

Re : Descriptions for Computer Applications

Please find here below the descriptions for Internetphone applications :

"If applying uses of the headset phone system with computer for Internet Phone conversation, move the switch on front of the baseset from 'TELEPHONE' to 'COMPUTER' and connect speaker and mic jacks on the back of baseset with respective jacks in sound card of computer by speaker and mic cable. After then, the headset will work as communication tool once Internet Phone Software is activated.

The switch should be moved back from 'COMPUTER' to 'TELEPHONE' for general telephone function."

CONFORMITY ASSESS			
Incoming Date:		8/12/18	
			Signature

CIRCUIT DESCRIPTION

1.HANDSET

1.1 Reception

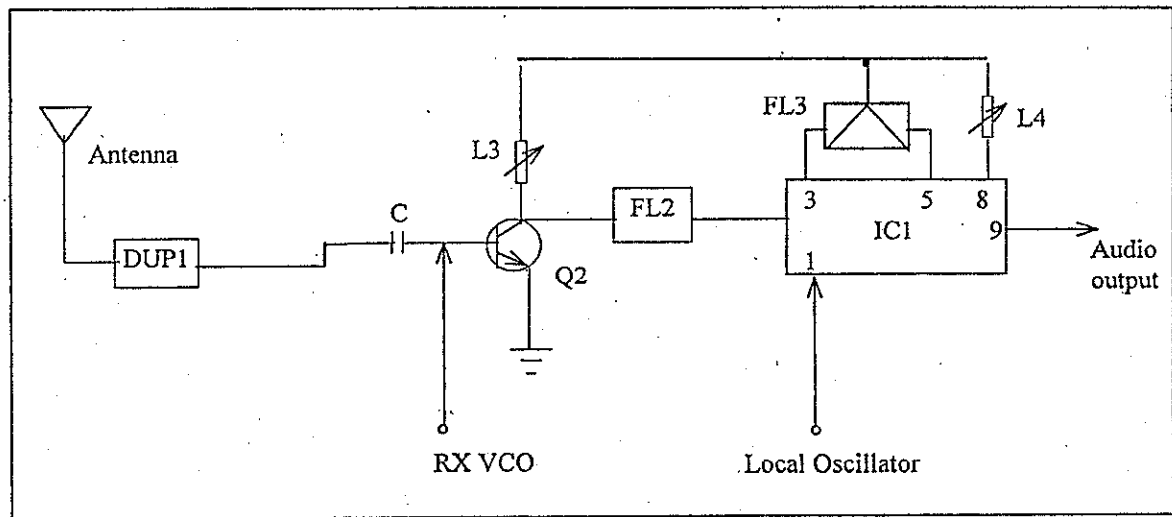


Figure 1

As shown in figure1, the received signal from the base unit[46MHz] Pass through

- ↓
- ANT : RF Input [Rubber Antenna]
- ↓
- DUP1 : 46/49 MHz Duplexer Filter
- ↓
- Q4 C1674Y, D2 KDV251M, L15 : Receiver VCO
- ↓
- Q2 C1674Y : Mixer
- ↓
- FL2 : First IF Filter [10.7 MHz]
- ↓
- IC1 pin16 : IF Input
- ↓
- IC1 pin1 : Local Oscillator input [10.240MHz]
- ↓
- IC1 pin3 & 5 : Second IF filter [455 KHz]
- ↓
- IC1 pin8 : 455 KHz Detection
- ↓
- IC1 pin9 : Audio output
- ↓

