ORDER NO. KM40509891CE

Service Manual

Telephone Equipment

Caller ID and SMS Compatible

KX-TGA122AZS KX-TGA121AZS (HANDSET)

KX-TG1840ALS (BASE UNIT)

KX-TG1843ALS
KX-TGA122AZS
KX-TGA121AZS

Digital Cordless Answering System

Silver Version

(for Australia)

- **The difference between KX-TGA122 and KX-TGA121**
  KX-TGA122 has the icons for answering system printed below the dial keys.

(CHARGER UNIT)

Configuration for each model

Model No	Base Unit	Handset	Charger Unit
KX-TG1843	1	3 (TGA122)	2
KX-TGA121		1 (TGA121)	1

KX-TGA121 is an optional accessory, which contains a handset and a charger.

SPECIFICATION

Standard:	DECT (Digital Enhanced Cordless Telecommunications) GAP (Generic Access Profile)
Number of channels:	120 Duplex Channels
Frequency range:	1.88 GHz to 1.9 GHz
Duplex procedure:	TDMA (Time Division Multiple Access)
Channel spacing:	1728 kHz
Bit rate:	1152 kbit/s
Modulation:	GFSK (Gaussian Frequency Shift Keying)
RF Transmission power:	Approx. 250 mW
Voice coding:	ADPCM 32 kbit/s
Operation range:	Up to 300 m outdoors, Up to 50 m indoors
Analog telephone connection:	Telephone Line

Power source:	AC Adaptor (220 V - 240 V AC, 50 Hz)
Power consumption, Base Unit:	Standby: Approx. 3.8 W/Maximum: Approx. 9.2 W
Charger Unit:	Standby: Approx. 2.3 W/Maximum: Approx. 6.8 W
Battery life, Handset (if batteries are fully charged):	Stand-by: Up to 170 hours (Ni-MH) Talk: Up to 20 hours (Ni-MH)
Operating conditions:	5 ˚C - 40 ˚C, 20 % - 80 % relative air humidity (dry)
Dimensions, Base Unit (D x W x L):	Approx. 86 mm x 183 mm x 122 mm
Dimensions, Handset (D x W x L):	Approx. 148 mm x 48 mm x 32 mm
Dimensions, Charger Unit (D x W x L):	Approx. 85 mm x 94 mm x 65 mm
Mass (weight), Base Unit:	Approx. 425 g
Mass (weight), Handset:	Approx. 130 g
Mass (weight), Charger Unit:	Approx. 90 g

Specifications are subject to change.
The illustrations used in this manual may differ slightly from the actual product.

IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING
If lead free solder was used in the manufacture of this product the printed circuit boards will be marked PbF.
Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.
When this mark does appear, please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.

Panasonic

⚠ 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.

When you note the serial number, write down all 11 digits. The serial number may be found on the bottom of the unit.

Note:

Because CONTENTS 4 is the extract from the Operating Instructions of this model, it is subject to change without notice. You can download and refer to the original Operating Instructions on TSN Server for further information.

CONTENTS

1 ABOUT LEAD FREE SOLDER (PbF: Pb free)

Note:

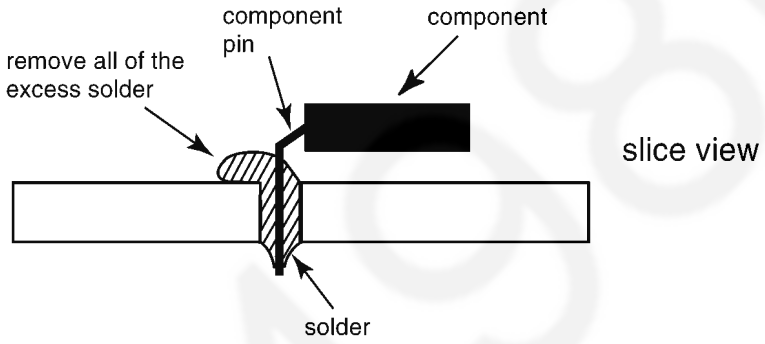
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.

We will use PbF solder when discussing the lead free solder used in our manufacturing process which is made from Tin (Sn), Silver (Ag), and Copper (Cu).

This model, and others like it, manufactured using lead free solder will have PbF stamped on the PCB. For service and repair work we suggest using the same type of solder although, with some precautions, standard Pb solder can also be used.

Caution

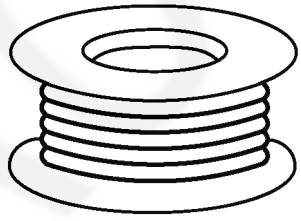
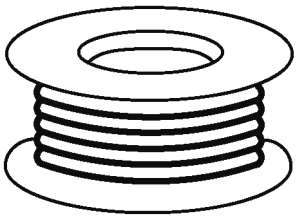
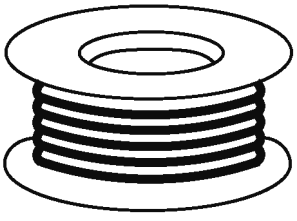
- PbF solder has a melting point that is 50°F ~ 70°F (30°C ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700°F ± 20°F (370°C ± 10°C). In case of using high temperature soldering iron, please be careful not to heat too long.
- PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F (600°C).
- If you must use Pb solder on a PCB manufactured using PbF solder, remove as much of the original PbF solder as possible and be sure that any remaining is melted prior to applying the Pb solder.
- When applying PbF solder to double layered boards, please check the component side for excess which may flow onto the opposite side (See the figure below).



1.1. Suggested PbF Solder

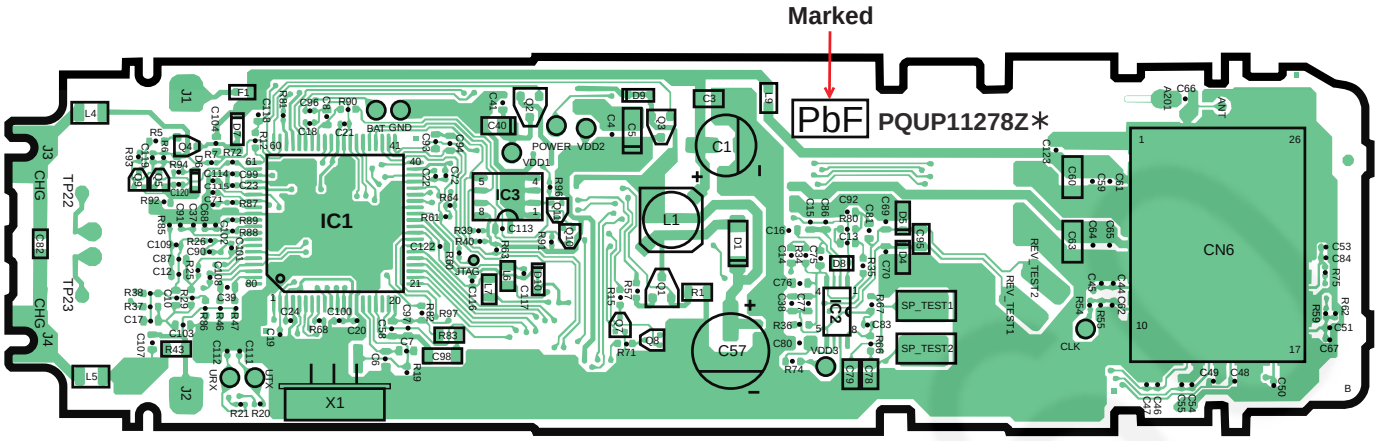
There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper (Sn+Ag+Cu), you can also use Tin and Copper (Sn+Cu) or Tin, Zinc, and Bismuth (Sn+Zn+Bi). Please check the manufacturer's specific instructions for the melting points of their products and any precautions for using their product with other materials.

The following lead free (PbF) solder wire sizes are recommended for service of this product: 0.3mm, 0.6mm and 1.0mm.

0.3mm X 100g	0.6mm X 100g	1.0mm X 100g
		

1.2. How to recognize that Pb Free solder is used

(Example: Handset P.C.B.)



(Component View)

Note:

The location of the “PbF” mark is subject to change without notice.

2 FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

When repairing, the following precautions will help prevent recurring malfunctions.

1. Cover the plastic parts boxes with aluminum foil and ground them.
2. Ground the soldering irons.
3. Use a conductive mat on the worktable.
4. Do not touch IC or LSI pins with bare fingers.

3 CAUTION

1. Danger of explosion if battery is incorrectly replaced.
2. Replace only with the same or equivalent type recommended by the manufacturer.
3. Dispose of used batteries according to the manufacture’s Instructions.

4 OPERATING INSTRUCTIONS

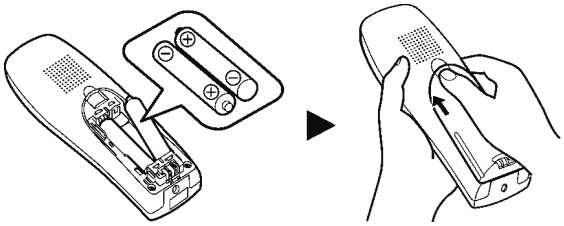
4.1. Battery

4.1.1. Battery Installation

1. Insert the batteries negative (⊖) terminal first.
2. Close the handset cover.

Note:

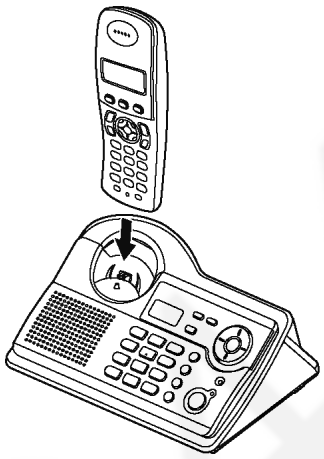
- Use only rechargeable Ni-MH batteries HHR-4EPT.



4.1.2. Battery Charge

Place the handset on the base unit for about 7 hours before initial use.

When charging, the battery icon is shown as follows. When the batteries are fully charged, remains on the display.



Battery icon	Battery strength
	High
	Medium
	Low When flashing: Needs to be charged.

Note:

- It is normal for the handset to feel warm during charging.
- It takes 7 hours to fully charge the batteries, however, you can use the handset before the batteries are fully charged.
- Clean the charge contacts of the handset and base unit with a soft, dry cloth, otherwise the batteries may not charge properly. Clean if the unit is exposed to grease, dust or high humidity.
- When flashes, recharge the handset batteries. will continue to flash until the batteries have been charged for at least 15 minutes.
- If the handset is turned off, it will be turned on automatically when it is placed on the base unit.

4.1.3. Battery Life

After your Panasonic batteries are fully charged, you can expect the following performance:

Ni-MH batteries (700 mAh)

Operation	Operating Time
While in use (talking)	20 hours max.
While not in use (standby)	170 hours max.

Note:

- Actual battery performance depends on a combination of how often the handset is in use (talking) and how often it is not in use (standby).
- Battery operating time may be shortened over time depending on usage conditions and ambient temperature.

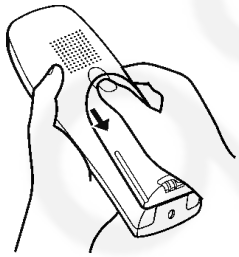
4.1.4. Battery Replacement

If flashes even after the handset batteries have been charged for 7 hours, the batteries must be replaced.

Important:

- We recommend the use of Panasonic rechargeable Ni-MH batteries HHR-4EPT. If you install non-rechargeable batteries and start charging, the batteries may leak electrolyte.
- Do not mix old and new batteries.

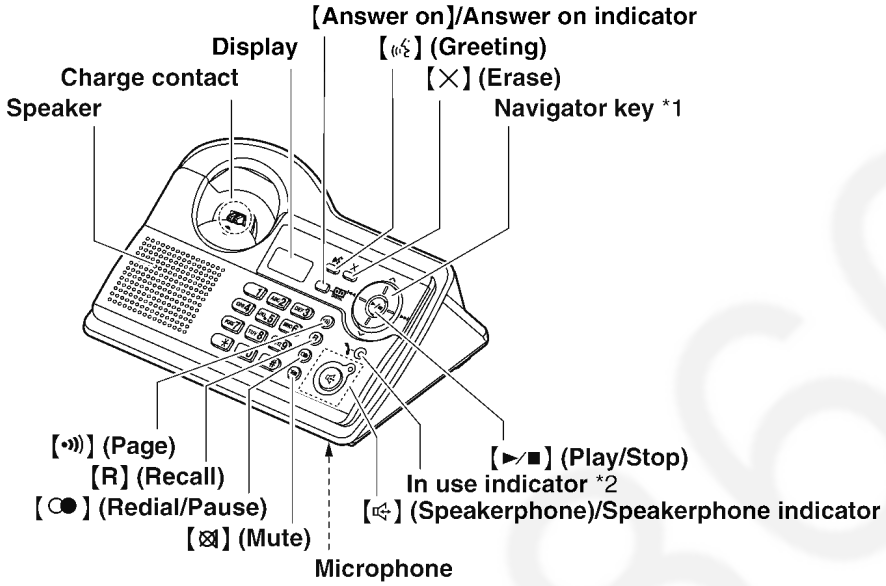
1. Press the notch on the handset cover firmly and slide it in the direction of the arrow.



2. Remove the old batteries positive (⊕) terminal first and install the new ones.

4.2. Location of Controls

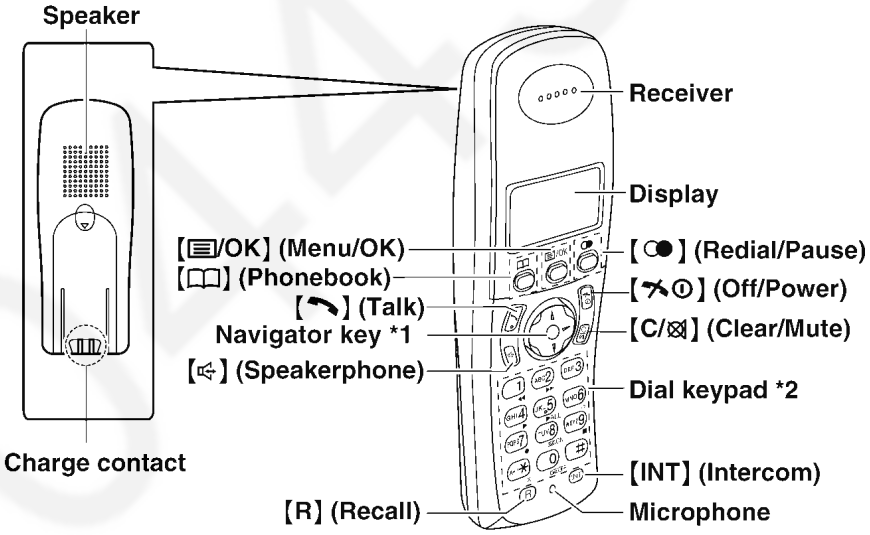
4.2.1. Base Unit



- *1: 【∧】【∨】: To adjust the ringer and speaker volumes.
  【|◀◀】【▶▶|】: To select the desired ringtone or to repeat or skip the recorded messages.

*2: Lights when a handset is in use (on a call, editing the shared phonebook, using the answering system, etc.).
Flashes when a call is being received or when the answering system is answering a call.

4.2.2. Handset



Model shown is KX-TGA122.

*1 【▲】【▼】: To search for the desired item in menus.
【 ▶ 】: To select the desired item or move the cursor to the right.
【 ◀ 】: To return to the previous screen or move the cursor to the left.

*2 The icons printed below the dial keys shown in the illustration (▶, , ■ etc.) indicate answering system operations.

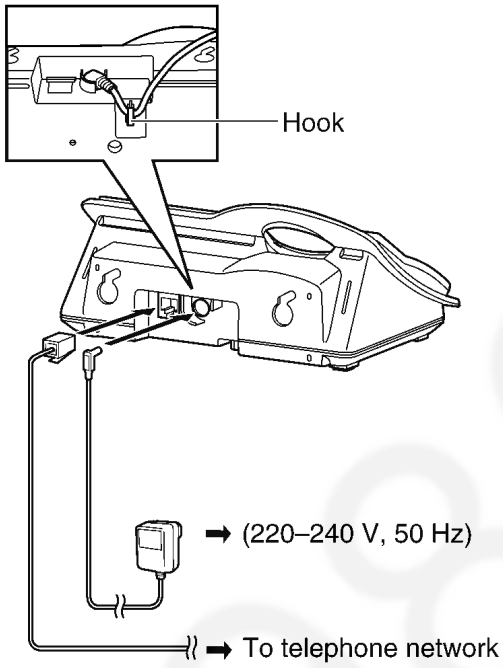
Note:

- Up to 3 menu items can be displayed at a time. To select a menu item not shown on the current page, scroll up or down by pressing the navigator key, 【▲】 or 【▼】, respectively.

4.3. Connections

4.3.1. Base Unit

When the AC adaptor is connected, a short beep will be heard. If it is not heard, check the connections.



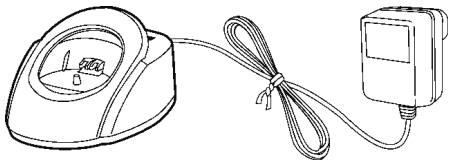
Important:

- Use only the AC adaptor PQLV19ALX and telephone line cord supplied with this unit.

Note:

- After connection, you must charge the batteries to make or answer calls with the handset.
- Never install telephone wiring during a lightning storm.
- The AC adaptor must remain connected at all times. (It is normal for the adaptor to feel warm during use.)
- The AC adaptor should be connected to a vertically oriented or floor-mounted AC outlet. Do not connect the AC adaptor to a ceiling-mounted AC outlet, as the weight of the adaptor may cause it to become disconnected.
- The unit will not work during a power failure. We recommend connecting a standard telephone to the same telephone line or to the same telephone socket using a telephone double adaptor.
- This unit is not designed to be used with rotary (pulse dialling) services.

4.3.2. Charger Unit



Important:

- Use only the AC adaptor PQLV200ALX.

Note:

- The AC adaptor must remain connected at all times (It is normal for the adaptor to feel warm during use).

4.4. Guide to Settings

For your reference, a chart of all items which can be customised for the base unit and the handset is printed below.

- When customising the base unit and the handset, the current item or setting is indicated by ▶.

4.4.1. Base Unit Settings

- These items are customised using the handset.

Settings menu	Sub-menu	Sub-menu 2	Default setting	Remarks (selectable options)
Ringer Setup	Night Mode	Start/End	*23:00/06:00*	—
		On/Off	Off	On/Off
		Ring Delay	60 sec.	30/60/90/120 sec and No Ringing
Call Options	Recall		100 msec.	80/90/100/110/160/200/250/300/400/600/700/900 msec
	Pause Length		3 sec.	3 sec/5 sec
	Emergency No.		000, 106	Up to 5 numbers
	ARS Settings	Area Code	—	Up to 4 area codes
	Call Restrict		—	Up to 6 numbers
	Call Bar		Off	On/Off
Other Options	Base Unit PIN		0000	—
	Repeater Mode		Off	On/Off
	Reset Base		—	—

Note:

- Up to 3 menu items can be displayed at a time. To select a menu item not shown on the current page, scroll up or down by pressing the navigator key, 【▲】 or 【▼】, respectively.

4.4.2. SMS Settings

SMS settings	Default setting	Remarks (selectable options)
SMS on/off	On	On/Off
Message Centre 1	—	—
Message Centre 2	—	—
Private Mailboxes	—	Up to 6 mailboxes
PBX line access number	Off	On (Delete All)/Off

Note:

- If the base unit is reset to its default settings, the contents of the receive and send lists will be erased.

4.4.3. Answering System Settings

Answering system setting	Default setting	Remarks (selectable Options)
Answering system on/off	**Answer On**	Answer On/Answer Off
Remote access code	—	000~999/Off (▷◁)
Number of rings	**4 Rings**	Auto/2-7 Rings
Caller's recording time	**3 Minutes**	Greeting Only/1 Minute/3 Minutes
Call screening	**On**	On/Off
Message alert	**Off**	On/Off

4.4.4. Handset Settings

Settings menu	Sub-menu	Sub-menu 2	Default setting	Remarks (selectable options)
Time Settings	Set Date & Time		—	—
	Alarm		Off	Once/Daily/Off
Ringer Setup	Ringer Volume		*Maximum***	Off/1 to 6**
	Ext. Ringtone *(External ringtone)*		Ringtone 1	1 to 15
	Int. Ringtone *(Intercom ringtone)*		Ringtone 1	1 to 15
	Night Mode	Start/End	*23:00/06:00*	—
		On/Off	Off	On/Off
		Ring Delay	60 sec.	30/60/90/120 sec and No Ringing
		Select Category	—	—
Display Setup	Standby Display		Off	Base Number/Handset Number/Off
	Select Language		English	14 languages selectable
	Contrast		*Level 3***	Level 1 to Level 6**
Call Options	Call Bar		Off	On/Off
	Auto Talk		Off	On/Off
Registration	Register H.set *(Register handset)*		—	—
Select Base	—		Auto	Auto/Base 1/Base 2/Base 3/Base 4 *1
Other Options	Handset PIN		0000	—
	LetterWise		English	14 languages selectable
	Keytones		On	On/Off
	Reset Handset		—	—

*1 Here, only the case that a handset is registered to a maximum of 4 Base Units is mentioned.

Note:

- Up to 3 menu items can be displayed at a time. To select a menu item not shown on the current page, scroll up or down by pressing the navigator key, 【▲】 or 【▼】, respectively.
- The items with a mark "**" are not shown on the display.

4.5. For Service Hint

Items	Contents
Battery	You could use other rechargeable batteries sold in a market, but the unit is not guaranteed to work properly.
PIN Code	If you forget Base Unit or Handset PIN code, press *, 7, 0, 0, 0 as a PIN code. This is called "super password" and is effective when you have forgotten the PIN code.

5 DISASSEMBLY INSTRUCTIONS

5.1. Base Unit

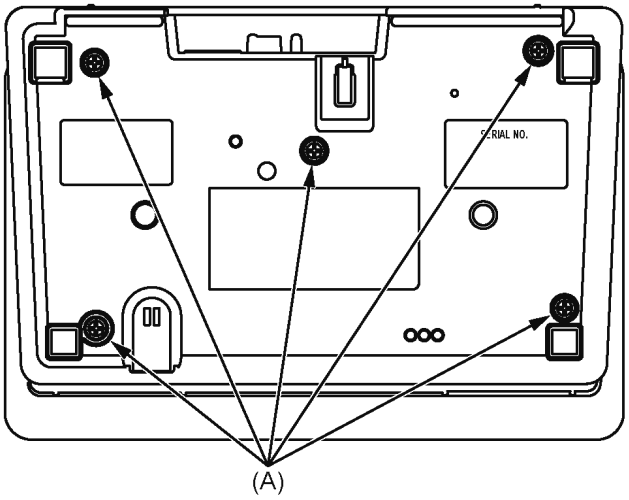


Fig. 1

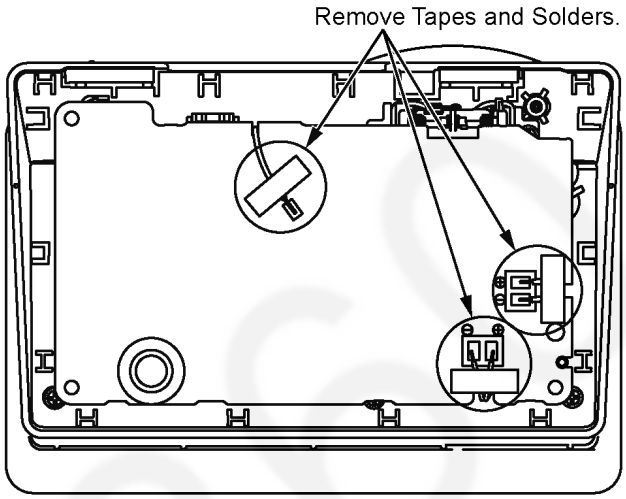


Fig. 2

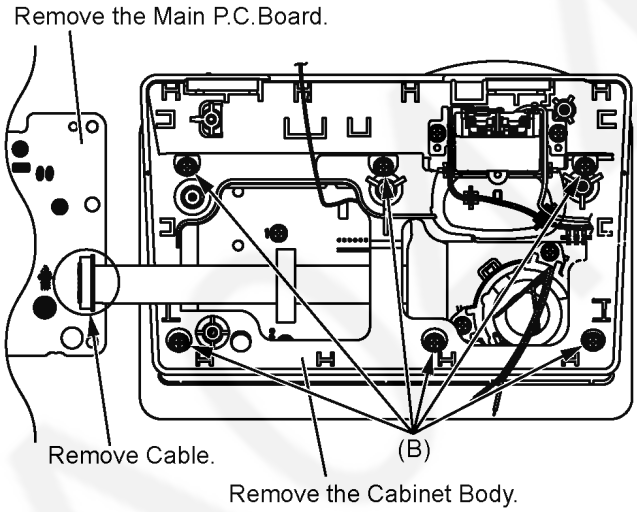


Fig. 3

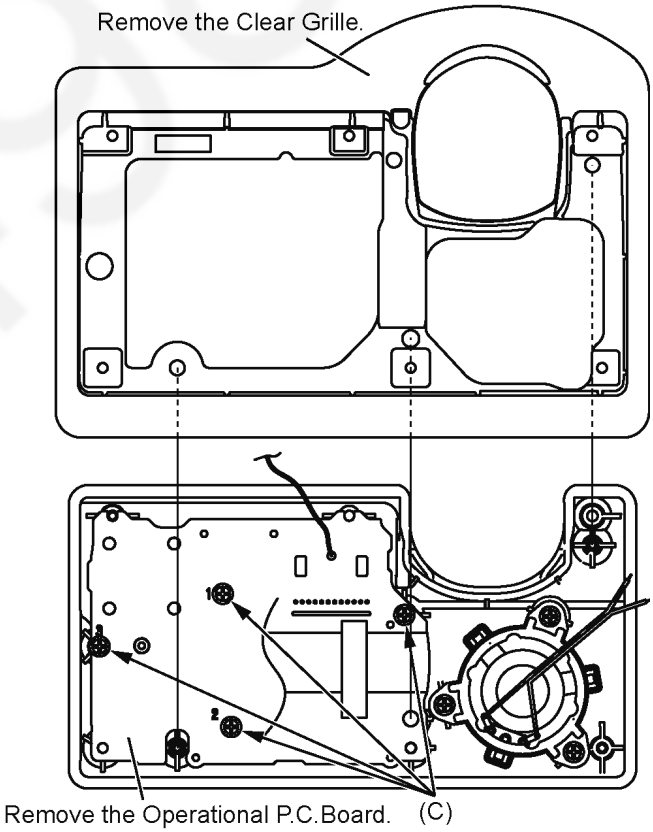


Fig. 4

Shown in Fig.-	To Remove	Remove
1	Cabinet Cover	Screws (2.6 × 14).....(A) × 5
2	Main P.C.Board	Tapes and Solders
3	Main P.C.Board	Cable
		Main P.C.Board
	Cabinet Body	Screws (2.6 × 14).....(B) × 6
4	Operational P.C.Board	Clear Grille
		Screws (2.6 × 8).....(C) × 4
		Operational P.C.Board

5.2. Handset

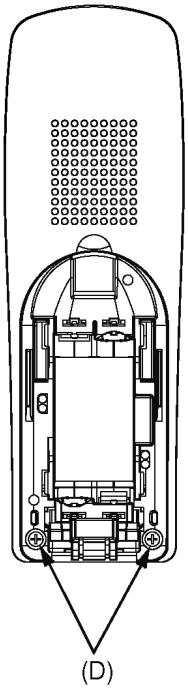


Fig. 5

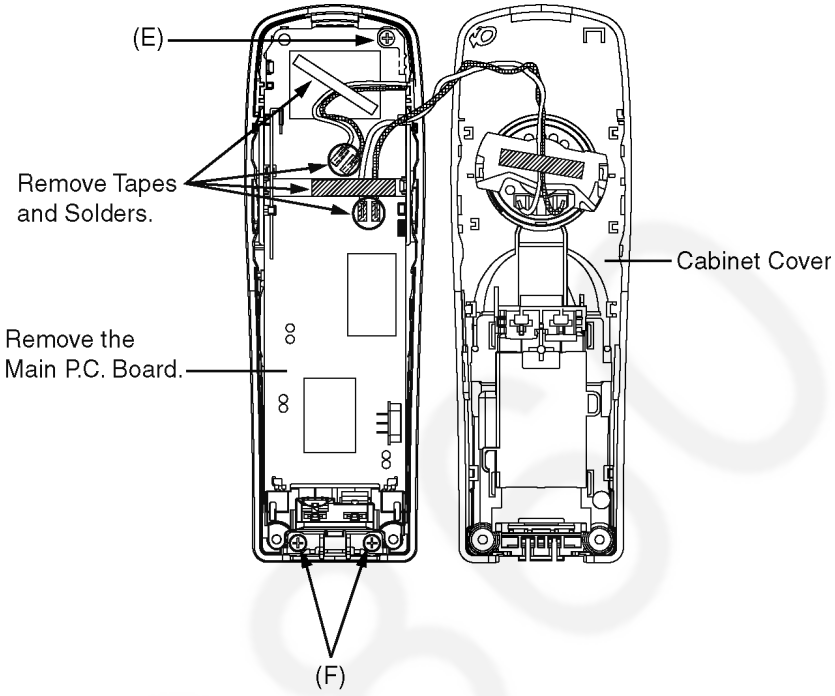
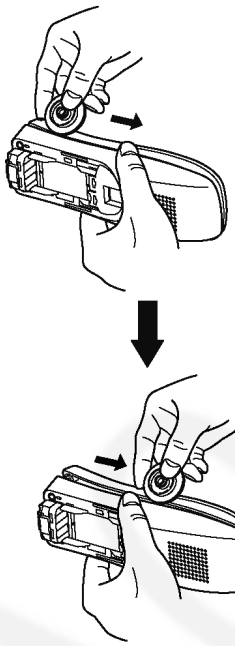
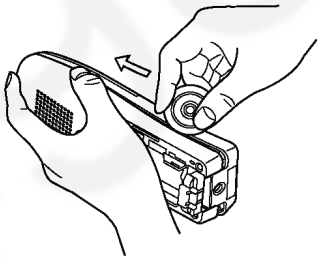


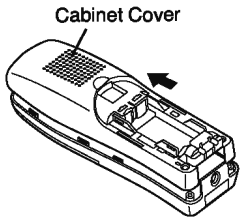
Fig. 7



Insert a JIG (PQDJ10006Y) between the Cabinet Body and the Cabinet Cover, then pull it along the gap to open the Cabinet.



Likewise, open the other side of the Cabinet.



Remove the Cabinet Cover by pushing it upward.

Fig. 6

Shown in Fig.-	To Remove	Remove
5	Cabinet Cover	Screws (2 × 10).....(D) × 2
6		Follow the procedure.
7	Main P.C.Board	Screw (2 × 10).....(E) × 1
		Screws (2 × 10).....(F) × 2
		Tapes and Solders
		Main P.C.Board

5.3. Charger Unit

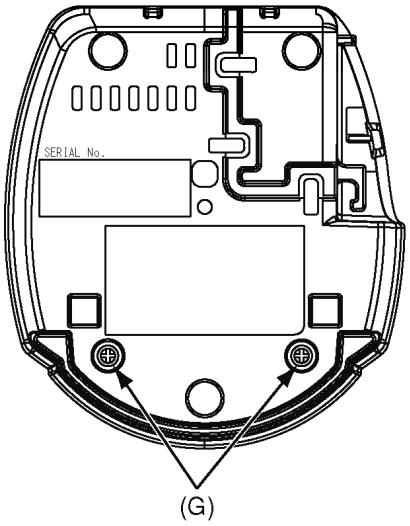


Fig. 8

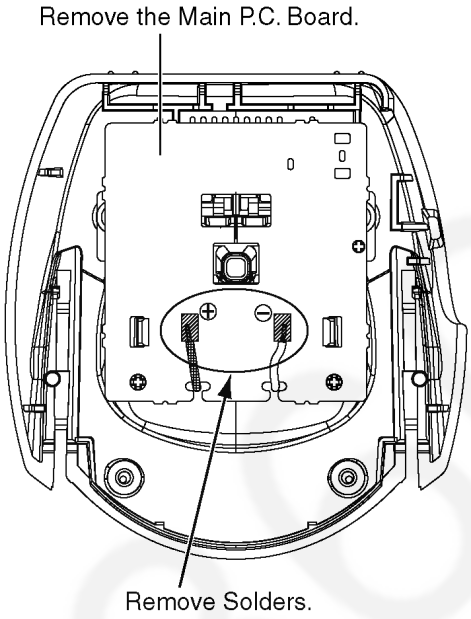
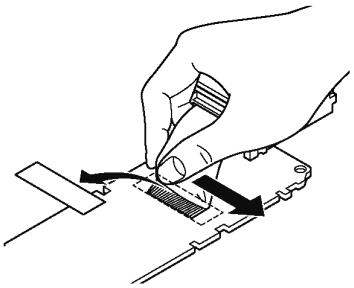


Fig. 9

Shown in Fig.-	To Remove	Remove
8	Cabinet Cover	Screws (2.6 × 10).....(G) × 2
9	Main P.C.Board	Solders
		Main P.C.Board

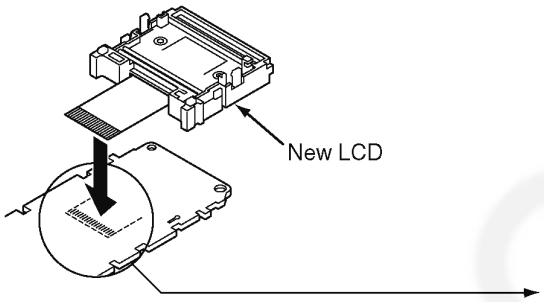
6 HOW TO REPLACE THE HANDSET LCD

①

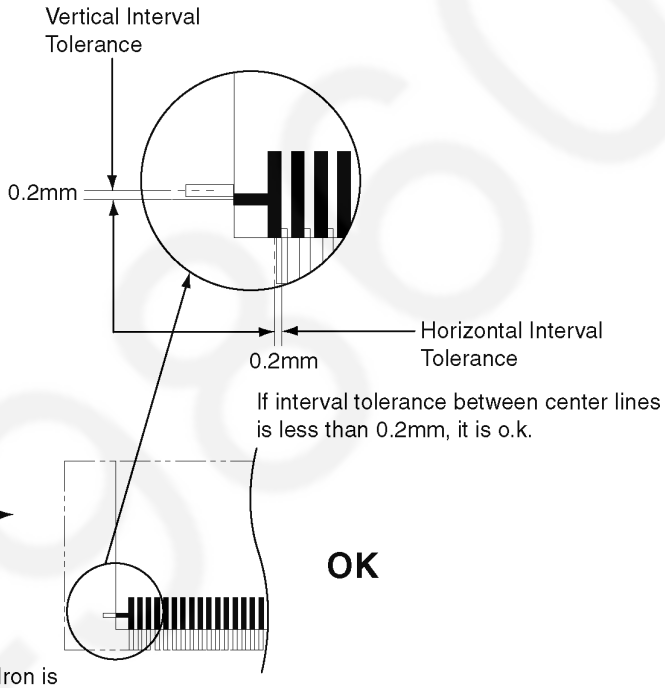


Remove the tape, and then peel off the FFC (Flexible Flat Cable) of LCD in the direction of the arrow not to damage the foil on the P.C. Board.

