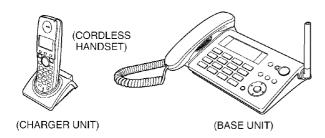
Service Manual

Caller ID Compatible



Configuration for each model

Model No.	Base Unit	Cordless handset	Charger Unit	Expandable
KX-TG2873	1 (TG2873)	1 (TGA280)	1	Expandable to 6
KX-TGA280*		1 (TGA280)	1	

*KX-TGA280 is also an optional accessory, which contains a cordless handset and a charger.

Telephone Equipment KX-TG2873BXS KX-TGA280BXS

Expandable Digital Cordless Answering System

Silver Version

(for Asia, Middle Near East and Other areas)

MARNING

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.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by \triangle in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these cirtical parts should be replaced with manufactuer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

- 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.

- When you note the serial number, write down all 11 digits. The serial number may be found on the botton of the unit.
- The illustrations in this Service Manual may vary sllightly from the actual product.

Note for TABLE OF CONTENTS:

Because section 5, 6 and 7 of this manual are extracts from the operating instructions for this model, they are subject to change without notice. You can download and refer to the original operating instructions on TSN Server for further information.

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1 Safety Precaution

1.1. For Service Technicians

ICs and LSIs are vulnerable to static electricity.

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

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

2 Warning

2.1. Battery 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 manufacturer's Instructions.

2.2. About Lead Free Solder (Pbf: Pb free)

Note:

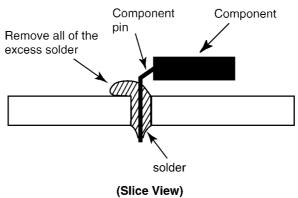
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.

We will use PbF 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.

Caution

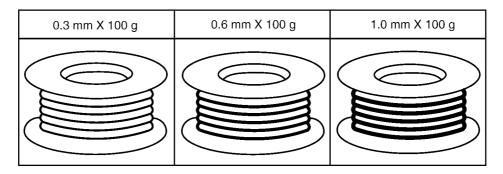
- PbF solder has a melting point that is 50°F ~ 70° F (30°C ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700°F ± 20° F (370°C ± 10°C).
- Exercise care while using higher temperature soldering irons.:
- Do not heat the PCB for too long time in order to prevent solder splash or damage to the PCB.
- 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).



2.2.1. Suggested PbF Solder

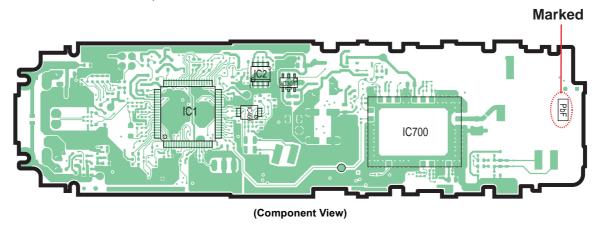
There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper (Sn+Ag+Cu), you can also use Tin and Copper (Sn+Cu), or Tin, Zinc, and Bismuth (Sn+Zn+Bi). Please check the manufacturer's specific instructions for the melting points of their 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: 0.3 mm, 0.6 mm and 1.0 mm.



2.2.2. How to Recognize that Pb Free Solder is Used

(Example: Cordless handset P.C.B.)



Note:

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

3 Specifications

	Base Unit	Cordless Handset	Charger
Power Supply	AC Adaptor	Rechargeable Ni-MH battery	AC Adaptor
	(PQLV207BXZ, 220-240 V AC, 50/60 Hz)	(2.4 V, 830 mAh) HHR-P105A	(PQLV207BXZ, 220-240 V AC, 50/60 Hz)
Receiving/Transmitting Frequency	91 channels within 2.401 GHz - 2.482 GHz	91 channels within 2.401 GHz - 2.482 GHz	
Receiving Method	Super Heterodyne	Super Heterodyne	
Oscillation Method	PLL synthesizer	PLL synthesizer	
Detecting Method	Quadrature Discriminator	Quadrature Discriminator	
Tolerance of OSC Frequency	10.368 MHz ± 41 Hz (± 4 ppm)	10.368 MHz ± 41 Hz (± 4 ppm)	
Modulation Method	Frequency Shift Keying	Frequency Shift Keying	
Spread spectrum Method	Frequency Hopping Spread spectrum	Frequency Hopping Spread spectrum	
Security Codes		1,000,000	
Ringer Equivalence No. (REN)	1		
Dialing Mode	Tone (DTMF)/Pulse	Tone (DTMF)/Pulse	
Redial	Up to 24 digits	Up to 24 digits	
Speed Dialer	Up to 24 digits (One-Touch Dialer)	Up to 24 digits (Phone book)	
Power Consumption	Standby: Approx. 1.8 W,	150 hours at Standby,	Standby: Approx. 1.4 W,
	Maximum: Approx. 3.7 W	5 hours at Talk	Maximum: Approx. 4.7 W
Operating Environment	5°C - 35 °C	5°C - 35°C	5°C - 35°C
Dimensions (H x W x D)	Approx. 78 mm x 234 mm x 174 mm	Approx. 155 mm x 48 mm x 34 mm	Approx. 58 mm x 87 mm x 95 mm
	(Not including the antenna)		
Mass (Weight)	Approx. 620 g	Approx. 146 g	Approx. 90 g

[•] The illustrations in this Service Manual may vary slightly from the actual product.

4 Technical Descriptions

4.1. FHSS Description

4.1.1. Frequency

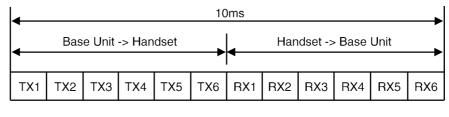
The frequency range of 2.401 GHz - 2.482 GHz is used. Transmitting and receiving channel between Base Unit and Cordless Handset is same frequency. Refer to **Frequency Table** (P.66).

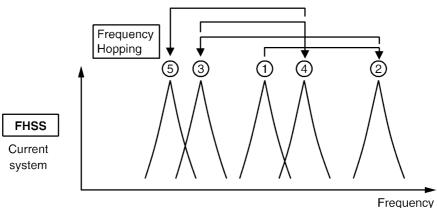
4.1.2. FHSS (Frequency Hopping Spread Spectrum)

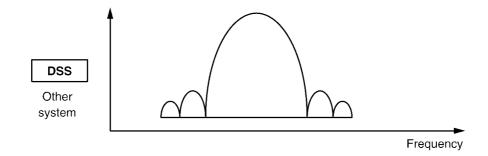
This telephone is using an IC chip which has similar specification to WDCT (World Digital Cordless Telephone) and is the telephone system that can use multiple portable unit simultaneously. The explanation of this system is mentioned below. This system uses a Time Division Multiple Access/Time Division Duplex (**TDMA/TDD**) scheme:

transmitting and receiving frequencies of the Base Unit and Cordless Handset are shared in the same frequency. The construction of RX/TX frequency data is shown below. It consists of 6 slots from the Base Unit to the Cordless Handset, and 6 slots from the Handset to the Base Unit, total 12 slots in 10ms. By this slot system, simultaneous air link and communication between 6 Cordless Handset and the Base Unit can be realized. One communication between Cordless Handset and the Base Unit is done by one slot from the Base Unit to Cordless Handset, and another slot from Cordless Handset to the Base Unit.

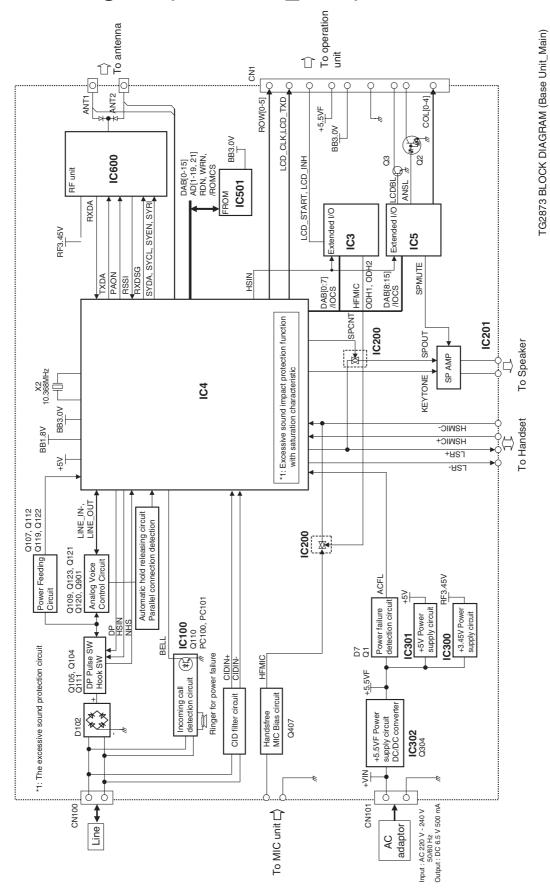
DSS makes spectrum spread by multiplying carrier signal by PN code. The purpose to make spectrum spread is to reduce power density per time and per band. On the other hand, **FHSS** makes spectrum spread by changing channel every 10ms according to Hopping table. Also the purpose to make spectrum spread is to reduce power density per time andper band.







4.2. Block Diagram (Base Unit_Main)

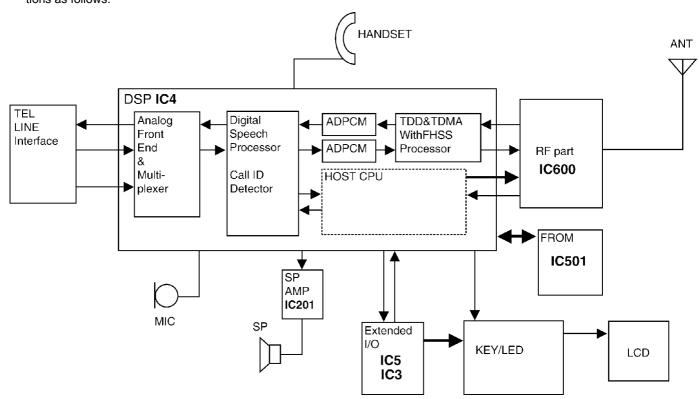


4.3. Circuit Operation (Base Unit_Main)

General Description:

DSP is a digital speech/signal processing system that implements all the functions of speech compression and memory management required in a digital telephone.

The DSP system is fully controlled by a host processor DSP. The host processor provides activation and control of all that functions as follows.



4.3.1. DSP (Digital Speech/Signal Processing: IC4)

DTMF Detection/Generator

The DTMF detection is implemented by the DSP system in software. The DTMF detection is performed during Record, Play back, and Line Monitoring modes of operation.

When the DTMF data from the Handset is received, the DTMF signal is output.

Caller ID demodulation

The DSP implements monitor and demodulate the FSK signals that provide CID information from the Central Office.

Analog Switching

The voice signal from telephone line is transmitted to the speaker or the voice signal from speakerphone microphone is transmitted to the Telephone line, etc. They are determined by the signal path route operation of voice signal.

Block Interface Circuit

RF part, LED, Key scan, Telephone line.

4.3.2. FROM: IC501

FLASH-ROM stores base PROGRAM and following information data is stored.

Settings

ex: ID code, Flash Time, Tone/Pulse, TAM Message

4.3.3. Power Supply Circuit

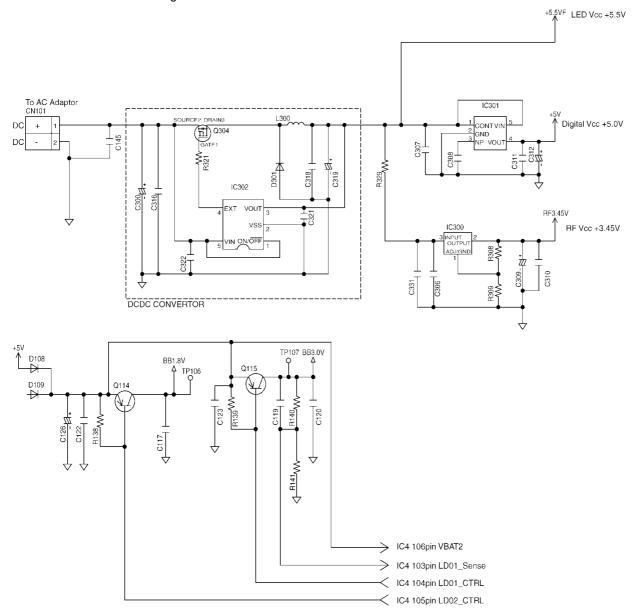
Function:

The power supply voltage from AC adaptor is converted to the desired voltage of each block.

Circuit Operation:

Q304 and IC302: +5.5V DCDC Converter

IC301 +5.0V Regulator IC601 +3.45V Regulator Q115 +3.0V IC4 I/O Voltage Q114 +1.8V IC4 Internal Voltage



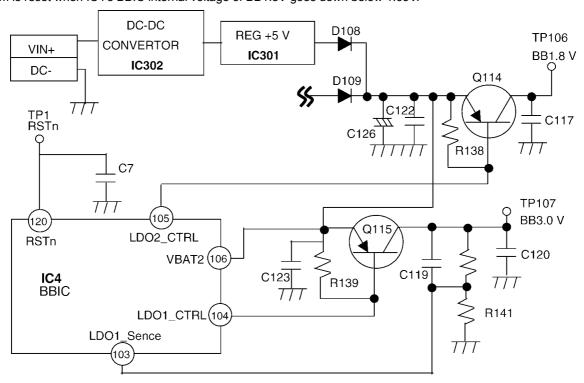
The voltage of +5V regulated in IC301 is controlled by IC4 to be made into IC4's I/O voltage of BB3.0V at Q115 and IC4's internal power supply of BB1.8V at Q114.

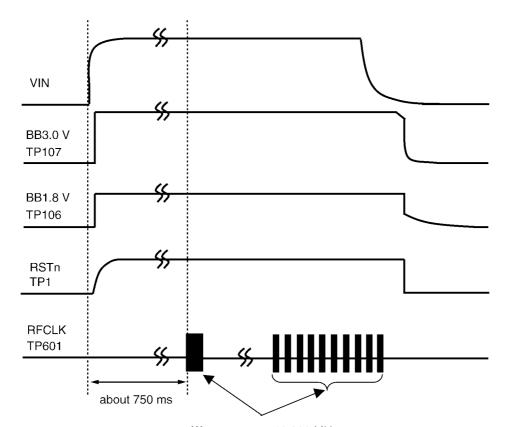
4.3.4. Reset Circuit

Function:

This circuit is used to initialize the microcomputer when it incorporates an AC adaptor. Circuit Operation:

The system is reset when IC4's BBIC internal voltage of BB1.8V goes down below 1.65V.





Wave pattern: 10.368 MHz

• CPU works when RFCLK rise up.

4.3.5. Telephone Line Interface

Telephone Line Interface Circuit:

Function

- · Ring signal detection
- · Clip signal detection
- ON/OFF hook circuit
- · Pulse dial circuit
- · Side tone circuit

Ring signal detection:

In the standby mode, Q105 is open to cut the DC loop current and decrease the ring load. When ring voltage appears at the T (A) and R (B) leads (When the telephone rings), the AC ring voltage is transferred as follows:

 $A \rightarrow L101 \rightarrow IC100 Pin 1$

 $B \rightarrow L101 \rightarrow C106 \rightarrow R109 \rightarrow IC100 Pin 8$

Ring signal from T-R is input to Ringer IC100 and output from pin 5 of IC100. Then it is detected through the following route.

 $IC100 5pin \rightarrow R119 \rightarrow PC100 \rightarrow IC4 Pin 63 (BELL)$

Clip (:Calling Line Identification presentation: Caller ID) signal detection:

The Clip signal voltage is transferred as follows;

 $A \rightarrow L101 \rightarrow C900 \rightarrow R904 \rightarrow C904 \rightarrow R914 \rightarrow IC4 Pin 107 (CIDin+)$

 $B \rightarrow L101 \rightarrow C901 \rightarrow R905 \rightarrow C905 \rightarrow R913 \rightarrow IC4 Pin 112 (CIDin-)$

ON/OFF HOOK Circuit:

Q104 is turned ON when IC4 detects the Ring signal, the handset of base unit is off-hook or the TALK key of the handset is pressed. This causes Q105 to be turned ON and the line will be closed. (The Line Loop state).

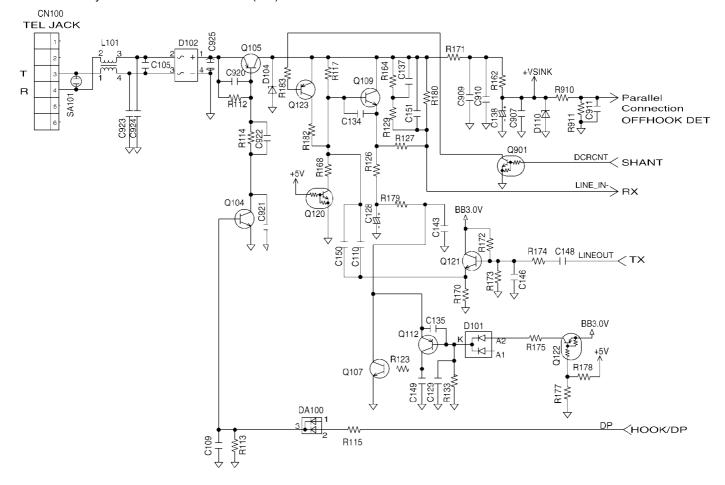
 $A \rightarrow L101 \rightarrow D102 (3 \rightarrow 1) \rightarrow Q105 \rightarrow Q109 \rightarrow R126 \rightarrow R179 \rightarrow Q107 \rightarrow D102 (4 \rightarrow 2) \rightarrow L101 \rightarrow B [Line Loop]$

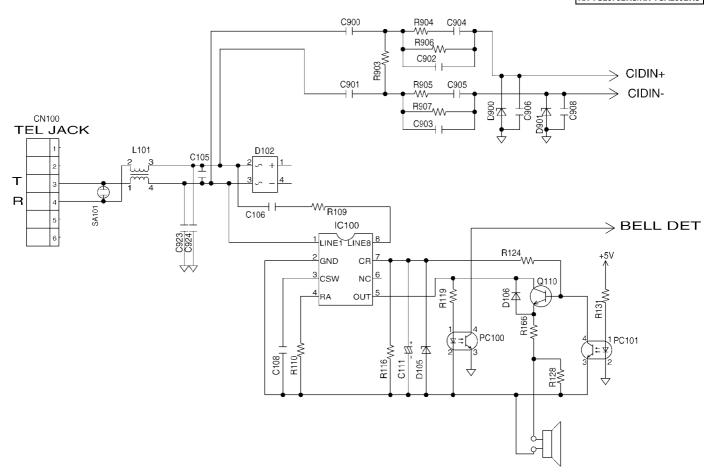
Pulse Dial Circuit:

Pin 94 of DSP IC4 (HOOK/DP) turns Q104 ON/OFF to make the pulse dialing.

Side Tone Circuit:

Basically this circuit prevents the TX signal from feeding back to RX signal. As for this unit, TX signal feed back from Q109 is canceled by the canceller circuit of DSP (IC4).



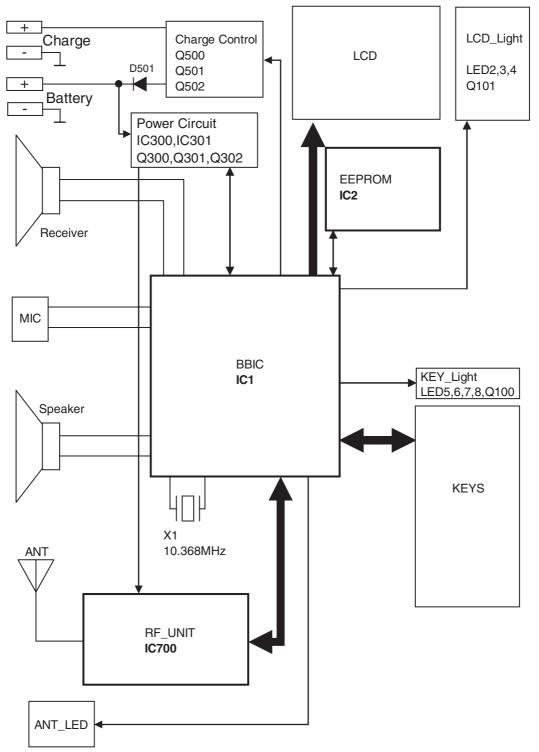


4.3.6. Transmitter/Receiver

Base unit and handset mainly consist of RF Module and BBIC.

Base unit and handset transmit/receive voice signal and data signal through the antenna on carrier frequency.

4.4. Block Diagram (Cordless Handset)



KX-TGA280 BLOCK DIAGRAM (Cordless handset)

4.5. Circuit Operation (Cordless Handset)

4.5.1. Construction

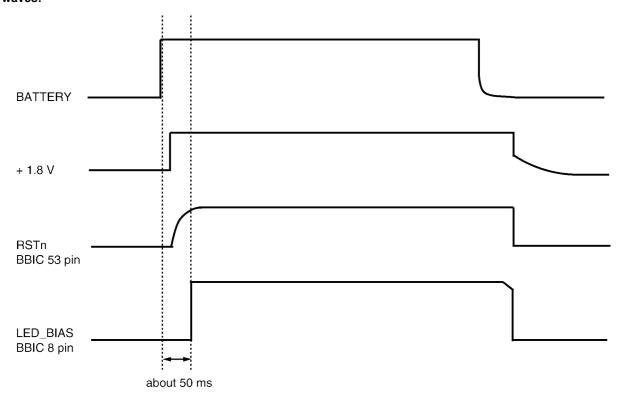
The circuit mainly consists of DSP and RF part as shown in the block diagram.

4.5.1.1. BBIC: IC1

Function:

- Battery Low, Power down detect circuit
- Ringer Generation
- Interface circuit (RF part, Speaker, Mic, LED, Key scan, LCD)

Initial waves:



• CPU works when LED_BIAS rise up.

4.5.1.2. RF part

Mainly voice signal is modulated to RF, or it goes the other way.

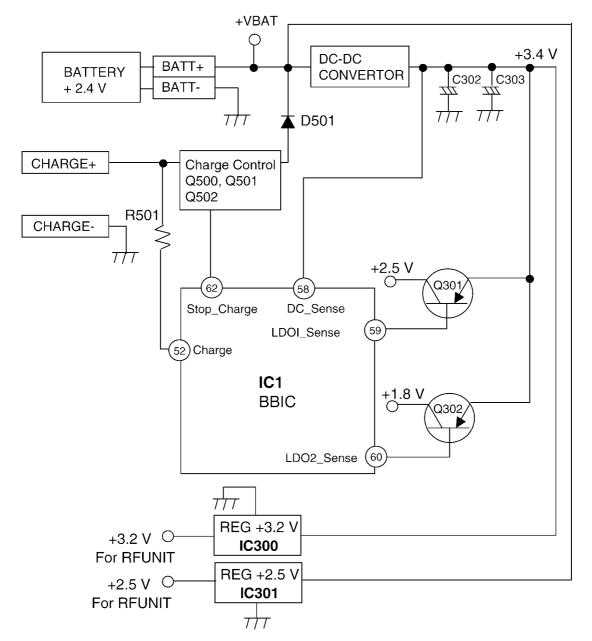
4.5.1.3. **EEPROM**: IC2

ALL setting data is stored.

4.5.2. Power Supply Circuit

Circuit Operation:

When power on the Cordless Handset, the voltage is as follows; BATTERY(2.2 V \sim 2.6 V: J1) \rightarrow L502 \rightarrow L300, D300 \rightarrow Q300 (3.4 V) \rightarrow Q302 (1.8 V), Q301 (2.5 V)



4.5.3. Charge Circuit

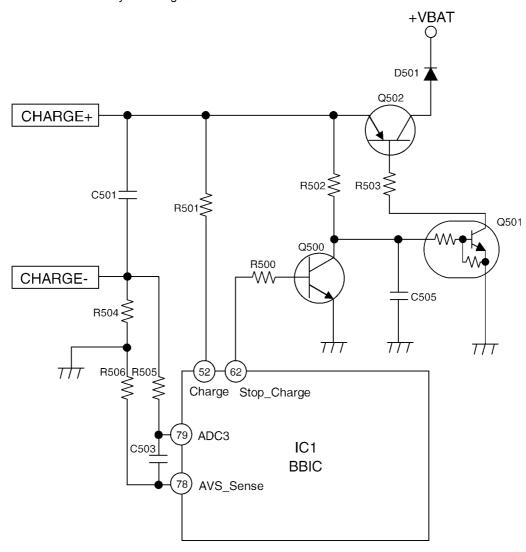
Circuit Operation:

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

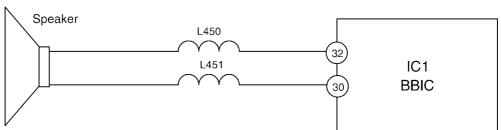
AC Adaptor: DC+(6.5V) \rightarrow [R1, R2, R3, R4 \rightarrow CHARGE+ (Charger)] \rightarrow CHARGE+ (Cordless Handset) \rightarrow Q502 \rightarrow D501 \rightarrow L502 \rightarrow BATTERY+ --- [Battery] --- BATTERY- \rightarrow L503 \rightarrow GND \rightarrow R504 \rightarrow CHARGE- (Cordless Handset) \rightarrow [CHARGE-(Charger) \rightarrow GND] \rightarrow DC- (GND)

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

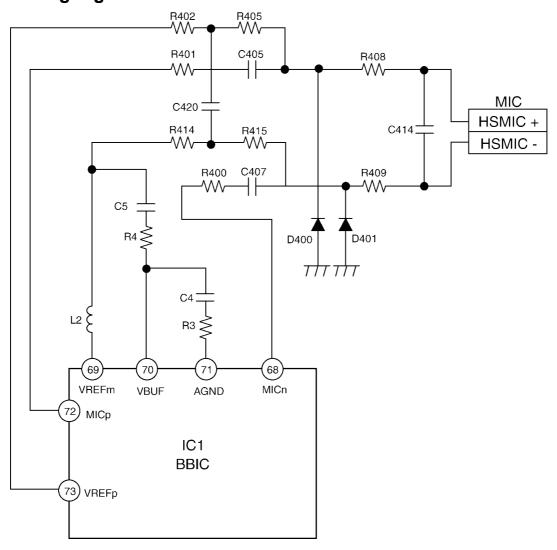
The charge current is controlled by switching Q500 of Cordless Handset.