1.2 Ringer Output

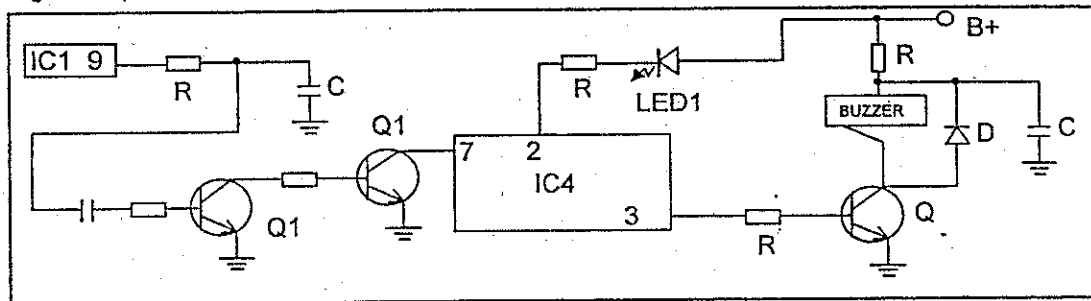


Figure 2

After detection of ring signal, the base unit will transmit the data code signal including security code to handset and the in use LED1 will flash.

IC1 pin9 : data code output

IC4 pin7 : data code detection

IC4 pin3 : Ring signal output

Q9 945G : Ring signal amplifier

Buzzer

1.3 Voice Output

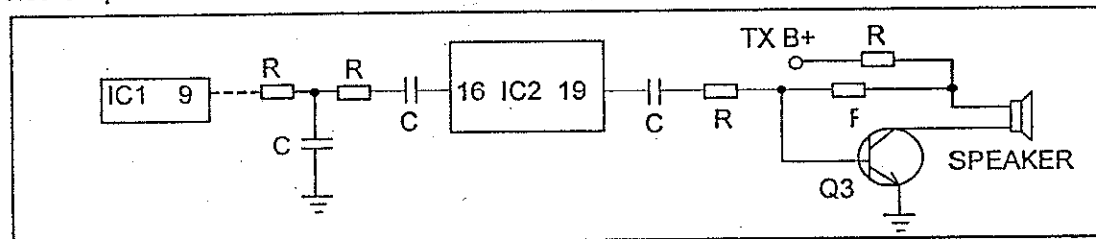


Figure 3

IC1 pin9 : data code output

R,C : low pass filter

IC2 : voice signal expander and lowpass filter

Q3 945G : audio amplifier

AC coupling capacitor

Receiver unit

1.4 Data Transmit

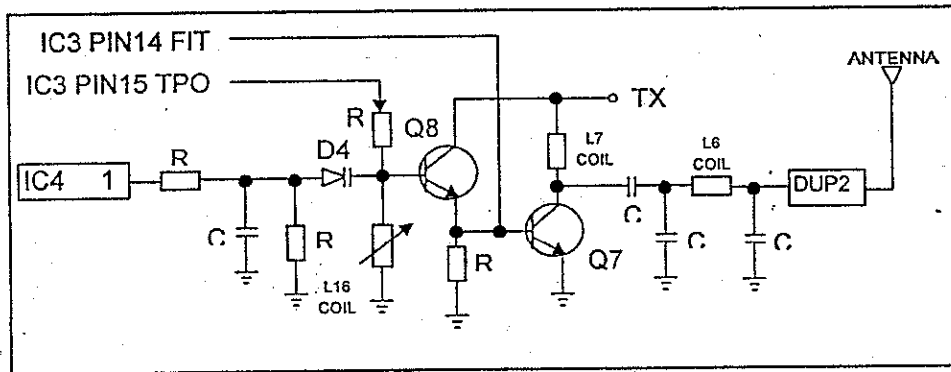
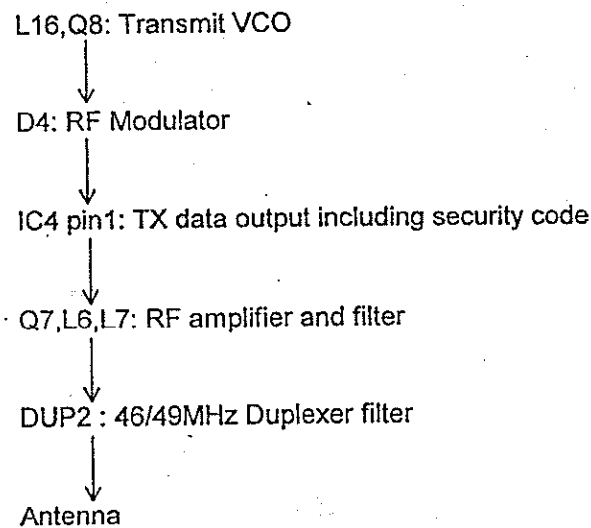