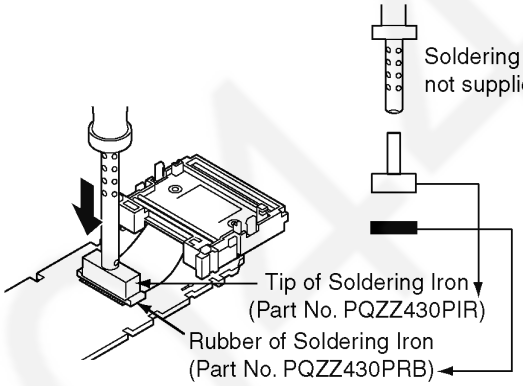
②



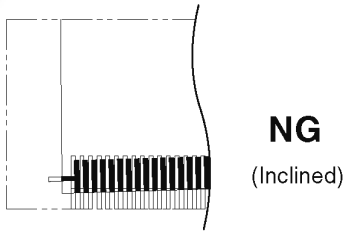
Fit the Heatseal of a New LCD to the P.C. Board.



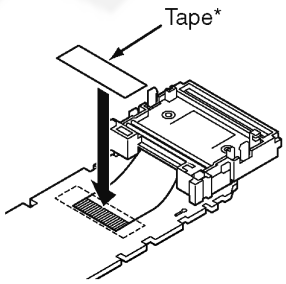
③



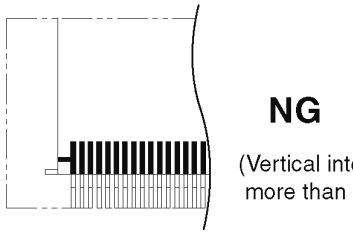
Press the Heatseal with the Tip of Soldering Iron for about 5 to 10 seconds (in case of 60W soldering iron).

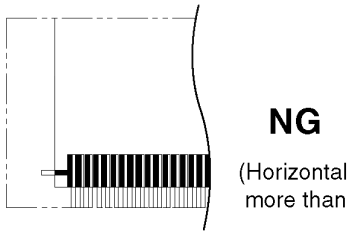


④



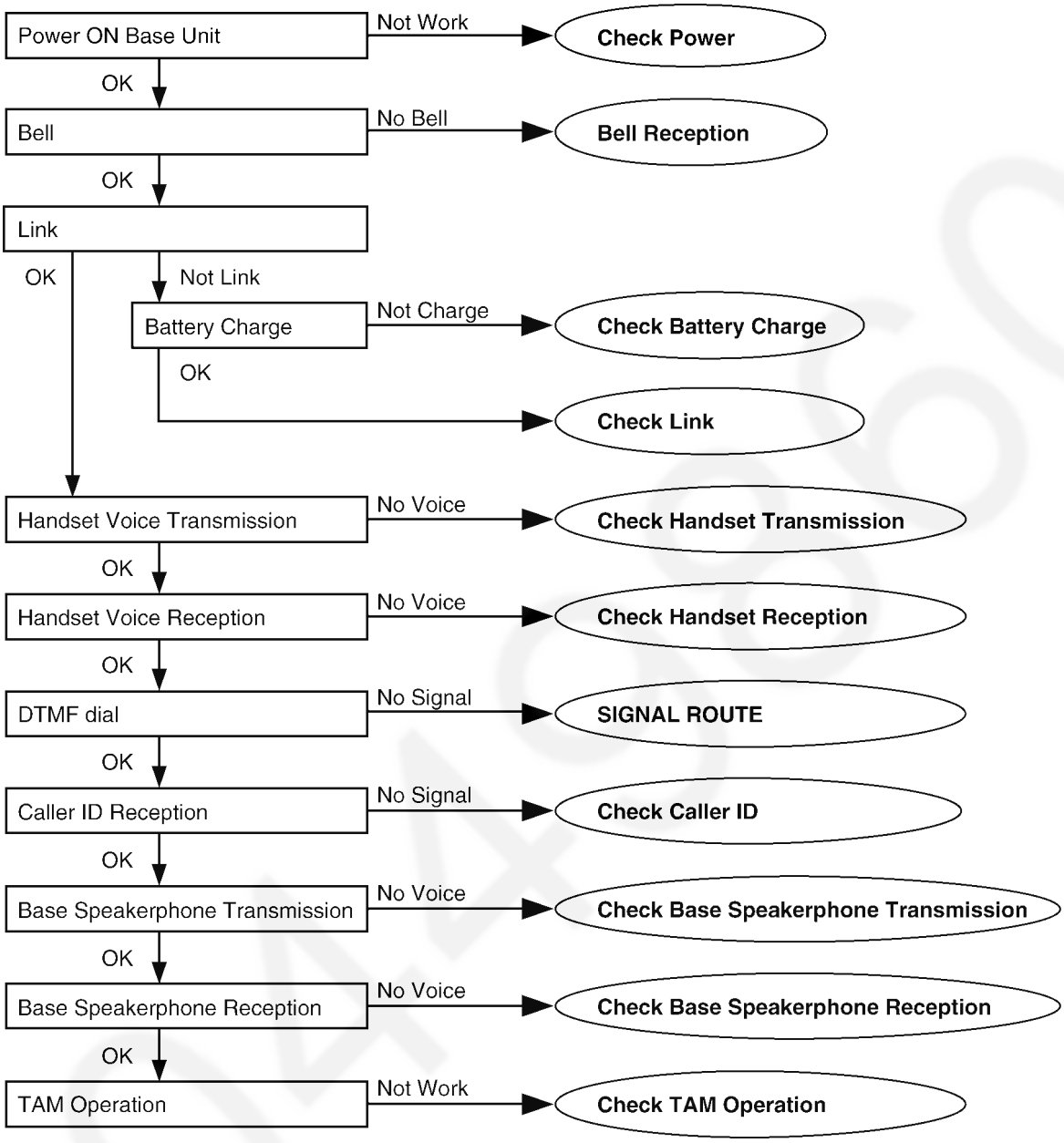
Stick the Tape* over the FFC.
* Use the Tape which was removed first.





7 TROUBLESHOOTING FLOWCHART

Flow Chart



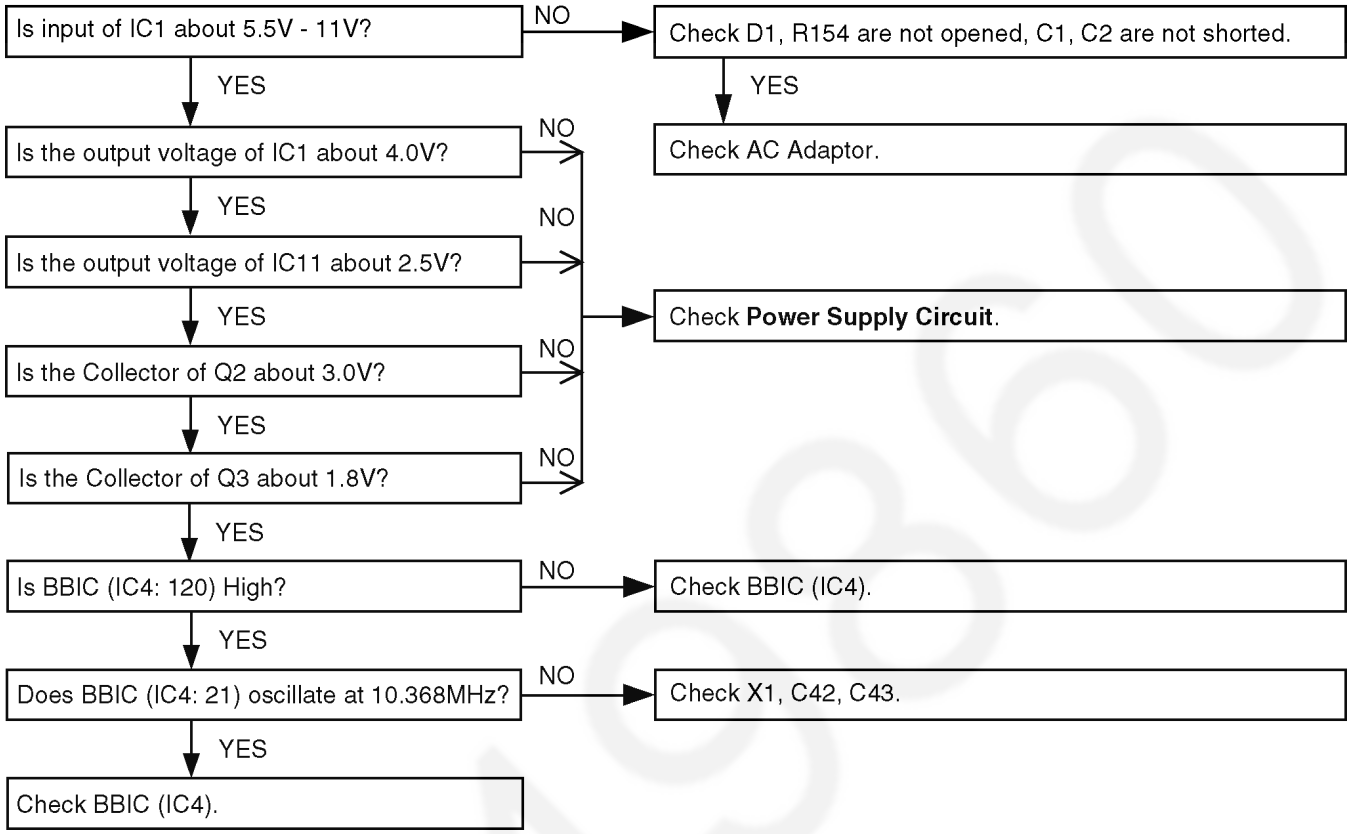
Cross Reference:

Check Power (P.17)
Bell Reception (P.24)
Check Battery Charge (P.18)
Check Link (P.19)
Check Handset Transmission (P.23)
Check Handset Reception (P.23)
SIGNAL ROUTE (P.51)
Check Caller ID (P.23)
Check Base Speakerphone Transmission (P.23)
Check Base Speakerphone Reception (P.23)
Check TAM Operation (P.24)

7.1. Check Power

7.1.1. Base Unit

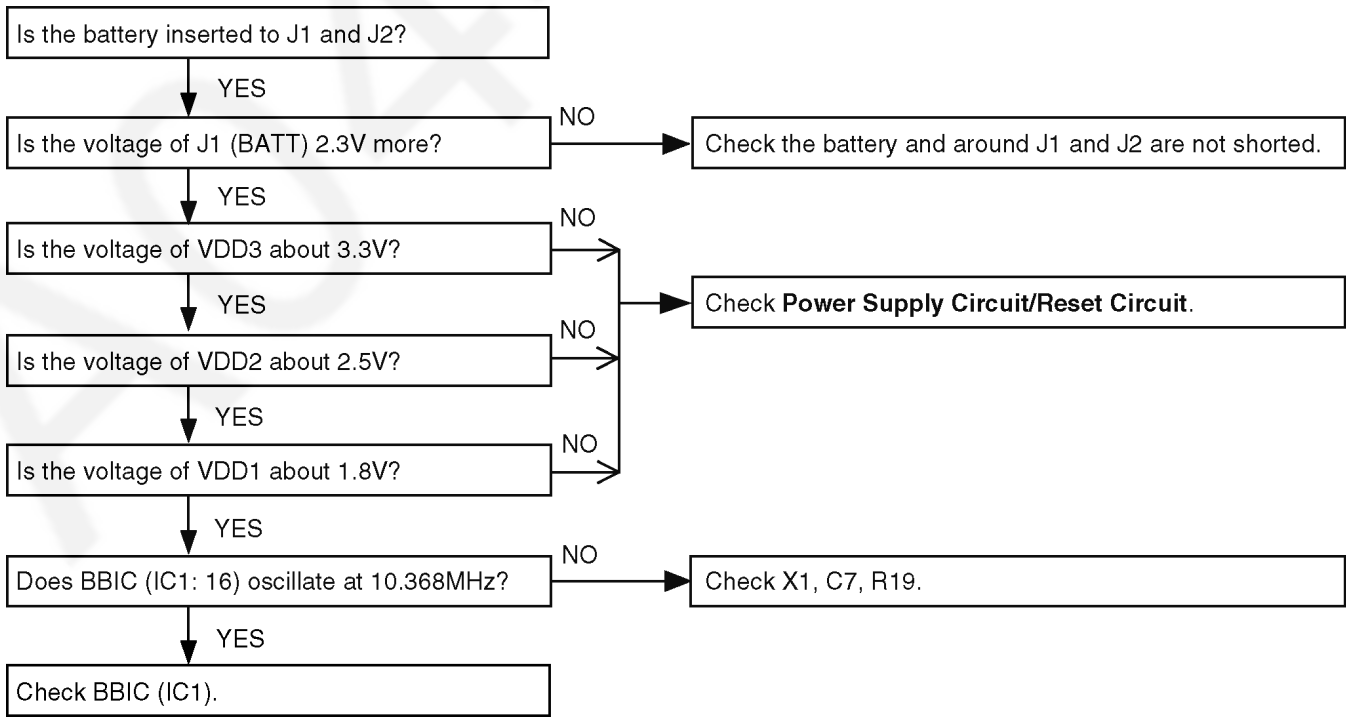
Is the AC Adaptor inserted into AC outlet? (Check AC Adaptor's specification.)



Cross Reference:

Power Supply Circuit (P.46)

7.1.2. Handset

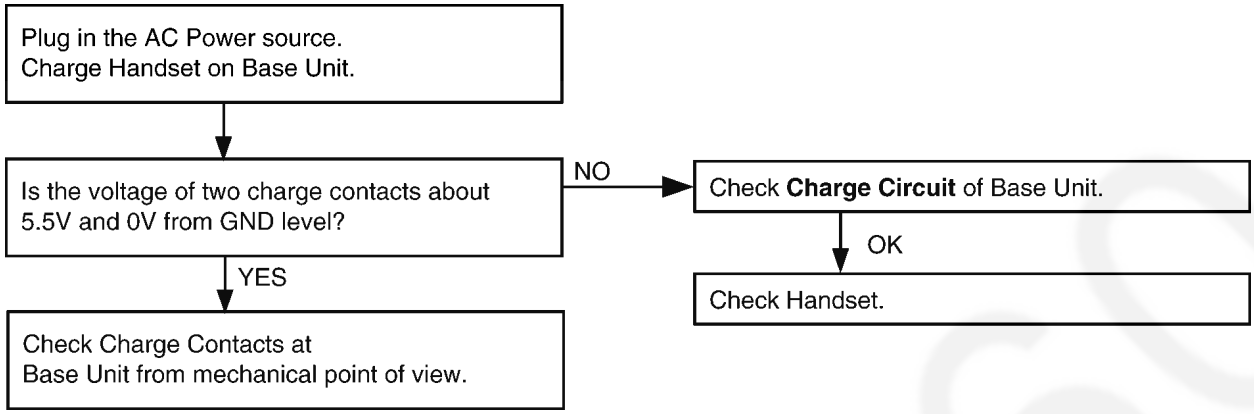


Cross Reference:

Power Supply Circuit/Reset Circuit (P.49)

7.2. Check Battery Charge

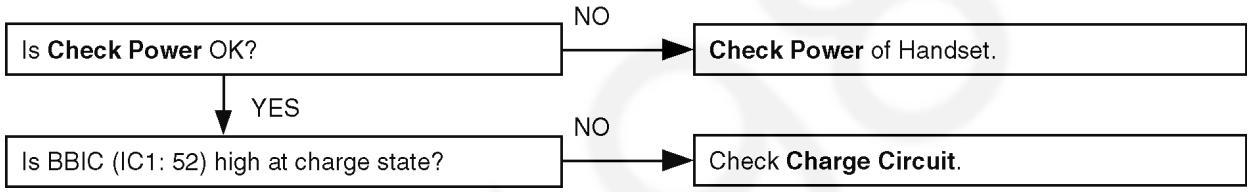
7.2.1. Base Unit



Cross Reference:

Charge Circuit (P.49)

7.2.2. Handset

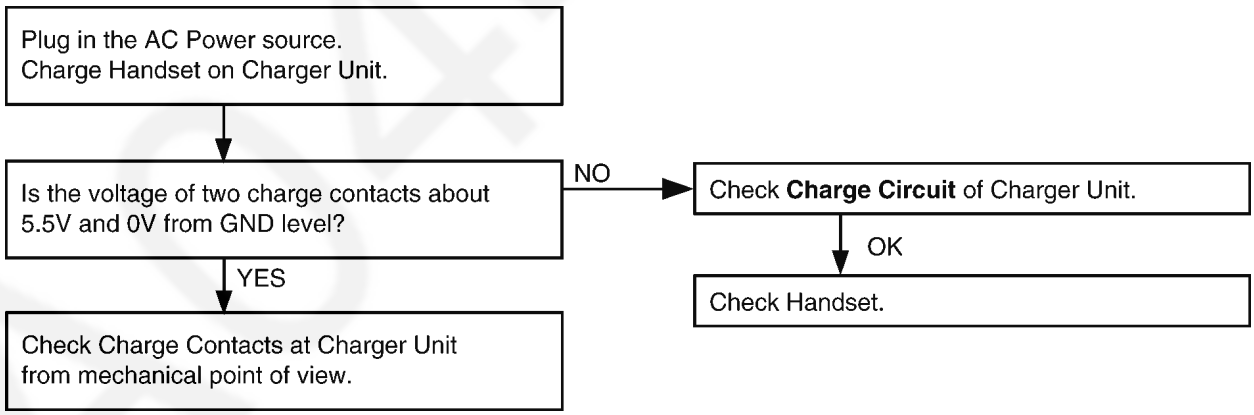


Cross Reference:

Check Power (P.17)

Charge Circuit (P.49)

7.2.3. Charger Unit

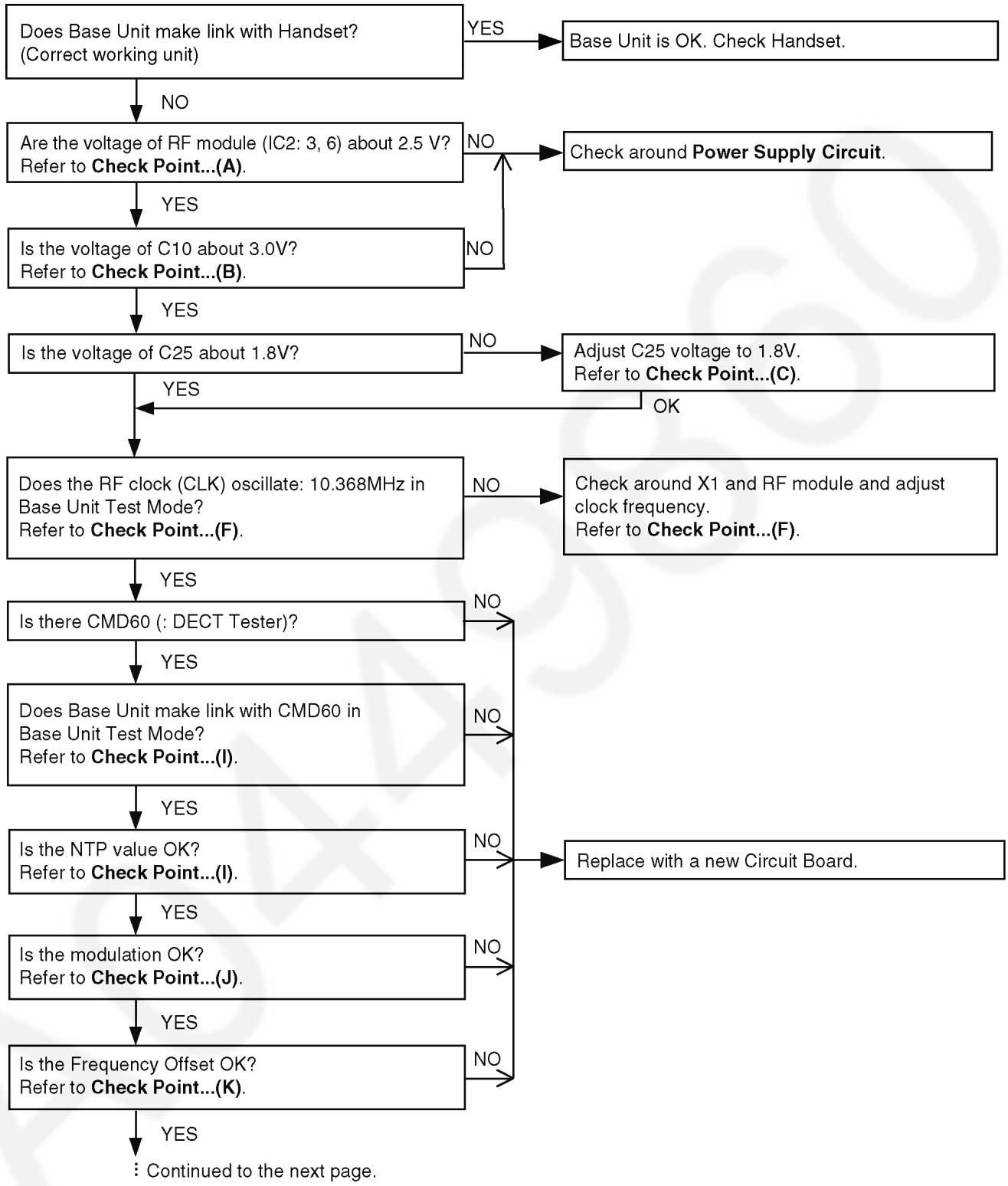


Cross Reference:

Charge Circuit (P.49)

7.3. Check Link

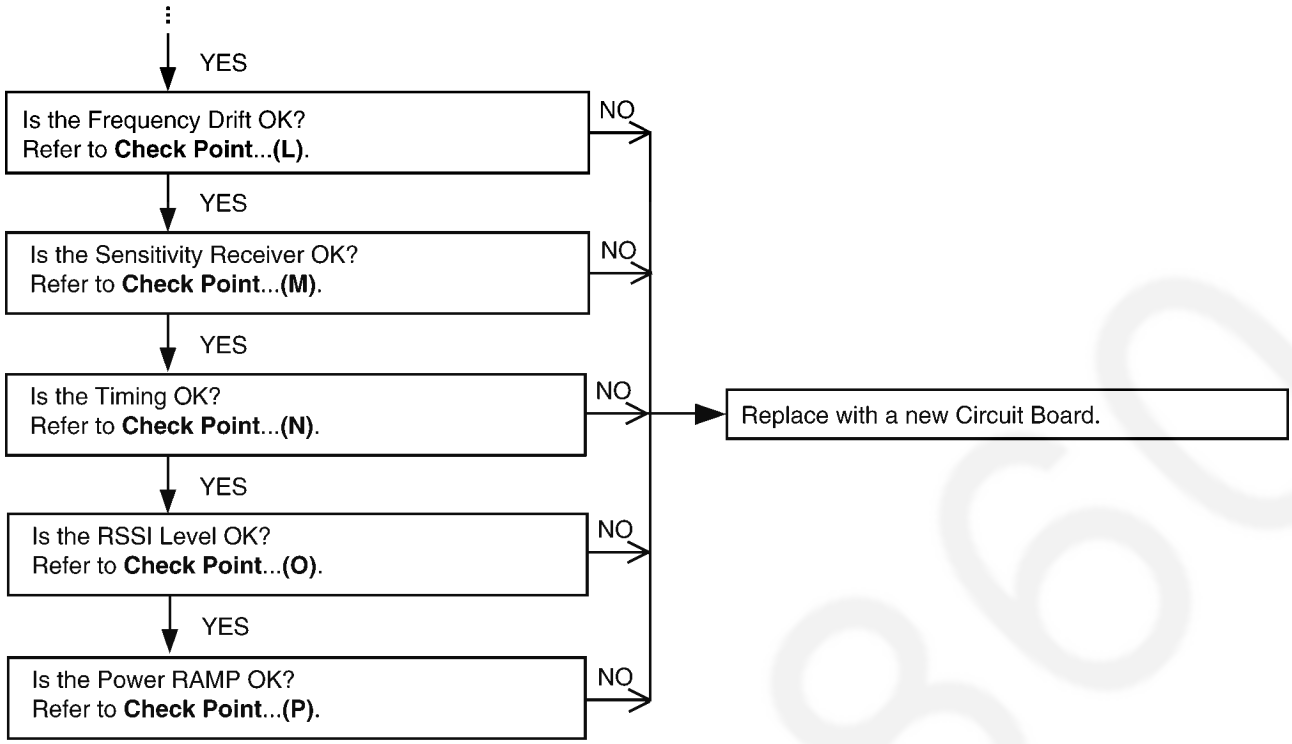
7.3.1. Base Unit



Cross Reference:

Power Supply Circuit (P.46)

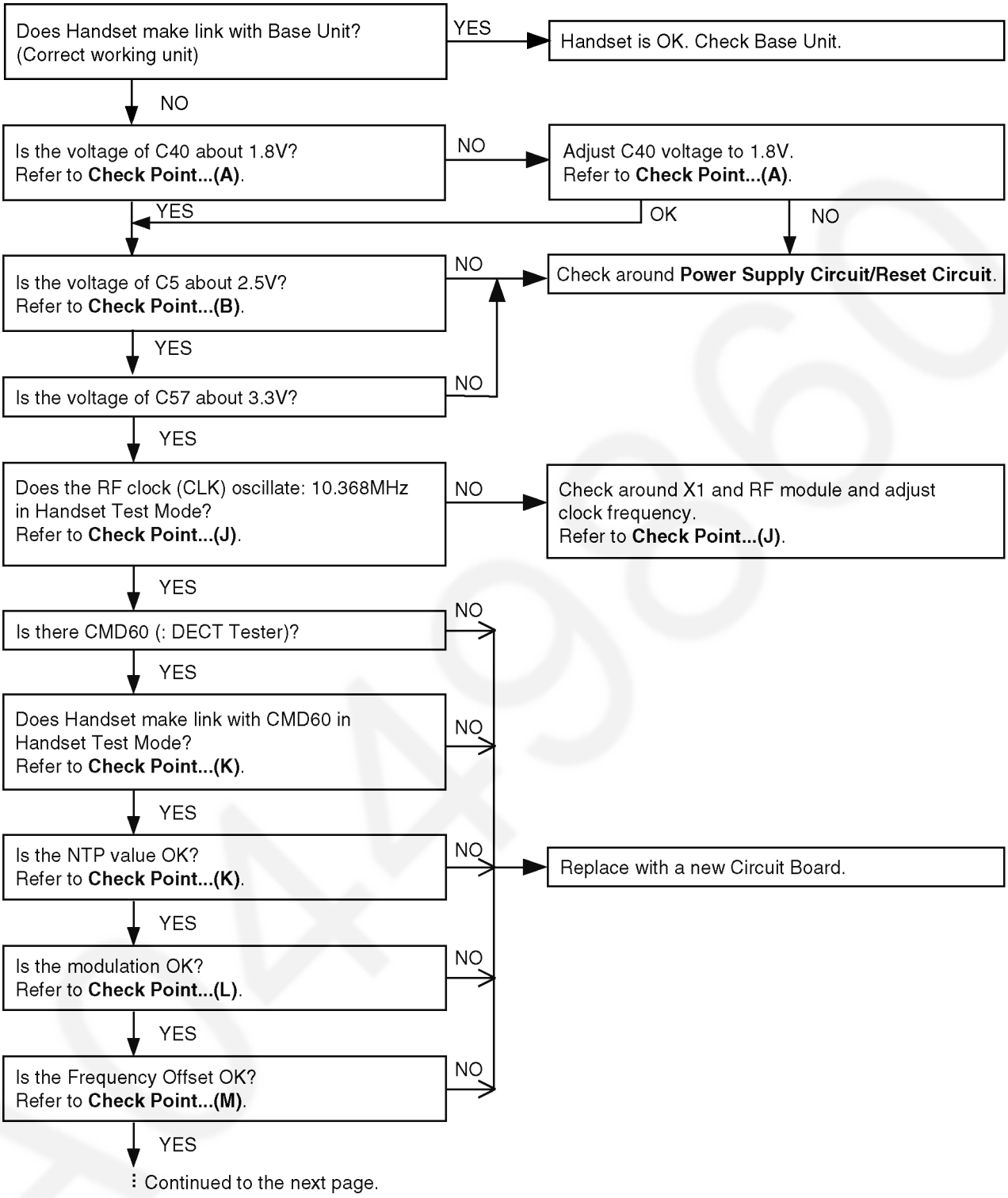
Check Point (Base Unit) (P.25)



Cross Reference:

Check Point (Base Unit) (P.25)

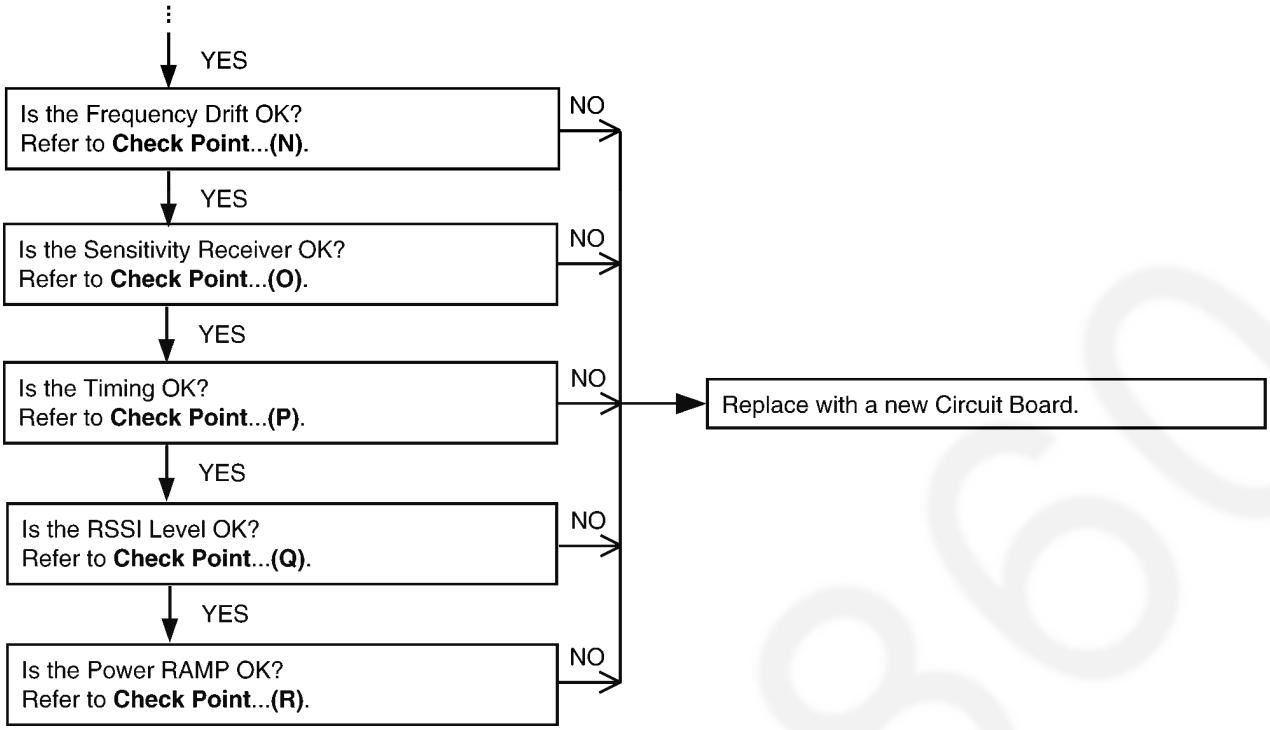
7.3.2. Handset



Cross Reference:

Power Supply Circuit/Reset Circuit (P.49)

Check Point (Handset) (P.34)



Cross Reference:

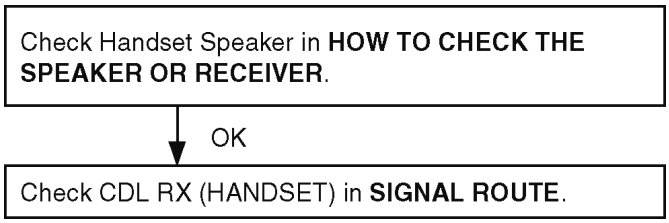
Check Point (Handset) (P.34)

7.4. Check Handset Transmission

Cross Reference:

SIGNAL ROUTE (P.51)

7.5. Check Handset Reception



Cross Reference:

HOW TO CHECK THE SPEAKER OR RECEIVER (P.43).