4.5.4. Ringer and Handset SP-Phone



Sending Signal 4.5.5.



Battery Low/Power Down Detector 4.5.6.

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) < 2.3V ± 50mV

The BBIC detects this level and " starts flashing.

• Power Down

Battery voltage: V (Batt) < 2.1V ± 50mV

The BBIC detects this level and power down.

Circuit Operation (Charger Unit) 4.6.

Power Supply Circuit 4.6.1.

The power supply is as shown.



4.7. Signal Route

Each signal route is as follows.

CIONAL DOUTE	DOLITE OUT
SIGNAL ROUTE HANDSET TX (Base Unit)	IN -> ROUTE -> OUT HANDSET MIC -> TP224/TP221 -> L203/L200 -> C207/C208 -> R217/R218 -> -> IC4(118/114 -> 100) -> (LINE OUT) -> C148 -> R174 ->Q121 ->C110 -> -> Q109 -> Q105 -> D102 -> L101 -> CN100 (TEL LINE)
HANDSET RX (Base Unit)	CN100 (TEL LINE) ->L101 -> D102 -> Q105 -> R180 -> (LINE IN-) -> C14 -> R7 -> -> L2 -> IC4(102 ->110/111) ->R211/R212 -> (LSR+/-) ->R239/R238 -> L202/L201 -> TP225/TP222 -> HANDSET RECEIVER
SP-Phone TX (Base Unit)	MIC ASSY -> TP903/TP904 -> (HFMIC) -> C915 -> R415 -> Q407 -> R425 -> -> IC200(1->2) -> C210 -> R220 -> IC4(114 -> 100) -> (LINE OUT) -> C148 -> R174 -> Q121 -> C110 -> Q109 -> Q105 -> D102 -> L101 -> CN100 (TEL LINE)
SP-Phone RX (Base Unit)	CN100 (TEL LINE) ->L101 -> D102 -> Q105 -> R180 -> (LINE IN-) -> C14 -> R7 -> -> L2 -> IC4(102 ->110) ->R211 -> (LSR+)-> IC200(10->11) -> (SPOUT) -> -> C217 -> R225 -> R228/IC201(4->5/8) ->R232/R233 -> TP223/TP227 ->SPEAKER
OGM RECORDING (Base Unit with	CL-HS MIC -> R408/R409 -> C405/C407 -> R401/R400 -> IC1(72/68) -> -> <cl hs_rf_tx_route=""> <cl-hs_rf_tx_route></cl-hs_rf_tx_route></cl>
OGM SEND TO TEL LINE (Base Unit)	>ANT> <base unit_rf_tx_route=""/> -> IC4(26/42) ->IC501(FLASH_ROM) IC501(FLASH_ROM)-> IC4(100) ->(LINE OUT)-> C148 -> R174 ->Q121 ->C110 -> -> Q109 -> Q105 -> D102 -> L101 -> CN100(TEL LINE)
ICM RECORDING (Base Unit)	CN100 (TEL LINE) ->L101 -> D102 -> Q105 -> R180 -> (LINE IN-) -> C14 -> R7 -> -> L2 -> IC4(102) ->IC501(FLASH_ROM)
ICM PLAY TO SPEAKER (Base Unit)	IC501(F-ROM) -> IC4(110) ->R211 -> (LSR+)-> IC200(10->11) -> (SPOUT) -> -> C217 -> R225 -> R228/IC201(4->5/8) ->R232/R233 -> TP223/TP227 -> SPEAKER
DTMF DETECTION (TAM REMOTE)	CN100 (TEL LINE) ->L101 -> D102 -> Q105 -> R180 -> (LINE IN-) -> C14 -> R7 -> -> L2 -> IC4(102->DTMF-Det)
CL-HS TX and SP-Phone TX	CL-HS MIC -> R408/R409 -> C405/C407 -> R401/R400 -> IC1(72/68) -> -> <cl-hs_rf_tx_route> -> ANT></cl-hs_rf_tx_route>
(Base Unit with CL-HS)	>ANT> <base unit_rf_tx_route=""/> -> IC4(100) -> (LINE OUT) -> C148 -> -> R174 -> Q121 -> C110 -> Q109 -> Q105 -> D102 -> L101 -> CN100(TEL LINE)
CL-HS RX (Base Unit with CL-HS)	CN100 (TEL LINE) ->L101 -> D102 -> Q105 -> R180 -> (LINE IN-) -> C14 -> R7 -> -> L2 -> IC4(102) -> <base rf_rx_route="" unit=""/> -> ANT>> ANT-> <cl-hs_rf_rx_route> -> IC1(67/66) -> L401/L400 -> -> R413/R412 -> RECEIVER</cl-hs_rf_rx_route>
CL-HS SP-Phone RX	CN100 (TEL LINE) ->L101 -> D102 -> Q105 -> R180 -> (LINE IN-) -> C14 -> R7 -> -> L2 -> IC4(102) -> <base rf_rx_route="" unit=""/> -> ANT>
(Base Unit with CL-HS)	>ANT -> <cl-hs_rf_rx_route> -> IC1(32/30) -> R450/R451 -> -> L450/L451 -> SPEAKER</cl-hs_rf_rx_route>



: inside of CL-HS

CL-HS: Cordless handset

KX-TG2873BXS/KX-TGA280BXS

Each signal route is as follows.

SIGNAL ROUTE	IN -> ROUTE -> OUT
INTERCOM HANDSET to CL-HS	HANDSET MIC -> TP224/TP221 -> L203/L200 -> C207/C208 -> R217/R218 -> -> IC4(118/114) -> <base rf_rx_route="" unit=""/> -> ANT>
INTERCOM CL-HS to HANDSET	CL-HS MIC -> R408/R409 -> C405/C407 -> R401/R400 -> IC1(72/68) -> -> <cl-hs_rf_tx_route> -> ANT></cl-hs_rf_tx_route>
TIANDOLT	>ANT> <base unit_rf_tx_route=""/> -> IC4(110/111) -> R211/R212 -> -> (LSR+/-) ->R239/R238 -> L202/L201 -> TP225/TP222 -> HANDSET RECEIVER
HOLD MELODY TO TEL LINE	IC4 (ToneGen3 -> 100) ->(LINE OUT) -> C148 -> R174 ->Q121 ->C110 -> -> Q109 -> Q105 -> D102 -> L101 -> CN100 (TEL LINE)
DTMF SIGNAL TO TEL LINE	IC4(ToneGen1_DTMF -> 100) ->(LINE OUT) -> C148 -> R174 ->Q121 ->C110 -> -> Q109 -> Q105 -> D102 -> L101 -> CN100
DIAL PULSE MAKE TO TEL LINE	IC4(94: L/H) -> (DP) -> R115 -> DA100 -> Q104 -> R114 -> Q105/R112 -> -> D102 -> L101 -> CN100 (TEL LINE)
RING SIGNAL DETECTION	CN100(TEL LINE) ->L101 -> IC100(1/8 -> 5/2) -> R119 ->PC100(1/2 -> 4/3) -> ->TP108(BELL) -> R36/R11-> IC4(63: Ring-Det-I/O)
CALLER ID DETECTION	CN100 (TEL LINE) ->L101 -> C900/C901 -> R904/R905 -> C904/C905 -> -> (CIDIN+/CIDIN-) -> R914/R913 -> IC4(107/112 -> 113: CIDOUT) -> C912 -> -> R8 -> IC4(101 -> FSK-Det/Tone-Det)

Note:

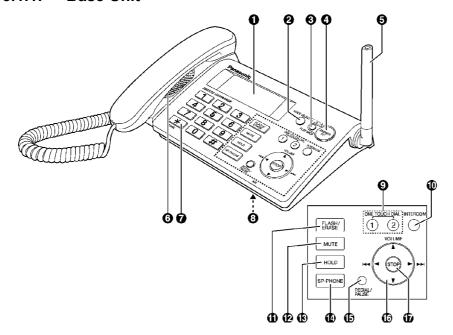
: inside of CL-HS

CL-HS: Cordless handset

5 Location of Controls and Components

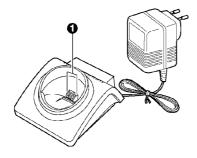
5.1. Controls

5.1.1. Base Unit



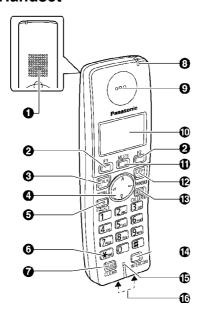
- Display
- ② [VOICE SELECT]
- **1** [2WAY REC] [PLAY BACK]
- (ANSWER SET) ANSWER SET indicator
- Antenna
- Speaker
- **②** [★] (TONE)
- Microphone
- One-Touch dial button (1) and (2)
- (INTERCOM)
- (FLASH) [ERASE]
- (B [HOLD]
- (SP-PHONE)
- (REDIAL) [PAUSE]
- Navigator key ([▲], [▼], [◄], [►])
- (STOP)

5.1.2. Charger Unit



1 Charge contacts

5.1.3. Cordless Handset



- Speaker
- Punction keys
 ([F1] key and [F2] key)
- **③** [TALK]
- Navigator key
- **⑤** [♣] (SP-PHONE)
- **6** [*](TONE)
- (FLASH) [CLEAR]
- Ringer indicator
- Receiver
- Display
- ① [MUTE]
- ② [OFF]
- (B [HOLD] [CALLER ID]
- ([INTERCOM]
- Microphone
- Charge contacts

5.2. Display

5.2.1. Base unit Display Items

Displayed item	Meaning	
A)	Base unit is paging or is on an intercom call. Cordless handset is on an intercom call. When flashing: cordless handset is in the programming mode. When flashing rapidly: base unit is being paged.	
•	Line is in use. When flashing: a call is on hold. When flashing rapidly: a call is being received.	
Ø	The base unit ringer volume is off.	
Ø	The mute is on.	
4	The base unit speakerphone is on.	
-	Dial lock is turned on.	
シ	The night mode is activated.	
	The status of "Voice select" is shown. ("High tone mode" is shown here.)	

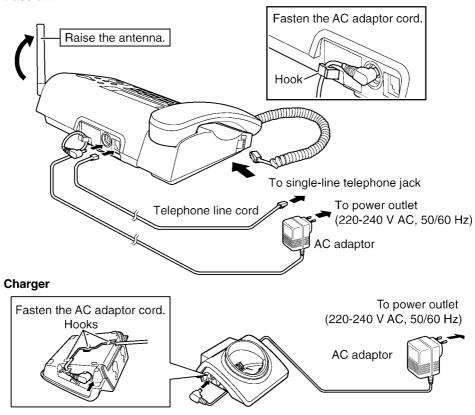
5.2.2. Cordless Handset Display Items

Displayed item	Meaning	
Til.	The range status of base unit	
гO	The dial lock is turned on.	
	Battery strength	
Handset1	This cordless handset's extension number (Example: Extension number 1)	
[◄, ▶]	You can move the cursor right and left to select the setting.	
[▼, ▲]	You can scroll up and down.	
*	When viewing the caller list: indicates that this call is missed call.	

6 Installation Instructions

6.1. Connections

Base unit

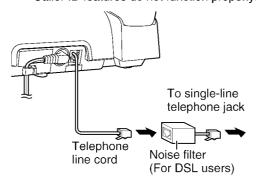


Note:

- Use only the included Panasonic AC adaptor PQLV207BXZ.
- 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.
- When more than one unit is used, the units may interfere with each other. To prevent or reduce interference, please keep ample space between the base units.

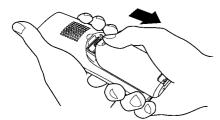
If you subscribe to a DSL service

- Please attach a noise filter (contact your DSL provider) to the telephone line between the base unit and the telephone line jack in the event of the following:
- Noise is heard during conversations.
- Caller ID features do not function properly.

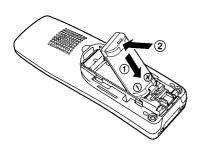


6.2. Battery Installation/ Replacement

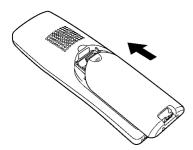
- 1 Press the notch on the cover firmly and slide it as indicated by the arrow.
 - If necessary, remove the old battery.



2 Insert the battery (①), and press it down until it snaps into the compartment (②).



3 Close the cordless handset cover.



6.3. Battery Charge

Place the cordless handset on the charger for **6 hours** before initial use. Make sure the base unit AC adaptor cord is connected while charging the battery.

While charging, "Charging" is displayed. When the battery is fully charged, "Charge completed" is displayed.



Note:

- To ensure the battery charges properly, clean the charge contacts of the cordless handset and charger with a soft, dry cloth once a month. Clean more often if the unit is subject to grease, dust, or high humidity.
- While charging the battery, make sure the cordless handset and charger are within range of the base unit (where the antenna mark is displayed on the cordless handset display).
- When the date and time are not set, "Set Date & Time" is displayed.

Note for service:

The battery strength may not be indicated correctly if the battery is disconnected and connected again, even after it is fully charged. In that case, by recharging the battery as mentioned above, you will get a correct indication of the battery strength.

6.3.1. Battery Strength

You can confirm the battery strength on the cordless handset display.

Battery icon	Battery strength
-	Fully charged
•==	Medium
	Low Needs to be recharged.
	Discharged

Recharging the battery

Recharge the battery immediately when:

- "Recharge battery" is displayed or displays on the cordless handset display.
- the cordless handset beeps intermittently while it is in use.

Note:

 Recharge the cordless handset battery for more than 15 minutes, or the display will continue showing the indication.

6.3.2. Battery Performance

After your Panasonic battery is fully charged, you can expect the following performance:

Operation	Operating time
While in use (talking)	Up to 5 hours
While not in use (standby) *1	Up to 150 hours

^{*1} Cordless handset is off the charger but not in use.

Note

- Battery operating time may be shortened over time depending on usage conditions and surrounding temperature.
- Battery power is consumed whenever the cordless handset is off the charger, even when the cordless handset is not in use. The longer you leave the cordless handset off the charger, the shorter you can actually talk on the cordless handset. Actual battery performance depends on a combination of how often the cordless handset is in use and how often it is not in use.
- After the cordless handset is fully charged, displaying "Charge completed", it can be left on the charger without any ill effect on the battery.
- The battery level may not be displayed correctly after you replace the battery. In this case, place the cordless handset on the charger and let charge for 6 hours.

7 Operation Instructions

7.1. Guide to Cordless Handset Programming

Note for service:

When the display language is in Thai, press [F1][#][0][4][9][>] and [F1], then the display language will be changed into English.

You can customize the unit by programming the following features using the handset. To access the features, there are 2 methods: scrolling through the display menus (see below) or using the direct commands.

• Mainly the direct command method is used in this service manuals.

Important:

Before programming, make sure the cordless handset and base unit are not being used.
 The cordless handset must be operated near the base unit.

7.1.1. Programming by Scrolling Through the Display Menus

- **1** Press [□] ([F1] key).
 - "System setup" is displayed.
- $\boldsymbol{2}$ Press [\boldsymbol{v}] or [$\boldsymbol{\lambda}$] to select the desired main menu.
- 3 Press [OK] ([F1] key).
- 4 Press [▼] or [▲] to select the desired sub-menu.
- 5 Select the desired setting by pressing [◄] or [►].
 - This step may vary depending on the feature being programmed.
- 6 Press [27] ([F1] key).
- 7 Press [OFF].

Note:

- Only "Handset setup" is displayed when:
- the antenna mark is not displayed on the cordless handset display.
- the base unit or other cordless handset is in use.

During programming:

• To exit programming, press [OFF] at any time.

Main menu	Sub-menu
Initial setting	Date and time
	Dial mode
Ring count	Ring count
	Night mode
Ph.book setup	Copy phonebook
Answering device	Remote code
	Rec. time
	Record greeting
	Erase greeting
	Erase all Msg.
Caller ID	Indiv. call
Handset setup ^{*1}	Auto talk
	Ringer
	Keytones
	Group ring
	Register handset
	Erase Phonebook
	Display Language
Other options	Hold Melody
	FLASH time
	Voice paging
	Voice Language
	Dial lock
Display all menu	All above sub-menus are displayed by pressing [v] or [A].

^{*1} You need to program these settings separately for each cordless handset.

7.1.2. Programming Using the Direct Commands

- 1 Press [□] ([F1] key), then press [□].
- 2 Enter the desired feature code (shown below).
- **3** Select the desired setting by pressing [◄] or [►].
 - This step may vary depending on the feature being programmed.
- 4 Press [27] ([F1] key).
- **5** Press **[OFF]** to exit programming mode.

Note:

- If you entered the other code wrongly, press [OFF] then start again by pressing [□] ([F1] key).
- If you entered the wrong code, enter the correct code again.

Important:

• The default settings are indicated by < >.

Feature	Feature code	Setting
Date and time	[0][0][1]	Enter date and time.
Set dial mode	[0] [7] [9]	Pulse, <tone></tone>
Ring count	[1] [2] [1]	2 rings, <4 rings>, 6 rings, 9 rings, Toll saver
Night mode	[1][1][7]	On, <off></off>
Copy phonebook	[1] [4] [3]	
Remote code	[0] [0] [6]	Enter remote code.
Recording time	[0][3][0]	<2 minutes>, Max, Greeting only
Record greeting	[1] [4] [7]	
Erase greeting	[1] [4] [8]	
Erase all messages	[1] [6] [3]	
Caller assignment (Indiv. call)	[1] [3] [6]	
Auto talk*1	[0] [0] [9]	On, <off></off>
Ringer tone	[0] [5] [4]	<bell 1="">, Bell 2, Bell 3, Bell 4, Bell 5, Melody 1, Melody 2, Melody 3, Melody 4</bell>
Keytone ^{*2}	[0] [5] [8]	<on>, Off</on>
Ringer ID (group ring)	[1] [3] [5]	
Registration	[1] [2] [3]	Registering, deregistering
Erase phonebook	[1][4][4]	
Display language	[0][4][9]	Thai, <english></english>
Hold melody	[0][7][1]	<on>, Off</on>
Set flash time ^{*3}	[0] [7] [2]	<700 ms>, 600 ms, 400 ms, 300 ms, 250 ms, 110 ms, 100 ms, 90 ms
Voice paging	[0] [6] [6]	On, <off></off>
Voice language	[0][4][8]	Thai, <english></english>
Dial lock	[0][5][3]	On, <off> and password is input and registered</off>

^{*1} If you subscribe to Caller ID service and want to view the caller's information on the cordless handset display after lifting up the cordless handset to answer a call, turn off this feature.

^{*2} You can select whether or not key tones are heard when keys are pressed. Includes confirmation tones.

^{*3} If the unit is connected via a PBX, certain PBX functions (call transferring, etc.) may not work correctly. Consult your PBX supplier for the correct setting.

7.2. Dial Lock

This feature prohibits making outside calls. The default setting is OFF.

Important:

- When dial lock is turned on, you can dial the emergency calls in the following ways:
 - Phone numbers stored in the phonebook as emergency numbers (numbers stored with a # at the beginning of the name) can be dialed using the phonebook.
 - You can dial by pressing the one-touch dial buttons.

We recommend storing emergency numbers in the phonebook or the one-touch dial buttons before using this feature.

· When dial lock is turned on, you cannot store, edit, or erase items in the phonebook or the one-touch dial button.

7.2.1. To Turn Dial Lock On

- **1** Press [] ([F1] key).
- 2 Press [#][0][5][3].
- 3 Press [OK] ([F1] key).
- 4 Enter a 4-digit password*.
 - This password is required when turning dial lock off. We recommend writing the password down.
- **5** Press **(OK)** (**[F1]** key).
- 6 Press (27] ([F1] key), then press [OFF].

7.2.2. To Turn Dial Lock Off

- **1** Press [□] ([F1] key).
- 2 Press [#][0][5][3].
- 3 Press [OK] ([F1] key).
- 4 Enter the same password* that was entered when dial lock was turned on.
- **5** Press **[OK]** (**[F1]** key).
- 6 Press (᠌)([F1] key), then press [OFF].

Note for service:

*: If the current password is forggoten, enter "726276642" and you will be able to go to the next step.

7.3. Error Messages

If the unit detects a problem, one of the following messages will be displayed on the cordless handset.

Display message	Cause & solution
Busy	 The called cordless handset is in use. The base unit is in use. Try again later. Another user is listening to messages. Try again later.
No items stored	 Your phonebook, redial list or caller list is empty. The item does not have the phone number. The selected group does not have items.
No link to Base	 The cordless handset has lost communication with the base unit. Move closer to the base unit, and try again. Confirm that the base unit's AC adaptor is plugged in. Raise the base unit antenna. The cordless handset's registration may have been canceled. Re-register the handset.
Memory full	 There is no space to store new items in the phonebook. Erase unnecessary items. Recording memory is full. Erase unnecessary messages. There is no space to store new items in the caller assignment list.
Dial locked	Dial lock is turned on. To turn it off, see To Turn the Dial Lock Off.
Copy failed	• The cordless handset has lost communication with the base unit. Move closer to the base unit, and try again.
Error	The entered password was wrong in programming dial lock. Enter the correct password.
Register failed	Move closer to the base unit, and try again.
Number is stored	The phone number has already been stored.
No other HS	The other cordless handset is not registered.

7.4. Troubleshooting

General use

Problem	Cause & solution
The unit does not work.	 Make sure that the battery is installed correctly. Check the connections. Fully charge the battery. Clean the charge contacts and charge again. Unplug the base unit's AC adaptor to reset the unit. Reconnect the adaptor and try again. Re-install the battery and fully charge it.
The display shows "No link to Base" and an alarm tone sounds.	 The cordless handset has lost communication with the base unit. Move closer to the base unit, and try again. Confirm that the base unit's AC adaptor is plugged in. Raise the base unit antenna. If the above remedies do not solve the problem, the cordless handset may have lost communication with the base unit. Register the cordless handset again.
I cannot hear a dial tone.	 Confirm that the telephone line cord is connected. Disconnect the unit from the telephone line and connect a known working telephone. If the working telephone operates properly, contact our service personnel to have the unit repaired. If the working telephone does not operate properly, contact your telephone company.
The antenna mark is not displayed.	 The cordless handset has not been registered to the base unit. Register the cordless handset. The cordless handset has lost communication with the base unit. Move closer to the base unit, and try again. Confirm that the base unit's AC adaptor is plugged in.
The base unit beeps when I press any button or lift the handset.	 The cordless handset is in use. Try again later. You cannot join the call when the cordless handset is in speakerphone mode or in conference mode. You cannot make a conference call while you use the speakerphone.

Programmable settings

Problem	Cause & solution
I cannot program items.	 Programming is not possible while the cordless handset and base unit are being used. Do not pause for over 1 minute while programming. Move closer to the base unit. While another user is listening to messages or the answering system is answering a call, you cannot program. Try again later.
While programming, the cordless handset starts to ring.	 A call is being received. Answer the call and start again from the beginning after hanging up.
The programming menu is displayed incorrectly.	 The cordless handset has lost communication with the base unit. Move closer to the base unit, and try again. Confirm that the base unit's AC adaptor is plugged in. The other unit is in use. Try again later.

Making/answering calls, Intercom

Problem	Cause & solution
Static is heard, sound cuts in and out. Interference from other electrical units.	 Move the cordless handset and the base unit away from other electrical appliances. Move closer to the base unit. Raise the base unit antenna. If your unit is connected to a telephone line with DSL service, we recommend connecting a noise filter between the base unit and the telephone line jack. Contact your DSL provider for details.
The cordless handset and/or base unit does not ring.	 The ringer volume is turned off. Adjust it. The night mode feature is turned on. Turn it off.
I cannot make a call.	 The dialing mode may be set incorrectly. Set the dial mode to match the type of telephone service you have (tone or pulse). While the answering system is answering a call, or the other cordless handset is in use, you may not be able to make a call. Try again later. Dial lock is turned on. To turn it off, see To Turn the Dial Lock Off.
I cannot redial by pressing [REDIAL].	 If the last number dialed was more than 24 digits long, the number will not be redialed correctly. If you press [REDIAL] on the base unit after you have started dialing, this button functions as the [PAUSE] button. To redial, do not dial any numbers before pressing [REDIAL]. Dial lock is turned on. To turn it off, see To Turn the Dial Lock Off.
I cannot page the cordless handset or base unit.	 The called cordless handset is too far from the base unit. The called unit is in use. Try again later.
I cannot make a voice announcement.	The other cordless handset or base unit is in use. Try again later.

Phonebook

Problem	Cause & solution
I cannot store an item in the phonebook.	 You cannot store an item in the phonebook while intercom mode, or while listening to messages. Do not pause for over 1 minute while storing.
While storing an item in the phonebook, the cordless handset starts to ring.	A call is being received. Answer the call and start again from the beginning after hanging up.
Copying stopped or failed.	The destination cordless handset may have lost communication with the base unit.
The display exits the phonebook while searching.	The cordless handset automatically exits after 1 minute of inactivity.

Caller ID

Problem	Cause & solution
The cordless handset does not display the caller's phone number.	 You have not subscribed to Caller ID service. Contact your telephone company to subscribe. If your unit is connected to any additional telephone equipment such as a Caller ID box or wireless telephone jack, disconnect the unit from the equipment and plug the unit directly into the wall jack. If your unit is connected to a telephone line with DSL service, we recommend connecting a noise filter between the base unit and the telephone line jack. Contact your DSL provider for details. Other telephone equipment may be interfering with this unit. Disconnect the other equipment and try again. The caller requested not to send caller information.
The display exits the caller list while searching.	 The cordless handset automatically exits after 1 minute of inactivity.
When you view the item in the caller list, the date and time are displayed incorrectly.	The date and time may be set incorrectly or the power failure may be occurred. Set the date and time again.

Answering system

Problem	Cause & solution
I cannot listen to messages from a remote location.	 You must set the remote code beforehand. A touch tone phone is required for remote operation. Press the remote code correctly and press each key firmly). The answering system is off. Turn it on.
The ANSWER SET indicator flashes rapidly. No new messages are recorded.	Message memory is full. Erase unnecessary messages.
The unit does not record new messages.	 The answering system is turned off. Turn it on. The recording time is set to "Greeting only". Select "2min" or "Max". Message memory is full. Erase unnecessary messages.
I cannot operate the answering system.	 The other cordless handset or base unit is in use. Someone is operating the answering system. Try again later.
During message playback, the unit rings and cancels playback.	A call is being received. Answer the call and start again from the beginning after hanging up.
The ANSWER SET indicator on the base unit flashes slowly.	New messages have been recorded. Listen to the new messages.
When you play back messages, - the base unit and cordless handset do not announce the day and time. - the cordless handset displays the date and time incorrectly.	The date and time may be set incorrectly or the power failure may be occurred. Set the date and time again.

