

**TOSHIBA**

FILE NO. 2B0-9901

SERVICE MANUAL

# CORDLESS TELEPHONE ***FT-8009***



PUBLISHED IN JAPAN, Aug., 1999

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## SAFETY PRECAUTIONS

Before returning any models to the customer, a safety check of the entire instrument should be made. The service technician must be sure that no protective device built into the instrument by the manufacture has become defective or inadvertently degraded during servicing.

### 1.WARNING:

Alterations of the design or circuitry of these models should not be made.

Any design changes or additions such as, but not limited to, circuit modifications, auxiliary speaker jacks, switches, grounding, active or passive circuitry, etc. may alter the safety characteristics of these models and potentially create a hazardous situation for the user.

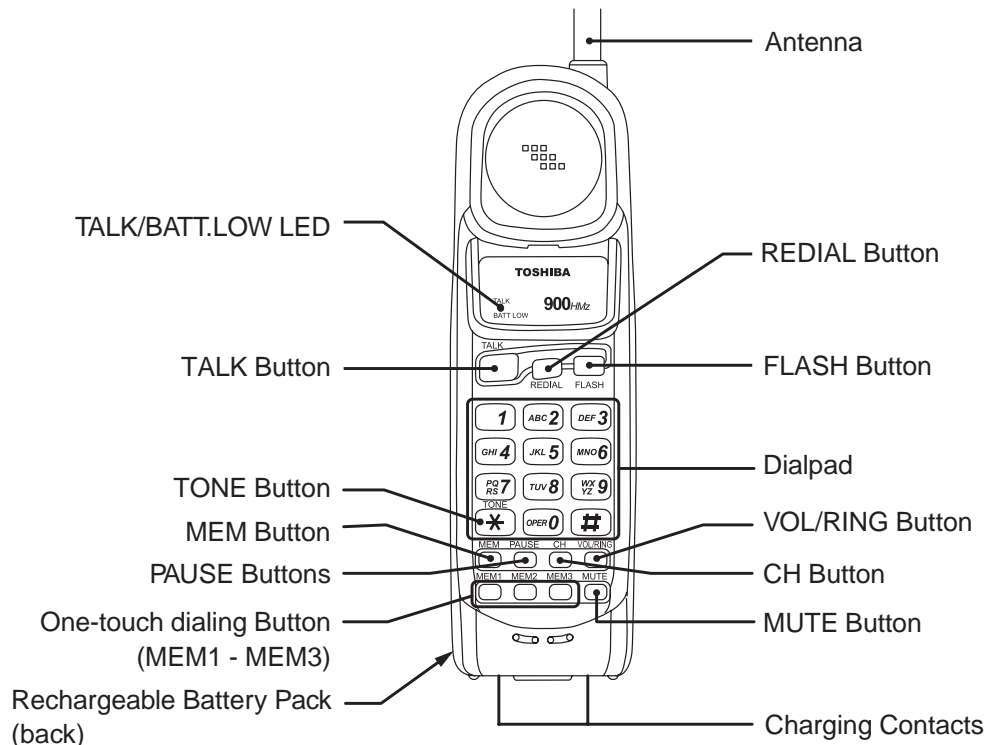
Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

### 2.PRODUCT SAFETY NOTICE

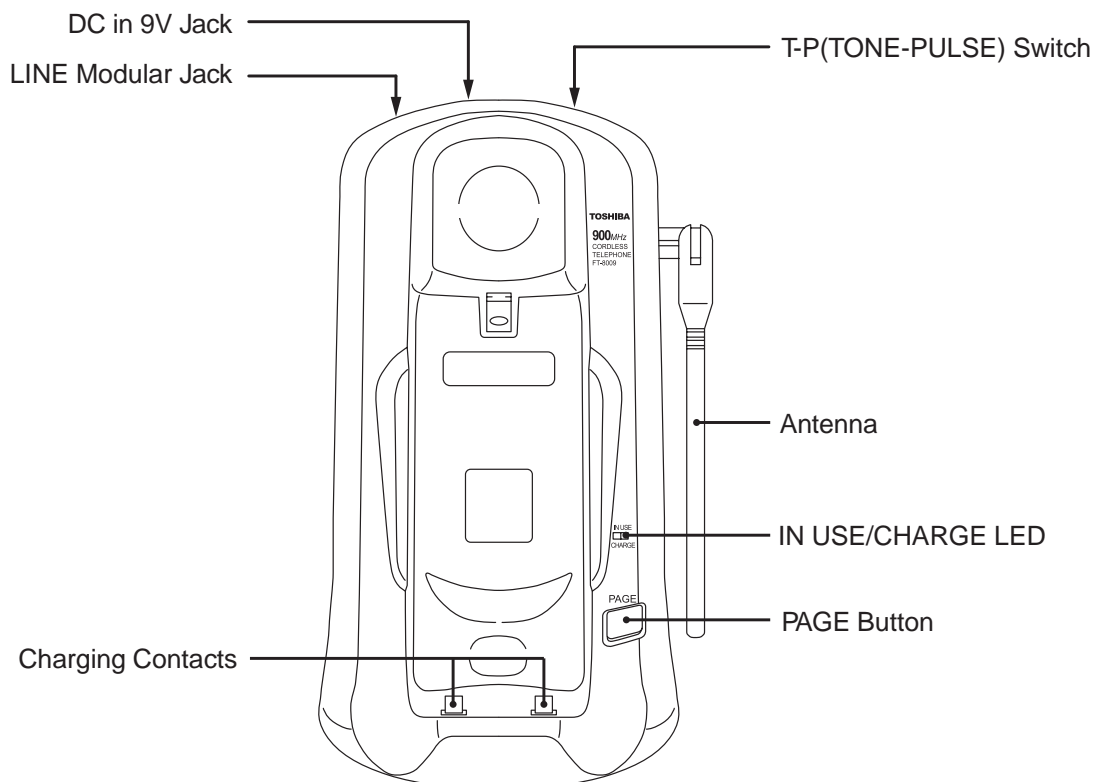
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by a ⚠ in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

# OPERATING CONTROLS

## HANDSET CONTROLS AND FUNCTIONS



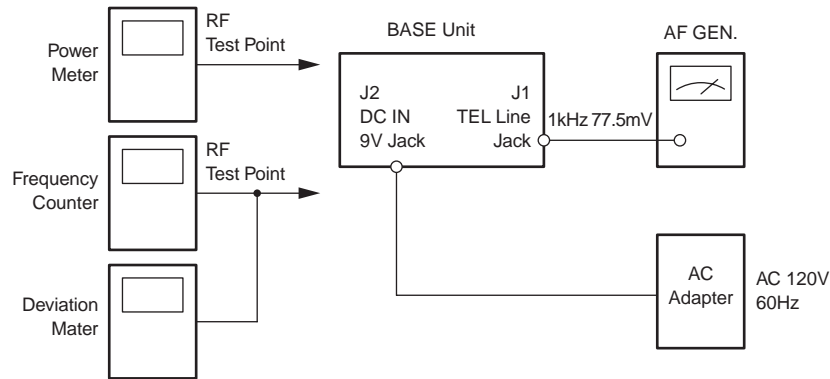
## BASE UNIT CONTROLS AND FUNCTIONS



# ALIGNMENT PROCEDURE

## Base Unit

### Transmitter Section Connections



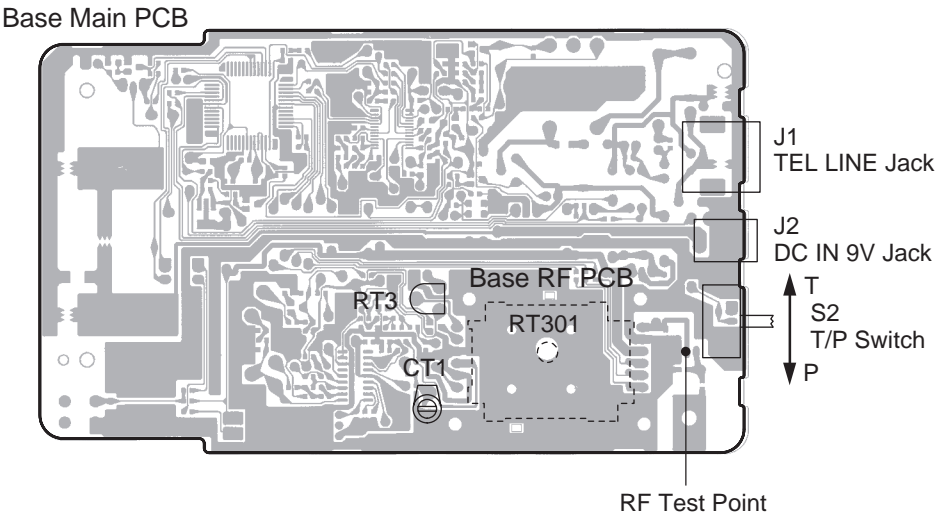
### Preset

- a) Connect the base RF unit to the base main unit.
- b) Set the “TONE / PULSE” switch to PULSE.
- c) Connect the AC adapter to the base unit while pressing the “PAGE” key, and keep pressing it continuously for approximate 2 seconds.
- d) Release the “PAGE” key when entering TEST mode 1 with IN USE LED lighting.

### Alignment Procedure

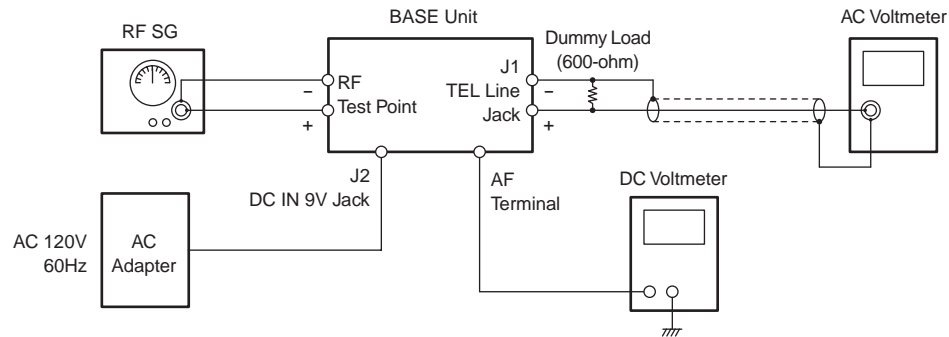
step	Adjustment	Remarks
1	RT301 (TX Power)	Connect the Power Meter to the RF test point on the Base MAIN PCB. Adjust RT301 for a -5.0dBm reading on the Power Meter.
2	CT1 (TX Frequency)	Connect the Frequency Counter to the RF test point on the Base MAIN PCB. Adjust CT1 to make sure that the frequency is 926.897468 MHz.
3	RT3 (TX Modulation)	Press the “PAGE” key to enter the TEST Mode 2. Connect the AF Generator to the TEL Line Jack on the Base Main PCB. Make sure that the output is 1 kHz 77.5 mV from the AF Generator. Connect the Deviation Meter to the RF test point on the Base MAIN PCB. Adjust RT3 to indicate $\pm 8$ kHz Dev.

### Alignment Point Location on Base Main PCB and Base RF PCB



# Receiver Section

## Connections



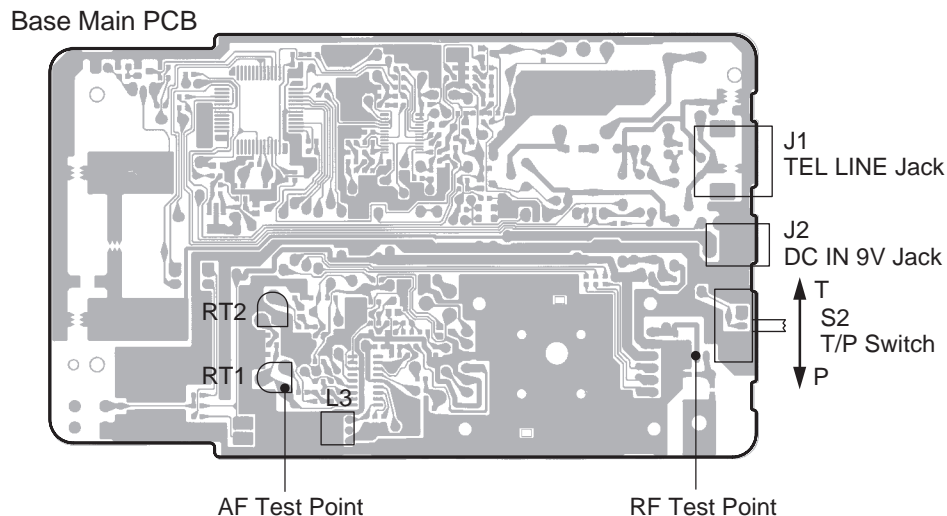
## Preset

- Connect the base RF unit to the base main unit.
- Set the "TONE/PULSE" switch to PULSE.
- Connect the AC adapter to the base unit while pressing the "PAGE" key, and keep pressing it continuously for approximate 2 seconds.
- Release the "PAGE" key when entering TEST mode 1 with IN USE LED lighting.

## Alignment Procedure

step	Preset to	Adjustment	Remarks
1	SG: 1mV No modulation	L3 (Discriminator Voltage)	Press the "PAGE" key for 3 times to enter the TEST Mode 4. Connect the RF Signal Generator to the RF test point on the Base MAIN PCB. Make sure that the frequency is 902.952467 MHz. Connect the DC Voltmeter to the AF test point. Adjust L3 to indicate DC 1.00 V.
2	SG: 1mV 1 kHz $\pm$ 8kHz deviation	RT2 (RX AF Voltage)	Connect the AC Voltmeter across a 600-ohm dummy to the Telephone Line Jack. Adjust RT2 for a 220 mV reading on the AC voltmeter.
3	SG: -6.0 dB $\mu$ V 1kHz $\pm$ 8kHz Deviation	RT1 (SQ Point)	Press the "PAGE" key to enter the TEST Mode 5. Make sure that the frequency of RF SG output is 902.952467 MHz. Adjust RT1 to turn to the point where the CHG LED just turns on.

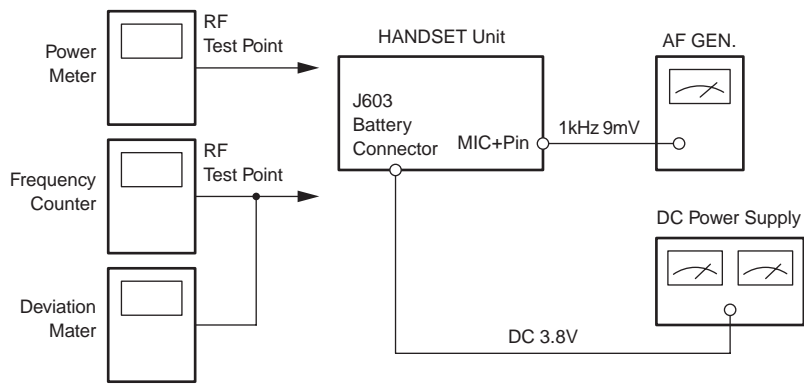
## Alignment Point Location on Base Main PCB and Base RF PCB



# Handset Unit

## Transmitter Section

### Connection



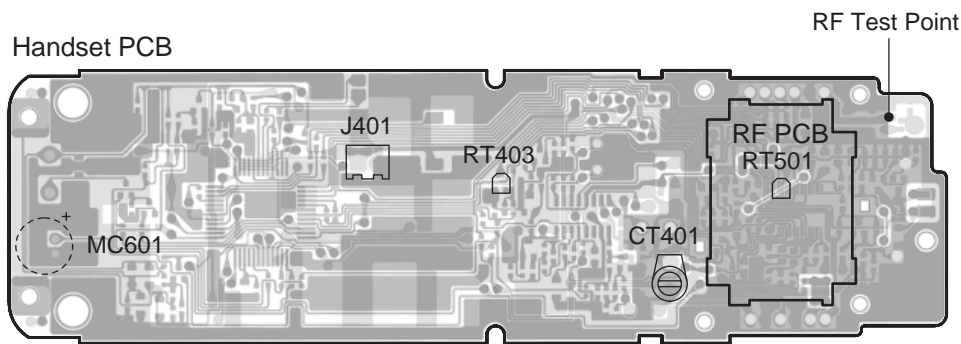
### Preset

- a) Connect the handset RF unit to the handset main unit.
- b) Connect DC power supply to battery connector on the handset unit.
- c) Turn the DC power supply On while pressing " \* " and " # " keys, and keep pressing the keys continuously for approximate 2 seconds.
- d) Release keys when entering TEST mode 1 with TALK LED lighting and beep.

