

TOSHIBA

FILE NO. 2B0-200008

SERVICE MANUAL

CORDLESS TELEPHONE
FT-8930



PUBLISHED IN JAPAN, Sep., 2000

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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.

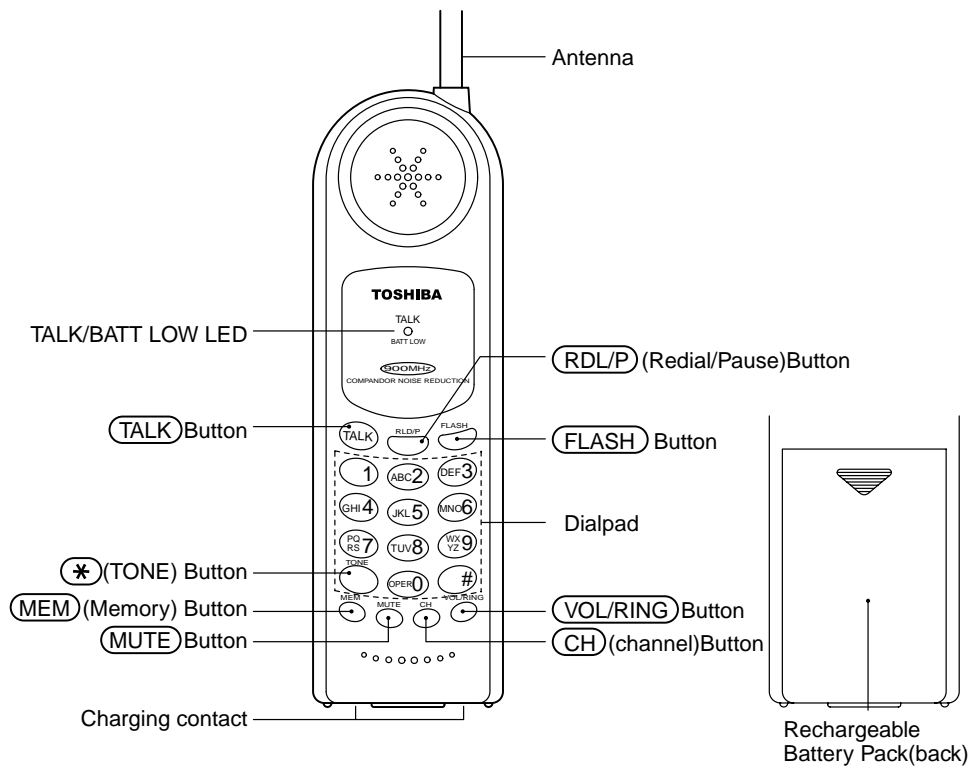
Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

2.PRODUCT SAFETY NOTICE

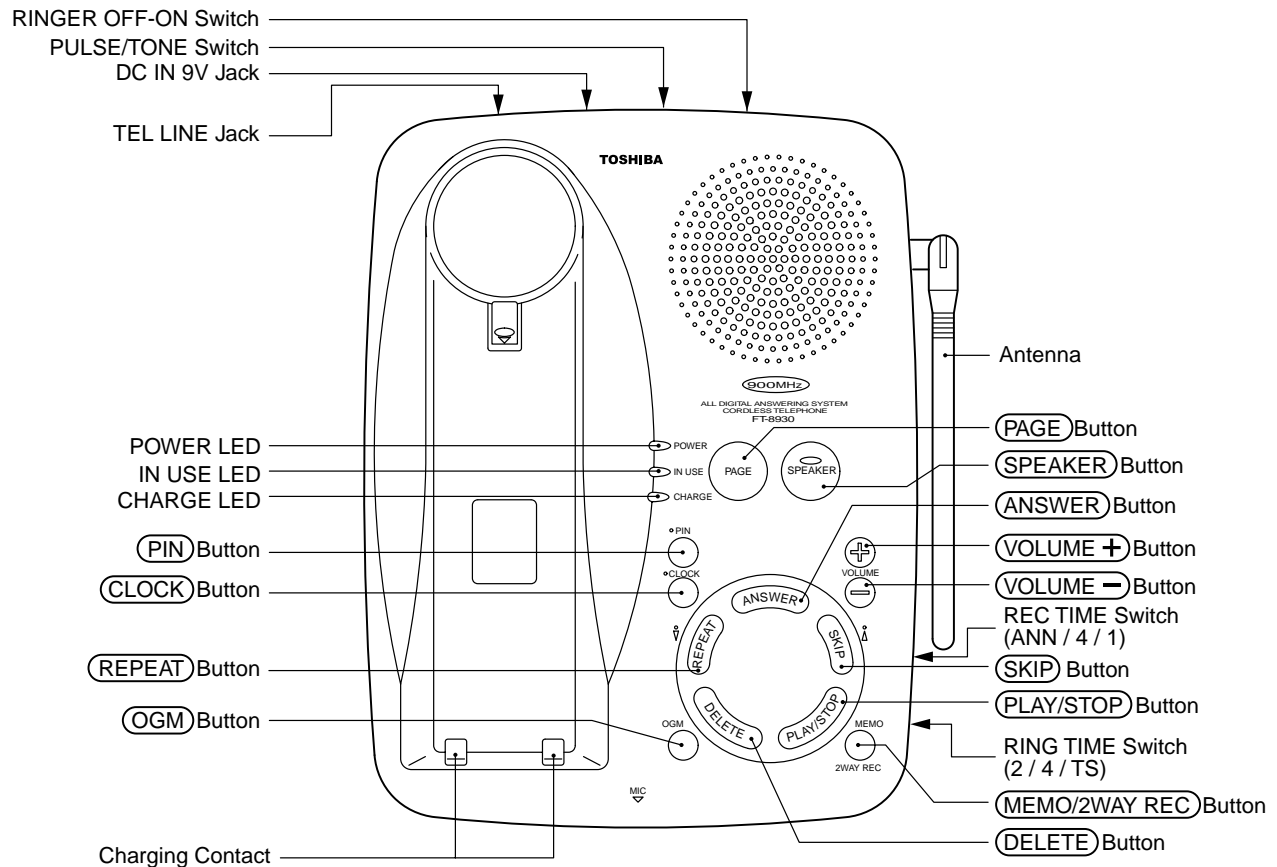
Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special 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



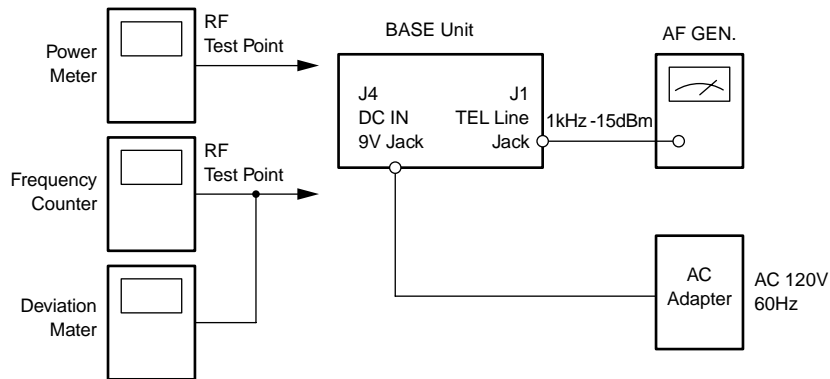
BASE UNIT CONTROLS AND FUNCTIONS



ALIGNMENT PROCEDURE

Base Unit

Transmitter Section Connections



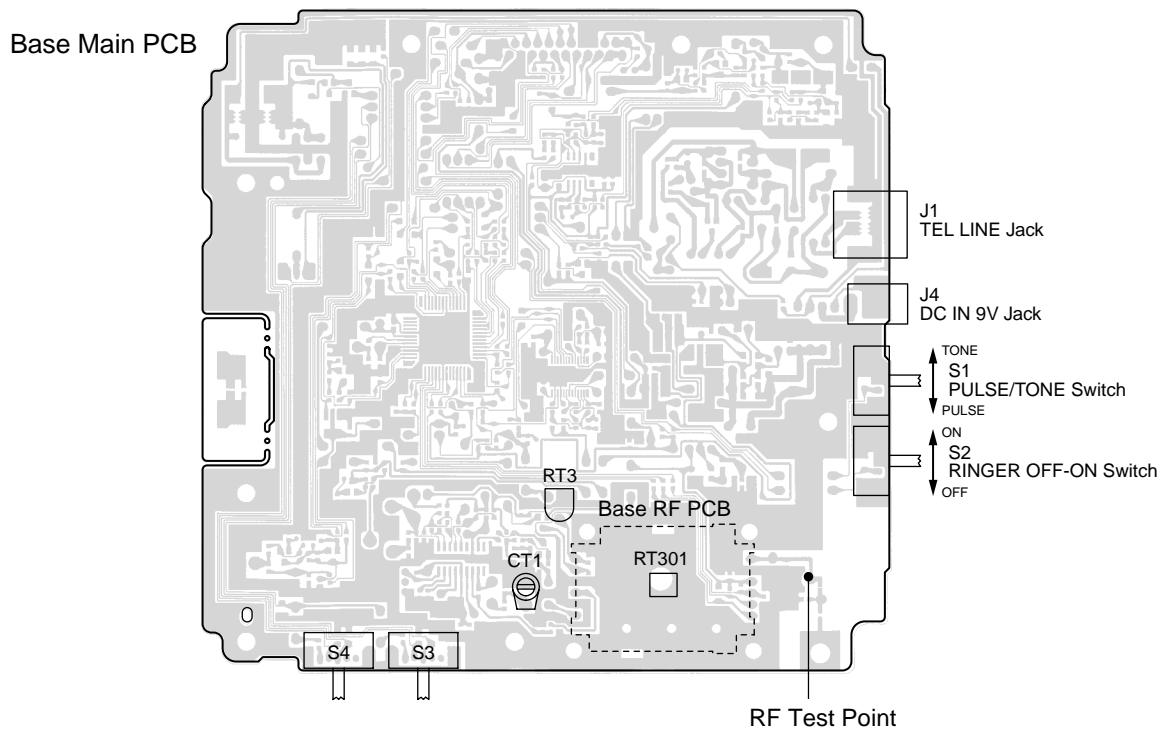
Preset

Press the "PAGE" key about 3.0 seconds while truning the power on.

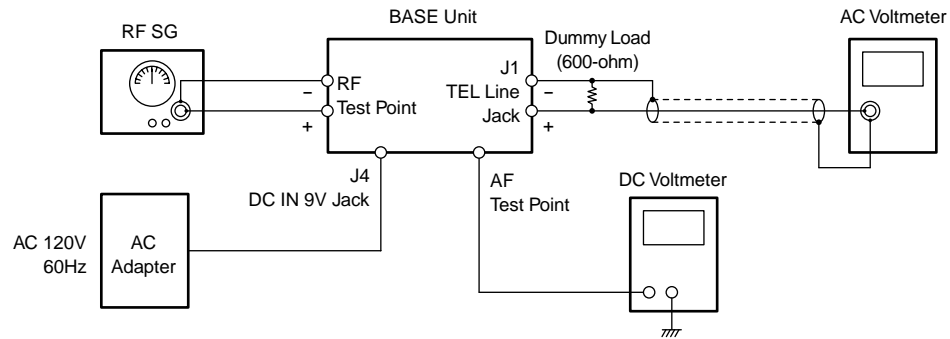
Alignment Procedure

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 -8.5dBm 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. Connect the AF Generator to the TEL Line Jack on the Base Main PCB. Make sure that the output is 1 kHz -15dBm from the AF Generator. Connect the Deviation Meter to the RF test point on the Base MAIN PCB. Adjust RT3 to indicate ± 8 kHz Dev.

Alignment Point Location on Base Main PCB and Base RF PCB



Receiver Section Connections



Preset

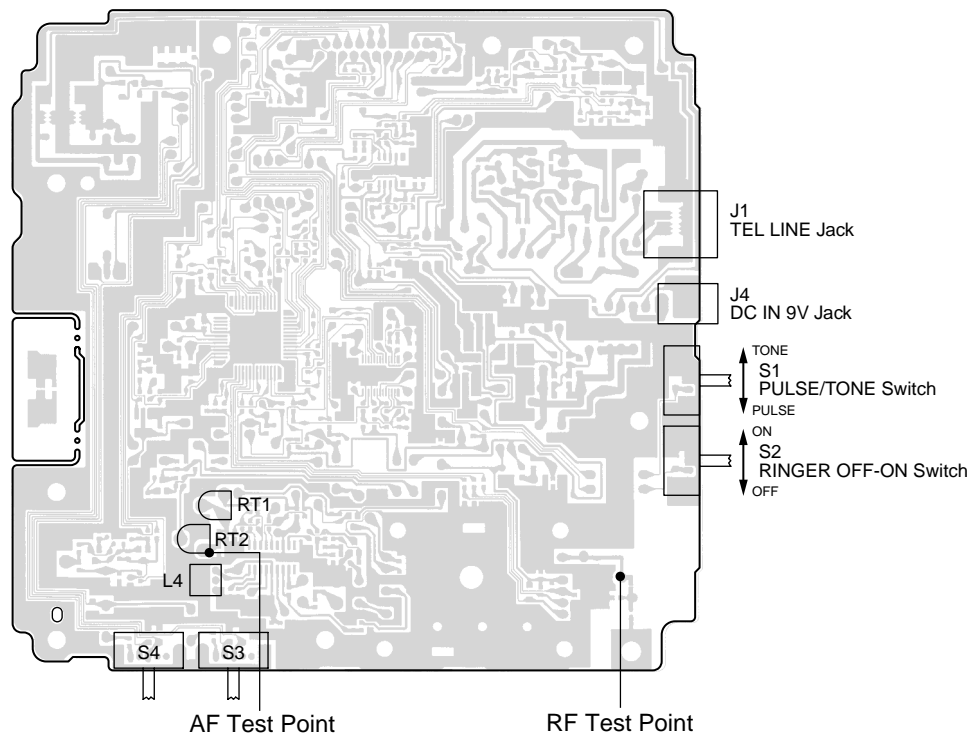
Place the Base Unit in RX SENS mode (step 4) in accordance with the procedure on page 3.

Alignment Procedure

step	Preset to	Adjustment	Remarks
1	SG: 1mV No modulation	L4 (Discriminator Voltage)	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 L4 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 -11dBm reading on the AC voltmeter.
3	SG: -113dB μ V No modulation	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 LED indication is just vibrated.

Alignment Point Location on Base Main PCB and Base RF PCB

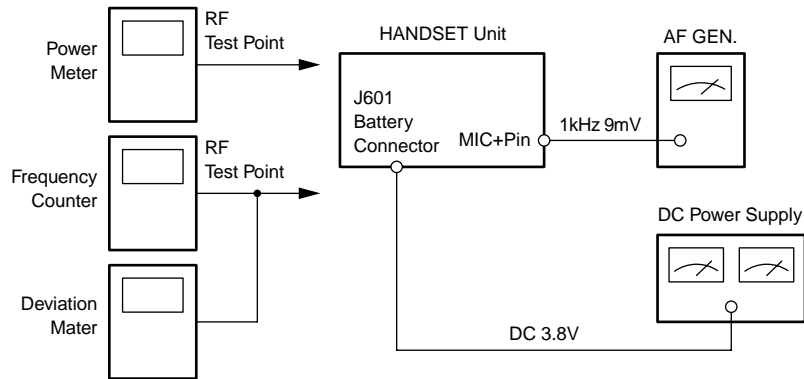
Base Main PCB



Handset Unit

Transmitter Section

Connection



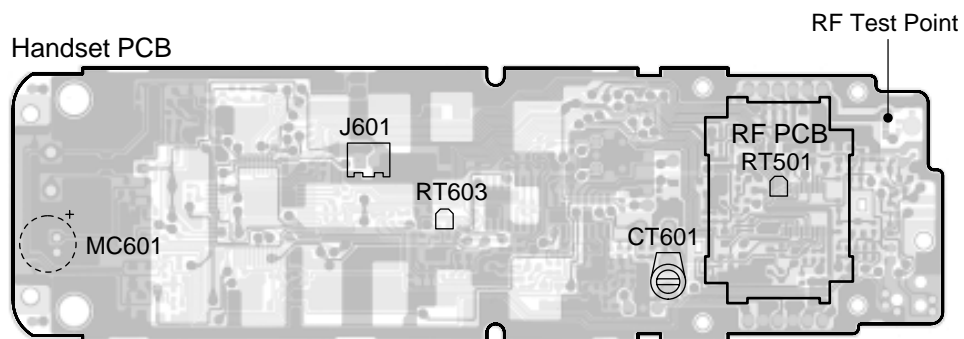
Preset

- 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.

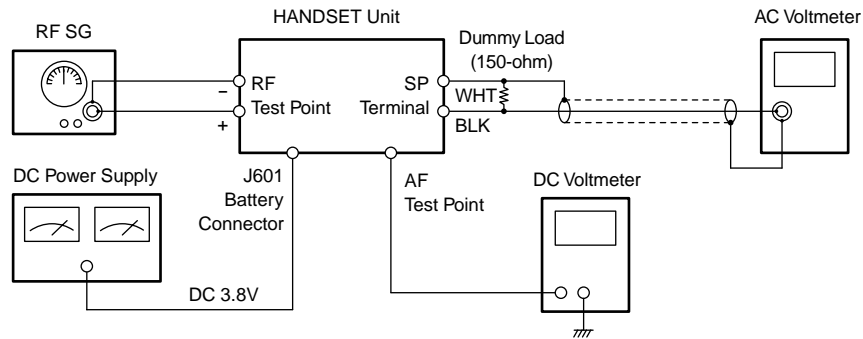
Alignment Procedure

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 -7.0dBm reading on the Power Meter.
2	CT601 (TX Frequency)	Connect the Frequency Counter to the RF test point on the handset MAIN PCB. Adjust CT601 to make sure that the frequency is 903.052467 MHz.
3	RT603 (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 RT603 to indicate ± 8 kHz Dev.

Alignment Point Location on Handset Main PCB and Handset RF PCB



Receiver Section Connections



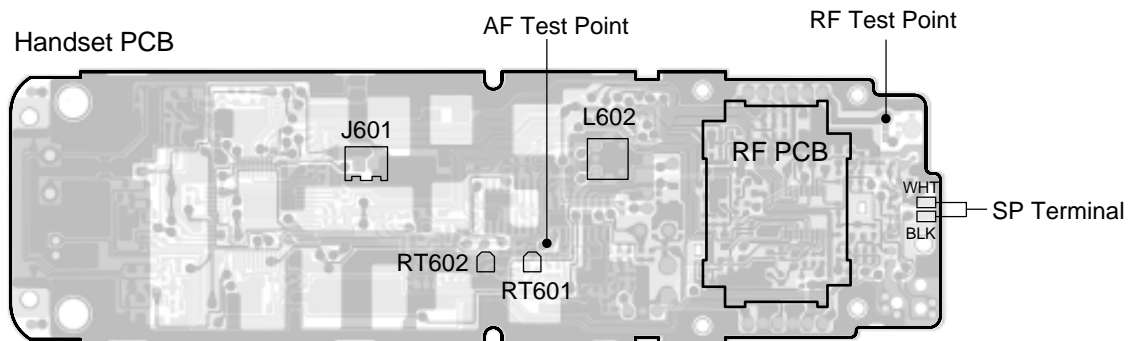
Preset

- 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.