Battery charge

Problem	Cause & solution
"Recharge battery" is displayed, I flashes or the cordless handset beeps intermittently.	● Fully charge the battery.
"Recharge battery" and [are displayed and the cordless handset does not work.	The battery has been discharged. Fully charge the battery.
I charged the battery fully, but "Recharge battery" and/or • is still displayed.	Clean the charge contacts and charge again. The battery may need to be replaced. If you install a new battery, fully charge it.
The cordless handset display is blank.	Confirm that the battery is properly installed.Fully charge the battery.

Power failure

During a power failure the base unit will work as a standard telephone, so that you can make or answer outside calls with the base unit handset.

You cannot use the base unit speakerphone or the cordless handset.

- The base unit rings in "Bell 1" during a power failure, when a call is received.
- You cannot use [FLASH] during a call.

Note

- The cordless handset of the extension number 1 will maintain the date and time until the battery is discharged. After the power is restored, the base unit will receive the date and time information from the cordless handset.
- The cordless handset will continue to search for the base unit and the battery power will be consumed faster than usual.

8 Test Mode

8.1. Test Mode Function (Base unit)

Refer to the following procedures for the Test Mode operation of the Base Unit.

- 1. Disconnect the AC Adaptor cord.
- 2. While pressing [1] [3] [FLASH/ERASE] simultaneously, connect the AC Adaptor.
- 3. [00] is displayed on the LCD when becoming a static test mode. The figure blinks.
- 4. The figure of the table below is input and it sets it by [STOP] KEY. When the examination is ended, [REDIAL/PAUSE] KEY is pressed.
- 5. When the test mode is ended, disconnect the AC Adaptor cord.

Item	Key operation	Remarks
KEY TEST	05	[ANSWER SET] LED lights when all KEY except [REDIAL/PAUSE] key are pressed. When [REDIAL/PAUSE] key is pressed at the last, a beep sound is heard and KEY TEST is finished.
Fixed Message replay	07	A English fixed message is reproduced at once.
DTMF (#) Send	09	DTMF (#) is sent to the line.
Dial Pulse (0)	87	Dial Pulse (0) (0:zero) is sent to the line.
DTMF (0) Send	89	DTMF (0) (0:zero) is sent to the line.
LED TEST	94	[STOP] key is pressed then [ANSWER SET] LED lights . The LCD backlight lights when [STOP] key is pressed again. It repeats by pressing [STOP] key.
LCD TEST	95	[STOP] key is pressed then Test pattern 1 is displayed on the LCD. Whenever [STOP] key is pressed, four patterns are repeated.

8.2. Test Mode Function (Cordless Handset)

Refer to the following procedures for the Test Mode operation of the Cordless Handset.

To enter Test Mode, Press [OFF] [TALK] [INTERCOM] [7] keys simultaneously while in stand by mode, then "TEST MODE" is displayed.

Item	Key operation	Remarks	
LCD/LED TEST	[0] [1] [#]	The display pattern of the LCD changes if [MUTE] key is pressed. Press [OFF] then LCD/LED TEST is finished.	
		<cordless handset="" lcd=""></cordless>	
		Pattern 1	
		Pattern 2 Pattern 5	
		Pattern 3 Pattern 4	
KEY TEST	[0] [2] [#]	When all keys are pressed, a confirmation buzzer will sound and OK will be displayed in the end. (*1)	
Display Software version	[0] [3] [#]	A soft version and the Sum value of the cordless handsest are displayed. VER>JB**** SUM>****	
Refer to registered information.	[0] [7] [#]	Press [∇] key then following information is displayed. PSID, CSID, Baseset code and PS-No.	
Initialization 1	[0] [8] [#]	Initialization of pairing settlement cordless handset (Link information is kept.)	
Initialization 2	[0] [9] [#]	Initialization of increase cordless handset production process (Link information deletion)	
LCD Contrast adjustment	[1] [2] [#]	Press [∇] or [△] key then LCD contrast can be adjusted. Press [F1] then new data is set.	
Test mode end (To the usually state.)	[0] [0] [#]	TESTMODE is finished, and it returns to the ordinary mode.	

Note:

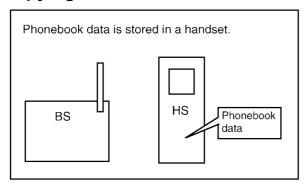
(*1) All key codes are shown in below table.

KEY	KEY CODE
F1	05
MUTE	17
F2	06
TALK	10
SP-PHONE	12
FLASH	07
INTERCOM	11
HOLD	14
A	01
▼	02
>	03
> <	04
OFF	13

KEY	KEY CODE
1	31
2	32
3	33
4	34
5	35
6	36
7	37
8	38
9	39
*	2A
0	30
#	23

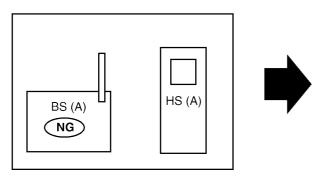
9 Service Mode

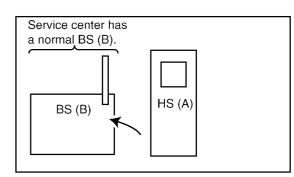
9.1. Copying Phonebook Items When Repairing



Note: BS=Base unit HS=Handset

Case 1: A base unit has a defect.
(Replacing a base unit PCB etc...)

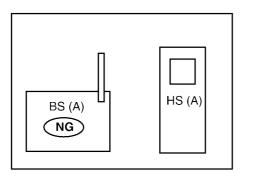




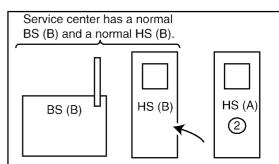
 Register HS (A) to BS (B).
 HS (A) is normal, therefore no need to copy the phonebook data.

Case 2: A base unit has a defect.

(Replacing both a base unit and a handset)

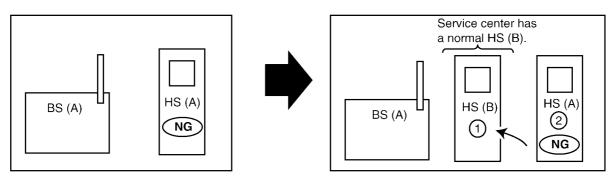






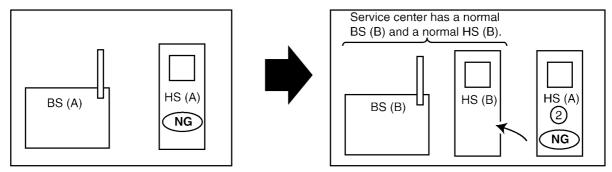
- 1. Register HS (A) to BS (B) as a handset no. 2.
- 2. Copy the phonebook data from HS (A) to HS (B).
- 3. Canceling the HS 2 (HS (A)).

Case 3: A handset has a defect.
(Radio transmission is functioning.)



- 1. Cancel HS (A).
- 2. Register HS (B) as a handset no. 1.
- 3. Register HS (A) as a handset no. 2.
- 4. Copy the phonebook data from HS (A) to HS (B).
- 5. Cancel HS 2 (HS (A)).

Case 4: A handset has a defect.
(Radio transmission is functioning.)



- 1. Register HS (A) as a handset no. 2.
- 2. Copy the phonebook data from HS (A) to HS (B).
- 3. Cancel HS 2 (HS (A)).

Note:

- If the max number of handsets are already registered to the base unit, a new handset cannot be registered.
- To register the handset, refer to Re-registering the Cordless Handset (P.47)
- To cancel the handset, refer to Canceling the Cordless Handset Registration (P.48)
- To copy the handset phonebook, refer to Copying Phonebook Items (P.48)

9.2. Service Mode Function (for Base Unit with Cordless Handset)

Note for service:

When the display language is in Thai, press [F1][#][0][4][9][>] and [F1], then the display language will be changed into English.

The service mode of KX-TG2873 is operated by the Cordless Handset which has been linked the Base Unit.

To enter Service Mode:

- 1. Press [F1].
- 2. Press [#].
- 3. Enter "9" "0" "0" "0" "X", then "SERVICE MODE" is displayed
- 4. Press the desired feature code (shown below).
- 5. When the service mode is ended, press [OFF].

Note:

When you want to store the data, press [F1] at any items.

Item	Key operation	Remarks
Factory setup	# 550 or [▽] [△]	When [F1] is pressed it becomes shipping set.
Software version	# 551 or [▽] [△]	ROM=KXTG2873 JB****□**** ← SUM
CNTTONE DET=	# 580 or [▽] [△]	Continuous sound detection function (ON/OFF)
DTMF det=	# 757 or [▽] [△]	DTMF detection integration time (Default: 50 ms)
BELL DET TIME=	# 769 or [▽] [△]	RINGER detection integration time (Default: 600 ms)
TAD MONITOR=	# 782 or [▽] [△]	Monitor setting when absence responding (Default: ON)
Slot diversity	# 842 or [▽] [△]	Slot divercity funciton (Default: TX=on,RX=on)
Pause 035*100	# 501 or [▽] [△]	Pause time setting (Default: 3.5 s=3500 ms)
Redial all erase	# 506 or [▽] [△]	The data of the redial memory is cleared.
VOX DETECT=	# 510 or [▽] [△]	VOX detection time (Default: 6s)
VOX SNS=	# 511 or [▽] [△]	VOX detection sensitivity setting: HIGH/LOW (Default: HIGH)
VOX =	# 513 or [▽] [△]	VOX detection function: ON/OFF (Default: ON)
System setup	# 540 or [▽] [△]	When [F1] is pressed, it becomes an initialization menu.
KEYTONE SET=	# 992 or [▽] [△]	KEY operation sound setting of base unit: ON/OFF (Default: ON)
AUTO DSCNCT=	# 732 or [▽] [△]	Automatic line opens control setting (over parallel connected telephone):
		ON/OFF (Default: OFF)
LINE MODE=	# 713 or [▽] [△]	Line AGC control function: ON/OFF (Default: ON)
CPC MODE=	# 731 or [▽] [△]	Disconnect line pulse detect function: ON/OFF (Default: OFF)

9.2.1. How to Clear User Setting

Units are reset to the Factory setting by this operation

(Erase recorded Voice messages, stored Phone numbers, Caller list and etc.).

Note:

- This operation should not be performed for a usual repair.
- Use the Cordless Handset which has been linked with the Base Unit for the factory setting of Base Unit.
- 1. Press [F1] [#] [9] [0] [0] [0] [*, and it goes to the service mode. "SERVICE MODE" is displayed on the LCD.
- 2. Select "Factory setup" using $[\nabla]$ key, then press [F1] key.
- 3. Select [x] key in the menu of "All Initialize", and it becomes "Base Initialize".

For initializing Base Unit and Cordless Handset

4. When select [*] key in the menu of "Base Initialize", then Base Unit and Cordless Handset are initialized. After "complete" is shown on the display, press the [F1] key and it reactivates.

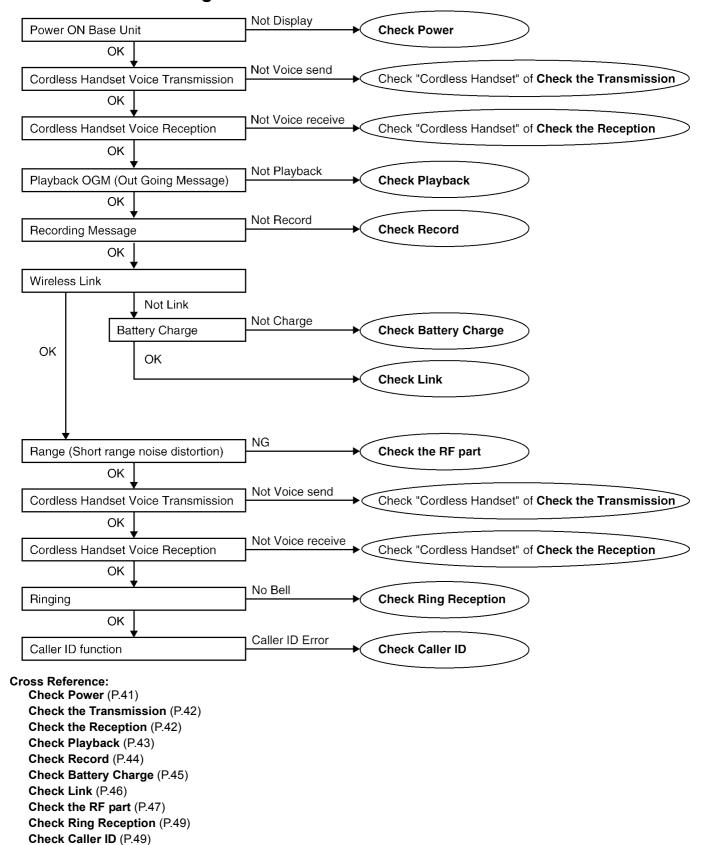
For initializing Cordless Handset

4. When select [#] key in the menu of "HS Initialize", then Cordless Handset is initialized.

After "complete" is shown on the display, press the [F1] key and it reactivates.

10 Troubleshooting Guide

10.1. Troubleshooting Flow Chart



10.1.1. Check Power

BASE UNIT

Is the AC Adaptor inserted into AC outlet? (*1) NO Check Vin (TP308-TP309 FGND) voltage 9.5V more? Check AC Adaptor. YES NO Check +5.5VF (TP107) voltage 5.0V more? Check DC-DC Power Supply Circuit. NO Check VCC (+3.0V FTP107) of BBIC? Check VBAT2 voltage. YES NO Check BB1.8V (TP106) voltage 1.75V more ? Check IC4 FBBIC. YES NO Check X2. Check Xral CLK=10.368MHz? (IC4: 18pin But output signal is burst output.) YES Check key pcb connect & LCD connect.

Cross Reference:

Power Supply Circuit (P.10)

Check IC4: BBIC.

Note:

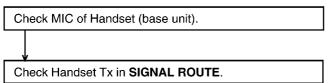
(*1) Refer to ${\bf Specifications}$ (P.6) for part number and supply voltage of AC adaptor.

Flash Memory is IC601.

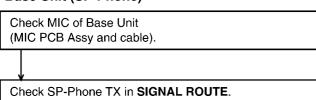
DSP is IC501.

10.1.2. Check the Transmission

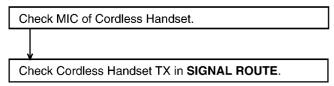
Handset (base unit)



Base Unit (SP-Phone)



Cordless Handset

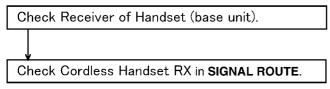


Cross Reference:

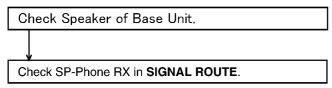
Telephone Line Interface (P.12) Signal Route (P.19)

10.1.3. Check the Reception

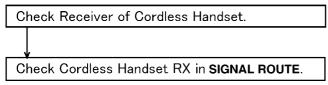
Handset (base unit)



Base Unit (SP-Phone)



Cordless Handset



Cross Reference:

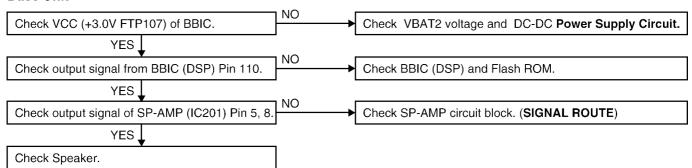
Telephone Line Interface (P.12) Signal Route (P.19)

Note:

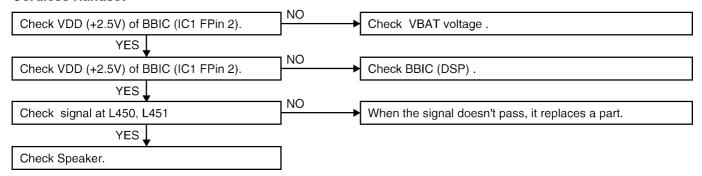
When checking the RF part, Refer to **Check the RF part** (P.47).

10.1.4. Check Playback

Base Unit



Cordless Handset



Cross Reference:

Power Supply Circuit (P.10)

Signal Route (P.19)

Note

Flash-ROM is IC501.

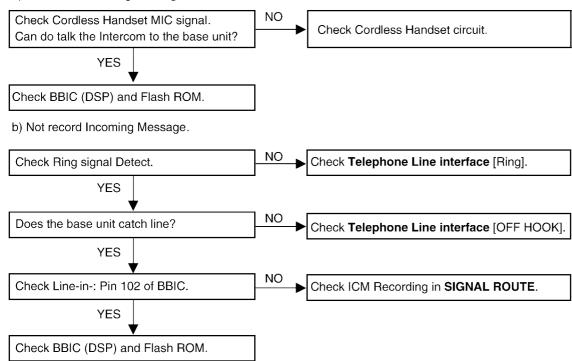
BBIC(DSP) is IC4.

SP-AMP is IC201.

10.1.5. Check Record

Cordless Handset and Base Unit

a) Not record Greeting Message.



c) How to change the Vox detect time.

(The shipment default is set to 6s.)

- 1. Press [F1] [#] [9] [0] [0] [0] [*) key then it goes to "SERVICE MODE".
- 2. Press [#] [5] [1] [0].

"VOX DETECT=06s"

- 3. Increase a set value within the range from 6 to 12s by inputting ten key.
- 4. Set to a new value by pressing [F1] key.

Cross Reference:

Telephone Line Interface (P.12)

Signal Route (P.19)

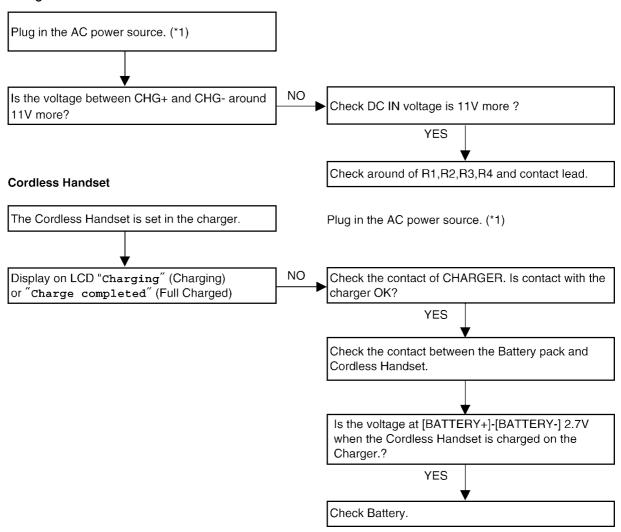
Note:

Flash Memory is IC601.

DSP is IC501.

10.1.6. Check Battery Charge

Charger



Cross Reference:

Telephone Line Interface (P.12)

Signal Route (P.19)

Note:

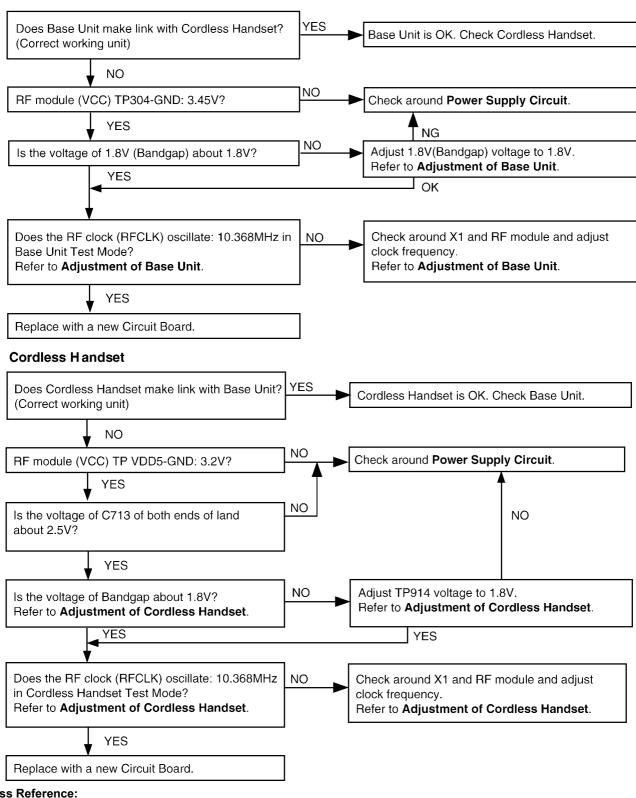
(*1) Refer to **Specifications** (P.6) for part number and supply voltage of AC adaptor.

Flash-ROM is IC501.

BBIC(DSP) is IC4

10.1.7. Check Link

Base Unit



Cross Reference:

Power Supply Circuit (P.10) for Bade Unit

Power Supply Circuit (P.16) for Cordless Handset

Adjustment of Base Unit (P.62)

Adjustment of Cordless Handset (P.63)

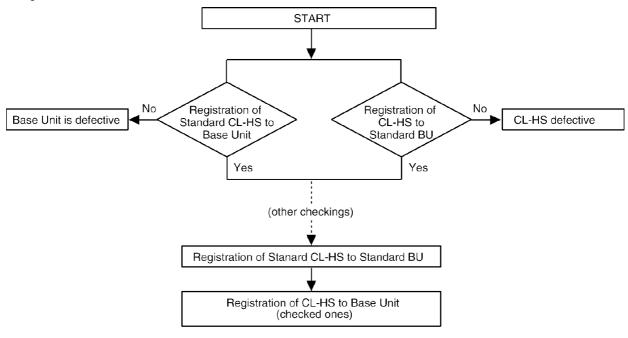
10.1.8. Check the RF part

10.1.8.1. Finding out the Defective part

- 1. Prepare "Standard BU (*2)" and "Standard CL-HS (*1)"
- 2. a. Re-registered standard CL-HS (Normal mode) to the BU (to be checked).
 - b. Re-registered CL-HS (to be checked) to standard BU (Normal mode). If this operation fails in some ways, the CL-HS is defective.

After All the Checkings or Repairing

1. Re-register the checked CL-HS to the checked BU, and Standard CL-HS to Standard BU.



Note:

(*1) CL-HS: Cordless Handset

(*2) BU: Base Unit

10.1.8.1.1. Re-registering the Cordless Handset

1 Base unit:

Press and hold [INTERCOM] until • flashes.

• The rest of the procedure must be completed within 3 minutes.

2 Cordless handset:

Press [] ([F1] key).

- If "No link to Base" is displayed, wait until "System setup" is displayed.
- 3 Press [#][1][2][3].
- 4 Press [OK] ([F1] key).
- **5** Press [**?**] ([**F1**] key).
 - 🔊 disappears.

Note:

• The empty extension number is assigned automatically.

10.1.8.1.2. Canceling the Cordless Handset Registration

- **1** Press [□] ([F1] key).
- 2 Press [#][1][2][3].
- **3** Press **(OK)** (**[F1]** key).
- 4 Press [1] to select "Cancel HS".
- **5** Press the desired extension number ([1] to [6]).

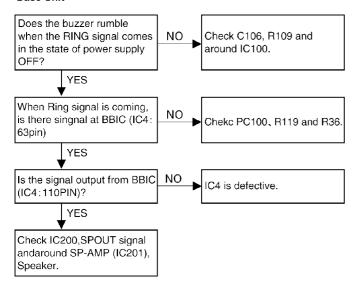
10.1.8.1.3. Copying Phonebook Items

Copying all items

- **1** Press [□] ([F1] key).
- 2 Press [#][1][4][3].
- **3** Press **(OK)** (**[F1]** key).
- 4 Select the destination handset's number by pressing [◄] or [►].
- **5** Press **(OK)** (**[F1]** key).
- **6** Select "All" by pressing [◄] or [►].
- **7** Press **[OK]** (**[F1]** key).
- 8 Press [OK] ([F1] key).
 - When all items have been copied, "Copy completed" and the number of the copied items will be displayed.
- 9 Press [OFF].

10.1.9. Check Ring Reception

Base Unit

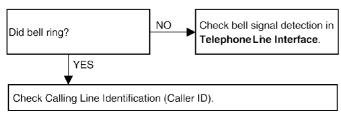


Cross Reference:

Telephone Line Interface (P.12).

10.1.10. Check Caller ID

Base Unit



Cross Reference:

Telephone Line Interface (P.12).

Note:

- Make sure the format of the Caller ID Service of the Telephone company that the customer subscribes to.
- It is recommended to confirm that the customer is really a subscriber of the service.

10.2. 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.

10.2.1. 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 \rightarrow 0.82. Type \rightarrow RMA (lower residue, non-cleaning type)

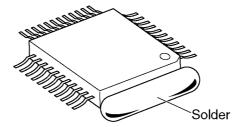
Note: See About Lead Free Solder (Pbf: Pb free) (P.4)

10.2.2. How to Remove the IC

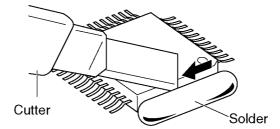
1. Put plenty of solder on the IC pins so that the pins can be completely covered.

Note:

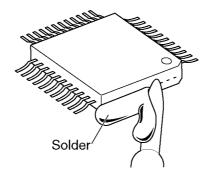
If the IC pins are not soldered enough, you may give pressure to the P.C. board when cutting the pins with a cutter.



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



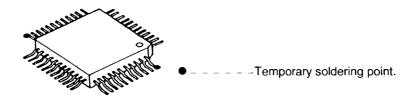
3. While the solder melts, remove it together with the IC pins.



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.

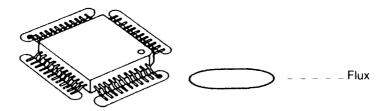
10.2.3. How to Install the IC

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

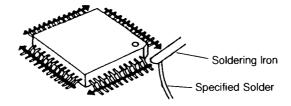


*Check the accuracy of the IC setting with the corresponding soldering foil.

