SPP-A2470 BASE Set Function Description

1.PSTN Line Interface:

This block include function was shown below.

*ring-detector – performed by photo coupler PH101 and associated circuitry.

*extension telephone pick-up detector – by PH102 and associated circuitry.

*off-hook controller – by Q101 and PH103.

*line transformer – T101 provides isolation and couples audio to ASIC(IC501) for communication or DSP(IC351) for answer machine.

2.Telephone answer device(TAD):

2-1.TAD CPU(IC201):

TAD CPU control all answer machine function include input/output device, DSP(IC351) and ASIC(IC501) interface.

*input – keypad, ans-mode(sw201),bit rate switch(SW202), ringer switch(SW203).

*output – LCD and LED.

*DSP(IC351) – detail was shown below.

*ASIC (IC501)interface – detail was shown in attach file.

(Intercommunication of BB-ASIC and TAD-uCON)

2-2.DSP(IC351):

Analog Front End – speaker, micro-phone and audio amp.

MUX- audio path switch.

Codec – audio coder and decoder.

DSP core – control all function above and process command from TAD CPU.

FLASH MEMORY(IC352) – save the message data.

3.ASIC(IC501):

control all telephone function include audio path ,data transmit ,RF unit(RFU801) and EEPROM(IC502)(call-id and telephone number).

4.RF UNIT(RFU801):

the RF UNIT provides duplex communication carrier frequency between base set and hand set(audio and control data).

SPP-A2470 HAND Set Function Description

On the handset circuit, ASIC(IC401) is the main control process unit for user input and data communication with base ASIC. It processes user input from key-matrix and jog-dial circuits and responses with relative functionality of the handset. The peripherals on the handset circuit include the following components that are all controlled by ASIC(IC401).

a. RF-UNIT(RFU801)
RF-UNIT is connected with ASIC by using 17 control lines for data transmission and control. RF-UNIT component is used to transmit (TX) or receive (RX) radio signal to/from base ASIC for data communication.

b. LCD
LCD component is controlled by ASIC, using 4-bit data bus and 4 control lines. It is the main output interface to display the current function of handset and relative information for handset users.

c. KEY-MATRIX
KEY-MATRIX component is to accept user input for ASIC. ASIC periodically poll the status of key-matrix circuit to detect any user input. The input is processed by ASIC to apply the relative handset function.

d. JOG-DIAL(S402)
JOG-DIAL is another kind of key-matrix to accept user input. Users can roll up/down and push to choose the respective functionality of the handset. Also, users can use this component to scroll up/down for telephone records on the LCD component.

e. BUZZER(BZ601)
BUZZER component is used to issue audio sound to alert user about some special events. For example, a incoming call or user abnormal operation of the handset, etc.

f. SPEAKER(SP601)
SPEAKER component is used to sound the recorded messages and voice

5.POWER:

5-1.DC-IN:

connect to outside AC power adaptor and provide DC power for all system.

5-2.Hand set charge:

charge terminal provide DC power for hand set, and internal data communication.

direction for the handset operations.

g. MICROPHONE
User uses MICROPHONE component during telephone conversation.

h. LED
LED component is used to turn up the lightness of keypad and LCD for visibility of the handset during user operations.

i. EEPROM(IC402)
EEPROM component is used to record the caller information and phone book database.

SPP-A2470 BASE AND HAND

Hand VOL. Control

PRINCIPLE:

The BASESET transmits one 2.4GHz signal to the HANDSET,and it is received by HANDSET's ANT and RF UNIT.Then,the signal will be delivered to the ASIC,and it is process by ASIC.When it outputs from the ASIC,it will change into the audio signal.Finally,the audio signal outputs from the ASIC's SPKRON(pin47) and SPKROP(pin46).And the volume can be adjusted by 3-STEP SLIDE SW.

HAND LIGHTED Key Pad

PRINCIPLE:

When HANDSET TALK ON,LED lights on,and the Rubber-Key of translucent will light.

When HANDSET TALK ON:Handset's ASIC pin97(DIAL LED)LOW, the Q405 is on ,KEY PAD LED,D404/405/406/407 ON(light on)

When HANDSET TALK OFF:Handset's ASIC pin97(DIAL LED)HIGH, the Q405 is on,KEY PAD LED,D404/405/406/407 OFF(light off)

Dual Battery Capability

PRINCIPLE:

When HANDSET charges:When HANDSET begins to charge,the Q612 is on,and the Charge LED lights on.And the ASIC received one Charge-DET signal.After the signal was detected,the Q613 is on,and HANDSET begins Fast-charge(0.16C ,probably 100mA) one hour.One hour later,the Q613 is off,and HANDSET begins Normal-charge(0.1C,probably 60mA).

When Spare Batt charges:When Spare Batt charges,the Q617 is on,and the Spare Batt LED lights on.Spare Batt is in Normal-charge situation.

Reversible Charge

PRINCIPLE:

HANDSET front park charge:

When TP203 and TP205 in HANDSET connect with PLUS and GND in BASESET,this moment,D202(TP203) and D203(TP205) are both on.Then,the Charge-current will flow into the HANDSET.

HANDSET back park charge:

When TP203 and TP205 in HANDSET connect with GND and PLUS in BASESET,this moment,D202(TP205) and D201(TP203) are both on.Then,the Charge-current will flow into the HANDSET.