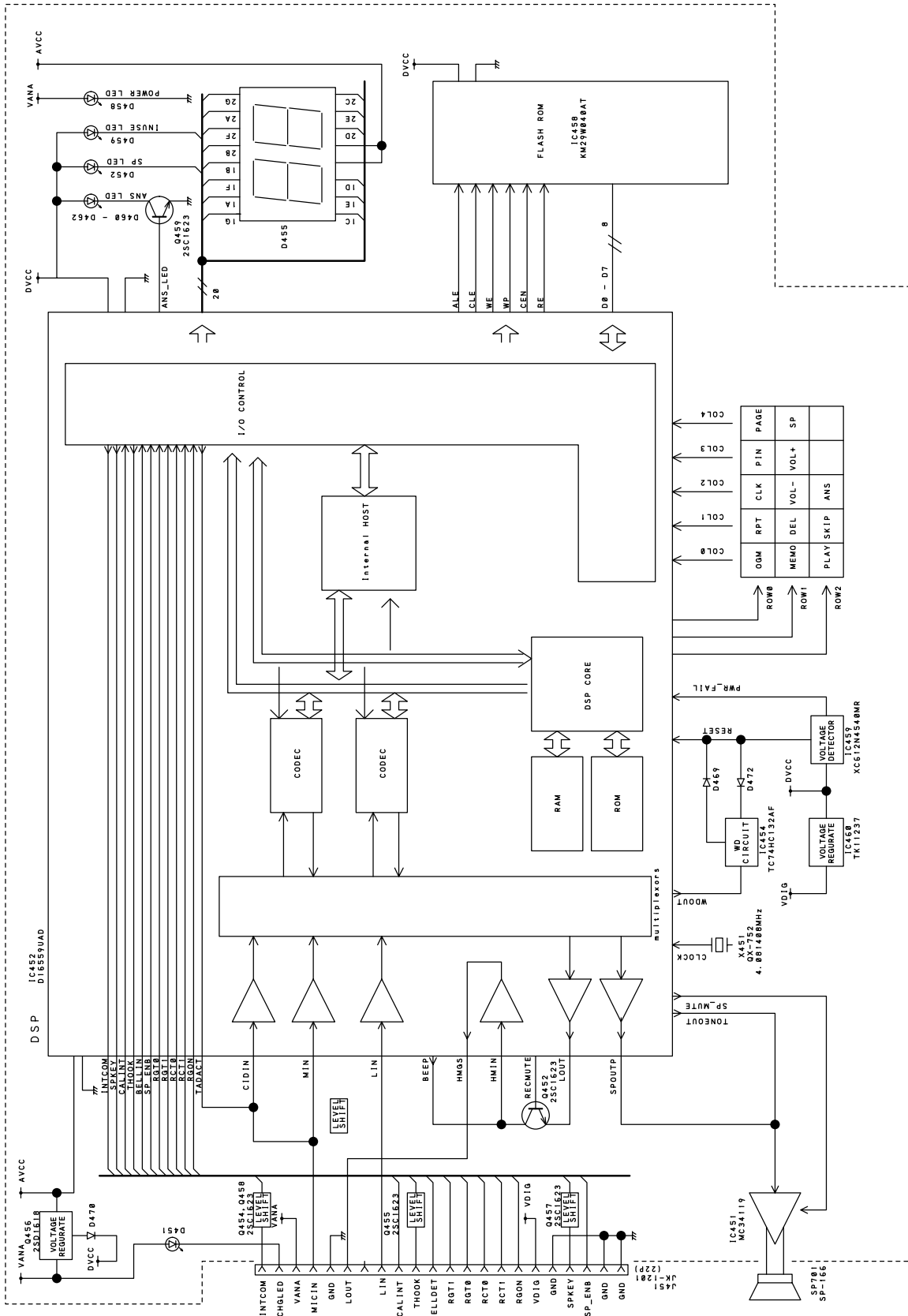
Alignment Procedure

step	Preset to	Adjustment	Remarks
1	SG: 1mV No modulation	L602 (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 L602 to indicate DC 1.00 V.
2	SG: 1mV 1 kHz \pm 8kHz deviation	RT602 (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 Terminal. Adjust RT602 for a 130 mV reading on the AC Voltmeter.
3	SG: -6.0 dB μ V 1kHz \pm 8kHz Deviation	RT601 (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 RT601 to turn to the point where the indication is just vibrated.

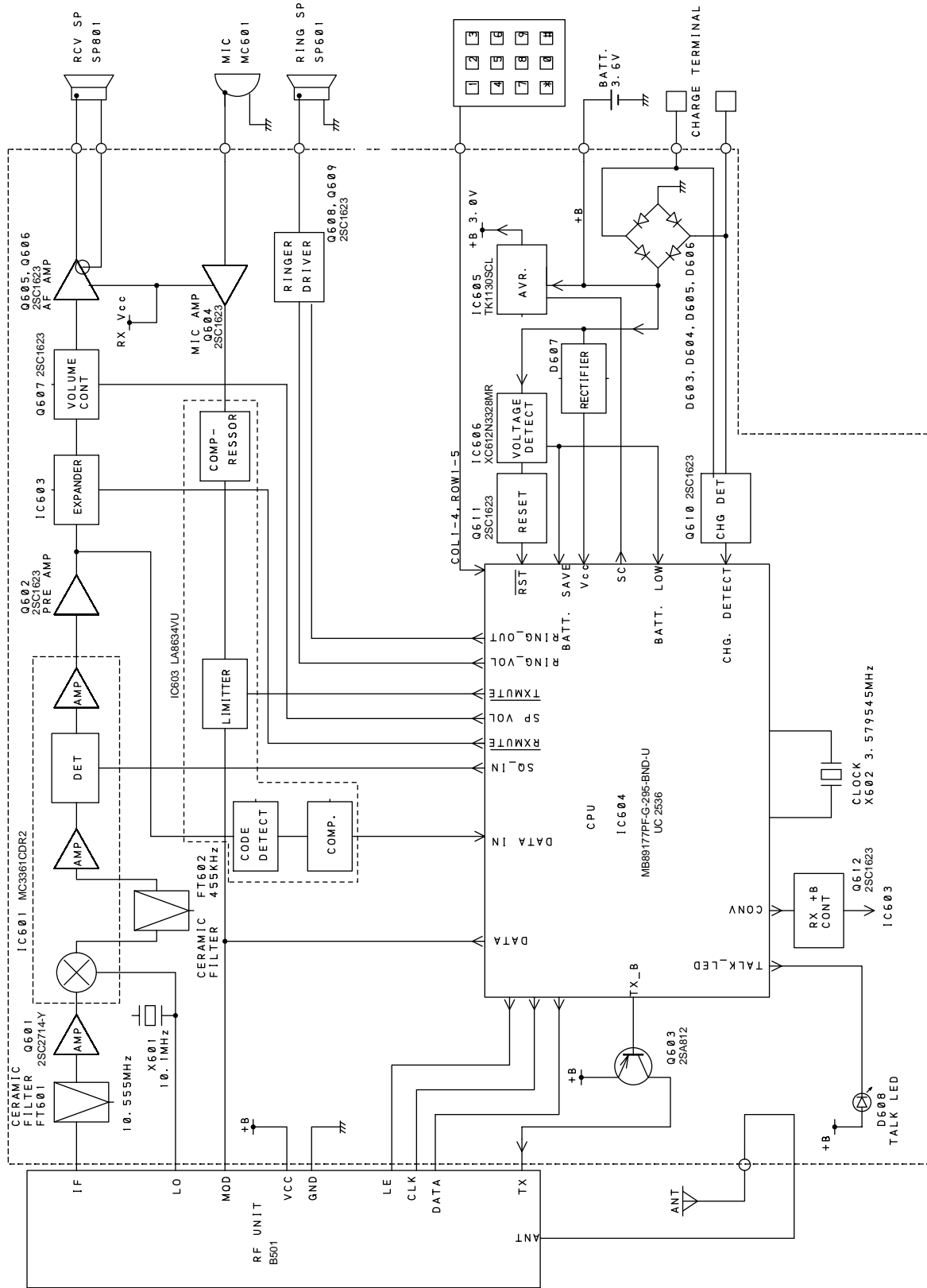
Alignment Point Location on Handset Main PCB and Handset RF PCB



Base Unit, DSP

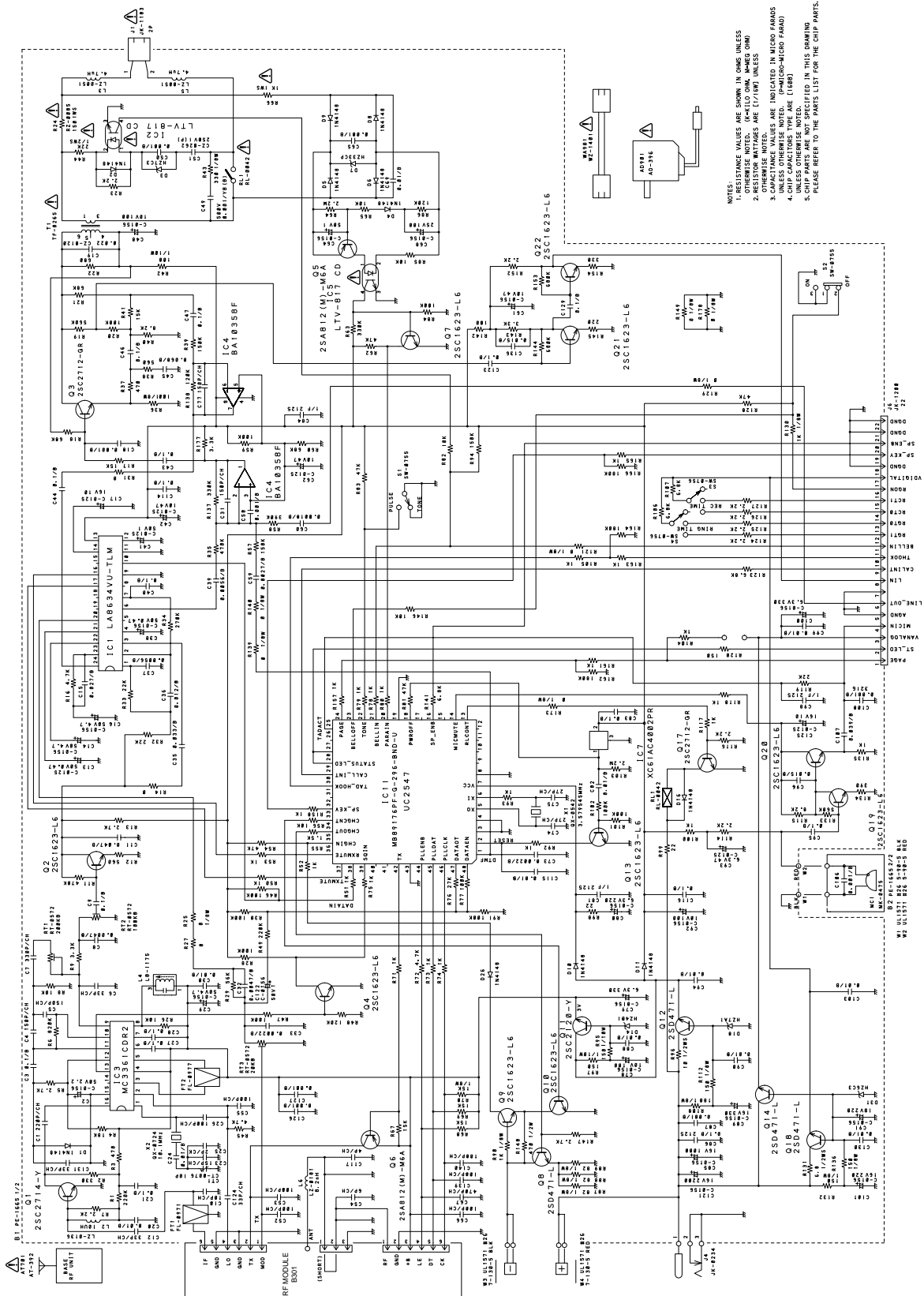


Handset



SCHEMATIC DIAGRAMS

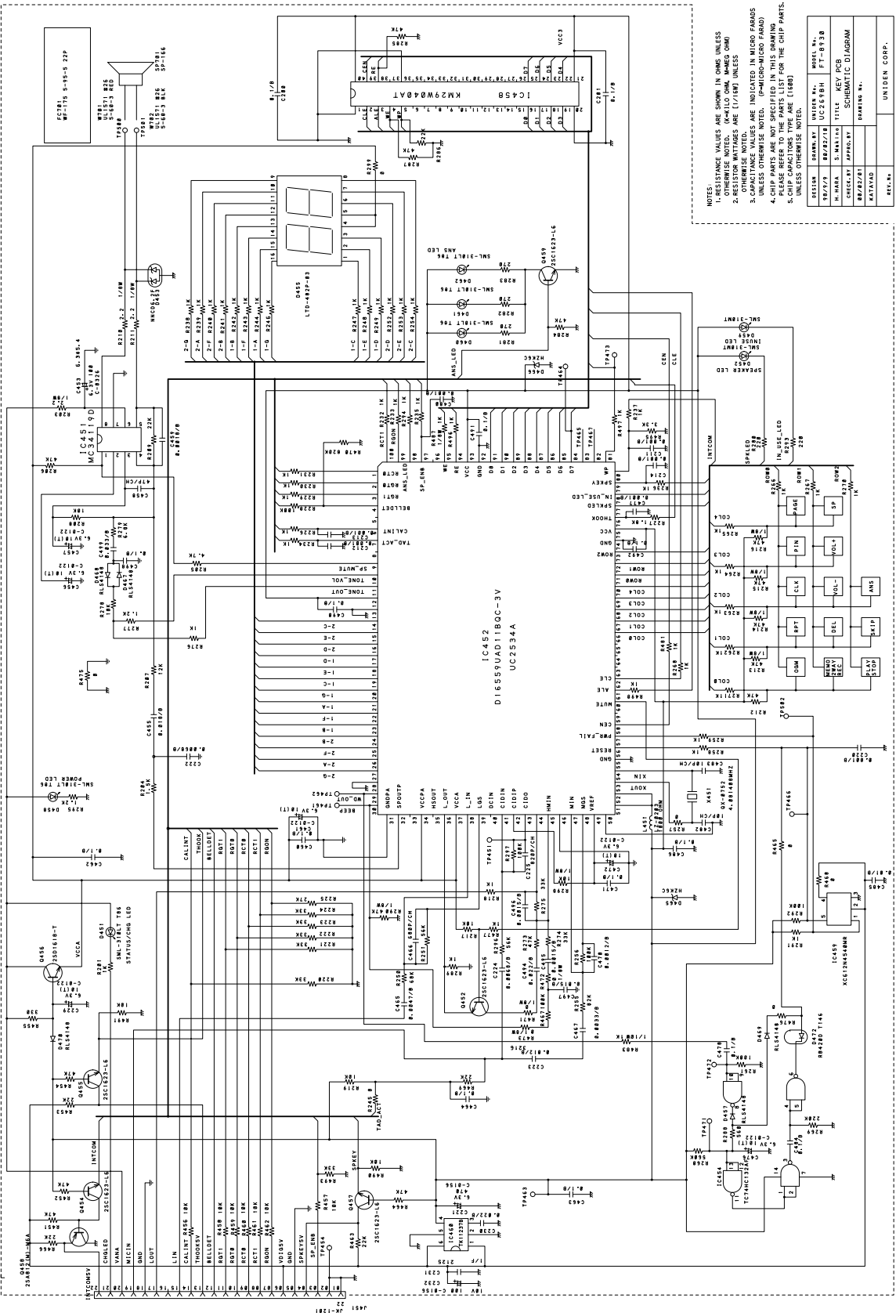
Base Unit, Main



- NOTES:
1. RESISTANCE VALUES ARE SHOWN IN OHMS UNLESS OTHERWISE NOTED. (K=KILO OHM, M=MEG OHM)
 2. CAPACITANCE VALUES ARE INDICATED IN MICRO FARADS UNLESS OTHERWISE NOTED. (P=PICTO FARAD)
 3. CAPACITANCE VALUES ARE INDICATED IN MICRO FARADS UNLESS OTHERWISE NOTED. (P=PICTO FARAD)
 4. CHIP CAPACITORS TYPE ARE (188)
 5. UNLESS OTHERWISE NOTED, ALL PARTS LISTED IN THIS DRAWING ARE TO BE OBTAINED FROM THE PARTS LIST FOR THE CHIP PARTS.

Base Unit, Key

8451.PE-153.1

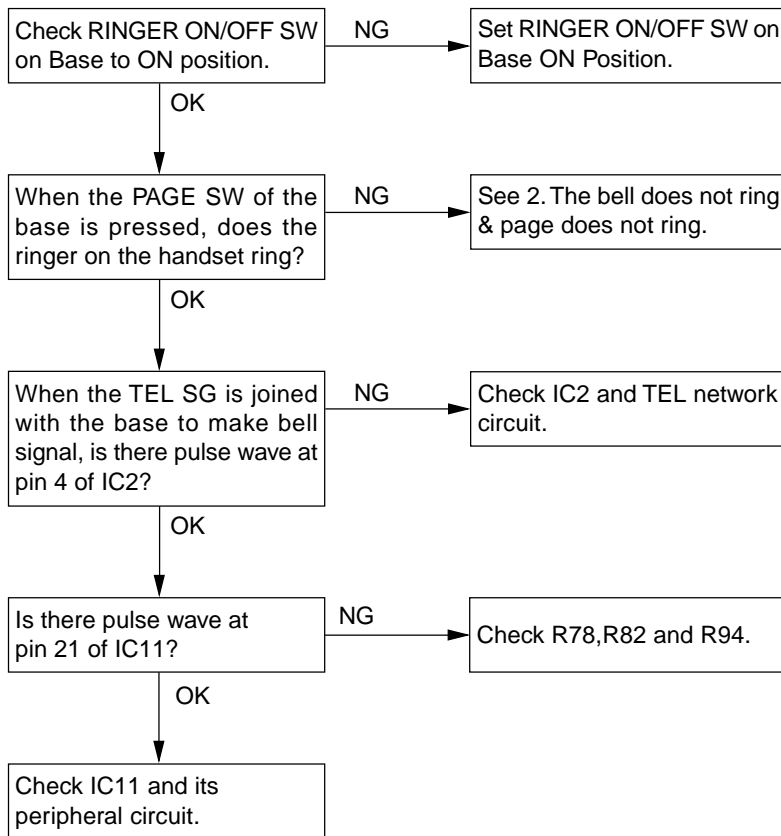


- NOTES:
1. DIMENSIONAL VALUES ARE SHOWN IN INCH UNLESS OTHERWISE NOTED. (MICRO INCH UNLESS OTHERWISE NOTED.)
 2. RESISTOR VALUES ARE 1/10W UNLESS OTHERWISE NOTED.
 3. CAPACITOR VALUES ARE INDICATED IN MICRO FARADS UNLESS OTHERWISE NOTED. (PICO-MICRO FARAD)
 4. CHIP PARTS ARE NOT SPECIFIED IN THIS DRAWING UNLESS OTHERWISE NOTED. (MICRO-MICRO FARAD)
 5. CHIP CAPACITORS TYPE ARE (104)

REVISION	DATE	BY	CHKD	APP'D	DESCRIPTION
1	8/27/78	WJ	WJ	WJ	INITIAL RELEASE
2	10/1/78	WJ	WJ	WJ	REVISION
3	10/1/78	WJ	WJ	WJ	REVISION
4	10/1/78	WJ	WJ	WJ	REVISION
5	10/1/78	WJ	WJ	WJ	REVISION
6	10/1/78	WJ	WJ	WJ	REVISION
7	10/1/78	WJ	WJ	WJ	REVISION
8	10/1/78	WJ	WJ	WJ	REVISION
9	10/1/78	WJ	WJ	WJ	REVISION
10	10/1/78	WJ	WJ	WJ	REVISION

TROUBLESHOOTING HINTS

1. The bell does not ring.



If you want to reset the unit to the factory settings

You can cancel the OGM, PIN, and the clock settings by the following process.

- 1 Disconnect the AC adaptor and telephone line cord from the base. Keep the AC adaptor connected to the wall outlet. Make sure that the telephone line cord remains disconnected during this procedure.
- 2 Set the TONE/PULSE switch to TONE mode. While pressing the DELETE button, plug the AC power adaptor into the base. Keep pressing the DELETE button for more than 4 seconds.

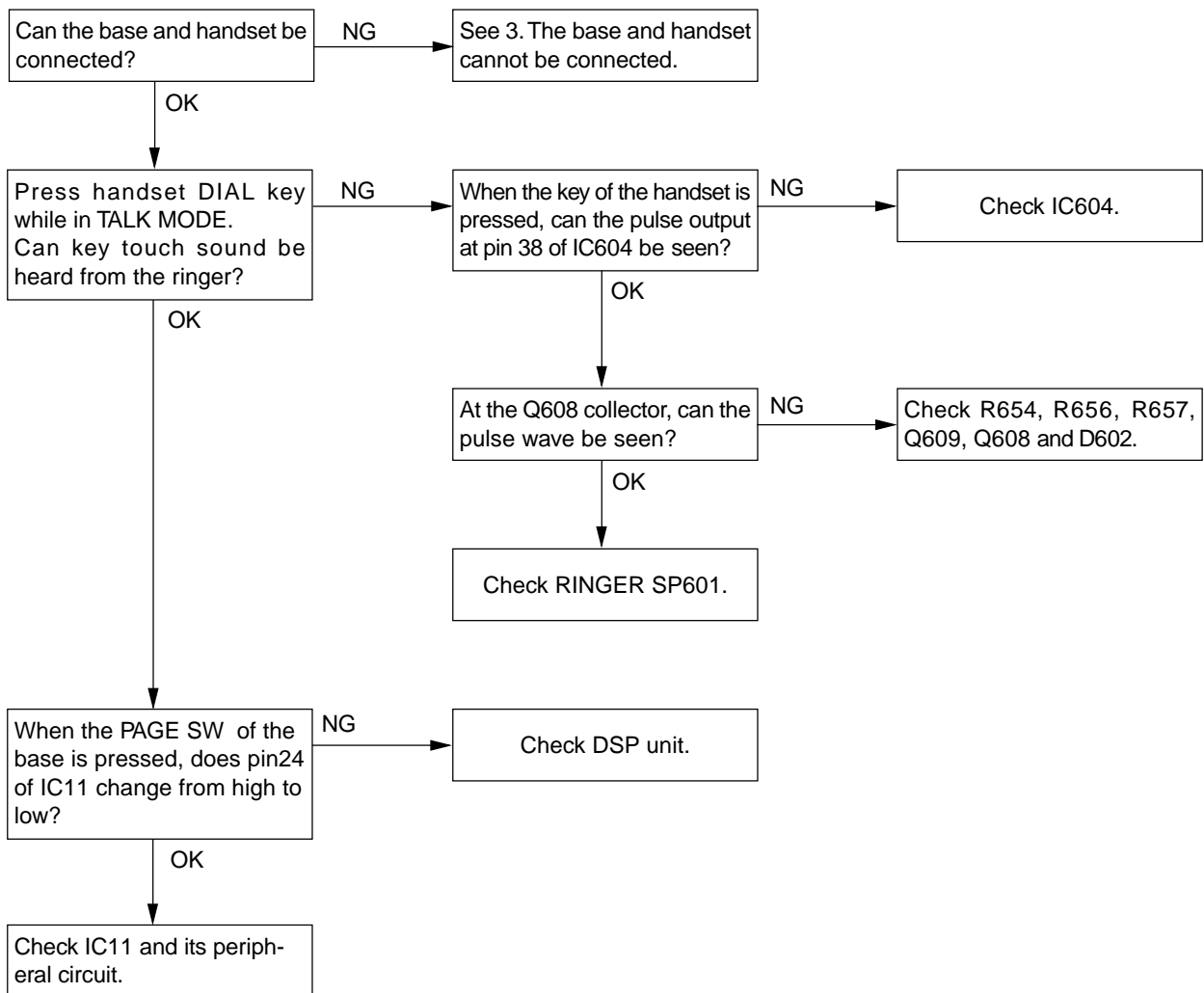
A beep sounds and " P " blinks in the LED display.