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

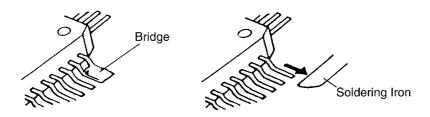


3. Solder the pins, sliding the soldering iron in the direction of the arrow.



10.2.4. How to Remove a Solder Bridge

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

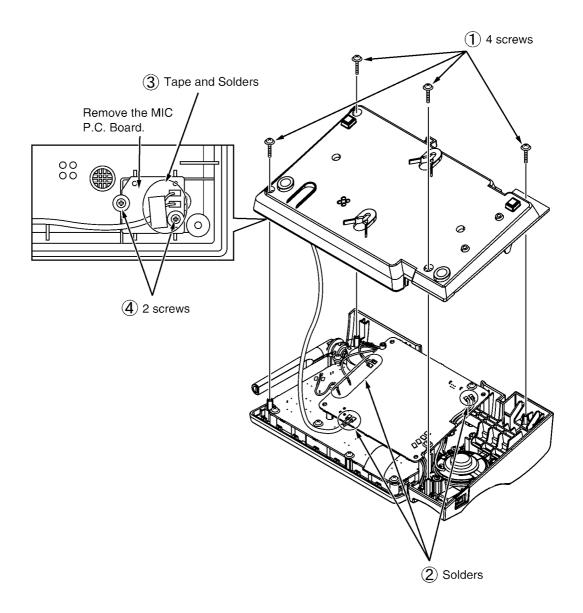


11 Disassembly and Assembly Instructions

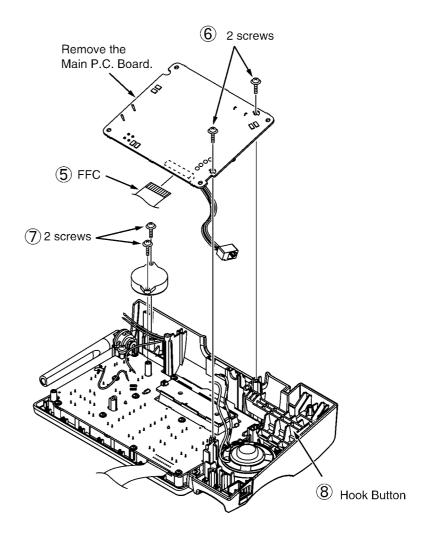
11.1. Disassembly Instructions

11.1.1. Base Unit

- (1) Remove the 4 screws to remove the Cabinet Cover.
- (2) Remove the Solders.
- (3) Remove the Tape and Solders.
- A Remove the 2 screws to remove the MIC P.C. Board.

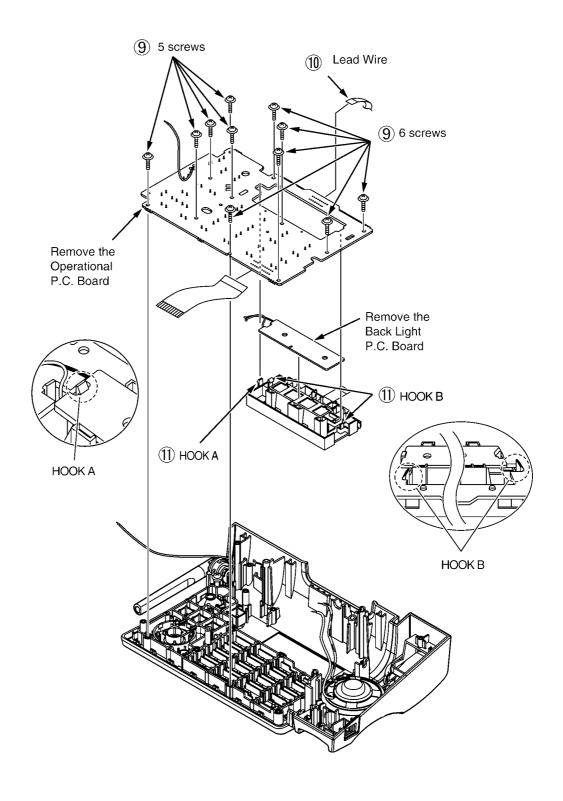


- (5) Remove FFC (Flexible Flat Cable).
- Remove the 2 screws to remove the Main P.C. Board.
- Remove the 2 screws to remove the Buzzer.
- 8 Remove the Push Button.



KX-TG2873BXS/KX-TGA280BXS

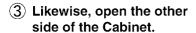
- Remove the 11 screws to remove the Operational P.C. Board.
- 10 Remove the Lead Wire.
- (1) Remove the HOOK A, B to remove the Back Light P.C.Board.

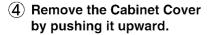


11.1.2. Cordless Handset

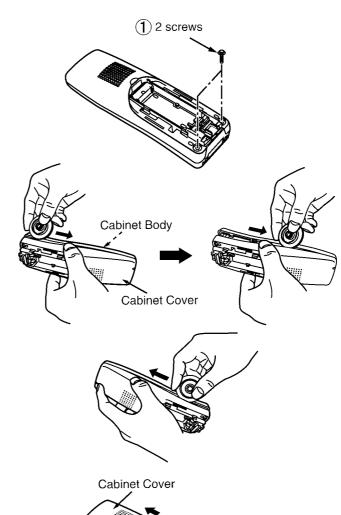
1 Remove the 2 screws.

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

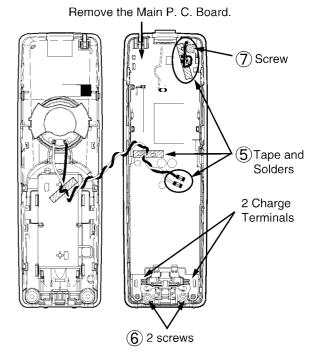




- (5) Remove the Tape and the Solders.
- 6 Remove the 2 screws to remove the 2 Charge Terminals.
- (7) Remove the screw to remove the Main P. C. Board.

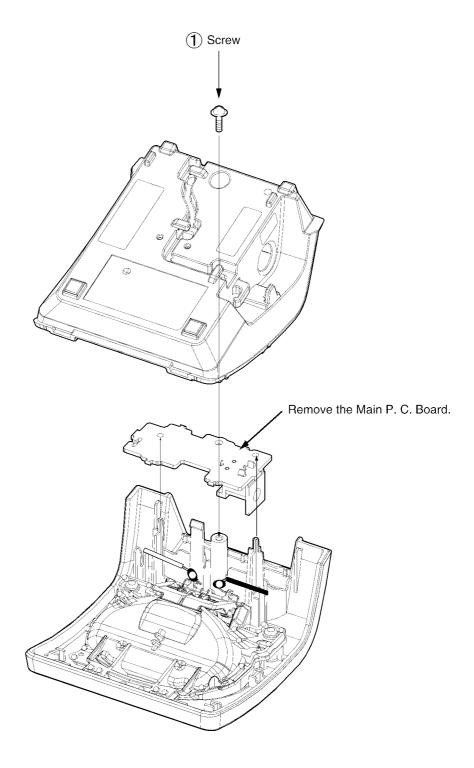




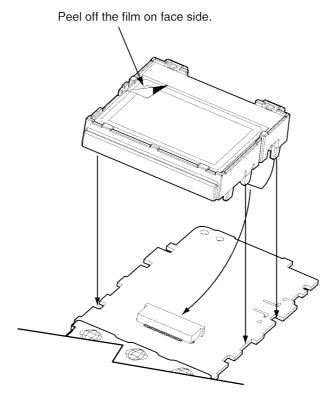


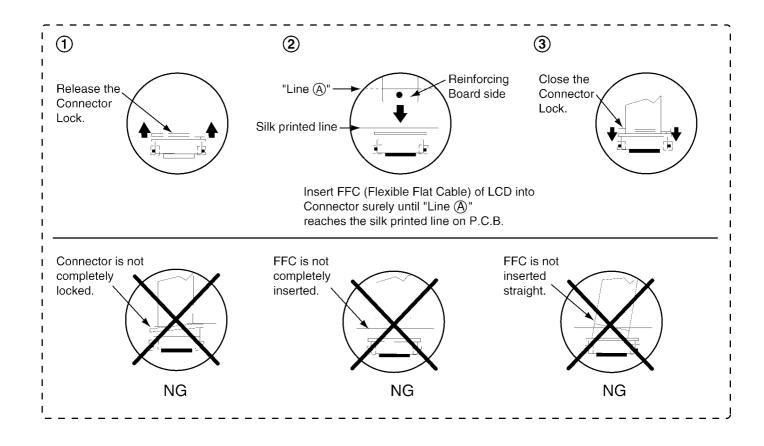
11.1.3. Charger Unit

 Remove the screw to remove the Cabinet Cover and the Main P. C. Board.



11.2. Fix the LCD and the Receiver Guide to the Main P.C.Board (Cordless Handset)





12 Measurements and Adjustments

12.1. Things to Do after Replacing IC

Important:

Please execute the adjustment process when you replace the following object parts.

12.1.1. Base Unit

	IC	Necessary Adjustment
BBIC	CPU, interface for RF and FlashROM.	BandGAP adjustment
(IC4)		Standard frequency adjustment
Flash	Memory of software program.	BandGAP adjustment
ROM (IC501)	Memory of Adjustment parameter data.	Standard frequency adjustment
Xtal (X2)	Source of system clock.	Standard frequency adjustment

Note:

Refer to Adjustment of Base Unit (P.62).

12.1.2. Cordless Handset

	IC	Necessary Adjustment
BBIC	Memory of software program.	BandGAP adjustment
(IC1)	CPU, interface for RF and FlashROM.	Standard frequency adjustment
EEP	Memory of Adjustment parameter data.	Default data Registration
ROM		BandGAP adjustment
(IC2)		Standard frequency adjustment
Xtal	Source of system clock.	Standard frequency adjustment
(X1)		

Note:

Refer to Adjustment of Cordless Handset (P.63).

12.2. The Setting Method of JIG (Base Unit)

12.2.1. Preparation

12.2.1.1. Equipment Required

- Frequency counter: It must be precise enough to measure intervals of 1 Hz (precision; ±4 ppm). Hewlett Packard, 53131A is recommended.
- Digital multi-meter (DMM): it must be able to measure voltage and current.
- Oscilloscope

12.2.1.2. JIG and PC

Serial JIG

JIG Cable: PQZZ1CD300E*
• PC which runs in DOS mode

• Batch file CD-ROM for setting: PQZZTG2873BX

Note:

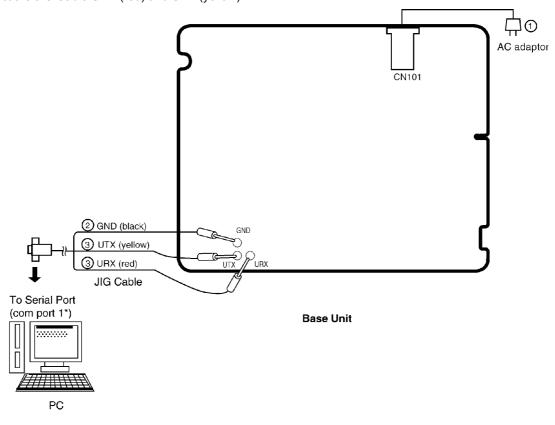
*: If you have the JIG Cable for TCD500 series (PQZZ1CD505E), change the following values of resistance.

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

12.2.2. PC Setting

12.2.2.1. Connections

- ①Connect the AC adaptor to CN101 (base unit).
- ②Connect 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.

12.3. The Setting Method of JIG (Cordless Handset)

12.3.1. Preparation

12.3.1.1. Equipment Required

- Frequency counter: It must be precise enough to measure intervals of 1 Hz (precision; ±4 ppm). Hewlett Packard, 53131A is recommended.
- DC power: it must be able to output at least 1 A current under 2.4 V for cordless handset.
- Digital multi-meter (DMM): it must be able to measure voltage and current.
- Oscilloscope

12.3.1.2. JIG and PC

Serial JIG

JIG Cable: PQZZ1CD300E*

• PC which runs in DOS mode.

• Batch file CD-ROM for setting: PQZZTG2873BX

Note:

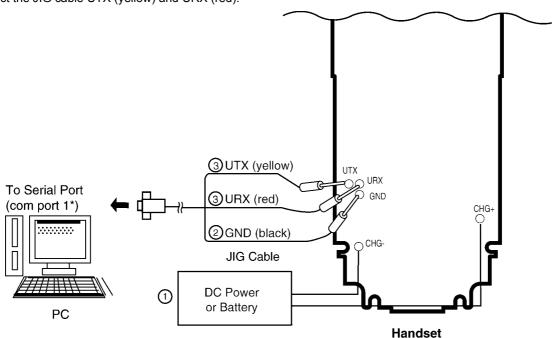
*: If you have the JIG Cable for TCD500 series (PQZZ1CD505E), change the following values of resistance.

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

12.3.2. PC Setting

12.3.2.1. Connections

- ①Connect the DC Power or Battery to CHG- and CHG+ (cordless handset).
- ②Connect the JIG cable GND (black).
- 3 Connect the JIG cable UTX (yellow) and URX (red).



Note:

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

12.4. Batch file Settings

- 1. Insert the Batch file CD-ROM into CD-ROM drive and copy PQZZTG**** folder to your PC (example: D drive).
- 2. Open an MS-DOS mode window.

<Example for Windows>

On your computer, click [Start], select Programs (All Programs for Windows XP/Windows Server 2003), then click

MS-DOS Prompt. (for Windows 95/Windows 98)

Or

Accessories-MS-DOS Prompt. (for Windows Me)

Or

Command Prompt. (for Windows NT 4.0)

Or

Accessories-Command Prompt.

(for Windows 2000/Windows XP/Windows Server 2003)

- **3.** At the DOS prompt, type "D:" (for example) to select the drive, then press the **Enter** key.
- **4.** Type "CD ¥PQZZTG****", then press the Enter key.
- **5.** Type "SET_COM=X", then press the Enter key
- (X: COM port number used for the serial connection on your PC).
- **6.** Jig cable is connected with the base unit main_PCB (or CL HS_PCB) to be adjusted and power supply is supplied.
- **7.** Type "**READID**", then press the **Enter** key.
 - •If any error messages appear, change the port number or check the cable connection.
 - •If any value appear, go to next step.

<Example: correct setting>

- C: ¥Documents and Settings>D:
- D: ¥>CD ¥PQZZTG****
- D: ¥PQZZTG**** >SET_COM=1
- D: ¥PQZZTG****>READID
- 00 52 4F A8 A8
- D: ¥PQZZTG****>_

<Example: incorrect setting>

- C: ¥Documents and Settings>D:
- D: ¥>CD ¥PQZZTG****
- D: ¥PQZZTG**** >SET_COM=1
- D: ¥PQZZTG****>READID CreateFile error

ERROR 10: Can't open serial port

D: \PQZZTG ****>_

Note:

• "****" varies depending on the country.

12.5. Commands

See the table below for frequently used commands.

Command name	Function	Example
getver	Check software version	Type "getver", then registered software version is read
		out.
readid	Read ID (RFPI)	Type "readid", then registered ID is read out.
bandgap	Check VDD adjustment parameter	Type "bandgap", then registered bandgap adjust value
	value	is read out.
bandgap nn	Set VDD voltage adjustment parame-	Type "bandgap nn", nn is an adjustment setting
	ter value	value of the bandgap voltage.
conttx	Set RFC (burst mode)	Type "conttx", then set RF-burst mode.
setfreq	Check frequency adjustment parame-	Type "setfreq", then registered freq adjustment value is
	ter value	read out.
setfreq nn	Set frequency adjustment parameter	Type "setfreq nn", nn is an adjustment setting value of
	value	the frequency.
eeprom_hs_init	Set default data to the EEPROM (cord-	Type "eeprom_hs_init", then default data resistred.
	less handset)	

12.6. Adjustment of Base Unit

When IC4 (BBIC) or IC501 (Flash ROM) is exchanged, the Bandgap adjustment and the Frequency adjustment are necessary. When X2 (X'tal) is exchanged, the Frequency adjustment is necessary.

Procedure:

- 1. Open a window of MS-DOS mode from the start-up menu.
- 2. Change directory to the copied folder.
 - Ex) If you initialize TG28****, you change directory to "..\PQZZTG****\"
- 3. Type "SET_COM 1" from the keyboard (when COM port 1 is used for the connection).
- 4. Type "readid". Check ID code on PC screen.
 - If OK (ID is displayed), go to advances to the adjustment process.
 - If NG (ID is not displayed), you have to stop this procedure, and check your PC environment.

BandGAP Voltage Adjustment

- 1. Check BandGap voltage. (TP106 -TP309)
- 2. If voltage value is 1.8 V \pm 0.02 V then OK, go to Frequency Adjustment process. If voltage value is not 1.8 V \pm 0.02 V then, go to step 3.
- 3. Type "bandgap", you can check registered value of parameter.

When you want to up the voltage: "Value+1".

When you want to down the voltage: "Value-1".

- 4. Type "bandgap nn", you can register a new parameter value.
- 5. Please operate step1 to 5 again until the voltage becomes it within the range.

Please confirm the following item when the adjustment does not go well.

Symptom	item
Can not Adjust Bandgap Voltage	Please check Power Supply Circuit.

When it does not improve even if the above-mentioned is confirmed, IC4 might be defective. Please check soldering.

Frequency Adjustment

- 1. Type "conttx" then set to RF burst mode. (Respons "OK")
- 2. Check Frequency. (TP601 -TP105)
- 3. If Frequency value is 10.368000 MHz ± 5 Hz then OK, finished Adjustment process - Please turn off the power of PCB board.
 - If Frequency value is not 10.368000 MHz \pm 5 Hz then, go to step 4.
- 4. Type "setfreq", you can check registered value of parameter.

When you want to up the frequency: "Value -1".

When you want to down the frequency: "Value +1".

- 5. Type "setfreq nn", you can register a new parameter value.
- 6. Please operate step1 to 6 again until the Frequency becomes it within the range.

Please confirm the following item when the adjustment does not go well.

Symptom	item
Can not Adjust RFCLK Frequency	Please check
	VDDRF (R51, C18, C54),
	RFCLK (R614, L600, C622)

When it does not improve even if the above-mentioned is confirmed, IC4 or IC600 (RF unit) might be defective. Please check soldering.

Cross Reference:

Power Supply Circuit (P.10)

Example

D:\PQZZTG****	-bandgap
08	
D:\PQZZTG****	bandgap 09
OK	
D:\PQZZTG****	>

Example
D:\PQZZTG****>conttx
ОК
D:\PQZZTG****>setfreq
66
D:\PQZZTG****>setfreq 65
ок
D:\PQZZTG****>

12.7. Adjustment of Cordless Handset

When IC2 (EEPROM) is exchanged, the default data resistration ,the bandgap adjustment and the frequency adjustment are necessary. When IC1 (BBIC) is exchanged, the bandgap adjustment and the frequency adjustment are necessary. When X1 (X'tal) is exchanged, the frequency adjustment is necessary.

Procedure:

- 1. Open a window of MS-DOS mode from the start-up menu.
- 2. Change directory to the copied folder.

Ex) If you initialize TG28****, you change directory to "..\PQZZTG****\"

- 3. Type "SET_COM 1" from the keyboard (when COM port 1 is used for the connection).
- 4. Type "readid". Check ID code on PC screen.
 - If OK (ID is displayed), go to advances to the adjustment process.
 - If NG (ID is not displayed), you have to stop this procedure, and check your PC environment.

Default data resistration

- 1. Type "eeprom_hs_init", you can register a default data to the EEPROM.
- 2. When you can confirm OK, please do the following adjustment procedure.
- 3. When it is not OK, please check the IC and soldering then operate step1 again.

BandGAP Voltage Adjustment

- 1. Check BandGap voltage. (TP: +1.8V- GND)
- 2. If voltage value is 1.8 V \pm 0.02 V then OK, go to **Frequency Adjustment** process. If voltage value is not 1.8 V \pm 0.02 V then, go to step 3.
- 3. Type "bandgap", you can check registered value of parameter.

When you want to up the voltage: "Value+1".

When you want to down the voltage: "Value-1".

- 4. Type "bandgap nn", you can register a new parameter value.
- 5. Please operate step1 to 5 again until the voltage becomes it within the range.

Please confirm the following item when the adjustment does not go well.

Symptom	item
Can not Adjust Bandgap Voltage	Please check Power Supply Circuit .

When it does not improve even if the above-mentioned is confirmed, IC1 might be defective. Please check soldering.

Frequency Adjustment

- 1. Type "conttx" then set to RF burst mode. (Respons "OK")
- 2. Check Frequency. (TP: RFCLK-GND)
- 3. If Frequency value is 10.368000 MHz \pm 5 Hz then OK , finished Adjustment process
 - Please turn off the power of PCB board.
- If Frequency value is not 10.368000 MHz \pm 5 Hz then, go to step 4.
- 4. Type "setfreq", you can check registered value of parameter.

When you want to up the frequency: "Value -1".

When you want to down the frequency: "Value +1".

- 5. Type "setfreq nn", you can register a new parameter value.
- 6. Please operate step1 to 6 again until the Frequency becomes it within the range.

Please confirm the following item when the adjustment does not go well.

Symptom	item
Can not Adjust RFCLK Frequency	Please check VDDRF (R2, C10),
	RFCLK (R5, L1, C708)

When it does not improve even if the above-mentioned is confirmed, IC1 or IC700 (RF unit) might be defective. Please check soldering.

Cross Reference:

Power Supply Circuit (P.16)

Example

D:\textbf{D:\textsize}\text{D:\textsize}\text{PQZZTG****}\text{ eeprom_hs_init}
OK
D:\text{PQZZTG****}

Example

D:\PQZZTG****>bandgap 08 D:\PQZZTG****>bandgap 09 OK D:\PQZZTG****>

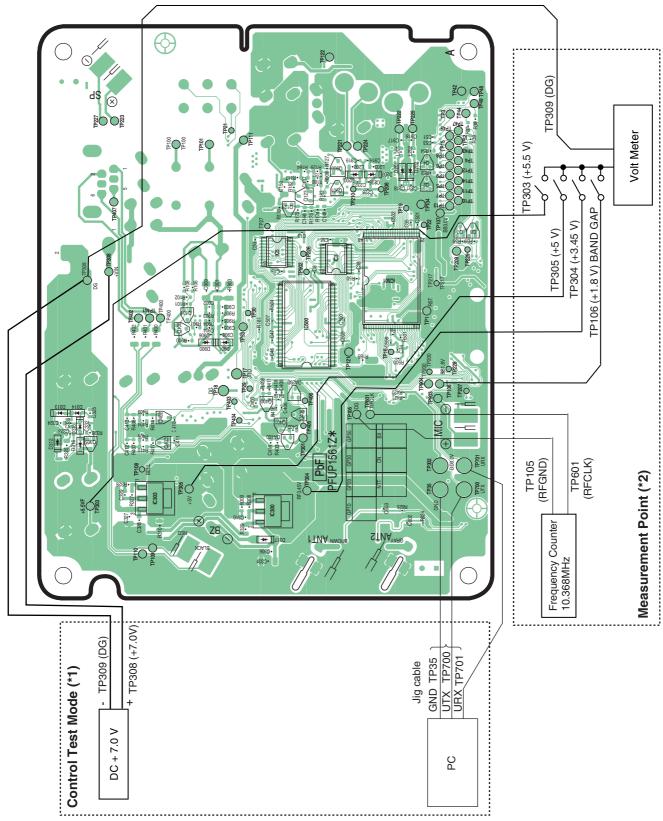
Example

D:\PQZZTG****>conttx
OK
D:\PQZZTG****>setfreq
66
D:\PQZZTG****>setfreq 65
OK
D:\PQZZTG****>

12.8. Base Unit Reference Drawing

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

12.8.1. Flow Solder Side View



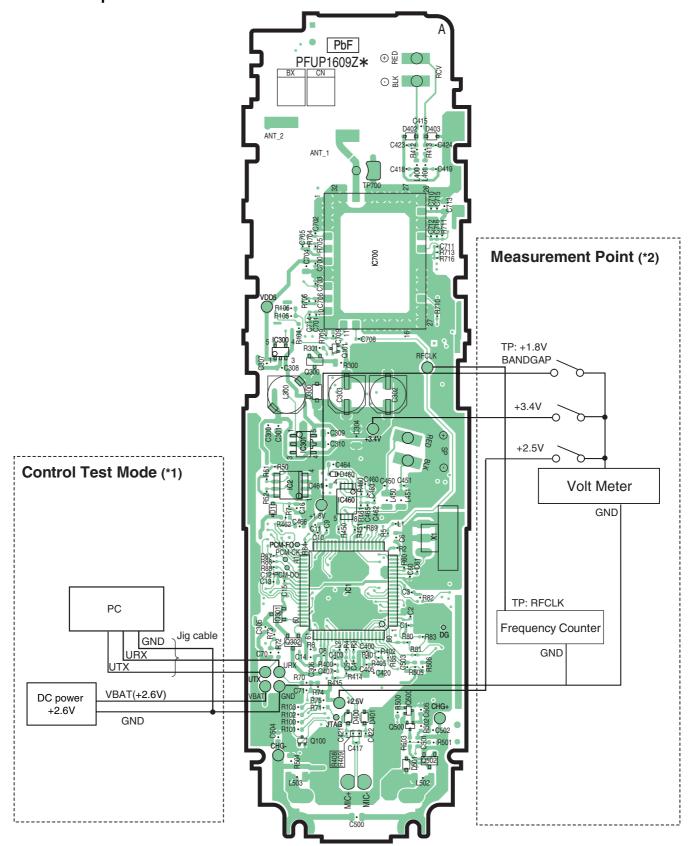
Note:

- (*1) is referred to The Setting Method of JIG (Base Unit) (P.59)
- (*2) is referred to Adjustment of Base Unit (P.62)

12.9. Cordless Handset Reference Drawing

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

12.9.1. Component View



Note:

- (*1) is referred to The Setting Method of JIG (Cordless Handset) (P.60)
- (*2) is referred to Adjustment of Cordless Handset (P.63)

12.10. Frequency Table

Channel	Center Frequency (MHz)	RX Local Frequency (MHz)
2 (02H)	2402.784	2401.92
3 (03H)	2403.648	2402.784
4 (04H)	2404.512	2403.648
5 (05H)		2404.512
6 (06H)		2405.376
7 (07H)		2406.24
8 (08H)	2407.968	2407.104
9 (09H)	2408.832	2407.104
10 (0AH)		2407.906
` ,	2410.56	
		2409.696
12 (0CH)	2411.424	2410.56 2411.424
13 (0DH)	2412.288	
14 (0EH)		2412.288
15 (0FH)		2413.152
16 (10H)		2414.016
17 (11H)		2414.88
18 (12H)	2416.608	2415.744
19 (13H)	2417.472	2416.608
20 (14H)		2417.472
21 (15H)		2418.336
22 (16H)		2419.2
23 (17H)	2420.928	2420.064
24 (18H)	2421.792	2420.928
25 (19H)		2421.792
26 (1AH)	2423.52	2422.656
27 (1BH)	2424.384	2423.52
28 (1CH)	2425.248	2424.384
29 (1DH)	2426.112	2425.248
30 (1EH)	2426.976	2426.112
31 (1FH)		2426.976
32 (20H)		2427.84
33 (21H)	2429.568	2428.704
34 (22H)	2430.432	2429.568
35 (23H)		2430.432
	2432.16	2431.296
37 (25H)		2432.16
38 (26H)	2433.888	2433.024
39 (2011) 39 (27H)	2434.752	2433.888
40 (28H)		2434.752
	2436.48	
, ,		2435.616
42 (2AH)	2437.344	2436.48
43 (2BH)	2438.208	2437.344
44 (2CH)	2439.072	2438.208
45 (2DH)	2439.936	2439.072
46 (2EH)	2440.8	2439.936
47 (2FH)	2441.664	2440.8
48 (30H)	2442.528	2441.664
49 (31H)	2443.392	2442.528
50 (32H)	2444.256	2443.392
51 (33H)	2445.12	2444.256
52 (34H)	2445.984	2445.12
53 (35H)	2446.848	2445.984
54 (36H)	2447.712	2446.848
55 (37H)	2448.576	2447.712
56 (38H)	2449.44	2448.576
57 (39H)	2450.304	2449.44
58 (3AH)	2451.168	2450.304
59 (3BH)	2452.032	2451.168
60 (3CH)	2452.896	2452.032
61 (3DH)	2453.76	2452.896
62 (3EH)	2454.624	2453.76
63 (3FH)	2455.488	2454.624
64 (40H)	12456 352	12455 488
64 (40H) 65 (41H)	2456.352 2457.216	2455.488 2456.352

Channel	Center Frequency (MHz)	RX Local Frequency (MHz)
66 (42H)	2458.08	2457.216
67 (43H)	2458.944	2458.08
68 (44H)	2459.808	2458.944
69 (45H)	2460.672	2459.808
70 (46H)	2461.536	2460.672
71 (47H)	2462.4	2461.536
72 (48H)	2463.264	2462.4
73 (49H)	2464.128	2463.264
74 (4AH)	2464.992	2464.128
75 (4BH)		2464.992
76 (4CH)	2466.72	2465.856
77 (4DH)	2467.584	2466.72
78 (4EH)	2468.448	2467.584
79 (4FH)	2469.312	2468.448
80 (50H)		2469.312
81 (51H)	2471.04	2470.176
82 (52H)		2471.04
83 (53H)	2472.768	2471.904
84 (54H)	2473.632	2472.768
85 (55H)	2474.496	2473.632
86 (56H)	2475.36	2474.496
87 (57H)	2476.224	2475.36
88 (58H)	2477.088	2476.224
89 (59H)	2477.952	2477.088
90 (5AH)		2477.952
91 (5BH)	2479.68	2478.816
92 (5CH)	2480.544	2479.68

13 Schematic Diagram

13.1. For Schematic Diagram

13.1.1. Base Unit (Schematic Diagram (Base Unit_Main))

Notes:

- 1. DC voltage measurements are taken with an oscilloscope or a tester with a ground.
- 2. This schematic diagram may be modified at any time with the development of new technology.