### Alignment Procedure

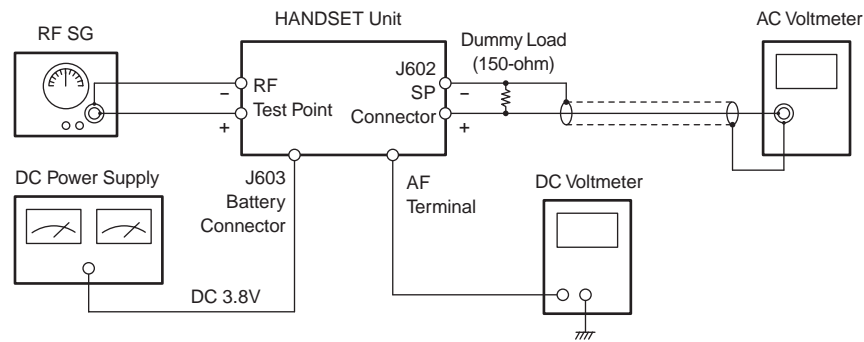
step	Adjustment	Remarks
1	RT501 (TX Power)	Connect the RF power Meter to the RF test point on the handset MAIN PCB. Adjust RT501 for a -7.5dBm reading on the Power Meter.
2	CT401 (TX Frequency)	Connect the Frequency Counter to the RF test point on the handset MAIN PCB. Adjust CT401 to make sure that the frequency is 903.052467 MHz.
3	RT403 (TX Modulation)	Press the "2" key to enter the TEST Mode 2. Connect the AF Generator to the MIC Connector. Make sure that the output is 1kHz 9mV from the AF Generator. Connect the Deviation Meter to the RF test point on the handset MAIN PCB. Adjust RT403 to indicate $\pm 8$ kHz Dev.

### Alignment Point Location on Handset Main PCB and Handset RF PCB



## Receiver Section

### Connections



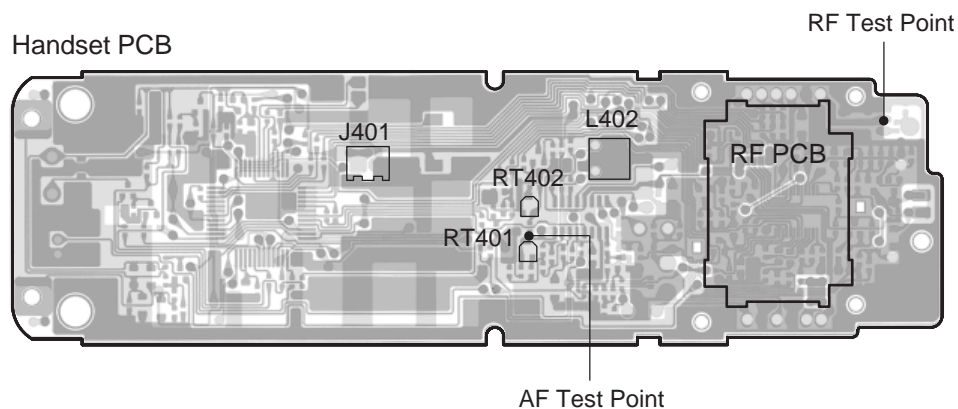
### Preset

- Connect the handset RF unit to the handset main unit.
- Connect DC power supply to battery connector on the handset unit.
- Turn the DC power supply ON while pressing “\*” and “#” keys, and keep pressing the keys continuously for approximate 2 seconds.
- Release keys when entering TEST mode 1 with TALK LED lighting and beep.

### Alignment Procedure

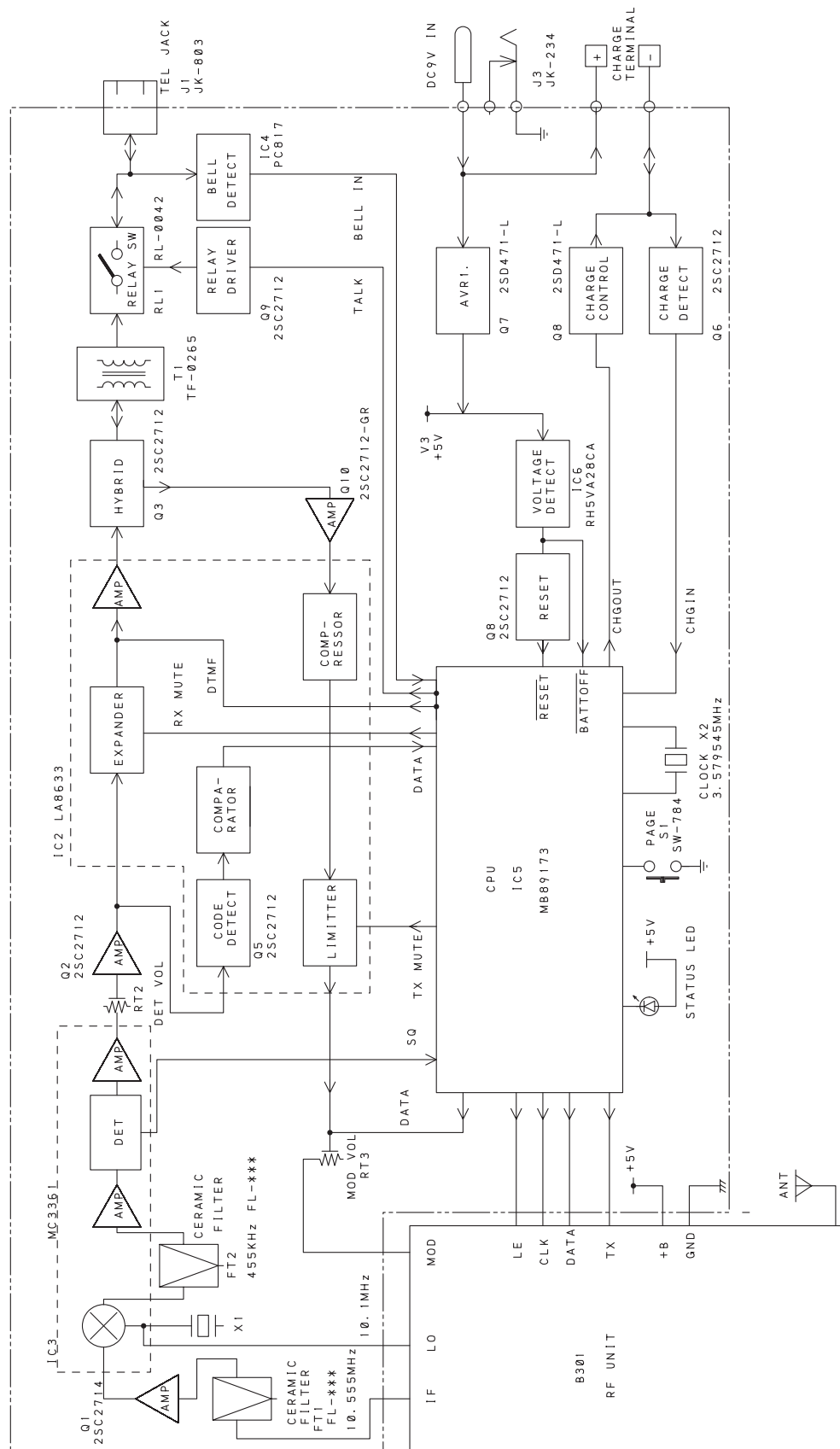
step	Preset to	Adjustment	Remarks
1	SG: 1mV No modulation	L402 (Discriminator Voltage)	Press the “4” key to enter the TEST Mode 4. Connect the RF Singal Generator to the RF test point on the handset MAIN PCB. Make sure that the frequency is 926.997467 MHz. Connect the DC Voltmeter to the AF test point. Adjust L402 to indicate DC 1.00 V.
2	SG: 1mV 1 kHz $\pm$ 8kHz deviation	RT402 (RX AF Voltage)	Connect the RF Signal Generator to the RF test point on the handset MAIN PCB. Make sure that the frequency is 926.997467 MHz. Connect the AC Voltmeter across a 150-ohm dummy to the SP Connector. Adjust RT402 for a 102 mV reading on the AC Voltmeter.
3	SG: -6.0 dB $\mu$ V 1kHz $\pm$ 8kHz Deviation	RT401 (SQ Point)	Press the “5” key to enter the TEST Mode 5. Make sure that the frequency of RF SG output is 926.997467 MHz. Adjust RT401 to turn to the point where the indication is just vibrated.

