

# Rockway Industries Ltd

## Service Manual

### Vision X2121



Rockway Industries Ltd.

## Service Manual


Model: VISION X2121

Version: A

Date: Dec, 2003

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### CONTENT :

1. Content ... ..	1
2. Repair Tools ... ..	2
3. Trouble Shooting Chart	
3.1 DTAM Part:	
3.1.1 No Detect Ring Signal ... ..	3
3.1.2 The LCD always shows "  "Battery Low icon ... ..	4
3.1.3 The LCD not working ... ..	5
3.1.4 Calling party control (CPC) not working ... ..	6
3.1.5 Incoming Message Recording not working ... ..	7
3.1.6 Answering Machine not working ... ..	8
3.2 TELEPHONE Part :	
3.2.1 No Ring sound ... ..	9
3.2.2 The unit not taking current ... ..	10
3.2.3 No pulse dialing ... ..	11
3.2.4 No Tone dialing ... ..	12
3.2.5 No Receive ... ..	13
3.2.6 H/S, H/F, No Transmit ... ..	14
3.2.7 H/F no receive ... ..	15
4. Specification ... ..	16 - 17
5. Schematic Diagram ... ..	18
Block diagram ... ..	19
6. PCB Diagram	
6.1 Display board PCB ... ..	20 - 21
6.2 Keyboard PCB ... ..	22
6.3 DTAM PCB ... ..	23 - 24
6.4 MAIN PCB ... ..	25 - 27
7. Critical Parts List ... ..	28 - 29

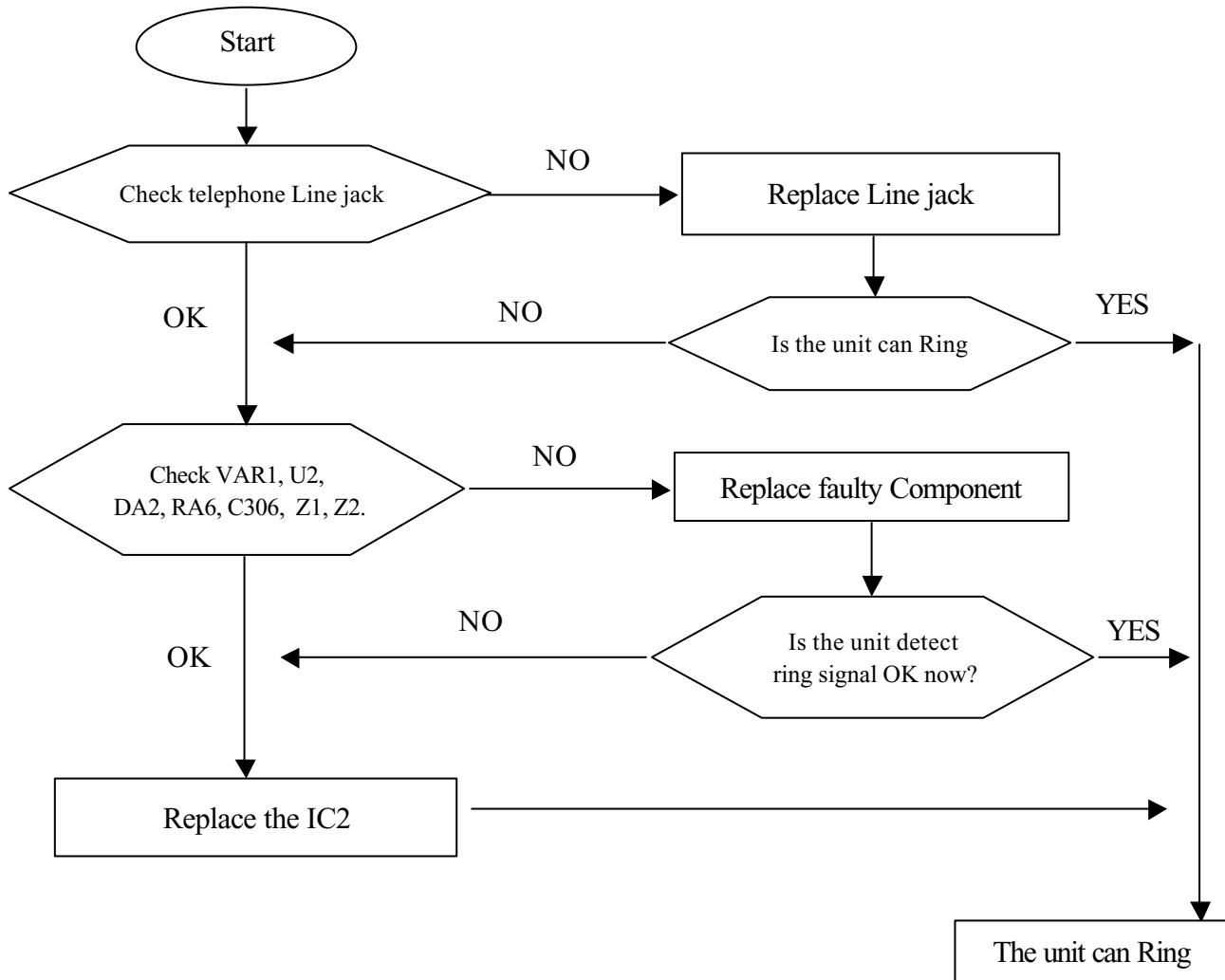
- **Repair Tools :**

1. Telephone analyzer(1076A DD5601)
2. Oscilloscope
3. Signal Generator
4. Multi-meter
5. Solider Iron
6. Plier,Seizer,Screw Driver,Solder Wire
7. Battery 9V (1604A)

## ***Trouble Shooting Chart***

**Problem :No Detect Ring Signal**

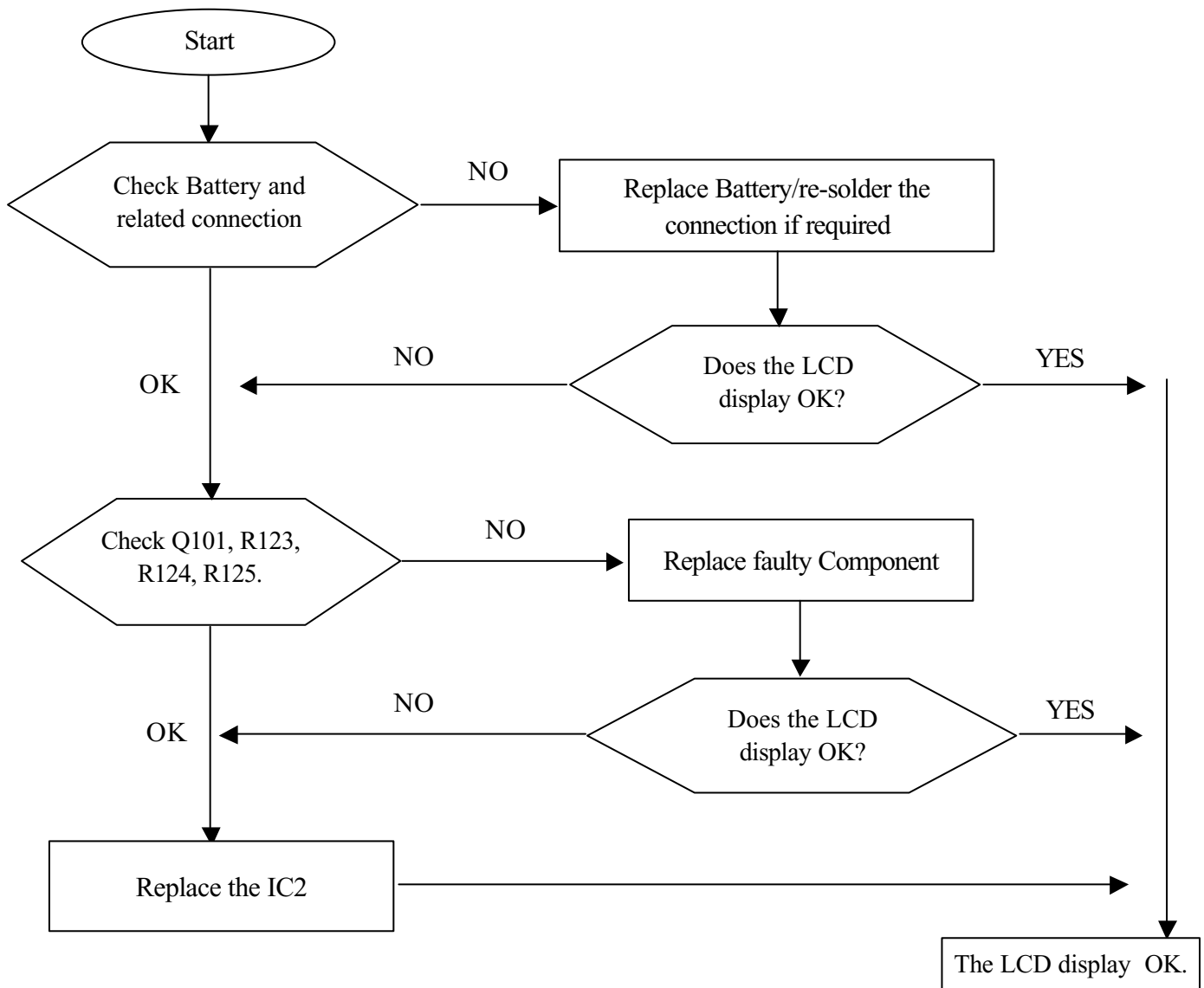
**Condition: Connect the unit to telephone analyzer then set at ring test mode.**



