

ORDER NO. KM40012753C3

Service Manual

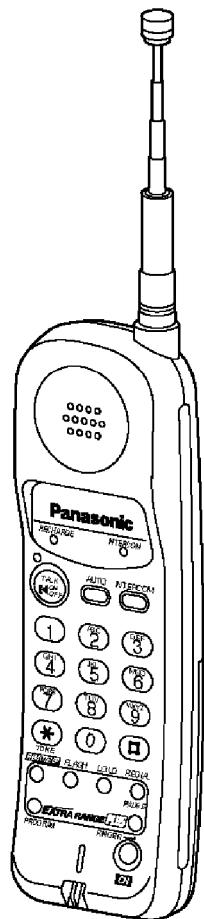
Telephone Equipment

KX-TC1035BXW

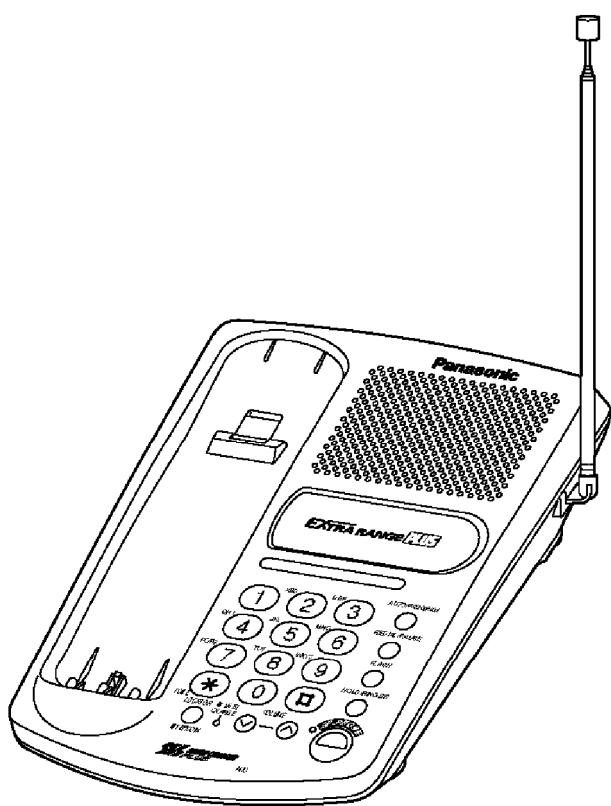
Cordless Phone

White Version

(for Asia, Middle Near East and other areas)



(HANDSET)



(BASE UNIT)

SPECIFICATIONS

SPECIFICATIONS

General

| | | | |
|----------------------|---|------------------|---|
| Modulation: | FM, 5kHz Deviation | Pause: | 3.5 seconds per pause |
| Frequency Stability: | ± 2.5 kHz | Memory Capacity: | 11 telephone numbers, up to 22 digits per station |
| Dial Type: | Tone (DTMF)/Pulse | | |
| Redial: | Last dialed number each time the Redial button is pressed | | |

| | Base Unit | Handset |
|---------------------------------------|---|---|
| Power Source: (Receiver Section) | AC adaptor PQLV1BXZ (DC 9 V) | Built-in rechargeable Ni-Cd battery |
| Receiving Frequency: | 10 channels within 49.67 to 49.97 MHz | 10 channels within 43.72 to 44.20 MHz |
| Adjacent Channel Rejection: | 40 dB | 40 dB |
| Sensitivity: (Transmitter Section) | 1dB μ V for 20 dB S/N | 2 dB μ V for 20 dB S/N |
| Transmitting Frequency: | 10 channels within 43.72 to 44.20 MHz | 10 channels within 49.67 to 49.99 MHz |
| Jacks: | DC IN, Telephone line | |
| Antenna: | Telescopic | Telescopic ANT |
| Speaker: | 2" (6.5 cm) PM dynamic | 1 $\frac{3}{16}$ " (3 cm) dynamic |
| Microphone: | Condenser microphone | Condenser microphone |
| Dimensions (H X W X D): | 2 $\frac{5}{32}$ " X 6 1/2" X 8 $\frac{15}{32}$ " (55 X 165 X 215 mm) | 10 $\frac{3}{4}$ " X 2 $\frac{9}{32}$ " X 1 $\frac{1}{32}$ " (273 X 53 X 38 mm) |
| Weight: | 0.93 lbs. (420 g) | 0.51 lbs. (230g) with battery |

Design and specifications are subject to change without notice.

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⚠ WARNING

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

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

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.

Panasonic

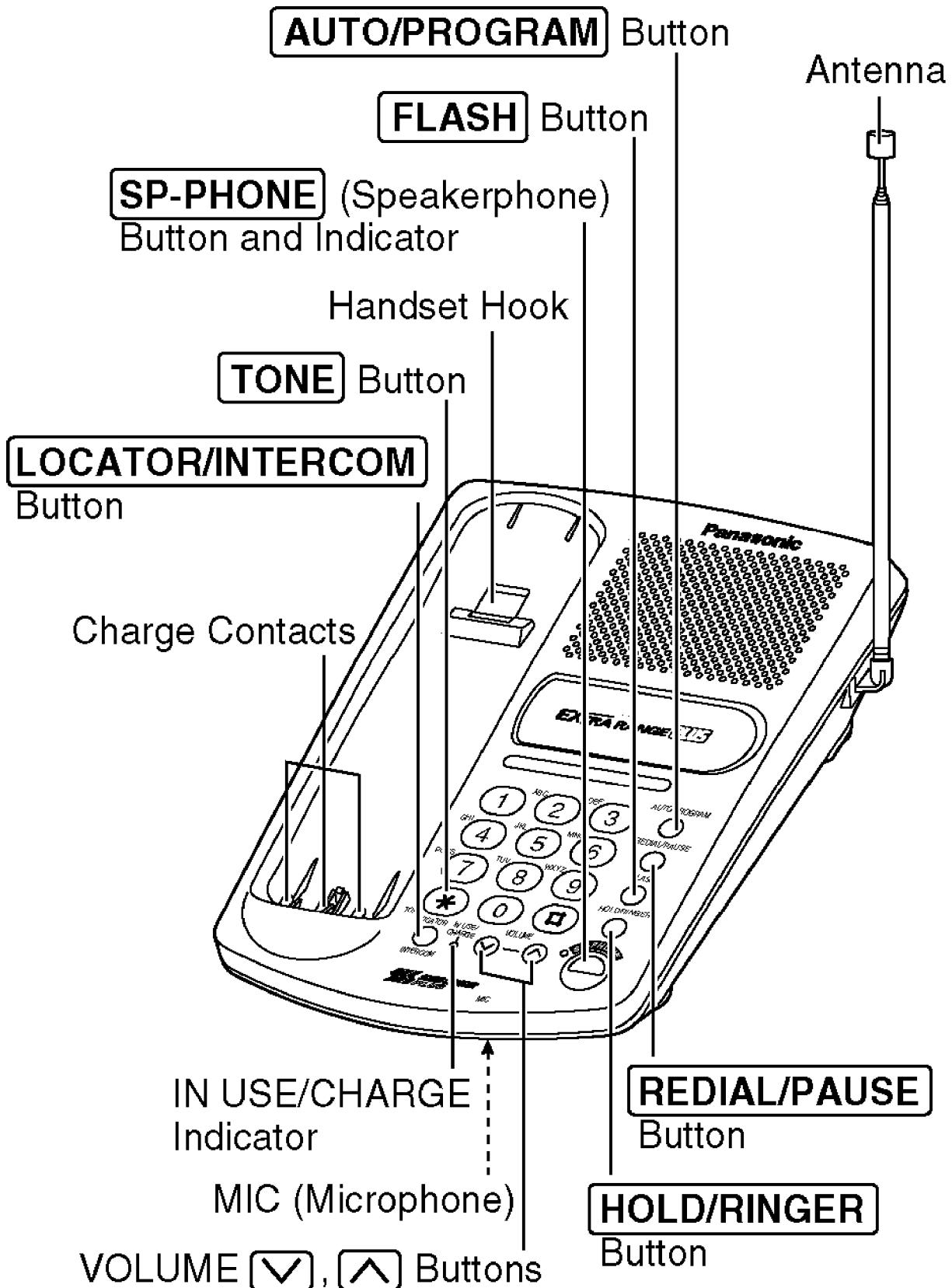
1. STANDARD BATTERY LIFE

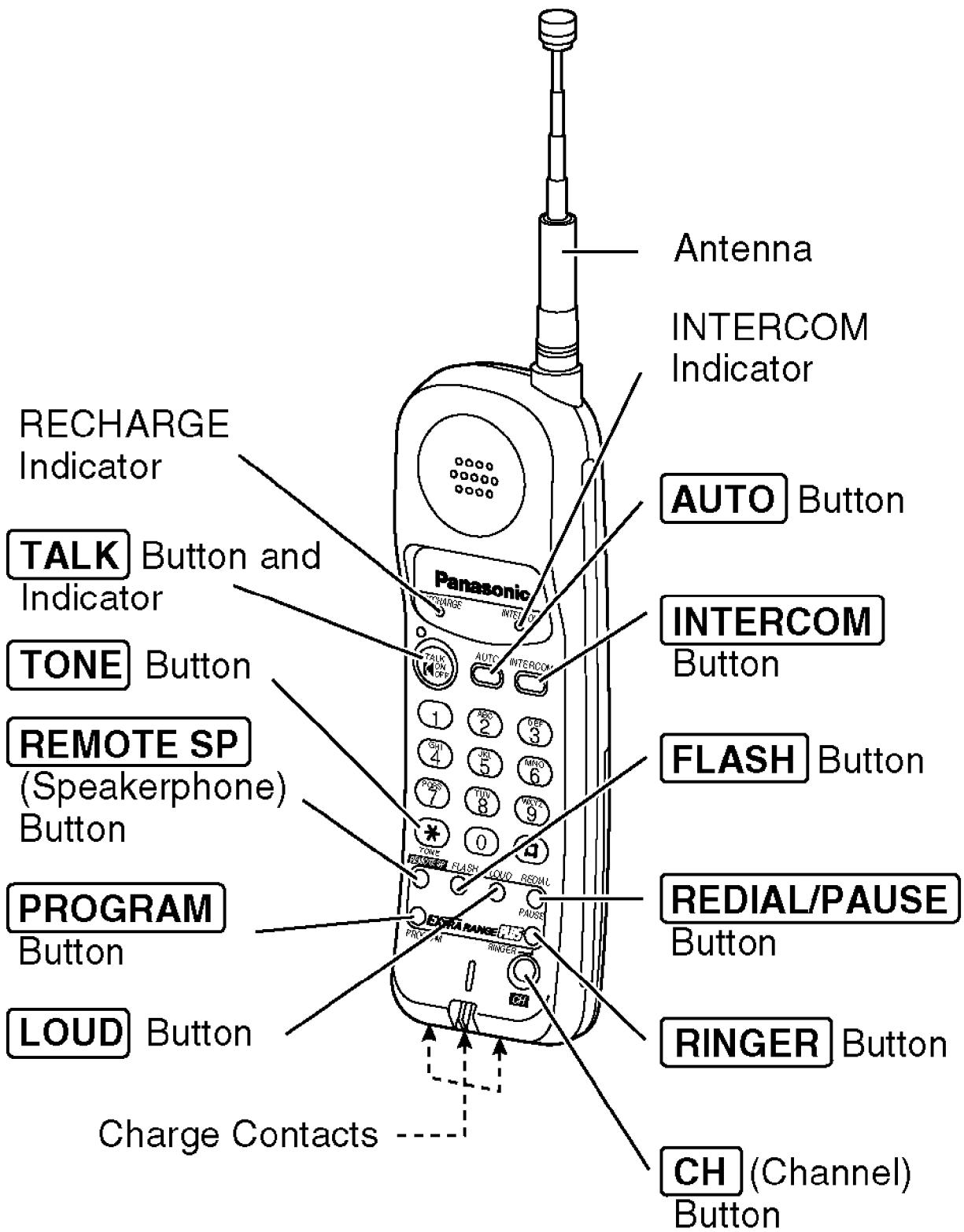
If your Panasonic battery is fully charged;

| | |
|-----------------------------|---------------------|
| While in use (TALK) | Up to about 6 hours |
| While not in use (Stand-by) | Up to about 30 days |

- Battery life may vary depending on usage conditions and ambient temperature.
- Clean the handset and the base unit charge contacts with a soft, dry cloth. Clean if the unit is subject to grease, dust or high humidity. Otherwise the battery may not charge properly.
- If the battery is fully charged, you do not have to place the handset on the base unit until the RECHARGE indicator flashes. This will maximize the battery life.
- The battery cannot be overcharged.

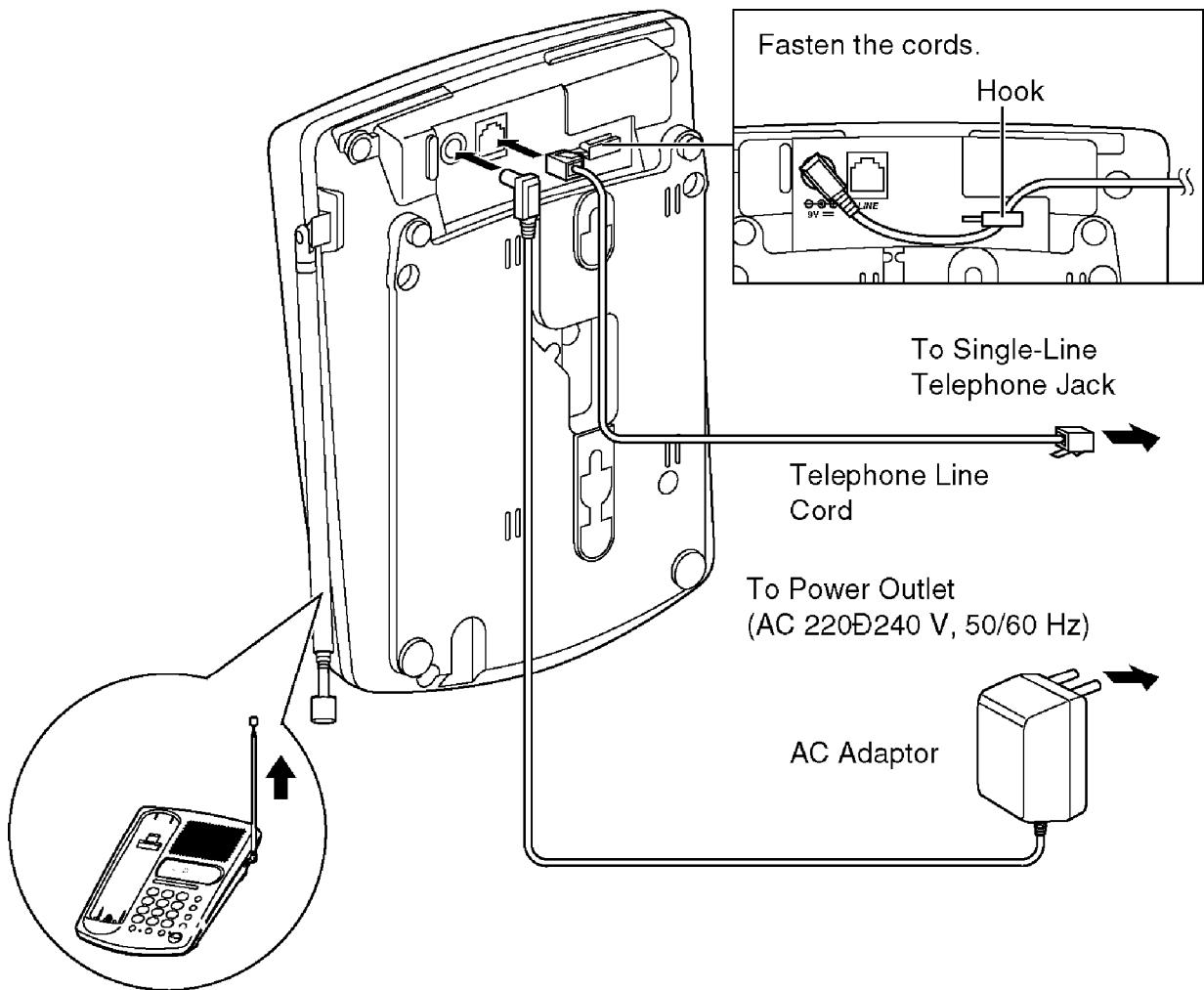
2. LOCATION OF CONTROLS





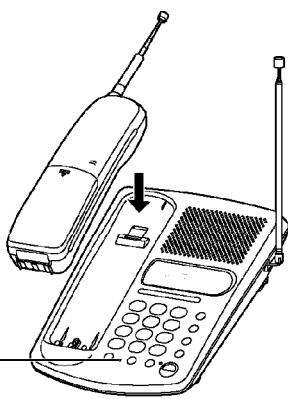
3. CONNECTION

1. Connect as shown.



- USE ONLY WITH Panasonic ACADAPTOR PQLV1BXZ.
- The AC adaptor must remain connected at all times. (It is normal for the adaptor to feel warm during use.)
- When more than one unit is used, the units may interfere with each other. To prevent or reduce interference, please leave ample space between the base units.

2. Extend the antennas fully.
3. Charge the battery for about 10 hours.
 - The IN USE/CHARGE indicator lights.



To select the dialing mode TONE (preset) or PULSE

You can program the dialing mode by using the handset near the base unit. The TALK and SP-PHONE indicator lights must be off before programming.

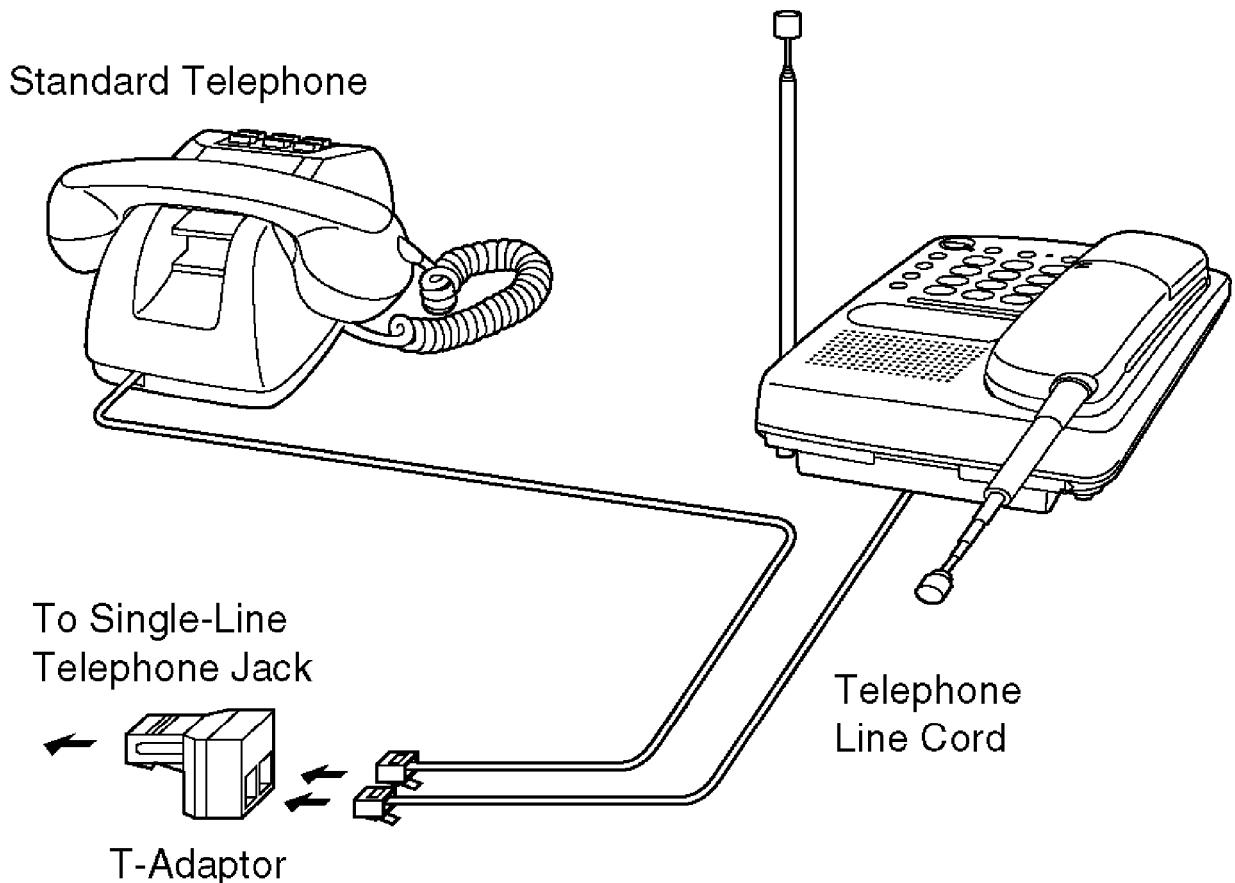
Press [PROGRAM] ➡ [AUTO] ➡ OR ➡ [PROGRAM].

twice (PULSE)
* twice (TONE)

- To cancel during programming, press [PROGRAM], then start from the beginning.
- If 3 beeps sound during programming, a wrong key was pressed. Start again from the beginning.
- If a power failure occurs, the mode will return to the factory preset (TONE). Reprogram if necessary.

3.1. Adding Another Phone

This unit will not function during a power failure. To connect a standard telephone on the same line, use a T-adaptor.



