

# Service Manual

Telephone Equipment

*Supplement*

Model No.

**KX-TGE210B/KX-TGE212B/  
KX-TGE232B/KX-TGE233B/  
KX-TGE234B/KX-TGE240B/  
KX-TGE242B/KX-TGE243B/  
KX-TGE244B/KX-TGE245B/  
KX-TGE262S/KX-TGE263S/  
KX-TG454SK/KX-TGE272S/  
KX-TGE273S/KX-TGE274S/  
KX-TG484SK/KX-TGEA20B/  
KX-TGEA20S**

Digital Cordless Phone

Digital Cordless Answering System

Link-to-Cell Bluetooth Convergence  
Solution

B: Black Version

S: Silver Version

T: Black Metallic Version

Please use this manual with the original service manual mentioned on the page 3.

## **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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


# 1 ORIGINAL SERVICE MANUAL INFORMATION

Model No. on S/M	Destinations	Order No. of S/M	Suffix Code	
			Base Unit	Handset
KX-TGE210B/KX-TGE212B/KX-TGE232B/KX-TGE233B/KX-TGE234B/KX-TGEA20B	U.S.A.	KM41401789CE	---	A to D
KX-TGE240B/KX-TGE242B/KX-TGE243B/KX-TGE244B/KX-TGE245B/KX-TGE260S/KX-TGE262S/KX-TGE263S/KX-TGE264S/KX-TG454SK/KX-TGE270S/KX-TGE272S/KX-TGE273S/KX-TGE274S/KX-TG465SK/KX-TGEA20B/KX-TGEA20S	U.S.A.	KM41401783CE	---	TGE240B, TGE242B, TGE243B, TGE244B, TGE245B: A to D TGE262S, TGE263S: C to D TGE272S, TGE273S, TGE274S, TGE275S: C to D TGEA20B, TGEA20S: A to D TG454SK: C to D
KX-TG484SK	U.S.A.	KM41506831SE	---	C to D

## 2 REPLACEMENT PARTS LIST

### 2.1. REFERENCE CHART

Reason for Change	
*The following items (1-8) indicate the reason for change. See the "Notes" column for each part in ORIGINAL AND NEW PARTS COMPARISON LISTS.	
1. Improve performance	<b>Note:</b> Change parts based on Suffix Code.  <b>Remarks:</b> *c: To share the parts with other models
2. Change of material or dimension	
3. To meet approved specification	
4. Standardization	
5. Addition	
6. Deletion	
7. Correction	
8. Other	

Interchangeability Code		
**The following items (V-Z) indicate the Interchangeability. See the "Notes" column for each part in ORIGINAL AND NEW PARTS COMPARISON LISTS.		
V	Original  Early (before change) New  Late (after change)	Original or new parts may be used in early or late production sets. Use original parts until exhausted, then stock new parts.
W	Original  Early (before change) New  Late (after change)	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
X	Original  Early (before change) New  Late (after change)	New parts only may be used in early or late production sets. Stock new parts.
Y	Original  Early (before change) New  Late (after change)	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
Z	Other	

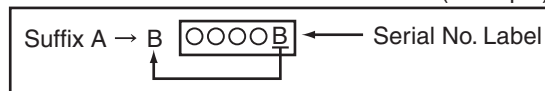
**Note:**

Alphabets in the "Remarks" column in the following lists correspond to the alphabets in the "Remarks" in REFERENCE CHART.

## 2.2. ORIGINAL AND NEW PARTS COMPARISON LISTS

Serial No. Label tells you the suffix code as follows.

(Example)



Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remarks	Notes	Time of Change (Suffix)
	Original (Old)	New					
<b>Cabinet and Electrical Parts (Handset)</b>							
118	PNQT2859Z	PNQT3384Z	LABEL, BATTERY	1	*c	8 Y	*1
<b>Main P.C. Board Parts (Handset)</b>							
PCB100	-----	PNWP1GEA20RY	MAIN P.C.BOARD ASS'Y(RTL)	1	*c	8 Y	*1
IC3	-----	PNWITGEA20RY	IC(EEPROM)	1	*c	8 Y	*1

\*1: Please refer to "1 ORIGINAL SERVICE MANUAL INFORMATION".

**Note:**

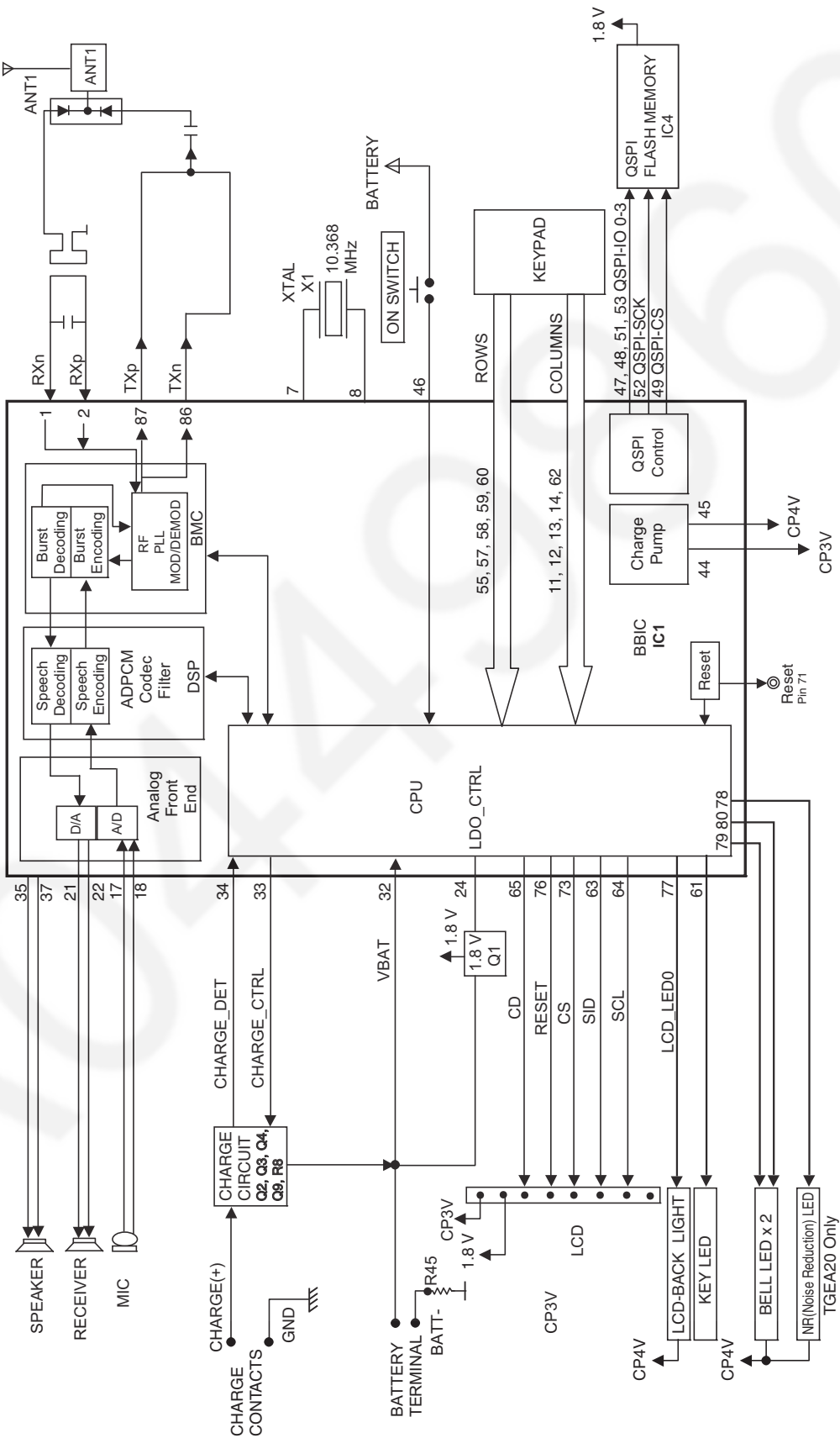
Please refer to "3.7. Schematic Diagram" (P.15), "3.8. Printed Circuit Board" (P.17) and "3.9. Replacement Parts List" (P.20) for detail.