## ***Trouble Shooting Chart***

**Problem :** The LCD always shows " "Battery Low icon

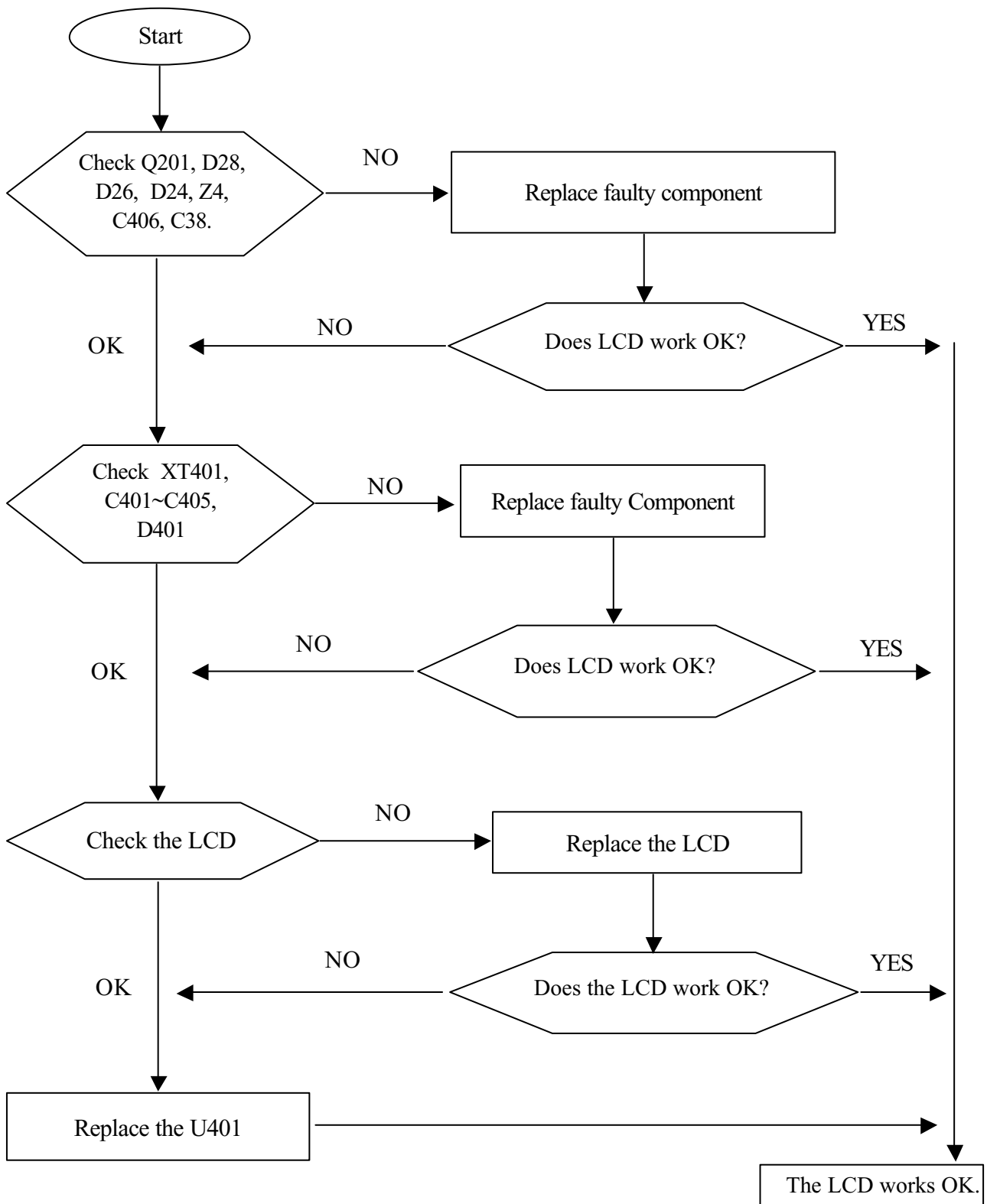
**Condition:** Plug in adaptor and then install 9V battery



## ***Trouble Shooting Chart***

**Problem :**The LCD not working

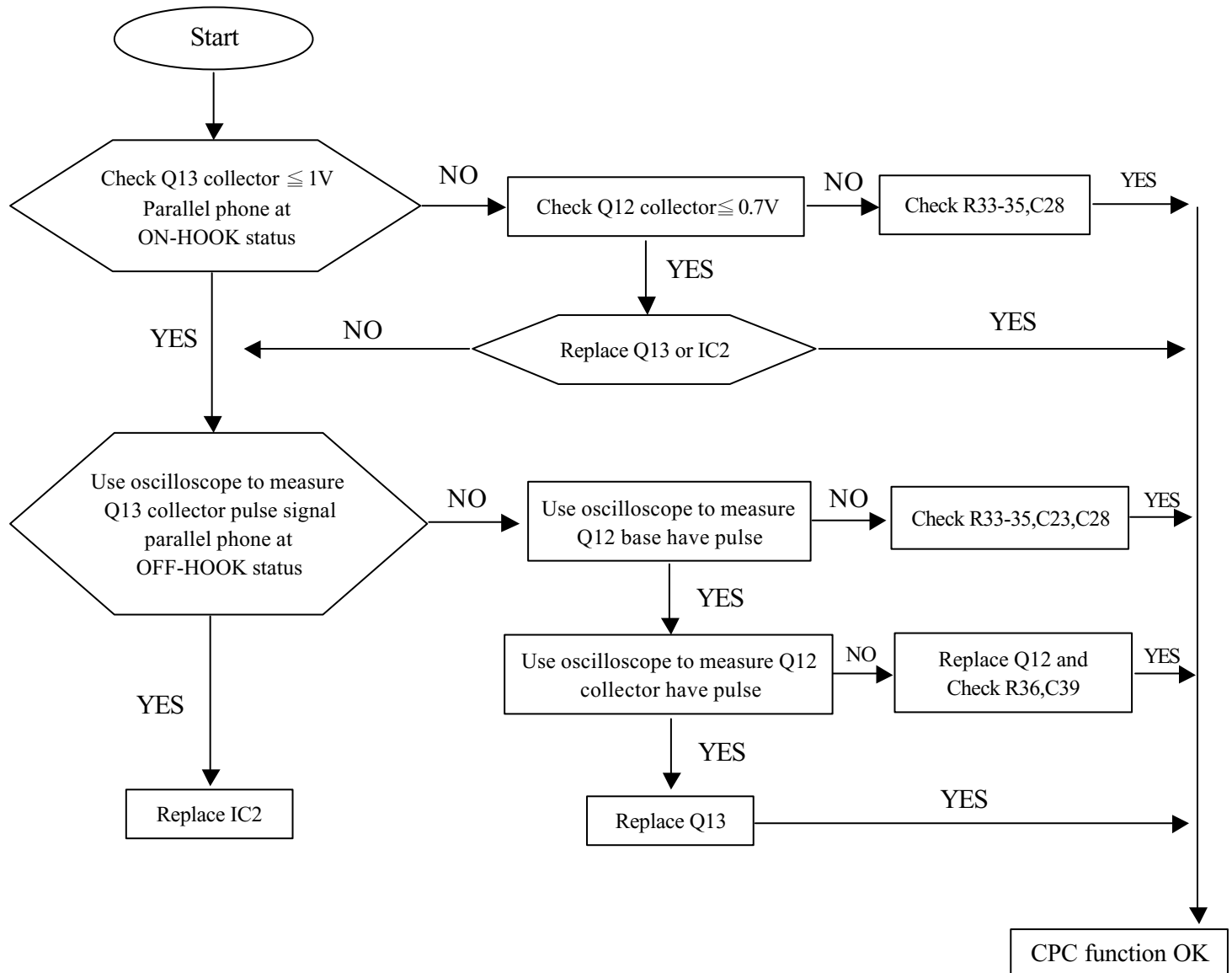
**Condition:**Plug in adaptor to unit



## ***Trouble Shooting Chart***

**Problem :**Calling party control (CPC) not working

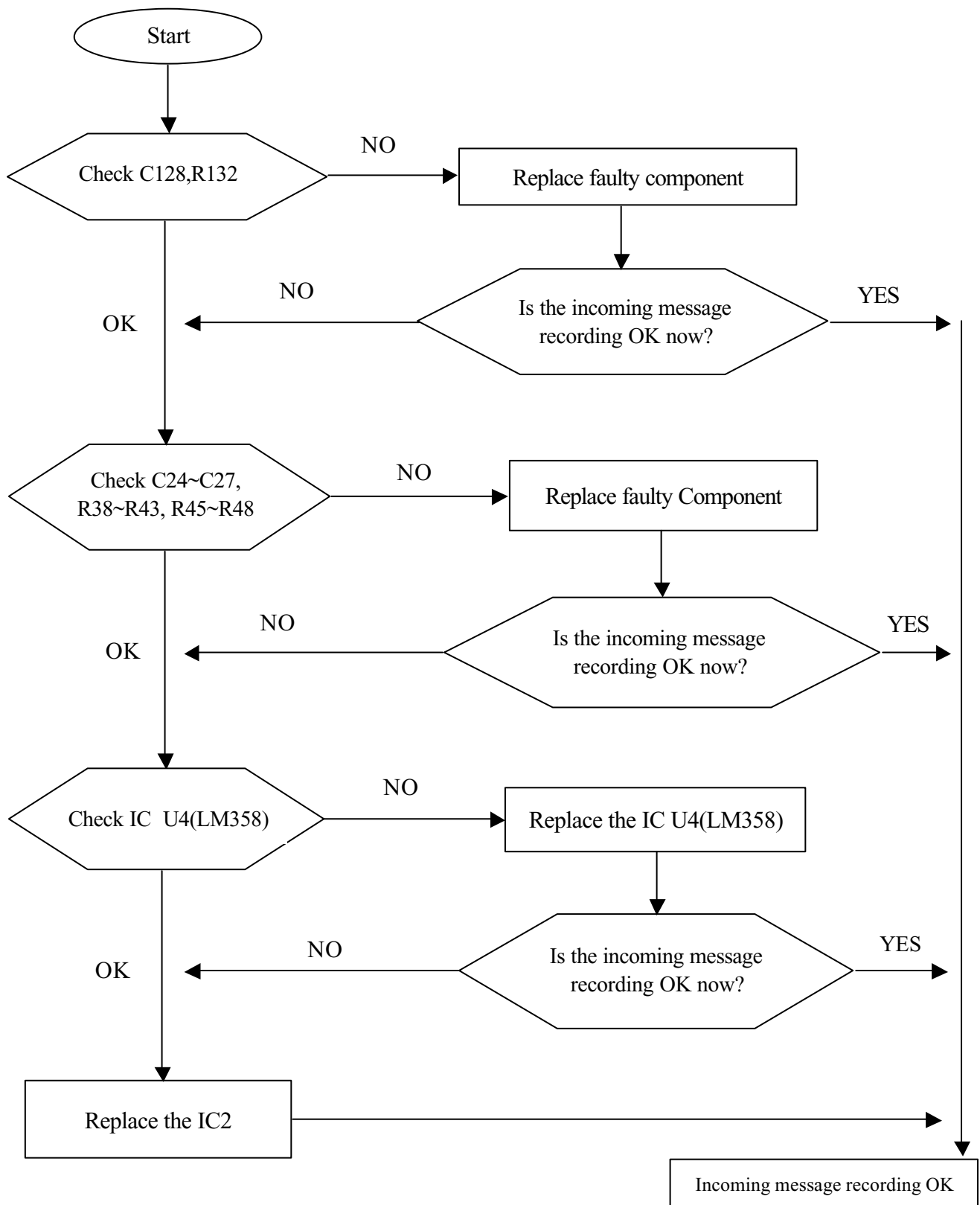
**Condition:** Connect the unit to telephone analyzer and parallel with an other