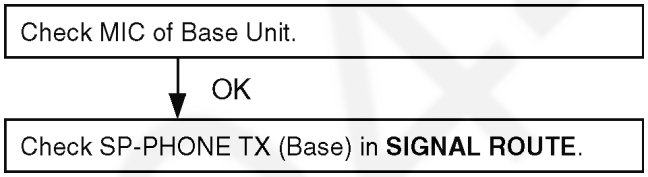
SIGNAL ROUTE (P.51)

7.6. Check Caller ID

Cross Reference:

SIGNAL ROUTE (P.51)

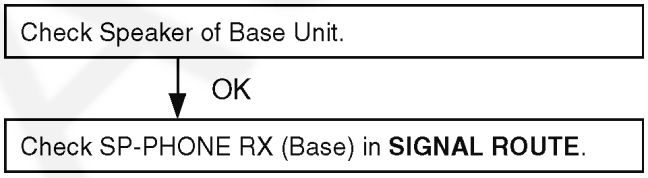
7.7. Check Base Speakerphone Transmission



Cross Reference:

SIGNAL ROUTE (P.51)

7.8. Check Base Speakerphone Reception

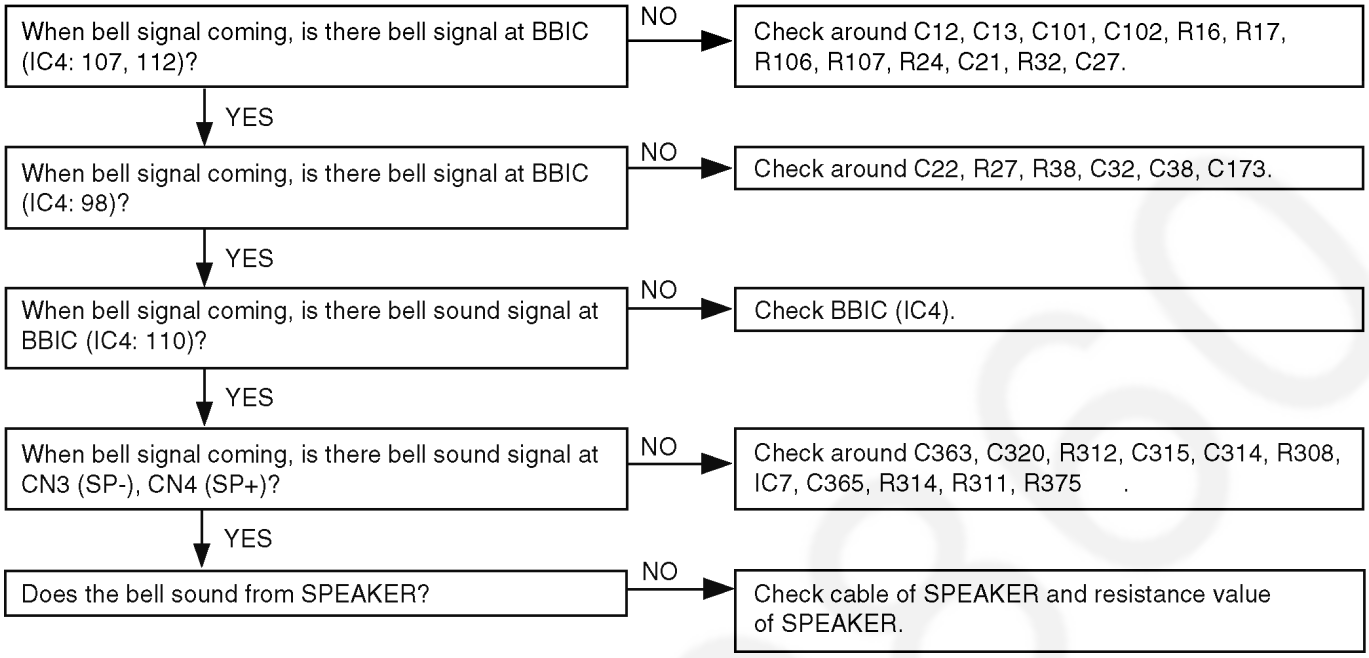


Cross Reference:

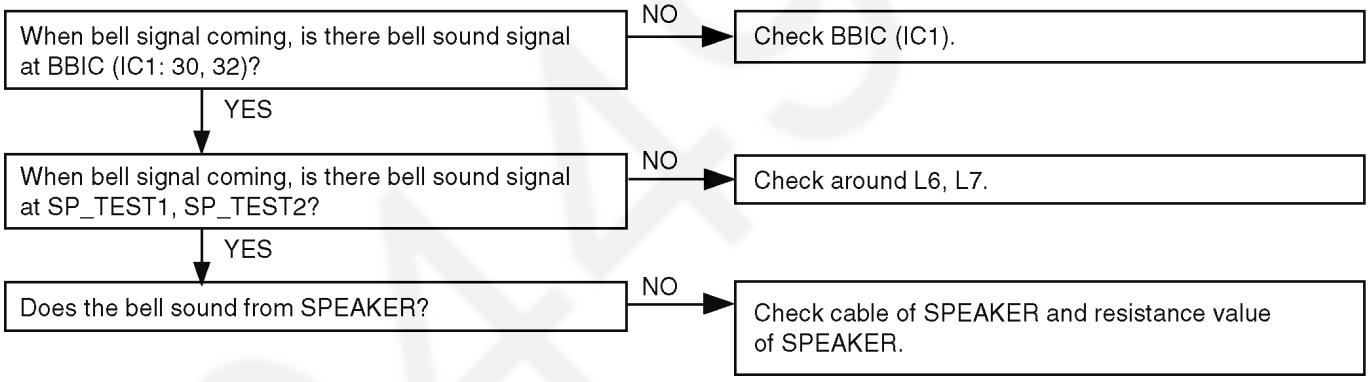
SIGNAL ROUTE (P.51)

7.9. Bell Reception

7.9.1. Base Unit



7.9.2. Handset



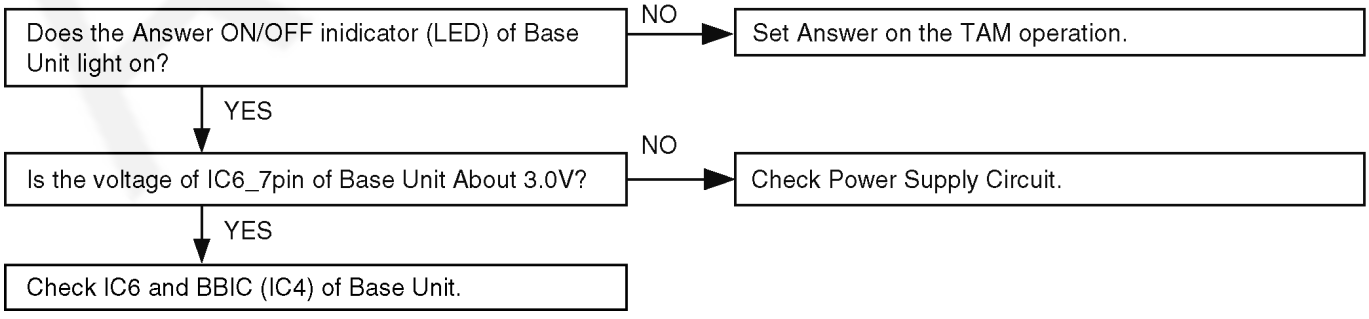
Cross Reference:

Telephone Line Interface (P.47)

Check Link (P.19)

HOW TO CHECK THE SPEAKER OR RECEIVER (P.43)

7.10. Check TAM Operation



Cross Reference:

Power Supply Circuit (P.46)

8 TROUBLESHOOTING BY SYMPTOM (BASE UNIT AND CHARGER UNIT)

If your unit has below symptoms, follow the instructions in remedy column. Remedies depend on whether you have DECT tester (*1) or not.

Symptom	Remedy (*2)	
	You don't have DECT Tester.	You have DECT Tester. (Model Number : CMD60)
You cannot dial.	Check item (**A**)-(**G**).	Check item (**A**)-(**G**), (**I**)-(**O**).
You cannot hear the caller's voice.	Check item (**A**)-(**F**).	Check item (**A**)-(**F**), (**I**)-(**L**), (**N**).
You cannot use handset a little away from base unit even if the handset is within range of the base unit.	-	Check item (**I**), (**M**).
The acoustic transmission level is high or low.	Check item (**Q**).	Check item (**Q**).
The acoustic reception level is high or low.	Check item (**Q**).	Check item (**Q**).
The unit does not link.	Check item (**A**)-(**H**).	Check item (**A**)-(**P**).
The transmission level of base speakerphone is high or low.	Check item (**R**).	Check item (**R**).
The reception level of base speakerphone is high or low.	Check item (**R**).	Check item (**R**).
The unit cannot charge.	Check item (**S**).	Check item (**S**).
TAM does not work.	Check item (**T**).	Check item (**T**).

Note:

(*1): A general repair is possible even if you don't have the DECT tester because it is for confirming the levels, such as Acoustic level in detail.

(*2): Refer to **Check Point (Base Unit)** (P.25)

8.1. Check Point (Base Unit)

Please follow the items below when BBIC or EEPROM or FLASH ROM is replaced.

Note:

After the measuring, sock up the solder of TP.

*: **PC Setting** (P.38) is required beforehand.

The connections of adjustment equipments are as shown in **Adjustment Standard (Base Unit)** (P.32).

	Items	Check Point	Procedure	Check or Replace Parts
(**A**)	2.5V Supply Confirmation	VDD4	1. Confirm that the voltage between test point VDD4 and GND is 2.5V ± 0.2V.	D1, IC11, C4, C7, R10, R11, C30, C26, C28, L12
(**B**)	3.0V Supply Confirmation	VDD3	1. Confirm that the voltage between test point VDD3 and GND is 3.0V ± 0.2V.	C2, IC1, C3, C8, Q2, R5, C10, R18, R19, C11
(**C**)*	1.8V Supply Confirmation	VDD5	1. Confirm that the voltage between test point VDD5 and GND is 1.8V ± 0.1V.	Q3, R6, C25, D7, D8
(**D**)*	BBIC Confirmation	-	1. BBIC Confirmation (Execute the command "getchk"). 2. Confirm the returned checksum value. Connection of checksum value and program number is shown below. ex.) checksum value: 5003 / program number: D601ZC	IC4, X1, C42, C43, R40, C81, C82, C84

	Items	Check Point	Procedure	Check or Replace Parts
(**E**)*	EEP-ROM Confirmation	-	1. EEP-ROM Confirmation (Execute the command “ChkTCD240XXrevYY”). XX: country code YY: revision number 2. Confirm the returned checksum value. **Note:** “XX”, “YY”, and “checksum” vary depending on the country version. You can find them in the batch file, PQZZ- mentioned in **JIG and PC** (P.30).	IC3, C53, R56, R57, C57, Q6, Q7, R64, R65, R35
(**F**)*	BBIC Clock Adjustment	CLK	1. Input Command “rdeeprom 00 01 01”, then you can confirm the current value. 2. Adjust the frequency of CLK executing the command “setfreq xx (where xx is the value)” so that the reading of the frequency counter is 10.368000MHz ± 10Hz.	IC2, IC4, R137, R125, C153, X1, C42, C43
(**G**)*	Hookswitch Check with DC Characteristics	-	1. Connect CN1 (Telephone Socket) to Tel-simulator which is connected with 600 Ω. 2. Set line voltage to 48V and line current to 40mA at off-hook condition of normal telephone. 3. Execute the command “hookoff” 4. Confirm that the line current is 40mA ± 5mA. 5. Execute the command “hookon”. 6. Confirm that the line current is less than + 0.8mA.	CN1, L6, L7, Q4, R23, R25, Q5, R26, R28, IC4, D3
(**H**)*	DTMF Generator Check	-	1. Connect CN1 (Telephone Socket) to DTMF tester. 2. Execute the command “hookoff” and “dtmf_hi”. 3. Confirm that the high frequency (1477Hz) is -8 ± 2dBm. 4. Execute the command “dtmf_lo”. 5. Confirm that the low frequency (852Hz) is -10 ± 2dBm.	IC4, R63, R39, C41, R49, C46, C47, R42, R43, R44, R45, R46, R47, R48, C108, C109, C40, C36, Q8, D4
(**I**)*	Transmitted Power Confirmation	-	Remove L4 before starting step from 1 to 7. 1. Configure the DECT tester (CMD60) as follows; <Setting> • Test mode: FP • Traffic Carrier: 5 • Traffic Slot: 4 • Mode: Loopback • PMID: 00000 • RF LEVEL = -70dBm. 2. Execute the command “testmode”. 3. Execute the command “sendchar dmv 2 2”. 4. Check that “Signalling Status” has been set to “Locked”, then press “ACCEPT RFPI”. 5. Initiate connection from Dect tester (“set up connect”) 6. Execute the command “ANT1”. 7. Confirm that the NTP value at ANT is 20dBm ~ 25dBm.	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136
(**J**)	Modulation Check and Adjustment	-	Follow steps 1 to 6 of **(I)**. 7.Confirm that the B-Field Modulation is -350 ~ -400/+320 ~ +370kHz/div using data type Fig31. 8.Adjust the B-Field Modulation if required. (Execute the command “readmod” and “wrtmod xx”, where xx is the value.)	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136

	Items	Check Point	Procedure	Check or Replace Parts
(**K**)	Frequency Offset Check	-	Follow steps 1 to 6 of **(I)**. 7.Confirm that the frequency offset is < ± 45kHz.	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136
(**L**)	Frequency Dirft Confirmation	-	Follow steps 1 to 6 of **(I)**. 7.Confirm that the frequency drift is < ± 30kHz/ms.	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136
(**M**)	Sensitivity Receiver Confirmation	-	Follow steps 1 to 6 of **(I)**. 7.Set DECT tester power to -88dBm. 8.Confirm that the BER is < 1000ppm.	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136

	Items	Check Point	Procedure	Check or Replace Parts
(**N**)	Timing Confirmation	-	Follow steps 1 to 6 of **(I)**. 7.Confirm that the Timing accuracy is < ± 2.0ppm.	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136
(**O**)*	RSSI Level Confirmation	-	Follow steps 1 to 6 of **(I)**. 7.Execute the command “readrssi”. 8. Confirm that the returned value is 22 ± A (hex).	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136
(**P**)	Power RAMP Confirmation	-	Follow steps 1 to 6 of **(I)**. 7.Confirm that Power RAMP is matching.	IC2, IC4, R137, R125, C153, L8, L5, L10, L9, C140, C141, DA1, C142, C143, C144, L3, L4, R118, R119, L12, C30, IC11, R10, R11, C28, C26, C147, C151, C157, R123, C158, R128, R129, C159, C160, R131, R130, C161, C162, R132, C164, C136, R134, R117, R127, C156, C154, C155, R135, R136

	Items	Check Point	Procedure	Check or Replace Parts
(**Q**)*	Audio Check	-	1. Link with Handset. 2. Input -45dBm/1kHz to MIC of Handset. Measure the Level at Line I/F and distortion level. 3. Confirm that the level is -9.5dBm ± 2dBm and that the distortion level is < 5% at TEL Line (600Ω Load). 4. Input -20dBm/1kHz to Line I/F. Measure the level at Receiver of Handset and distortion level (*Receive volume set to second position from minimum). 5. Confirm that the level is -22.5dBm ± 2dBm and that the distortion level is < 5% at Receiver (Volume Middle, 150Ω Load).	IC4, CN1,SA1, L6, L7, D3, Q4, Q5, R23, R25, R26, R28, R63, R39, C41, R49, C46, C47, R42, R43, R44, R45, R46, R47, R48, C108, C109, C40, C36, Q8, C24, R60, R62
(**R**)	SP-Phone Audio Check	-	1. Press SP-PHONE button. 2. Press MUTE button. 3. Input -30Bm/1kHz to Line interface. (SP-Phone volume Maximum.) 4. Measure the output level and distortion level at base speaker. 5. Confirm that the level is -3dBm ±5dBm and that the distortion level is < 5%. 6. Press MUTE button. 7. Input -45dBm/1kHz to SP-Phone MIC. (TP1-TP2) 8. Measure the output level and distortion level at line interface. 9. Confirm that the level is -0dBm ±5dBm and that the distortion level is < 5%.	IC4, IC7, D311, R375, C312, C313, C314, C315, C316, C317, C318, C319, R308, R311, R312, R314, C320, C367, D301, R301, R302, R303, R304, R305, R307, C301, C302, C303, C304, C305, R306
(**S**)	Charging Check	-	1. Connect Charge Contact 12Ω/2W resistor between charge+ and charge-. 2. Measure and confirm voltage across the resistor is 2.85V ± 0.2V.	R2, R3, R4, D6, C180, C181, C182, D361, Q361, Q362, C361, C362, R361, R362, R363, C322, L13, L14
(**T**)	TAM Operation Confirmation	-	1. TAM Confirmation (Execute the command “sendchar_VPI”) 2. Confirm the returned Value (Value is “D597EC”).	IC6, R91, R92, C86, R33, R34

8.2. The Setting Method of JIG (Base Unit)

8.2.1. Preparation

8.2.1.1. Equipment Required

- DECT tester: Rohde & Schwarz, CMD 60 is recommended.
- Frequency counter: it must be precise to be able to measure 1Hz (precision; ±4ppm).
  Hewlett Packard, 53131A is recommended.
- Digital multi-meter (DMM): it must be able to measure voltage and current.
- Oscilloscope

8.2.1.2. JIG and PC

- EEPROM serial JIG
  JIG Cable: PQZZ1CD300E*
- PC which runs in DOS mode
- **Batch file CD-ROM** for setting: PQZZTG1840AL

Note:

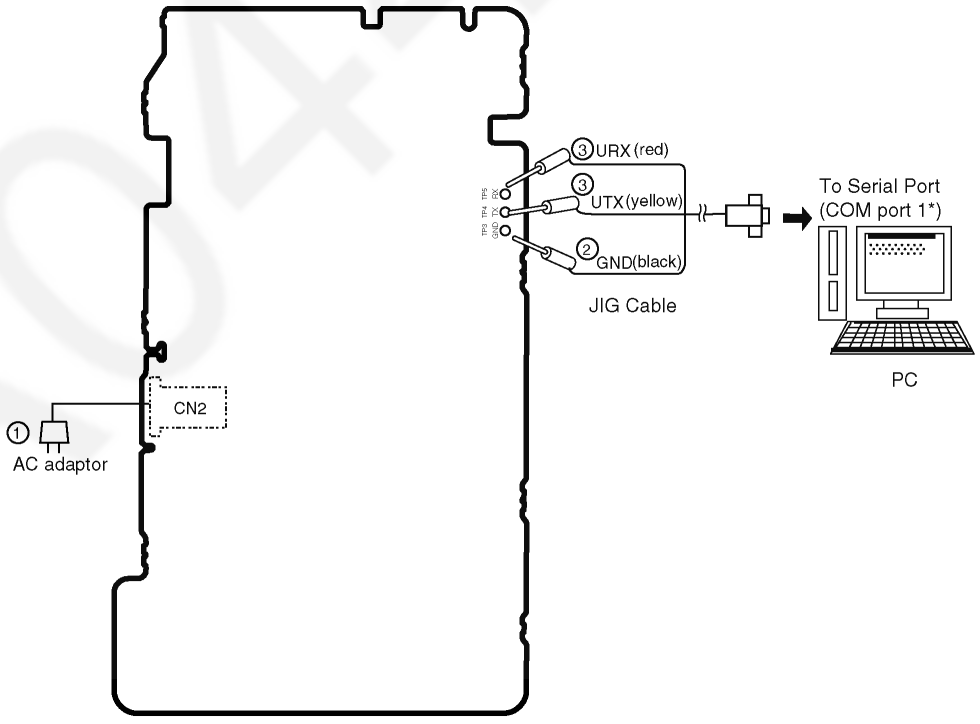
*: If you have the JIG Cable for TCD500 series (PQZZ1CD505E), change the following values of resistance. Then you can use it as a JIG Cable for both TCD300 and TCD500 series. (It is an upper compatible JIG Cable.)

Resistor	Old value (kΩ)	New value (kΩ)
R2	22	3.3
R3	22	3.3
R4	22	4.7
R7	4.7	10

8.2.2. PC Setting

8.2.2.1. Connections

1. Connect the AC adaptor to CN2 (base unit).
2. Connect the JIG Cable GND (black).
3. Connect the JIG Cable URX (red) and UTX (yellow).



Base Unit

Note:

*: COM port names may vary depending on what your PC calls it.

8.2.2.2. PC Setting

1. Install the Batch file CD-ROM on your PC.
2. Open a window of MS-DOS mode from the start-up menu.
3. Change a directory.
4. Type “**SET_COM=1**” from the keyboard (when COM port 1 is used for the connection).
5. Type “doskey”.

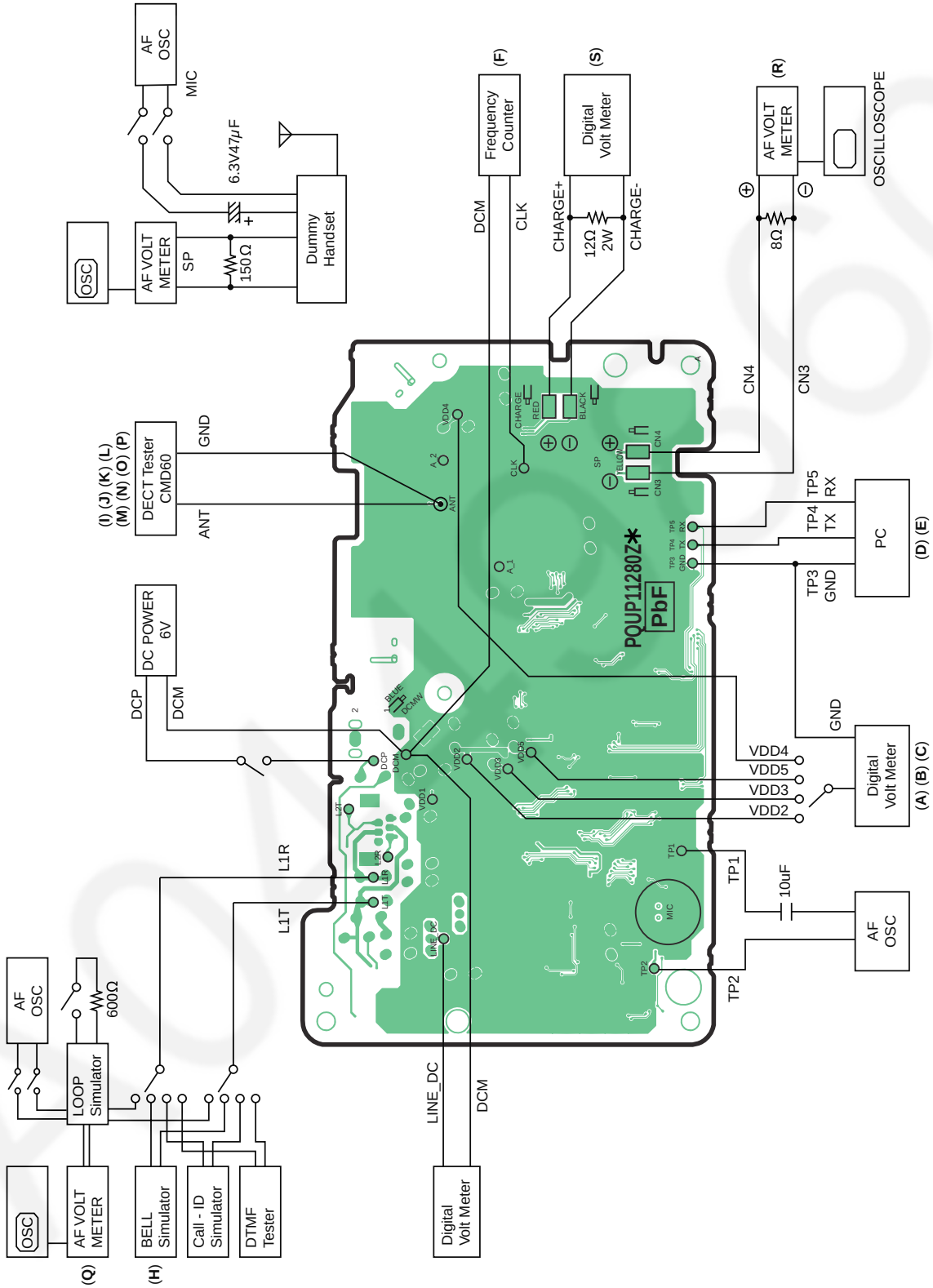
Note:

See the table below for frequently used commands.

Command name	Function	Example
rdeeprom	Read the data of EEPROM	Type “rdeeprom 00 00 FF”, and the data from address “00 00” to “FF” is read out.
readid	Read ID (RFPI)	Type “readid”, and the registered ID is read out.
writeid	Write ID (RFPI)	Type “writeid 00 18 E0 0E 98”, and the ID “0018 E0 0E 98” is written.
setfreq	Adjust Frequency of RFIC	Type “setfreq nn”.
hookoff	Off-hook mode on Base	Type “hookoff”.
hookon	On-hook mode on Base	Type “hookon”.
getchk	Read checksum	Type “getchk”.
wreeprom	Write the data of EEPROM	Type “wreeprom 01 23 45”. “01 23” is address and “45” is data to be written.

8.3. Adjustment Standard (Base Unit)

When connecting the Simulator Equipments for checking, please refer to below.



Note:

(A) - (S) is referred to **Check Point (Base Unit)** (P.25)

8.4. Check Point (Charger Unit)

	Items	Check Point	Procedure	Check or Replace Parts
(**A**)	Charging Check	-	1. Connect Charge Contact 12Ω/2W resistor between charge+ and charge-. 2. Measure and confirm voltage across the resistor is 2.85V ± 0.2V.	D11, R11, R12

Note:

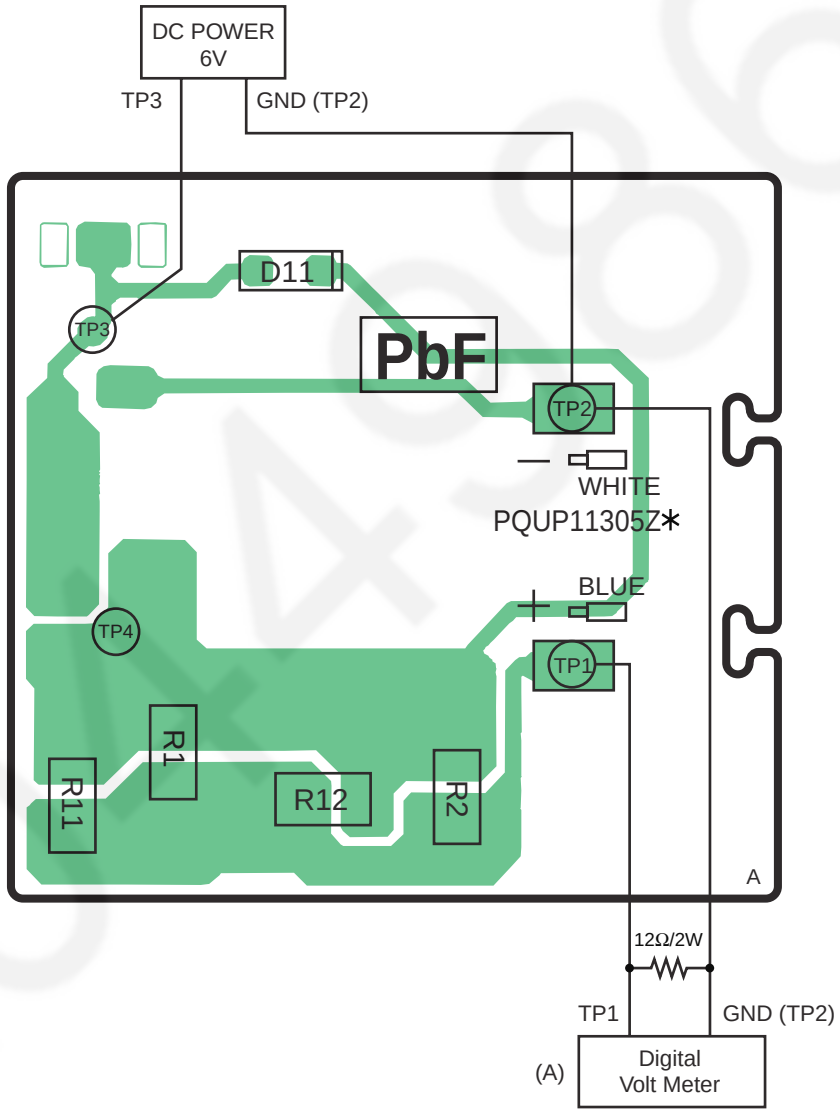
After the measuring, sock up the solder of TP.

The connection of adjustment equipment is as shown in **Adjustment Standard (Charger Unit)** (P.33).

8.5. Adjustment Standard (Charger Unit)

When connecting the Simulator Equipments for checking, please refer to below.

8.5.1. Flow Solder Side View



Note:

(**A**) is referred to **Check Point (Charger Unit)** (P.33)

9 TROUBLESHOOTING BY SYMPTOM (HANDSET)

If your unit has below symptoms, follow the instructions in remedy column. Remedies depend on whether you have DECT tester (*1) or not.

Symptom	Remedy (*2)	
	You don't have DECT Tester.	You have DECT Tester. (Model Number : CMD60)
Battery strength is not indicated correctly by Battery icon.	Check item (**A**)-(**D**), (**H**)-(**I**).	Check item (**A**)-(**D**), (**H**)-(**I**).
You cannot hear the caller's voice.	Check item (**A**)-(**D**), (**J**).	Check item (**A**)-(**D**), (**J**)-(**M**), (**N**), (**P**).
You cannot use handset a little away from base unit even if the handset is within range of the base unit.	-	Check item (**K**), (**O**).
Does not link between base unit and handset.	Check item (**A**)-(**D**), (**J**).	Check item (**A**)-(**D**), (**J**)-(**Q**).
The Audio level is high or low.	Check item (**S**).	Check item (**S**).
The SP-Phone level is high or low.	Check item (**T**).	Check item (**T**).

Note:

(*1): A general repair is possible even if you don't have the DECT tester because it is for confirming the levels, such as Acoustic level in detail.

(*2): Refer to **Check Point (Handset)** (P.34)

9.1. Check Point (Handset)

Please follow the items below when BBIC or EEPROM is replaced.

Note:

After the measuring, sock up the solder of TP.

*: **PC Setting** (P.38) is required beforehand.

The connections of adjustment equipments are as shown in **Adjustment Standard (Handset)** (P.40).

	Items	Check Point	Procedure	Check or Replace Parts
(**A**)*	1.8V Supply Adjustment	VDD1	1. Confirm that the voltage between test point VDD1 and GND is 1.8V ± 0.02V. 2. Execute the command "bandgap", then check the current value. 3. Adjust the 1.8V voltage of VDD1 executing command "bandgap XX" (XX is the value).	IC1, Q2, C40
(**B**)	DC/DC Supply Confirmation	VDD3	1. Confirm that the voltage between test point VDD3 and GND is 3.3V ± 0.3V (Backlight is ON).	IC1, F1, C1, C3, C57, R1, Q1, D1, L1,57
(**C**)	2.5V Supply Confirmation	VDD2	1. Confirm that the voltage between test point VDD2 and GND is 2.5V ± 0.1V.	IC1, Q3, C4, C5
(**D**)*	BBIC Confirmation	-	1. BBIC Confirmation (Execute the command "getchk"). 2. Confirm the returned checksum value. Connection of checksum value and program number is shown below. ex.) checksum value: 9104 / program number: D562ZB	IC1, X1,C7, R19
(**E**)*	EEP-ROM Confirmation	-	1. EEP-ROM Confirmation (Execute the command "ChkTCA121XXrevYY"). XX: country code YY: revision number 2. Confirm the returned checksum value. **Note:** "XX", "YY", and "checksum" vary depending on the country version. You can find them in the batch file, PQZZ- mentioned in **JIG and PC** (P.38).	IC3, IC1, R39, R40, R91, R90, R96, Q10, Q11, C113

	Items	Check Point	Procedure	Check or Replace Parts
(**F**)	Charge Control Check & Charge Current Monitor Check	-	1. Apply 6V between J3(+) and J4(-) with DC power supply and set current limit to 250mA. 2. Confirm that the current limit LED of DC power supply is ON/OFF. 3. Decrease current limit of DC power supply to 100mA. 4. Confirm that the current limit LED of DC power supply is stable. (Current limiter is ON.) (If charge control cannot be confirmed by this procedure, please use battery to handset power supply and try again.)	IC1, Q4, Q5, Q9, D6, L4, L5, C119, C120, R5, R6, R7, R72, F1
(**G**)*	Charge Detection (OFF) Check	-	1. Stop supplying 6V to CHARGE(+) and CHARGE(-). 2. Execute the command “Backloff” then “charge”. 3. Confirm that the returned value is 00 (hex).	IC1, Q4, Q5, Q9 D6, D7, L4, L5, C119, C120, R5, R6, R7, R72, F1
(**H**)*	Battery Monitor Check	-	1. Apply 2.25V between BATT and GND. 2. Execute the command “readbatt”. It assumes that the return value is XX. a) 1E ≦ XX ≦ 2C: No need to adjust b) XX: 18 ~ 1D: Need to adjust XX: 2D ~ 32: Need to adjust Write AD value of 2.25V to EEPROM. ex) read data: XX = 1D, write data: YY = 1D read data: XX = 2D, write data: YY = 2D EEPROM = 0004(Low Voltage) write “YY” Execute the command “wreeprom 00 04 01 YY”. EEPROM = 0005(No Voltage) write “YY - 1D” Execute the command “wreeprom 00 05 01 ZZ”. EEPROM = 000A(Low Voltage BL) write “YY - 06” Execute the command “wreeprom 00 0A 01 WW”. **Note:** ZZ = YY - 1D, WW = YY - 06 No Voltage writing data limit is ‘00’. c) XX: 00 ~ 17: Reject XX: 33 ~ FF: Reject	IC1, F1, C1 C3, C118
(**I**)	Battery Low Confirmation	-	1. Apply 2.40V between BATTERY(+) and BATTERY(-). 2. Confirm that there is no flashing of Battery Icon. 3. Apply 2.25V ± 0.08V between BATTERY(+) and BATTERY(-). 4. Confirm that there is flashing of Battery Icon.	IC1, F1, C1 C3, C118
(**J**)*	BBIC Clock Adjustment	CLK	1. Apply 2.6V between BATTERY(+) and BATTERY(-) with DC power. 2. Execute the command “conttx”. 3. Input Command “rdeeprom 00 01 01”, then you can confirm the current value. 4. Adjust the frequency of CLK executing the command “setfreq xx (where xx is the value)” so that the reading of the frequency counter is 10.368000MHz ± 10Hz. Note: CLK is displayed only for a few seconds when executing the command “conttx” after battery is inserted.	IC1, X1, CN6, C7, R54, C62
(**K**)*	Transmitted Power Confirmation	-	Remove the Antenna before starting step from 1 to 4. 1. Configure the DECT tester (CMD60) as follows; <Setting> ● Test mode: PP ● RFPI: 0102030405 ● Traffic Carrier: 5 ● Traffic Slot: 4 ● Mode: Loopback ● RF LEVEL = -70dBm 2. Execute the command “regcmd60 01 02 03 04 05”. 3. Initiate connection from DECT tester. 4. Confirm that the NTP value at A201 is 20dBm ~ 25dBm.	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6

	Items	Check Point	Procedure	Check or Replace Parts
(**L**)*	Modulation Check and Adjustment	-	Follow steps 1 to 3 of **(K)**. 4.Confirm that the B-Field Modulation is -350 ~ -400/+320 ~ +370kHz/div using data type Fig 31. 5.Adjust the B-Field Modulation if required. (Execute the command “Readmod” and “wrtmod xx”, where xx is the value.)	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6
(**M**)	Frequency Offset Confirmation	-	Follow steps 1 to 3 of **(K)**. 4.Confirm that the frequency Offset is < ± 45kHz.	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6
(**N**)	Frequency Drift Confirmation	-	Follow steps 1 to 3 of **(K)**. 4.Confirm that the frequency Drift is < ± 30kHz/ms.	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6
(**O**)	Sensitivity Receiver Confirmation	-	Follow steps 1 to 3 of **(K)**. 4.Set DECT tester power to -88dBm. 5.Confirm that the BER is < 1000ppm.	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6
(**P**)	Timing Confirmation	-	Follow steps 1 to 3 of **(K)**. 4.Confirm that the Timing accuracy is < ± 2.0ppm.	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6
(**Q**)*	RSSI Level Confirmation	-	Follow steps 1 to 3 of **(K)**. 4.Set DECT tester power to -81dBm. 5.Execute the command “readrssi”. 6.Confirm that the returned value is 1C ± 8 (hex). 7.Set DECT tester power to -63dBm. 8.Execute the command “readrssi”. 9.Confirm that the returned value is 25 ± 8 (hex).	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6
(**R**)	Power RAMP Confirmation	-	Follow steps 1 to 3 of **(K)**. 4.Confirm that Power RAMP is matching.	IC1, R54, C62, C123, C60, C63, C45, C44, C47, C46, C49, C48, C50, C53, C51, R59, C54, C55, CN6
(**S**)	Audio Check and Confirmation	-	1. Link to BASE which is connected to Line Simulator. 2. Set line voltage to 48V and line current to 40mA. 3. Input -45dBm/1KHz to MIC and measure Line output level. 4. Confirm that the level is -9.5dBm ± 2dBm and that the distortion level is < 5% at TEL Line (600Ω Load). 5. Input -20dBm/1KHz to Line I/F and measure Receiving level at REV1 and REV2. 6. Confirm that the level is -22.5dBm ± 2dBm and that the distortion level is < 5% at Receiver. (vol = 2)	IC1, C37, C68, C91, R25, R26, C20, C12, C87, C109, R85, C103, C10, C17, R86, R29, R37, R38, D4, D5, C69, C70, C95

	Items	Check Point	Procedure	Check or Replace Parts
(**T**)	SP phone Audio Check and Confirmation	-	1. Link to Base which is connected to Line Simulator. 2. Set line voltage to 48V and line current to 40mA. 3. Set the handset off-hook using SP-Phone key. 4. Input -25dBm/1KHz to Line I/F and measure Receiving level at SP1 and SP2. 5. Confirm that the level is -15.5dBm ± 2dBm and that the distortion level is < 5%. (vol = 3)	IC1, C37, C68, C91, R25, R26, C20, C12, C87, C109, R85, C103, C10, C17, R86, R29, R37, R38, L6, L7, C79, C78

9.2. Troubleshooting for Speakerphone (Handset)

When the customer's telephone line corresponds to the following conditions and transmission signal of SP-Phone is interrupted, performing the next set up to a cordless handset will improve it to some extent.