# 3 CHANGES (Suffix Code: D or later)

## 3.1. Technical Descriptions

### 3.1.1. Block Diagram (Handset)

[Changed from original section "4.7. Block Diagram (Handset)"]



KX-TGEA20 BLOCK DIAGRAM (HANDSET)

### 3.1.2. Circuit Operation (Handset)

[Changed from original section "4.9. Circuit Operation (Handset)"]

#### 3.1.2.1. Outline

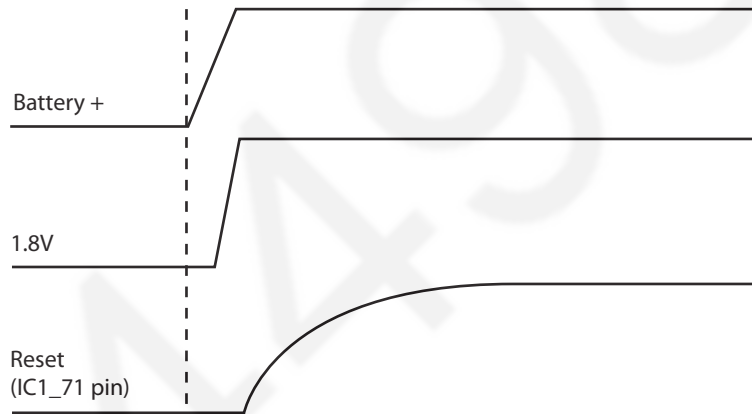
Handset consists of the following ICs as shown in **Block Diagram (Handset)** (P.5).

- DECT BBIC (Base Band IC): IC1
  - All data signals (forming/analyzing ACK or CMD signal)
  - All interfaces (ex: Key, Detector Circuit, Charge, DC/DC Converter, EEPROM, LCD, RF Power Amp.)
  - PLL Oscillator
  - Detector
  - Compress/Expander
  - Reception
  - Integrated 1.9 GHz PA for DECT
- QSPI FLASH MEMORY: IC4
  - Main Program D/L Area
- EEPROM : IC3
  - Following information data is stored
  - Settings
  - ex : ID code, user setting

#### 3.1.2.2. Power Supply Circuit/Reset Circuit

##### Circuit Operation:

When power on the Handset, the voltage is as follows;  
BATTERY(2.2 V ~ 2.6 V: BATT+) -> Q1 (1.8 V), IC1-44pin (CP3V)  
The Reset signal generates IC1 (71 pin) and 1.8 V.



#### 3.1.2.3. Charge Circuit

##### Circuit Operation:

When charging the handset on the Base Unit, the charge current is as follows;

DC+(5.5 V) -> R371 -> R372 -> D362 -> CHARGE+(Base) -> CHARGE+(Handset) -> [ Q2 / R8 ] -> Q3 -> BATTERY+... Battery...

BATTERY- -> R45 -> GND -> CHARGE-(Handset) -> CHARGE-(Base) -> GND -> DC-(GND)

In this way, the BBIC on Handset detects the fact that the battery is charged.

The charge current is controlled by switching Q9 of Handset.

Refer to **Power Supply Circuit/Reset Circuit** (P.6).

#### 3.1.2.4. Battery Low/Power Down Detector

##### Circuit Operation:

"Battery Low" and "Power Down" are detected by BBIC which check the voltage from battery.

The detected voltage is as follows;

- Battery Low

Battery voltage:  $V(\text{Batt}) \leq 2.25 \text{ V} \pm 50 \text{ mV}$

The BBIC detects this level and "■" starts flashing.

- Power Down

Battery voltage:  $V(\text{Batt}) \leq 2.0 \text{ V} \pm 50 \text{ mV}$

The BBIC detects this level and power down.

### 3.1.2.5. Speakerphone

The hands-free loudspeaker at SP+ and SP- is used to generate the ring alarm.

## 3.2. Test Mode

### 3.2.1. Handset

[Changed from original section “8.1.2. Handset”]

#### Frequently Used Items (Handset)

ex.)

Items	Address	Default Data	New Data	Possible Adjusted Value MAX (hex)	Possible Adjusted Value MIN (hex)	Remarks
Sending Level	07 F5	Adjusted value	Given value	FF	D0	(*2)
Receiving Level	07 F6	Adjusted value	Given value	FF	D0	(*3)
Battery Low	00 09	70	-	-	-	(*4)
Frequency	00 07 / 00 08	70/02	-	-	-	
ID	00 02 ~ 00 06	Given value	-	-	-	

#### Note:

(\*1) When you enter the address or New Data, please refer to the table below.

Desired Number (hex.)	Input Keys	Desired Number (hex.)	Input Keys
0	0	A	[R] + 0
1	1	B	[R] + 1
.	.	C	[R] + 2
.	.	D	[R] + 3
.	.	E	[R] + 4
9	9	F	[R] + 5

(\*2) When adding “01” (hex) to default value, sending level increases by 0.25 dB.

ex.)

Item	Default Data	New Data	
	E7	EB	E3
Sending level	-1.5 dBm	-0.5 dBm	-2.5 dBm

(\*3) When reducing “01” (hex) from default value, receiving level increases by 0.25 dB.

ex.)