13.1.2. Cordless Handset (Schematic Diagram (Cordless 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.

13.1.3. Charger Unit (Schematic Diagram (Charger Unit))

Notes:

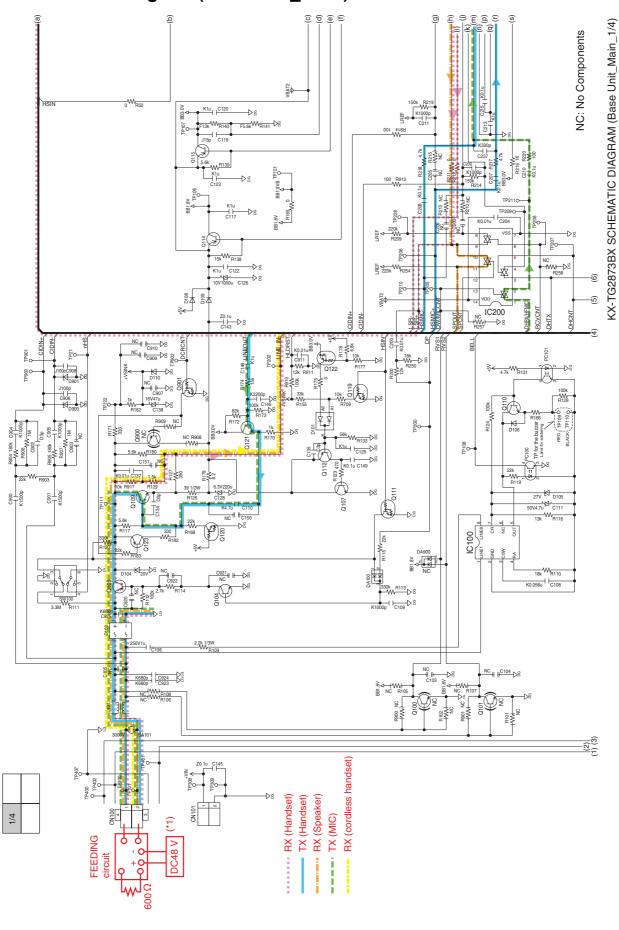
1. DC voltage measurements are taken with voltmeter from the negative voltage line.

Important Safety Notice:

Components identified by \triangle mark have special characteristics important for safety. When replacing any of these components, use only the manufacturer's specified parts.

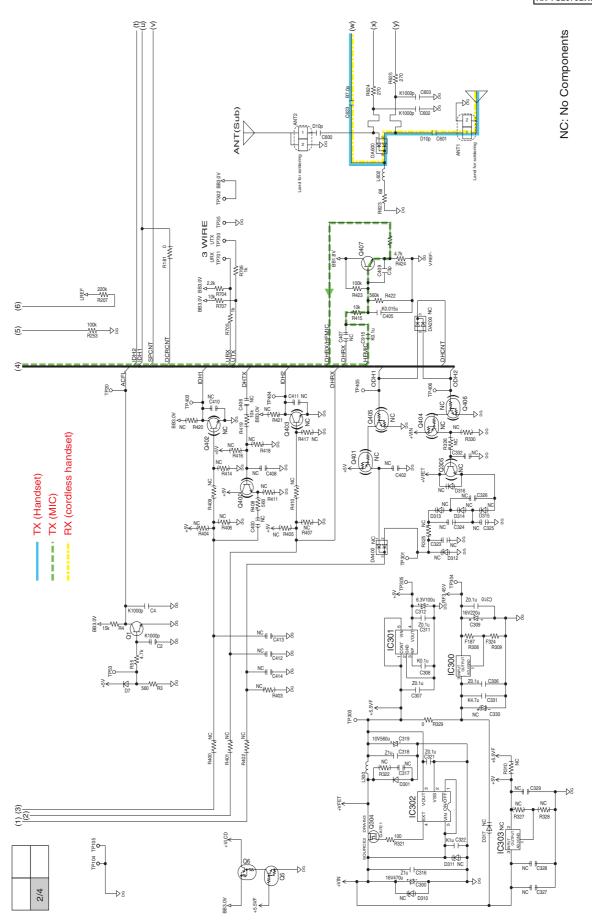
2. This schematic diagram may be modified at any time with the development of new technology.

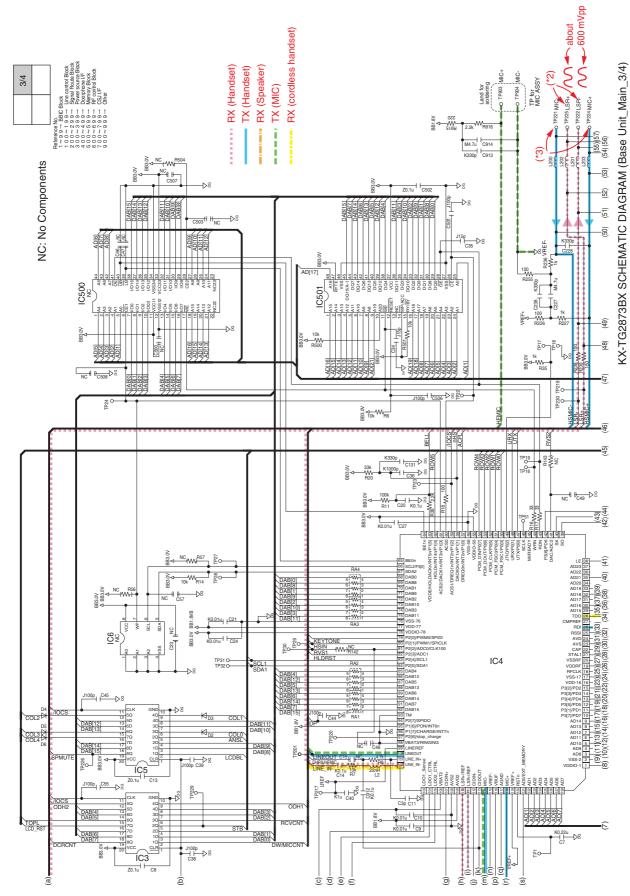
13.2. Schematic Diagram (Base Unit_Main)



Note:

(*1) Refer to Input Level (P.77)

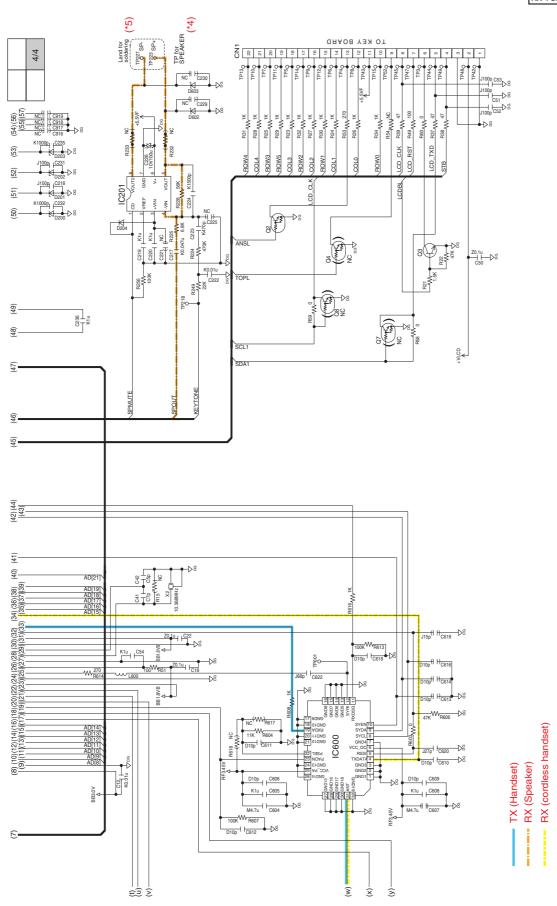




Note:

(*2) (*3) Refer to Input Level (P.77)

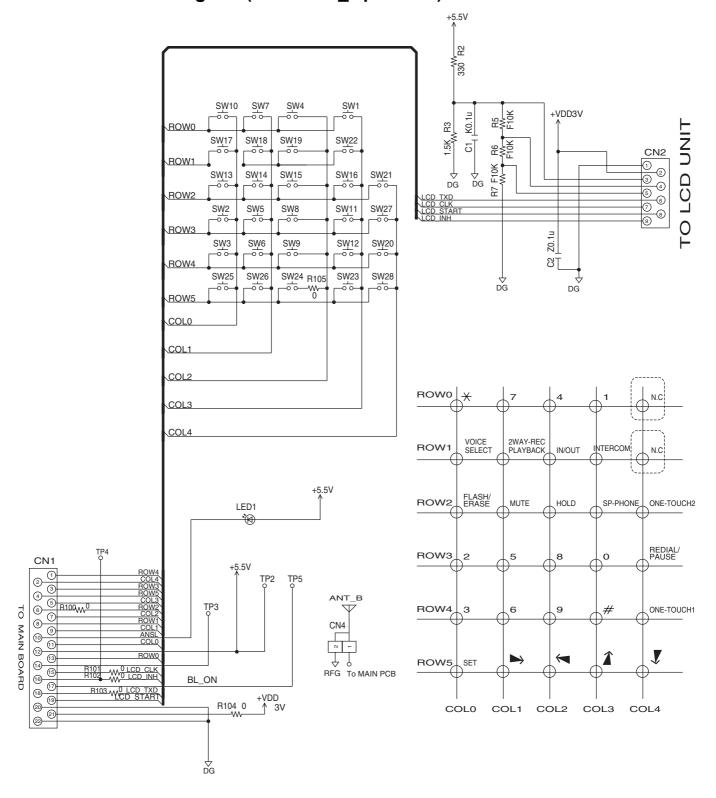
NC: No Components



Note:

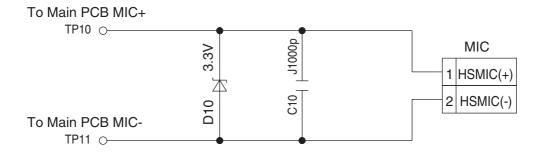
(*4) (*5) Refer to Input Level (P.77)

13.3. Schematic Diagram (Base Unit_Operation)



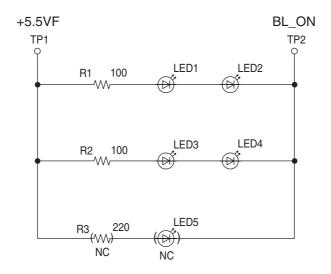
NC: No Components
KX-TG2873 SCHEMATIC DIAGRAM (Base Unit_Operation)

13.4. Schematic Diagram (Base Unit_MIC)



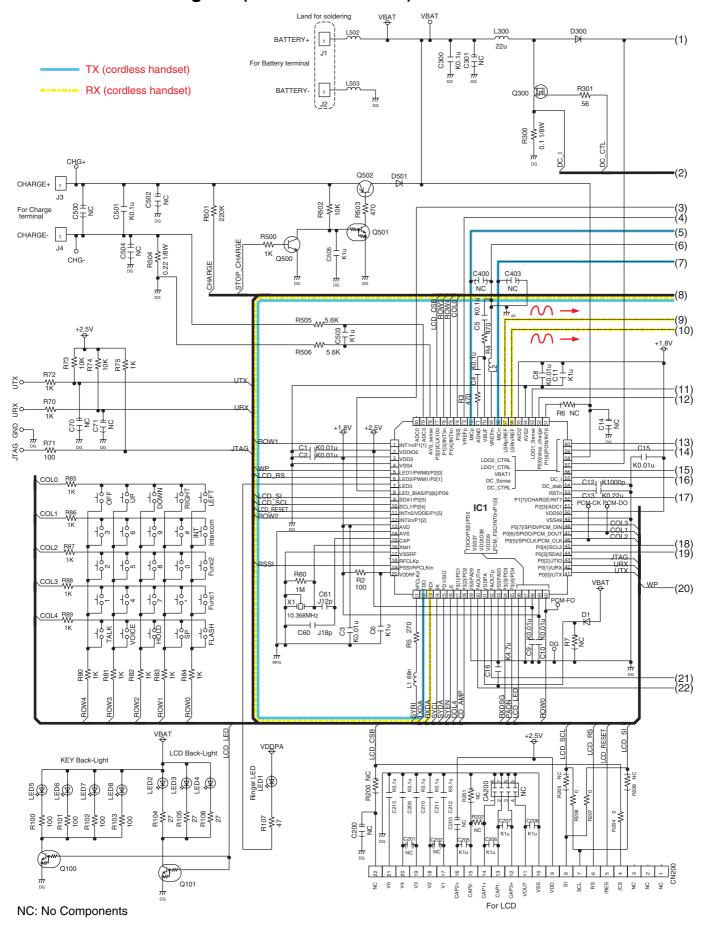
KX-TG2873 SCHEMATIC DIAGRAM (Base Unit_MIC)

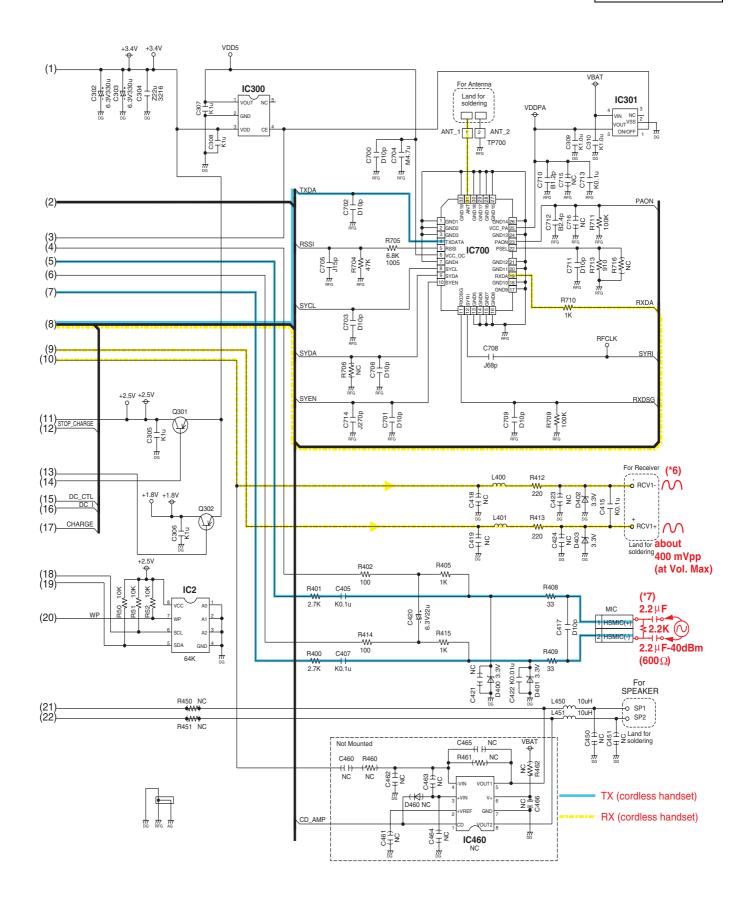
13.5. Schematic Diagram (Base Unit_Back Light)



NC: No Components KX-TG2873 SCHEMATIC DIAGRAM (Base Unit_Back Light)

13.6. Schematic Diagram (Cordless Handset)



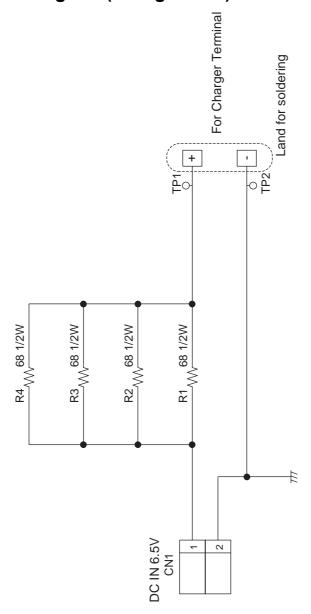


NC: No Components
KX-TGA280 SCHEMATIC DIAGRAM (Cordless Handset)

Note:

(*6) (*7) Refer to Input Level (P.77)

13.7. Schematic Diagram (Charger Unit)



SCHEMATIC DIAGRAM (Charger Unit)

13.8. Input Level

(*1) RX (Handset), RX (SP-phone), and RX (Cordless Handset);

- T-R (CN100: 3-4 pin)
- TEST SIGNAL FREQUENCY: 1 kHz

(with FEEDING Bridge circuit at IL = 80 mA)

• The signal is input to between T-R, with the generator that set the output to -20 dBm.

Note

When measured by you, please mute MIC.

TX (Handset);

- T-R (CN100: 3-4 pin)
- · about 600 mVpp
- about: -11.5 dBm (600 ohm)

TX (SP-phone);

- T-R (CN100: 3-4 pin)
- about 1.44 Vpp
- about: -3.8 dBm (600 ohm)

TX (Cordless Handset);

- T-R (CN100: 3-4 pin)
- about 640 mVpp
- about -11.0 dBm (600 ohm)

(*2) RX (Handset);

- LSR + (TP225) to DG and LSR (TP222) to DG
- about 600 mVpp (Vol: max)
- DC-REF: about 900 mV

(*3) TX (Handset);

- MIC_in (MIC+: TP224) to (MIC-: TP221)
- TEST SIGNAL FREQUENCY: 1 kHz
- The signal is input to MIC IN, with the generator that set the output to -40 dBm. (with HS JIG (Terminate 2.2 kohm)

(*4) RX (SpeakerPhone);

- SP + (TP223) to DG and SP (TP227) to DG, with SP (16 ohm)
- about 900 mVpp (Vol: max)
- DC-REF: about 2.5 V

(*5) TX (MIC);

- MIC_Assy_in (MIC+: TP903 = HFMIC) to (MIC-: TP904 = DG)
- TEST SIGNAL FREQUENCY: 1kHz
- The signal is input to MIC_in, with the generator that set the output to -50 dBm. (with HS JIG (Terminate 2.2 kohm)

(*6) RX (Cordless Handset);

- RCV1 + to DG and
- RCV1 to DG, with Receiver
- about 400 mVpp (Vol: max)
- DC-REF: about 900 mV

(*7) TX (Cordless Handset);

- HSMIC (+) to HSMIC (-)
- TEST SIGNAL FREQUENCY: 1kHz
- The signal is input to MIC IN, with the generator that set the output to -40 dBm. (with HS JIG (Terminate 2.2 kohm)

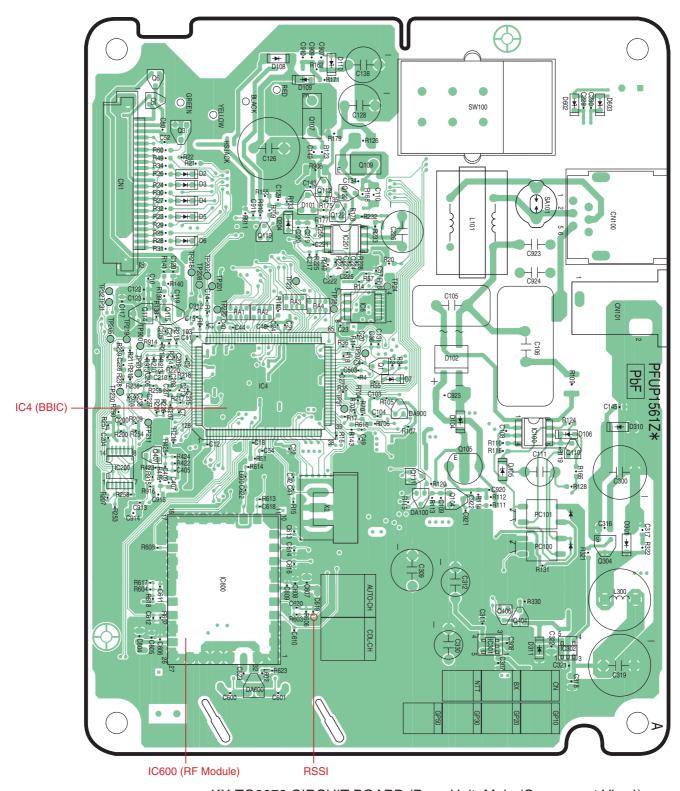
KX-TG2873BXS/KX-TGA280BXS

Memo

14 Printed Circuit Board

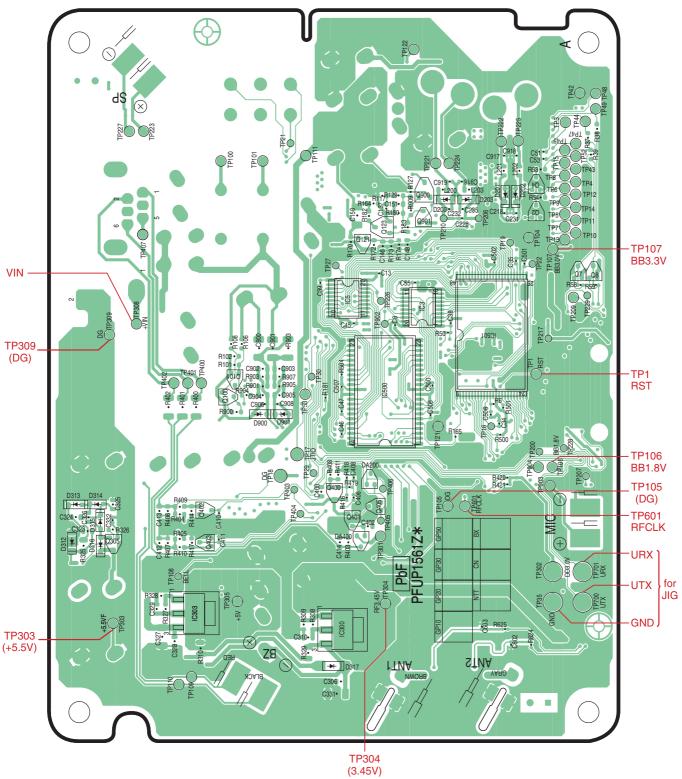
14.1. Circuit Board (Base Unit_Main)

14.1.1. Component View



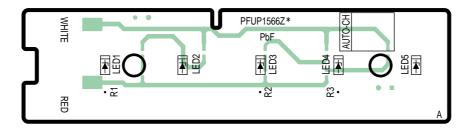
KX-TG2873 CIRCUIT BOARD (Base Unit_Main (Component View))

14.1.2. Flow Solder Side View



KX-TG2873 CIRCUIT BOARD (Base Unit_Main (Flow Sloder Side View))