Conditions

1. When customer's line has less line loss.

   ex.) The customer is using optical fiber, ISDN terminal adaptor, or PBX.

   In this case, receiving signal is strong and it may affect transmission signal.

2. When the other party is talking from noisy place.

   ex.) The other party is using cellular phone. The background noise is very loud.

   In this case, the noise from the other party (i.e. surrounding noise) may affect transmission signal.

Setting Method

- Change the address of EEPROM (0144) from 00 to 01.

9.3. The Setting Method of JIG (Handset)

9.3.1. Preparation

9.3.1.1. Equipment Required

- DECT tester: Rohde & Schwarz, CMD 60 is recommended.
- Frequency counter: it must be precise to be able to measure 1Hz (precision; ±4ppm).
  Hewlett Packard, 53131A is recommended.
- DC power: it must be able to output at least 1A current under 2.4V for Handset.
- Digital multi-meter (DMM): it must be able to measure voltage and current.
- Oscilloscope

9.3.1.2. JIG and PC

- EEPROM serial JIG
  JIG Cable: PQZZ1CD300E*
- PC which runs in DOS mode.
- **Batch file CD-ROM** for setting: PQZZTG1840AL

Note:

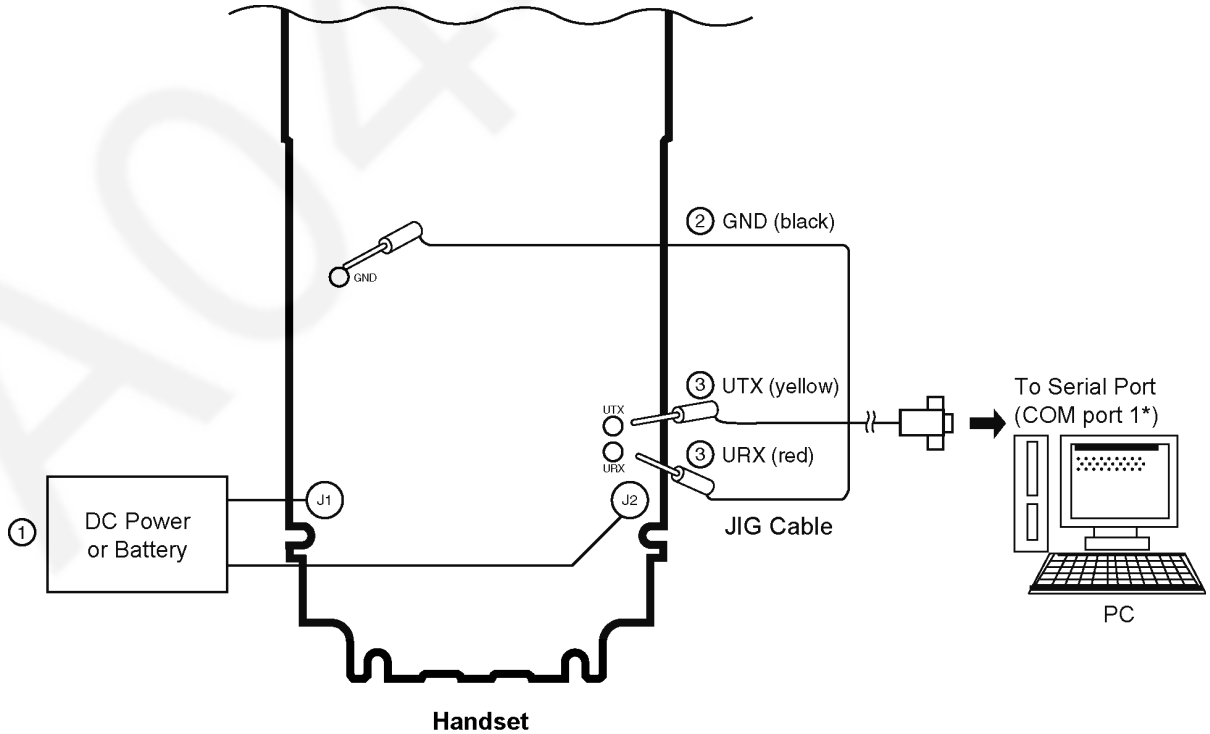
*: If you have the JIG Cable for TCD500 series (PQZZ1CD505E), change the following values of resistance. Then you can use it as a JIG Cable for both TCD300 and TCD500 series. (It is an upper compatible JIG Cable.)

Resistor	Old value (kΩ)	New value (kΩ)
R2	22	3.3
R3	22	3.3
R4	22	4.7
R7	4.7	10

9.3.2. PC Setting

9.3.2.1. Connections

1. Connect the DC Power or Battery to J1 and J2 (handset).
2. Connect the JIG Cable GND (black).
3. Connect the JIG Cable URX (red) and UTX (yellow).



Note:

*: COM port names may vary depending on what your PC calls it.

9.3.2.2. PC Setting

1. Install the Batch file CD-ROM on your PC.
2. Open a window of MS-DOS mode from the start-up menu.
3. Change a directory.
4. Type “**SET_COM=1**” from the keyboard (when COM port 1 is used for the connection).
5. Type “doskey”.

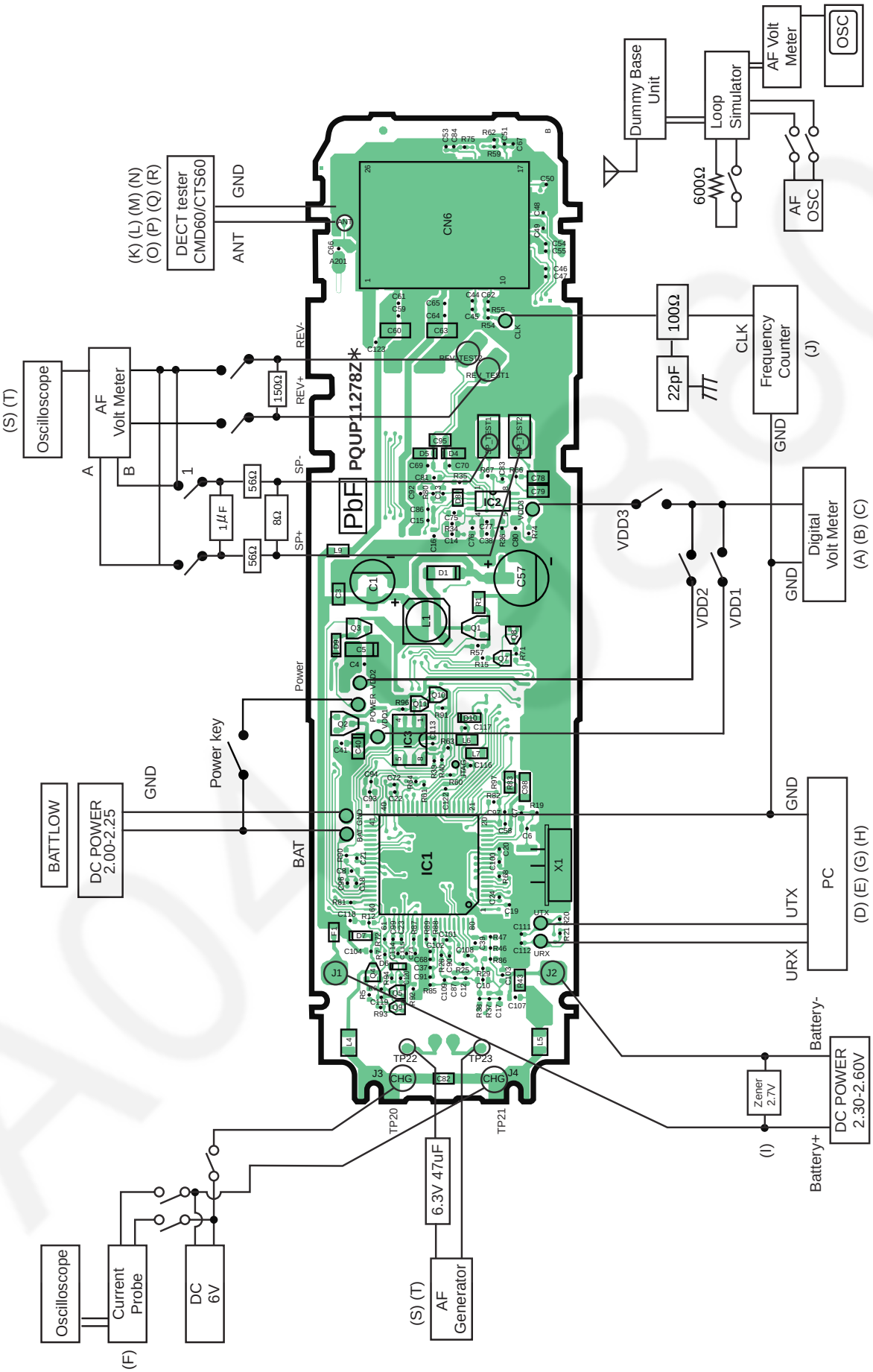
Note:

See the table below for frequently used commands.

Command name	Function	Example
rdeeprom	Read the data of EEPROM	Type “rdeeprom 00 00 FF”, and the data from address “00 00” to “FF” is read out.
readid	Read ID (RFPI)	Type “readid”, and the registered ID is read out.
writeid	Write ID (RFPI)	Type “writeid 00 18 E0 0E 98”, and the ID “0018 E0 0E 98” is written.
setfreq	Adjust Frequency of RFIC	Type “setfreq nn”.
getchk	Read checksum	Type “getchk”.
wreeprom	Write the data of EEPROM	Type “wreeprom 01 23 45”. “01 23” is address and “45” is data to be written.

9.4. Adjustment Standard (Handset)

When connecting the Simulator Equipments for checking, please refer to below.



Note:

(A) - (T) is referred to **Check Point (Handset)** (P.34)

10 THINGS TO DO AFTER REPLACING IC

Cautions:

Since this page is common to each country, it may not apply to some models in your country. The contents below are the minimum adjustments required for operation.

10.1. Base Unit

Before doing the following adjustment, be sure to do "**PC Setting**" (P.30) in "**The Setting Method of JIG (Base Unit)**".

IC		Necessary Adjustment
BBIC	Programs for Voice processing, interface for RF and EEPROM	1. Default batch file: Execute the command "default". 2. Country version batch file: Execute the command "TCD240XXrevYY". (*1) 3. Clock adjustment: Refer to Check Point (F). (*2)
EEPROM	Adjustment parameter data (country version batch file, default batch file, etc.)	1. Change the address "0000" of EEPROM to "AA". 2. Default batch file: Execute the command "default". 3. Country version batch file: Execute the command "TCD240XXrevYY". (*1) 4. Clock adjustment: Refer to Check Point (F). (*2)
FLASH 1	Voice prompt data (vary depending on country version)	No need to adjust.
FLASH 2	Program	No need to adjust.

Note:

(*1) XX: country code, YY: revision number

"XX" and "YY" vary depending on the country version. You can find them in the batch file, PQZZ- mentioned in **JIG and PC** (P.30).

(*2) Refer to **Check Point (Base Unit)** (P.25)

10.2. Handset

Before doing the following adjustment, be sure to do "**PC Setting**" (P.38) in "**The Setting Method of JIG (Handset)**".

IC		Necessary Adjustment
BBIC	Programs for Voice processing, interface for RF and EEPROM	1. Default batch file: Execute the command "default". 2. Default batch file (remaining); Execute the command "TCA121 DEFrevYY". (*3) (Except for KX-TCA121/122 FX and KX-TCA121/122 RU). 3. Country version batch file: Execute the command "TCA121XXrevYY". (*3) 4. Clock adjustment: Refer to Check Point (J). (*4) 5. 1.8 V setting and battery low detection: Refer to Check Point (A), (H) and (I). (*4)
EEPROM	Adjustment parameter data (country version batch file, default batch file, etc.)	1. Change the address "0015" of EEPROM to "55". 2. Default batch file: Execute the command "default". 3. Default batch file (remaining): Execute the command "TCA121DEFrevYY". (*3) (Except for KX-TCA121/122 FX and KX-TCA121/122 RU). 4. Country version batch file: Execute the command "TCA121XXrevYY". (*3) 5. Clock adjustment: Refer to Check Point (J). (*4) 6. 1.8 V setting and battery low detection: Refer to Check Point (A), (H) and (I). (*4)

Note:

(*3) XX: country code, YY: revision number

"XX" and "YY" vary depending on the country version. You can find them in the batch file, PQZZ- mentioned in **JIG and PC** (P.38).

(*4) Refer to **Check Point (Handset)** (P.34)

11 RF SPECIFICATION

11.1. Base Unit

Item	Value	Refer to -. *	Remarks
TX Power	20 dBm ~ 25 dBm	**Check Point (Base Unit) (I)**	
Modulation	-350 ~ -400/+320 ~ +370 kHz/div	**Check Point (Base Unit) (J)**	Data type: Fig31
Frequency Offset	-45 kHz ~ +45 kHz	**Check Point (Base Unit) (K)**	
Frequency Drift	< ± 30 kHz / ms	**Check Point (Base Unit) (L)**	
RX Sensitivity	< 1000 ppm	**Check Point (Base Unit) (M)**	
Timing Accuracy	< ± 2.0 ppm	**Check Point (Base Unit) (N)**	
RSSI Level	22 hex ± A hex	**Check Point (Base Unit) (O)**	
Power RAMP	Power RAMP is matching	**Check Point (Base Unit) (P)**	

*: Refer to **Check Point (Base Unit)** (P.25)

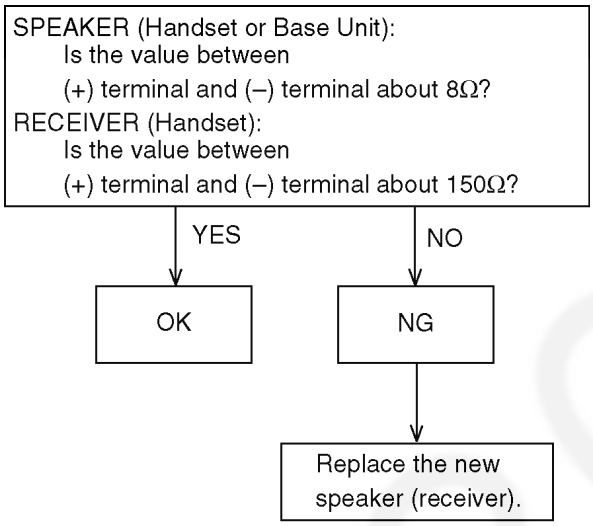
11.2. Handset

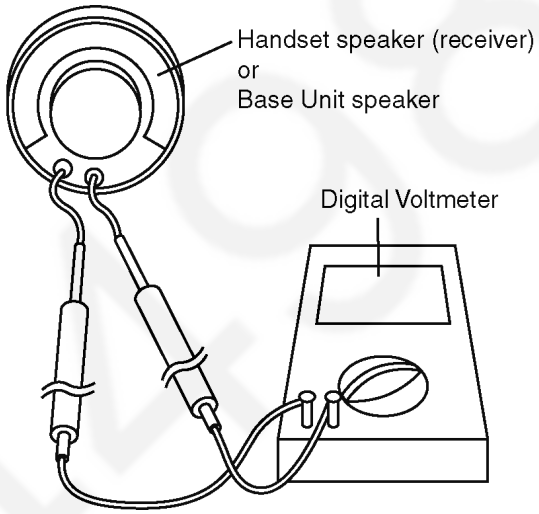
Item	Value	Refer to -. **	Remarks
TX Power	20 dBm ~ 25 dBm	**Check Point (Handset) (K)**	
Modulation	-350 ~ -400/+320 ~ +370 kHz/div	**Check Point (Handset) (L)**	Data type: Fig31
Frequency Offset	-45 kHz ~ +45 kHz	**Check Point (Handset) (M)**	
Frequency Drift	< ± 30 kHz / ms	**Check Point (Handset) (N)**	
RX Sensitivity	< 1000 ppm	**Check Point (Handset) (O)**	
Timing Accuracy	< ± 2.0 ppm	**Check Point (Handset) (P)**	
RSSI Level	1C hex ± 8 hex (at -81dBm) 25 hex ± 8 hex (at -63dBm)	**Check Point (Handset) (Q)**	
Power RAMP	Power RAMP is matching	**Check Point (Handset) (R)**	

: Refer to **Check Point (Handset) (P.34)

12 HOW TO CHECK THE SPEAKER OR RECEIVER

1. Prepare the digital voltmeter, and set the selector knob to ohm meter.
2. Put the probes at the speaker (receiver) terminals as shown below.





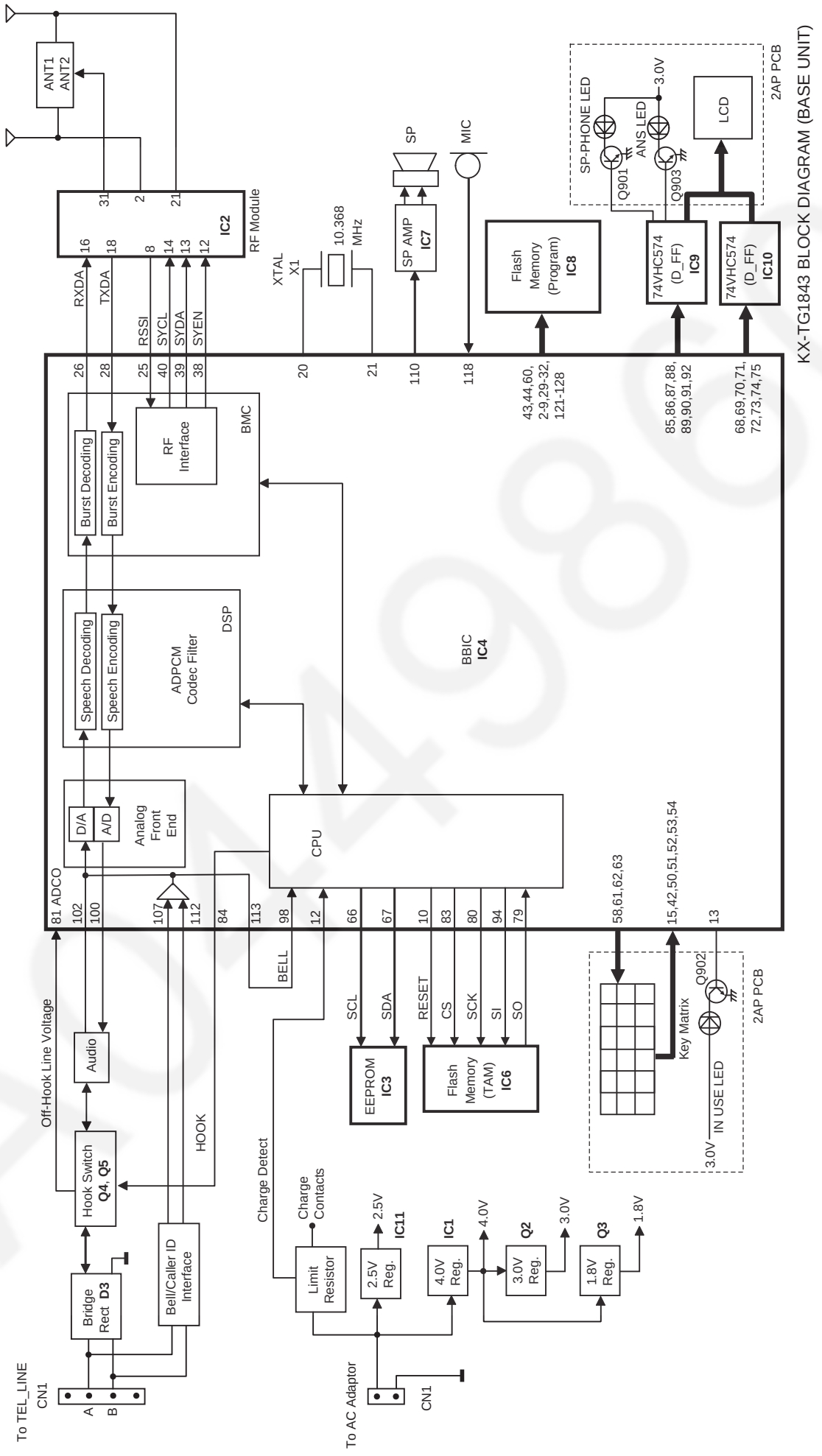
13 FREQUENCY TABLE (MHz)

	BASE UNIT		HANDSET	
Channel No	**Transmit Frequency**	Receive Frequency	**Transmit Frequency**	**Receive Frequency**
1	1897.344	1897.344	1897.344	1897.344
2	1895.616	1895.616	1895.616	1895.616
3	1893.888	1893.888	1893.888	1893.888
4	1892.160	1892.160	1892.160	1892.160
5	1890.432	1890.432	1890.432	1890.432
6	1888.704	1888.704	1888.704	1888.704
7	1886.976	1886.976	1886.976	1886.976
8	1885.248	1885.248	1885.248	1885.248
9	1883.520	1883.520	1883.520	1883.520
10	**1881.792**	**1881.792**	**1881.792**	**1881.792**

Note:

Channel No. 10: In the Test Mode on Base Unit and Handset.

14 BLOCK DIAGRAM (BASE UNIT)



KX-TG1843 BLOCK DIAGRAM (BASE UNIT)

15 CIRCUIT OPERATION (BASE UNIT)

15.1. Outline

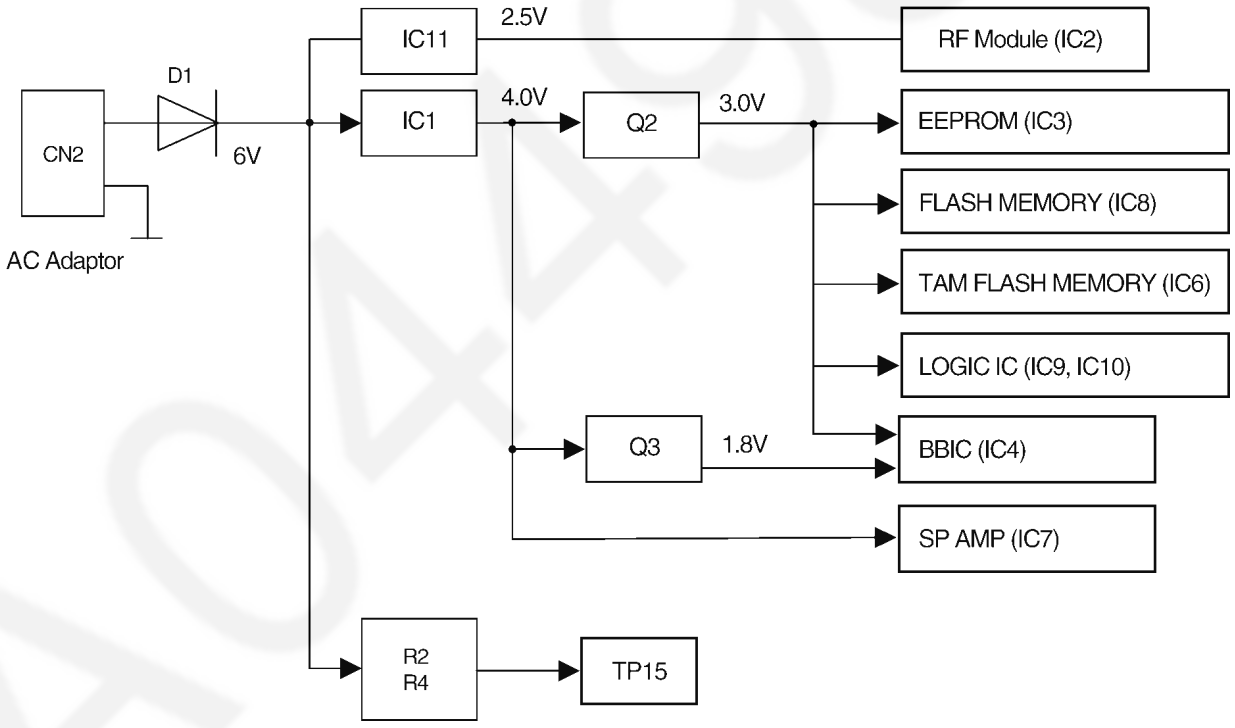
Base Unit consists of the following ICs as shown in **BLOCK DIAGRAM (BASE UNIT)** (P.44).

- DECT BBIC (**B**ase **B**and IC): IC4
  - Handling all the audio, signal and data processing needed in a DECT base unit
  - Controlling the DECT specific physical layer and radio section (**B**urst **M**odule **C**ontroller section)
  - ADPCM codec filter for speech encoding and speech decoding (DSP section)
  - Echo-cancellation and Echo-suppression (DSP section)
  - Any tones (tone, sidetone, ringing tone, etc.) generation (DSP section)
  - DTMF receiver (DSP section)
  - Clock Generation for RF Module
  - ADC, DAC, timer, and power control circuitry
  - All interfaces (ex: RF module, EEPROM, LED, Analog Front End, etc.)
- RF Module: IC2
  - PLL Oscillator
  - Detector
  - Compress/Expander
  - First/Second Mixer
  - Amplifier for transmission and reception
- EEPROM: IC3
  - Temporary operating parameters (for RF, etc.)
- FLASH MEMORY: IC6
  - Voice Prompt (TAM) D/L (Down Load) Area
- FLASH MEMORY: IC8
  - Program D/L (Down Load) Area
- Additionally,
  - Power Supply Circuit (+4.0V, +3.0V, +2.5V, +1.8V output)
  - Crystal Circuit (10.368MHz)
  - Charge Circuit
  - Telephone Line Interface Circuit
  - SP Phone Circuit

15.2. Power Supply Circuit

The power is supplied to the DECT BBIC, RF Module, EEPROM and Charge Contact from AC Adaptor (+6V) as shown in Fig.101. The power supply is as follows;

- DECT BBIC (IC4):
  CN2 (+6V) → D1 → IC1 → Q2 → IC4 (3.0V)
  CN2 (+6V) → D1 → IC1 → Q3 → IC4 (1.8V)
- RF Module (IC2):
  CN2 (+6V) → D1 → IC11 → IC2 (2.5V)
- EEPROM (IC3):
  CN2 (+6V) → D1 → IC1 → Q2 → IC3 (3.0V)
- FLASH MEMORY (IC8):
  CN2 (+6V) → D1 → IC1 → Q2 → IC8 (3.0V)
- SP AMP (IC7):
  CN2 (+6V) → D1 → IC1 → IC7 (4.0V)
- TAM FLASH MEMORY (IC6):
  CN2 (+6V) → D1 → IC1 → Q2 → IC6 (3.0V)
- LOGIC IC (IC9, IC10):
  CN2 (+6V) → D1 → IC1 → Q2 → IC9, IC10 (3.0V)
- Charge Contact (TP15):
  CN2 (+6V) → D1 → R2, R4 → TP15



<Fig.101>

15.3. Telephone Line Interface

<Function>

- Bell signal detection
- Clip signal detection
- ON/OFF hook circuit
- Audio circuits
- DTMF tone signal circuits

Bell & Clip (: Calling Line Identification Presentation: Caller ID) signal detection:

In the standby mode, Q4 is open to cut the DC loop current and decrease the ring load.

When ring voltage appears at the L1T (A) and L1R (B) leads (when the telephone rings), the AC ring voltage is transferred as follows;

- A → C13 → R17 → R24 → IC4 Pin 107 (CID INp)
- B → C12 → R16 → R32 → IC4 Pin 112 (CID INn)

ON/OFF hook circuit:

In the standby mode, Q4 is open, and connected as to cut the DC loop current and to cut the voice signal. The unit is consequently in an **on-hook condition**.

When press SP Key onto the base unit or press the TALK Key onto the handset, Q5 turns on and then Q4 turns on, thus providing an **off-hook condition** (active DC current flow through the circuit) and the following signal flow is for the loop current.

- A → D3 → Q4 → Q8 → R45 → R46 → D3 → B [**OFF HOOK**]

15.4. Transmitter/Receiver

Base Unit and Handset mainly consist of RF Module and DECT BBIC.

Base Unit and Handset transmit/receive voice signal and data signal through the antenna on carrier frequency.

Signal Path:

*Refer to **SIGNAL ROUTE** (P.51).

15.4.1. Transmitter Block

The voice signal input from the TEL LINE interface goes to RF Module (IC2) through DECT BBIC (IC4) as shown in **BLOCK DIAGRAM (BASE UNIT)** (P.44)

The voice signal passes through the analog part of IC4 where it is amplified and converted to a digital audio stream signal. The burst switch controller processes this stream performing encryption and scrambling, adding the various other fields to produce the GAP (**G**eneric **A**ccess **P**rofile) standard DECT frame, assigning to a time slot and channel etc.

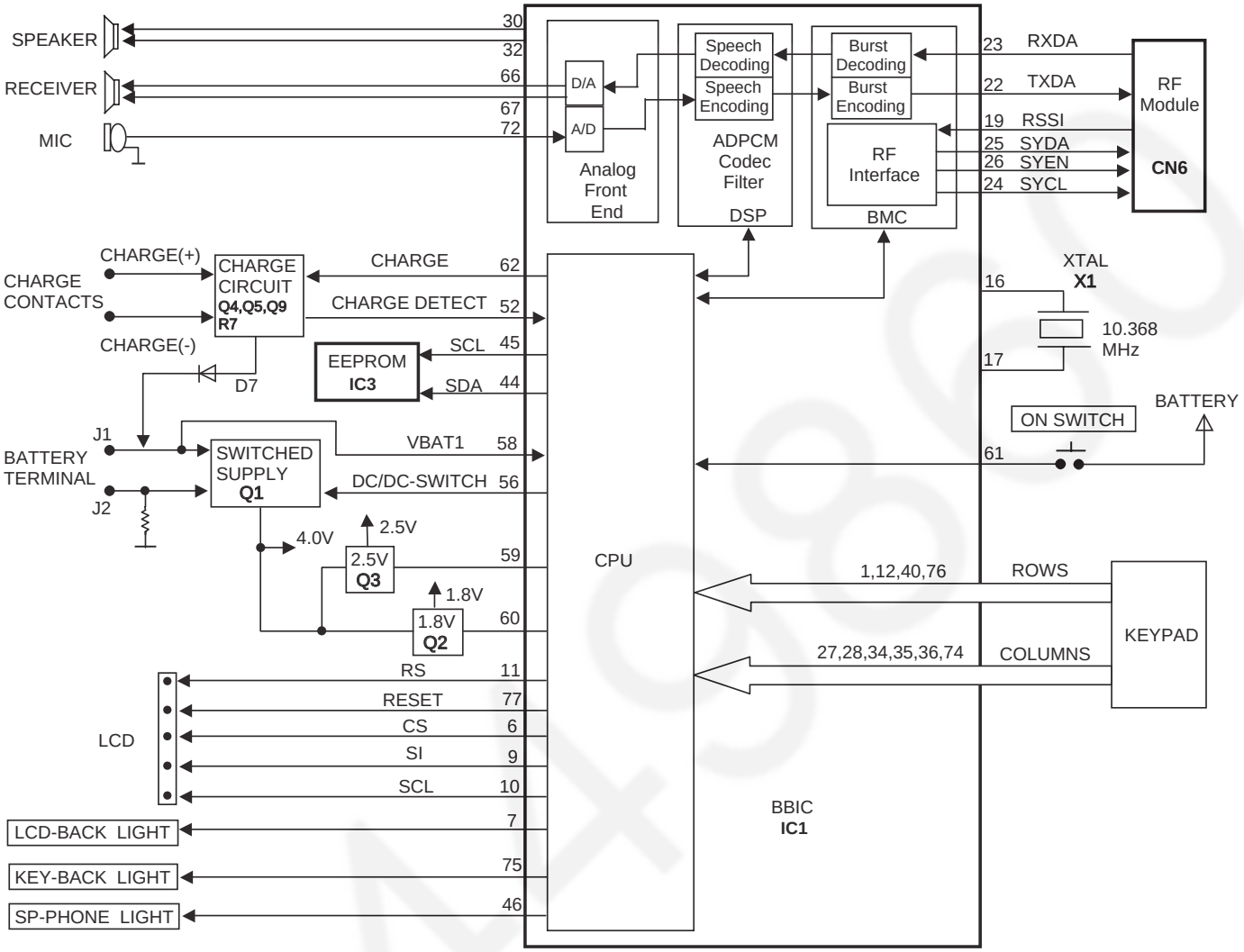
In IC2, the carrier frequency is changing, and frequency modulated RF signal is generated and amplified, and radiated from antenna. Handset detects the voice signal or data signal in the circuit same as the following explanation of Receiver Block.

15.4.2. Receiver Block

The signal of 19.2 MHz band (18.81792 MHz ~ 18.97344 MHz) which is input from antenna is input to IC2 as shown in **BLOCK DIAGRAM (BASE UNIT)** (P.44).

In IC2, the signal of 19.2 MHz band is downconverted to 864 kHz signal and demodulated, and goes to IC4 as GAP (**G**eneric **A**ccess **P**rofile) standard DECT frames. It passes through the decoding section burst switch controller where it separates out the frame information and performs de-encryption and de-scrambling as required. It then goes to the DSP section where it is turned back into analog audio. This is amplified by the analog front end, and goes to the TEL LINE Interface.

16 BLOCK DIAGRAM (HANDSET)



KX-TGA122/121 BLOCK DIAGRAM (HANDSET)

17 CIRCUIT OPERATION (HANDSET)

17.1. Outline

Handset consists of the following ICs as shown in **BLOCK DIAGRAM (HANDSET)** (P.48).

- DECT BBIC (**B**ase **B**and IC): IC1
  - All data signals (forming/analyzing ACK or CMD signal)
  - All interfaces (ex: Key, Detector Circuit, Charge, DC/DC Converter, EEPROM, LCD)
- RF Module: CN6
  - PLL Oscillator
  - Detector
  - Compress/Expander
  - Amplifier for transmission and reception
- EEPROM: IC3
  - Temporary operating parameters (for RF, etc.)

17.2. Power Supply Circuit/Reset Circuit

Circuit Operation:

When power on the Handset, the voltage is as follows;

BATTERY(2.2 V ~ 2.6 V: J1) → L1, D1 → Q2 (1.8 V), Q3 (2.5 V), Q1 (4.0 V)

The Reset signal generates IC1 (53 pin) and 1.8 V.

17.3. Charge Circuit

Circuit Operation:

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

DC+(5.5V ~ 6V) → D1 → R4, R5 → CHARGE+(Base) → CHARGE+(Handset) → L4 → Q4 → D7→ F1 → BATTERY+ ... Battery ... BATTERY- → R43 → 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 Q5 of Handset.

Refer to Fig.101 in **Power Supply Circuit** (P.46).

17.4. 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 (Batt) ≦ 2.25V ± 50mV

  The BBIC detects this level and “  ” starts flashing.
- Power Down

  Battery voltage: V (Batt) ≦ 2.0V ± 50mV

  The BBIC detects this level and power down.

  Refer to **Check Point (Handset)** (P.34).