Item	Default Data	New Data	
	E7	EB	E3
Receiving level	-13.0 dBm	-14.0 dBm	-12.0 dBm

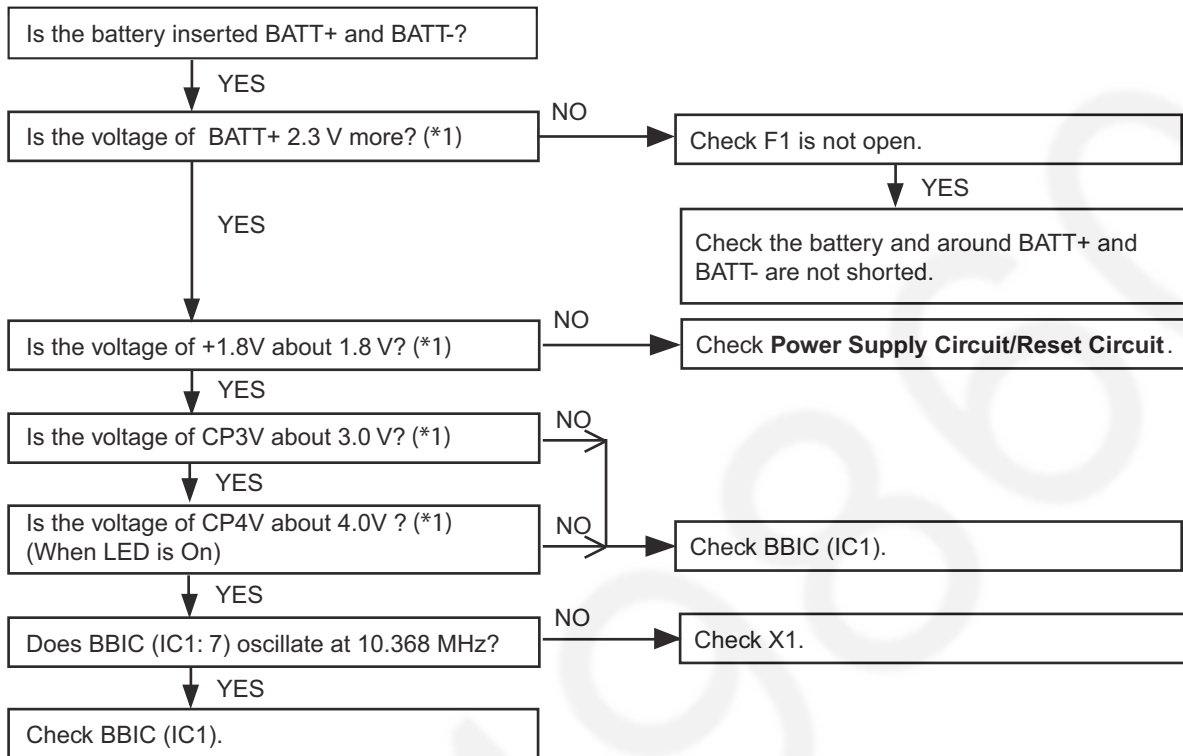
(\*4) Use these items in a READ-ONLY mode to confirm the contents. Careless rewriting may cause serious damage to the handset.

### 3.3. Troubleshooting Guide

#### 3.3.1. Check Power

##### 3.3.1.1. Handset

[Changed from original section "10.1.1.2. Handset"]



**Cross Reference:**

**Power Supply Circuit/Reset Circuit (P.6)**

**Note:**

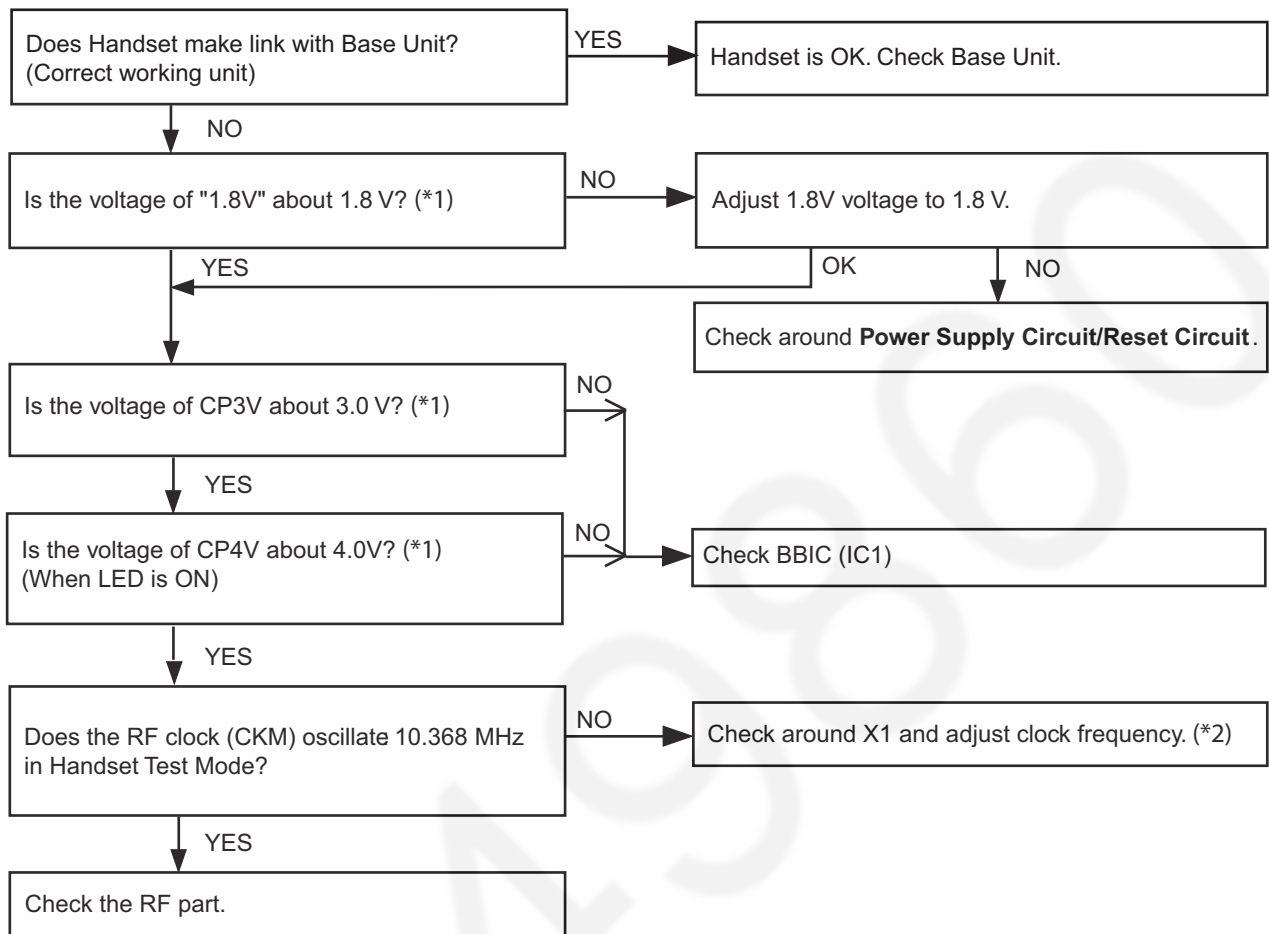
(\*1) Refer to **Circuit Board (Handset\_Main) (P.17)**.