4. DISASSEMBLY INSTRUCTIONS

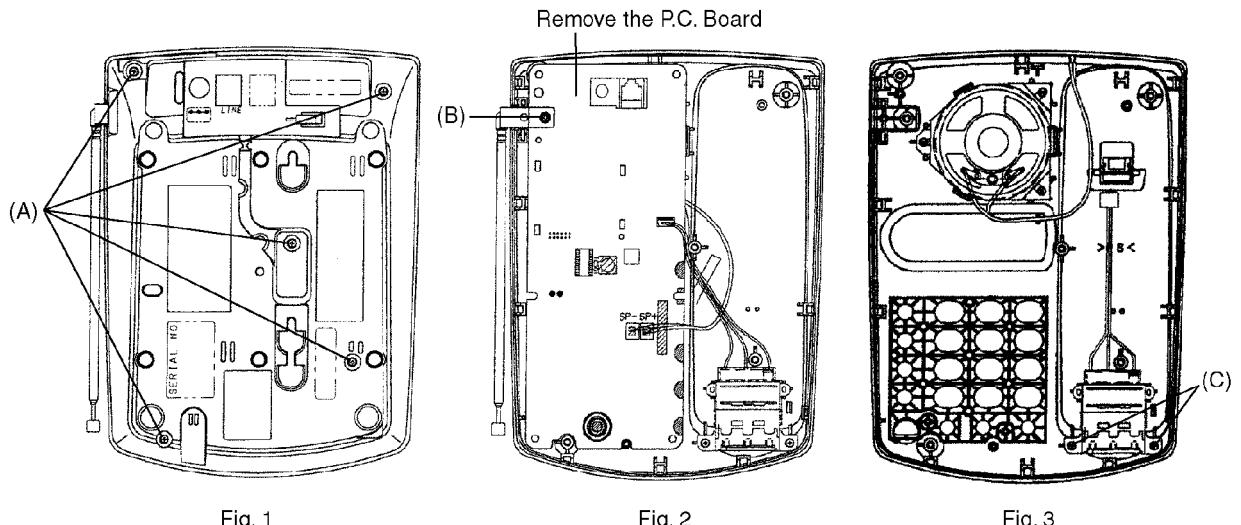


Fig. 1

Fig. 2

Fig. 3

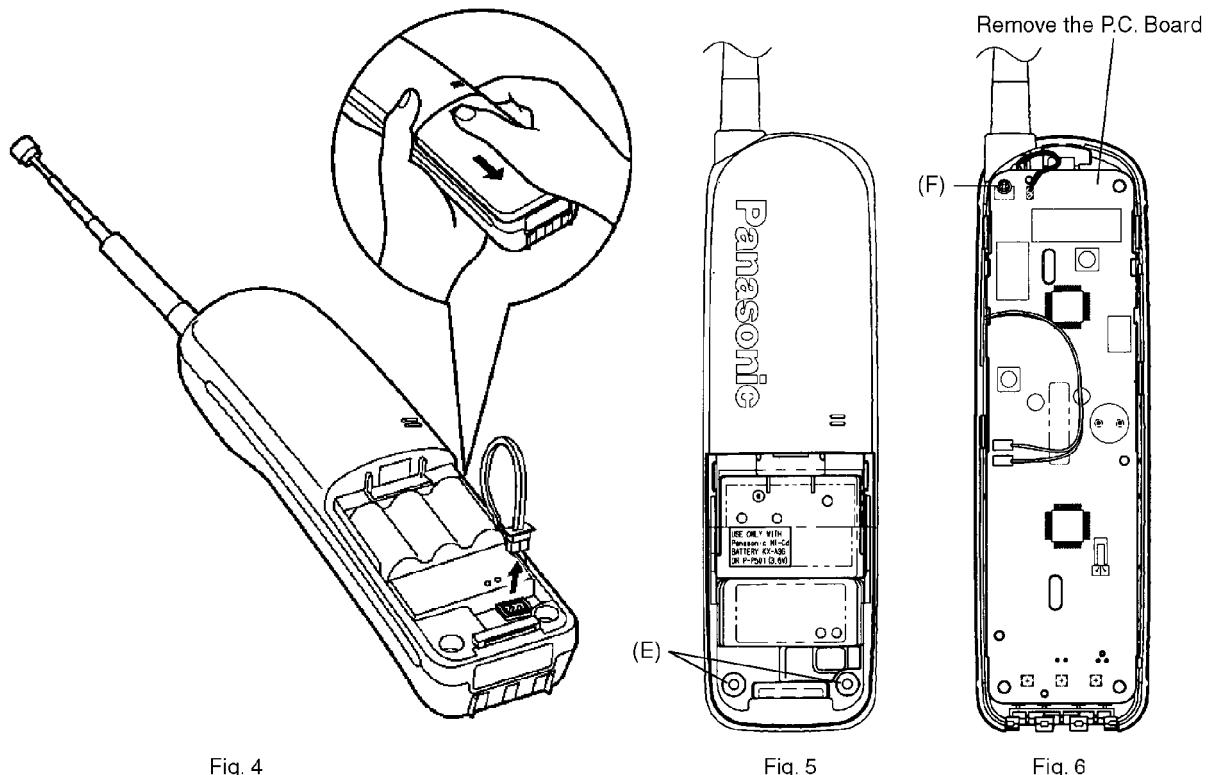


Fig. 4

Fig. 5

Fig. 6

| Ref. No. | Procedure | Shown in Fig | To remove -. | Remove -. |
|----------|-----------|--------------|----------------------------|------------------------------------|
| 1 | 1 | 1 | Lower Cabinet | Screws (3 x 14).....(A) x 5 |
| 2 | 1, 2 | 2 | Main Printed Circuit Board | Screws (3 x 14).....(B) x 1 |
| 3 | 1, 2, 3 | 3 | Charge Terminal | Screws (3 x 10).....(C) x 2 |
| 4 | 4 | 4 | Rear Cabinet | Remove the battery compartment cov |
| 5 | 4, 5 | 5 | | Screws (2.6 x 14).....(E) x 2 |
| 6 | 4-6 | 6 | Main Printed Circuit Board | Screws (2.6 x 14).....(F) x 1 |

5. HOW TO REPLACE FLAT PACKAGE IC

5.1. Preparation

- **SOLDER**

Sparkle Solder 115A-1, 115B-1 or Almit Solder KR-19,KR-19RMA

- **Soldering iron**

Recommended power consumption will be between 30 W to 40 W.

Temperature of Copper Rod $662 \pm 50^{\circ}\text{F}$ ($350 \pm 10^{\circ}\text{C}$)

(An expert may handle between 60 W to 40 W iron, but beginner might damage foil by overheating.)

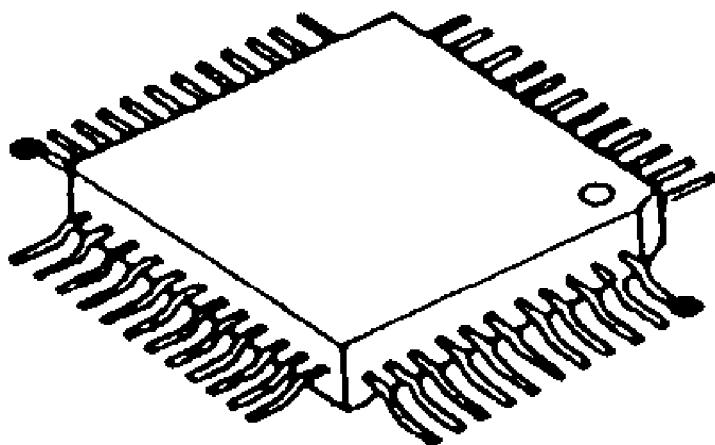
- **Flux**

HI115 Specific gravity 0.863

(Original flux will be replaced daily.)

5.2. Procedure

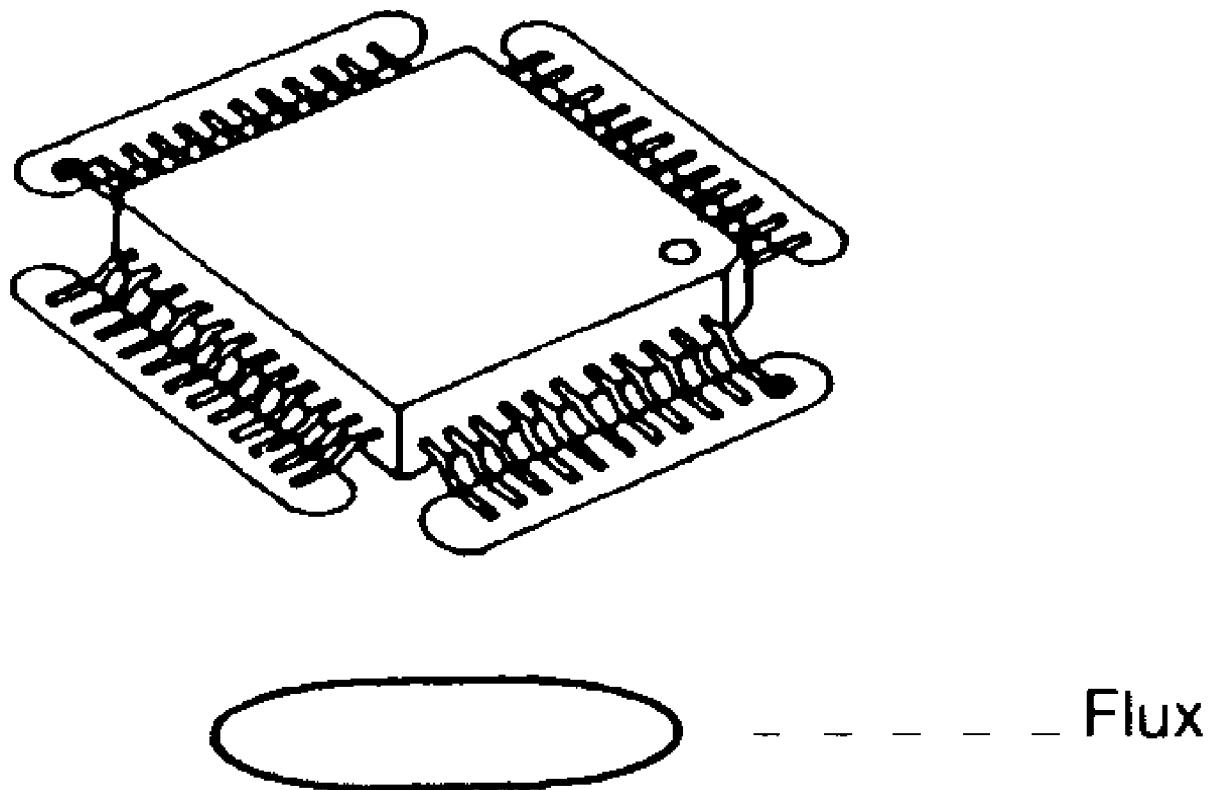
1. Temporary fix FLAT PACKAGE IC by soldering on two marked 2 pins.



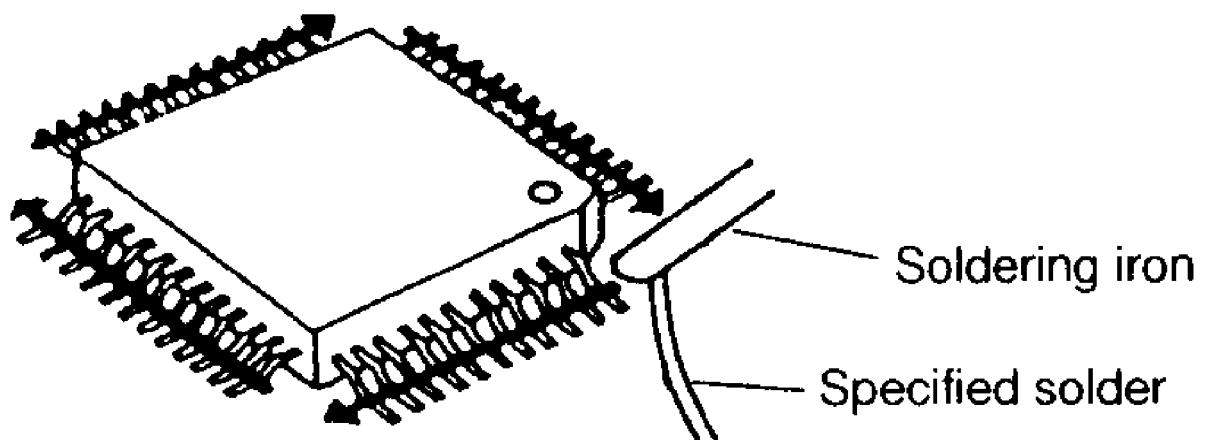
— — — — — Temporary soldering point.

*Most important matter is accurate setting of IC to the corresponding soldering foil.

2. Apply flux for all pins of FLAT PACKAGE IC.



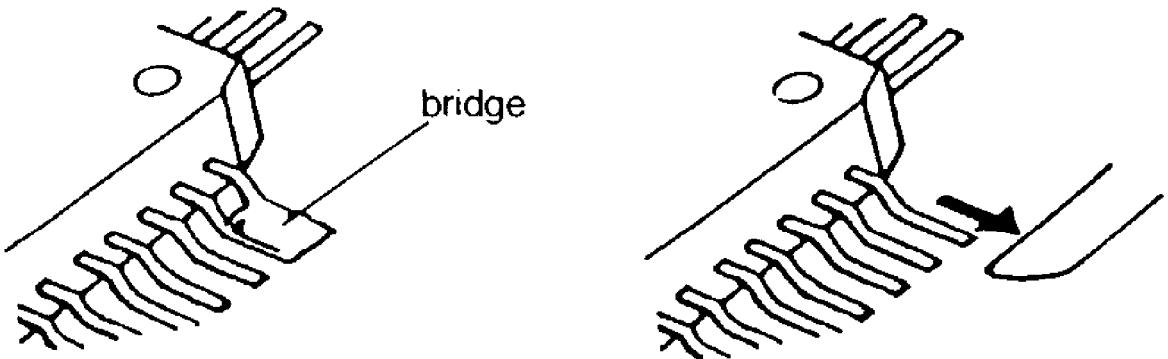
3. Solder employing specified solder to direction of arrow, as sliding the soldering iron.



5.3. Modification Procedure of Bridge

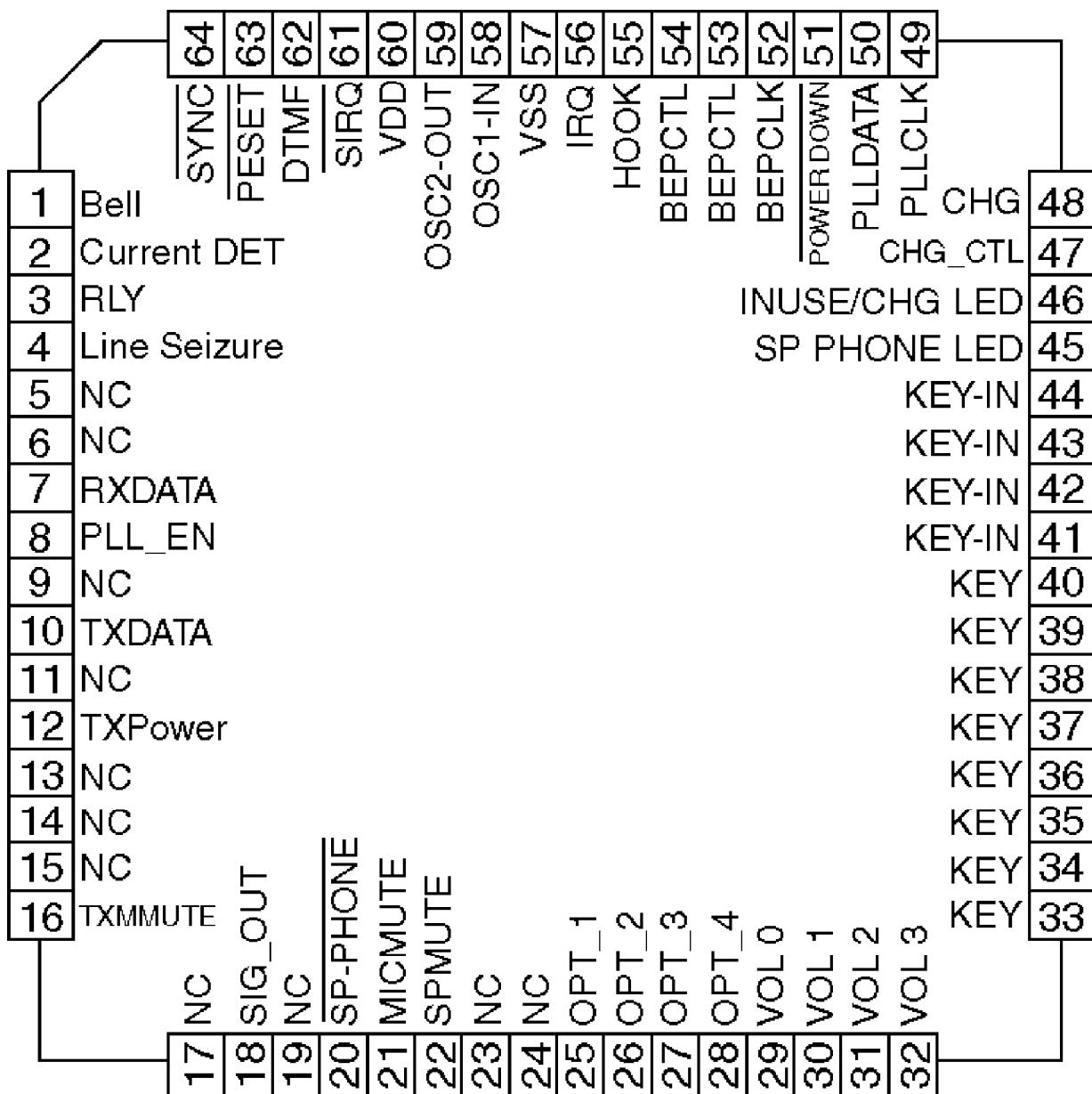
1. Re-solder slightly on bridged portion.
2. Remove remained solder along pins employing soldering iron as shown in

below figure.