To resume using the unit, connect the telephone line cord and place the handset on the base.

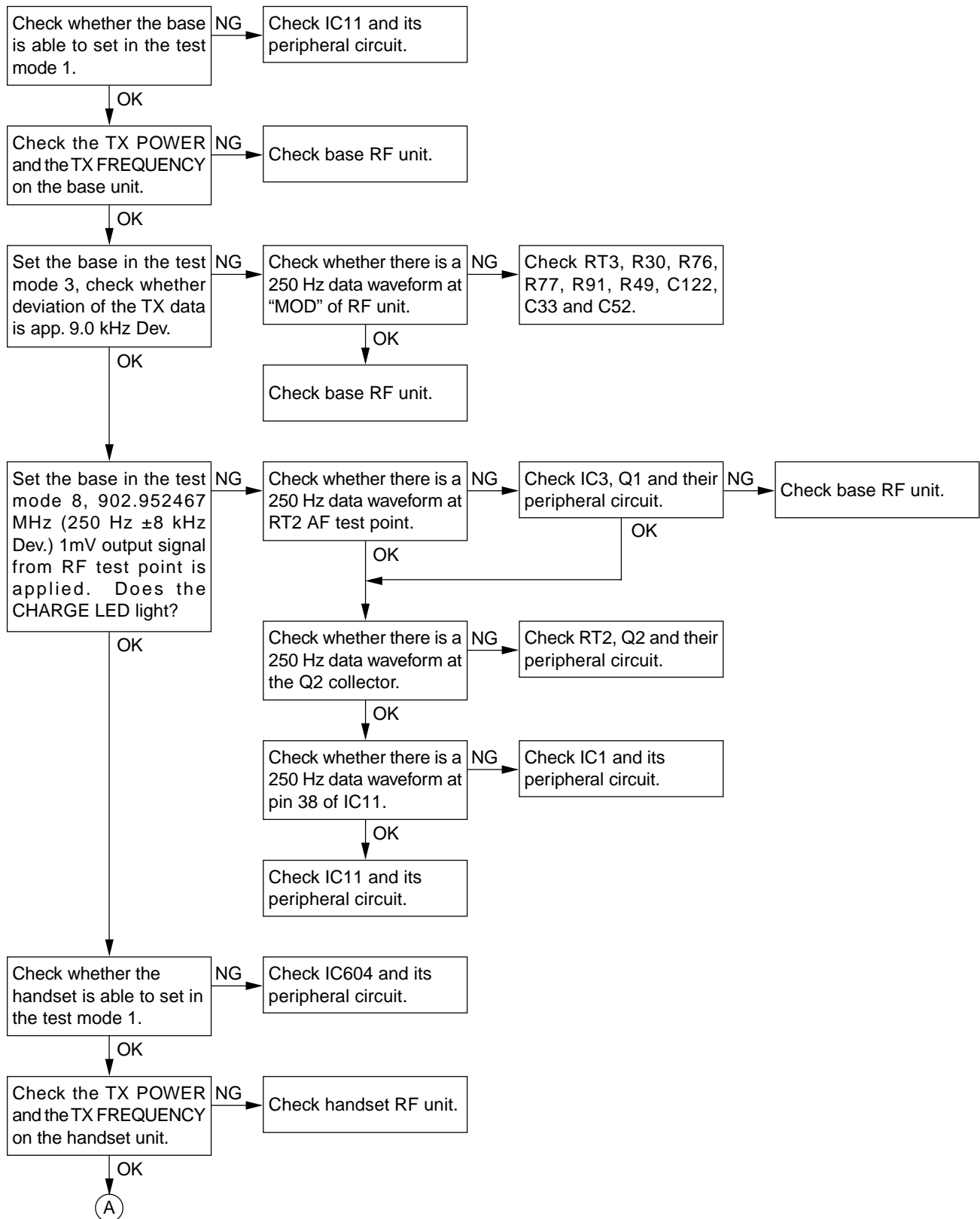
Note:

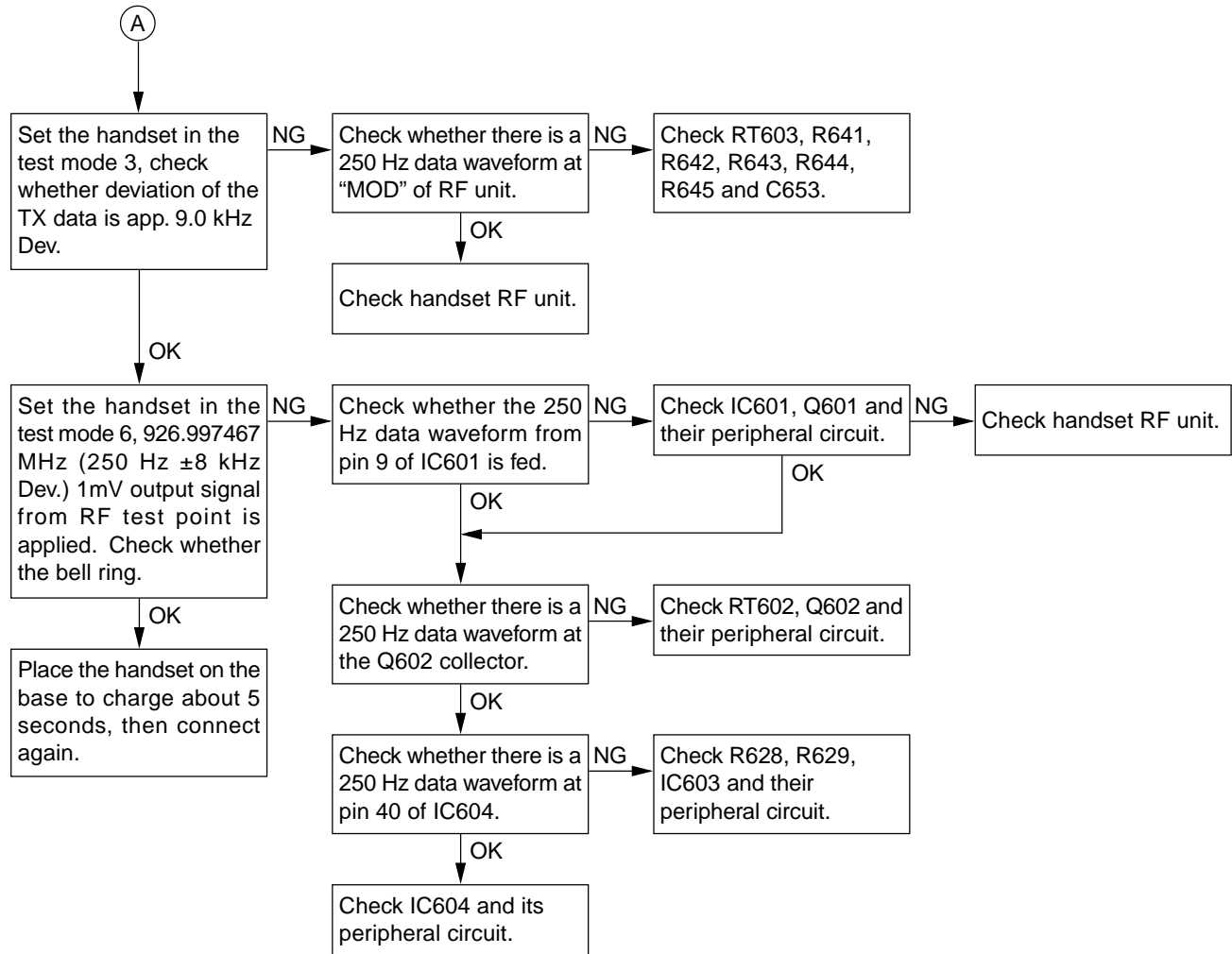
If you turn on the unit again, " P " may flash.

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

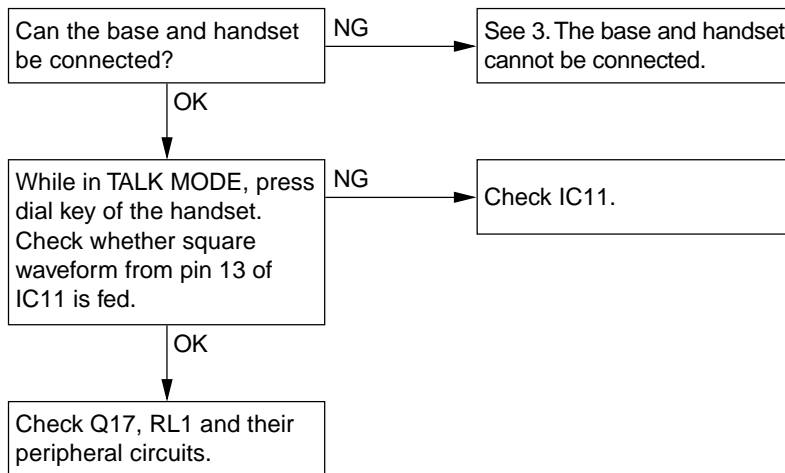


3. The base and handset cannot be connected.

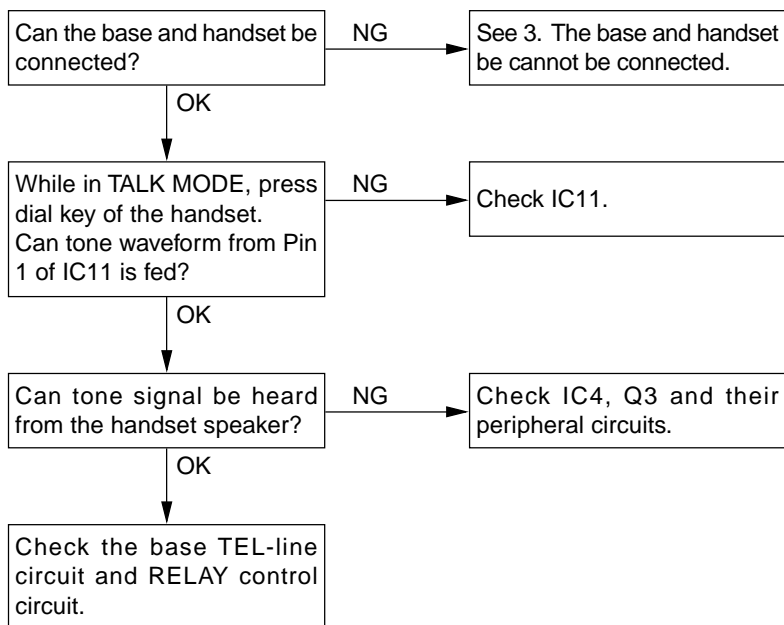




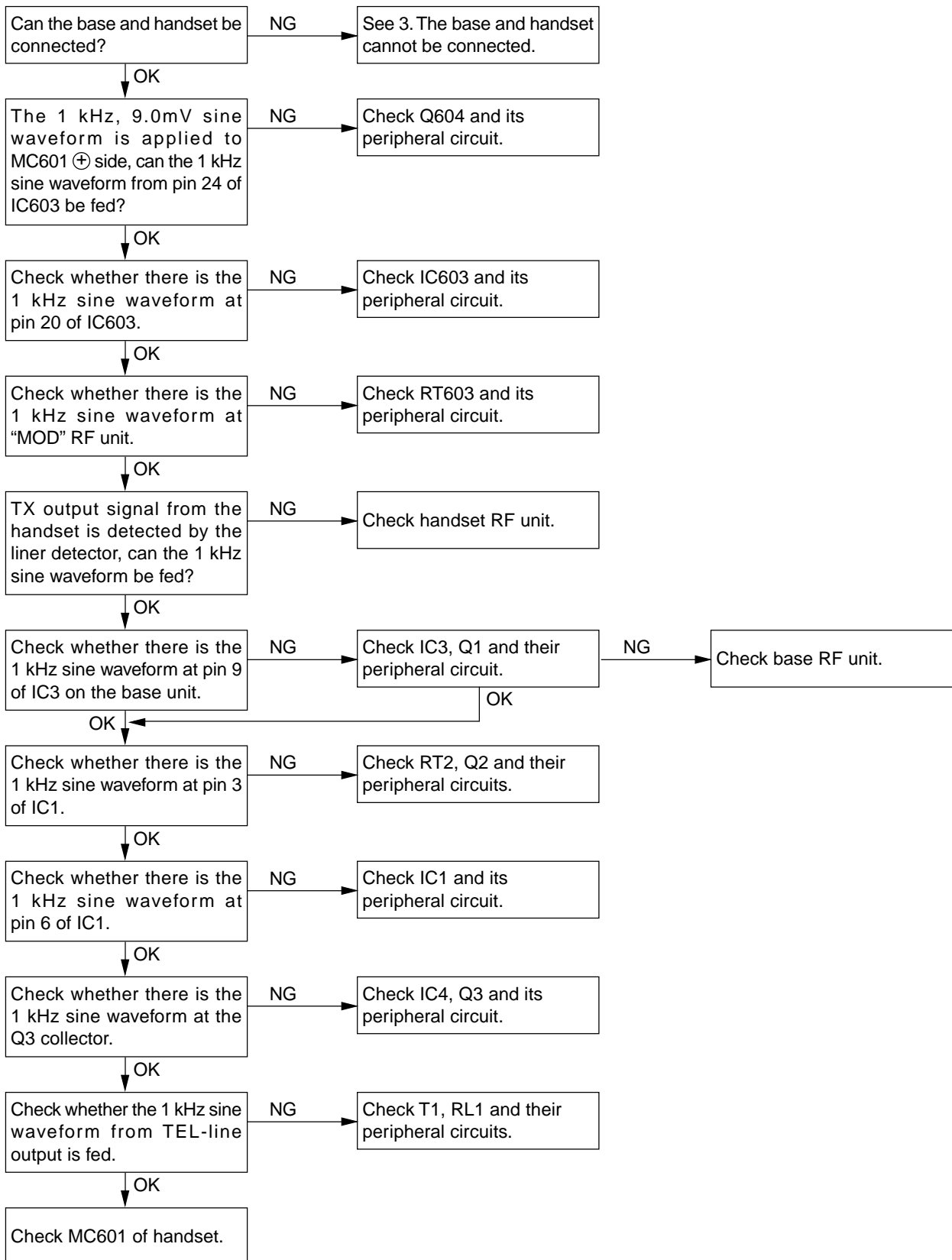
4. Cannot make a phone call (pulse).



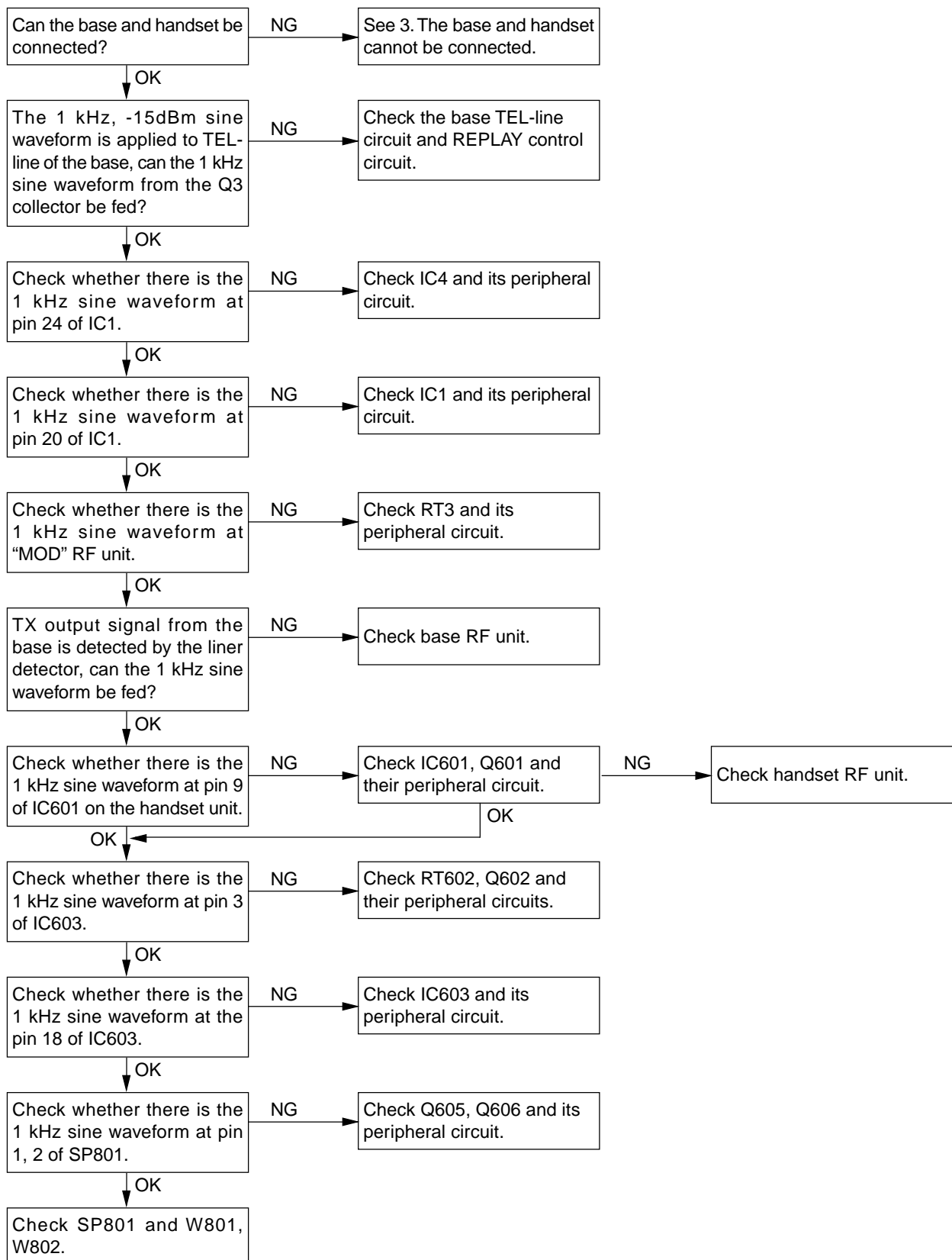
5. Cannot make a phone call (tone).