17.5. Speakerphone

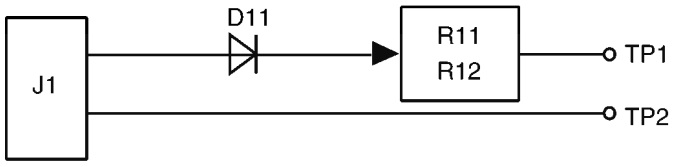
The hands-free loudspeaker at SP+ and SP- works as a ringer/alarm as well.

Refer to **Troubleshooting for Speakerphone (Handset)** (P.37).

18 CIRCUIT OPERATION (CHARGER UNIT)

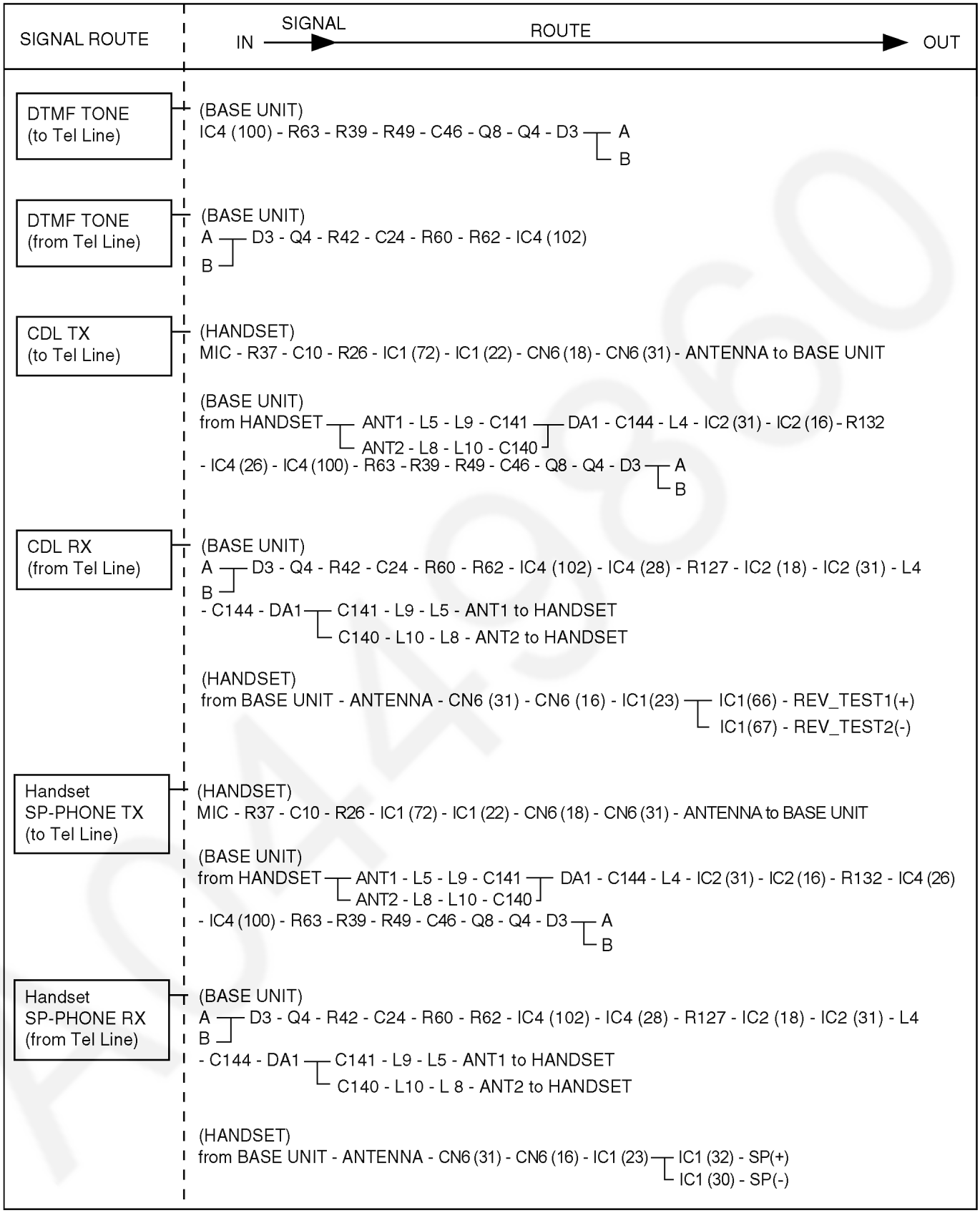
18.1. Power Supply Circuit

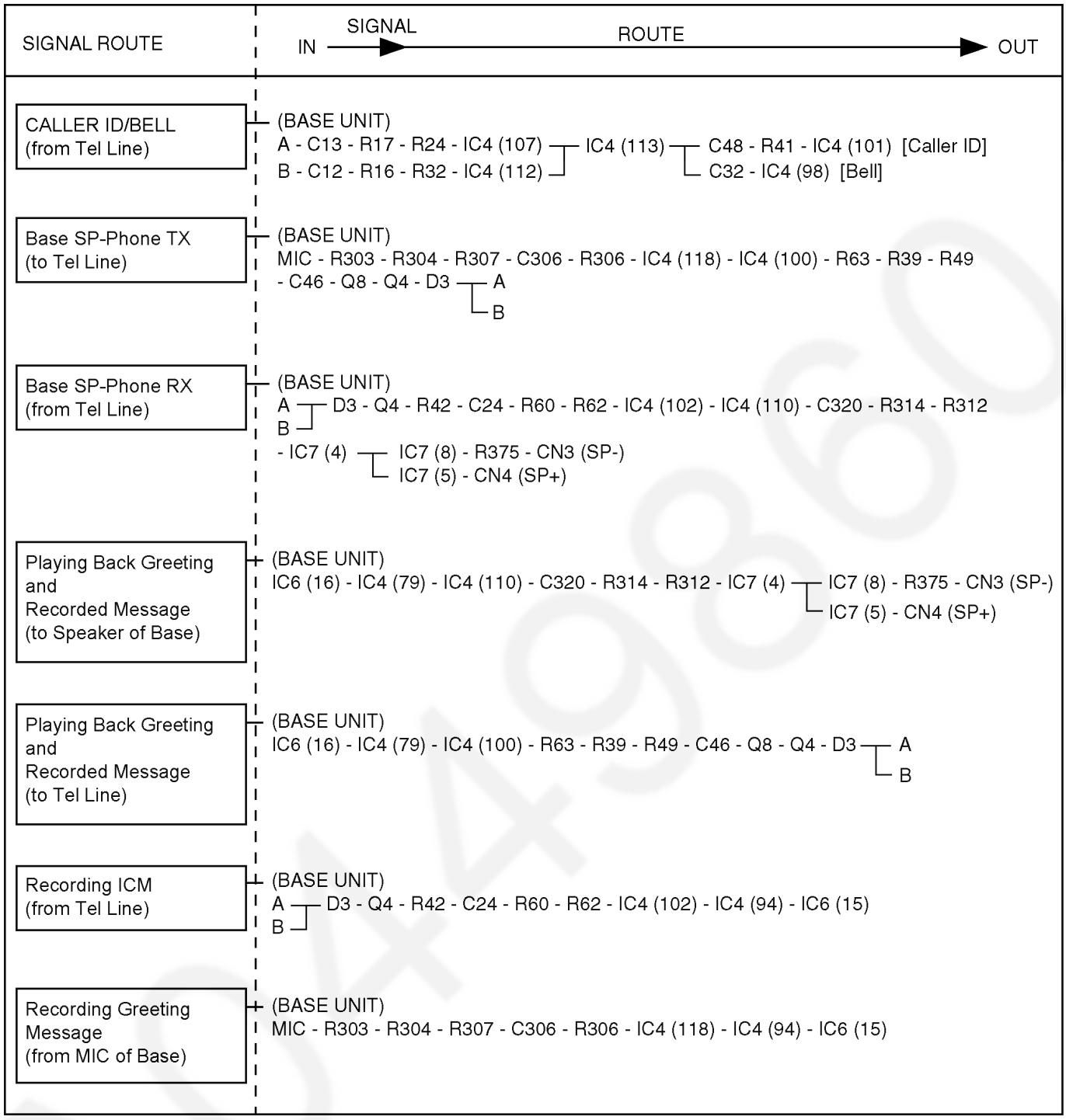
The power supply is as shown.



AC Adaptor

19 SIGNAL ROUTE




SIGNAL ROUTE
IN
SIGNAL
ROUTE
OUT
CALLER ID/BELL (from Tel Line)
(BASE UNIT)
A - C13 - R17 - R24 - IC4 (107)
B - C12 - R16 - R32 - IC4 (112)
IC4 (113)
C48 - R41 - IC4 (101) [Caller ID]
C32 - IC4 (98) [Bell]
Base SP-Phone TX (to Tel Line)
(BASE UNIT)
MIC - R303 - R304 - R307 - C306 - R306 - IC4 (118) - IC4 (100) - R63 - R39 - R49 - C46 - Q8 - Q4 - D3
A
B
Base SP-Phone RX (from Tel Line)
(BASE UNIT)
A
B
D3 - Q4 - R42 - C24 - R60 - R62 - IC4 (102) - IC4 (110) - C320 - R314 - R312 - IC7 (4)
IC7 (8) - R375 - CN3 (SP-)
IC7 (5) - CN4 (SP+)
Playing Back Greeting and Recorded Message (to Speaker of Base)
(BASE UNIT)
IC6 (16) - IC4 (79) - IC4 (110) - C320 - R314 - R312 - IC7 (4)
IC7 (8) - R375 - CN3 (SP-)
IC7 (5) - CN4 (SP+)
Playing Back Greeting and Recorded Message (to Tel Line)
(BASE UNIT)
IC6 (16) - IC4 (79) - IC4 (100) - R63 - R39 - R49 - C46 - Q8 - Q4 - D3
A
B
Recording ICM (from Tel Line)
(BASE UNIT)
A
B
D3 - Q4 - R42 - C24 - R60 - R62 - IC4 (102) - IC4 (94) - IC6 (15)
Recording Greeting Message (from MIC of Base)
(BASE UNIT)
MIC - R303 - R304 - R307 - C306 - R306 - IC4 (118) - IC4 (94) - IC6 (15)

20 CPU DATA (BASE UNIT)

20.1. IC4 (BBIC)

Pin No	Description	I/O	Connection	at Normal mode	at Reset mode
1	VDDIO	-	VDDID	-	-
2	VSS	-	VSS	-	-
3	AD8	D.O	AD8	O	Hi
4	AD9	D.O	AD9	O	Hi
5	AD10	D.O	AD10	O	Hi
6	AD11	D.O	AD11	O	Hi
7	AD12	D.O	AD12	O	Hi
8	AD13	D.O	AD13	O	Hi
9	AD14	D.O	AD14	O	Hi
10	RESET	D.O	RESET	O	Hi-Z
11	SP_AMP_CS	D.O	SP_AMP_CS	O	Hi-Z
12	CHARGE DET	D.I	CHARGE DETECT	I	Hi-Z
13	INUSE_LED	D.O	INUSE_LED	O	Hi-Z
14	SP_LED	D.O	SP_LED	O	Hi-Z
15	KEY_OUT6	D.O	key_strobe	O	Hi-Z
16	VDD	-	VDD	-	-
17	VSS	-	VSS	-	-
18	RFCLK	D.O	RFCLK	O	Low
19	VDDRF	-	VDDRF	-	-
20	VSSRF	-	VSSRF	-	-
21	Xtal1	A.I	Xtal1	I	I
22	CAP	A.I	CAP	I	I
23	AVS	-	AVS	-	-
24	AVD	-	AVD	-	-
25	RSSI	A.I	RSSI	I	I
26	RXDA	A.I	RXDA	I	I
27	CMPREF	A.I	CMPREF	I	I
28	TXDA	A.O	TXDA	O	Hi-Z
29	AD15	D.O	AD15	O	Hi
30	AD16	D.O	AD16	O	Hi
31	AD17	D.O	AD17	O	Hi
32	AD18	D.O	AD18	O	Hi
33	AD19	D.O	NC	O	Hi
34	AD20	D.O	NC	O	Hi
35	AD21	D.O	NC	O	Hi
36	AD22	D.O	NC	O	Hi
37	AD23	D.O	NC	O	Hi
38	LE	D.O	LE	O	Low
39	SO	D.O	SO	O	Low
40	SK	D.O	SK	O	Hi-Z
41	ADC2	A.I	ADC2	I	I
42	KEY_OUT5	D.O	key_strobe	O	Hi-Z
43	RDN	D.O	RDN	O	Hi
44	WRN	D.O	WRN	O	Hi
45	MI/READY	D.O	NC	O	I
46	SCLK	D.O	NC	O	Hi
47	UTX	D.O	UTX	O	I
48	URX	D.I	URX	I	I
49	JTIO	D.I/O	JTIO	I/O	I
50	KEY_OUT4	D.I	key_strobe	I	I
51	KEY_OUT3	D.I	key_strobe	I	I
52	KEY_OUT2	D.I	key_strobe	I	I
53	KEY_OUT1	D.I	key_strobe	I	I
54	KEY_OUT0	D.I	key_strobe	I	I
55	VDDIO	-	VDDIO	-	-
56	VSS	-	VSS	-	-
57	RDY/BUSY	D.O	RDY/BUSY	O	I
58	KEY_IN3	D.O	key_input with internal pull up	O	I
59	ACS1	D.O	ACS1	O	I
60	ACS0	D.O	ACS0	O	Hi
61	KEY_IN2	D.O	key_input with internal pull up	O	I

Pin No	Description	I/O	Connection	at Normal mode	at Reset mode
62	KEY_IN1	D.I	key_input with internal pull up	I	I
63	KEY_IN0	D.I	key_input with internal pull up	I	Hi
64	NC	D.O	NC	O	Hi
65	NC	D.O	NC	O	Hi
66	SCL	D.O	SCL	O	Hi-Z
67	SDA	D.I/O	SDA	I/O	I
68	DAB0	D.I/O	DAB0	I/O	I
69	DAB8	D.I/O	DAB8	I/O	I
70	DAB1	D.I/O	DAB1	I/O	I
71	DAB9	D.I/O	DAB9	I/O	I
72	DAB2	D.I/O	DAB2	I/O	I
73	DAB10	D.I/O	DAB10	I/O	I
74	DAB3	D.I/O	DAB3	I/O	I
75	DAB11	D.I/O	DAB11	I/O	I
76	VSS	-	VSS	-	-
77	VDD	-	VDD	-	-
78	VDDIO	-	VDDIO	-	-
79	SO	D.O	SO	O	I
80	SCK/CLK	D.O	SCK/CLK	O	I
81	ADC0	A.I	ADC0	I	I
82	ADC1	A.I	ADC1	I	I
83	CS	D.O	CS	O	I
84	HOOK	D.O	HOOK	O	I
85	DAB4	D.I/O	DAB4	I/O	I
86	DAB12	D.I/O	DAB12	I/O	I
87	DAB5	D.I/O	DAB5	I/O	I
88	DAB13	D.I/O	DAB13	I/O	I
89	DAB6	D.I/O	DAB6	I/O	I
90	DAB14	D.I/O	DAB14	I/O	I
91	DAB7	D.I/O	DAB7	I/O	I
92	DAB15	D.I/O	DAB15	I/O	I
93	TM	D.I	TM	I	Low
94	SI	D.O	SI	O	Hi-Z
95	PON	A.I	PON	I	I
96	LINE_SEIZURE	D.I/O	nHOOK	I/O	I
97	RLY	D.O	RLY	O	Low
98	RINGING	A.I	RINGING	I	I
99	LINEREF	A.O	LINEREF	O	-
100	LINEOUT	A.O	LINEOUT	O	-
101	LINE_IN+	A.I	LINE_IN+	I	-
102	LINE_IN-	A.I	LINE_IN-	I	-
103	LDO1_Senes	A.I	LDO1_Senes	I	I
104	LDO1_CTRL	A.O	LDO1_CTRL	O	Hi
105	LDO2_CTRL	A.O	LDO2_CTRL	O	Low
106	VBAT2	A.I	VBAT2	I	I
107	CIDIN+	A.I	CIDIN+	I	I
108	AVS2	-	AVS2	-	-
109	AVD2	-	AVD2	-	-
110	LSR+/REF	A.O	LSR+/REF	O	O
111	LSR-/REF	A.O	NC	O	O
112	CIDIN-	A.I	CIDIN-	I	O
113	CIDOUT	A.O	CIDOUT	O	O
114	MIC-	A.I	NC	I	I
115	VREF-	A.O	VREF-	O	O
116	VBUF	A.O	VBUF	O	O
117	AGND	A.O	AGND	O	O
118	MIC+	A.I	MIC+	I	I
119	VREF+	A.O	NC	O	I
120	RSTn	A.I	RSTn	I	I
121	EXT_MEMORY	D.I	EXT_MEMORY	I	I
122	AD1	D.O	AD1	O	Hi
123	AD2	D.O	AD2	O	Hi
124	AD3	D.O	AD3	O	Hi
125	AD4	D.O	AD4	O	Hi
126	AD5	D.O	AD5	O	Hi

Pin No	Description	I/O	Connection	at Normal mode	at Reset mode
127	AD6	D.O	AD6	O	Hi
128	AD7	D.O	AD7	O	Hi

21 CPU DATA (HANDSET)

21.1. IC1 (BBIC)

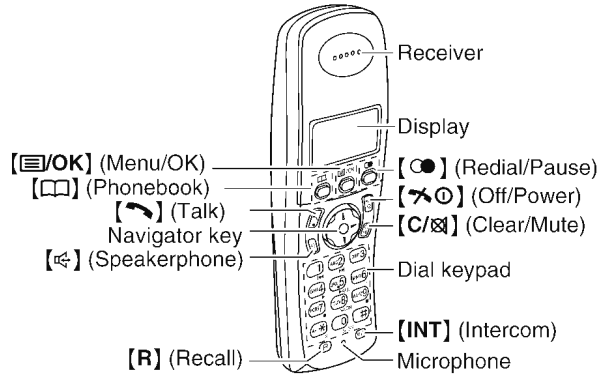
Pin No	Description	I/O	Connection	at Normal mode	at Reset mode
1	INTIn/P1[1]	D,I	ROW1	I	I-PU
2	VDDIO	-	-	-	-
3	VDD	-	-	-	-
4	VSS	-	-	-	-
5	LED1/PWM0/P2[0]	D,O	PWM0	O-L	I-PU
6	LED2/PWM1/P2[1]	D,O	LCD_CSB	O-H	I-PU
7	LED3	A,I	LED_BKL	I	I
8	LED_BIAS/P3[6]/PD	A.O	LED_BIAS	O	I-PD
9	SDA1/P2[5]	D,I/O	LCD_SI	I/O	I
10	SCL1/P2[4]	D,O	LCD_SCL	O	I
11	INT5n/VDDE/P1[5]	D,O	LCD_RS	O-L	I-PU
12	INT2n/P1[2]	D,I	ROW2	I	I-PU
13	AVD	-	-	-	-
14	AVS	-	-	-	-
15	CAP	A,I	CAP	I	I
16	Xta11	A,I	Xtal1	I	-
17	VSSRF	-	-	-	-
18	RFCLKp	A,O	NC	O	Hi-Z
19	RSSI/RFCLKm	A,I	RSSI	I	Hi-Z
20	VDDRF	-	-	-	-
21	RFCLKd	D,O	RFCLKd	O	O-L
22	TDD	A,O	TDO	O	-
23	RDI	D,I	RDI	I	I
24	SK	D,I/O	SK	-	O-L
25	PD1/SIO	D,I/O	SIO	-	I-PD
26	LE	D,I/O	LE	O-L	O-H
27	P3[1]/PD1	D,I/O	COL1	O-L	I-PD
28	P3[2]/PD2	D,I/O	COL2	O-L	I-PD
29	VSSPA	-	-	-	-
30	PAOUTm	D,O	PAOUTm	O	O
31	VDDPA	-	-	-	-
32	PAOUTp	D,O	PAOUTp	O	O
33	VSSPA	-	-	-	-
34	P3[3]/PD3	D,I/O	COL3	O-L	I-PD
35	P3[4]/PD4	D,I/O	COL4	O-L	I-PD
36	TDOD/P3[5]/PD5	D,I/O	COL5	O-L	I-PD
37	VSS	-	-	-	-
38	VDDIO	-	-	-	-
39	VDD	-	-	-	-
40	PCM_FSC/INT0n/P1[0]	D,I	ROW0	I	I-PU
41	P0[0]/UTX	D,I/O	UTX	O	I-PU
42	P0[1]/URX	D,I/O	URX	O	I-PU
43	P0[2]/JTIO	D,I/O	JTIO	O	I-PU
44	P0[3]/SDA2	D,I/O	P0[3]	O	I-PU
45	P0[4]/SCL2	D,I/O	P0[4]	O	I-PU
46	P0[5]/SPICLK/PCM	D,I/O	SP_LED	O	I-PU
47	P0[6]/SPIDO/PCM_D	D,O	CD_AMP	O	I-PU
48	P0[7]/SPIDI/PCM_D	D,I/O	RESET	O	I-PU
49	VSS	-	-	-	-
50	VDD	-	-	-	-
51	P2[3]/ADC1	O	EEP_WP	O	O
52	P1[7]/CHARGE/INT7	I	CHARGE	I	I-PD
53	RSTn	I	RSTn	I	I-PU
54	DC_stab	O	DC_stab	O	O
55	DC_1	I	DC_I	I	I
56	DC_CTRL	O	DC_CTRL	O	O-PD
57	DC_Sence	I	DC_Sence	I	I
58	VBAT1	A,I	VBAT1	I	I
59	LDO1_CTRL	D,O	LDO1_CTRL	O	O-H
60	LDO2_CTRL	D,O	LDO2_CTRL	O	O-H
61	P1[6]/PON/INT6	I	power_det	I	I-PD
62	P2[6]/stop_charge	A,O	stop_charge	O	O-O

Pin No	Description	I/O	Connection	at Normal mode	at Reset mode
63	LDO1_Sense	D,I	LDO1_Sense	I	O-L
64	AVS2	-	-	-	-
65	AVD2	-	-	-	-
66	LSRn/REF	A,O	REF	O	O
67	LSRp/REF	A,O	LSRp	O	O
68	MICn	A,I	RINGING	I	I
69	VREFm	-	-	-	-
70	VBUF	O	VBUF	O	O
71	AGND	A,O	AGND	O	O
72	MICp	A,I	MICp	I	I
73	VREFp	A,I	CIDINp	I	I
74	P3[0]	D,I/O	COL0	O-L	I-PD
75	P1[4]/INT4n	D,O	Key_LED	O	O-L
76	P1[3]/INT3n	D,I	ROW3	I	I
77	P2[2]/CLK100	D,O	LCD_RESET	O	I-PD
78	AVS_sence	I	AVS_sence	I	I
79	ADC2	A,I	ADC2	I	I
80	ADC0	A,I	NC	I	I

22 ENGINEERING MODE

22.1. Base Unit

Important:
Make sure the address on LCD is correct when entering new data. Otherwise, you may ruin the unit.



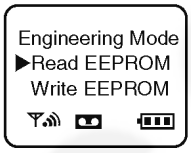
Model shown is KX-TGA122.

H/S key operation	H/S LCD
1). Register a Handset to a Base Unit.	
2). Press "【/OK】" (Menu/OK) key, then select "Base Unit Setup" by navigator key.	Ph.Book Setup Handset Setup ▶Base Unit Setup
3). Press "【/OK】" (Menu/OK) key.	Enter Base PIN :----
4). Enter "0", "0", "0", "0". **Note:** This 4 digits are default setting.	▶ Ringer Setup Call Options Other Options
5). Select "Other Options".	Ringer Setup Call Options ▶ Other Options
6). Press "【/OK】" (Menu/OK).	▶ Base Unit PIN Repeater Mode Reset Base
7). Select "Base Unit PIN".	▶ Base Unit PIN Repeater Mode Reset Base
8). Press "【/OK】" (Menu/OK).	Enter New PIN :----

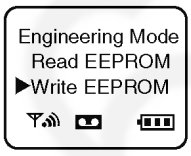
9). Enter "7", "2", "6", "2".

10). Enter "7", "6", "6", "4".
Note: 7262 7664 = PANA SONI
(see alphabets printed on dial keys)

11). Press "【▤/OK】" (Menu/OK).

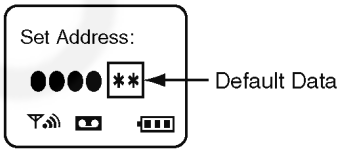


12). Select "Write EEPROM".

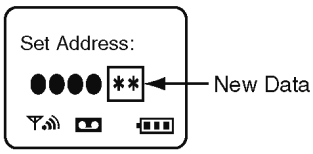


13). Press "【▤/OK】" (Menu/OK).

14). Enter "●", "●", "●", "●" (Address). *



15). Enter "*", "*" (New Data).



16). Press "【▤/OK】" (Menu/OK).
A long confirmation beep will be heard.

17). Press "⏻" (off) to return to standby mode.
After that, turn the base unit power off and then power on.

Note:

*: When you enter the address, 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

ex.)

Items (*2)	**Address**	**Default Data**	**New Data**		**Remarks**
C-ID (FSK) sensitivity	04 3D	00	01 (6dB up)	02 (12dB up)	When hex changes from “00” to “01” or “02”, gain increases by 6dB or 12dB.
C-ID (DTMF) sensitivity	04 4B	50	60 (6dB up)	70 (12dB up)	When hex changes from “50” to “60” or “70”, gain increases by 6dB or 12dB.
SMS (FSK) receiving sensitivity	04 3D	00	01 (6dB up)	02 (12dB up)	When hex changes from “00” to “01” or “02”, gain increases by 6dB or 12dB.
SMS (FSK) sending level	04 56/04 57	00/0B	00/16 (6dB up)	00/2C (12dB up)	When hex changes from “00 0B” to “00 16” or “00 2C”, gain increases by 6dB or 12dB.
Frequency	00 01	75	-	-	Use these items in a **READ-ONLY** mode to confirm the contents. Careless rewriting may cause serious damage to the computer system.
ID	00 10~00 14	Given value	-	-	
Bell length	01 F6	32 (5sec) (*1)	1E (3sec)	14 (2sec)	This is time until bell stops ringing. (Unit: 100ms)

(*1)

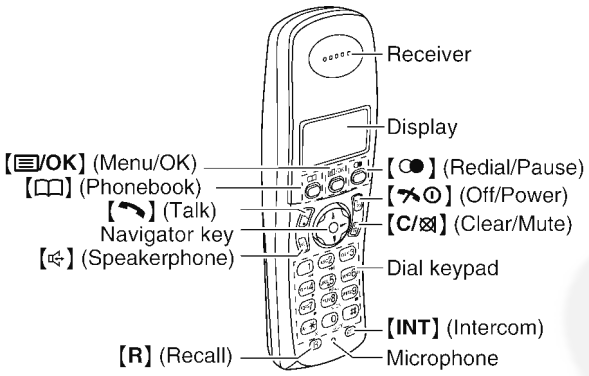
Bell length	32(hex) = 50(dec) → 50 × 100msec = 5000msec (5sec)

(*2)

Items	**Description**
C-ID (FSK) sensitivity	FSKGain_shiftgain
C-ID (DTMF) sensitivity	Foutgains:HPFilter Foutgains
SMS (FSK) receiving sensitivity	FSKGain_shiftgain
SMS (FSK) sending level	wFskAttn:Signal Output Attenuation (DSP parameter)
Frequency	Setting value of FREQ_TRIM_REG
ID	ID
Bell length	Time until it stops bell.

22.2. Handset

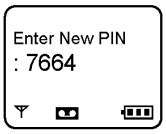
Important:
Make sure the address on LCD is correct when entering new data. Otherwise, you may ruin the unit.



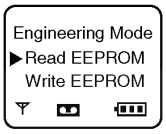
Model shown is KX-TGA122.

H/S key operation	H/S LCD
1). Press "【/OK】" (Menu/OK) key, then select "Handset Setup" by navigator key.	Ph.Book Setup ▶Handset Setup Base Unit Setup
2). Press "【/OK】" (Menu/OK).	▶Time Settings Ringer Setup Display Setup
3). Select "Other Options".	▶Other Options
4). Press "【/OK】" (Menu/OK).	▶Handset PIN LetterWise Keytones
5). Select "Handset PIN".	▶Handset PIN LetterWise Keytones
6). Press "【/OK】" (Menu/OK).	Enter Old PIN : ----
7). Enter "0", "0", "0", "0". **Note:** This 4 digits are default setting.	Enter New PIN : ----
8). Enter "7", "2", "6", "2".	Enter New PIN : 7262

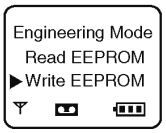
9). Enter "7", "6", "6", "4".
Note: 7262 7664 = PANA SONI
(see alphabets printed on dial keys)



10). Press "【/OK】" (Menu/OK).

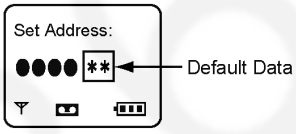


11). Select "Write EEPROM".

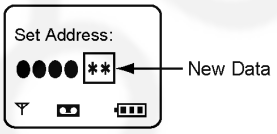


12). Press "【/OK】" (Menu/OK).

13). Enter "●", "●", "●", "●" (Address). *



14). Enter "＊", "＊" (New Data).



15). Press "【/OK】" (Menu/OK).
A long confirmation beep will be heard.

16). Press "" (off) to return to standby mode.
After that, turn the handset power off and then power on.

Note:

*: When you enter the address, please refer to the table in **Note:** (P.59) of **ENGINEERING MODE**.

ex.)

Items (*4)	**Address**	**Default Data**	**New Data**	**Possible Adjusted Value MAX (hex)**	**Possible Adjusted Value MIN (hex)**	**Remarks**
Sending level	00 06	Adjusted value	Given value	6F	00	(*1)
Receiving level	00 07	Adjusted value	Given value	00	3F	(*2)
Battery Low	00 04	25	-	-	-	(*3)
Frequency	00 01	75	-	-	-	
ID	00 10~00 14	Given value	-	-	-	

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

ex.)

Item	**Default Data**	**New Data**	
	3A	3E	36
Sending level	-8.0dBm	-7.0dBm	-9.0dBm

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

ex.)

Item	**Default Data**	**New Data**	
	14	18	10
Receiving level	-21dBm	-22dBm	-20dBm

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

(*4)

Items	**Description**
Sending level	Analog Front End MIC Setting for Handset Mode
Receiving level	Analog Front End LSR Setting for Handset Mode
Battery Low	ADC value for battery low detection
Frequency	Setting value of FREQ_TRIM_REG
ID	International Portable Part Equipment Identities

23 HOW TO REPLACE THE FLAT PACKAGE IC

Even if you do not have the special tools (for example, a spot heater) to remove the Flat IC, with some solder (large amount), a soldering iron and a cutter knife, you can easily remove the ICs that have more than 100 pins.

23.1. PREPARATION

- PbF (: Pb free) Solder
- Soldering Iron

  Tip Temperature of 700°F ± 20°F (370°C ± 10°C)

  Note: We recommend a 30 to 40 Watt soldering iron. An expert may be able to use a 60 to 80 Watt iron where someone with less experience could overheat and damage the PCB foil.
- Flux

  Recommended Flux: Specific Gravity → 0.82.

  Type → RMA (lower residue, non-cleaning type)

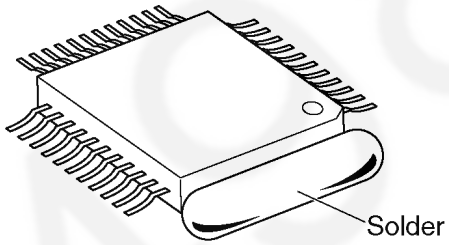
  Note: See **ABOUT LEAD FREE SOLDER (PbF: Pb free)** (P.4).

23.2. FLAT PACKAGE IC REMOVAL PROCEDURE

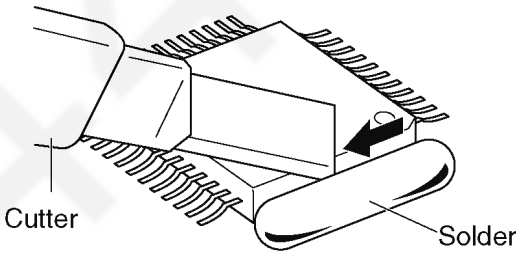
1. Put plenty of solder on the IC pins so that the pins can be completely covered.

   Note:

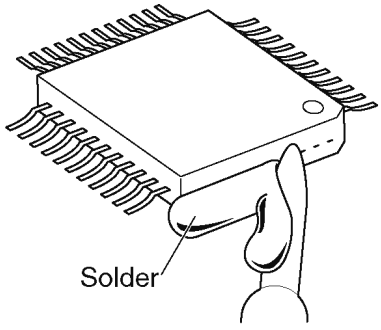
   If the IC pins are not soldered enough, you may give pressure to the P.C. board when cutting the pins with a cutter.



2. Make a few cuts into the joint (between the IC and its pins) first and then cut off the pins thoroughly.



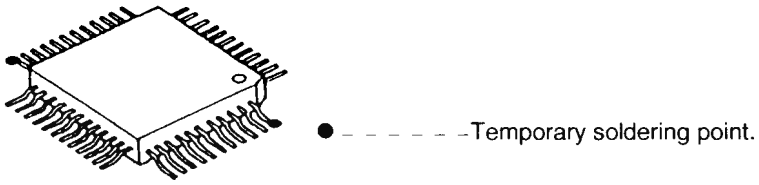
3. While the solder melts, remove it together with the IC pins.



When you attach a new IC to the board, remove all solder left on the land with some tools like a soldering wire. If some solder is left at the joint on the board, the new IC will not be attached properly.

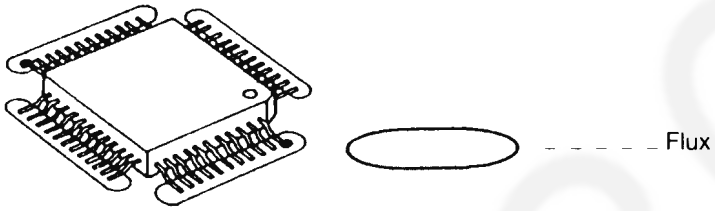
23.3. FLAT PACKAGE IC INSTALLATION PROCEDURE

1. Temporarily fix the FLAT PACKAGE IC, soldering the two marked pins.

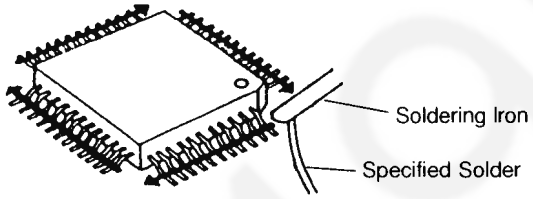


*Check the accuracy of the IC setting with the corresponding soldering foil.