### Alignment Point Location on Handset Main PCB and Handset RF PCB



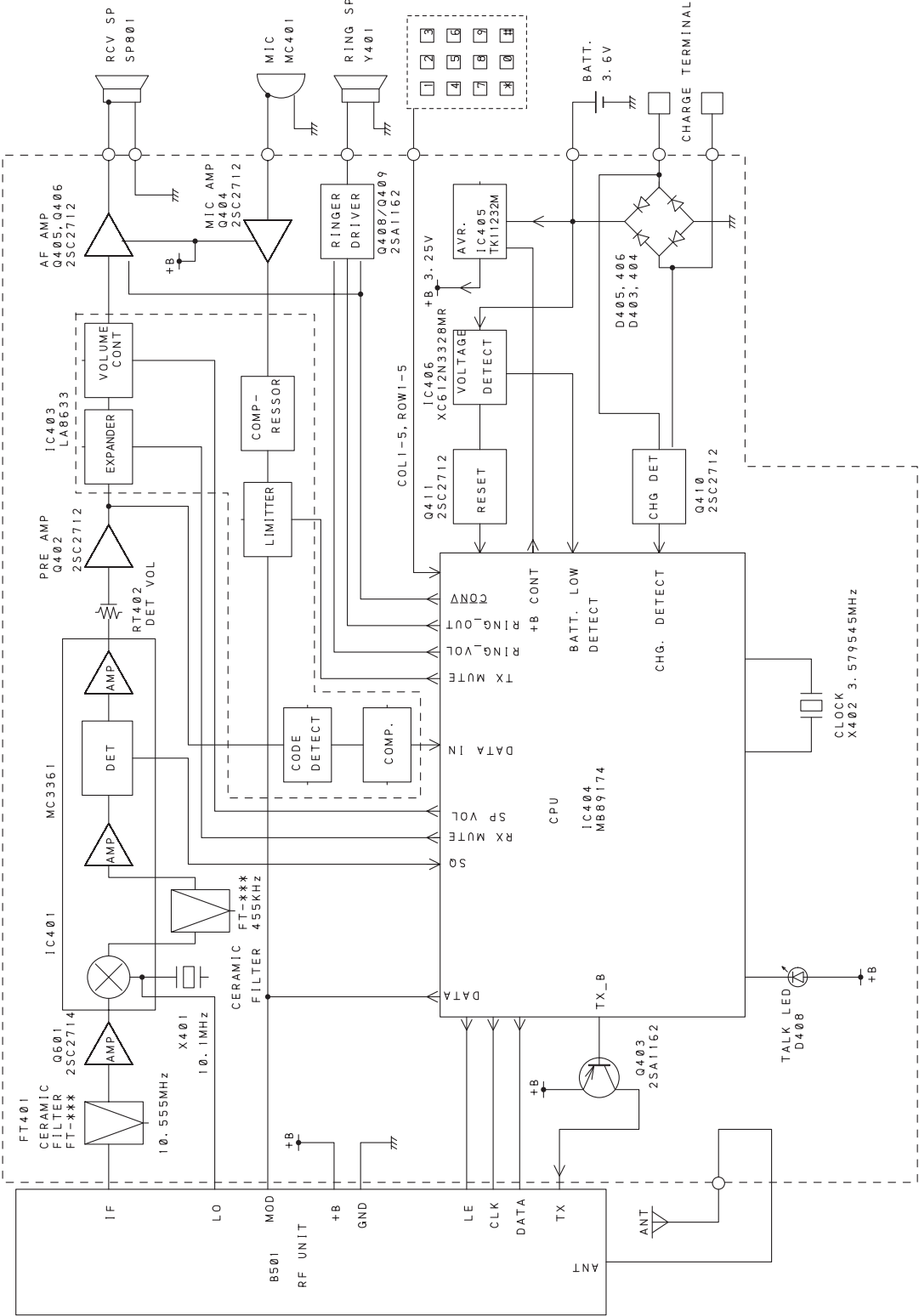
# BLOCK DIAGRAMS

## Base Unit



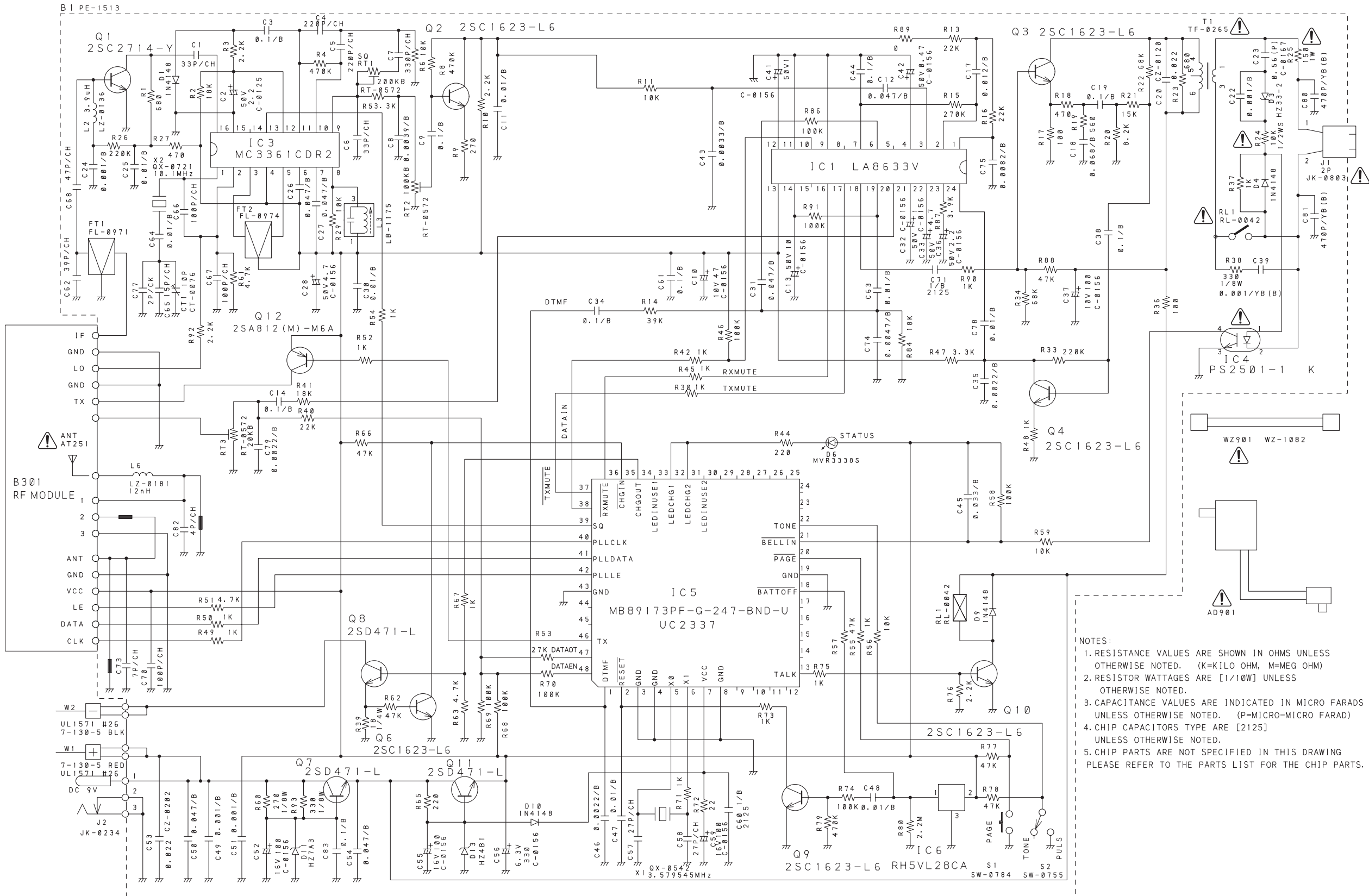


Handset



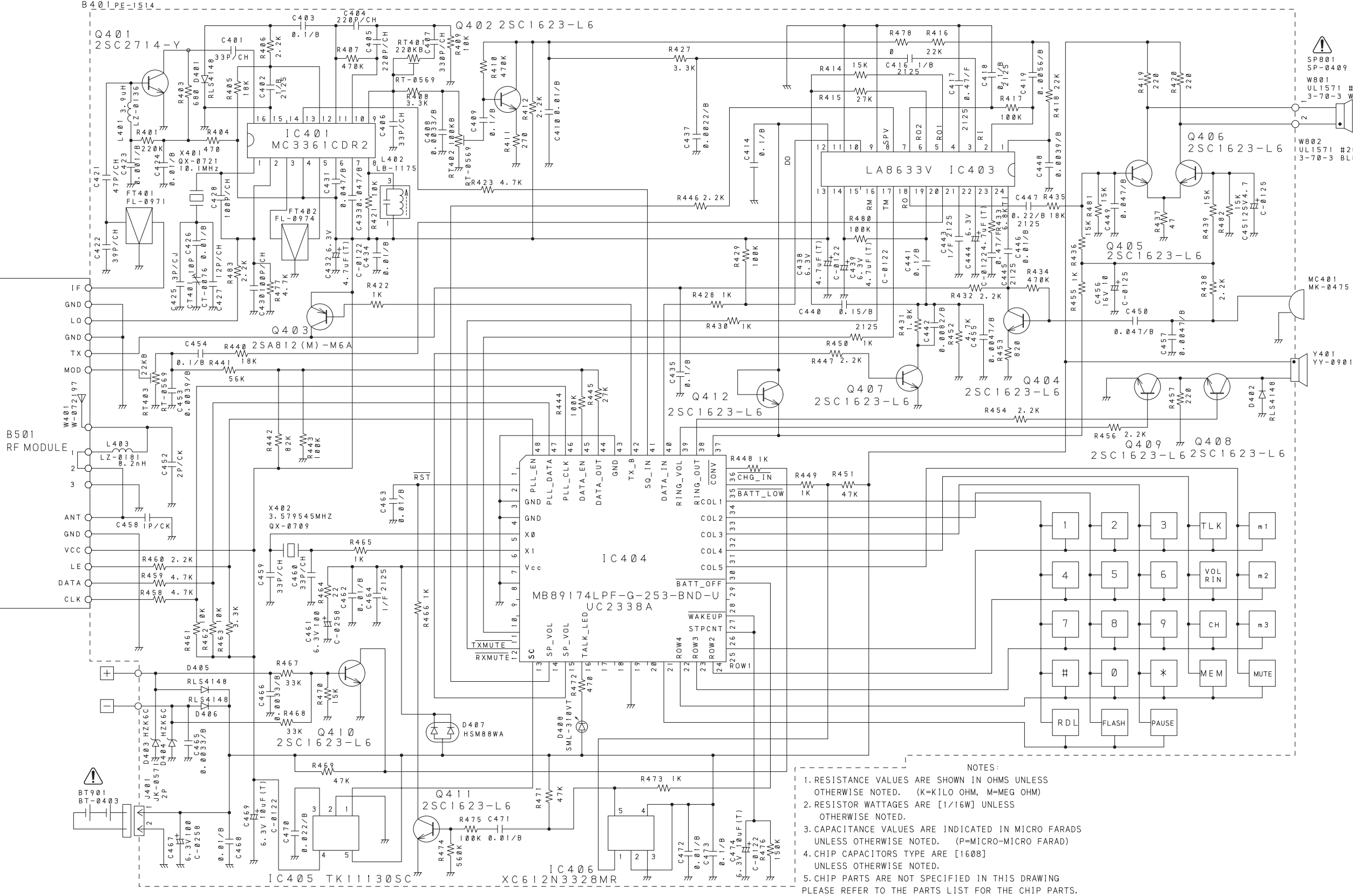
# SCHEMATIC DIAGRAMS

## Base Unit



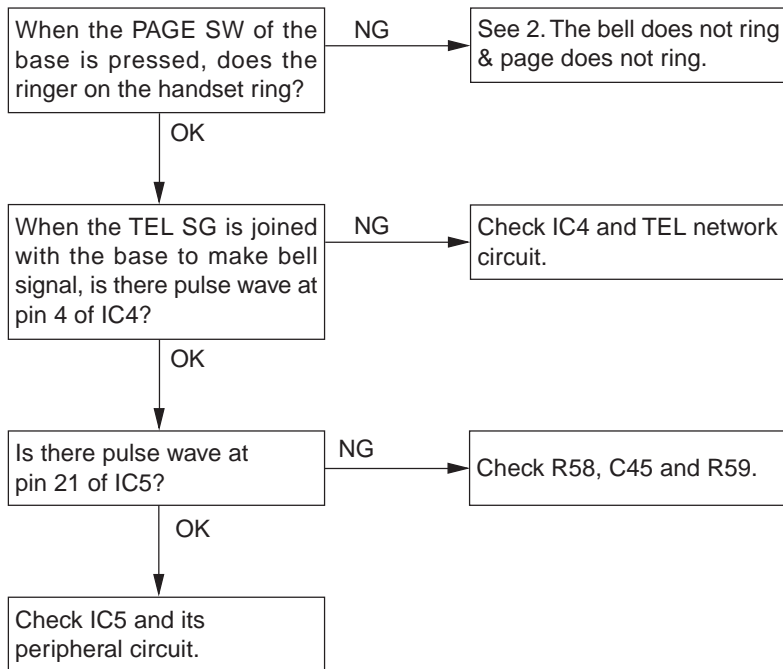
- NOTES:
1. RESISTANCE VALUES ARE SHOWN IN OHMS UNLESS OTHERWISE NOTED. (K=KILO OHM, M=MEG OHM)
  2. RESISTOR WATTAGES ARE [1/10W] UNLESS OTHERWISE NOTED.
  3. CAPACITANCE VALUES ARE INDICATED IN MICRO FARADS UNLESS OTHERWISE NOTED. (P=MICRO-MICRO FARAD)
  4. CHIP CAPACITORS TYPE ARE [2125] UNLESS OTHERWISE NOTED.
  5. CHIP PARTS ARE NOT SPECIFIED IN THIS DRAWING PLEASE REFER TO THE PARTS LIST FOR THE CHIP PARTS.

Handset

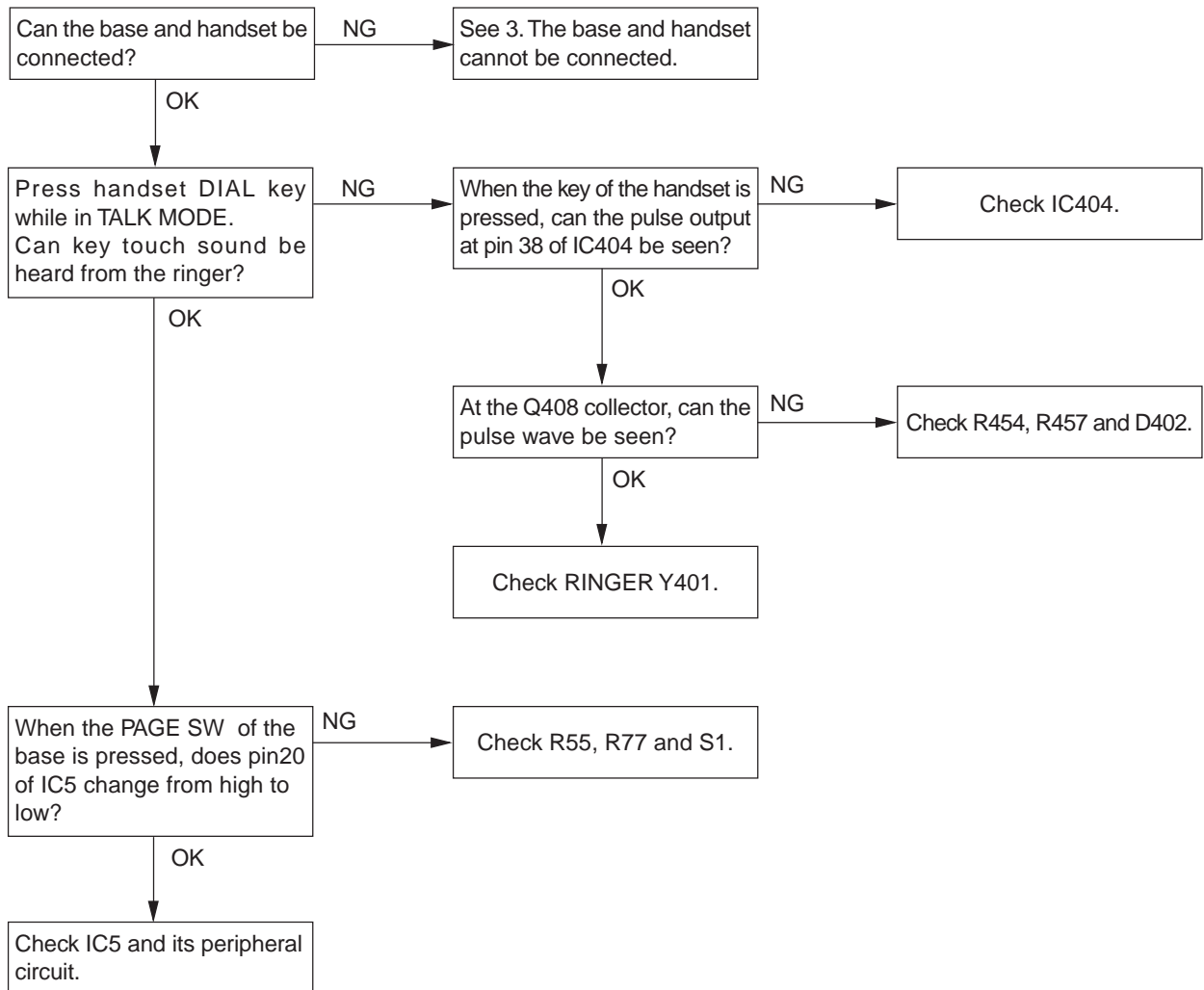


# TROUBLESHOOTING HINTS

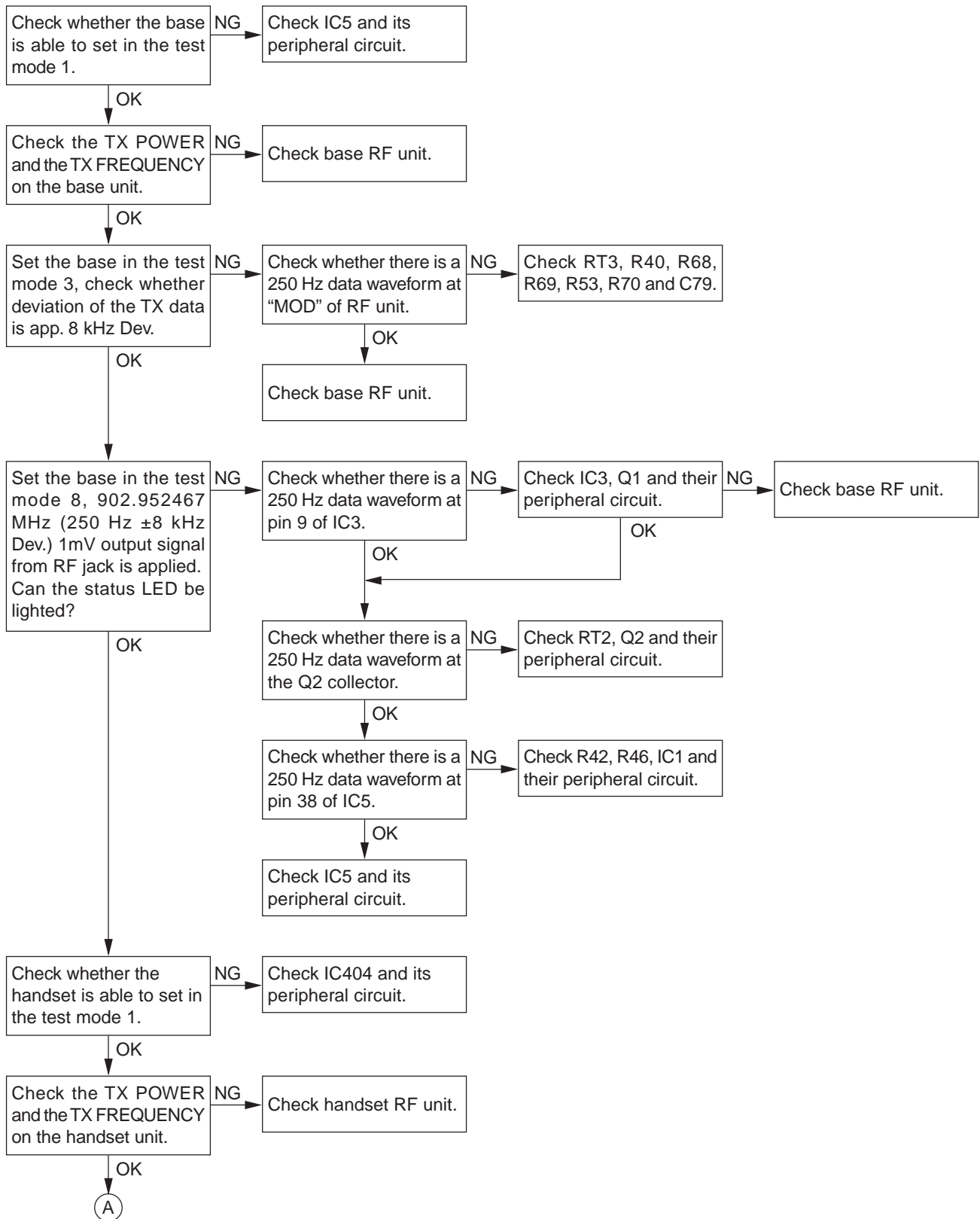
## 1. The bell does not ring.