14.2. Circuit Board (Base Unit_Back Light)



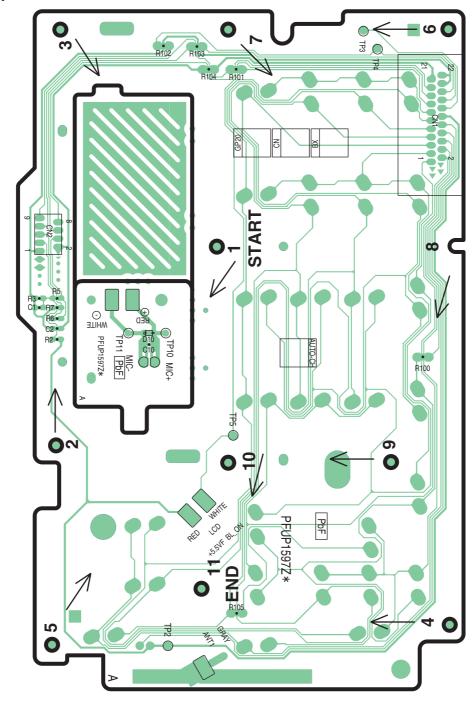
CIRCUIT BOARD (Base Unit_Back Light (Component View))

KX-TG2873BXS/KX-TGA280BXS

Memo

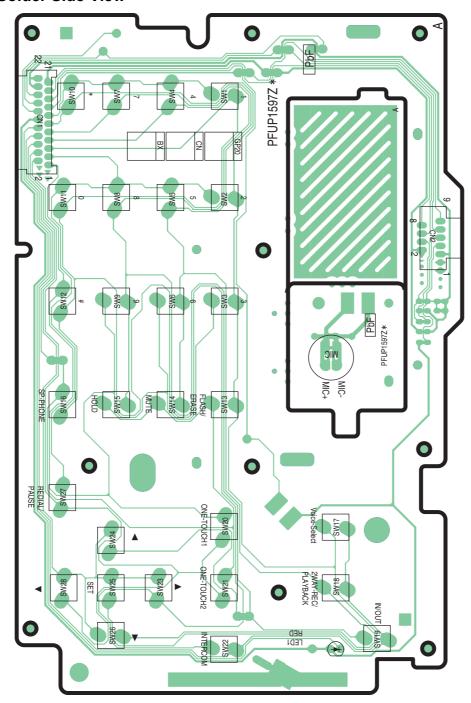
14.3. Circuit Board (Base Unit_Operation and MIC)

14.3.1. Component View



KX-TG2873 CIRCUIT BOARD (Base Unit_Operation and MIC (Component View))

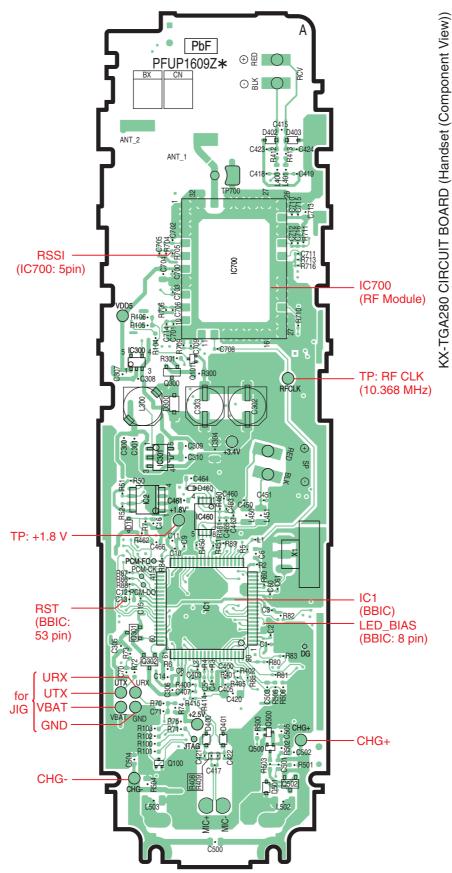
14.3.2. Flow Solder Side View



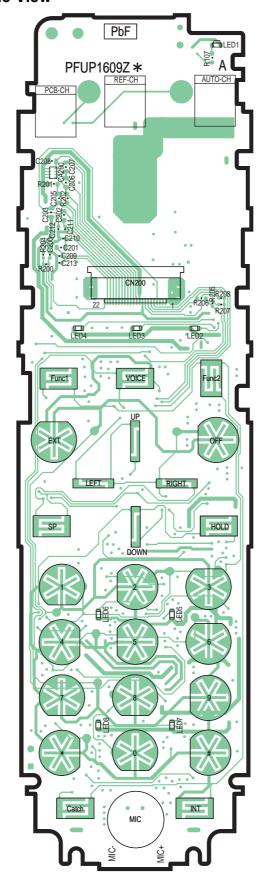
KX-TG2873 CIRCUIT BOARD (Base Unit_Operation and MIC (Flow Solder Side View))

14.4. Circuit Board (Cordless Handset)

14.4.1. Component View



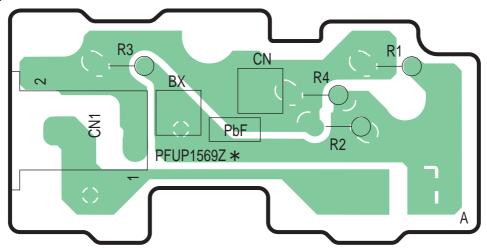
14.4.2. Flow Solder Side View



KX-TGA280 CIRCUIT BOARD (Cordless Handset (Flow Solder Side View))

14.5. Circuit Board (Charger Unit)

14.5.1. Component View



CIRCUIT BOARD (Charger Unit (Component View))

15 Appendix Information of Schematic Diagram

15.1. CPU Data (Base Unit)

15.1.1. BBIC (IC4)

Digital Source 3.0V VDD	PIN	Description	I/O	High	High_Z	Low
Address bus	1	Digital Source 3.0V	VDD	-	-	-
3	2		DGN	-	-	-
4 Address bus D.O - - H 5 Address bus D.O - - H 6 Address bus D.O - - H 7 Address bus D.O - - H 8 Address bus D.O - - H 9 Address bus D.O - - H 10 ANT diversity cont D.O - - O-HiZ 11 ANT diversity cont D.O - - O-HiZ 12 RF-PA ON: SW D.O ON OFF O-HiZ 13 Speaker output D.O ON OFF O-HiZ 14 Non use - - O-HiZ 15 Non use - - O-HiZ 16 Digital Source 1.8V +1.8 - - - 17 Digital GND DO - - L			D			
5 Address bus D.O - - H 6 Address bus D.O - - H 7 Address bus D.O - - H 9 Address bus D.O - - H 10 ANT diversity cont D.O - - O-HiZ 11 ANT diversity cont D.O - - O-HiZ 12 RF-PA ON: SW D.O ON OFF O-HiZ 13 Speaker output D.O ON OFF O-HiZ 14 Non use - - - O-HiZ 15 Non use - - - O-HiZ 16 Digital GND DGN - - L 17 Digital GND DGN - - L 20 Digital GND - - - - 21 10.368 MHz IN D.I - - <td>3</td> <td>Address bus</td> <td>D.O</td> <td>-</td> <td>-</td> <td>Н</td>	3	Address bus	D.O	-	-	Н
6 Address bus D.O - H H H M Address bus D.O - H H H M Address bus D.O - H H H M M M M M M M M M M M M M M M M	4	Address bus	D.O	-	-	Н
6 Address bus D.O - H H H M Address bus D.O - H H H M Address bus D.O - H H H M M Address bus D.O - H H H M M M M M M M M M M M M M M M M	5	Address bus	D.O	-	-	Н
7				-	-	
8 Address bus D.O - - H 9 Address bus D.O - - H 10 ANT diversity cont D.O - - O-HiZ 11 ANT diversity cont D.O ON OFF O-HiZ 12 RF-PA ON: SW D.O ON OFF O-HiZ 13 Speaker output D.O ON OFF O-HiZ 14 Non use - - O-HiZ 15 Non use - - O-HiZ 16 Digital Source 1.8V +1.8 - - 17 Digital GND DO - L 18 RF_CLK D.O - - L 19 Digital GND - - - L 20 Digital GND - - - - - 21 10.368 MHz IN D.I - - I - <t< td=""><td></td><td></td><td></td><td></td><td>_</td><td></td></t<>					_	
9					_	
10					_	
11	-					
12					_	
13 Speaker output D.O ON OFF O-HiZ 14 Non use					OFF	
14						
15				_		_
16			-			
No				-	-	U-niz
17	16	Digital Source 1.8V		-	-	-
Name	17	Digital GND			_	_
18		J.g.ta. 0.12	_			
19	18	RF CLK	D.O	-	-	L
V					_	_
Digital GND	'	Digital Course 1.01	-			
21	20	Digital GND			_	_
22		-			_	
23				_		
D				_	_	-
24	23	Analog GND	_	_	_	_
V 25 RSSI	24	1.8\/		_	_	_
25 RSSI A.I - - I 26 RF recovery I input D.I - - I 27 Non use - - - I 28 RF_TX_DATA D.O - - Hi-Z 29 Address bus D.O - - H 30 Address bus D.O - - H 31 Address bus D.O - - H 32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - H 35 Address bus Non D.O - - H 36 Address bus Non D.O - - H 37 Address bus Non D.O - - L 39 RF serial DATA		1.00	-	_	_	_
26 RF recovery I input D.I - - I 27 Non use - - - I 28 RF_TX_DATA D.O - - Hi-Z 29 Address bus D.O - - H 30 Address bus D.O - - H 31 Address bus D.O - - H 32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - - H 35 Address bus Non D.O - - - H 36 Address bus Non D.O - - - H 37 Address bus Non D.O - - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - -	25	RSSI	-	-	-	
27 Non use - - I 28 RF_TX_DATA D.O - - Hi-Z 29 Address bus D.O - - H 30 Address bus D.O - - H 31 Address bus D.O - - H 32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - - H 35 Address bus Non D.O - - - H 36 Address bus Non D.O - - - H 37 Address bus Non D.O - - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - L 40 RF serial DATA D.O - - L					_	<u> </u>
28 RF_TX_DATA D.O - - Hi-Z 29 Address bus D.O - - H 30 Address bus D.O - - H 31 Address bus D.O - - H 32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - H 35 Address bus Non D.O - - H 36 Address bus Non D.O - - H 36 Address bus Non D.O - - H 37 Address bus Non D.O - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - L 40					_	·
29 Address bus D.O - - H 30 Address bus D.O - - H 31 Address bus D.O - - H 32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - H 35 Address bus Non D.O - - H 36 Address bus Non D.O - - H 36 Address bus Non D.O - - H 37 Address bus Non D.O - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - L 40 RF serial DATA D.O - - L 41				_		Hi₋7
30 Address bus D.O - - H 31 Address bus D.O - - H 32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - H 35 Address bus Non D.O - - H 36 Address bus Non D.O - - H 36 Address bus Non D.O - - H 37 Address bus Non D.O - - H 38 RF LOAD EN D.O - - L H 39 RF serial DATA D.O - - L Hi-Z 40 RF serial DATA D.O - - L L 41 Non use D.I - - <						
31 Address bus D.O - - H 32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - H 34 Address bus Non D.O - - H 35 Address bus Non D.O - - H 36 Address bus Non D.O - - H 36 Address bus Non D.O - - H 37 Address bus Non D.O - - H 38 RF LOAD EN D.O - - L L 39 RF serial DATA D.O - - L Hi-Z 40 RF serial DATA D.O - - L L 41 Non use D.O TX					_	
32 Address bus D.O - - H 33 Address bus D.O - - H 34 Address bus Non D.O - - H 34 Address bus Non D.O - - H 35 Address bus Non D.O - - H 36 Address bus Non D.O - - H 36 Address bus Non D.O - - H 36 Address bus Non D.O - - H 37 Address bus Non D.O - - H 38 RF LOAD D.O - - L L 39 RF serial DATA D.O - - L Hi-Z 40 RF serial DATA D.O - T L L 41 Non use D.O			_		_	
33 Address bus D.O - - H 34 Address bus Non use D.O - - H 35 Address bus Non use D.O - - H 36 Address bus Non use D.O - - H 37 Address bus Non use D.O - - - H 38 RF LOAD EN D.O - - L L 39 RF serial DATA D.O - - - Hi-Z 40 RF serial CLK D.O - - L L 41 Non use D.I - - I L 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - H				-	-	
34 Address bus Non use D.O - - H 35 Address bus Non use D.O - - H 36 Address bus Non use D.O - - H 37 Address bus Non use D.O - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - Hi-Z 40 RF serial CLK D.O - - L 41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN				-	-	
USE				-	-	
35 Address bus D.O - - H 36 Address bus Non use D.O - - H 37 Address bus Non use D.O - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - Hi-Z 40 RF serial CLK D.O - - L 41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - Deb	34		ט.ט	-	-	Н
36 Address bus Non use D.O - - H 37 Address bus Non use D.O - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - Hi-Z 40 RF serial CLK D.O - - L 41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - Debug I-PU 49 JTAG DATA i/f D.I -	25		D 0			
USE				-	-	
37 Address bus Non use D.O - - H 38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - Hi-Z 40 RF serial CLK D.O - - L 41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - I-PU 49 JTAG DATA i/f D.I - Debug I-PU	36		ט.ט	-	-	Н
USE USE USE USE	0.7		D 0			
38 RF LOAD EN D.O - - L 39 RF serial DATA D.O - - Hi-Z 40 RF serial CLK D.O - - L 41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - I-PU 49 JTAG DATA i/f D.I - Debug MODE I-PU	3/		ט.ט	-	-	H
39 RF serial DATA D.O - - Hi-Z 40 RF serial CLK D.O - - L 41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - I-PD 49 JTAG DATA i/f D.I - Debug MODE I-PU	20		D 0			
40 RF serial CLK D.O - - L 41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - - I-PD 49 JTAG DATA i/f D.I - Debug MODE I-PU					-	
41 Non use D.I - - I 42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - - I-PD 49 JTAG DATA i/f D.I - Debug MODE I-PU					-	
42 RF_TXRX_SW D.O TX RX O-HiZ 43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - - I-PD 49 JTAG DATA i/f D.I - Debug MODE I-PU					-	
43 FROM_READ D.O - READ H 44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - - I-PD 49 JTAG DATA i/f D.I - Debug MODE I-PU						
44 FROM_WRITE D.O - WRITE H 45 Non use D.O - - I-PU 46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - - I-PD 49 JTAG DATA i/f D.I - Debug MODE I-PU						
1-PU 45 Non use		_		-		
46 Non use D.O - - H 47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - - I-PD 49 JTAG DATA i/f D.I - Debug I-PU MODE I-PU MODE I-PU I-PU		_		-		
47 UART TX_DATA D.O RUN BOOT I-PU 48 UART RX_DATA D.I - I-PD 49 JTAG DATA i/f D.I - Debug MODE I-PU	45				-	
48 UART RX_DATA D.I I-PD 49 JTAG DATA i/f D.I - Debug I-PU MODE				-		
49 JTAG DATA i/f D.I - Debug I-PU MODE	47		D.O	RUN	BOOT	I-PU
MODE	48	UART RX_DATA	D.I	-	-	I-PD
	49	JTAG DATA i/f	D.I	-		I-PU
D.I NOII Key III I-PU	50	kov Soon	D.	Non		יום ו
	SU	ney outil	IJ.I	INOII	rey III	1-PU

PIN	Description	I/O	High	High_Z	Low
51	key Scan	D.I	Non	Key in	I-PU
52	key Scan	D.I	Non	Key in	I-PU
53	key Scan	D.I	Non	Key in	I-PU
	•				
54	key Scan	D.I	Non	Key in	I-PU
55	Digital Source 3.0V	VDD	-	-	-
56	Digital GND	DGN D	-	-	-
57	AC POW_Det.	D.I	AC_OFF	AC_ON	I-PU
58	HOOK Det.	D.I	HOOK-ON	HOOK- OFF	I-PU
59	IO_CS	D.O	-	CS-on	I-PU
60	ROM_CS	D.O	-	CS-on	Н
61	EEPROM_Write Protect	D.O	Protect	Write	I-PU
62	key Scan	D.I	Non	Key in	I-PU
63	Ring Det.	D.I	-	Ring-In	O-H
64	Non use	D.O	-	-	O-H
65	Non use	D.O	_	-	O-H
66	EEPROM Clock	D.O	_	_	0-H
67	EEPROM data	D.O	_	-	U-n
			-	-	· -
68	Data bus	1/0	-	-	Н
69	Data bus	I/O	-	-	Н
70	Data bus	I/O	-	-	Н
71	Data bus	I/O	-	-	Н
72	Data bus	I/O	-	-	Н
73	Data bus	I/O	-	-	Н
74	Data bus	I/O	-	-	Н
75	Data bus	I/O	-	-	Н
76	DG	DGN D	-	-	-
77	Digital Source 1.8V	+1.8 V	-	-	-
78	Digital Source 3.0V	+3.0 V	-	-	-
79	KEYTONE	A.O	Analog	Analog	I
80	Line Hold Cont.	D.O	Open	Hold	I
81	Non use	A.I	-	-	I
82	Loop Current Det.	A.I	_	_	<u>.</u>
83	LCD_CLK:115.2kH	D.O	-	-	i i
84		D.O	_	_	I
84 85	LCD_DATA	1/0		-	H
	Data bus		-	-	
86	Data bus	1/0	-	-	Н
87	Data bus	1/0	-	-	Н
88	Data bus	I/O	-	-	Н
89	Data bus	I/O	-	•	Н
90	Data bus	I/O	-	-	Н
91	Data bus	I/O	-	-	Н
92	Data bus	I/O	-	-	Н
93	Non use (Test Mode pin)	D.I	-	-	O-L
94	Loop Control	D.O	Line Open	Loop Close	O-HiZ
95	Power-ON Det.	D.I	Power-on	-	I-PD
96	Non use	D.I		_	I-PD
97	Non use	A.O		-	0-L
			-	-	
98	Non use	D.I	-	-	I
99	REF (0.9V)	A.O	-	-	0
100	TX Analog signal	A.O	Analog	Analog	0
		A.I		Analog	I
101	CID Det. RX Analog signal		Analog Analog		g

PIN	Description	I/O	High	High_Z	Low
103	REG1_Sense	A.I	-	-	I
104	REG1 control	D.O	-	-	Н
105	REG2 control	D.O	-	-	L
106	Power Source	VBA	-	-	I
	INPUT	T2			
107	CID Signal INPUT	A.I	Analog	Analog	I
108	Analog GND	AGN	-	-	-
		D			
109	1.8V	+1.8	-	-	-
		V			
110	SP/HS Rec-OUT	A.O	Analog	Analog	0
111	HS Rec-OUT	A.O	Analog	Analog	0
112	CID Signal INPUT	A.I	Analog	Analog	0
113	CID AMPO	A.O	Analog	Analog	0
114	HS MIC IN	A.I	Analog	Analog	ı
115	AFE-GND	GND	-	-	0
116	MIC Bias	A.O	-	-	0
117	Analog REF(0.9V)	A.O	-	-	0
118	HS MIC IN	A.I	Analog	Analog	ı
119	MIC REF (1.5V)	A.O	-	-	ı
120	Ext Reset IN	I(1.8	-	Reset	I-PU
		V)			
121	ROM Select	D.I	External	Internal	I
122	Address bus	D.O	-	-	Н
123	Address bus	D.O	-	-	Н
124	Address bus	D.O	-	-	Н
125	Address bus	D.O	-	-	Н
126	Address bus	D.O	-	-	Н
127	Address bus	D.O	-	-	Н
128	Address bus	D.O	-	-	Н

15.2. CPU Data (Cordless Handset)

15.2.1. BBIC (IC1)

1	PIN	Description	I/O	High	High_Z	Low
2						
2.5V	2			_	-	-
3	<u> </u>		100			
Source 1.8V Digital GND	3		ממע	_	_	_
Second Columbia			V D D			
Separate	4		DGN	_	_	_
EEPROM Write	7	Digital GIVD	_	_	_	_
Protect	_	EEDDOM Write		\A/rito	Dood	LDII
CD Register Select Selec	5		D.O		Reau	1-20
Select			D 0		la star esti sa	LDII
Table Tabl	О	•	ט.ט	Data	instruction	1-20
8 Regulator Control D.O ON OFF I-PD 9 LCD Serial Data D.O * - I 10 LCD Serial Clock D.O * - I 11 LCD Reset D.O L Reset O-1 12 Key Scan D.I Non key in I-PU 13 Analog (TDO, RSSI, FDA) V Source 1.8V V 14 Analog GND (AVD) AGN Analog GND AGN				. = 5 - 6 = =	. ==	
9						l
10				_	OFF	
11	9		D.O	*	-	I
12	10	LCD Serial Clock	D.O	*	-	
13	11	LCD Reset	D.O	L	Reset	O-1
RSSI, FDA Source 1.8V	12	Key Scan	D.I	Non	key in	I-PU
RSSI, FDA Source 1.8V	13		+1.8	-	-	-
Source 1.8V			V			
14 Analog GND (AVD) AGN D -						
Stal Freq Adjust D.	14		AGN	_	-	-
15	-	/a.og 0.12 (/ 112)				
16	15	Xtal Fred Adjust		_	_	
Input				_	_	<u> </u>
17 GND (RFCLK, Xtal oscillator) 18 NC	10		D.1	_	_	'
0scillator) 18 NC	47		CNID			
18 NC O - - Hi-Z + PU 19 RSSI input A.I - - Hi-Z + PU 20 RFCLK Xtal oscillator Source 1.8V V - - - 21 RF CLK OUT D.O * * O-O 22 RF TX DATA D.O * * I 23 RF RX DATA D.I * * I 24 RF SCLK D.O * * O-O 25 RF SDATA D.O * * O-O 25 RF SDATA D.O * * O-O 26 RF LOAD EN D.O * * O-O 27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD GND - - - 30 CLASSD positive output A.O * * </td <td>17</td> <td>,</td> <td>GND</td> <td>-</td> <td>-</td> <td>-</td>	17	,	GND	-	-	-
19	40	,	_			11: 7 : 511
20		_		-	-	
lator Source 1.8V V 21 RF CLK OUT D.O *				-	-	Hi-Z + PU
21 RF CLK OUT D.O * * O-O 22 RF TX DATA D.O * * I 23 RF RX DATA D.I * * I 24 RF SCLK D.O * * O-O 25 RF SDATA D.O * * I-PD 26 RF LOAD EN D.O * * O-O 27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD power amplifier) GND - - - 30 CLASSD positive output A.O * * O 31 CLASSD audio amplifier Source output A.O * * O 32 CLASSD negative output A.O * * - - 33 GND (CLASSD power amplifier) GND TX RX I-PD	20		_	-	-	-
22 RF TX DATA D.O * * 1 23 RF RX DATA D.I * * I 24 RF SCLK D.O * * O-O 25 RF SDATA D.O * * O-O 26 RF LOAD EN D.O * * O-O 27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD GND - - - - 29 GND (CLASSD positive output A.O * * O O 30 CLASSD audio amplifier Source T - <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td></td<>						
23	21	RF CLK OUT	D.O	*	*	O-0
24 RF SCLK D.O * * O-O 25 RF SDATA D.O * * I-PD 26 RF LOAD EN D.O * * O-O 27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD positive output A.O * * O 30 CLASSD positive output A.O * * O 31 CLASSD audio amplifier Source T * * O 32 CLASSD negative output A.O * * * O 33 GND (CLASSD gND GND * * - - 34 RF TXRX switch D.O TX RX I-PD 35 RF PA ON/OFF SW D.O ON OFF I-PD 36 LCD(KEY)LED Control D.O ON OFF I-PD	22	RF TX DATA	D.O	*	*	
25 RF SDATA D.O * * I-PD 26 RF LOAD EN D.O * * O-0 27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD GND FORD FORD FORD FORD FORD FORD FORD FOR	23	RF RX DATA	D.I	*	*	I
26 RF LOAD EN D.O * * O-0 27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD positive output GND - - - 30 CLASSD positive output A.O * * O O 31 CLASSD audio amplifier Source T * * O O - <td< td=""><td>24</td><td>RF SCLK</td><td>D.O</td><td>*</td><td>*</td><td>O-0</td></td<>	24	RF SCLK	D.O	*	*	O-0
27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD positive output GND - - - 30 CLASSD positive output A.O * * O 31 CLASSD audio amplifier Source T * - - - 32 CLASSD negative output A.O * * * O O 33 GND (CLASSD power amplifier) GND * * - <	25	RF SDATA	D.O	*	*	I-PD
27 Key Scan D.O Non key in I-PD 28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD positive output GND - - - 30 CLASSD positive output A.O * * O 31 CLASSD audio amplifier Source T * - - - 32 CLASSD negative output A.O * * * O O 33 GND (CLASSD power amplifier) GND * * - <	26	RF LOAD EN	D.O	*	*	O-0
28 SP-AMP Mute control D.O Mute I-PD 29 GND (CLASSD positive power amplifier) GND - - - 30 CLASSD positive output A.O * * O 31 CLASSD audio amplifier Source T - - - 32 CLASSD negative output A.O * * O O 33 GND (CLASSD power amplifier) GND * * -	_			Non	kev in	
trol					NOy III	
29 GND (CLASSD power amplifier) GND - <t< td=""><td>20</td><td></td><td>D.O</td><td>wide</td><td></td><td>1-1 D</td></t<>	20		D.O	wide		1-1 D
power amplifier	20		CND			
CLASSD positive output	29	,	GND	-	-	-
output 31 CLASSD audio amplifier Source VBA	00					
31 CLASSD audio amplifier Source VBA - <	30		A.O	^	Ŷ	O
amplifier Source T						
32 CLASSD negative output A.O * * O 33 GND (CLASSD power amplifier) GND * * - 34 RF TXRX switch power amplifier) D.O TX RX I-PD 35 RF PA ON/OFF power amplifier D.O ON OFF power amplifier I-PD 36 LCD(KEY)LED power amplifier D.O ON OFF power amplifier I-PD 37 Digital GND power amplifier DGN power amplifier - - - 38 Digital IO Source power amplifier 2.5 power amplifier - - - 39 Digital Source 1.8V power amplifier +1.8 power amplifier - - - -	31			-	-	-
output 33 GND (CLASSD gND system) * * - - 34 RF TXRX switch power amplifier) D.O power amplifier) TX RX I-PD 35 RF PA ON/OFF power switch D.O power switch ON power switch I-PD 36 LCD(KEY)LED power switch D.O power switch ON power switch I-PD 37 Digital GND power switch DGN power switch - - - 38 Digital IO Source power switch +2.5 power switch - - - 39 Digital Source 1.8V power switch +1.8 power switch - - -						
33 GND (CLASSD GND *	32	_	A.O	*	*	0
power amplifier)						
34 RF TXRX switch D.O TX RX I-PD 35 RF PA ON/OFF SW D.O ON OFF I-PD 36 LCD(KEY)LED control D.O ON OFF I-PD 37 Digital GND DGN D D	33		GND	*	*	-
35 RF PA ON/OFF SW D.O ON OFF I-PD 36 LCD(KEY)LED control D.O ON OFF I-PD 37 Digital GND DGN D D						
SW ON OFF I-PD	34	RF TXRX switch	D.O	TX	RX	I-PD
SW ON OFF I-PD	35	RF PA ON/OFF	D.O	ON	OFF	I-PD
Control		sw				
Control	36		D.O	ON	OFF	I-PD
37 Digital GND DGN -	-					
D	37		DGN	_	_	_
38 Digital IO Source	57	Digital GIVD		_		-
2.5V V Significant V Significa	30	Digital IO Source				
39 Digital Source 1.8V +1.8	30			-	_	-
V	20					
	39	igital Source 1.8V		-	-	-
HU NEY SCAII D.I NON KEY IN 1-PU	40	Kov Coon		Non	kovie	יוחו
	40	Ney Scall	U.I	NOU	кеу іп	1-20

