

# SHANGHAI ZI BELL TELESYSTEMS INC.

上海紫贝电讯电子有限公司

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## CIRCUIT DESCRIPTION OF 39705

### 1. RF MODULE

#### 1) RX PART

The receiver front-end contains a band pass filter, RF low noise amplifier, active transistor mixer, a monolithic crystal filter and 10.7MHz "IF" amplifier.

This front-end receives THE RF signal from the antenna. And RF signals frequency range is 902.1~903.575MHz for Handset and 926.1~927.575MHz for Base unit pass through RF AMP (Q1, Q8).

After passing through the band pass filter, the signal is mixed with 1'st local frequency from voltage controlled oscillator. The signal is amplified on the IF AMP transistor (Q10) 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 (MC3361). The signal pass through the ceramic filter (450KHz). The output signal in the FM IF IC streams from the AF-OUT terminal of the connector.

#### 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 by the VCI

The RF signal enter by the transmission power AMP transistor (Q3)

Enter by the band pass filter.

The RF signal pass through the band pass filter, towards the ANT. The last transmission RF signal is 926.1~927.575MHz for Handset and 902.1~903.575MHz for Base Unit.

### 2. HAND SET MAIN

The demodulated signal, resulting from Double Super Heterodyne system, which appears at output Pin no.10 of CN2 is connected to Pin no.16 of IC2. The audio output from Pin no.19 is finally amplified by Q3 and a.c coupled to the receiver unit the HAC compatibility.

The demodulated data code from Pin no.10 of CN2 is fed to Q12, Q11 and it is connected to (DATA IN) Pin no.79 of IC4.

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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.2 of CN2 for modulation.

Pin no.57 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.2 of CN2 for modulation.

LCD display operation is monitored by Pin no.1~34, 62-77, 95-100 of IC1.

During the charging, it is detected by Pin no 52 of IC4.

Key board operation is monitored by Pin no.82~89 of IC4.

Key Tone and the ringing from Pin no.92 of IC4 drives the BUZZER.

## 1. BASE MAIN

The demodulated signal from Pin no.10 of CN2 is sent to IC 102A Pin no.16 to expansion. The expanded signal amplitude by Q101 and Q102 and sent to the telephone line via hybrid transformer HYB101.

The demodulated data code from Pin no.10 of CN2 is fed o IC101 and it is connected Pin no.30 of IC103.

The audio signal from the telephone line connected Pin no.2 of CN2 through IC102 to compression before modulation.

Stand-by mode FSK for caller ID received by IC106 C and D and this signal sent to Pin no 6 of IC104 to cover to Digital and send it to IC103 Pin no.1.

CAS detected by IC104 Via IC106 A and B.

Relay controlling is done by Pin no.13 of IC103

Ring signal monitored by IC107 (PHOTO COUPLER IC) is detected by Pin no.14 of IC103 resulting a data code to the handset.

DTMF dialing is generated by IC103 Pin no.34 this signal output through the base of Q101 to tel-line

When the handset is placed on the base cradle, the charging is detected by Pin no.35 of IC103 sends data codes to handset for security code setting.

The power to the bass unit is supplied by IC105(5V REGULATOR IC).

F, FREQUENCY CHART

HANDSET			BASE UNIT		HANDSET			BASE UNIT	
NO	TX	RX	TX	RX	NO	TX	RX	TX	RX
1	926.100	880.400	902.100	947.800	31	926.850	881.150	902.850	948.550
2	926.125	880.425	902.125	947.825	32	926.875	881.175	902.875	948.575
3	926.150	880.450	902.150	947.850	33	926.900	881.200	902.900	948.600
4	926.175	880.475	902.175	947.875	34	926.925	881.225	902.925	948.625
5	926.200	880.500	902.200	947.900	35	926.950	881.250	902.950	948.650
6	926.225	880.525	902.225	947.925	36	926.975	881.275	902.975	948.675
7	926.250	880.550	902.250	947.950	37	927.000	881.300	903.000	948.700
8	926.275	880.575	902.275	947.975	38	927.025	881.325	903.025	948.725
9	926.300	880.600	902.300	948.000	39	927.050	881.350	903.050	948.750
10	926.325	880.625	902.325	948.025	40	927.075	881.375	903.075	948.775
11	926.350	880.650	902.350	948.050	41	927.100	881.400	903.100	948.800
12	926.375	880.675	902.375	948.075	42	927.125	881.425	903.125	948.825
13	926.400	880.700	902.400	948.100	43	927.150	881.450	903.150	948.850
14	926.425	880.725	902.425	948.125	44	927.175	881.475	903.175	948.875
15	926.450	880.750	902.450	948.150	45	927.200	881.500	903.200	948.900
16	926.475	880.775	902.475	948.175	46	927.225	881.525	903.225	948.925
17	926.500	880.800	902.500	948.200	47	927.250	881.550	903.250	948.950
18	926.525	880.825	902.525	948.225	48	927.275	881.575	903.275	948.975
19	926.550	880.850	902.550	948.250	49	927.300	881.600	903.300	949.000
20	926.575	880.875	902.575	948.275	50	927.325	881.625	903.325	949.025
21	926.600	880.900	902.600	948.300	51	927.350	881.650	903.350	949.050
22	926.625	880.925	902.625	948.325	52	927.375	881.675	903.375	949.075
23	926.650	880.950	902.650	948.350	53	927.400	881.700	903.400	949.100
24	926.675	880.975	902.675	948.375	54	927.425	881.725	903.425	949.125
25	926.700	881.000	902.700	948.400	55	927.450	881.750	903.450	949.150
26	926.725	881.025	902.725	948.425	56	927.475	881.775	903.475	949.175
27	926.750	881.050	902.750	948.450	57	927.500	881.800	903.500	949.200
28	926.775	881.075	902.775	948.475	58	927.525	881.825	903.525	949.225
29	926.800	881.100	902.800	948.500	59	927.550	881.850	903.550	949.250
30	926.825	881.125	902.825	948.525	60	927.575	881.875	903.575	949.275