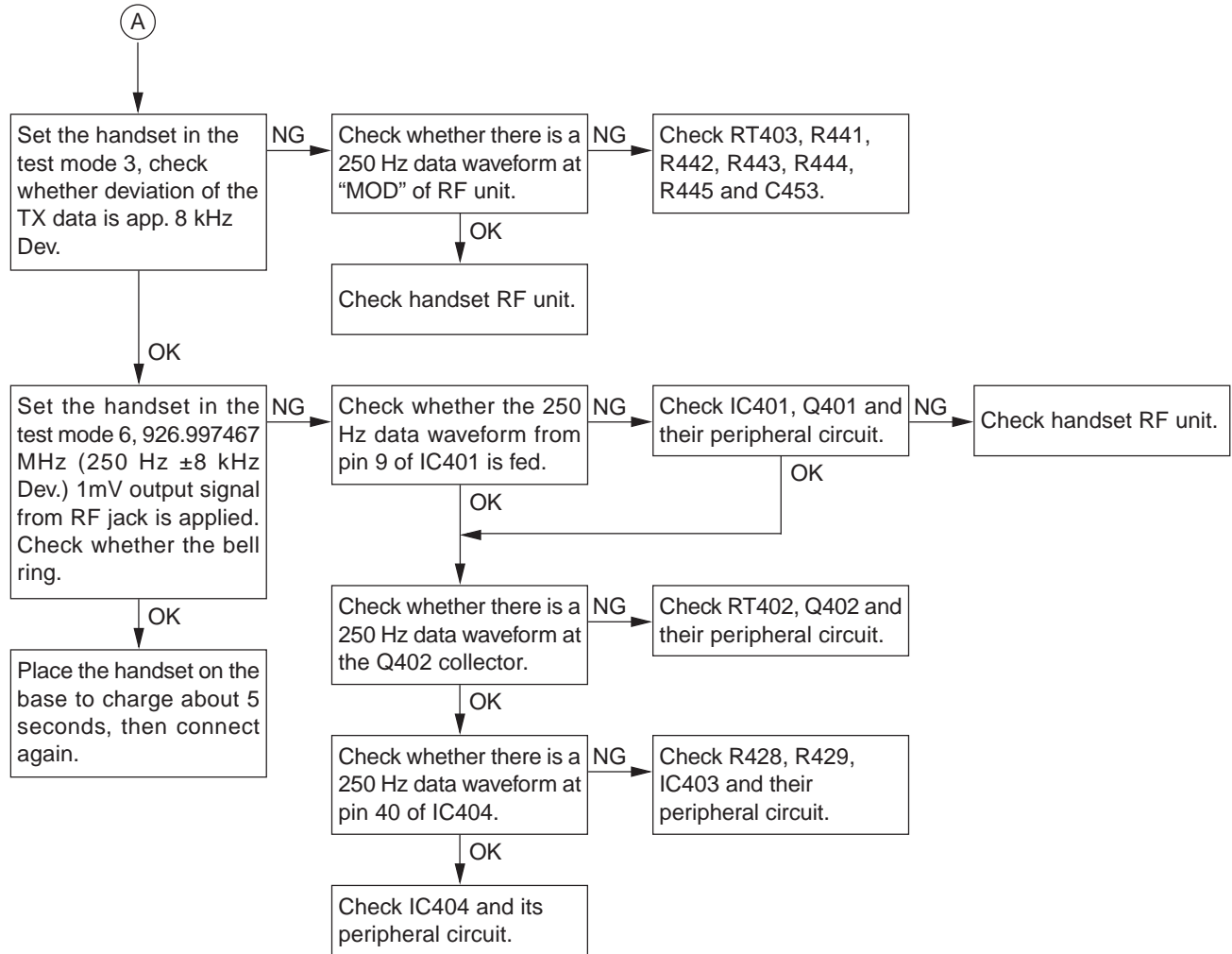


## 2. The bell does not ring & page does not ring.

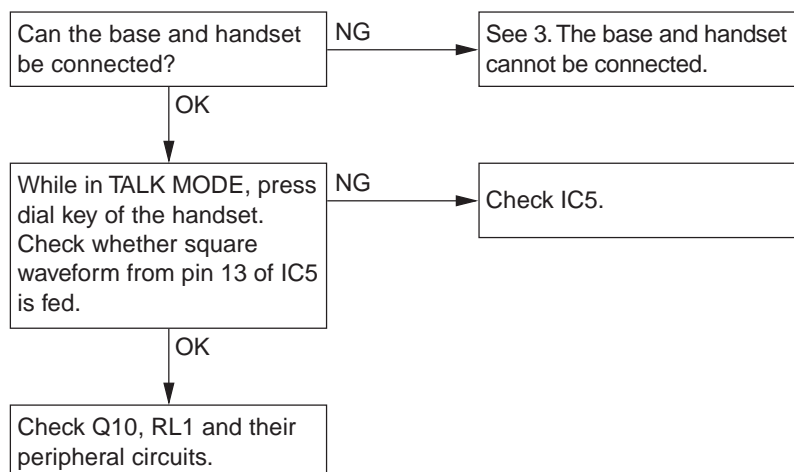


### 3. The base and handset cannot be connected.

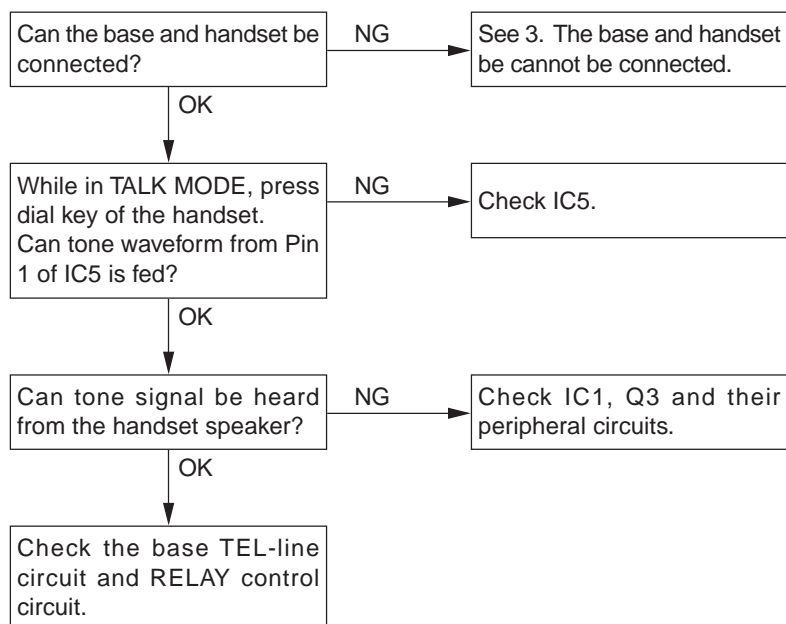




#### 4. Cannot make a phone call (pulse).

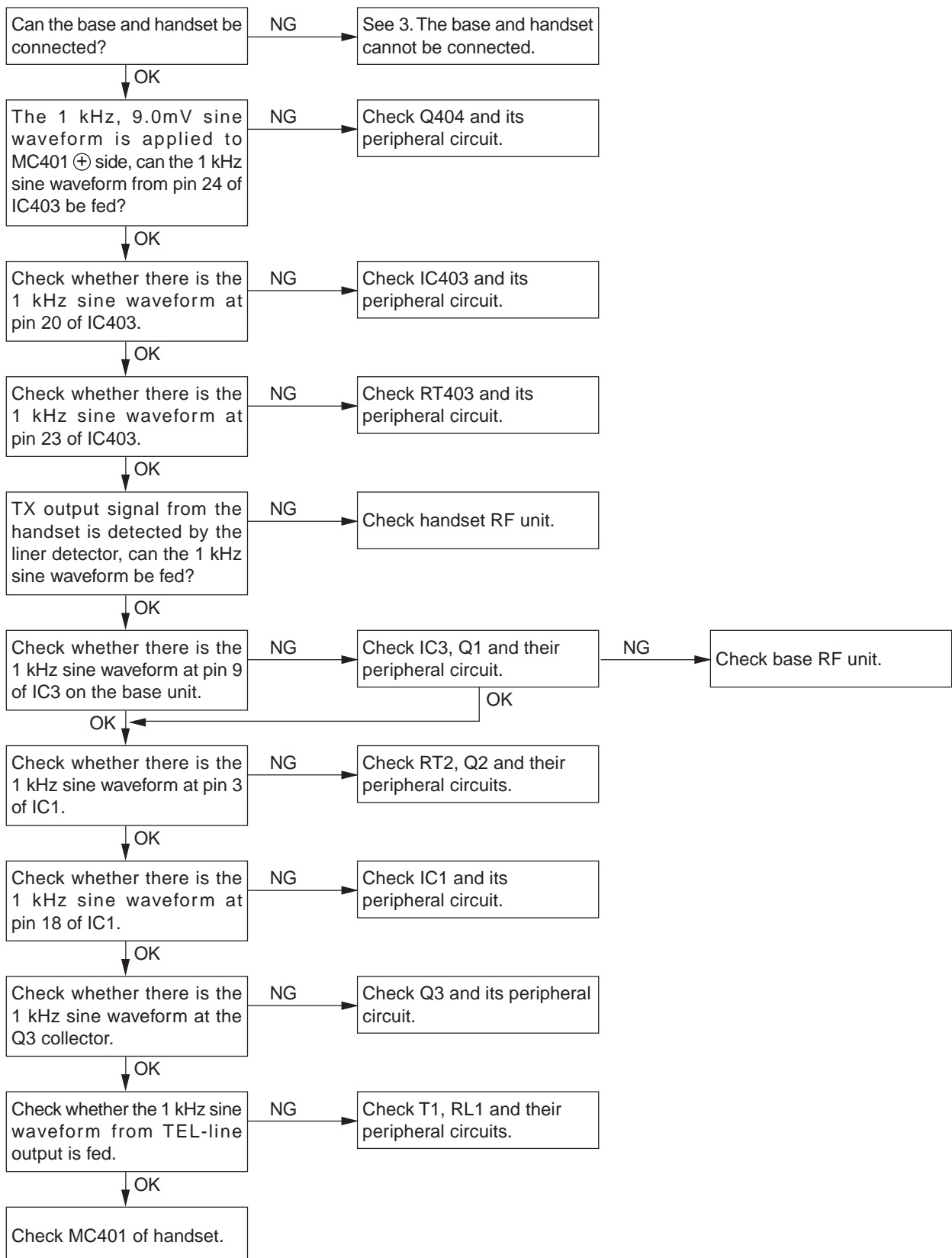


#### 5. Cannot make a phone call (tone).

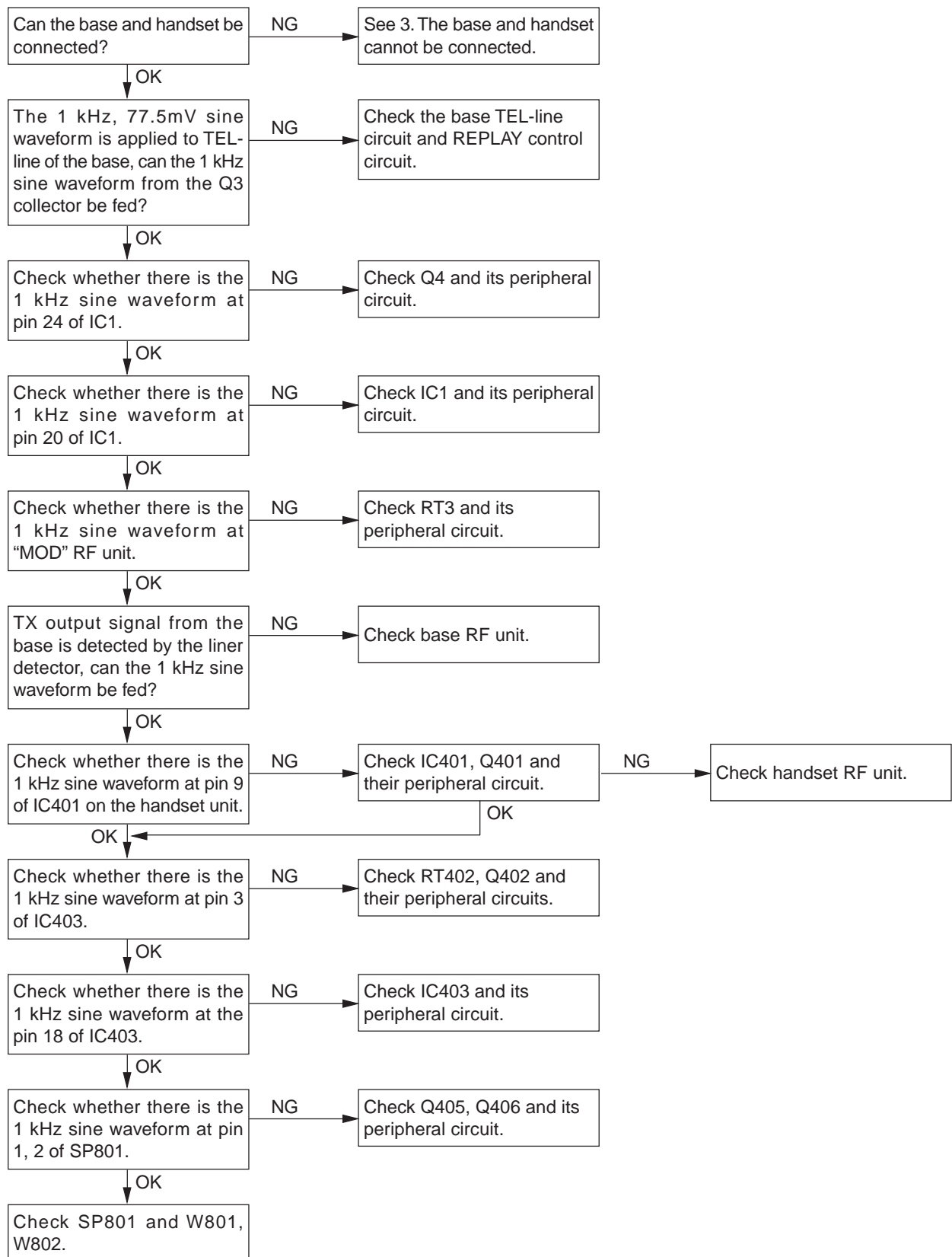




## 6. Voice cannot be transmitted to other party (outgoing call).



## 7. The voice of the caller cannot be heard (incoming call).



# IC AND TRANSISTOR VOLTAGE CHART

## Base Unit

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC1	1	2.0	2.0	
	2	2.0	2.0	
	3	1.7	1.6	
	4	0.7	0.6	
	5	1.7	1.6	OPEN
	6	1.7	1.6	
	7	2.0	1.9	
	8	3.2	3.1	OPEN
	9	0.0	0.0	GND
	10	0-3.2	0-3.2	
	11	0.0	0.0	GND
	12	1.7	1.6	
	13	3.3	3.2	
	14	1.7	1.6	
	15	1.7	1.6	OPEN
	16	0.0	3.1	
	17	0.0	3.1	
	18	1.7	1.6	
	19	1.7	1.6	
	20	1.7	1.6	
	21	0.6	0.7	
	22	1.7	1.6	
	23	1.7	1.6	
	24	1.7	1.6	
IC3	1	3.2	3.1	
	2	2.8	2.7	
	3	2.7	2.7	
	4	3.3	3.2	
	5	2.8	2.7	
	6	2.8	2.7	
	7	2.8	2.7	
	8	3.3	3.2	
	9	1.0	1.0	
	10	0.6	0.6	
	11	0.7	0.7	
	12	0.6	0.8	
	13	1.8	0.0	
	14	0.0	0.0	OPEN
	15	0.0	0.0	GND
	16	3.3	3.2	
IC4	1	0.0	0.0	
	2	0.0	0.0	
	3	0.0	0.0	GND
	4	3.2	3.1	

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC5	1	0.0	0.0	
	2	3.2	3.1	
	3	0.0	0.0	GND
	4	0.0	0.0	GND
	5	1.2(AC)	1.2(AC)	
	6	1.8(AC)	1.8(AC)	
	7	3.3	3.1	
	8	0.0	0.0	GND
	9	0.0	0.0	OPEN
	10	0.0	0.0	OPEN
	11	0.0	0.0	OPEN
	12	0.0	0.0	OPEN
	13	0.0	2.8	
	14	0.0	0.0	OPEN
	15	0.0	0.0	OPEN
	16	0.0	0.0	OPEN
	17	0.0	0.0	OPEN
	18	3.4	3.4	
	19	0.0	0.0	GND
	20	3.4	3.1	
	21	3.4	3.1	
	22	3.3	3.2	
	23	0.0	0.0	OPEN
	24	0.0	0.0	OPEN
	25	0.0	0.0	OPEN
	26	0.0	0.0	OPEN
	27	0.0	0.0	OPEN
	28	0.0	0.0	OPEN
	29	0.0	0.0	OPEN
	30	0.0	0.0	OPEN
	31	2.2	0.2	
	32	2.2	0.2	
	33	0.0	0.0	OPEN
	34	2.9	2.8	
	35	3.4	3.1	
	36	3.4	3.1	
	37	0.0	3.4	
	38	0-3.2	0-3.2	
	39	3.2	0.0	
	40	0-3.2	0.0	
	41	0-3.2	3.1	
	42	0-3.2	3.1	
	43	0.0	0.0	GND
	44	0.0	0.0	OPEN

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC5	45	0.0	0.0	OPEN
	46	3.0	0.2	
	47	0.6	0.6	
	48	0.0	0.0	
IC6	1	3.4	3.1	
	2	3.4	3.1	
	3	0.0	0.0	GND
Q1	E	0.0	0.0	GND
	C	1.7	1.6	
	B	0.7	0.7	
Q2	E	0.2	0.1	
	C	2.0	2.0	
	B	0.8	0.8	
Q3	E	1.1	1.1	
	C	4.8	4.8	
	B	1.7	1.7	
Q4	E	0.5	0.5	
	C	1.6	1.6	
	B	1.1	1.1	
Q6	E	0.0	0.0	GND
	C	3.3	3.1	
	B	0.0	0.0	
Q7	E	6.1	6.1	
	C	9.0	9.0	
	B	6.8	6.8	
Q8	E	0.0	0.0	
	C	0.0	0.0	
	B	0.7	0.7	
Q9	E	0.0	0.0	GND
	C	3.2	3.1	
	B	0.0	0.0	
Q10	E	0.0	0.0	GND
	C	6.2	0.0	
	B	0.0	0.7	
Q11	E	3.3	3.2	
	C	6.1	6.1	
	B	4.0	3.8	
Q12	E	3.3	3.2	
	C	0.0	3.1	
	B	2.7	2.4	

# Handset

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC401	1	0.0	2.9	
	2	0.0	2.5	
	3	0.0	2.5	
	4	0.0	3.0	
	5	0.0	2.6	
	6	0.0	2.6	
	7	0.0	2.6	
	8	0.0	3.0	
	9	0.0	0.9	
	10	0.0	0.6	
	11	0.0	0.7	
	12	0.0	0.8	
	13	0.0	0.0	
	14	0.0	0.0	OPEN
	15	0.0	0.0	GND
	16	0.0	3.0	
IC403	1	0-2.0	1.9	
	2	0-2.0	1.9	
	3	0-1.5	1.5	
	4	0-0.4	0.6	
	5	0-0.4	1.5	
	6	0-0.4	1.5	
	7	0-1.8	1.8	
	8	0.0	3.4	
	9	0.0	0.0	GND
	10	0-3.0	1.6	
	11	0.0	0.0	GND
	12	0-1.0	1.5	
	13	0-3.0	3.0	
	14	0.0	1.5	
	15	0.0	1.5	OPEN
	16	0.0	3.4	
	17	0.0	3.4	
	18	0.0	1.5	
	19	0.0	1.5	
	20	0.0	1.5	
	21	0-0.3	0.6	
	22	0.0	1.5	
	23	0.0	1.5	
	24	0.0	1.5	
IC404	1	0.0	0.0	OPEN
	2	3.5	3.4	
	3	0.0	0.0	GND
	4	0.0	0.0	GND

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC404	5	0.0	2.0(AC)	
	6	0-3.5	2.0(AC)	
	7	3.5	3.4	
	8	0.0	0.0	GND
	9	0.0	0.0	OPEN
	10	0.0	0.0	OPEN
	11	0.0	3.4	
	12	0.0	3.4	
	13	0.0	3.4	
	14	0.0	3.4	
	15	0.0	0.0	
	16	3.5	0-0.3	
	17	0.0	0.0	OPEN
	18	0.0	0.0	OPEN
	19	0.0	0.0	GND
	20	0.0	0.0	OPEN
	21	0.0	0.0	
	22	0.0	0.0	
	23	0.0	0.0	
	24	0.0	0.0	
	25	0.0	0.0	
	26	1.0-3.0	3.4	
	27	1.0-3.0	3.4	
	28	0	0	OPEN
	29	3.8	3.8	
	30	3.5	3.4	
	31	3.5	3.4	
	32	3.5	3.4	
	33	3.5	3.4	
	34	3.5	3.4	
	35	3.8	3.8	
	36	3.8	3.8	
	37	0.0	3.3	
	38	0.0	0.0	
	39	0.0	0.0	
	40	0-3.0	0-3.0	
	41	0	0.0	
	42	0-2.4	0.2	
	43	0.0	0.0	GND
	44	0-0.8	0.8	
	45	0.0	0.0	
	46	0-3.0	0.0	
	47	0-3.0	3.0	
	48	0-3.0	3.0	