# ***Trouble Shooting Chart***

**Problem :Incoming Message Recording not working**

**Condition: connect telephone line and plug in adaptor**

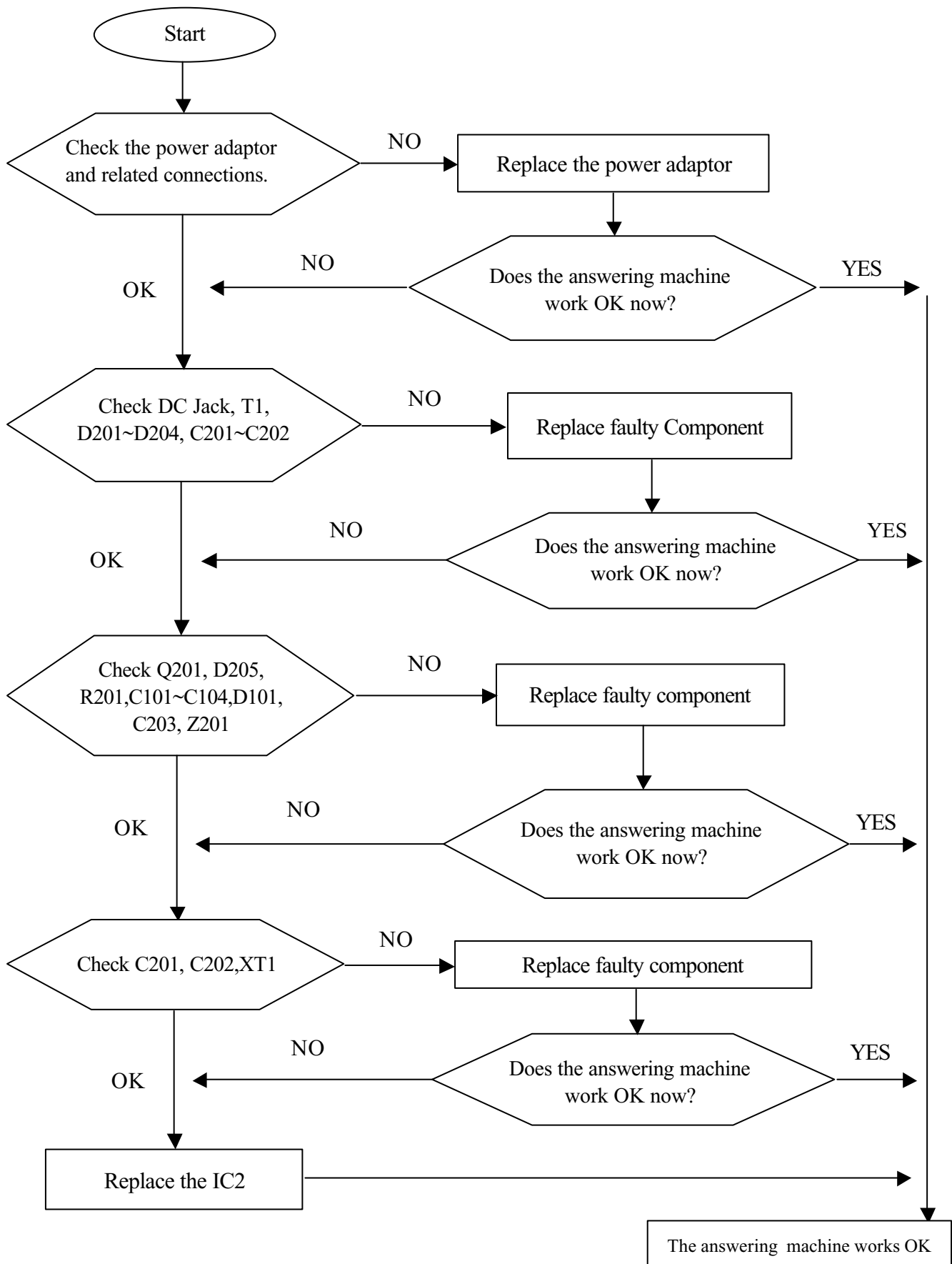




# Trouble Shooting Chart

**Problem :**Answering Machine not working

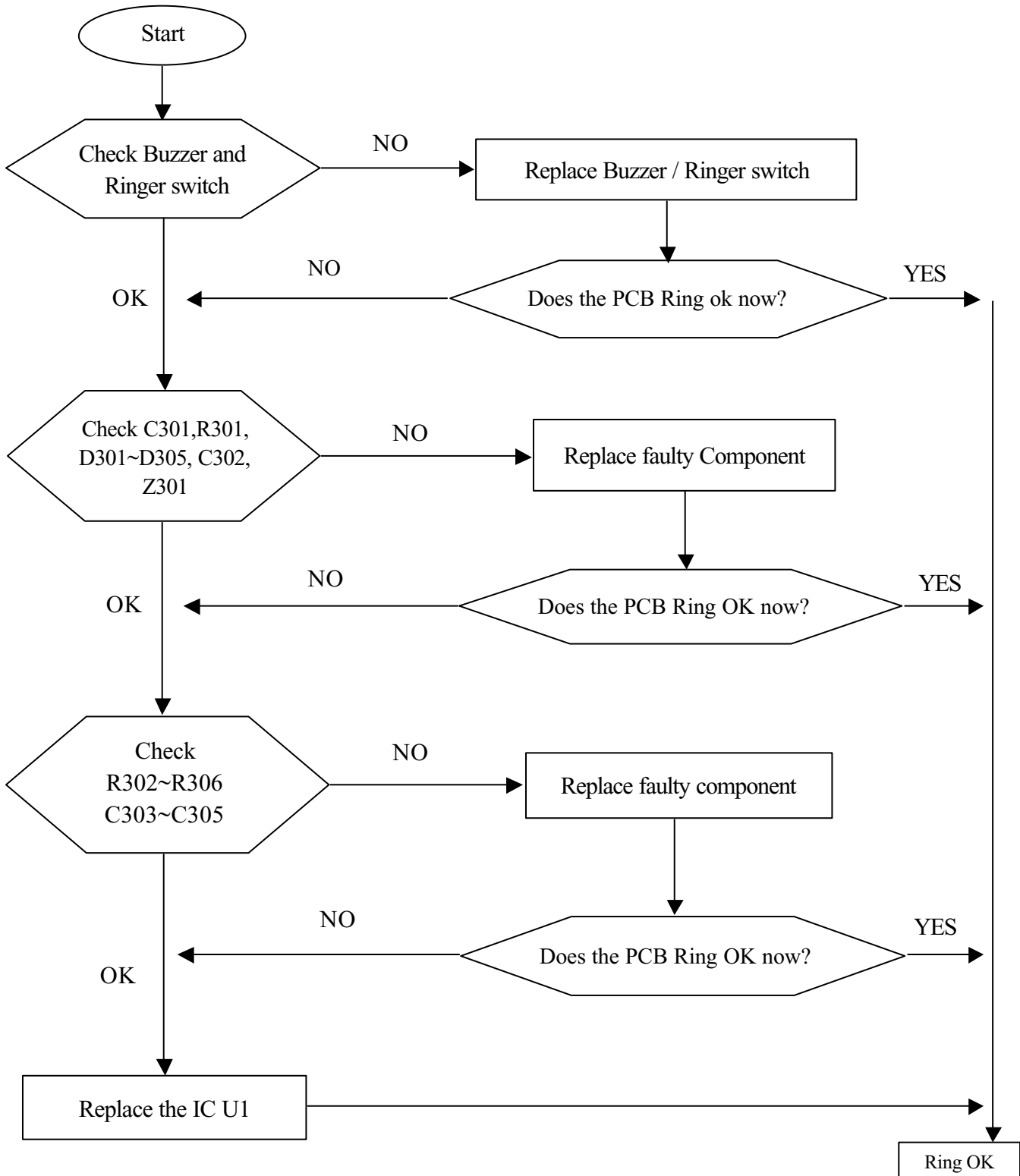
**Condition:** Connect telephone line & plug in adaptor



## Trouble Shooting Chart

**Problem :No Ring sound**

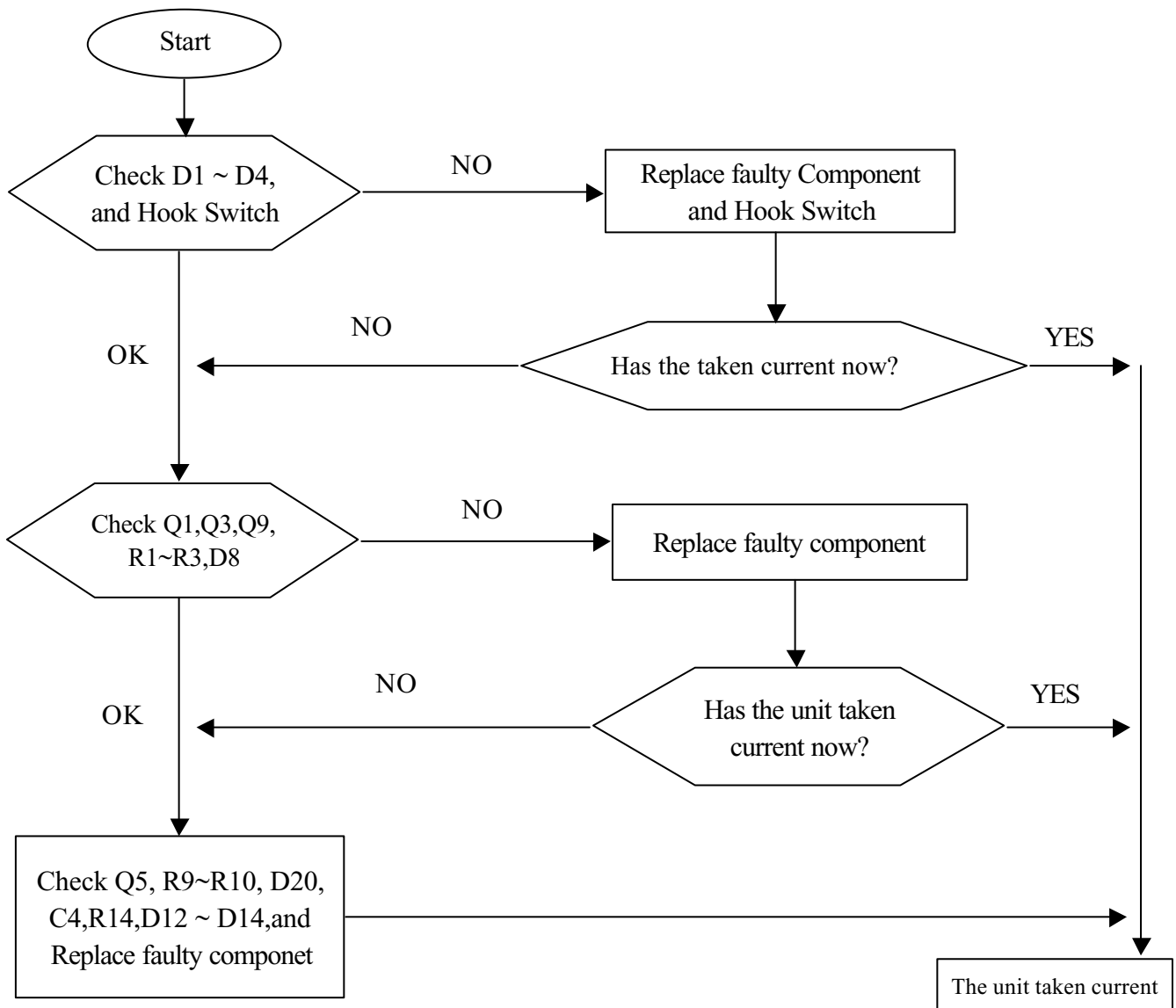
**Condition: Connect the unit to telephone analyzer.**