2. Apply flux to all pins of the FLAT PACKAGE IC.

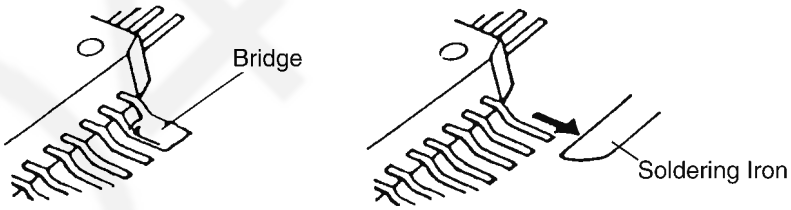


3. Solder the pins, sliding the soldering iron in the direction of the arrow.

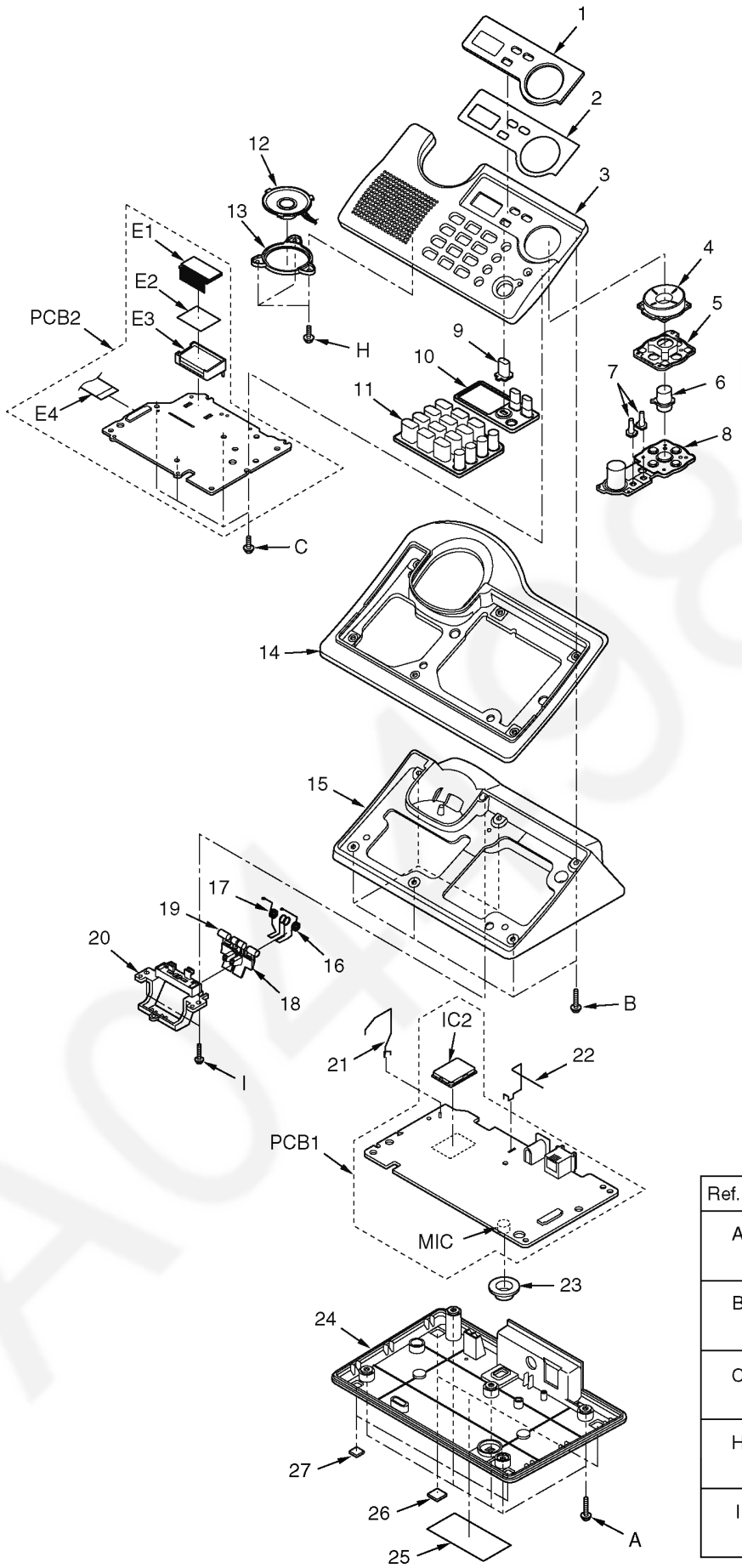


23.4. BRIDGE MODIFICATION PROCEDURE

1. Lightly resolder the bridged portion.
2. Remove the remaining solder along the pins using a soldering iron as shown in the figure below.

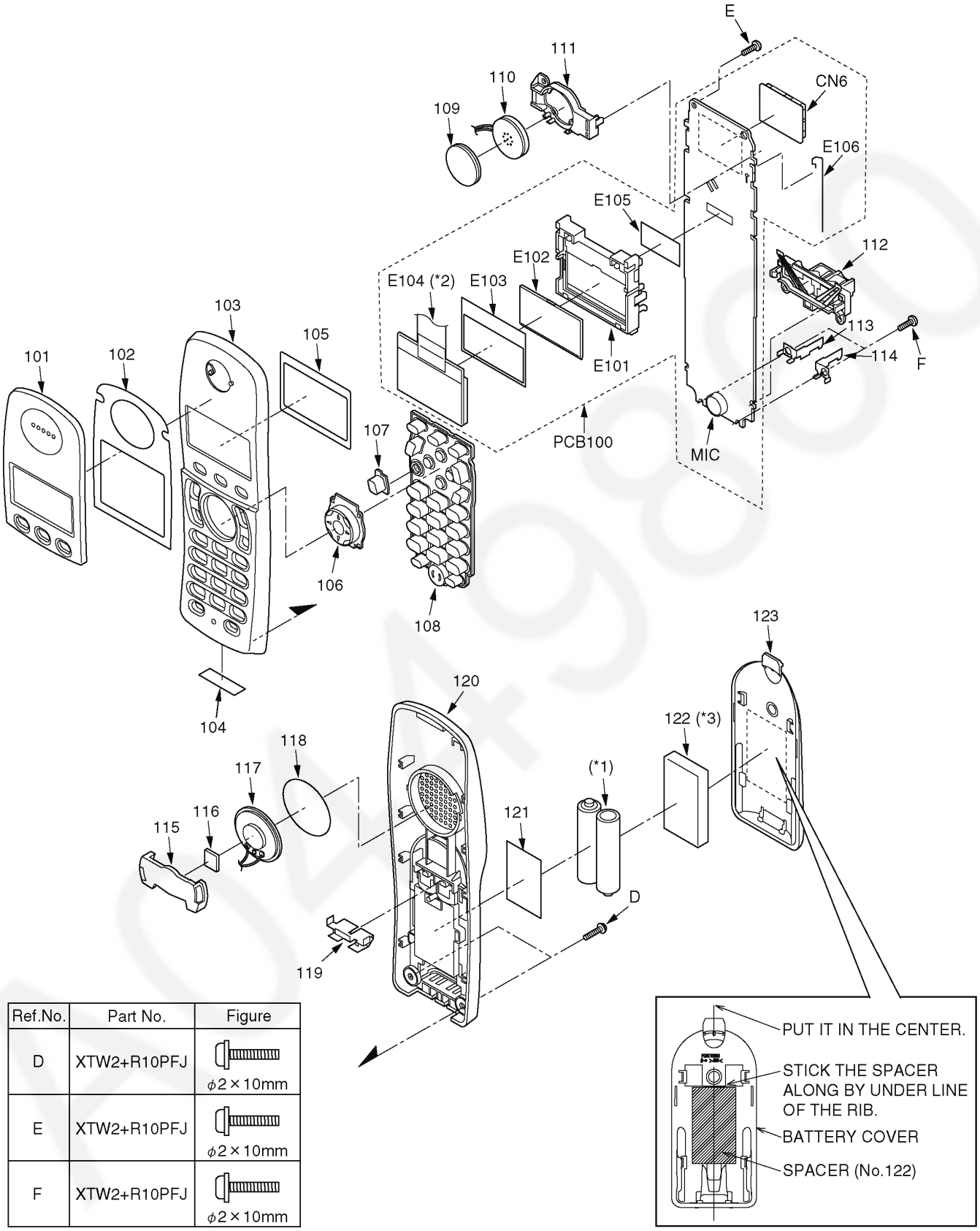


24 CABINET AND ELECTRICAL PARTS (BASE UNIT)



Ref.No.	Part No.	Figure
A	XTW26+14PFJ7	ϕ2.6 × 14mm
B	XTW26+14PFJ7	ϕ2.6 × 14mm
C	XTW26+8PFJ7	ϕ2.6 × 8mm
H	XTW26+8PFJ7	ϕ2.6 × 8mm
I	XTW26+14PFJ7	ϕ2.6 × 14mm

25 CABINET AND ELECTRICAL PARTS (HANDSET)



Ref.No.	Part No.	Figure
D	XTW2+R10PFJ	ϕ2×10mm
E	XTW2+R10PFJ	ϕ2×10mm
F	XTW2+R10PFJ	ϕ2×10mm

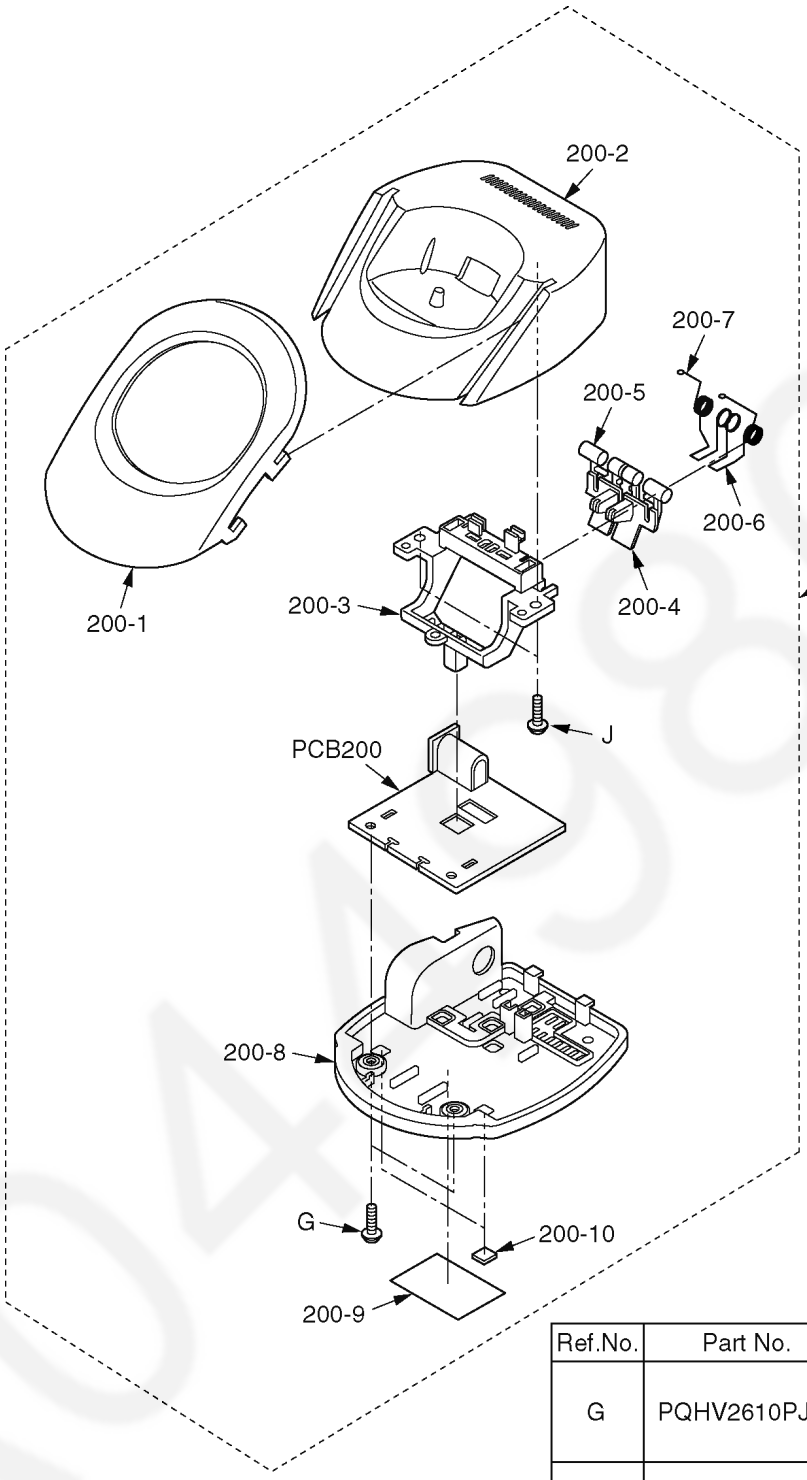
Note:

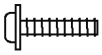
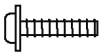
(*1) The rechargeable Ni-MH battery HHR-4EPT is available through sales route of Panasonic.

(*2) This cable is fixed by welding. Refer to **HOW TO REPLACE THE HANDSET LCD** (P.15).

(*3) Attach the spacer (No. 122) to the exact location described above.

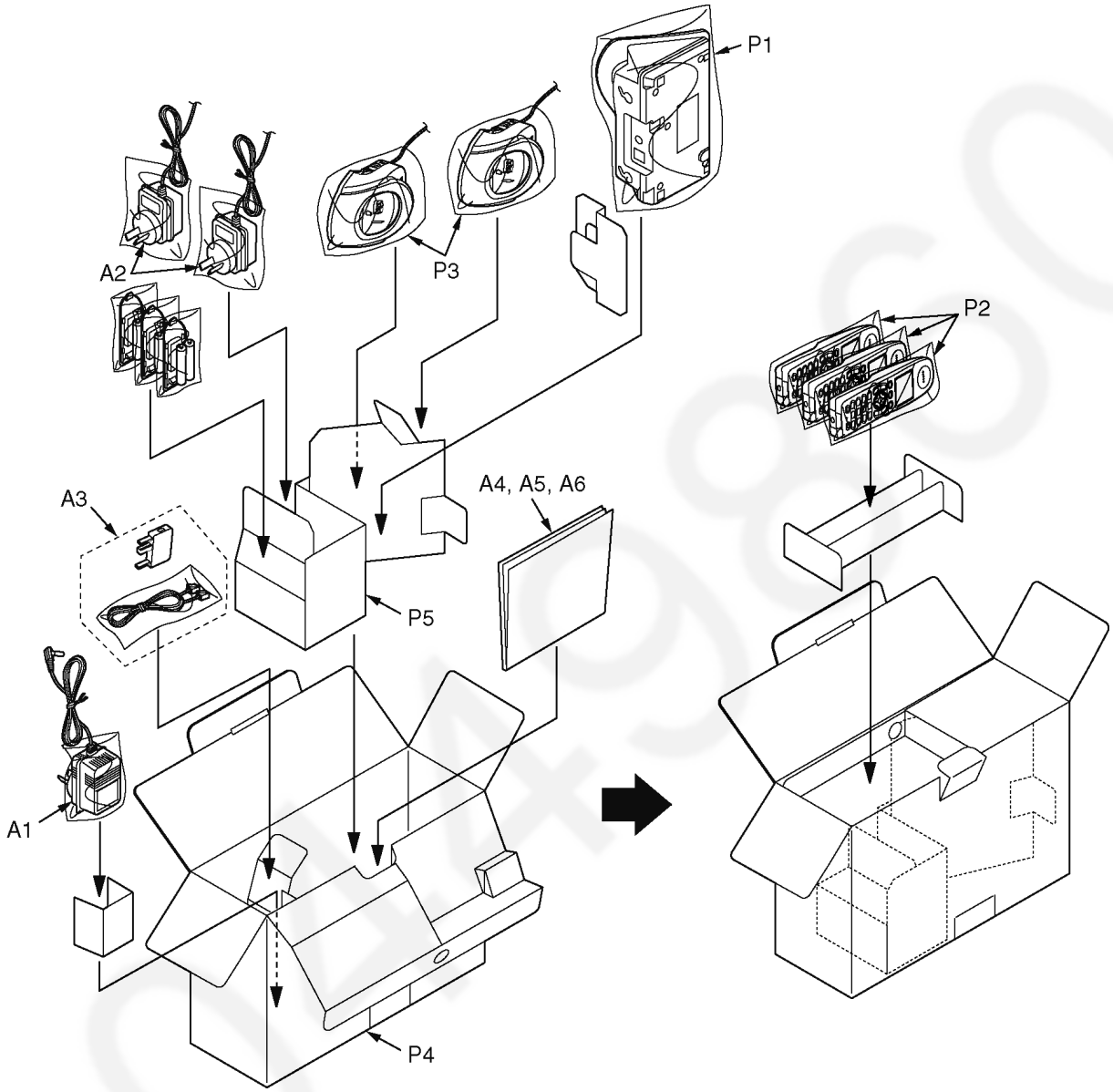
26 CABINET AND ELECTRICAL PARTS (CHARGER UNIT)



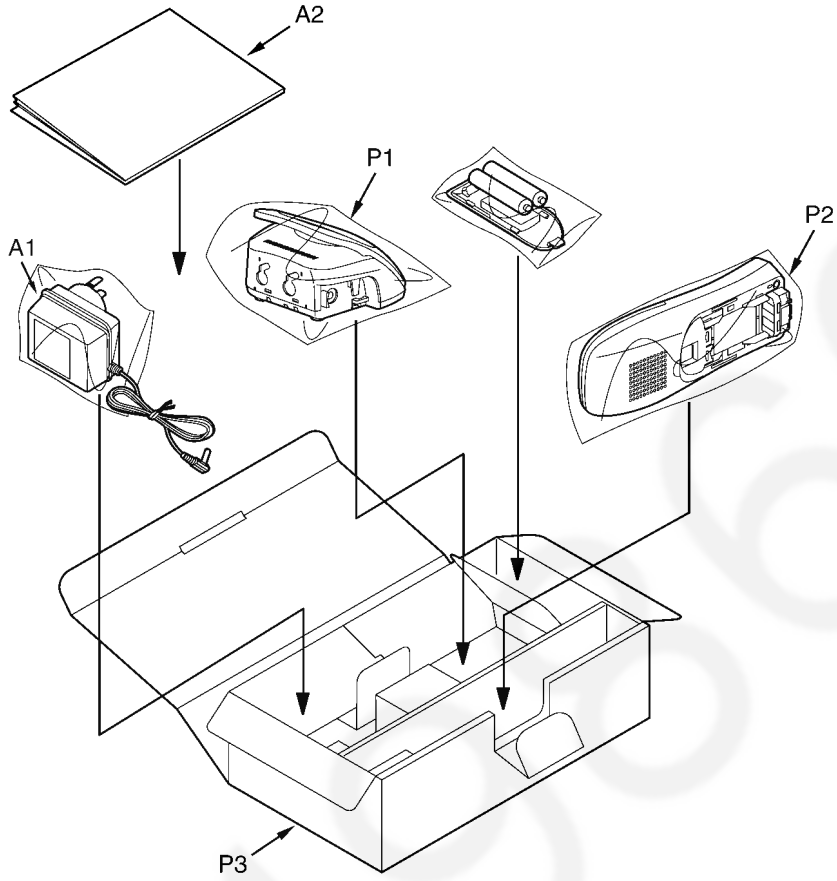
Ref.No.	Part No.	Figure
G	PQHV2610PJ65	 ϕ2.6 × 10mm
J	PQHV2610PJ65	 ϕ2.6 × 10mm

27 ACCESSORIES AND PACKING MATERIALS

27.1. KX-TG1843ALS

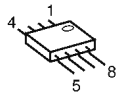


27.2. KX-TGA121AZS

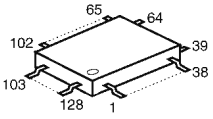


28 TERMINAL GUIDE OF THE ICs, TRANSISTORS AND DIODES

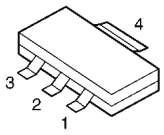
28.1. Base Unit



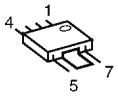
PQWICD300EHR



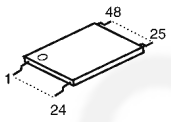
C1CB00002180



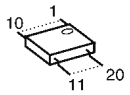
C0CBAYF00016



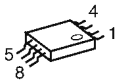
C0DBZGE00007



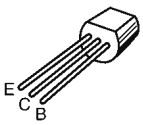
PQWI31840ALH



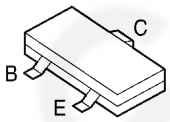
C0JBAF000223



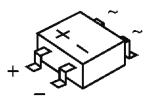
C1BB00000265



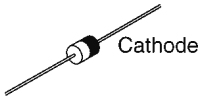
B1ACGP000007
B1AAJC000010



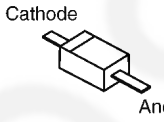
PQVTBF822T7, B1ADGE000004
B1ABCF000103, 2SB1218A
PQVTDTC143E, B1ABCE000009



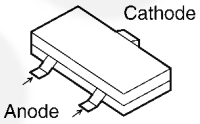
PQVDS1ZB60F1



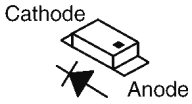
B0JAME000095



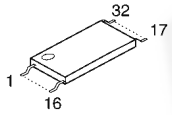
MA8047, B0JCDD000002, MA112
B0ECKM000008, MA1Z300, MA8220



B0DDCM000001

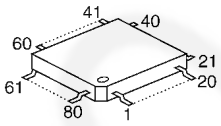


LNJ308G8JRA
PQVDBR1111C

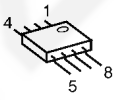


PQWI21840ALH

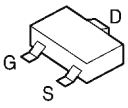
28.2. Handset



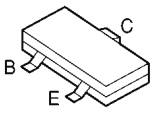
C1CB00002038



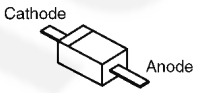
PQWIA130EXRR



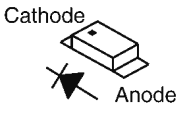
PQVTFDN335N



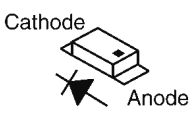
PSVTDTC143X, UN9219J
B1ADGE000004, B1ABCF000103



B0BC2R1A0006, MA8047
MA2Z72000, B0JCME000035

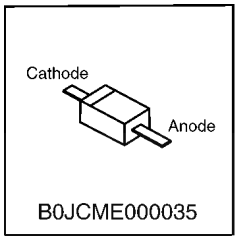


LNJ308G8JRA



PQVDBR1111C

28.3. Charger Unit



29 REPLACEMENT PARTS LIST

1. RTL (Retention Time Limited)

Note:

The marking (RTL) indicates that the Retention Time is limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

2. Important safety notice

Components identified by the ⚠ mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacture's parts.

3. The S mark means the part is one of some identical parts. For that reason, it may be different from the installed part.

4. ISO code (Example: ABS-94HB) of the remarks column shows quality of the material and a flame resisting grade about plastics.

5. RESISTORS & CAPACITORS

Unless otherwise specified;

All resistors are in ohms (Ω) K=1000Ω, M=1000kΩ

All capacitors are in MICRO FARADS (μF)P=μμF

*Type & Wattage of Resistor

Type

ERC:Solid ERDS:Carbon ERJ:Chip	ERX:Metal Film ERG:Metal Oxide ER0:Metal Film	PQ4R:Chip ERS:Fusible Resistor ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

*Type & Voltage Of Capacitor

Type

ECFD:Semi-Conductor ECQS:Styrol ECUV,PQCUV,ECUE:Chip ECQMS:Mica	ECCD,ECKD,ECBT,F1K,ECUV:Ceramic ECQE,ECQV,ECQG:Polyester ECEA,ECST,EEE:Electlytic ECQP:Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H:50V 2A:100V 2E:250V 2H:500V	05:50V 1:100V 2:200V	0F:3.15V 1A:10V 1V:35V 0J:6.3V	0J :6.3V 1A :10V 1C :16V 1E,25:25V	1V :35V 50,1H:50V 1J :16V 2A :100V

29.1. Base Unit

29.1.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
1	PQGP10286Z1	PANEL, LCD	AS-HB
2	PQHS10675Z	TAPE, DOUBLE SIDED (LCD)	
3	PQGG10293Z1	GRILLE, FRONT	PS-HB
4	PQBC10429Z1	BUTTON, NAVI KEY	ABS-HB
5	PQHR11125Z	GUIDE, NAVI KEY BUTTON	POM-HB
6	PQBC10430Z1	BUTTON, PLAY	ABS-HB
7	PQHR11124Z	OPTIC CONDUCTIVE PARTS, LED LENS	PS-HB
8	PQSX10291Z	KEYBOARD SWITCH, 6 KEY	
9	PQBC10431Z1	BUTTON, ANSWER ON	ABS-HB
10	PQSX10293Z	KEYBOARD SWITCH, TAM KEY	
11	PQSX10292Z	KEYBOARD SWITCH, 16 KEY	
12	L0AA04A00028	SPEAKER	
13	PQHR11082Z	GUIDE, SPEAKER	POM-HB
14	PQGG10294Y1	GRILLE, CLEAR	PC-HB
15	PQKM10685Y1	CABINET BODY	PS-HB
16	PQJT10218Y	CHARGE TERMINAL (R)	
17	PQJT10219Y	CHARGE TERMINAL (L)	
18	PQKE10384Z3	HOLDER, CHARGE TERMINAL (R)	POM-HB
19	PQKE10385Z3	HOLDER, CHARGE TERMINAL (L)	POM-HB
20	PQHR11126Z	CASE, CHARGE TERMINAL	
21	PQSA10164Z	ANTENNA (L)	
22	PQSA10165Z	ANTENNA (R)	
23	PQMG10025Z	RUBBER PARTS, MIC	
24	PQKF10676Z1	CABINET COVER	PS-HB
25	PQGT18118Z	NAME PLATE	
26	PQHA10017Z	RUBBER PARTS, LEG CUSHION	
27	PQHA10018Z	RUBBER PARTS, FOOT CUSHION	

29.1.2. Main P.C.Board Parts

Note:

(*1) When replacing IC3 or IC4, data need to be written to it with PQZZTG1840AL. Refer to **Base Unit** (P.41) of **THINGS TO DO AFTER REPLACING IC**.

(*2) When replacing IC4, follow the procedure in the "**Note:**" in **CIRCUIT BOARD (BASE UNIT_MAIN)** (P.87).

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PQWP11840ALH	MAIN P.C.BOARD ASS´Y (RTL)	
		(ICs)	
IC1	C0DBZGE00007	IC	
IC3	PQWICD300EHR	IC (EEPROM) (*1)	
IC4	C1CB00002180	IC (BBIC) (*1) (*2)	
IC6	PQWI21840ALH	IC (FLASH MEMORY)	
IC7	C1BB00000265	IC	
IC8	PQWI31840ALH	IC (FLASH MEMORY)	
IC9	C0JBAF000223	IC	
IC10	C0JBAF000223	IC	
IC11	C0CBAYF00016	IC	
		(TRANSISTORS)	
Q2	B1ADGE000004	TRANSISTOR(SI)	
Q3	B1ADGE000004	TRANSISTOR(SI)	
Q4	B1ACGP000007	TRANSISTOR(SI)	
Q5	PQVTBF822T7	TRANSISTOR(SI)	
Q6	B1ABCF000103	TRANSISTOR(SI)	
Q7	B1ABCF000103	TRANSISTOR(SI)	
Q8	B1AAJC000010	TRANSISTOR(SI)	
Q12	B1ABCE000009	TRANSISTOR(SI)	
Q361	2SB1218A	TRANSISTOR(SI)	
Q362	PQVTDTC143E	TRANSISTOR(SI)	S
		(DIODES)	
D1	B0JAME000095	DIODE(SI)	
D3	PQVDS1ZB60F1	DIODE(SI)	S
D4	MA1Z300	DIODE(SI)	S
D6	MA8220	DIODE(SI)	S
D7	MA112	DIODE(SI)	S
D8	B0JCDD000002	DIODE(SI)	
D301	MA8047	DIODE(SI)	S
D311	B0JCDD000002	DIODE(SI)	
D361	B0ECKM000008	DIODE(SI)	
DA1	B0DDCM000001	DIODE(SI)	
		(COILS)	
L3	PQLQR2M33NKT	COIL	S
L5	PQLQR2M6N8KT	COIL	S
L6	PQLQXF330K	COIL	S
L7	PQLQXF330K	COIL	S

Ref. No.	Part No.	Part Name & Description	Remarks
L8	PQLQR2M6N8KT	COIL	S
L12	ELJPA6R8MF	COIL	
L13	G1C100MA0072	COIL	
L14	G1C100MA0072	COIL	
		(JACKS AND CONNECTOR)	
CN1	PQJJ1TA15Z	JACK	S
CN2	PQJJ1B4Y	JACK	S
CN6	K1MN30B00031	CONNECTOR	
		(LCR FILTERS)	
R60	J0JCC0000277	LCR FILTER	
R63	J0JCC0000277	LCR FILTER	
R144	J0JCC0000277	LCR FILTER	
R145	J0JCC0000277	LCR FILTER	
R156	J0JCC0000277	LCR FILTER	
R304	J0JCC0000309	LCR FILTER	
R308	J0JCC0000277	LCR FILTER	
		(COMPONENTS PARTS)	
RA1	EXB28V222JX	RESISTOR ARRAY	
RA2	EXB28V222JX	RESISTOR ARRAY	
RA3	D1H810240004	RESISTOR ARRAY	S
RA4	EXB28V101JX	RESISTOR ARRAY	
RA5	EXB28V101JX	RESISTOR ARRAY	
RA6	EXB28V101JX	RESISTOR ARRAY	
RA7	EXB28V101JX	RESISTOR ARRAY	
		(VARISTORS)	
SA1	J0LF00000026	VARISTOR (SURGE ABSORBER)	
SA2	PQVDDSS301L	VARISTOR (SURGE ABSORBER)	S
		(RESISTORS)	
R2	ERJ1WYJ220	22	
R4	ERJ1WYJ220	22	
R5	ERJ3GEYJ562	5.6K	
R6	ERJ3GEYJ153	15K	
R10	ERJ3GEYJ221	220	
R11	ERJ3GEYJ221	220	
R16	ERJ3GEYJ105	1M	
R17	ERJ3GEYJ105	1M	
R18	ERJ3EKF5601	5.6K	
R19	ERJ3EKF2401	2.4K	
R22	ERJ3GEYJ104	100K	
R23	ERJ3GEYJ104	100K	
R24	ERJ3GEYJ101	100	
R25	PQ4R10XJ272	2.7K	S
R26	ERJ3GEYJ103	10K	
R27	ERJ3GEYJ104	100K	
R28	ERJ3GEYJ222	2.2K	
R32	ERJ3GEYJ101	100	
R33	ERJ3GEYJ473	47K	
R34	ERJ3GEYJ103	10K	
R35	ERJ2GEJ104	100K	
R38	ERJ3GEYJ104	100K	
R39	ERJ3GEYJ560	56	
R40	ERJ3GEYJ335	3.3M	
R41	ERJ3GEYJ101	100	
R42	ERJ3GEYJ273	27K	
R43	ERJ3GEYJ822	8.2K	
R44	ERJ3GEYJ182	1.8K	
R45	ERJ12YJ120	12	
R46	ERJ12YJ270	27	
R47	ERJ3GEYJ104	100K	
R48	ERJ3GEYJ473	47K	
R49	ERJ3GEYJ560	56	
R51	ERJ3GEYJ103	10K	
R52	ERJ3GEYJ820	82	
R54	ERJ3GEYJ222	2.2K	
R55	ERJ3GEYJ473	47K	
R56	ERJ3GEYJ103	10K	
R57	ERJ3GEYJ103	10K	
R61	ERJ2GEJ181	180	
R62	ERJ2GEJ102	1K	
R64	ERJ2GEJ684	680K	
R65	ERJ2GEJ103	10K	
R69	ERJ3GEYJ104	100K	
R70	ERJ3GEYJ104	100K	