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC405	1	0.0	3.4	
	2	0.0	0.0	GND
	3	0-1.2	1.2	
	4	0-3.0	3.0	
	5	3.8	3.8	
IC406	1	3.8	3.8	
	2	3.8	3.8	
	3	0.0	0.0	GND
	4	3.8	3.8	
	5	3.8	3.8	
Q401	E	0.0	0.0	GND
	C	0-2.0	1.7	
	B	0-0.8	0.7	
Q402	E	0.0	0.0	
	C	0-2.0	1.9	
	B	0-0.8	0.7	
Q403	E	0-3.0	3.0	
	C	0.0	2.9	
	B	0-2.4	2.2	
Q404	E	0.0	0.4	
	C	0.0	1.9	
	B	0.0	1.0	
Q405	E	0.0	0.5	
	C	3.8	2.6	
	B	0.0	1.2	
Q406	E	0.0	0.5	
	C	3.8	2.5	
	B	0.0	1.2	
Q407	E	0.0	0.0	GND
	C	0.0	0.0	
	B	0.0	0.0	
Q408	E	0.0	0.0	
	C	3.8	3.8	
	B	0.0	0.0	
Q409	E	0.0	0.0	GND
	C	0.0	0.0	
	B	0.0	0.0	
Q410	E	0.0	0.0	GND
	C	3.8	3.8	
	B	0.0	0.0	
Q411	E	0.0	0.0	GND
	C	3.5	3.4	
	B	0.0	0.0	

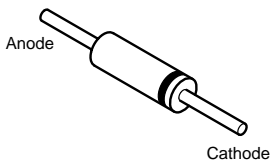
Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
Q412	E	0.0	3.3	
	C	0-0.5	1.5	
	B	0-0.5	1.5	

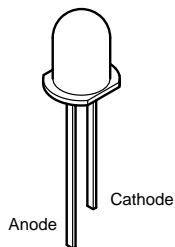
# SEMICONDUCTOR LEAD IDENTIFICATION

## Base Unit

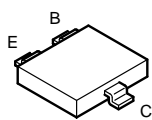
D1 /D4 / D9 / D10 : 1N4148  
D3 : HZ33-2  
D11 : HZ7A3  
D13 : HZ4B1



D6 : MVR3338ST

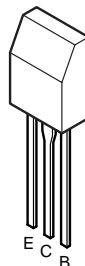


Q1 : 2SC2714  
Q2 / Q3 / Q4 / Q6 / Q9 / Q10 : 2SC1623  
Q12 : 2SA812(M)

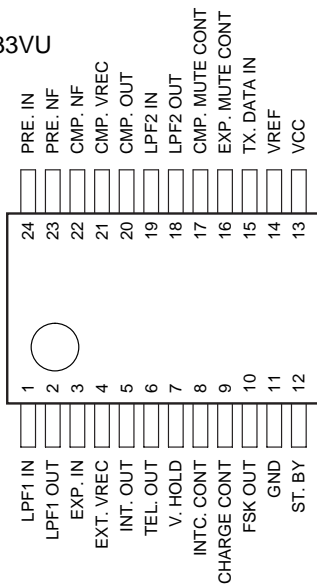


B : Base  
E : Emitter  
C : Collector

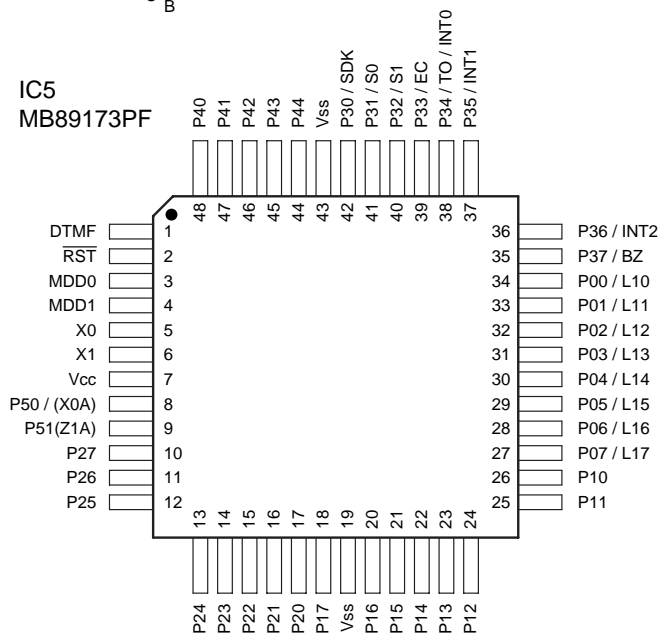
Q7 / Q8 / Q11 : 2SD471



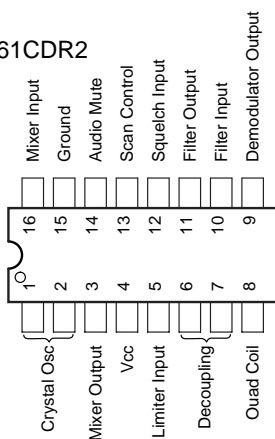
IC1  
LA8633VU



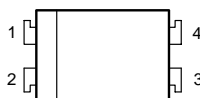
IC5  
MB89173PF



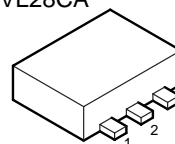
IC3  
MC3361CDR2



IC4  
PS2501



IC6  
PH5VL28CA

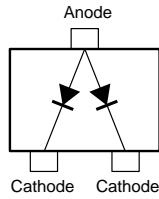


# Handset

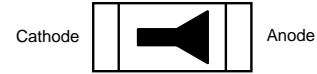
D401 / D402 / D405 / D406 : RLS4148  
D403 / D404 : HZK6C



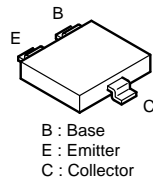
D407 : HSM88WA



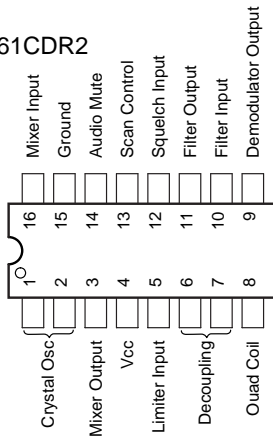
D408 : SML-310LT



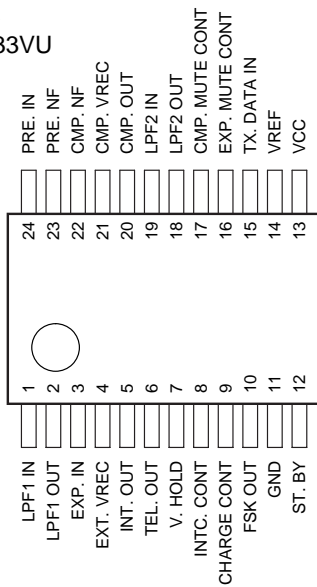
Q401 : 2SC2714  
Q402 / Q404 / Q405 / Q406 / Q407  
/ Q408 / Q409 / Q410 / Q411 / Q412 : 2SC1623  
Q403 : 2SA812(M)