Figure 4



1.5 Voice Transmission

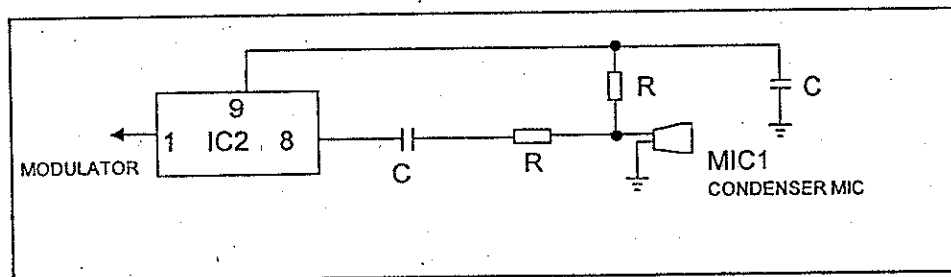
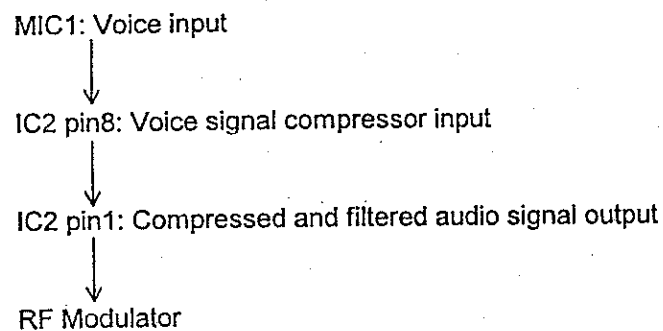


Figure 5



1.6 Receiver Power Control

When at STANDBY mode and RING ON mode, the handset have 50 ms power on and 800 ms power off on receiver section.

When at STANDBY mode and SAVE ON mode, the handset have no power on receiver section.

The power saving is controlled by IC4 pin13 [RX power control] and Q5 A539Y.

1.7 Transmitter Power Control

When at TALK mode, the handset transmitter should be working.

The transmitter power is controled by IC4 pin12 and Q6 A539Y.

1.8 Low Battery Detector

When battery voltage goes down until $3.4 \pm 0.1\text{Vdc}$ the LED1 will flash with warning sound "Bi, Bi".

1.9 Battery Charging

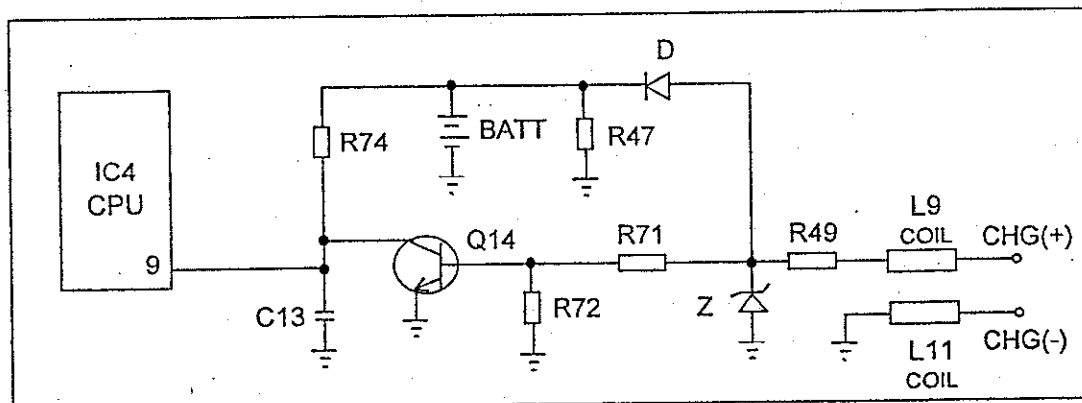


Figure 6

When handset is placed on the base cradle, the battery will be charging and will be detected by IC4 pin9 [CPU].