6. CPU DATA (BASE UNIT)

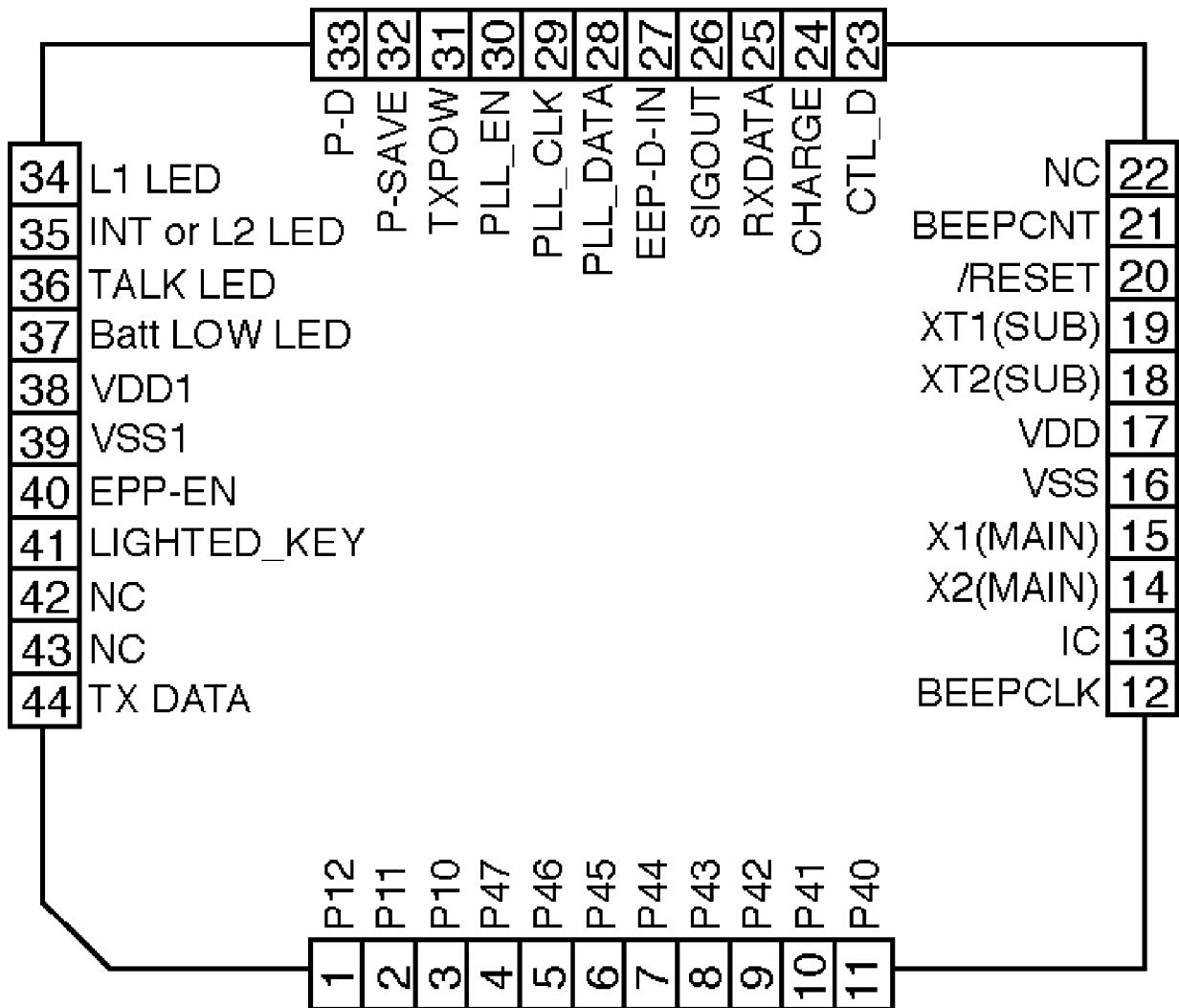
6.1. IC201



| Pin. No. | Description | I/O | High | High-Z | Low | Pin. No. | Description | I/O | High | High-Z | Low |
|----------|--------------|-----|---------------------|--------|-----------------------|----------|-------------------|-----|------------|--------|----------|
| 1 | BELL | D.I | Hi | - | Low | 33 | OPT Strobe | D.O | - | Normal | Active |
| 2 | Current det | D.O | - | - | Fixed | 34 | OPT Strobe | D.O | - | Normal | Active |
| 3 | RLY | D.O | ON | - | - | 35 | OPT Strobe | D.O | - | Normal | Active |
| 4 | LINE SEIZURE | D.O | ON | - | OFF | 36 | TEST PORT | D.I | None | - | Provided |
| 5 | Not Used | D.O | - | - | Fixed | 37 | Key Strobe | D.O | - | Active | Normal |
| 6 | Not Used | D.O | - | - | Fixed | 38 | Key Strobe | D.O | - | Active | Normal |
| 7 | RX DATA | D.I | DATA | - | DATA | 39 | Key Strobe | D.O | - | Active | Normal |
| 8 | PLL_EN | D.O | ON | - | OFF | 40 | Key Strobe | D.O | - | Active | Normal |
| 9 | Not Used | D.O | - | - | Fixed | 41 | KEY IN | D.I | KEY OFF | - | KEY ON |
| 10 | TX DATA | D.O | DATA | - | DATA | 42 | KEY IN | D.I | KEY OFF | - | KEY ON |
| 11 | Not Used | D.O | - | - | Fixed | 43 | KEY IN | D.I | KEY OFF | - | KEY ON |
| 12 | TX POWER | D.O | OFF | - | ON | 44 | KEY IN | D.I | KEY OFF | - | KEY ON |
| 13 | Not Used | D.O | - | - | Fixed | 45 | SP-PHONE LED | D.O | - | OFF | ON |
| 14 | Not Used | D.O | - | - | Fixed | 46 | INUSEC/CHARGE LED | D.O | - | OFF | ON |
| 15 | Not Used | D.O | - | - | Fixed | 47 | CHG CTL | D.O | Ultra | - | Trickle |
| 16 | TXLINEMUTE | D.O | ON | - | OFF | 48 | CHARGE | D.I | NON CHARGE | - | CHARGE |
| 17 | Not Used | D.I | - | - | Fixed | 49 | POLL CLOCK | D.O | Active | Normal | Active |
| 18 | SIG OUT | D.I | Weak Electric field | - | Strong Electric field | 50 | POLL DATA | D.O | Active | Normal | Active |
| 19 | Not Used | D.O | - | - | Fixed | 51 | POWER DOWN | D.I | Normal | - | DOWN |
| 20 | SP-PHONE | D.O | OFF | - | ON | 52 | Beep Clock | D.O | Active | Normal | Active |
| 21 | Mic Mute | D.O | ON | - | OFF | 53 | Beep CTL0 | D.O | - | - | Fixed |
| 22 | SP Mute | D.O | ON | - | OFF | 54 | Beep CTL1 | D.O | - | - | Fixed |
| 23 | Not Used | D.O | - | - | Fixed | 55 | Not Used | D.O | - | - | Fixed |
| 24 | Not Used | D.O | - | - | Fixed | 56 | Ext. Interrupt | D.I | Normal | - | - |
| 25 | CPT_1 | D.I | None | - | Provided | 57 | GND | - | - | - | Normal |
| 26 | CPT_2 | D.I | None | - | Provided | 58 | OSC1 | A.I | Active | - | Active |
| 27 | CPT_3 | D.I | None | - | Provided | 59 | OSC2 | A.O | Active | - | Active |
| 28 | CPT_4 | D.I | None | - | Provided | 60 | Power | D.I | Normal | - | - |
| 29 | VOL0 | D.O | Min Lo | Max Hi | - | 61 | Ext. Interrupt | - | Normal | - | - |
| 30 | VOL1 | D.O | Hi | Hi | - | 62 | DTMF | A.O | Active | Normal | Active |
| 31 | VOL2 | D.O | Lo | Hi | - | 63 | RESET | D.I | Normal | - | Reset |
| 32 | VOL3 | D.O | Lo | Hi | - | 64 | Sync.Signal | D.O | Active | - | Active |

7. CPUDATA (HANDSET)

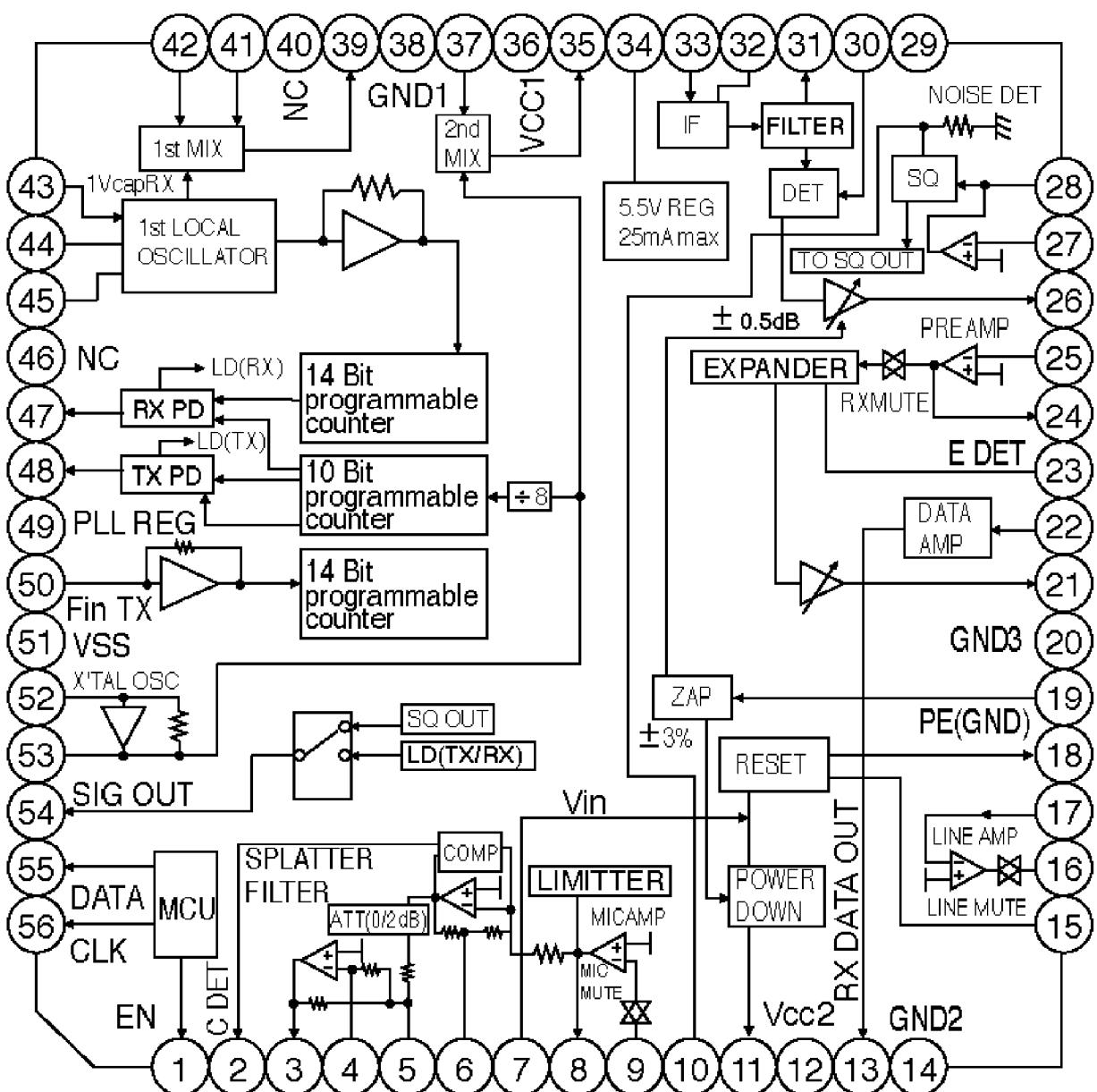
7.1. IC901



| Pin. No. | I/O | Description | High | High-Z | Low |
|----------|-------|------------------|-----------------------------|----------|-------------------------------|
| 1 | D.O | Option Strobe | Normal | | (Active) |
| 2 | D.O | Option Strobe | Normal | | (Active) |
| 3 | D.I/O | Key Strobe | | (Active) | Normal |
| 4 | D.I/O | Key Strobe | | (Active) | Normal |
| 5 | D.I/O | Key Strobe | | (Active) | Normal |
| 6 | D.I/O | Key Strobe | | (Active) | Normal |
| 7 | D.I/O | Key Strobe | | (Active) | Normal |
| 8 | D.I | Key In | Normal | | Key In |
| 9 | D.I | Key In | Normal | | Key In |
| 10 | D.I | Key In | Normal | | Key In |
| 11 | D.I | Key In | Normal | | Key In |
| 12 | D.O | Beep Clock | Normal | | (Beep) |
| 13 | - | IC | | | Normal |
| 14 | - | Main Clock | | | |
| 15 | A.I | 3.991MHz | | | |
| 16 | - | VSS0 | | | Normal |
| 17 | - | VDD0 | Normal | | |
| 18 | - | Sub Clock | | | |
| 19 | A.I | 32.768kHz | | | |
| 20 | D.I | RESET | Normal | | Reset |
| 21 | D.O | Beep Volume | Low | | High |
| 22 | D.O | Not Used | | | Normal |
| 23 | D.I | ID(Control) | Normal | | (Data) |
| 24 | D.I | Charge | Off Charge | | Charge |
| 25 | D.I | RX Data | Normal | | (Data) |
| 26 | D.I | Sig.Out | Batt Hi/Weak electric field | | Batt Hi/Strong electric field |
| 27 | D.O | Not Used | | | Normal |
| 28 | D.O | PLL Data | Normal | | (Data) |
| 29 | D.O | PLL Clock | Normal | | (Clock) |
| 30 | D.O | PLL Strobe | Latch | | Normal |
| 31 | D.O | TX Power | Off | | On |
| 32 | D.O | Power Save | On | | Off |
| 33 | D.I | Power Down | Normal | | Power Down |
| 34 | D.O | Not Used | | | Normal |
| 35 | D.I/O | Intercom LED | | Off | On |
| 36 | D.I/O | Talk LED | | Off | On |
| 37 | D.I/O | Recharge LED | | Off | On |
| 38 | - | VDD1 | Normal | | |
| 39 | - | VSS1 | | | Normal |
| 40 | D.O | Not Used | | | Normal |
| 41 | D.O | Keypad Light LED | On | | Off |
| 42 | D.O | Not Used | | | Normal |
| 43 | D.O | Not Used | | | Normal |
| 44 | D.O | TX Data | High | | Normal |

8. EXPLANATION OF IC TERMINALS

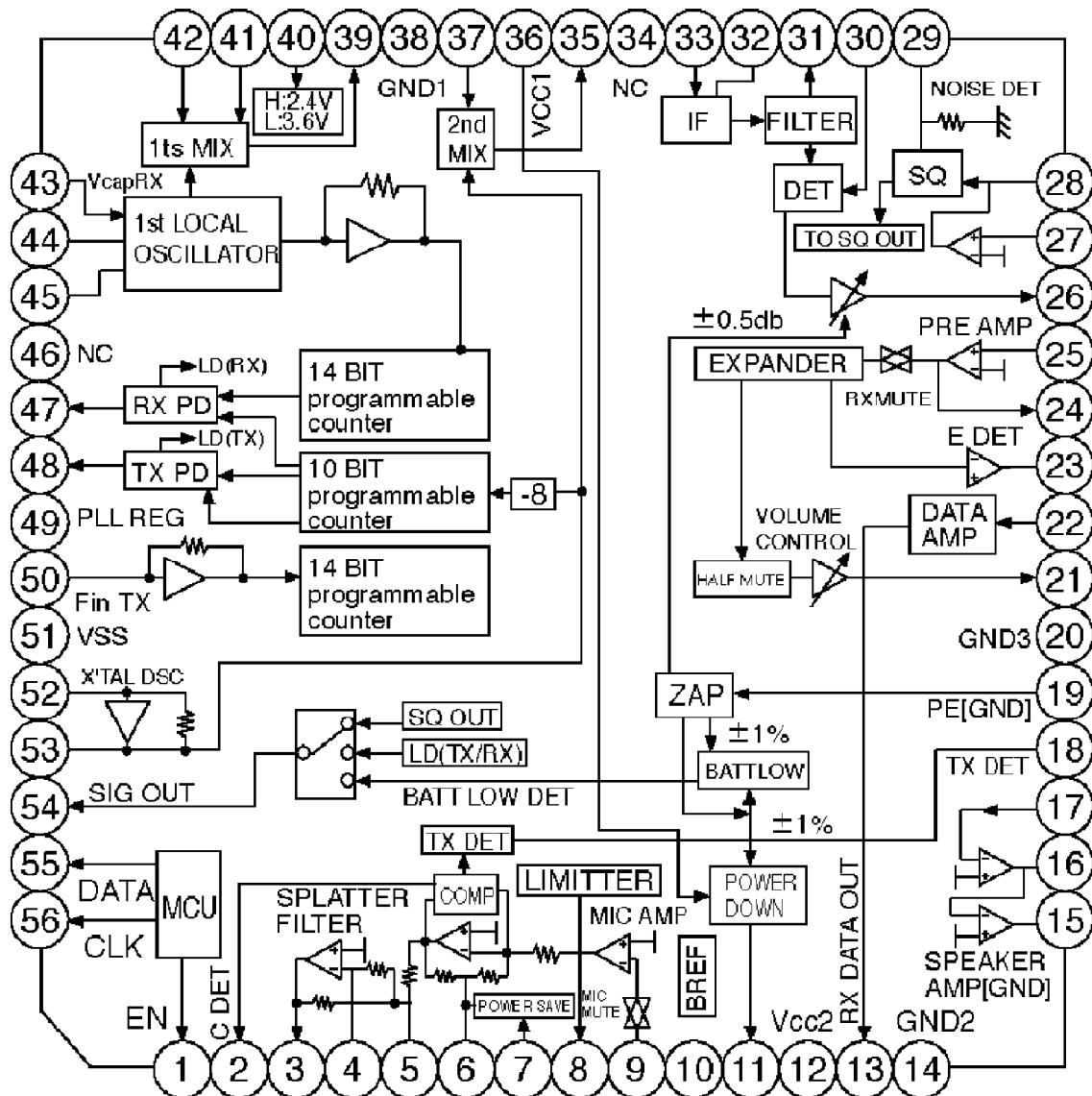
8.1. Base Unit: IC801



| Pin. No. | Description | Pin. No. | Description |
|----------|-------------|----------|-------------|
| 1 | EN | 29 | IF-VREF |
| 2 | C-DET | 30 | QUAD |
| 3 | SF-OUT | 31 | BM-OUT |
| 4 | SF-C2 | 32 | IF-REF |
| 5 | SF-C1 | 33 | IF-IN |
| 6 | COMP-DC | 34 | VREG |
| 7 | PD-IN | 35 | MIX2-OUT |
| 8 | MIC-OUT | 36 | VCC1 |
| 9 | MIC-IN | 37 | MIX2-IN |
| 10 | SQ-DET | 38 | GND1 |
| 11 | PD-OUT | 39 | MIX1-OUT |
| 12 | VCC2 | 40 | NC |
| 13 | D-OUT | 41 | MIX1-IN1 |
| 14 | GND2 | 42 | MIX1-IN2 |
| 15 | RESC | 43 | VA-CONT |
| 16 | L IN-IOUT | 44 | VCOT1 |
| 17 | L IN-IN | 45 | VCOT2 |
| 18 | RESET | 46 | NC |
| 19 | PE | 47 | RX-PD |
| 20 | GND3 | 48 | TX-PD |
| 21 | EXP-OUT | 49 | VDD |
| 22 | D-IN | 50 | fINT |
| 23 | E-DET | 51 | VSS |

| | | | |
|----|-------------|----|---------|
| 24 | Pre-AMP-OUT | 52 | OSCI |
| 25 | Pre-AMP-IN | 53 | OSCO |
| 26 | DET-OUT | 54 | Sig-Out |
| 27 | NF-IN | 55 | DATA |
| 28 | NF-OUT | 56 | CLK |

8.2. HANDSET: IC101

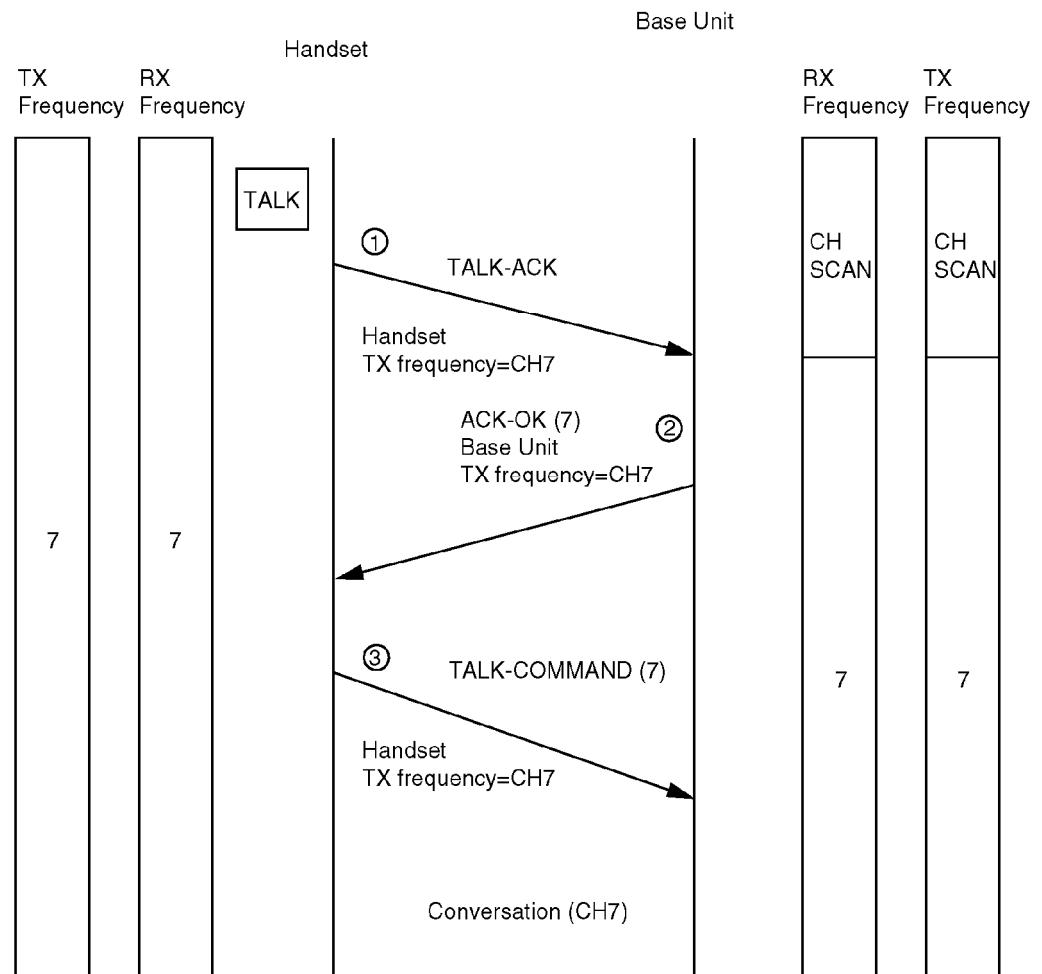


| Pin. No. | Description | Pin. No. | Description |
|----------|--------------|----------|-------------|
| 1 | EN | 29 | N-DET |
| 2 | C-DET | 30 | QUAD |
| 3 | SF-OUT | 31 | PH-OUT |
| 4 | SF-P | 32 | IF-PASS |
| 5 | COMP-OUT | 33 | IF-IN |
| 6 | COMP-REF | 34 | IF-VREF |
| 7 | PD IN | 35 | 2MIX-OUT |
| 8 | MIC-OUT | 36 | VCC 1 |
| 9 | MIC-IN | 37 | 2MIX-IN |
| 10 | BREF | 38 | GND 1 |
| 11 | PD OUT | 39 | 1MIX-OUT |
| 12 | VCC 2 | 40 | PDSW |
| 13 | DATA-AMP-OUT | 41 | RF-IN2 |
| 14 | GND 2 | 42 | RF-IN1 |
| 15 | SP-OUT2 | 43 | VA-CONT |
| 16 | SP-OUT1 | 44 | 1st-Lo1 |
| 17 | SP-IN | 45 | 1st-Lo2 |
| 18 | TX-DET | 46 | NC |
| 19 | PE | 47 | RX-PD |
| 20 | GND 3 | 48 | TX-PD |
| 21 | VOL OUT | 49 | PLL-REG |
| 22 | DATA-AMP-IN | 50 | F IN TX |
| 23 | F-DFT | 51 | VSS |

| L3 | C-DEC | 51 | VCO |
|----|-------------|----|---------|
| 24 | Pre-AMP-OUT | 52 | 2Lo-IN |
| 25 | Pre-AMP-IN | 53 | 2Lo-OUT |
| 26 | DET-OUT | 54 | Sig-Out |
| 27 | N FIL-IN | 55 | DATA |
| 28 | N FIL-OUT | 56 | CLK |