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, Main

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC1	1	2.6	2.6	
	2	2.6	2.6	
	3	2.7	2.7	
	4	0.7	0.6	
	5	2.7	2.7	
	6	2.7	2.7	
	7	2.5	2.5	
	8	5.1	5.0	
	9	0.0	0.0	GND
	10	0-5	0-5	DATA(PULSE)
	11	0.0	0.0	GND
	12	2.7	2.7	
	13	5.1	5.1	Vcc
	14	2.7	2.7	
	15	2.5	2.6	
	16	0.0	5.1	
	17	0.0	5.1	
	18	5.0	5.0	
	19	0.7	1.9	
	20	2.7	2.7	
	21	0.6	0.6	
	22	2.7	2.7	
	23	2.7	2.7	
	24	2.5	2.7	
IC2	1	0.0	0.0	
	2	0.0	0.0	
	3	0.0	0.0	
	4	4.3	4.3	
IC3	1	3.1	3.1	X'TAL
	2	2.7	2.7	X'TAL
	3	2.5	2.7	
	4	3.2	3.2	Vcc
	5	2.8	2.8	
	6	2.8	2.8	
	7	2.8	2.8	
	8	3.2	3.2	
	9	1.1	1.1	
	10	0.6	0.6	
	11	0.7	0.7	
	12	0.7	0.8	
	13	3.1	0.0	
	14	0.0	0.9	
	15	0.0	0.0	GND
	16	0.1	0.0	

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC4	1	2.0	2.0	
	2	2.1	2.1	
	3	2.1	2.1	
	4	0.0	0.0	GND
	5	2.0	2.1	
	6	2.0	2.1	
	7	2.0	2.0	
	8	5.1	5.1	Vcc
IC5	1	0.0	0.0	
	2	0.0	0.0	
	3	0.0	0.0	
	4	0.6	0.6	
IC7	1	5.1	5.1	
	2	5.1	5.1	
	3	0.0	0.0	
IC11	1	0.0	0.0	
	2	5.1	5.1	
	3	0.0	0.0	
	4	0.0	0.0	
	5	1.9	1.9	X'TAL
	6	2.1	2.1	X'TAL
	7	5.2	5.1	Vcc
	8	0.0	0.0	
	9	0.0	0.0	
	10	0.0	0.0	
	11	0.0	0.0	
	12	0.0	0.0	
	13	0.0	0.0	
	14	5.1	4.9	
	15	0.0	0.0	
	16	0.0	0.0	
	17	0.0	0.0	
	18	5.1	5.1	
	19	0.0	0.0	GND
	20	0.0	0.0	
	21	4.7	4.1	
	22	5.1	5.1	
	23	0.0	0.0	
	24	0.7	0.7	
	25	0.3	0.4	
	26	0.0	0.0	
	27	4.4	4.4	
	28	4.4	4.4	
	29	0.0	0.0	

Unit[V]

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC11	30	0.5	0.5	
	31	0.0	0.0	
	32	0.3	0.3	
	33	5.1	5.1	
	34	5.0	5.0	
	35	5.1	5.1	
	36	0.0	0.0	
	37	0.0	0.0	
	38	2.4	2.5	
	39	0.0	0.0	
	40	0.0	0.0	
	41	0.0	0.0	
	42	5.1	0.0	
	43	0.0	0.0	GND
	44	0.0	2.9	(PULSE)PLLENB
	45	3.1	3.0	(PULSE)PLLDAT
	46	0.1	0.1	(PULSE)PLLCLK
	47	1.7	1.7	
48	0.0	0.0		
Q1	E	0.0	0.0	
	C	2.4	2.4	
	B	0.7	1.7	
Q2	E	0.5	0.5	
	C	2.6	2.6	
	B	1.1	1.1	
Q3	E	0.8	0.8	
	C	4.1	4.0	
	B	1.5	1.4	
Q4	E	0.0	0.0	
	C	0.0	5.1	
	B	0.6	0.0	
Q5	E	0.0	0.0	
	C	0.0	0.0	
	B	0.0	0.0	
Q6	E	3.2	3.2	
	C	0.0	3.1	
	B	5.0	2.4	
Q7	E	0.0	0.0	
	C	0.0	0.0	
	B	0.6	0.6	
Q8	E	0.1	0.1	
	C	0.1	0.1	
	B	0.8	0.8	

Ref. No.	PIN	STBY	TALK	NOTE
Q9	E	0.0	0.0	
	C	4.9	4.9	
	B	0.1	0.1	
Q10	E	0.0	0.0	
	C	0.0	0.0	
	B	0.7	0.7	
Q11	E	3.2	3.2	
	C	5.8	5.8	
	B	3.8	3.8	
Q12	E	5.9	5.9	
	C	8.4	8.2	
	B	6.5	6.5	
Q13	E	0.0	0.0	
	C	5.1	5.1	
	B	0.0	0.0	
Q14	E	5.7	5.7	
	C	9.0	9.0	
	B	6.3	6.3	
Q17	E	0.0	0.0	
	C	9.0	0.0	
	B	0.0	0.8	
Q18	E	5.6	5.7	
	C	8.7	8.8	
	B	6.3	6.3	
Q19	E	0.1	0.1	
	C	1.4	1.3	
	B	0.7	0.7	
Q20	E	0.7	0.7	
	C	4.0	4.0	
	B	1.4	1.3	
Q21	E	0.17	0.17	
	C	2.3	2.3	
	B	0.8	0.0	
Q22	E	0.3	0.3	
	C	2.78	2.78	
	B	0.9	0.9	

Base Unit, Key

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC451	1	2.7	2.7	
	2	0.0	0.0	
	3	2.4	2.4	
	4	2.4	2.4	
	5	2.4	2.4	
	6	5.7	5.7	Vcc
	7	0.0	0.0	GND
	8	2.4	2.4	
IC452	1	0.0	0.0	
	2	0.0	0.0	
	3	0.0	0.0	
	4	0.0	0.0	
	5	0.0	0.0	
	6	0.0	3.3	
	7	0.0	0.0	
	8	0.0	0.0	
	9	2.7	2.7	
	10	0.0	0.0	
	11	0.0	0.0	
	12	3.7	3.7	
	13	0.0	0.0	GND
	14	2.2	2.2	
	15	2.2	2.2	
	16	2.2	2.2	
	17	2.2	2.2	
	18	2.2	2.2	
	19	2.2	2.2	
	20	2.2	2.2	
	21	2.2	2.2	
	22	2.2	2.2	
	23	2.2	2.2	
	24	2.2	2.2	
	25	2.2	2.2	
	26	2.2	2.2	
	27	2.2	2.2	
	28	0.0	0.0	GND
	29	0-3.7	0-3.7	WDT(PULSE)
	30	0.0	0.0	
31	0.0	0.0		
32	0.0	0.0		
33	1.5	1.5		
34	3.7	3.7	VccA	
35	1.6	1.6		
36	1.6	1.6		

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC452	37	3.7	3.7	VccA
	38	1.6	1.6	
	39	1.6	1.6	
	40	0.2	0.2	
	41	1.6	1.6	
	42	1.6	1.6	
	43	1.6	1.6	
	44	1.6	1.6	
	45	1.6	1.6	
	46	0.0	0.0	
	47	1.6	1.6	
	48	1.6	1.6	
	49	1.6	1.6	
	50	0.0	0.0	GND
	51	3.7	3.7	
	52	3.7	3.7	
	53	0.5	0.5	X'TAL
	54	0.0	0.0	X'TAL
	55	0.0	0.0	GND
	56	3.7	3.7	
	57	3.7	3.7	
	58	3.7	3.7	
	59	1.0	1.0	
	60	2.2	2.2	
	61	0.0	0.0	
	62	0.0	0.0	
	63	3.7	3.7	
	64	0.0	0.0	
	65	0.0	0.0	
	66	3.7	3.7	
	67	3.7	3.7	
	68	3.7	3.7	
	69	3.7	3.7	
	70	3.7	3.7	
	71	0.0	0.0	
	72	0.0	0.0	
	73	0.0	0.0	
74	0.0	0.0	GND	
75	3.7	3.7	Vcc	
76	0.0	0.0		
77	2.3	2.3		
78	2.3	0.2		
79	0.0	0.0		
80	0.0	0.0		

Unit[V]				
Ref. No.	PIN	STBY	TALK	NOTE
IC452	81	0.0	0.0	
	82	3.7	3.7	
	83	0.0	0.0	
	84	0.0	0.0	
	85	0.2	0.2	
	86	0.2	0.2	
	87	0.2	0.2	
	88	0.2	0.2	
	89	0.2	0.2	
	90	0.2	0.2	
	91	0.2	0.2	
	92	0.0	0.0	GND
	93	3.7	3.7	Vcc
	94	3.7	3.7	
	95	3.7	3.7	
	96	0.0	0.0	
	97	0.0	0.0	
	98	0.0	0.0	
	99	3.0	3.0	
	100	3.6	3.6	
IC454	1	0.0	0.0	
	2	3.7	3.7	
	3	0.0	0.0	
	4	0.0	0.0	
	5	0.0	0.0	
	6	3.7	3.7	
	7	0.0	0.0	GND
	8	1.9	1.9	
	9	1.2	1.2	
	10	1.2	1.2	
	11	3.7	3.7	
	12	0.4	0.4	
	13	0.4	0.4	
	14	3.7	3.7	Vcc
IC458	1	0.0	0.0	GND
	2	0.0	0.0	
	3	0.0	0.0	
	4	3.6	3.6	
	5	3.5	3.5	
	6	0.0	0.0	
	7	0.0	0.0	
	8	0.0	0.0	
	9	0.0	0.0	
	10	0.0	0.0	

Unit[V]					
Ref. No.	PIN	STBY	TALK	NOTE	
IC458	11	0.0	0.0		
	12	0.0	0.0		
	13	0.0	0.0		
	14	0.0	0.0		
	15	0.0	0.0		
	16	0.4	0.4		
	17	0.4	0.4		
	18	0.4	0.4		
	19	0.4	0.4		
	20	0.0	0.0	GND	
	21	3.7	3.7	Vcc	
	22	0.9	0.9		
	23	0.9	0.9		
	24	0.9	0.9		
	25	0.9	0.9		
	26	0.0	0.0		
	27	0.0	0.0		
	28	0.0	0.0		
	29	0.0	0.0		
	30	0.0	0.0		
	31	0.0	0.0		
	32	0.0	0.0		
	33	0.0	0.0		
	34	0.0	0.0		
	35	0.0	0.0		
	36	0.0	0.0		
	37	0.8	0.8		
	38	3.6	3.6		
	39	3.7	3.7		
	40	3.7	3.7	Vcc	
	IC459	1	3.7	3.7	
		2	5.7	5.7	
		3	0.0	0.0	GND
		4	5.7	5.7	
		5	3.7	3.7	
	IC460	1	5.7	5.7	
		2	0.0	0.0	GND
		3	1.3	1.3	
		4	3.7	3.7	
		5	0.0	0.0	GND
6		5.7	5.7		

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
Q452	E	1.6	1.6	
	C	1.6	1.6	
	B	2.2	2.2	
Q454	E	0.1	0.1	
	C	0.2	0.2	
	B	0.7	0.7	
Q455	E	0.4	0.4	
	C	0.5	0.5	
	B	1.0	1.0	
Q456	E	3.7	3.7	
	C	5.7	5.7	
	B	4.4	4.4	
Q457	E	0.3	0.3	
	C	0.3	0.3	
	B	0.9	0.9	
Q458	E	0.7	0.7	
	C	0.0	0.0	
	B	0.2	0.2	
Q459	E	0.0	0.0	
	C	2.5	2.5	
	B	0.0	0.0	

Handset

Unit[V]

Unit[V]

Ref. No.	PIN	STBY	TALK	NOTE
IC601	1	0/SineWave	SineWave	10.1MHz 10.1MHz
	2	0/SineWave	SineWave	10.1MHz 10.1MHz
	3	0-2.4	ClippedWave	PULSE 455kHz
	4	0-3.0	3.0	PULSE Vcc
	5	0-2.6	SineWave	PULSE 455kHz
	6	0-2.6	2.6	PULSE
	7	0-2.6	2.6	PULSE
	8	0-3.0	3.0	PULSE Vol:MEDIUM
	9	0	0.85	NOISE
	10	0-0.7	0.6	PULSE
	11	0-0.7	0.7	NOISE
	12	0-0.5	0.8	PULSE
	13	0-2.9	0	PULSE
	14	0	0	
	15	0	0	GND GND
	16	0-3.0	3.0	PULSE
IC603	1	0-1.8	1.8	NOISE
	2	0-1.8	1.8	NOISE
	3	0-1.3	0.6	NOISE
	4	0	0.6	
	5	0	1.6	
	6	0	1.6	
	7	0-1.8	1.8	PULSE
	8	0	3.5	
	9	0	0	GND GND
	10	0-3.0	0.1-3.0	PULSE PULSE
	11	0	0	GND GND
	12	0-0.6	1.6	PULSE
	13	0-3.0	3.0	PULSE Vcc
	14	0	1.6	
	15	0	1.6	
	16	0	3.5	
	17	0	3.5	
	18	0	1.6	
	19	0	1.6	
	20	0	1.6	
	21	0	0.6	
	22	0.3	1.6	
	23	0.3	1.6	
	24	0	1.6	
IC604	1	0	0	
	2	3.6	3.5	
	3	0	0	GND GND
	4	0	0	GND GND

Ref. No.	PIN	STBY	TALK	NOTE
IC604	5	0/SineWave	SineWave	3.58MHz
	6	3.6/SineWave	SineWave	3.58MHz 3.58MHz
	7	3.6	3.5	Vcc 3.58MHz
	8	0	0	GND
	9	0	0	
	10	0	0	
	11	0	3.5	
	12	0	3.5	
	13	0-3.6	3.5	PULSE
	14	0	3.5	Vol:MEDIUM
	15	0	0	Vol:MEDIUM
	16	3.6	0.3	
	17	0	0	
	18	0	0	
	19	0	0	GND GND
	20	0	0	
	21	0	0	
	22	0	0	
	23	0	0	
	24	0	0	
	25	0	0	
	26	1.0-3.0	3.5	
	27	1.0-3.0	3.5	
	28	0	0	
	29	3.8	3.8	
	30	3.6	3.5	
	31	3.6	3.5	
	32	3.6	3.5	
	33	3.6	3.5	
	34	3.6	3.5	
	35	3.8	3.8	
	36	3.8	3.8	
	37	0	3.5	
	38	0	0	
	39	0	0	
	40	0-3.0	0-3.0	PULSE NOISE
	41	0-3.8	3.8	PULSE
	42	0-2.5	0.2	PULSE
	43	0	0	GND GND
	44	0-0.8	0.8	PULSE
	45	0	0	
	46	0-3.0	0	PULSE
	47	0-3.0	3.0	PULSE
	48	0-3.0	3.0	PULSE

Unit[V]

Unit[V]

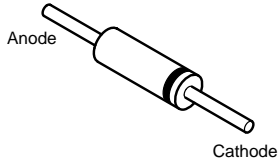
Ref. No.	PIN	STBY	TALK	NOTE
IC605	1	0-3.5	3.5	PULSE
	2	0	0	GND GND
	3	0-1.3	1.3	PULSE
	4	0-3	3	PULSE
	5	3.8	3.8	BATT:3.8V BATT:3.8V
IC606	1	3.8	3.8	BATT:3.8V BATT:3.8V
	2	3.8	3.8	BATT:3.8V BATT:3.8V
	3	0	0	GND GND
	4	3.8	3.8	BATT:3.8V BATT:3.8V
	5	3.8	3.8	BATT:3.8V BATT:3.8V
Q601	B	0-0.7	0.7	PULSE
	E	0	0	GND GND
	C	0-2.2	2.2	PULSE
Q602	B	0-1.0	1	PULSE
	E	0-0.6	0.4	PULSE
	C	0-2.0	1.8	PULSE
Q603	B	0-2.5	2.2	PULSE
	E	0-3.0	3	PULSE
	C	0.2	3	
Q604	B	0.2	1.4	
	E	0	0.9	
	C	0.2	2	
Q605	B	0	1.4	
	E	0	0.7	
	C	3.8	2	
Q606	B	0	1.4	
	E	0	0.7	
	C	3.8	1.8	
Q607	B	0	0	Vol: MEDIUM
	E	0	0	GND Vol: MEDIUM
	C	0	0	Vol: MEDIUM
Q608	B	0	0	
	E	0	0	
	C	3.8	3.8	
Q609	B	0	0	
	E	0	0	
	C	0	0	
Q610	B	0	0	w/o CHG
	E	0	0	
	C	3.8	3.8	
Q611	B	0	0	
	E	0	0	GND GND
	C	3.6	3.5	

Ref. No.	PIN	STBY	TALK	NOTE
Q612	B	0-0.6	1.6	PULSE
	E	0	3.5	
	C	0-0.6	1.6	PULSE
Q613	B	0-0.7	0	PULSE
	E	0	0	GND GND
	C	0-3.8	3.8	PULSE

SEMICONDUCTOR LEAD IDENTIFICATION

Base Unit

D1/D2/D4/D5/D6/D8/D9
/D10/D11/D16/D26 : 1N4148
D3 : HZ7C3
D7 : HZ33CP
D14 : HZ4B1
D18 : HZ7A1
D31 : HZ6C3



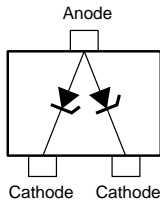
D457/D467/D468
/D469/D470 : RLS4148
D465/D466 : HZK6C



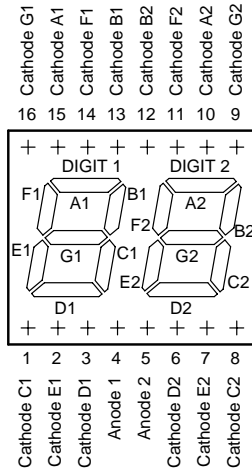
D451/D458/D460
/D461/D462 : SML-310LT
D452/D459 : SML-310MT



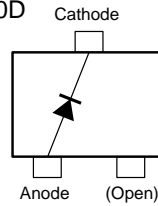
D453 : NNCD6.2F



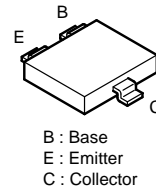
D455 :LTD-482P



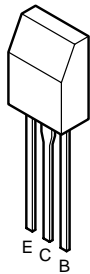
D472
RB420D



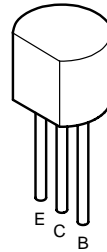
Q1 : 2SC2714
Q2/Q4/Q7/Q9/Q10/Q13
/Q19/Q20/Q21/Q22/Q452
/Q454/Q455/Q457/Q459 : 2SC1623
Q3/Q17 : 2SC2712
Q5/Q6/Q458 : 2SA812(M)