### 3.3.2. Check Link

#### 3.3.2.1. Handset

[Changed from original section "10.1.5.2. Handset"]



**Cross Reference:**

**Power Supply Circuit/Reset Circuit (P.6)**

**Check the RF part (P.10)**

**Note:**

(\*1) Refer to **Circuit Board (Handset\_Main)** (P.17).

(\*2) Refer to **Check Point (Handset)** (H).

### 3.3.3. Check the RF part

[Changed from original section "10.1.6. Check the RF part"]

No.	Item	BU (Base Unit) Check	HS (Handset) Check
1	Link Confirmation Normal HS, BU Mode [Normal Mode]	<ol style="list-style-type: none"> <li>1. Register Regular HS to BU (to be checked).</li> <li>2. Press [Talk] key of the Regular HS to establish link.</li> </ol>	<ol style="list-style-type: none"> <li>1. Register HS (to be checked) to Regular BU.</li> <li>2. Press [Talk] key of the HS to establish link.</li> </ol>
2	X'tal Frequency confirmation HS, BU Mode: [Adjustment]	Check X'tal Frequency. (10.368 MHz $\pm$ 41Hz)	Check X'tal Frequency. (10.368000 MHz $\pm$ 100 Hz)
3	TX confirmation HS Mode: [HS_Burst Mode] (*1) BS Mode: [BS_Burst Mode] (*1)	<ol style="list-style-type: none"> <li>1. Remove wire antenna 2 and connect spectrum analyzer to TP. (*2).</li> <li>2. Confirm TX power whether spec. is satisfied. Power <math>\geq</math>13.5dBm</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect spectrum analyzer to TP. (*3)</li> <li>2. Confirm TX power whether satisfied spec. Power <math>\geq</math>16.0dBm</li> </ol>
5	Range Confirmation Normal HS, BU Mode: [Normal Mode]	<ol style="list-style-type: none"> <li>1. Register Regular HS to BU (to be checked).</li> <li>2. Press [Talk] key of the Regular HS to establish link.</li> <li>3. Compare the range of the BU (being checked) with that of the Regular BU.</li> </ol>	<ol style="list-style-type: none"> <li>1. Register HS (to be checked) to Regular BU.</li> <li>2. Press [Talk] key of the HS to establish link.</li> <li>3. Compare the range of the HS (being checked) with that of the Regular HS.</li> </ol>

**Note:**

(\*1) Refer to **Commands**.

(\*2) **Adjustment Standard (Base Unit)**.

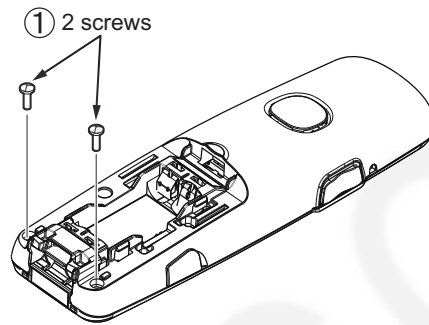
(\*3) **Adjustment Standard (Handset)** (P.12)

### 3.4. Disassembly and Assembly Instructions

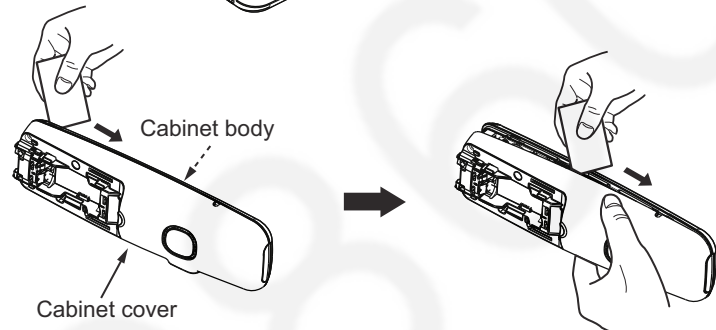
#### 3.4.1. Handset

[Changed from original section "11.1.2. Handset"]

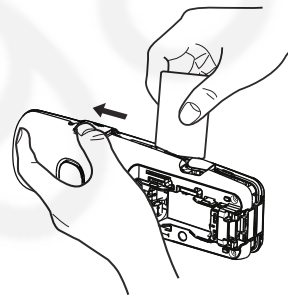
- ① Remove the 2 screws.



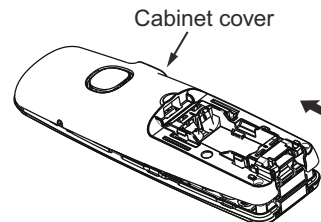
- ② Insert a plastic card. (Ex. Used SIM card etc.) between the cabinet body and the cabinet cover, then pull it along the gap to open the cabinet.



- ③ Likewise, open the other side of the cabinet.



- ④ Remove the cabinet cover by pushing it upward.



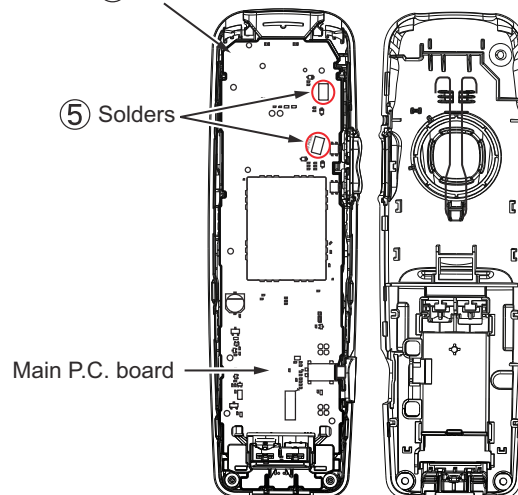
- ⑤ Remove the solders.

- ⑦ Screw

- ⑤ Solders

- ⑥ Remove the solders to remove the 2 charge terminals.

- ⑦ Remove the screw to remove the main P. C. board.