Ref. No.	Part No.	Part Name & Description	Remarks
R71	ERJ3GEYJ104	100K	
R72	ERJ3GEYJ474	470K	
R73	ERJ3GEYJ101	100	
R74	ERJ3GEYJ102	1K	
R75	ERJ3GEYJ101	100	
R76	ERJ3GEYJ102	1K	
R77	ERJ3GEYJ103	10K	
R79	ERJ3GEYJ681	680	
R80	PQ4R18XJ100	10	S
R82	ERJ3GEYJ103	10K	
R85	ERJ3GEY0R00	0	
R86	ERJ3GEY0R00	0	
R87	ERJ3GEY0R00	0	
R88	ERJ3GEY0R00	0	
R89	ERJ3GEY0R00	0	
R90	ERJ3GEY0R00	0	
R91	ERJ3GEYJ103	10K	
R92	ERJ3GEYJ103	10K	
R96	ERJ2GEJ104	100K	
R97	ERJ2GEJ104	100K	
R105	ERJ3GEYJ103	10K	
R106	ERJ3GEYJ184	180K	
R107	ERJ3GEYJ184	180K	
R117	ERJ2GEJ102	1K	
R118	ERJ3GEYJ181	180	
R119	ERJ3GEYJ181	180	
R123	ERJ2GE0R00	0	
R125	ERJ2GEJ820	82	
R127	ERJ2GEJ101	100	
R128	ERJ2GEJ472X	4.7K	
R129	ERJ2GEJ102	1K	
R130	ERJ2GEJ472X	4.7K	
R131	ERJ2GEJ102	1K	
R132	ERJ2GE0R00	0	
R134	ERJ2GEJ472X	4.7K	
R135	ERJ2GEJ102	1K	
R136	ERJ2GEJ472X	4.7K	
R137	ERJ2GEJ391	390	
R140	ERJ2GEJ391	390	
R141	ERJ2GEJ391	390	
R142	ERJ2GEJ391	390	
R143	ERJ2GEJ391	390	
R146	ERJ2GEJ103	10K	
R147	ERJ2GEJ391	390	
R148	ERJ2GEJ391	390	
R149	ERJ2GEJ391	390	
R150	ERJ2GEJ391	390	
R151	ERJ2GEJ391	390	
R152	ERJ2GEJ391	390	
R153	ERJ2GEJ391	390	
R154	ERJ3GEY0R00	0	
R155	ERJ3GEY0R00	0	
R157	ERJ2GEJ222	2.2K	
R158	ERJ2GEJ222	2.2K	
R159	ERJ2GEJ104	100K	
R160	ERJ2GEJ104	100K	
R162	ERJ2GEJ273X	27K	
R163	ERJ2GEJ273X	27K	
R164	ERJ2GEJ273X	27K	
R301	ERJ3GEYJ331	330	
R302	ERJ3GEYJ222	2.2K	
R303	ERJ3GEYJ330	33	
R305	ERJ3GEYJ330	33	
R306	ERJ3GEYJ471	470	
R307	ERJ3GEYJ471	470	
R311	ERJ3GEYJ154	150K	
R312	ERJ3GEYJ101	100	
R314	ERJ3GEYJ393	39K	
R361	ERJ3GEYJ332	3.3K	
R362	ERJ3GEYJ103	10K	
R363	ERJ3GEYJ102	1K	
R365	ERJ2GEJ102	1K	
R366	ERJ2GEJ102	1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R367	ERJ2GEJ102	1K	
R368	ERJ2GEJ102	1K	
R369	ERJ2GEJ102	1K	
R370	ERJ2GEJ102	1K	
R371	ERJ2GE0R00	0	
R372	ERJ2GE0R00	0	
R373	ERJ2GE0R00	0	
R374	ERJ2GE0R00	0	
R375	ERJ8GEY0R00	0	
R376	ERJ3GEYJ102	1K	
J10	ERJ3GEY0R00	0	
L4	ERJ3GEY0R00	0	
L9	ERJ3GEY0R00	0	
L10	ERJ3GEY0R00	0	
L11	ERJ3GEYJ100	0	
		(CAPACITORS)	
C1	ECUV1H100DCV	10P	
C2	ECEA1EU101	100	S
C3	ECEA0JU331	330	S
C4	ECUV1H100DCV	10P	
C6	ECUE1H471KBQ	470P	S
C7	ECEA1CK101	100	S
C8	ECUV1H100DCV	10P	
C9	ECUV1H100DCV	10P	
C10	ECEA1AU101	100	S
C11	ECUV1H040CCV	4P	
C12	F1B2H152A048	0.0015	
C13	F1B2H152A048	0.0015	
C14	ECKD2H681KB	680P	S
C15	ECKD2H681KB	680P	S
C17	ECJ1VB1H221K	220P	
C21	ECUV1H100DCV	10P	
C22	ECJ1VB1H221K	220P	
C23	ECUV1H100DCV	10P	
C24	PQCUV1C104KB	0.1	
C25	ECEA1AU101	100	S
C26	ECUV1H100DCV	10P	
C27	ECUV1H100DCV	10P	
C28	ECEA0JKA331	330	
C30	ECEA1AKA221	220	
C32	ECUV1E223KBV	0.022	
C36	ECJ1VB1H472K	0.0047	
C38	ECUV1C104KBV	0.1	
C40	PQCUV1A225KB	2.2	
C41	PQCUV1C224KB	0.22	
C42	ECUV1H300JCV	30P	
C43	ECUV1H120JCV	12P	
C45	ECUV1H100DCV	10P	
C46	PQCUV1A105KB	1	
C47	PQCUV1C224KB	0.22	
C48	ECUV1C104KBV	0.1	
C49	ECEA1HKA100	10	
C50	PQCUV1H104ZF	0.1	S
C51	ECUV1H100DCV	10P	
C53	ECUV1C104KBV	0.1	
C54	ECUV1C224KBV	0.22	
C55	ECUV1C683KBV	0.068	
C56	ECUV1H100DCV	10P	
C57	ECUV1H101JCV	100P	
C58	ECUV1C104KBV	0.1	
C69	ECUV1C104KBV	0.1	
C70	ECUV1C683KBV	0.068	
C71	ECUV1C104KBV	0.1	
C74	ECUV1H103KBV	0.01	
C75	ECUV1H103KBV	0.01	
C76	ECUV1H103KBV	0.01	
C77	ECUV1C104KBV	0.1	
C79	ECUV1C104KBV	0.1	
C81	ECUV1C104KBV	0.1	
C82	ECUV1C104KBV	0.1	
C84	ECUV1C104KBV	0.1	
C86	ECUV1C104KBV	0.1	
C87	ECUV1C104KBV	0.1	
C88	ECUV1H101JCV	100P	
C89	ECUV1H101JCV	100P	
C90	ECUV1H101JCV	100P	
C101	ECUV1H102KBV	0.001	
C102	ECUV1H102KBV	0.001	
C103	ECUV1C104KBV	0.1	
C104	ECUV1H391JCV	390P	
C106	ECUV1C104KBV	0.1	
C107	ECUV1C104KBV	0.1	
C108	PQCUV1A225KB	2.2	
C109	PQCUV1A105KB	1	
C130	ECUV1H100DCV	10P	
C136	ECUE1H102KBQ	0.001	S
C140	ECUV1H060DCV	6P	S
C141	ECUV1H060DCV	6P	S
C142	ECUV1H100DCV	10P	
C143	ECUV1H100DCV	10P	
C144	ECUV1H060DCV	6P	S
C147	ECUV1A475KB	4.7	
C151	ECUV1A475KB	4.7	
C153	ECUE1H220JCQ	22P	S
C154	ECUE1H100DCQ	10P	S
C155	ECUE1H020CCQ	2P	S
C156	ECUE1H100DCQ	10P	S
C157	ECUE1H070DCQ	7P	S
C158	ECUE1H100DCQ	10P	S
C159	ECUE1H020CCQ	2P	S
C160	ECUE1H100DCQ	10P	S
C161	ECUE1H020CCQ	2P	S
C162	ECUE1H100DCQ	10P	S
C164	F1G1H151A541	150P	S
C173	ECUV1H100DCV	10P	
C180	ECUV1H100DCV	10P	
C181	ECUV1H100DCV	10P	
C182	ECUV1H102KBV	0.001	
C301	ECUV1H100DCV	10P	
C302	ECUV1H100DCV	10P	
C303	ECUV1H100DCV	10P	
C304	ECEA0JU331	330	S
C305	ECUV1H821KBV	820P	
C306	ECUV1C104KBV	0.1	
C307	ECUV1H332KBV	0.0033	
C312	ECUV1H100DCV	10P	
C313	ECUV1C104KBV	0.1	
C314	ECJ1VB1H221K	220P	
C315	ECUV1H100DCV	10P	
C316	ECUV1H220JCV	22P	
C317	ECUV1A224KBV	0.22	
C319	ECUV1A224KBV	0.22	
C320	ECUV1C104KBV	0.1	
C322	ECUV1A105KBV	1	
C361	ECUV1H102KBV	0.001	
C362	ECUE1C103KBQ	0.01	S
C363	ECUV1H471JCV	470P	S
C364	ECUV1H152KBV	0.0015	
C365	ECUV1H152KBV	0.0015	
C367	ECUV1H101JCV	100P	
C368	ECUE1H101JCQ	100P	S
		(OTHERS)	
MIC	L0CBAB000052	MICROPHONE	
IC2	PQLP10263Z	RF UNIT	
X1	H0D103500003	CRYSTAL OSCILLATOR	

29.1.3. Operational P.C.Board Parts

Ref. No.	Part No.	Part Name & Description	Remarks
PCB2	PQWP2D340EH	OPERATIONAL P.C.BOARD ASS´Y (RTL)	
		(TRANSISTORS)	
Q901	PQVTDTC143E	TRANSISTOR(SI)	S
Q902	PQVTDTC143E	TRANSISTOR(SI)	S
Q903	PQVTDTC143E	TRANSISTOR(SI)	S

Ref. No.	Part No.	Part Name & Description	Remarks
		(DIODES)	
LED901	PQVDBR1111C	LED	S
LED902	LNJ308G8JRA	LED	
LED903	PQVDBR1111C	LED	S
		(RESISTORS)	
R901	ERJ3GEYJ561	560	
R902	ERJ3GEYJ820	82	
R903	ERJ3GEYJ181	180	
		(CONNECTOR)	
CN901	K1MN30B00031	CONNECTOR	
		(OTHERS)	
E1	L5DCBCB00017	LIQUID CRYSTAL DISPLAY	
E2	PQHS10327Z	TAPE, LCD	
E3	PQHR11102Z	GUIDE, LCD	PS-HB
E4	PQJE10145Z	LEAD WIRE, FFC	

29.2. Handset

29.2.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
101	PQGP10272Z1	PANEL, LCD	AS-HB
102	PQHS10673W	TAPE, DOUBLE SIDED	
103	PQKM10647W8	CABINET BODY (for KX-TGA122AZS)	ABS-HB
103	PQKM10647Y1	CABINET BODY (for KX-TGA121AZS)	ABS-HB
104	PQGT18121Z	NAME PLATE (for KX-TGA122AZS MADE IN THAILAND)	
104	PQGT17710Z	NAME PLATE (for KX-TGA121AZS MADE IN CHINA)	
105	PQHS10705Z	SPACER, LCD CUSHION	
106	PQBC10413Z1	BUTTON, NAVI KEY	ABS-HB
107	PQBC10414Y1	BUTTON, SP PHONE	ABS-HB
108	PQSX10274Z	KEYBOARD SWITCH	
109	PQHS10467Z	COVER, SP NET	
110	L0AD02A00015	SPEAKER	
111	PQHR11104Z	GUIDE, SPEAKER	ABS-HB
112	PQWE10034Z	BATTERY TERMINAL	
113	PQJT10216Z	CHARGE TERMINAL (R)	
114	PQJT10217Z	CHARGE TERMINAL (L)	
115	PQHR11059Z	GUIDE, SPEAKER	ABS-HB
116	PQHG10702Z	RUBBER PARTS, SPEAKER	
117	L0AD02A00010	SPEAKER	
118	PQHS10622Z	COVER, SP NET	
119	PQJC10056Y	BATTERY TERMINAL	
120	PQKF10630X1	CABINET COVER	ABS-HB
121	PQHX11351Z	PLASTIC PARTS, BATTERY COVER SHEET (for KX-TGA122AZS MADE IN THAILAND)	
121	PQHX11315Y	PLASTIC PARTS, BATTERY COVER SHEET (for KX-TGA121AZS MADE IN CHINA)	
122	PQHS10561Y	SPACER, BATTERY COVER	
123	PQKK10583Z1	LID, BATTERY COVER	ABS-HB

29.2.2. Main P.C.Board Parts

Note:

(*1) When replacing IC1 or IC3, data need to be written to them with PQZZTG1840AL. Refer to **Handset** (P.41) of **THINGS TO DO AFTER REPLACING IC**.

(*2) When replacing the Handset LCD, see **HOW TO REPLACE THE HANDSET LCD** (P.15).

Ref. No.	Part No.	Part Name & Description	Remarks
PCB100	PQWPG1840ALR	MAIN P.C.BOARD ASS´Y (RTL) (for KX-TG1843ALS)	
PCB100	PQWPGA122AZR	MAIN P.C.BOARD ASS´Y (RTL) (for KX-TGA121AZS)	
		(ICs)	
IC1	C1CB00002038	IC (BBIC) (*1)	
IC3	PQWIA130EXRR	IC (EEPROM) (*1)	
		(TRANSISTORS)	
Q1	PQVTFDN335N	TRANSISTOR(SI)	S
Q2	B1ADGE000004	TRANSISTOR(SI)	
Q3	B1ADGE000004	TRANSISTOR(SI)	
Q4	B1ADGE000004	TRANSISTOR(SI)	
Q5	B1ABCF000103	TRANSISTOR(SI)	
Q7	PSVTDTC143X	TRANSISTOR(SI)	S
Q8	PSVTDTC143X	TRANSISTOR(SI)	S
Q9	UN9219J	TRANSISTOR(SI)	S
Q10	B1ABCF000103	TRANSISTOR(SI)	
Q11	B1ABCF000103	TRANSISTOR(SI)	
		(DIODES)	
D1	B0JCME000035	DIODE(SI)	
D4	MA8047	DIODE(SI)	S
D5	MA8047	DIODE(SI)	S
D6	B0BC2R1A0006	DIODE(SI)	
D7	MA2Z72000	DIODE(SI)	
LED1	LNJ308G8JRA	LED	
LED2	LNJ308G8JRA	LED	
LED3	LNJ308G8JRA	LED	
LED4	LNJ308G8JRA	LED	
LED5	LNJ308G8JRA	LED	
LED6	LNJ308G8JRA	LED	
LED7	LNJ308G8JRA	LED	
LED9	PQVDBR1111C	LED	S
		(COILS)	
L1	G1C470M00025	COIL	
L4	G1C100MA0072	COIL	
L5	G1C100MA0072	COIL	
L9	PQLQR2M33NKT	COIL	S
F1	PQLQR2M5N6K	COIL	S
		(RESISTORS)	
R1	ERJ6RSJR10V	0.1	
R5	ERJ3GEYJ471	470	
R6	ERJ2GEJ103	10K	
R7	ERJ2GEJ224	220K	
R12	ERJ3GEYJ393	39K	
R15	ERJ3GEYJ100	10	
R19	ERJ3GEYJ565	5.6M	
R20	ERJ2GEJ102	1K	
R21	ERJ2GEJ102	1K	
R25	ERJ2GEJ331	330	
R26	ERJ2GEJ331	330	
R29	ERJ3GEYJ222	2.2K	
R37	ERJ3GEY0R00	0	
R38	ERJ3GEY0R00	0	
R39	ERJ2GEJ103	10K	
R40	ERJ2GEJ103	10K	
R43	ERJ6RSJR10V	0.1	
R46	ERJ3GEYJ562	5.6K	
R47	ERJ3GEYJ562	5.6K	
R54	ERJ2GE0R00	0	
R57	ERJ3GEYJ680	68	
R59	ERJ2GE0R00	0	
R60	ERJ2GEJ101	100	
R61	ERJ2GEJ102	1K	
R63	ERJ2GEJ103	10K	
R64	ERJ2GEJ103	10K	
R68	ERJ2GEJ682	6.8K	
R69	ERJ3EKF8203	820K	
R70	ERJ3EKF4303	430K	
R71	ERJ3GEYJ221	220	
R72	ERJ2GEJ102	1K	
R73	ERJ3GEYJ104	100K	
R75	ERJ2GEJ102	1K	
R81	ERJ2GEJ4R7	4.7	
R82	ERJ3GEYJ101	100	
R83	ERJ6GEY0R00	0	
R85	ERJ2GEJ330	33	
R86	ERJ3GEYJ330	33	
R87	ERJ2GEJ181	180	
R88	ERJ2GEJ181	180	

Ref. No.	Part No.	Part Name & Description	Remarks
R89	ERJ2GEJ181	180	
R90	ERJ3GEYJ684	680K	
R91	ERJ2GEJ104	100K	
R92	ERJ3GEY0R00	0	
R95	ERJ3GEY0R00	0	
R96	ERJ2GEJ103	10K	
R97	ERJ2GE0R00	0	
L6	ERJ6GEY0R00	0	
L7	ERJ6GEY0R00	0	
L8	ERJ3GEY0R00	0	
		(CAPACITORS)	
C1	EEE0GA331WP	330	
C3	ECUV1C104KBV	0.1	
C4	ECUV1H100DCV	10P	
C5	ECST0JY106	10	
C6	ECUV1H080DCV	8P	
C7	ECUV1H150JCV	15P	
C8	ECUV1A224KBV	0.22	
C10	ECUV1C104KBV	0.1	
C12	ECUV1A105KBV	1	
C17	ECUV1H100DCV	10P	
C18	ECUE1H102KBQ	0.001	S
C19	F1G1A1040003	0.1	
C20	F1G1A1040003	0.1	
C21	F1G1A1040003	0.1	
C22	F1G1A1040003	0.1	
C23	F1G1A1040003	0.1	
C24	F1G1A1040003	0.1	
C27	ECUV1A105KBV	1	
C28	ECUV1A105KBV	1	
C30	ECUV1A105KBV	1	
C31	ECUV1A105KBV	1	
C32	ECUV1A105KBV	1	
C33	ECUV1A105KBV	1	
C34	ECUV1A105KBV	1	
C35	ECUV1A105KBV	1	
C37	F1G1A1040003	0.1	
C39	ECUV1A105KBV	1	
C40	ECST0JY106	10	
C44	ECUE1H100DCQ	10P	S
C45	ECUE1H102KBQ	0.001	S
C46	ECUE1H100DCQ	10P	S
C47	ECUE1H020CCQ	2P	S
C48	ECUE1H100DCQ	10P	S
C49	ECUE1H020CCQ	2P	S
C50	ECUE1H100DCQ	10P	S
C51	ECUE1H100DCQ	10P	S
C52	ECUV1C104KBV	0.1	
C53	F1G1H151A541	150P	S
C54	ECUE1H100DCQ	10P	S
C55	ECUE1H020CCQ	2P	S
C57	EEE0JA331P	330	
C58	ECUV1C104KBV	0.1	
C60	ECUV1A475KB	4.7	
C62	ECUE1H220JCQ	22P	S
C63	ECUV1A475KB	4.7	
C66	ECUV1H020CCV	2P	
C68	F1G1A1040003	0.1	
C69	ECUV1H100DCV	10P	
C70	ECUV1H100DCV	10P	
C71	ECUE1H100DCQ	10P	S
C72	F1G1A1040003	0.1	
C78	PQCUV1H100DC	10P	S
C79	PQCUV1H100DC	10P	S
C84	ECUE1H102KBQ	0.001	S
C87	ECUV1H100DCV	10P	
C91	ECUE1H100DCQ	10P	S
C93	ECUV1H101JCV	100P	
C94	ECUV1H101JCV	100P	
C95	PQCUV1H100DC	10P	S
C97	ECUV1H100DCV	10P	
C98	ECUV1A475KB	4.7	
C100	ECUE1H100DCQ	10P	S
C103	ECUV1H100DCV	10P	
C104	ECUV1A105KBV	1	
C107	ECUV1H101JCV	100P	
C108	ECUE1H100DCQ	10P	S
C109	ECUE1H100DCQ	10P	S
C111	ECUE1H101JCQ	100P	S
C112	ECUE1H101JCQ	100P	S
C113	ECUV1H101JCV	100P	
C114	ECUE1H100DCQ	10P	S
C115	ECUE1H100DCQ	10P	S
C116	ECUE1H100DCQ	10P	S
C117	ECUE1H100DCQ	10P	S
C118	ECUV1H103KBV	0.01	
C119	F1G1A1040003	0.1	
C120	F1G1A1040003	0.1	
C121	ECUV1H102KBV	0.001	
C122	ECUV1A105KBV	1	
C123	ECUV1H100DCV	10P	
		(OTHERS)	
MIC	L0CBAB000052	MICROPHONE	
E101	PQHR11088Y	GUIDE, LCD	
E102	PQHR11092Z	TRANSPARENT PLATE, LCD PLATE	
E103	PQHX11289Z	COVER, LCD COVER SHEET	
E104	L5DCADC00013	LIQUID CRYSTAL DISPLAY (*2)	
E105	PQWEA144EXR	PLASTIC PARTS, TAPE	
E106	PQSA10159Z	ANTENNA	
CN6	PQLP10263Z	RF UNIT	
X1	H0D103500007	CRYSTAL OSCILLATOR	

29.3. Charger Unit

29.3.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
200	PQLV30032ZS	CHARGER UNIT	
200-1	PQGG10276Z1	GRILLE	PC-HB
200-2	PQKM10656Z1	CABINET BODY	ABS-HB
200-3	PQHR11085Z	CASE, CHARGE TERMINAL	
200-4	PQKE10384Z1	HOLDER, CHARGE TERMINAL (R)	POM-HB
200-5	PQKE10385Z1	HOLDER, CHARGE TERMINAL (L)	POM-HB
200-6	PQJT10218Y	CHARGE TERMINAL (R)	
200-7	PQJT10219Y	CHARGE TERMINAL (L)	
200-8	PQKF10653Z1	CABINET COVER	PS-HB
200-9	PQGT18416Z	NAME PLATE (for KX-TG1843ALS MADE IN THAILAND)	
200-9	PQGT17399Z	NAME PLATE (for KX-TGA121AZS MADE IN CHINA)	
200-10	PQHA10023Z	RUBBER PARTS, FOOT CUSHION	

29.3.2. Main P.C.Board Parts

Ref. No.	Part No.	Part Name & Description	Remarks
PCB200	PQWPA130ETCH	MAIN P.C.BOARD ASS´Y (RTL)	
		(DIODE)	
D11	B0JCME000035	DIODE(SI)	
		(JACK)	
J1	PQJJ1B4Y	JACK	S
		(RESISTORS)	
R11	ERJ1WYJ220	22	
R12	ERJ1WYJ220	22	

29.4. Accessories and Packing Materials

Note:

(*1) You can download and refer to the Operating Instructions (Instruction book) on TSN Server.

29.4.1. KX-TG1843ALS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQLV19ALX	AC ADAPTOR (for Base Unit)	⚠
A2	PQLV200ALX	AC ADAPTOR (for Charger Unit)	⚠
A3	PQJA10168Z	CORD, TELEPHONE	
A4	PQQX14599Z	INSTRUCTION BOOK (*1)	
A5	PQQW14638Z	QUICK GUIDE	
A6	PQQW14930Z	LEAFLET, 3 PACK	
P1	PQPP10124Z	PROTECTION COVER (for Base Unit)	
P2	PQPP10084Z	PROTECTION COVER (for Handset)	
P3	PQPP10086Z	PROTECTION COVER (for Charger Unit)	
P4	PQPK15037Z	GIFT BOX	
P5	PQPD10684Z	CUSHION	

29.4.2. KX-TGA121AZS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQLV200ALX	AC ADAPTOR	⚠
A2	PQQX14630Z	INSTRUCTION BOOK (*1)	
P1	PQPP10086Z	PROTECTION COVER (for Charger Unit)	
P2	PQPP10084Z	PROTECTION COVER (for Handset)	
P3	PQPK14672Z	GIFT BOX	

29.5. Fixtures and Tools

Note:

(*1) See **The Setting Method of JIG (Base Unit)** (P.30), and **The Setting Method of JIG (Handset)** (P.38).

(*2) When replacing the Handset LCD, see **HOW TO REPLACE THE HANDSET LCD** (P.15).

Part No.	Part Name & Description	Remarks
PQZZ1CD300E	JIG CABLE (*1)	
PQZZTG1840AL	BATCH FILE (*1)	
PQZZ430PIR	TIP OF SOLDERING IRON (*2)	
PQZZ430PRB	RUBBER OF SOLDERING IRON (*2)	

Memo

30 FOR SCHEMATIC DIAGRAM

30.1. Base Unit (SCHEMATIC DIAGRAM (BASE UNIT_MAIN))

Notes:

1. DC voltage measurements are taken with voltmeter from the negative voltage line.

> Important Safety Notice:
> Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only the manufacturer's specified parts.

2. This schematic diagram may be modified at any time with the development of new technology.

30.2. Handset (SCHEMATIC DIAGRAM (HANDSET))

Notes:

1. DC voltage measurements are taken with an oscilloscope or a tester with a ground.
2. The schematic diagrams and circuit board may be modified at any time with the development of new technology.

30.3. Charger Unit (SCHEMATIC DIAGRAM (CHARGER UNIT))

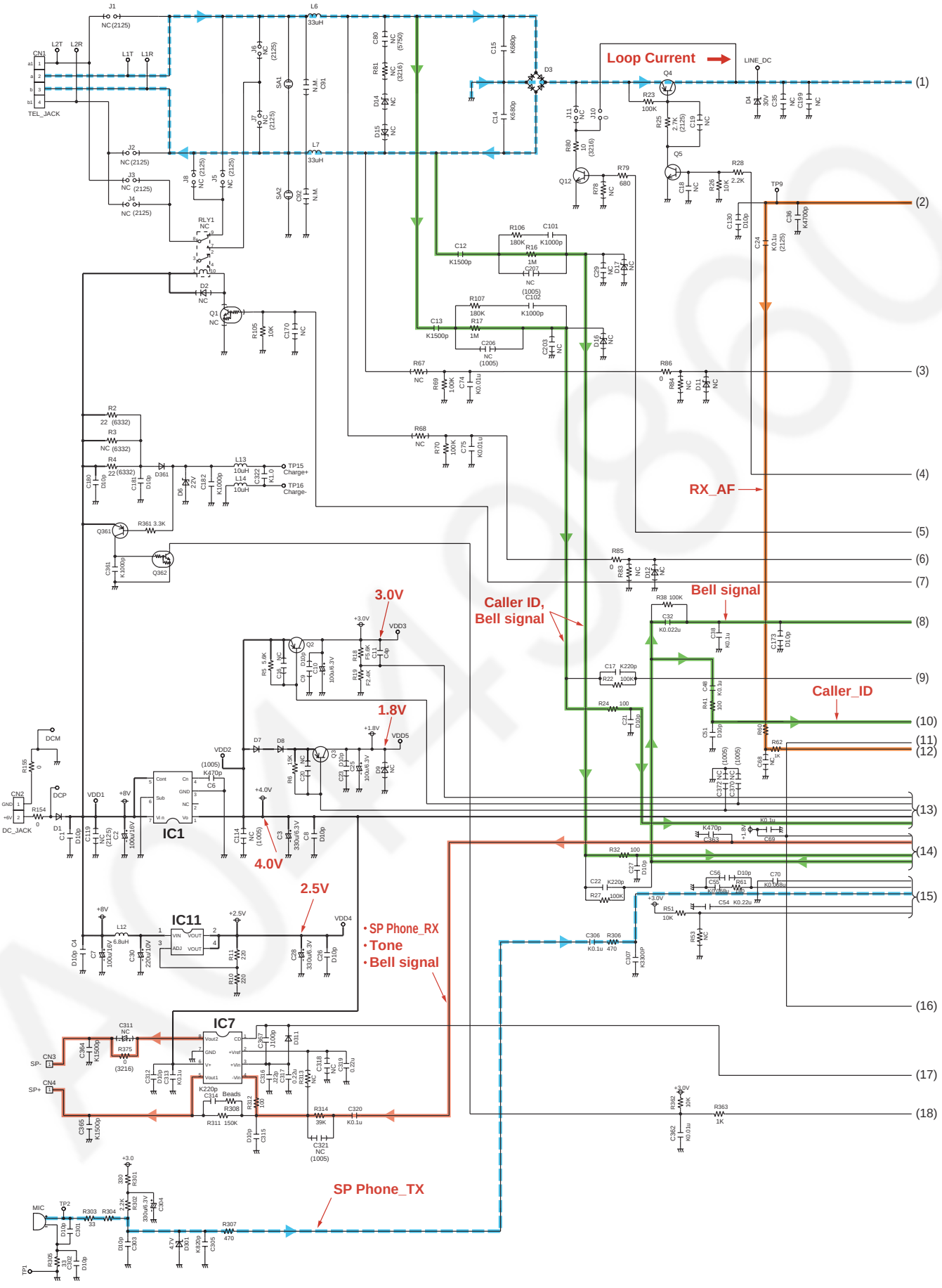
Notes:

1. DC voltage measurements are taken with voltmeter from the negative voltage line.

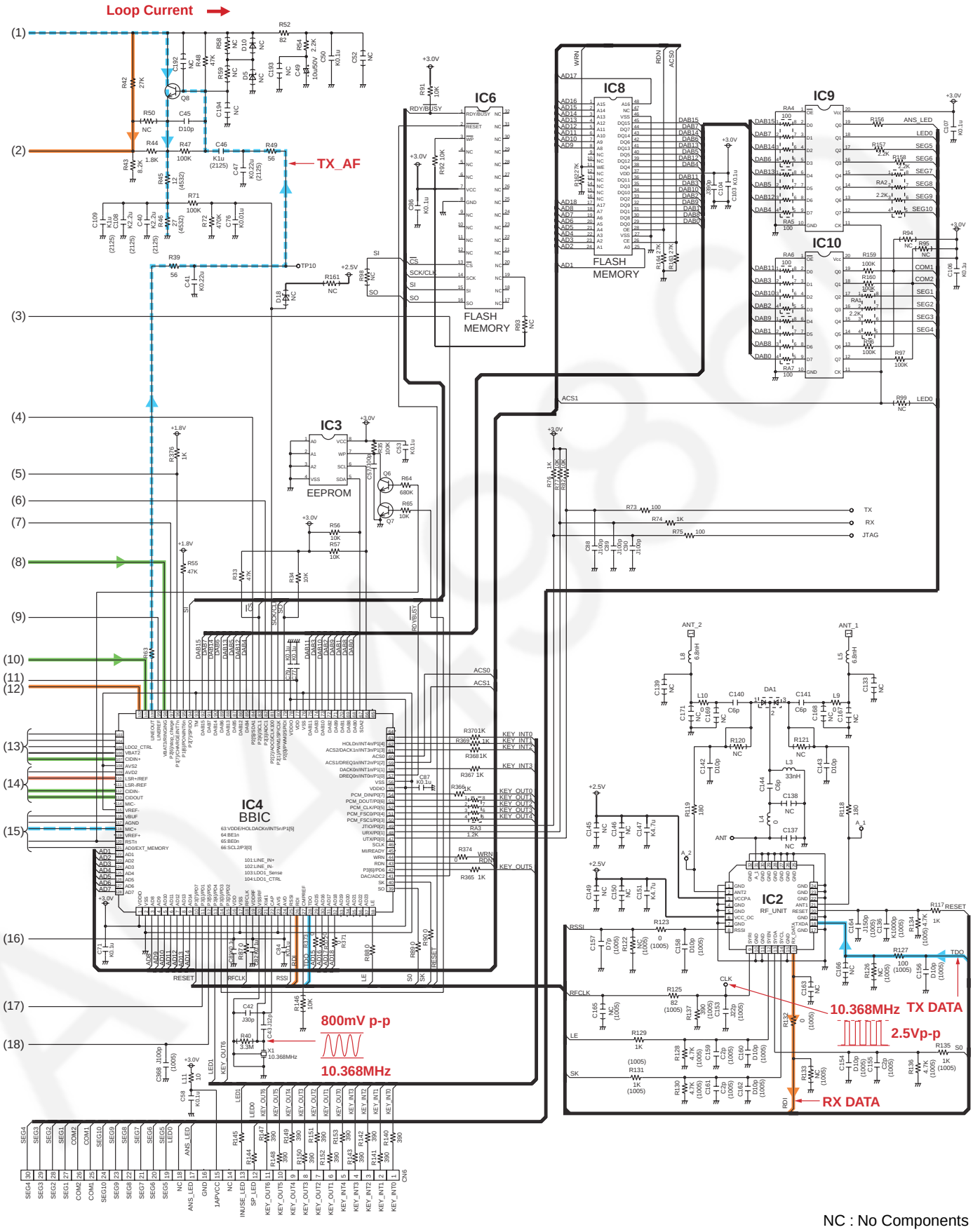
> Important Safety Notice:
> Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only the manufacturer's specified parts.

2. This schematic diagram may be modified at any time with the development of new technology.

31 SCHEMATIC DIAGRAM (BASE UNIT_MAIN)



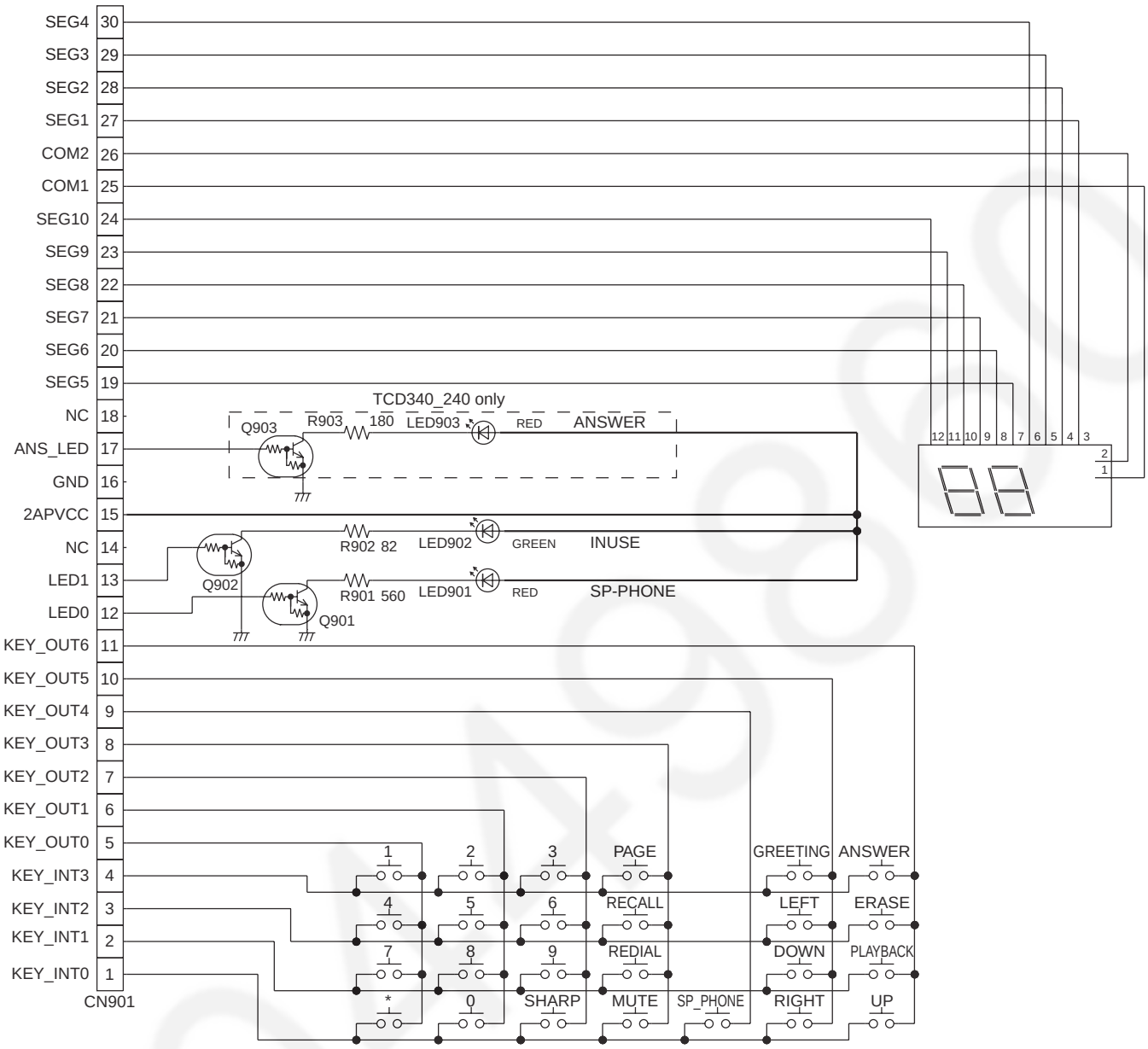
NC : No Components



NC : No Components

KX-TG1843 SCHEMATIC DIAGRAM (BASE UNIT)