PIN	Description	I/O	High	High_Z	Low
41	Mode control/	D.O	RST1:	RST1:	I-PU
	UART TX data		usually mode	Boot mode	
42	UART RX data	D.I	*	*	I-PU
43	Mode control/JTAG	D.I	RST↑:	RST↑:	I-PU
.0	i/f	5.,	usually mode	Debug mode	
44	EEPROM Serial Data	D.O	*	*	I-PU
45	EEPROM Serial Clock	D.O	*	*	I-PU
46	Key Scan	D.O	Non	key in	I-PU
47	Key Scan	D.O	Non	key in	I-PU
48	Key Scan	D.O	Non	key in	I-PU
49	Digital GND	DGN D	-	-	-
50	Digital IO Source 1.8V	+1.8 V	-	-	-
51	NC	D.I	-	-	I
52	Charger Detect	D.I	Charger on	No Cagier	I-PD
53	Reset	D.I	-	-	I-PU
54	DC/DC converter filter output	D.O	-	-	0
55	DC control current sense input	D.I	-	-	I
56	Switching clock for the DC/DC	D.O	-	-	O-PD
57	Sensor input for DC/DC	D.I	-	-	I
58	VBAT voltage monitor	A.I	A/D	A/D	I
59	Regulator 1 con- trol output	D.O	Active	-	O-1
60	Regulator 2 con- trol output	D.O	Active	-	O-0
61	Power ON	D.I	Active	-	I-PD
62	Charge control	D.O	Stop	Charge On	O-0
63	Low drop regula- tor 1 sense input.	D.I	-	-	I
64	Analog GND (AVD2)	AGN D	-	-	-
65	Analog Power source 1.8V	+1.8 V	-	-	-
66	Receiver output (Negative)/(SP- out)	A.O	Analog	Analog	0
67	Receiver output (Positive)	A.O	Analog	Analog	0
68	MIC in (Negative)	A.I	Analog	Analog	ļ
69	MIC Refer- ence(Negative)	A.O	-	-	0
70	Voltage reference 1.5V	A.O	-	-	0
71	Signal ground 0.9V	A.O	-	-	0
72	MIC in (Positive)	A.I	Analog	Analog	I
73	MIC BIAS(Positive)	A.O	-	-	
74	Key Scan	D.O	Non	key in	I-PD
75	Key Scan	D.I	Non	key in	I
76	Key Scan	D.I	Non	key in	I
77	LCD Chip Select	D.O	Disable	Enable	I-PD
78	Sense input for ADC3.	A.I	-	-	ı

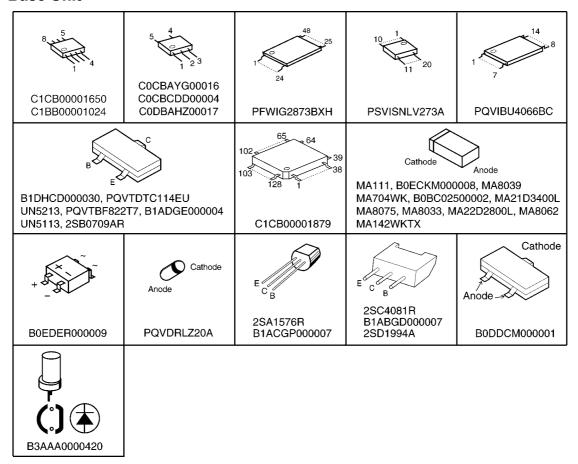
PIN	Description	I/O	High	High_Z	Low
79	Charge current monitor	A.I	A/D	A/D	I
80	NC	A.I	-	-	I

Note:

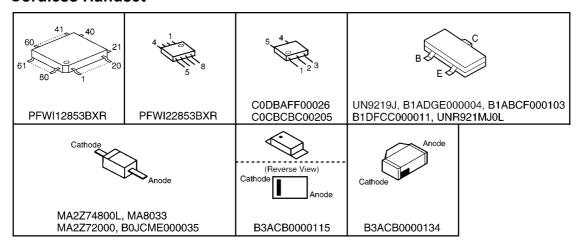
The mark "*" in the I/O column means the port is controlled by the firmware.

15.3. Terminal Guide of the lcs, Transistor and Diodes

15.3.1. Base Unit

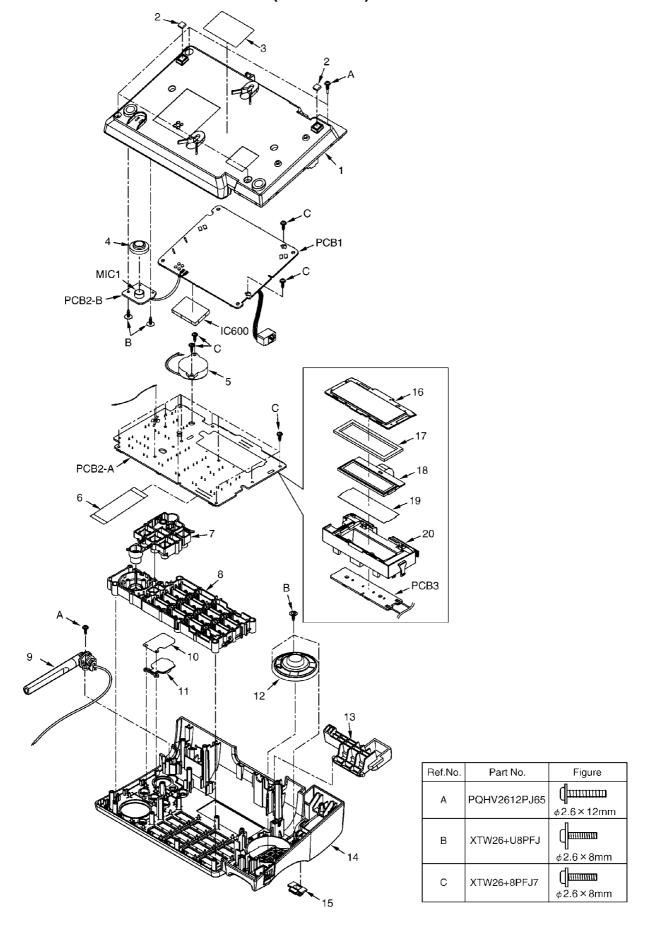


15.3.2. Cordless Handset

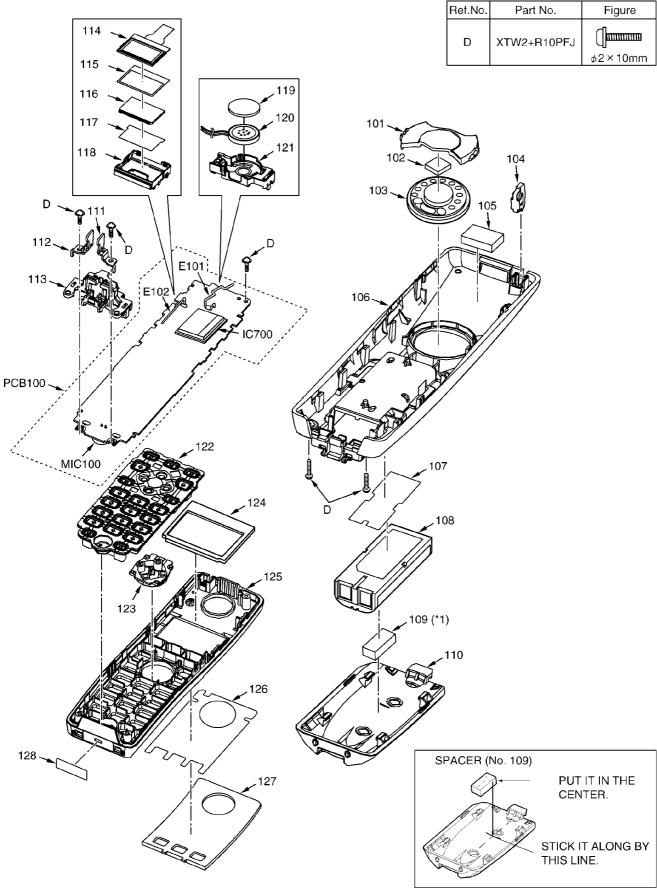


16 Exploded View and Replacement Parts List

16.1. Cabinet and Electric Parts (Base Unit)



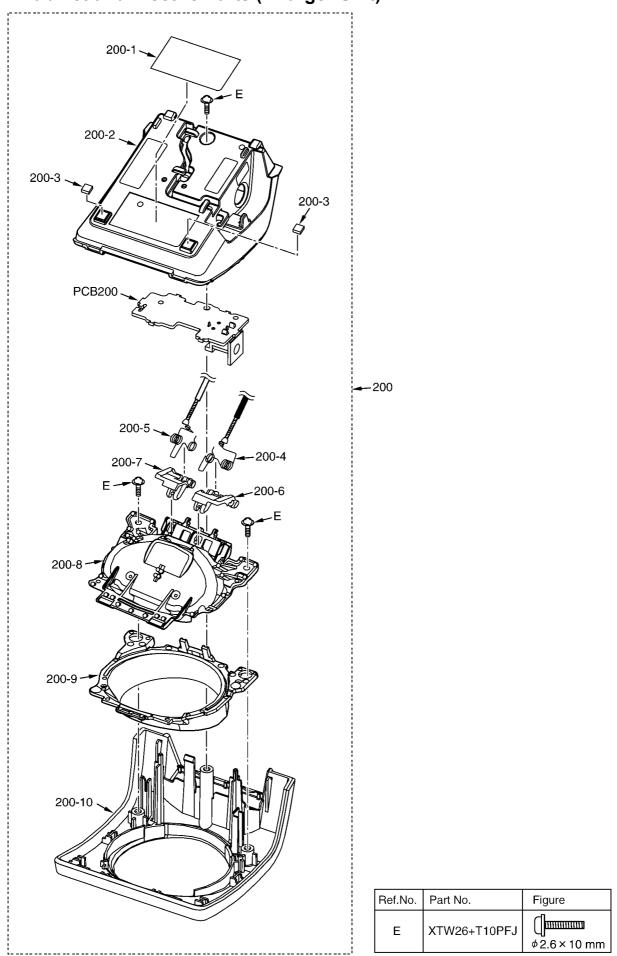
16.2. Cabinet and Electric Parts (Cordless Handset)



Note:

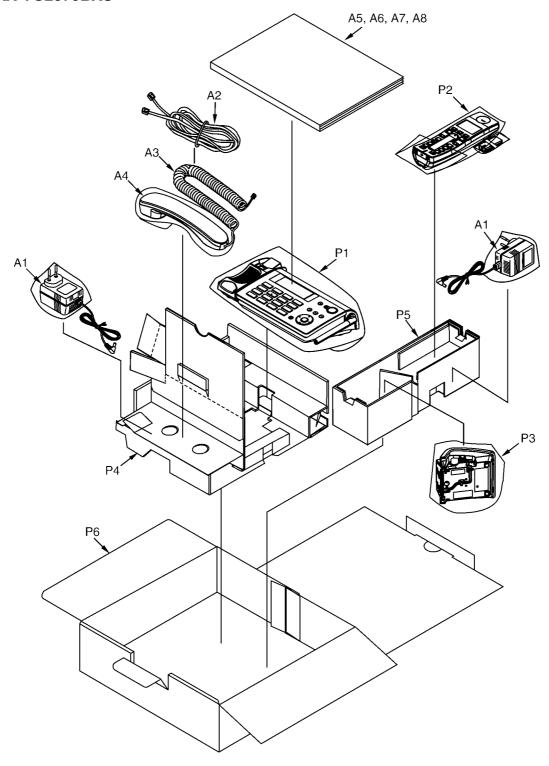
(*1) Attach the spacer (No. 109) to the exact location described above.

16.3. Cabinet and Electric Parts (Charger Unit)

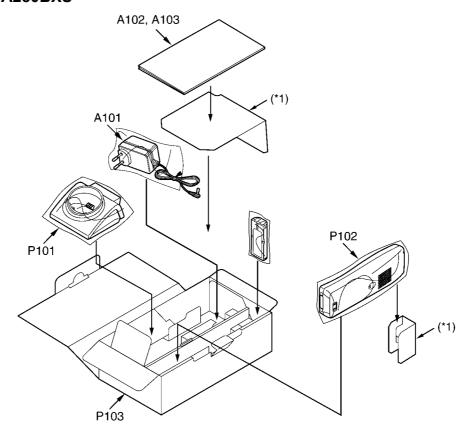


16.4. Accessories and Packing Materials

16.4.1. KX-TG2873BXS



16.4.2. KX-TGA280BXS



Note:

(*1) These pads are pieces of Ref No. P103 (GIFT BOX).

16.5. Replacement Part List

Note:

1. RTL (Retention Time Limited)

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 depends on the type of assembly and the laws governing parts and product retention.

At the end of this period, the assembly will no longer be available.

2. Important safety notice

Components identified by the \triangle 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.
- 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=1000 Ω , M=1000k Ω All capacitors are in MICRO FARADS (μF) P= $\mu \mu F$

*Type & Wattage of Resistor

Type

ERC:Solid ERDS:Carbon ERJ:Chip	PQ4R:Chip ERS:Fusible Resistor ERF:Cement Resistor
Wattage	

2:2W

3:3W

10,16:1/8W	14,25:1/477	12:1/200	L
*Type & Volta	age Of Capacito	or	

Type

71	
ECFD:Semi-Conductor	ECCD,ECKD,ECBT,F1K,ECUV:Ceramic
	ECQE,ECQV,ECQG:Polyester
ECUV,PQCUV, ECUE:Chip	ECEA,ECST,EEE:Electlytic
FCOMS:Mica	ECQP:Polypropylene

Voltage

	0					
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		

16.5.1. Base Unit

16.5.1.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
1	PFKF1093Y1	CABINET COVER	PS-HB
2	PFHG1044Z	RUBBER PARTS, FOOT CUSHION	
3	PFGT3136Z	NAME PLATE	
4	PQMG10025Z	RUBBER PARTS, MIC	
5	L0DDFD000002	BUZZER	
6	PFJE1069X	LEAD WIRE, FFC	
7	PFHR1583V1	GUIDE, KEY FUNCTION	ABS-HB
8	PFBX1259X1	PUSH BUTTON, NUMERAL KEY TOP	ABS-HB
9	PFSA1047Z	ANTENNA	ABS+POM +PP
10	PFHX1974Z	PLASTIC PARTS, SHEET	
11	PFBC1171X1	PUSH BUTTON, TAM	PMMA-HB

Ref. No.	Part No.	Part Name & Description	Remarks
12	L0AA05A00081	SPEAKER	
13	PFBH1035Z1	PUSH BUTTON, HOOK	ABS-HB
14	PFKM1195V1	CABINET BODY	PS-HB
15	PFHR1406Z1	GUIDE, HANDSET HANGER	ABS-HB
16	PFGP1351Z1	PANEL, LCD	PMMA-HB
17	PFHE1238Z	SPACER, LCD	
18	L5DAAYY00004	LIQUID CRYSTAL DISPLAY	
19	PFHX1982Z	PLASTIC PARTS, LCD SHEET	
20	PFHR1628Z	GUIDE, LCD	PS-HB

16.5.1.2. Main P.C. Board Parts

Note:

(*1) When you have replaced IC4, IC501 or X2, refer to Base Unit (P.58) of Things to Do after Replacing IC.

Ref. No.	Part No.	Part Name & Description	Remarks
PCB1	PFWPG2873BXH	MAIN P.C.BOARD ASS'Y (RTL)	
		(ICs)	
IC3	PSVISNLV273A	IC	s
IC4	C1CB00001879	IC (*1)	
IC5	PSVISNLV273A	IC	s
IC100	C1CB00001650	IC	
IC200	PQVIBU4066BC	IC	s
IC201	C1BB00001024	IC	
IC300	C0CBAYG00016	IC	
IC301	C0CBCDD00004	IC	s
IC302	CODBAHZ00017	IC	
IC501	PFWIG2873BXH	IC (*1)	
		(TRANSISTORS)	
Q1	2SC4081R	TRANSISTOR(SI)	s
Q2	PQVTDTC114EU	TRANSISTOR(SI)	s
Q3	B1ABGD000007	TRANSISTOR(SI)	_
Q5	UN5213	TRANSISTOR(SI)	s
Q6	PQVTDTA114EU	TRANSISTOR(SI)	s
Q104	POVTBF822T7	TRANSISTOR(SI)	
Q105	B1ACGP000007	TRANSISTOR(SI)	
Q107	2SD1994A	TRANSISTOR(SI)	
Q109	2SD1994A	TRANSISTOR(SI)	
Q110	2SC4081R	TRANSISTOR(SI)	s
Q111	UN5213	TRANSISTOR(SI)	s
Q112	2SA1576R	TRANSISTOR(SI)	s
Q114	B1ADGE000004	TRANSISTOR(SI)	3
		· · ·	
Q115	B1ADGE000004 UN5213	TRANSISTOR (SI)	0
Q119	UN5213	TRANSISTOR (SI)	s
Q120		TRANSISTOR (SI)	
Q121	2SC4081R	TRANSISTOR(SI)	S
Q122	UN5113	TRANSISTOR (SI)	S
Q123	2SB0709AR B1DHCD000030	TRANSISTOR (SI)	
Q304		TRANSISTOR(SI)	0
Q407	2SC4081R	TRANSISTOR(SI)	S
Q901	UN5213	TRANSISTOR (SI)	S
20	10111	(DIODES)	
D2	MA111	DIODE(SI)	S
D3	MA111	DIODE(SI)	S
D4	MA111	DIODE(SI)	S
D5	MA111	DIODE(SI)	S
D6	MA111	DIODE(SI)	S
D7	MA8039	DIODE(SI)	S
D101	MA704WK	DIODE(SI)	S
D102	B0EDER000009	DIODE(SI)	
D104	PQVDRLZ20A	DIODE(SI)	S
D105	B0BC02500002	DIODE(SI)	0
D106	MA111	DIODE(SI)	S
D108	B0ECKM000008	DIODE(SI)	
D109	MA21D3400L	DIODE(SI)	
D110	MA8075	DIODE(SI)	S
D200	MA8033	DIODE(SI)	S
D201	MA8033	DIODE(SI)	S
D202	MA8033	DIODE(SI)	S
D203	MA8033	DIODE(SI)	S
D204	MA111	DIODE(SI)	S

Ref.	Part No.	Part Name & Description	Remarks
No.	MA22D2800L	_	
		DIODE (SI)	c
D602	MA8062	DIODE(SI)	S
D603	MA8062	DIODE (SI)	s
D900	MA8033	DIODE (SI)	S
D901	MA8033	DIODE(SI)	S
DA100	MA142WKTX	DIODE(SI)	S
DA600	B0DDCM000001	DIODE(SI)	
_		(COILS)	
L2	PQLQR4C22NJ	COIL	S
L101	PFLE003	COIL	S
L200	PQLQR2KA20T	COIL	S
L201	PQLQR2KA20T	COIL	S
L202	PQLQR2KA20T	COIL	S
L203	PQLQR2KA20T	COIL	S
L300	G0C680KA0052	COIL	S
L600	G1C68NJ00010	COIL	
L602	G1C12NJ00011	COIL	
		(JACKS AND CONNECTOR)	
CN1	K1MY22AA0057	CONNECTOR	
CN100	K2LB1YYB0002	JACK	
CN101	K2ECYB000001	JACK	
HSJACK	PQJJ1T030Y	JACK	
		(COMPONENTS PARTS)	
RA1	EXB38V101JV	RESISTOR ARRAY	İ
RA2	EXB38V101JV	RESISTOR ARRAY	
RA3	EXB38V101JV	RESISTOR ARRAY	
RA4	EXB38V101JV	RESISTOR ARRAY	
		(PHOTO ELECTRIC TRANSDUCERS)	
PC100	B3PBA0000297	PHOTO ELECTRIC TRANSDUCER	
PC101	B3PBA0000297	PHOTO ELECTRIC TRANSDUCER	
		(RESISTORS)	
R3	ERJ2GEJ561	560	
R4	ERJ2GEJ153	15K	
R6	ERJ2GEJ103	10K	
R7	ERJ2GEJ103	10K	
R8	ERJ2GEJ472X	4.7K	
R11	ERJ2GEJ104	100K	
R14	ERJ2GEJ103	10K	
R16	ERJ2GEJ330	33	-
R17	ERJ2GEJ330	33	-
R18	ERJ2GEJ101	100	-
R20	ERJ3GEYJ333	33K	-
R21	ERJ3GEYJ152	1.5K	-
R22	ERJ2GEJ473	47K	
R23	ERJ3GEYJ102	1K	
R24	ERJ3GEYJ102	1K	
R25	ERJ3GEYJ102	1K	
R26	ERJ3GEYJ102	1K	<u> </u>
R27	ERJ3GEYJ102	1K	ļ
R28	ERJ3GEYJ102	1K	ļ
R29	ERJ3GEYJ102	1K	
R30	ERJ3GEYJ102	1K	ļ
R31	ERJ3GEYJ102	1K	
R32	ERJ3GEYJ102	1K	
R34	ERJ3GEYJ102	1K	
R35	ERJ2GEJ102	1K	
R36	ERJ2GEJ222	2.2K	
R37	ERJ3GEYJ470	47	
R38	ERJ3GEYJ470	47	
R39	ERJ3GEYJ470	47	
R49	ERJ3GEYJ101	100	
R50	ERJ2GE0R00	0	
R51	ERJ3GEYJ101	100	
R53	ERJ3GEYJ271	270	
R55	ERJ2GEJ472X	4.7K	
R58	ERJ2GE0R00	0	
R59	ERJ2GE0R00	0	
R60	ERJ3GEY0R00	0	
R109	D0GG222JA007	2.2K	
R110	ERJ3GEYJ183	18K	†
R111	ERJ3GEYJ335	3.3M	1
R112	ERJ3GEYJ104	100K	†
R113	ERJ3GEYJ334	330K	
	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5	L

Ref.	Part No.	Part Name & Description	Remarks
No. R115	ERJ3GEYJ223	22K	
R116	ERJ3GEYJ133	13K	
R123	ERJ3GEYJ471	470	
R127	ERJ3GEYJ391	390	
R128	ERJ3GEYJ104	100K	
R133	ERJ2GEJ563	56K	
R138	ERJ2GEJ153	15K	
R139	ERJ3GEYJ562	5.6K	
R114	ERJ3GEYJ272	2.7K	
R117	ERJ3GEYJ562	5.6K	
R119	ERJ3GEYJ223	22K	
R120	ERJ3GEYJ334	330K	
R124	ERJ3GEYJ104	100K	
R126	D0GG390JA007	39	
R129 R131	ERJ3GEYJ152 ERJ2GEJ472X	1.5K 4.7K	
R140	ERJ3GEYF133	13K	s
R141	ERJ3EKF5601	5.6K	5
R155	ERJ3GEYJ333	33K	
R162	ERJ3GEYJ102	1K	
R164	ERJ3GEYJ103	10K	
R165	ERJ6GEY0R00	0	1
R166	ERJ3GEYJ332	3.3K	
R168	ERJ3GEYJ223	22K	
R170	ERJ3GEYJ102	1K	
R171	ERJ3GEYJ331	330	
R172	ERJ3GEYJ823	82K	
R173	ERJ3GEYJ104	100K	
R174	ERJ3GEYJ153	15K	
R175	ERJ2GE0R00	0	
R177	ERJ2GEJ103	10K	
R178	ERJ2GEJ682	6.8K	
R179	ERJ6GEYJ8R2	8.2	
R180	ERJ3GEYJ562	5.6K	
R182	ERJ3GEYJ331	330	
R183 R200	ERJ3GEYJ223 ERJ2GEJ123	22K 12K	
R207	ERJ2GEJ224	220K	
R207	ERJ2GEJ224	220K	
R211	ERJ2GE0R00	0	
R212	ERJ2GE0R00	0	
R214	ERJ2GEJ154	150K	
R216	ERJ2GEJ102	1K	
R217	ERJ2GEJ472X	4.7K	
R218	ERJ2GEJ472X	4.7K	
R219	ERJ2GEJ154	150K	
R220	ERJ2GEJ101	100	
R224	ERJ2GEYJ474	470K	S
R225	ERJ2GEJ682	6.8K	
R226	ERJ2GEJ101	100	
R227	ERJ2GEJ102	1K	
R228	ERJ2GEJ563	56K	
R236	ERJ2GEJ102	1K	
R238	ERJ2GEJ151	150	
R239	ERJ2GEJ151	150 22K	1
R249 R250	ERJ3GEYJ223 ERJ3GEYJ183	18K	1
R253	ERJ2GEJ104	100K	
R254	ERJ2GEJ104 ERJ2GEJ224	220K	1
R255	ERJ2GEJ101	100	
R256	ERJ2GEJ104	100K	
R308	ERJ3EKF1870	187	
R309	ERJ3EKF3240	324	
R321	ERJ3GEYJ101	100	
R329	ERJ6GEY0R00	0	
R415	ERJ3GEYJ103	10K	
R422	ERJ2GEJ564	560K	
R423	ERJ2GEJ104	100K	
R424	ERJ2GEJ472X	4.7K	
R425	ERJ2GE0R00	0	
R500	ERJ2GEJ103	10K	
R501	ERJ2GEJ103	10K	1
R603	ERJ2GE0R00	0	