9. EXPLANATION OF CPU DATA COMMUNICATION

9.1. Outgoing Call Mode (STANDBY → TALK):

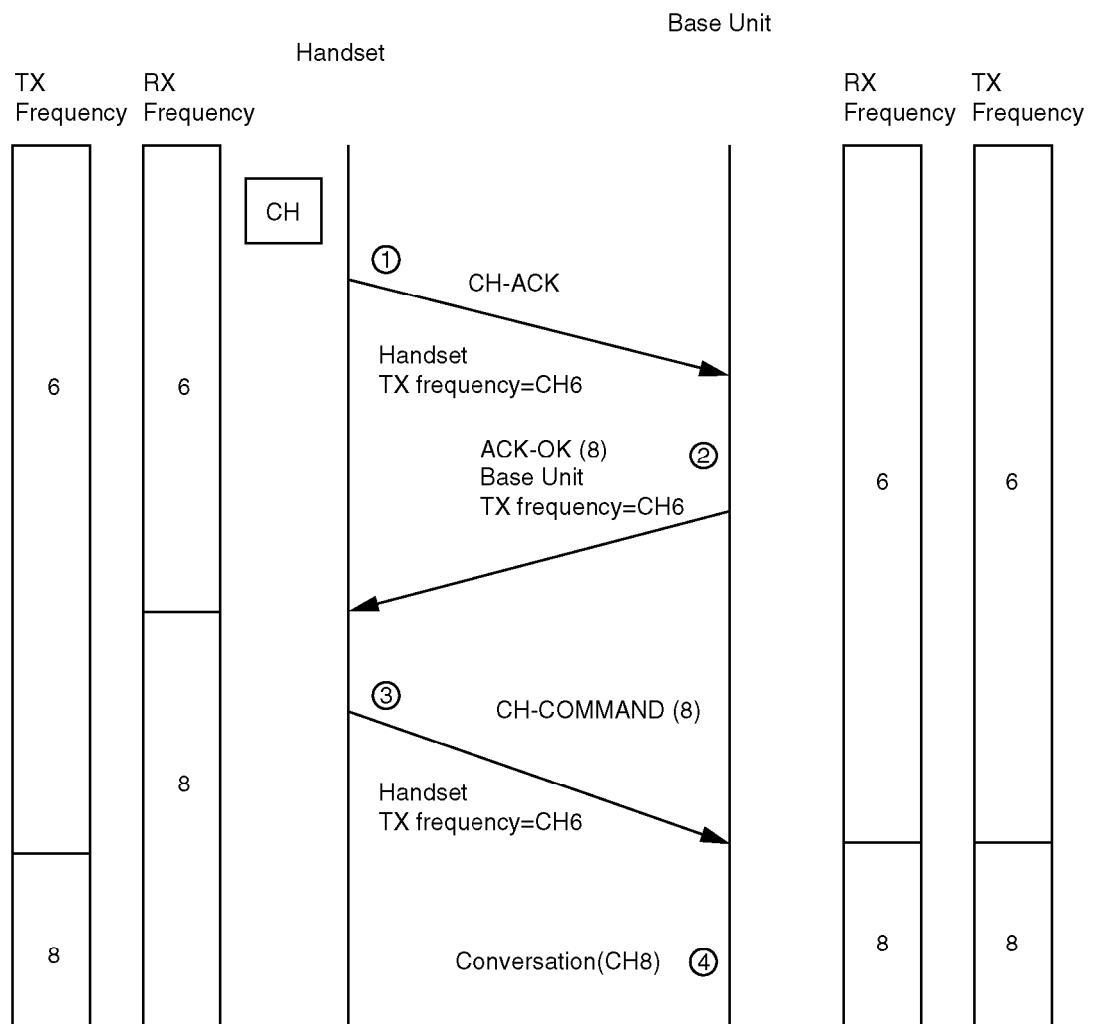


- ① When the user pushes the TALK button, the handset sends a TALK_ACK request to the base unit.
- ② The base unit sends an ACK-OK, which includes the number 7 (only).
- ③ The handset sends TALK-COMMAND, which includes the number 7.

Note: Channel 1-10

9.2. CH Change Mode:

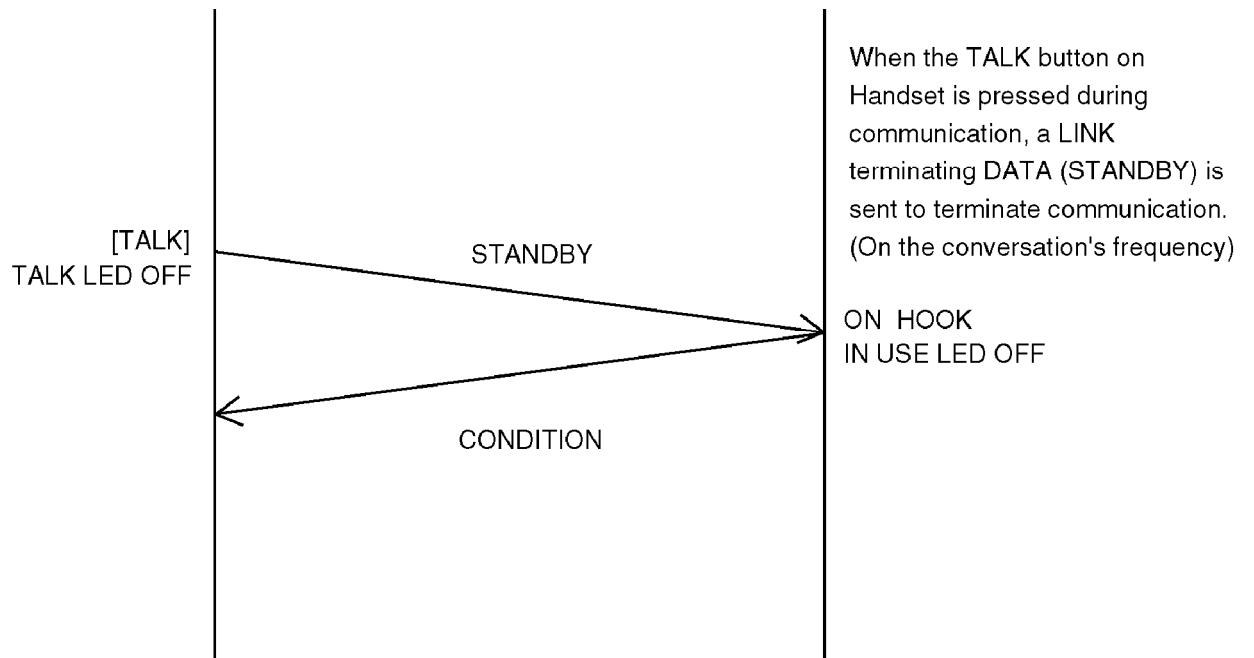
ex): (CH6 → CH8)



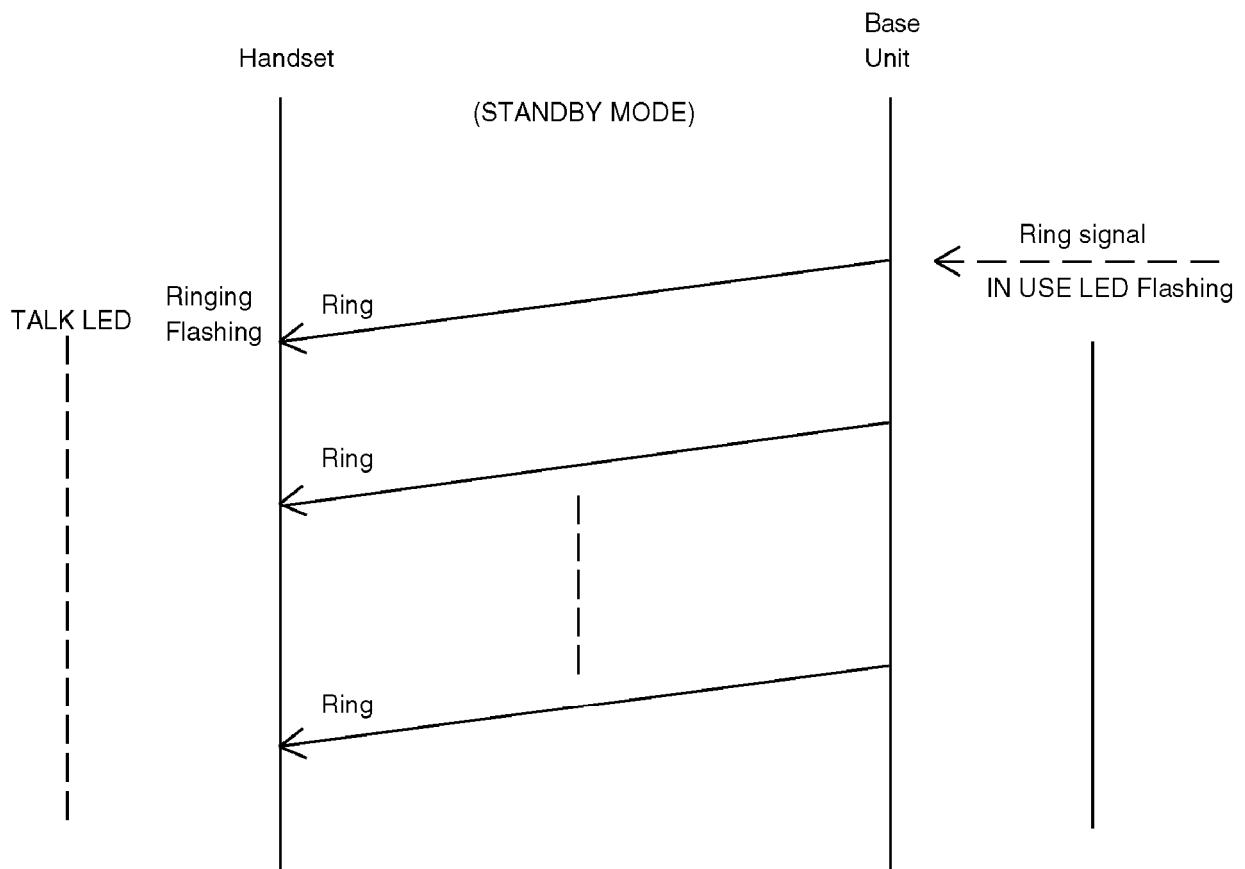
- ①** When the user pushes the CH button, the handset sends a CH-ACK request to the base unit. (on the handset's conversation frequency)
- ②** The base unit sends a ACK-OK.
This ACK-OK includes the number of the vacant channels.
- ③** The handset sends a CH-COMMAND.
This CH-COMMAND includes the number of the vacant channel.
After sending the CH-COMMAND, handset changes to a vacant channel.
- ④** The base unit changes to the vacant channel.
The a conversation can be accessed.

Note: Channels 1-10

9.3. To Terminate Communication



9.4. Ringing



After detecting the Ring signal from circuit, Base Unit sends a ring signal DATA (Ring) on the base's (a) TX frequency, then the Handset starts ringing.
 Note: (a) is channels 1-10 (old)...these channels are paired.

9.5. Ports for Transmitting and Receiving of Data

Handset: transmitting... 44 Pin receiving... 25 Pin

Base Unit: transmitting... 10 Pin receiving... 7 Pin

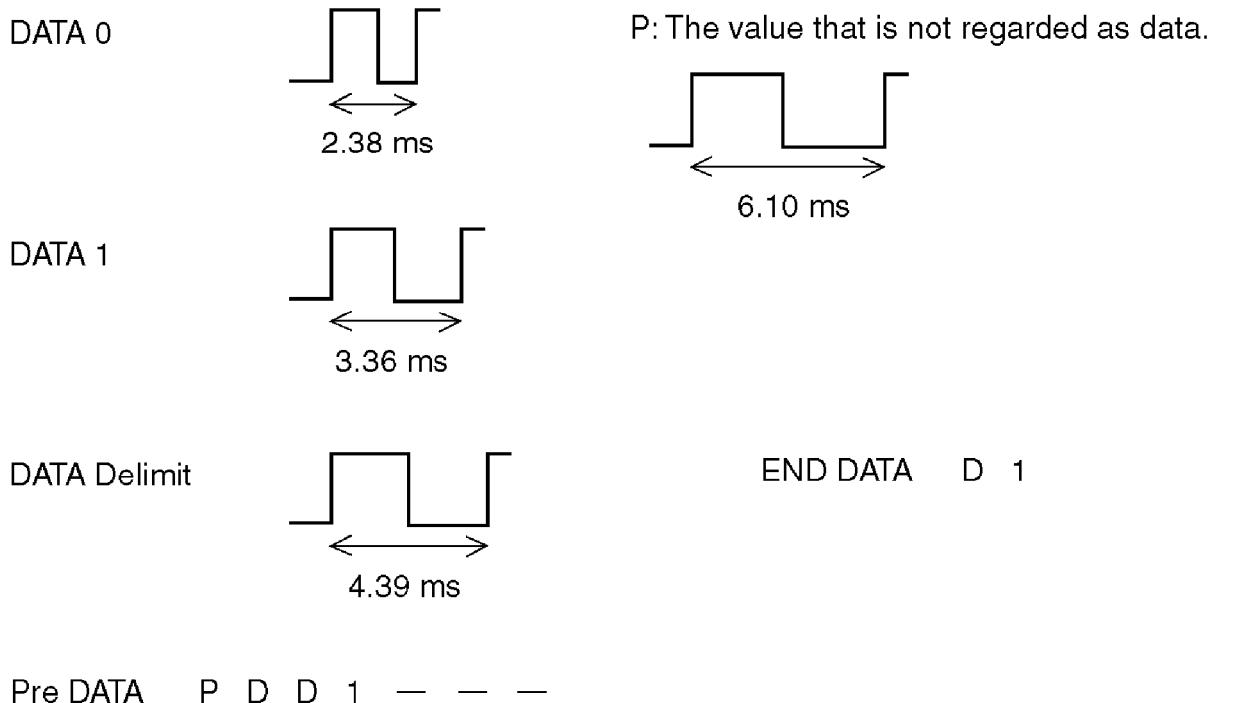
9.6. Waveform of DATA Used for Cordless Transmission and Reception

The DATA which is transmitted from the Handset to the Base Unit is combination of DATA 0, DATA 1, DATA Delimit, Pre data and End data of P1.

The DATA which is transmitted from the Base Unit to the Handset is combination of DATA 0, DATA 1, DATA Delimit, Pre data and End data of P2.

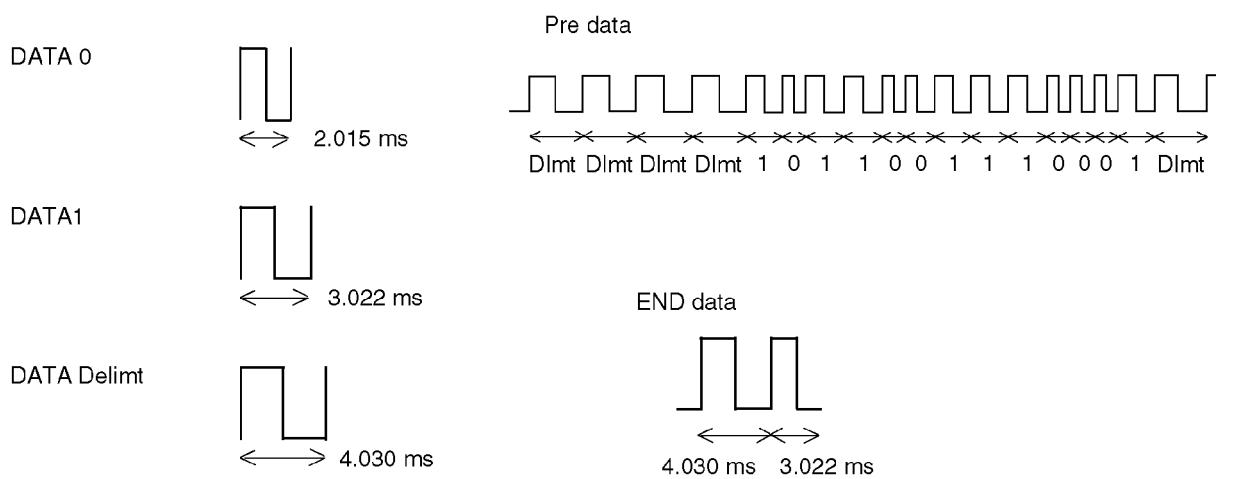
9.6.1. Handset

Transmitting DATA Format

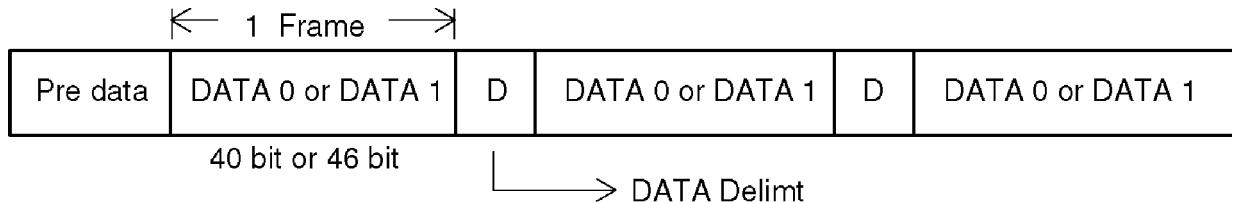


9.6.2. Base Unit

Transmitting DATA Format

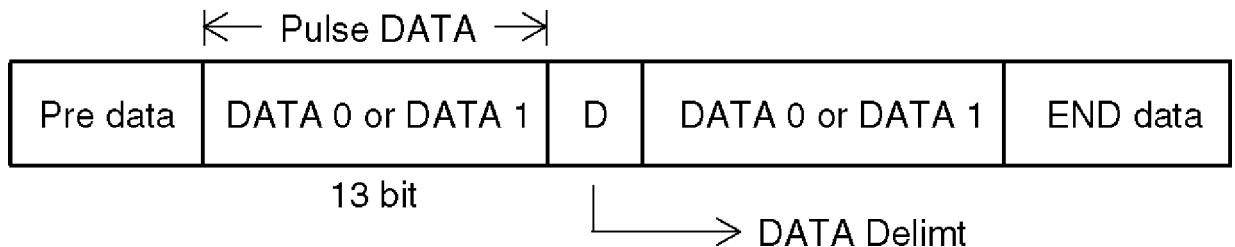


9.7. When LINKing



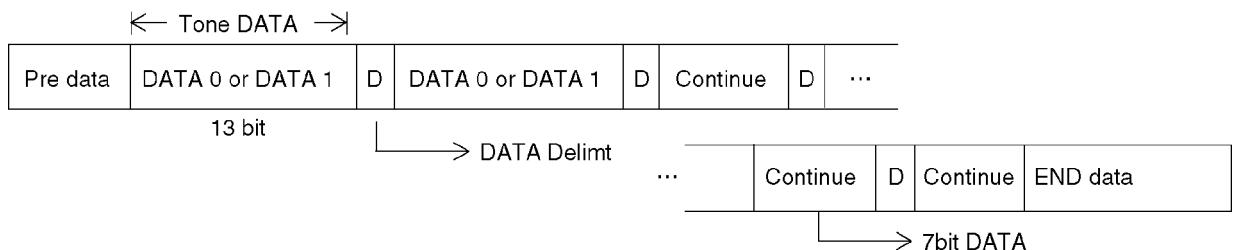
When LINKing from the Handset (when becoming STBY to TALK), DATA is transmitted in above format. The combined portion of DATA 0 and DATA 1 is transmitted in LINK requesting DATA (40 bit) format first. Then, when LINK OK(ACK-OK) DATA(46bit) is returned from the Base Unit, it is sent as LINK form DATA after changing the combination of DATA 0 and DATA 1. And the DATA Delimit is between each Frame as a stop. The contents of LINK requesting DATA and LINK form DATA are different depending on each operation.

9.8. Pulse Dial



When executing Pulse Dial, the Pulse Dial DATA is transmitted from the Handset to the Base Unit in above format. The combination of DATA 0 and DATA 1 are changed by each Dial No. And the DATA Delimit is between each Frame as a stop. The number of Frame is 2.

9.9. Tone Dial



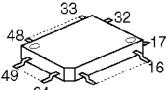
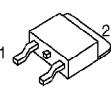
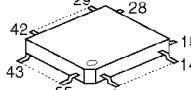
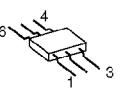
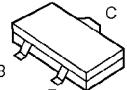
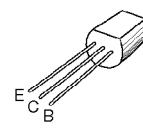
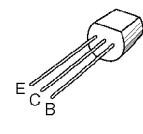
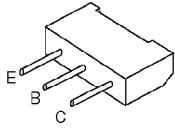
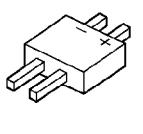
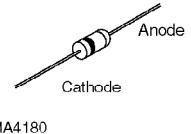
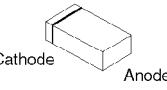
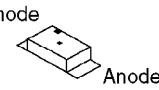
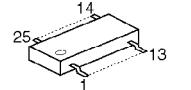
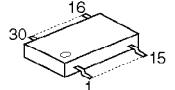
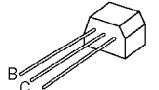
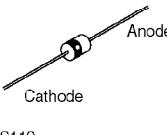
When executing Tone Dial, Tone Dial DATA is transmitted from the Handset to the Base Unit in above format. The DATA is changed by Dial No. as same as Pulse Dial. When Tone Dialing, DATA (Continue DATA) that the key is pressed continuously is sent to the Base Unit during the key is pressed. When depressing the key, and the END data is sent finally.