## ***Trouble Shooting Chart***

**Problem :**The unit not taking current

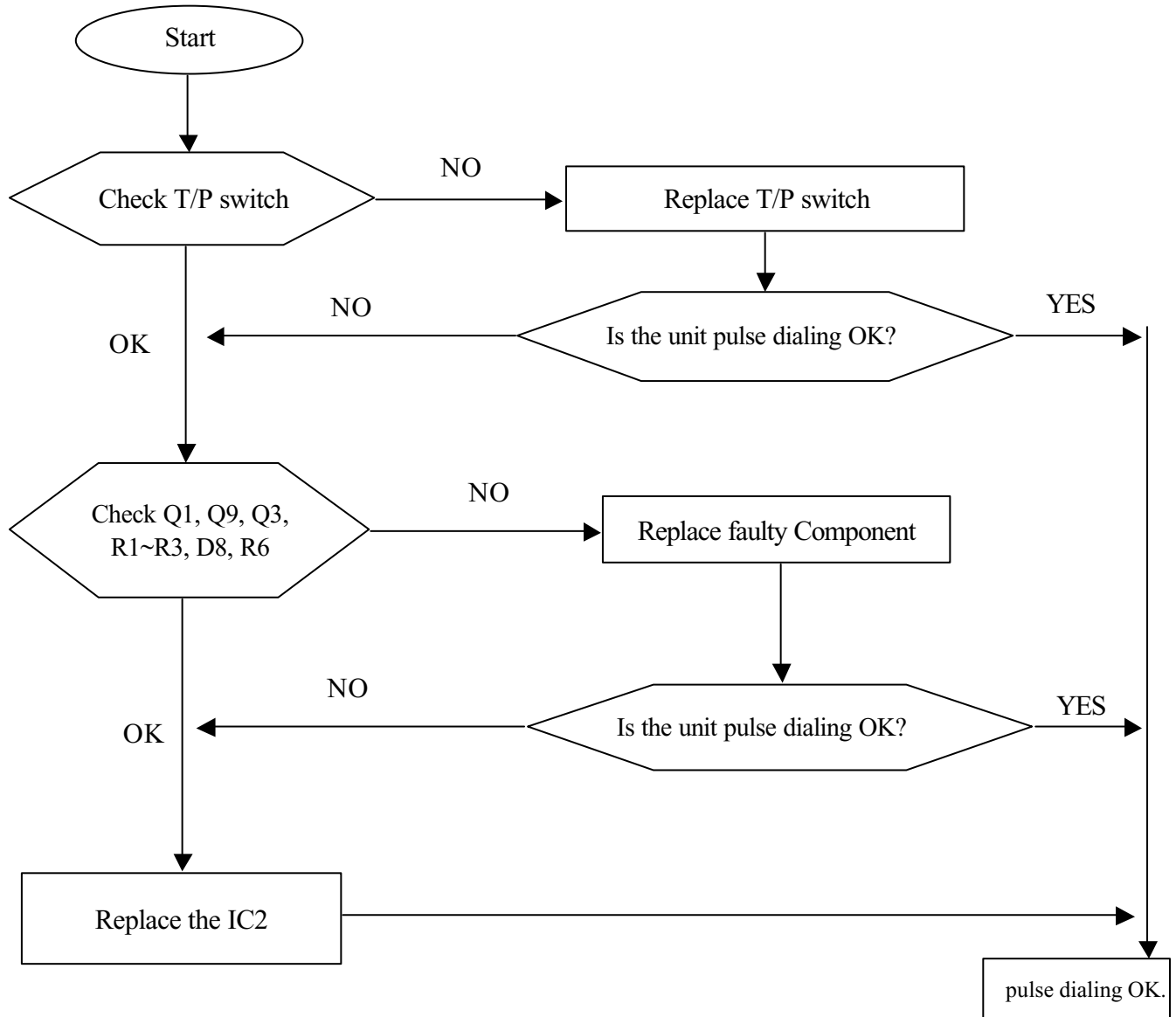
**Condition:** Connect the unit to telephone analyzer



## ***Trouble Shooting Chart***

**Problem :No pulse dialing**

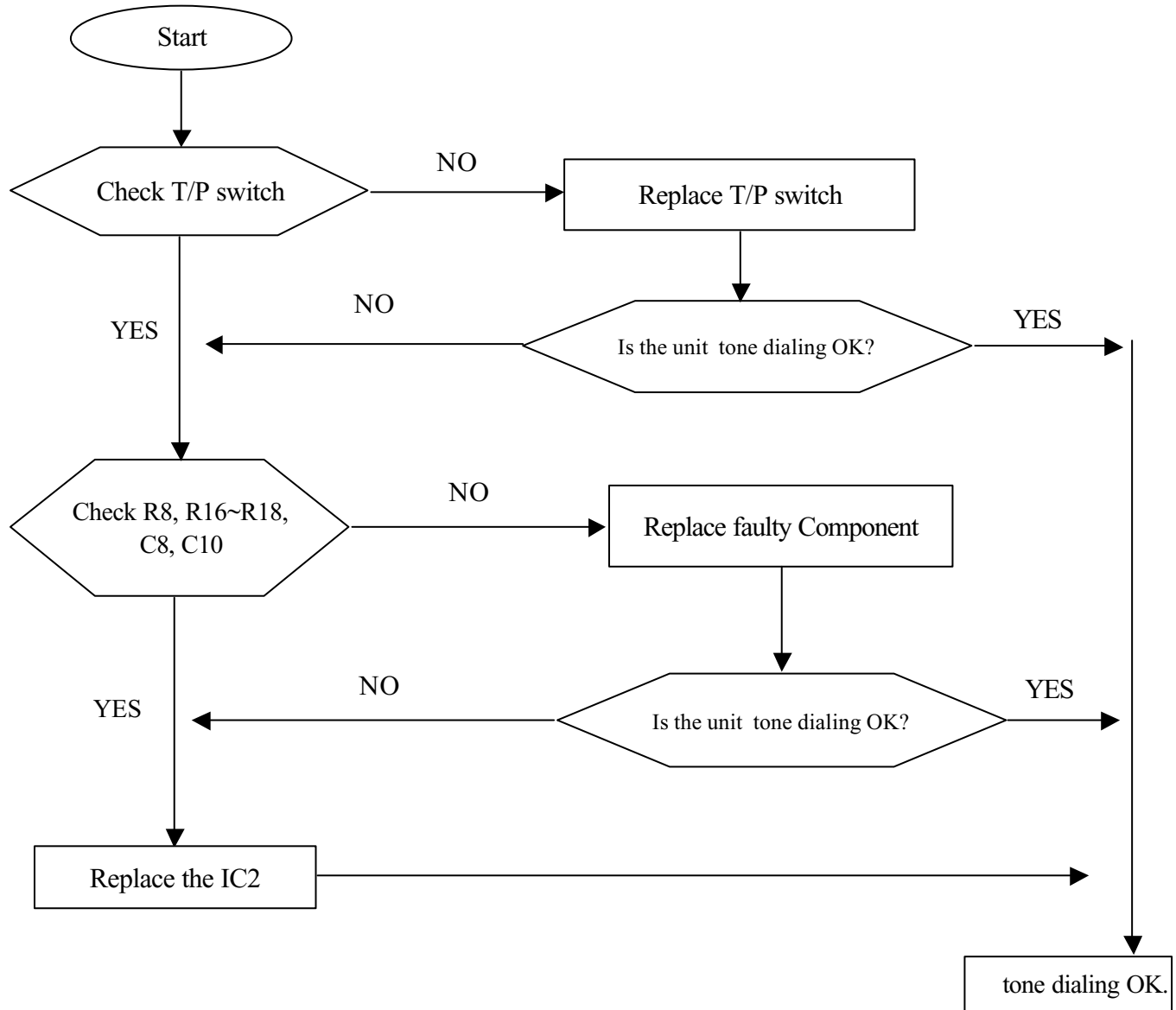
**Condition: connect the unit to telephone analyzer & plug in adaptor**