- ⑥ 2 charge terminals

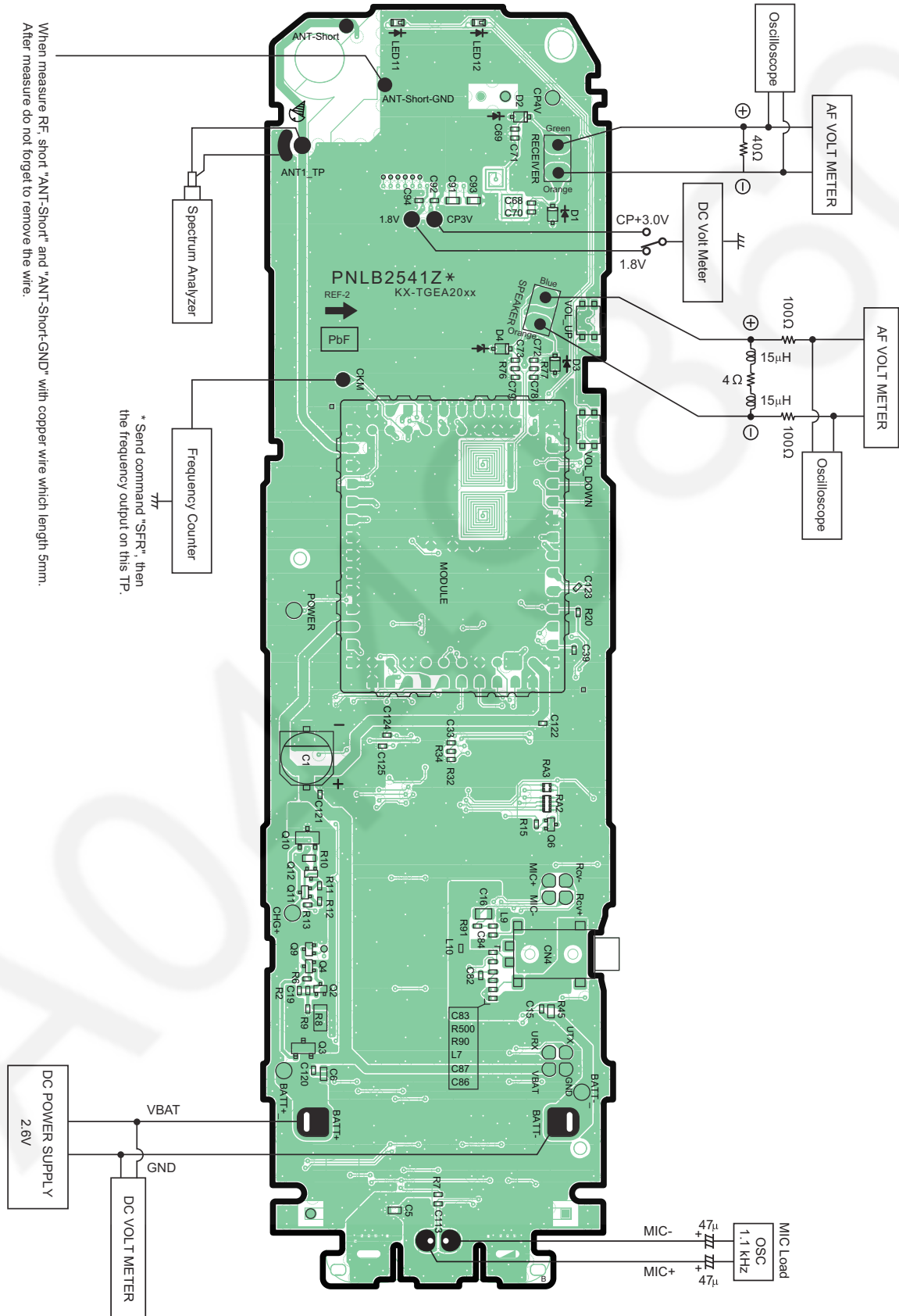
### 3.5. Measurements and Adjustments

#### 3.5.1. Adjustment Standard (Handset)

[Changed from original section "12.4. Adjustment Standard (Handset)"]

When connecting the simulator equipment for checking, please refer to below.

##### 3.5.1.1. Component View



## 3.5.2. Things to Do after Replacing X'tal

### 3.5.2.1. Handset

[Changed from original section "12.5.1.2. Handset"]

First, operate the PC setting according to **The Setting Method of JIG**.

Then download the appropriate data according to the following procedures.

Items		How to download/Required adjustment
FLASH(IC4)	Adjusted parameter data is stored in memory. (country version batch file, default batch file,ect)	<p>1) Please be sure to execute the following steps if you have replaced the FLASH IC(IC4).</p> <ol style="list-style-type: none"> <li>1. Update BBIC. Refer How to up date the BBIC.</li> <li>2. Detach the JIG cable, then disconnect the battery.</li> <li>3. Insert battery.</li> <li>4. Connect the JIG cable again, and execute the command "getchk", then confirm the checksum value is correct. <ul style="list-style-type: none"> <li>• If the downloading failes, start again from step 1.</li> </ul> </li> <li>5. Check DECT ID written on Plastic bag of FLASH (IC4).</li> <li>6. Execute the command "idw xx xx xx xx xx". xx xx xx xx xx: use DECT ID in Step 5.</li> <li>7. Execute the command "epw 00 01 01 AA".</li> <li>8. Default bath file: Execute the command "default.bat"</li> <li>9. Common batch file: Execute the command "TGEA20_US_DEF_RevXXX.bat"(*2).</li> <li>10. Country version batch file: Execute the command "TGEA20_US_US_Rev107.bat"(*2).</li> <li>11. Confirm DECT ID written in the label pated plastic bag of FLASH rom.</li> <li>12. Write ID(PFPI): Write DECT ID. <ul style="list-style-type: none"> <li>• Execute the command "IDWRITE". Refer to <b>11.2.3 Commands</b>.</li> </ul> </li> </ol> <p>2) Clock adjustment.</p> <p>3) Battery low confirmation as below.</p>
Battery Low Confirmation	-	<ol style="list-style-type: none"> <li>1) Apply 2.40 V between BATT+ and BATT-.</li> <li>2) Confirm that there is no flashing of Battery Icon.</li> <li>3) Apply 2.25 V <math>\pm</math> 0.08 V between BATT+ and BATT-.</li> <li>4) Confirm that there is flashing of Battery Icon. If need to adjust Battery low detection, please proceed as below.</li> <li>5) Apply 2.25V between BATT+ and BATT- Execute the command sendchar PAD sendchar LED 0 sendchar CRX 0 1 sendchar AD1 It assumes that the return value is XX*. a) <math>6c \leq XX \leq 71</math>: No need to adjust b) XX: 6A ~ 6B: Need to adjust Execute the command wreeprom 00 09 01 XX wreeprom 00 0A 01 ZZ ZZ = XX-1D (hex) Note: * : If XX is "00" to "69" or "75" to "FF" it may not be able to adjust properly. Please check power circuit.</li> </ol>
Clock Adjustment (X1)	CLK	<ol style="list-style-type: none"> <li>1) Apply 2.6 V between BATT+ and BATT- with DC power.</li> <li>2) Input Command "sendchar sfr", then you can confirm the current value.</li> <li>3) Check X'tal Frequency. (10.368 MHz <math>\pm</math> 100 Hz).</li> <li>4) If the frequency is not 10.368 MHz <math>\pm</math> 100 Hz, adjust the frequency of CLK execute in the command "sendchar sfr xx xx (where xx is the value)" so that the reading of the frequency counter is 10.368000 MHz <math>\pm</math> 5 Hz.</li> </ol>

**Note:**

(\*2) WW: country code, XXX\_YYY: revision number

WW: country code, XXX: revision number "XXX\_YYY" vary depending on the country version.