NOTE

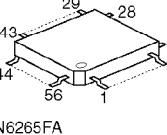
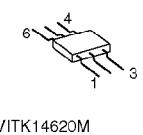
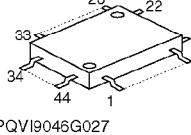
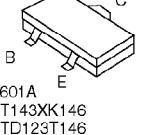
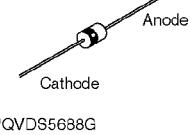
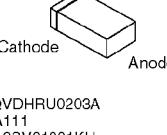
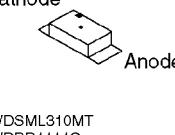
million kinds of the security code are available for the model KX-TC1035BXW. Each time the handset is in the cradle of the base unit (for charging), the CPU automatically change the security code.

10. TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

10.1. (BASE UNIT)

| | | | | |
|---|--|--|--|---|
|  MN150832BC2 |  PQVIBA78M06F |  AN6266FA |  PQVITK14620M |  2SD1819A UN5113 |
|  2SA1625 2SC2120 |  PQVT2N6517CA |  2SD1994A 2SD1991A |  PQVDS1ZB60F1 |  Anode Cathode MA4180 MA153 MA4300 |
|  PQVDRB751V4 MA111 PQVDHVC375 |  Cathode Anode PQVDSML310MT PQVDBR1111C |  PQVIBA3720FP |  PQVIC77655V |  B C E |
|  1SS119 | | | | |

10.2. (HANDSET)

| | | | | |
|--|--|---|---|---|
|  AN6265FA |  PQVITK14620M |  PQVI9046G027 |  2SD601A PQVT143XK146 PQVT123T146 PQVTDT143E |  Anode Cathode PQVDS5688G |
|  PQVDHRU0203A MA111 MA2SV01001KU |  Cathode Anode PQVDSML310MT PQVDBR1111C | | | |

11. CPU OPTION

11.1. Base Unit

| LASH IME | 700 msec. | 100 msec. | 600 msec. | 250 msec. | 300 msec. | 400 msec. | 110 msec. | 90 msec |
|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| D906 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| D907 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| D908 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |

D906—D908 are used for default setting.

When you change the flash time, do the following procedure.

In case the program should be set frequency, change the default at D906—D908, then set the program.

11.2. Flash Button

Pressing [FLASH] allows you to use special features of your host PBX such as transferring an extension call or accessing special telephone services (optional) such as call waiting.

Selecting the flash time

The flash time depends on your telephone exchange or host PBX. You can select the following flash times; "90, 100, 110, 250, 300, 400, 600, 700 msec (milliseconds)", **using the handset near the base unit**. Your phone comes from the factory set to "700 msec". **The TALK and SP-PHONE indicator lights must be off before programming.**

Press [PROGRAM] ➡ Dialing button (① to ⑧) ➡ [AUTO] ➡ [FLASH].

①: 90 msec ②: 100 msec ③: 110 msec
④: 250 msec ⑤: 300 msec ⑥: 400 msec
⑦: 600 msec ⑧: 700 msec

- If 3 beeps sound after programming, a wrong key was pressed. Start again from step 1.
- If you are connected via a PBX, a longer flash time may be necessary to use PBX functions (transferring a call, etc.). Consult your PBX installer for the correct setting.
- If a power failure occurs, the setting will return to the factory preset which is set by the combination of D906, 907 and 908 (please refer the table in 11.1). Reprogram if necessary.

12. ADJUSTMENTS (BASE UNIT)

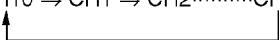
If your unit have below symptoms, adjust each item using remedy column from the table.

| Symptom | Remedy |
|---|-------------------------------|
| The base unit dose not respond to a call from handset. | Make adjustments in item (A) |
| The base unit dose not transmit or the transmit frequency is off. | Make adjustments in item (B) |
| The transmit frequency is off. | Make confirmation in item (C) |
| The transmit power output is low, and the operating distance between base unit and handset is less than normal. | Make adjustments in item (D) |
| The reception sensitivity of base unit is low with noise. | Make adjustments in item (E) |
| The transmit level is large or small. | Make adjustments in item (F) |
| The reception level is large or small. | Make adjustments in item (G) |
| The unit does not link. | Make confirmation in item (H) |

How to set the test mode.

CH10 Test Mode

1. "TEST SW" ON
2. SUPPLY DC Voltage.
3. Press "Page" key twice.
Unit becomes CH10 Talk.
4. Press CH-UP button.

CH10 → CH1 → CH2.....CH9


5. Press CH-DOWN button.

CH10 → CH9 → → CH1


While pressing "S2", supply DC voltage to base unit by S3.
Base unit is set to test mode then press "paging" key twice.

When replacing these parts, adjust as shown in table below table.

| Replace Parts | Adjustment items | Test Mode | Adjustment Point | Procedure |
|----------------------------|----------------------------------|-------------------|------------------|---|
| IC801, T801 C841 | (A) RX VCO Adjustment | Test Mode 10ch | T801 | 1. Set S3 to RX side. 2. Adjust T801 so that the reading of the Digital Voltmeter is $2.3\text{ V}\pm0.1\text{ V}$. |
| IC802 , D851 T851 | (B) TX VCO Adjustment | Test Mode 10ch | T851 | 1. Set S3 to TX side. 2. Adjust T851 so that the reading of the Digital Voltmeter is $2.3\text{ V}\pm0.1\text{ V}$. |
| DUP802, X801 C835, C836 | (C) TX Frequency Confirmation | Test Mode 10ch | — | 1. Set S4 to ON. 2. Confirm so that the reading of the frequency counter is $44.200\text{ MHz}\pm0.7\text{ kHz}$. |
| R864, IC802 | (D) TX Power Confirmation | Test Mode 10ch | VR852 | 1. Set S8 to ON. 2. Confirm that TX Power is more than 1000mV. |

When replacing these parts, adjust as shown in table below.

| ↓ Replace Parts | Adjustment items | Test Mode | Adjustment Point | Procedure |
|--------------------------|---|-------------------|------------------|---|
| DUP801 CF801 CF802 | (E) RX Sensitivity Confirmation (2nd IF output) | Test Mode 10ch | | 1. Set S6, S7 to ON. 2. Apply a 60dB μ Vemf output from S.S.G. (modulation frequency 1 kHz, dev. 0 kHz). 3. Confirm that the reading of the RF VTVM is maximum output (more than 30 mV). |
| IC801 Q105 VR402 | (F) Line Output Level Adjustment | Test Mode 10ch | | 1. Set S6, S5 to ON. 2. Apply a 40dB μ Vemf output from S.S.G (modulation frequency 1kHz, dev. 3kHz). 3. Adjust VR402 so that the reading of the AF VTVM is -5 dBm±1.0 dBm (600 load). |
| IC801 D851 | (G) Line Input Modulation Adjustment | Test Mode 10ch | VR401 | 1. Set S6, S9 and S10 to ON. 2. Input via loop simulator 1.0 kHz, -20.0 dBm (measured at T-R) signal. 3. Apply a 40 dB μ Vemf output from S.S.G. (modulation frequency 1 kHz, dev. 0 kHz). 4. Adjust VR401 so that the reading of the FM Deviation Meter is 4.0 kHz±0.1 kHz. |
| IC801 DUP801 | (H) Noise Squelch Confirmation | Test Mode 10ch | | 1. Set S6, to ON. 2. Apply a 40dB μ Vemf output from S.S.G. (modulation frequency 4.0kHz, dev. 8kHz). 3. Oscilloscope become High. 4. Apply a 40dB μ Vemf output from S.S.G. (modulation frequency 4.0kHz, dev. 0kHz). 5. Oscilloscope become Low. |

The connection of adjustment equipments are as shown in [Flow Solder Side View \(Base Unit\)](#).

13. ADJUSTMENTS (HANDSET)

If your unit have below symptoms, adjust each item using remedy column from the table.

| Symptom | Remedy |
|---|-------------------------------|
| The movement of Battery Low Indicator is wrong. | Make confirmation in item (A) |
| The base unit does not respond to a call from handset. | Make adjustment in item (B) |
| The base unit does not transmit or the transmit frequency is off. | Make adjustment in item (C) |
| The transmit frequency is off. | Make confirmation in item (D) |
| The transmit power output is low, and the operating distance between base unit and handset is less than normal. | Make confirmation in item (E) |
| The reception sensitivity of base unit is low with noise. | Make adjustment in item (F) |
| Does not link between base unit and handset. | Make confirmation in item (G) |
| The reception level is high or low. | Make adjustment in item (H) |
| The transmit level is high or low. | Make adjustment in item (I) |

Unit condition:

1. Remove the antenna lead wire from P.C Board of handset.
2. Power Supply: DC 3.9V
3. Volume: HIGH (When P.C. Board of handset is in test mode, volume condition is medium. Press "LOUD" key once.)
4. Speaker Load: 150 Ω

| CH | TX Frequency | RX Frequency |
|------|--------------|--------------|
| CH10 | 49.970MHz | 44.200MHz |

How to set the test mode.

CH10 Test Mode

1. After connecting the diode D912 and apply a power supply DC 3.9 V.

(The unit becomes CH10 Talk)



2. Press the talk switch.

(The unit becomes CH10 standby)

3. Press the Talk Switch.

4. Press the channel switch,

CH10 → CH1 → CH2.....CH9

5. Press the "FLASH" switch,

CH10 → CH9 → → CH1

When replacing these parts, adjust as shown in table below.

| ↓ Replace Parts | Adjustment items | Test Mode | Adjustment Point | Procedure |
|-------------------------------|---------------------------------------|-----------|------------------|--|
| IC101 | (A) Battery Low Confirmation | CH10 Talk | — | 1. Set S1 to ON. 2. Set the power supply voltage to DC 3.65 V, and confirm so that the reading of oscilloscope is High. 3. Set the power voltage to DC 3.45 V, and confirm so that the reading of oscilloscope is Low. |
| IC101, X101, T301, VD301 | (B) TX VCO Voltage Adjustment | CH10 Talk | T301 | 1. Set S2 to TX VCO side. 2. Adjust T301 so that the reading of digital voltmeter is $1.5 \text{ V} \pm 0.1 \text{ V}$ (After adjusting, set S2 to OFF). |
| IC101, X101, T201 | (C) RX VCO Voltage Adjustment | CH10 Talk | T201 | 1. Set S2 to RX VCO side. 2. Adjust L5 so that the reading of digital voltmeter is $1.5 \text{ V} \pm 0.1 \text{ V}$ (After adjusting, set S2 to OFF). |
| X101, IC101 C141, C142 | (D) TX frequency Confirmation | CH10 Talk | — | 1. Set S3 to ON. 2. Confirm that the reading of frequency counter is $49.970 \text{ MHz} \pm 700 \text{ Hz}$. |
| DUP301 | (E) TX Power Confirmation | CH10 Talk | — | 1. Set S4 to ON (S3:OFF). 2. Output level should be over 700 mV on RF VTVM (50Ω load). |
| DUP101 IC101 CF1 CF2 | (F)RX Confirmation (2nd IF Output) | CH10 Talk | — | 1. Set S6, S7 to ON. 2. Apply a $60 \text{ dB}\mu\text{Vemf}$ output from S.S.G. (modulation frequency 1kHz, dev. 3kHz) 3. Comfirm 2nd IF output so that its reading of RF VTVM is more than 45mV. |
| | (G) Noise Squelch Confirmation | CH10 Talk | | 1. Set S1, S6 on. 2. Procedure 1. + Press "1" key to set Noise Squelch Mode. 3. Apply a $-2 \text{ dB}\mu\text{Vemf}$ output from S.S.G. (modulation frequency 1.0kHz, dev. 3kHz). 4. Oscilloscope become High. 5. Apply a $+8 \text{ dB}\mu\text{Vemf}$ output from S.S.G. (modulation frequency 1.0kHz, dev. 3kHz). 6. Oscilloscope become Low. |
| | (H) Speaker Output Level Adjustment | CH10 Talk | — | 1. Set S5, S6 to ON. 2. Apply a $40 \text{ dB}\mu\text{Vemf}$ output from S.S.G.(modulation frequency 1kHz, dev. 3kHz). 3. Confirm that SP output level is $-15 \pm 2 \text{ dBm}$. (distortion: less than 6%) (volume: MAX) |
| VR201 | (I) MIC Modulation Factor Adjustment | CH10 Talk | VR201 | 1. Set S10, S9 to ON. 2. Apply a MIC signal (1kHz, -40 dBm at 600Ω load). 3. Confirm that the reading of FM Deviation Meter is $2.8 \text{ kHz} \pm 0.3 \text{ kHz}$. |
| | (J) Data Moudulation Confirmation | CH10 STBY | — | 1. Set S10 to ON. 2. Keep pressing the "1" button. 3. Confirm for a $4.5 \sim 6.5 \text{ kHz}$ FM Deviation Meter reading. |

The connections of adjustment equipment are as shown in **Flow Solder Side View (Handset)**.

14. FREQUENCY TABLE (MHz)

| | BASE UNIT | | HANDSET | |
|----|--------------------|-------------------|--------------------|-------------------|
| | Transmit Frequency | Receive Frequency | Transmit Frequency | Receive Frequency |
| 1 | 43.720 | 49.670 | 49.670 | 43.720 |
| 2 | 43.740 | 49.845 | 49.845 | 43.740 |
| 3 | 43.820 | 49.860 | 49.860 | 43.820 |
| 4 | 43.840 | 49.770 | 49.770 | 43.840 |
| 5 | 43.920 | 49.875 | 49.875 | 43.920 |
| 6 | 43.960 | 49.830 | 49.830 | 43.960 |
| 7 | 44.120 | 49.890 | 49.890 | 44.120 |
| 8 | 44.160 | 49.930 | 49.930 | 44.160 |
| 9 | 44.180 | 49.990 | 49.990 | 44.180 |
| 10 | 44.200 | 49.970 | 49.970 | 44.200 |

15. RF SPECIFICATION

15.1. Base Unit

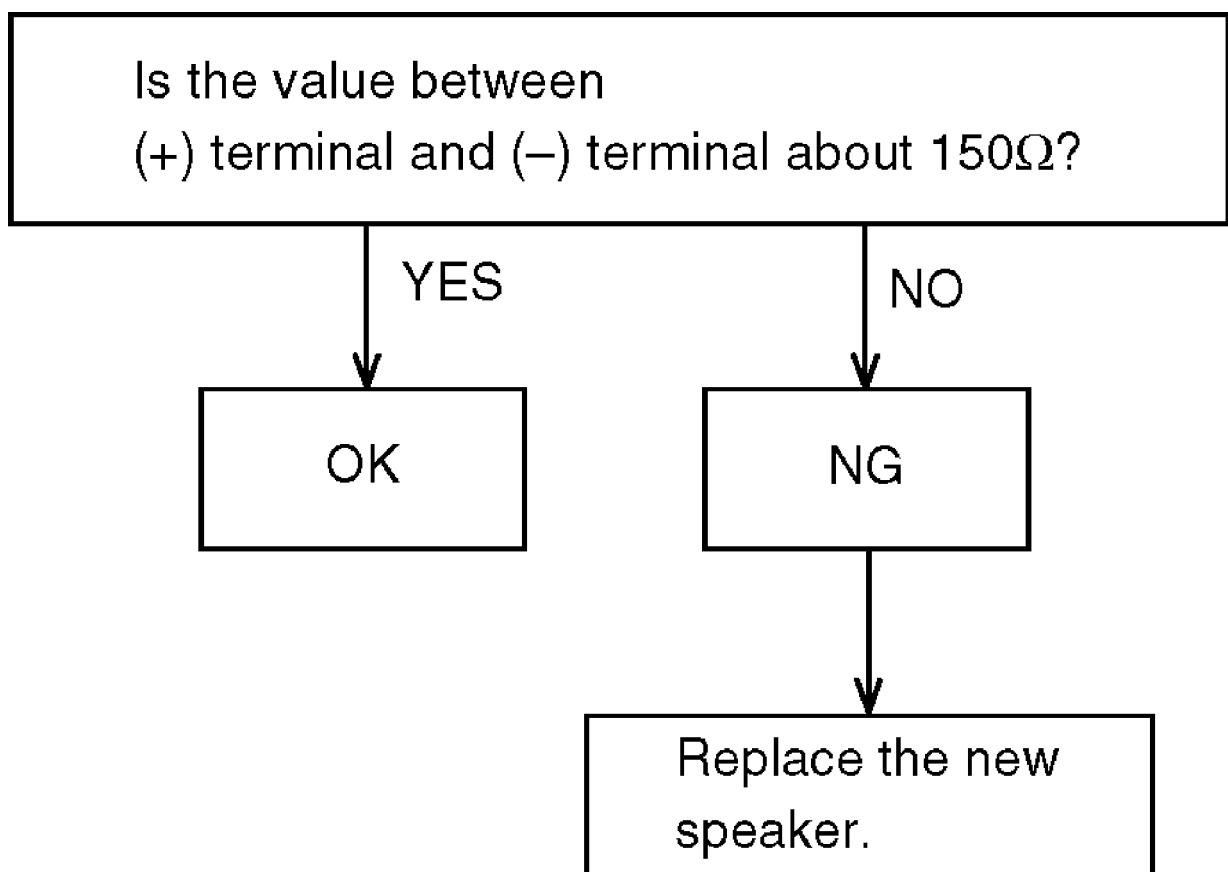
| Item | Value | Refer to -. | Remarks |
|-------------------------------|-------------------------|----------------------------|---------|
| TX Frequency | 44.200 MHz±700Hz | ADJUSTMENT (BASE UNIT) (C) | at CH10 |
| TX Power | More than 1000mV (CH10) | ADJUSTMENT (BASE UNIT) (D) | at CH10 |
| Line Modulation factor | 3.9 kHz~4.1 kHz | — | |
| Line Modulation Distortion | Less than 7% | — | |
| Line Modulation factor (Max.) | 4.7 kHz~7.7 kHz | — | |
| Data Modulation factor | 4.5 kHz~7.5 kHz | — | |

15.2. Handset

| Item | Value | Refer to —. | Remarks |
|------------------------|-------------------------|--------------------------|---|
| Practical Sensitivity | Less than 9 dB μ V | — | at CH10 |
| TX Frequency | 49.970 MHz±700Hz | ADJUSTMENT (HANDSET) (D) | at CH10 |
| TX Power | Over 700 mV | ADJUSTMENT (HANDSET) (E) | at CH10 (Antenna soldering point 50 Ω Load) |
| Data Modulation factor | 4.5 kHz/dev~6.5 kHz/dev | ADJUSTMENT (HANDSET) (J) | at CH10 |
| MIC Modulation factor | 2.5 kHz/dev~3.1 kHz/dev | ADJUSTMENT (HANDSET) (I) | at CH10 (MIC terminal -40dBm Input) |

16. HOW TO CHECK THE HANDSET SPEAKER

1. Prepare the digital voltmeter, and set the selector knob to ohm meter.
2. Put the probes at the speaker terminals as shown in Fig.7
- 3.