IC4 [CPU] will exchange security code randomly.

1.10 Squelch

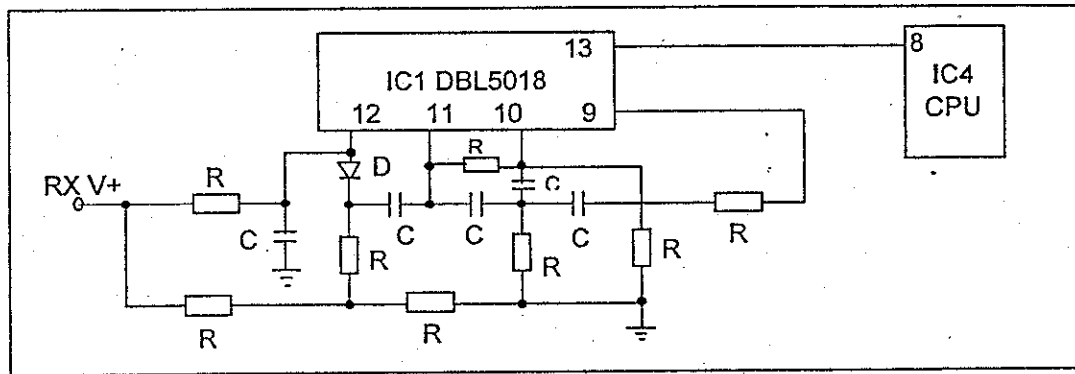


Figure 7

IC1 pin9 : Audio output [noise output]



IC1 pin10 : Filter input



IC1 pin11 : Filter output



IC1 pin12 : Squelch control



IC1 pin13 : Output



IC4 pin8 : RSSI Detection

Notes:

- When IC1 pin9 have noise, pin13 will goes high.
- CPU will be automatically cut the line and go back to STANDBY mode after 4 seconds of noise detection [IC1 pin13].

1.11 Intercom

When press and release INT button, IC4 pin1 will send out a code to base and pin7 receive fixed code from base, the buzzer and base speaker will all sound "BI BI". when press and release base INT button, the intercom between handset and base be set up otherwise this status will auto end within 15 sec.

2. BASE UNIT

2.1 Reception

Refer to section 1.1. Base receiver operation is similar to handset receiver circuit description as shown in figure 1. The differences with section 1.1 are local frequency and receiving frequency which is 46/49 MHz.