KX-TG2873BXS/KX-TGA280BXS

Ref. No.	Part No.	Part Name & Description	Remarks
R604	ERJ2GEJ113	11K	
R606	ERJ2GEJ473	47K	
R607	ERJ2GEJ104	100K	
R608	ERJ2GEJ102	1K	
R613 R614	ERJ2GEJ104 ERJ2GEJ271	100K	
R616	ERJ2GEJ271 ERJ2GEJ102	1K	
R623	ERJ2GEJ680	68	
R624	ERJ2GEJ271	270	
R625	ERJ2GEJ271	270	
R704	ERJ2GEJ222	2.2K	
R705	ERJ2GEJ102	1K	
R706	ERJ3GEYJ102	1K	
R707	ERJ3GEYJ103	10K	
R709	ERJ3GEYJ103	10K	
R904	ERJ3GEYJ184	180K	
R905	ERJ3GEYJ184	180K	
R906	ERJ3GEYJ105	1M	
R907	ERJ3GEYJ105	1M	
R910	ERJ2GEJ104	100K	
R911	ERJ3GEYJ123	12K	
R913	ERJ2GEJ101	100	
R914	ERJ2GEJ101	100	
R915	ERJ2GEJ221	220	
R916	ERJ2GEJ222	2.2K	
C4	ECTOED1 H100V	(CAPACITORS)	
C4 C7	ECJ0EB1H102K ECJ0EB0J224K	0.001	
C8	ECJ0EB05224R ECJ0EF1C104Z	0.1	
C9	ECJ0EB1C103K	0.01	
C10	ECJ0EB1C103K	0.01	
C11	ECJ0EC1H030C	3P	
C12	ECJ0EB1C103K	0.01	
C13	ECJ0EF1C104Z	0.1	
C14	ECJ0EB1A104K	0.1	
C18	ECJ0EF1C104Z	0.1	
C20	ECJ0EB1A104K	0.1	
C21	ECJ0EB1C103K	0.01	
C22	ECJ0EF1C104Z	0.1	
C24	ECJ0EB1C103K	0.01	
C27	ECJ0EB1C103K	0.01	
C34	ECJ0EC1H150J	15P	
C35	ECJ0EC1H150J	15P	
C36	ECJ0EB1H102K	0.001	
C38	ECJ0EC1H101J	100P	
C39 C40	ECJ0EC1H101J ECUV1A105KBV	100P	
C41	ECJ0EC1H070C	7P	
C41	ECJ0EC1H070C	5P	-
C42	ECJ0EC1H101J	100P	
C45	ECJ0EC1H101J	100P	
C50	ECUV1C104ZFV	0.1	<u> </u>
C51	ECJ0EC1H101J	100P	1
C52	ECJ0EC1H101J	100P	İ
C53	ECJ0EC1H101J	100P	
C54	F1G0J1050007	1	
C55	ECJ0EC1H101J	100P	
C106	F0C2E105A146	1	
C108	ECUV1C563KBV	0.056	
C109	ECUV1H102KBV	0.001	
C110	F1K1C4750023	4.7	
C111	F2A1H4R70014	4.7	ļ
C117	ECUV1A105KBV	1 15D	
C119	ECJ0EC1H150J	15P	
C120 C122	ECUV1A105KBV ECUV1A105KBV	1	1
C122	ECUVIAI05KBV ECUVIAI05KBV	1	<u> </u>
C123	F2A1A1020035	1000	
C128	ECEA0JK221	220	s
C128	ECUV1A105KBV	1	-
C131	ECJ0EB1H331K	330P	
C134	ECUV1H030CCV	3P	s
C135	ECJ0EC1H030C	3P	†
3233			<u> </u>

Ref. No.	Part No.	Part Name & Description	Remarks
C137	ECUV1H103KBV	0.01	
C138	ECEA1CK470	47	S
C145	ECJ1VF1H104Z	0.1	
C146	ECJ1VB1H222K	0.0022	
C143	ECJ0EF1C104Z	0.1	
C148	ECUV1A105KBV	1	
C149	ECUV1H104KBV	0.1	
C200	ECJ0EB1C103K	0.01	
C204	ECJ0EB1C103K ECJ0EB1A104K	0.01	
C207	ECJ0EB1A104K	0.1	
C209	ECJ0EB1H104K	0.001	
C210	ECJ0EB1A104K	0.1	
C211	ECJ0EB1H102K	0.001	
C213	ECUV1A105KBV	1	
C215	ECJ0EB1A104K	0.1	
C217	ECJ0EB1A473K	0.047	
C218	ECJ0EC1H101J	100P	
C219	ECUV1A105KBV	1	
C220	ECUV1A105KBV	1	
C222	ECJ0EB1C103K	0.01	
C223	ECJ0EB1H471K	470P	
C224	ECJ0EB1H152K	0.0015	
C226	ECEA1CK101	100	S
C227	F1J0J4750005	4.7	
C228	ECJ0EB1H331K	330P	
C231	ECJ0EC1H101J ECJ0EB1H102K	100P 0.001	
C232	ECJ0EB1H102K	0.001	
C236	ECUV1A105KBV	1	
C237	ECUV1H331JCV	330P	s
C238	ECJ0EB1H331K	330P	
C300	F2A1C4710073	470	
C307	ECUV1C104ZFV	0.1	
C308	ECUV1H104KBV	0.1	
C309	F2A1C2210080	220	
C312	ECEA1CK101	100	s
C316	F1J1H105A449	1	
C318	F1J1H105A449	1	
C319	F2A1A5610005	560	
C322	PQCUV1C105KB	1	
C331 C306	F1K1C4750023	4.7	
	ECUV1C104ZFV	0.1	
C310	ECUV1C104ZFV ECUV1C104ZFV	0.1	
C321	ECJ1VF1H104Z	0.1	
C501	ECJ0EC1H101J		
C502		1100P	
C506		100P 0.1	
	ECJ0EF1C104Z ECJ0EC1H101J	100P 0.1 100P	
C405	ECJ0EF1C104Z	0.1	
C405 C409	ECJ0EF1C104Z ECJ0EC1H101J	0.1 100P	
	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K	0.1 100P 0.015	
C409	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C	0.1 100P 0.015 3P	
C409 C600 C601 C602	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P	
C409 C600 C601 C602 C603	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K	0.1 100P 0.015 3P 10P 10P 0.001	
C409 C600 C601 C602 C603 C604	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005	0.1 100P 0.015 3P 10P 10P 0.001 0.001	
C409 C600 C601 C602 C603 C604	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV	0.1 100P 0.015 3P 10P 10P 0.001 0.001	
C409 C600 C601 C602 C603 C604 C605	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P	
C409 C600 C601 C602 C603 C604 C605 C606	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P	
C409 C600 C601 C602 C603 C604 C605 C606 C608	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1 10P	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1 10P 1 10P	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612 C618	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1 10P 1 10P 10P 10P 10P	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612 C618 C620	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1 10P 10P 10P 10P 10P 10	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612 C618 C620	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1 10P 10P 10P 10P 10P 10	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612 C618 C620 C622 C623	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 1 10P 10P 10P 10P 10P 10	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612 C618 C620 C622 C623 C900	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 10P 10P 10P 27P 68P 7.0P 1500P	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612 C618 C620 C622 C623 C900	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K F1J0J4750005 ECUV1A105KBV ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H100D ECJ0EC1H270J ECJ0EC1H680J F1G1H7R0A563 F1K2E152A010	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 10P 10P 10P 10P 10P 10P 10P 10P 1	
C409 C600 C601 C602 C603 C604 C605 C606 C608 C609 C610 C611 C612 C618 C620 C622 C623 C900 C901	ECJ0EF1C104Z ECJ0EC1H101J ECJ0EB1C153K ECJ0EC1H030C ECJ0EC1H100D ECJ0EC1H100D ECJ0EB1H102K ECJ0EB1H102K ECJ0EB1H102K ECJ0EB1H102K ECJ0EC1H100D ECUV1A105KBV ECJ0EC1H100D ECJ0EC1H270J ECJ0EC1H680J F1G1H7R0A563 F1K2E152A010 ECUV1H102KBV	0.1 100P 0.015 3P 10P 10P 0.001 0.001 4.7 1 10P 10P 10P 10P 10P 10P 10P 10P 10P 1	

Part No.	Part Name & Description	Remarks
ECJ0EB1C103K	0.01	
ECJ0EB1A104K	0.1	
ECJ0EB1H331K	330P	
F1J0J4750005	4.7	
ECUV1H104KBV	0.1	
ECKD2H681KB	680P	s
ECKD2H681KB	680P	s
ECUV2H681KB	680P	s
	(OTHERS)	
PFLP1742JPZ	RF UNIT	
H0D103500006	CRYSTAL OSCILLATOR (*1)	
PQSH2B105Z	PUSH SWITCH	
J0LF00000026	VARISTOR (SURGE ABSORBER)	
	ECJ0EB1C103K ECJ0EB1A104K ECJ0EB1H331K F1J0J4750005 ECUV1H104KBV ECKD2H681KB ECKD2H681KB ECUV2H681KB ECUV2H681KB	ECJ0EB1C103K 0.01 ECJ0EB1A104K 0.1 ECJ0EB1H331K 330P F1J0J4750005 4.7 ECUV1H104KBV 0.1 ECKD2H681KB 680P ECKD2H681KB 680P ECWD2H681KB 680P (OTHERS) PFLP1742JPZ RF UNIT H0D103500006 CRYSTAL OSCILLATOR (*1) PQSH2B105Z PUSH SWITCH

16.5.1.3. Operational P.C. Board Parts

Ref. No.	Part No.	Part Name & Description	Remark
PCB2-A	PFLP1811CN-A	OPERATIONAL P. C. BOARD ASS'Y (RTL)	
PCB2-B	PFLP1811CN-B	MIC P. C. BOARD ASS'Y (RTL)	
		(DIODES)	
D10	MA8033	DIODE(SI)	s
LED1	B3AAA0000420	LED	s
		(CONNECTORS)	
CN1	K1MY22BA0164	CONNECTOR	
CN2	K1MY09BA0018	CONNECTOR	
		(RESISTORS)	
R2	ERJ3GEYJ331	330	
R3	ERJ3GEYJ152	1.5K	
R5	ERJ3EKF1002	10K	
R6	ERJ3EKF1002	10K	
R7	ERJ3EKF1002	10K	
R100	ERJ8GEY0R00	0	
R101	ERJ8GEY0R00	0	
R102	ERJ8GEY0R00	0	
R103	ERJ8GEY0R00	0	
R104	ERJ8GEY0R00	0	
R105	ERJ8GEY0R00	0	
		(CAPACITORS)	
C1	ECUV1C104KBV	0.1	
C2	ECUV1C104ZFV	0.1	
C10	ECUV1H100DCV	10P	
		(OTHERS)	
MIC1	L0CBAB000052	MICROPHONE	
SW1	K0H1BA000259	SPECIAL SWITCH	
SW2	K0H1BA000259	SPECIAL SWITCH	
SW3	K0H1BA000259	SPECIAL SWITCH	
SW4	K0H1BA000259	SPECIAL SWITCH	
SW5	K0H1BA000259	SPECIAL SWITCH	
SW6	K0H1BA000259	SPECIAL SWITCH	
SW7	K0H1BA000259	SPECIAL SWITCH	
SW8	K0H1BA000259	SPECIAL SWITCH	
SW9	K0H1BA000259	SPECIAL SWITCH	
SW10	K0H1BA000259	SPECIAL SWITCH	
SW11	K0H1BA000259	SPECIAL SWITCH	
SW12	K0H1BA000259	SPECIAL SWITCH	
SW13	K0H1BA000259	SPECIAL SWITCH	
SW14	K0H1BA000259	SPECIAL SWITCH	
SW15	K0H1BA000259	SPECIAL SWITCH	
SW16	K0H1BA000259	SPECIAL SWITCH	
SW17	K0H1BA000259	SPECIAL SWITCH	
SW18	K0H1BA000259	SPECIAL SWITCH	
SW19	K0H1BA000259	SPECIAL SWITCH	
SW20	K0H1BA000259	SPECIAL SWITCH	
SW21	K0H1BA000259	SPECIAL SWITCH	
SW22	K0H1BA000259	SPECIAL SWITCH	
SW23	K0H1BA000259	SPECIAL SWITCH	
SW24	K0H1BA000259	SPECIAL SWITCH	
SW25	K0H1BA000259	SPECIAL SWITCH	
			
SW26	K0H1BA000259	SPECIAL SWITCH	
SW27	K0H1BA000259	SPECIAL SWITCH	l

16.5.1.4. Back Light P.C. Board Parts

Ref. No.	Part No.	Pa	rt Name	&	Descript	ion	Remarks
PCB3	PFLP1812CNZ	BACK (RTL)	LIGHT	Ρ.	C.BOARD	ASS'Y	

16.5.2. Cordless Handset

16.5.2.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
101	PQHR11198Z	GUIDE, SP HOLDER	ABS-HB
102	PQHG10729Z	RUBBER PARTS, SPEAKER	
103	L0AD02A00026	SPEAKER	
104	PQHR11196Z	OPTIC CONDUCTIVE PARTS, LED LENS	PS-HB
105	PQHS10681Y	SPACER, BATTERY	
106	PQKF10706Z1	CABINET COVER	ABS-HB
107	PQHX11293Q	PLASTIC PARTS, BATTERY LABEL	
108	HHR-P105A	BATTERY	
109	PQHS10681Y	SPACER, BATTERY	
110	PQKK10595X6	LID, BATTERY COVER	ABS-HB
111	PQJT10239Z	CHARGE TERMINAL (L)	
112	PQJT10240Z	CHARGE TERMINAL (R)	
113	PQWE10044Z	BATTERY TERMINAL	
114	L5DZBYY00003	LIQUID CRYSTAL DISPLAY	
115	PQHX11378Z	COVER, LCD COVER SHEET	
116	PQHR11195Z	TRANSPARENT PLATE, LCD PLATE	PMMA-HB
117	PQHX11377Z	PLASTIC PARTS, LCD SHEET	
118	PQHR11194Z	GUIDE, LCD	ABS-HB
119	PQHS10743Z	SPACER, RECEIVER	
120	L0AD02A00028	RECEIVER	
121	PQHR11197Z	GUIDE, RECEIVER	ABS-HB
122	PQSX10315W	KEYBOARD SWITCH	
123	PQBC10458Y2	BUTTON, NAVIGATOR KEY	ABS-HB
124	PQHS10722Z	SPACER, LCD	
125	PQKM10708V1	CABINET BODY	ABS-HB
126	PQHS10721Z	TAPE, DOUBLE SIDED (PANEL)	
127	PQGP10300T1	PANEL, LCD	AS-HB
128	PQGT18977Z	NAME PLATE	

16.5.2.2. Main P.C.Board Parts

Note:

(*1) When you have replaced IC1, IC2 or X1, refer to **Cordless Handset** (P.58) of **Things to Do after Replacing IC**.

Ref.	Part No.	Part Name & Description	Remarks
No.		_	
PCB100	PFWPG2853BXR	MAIN P.C.BOARD ASS'Y (RTL)	
		(ICs)	
IC1	PFWI12853BXR	IC (*1)	
IC2	PFWI22853BXR	IC (*1)	
IC300	C0CBCBC00205	IC	
IC301	C0DBAFF00026	IC	
		(TRANSISTORS)	
Q100	UNR921MJ0L	TRANSISTOR(SI)	
Q101	UNR921MJ0L	TRANSISTOR(SI)	
Q300	B1DFCC000011	TRANSISTOR(SI)	
Q301	B1ADGE000004	TRANSISTOR (SI)	
Q302	B1ADGE000004	TRANSISTOR (SI)	
Q500	B1ABCF000103	TRANSISTOR(SI)	
Q501	UN9219J	TRANSISTOR(SI)	s
Q502	B1ADGE000004	TRANSISTOR(SI)	
		(DIODES)	
D1	MA2Z74800L	DIODE(SI)	
D300	војсме000035	DIODE(SI)	
D400	MA8033	DIODE(SI)	s
D401	MA8033	DIODE(SI)	s
D402	MA8033	DIODE(SI)	s
D403	MA8033	DIODE(SI)	s

KX-TG2873BXS/KX-TGA280BXS

Ref.	Part No.	Part Name & Description	Remarks
D501	MA2Z72000	DIODE(SI)	
LED1	B3ACB0000134	LED	
LED2	B3ACB0000115	LED	
LED3	B3ACB0000115	LED	
LED4	B3ACB0000115	LED	
LED5	B3ACB0000115	LED	
LED6	B3ACB0000115	LED	
LED7	B3ACB0000115	LED	
LED8	B3ACB0000115	LED	
		(COILS)	
L1	G1C68NJ00010	COIL	
L2	J0JCC0000275	COIL	
L300	G1C220MA0236	COIL	
L400	PQLQR2KA20T	COIL	S
L401	PQLQR2KA20T	COIL	S
L450	G1C100MA0072	COIL	
L451	G1C100MA0072	COIL	
		(LCR FILTERS)	
L502	J0JHC0000088	LCR FILTER	
L503	J0JHC0000088	LCR FILTER	
		(RESISTORS)	
R2	ERJ2GEJ101	100	<u> </u>
R3	ERJ2GEJ471	470	
R4	ERJ2GEJ471	470	
R5	ERJ2GEJ271	270	
R50	ERJ2GEJ103	10K	
R51	ERJ2GEJ103	10K	
R52	ERJ2GEJ103	10K	
R60	ERJ2GEJ105X	1м	
R70	ERJ3GEYJ102	1K	
R71	ERJ3GEYJ101	100	
R72	ERJ3GEYJ102	1K	
R73	ERJ3GEYJ103	10K	
R74	ERJ3GEYJ103	10K	
R75	ERJ3GEYJ102	1K	
R80	ERJ2GEJ102	1K	
R81	ERJ2GEJ102	1K	
R82	ERJ2GEJ102	1K	
R83	ERJ2GEJ102	1K	
R84	ERJ2GEJ102	1K	
R85	ERJ2GEJ102 ERJ2GEJ102	1K	
R86 R87	ERJ2GEJ102 ERJ2GEJ102	1K	
R88 R89	ERJ2GEJ102 ERJ2GEJ102	1K 1K	
	ERJ3GEYJ101	100	
R100 R101	ERJ3GEYJ101	100	
R101	ERJ3GEYJ101	100	
R102	ERJ3GEYJ101	100	1
R103	ERJ3GEYJ270	27	1
R105	ERJ3GEYJ270	27	1
R106	ERJ3GEYJ270	27	1
R107	ERJ3GEYJ470	47	1
R204	ERJ2GE0R00	0	+
R206	ERJ3GEY0R00	0	1
R207	ERJ2GE0R00	0	1
R300	ERJ6RSJR10V	0.1	1
R301	ERJ3GEYJ560	56	1
R400	ERJ2GEJ272	2.7K	1
R401	ERJ2GEJ272	2.7K	1
R402	ERJ2GEJ101	100	1
R405	ERJ2GEJ102	1K	1
R408	ERJ2GEJ330	33	1
R409	ERJ2GEJ330	33	
R412	ERJ3GEYJ221	220	
R413	ERJ3GEYJ221	220	1
	ERJ2GEJ101	100	1
R414		ļ	1
R414 R415	ERJ2GEJ102	1K	
	ERJ2GEJ102 ERJ3GEYJ102	1K	
R415			
R415 R500	ERJ3GEYJ102	1K	
R415 R500 R501	ERJ3GEYJ102 ERJ3GEYJ224	1K 220K	

Ref.	Part No.	Part Name & Description	Remarks
No. R505	ERJ3GEYJ562	5.6K	
R506	ERJ3GEYJ562	5.6K	
R704	ERJ2GEJ473	47K	
R705	ERJ2GEJ682	6.8K	
R709	ERJ2GEJ104	100K	
R710	ERJ2GEJ102	1K	
R711	ERJ2GEJ104	100K	
R713	ERJ2GEJ911	910	
		(CAPACITORS)	
C1	ECJ0EB1C103K	0.01	
C2	ECJ0EB1C103K	0.01	
C3	ECJ0EB1C103K	0.01	
C4	ECUE1A104KBQ	0.1	S
C5	ECUE1A104KBQ	0.1	S
C6	ECUV1A105KBV	1	-
C8	ECJ0EB1C103K ECJ0EB1C103K	0.01	
C10	ECJ0EB1C103K	0.01	
C11	ECUV1A105KBV	1	
C12	ECJ1VB1H102K	0.001	
C13	ECUV1A224KBV	0.22	
C15	ECJ0EB1C103K	0.01	+
C16	ECJ1VB0J475K	4.7	1
C60	ECJ0EC1H180J	18P	1
C61	ECJ0EC1H120J	12P	1
C205	ECUV1C105KBV	1	1
C206	ECUV1C105KBV	1	
C207	ECUV1C105KBV	1	
C208	ECUV1C105KBV	1	
C209	ECUE1A104KBQ	0.1	S
C210	ECUE1A104KBQ	0.1	S
C211	ECUE1A104KBQ	0.1	S
C212	ECUE1A104KBQ	0.1	S
C213	ECUE1A104KBQ	0.1	S
C300	ECUV1C104KBV	0.1	
C302	F2G0J3310025	330	
C303	F2G0J3310025	22	
C304	F1K0J226A004 ECUV1A105KBV	1	
C306	ECUV1A105KBV	1	
C307	ECUV1A105KBV	1	
C308	ECUV1A105KBV	1	
C309	PQCUV1A105KB	1	s
C310	PQCUV1A105KB	1	S
C405	ECUE1A104KBQ	0.1	s
C407	ECUE1A104KBQ	0.1	s
C415	ECUV1C104KBV	0.1	
C417	ECJ0EC1H100D	10P	
C420	ECST0JY226	22	S
C422	ECJ0EB1C103K	0.01	
C501	ECUV1C104KBV	0.1	
C503	ECUV1A105KBV	1	
C505	F1H1A105A036	1	
C700	ECJ0EC1H100D	10P	1
C701 C702	ECJ0EC1H100D	10P	1
C702	ECJ0EC1H100D ECJ0EC1H100D	10P 10P	
C704	PQCUV0J475MB	4.7	s
C705	ECJ0EC1H150J	15P	+ -
C706	ECJ0EC1H1305	10P	
C708	ECJ0EC1H680J	68P	+
C709	ECJ0EC1H100D	10P	
C710	F1G1H1R2A561	1.2P	
C711	ECJ0EC1H100D	10P	1
C712	F1G1H2R4A562	2.4P	
C714	F1G1H271A541	270P	
		(OTHERS)	
MIC	L0CBAB000052	MICROPHONE	
E101	PQSA10184Z	ANTENNA	
E102	PQSA10185Z	ANTENNA	
IC700	PFLP1760JPZ	RF UNIT	
CN200	K1MY22BA0112	CONNECTOR	1
X1	H0D103500006	CRYSTAL OSCILLATOR (*1)	

16.5.3. Charger Unit

16.5.3.1. Cabinet and Electrical Parts

Ref. No.	Part No.	Part Name & Description	Remarks
200	PQLV30044XS	CHARGER UNIT	
200-1	PQGT18931Z	NAME PLATE	
200-2	PQKF10709Y1	CABINET COVER	ABS-HB
200-3	PQHA10023Z	RUBBER PARTS, FOOT CUSHION	
200-4	PQJT10241Y	CHARGE TERMINAL (L)	
200-5	PQJT10242Y	CHARGE TERMINAL (R)	
200-6	PQKE10437Z1	HOLDER, CHARGE TERMINAL (L)	POM-HB
200-7	PQKE10438Z1	HOLDER, CHARGE TERMINAL (R)	POM-HB
200-8	PQKE10436Y1	CASE, CHARGE TERMINAL	PS-HB
200-9	PQGG10410Z1	GRILLE, CRADLE	ABS-HB
200-10	PQKM10721Z1	CABINET BODY	PS-HB

16.5.3.2. Main P.C.Board Parts

Ref. No.	Part No.	Part Name & Description	Remarks
PCB200	PFLP1786JPZ	MAIN P.C.BOARD ASS'Y (RTL)	
		(RESISTORS)	
R1	ERDS1TJ680	68	S
R2	ERDS1TJ680	68	S
R3	ERDS1TJ680	68	S
R4	ERDS1TJ680	68	S
		(OTHERS)	
CN1	K2ECYB000001	JACK	

16.5.4. Accessories and Packing Materials Note:

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

16.5.4.1. KXTG2873BXS

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQLV207BXZ	AC ADAPTOR	⚠
A2	PFJA02B002Y	CORD, TELEPHONE	
A3	PFJA04C003Z	CORD, CURL	
A4	PFJXN0532Y	HANDSET	
A5	PQQX15156Y	INSTRUCTION BOOK (for English) (*1)	
A6	PQQX15157Y	INSTRUCTION BOOK (for Thai) (*1)	
A7	PQQW15153Z	LEAFLET, QUICK GUIDE (for Arabic)	
A8	PQQW15154Z	LEAFLET, QUICK GUIDE (for Percian)	
P1	PFPH1061Z	PROTECTION COVER (for Base Unit)	
P2	XZB10X35A02	PROTECTION COVER (for Handset)	
P3	XZB15X25A04	PROTECTION COVER (for Charger Unit)	
P4	PFPN1425Z	CUSHION	
P5	PFPN1426Z	CUSHION	
P6	PFPK3208Z	GIFT BOX	

16.5.4.2. KXTGA280BXS

Ref. No.	Part No.	Part Name & Description	Remarks
A101	PQLV207BXZ	AC ADAPTOR	Δ
A102	PQQX15158Z	INSTRUCTION BOOK (for English/Thai) (*1)	
A103	PQQX15528Z	INSTRUCTION BOOK (for Arabic/ Persian) (*1)	

Ref. No.	Part No.	Part Name & Description	Remarks
P101	XZB15X25A04	PROTECTION COVER (for Charger Unit)	
P102	XZB10X35A02	PROTECTION COVER (for Handset)	
P103	PQPK15424Z	GIFT BOX	

16.5.5. Fixtures and Tools

Note

(*1) See The Setting Method of JIG (Base Unit) (P.59), and The Setting Method of JIG (Cordless Handset) (P.60).

Part No.	Part Name & Description	Remarks
PQZZ1CD300E	JIG CABLE (*1)	
PQZZTG2873BX	BATCH FILE CD-ROM (*1)	