32 SCHEMATIC DIAGRAM (BASE UNIT_OPERATION)

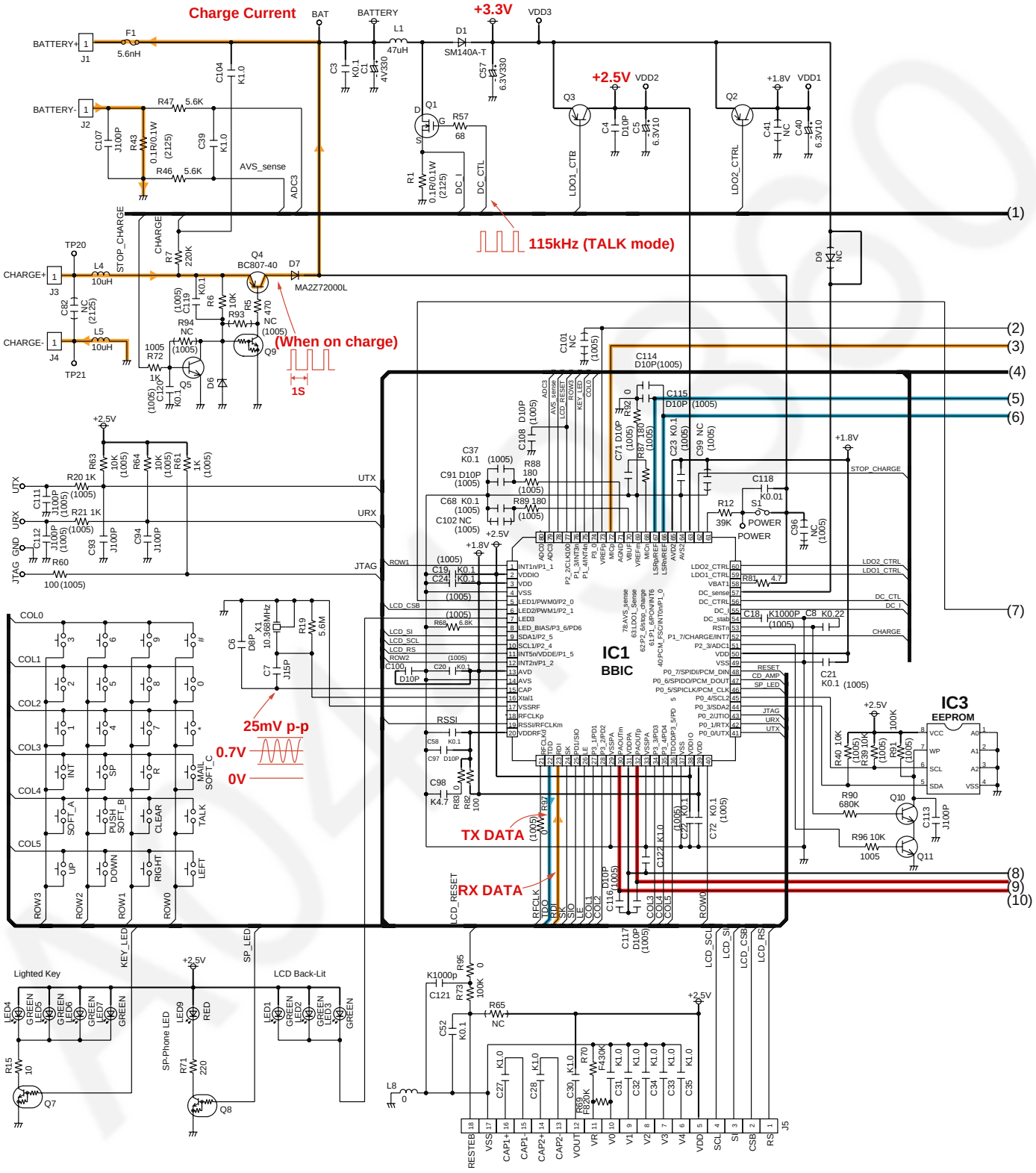


NC : No Components

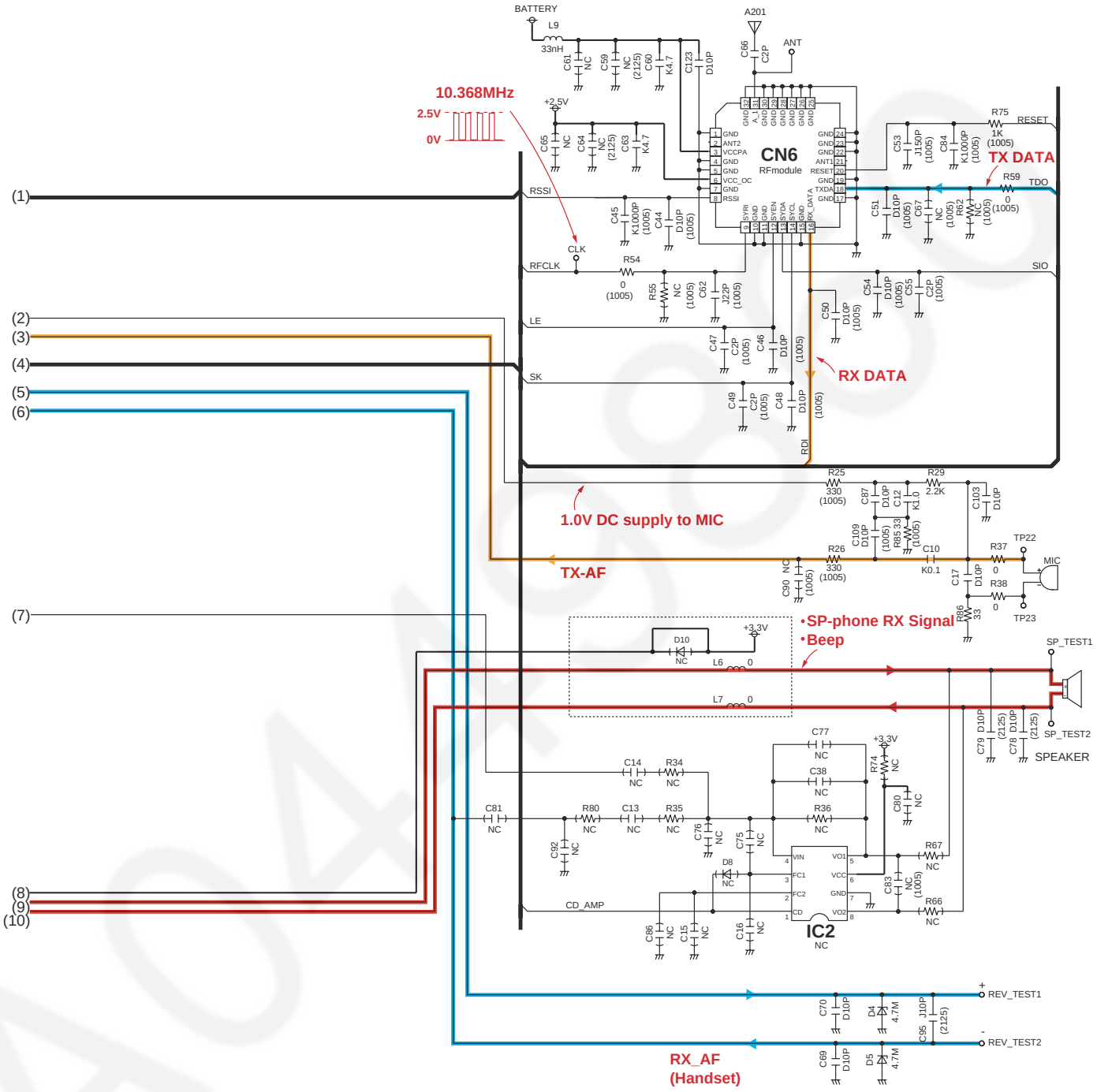
KX-TG1843 SCHEMATIC DIAGRAM (Base Unit_Operation)

Memo

33 SCHEMATIC DIAGRAM (HANDSET)



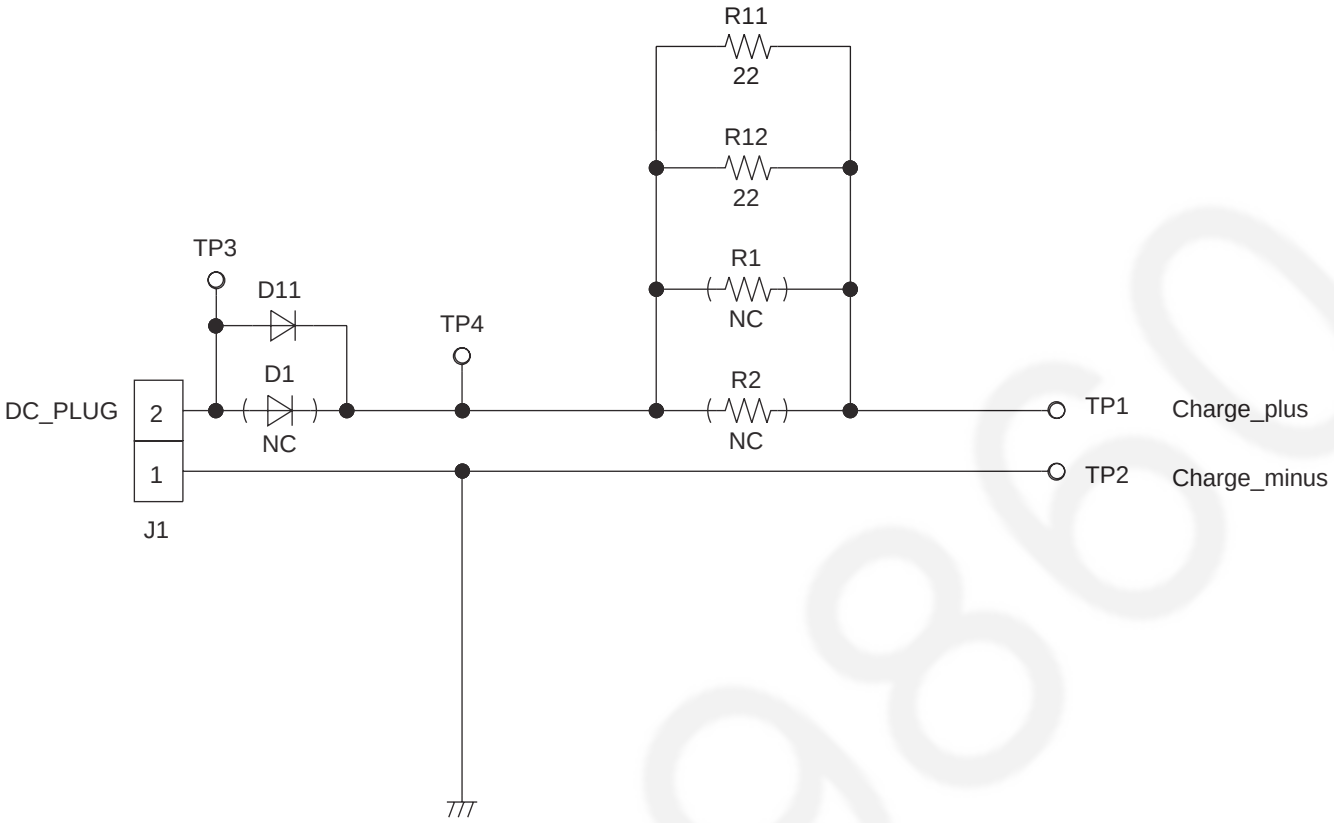
NC : No Components



NC : No Components

KX-TGA122/121 SCHEMATIC DIAGRAM (HANDSET)

34 SCHEMATIC DIAGRAM (CHARGER UNIT)



NC : No Components

SCHEMATIC DIAGRAM (CHARGER UNIT)

35 CIRCUIT BOARD (BASE UNIT_MAIN)

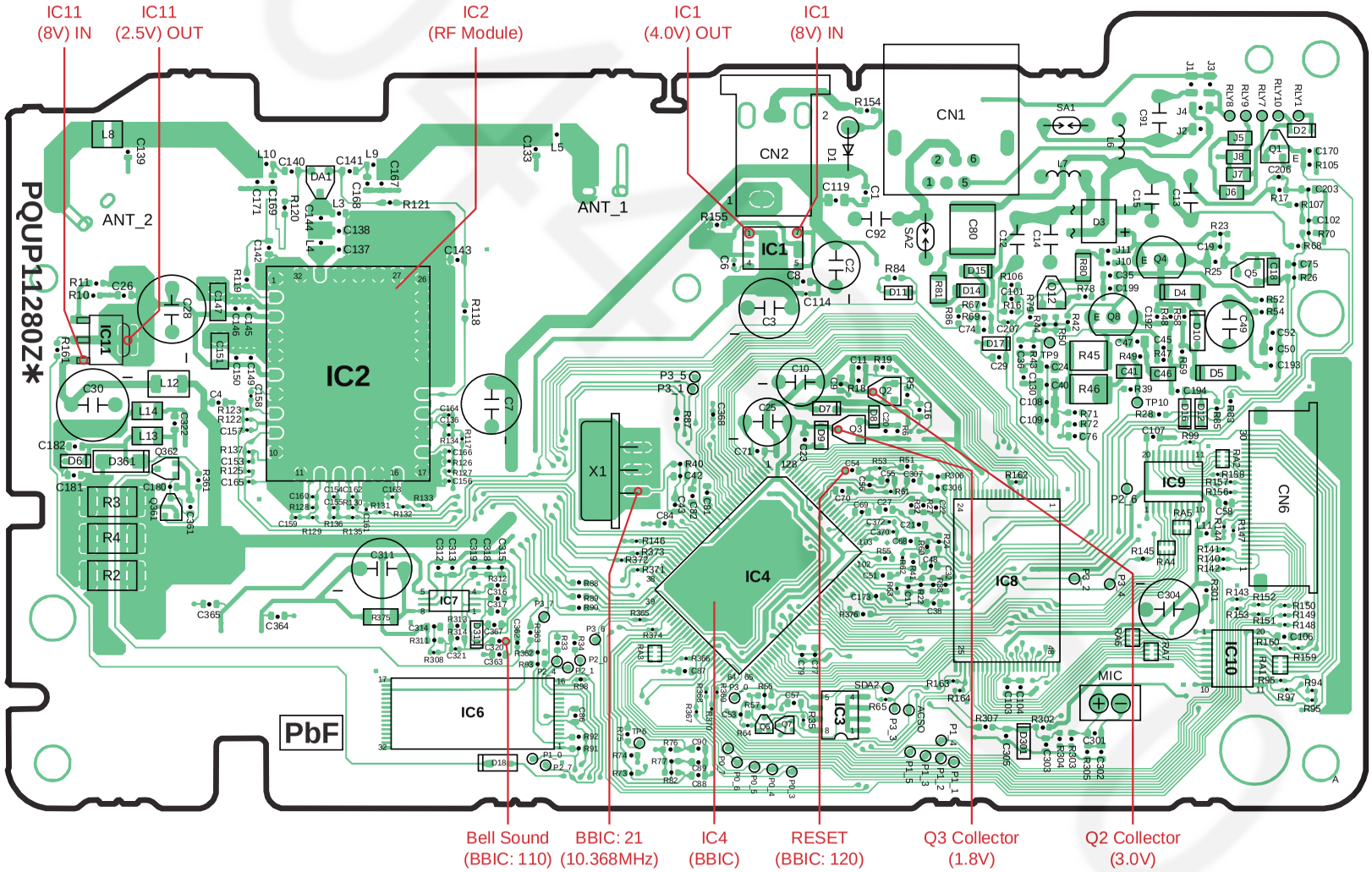
35.1. Component View

Comparative Table

	Old Type	New Type
IC4 (BBIC)	CICB00001879 (*1)	C1CB00002180
IC8 (FLASH)	PQWI*******	-
Related Resistors	R51, R162, R163, R164, R371, R372, R373, C103, C104	-

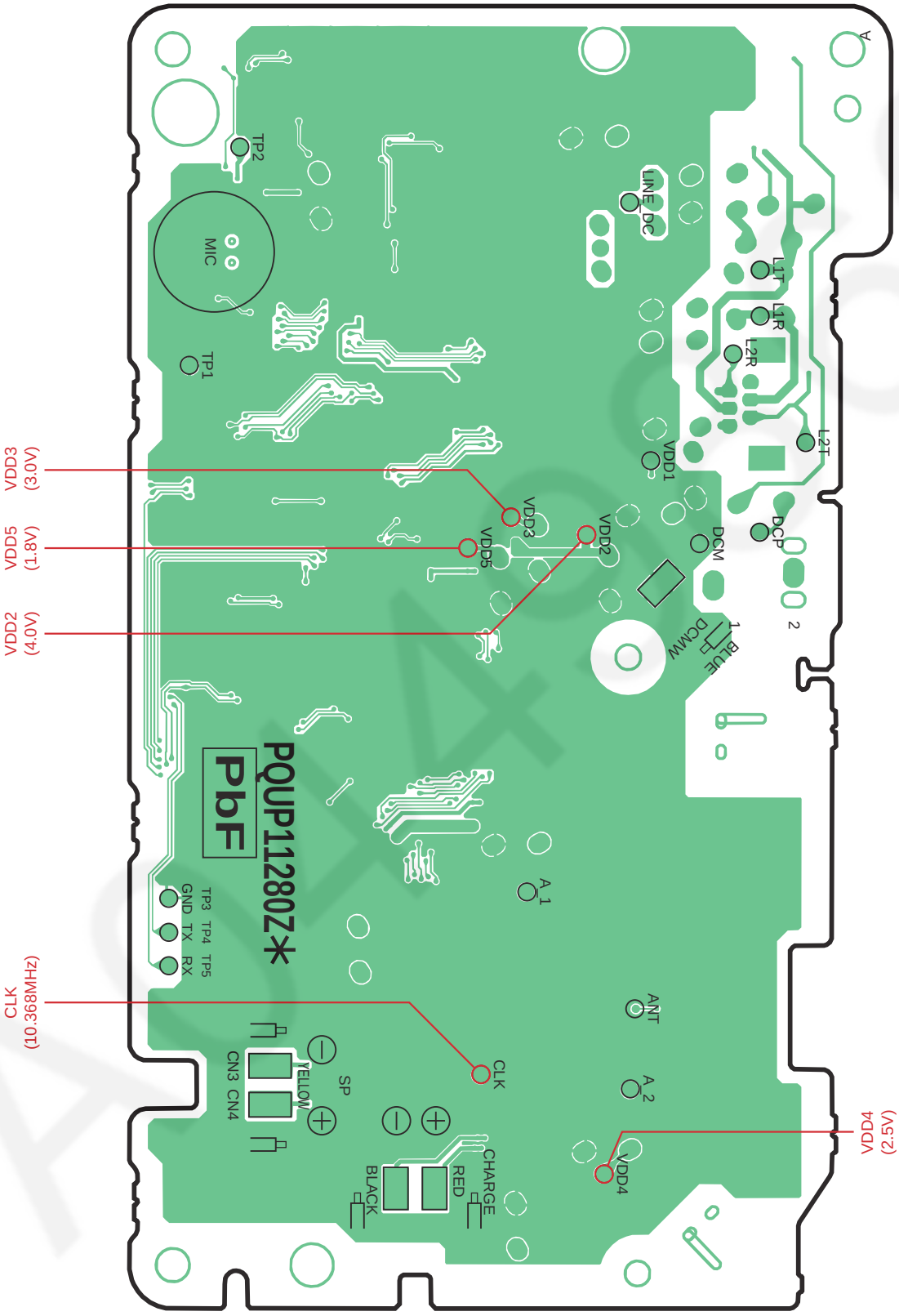
Note:

(*1) Regarding IC4, only the new part "C1CB00002180" can be supplied even if the unit is the Old Type as in the Comparative Table. In this case, when replacing IC4, ① order and install CICB00002180, then ② remove IC8 and all the related resistors listed.



KX-TG1843 CIRCUIT BOARD (Base Unit_Main (Component View))

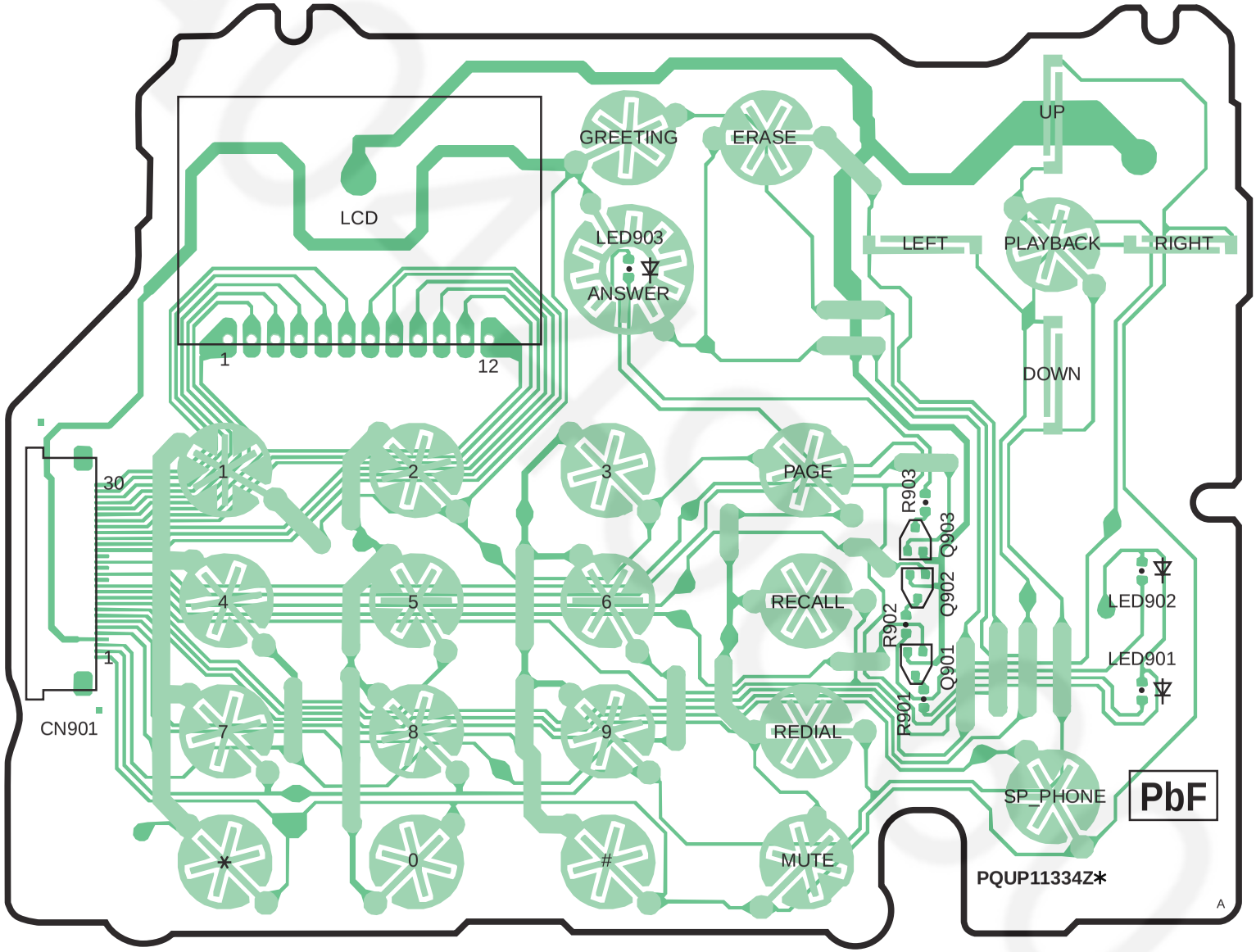
35.2. Flow Solder Side View



KX-TG1843 CIRCUIT BOARD (Base Unit_Main (Flow Solder Side View))

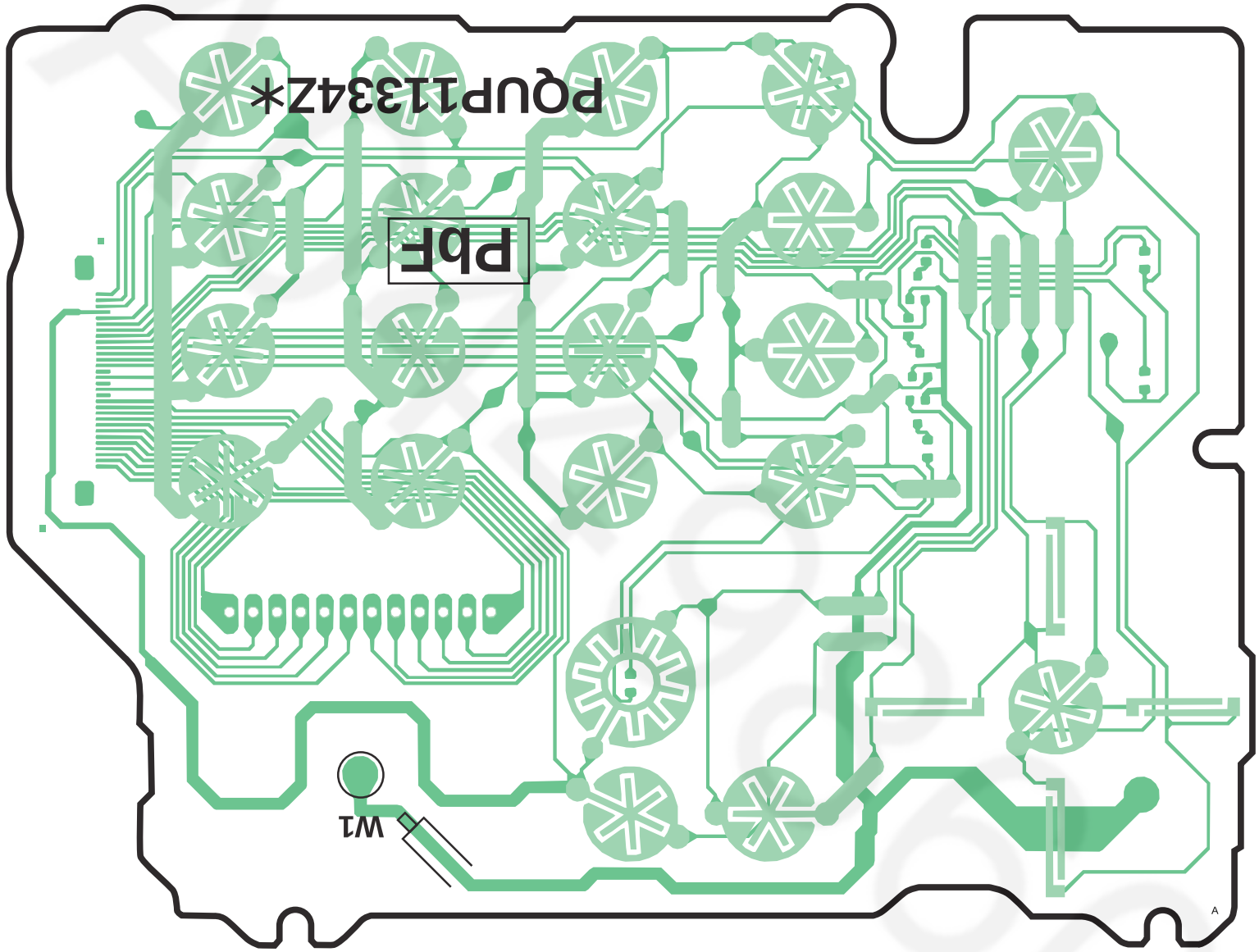
36 CIRCUIT BOARD (BASE UNIT_OPERATION)

36.1. Component View



KX-TG1843 CIRCUIT BOARD (Base Unit_Operation (Component View))

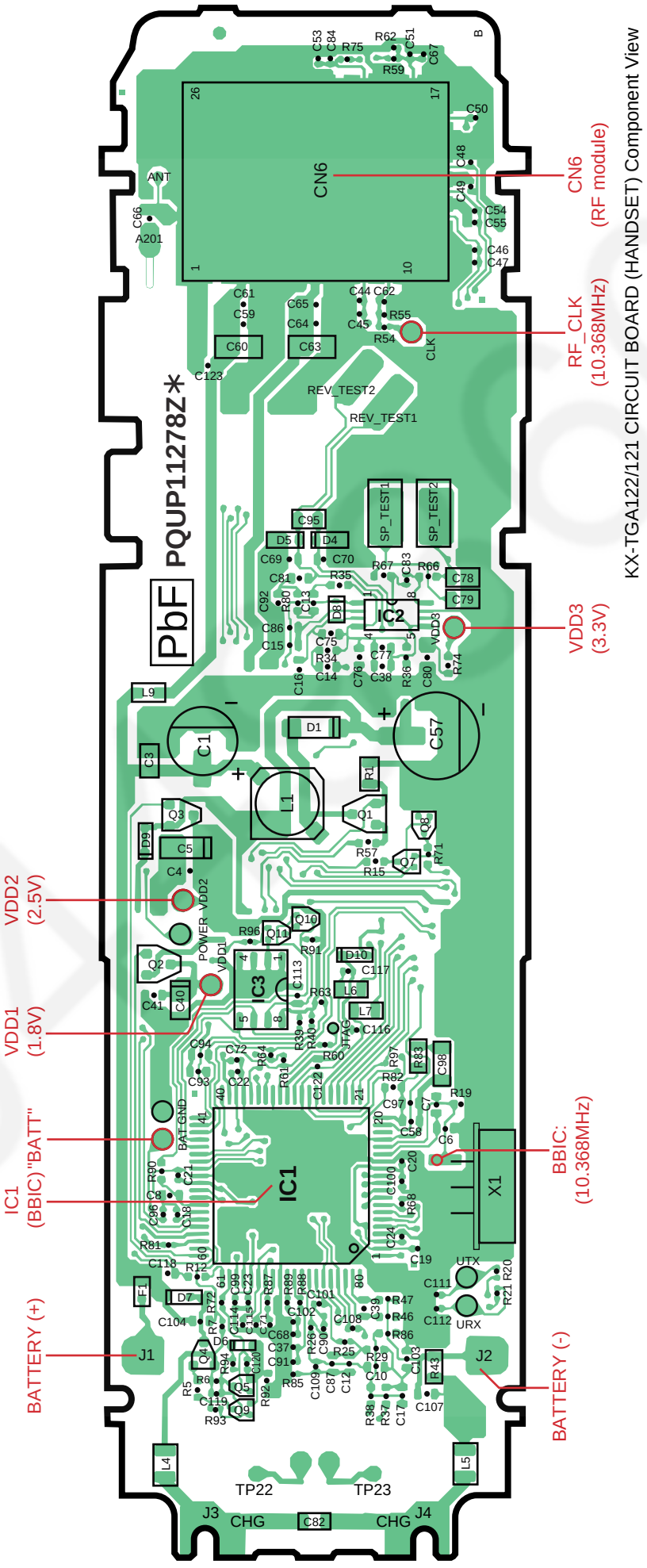
36.2. Flow Solder Side View



KX-TG1843 CIRCUIT BOARD (Base Unit_Operation (Flow Solder Side View))

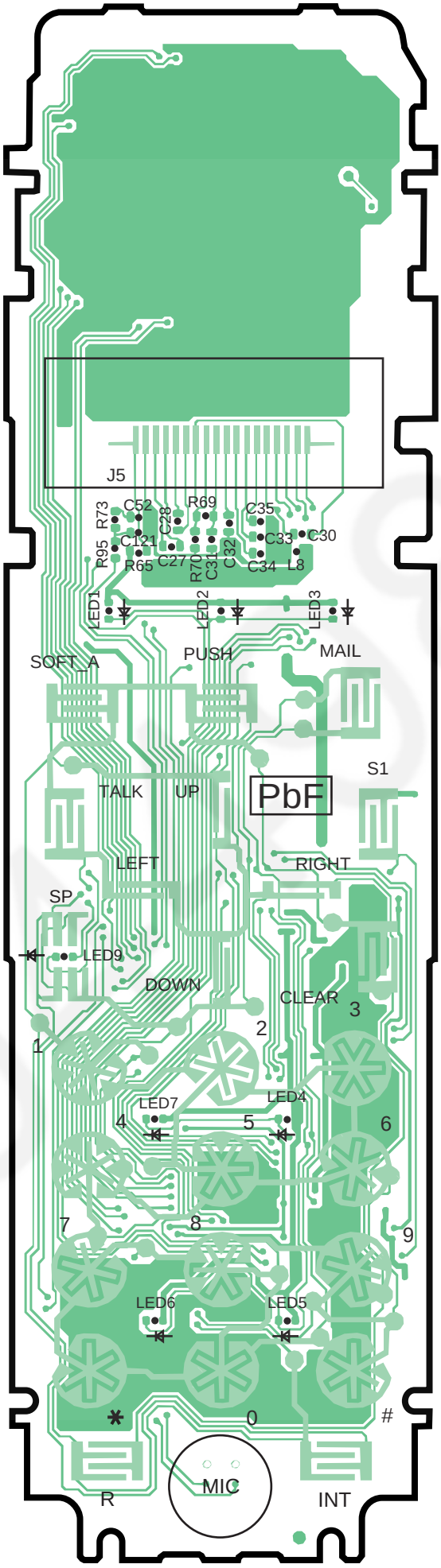
37 CIRCUIT BOARD (HANDSET)

37.1. Component View



KX-TGA122/121 CIRCUIT BOARD (HANDSET) Component View

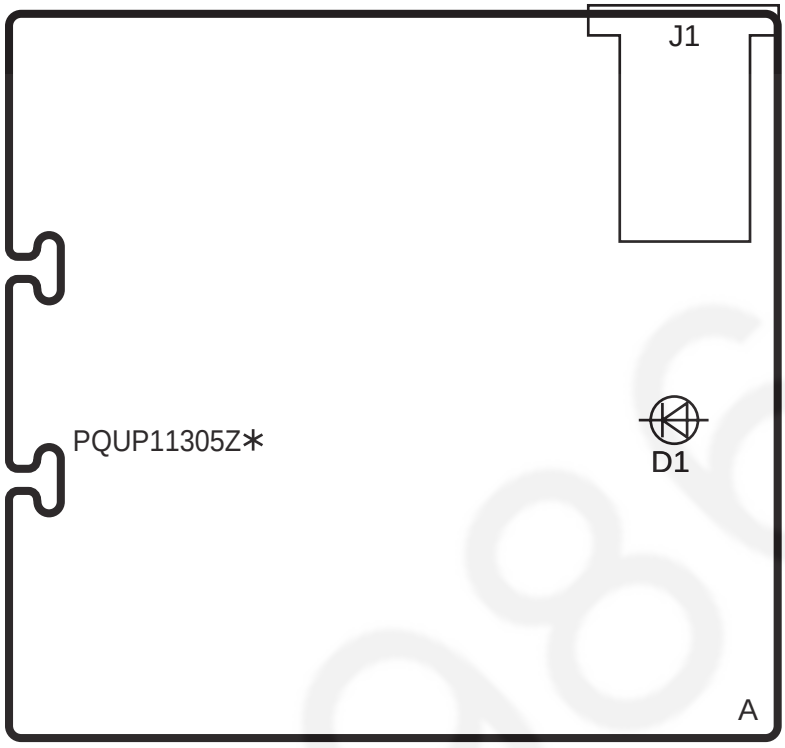
37.2. Flow Solder Side View



KX-TGA122/121 CIRCUIT BOARD (HANDSET) Flow Solder Side View

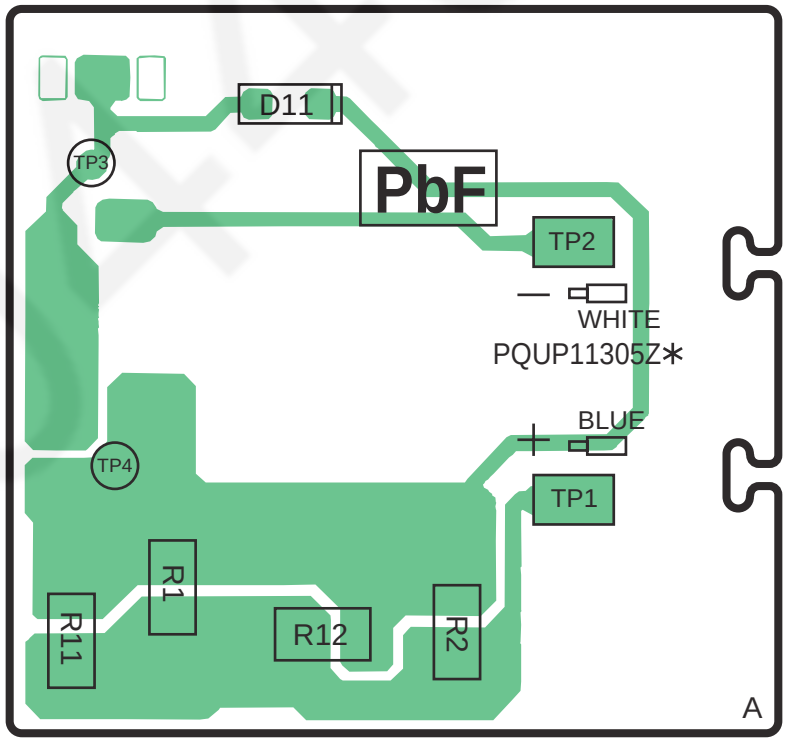
38 CIRCUIT BOARD (CHARGER UNIT)

38.1. Component View



CIRCUIT BOARD (CHARGER UNIT) Component View

38.2. Flow Solder Side View



CIRCUIT BOARD (CHARGER UNIT) Flow Solder Side View