2.2 Data Input

IC2 pin9 : Data code output



Q13,Q14 : Data decode and amplifier



IC1 pin40[CPU] : Data code detection

2.3 Audio output

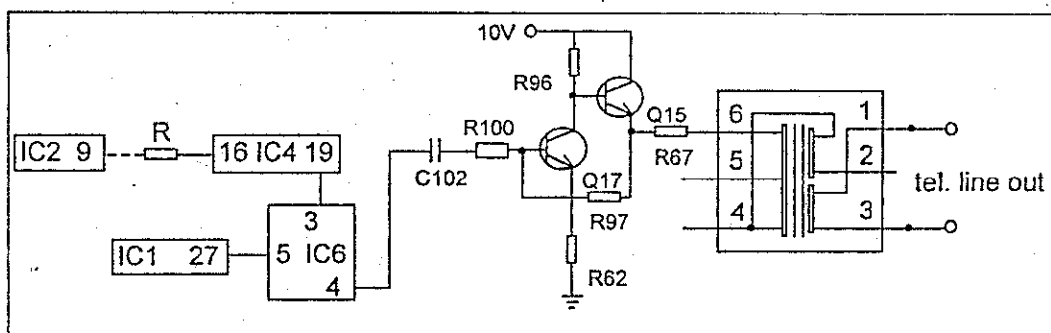


Figure 8

IC2 pin9 : Detected audio output



IC4 pin16 : Expander input



IC4 pin19 : Expander output



IC6 pin3,4,5 & IC1 pin27 : switch



Q17,Q15 : Audio amplifier and buffer circuit

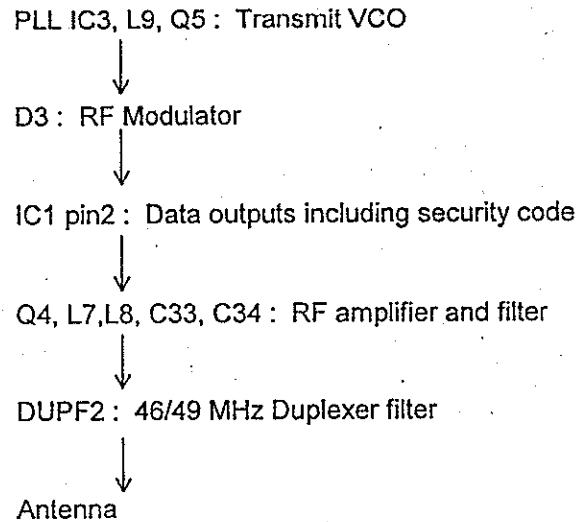


HYB1[SML-101] : Hybrid transformer



Tel. Line : Audio output

2.4 Data Transmit



Refer to figure4, the difference is that the TX data is transmitted from IC1 (CPU) pin2.

2.5 Voice Transmit

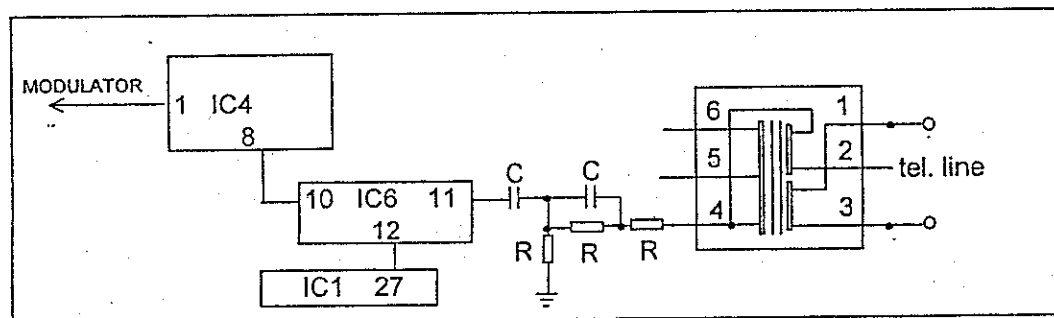
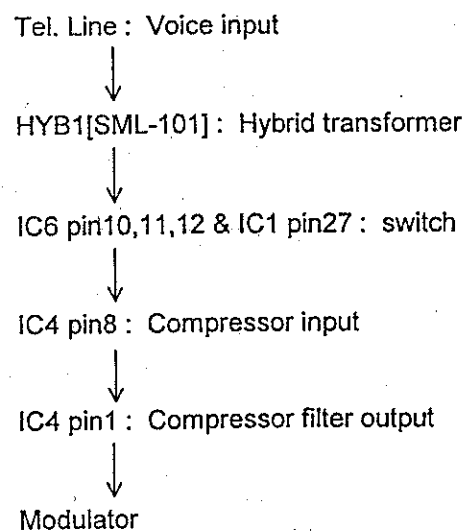