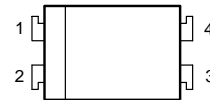
Q8/Q12
/Q14/Q18 : 2SD471



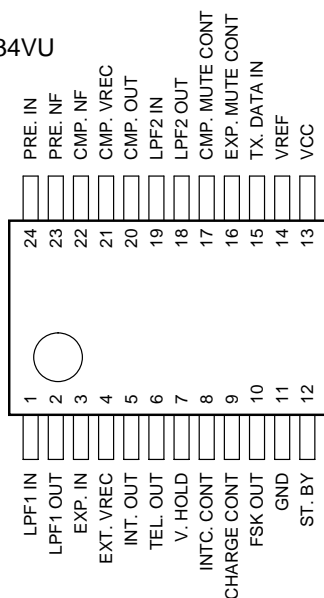
Q11 : 2SC2120



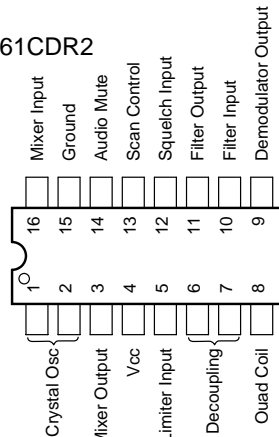
IC2/IC5
LTV-817



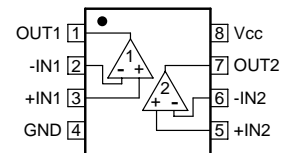
IC1
LA8634VU



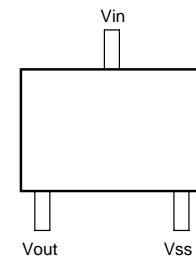
IC3
MC3361CDR2



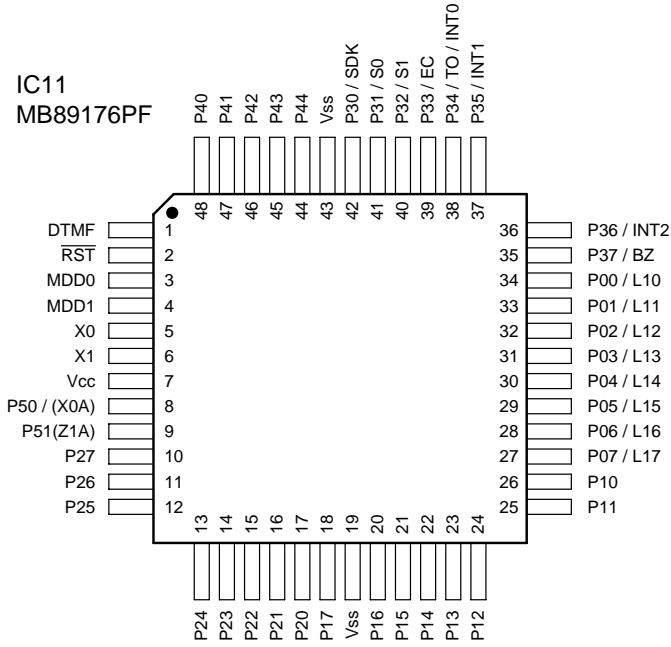
IC4 : BA10358F



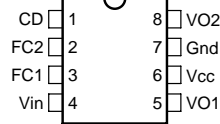
IC7
XC61CC4002PR/XC61AC4002PR



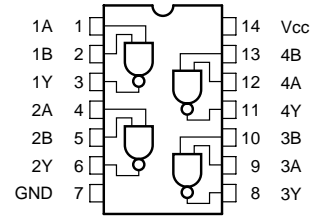
**IC11
MB89176PF**



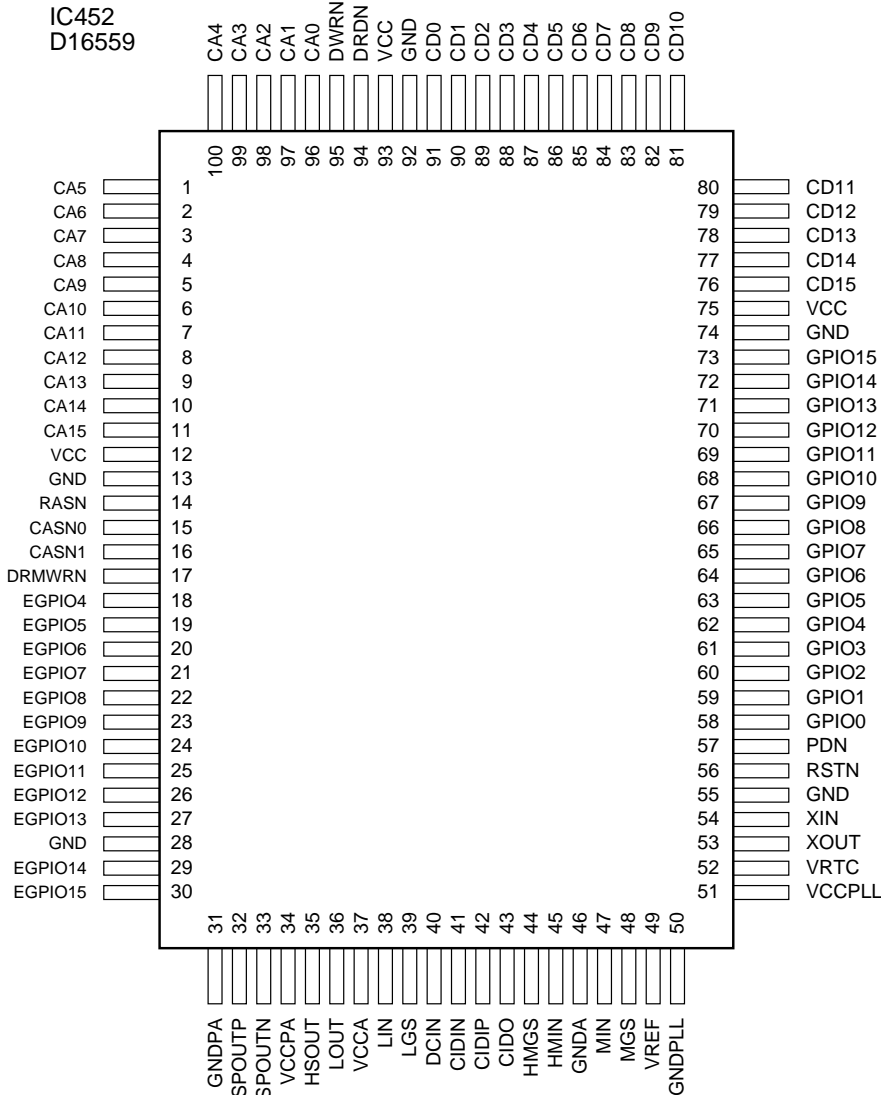
**IC451
MC34119D**



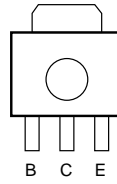
**IC454
TC74HC132AF**



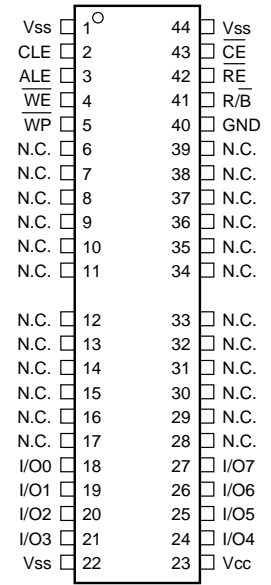
**IC452
D16559**



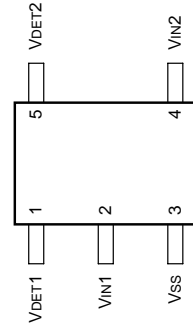
Q456 : 2SD1618



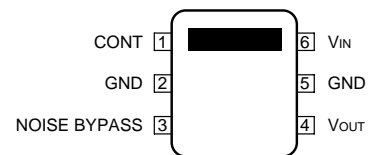
IC458 : K9F4008WOA



**IC459
XC612N4540MR**



**IC460
TK11237**

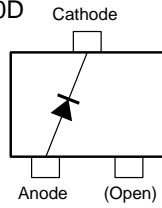


Handset

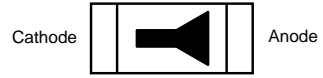
D601/D602/D605/D606 : RLS4148
 D603/D604 : HZK6C



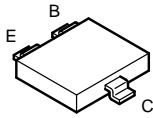
D607
 RB420D



D608 : SML-310LT

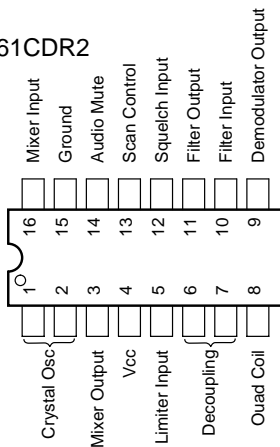


Q601 : 2SC2714
 Q602/Q604/Q605/Q606/Q607/Q608
 /Q609/Q610/Q611/Q612/Q613 : 2SC1623
 Q603 : 2SA812(M)