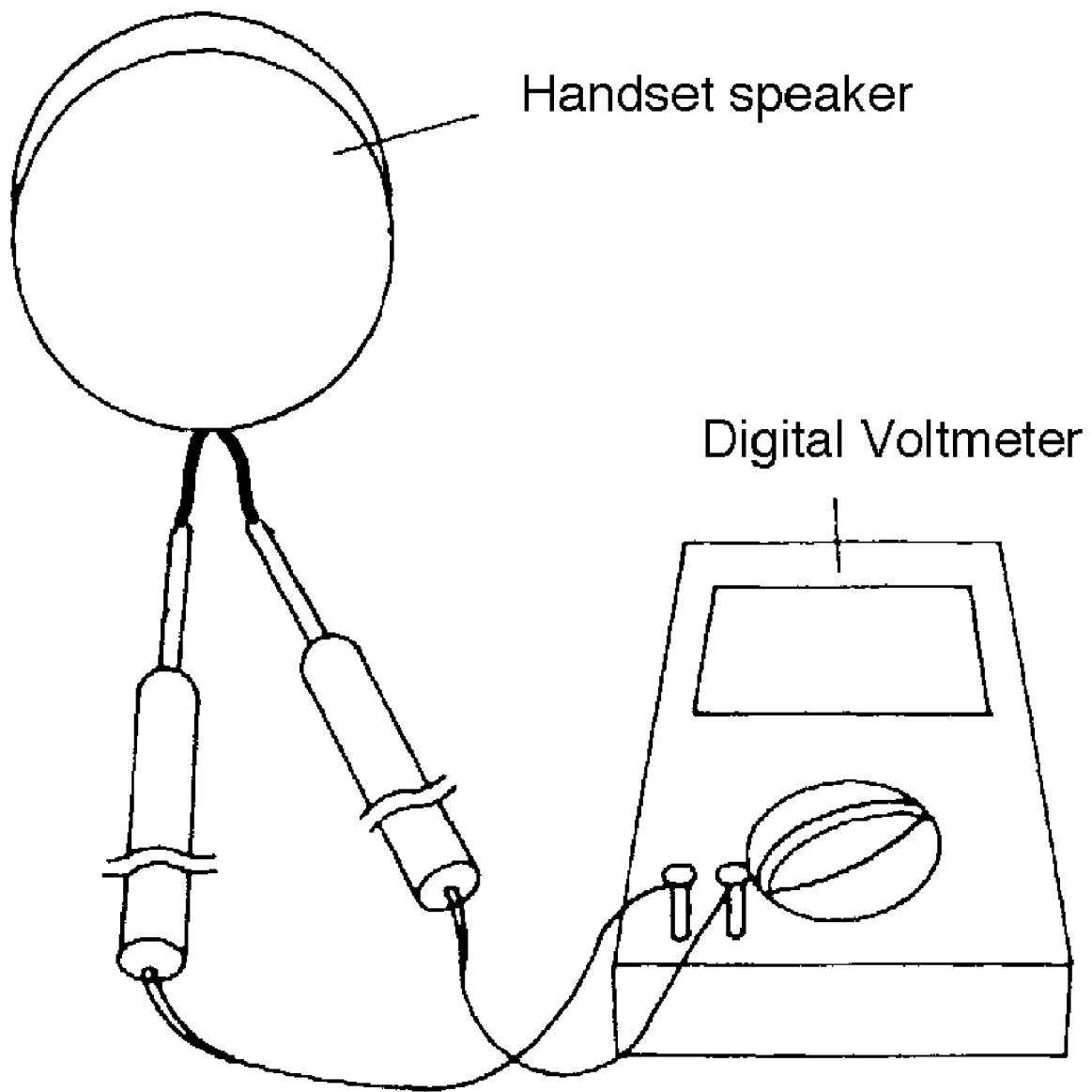


Fig. 7

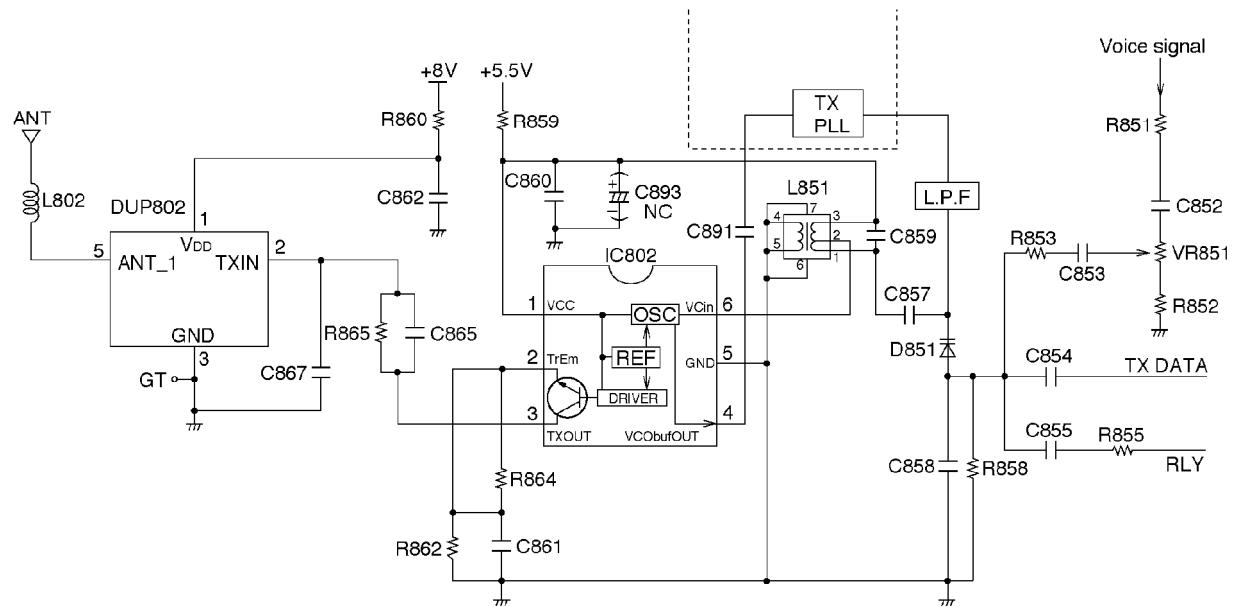
17. BLOCK DIAGRAM (BASE UNIT)



18. NEW CIRCUIT OPERATION (BASE UNIT)

18.1. Transmitter Circuit

The voice signal or the data signal sent to the handset is applied in the anode of the variable capacitor diode (VARICAP) D851. VR851 is used for changing the voice signal level, thus changing the modulation level.



18.2. Transmitter Output AMP Circuit

The signal which is oscillated at TXVCO is amplified by DUP802, whose gain is adjusted by moving VR852. The signal passes through the duplexer and it is radiated from the antenna.

19. NORMAL CIRCUIT OPERATION (BASE UNIT)

19.1. Telephone Line Interface

19.1.1. Circuit operation:

19.1.2. On Hook

Q102 is open; it is connected for cutting the DC loop current and to cut the voice

signal. The unit is consequently in an ON-HOOK condition.

19.1.3. Specifications

In the ON-HOOK state (idle), the telephone line current flows as follows: T → L101 → R101 → C101 → Q101 B → Q101 E → C102 → R102 → L102 → PO1 → R. The 48V DC component is blocked by C101, C102, thereby providing an ON-HOOK condition.

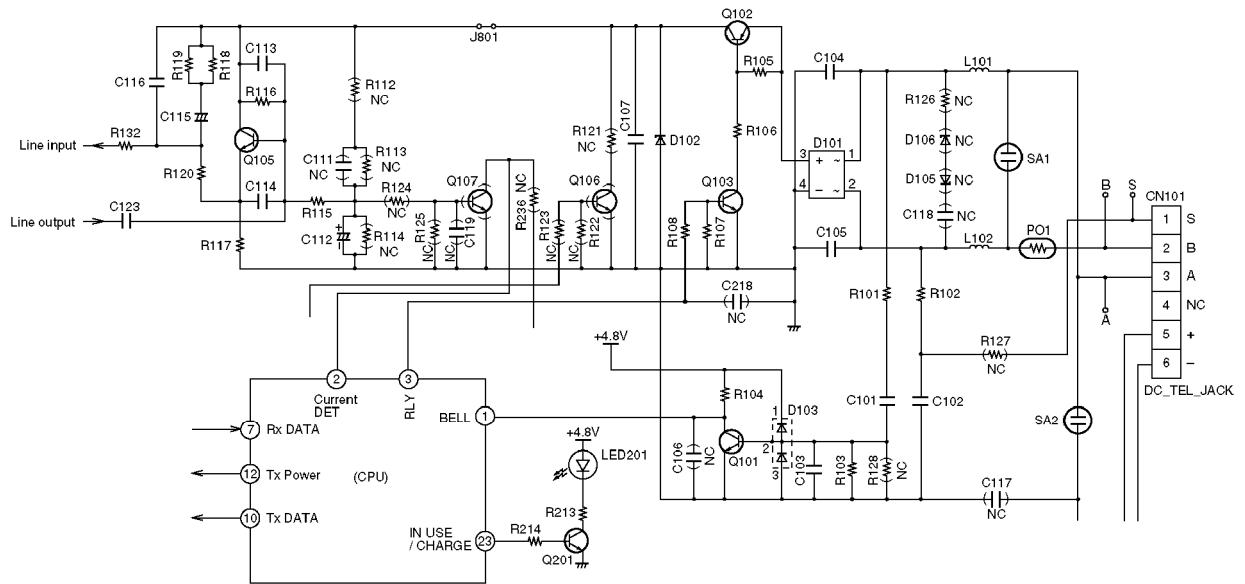
19.2. Telephone Mode Operation

19.2.1. When a ring signal enters from the Line

1. The ring detection circuit. (Transistor Q101) begins to operate, so Q101 is active mode, thus input a low level to the BELL pin 1 of the IC201 (CPU).
2. To show the arrival of the ring signal to the handset, Pin 12 of IC201 enters into the transmit mode thus becoming a High and the ring data, having the code set by Pin 10 of IC201 is sent to the handset as a modulated output signal.
3. Upon receiving the ring data, and the handset is switched from standby to the talk mode, the base unit receives a carrier modulated by the data indicating a switch from standby to talk. This data is then demodulated at the base unit and passes through a data signal amplifier of IC801. This signal is then input to Pin 7 of IC201, which causes Q102 and Q103 release the muting and enable the talk mode.

19.2.2. Circuit-making from the handset

1. When the operator of the handset presses the talk button, data is transmitted to the base unit. This data is then demodulated by the base unit and passed through data signal amplifier of IC801 and enters Pin 7 of IC201(CPU).
2. When the codes coincide, Pin 3 of IC201 becomes a HIGH voltage level. At this time, the transmit condition is enabled and the transistor Q103 is turned on.
3. Pin 23 of IC201 becomes HIGH (HIGH level voltage) and the IN USE LED LED201 is on.

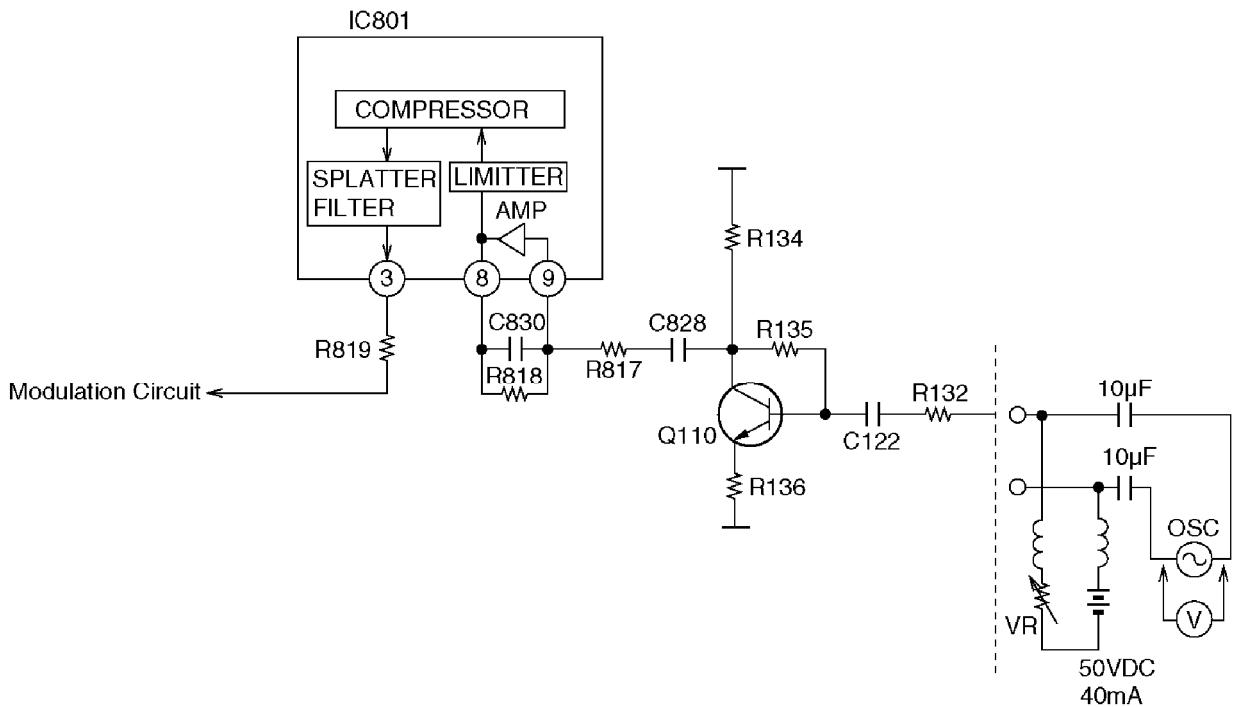


19.3. Transmitter Signal Circuit

19.3.1. Circuit Operation:

1. The signal input from the TEL LINE goes through C301 → R301 → IC301(25) → IC301(24) → IC301(23) → IC301(22) and it is input to the signal amplifier of IC801, pin 9.

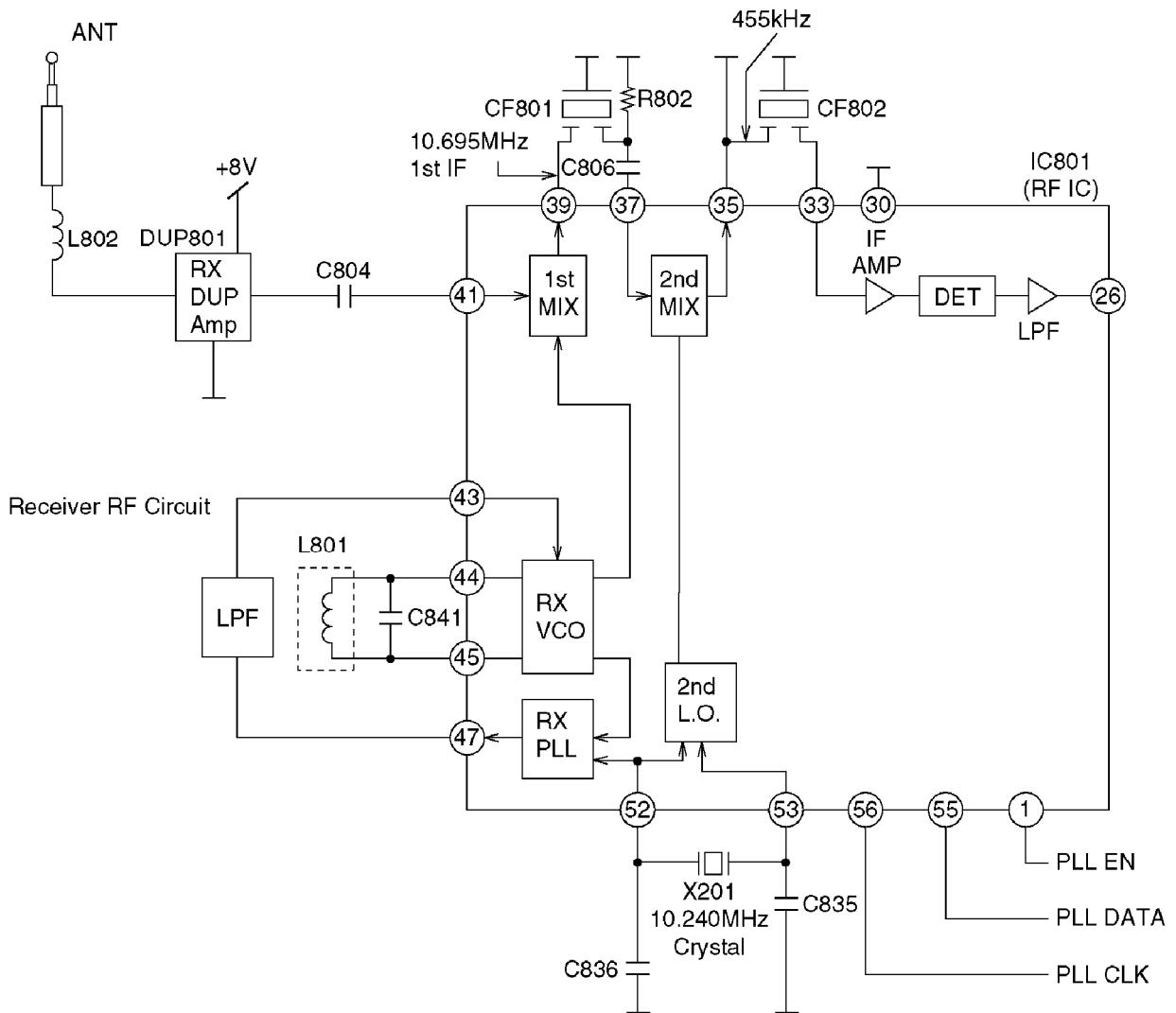
This amplifier is included in a limiter circuit. Signal goes through the compressor and SPLATTER FILTER, it is output in the pin 3 of IC801. Then it goes out to the modulation circuit.



19.4. Receiver RF IF Circuit

19.4.1. Circuit Operation:

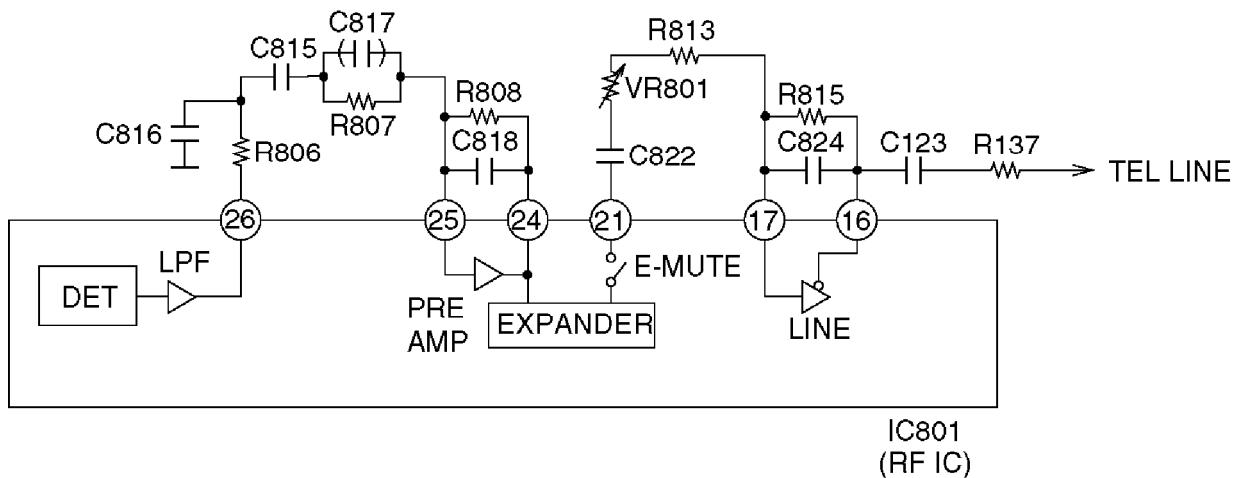
The signal of 49 MHz band (49.670~49.99MHz) which is input from ANT is filtered at DUP801, passes through the filter AMP of 49 MHz band input to Pin 41 of IC801.RX VCO which oscillates at L801 and Pins 44, 45 of IC801 is input to program control at inside of IC801, 1st local frequency is controlled to assigned channel by serial data which is output from Pins 8, 49 and 50 of IC201 (CPU), makes loop with Phase Detector Out and RX VCO, and locks 1st local frequency. The input signal, Pin 41 of IC801 and 1st local frequency output from RX VCO are mixed at inside of IC801, then it passes through CF801, and 1st IF frequency of 10.695 MHz is generated. Further, 10.240 MHz which is oscillated at X801 and Pins 52, 53 of IC801 are mixed at inside of IC801 and filtered at CF802, and 2nd IF 455 Hz is output.



19.5. Receiver Signal Circuit

19.5.1. Circuit Operation:

1. The detected signal passes through R806 → C815 → R807 and it is input to the Pre Amplifier inside of IC801; it passes through the expander and goes out from pin 21 of IC801.
2. The signal passes through C822 → R811 and it is input to the Receiver Amplifier of IC801, on pin 17.
3. The signal is output from the amplifier on pin 16 of IC801 and it goes through C426 and VR402, to the telephone line.