Figure 9



2.6 DTMF OUT

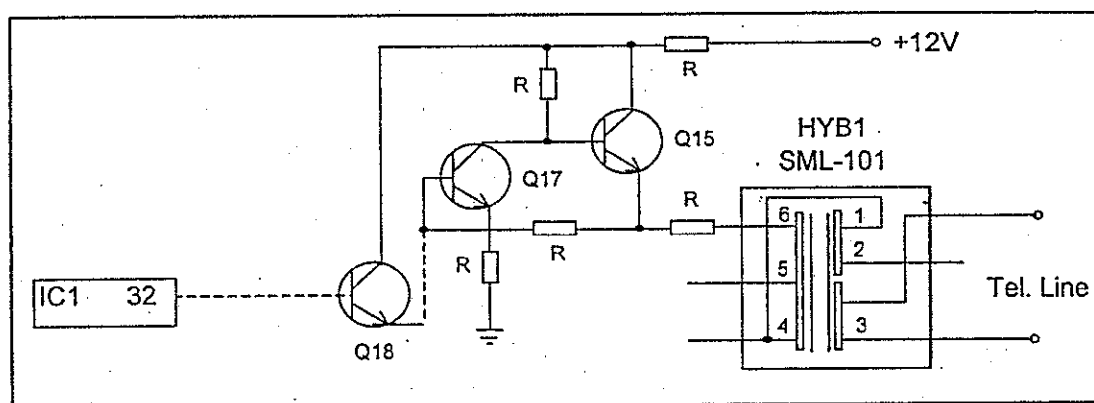


Figure 10

IC1 pin32 : DTMF output
 ↓
 Q18,Q17,Q15 : Amplifier and buffer
 ↓
 HYB1 : Hybrid transformer [SML-101]
 ↓
 Tel. line : DTMF Out

2.7 Transmit Power Control

-Transmit power is controlled by IC1 pin43 and Q6 A539Y.

2.8 Ringer Detect

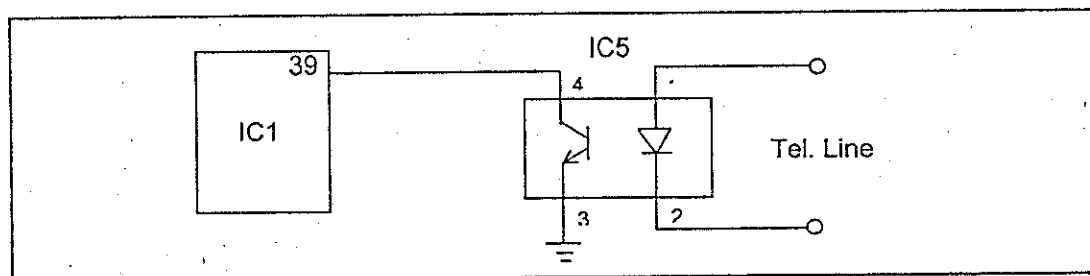


Figure 11

Tel. Line : Ring signal input
 ↓
 IC5[PC2501] : Ring detector
 ↓
 IC1[CPU]pin39 : Detect the ring signal within 15-68 Hz

After detection of ring signal, the CPU will send data code to handset

2.9 Charge Detect

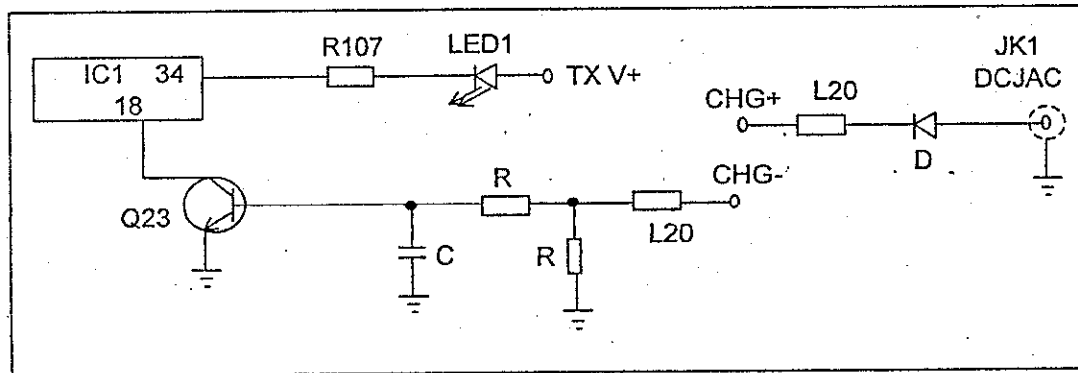


Figure 12

When handset is on cradle, Q23[C945G] is activated and IC1[CPU].pin18 will detect the charging then it will exchange security code randomly.