"XXX" vary depending on the country version. You can find them in the batch file, PNZZ- mentioned in

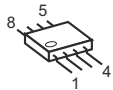
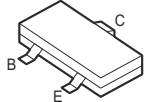
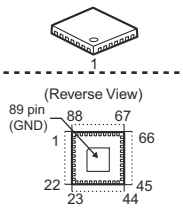
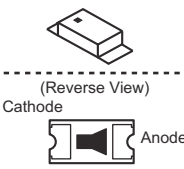
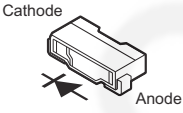
**The Setting Method of JIG.**

### 3.6. Miscellaneous

#### 3.6.1. Terminal Guide of the ICs, Transistors and Diodes

##### 3.6.1.1. Handset

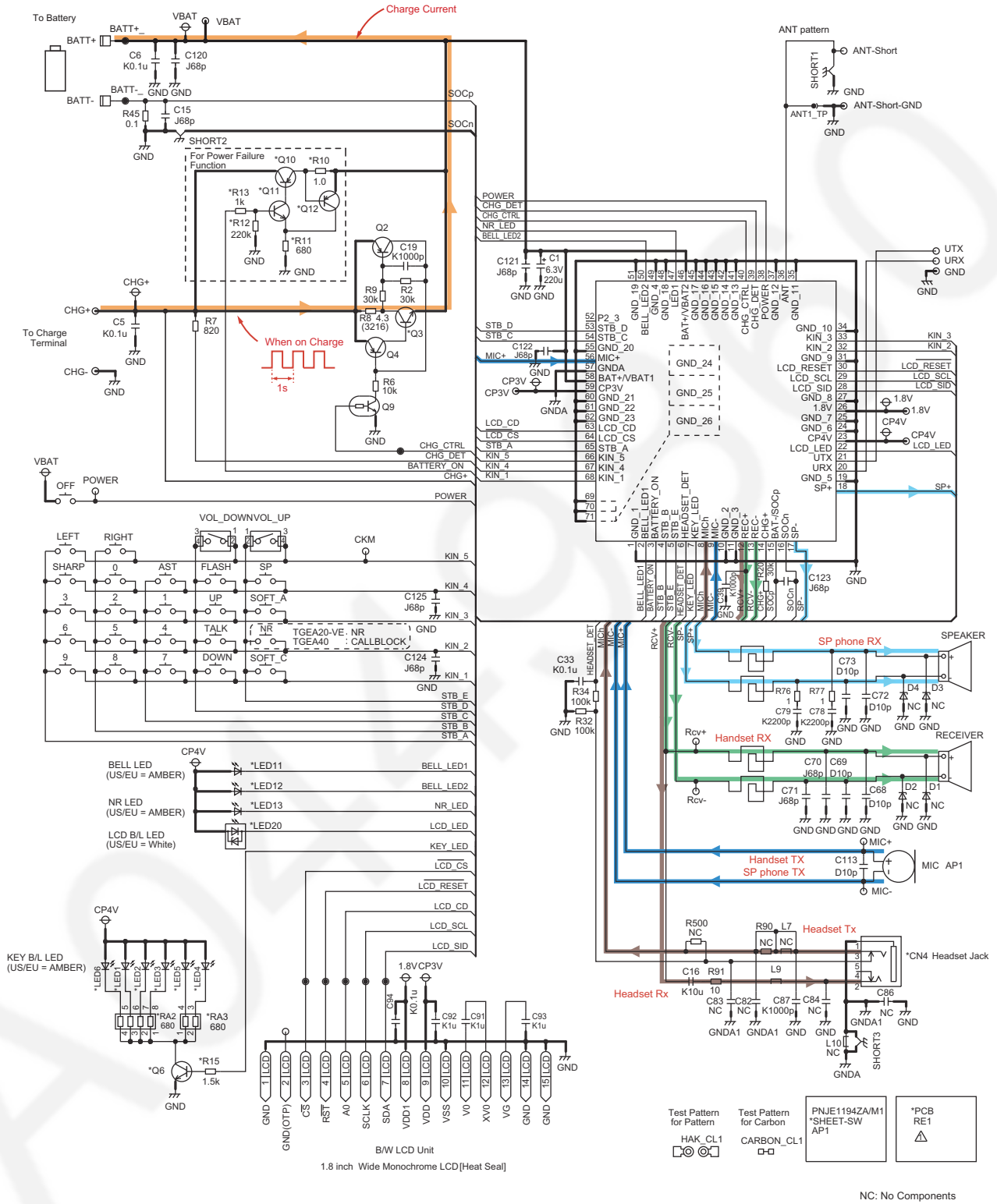
[Changed from original section "13.3.2. Handset"]

 <p>PNWITGEA20RY</p>	 <p>B1ADGE000012, B1ABGE000011, DSA900100L, 2SC6054JSL, UNR9216J0L</p>	 <p>C1CB00003837</p>	 <p>B3ACB0000190</p>	 <p>B3AFB0000370</p>
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### 3.7. Schematic Diagram

#### 3.7.1. Schematic Diagram (Handset\_Main)

[Changed from original section "14.5. Schematic Diagram (Handset\_Main)"]