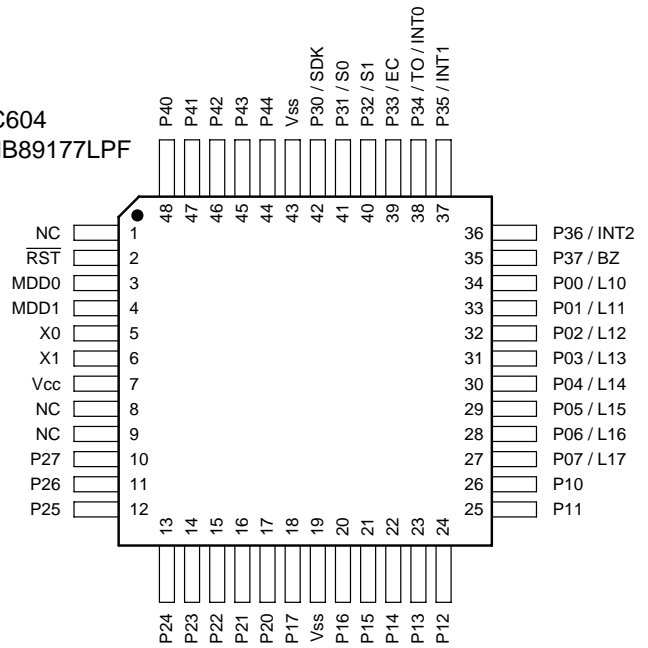


B : Base
 E : Emitter
 C : Collector

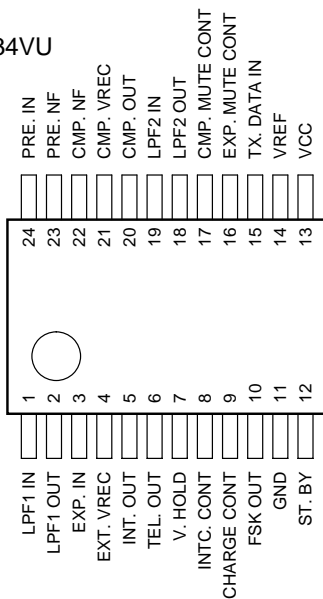
IC601
 MC3361CDR2



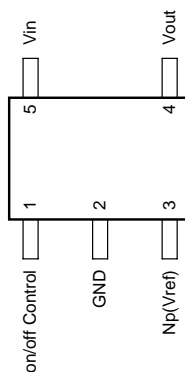
IC604
 MB89177LPF



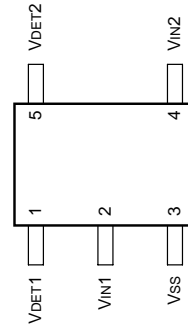
IC603
 LA8634VU



IC605
 TK11130SCL

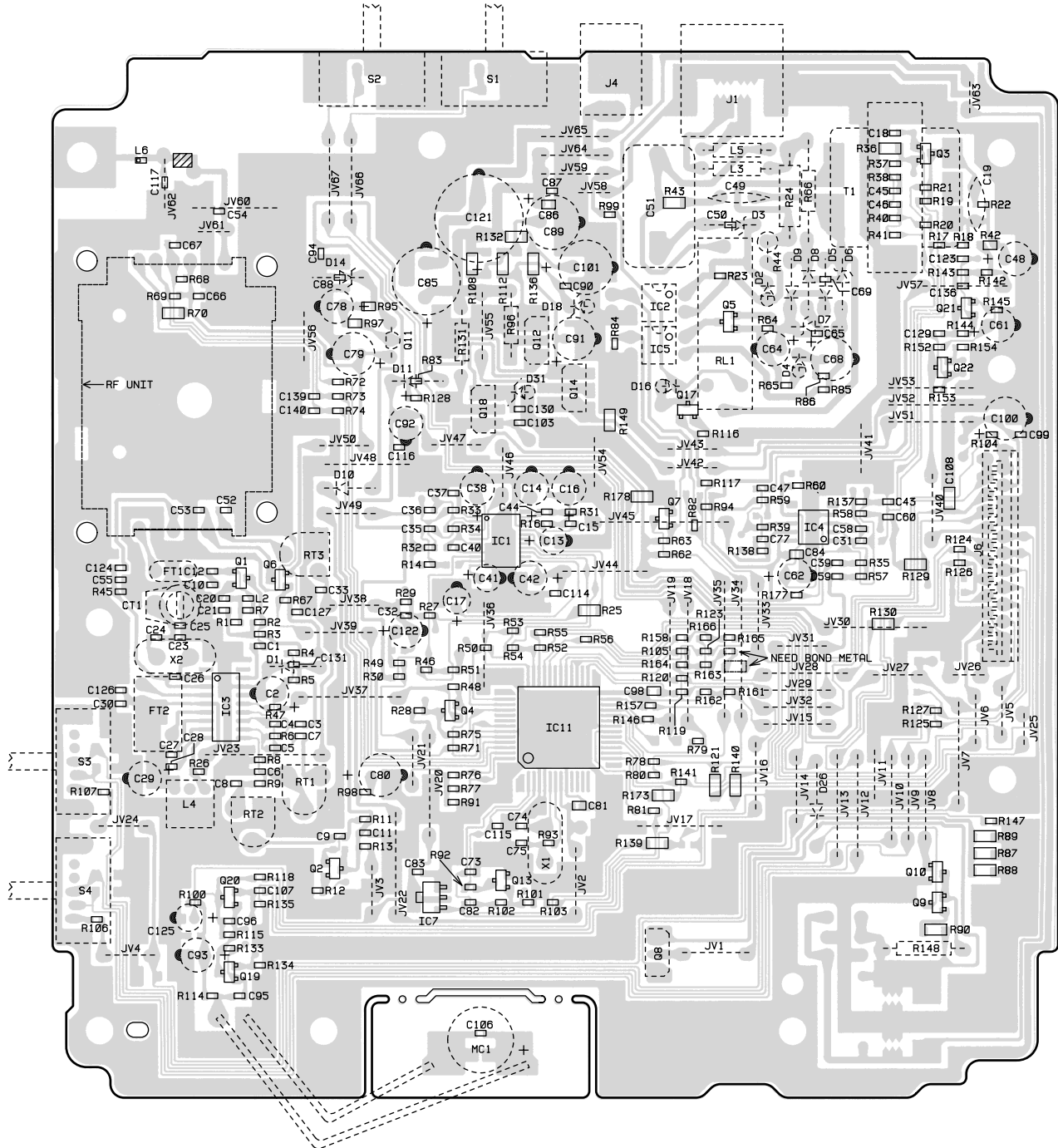


IC606
 XC612N3328MR

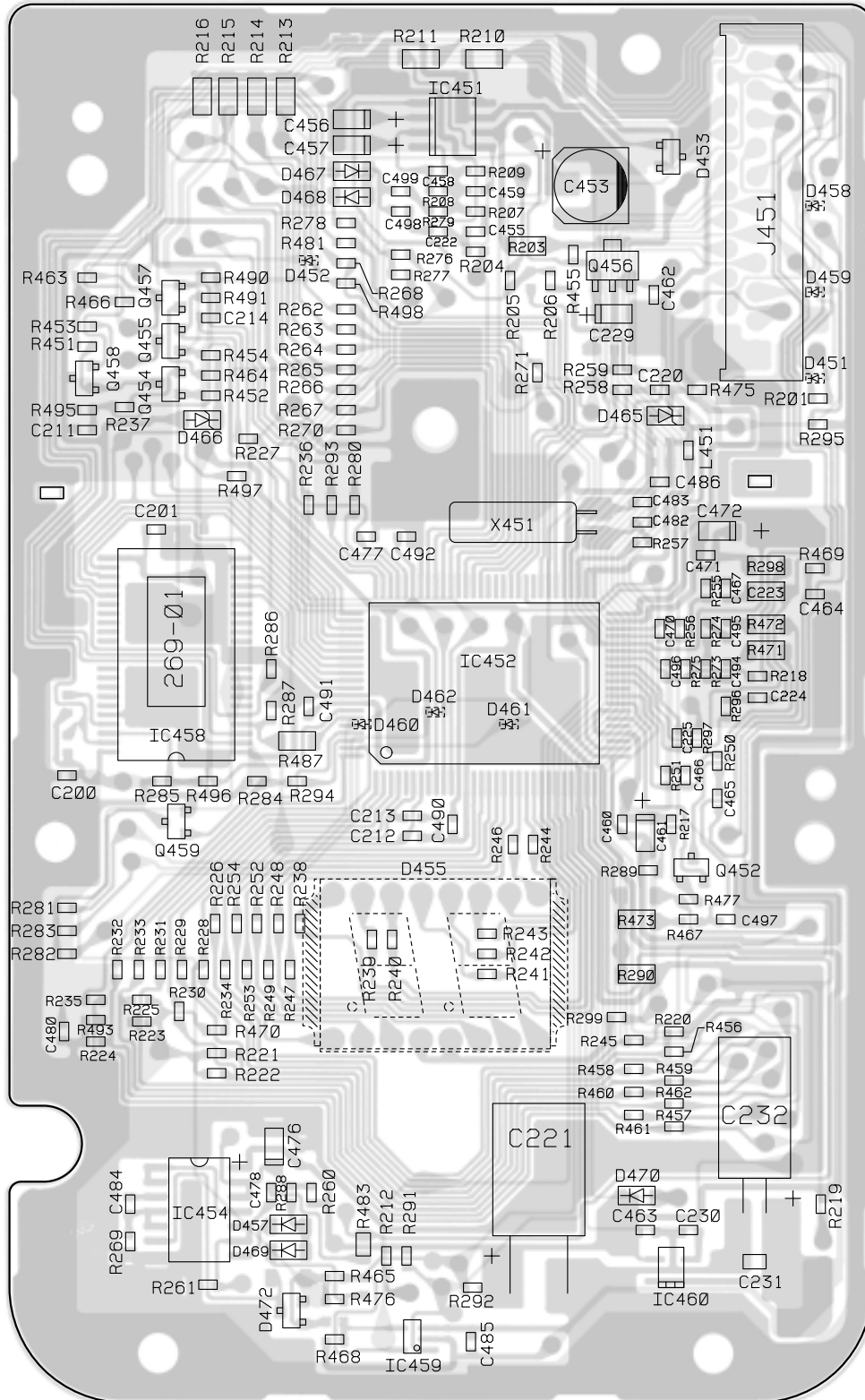


ELECTRICAL PARTS LOCATION

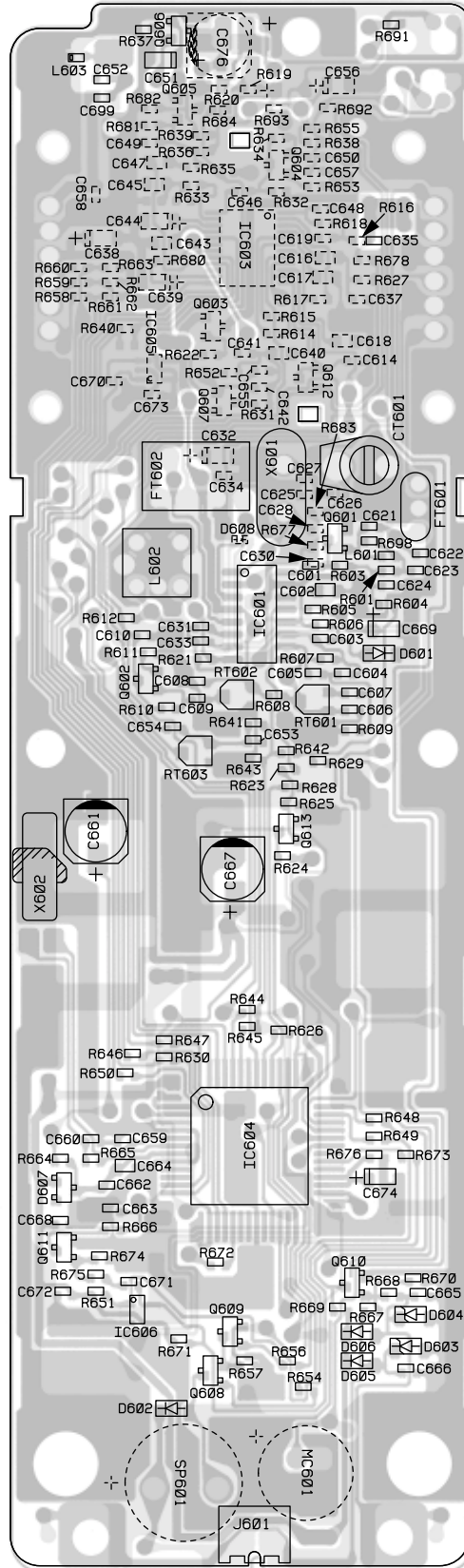
Base Unit
Main PCB



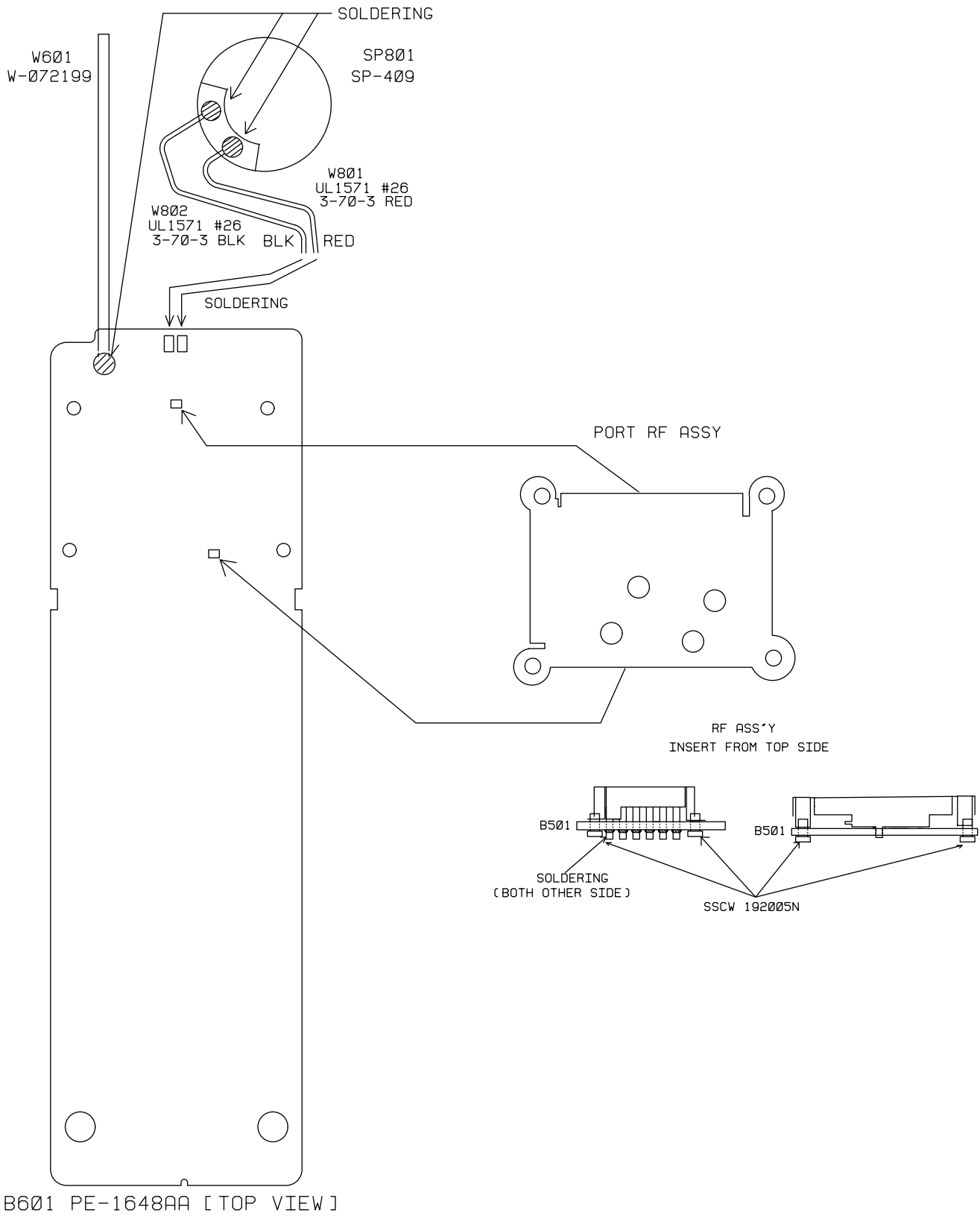
Base Unit Key PCB



Handset Main PCB

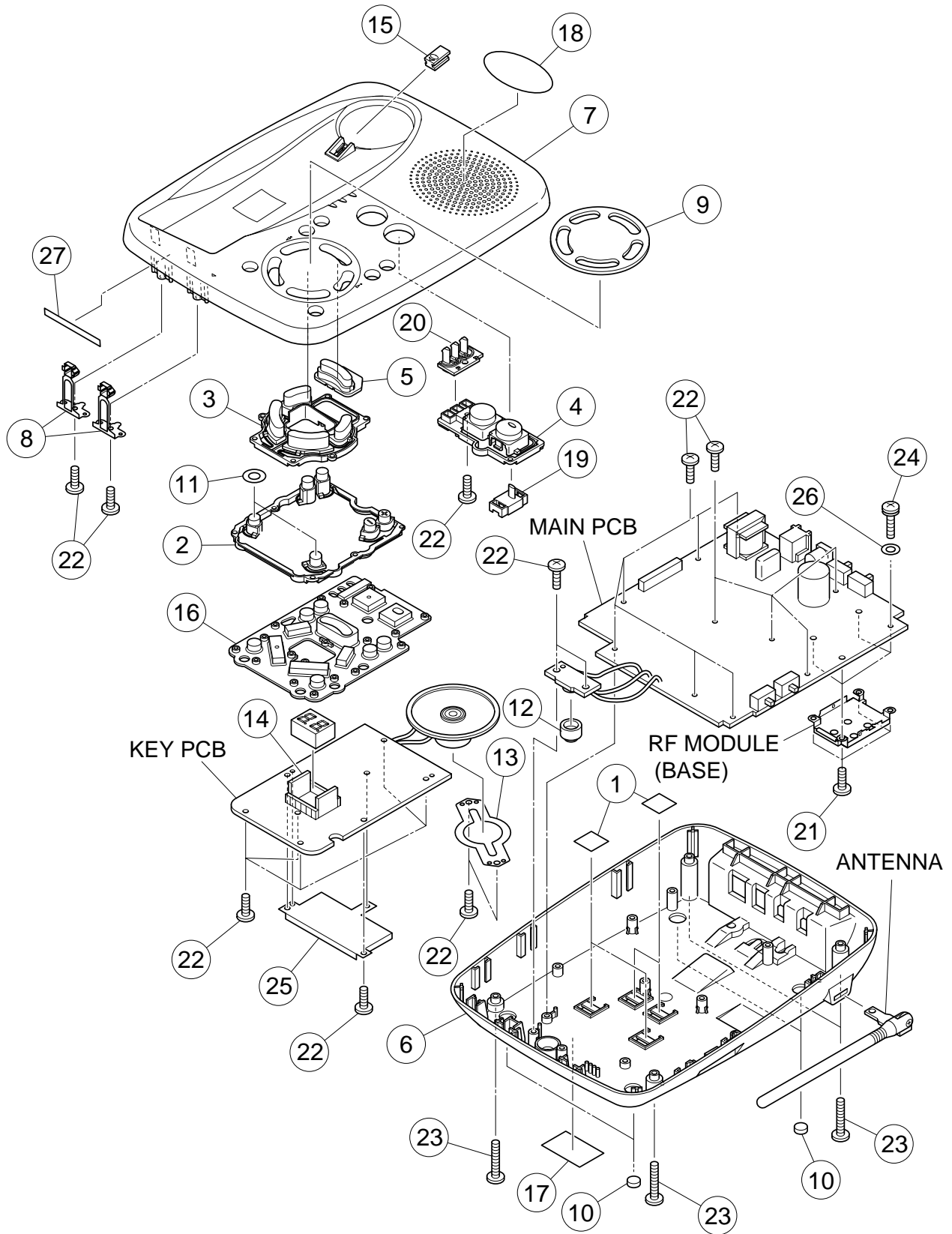


Handset



EXPLODED VIEWS AND MECHANICAL PARTS LIST

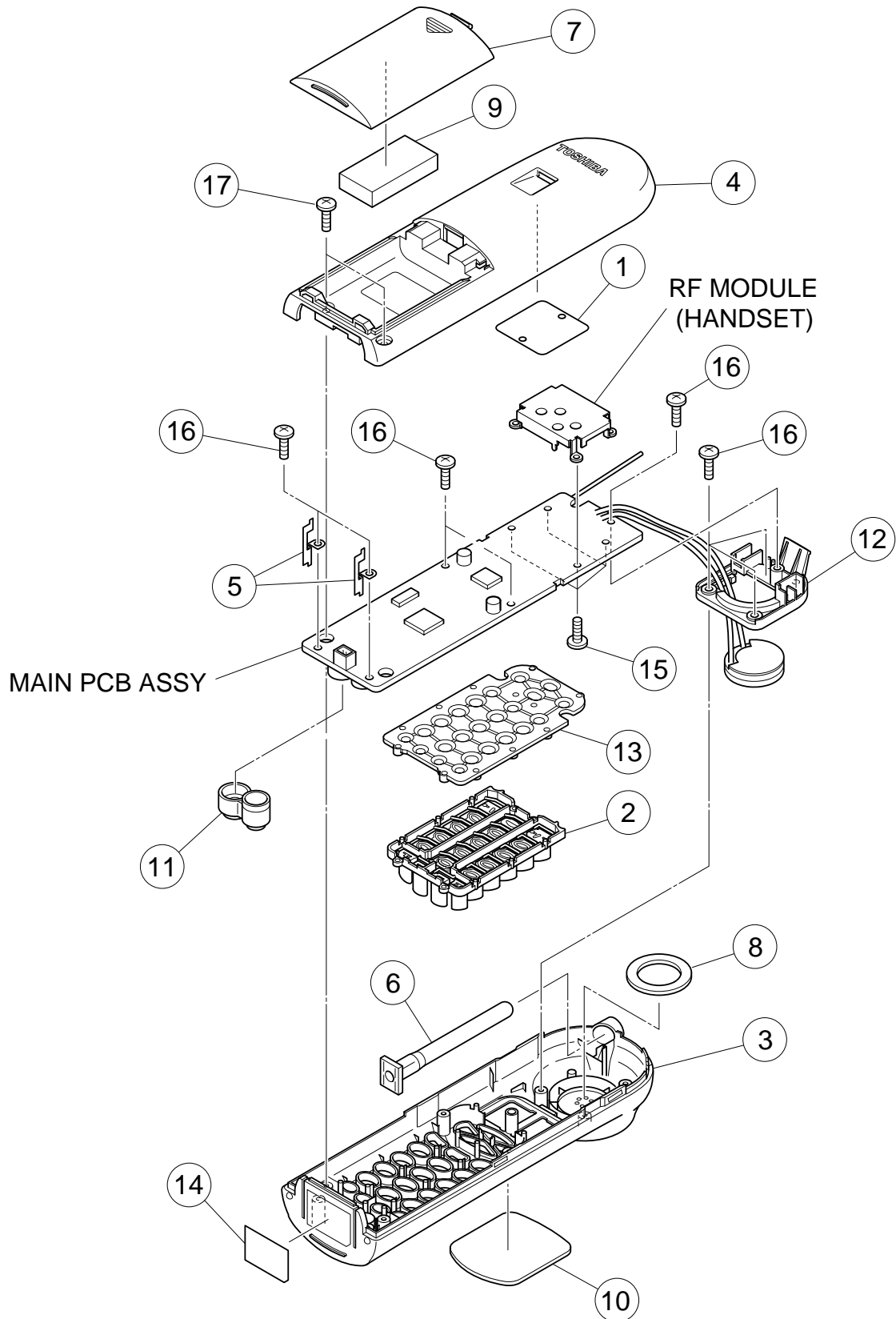
Base Unit



Base Unit

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	QTY
1	RC009411	RBLD459384Z	BLIND PVC	4
2	RC009557	GNBZ447715Z	BUTTON, FUNCTION ABS	1
3	RC009558	GNBZ447716Z	BUTTON, FUNCTION ABS	1
4	RC009559	GNBZ447717Z	BUTTON, FUNCTION ABS	1
5	RC009402	GNBZ446378Z	BUTTON, PUSH PMMA	1
6	RC009556	GCAS247714A	CASE, BOTTOM ABS	1
7	RC009555	GCAS247713A	CASE, TOP ABS	1
8	RC009325	HTML446079Z	CHARGE TERMINAL C5191(PBP)	2
9	RC009396	GCAS346381Z	DISPLAY WINDOW PMMA	1
10	RC009327	LFUT441122Z	FOOT	4
11	RC009410	RBLD446934Z	HIMELON	2
12	RC005689	LHDZ453179Z	HOLDER, MIC	1
13	RC005444	HHDS431080B	HOLDER, SPEAKER SUS304 CSP 0.8T 3/4H OR H	1
14	RC009403	LHDZ458397Z	HOLDER, LED	1
15	RC009450	GCAS447683Z	HOOK ABS	1
16	RC009404	LNBZ246382Z	KEY RUBBER SI	1
17	RC009560	PLBB449017A	LABEL, BARCODE PAPER	1
18	RC009563	PLBZ449018B	LABEL, INDICATION	1
19	RC009397	GCAS446379Z	LED LENS PMMA	1
20	RC009398	GCAS446380Z	LED LENS PMMA	1
21	RC008289	SSCW192005N	SCREW, BIND HD + M2x5 NI	4
22	RC000941	SSCW802608N	SCREW, P TIGHT BIND HD + D2.6x8 NI	25
23	RC004091	SSCW802614N	SCREW, P TIGHT BIND HD + D2.6x14 NI	4
24	RC001752	SSCW283012N	SCREW, TAPPING BIND+& SP WASHER D3x12 NI	1
25	RC008498	HSDC342495Z	SHIELD COVER SPT	1
26	RC009412	SSCW970030N	WASHER, FLAT D3 NI	1
27	RC009338	RUTC442550Z	WOOL COATED PAPER, WOOL TACK	1


Handset



Handset

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	QTY
1	RC008346	RBLD442400Z	BLIND PC	1
2	RC009454	GNBZ447689Z	BUTTON, FUNCTION ABS	1
3	RC009448	GCAS347685Z	CASE, FRONT ABS	1
4	RC009449	GCAS347686A	CASE, REAR ABS	1
5	RC009326	HTML446093Z	CHARGE TERMINAL C2680(BSP)	2
6	RC008703	GCAS457897Z	COVER ELASTOMER	1
7	RC009451	GCAS447687A	COVER, BATTERY ABS	1
8	RC008348	RCUN442433Z	CUSHION NEOPRENE	1
9	RC009337	RCUN447997Z	CUSHION MOLTOPREN	1
10	RC009452	GCAS447688Z	DISPLAY WINDOW PMMA	1
11	RC009328	LHDZ446090Z	DUAL HOLDER EPDM	1
12	RC009316	GHDZ346084Z	HOLDER, SPEAKER ABS	1
13	RC009329	LNBZ346091Z	KEY RUBBER SI	1
14	RC009562	PLBS449019Z	LABEL, ID	1
15	RC008289	SSCW192005N	SCREW, BIND HD + M2x5 NI	4
16	RC000941	SSCW802608N	SCREW, P TIGHT BIND HD + D2.6x8 NI	8
17	RC003327	SSCW802610N	SCREW, P TIGHT BIND HD + D2.6x10 NI	2

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	RC005214	BCMM812214Z	CERAMIC M/L (1608) 220PF 50V J CH
C2	RC001807	BCAZ812296Z	ELECTROLYTIC 2.2UF 50V M C-156
C3	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C4	RC005420	BCMM811514Z	CERAMIC M/L (1608) 150PF 50V J CH
C5	RC005420	BCMM811514Z	CERAMIC M/L (1608) 150PF 50V J CH
C6	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C7	RC005217	BCMM813314Z	CERAMIC M/L (1608) 330PF 50V J CH
C8	RC005208	BCML814725Z	CERAMIC M/L (1608) 0.0047UF 50V K B
C9	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C10	RC005209	BCMM811002Z	CERAMIC M/L (1608) 10PF 50V D CH
C11	RC008268	BCML314735Z	CERAMIC M/L (1608) 0.047UF 16V K B
C12	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C13	RC008472	BCEQ814786Z	ELECTROLYTIC 0.47UF 50V M C-125
C14	RC001810	BCAZ814796Z	ELECTROLYTIC 4.7UF 50V M C-156
C15	RC005418	BCML312735Z	CERAMIC M/L (1608) 0.027UF 16V K B
C16	RC001810	BCAZ814796Z	ELECTROLYTIC 4.7UF 50V M C-156
C17	RC001045	BCEQ311006Z	ELECTROLYTIC 10UF 16V M C-125
C18	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C19	RC000777	BCZY0120001	SEMI-CONDUCTOR CZ-120 0.022UF 18V
C20	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C21	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C23	RC005212	BCMM811504Z	CERAMIC M/L (1608) 15PF 50V J CH
C24	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C25	RC005223	BCMS812091Z	CERAMIC M/L (1608) 2PF 50V C CK
C26	RC005210	BCMM811014Z	CERAMIC M/L (1608) 100PF 50V J CH
C27	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C28	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C29	RC001810	BCAZ814796Z	ELECTROLYTIC 4.7UF 50V M C-156
C30	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C31	RC005420	BCMM811514Z	CERAMIC M/L (1608) 150PF 50V J CH
C32	RC005208	BCML814725Z	CERAMIC M/L (1608) 0.0047UF 50V K B
C33	RC005206	BCML812225Z	CERAMIC M/L (1608) 0.0022UF 50V K B

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
C35	RC008843	BCML313335Z	CERAMIC M/L (1608)	0.033UF 16V K B
C36	RC008270	BCML811235Z	CERAMIC M/L (1608)	0.012UF 50V K B
C37	RC008318	BCML815625Z	CERAMIC M/L (1608)	0.0056UF 50V K B
C38	RC001809	BCAZ814786Z	ELECTROLYTIC	0.47UF 50V M C-156
C39	RC008318	BCML815625Z	CERAMIC M/L (1608)	0.0056UF 50V K B
C40	RC005202	BCML311045Z	CERAMIC M/L (1608)	0.1UF 16V K B
C41	RC005181	BCEQ811096Z	ELECTROLYTIC	1UF 50V M C-125
C42	RC005467	BCEQ114706Z	ELECTROLYTIC	47UF 10V M C-125
C43	RC005202	BCML311045Z	CERAMIC M/L (1608)	0.1UF 16V K B
C44	RC005202	BCML311045Z	CERAMIC M/L (1608)	0.1UF 16V K B
C45	RC008269	BCML316835Z	CERAMIC M/L (1608)	0.068UF 16V K B
C46	RC005202	BCML311045Z	CERAMIC M/L (1608)	0.1UF 16V K B
C47	RC005202	BCML311045Z	CERAMIC M/L (1608)	0.1UF 16V K B
C48	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C49	RC009435	BCKB821025Z	CERAMIC	0.001UF 500V KYB(B)
C50	RC005204	BCML811025Z	CERAMIC M/L (1608)	0.001UF 50V K B
C51	RC009541	BCZY0262001	MYLAR	CZ-262 1UF 250V
C52	RC005210	BCMM811014Z	CERAMIC M/L (1608)	100PF 50V J CH
C53	RC005210	BCMM811014Z	CERAMIC M/L (1608)	100PF 50V J CH
C54	RC005360	BCMM816092Z	CERAMIC M/L (1608)	6PF 50V D CH
C55	RC005210	BCMM811014Z	CERAMIC M/L (1608)	100PF 50V J CH
C58	RC005204	BCML811025Z	CERAMIC M/L (1608)	0.001UF 50V K B
C59	RC008393	BCML812725Z	CERAMIC M/L (1608)	0.0027UF 50V K B
C60	RC008641	BCML811825Z	CERAMIC M/L (1608)	0.0018UF 50V K B
C61	RC001797	BCAZ114706Z	ELECTROLYTIC	47UF 10V M C-156
C62	RC005467	BCEQ114706Z	ELECTROLYTIC	47UF 10V M C-125
C64	RC001805	BCAZ811096Z	ELECTROLYTIC	1UF 50V M C-156
C65	RC005204	BCML811025Z	CERAMIC M/L (1608)	0.001UF 50V K B
C66	RC005210	BCMM811014Z	CERAMIC M/L (1608)	100PF 50V J CH
C67	RC008061	BCMM814714Z	CERAMIC M/L (1608)	470PF 50V J CH
C68	RC004167	BCAZ511016Z	ELECTROLYTIC	100UF 25V M C-156
C69	RC005205	BCML811035Z	CERAMIC M/L (1608)	0.01UF 50V K B
C73	RC005206	BCML812225Z	CERAMIC M/L (1608)	0.0022UF 50V K B
C74	RC005215	BCMM812704Z	CERAMIC M/L (1608)	27PF 50V J CH
C75	RC005215	BCMM812704Z	CERAMIC M/L (1608)	27PF 50V J CH
C77	RC005420	BCMM811514Z	CERAMIC M/L (1608)	150PF 50V J CH
C78	RC001794	BCAZ111016Z	ELECTROLYTIC	100UF 10V M C-156
C79	RC004445	BCAZ903316Z	ELECTROLYTIC	330UF 6.3V M C-156
C80	RC002652	BCAZ902216Z	ELECTROLYTIC	220UF 6.3V M C-156
C81	RC008731	BCXK311050Z	CERAMIC M/L (2125)	1UF 16V Z F
C82	RC005205	BCML811035Z	CERAMIC M/L (1608)	0.01UF 50V K B
C83	RC005202	BCML311045Z	CERAMIC M/L (1608)	0.1UF 16V K B
C84	RC008731	BCXK311050Z	CERAMIC M/L (2125)	1UF 16V Z F
C85	RC003819	BCAZ311026Z	ELECTROLYTIC	1000UF 16V M C-156
C86	RC002229	BCXT511045Z	CERAMIC M/L (2125)	0.1UF 25V K B
C87	RC005204	BCML811025Z	CERAMIC M/L (1608)	0.001UF 50V K B
C88	RC005205	BCML811035Z	CERAMIC M/L (1608)	0.01UF 50V K B

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
C89	RC008106	BCAZ313316Z	ELECTROLYTIC 330UF 16V M C-156
C90	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C91	RC001795	BCAZ112216Z	ELECTROLYTIC 220UF 10V M C-156
C92	RC001794	BCAZ111016Z	ELECTROLYTIC 100UF 10V M C-156
C93	RC005468	BCEQ904706Z	ELECTROLYTIC 47UF 6.3V M C-125
C94	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C95	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C96	RC005274	BCML811535Z	CERAMIC M/L (1608) 0.015UF 50V K B
C98	RC008731	BCXK311050Z	CERAMIC M/L (2125) 1UF 16V Z F
C99	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C100	RC004445	BCAZ903316Z	ELECTROLYTIC 330UF 6.3V M C-156
C101	RC002651	BCAZ312216Z	ELECTROLYTIC 220UF 16V M C-156
C103	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C106	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C107	RC008640	BCML313935Z	CERAMIC M/L (1608) 0.039UF 16V K B
C108	RC002850	BCXS811025Z	CERAMIC M/L (3216) 0.001UF 50V K B
C114	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C115	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C116	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C117	RC005218	BCMM814091Z	CERAMIC M/L (1608) 4PF 50V C CH
C121	RC005322	BCAZ312226Z	ELECTROLYTIC 2200UF 16V M C-156
C122	RC001805	BCAZ811096Z	ELECTROLYTIC 1UF 50V M C-156
C123	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C124	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C125	RC001045	BCEQ311006Z	ELECTROLYTIC 10UF 16V M C-125
C126	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C127	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C129	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C130	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C131	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C136	RC005274	BCML811535Z	CERAMIC M/L (1608) 0.015UF 50V K B
C139	RC005210	BCMM811014Z	CERAMIC M/L (1608) 100PF 50V J CH
C140	RC005210	BCMM811014Z	CERAMIC M/L (1608) 100PF 50V J CH
C200	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C201	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C211	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C212	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C213	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C214	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C220	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C221	RC008884	BCAZ904716Z	ELECTROLYTIC 470UF 6.3V M C-156
C222	RC008146	BCML816825Z	CERAMIC M/L (1608) 0.0068UF 50V K B
C223	RC004420	BCXS811235Z	CERAMIC M/L (3216) 0.012UF 50V K B
C224	RC008146	BCML816825Z	CERAMIC M/L (1608) 0.0068UF 50V K B
C225	RC008926	BCMM518214Z	CERAMIC M/L (1608) 820PF 25V J CH
C229	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C230	RC005203	BCML512235Z	CERAMIC M/L (1608) 0.022UF 25V K B