## ***Trouble Shooting Chart***

**Problem :No Tone dialing**

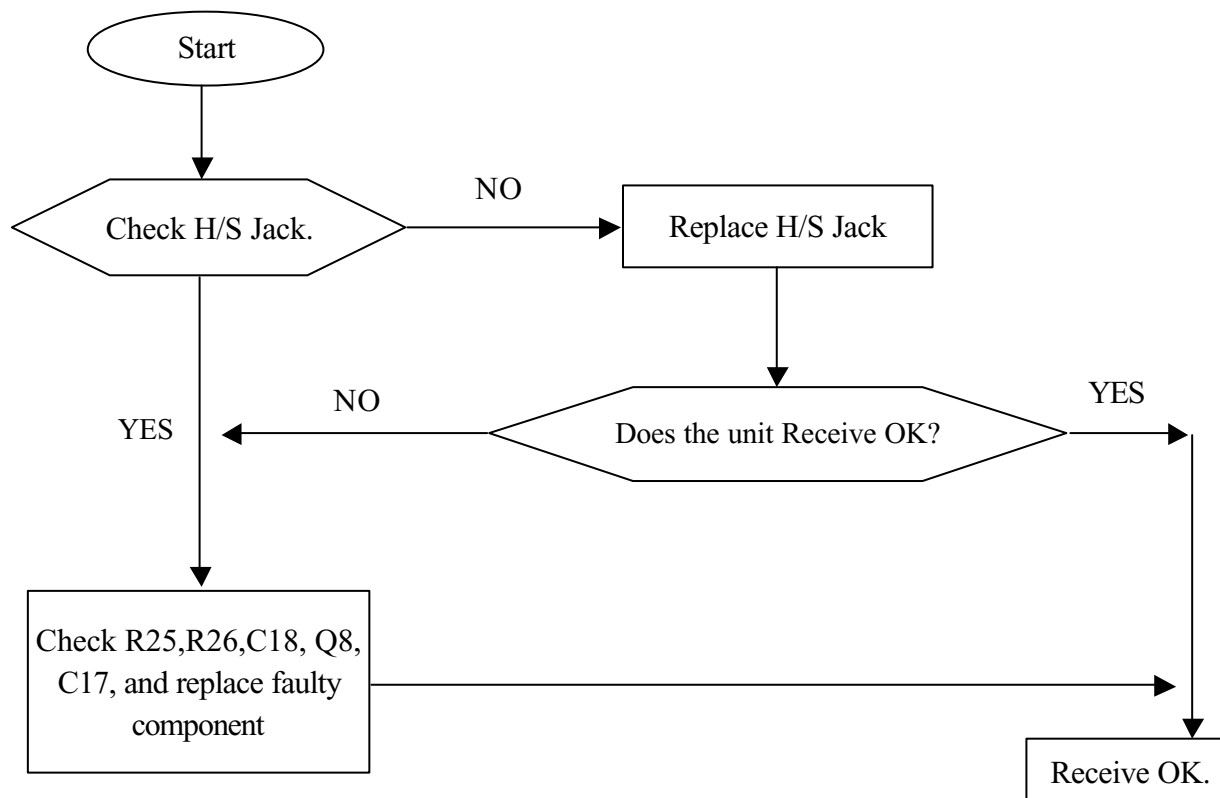
**Condition:connect the unit to telephone line & plug in adaptor**



## *Trouble Shooting Chart*

**Problem :No Receive**

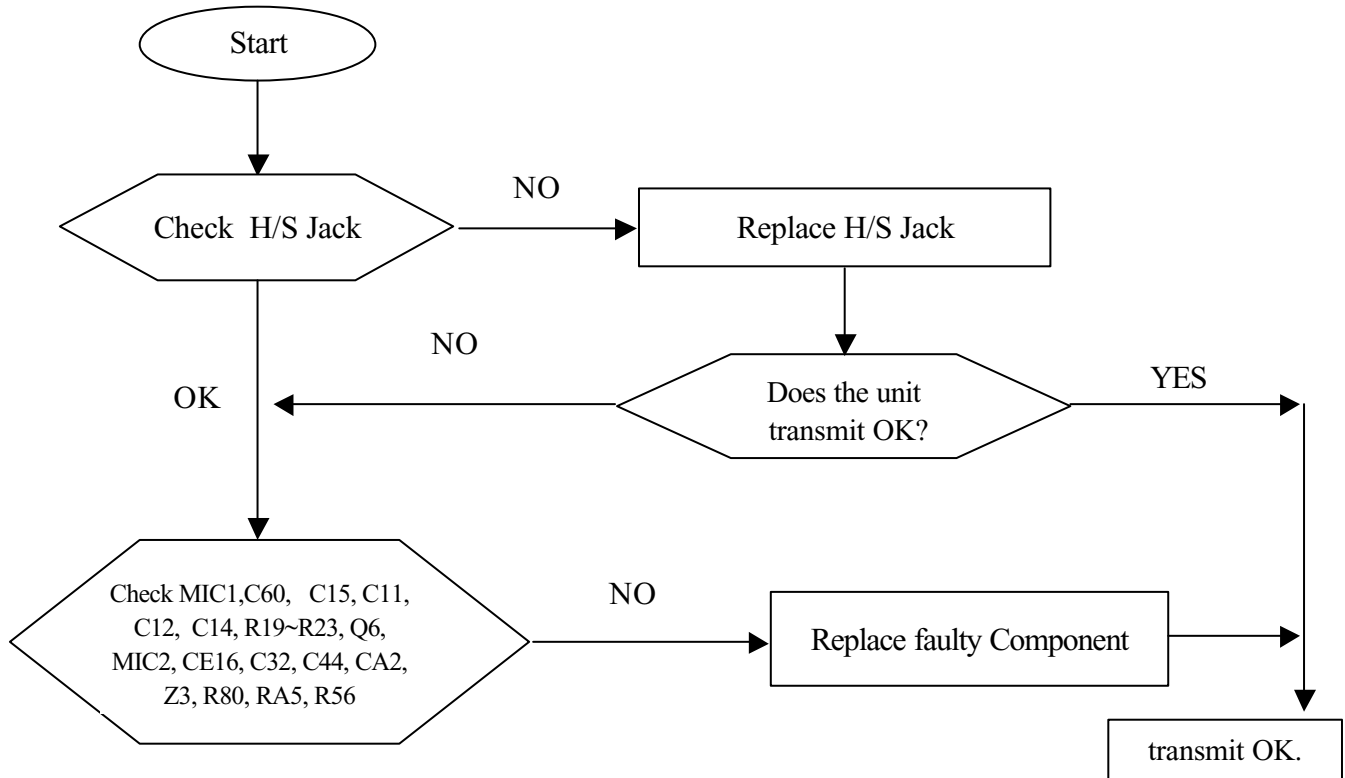
**Condition: Connect the unit to telephone line & plug in adaptor**



## Trouble Shooting Chart

**Problem :H/S, H/F, No Transmit**

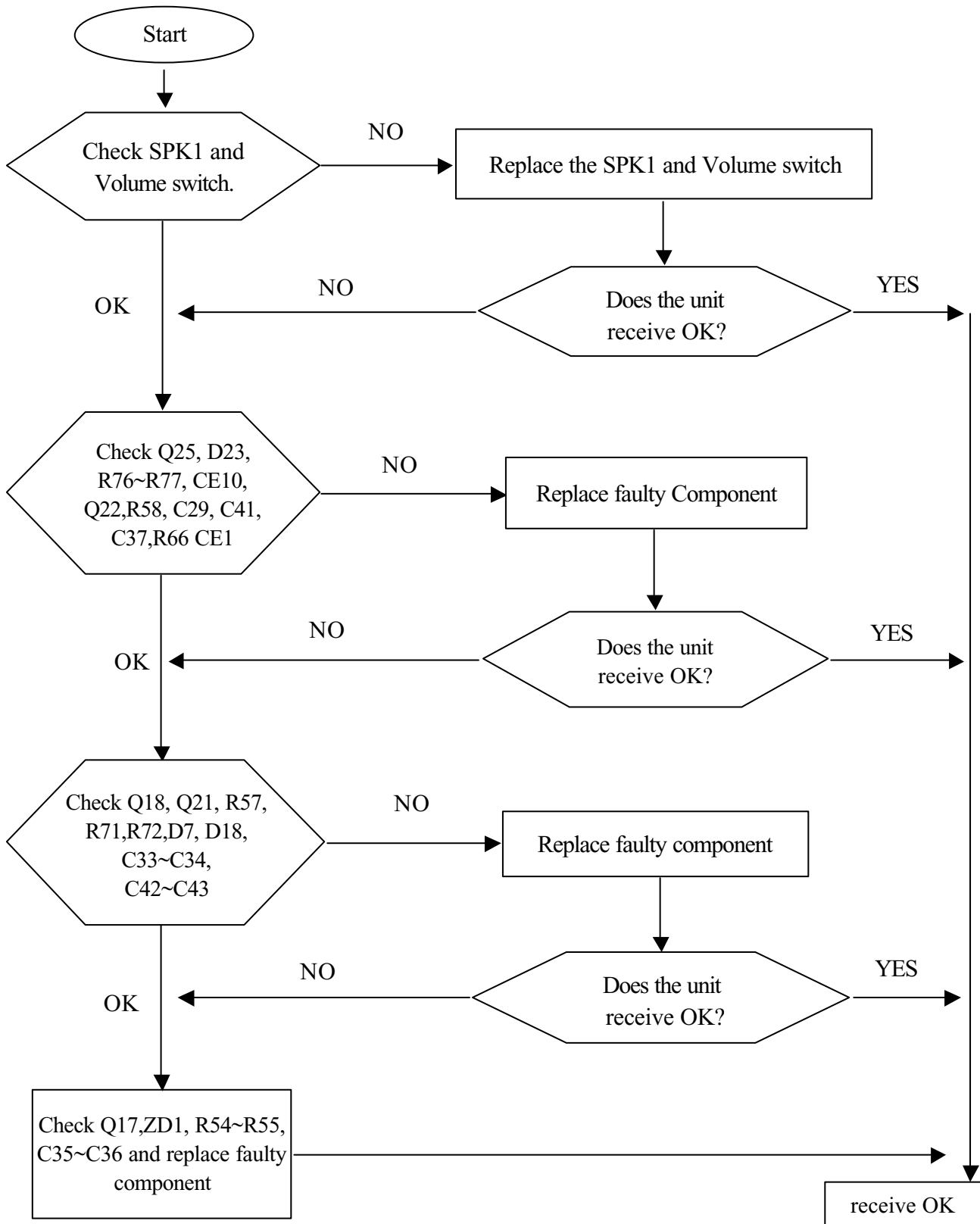
**Condition: Connect the unit to telephone analyzer**