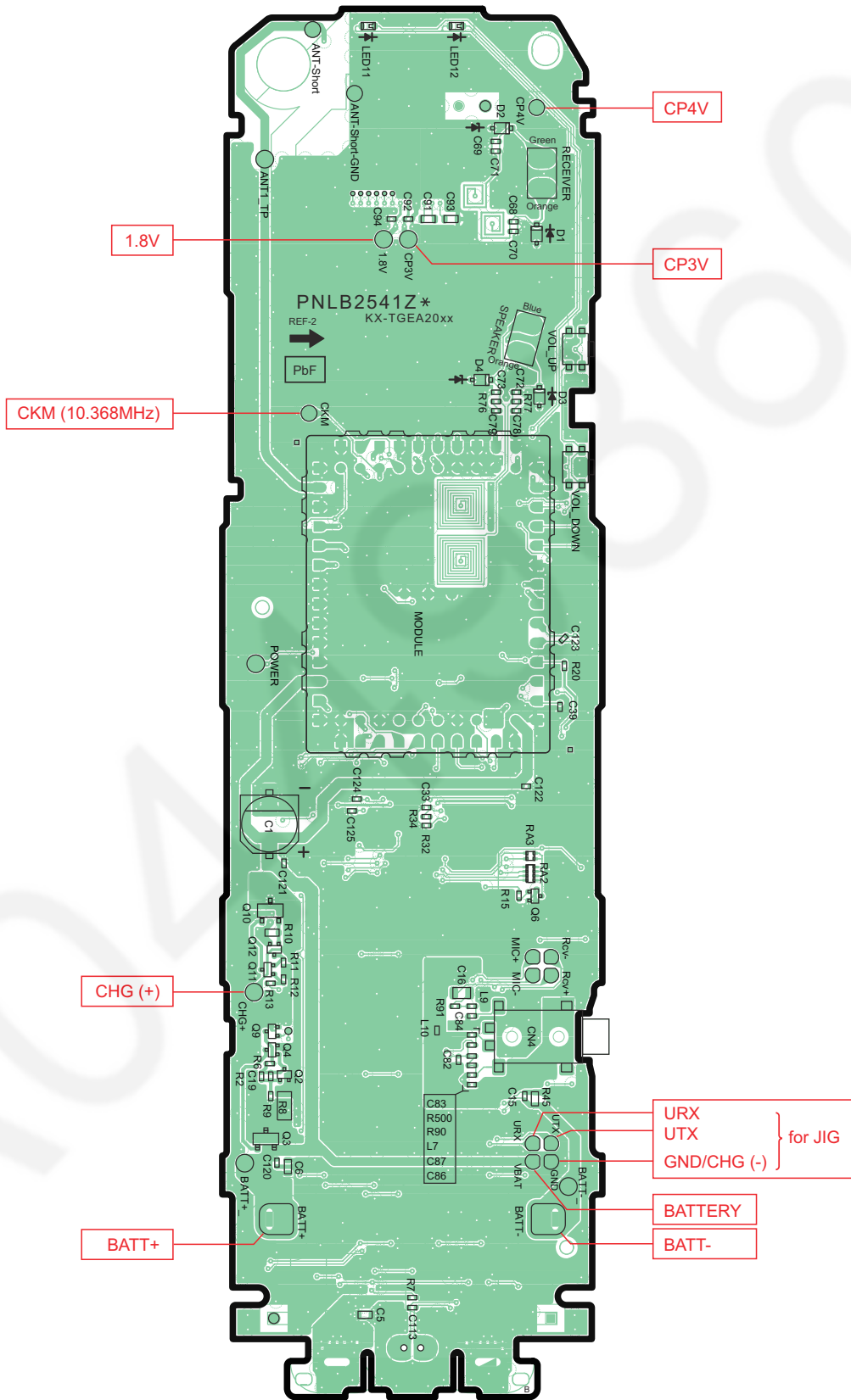


### 3.8. Printed Circuit Board

#### 3.8.1. Circuit Board (Handset\_Main)

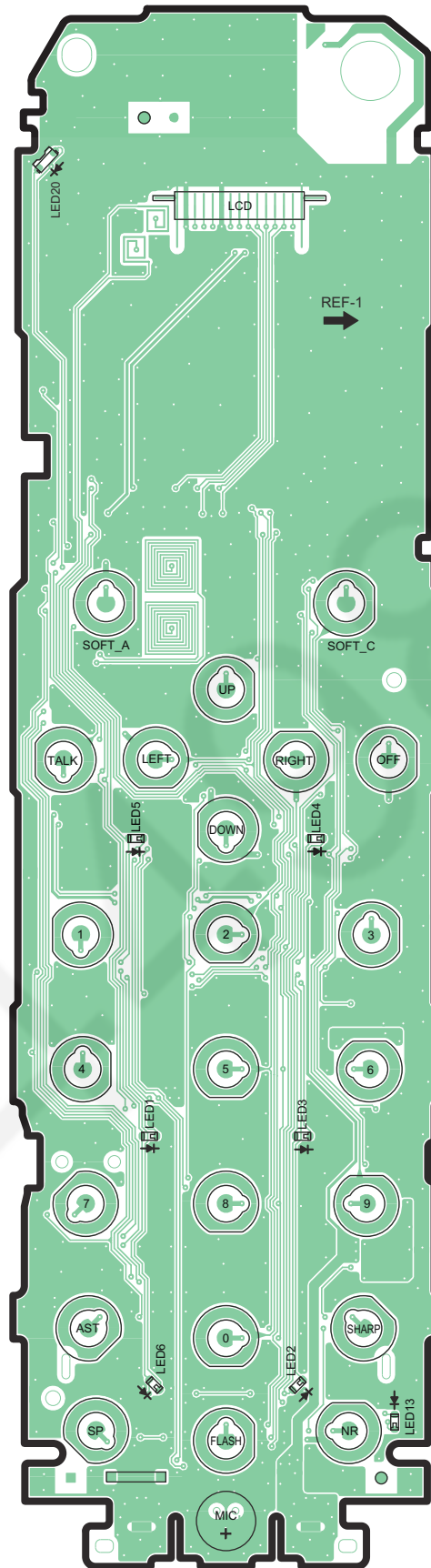
[Changed from original section “15.3. Circuit Board (Handset\_Main)”]

##### 3.8.1.1. Component View



KX-TGE2xx CIRCUIT BOARD (Handset\_Main (Component View)) -1

### 3.8.1.2. Bottom View

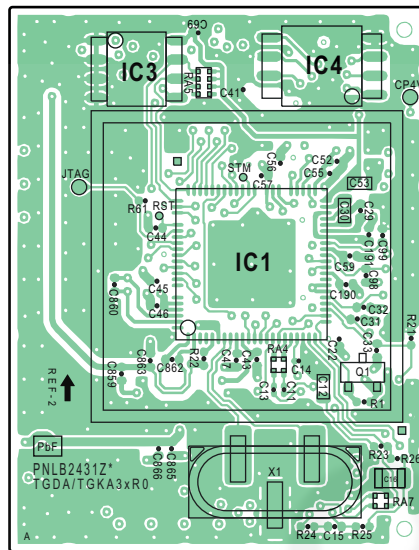


KX-TGE2xx CIRCUIT BOARD (Handset\_Main (Bottom View))

### 3.8.2. Circuit Board (Handset\_Module)

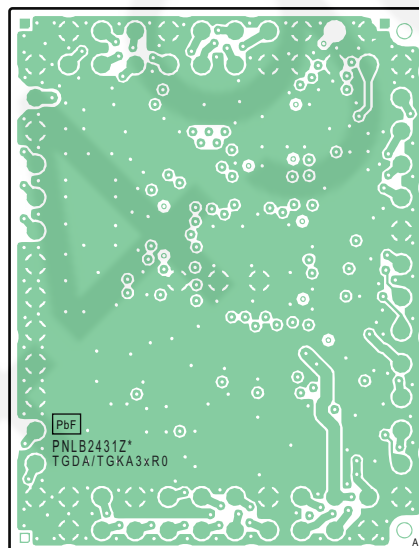
[Added to original section "15.4. Circuit Board (Handset\_Module)"]

#### 3.8.2.1. Component View



KX-TGEA20 MODULE BOARD (Handset (Component View))

#### 3.8.2.2. Bottom View



KX-TGEA20 MODULE BOARD (Handset (Bottom View))

## 3.9. Replacement Parts List

### 3.9.1. Handset

#### 3.9.1.1. Main P.C. Board Parts

##### 3.9.1.1.1. Main P.C. Board

[Changed from original section "16.5.2.2. Main P.C. Board Parts"]

