

Circuit Description

The device is a 40 channel, auto scan, 900MHz ISM band phone with telephone answering machine (TAD) and type I, II caller ID.

BASE UNIT-

Operated by a 9Vac power source included the following block:

Single Chips μ P

This the centre control of the device direct control the audio mixers (as a switching system), output volume (according to two push button) and RF module. It also handle the digital signal received by RF module and come from TAD. DTMF generator and CID are also performed here.

RF module

It is a 40 channel 900MHz ISM band transceiver.

In the receiving part, 927MHz RF signal from the filter is amplified then converted to 10.7MHz and amplified by the 1st IF amplifier. The signal is then convert to 450kHz and amplified by the 2nd IF amplifier again. Finally, a FM demodulate the signal and give the audio output. A PLL is used to provide the required frequency signal for the frequency converting.

In the transmitting part, carrier (903MHz) is generated by a PLL. The modulating signal modulate the carrier through the VCO in the PLL. The modulated signal is then amplified by a power amplifier and through a 903 MHz filter before transmission.

Comander and Data slider

Comander compressing signals to be transmitted and expanding signal received in order to reduce noise.

Data slider pick up digital data from received signals and regulate the pulse shape.

Line interface Circuit.

Line interface circuit provide It also included the branch phone reset detect function, ring detect function, make-break line function and pulse dialing function. Moreover, it gives necessary insulation between line and the device.

Mixer

The mixer provides audio switching function.

TAD

The TAD is solid state digital voice recording system. The user interface is a 1 1/2 digit seven segment display and a keypad. The records are store in RAM whose power is backup by a 9V battery. A DTMF decode use included for remove access.

HANDSET UNIT

Operated by a 3.6V battery included the following block:

Single Chips μ P

This is centre control of the device direct control RF module. It also handle the digital signal received by RF module. The user interface is a LCD display, new call LED and a keypad.

RF module

It is a 40 channel 900MHz ISM band transceiver.

In the receiving part, 903MHz RF signal from the filter is amplified then converted to 10.7MHz and amplified by the 1st IF amplifier. The signal is then convert to 450kHz and amplified by the 2nd IF amplifier again. Finally, a FM demodulate the signal and give the audio output. A PLL is used to provide the required frequency signal for the frequency converting.

In the transmitting part, carrier (927MHz) is generated by a PLL. The modulating signal modulate the carrier through the VCO in the PLL. The modulated signal is then amplified by a power amplifier and through a 927 MHz filter before transmission.

Compander and Data slider

Compander compressing signals to be transmitted and expanding signal received in order to reduce noise.

Data slider pick up digital data from the received signal and regulate the pulse shape.

Headset socket

For connect to headset.

Channel frequencies

ch.	base tx	h/s tx	ch.	base tx	hs/tx
1	902.125	926.125	21	902.625	926.625
2	902.150	926.150	22	902.650	926.650
3	902.175	926.175	23	902.675	926.675
4	902.200	926.200	24	902.700	926.700
5	902.225	926.225	25	902.725	926.725
6	902.250	926.250	26	902.750	926.750
7	902.275	926.275	27	902.775	926.775
8	902.300	926.300	28	902.800	926.800
9	902.325	926.325	29	902.825	926.825
10	902.350	926.350	30	902.850	926.850
11	902.375	926.375	31	902.875	926.875
12	902.400	926.400	32	902.900	926.900
13	902.425	926.425	33	902.925	926.925
14	902.450	926.450	34	902.950	926.950
15	902.475	926.475	35	902.975	926.975
16	902.500	926.500	36	903.000	927.000
17	902.525	926.525	37	903.025	927.025
18	902.550	926.550	38	903.050	927.050

19	902.575	926.575	39	903.075	927.075
20	902.600	926.600	40	903.100	927.100

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Document release information:

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RELEASE NO. :	REVISION NO. :	Release date :	SOFTWARE RELEASE NO : T02
R2	1.0	05 MAR., 2001	RELEASED TO : ks

change note :

23 February, 2001

☐. Add intercom audio path test

End of change