# Trouble Shooting Chart

**Problem :H/F no receive**

**Condition: connect the unit to telephone analyzer.**





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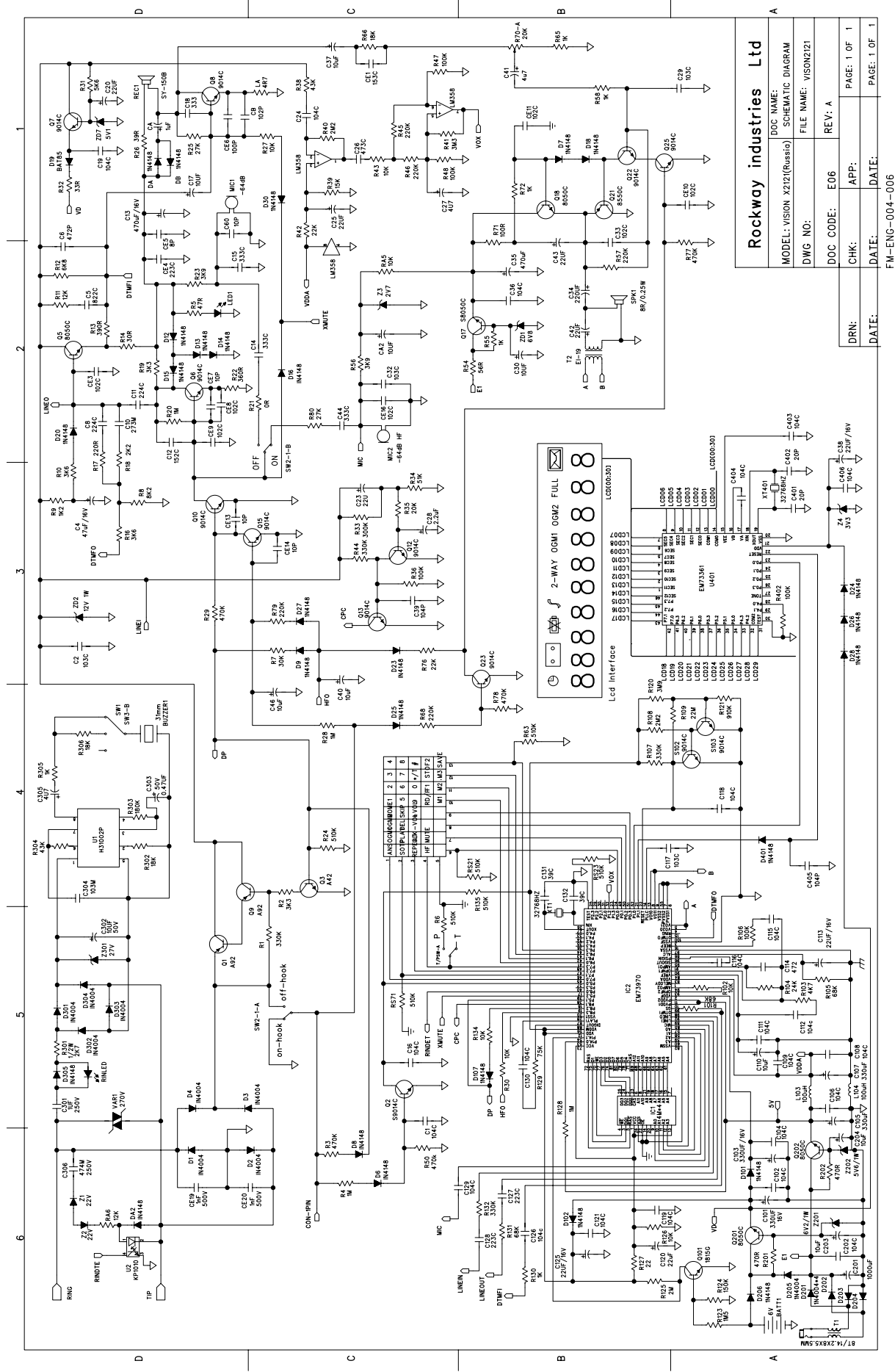
## 產品測試指標

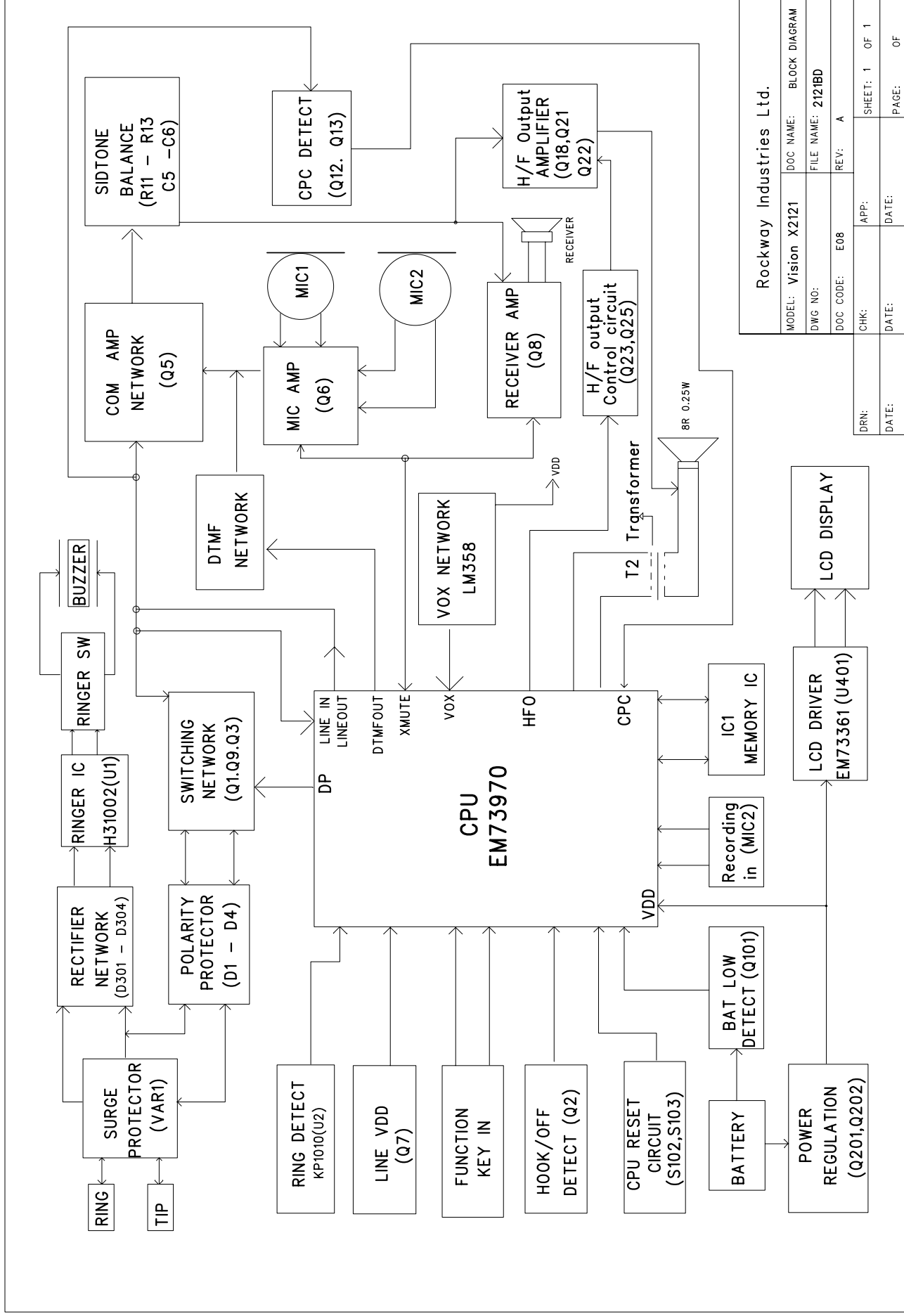
產品型號: VISION X2121(RS)		文件代碼: E 04		資料輸入: 杜煥蘭	
文件版本號: B		制 作: 岑国保		日 期: Dec. 25, 2003	
TEST CONDITION: @20mA TO 80mA LOOP CURRENT UNLESS OTHERWISE SPECIFIED		REMARKS: 1."*"之項目爲QA.生產及IPI都不測試 2. H/S咪發送設置聲源時,聲壓表與聲源之間應隔一H/S底殼. 3. QA要測試並機記憶&掛機記憶. 4. 在沒有火牛&電池的情況下,25mA能正常拔號屬正常.			
		Reference impedance : 600R			
	TEST ITEM	NORMAL	LIMIT	UNIT	REMARKS
1)	DTMF TONE OUTPUT FREQUENCY				
	ROW1	697	687-707	Hz	
	ROW2	770	759-781	Hz	
	ROW3 LOW GROUP	852	840-864	Hz	
	ROW4	941	927-955	Hz	
	COLUMN 1	1209	1191-1227	Hz	
	COLUMN 2 HIGH GROUP	1336	1316-1356	Hz	
	COLUMN 3	1477	1455-1499	Hz	
	2)	DTMF LEVEL	HI(-5)	HI(-3~-7)	dBm
LO(-7)			LO(-5~-9)	dBm	
3)	DTMF TWIST	2	1~ 4	dB	
4)	MAKE/BREAK RATIO(600 OHM)	40	38~45	%	
5)	RINGER O/P 70V RMS.1M FROM HI	80	75~90	dB SPL	*
	UNIT CENTER (50HZ) LO	65	60~73	dB SPL	*
6)	ON-HOOK CURRENT	0	<5	uA	
7)	DIAL PULSE SPEED	10	10±1	PPS	
8)	VOICE TRANSMIT LEVER (1KHZ) (-92dBSPL.INTO MIC.)(HANDSET) 40mA	-5	-8.5 ~ -1.5	dBm	
9)	RECEIVER OUTPUT @-15dB 1KHz INPUT FROM TEL (HANDSET) 40mA (1KHZ)	80	>75	dB SPL	
10)	SPEAKER OUTPUT @-15dB INPUT (1KHZ) FROM TEL(HANDFREE) 40mA	70	>65	dB SPL	
11)	VOICE TRANSMIT LEVEL (1KHZ ) (-92dBSPL.INTO MIC.)(HANDFREE) 40mA	-18	-13~-23	dBm	
12)	DTMF POWER LEVEL	-2	0 ~ -5	dBm	
13)	OFF HOOK DC RESISTRNCE @20mA	6.6	<7	V	
14)	OFF-HOOK AC IMPEDANCE(@1KHz)CTR-38	600	450~800	OHM	*
15)	ECHO RETURN LOOS (40mA) (CTR-38)	12	≥ 7	dB	*
16)	FLASH TIME(40mA)	94	83~103	mS	
17)	ROLR 500 OHM CTR-38	-5	-10~-2	dB	*
	ROLR 1000 OHM CTR-38	-5	-10~-2	dB	*
	ROLR 2800 OHM CTR-38	-5	-10~-2	dB	*
18)	TOLR 500 OHM CTR-38	7	3~11	dB	*
	TOLR 1000 OHM CTR-38	7	3~11	dB	*
	TOLR 2800 OHM CTR-38	7	3~11	dB	*
19)	SIDETONE 500 OHM CTR-38 (Impedance a)	15	≥ 8	dB	*
	SIDETONE 1000 OHM CTR-38 (Impedance b)	17	≥ 12	dB	*
	SIDETONE 2800 OHM CTR-38 (Impedance c)	19	≥ 15	dB	*
20)	LAST NUMBER REDIAL	32	32	DIGITS	
21)	MEMORY ONE TOUCH (M1~M3)	16	16	DIGITS	
22)	HI-POT (1500VAC,0.5mA,FOR 2 SECOND)	PASS			
檢查: 李上		覆核: 游志良		審批: 楊良泰	