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB100	PNWP1GEA20RY	MAIN P.C.BOARD ASS'Y (RTL)	
			(TRANSISTORS)	
	Q2	B1ADCF000040	TRANSISTOR (SI)	
	Q3	B1ABGE000011	TRANSISTOR (SI)	
	Q4	B1ADCF000040	TRANSISTOR (SI)	
	Q6	2SC6054JSL	TRANSISTOR (SI)	S
	Q9	B1GBCFGA0021	TRANSISTOR (SI)	
	Q10	B1ADNB000003	TRANSISTOR (SI)	
	Q11	2SC6054JSL	TRANSISTOR (SI)	S
	Q12	B1ADCF000040	TRANSISTOR (SI)	
			(DIODES)	
	LED1	B3ACB0000190	DIODE (SI)	
	LED2	B3ACB0000190	DIODE (SI)	
	LED3	B3ACB0000190	DIODE (SI)	
	LED4	B3ACB0000190	DIODE (SI)	
	LED5	B3ACB0000190	DIODE (SI)	
	LED6	B3ACB0000190	DIODE (SI)	
	LED11	B3ACB0000190	DIODE (SI)	
	LED12	B3ACB0000190	DIODE (SI)	
	LED13	B3ACB0000190	DIODE (SI)	
	LED20	B3AFB0000370	DIODE (SI)	
			(COMPONENTS PARTS)	
	RA2	EXB28V681JX	RESISTOR ARRAY	S
	RA3	EXB24V681JX	RESISTOR ARRAY	S
			(IC FILTER)	
	L9	J0JAC0000059	IC FILTER	
			(RESISTORS)	
	R2	ERJ2GEJ303	30k	
	R6	D0GA103JA021	10k	
	R7	ERJ2GEJ821	820	
	R8	ERJ8GEYJ4R3V	4.3	S
	R9	ERJ2GEJ303	30k	
	R10	ERJ3GEYJ1R0	1	S
	R11	D0GA681JA021	680	
	R12	ERJ2GEJ224	220k	
	R13	ERJ2GEYJ102	1k	S
	R15	D0GA152JA021	1.5k	
	R20	ERJ2GEJ303	30k	
	R32	D0GA104JA021	100k	
	R34	D0GA104JA021	100k	
	R45	D0GBR10JA113	0.1	
	R76	ERJ2GEJ1R0	1	
	R77	ERJ2GEJ1R0	1	
	R91	ERJ2GEJ100	10	
			(CAPACITORS)	
	C1	EEE0JA221WP	220	
	C5	ECUV1C104KBV	0.1	S
	C6	ECUV1C104KBV	0.1	S
	C15	ECUE1H680JCQ	68p	S
	C16	PQCUV0J106KB	10	S
	C19	ECUE1H102KBQ	0.001	S
	C33	FIG1A1040006	0.1	
	C39	ECUE1H102KBQ	0.001	S
	C68	ECUE1H100DCQ	10p	S
	C69	ECUE1H100DCQ	10p	S
	C70	ECUE1H680JCQ	68p	S
	C71	ECUE1H680JCQ	68p	S
	C72	ECUE1H100DCQ	10p	S
	C73	ECUE1H100DCQ	10p	S
	C78	ECUE1H222KBQ	0.0022	S

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C79	ECUE1H222KBQ	0.0022	S
	C87	ECUE1H102KBQ	0.001	S
	C91	ECUV1C105KBV	1	S
	C92	FIG0J1050007	1	
	C93	ECUV1C105KBV	1	S
	C94	FIG1A1040006	0.1	
	C113	ECUE1H100DCQ	10p	S
	C120	ECUE1H680JCQ	68p	S
	C121	ECUE1H680JCQ	68p	S
	C122	ECUE1H680JCQ	68p	S
	C123	ECUE1H680JCQ	68p	S
	C124	ECUE1H680JCQ	68p	S
	C125	ECUE1H680JCQ	68p	S
			(OTHERS)	
	CN4	K2HD1YYE0008	JACK/SOCKET	
	MIC100	L0CBAY000053	MICROPHONE	
	SW1	EVQP7J01P	PUSH SWITCH	
	SW2	EVQP7J01P	PUSH SWITCH	
	E101	PNVE1002Z	BATTERY TERMINAL	ABS-HB
	E102	PNJT1184Z	CHARGE TERMINAL (L)	
	E103	PNJT1185Z	CHARGE TERMINAL (R)	
	E104	L5DYBY00043	LIQUID CRYSTAL DISPLAY	S
	E105	PNHR1921Z	TRANSPARENT PLATE, LCD	PMMA-HB
	E106	PNHR1920Z	GUIDE, LCD	ABS-HB
	E107	PQHG10729Z	RUBBER PARTS, RECEIVER	
	E108	PNJE1194Z	SPECIAL SWITCH	

##### 3.9.1.1.2. Module P.C.Board

[Added to original section "16.5.2.3. Module P.C.Board"]

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
			(ICs)	
	IC1	C1CB00003837	IC	
	IC3	PNWITGEA20RY	IC	
	IC4	C3FBLY000137	IC	
			(TRANSISTOR)	
	Q1	B1ADGE000012	TRANSISTOR (SI)	
			(COMPONENTS PARTS)	
	RA4	EXB24V272J	RESISTOR ARRAY	
	RA5	EXB28V332JX	RESISTOR ARRAY	
	RA7	EXB24V821JX	RESISTOR ARRAY	S
			(RESISTORS)	
	R1	ERJ2GEJ103	10k	S
	R21	ERJ2GEJ103X	10k	
	R22	D0GA563ZA006	56k	
	R23	ERJ2GEYJ102	1k	S
	R24	ERJ2GEJ332	3.3k	
	R25	ERJ2GEJ222	2.2k	
	R26	ERJ2GEYJ102	1k	S
	R61	ERJ2GEYJ102	1k	S
			(CAPACITORS)	
	C11	F1L1A104A054	0.1	
	C12	ECUV0J225KBV	2.2	S
	C13	F1L1A104A054	0.1	
	C14	F1L1H100A180	10p	
	C15	ECUE1C103KBQ	0.01	S
	C16	PQCUV0J106KB	10	S
	C22	FIG0J1050007	1	
	C29	FIG0J1050007	1	
	C30	ECUV1A105KBV	1	S
	C31	ECUE1H680JCQ	68p	S
	C32	ECUE1H680JCQ	68p	S
	C33	FIG1A1040006	0.1	
	C41	FIG1A1040006	0.1	
	C43	ECUE1H100DCQ	10p	S
	C44	FIG1A1040006	0.1	
	C45	FIG1A1040006	0.1	
	C46	ECUE1H100DCQ	10p	S
	C47	FIG0J1050007	1	
	C52	FIG0J1050007	1	
	C53	ECUV1A225KBV	2.2	S

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C55	ECUE1H100DCQ	10p	S
	C56	ECUE1H100DCQ	10p	S
	C57	F1G1A1040006	0.1	
	C59	F1G0J1050007	1	
	C69	F1G1A1040006	0.1	
	C98	ECUE1H100DCQ	10p	S
	C99	ECUE1H100DCQ	10p	S
	C190	F1G1A1040006	0.1	
	C191	F1G0J1050007	1	
	C859	ECUE1H100DCQ	10p	S
	C860	F1G1H1R2A765	1.2p	
	C862	F1G1H1R5A765	1.5p	
	C863	F1G1H1R8A798	1.8p	
	C865	ECUE1H100DCQ	10p	S
	C866	F1G1A1040006	0.1	
			(CRYSTAL OSCILLATOR)	
	X1	H0J103500038	CRYSTAL OSCILLATOR	