2.10 Pulse Dial

During pulse dialing, IC1 CPU pin33 will be sending pulse dial signal to Q10[C9014B](Relay trigger) then goes to telephone line.

2.11 Squelch

Refer to section1.10. Squelch operation is same as handset as shown in figure 7.

2.12 Intercom

Refer to section1.11.

2.13 Reset

When handset is place on cradle [charge] or insert the power plug into the socket, Base will reset automatically[IC1 pin25 will goes low].

2.14 SP-PHONE DIAL

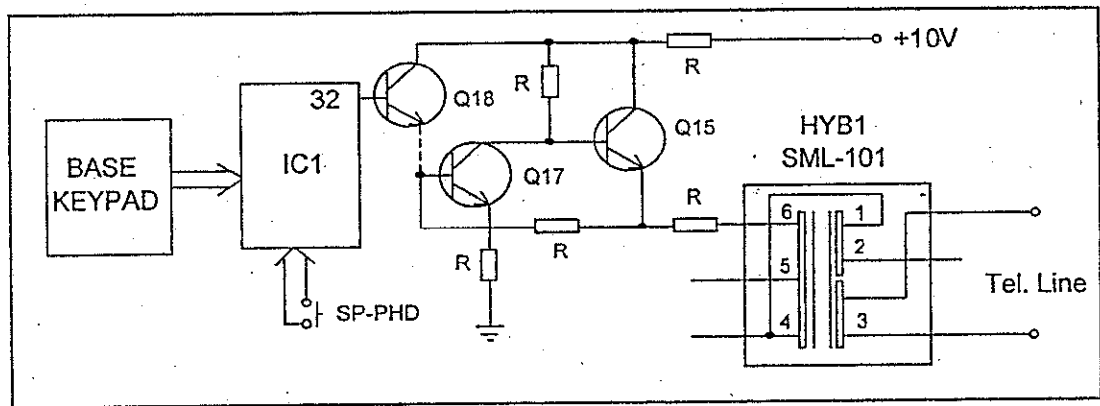


Figure 13

when press SP-PHD switch, base is on sp-phone status.
base keypad

IC1 pin32 : DTMF output or pin33 : pulse dial signal output

Q18,Q17,Q15 : Amplifier and buffer or Q10 : relay trigger

HYB1 : Hybrid transformer [SML-101] or tel. line : output

Tel. line : DTMF Out

2.15 Sp-Phone transmit and receive

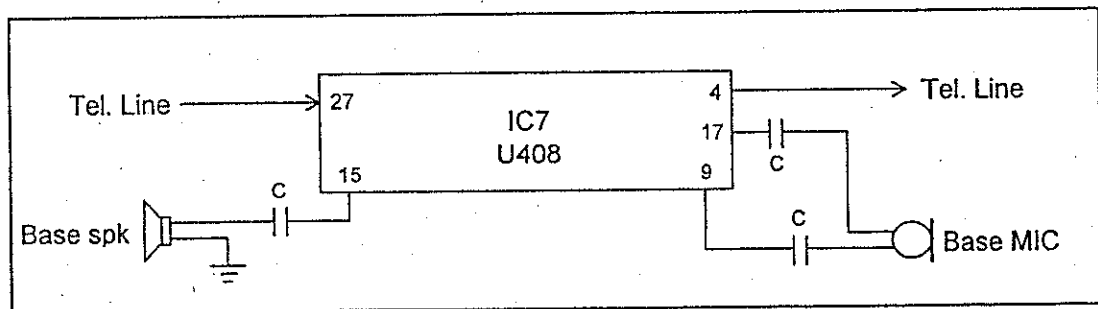


Figure 14

when press SP-PHD key, IC7 pin18(CS) will valid.

IC7 pin27 : Tel. line signal input or IC7 pin9 : base MIC input

IC7 pin15 : amplifier output or IC7 pin4 : base MIC signal output

base speaker or tel. line