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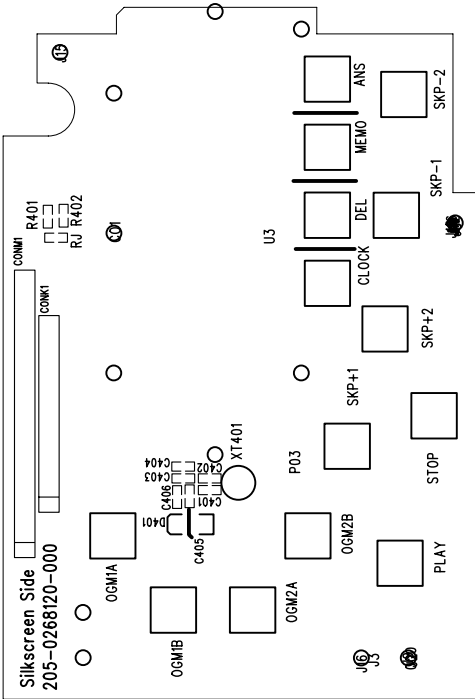
## 產品測試指標

產品型號: VISION X2121(RS)			文件代碼: E 04		資料輸入: 杜煥蘭	
文件版本號: B			制 作: 岑国保		日 期: Dec. 25, 2003	
DTAM部份 TEST CONDITION: 40mA LOOP CURRENT UNLESSOR(AC 9V SPEAKER 8 OHM)			REMARKS: 1. "*"之項目為QA.生產及IPI都不測試 2. H/S咪發送設置聲源時,聲壓表與聲源之間應隔一H/S底殼. 3. QA要測試並機記憶&掛機記憶.			
	TEST ITEM		NORMAL	LIMIT	UNIT	REMARKS
1)	OGM	IN LINE(MIC REF. AT 92dBA) IN LOUDSPEAKER	-11 80	-5 ~ -22 ≥70	dB dBA	*
2)	BEEP	IN LINE LOUDSPEAKER	-22 76	-15 ~ -35 ≥70	dB dBA	*
3)	ICM	IN LINE(REC. AT-10dB) IN LINE(-30dB) IN LOUDSPEAKER(REC.AT-10dB) IN LOUDSPEAKER (-30dB)	-15 -15 80 76	-8 ~ -20 -10 ~ -30 ≥70 ≥70	dB  dBA	*
4)	VOX SENSITIVITY AT (A) (KEEP THE LINE) (B) (TO DISENGAGE THE LINE)		-40 ~ -50 -40 ~ -50	>-40 <-50	dB dB	
5)	NOISE IN LINE		3	≤8	mV	*
6)	NOISE IN LOUDSPEAKER		49	≤55	dBA	*
7)	CALL INSENSITIVITY (50Hz)		15	<15	V	
8)	CALL SENSITIVITY (50Hz)		26	≤29	V	
9)	POWER CONSAMPTION (9V 300mA)(STAND BY) AC		40	≤100	mA	
10)	PLAY MAX CURRENT		250	≤280	mA	
11)	BATTERY CURRENT (WITH 火牛)		12	<40	μA	
12)	NO 火牛		5	≤12	mA	
13)	LOW BATTERY 25℃		4.8	4.2~ 5.5	V	
檢查: 李上			覆核: 游志良		審批: 楊良泰	



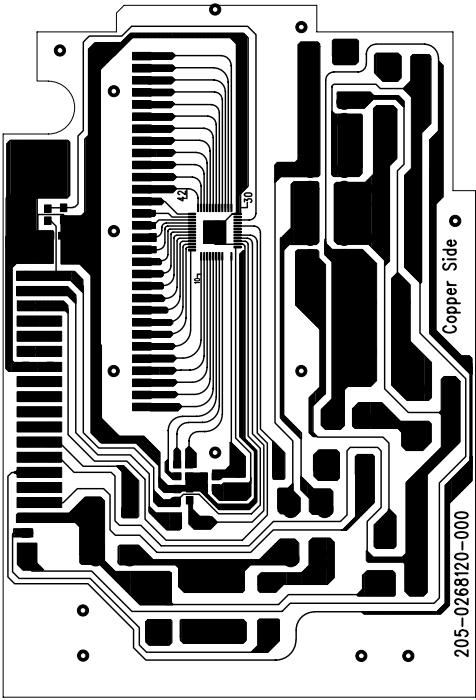


Rockway Industries Ltd.			
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DATE:	DATE:	PAGE:	OF



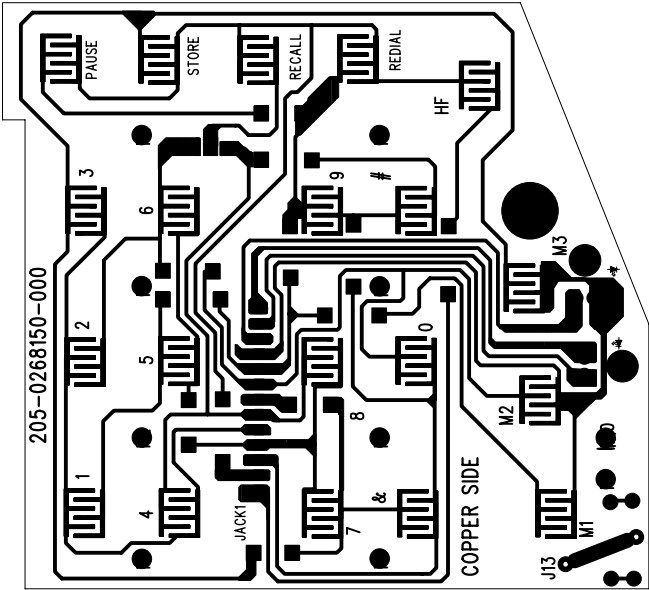
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MODEL:VISION X2121(PE+RS)	DOC NAME: PCB FILM/ARTWORK		
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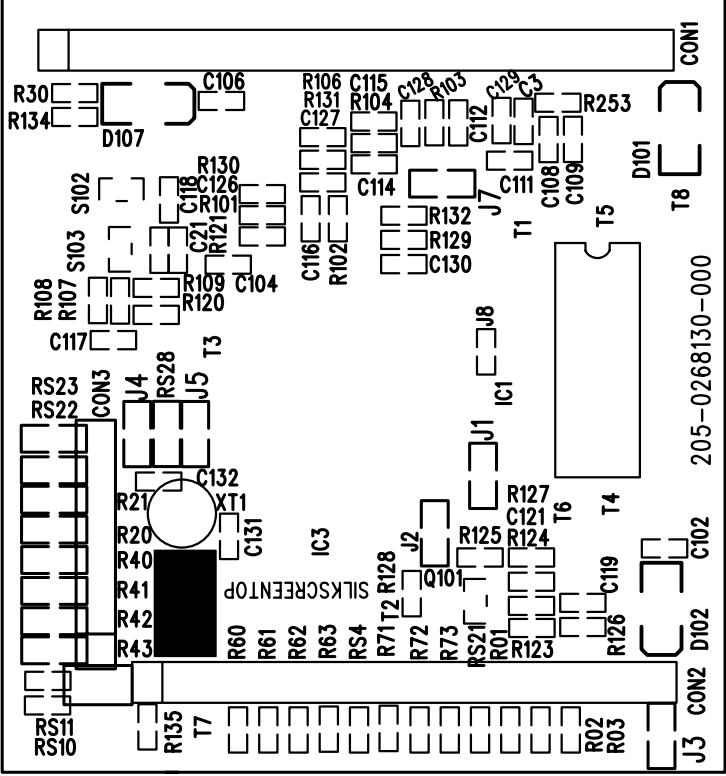
Rockway Industries Ltd.					
MODEL: VISION X2121(PE+RS)		DOC NAME: PCB FILM/ARTWORK			
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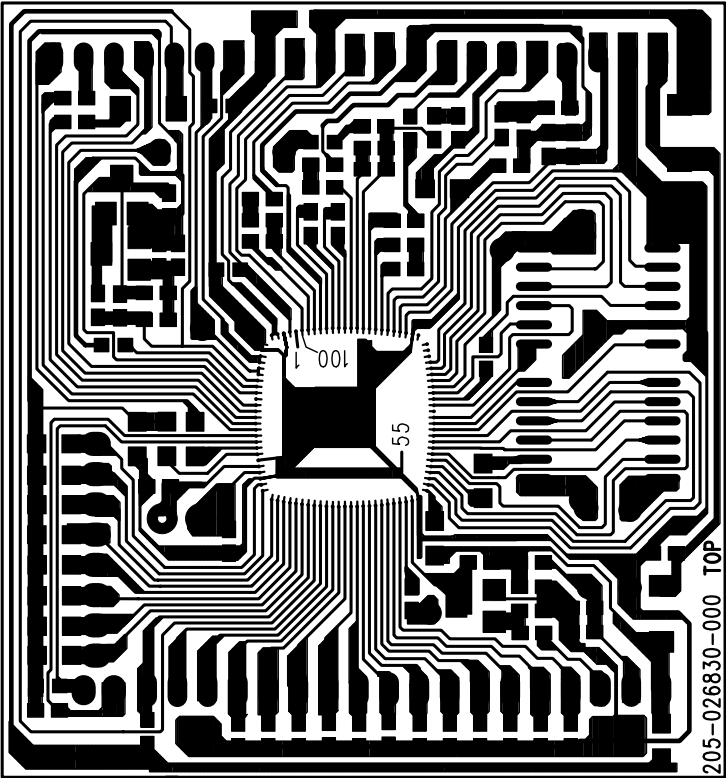
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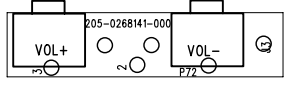
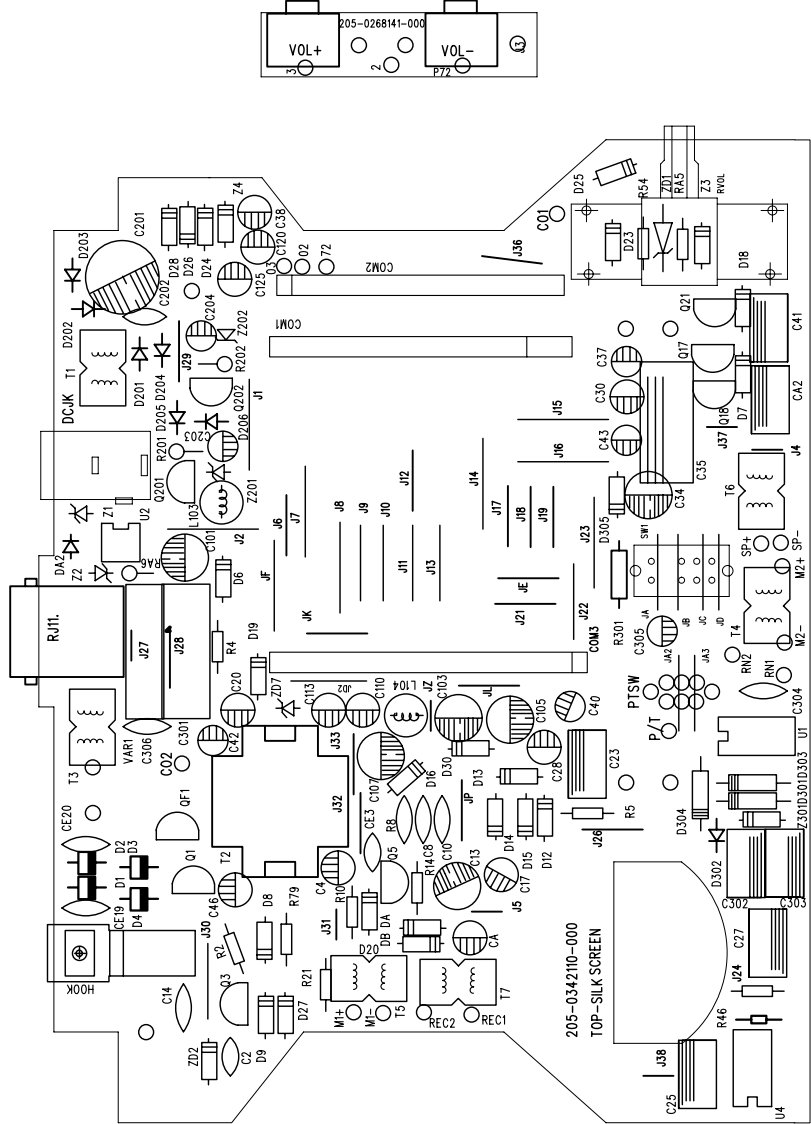