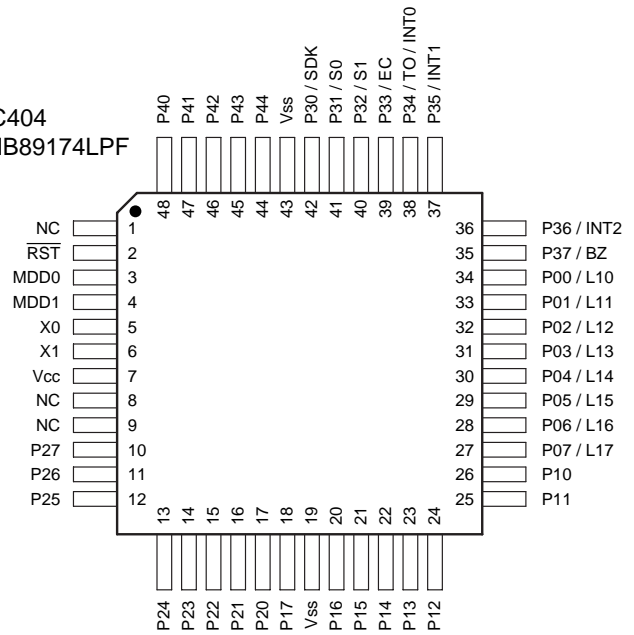
IC401  
MC3361CDR2



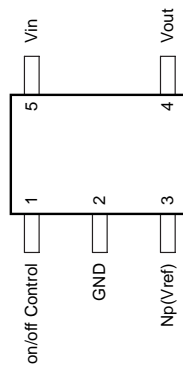
IC403  
LA8633VU



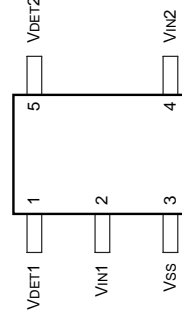
IC404  
MB89174LPF



IC405  
TK11130SCL

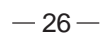


IC406  
XC612N3328MR

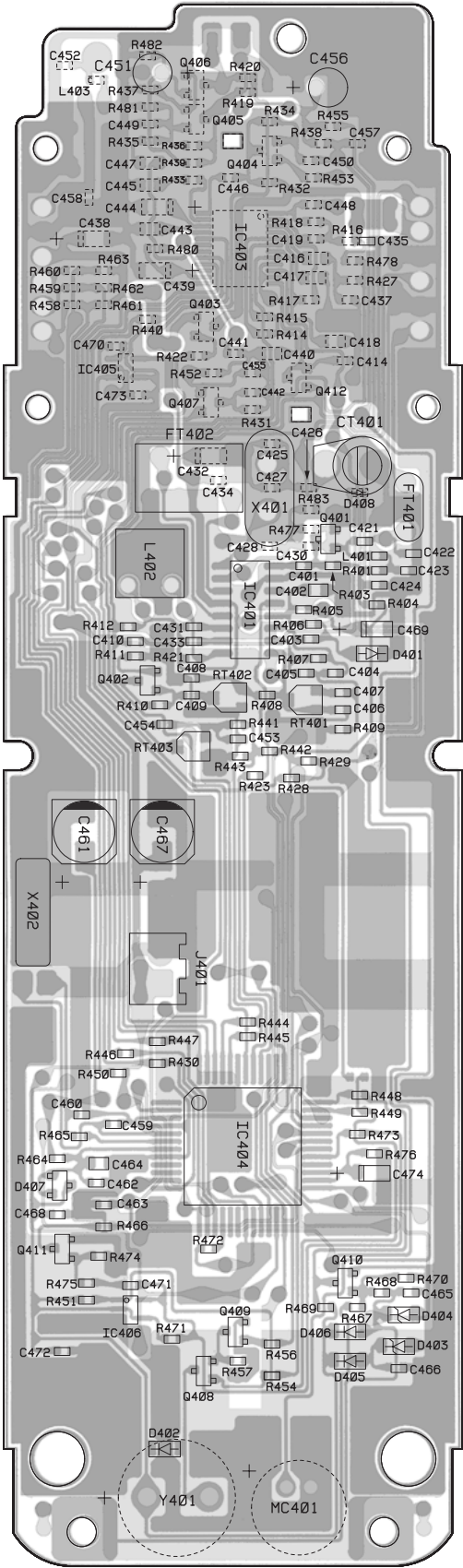




**Base Unit**  
**Main PCB**

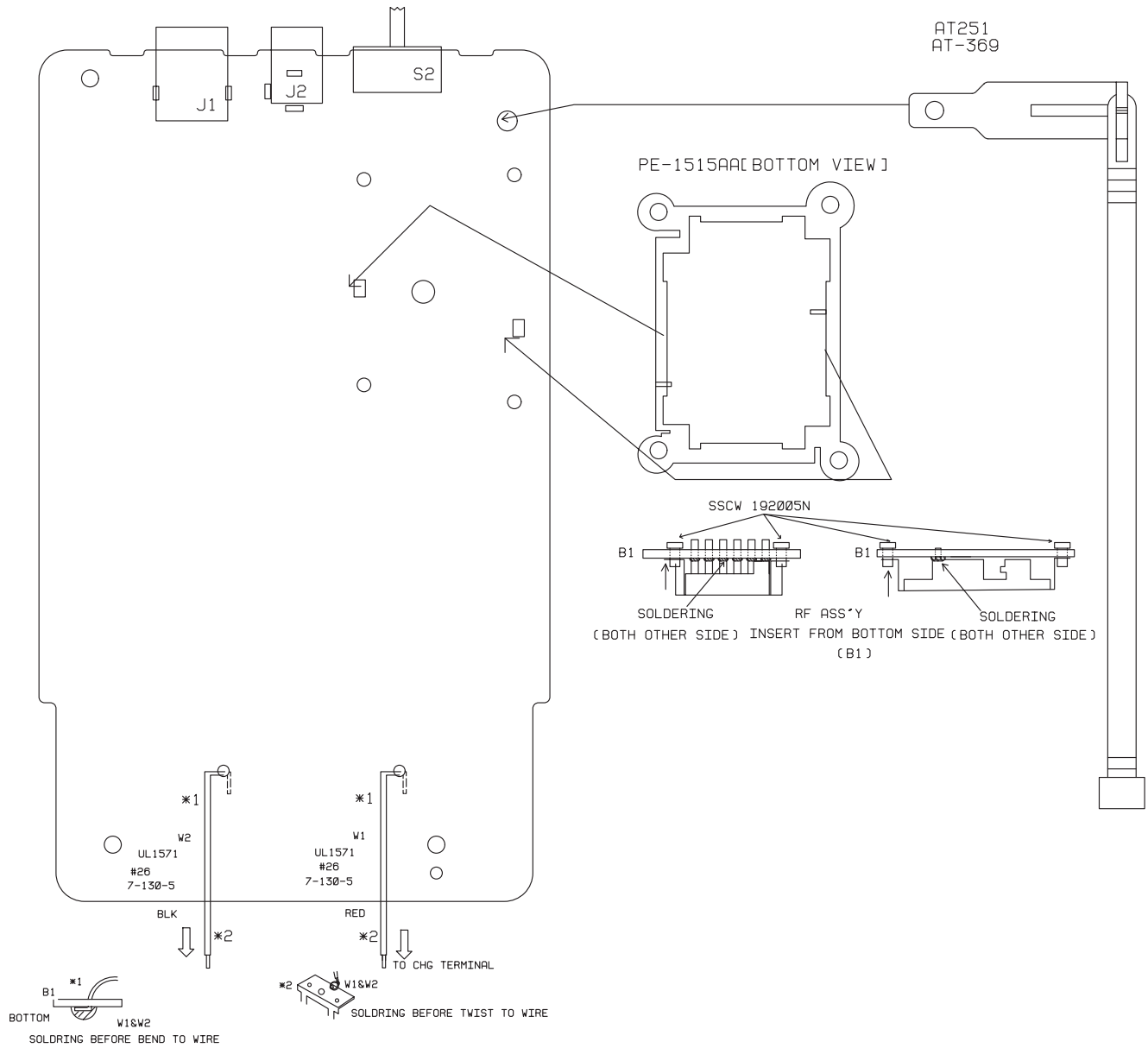


Handset  
Main PCB

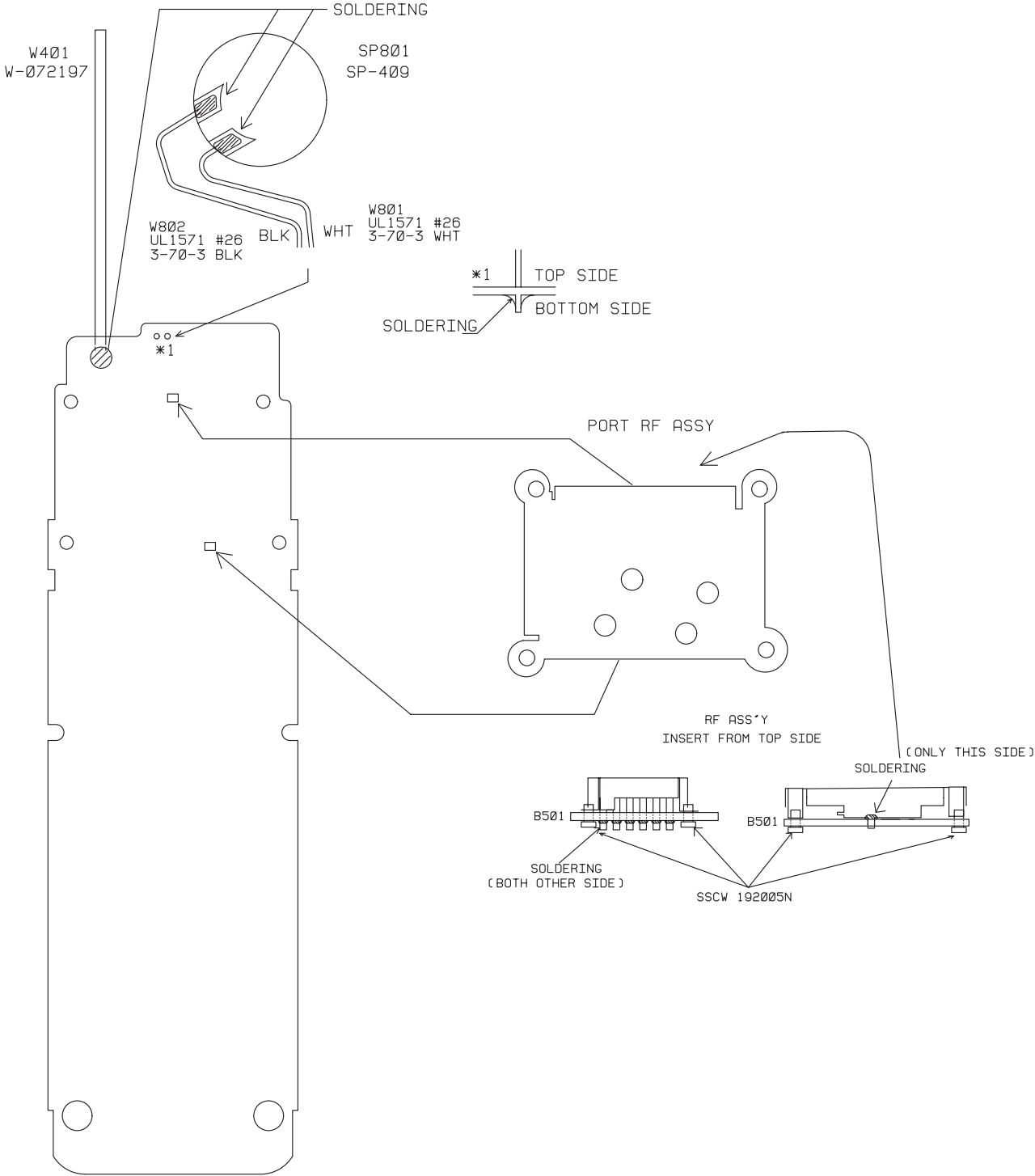


# WIRING DIAGRAMS

## Base Unit

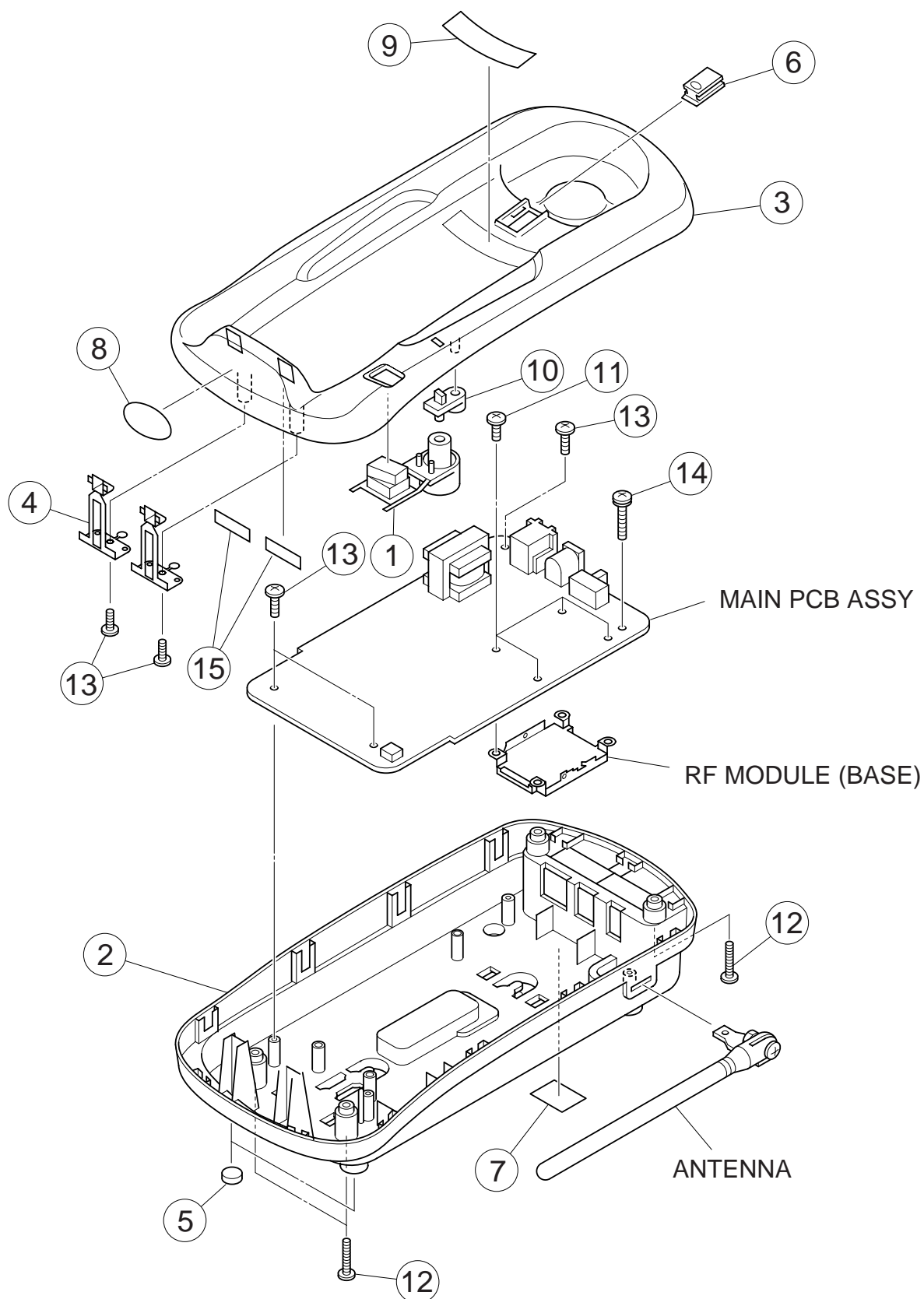


# Handset



# EXPLODED VIEWS AND MECHANICAL PARTS LIST

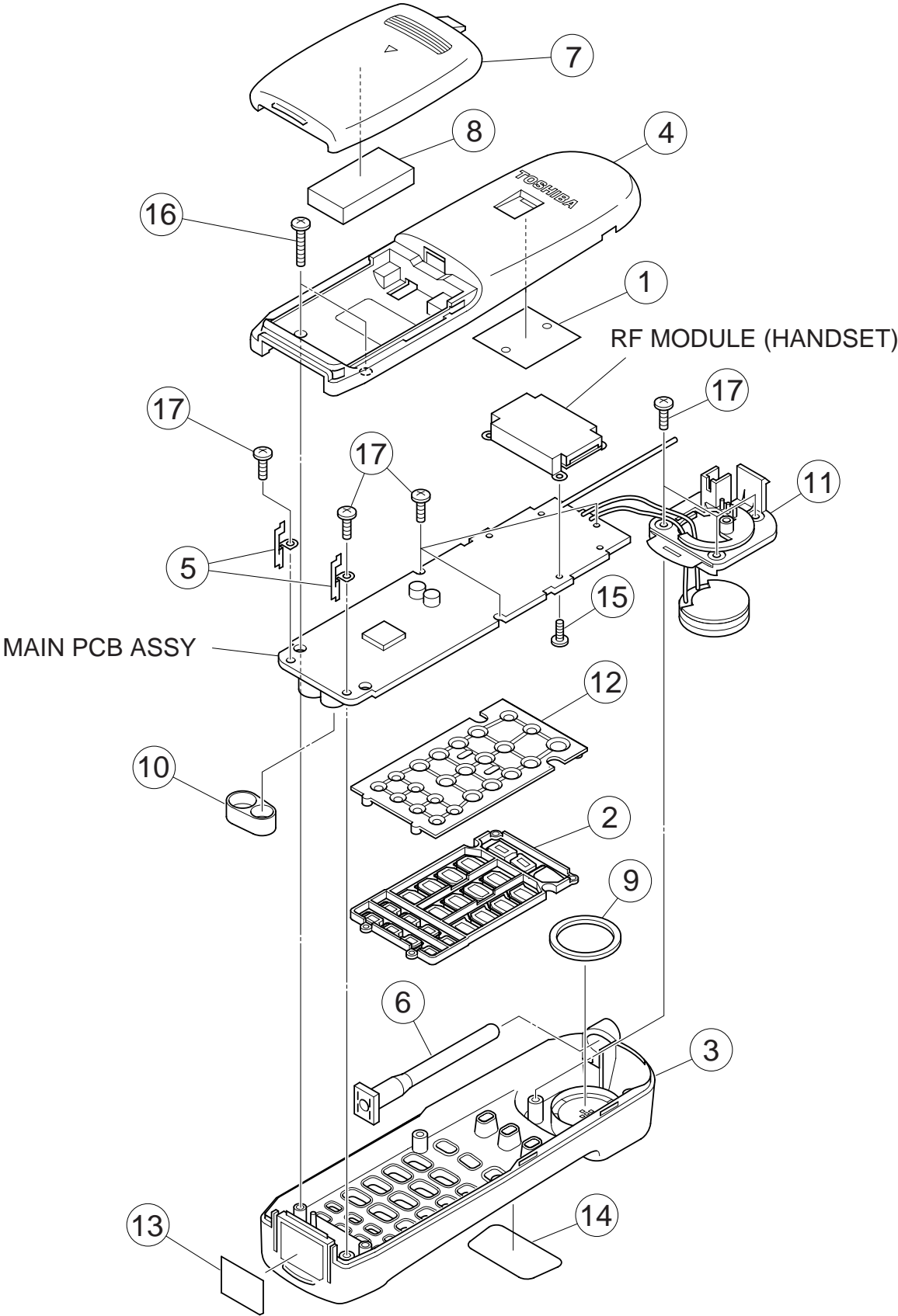
## Base Unit



## Base Unit

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	QTY
1	RC008363	GNBZ442428Z	BUTTON, PUSH for FT-8009 ABS	1
	RC008314	GNBZ442328Z	BUTTON, PUSH for FT-8009BK ABS	
	RC008376	GNBZ442640Z	BUTTON, PUSH for FT-8009GR ABS	
2	RC008361	GCAS342427Z	CASE, BOTTOM for FT-8009 ABS	1
	RC008312	GCAS242327Z	CASE, BOTTOM for FT-8009BK ABS	
	RC008374	GCAS342639Z	CASE, BOTTOM for FT-8009GR ABS	
3	RC008362	GCAS342521Z	CASE, TOP for FT-8009 ABS	1
	RC008311	GCAS242326Z	CASE, TOP for FT-8009BK ABS	
	RC008373	GCAS342638Z	CASE, TOP for FT-8009GR ABS	
4	RC008315	HTML442330Z	CHARGE TERMINAL C5191(PBP)	2
5	RC002384	LFUT428079Z	FOOT BUMPON SJ-5916 1.6T	2
6	RC005526	GCAS456906Z	HOOK for FT-8009 ABS	1
	RC005684	GCAS457909Z	HOOK for FT-8009BK ABS	
	RC008375	GCAS442648Z	HOOK for FT-8009GR ABS	
7	RC008364	PLBB442916Z	LABEL, BARCODE for FT-8009	1
	RC008316	PLBB442783Z	LABEL, BARCODE for FT-8009BK	
	RC008377	PLBB442917Z	LABEL, BARCODE for FT-8009GR	
8	RC008317	PLBZ442784Z	LABEL, INDICATION	1
9	RC005180	PLBZ456717Z	LABEL, INDICATION for FT-8009	1
	RC005329	PLBZ456718Z	LABEL, INDICATION for FT-8009BK/GR	
10	RC008313	GCAS442329Z	LED LENS PMMA	1
11	RC008289	SSCW192005N	SCREW, BIND HD + M2X5 NI	4
12	RC004893	SSCW802612N	SCREW, P TIGHT BIND HD + D2.6X12 NI	4
13	RC000941	SSCW802608N	SCREW, P TIGHT BIND HD + D2.6X8 NI	5
14	RC001752	SSCW283012N	SCREW, TAPPING BIND+& SP WASHER D3X12 NI	1
15	RC005696	RUTC457032Z	WOOL COATED PAPER, WOOL TACK	2

Handset




## Handset

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	QTY
1	RC008371	RBLD442208Z	BLIND for FT-8009 PC	1
	RC008346	RBLD442400Z	BLIND for FT-8009BK PC	
	RC008384	RBLD442649Z	BLIND for FT-8009GR PC	
2	RC008368	GNBZ442524Z	BUTTON, FUNCTION for FT-8009 ABS	1
	RC008340	GNBZ342334Z	BUTTON, FUNCTION for FT-8009BK ABS	
	RC008382	GNBZ442645Z	BUTTON, FUNCTION for FT-8009GR ABS	
3	RC008366	GCAS342523Z	CASE, FRONT for FT-8009 ABS	1
	RC008337	GCAS242331Z	CASE, FRONT for FT-8009BK ABS	
	RC008378	GCAS342641Z	CASE, FRONT for FT-8009GR ABS	
4	RC008365	GCAS342429Z	CASE, REAR for FT-8009 ABS	1
	RC008338	GCAS242332Z	CASE, REAR for FT-8009BK ABS	
	RC008379	GCAS342642Z	CASE, REAR for FT-8009GR ABS	
5	RC008342	HTML442336Z	CHARGE TERMINAL C2680(BSP)	2
6	RC008909	GCAS458501Z	COVER for FT-8009 ELASTOMER	1
	RC008703	GCAS457897Z	COVER for FT-8009BK/GR ELASTOMER	
7	RC008908	GCAS458500Z	COVER, BATTERY for FT-8009 ABS	1
	RC008702	GCAS357889Z	COVER, BATTERY for FT-8009BK ABS	
	RC008380	GCAS442643Z	COVER, BATTERY for FT-8009GR ABS	
8	RC008347	RCUM441150Z	CUSHION MOLTPRENE,40*20*8	1
9	RC008348	RCUN442433Z	CUSHION NEOPREN	1
10	RC008709	LHDZ456969Z	HOLDER, MIC EPDM	1
11	RC008367	GHDZ442430Z	HOLDER, SPEAKER for FT-8009 ABS	1
	RC008339	GHDZ342333Z	HOLDER, SPEAKER for FT-8009BK ABS	
	RC008381	GHDZ442644Z	HOLDER, SPEAKER for FT-8009GR ABS	
12	RC008344	LNBS342335Z	KEY RUBBER SI	1
13	RC008345	PLBS442900Z	LABEL, ID PAPER	1
14	RC008370	KDPZ442527Z	PLATE, DISPLAY for FT-8009 PMMA	1
	RC008343	KDPZ442337Z	PLATE, DISPLAY for FT-8009BK PMMA	
	RC008383	KDPZ442647Z	PLATE, DISPLAY for FT-8009GR PC	
15	RC008289	SSCW192005N	SCREW, BIND HD + M2X5 NI	4
16	RC003327	SSCW802610N	SCREW, P TIGHT BIND HD + D2.6X10 NI	2
17	RC000941	SSCW802608N	SCREW, P TIGHT BIND HD + D2.6X8 NI	8



# PARTS LIST

**PRODUCT SAFETY NOTE :** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice of this service manual. Don't degrade the safety of the product through important servicing.