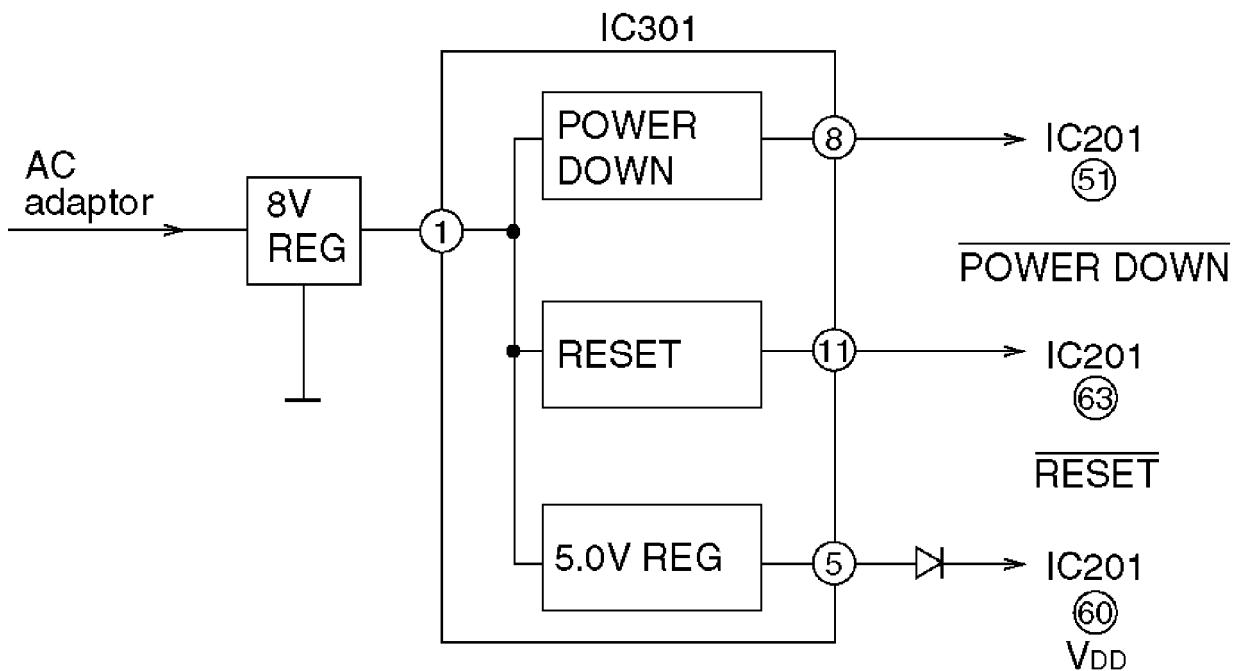
19.6. Initialization Circuit

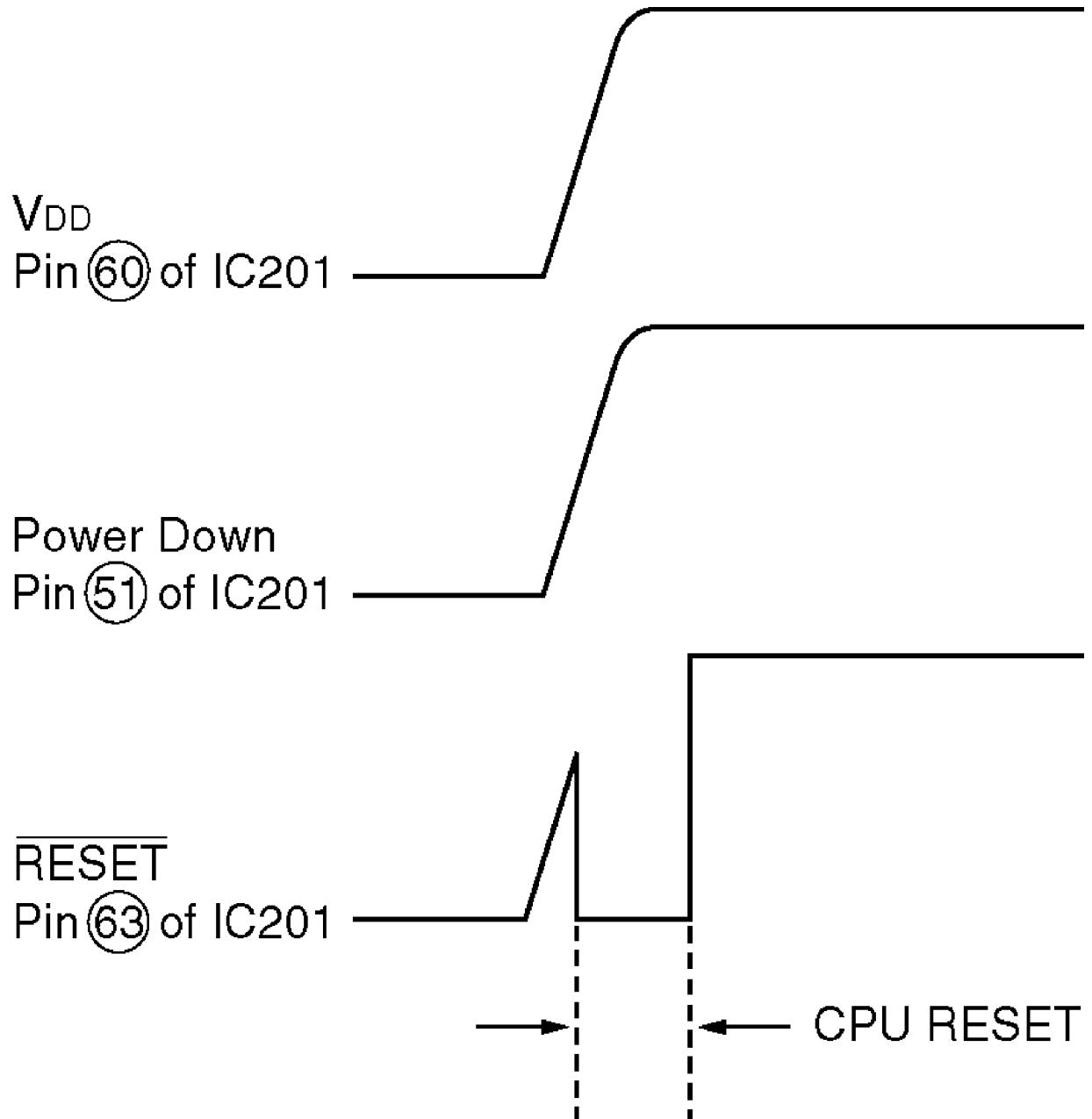
19.6.1. Function:

This circuit is used for initializing the CPU when the AC adaptor is connected.

19.6.2. Circuit Operation:

When the unit is switched ON, then the voltage is regulated to 5.5V in IC301 and power is supplied to the CPU.





19.7. Charge Detect Circuit

19.7.1. Circuit Operation:

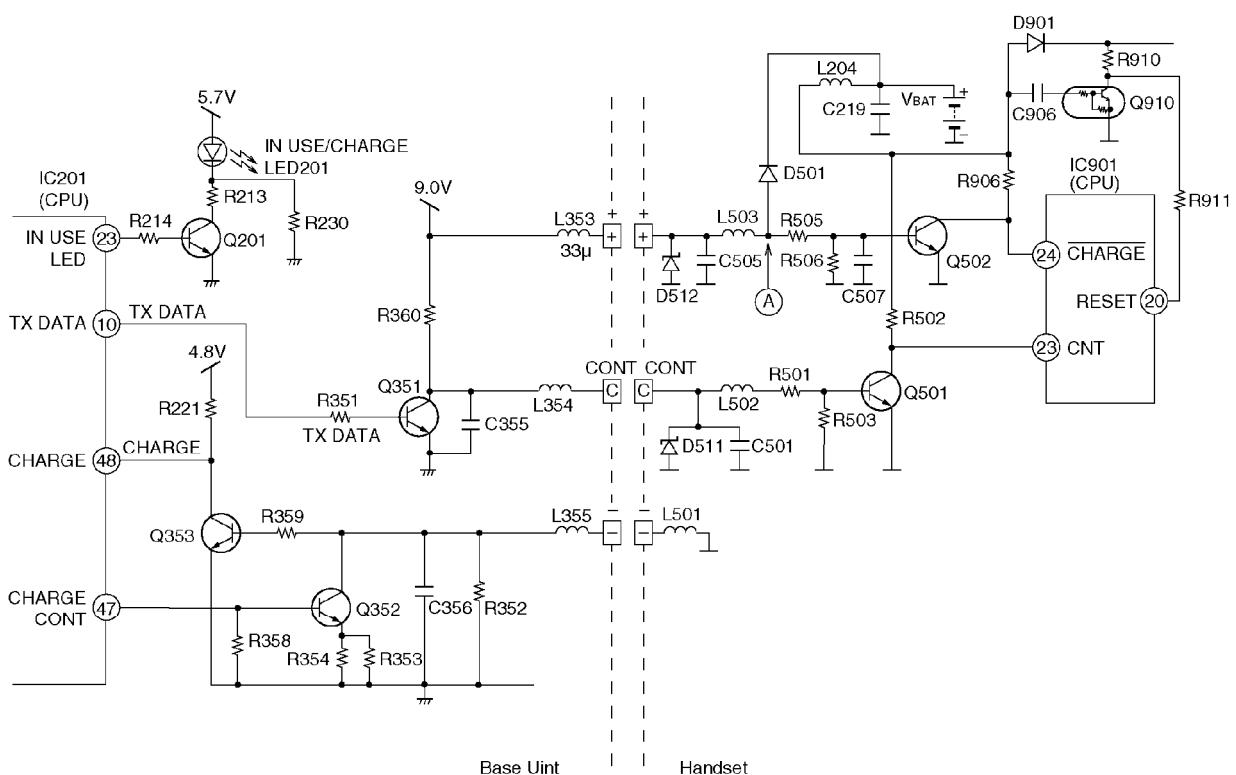
- Change Mode

When charging the handset on the base unit, CH. ID CODES are sent from the CONT terminal to the handset, and charging current is supplied to the handset from the battery charge contacts via R352, R354, R355 on base unit: When - contact on base unit is input to Pin 48 of IC201 (CPU) through Q353. When the - charge terminal on the handset is High level, Q502 on handset goes on and Pin

24 of IC901 becomes Low, In this way the CPU on handset detects the fact that the battery is charged.

■ Set up of the handset

When charging the handset on the base unit, the data signal is sent from CONT terminal to handset. The Q351 switching is affected by Pin 10 of IC201 on base unit, the sending data are CH data, ID code, tone or pulse mode data etc. The data signal is sent to Pin 23 of IC901 (CPU) via Q501 on handset. While charging these data continue to be sent to the CPU of handset.



When charging the handset on the base unit, the data signal is sent from CONT terminal to handset. The Q351 switching is affected by Pin 10 of IC201 on base unit, the sending data are CH data, ID code, tone or pulse mode data etc. The data signal is sent to Pin 23 of IC901 (CPU) via Q501 on handset. While charging these data continue to be sent to the CPU of handset.

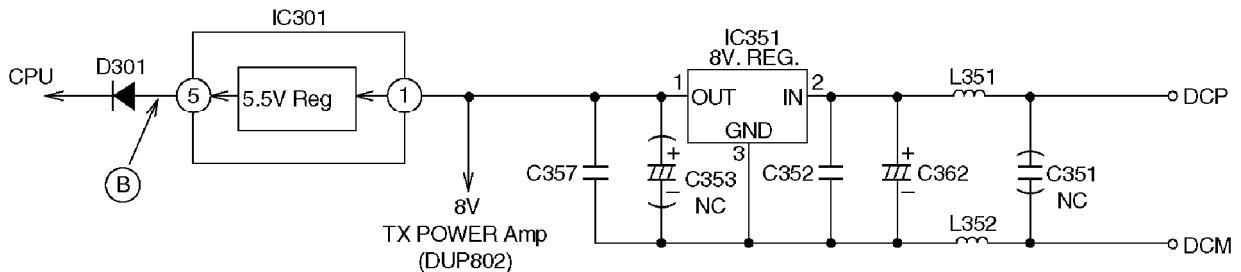
19.8. Power Supply Circuit

19.8.1. Function:

Power from the AC adaptor passes through and is provided to a system voltage of 5.5 V.

19.8.2. Circuit Operation:

Power from the AC adaptor is supplied directly to the charge circuit its voltage. Its voltage is regulated in IC801. The voltage at point B is regulated to 5.5 V. The 5.5 V voltage is dropped by D801 to 5.0 V.

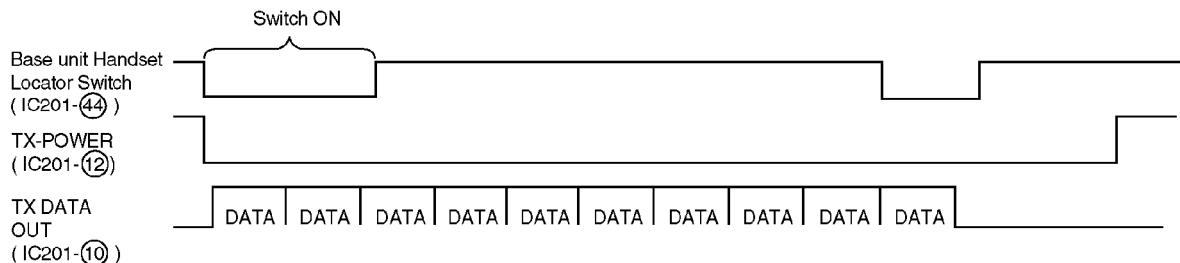


19.9. CPU Operation

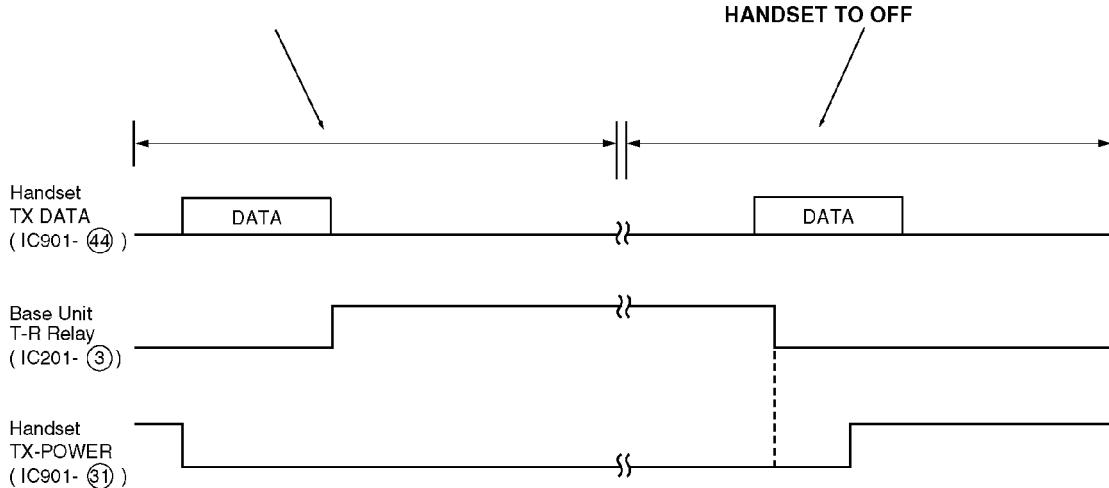
1. TEL MODE

| CPU Terminals | 12 TX POW | 10 TX DATA | 3 TR-RLY |
|----------------------------|-----------|------------|----------|
| Operation Mode | | | |
| STANDBY | H | L | L |
| TALK | L | L | H |
| Base Unit → Handset Ring | L | DATA | L |
| Base Unit → Handset Paging | L | DATA | L |
| CHARGE | H | DATA | L |

2. TIMING OF IC801 (CPU) OUTPUT PORT WITH THE BASE UNIT IN HANDSET LOCATOR MODE

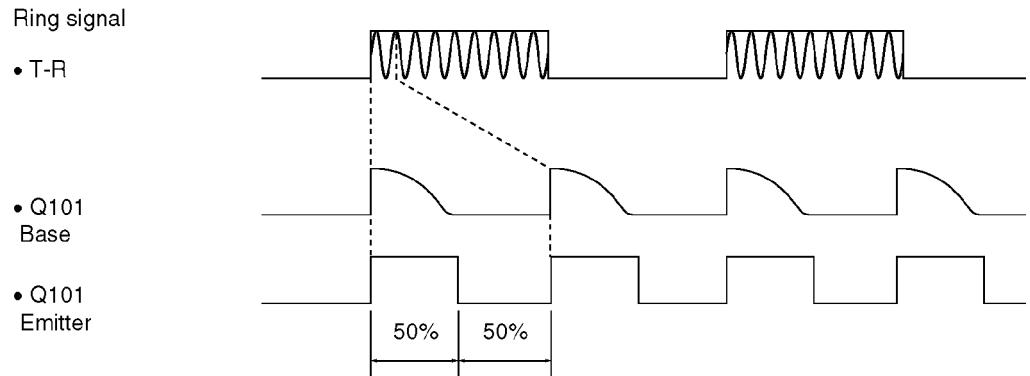
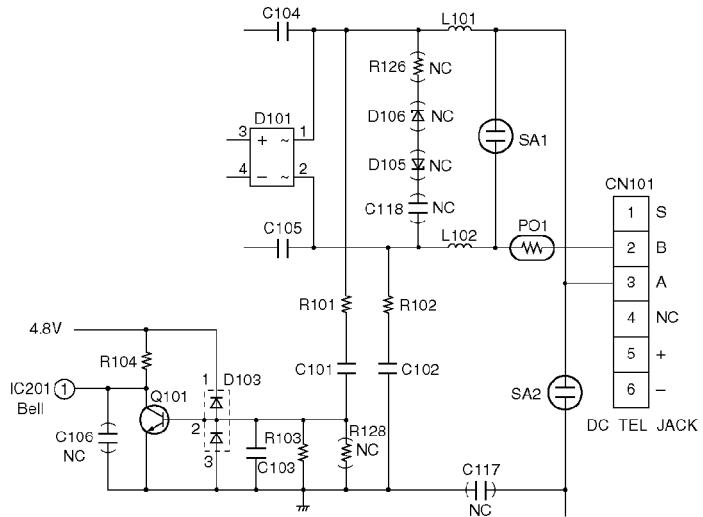


3. WHEN PRESSING THE TALK SWITCH OF THE HANDSET



4. WHEN PRESSING THE TALK SWITCH OF THE HANDSET TO OFF

5. RESONANCE PREVENTION CIRCUIT



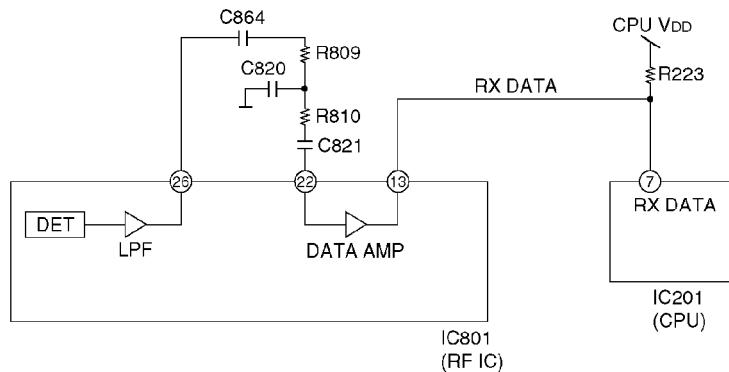
Make/break ratio when dialing with the Handset: 40%: 60%

High/low ratio upon ring signal: 50%: 50%

Therefore, if the low/high ratio is greater than 45% at IC201- 1 (CPU), it is judged as a ring signal.

6. EXPLANATION OF THE DATA RECEPTION CIRCUIT OF BASE UNIT

6-1. Signal Flow



In area where the transmission power from the handset is extremely weak, noise is superimposed on the data and the chance of an error can become extremely

great upon reception of the data. To help prevent this, the above circuit is used.