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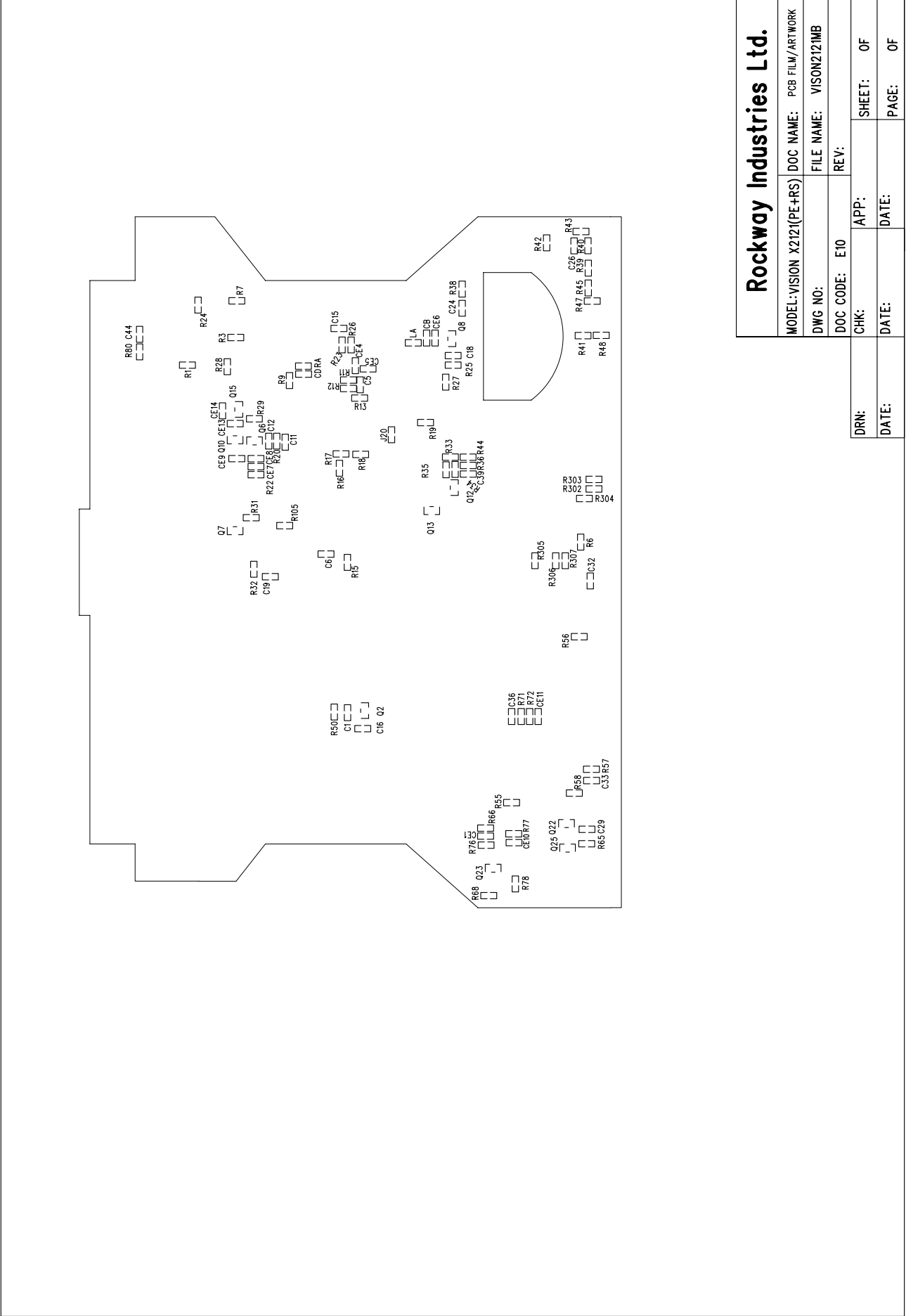
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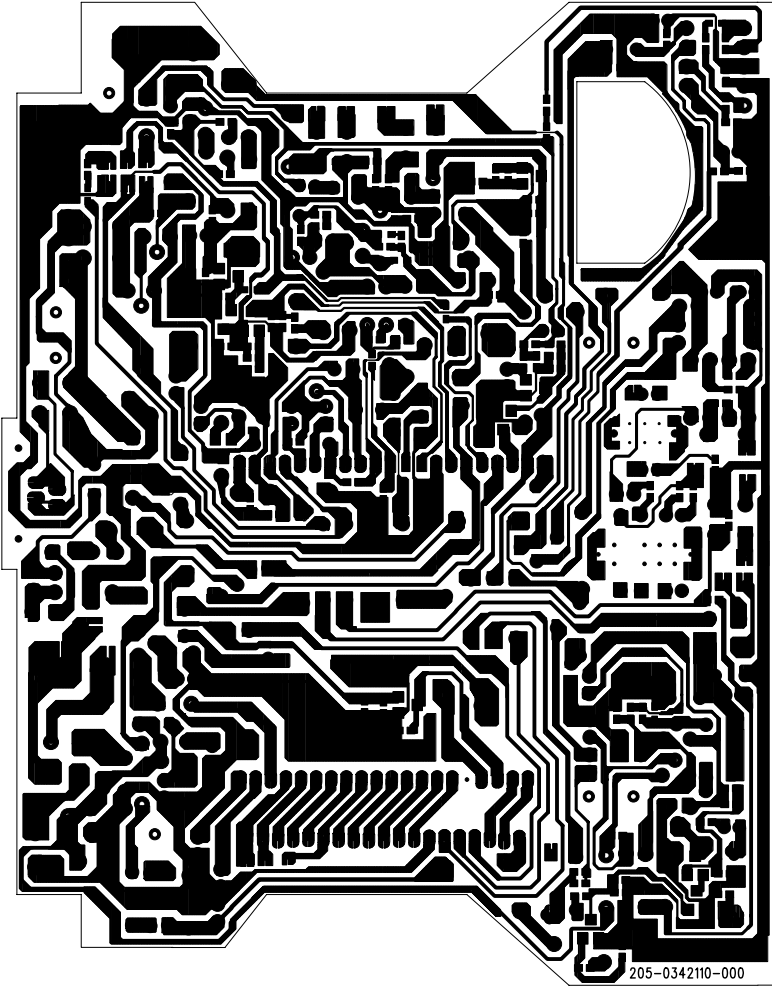
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DATE:	DATE:	PAGE: OF

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MODEL:VISION X212(PE+RS)	DOC NAME:	PCB FILM/ARTWORK
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DOC CODE: E10	REV:	A
CHK:	APP:	SHEET: 0F
DATE:	DATE:	PAGE: 0F

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## Critical Parts List :

### 1. Transistor

- MPSA92,E.B.C type, P/N: 227-0009209-000
- MPSA42,E.B.C type, P/N: 227-0004209-000
- BC846B-8AB(9014) type, P/N: 227-3084609-000

### 2. Zener Diode

- DIODE ZENER 22V 1/2W, P/N: 232-1022002-000
- DIODE ZENER 12V/1W, P/N: 232-1012003-000
- DIODE ZENER 27V 1/2W, P/N: 232-1027002-000

### 3. Ringer IC

- HP31002, P/N: 215-3100215-000

### 4. MIC

- Condenser Mic.,Sensitive: -64dB (H/F)  $\pm 2$ dB,P/N: 218-2000431-000
- Condenser Mic.,Sensitive: -64 $\pm 2$ dB, P/N: 218-1010631-000

### 5. Receiver

- Receiver (SD153B), 94 $\pm 2$ dB, P/N: 220-1025C02-000

### 6. Switch

- Hook Switch PS-22F-12G3,Force:(60g-80g) P/N: 225-0402043-000

### 7. Light Emitting Diode

- New Call LED Size: 3mm,Color:Red, P/N: 217-1158173-000
- In Use LED Size:3mm,Color:Green, P/N: 217-1134172-000

8. Buzzer

- Buzzer Piezo DIA Side:31mm, P/N: 203-0220235-000

9. Switch

- Ringer Switch (SAA-23D01-G2-7A), P/N: 225-0102085-000

10. Crystal

- CRYSTAL 32.768KHz, Size:3X8mm,P/N: 209-0032767-310

11. LCD Display

- LCD,56X20.2X2.6mm, P/N: 211-210882M-000

12. Varistor

- Varistor 270V,Size: ? 7mm, P/N: 224-2270221-000

13. Photo Coupler

- IC KP1010(CAMBRIDGE), P/N: 215-0101026-000

14. Speaker

- Paper Basin Speaker ? 50mm 0.5W 8OHM, P/N: 223-1421185-000

15. Inductor

- INDUCTOR 100uH  $\pm 5\%$  P/N: 233-2210230-000

16. MEMORY

- Memory IC ARAM 4X4 (EMC), P/N: 215-04MX404-000

# Rockway Industries Ltd

\*\*\*End\*\*\*