Symbol	F	G	J	K	M	N	Z	P
%	± 1	± 2	± 5	± 10	± 20	± 30	-20+80	0+100

Symbol	C	D
pF	± 0.25	± 0.5

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
CAPACITORS				
The following codes indicate variation of capacitors against temperatures,:				
YA=±5%, YB=±10%, YD=+20-30%, YE=+20-50%(-25~+85°C), ZF=+30-80%,(-10~+79°C),				
CH=0±60ppm/°C, TH=-470ppm/°C, ±60ppm/°C, B=±10%, F=+30-80%,				
SL=+350ppm/°C~-1000ppm/°C, UJ=-750ppm/°C ±120ppm/°C, CJ=0±120ppm/°C, CK=0±250ppm/°C				
C1	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C2	RC000982	BCEQ812296Z	ELECTROLYTIC	2.2UF 50V M C-125
C3	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C4	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C5	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C6	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C7	RC005217	BCMM813314Z	CERAMIC M/L (1608) TAPE	330PF 50V J CH
C8	RC005275	BCML813925Z	CERAMIC M/L (1608) TAPE	0.0039UF 50V K B
C9	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C10	RC001797	BCAZ114706Z	ELECTROLYTIC	47UF 10V M C-156
C11	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C12	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C13	RC004138	BCAZ811006Z	ELECTROLYTIC	10UF 50V M C-156
C14	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C17	RC008270	BCML811235Z	CERAMIC M/L (1608) TAPE	0.012UF 50V K B
C18	RC008269	BCML316835Z	CERAMIC M/L (1608) TAPE	0.068UF 16V K B
C19	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C20	RC000777	BCZY0120001	SEMI-CONDUCTOR	CZ-120 0.022UF 18V
C22	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C23	RC002204	BCQL525645Z	MYLAR	0.56UF 250V K C-167
C24	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C25	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C26	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C27	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C28	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C30	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C31	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C32	RC001809	BCAZ814786Z	ELECTROLYTIC	0.47UF 50V M C-156
C33	RC001810	BCAZ814796Z	ELECTROLYTIC	4.7UF 50V M C-156
C34	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C35	RC005206	BCML812225Z	CERAMIC M/L (1608) TAPE	0.0022UF 50V K B
C36	RC001807	BCAZ812296Z	ELECTROLYTIC	2.2UF 50V M C-156
C37	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C38	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C39	RC000752	BCKB821025Z	CERAMIC	0.001UF 500V K YB(B)
C41	RC001805	BCAZ811096Z	ELECTROLYTIC	1UF 50V M C-156
C42	RC001809	BCAZ814786Z	CAPACITOR:ELECTROLYTIC	0.47UF 50V M C-156
C43	RC005207	BCML813325Z	CERAMIC M/L (1608) TAPE	0.0033UF 50V K B

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
C44	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C45	RC008843	BCML313335Z	CERAMIC M/L (1608) TAPE	0.033UF 16V K B
C46	RC005206	BCML812225Z	CERAMIC M/L (1608) TAPE	0.0022UF 50V K B
C47	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C48	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C49	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C50	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C51	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C52	RC001800	BCAZ311016Z	ELECTROLYTIC	100UF 16V M C-156
C53	RC008110	BCZY0202001	SEMI-CONDUCTOR	CZ-202 0.022UF 18V M TAPE
C54	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C55	RC001800	BCAZ311016Z	ELECTROLYTIC	100UF 16V M C-156
C56	RC004445	BCAZ903316Z	ELECTROLYTIC	330UF 6.3V M C-156
C57	RC005215	BCMM812704Z	CERAMIC M/L (1608) TAPE	27PF 50V J CH
C58	RC005215	BCMM812704Z	CERAMIC M/L (1608) TAPE	27PF 50V J CH
C59	RC001800	BCAZ311016Z	ELECTROLYTIC	100UF 16V M C-156
C60	RC005401	BCXT111055Z	CERAMIC M/L (2125) TAPE	1UF 10V K B
C61	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C62	RC008271	BCMM813904Z	CERAMIC M/L (1608) TAPE	39PF 50V J CH
C63	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C64	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C65	RC005212	BCMM811504Z	CERAMIC M/L (1608) TAPE	15PF 50V J CH
C66	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C67	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C68	RC005219	BCMM814704Z	CERAMIC M/L (1608) TAPE	47PF 50V J CH
C70	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C71	RC005401	BCXT111055Z	CERAMIC M/L (2125) TAPE	1UF 10V K B
C73	RC008062	BCMM817092Z	CERAMIC M/L (1608) TAPE	7PF 50V D CH
C74	RC005208	BCML814725Z	CERAMIC M/L (1608) TAPE	0.0047UF 50V K B
C75	RC005276	BCML818225Z	CERAMIC M/L (1608) TAPE	0.0082UF 50V K B
C77	RC005223	BCMS812091Z	CERAMIC M/L (1608) TAPE	2PF 50V C CK
C78	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C79	RC005206	BCML812225Z	CERAMIC M/L (1608) TAPE	0.0022UF 50V K B
C80	RC005635	BCKB134715Z	CERAMIC	470PF 1000V K YB(B)
C81	RC005635	BCKB134715Z	CERAMIC	470PF 1000V K YB(B)
C82	RC005218	BCMM814091Z	CERAMIC M/L (1608) TAPE	4PF 50V C CH
C83	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C97	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C401	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C402	RC005401	BCXT111055Z	CERAMIC M/L (2125) TAPE	1UF 10V K B
C403	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C404	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C405	RC005214	BCMM812214Z	CERAMIC M/L (1608) TAPE	220PF 50V J CH
C406	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C407	RC005217	BCMM813314Z	CERAMIC M/L (1608) TAPE	330PF 50V J CH
C408	RC005207	BCML813325Z	CERAMIC M/L (1608) TAPE	0.0033UF 50V K B
C409	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C410	RC005203	BCML512235Z	CERAMIC M/L (1608) TAPE	0.022UF 25V K B
C414	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C416	RC002465	BCXT816835Z	CERAMIC M/L (2125) TAPE	0.068UF 50V K B
C417	RC004347	BCXK514740Z	CERAMIC M/L (2125) TAPE	0.47UF 25V Z F
C418	RC002229	BCXT511045Z	CERAMIC M/L (2125) TAPE	0.1UF 25V K B
C419	RC008318	BCML815625Z	CERAMIC M/L (1608) TAPE	0.0056UF 50V K B
C421	RC005219	BCMM814704Z	CERAMIC M/L (1608) TAPE	47PF 50V J CH
C422	RC008271	BCMM813904Z	CERAMIC M/L (1608) TAPE	39PF 50V J CH

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
C423	RC005204	BCML811025Z	CERAMIC M/L (1608) TAPE	0.001UF 50V K B
C424	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C425	RC005224	BCMT813091Z	CERAMIC M/L (1608) TAPE	3PF 50V C CJ
C426	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C427	RC005211	BCMM811204Z	CERAMIC M/L (1608) TAPE	12PF 50V J CH
C428	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C430	RC005210	BCMM811014Z	CERAMIC M/L (1608) TAPE	100PF 50V J CH
C431	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C432	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122
C433	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C434	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C435	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C437	RC005206	BCML812225Z	CERAMIC M/L (1608) TAPE	0.0022UF 50V K B
C438	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122
C439	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122
C440	RC004449	BCXT311545Z	CERAMIC M/L (2125) TAPE	0.15UF 16V K B
C441	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C442	RC005276	BCML818225Z	CERAMIC M/L (1608) TAPE	0.0082UF 50V K B
C443	RC004347	BCXK514740Z	CERAMIC M/L (2125) TAPE	0.47UF 25V Z F
C444	RC008319	BCSH904796Z	TANTALUM CHIP TAPE	4.7UF 6.3V M C-122
C445	RC004347	BCXK514740Z	CERAMIC M/L (2125) TAPE	0.47UF 25V Z F
C446	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C447	RC004412	BCXT312245Z	CERAMIC M/L (2125) TAPE	0.22UF 16V K B
C448	RC005275	BCML813925Z	CERAMIC M/L (1608) TAPE	0.0039UF 50V K B
C449	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C450	RC008268	BCML314735Z	CERAMIC M/L (1608) TAPE	0.047UF 16V K B
C451	RC004657	BCEQ514796Z	ELECTROLYTIC	4.7UF 25V M C-125
C452	RC005224	BCMT813091Z	CERAMIC M/L (1608) TAPE	3PF 50V C CJ
C453	RC005275	BCML813925Z	CERAMIC M/L (1608) TAPE	0.0039UF 50V K B
C454	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C455	RC005208	BCML814725Z	CERAMIC M/L (1608) TAPE	0.0047UF 50V K B
C456	RC001045	BCEQ311006Z	ELECTROLYTIC	10UF 16V M C-125
C457	RC005208	BCML814725Z	CERAMIC M/L (1608) TAPE	0.0047UF 50V K B
C458	RC005222	BCMS811091Z	CERAMIC M/L (1608) TAPE	1PF 50V C CK
C459	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C460	RC005216	BCMM813304Z	CERAMIC M/L (1608) TAPE	33PF 50V J CH
C461	RC003284	BCFZ901016Z	ELECTROLYTIC	100UF 6.3V M C-258
C462	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C463	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C464	RC008731	BCXK311050Z	CERAMIC M/L (2125) TAPE	1UF 16V Z F
C465	RC005207	BCML813325Z	CERAMIC M/L (1608) TAPE	0.0033UF 50V K B
C466	RC005207	BCML813325Z	CERAMIC M/L (1608) TAPE	0.0033UF 50V K B
C467	RC003284	BCFZ901016Z	ELECTROLYTIC	100UF 6.3V M C-258
C468	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C469	RC008296	BCSH901006Z	TANTALUM CHIP TAPE	10UF 6.3V M C-122
C470	RC005203	BCML512235Z	CERAMIC M/L (1608) TAPE	0.022UF 25V K B
C471	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C472	RC005205	BCML811035Z	CERAMIC M/L (1608) TAPE	0.01UF 50V K B
C473	RC005202	BCML311045Z	CERAMIC M/L (1608) TAPE	0.1UF 16V K B
C474	RC008296	BCSH901006Z	TANTALUM CHIP TAPE	10UF 6.3V M C-122
CT001	RC008272	BCTY0076100	TRIMMER	CT-076 TZ3Z100FR 10PF
CT401	RC008272	BCTY0076100	TRIMMER	CT-076 TZ3Z100FR 10PF
DIODES				
D1	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D3	RC002468	BDAY0492008	ZENER AX TS 26 +	HZ33-2 TD

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
D4	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D6	RC008274	BDAY1084001	LED	MVR3338ST-922
D9	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D10	RC002236	BDAY0246003	AX TS 26+	1N4148 T-77
D11	RC008886	BDAY0492048	ZENER AX TS 26 +	HZ7A3 TD
D13	RC008273	BDAY0492036	ZENER AX TS 26 +	HZ4B1 TD
D401	RC001826	BDAY0433001		RLS4148 TE11
D402	RC001826	BDAY0433001		RLS4148 TE11
D403	RC003195	BDAY0432004	ZENER	HZK6C TR
D404	RC003195	BDAY0432004	ZENER	HZK6C TR
D405	RC001826	BDAY0433001		RLS4148 TE11
D406	RC001826	BDAY0433001		RLS4148 TE11
D407	RC002240	BDAY0485001		HSM88WA TL
D408	RC008320	BDAY1092001	LED	SML-310LT T86
FILTERS				
FT1	RC008279	BFLY0971001	CERAMIC	FL-971 FFE1054NA11UXL
FT2	RC008282	BFLY0977001		FL-977 LTFS455B5
FT401	RC008279	BFLY0971001	CERAMIC	FL-971 FFE1054NA11UXL
FT402	RC008282	BFLY0977001		FL-977 LTFS455B5
IC's				
IC1	RC008278	BDEY3870003		LA8633VU-TLM
IC3	RC004870	BDEY2768003		MC3361CDR2
IC4	RC008277	BDEY2268001		⚠ PS2501-1 K
IC5	RC008276	BDDY0878001	UC2337	MB89173PF-G-247-BND-U
IC6	RC005074	BDEY2937003		RH5VL28CA-T1
IC401	RC004870	BDEY2768003		MC3361CDR2
IC403	RC008278	BDEY3870003		LA8633VU-TLM
IC404	RC008321	BDDY0879002	UC2338A	MB89174LPF-G-253-BND-U
IC405	RC008322	BDEY3882003		TK11130SCL
IC406	RC008323	BDEY3886003		XC612N3328MR
JACKS				
J1	RC003586	BJKY0803002	TEL	⚠ JK-803 A36-006-4910A 2P
J2	RC001094	BJKY0234001		JK-234 DJ13-1
J401	RC001653	BJKY0571001		JK-571 M60-002-020-HKAD
COILS				
L2	RC008282	BLZY0136399	INDUCTOR:MOLDED CHIP	LZ136 MLF1608A3R9KT 3.9UH
L3	RC008281	BLBY1175001		LB-1175 7002BE-A0026HM
L6	RC008283	BLZY0181127	INDUCTOR:MOLDED CHIP TAPE	LZ-181 12NH J
L401	RC008282	BLZY0136399	INDUCTOR:MOLDED CHIP	LZ136 MLF1608A3R9KT 3.9UH
L402	RC008281	BLBY1175001		LB-1175 7002BE-A0026HM
L403	RC008283	BLZY0181127	INDUCTOR:MOLDED CHIP TAPE	LZ-181 12NH J
T1	RC003234	BTFY0265001	TRANSFORMER:HYBRID	⚠ TF-265 IT-24E-1B(R295403)
TRANSISTORS				
Q1	RC002245	BDBC2714124		DB-718 2SC2714-Y TE85L
Q2	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q3	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q4	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q6	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q7	RC003200	BDBD0471111		DB-411 2SD471-L
Q8	RC003200	BDBD0471111		DB-411 2SD471-L
Q9	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q10	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q11	RC003200	BDBD0471111		DB-411 2SD471-L
Q12	RC008275	BDBA0812695		DB-035 2SA812(M)-M6A T1B
Q401	RC002245	BDBC2714124		DB-718 2SC2714-Y TE85L



LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
Q402	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q403	RC008275	BDBA0812695		DB-035 2SA812(M)-M6A T1B
Q404	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q405	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q406	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q407	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q408	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q409	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q410	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q411	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q412	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
RESISTORS				
R1	RC005259	BRFC166814Z	CARBON FIXED CHIP	680 1/16W J TAPING
R2	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING
R3	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R4	RC005258	BRFC164744Z	CARBON FIXED CHIP	470K 1/16W J TAPING
R5	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R6	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R8	RC005258	BRFC164744Z	CARBON FIXED CHIP	470K 1/16W J TAPING
R9	RC005282	BRFC162714Z	CARBON FIXED CHIP	270 1/16W J TAPING
R10	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R11	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R13	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R14	RC005673	BRFC163934Z	CARBON FIXED CHIP	39K 1/16W J TAPING
R15	RC008286	BRFC162744Z	CARBON FIXED CHIP	270K 1/16W J TAPING
R16	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R17	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R18	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R19	RC008091	BRFC165614Z	CARBON FIXED CHIP	560 1/16W J TAPING
R20	RC005261	BRFC168224Z	CARBON FIXED CHIP	8.2K 1/16W J TAPING
R21	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R22	RC005260	BRFC166834Z	CARBON FIXED CHIP	68K 1/16W J TAPING
R23	RC005259	BRFC166814Z	CARBON FIXED CHIP	680 1/16W J TAPING
R24	RC002349	BRSJ221034Z	METAL OXIDE	⚠ 10K 1/2WS J
R25	RC002350	BRSN101514Z	METAL OXIDE(FORMED)	⚠ 150 1W J (P=12.5)
R26	RC005249	BRFC162244Z	CARBON FIXED CHIP	220K 1/16W J TAPING
R27	RC005255	BRFC164714Z	CARBON FIXED CHIP	470 1/16W J TAPING
R29	RC005241	BRFC161034Z	CARBON FIXED CHIP	10K 1/16W J TAPING
R30	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R33	RC005249	BRFC162244Z	CARBON FIXED CHIP	220K 1/16W J TAPING
R34	RC005260	BRFC166834Z	CARBON FIXED CHIP	68K 1/16W J TAPING
R36	RC005239	BRFC161014Z	CARBON FIXED CHIP	100 1/16W J TAPING
R37	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R38	RC002335	BRFC183314Z	CARBON FIXED CHIP	330 1/8W J TAPING
R39	RC008288	BRUB141804Z	CARBON FORMED VERT	18 1/4W J
R40	RC005248	BRFC162234Z	CARBON FIXED CHIP	22K 1/16W J TAPING
R41	RC005245	BRFC161834Z	CARBON FIXED CHIP	18K 1/16W J TAPING
R42	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R44	RC005247	BRFC162214Z	CARBON FIXED CHIP	220 1/16W J TAPING
R45	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R46	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R47	RC005253	BRFC163324Z	CARBON FIXED CHIP	3.3K 1/16W J TAPING
R48	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R49	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING
R50	RC005240	BRFC161024Z	CARBON FIXED CHIP	1K 1/16W J TAPING

