no.8 of IC2.

The voice signal is compressed by IC2 & output Pin no.1 is connected to Pin no.11 of CN1 for modulation.

Pin no.31 of IC4 is the output port for data code that should be transmitted to the base unit.

This data code is connected to the Pin no.11 of CN1 for modulation.

During the charging, it is detected by IC4 Pin no.5.

Key board operation is monitored by Pin no.11,16~18,28~30 of IC4.

Key Tone and the ringing from Pin no.10 of IC4 drives the BUZZER.

## 1). RX PART

THE RECEIVER FRONT-END CONTAINS A BAND PASS FILTER, AND RF LOW NOISE AMPLIFIER, A ACTIVE TRANSISTOR MIXER, A MONOLITHIC CRYSTAL FILTER AND 10.7MHz "IF" AMPLIFIER. ALSO IT INCLUDES BUFFER AMPLIFIERS OR THE GENERATION OF LOCAL OSCILATOR POWER.

THIS FRONT-END RECEIVES AN RF SIGNAL FROM THE ANTENNA. AND RF SIGNALS WITHIN THIS FREQUENCY RANGE IS 902.125MHz;-903.100MHz PASS THROUGH RF AMP (Q306,Q303) AND BAND PASS FILTER.

AFTER PASSING THROUGH THE BAND PASS FILTER, THE SIGNAL IS MIXED WITHIN 1<sup>st</sup>LOCAL FREQUENCY FROM VOLTAGE CONTROLLED OSCILLATOR. THE SIGNAL IS AMPLIFIED ON THE IF AMP TRANSISTOR (Q305) AND THE SIGNAL PASS THROUGH THE MONOLITHIC CRYSTAL FITER (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 FMIF IC (DBL5018).

THE SIGNAL PASS THROUGH THE CERAMIC FILTER (450KHz).

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

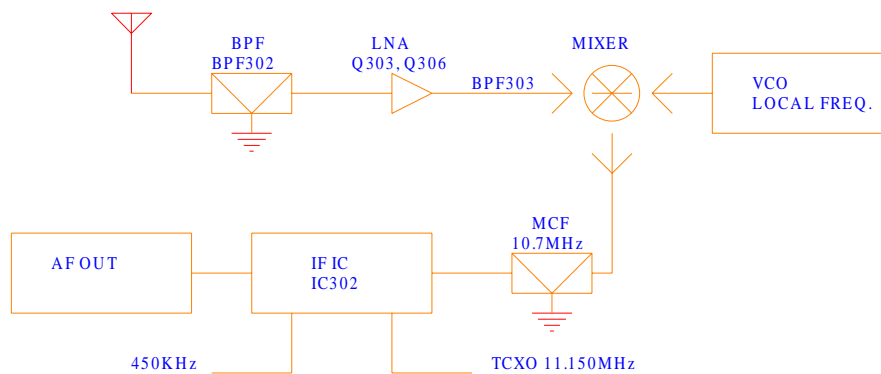


FIG.3

## 2). TX PART

THE SIGNAL IS MADE TO THE PORTABLE, ENTER BY THE AF-IN TERMINAL.  
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 (VC301).  
THE RF SIGNAL ENTER BY THE TRANSMISSION POWER  
AMP TRANSISTOR (Q301,Q302)  
THE SIGNAL IS AMPLITUDE IN THE Q301,Q302.  
ENTER BY THE BAND PASS FILTER.  
THE RF SIGNAL PASS THROUGH THE BAND PASS FILTER, TOWARDS THE ANT.  
THE LAST TRANSMISSION RF SIGNAL IS 926.125MHz<sub>j</sub>-927.100MHz.

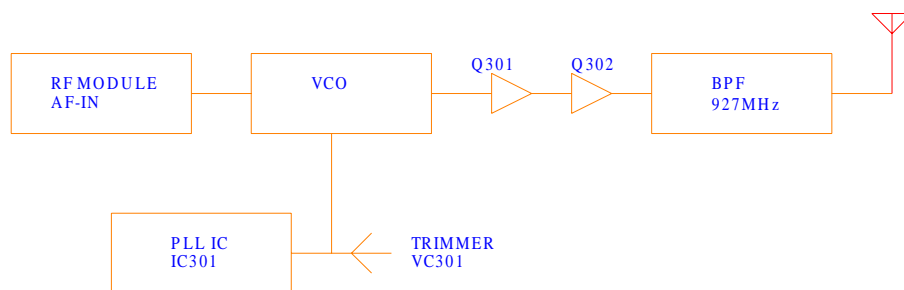


FIG. 4