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
C231	RC008731	BCXK311050Z	CERAMIC M/L (2125) 1UF 16V Z F
C232	RC001794	BCAZ111016Z	ELECTROLYTIC 100UF 10V M C-156
C453	RC009271	BCDB901016Z	ELECTROLYTIC 100UF 6.3V M C-326
C455	RC009372	BCML511835Z	CERAMIC M/L (1608) 0.018UF 25V K B
C456	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C457	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C458	RC005219	BCMM814704Z	CERAMIC M/L (1608) 47PF 50V J CH
C459	RC008641	BCML811825Z	CERAMIC M/L (1608) 0.0018UF 50V K B
C460	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C461	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C462	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C463	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C464	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C465	RC005208	BCML814725Z	CERAMIC M/L (1608) 0.0047UF 50V K B
C466	RC009272	BCMM516814Z	CERAMIC M/L (1608) 680PF 25V J CH
C467	RC005207	BCML813325Z	CERAMIC M/L (1608) 0.0033UF 50V K B
C470	RC008060	BCML811225Z	CERAMIC M/L (1608) 0.0012UF 50V K B
C471	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C472	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C476	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C477	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C478	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C480	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C482	RC005209	BCMM811002Z	CERAMIC M/L (1608) 10PF 50V D CH
C483	RC005209	BCMM811002Z	CERAMIC M/L (1608) 10PF 50V D CH
C484	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C485	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C486	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C490	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C491	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C492	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C494	RC005203	BCML512235Z	CERAMIC M/L (1608) 0.022UF 25V K B
C495	RC008006	BCML811525Z	CERAMIC M/L (1608) 0.0015UF 50V K B
C496	RC008006	BCML811525Z	CERAMIC M/L (1608) 0.0015UF 50V K B
C497	RC005274	BCML811535Z	CERAMIC M/L (1608) 0.015UF 50V K B
C498	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C499	RC008843	BCML313335Z	CERAMIC M/L (1608) 0.033UF 16V K B
C601	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C602	RC008731	BCXK311050Z	CERAMIC M/L (2125) 1UF 16V Z F
C603	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C604	RC005420	BCMM811514Z	CERAMIC M/L (1608) 150PF 50V J CH
C605	RC005420	BCMM811514Z	CERAMIC M/L (1608) 150PF 50V J CH
C606	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C607	RC005217	BCMM813314Z	CERAMIC M/L (1608) 330PF 50V J CH
C608	RC005208	BCML814725Z	CERAMIC M/L (1608) 0.0047UF 50V K B
C609	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C610	RC008640	BCML313935Z	CERAMIC M/L (1608) 0.039UF 16V K B

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
C614	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C616	RC008731	BCXK311050Z	CERAMIC M/L (2125) 1UF 16V Z F
C617	RC004347	BCXK514740Z	CERAMIC M/L (2125) 0.47UF 25V Z F
C618	RC002229	BCXT511045Z	CERAMIC M/L (2125) 0.1UF 25V K B
C619	RC008270	BCML811235Z	CERAMIC M/L (1608) 0.012UF 50V K B
C621	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C622	RC005209	BCMM811002Z	CERAMIC M/L (1608) 10PF 50V D CH
C623	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C624	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C625	RC005224	BCMT813091Z	CERAMIC M/L (1608) 3PF 50V C CJ
C626	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C627	RC005211	BCMM811204Z	CERAMIC M/L (1608) 12PF 50V J CH
C628	RC005210	BCMM811014Z	CERAMIC M/L (1608) 100PF 50V J CH
C630	RC005210	BCMM811014Z	CERAMIC M/L (1608) 100PF 50V J CH
C631	RC008268	BCML314735Z	CERAMIC M/L (1608) 0.047UF 16V K B
C632	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C633	RC008268	BCML314735Z	CERAMIC M/L (1608) 0.047UF 16V K B
C634	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C635	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C637	RC005203	BCML512235Z	CERAMIC M/L (1608) 0.022UF 25V K B
C638	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C639	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C640	RC004449	BCXT311545Z	CERAMIC M/L (2125) 0.15UF 16V K B
C641	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C642	RC008318	BCML815625Z	CERAMIC M/L (1608) 0.0056UF 50V K B
C643	RC004347	BCXK514740Z	CERAMIC M/L (2125) 0.47UF 25V Z F
C644	RC008319	BCSH904796Z	TANTALUM CHIP 4.7UF 6.3V M C-122
C645	RC008731	BCXK311050Z	CERAMIC M/L (2125) 1UF 16V Z F
C646	RC008268	BCML314735Z	CERAMIC M/L (1608) 0.047UF 16V K B
C647	RC004412	BCXT312245Z	CERAMIC M/L (2125) 0.22UF 16V K B
C648	RC008318	BCML815625Z	CERAMIC M/L (1608) 0.0056UF 50V K B
C649	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C650	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C651	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C652	RC005211	BCMM811204Z	CERAMIC M/L (1608) 12PF 50V J CH
C653	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C654	RC005202	BCML311045Z	CERAMIC M/L (1608) 0.1UF 16V K B
C655	RC005204	BCML811025Z	CERAMIC M/L (1608) 0.001UF 50V K B
C656	RC008296	BCSH901006Z	TANTALUM CHIP 10UF 6.3V M C-122
C657	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C658	RC005222	BCMS811091Z	CERAMIC M/L (1608) 1PF 50V C CK
C659	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C660	RC005216	BCMM813304Z	CERAMIC M/L (1608) 33PF 50V J CH
C661	RC009271	BCDB901016Z	ELECTROLYTIC 100UF 6.3V M C-326
C662	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C663	RC005205	BCML811035Z	CERAMIC M/L (1608) 0.01UF 50V K B
C664	RC008731	BCXK311050Z	CERAMIC M/L (2125) 1UF 16V Z F

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
C665	RC005207	BCML813325Z	CERAMIC M/L (1608)	0.0033UF 50V K B
C666	RC005207	BCML813325Z	CERAMIC M/L (1608)	0.0033UF 50V K B
C667	RC009271	BCDB901016Z	ELECTROLYTIC	100UF 6.3V M C-326
C668	RC005205	BCML811035Z	CERAMIC M/L (1608)	0.01UF 50V K B
C669	RC008296	BCSH901006Z	TANTALUM CHIP	10UF 6.3V M C-122
C670	RC005203	BCML512235Z	CERAMIC M/L (1608)	0.022UF 25V K B
C671	RC005205	BCML811035Z	CERAMIC M/L (1608)	0.01UF 50V K B
C672	RC005205	BCML811035Z	CERAMIC M/L (1608)	0.01UF 50V K B
C673	RC005202	BCML311045Z	CERAMIC M/L (1608)	0.1UF 16V K B
C674	RC008296	BCSH901006Z	TANTALUM CHIP	10UF 6.3V M C-122
C676	RC009271	BCDB901016Z	ELECTROLYTIC	100UF 6.3V M C-326
C699	RC005360	BCMM816092Z	CERAMIC M/L (1608)	6PF 50V D CH
CT1	RC008272	BCTY0076100	TRIMMER	CT-076 TZ3Z100FR 10PF
CT601	RC008272	BCTY0076100	TRIMMER	CT-076 TZ3Z100FR 10PF
DIODES				
D1	RC002236	BDAY0246003		1N4148 T-77
D2	RC002236	BDAY0246003		1N4148 T-77
D3	RC002470	BDAY0492033	ZENER	HZ7C3 TD
D4	RC002236	BDAY0246003		1N4148 T-77
D5	RC002236	BDAY0246003		1N4148 T-77
D6	RC002236	BDAY0246003		1N4148 T-77
D7	RC003194	BDAY0272010	ZENER	HZ33CP
D8	RC002236	BDAY0246003		1N4148 T-77
D9	RC002236	BDAY0246003		1N4148 T-77
D10	RC002236	BDAY0246003		1N4148 T-77
D11	RC002236	BDAY0246003		1N4148 T-77
D14	RC008273	BDAY0492036	ZENER	HZ4B1 TD
D16	RC002236	BDAY0246003		1N4148 T-77
D18	RC003196	BDAY0492025	ZENER	HZ7A1 TD
D26	RC002236	BDAY0246003		1N4148 T-77
D31	RC002471	BDAY0492045	ZENER	HZ6C3 TD
D451	RC008320	BDAY1092001	LED	SML-310LT T86
D452	RC008407	BDAY1060001	LED	SML-310MT T86
D453	RC008486	BDAY1091001	ZENER	NNCD6.2F-T1B
D455	RC005412	BDAY0825001	LED	LTD-482P-03
D457	RC001826	BDAY0433001		RLS4148 TE11
D458	RC008320	BDAY1092001	LED	SML-310LT T86
D459	RC008407	BDAY1060001	LED	SML-310MT T86
D460	RC008320	BDAY1092001	LED	SML-310LT T86
D461	RC008320	BDAY1092001	LED	SML-310LT T86
D462	RC008320	BDAY1092001	LED	SML-310LT T86
D465	RC003195	BDAY0432004	ZENER	HZK6C TR
D466	RC003195	BDAY0432004	ZENER	HZK6C TR
D467	RC001826	BDAY0433001		RLS4148 TE11
D468	RC001826	BDAY0433001		RLS4148 TE11
D469	RC001826	BDAY0433001		RLS4148 TE11
D470	RC001826	BDAY0433001		RLS4148 TE11

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
D472	RC008448	BDAY1065001		RB420D T146
D601	RC001826	BDAY0433001		RLS4148 TE11
D602	RC001826	BDAY0433001		RLS4148 TE11
D603	RC003195	BDAY0432004	ZENER	HZK6C TR
D604	RC003195	BDAY0432004	ZENER	HZK6C TR
D605	RC001826	BDAY0433001		RLS4148 TE11
D606	RC001826	BDAY0433001		RLS4148 TE11
D607	RC008448	BDAY1065001		RB420D T146
D608	RC008320	BDAY1092001	LED	SML-310LT T86
FILTERS				
FT1	RC008279	BFLY0971001	CERAMIC	FL-971 FFE1054NA11UXL
FT2	RC008280	BFLY0977001	CERAMIC	FL-977 LTFS455B5
FT601	RC008279	BFLY0971001	CERAMIC	FL-971 FFE1054NA11UXL
FT602	RC008280	BFLY0977001	CERAMIC	FL-977 LTFS455B5
IC'S				
IC1	RC009438	BDEY3972003		LA8634VU-TLM
IC2	RC004774	BDEY2957001		⚠ LTV-817 CD
IC3	RC004870	BDEY2768003		MC3361CDR2
IC4	RC009170	BDEY3941003		BA10358F-E2
IC5	RC004774	BDEY2957001		⚠ LTV-817 CD
IC7	RC009544	BDEY3981003		XC61CC4002PR/XC61AC4002PR
IC11	RC009542	BDDY1091001	UC2547	MB89176PF-G-296-BND-U
IC451	RC005423	BDEY1533003		MC34119D R2
IC452	RC009377	BDDY1078002	UC2534A	D16559UAD11BQC-3V
IC454	RC009039	BDEY1660003		TC74HC132AF-EL
IC458	RC009540	FSMEMC270BH		K9F4008WOA-TCB0
IC459	RC009378	BDEY3965003		XC612N4540MR
IC460	RC009040	BDEY3493003		TK11237BMCL
IC601	RC004870	BDEY2768003		MC3361CDR2
IC603	RC009438	BDEY3972003		LA8634VU-TLM
IC604	RC009543	BDDY1092001	UC2548	MB89177PF-G-297-BND-U
IC605	RC008322	BDEY3882003		TK11130SCL
IC606	RC008323	BDEY3886003		XC612N3328MR
JACKS				
J1	RC008992	BJKY1183002		⚠ JK-1183 MJ-62J-RD315
J4	RC001094	BJKY0234001		JK-234 DJ13-1
J6	RC009545	BJKY1200022		JK-1200 22FE-BT-VK-N 22P
J451	RC009546	BJKY1201022		JK-1201 22FE-ST-VK-N 22P
J601	RC001653	BJKY0571001		JK-571 M60-002-020-HKAD
COILS				
L2	RC008397	BLZY0136100	INDUCTOR:MOLDED CHIP	LZ-136 MLF1608K100KT 10UH
L3	RC004073	BLZY0051479	INDUCTOR:MOLDED	LZ-051 SP0305-4R7K 4.7UH
L4	RC008281	BLBY1175001	COIL	LB-1175 7002BE-A0026HM
L5	RC004073	BLZY0051479	INDUCTOR:MOLDED	LZ-051 SP0305-4R7K 4.7UH
L6	RC008451	BLZY0181826	INDUCTOR:MOLDED CHIP	LZ-181 8.2NH
L451	RC008490	BLZY0203102	INDUCTOR:MOLDED CHIP	LZ-203 MMZ1608R102AT 1000
L601	RC008397	BLZY0136100	INDUCTOR:MOLDED CHIP	LZ-136 MLF1608K100KT 10UH