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R51	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J TAPING
R52	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R53	RC005283	BRFC162734Z	CARBON FIXED CHIP 27K 1/16W J TAPING
R54	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R55	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R56	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J TAPING
R57	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R58	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R59	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J TAPING
R60	RC002810	BRFC182714Z	CARBON FIXED CHIP 270 1/8W J TAPING
R61	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J TAPING
R62	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R63	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J TAPING
R65	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J TAPING
R66	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R67	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R68	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R69	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R70	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R71	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R72	RC005246	BRFC162204Z	CARBON FIXED CHIP 22 1/16W J TAPING
R73	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R74	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R75	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R76	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R77	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R78	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R79	RC005258	BRFC164744Z	CARBON FIXED CHIP 470K 1/16W J TAPING
R80	RC008734	BRFC162254Z	CARBON FIXED CHIP 2.2M 1/16W J TAPING
R84	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J TAPING
R86	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R87	RC008029	BRFC163924Z	CARBON FIXED CHIP 3.9K 1/16W J TAPING
R88	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R89	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J TAPING
R90	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R91	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R92	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R93	RC002335	BRFC183314Z	CARBON FIXED CHIP 330 1/8W J TAPING
R97	RC002898	BRFC010004Z	CARBON FIXED CHIP 0 1/10W J TAPING
R98	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R401	RC005249	BRFC162244Z	CARBON FIXED CHIP 220K 1/16W J TAPING
R403	RC005259	BRFC166814Z	CARBON FIXED CHIP 680 1/16W J TAPING
R404	RC005255	BRFC164714Z	CARBON FIXED CHIP 470 1/16W J TAPING
R405	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J TAPING
R406	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R407	RC005258	BRFC164744Z	CARBON FIXED CHIP 470K 1/16W J TAPING
R408	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J TAPING
R409	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J TAPING
R410	RC005258	BRFC164744Z	CARBON FIXED CHIP 470K 1/16W J TAPING
R411	RC005282	BRFC162714Z	CARBON FIXED CHIP 270 1/16W J TAPING
R412	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R414	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J TAPING
R415	RC005283	BRFC162734Z	CARBON FIXED CHIP 27K 1/16W J TAPING
R416	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J TAPING
R417	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R418	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J TAPING
R419	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J TAPING
R420	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J TAPING
R421	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J TAPING
R422	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R423	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J TAPING
R427	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J TAPING
R428	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R429	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R430	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R431	RC005244	BRFC161824Z	CARBON FIXED CHIP 1.8K 1/16W J TAPING
R432	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R433	RC008735	BRFC166824Z	CARBON FIXED CHIP 6.8K 1/16W J TAPING
R434	RC005258	BRFC164744Z	CARBON FIXED CHIP 470K 1/16W J TAPING
R435	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J TAPING
R436	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J TAPING
R437	RC005254	BRFC164704Z	CARBON FIXED CHIP 47 1/16W J TAPING
R438	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R439	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J TAPING
R440	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J TAPING
R441	RC005285	BRFC165634Z	CARBON FIXED CHIP 56K 1/16W J TAPING
R442	RC005262	BRFC168234Z	CARBON FIXED CHIP 82K 1/16W J TAPING
R443	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R444	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING
R445	RC005283	BRFC162734Z	CARBON FIXED CHIP 27K 1/16W J TAPING
R446	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R447	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R448	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R449	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R450	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R451	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R452	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J TAPING
R453	RC005361	BRFC168214Z	CARBON FIXED CHIP 820 1/16W J TAPING
R454	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R455	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R456	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R457	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J TAPING
R458	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J TAPING
R459	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J TAPING
R460	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J TAPING
R461	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J TAPING
R462	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J TAPING
R463	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J TAPING
R464	RC005246	BRFC162204Z	CARBON FIXED CHIP 22 1/16W J TAPING
R465	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R466	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R467	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J TAPING
R468	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J TAPING
R469	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R470	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J TAPING
R471	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J TAPING
R472	RC005255	BRFC164714Z	CARBON FIXED CHIP 470 1/16W J TAPING
R473	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J TAPING
R474	RC005286	BRFC165644Z	CARBON FIXED CHIP 560K 1/16W J TAPING
R475	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J TAPING

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
R476	RC005432	BRFC161544Z	CARBON FIXED CHIP	150K 1/16W J TAPING
R477	RC005256	BRFC164724Z	CARBON FIXED CHIP	4.7K 1/16W J TAPING
R478	RC005311	BRFC160004Z	CARBON FIXED CHIP	0 1/16W J TAPING
R480	RC005242	BRFC161044Z	CARBON FIXED CHIP	100K 1/16W J TAPING
R481	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R482	RC005280	BRFC161534Z	CARBON FIXED CHIP	15K 1/16W J TAPING
R483	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
R498	RC002898	BRFC010004Z	CARBON FIXED CHIP	0 1/10W J TAPING
R499	RC005281	BRFC162224Z	CARBON FIXED CHIP	2.2K 1/16W J TAPING
RT1	RC008287	BRTY0572204	SEMI-FIXED	RT-572 NVZ6TL1B204 200KB
RT2	RC004606	BRTY0572104	SEMI-FIXED	RT-572 NVZ6TL1B104 100KB
RT3	RC005661	BRTY0572203	SEMI-FIXED	RT-572 NVZ6TL1B203 20KB
RT401	RC008328	BRTY0569224	SEMI-FIXED	RT-569 POZ3AN-1-224N-T00
RT402	RC008326	BRTY0569104	SEMI-FIXED	RT-569 POZ3AN-1-104N-T00
RT403	RC008327	BRTY0569223	SEMI-FIXED	RT-569 POZ3AN-1-223N-T00
SWITCHES				
S1	RC004253	BSWY0784001	SW-784 KSM0611B	
S2	RC003604	BSWY0755001	SW-755 SBHA12B-06	
CRYSTALS				
X1	RC003629	BQXY0542001	QX-542 3.579545MHZ	
X2	RC008285	BQXY0721001	QX-721 10.100000MHZ	
X401	RC008285	BQXY0721001	QX-721 10.100000MHZ	
X402	RC008325	BQXY0709001	QX-709 3.579545MHZ	
OTHER ELECTRICAL PARTS				
AD901	RC005139	BADY0322001	AC ADAPTOR for FT-8009	⚠ AD-322 HY-9022
AD901	RC004930	BADY0321001	AC ADAPTOR for FT-8009BK/GR	⚠ AD-321 HY-9021
AT251	RC008360	BATY0372001	ANTENNA for FT-8009	⚠ AT-372 AT-37
AT251	RC008310	BATY0369001	ANTENNA for FT-8009BK/GR	⚠ AT-369 AT-36
B301	RC008387	AC218BLBB	RF MODULE (BASE)	
B501	RC008389	AC218BLPB	RF MODULE (HANDSET)	
BT901	RC004931	BBTY0403001	BATTERY	⚠ BT-403 GP60AAK3BMX
MC401	RC004062	BMKY0475001	MICROPHONE	MK-475 WM-034BZ
RL1	RC000867	BRLY0042001	RELAY	⚠ RL-042 OMR-108H
SP801	RC008336	BSPY0409001	SPEAKER	⚠ SP-409 DTR169HP-005
W1	RC008358	CUQB015033Z		
W2	RC008359	CUQK015033Z		
W401	RC008329	CZDZ072199Z	WIRES ASSEMBLED	W-072199
W801	RC008349	CUQB007011Z	WIRE W-005	UL 1571 #26 3- 70- 3 RED
W801	RC008350	CUQJ007011Z	WIRE W-005	UL 1571 #26 3- 70- 3 WHT
W802	RC001338	CUQK007011Z	WIRE W-005	UL 1571 #26 3- 70- 3 BLK
WZ901	RC008231	BWZY1401001	TEL CORD	⚠ WZ-1401 1850 W/P
Y401	RC008787	BYYY1392001	BUZZER	YY-1392 ST-1285 APH
PACKING PARTS				
	RC005198	UDZZ73535ZZ	CAUTION BELT	
	RC004291	WETC420086Z	COVER:ANT.	EPE
	RC008203	WBXZ342404Z	DISPLAY BOX for FT-8009	
	RC008201	WBXZ342414Z	DISPLAY BOX for FT-8009BK	
	RC008202	WBXZ342403Z	DISPLAY BOX for FT-8009GR	
	RC008223	PLBM442785Z	INDEX PAPER	PAPER
	RC004688	PLBB454286Z	LABEL:BARCODE	PAPER
	RC004689	PLBB454287Z	LABEL:BARCODE	PAPER
	RC008222	UCZZ01218BZ	OWNER'S MANUAL	
	RC008372	WCTZ442897Z	SHIPPING CARTON BOX for FT-8009	
	RC008354	WCTZ442425Z	SHIPPING CARTON BOX for FT-8009BK	
	RC008385	WCTZ442356Z	SHIPPING CARTON BOX for FT-8009GR	



LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
	RC008355	WSLV442755Z	SLEEVE
	RC008356	WSLV443212Z	SLEEVE
	RC008357	WSLV443213Z	SLEEVE
	RC008719	VNYH1103000	VINYL BAG 100X300X0.05T HIPE
	RC008351	VNYH1303500	VINYL BAG 300X350X0.05T HIPE
	RC008352	VNYL2303040	VINYL BAG 300X300X400X0.07T
	RC008353	VNYL3101000	VINYL BAG 100X100X0.1T

## ASSEMBLY PARTS LIST

**NOTE:** Following part numbers are not available as replacement parts.

Order parts necessary for repair or contact the Toshiba Factory Service Center.

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
	RC008386	AC218BLBA	MAIN PCB ASSY, BASE
	RC008388	AC218BLPA	MAIN PCB ASSY, HANDSET

# SPECIFICATIONS

## MEASUREMENT CONDITIONS

1. Standard Voltage	:Portable Unit	.... DC 3.8V $\pm$ 0.025V	
	:Base Unit	.... AC 120V $\pm$ 3V 60Hz	
2. Temperature	:25°C $\pm$ 5°C		
3. Channel	FCC CH	Portable(TX Frequency)	Base(TX Frequency)
	1	902.052464MHz	925.997470MHz
	2	902.102465MHz	926.047470MHz
	3	902.152465MHz	926.097470MHz
	4	902.202465MHz	926.147470MHz
	5	902.252465MHz	926.197470MHz
	6	902.302465MHz	926.247469MHz
	7	902.352465MHz	926.297469MHz
	8	902.402465MHz	926.347469MHz
	9	902.452465MHz	926.397469MHz
	10	902.502466MHz	926.447469MHz
	11	902.552466MHz	926.497469MHz
	12	902.602466MHz	926.547469MHz
	13	902.652466MHz	926.597469MHz
	14	902.702466MHz	926.647468MHz
	15	902.752466MHz	926.697468MHz
	16	902.802466MHz	926.747468MHz
	17	902.852467MHz	926.797468MHz
	18	902.902467MHz	926.847468MHz
	19	902.952467MHz	926.897468MHz
	20	903.002467MHz	926.947468MHz
	21	903.052467MHz	926.997467MHz
	22	903.102467MHz	927.047467MHz
	23	903.152467MHz	927.097467MHz
	24	903.202468MHz	927.147467MHz
	25	903.252468MHz	927.197467MHz
	26	903.302468MHz	927.247467MHz
	27	903.352468MHz	927.297467MHz
	28	903.402468MHz	927.347466MHz
	29	903.452468MHz	927.397466MHz
	30	903.502468MHz	927.447466MHz
	31	903.552468MHz	927.497466MHz
	32	903.602469MHz	927.547466MHz
	33	903.652469MHz	927.597466MHz
	34	903.702469MHz	927.647466MHz
	35	903.752469MHz	927.697466MHz
	36	903.802469MHz	927.747465MHz
	37	903.852469MHz	927.797465MHz
	38	903.902469MHz	927.847465MHz
	39	903.952470MHz	927.897465MHz
	40	904.002470MHz	927.947465MHz
4. Tel. Line Voltage/Load	: DC 48V $\pm$ 2V / 600 OHMS		
5. Ring Frequency	: 20 Hz		
6. Ring Duration	: 2 Sec ON, 4 Sec OFF		
7. Standard Deviation	: 1KHz $\pm$ 8KHz Dev.		
8. Secure Code	: 65536 Combinatin		
9. Method of Measurement	: According to EIA Standard RS-316A		
10. Portable RX AF Load	: 150 OHMS		

## BASE UNIT

### RECEIVER

		UNIT	NOMINAL	LIMIT
1. Sensitivity 12 dB SINAD	with CCITT Filter	dBm	-115	< -107
2. Frequency Response (Ref:1kHz)	0.3kHz	dB	-2.0	-6.0~+2.0
	3.0kHz	dB	-5.0	-9.0~-1.0
3. Distortion at 1 mV RF Input		%	1.5	< 5
4. S/N ratio at 1 mV RF Input	with CCITT Filter	dB	70	60 <
5. Selectivity (NQ20dB)	6dB Bandwidth +	kHz	15	10 <
	6dB Bandwidth -	kHz	15	10 <
6. Image Rejection Ratio	SINAD 12dB with CCITT Filter			
	1st Image	dB	35	30 <
	2nd Image	dB	55	30 <
7. Tel Line Output Level (600Ω Load)		dBm	-11	-14~-8

### TRANSMITTER

		UNIT	NOMINAL	LIMIT
1. RF Power (50Ω Load)		dBm	-5.0	-8.0~-2.0
2. Modulation Sensitivity		dBm	-20	-24~-16
3. Frequency Response (Ref:1kHz)	0.3kHz	dB	-1.0	-5.0~+3.0
	3.0kHz	dB	-0.5	-4.5~+3.5
4. Frequency Tolerance (25°C)		Hz	0	-1500~+1500
5. Code Deviation		kHz	8.0	< 11
6. Distortion		%	1.5	< 5
7. Adjacent CH Power	(+)	dB	55	50 <
	(-)	dB	55	50 <
8. S/N Ratio	with CCITT Filter	dB	35	30 <

### TELEPHONE LINE

		UNIT	NOMINAL	LIMIT
1. Off-hook Impedance (at 1kHz)		OHM	1000	500~1500
2. Off-hook DC Resistance (DC 40mA)		OHM	250	100~300
3. On-hook Impedance 20Hz (75Vrms)		kOHM	25	10 <
4. Minimum Ringer Input Level		Vrms	23	< 40
5. Pulse Dialing				
a. Dialing Rate (@10pps)		pps	10	8~11
b. Make Ratio (@10pps)		%	39	36~42
6. DTMF Output (@600Ω Load)				
a. Minimum Level of Single Tone				
Low Group		dBm	-7	-10 <
High Group		dBm	-5	-8 <
b. DTMF Level		dBm	-3	< 0
c. DTMF Frequency				
Row 1		Hz	697	687~707
Row 2		Hz	770	759~781
Row 3		Hz	852	840~864
Row 4		Hz	941	927~955
Column 1		Hz	1209	1191~1227
Column 2		Hz	1336	1316~1356
Column 3		Hz	1477	1455~1499
d. Signal Length		mSec	100	90 <
e. Interdigital Pause		mSec	100	90 <

## PORTABLE UNIT

### RECEIVER

		UNIT	NOMINAL	LIMIT
1. Sensitivity 12 dB SINAD	with CCITT Filter	dBm	-115	< -107
2. Frequency Response (Ref:1kHz)	0.3kHz	dB	-2.5	-6.5~+1.5
	3.0kHz	dB	-4.0	-8.0~0.0
3. Audio Output Level	VOL. HIGH	mV	228	161~322
	VOL. MEDIUM	mV	128	91~181
	VOL. LOW	mV	51	36~72
4. Distortion at 1 mV RF Input		%	2.0	< 5
5. S/N ratio at 1 mV RF Input	with CCITT Filter	dB	70	60 <
6. Selectivity (Nq20dB)	Bandwidth +	kHz	15	10 <
	Bandwidth -	kHz	15	10 <
7. Image Rejection Ratio	SINAD 12dB with CCITT Filter			
	1st Image	dB	30	20 <
	2nd Image	dB	45	30 <
8. Ringer Level at 30cm from Speaker				
	2 TONE VOL HI	DBSPL	80	75 <
	2 TONE VOL LO	DBSPL	70	60 <
	3 TONE VOL HI	DBSPL	70	60 <
	3 TONE VOL LO	DBSPL	60	50 <

### TRANSMITTER

		UNIT	NOMINAL	LIMIT
1. RF Power (50Ω Load)		dBm	-7.5	-10.5~-4.5
2. Modulation Sensitivity		mV	9	6.5~13
3. Frequency Response (Ref:1kHz)	0.3kHz	dB	-1.5	-5.5~+2.5
	3.0kHz	dB	-1.5	-5.5~+2.5
4. Frequency Tolerance (25°C)		Hz	0	-1500~+1500
5. Code Deviation		kHz	8.0	< 11
6. Distortion		%	1.5	< 5
7. Adjacent CH Power	(+)	dB	55	50 <
	(-)	dB	55	50 <
8. S/N Ratio	with CCITT Filter	dB	40	30 <

### POWER CONSUMPTION

		UNIT	NOMINAL	LIMIT
1. Base Unit				
a. Stand-by Charge Off		mA	72	< 90
b. Stand-by Charge On		mA	160	135~185
c. Talk		mA	110	< 130
2. Charge Current (at BATTERY)		mA	58	40~75
3. Portable Unit				
a. Stand-by		mA	2.3	< 4
b. Talk		mA	70	< 105
4. Battery Low Detect Voltage		V	3.3	3.2~3.4

### OTHERS

- 1. Battery : Ni-Cd Battery 600mAH (@1.2x3=3.6V)
- 2. Memory : 10 Memories (16 Digits) + 1 Redial Memory (32 Digits)
- 3. Operating Temperature : -10°C ~ +50°C
- 4. Storage Temperature : -20°C ~ +60°C

### REQUIREMENTS COMPLIANCE

- 1. Unit is designed to fully meet with UL1459 and FCC Rules, Part 15 and 68

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