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
L602	RC008281	BLBY1175001	COIL	LB-1175 7002BE-A0026HM
L603	RC008398	BLZY0181186	INDUCTOR:MOLDED CHIP	LZ-181 1.8NH
T1	RC003234	BTFY0265001	TRANSFORMER:HYBRID	⚠ TF-265 AT-24E7-1B(295403)
TRANSISTORS				
Q1	RC002245	BDBC2714124		DB-718 2SC2714-Y TE85L
Q2	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q3	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q4	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q5	RC008275	BDBA0812695		DB-035 2SA812(M)-M6A T1B
Q6	RC008275	BDBA0812695		DB-035 2SA812(M)-M6A T1B
Q7	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q8	RC003200	BDBD0471111		DB-411 2SD471-L
Q9	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q10	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q11	RC000799	BDBC2120124		DB-300 2SC2120-Y
Q12	RC003200	BDBD0471111		DB-411 2SD471-L
Q13	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q14	RC003200	BDBD0471111		DB-411 2SD471-L
Q17	RC001637	BDBC2712303		DB-381 2SC2712-GR TE85L
Q18	RC003200	BDBD0471111		DB-411 2SD471-L
Q19	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q20	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q21	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q22	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q452	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q454	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q455	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q456	RC008955	BDBD1618119		DB-457 2SD1618-T TD
Q457	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q458	RC008275	BDBA0812695		DB-035 2SA812(M)-M6A T1B
Q459	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q601	RC002245	BDBC2714124		DB-718 2SC2714-Y TE85L
Q602	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q603	RC008275	BDBA0812695		DB-035 2SA812(M)-M6A T1B
Q604	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q605	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q606	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q607	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q608	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q609	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q610	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q611	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q612	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
Q613	RC003031	BDBC1623648		DB-380 2SC1623-L6 T1B
RESISTORS				
R1	RC005249	BRFC162244Z	CARBON FIXED CHIP	220K 1/16W J
R2	RC005252	BRFC163314Z	CARBON FIXED CHIP	330 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R3	RC005255	BRFC164714Z	CARBON FIXED CHIP 470 1/16W J
R4	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J
R5	RC008028	BRFC162724Z	CARBON FIXED CHIP 2.7K 1/16W J
R6	RC005288	BRFC168244Z	CARBON FIXED CHIP 820K 1/16W J
R7	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R8	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R9	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J
R11	RC005258	BRFC164744Z	CARBON FIXED CHIP 470K 1/16W J
R12	RC008091	BRFC165614Z	CARBON FIXED CHIP 560 1/16W J
R13	RC008028	BRFC162724Z	CARBON FIXED CHIP 2.7K 1/16W J
R14	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R16	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R17	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R18	RC005260	BRFC166834Z	CARBON FIXED CHIP 68K 1/16W J
R19	RC005286	BRFC165644Z	CARBON FIXED CHIP 560K 1/16W J
R20	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R21	RC005260	BRFC166834Z	CARBON FIXED CHIP 68K 1/16W J
R22	RC005259	BRFC166814Z	CARBON FIXED CHIP 680 1/16W J
R23	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R24	RC009305	BRZY0085001	METAL OXIDE (FORMED) ⚠ RZ-085 150 1WS J (P=12.5)
R25	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R26	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R27	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R28	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R29	RC005285	BRFC165634Z	CARBON FIXED CHIP 56K 1/16W J
R30	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R31	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R32	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R33	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R34	RC008286	BRFC162744Z	CARBON FIXED CHIP 270K 1/16W J
R35	RC005258	BRFC164744Z	CARBON FIXED CHIP 470K 1/16W J
R36	RC003225	BRFC181014Z	CARBON FIXED CHIP 100 1/8W J
R37	RC005255	BRFC164714Z	CARBON FIXED CHIP 470 1/16W J
R38	RC008091	BRFC165614Z	CARBON FIXED CHIP 560 1/16W J
R39	RC005432	BRFC161544Z	CARBON FIXED CHIP 150K 1/16W J
R40	RC005261	BRFC168224Z	CARBON FIXED CHIP 8.2K 1/16W J
R41	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R42	RC002295	BRFC011014Z	CARBON FIXED CHIP 100 1/10W J
R43	RC002335	BRFC183314Z	CARBON FIXED CHIP 330 1/8W J
R44	RC003231	BRSJ222234Z	METAL OXIDE ⚠ 22K 1/2WS J
R45	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R46	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R47	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R48	RC005278	BRFC161244Z	CARBON FIXED CHIP 120K 1/16W J
R49	RC005249	BRFC162244Z	CARBON FIXED CHIP 220K 1/16W J
R50	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R51	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R52	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R53	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R54	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R55	RC008306	BRFC161524Z	CARBON FIXED CHIP 1.5K 1/16W J
R56	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R57	RC005432	BRFC161544Z	CARBON FIXED CHIP 150K 1/16W J
R58	RC008402	BRFC163944Z	CARBON FIXED CHIP 390K 1/16W J
R59	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R60	RC005260	BRFC166834Z	CARBON FIXED CHIP 68K 1/16W J
R62	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R63	RC008767	BRFC163344Z	CARBON FIXED CHIP 330K 1/16W J
R64	RC008734	BRFC162254Z	CARBON FIXED CHIP 2.2M 1/16W J
R65	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R66	RC004183	BRSJ001024Z	METAL OXIDE ⚠ 1K 1WS J
R67	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R68	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R69	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R70	RC001790	BRFC181534Z	CARBON FIXED CHIP 15K 1/8W J
R71	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R72	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R73	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R74	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R75	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R76	RC005283	BRFC162734Z	CARBON FIXED CHIP 27K 1/16W J
R77	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R78	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R79	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R80	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R81	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R82	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R83	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R84	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R85	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R86	RC005278	BRFC161244Z	CARBON FIXED CHIP 120K 1/16W J
R87	RC008483	BRFC188204Z	CARBON FIXED CHIP 82 1/8W J
R88	RC008483	BRFC188204Z	CARBON FIXED CHIP 82 1/8W J
R89	RC008483	BRFC188204Z	CARBON FIXED CHIP 82 1/8W J
R90	RC002799	BRFC181024Z	CARBON FIXED CHIP 1K 1/8W J
R91	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R92	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R93	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R94	RC005432	BRFC161544Z	CARBON FIXED CHIP 150K 1/16W J
R95	RC002915	BRFC011514Z	CARBON FIXED CHIP 150 1/10W J
R96	RC005411	BRSJ221004Z	METAL OXIDE 10 1/2WS J
R97	RC002915	BRFC011514Z	CARBON FIXED CHIP 150 1/10W J
R98	RC005246	BRFC162204Z	CARBON FIXED CHIP 22 1/16W J
R99	RC005246	BRFC162204Z	CARBON FIXED CHIP 22 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R100	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R101	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R102	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R103	RC008734	BRFC162254Z	CARBON FIXED CHIP 2.2M 1/16W J
R104	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R105	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R106	RC008735	BRFC166824Z	CARBON FIXED CHIP 6.8K 1/16W J
R107	RC008735	BRFC166824Z	CARBON FIXED CHIP 6.8K 1/16W J
R108	RC009036	BRFC181814Z	CARBON FIXED CHIP 180 1/8W J
R112	RC008481	BRFC181514Z	CARBON FIXED CHIP 150 1/8W J
R114	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R115	RC005261	BRFC168224Z	CARBON FIXED CHIP 8.2K 1/16W J
R116	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R117	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R118	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R119	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R120	RC005279	BRFC161514Z	CARBON FIXED CHIP 150 1/16W J
R121	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R123	RC008735	BRFC166824Z	CARBON FIXED CHIP 6.8K 1/16W J
R124	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R125	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R126	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R127	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R128	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R129	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R130	RC002799	BRFC181024Z	CARBON FIXED CHIP 1K 1/8W J
R131	RC009550	BRSJ226894Z	METAL OXIDE 6.8 1/2WS J
R132	RC008481	BRFC181514Z	CARBON FIXED CHIP 150 1/8W J
R133	RC005286	BRFC165644Z	CARBON FIXED CHIP 560K 1/16W J
R134	RC005434	BRFC163914Z	CARBON FIXED CHIP 390 1/16W J
R135	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R136	RC008481	BRFC181514Z	CARBON FIXED CHIP 150 1/8W J
R137	RC008767	BRFC163344Z	CARBON FIXED CHIP 330K 1/16W J
R138	RC005278	BRFC161244Z	CARBON FIXED CHIP 120K 1/16W J
R139	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R140	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R141	RC008735	BRFC166824Z	CARBON FIXED CHIP 6.8K 1/16W J
R142	RC005239	BRFC161014Z	CARBON FIXED CHIP 100 1/16W J
R143	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J
R144	RC008480	BRFC166844Z	CARBON FIXED CHIP 680K 1/16W J
R145	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J
R146	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R147	RC008028	BRFC162724Z	CARBON FIXED CHIP 2.7K 1/16W J
R148	RC008484	BRFT124714Z	CARBON 470 1/2W J
R149	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R152	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R153	RC008480	BRFC166844Z	CARBON FIXED CHIP 680K 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R154	RC005252	BRFC163314Z	CARBON FIXED CHIP 330 1/16W J
R157	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R158	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R161	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R162	RC008479	BRFC161844Z	CARBON FIXED CHIP 180K 1/16W J
R163	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R164	RC008479	BRFC161844Z	CARBON FIXED CHIP 180K 1/16W J
R165	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R166	RC008479	BRFC161844Z	CARBON FIXED CHIP 180K 1/16W J
R173	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R177	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J
R178	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R201	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R203	RC009386	BRFC182294Z	CARBON FIXED CHIP 2.2 1/8W J
R204	RC008306	BRFC161524Z	CARBON FIXED CHIP 1.5K 1/16W J
R205	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R206	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R207	RC008027	BRFC161234Z	CARBON FIXED CHIP 12K 1/16W J
R208	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R209	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R210	RC009386	BRFC182294Z	CARBON FIXED CHIP 2.2 1/8W J
R211	RC009386	BRFC182294Z	CARBON FIXED CHIP 2.2 1/8W J
R212	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R213	RC002820	BRFC184734Z	CARBON FIXED CHIP 47K 1/8W J
R214	RC002820	BRFC184734Z	CARBON FIXED CHIP 47K 1/8W J
R215	RC002820	BRFC184734Z	CARBON FIXED CHIP 47K 1/8W J
R216	RC002820	BRFC184734Z	CARBON FIXED CHIP 47K 1/8W J
R217	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R218	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R219	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R220	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R221	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R222	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R223	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R224	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R225	RC005283	BRFC162734Z	CARBON FIXED CHIP 27K 1/16W J
R226	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R227	RC005244	BRFC161824Z	CARBON FIXED CHIP 1.8K 1/16W J
R228	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R229	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R230	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R231	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R232	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R233	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R234	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R235	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R236	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R237	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R238	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R239	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R240	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R241	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R242	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R243	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R244	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R245	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R246	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R247	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R248	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R249	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R250	RC005260	BRFC166834Z	CARBON FIXED CHIP 68K 1/16W J
R251	RC005285	BRFC165634Z	CARBON FIXED CHIP 56K 1/16W J
R252	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R253	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R254	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R255	RC005262	BRFC168234Z	CARBON FIXED CHIP 82K 1/16W J
R256	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R257	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R258	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R259	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R260	RC005286	BRFC165644Z	CARBON FIXED CHIP 560K 1/16W J
R261	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R262	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R263	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R264	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R265	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R266	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R267	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R268	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R269	RC005249	BRFC162244Z	CARBON FIXED CHIP 220K 1/16W J
R270	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R271	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R273	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R274	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R275	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R276	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R277	RC008766	BRFC161224Z	CARBON FIXED CHIP 1.2K 1/16W J
R278	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R279	RC008735	BRFC166824Z	CARBON FIXED CHIP 6.8K 1/16W J
R280	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J
R281	RC005282	BRFC162714Z	CARBON FIXED CHIP 270 1/16W J
R282	RC005282	BRFC162714Z	CARBON FIXED CHIP 270 1/16W J
R283	RC005282	BRFC162714Z	CARBON FIXED CHIP 270 1/16W J
R284	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R285	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R286	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R287	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R288	RC008091	BRFC165614Z	CARBON FIXED CHIP 560 1/16W J
R289	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R290	RC002820	BRFC184734Z	CARBON FIXED CHIP 47K 1/8W J
R291	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R292	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R293	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J
R294	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R295	RC008766	BRFC161224Z	CARBON FIXED CHIP 1.2K 1/16W J
R296	RC005285	BRFC165634Z	CARBON FIXED CHIP 56K 1/16W J
R297	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R298	RC001788	BRFC181034Z	CARBON FIXED CHIP 10K 1/8W J
R299	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R451	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R452	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R453	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R454	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R455	RC005252	BRFC163314Z	CARBON FIXED CHIP 330 1/16W J
R456	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R457	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R458	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R459	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R460	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R461	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R462	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R463	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R464	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R465	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R466	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R467	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R468	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R469	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R470	RC005288	BRFC168244Z	CARBON FIXED CHIP 820K 1/16W J
R471	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R472	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R473	RC002899	BRFC180004Z	CARBON FIXED CHIP 0 1/8W J
R475	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R476	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R477	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R481	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R483	RC002296	BRFC011024Z	CARBON FIXED CHIP 1K 1/10W J
R487	RC002799	BRFC181024Z	CARBON FIXED CHIP 1K 1/8W J
R490	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R491	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R493	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R495	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J
R496	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R497	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R498	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R601	RC005249	BRFC162244Z	CARBON FIXED CHIP 220K 1/16W J
R603	RC005252	BRFC163314Z	CARBON FIXED CHIP 330 1/16W J
R604	RC005255	BRFC164714Z	CARBON FIXED CHIP 470 1/16W J
R605	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J
R606	RC008028	BRFC162724Z	CARBON FIXED CHIP 2.7K 1/16W J
R607	RC005288	BRFC168244Z	CARBON FIXED CHIP 820K 1/16W J
R608	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J
R609	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R610	RC005258	BRFC164744Z	CARBON FIXED CHIP 470K 1/16W J
R611	RC008091	BRFC165614Z	CARBON FIXED CHIP 560 1/16W J
R612	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R614	RC008027	BRFC161234Z	CARBON FIXED CHIP 12K 1/16W J
R615	RC005283	BRFC162734Z	CARBON FIXED CHIP 27K 1/16W J
R616	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R617	RC005285	BRFC165634Z	CARBON FIXED CHIP 56K 1/16W J
R618	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R619	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J
R620	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J
R621	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R622	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R623	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R624	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R625	RC005248	BRFC162234Z	CARBON FIXED CHIP 22K 1/16W J
R626	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R627	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R628	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R629	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R630	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R631	RC008029	BRFC163924Z	CARBON FIXED CHIP 3.9K 1/16W J
R632	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R633	RC008735	BRFC166824Z	CARBON FIXED CHIP 6.8K 1/16W J
R634	RC005288	BRFC168244Z	CARBON FIXED CHIP 820K 1/16W J
R635	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J
R636	RC008027	BRFC161234Z	CARBON FIXED CHIP 12K 1/16W J
R637	RC005254	BRFC164704Z	CARBON FIXED CHIP 47 1/16W J
R638	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R639	RC008027	BRFC161234Z	CARBON FIXED CHIP 12K 1/16W J
R640	RC005245	BRFC161834Z	CARBON FIXED CHIP 18K 1/16W J
R641	RC005285	BRFC165634Z	CARBON FIXED CHIP 56K 1/16W J
R642	RC005262	BRFC168234Z	CARBON FIXED CHIP 82K 1/16W J
R643	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R644	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R645	RC005283	BRFC162734Z	CARBON FIXED CHIP 27K 1/16W J

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
R646	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R647	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R648	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R649	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R650	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R651	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R652	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R653	RC008029	BRFC163924Z	CARBON FIXED CHIP 3.9K 1/16W J
R654	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R655	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R656	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R657	RC005247	BRFC162214Z	CARBON FIXED CHIP 220 1/16W J
R658	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R659	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R660	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R661	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R662	RC005241	BRFC161034Z	CARBON FIXED CHIP 10K 1/16W J
R663	RC005253	BRFC163324Z	CARBON FIXED CHIP 3.3K 1/16W J
R664	RC005246	BRFC162204Z	CARBON FIXED CHIP 22 1/16W J
R665	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R666	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R667	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R668	RC005284	BRFC163334Z	CARBON FIXED CHIP 33K 1/16W J
R669	RC005257	BRFC164734Z	CARBON FIXED CHIP 47K 1/16W J
R670	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R671	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R672	RC005255	BRFC164714Z	CARBON FIXED CHIP 470 1/16W J
R673	RC005240	BRFC161024Z	CARBON FIXED CHIP 1K 1/16W J
R674	RC005286	BRFC165644Z	CARBON FIXED CHIP 560K 1/16W J
R675	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R676	RC005432	BRFC161544Z	CARBON FIXED CHIP 150K 1/16W J
R677	RC005256	BRFC164724Z	CARBON FIXED CHIP 4.7K 1/16W J
R678	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R680	RC005242	BRFC161044Z	CARBON FIXED CHIP 100K 1/16W J
R681	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R682	RC005280	BRFC161534Z	CARBON FIXED CHIP 15K 1/16W J
R683	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
R684	RC005246	BRFC162204Z	CARBON FIXED CHIP 22 1/16W J
R691	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R692	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R693	RC005311	BRFC160004Z	CARBON FIXED CHIP 0 1/16W J
R698	RC005281	BRFC162224Z	CARBON FIXED CHIP 2.2K 1/16W J
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
RT601	RC008328	BRTY0569224	SEMI-FIXED RT-569 POZ3AN-1-224N-T00
RT602	RC008326	BRTY0569104	SEMI-FIXED RT-569 POZ3AN-1-104N-T00

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION	
RT603	RC008327	BRTY0569223	SEMI-FIXED	RT-569 POZ3AN-1-223N-T00
SWITCHES				
S1	RC003604	BSWY0755001	SLIDE	SW-755 SBHA12B-06
S2	RC003604	BSWY0755001	SLIDE	SW-755 SBHA12B-06
S3	RC005118	BSWY0756001	SLIDE	SW-756 SBHA13B-06
S4	RC005118	BSWY0756001	SLIDE	SW-756 SBHA13B-06
CRYSTALS				
X1	RC003629	BQXY0542001	CRYSTAL	QX-542 3.579545MHZ
X2	RC008478	BQXY0724001	CRYSTAL	QX-724 10.1MHZ
X451	RC009549	BQXY0752001	CRYSTAL	QX-752 4.081408MHZ
X601	RC008285	BQXY0721001	CRYSTAL	QX-721 10.1MHZ
X602	RC008325	BQXY0709001	CRYSTAL	QX-709 3.579545MHZ
OTHER ELECTRICAL PARTS				
AD901	RC009255	BADY0396001	AC ADAPTOR	⚠ AD-396 LS-A6010-ADT8
AT701	RC009434	BATY0392001	ANTENNA	⚠ AT-392 AT-40
B301	RC009431	AC267BHBB	RF MODULE (B)	
B501	RC009433	AC267BHPB	RF MODULE (P)	
BT901	RC004931	BBTY0403001	BATTERY	⚠ BT-403 GP60AAK3BMX
FC701	RC009551	BWFY175001Z	FLAT CABLE	WF-175 5-95-5 22P
MC1	RC004062	BMKY0475001	MICROPHONE	MK-475 WM-034BZ
MC601	RC004062	BMKY0475001	MICROPHONE	MK-475 WM-034BZ
RL1	RC000867	BRLY0042001	RELAY	⚠ RL-042 OMR-108H
SP601	RC004910	BYYY0901001	RINGER	YY-901 CB-12AP-03
SP701	RC001282	BSPY0166001	SPEAKER	SP-166 C060A20G0060
SP801	RC008336	BSPY0409001	SPEAKER	⚠ SP-409 DTR169HP-005
W1	RC009554	CUPK009022Z	WIRE W-004	UL 1571 #26 5- 90- 5 BLK
W2	RC009388	CUPB009022Z	WIRE W-004	UL 1571 #26 5- 90- 5 RED
W3	RC008999	CUPK013032Z	WIRE W-004	UL 1571 #26 7-130- 5 BLK
W4	RC008998	CUPB013032Z	WIRE W-004	UL 1571 #26 7-130- 5 RED
W601	RC008329	CZDZ072199Z	WIRES ASSEMBLED	W-072199
W701	RC009552	CUPB006021Z	WIRE W-004	UL 1571 #26 5- 60- 3 RED
W702	RC009553	CUPK006021Z	WIRE W-004	UL 1571 #26 5- 60- 3 BLK
W801	RC008581	CUPB007011Z	WIRE W-004	UL 1571 #26 3- 70- 3 RED
W802	RC001317	CUPK007011Z	WIRE W-004	UL 1571 #26 3- 70- 3 BLK
WA901	RC008231	BWZY1401001	TEL CORD	⚠ WZ-1401 UNL-020-2GY-214
PACKING PARTS				
	RC009245	GBCT447691Z	WALL MOUNT	ABS
	RC004688	PLBB454286Z	LABEL:BARCODE	PAPER
	RC009561	PLBB462822Z	LABEL:BARCODE	PAPER
	RC005157	PLBM454776B	INDEX PAPER	
	RC009250	UCZZ01269BZ	OWNER'S MANUAL	
	RC009242	UCZZ69677BZ	QUICK REFERENCE GUIDE	
	RC005198	UDZZ73535ZZ	CAUTION BELT	
	RC005455	VNYH1304000	VINYL BAG	300x400x0.05T HIPE
	RC008783	VNYL2304060	VINYL BAG	300x400x600x0.07T
	RC008353	VNYL3101000	VINYL BAG	100x100x0.1T
	RC003649	VNYL3203000	VINYL BAG	200x300x0.1T

LOC. NO.	PART NO.	REF. NO.	DESCRIPTION
	RC009237	WBXZ347724Z	DISPLAY BOX
	RC009564	WCTZ462747Z	SHIPPING CARTON BOX
	RC004291	WETC420086Z	COVER:ANT. EPE
	RC009342	WSLV344953Z	SLEEVE
	RC009414	WSLV347514Z	SLEEVE
	RC009343	WSLV428000Z	PACKING BAG(PORT.) MIRA MAT
	RC009415	WSLV435626Z	MIRROR MAT
	RC009416	WSLV447515Z	SLEEVE

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
	RC009537	AC269BHBA	BASE MAIN PCB ASSEMBLY
	RC009538	AC270BHBC	BASE KEY PCB ASSEMBLY
	RC009539	AC269BHPA	HANDSET MAIN PCB ASSEMBLY

SPECIFICATIONS

MEASUREMENT CONDITIONS

1. Standard Voltage : Portable Unit DC 3.8V \pm 0.025V
 : Base Unit AC 120V \pm 3V 60Hz

2. Temperature : 25 \pm 5 $^{\circ}$ C

3. Channel	FCC CH	Portable(TX Frequency)	Base(TX Frequency)
	1	902.052465MHz	925.997470MHz
	2	902.102465MHz	926.047470MHz
	3	902.152465MHz	926.097470MHz
	4	902.202465MHz	926.147470MHz
	5	902.252465MHz	926.197469MHz
	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	904.052470MHz	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 Modulation : 1KHz \pm 8.0KHz Dev.

8. Secure Code : 65536 Combinatin

9. Method of Measurement : According to EIA Standard RS-316A

10. Portable RX Load : 150 OHMS

11. Base Speaker Load : 32 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	-7.5	-11.5~-3.5	
	3.0kHz	dB	-8.5	-12.5~-4.5	
3. Distortion at 1 mV RF Input		%	1.5	< 5.0	
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 <
			dBm	-11.0	-14.0~-8.0
7. Tel Line Output Level (600Ω Load)		dBm	-11.0	-14.0~-8.0	
8. Ringer Level at 30cm from Speaker (Bell input)	Ringer Frequency : 900Hz + 450Hz		dBspl	85	75 <

TRANSMITTER

		UNIT	NOMINAL	LIMIT
1. RF Power (50Ω Load)		dBm	-8.5	-11.5~-5.5
2. Modulation Sensitivity Telline Input		dBm	-15.0	-19.0~-11.0
3. Frequency Response (Ref:1kHz)	0.3kHz	dB	-3.5	-7.5~-0.5
	3.0kHz	dB	+5.0	1.0~9.0
4. TX Frequency Tolerance (25°C)		Hz	±0	<±2500
5. Code Deviation		kHz	9.0	< 12
6. Distortion		%	1.5	< 5.0
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 (at 20Hz)		Vrms	30	< 40	
5. Pulse Dialing	a. Dialing Rate	pps	10	8~11	
	b. Make Ratio	%	39	36~42	
6. DTMF Output (@600Ω Load)	a. 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
		b. Signal Level of Dual Tone	dBm	-3.0	< 0
		c. Signal Length	mSec	100	90 <
		d. Interdigital Pause	mSec	100	90 <

SPEAKER PHONE

		UNIT	NOMINAL	LIMIT
1. Microphone Sensitivity (-20 dBm TEL Output)	(Measured as soon as signal on)	mV	2.1	1.0~4.2
2. Receiver Response Audio Output (-30 dBm TEL Input)	(Measured as soon as signal on)	mV	730	410~1290

HANDSET UNIT

RECEIVER

		UNIT	NOMINAL	LIMIT
1. Sensitivity 12 dB SINAD	with CCITT Filter	dBm	-115	< -107
2. AF Frequency Response (Ref:1kHz)	0.3kHz	dB	5.5	1.5~9.5
	3.0kHz	dB	-17.0	-21.0~-13.0
3. Audio Output Level	VOL. HIGH	dBV	-6	-9~-3
	VOL. MEDIUM	dBV	-12	-15~-9
	VOL. LOW	dBV	-20	-23~-17
4. Distortion at 1 mV RF Input	VOL. LOW	%	1.5	< 5.0
5. S/N ratio at 1 mV RF Input	with CCITT Filter VOL. LOW	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 (Bell input)				
	2 TONE VOL HI	DBSPL	87	75 <
	2 TONE VOL LO	DBSPL	74	57 <
	3 TONE VOL HI	DBSPL	79	60 <
	3 TONE VOL LO	DBSPL	67	47 <

TRANSMITTER

		UNIT	NOMINAL	LIMIT
1. RF Power (50Ω Load)		dBm	-7.0	-10.0~-4.0
2. Modulation Sensitivity Mic Input		mV	9.0	6.4~12.7
3. AF Frequency Response (Ref:1kHz)	0.3kHz	dB	0.0	-4.0~+4.0
	3.0kHz	dB	-0.5	-4.5~+3.5
4. TX Frequency Tolerance		Hz	±0	< ±2500
5. Code Deviation		kHz	8.0	< 11.0
6. Distortion		%	1.5	< 5.0
7. Adjacent CH Power	(+)	dB	55	50 <
	(-)	dB	55	50 <
8. S/N Ratio	with CCITT Filter	dB	35	30 <

POWER CONSUMPTION

		UNIT	NOMINAL	LIMIT
1. Base Unit (with AC Adaptor, Answer off)	a. Stand-by Charge Off	mA	120	< 150
	b. Stand-by Charge On	mA	205	180~250
	c. Talk	mA	165	< 220
2. Charge Current (at BATTERY)	at Full Charged Battery	mA	55	40~70
3. Portable Unit (at 3.8V)	a. Stand-by (Ave.)	mA	2.3	< 4.0
	b. In use	mA	70	< 105
4. Battery Low Detect Voltage		V	3.30	3.20~3.40

OTHERS

- Battery : Ni-Cd Battery 600mAH (@1.2x3=3.6V)
- Memory : 10 Memories (16 Digits) + 1 Redial Memory (32 Digits) on Portable
- Operating Temperature : -10°C ~ +50°C
- Storage Temperature : -20°C ~ +60°C
- Dial Mode Switch : DTMF-PULSE (10pps) Selectable

REQUIREMENTS COMPLIANCE

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

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