20. BLOCK DIAGRAM (HANDSET)

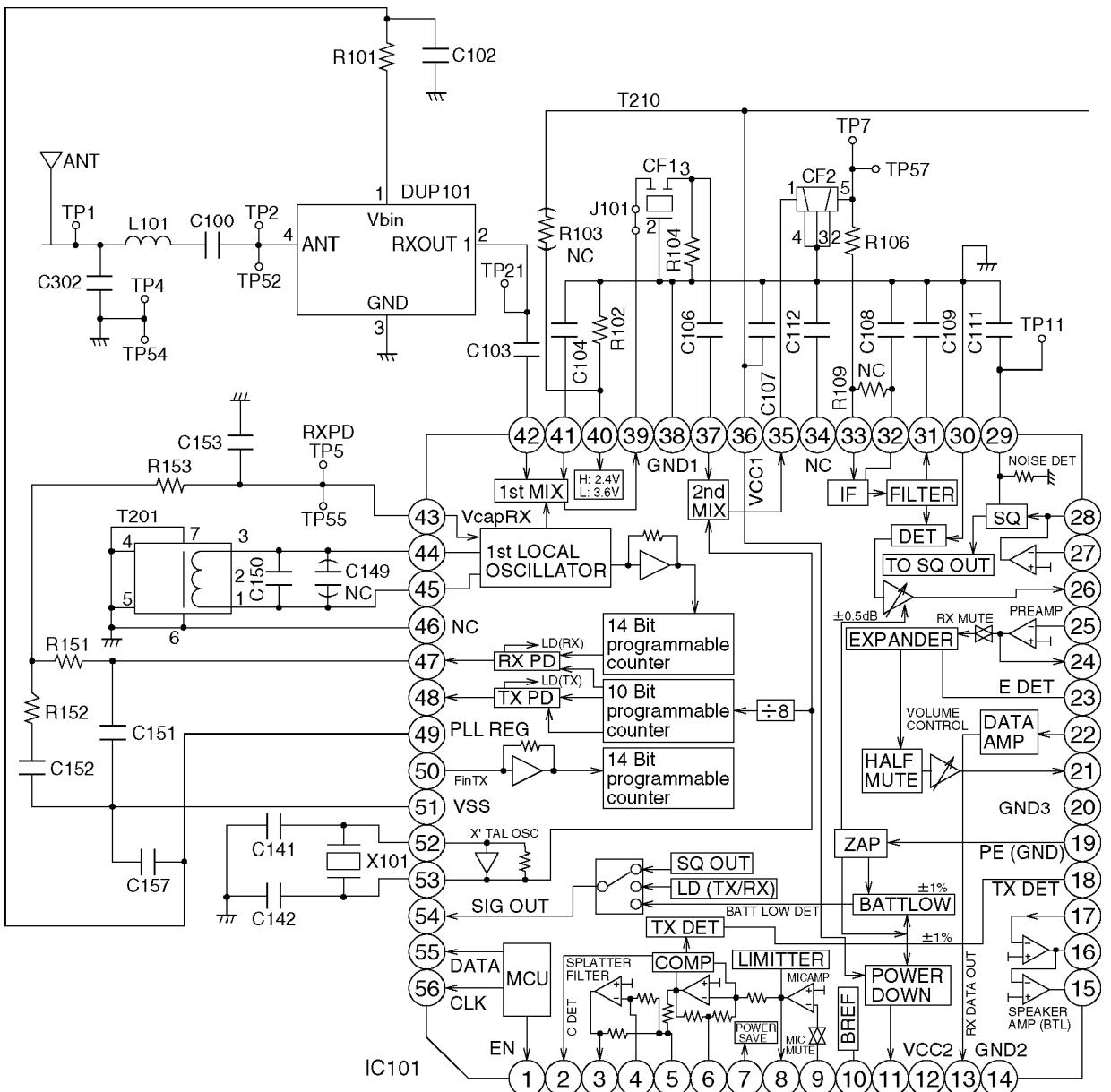


21. NEW CIRCUIT OPERATION (HANDSET)

21.1. Receiver RF IF Circuit

21.1.1. Circuit Operation:

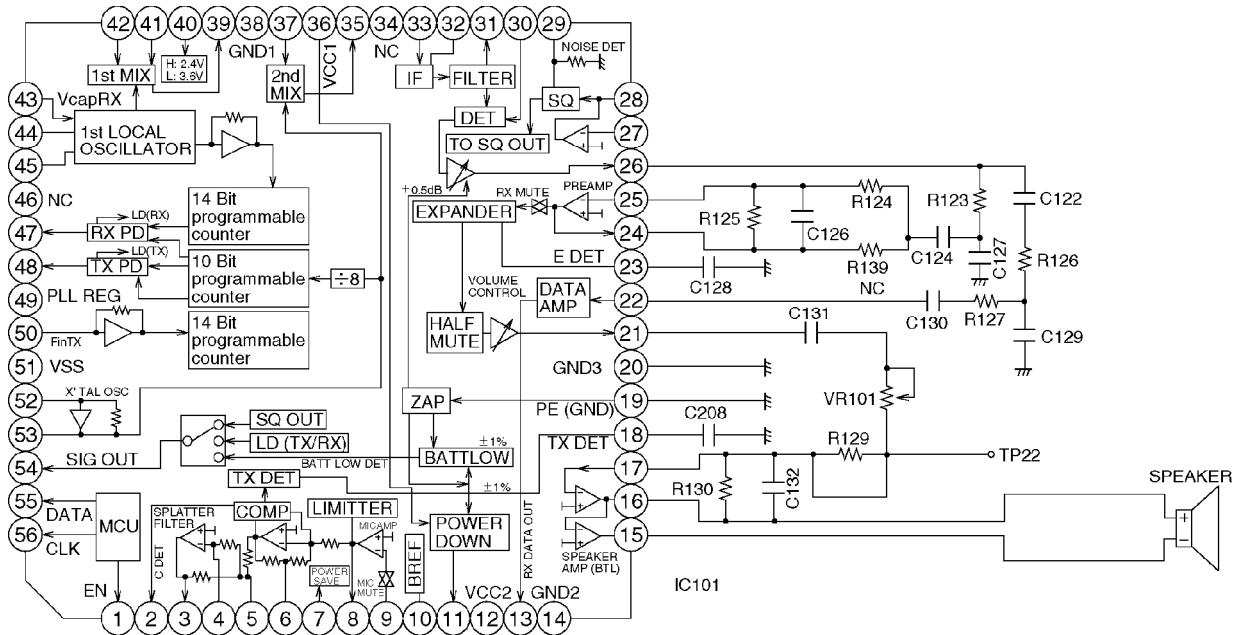
The signal of 46 MHz band (43.72 MHz~44.20 MHz) which is input from ANT is filtered by DUP101, and is input to Pin 42 of IC101. The RX VCO which oscillates at T201 and IC101 is locked to 1st Local frequency by PLL inside IC101. (PLL is controlled by serial data output from Pin 28, 29 and 30 of IC901.) An input signal from Pin 42 of IC101 and 1st Local frequency output from RX VCO are mixed inside IC101, pass through CF1, and 1st IF frequency of 10.695 MHz is generated. Further, 10.695 MHz and 10.240 MHz that oscillated at X101, passes through MIXER inside IC101 and is filtered at CF2 and outputs 2nd IF 455 kHz.



21.2. Receiver Signal Circuit

21.2.1. Circuit Operation:

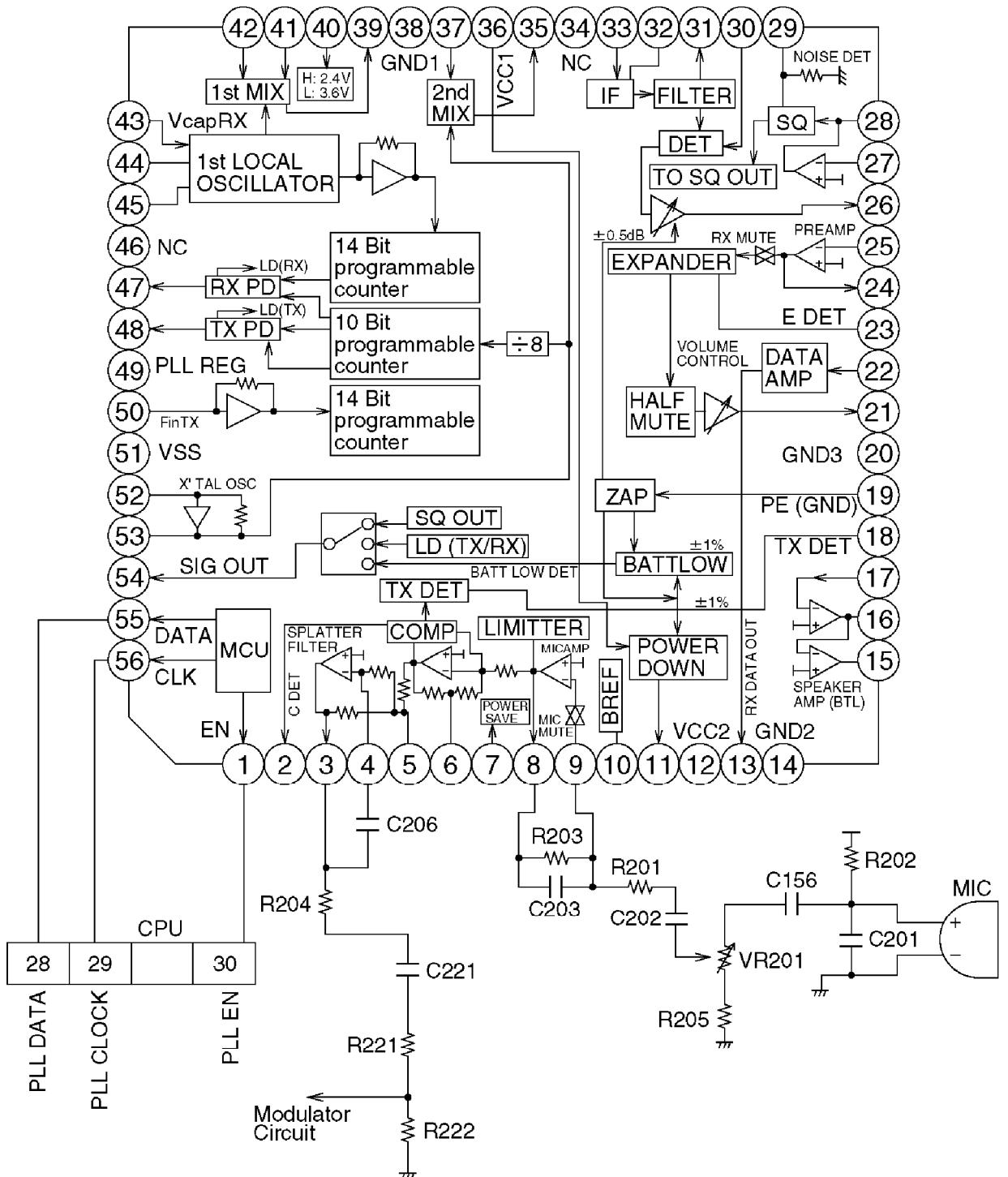
After getting the 455kHz signal, it is input to Pin 33 of IC101 and passes through IF AMP and Detector Circuit, then are output to Pin 26. AF signal flows through R123, C124. Its level is controlled by the VOLUME CONTROL Amp of IC101. The signal is received at Pin 25 of IC101, then it passes through the following circuits: PREAMP, Expander and Amplifier: It goes out at Pin 16 and finally is sent to the SP. Inside IC101, RX-MUTE, MIC-MUTE and PLL circuits are controlled by the serial data that the CPU send from Pins 28, 29and 30.



21.3. Transmitter Signal Circuit

21.3.1. Circuit Operation:

Input signal from MIC passes through the filters arranged by C202, VR201, R201 and C203, R203 and it is input to the Pin 9 of IC101. Inside it, the signal passes through the MIC AMP and Compressor circuits and SPLATTER FILTER is output to Pin 3. It flows through R204, C221, R221, then is input to modulator circuit.

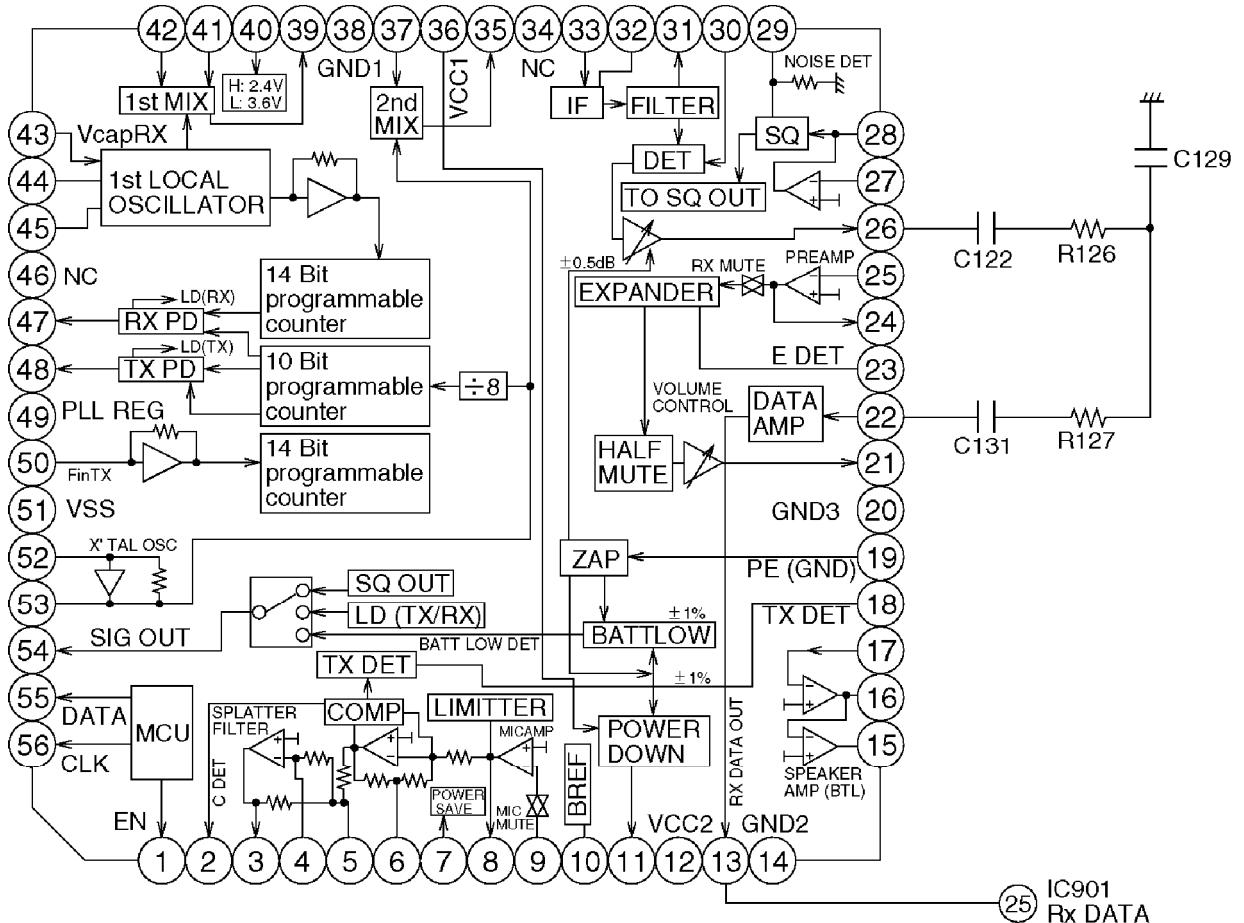


21.4. Receiver Data Circuit

21.4.1. Circuit Operation:

Only the data received are passed through the low pass filter formed by R216 and C129 to be input at pin 22 of IC101, where its wave form is adjusted. The

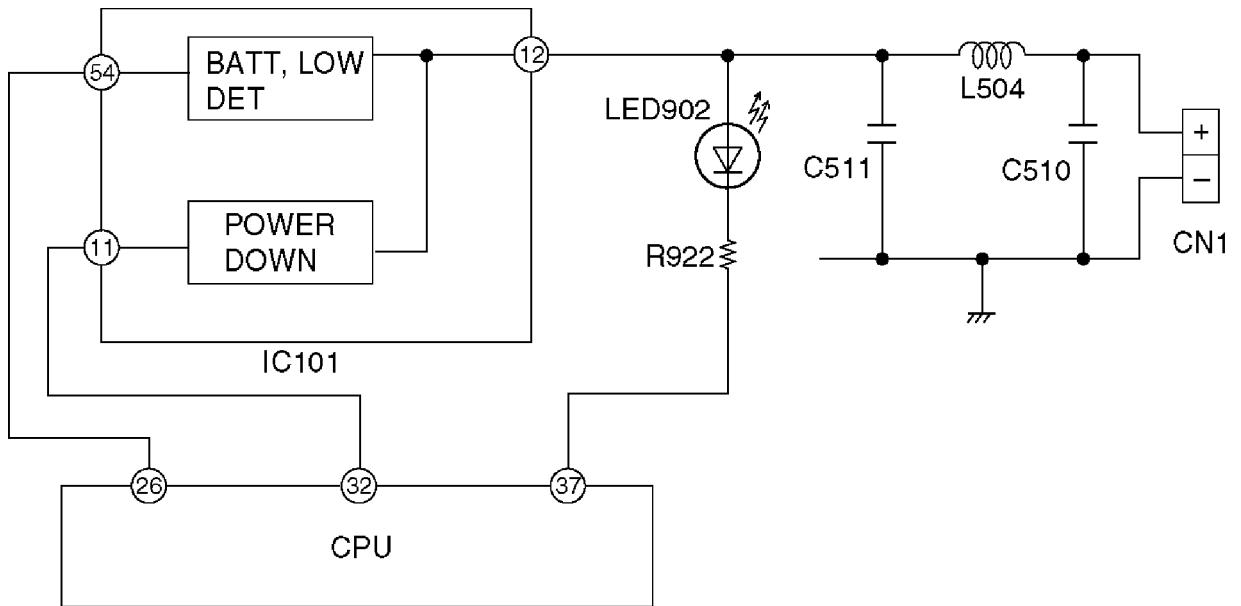
resulting signal is output from Pin 13 and sent to CPU directly.



21.5. Battery Low Detector Circuit

21.5.1. Circuit Operation:

When the battery voltage goes down less than 3.45 V. this level is detected by the inside of IC101, so its output is sent to Pin 26 of IC901. The CPU detects this level by its Pin 26 and battery low indicator lights starts flashing. The IC101 check the level of the battery, if this level is less than 3.3 V, the output of Pin 11 of IC101, then CPU stops working to keep memory.



22. NORMAL CIRCUIT OPERATION (HANDSET)

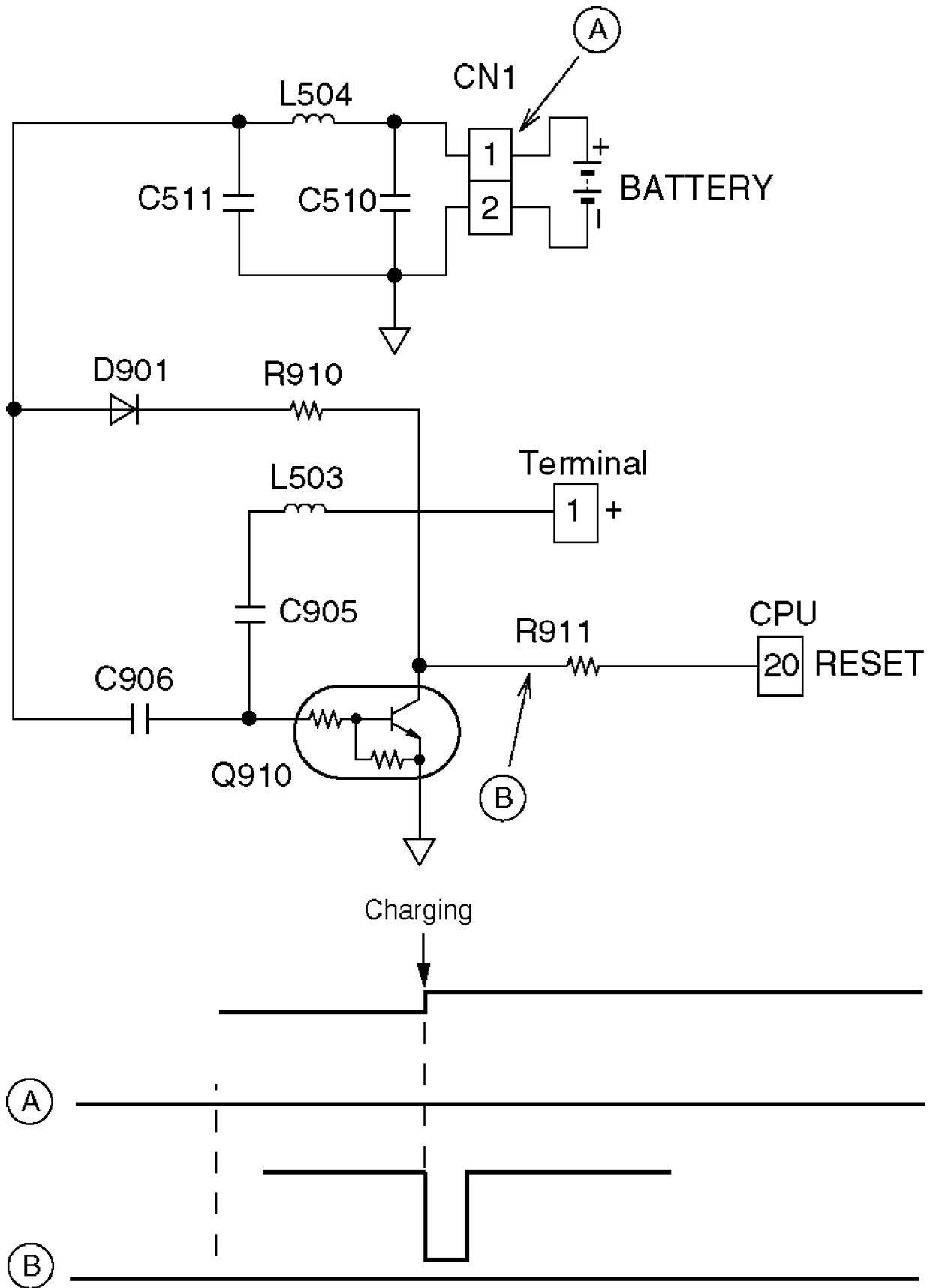
22.1. CPU Operation

| Operation Mode \ CPU Terminals | 44 TX DATA | 32 POWER SAVE | 31 TX POW | 12 BEEP | 36 TALKLED |
|--------------------------------|------------|-----------------------|-----------|---------|------------|
| Operation Mode | | | | | |
| STANDBY | L | Intermittently H or L | H | H | H |
| TALK | L | H | L | H | L |
| Base Unit → Handset Ring | — | H | H | L | FLASHING |
| Base Unit → Handset Paging | — | H | H | L | H |
| CHARGE | L | L | H | H | H |
| During (TALK) | — | H | L | H | L |
| Handset PULSE DIAL | DATA | H | L | H | L |
| Handset TONE DIAL | DATA | H | L | H | L |
| Handset OFF MODE | L | L | H | H | H |

22.2. Reset Circuit Power ON/OFF Circuit

22.2.1. Reset Circuit

When the handset is charged, the impulse is sent through C905, Q910 generates the reset signal and it is sent to Pin 20 of CPU.



23. TROUBLESHOOTING GUIDE

| Symptom | Refer to -. | Unit for repair | |
|---|---------------------------|-----------------|--|
| The base unit does not respond to a call from handset. | ADJUSTMENT (BASE UNIT) | Base Unit | |
| The base unit does not transmit or the transmit frequency is off. | | | |
| The transmit frequency is off. | | | |
| The transmit power output is low, and the operating distance between base unit and handset is less than normal. | | | |
| The reception sensitivity of base unit is low with noise. | | | |
| The transmit level is large or small. | | | |
| The reception level is large or small. | | | |
| The unit does not link. | | | |
| The charge indicator does not light. | Troubleshooting Step 2 | | |
| The IN USE/Charge indicator does not flash. | Troubleshooting Step 3 | | |
| The beep is not heard from the handset. | Troubleshooting Step 3 | Handset | |
| The movement of Battery Low indicator is wrong. | ADJUSTMENT (HANDSET) | | |
| The handset does not respond to a call from base unit. | | | |
| The handset does not transmit or the transmit frequency is off. | | | |
| The transmit frequency is off. | | | |
| The transmit power output is low, and the operating distance between base unit and handset is less than normal. | | | |
| The reception sensitivity of handset is low with noise. | | | |
| Does not link between base unit and handset. | | | |
| The reception level is large or small. | | | |
| The transmit level is large or small. | | | |
| The beep is not heard from the handset. | Troubleshooting Step 2 | | |
| The TALK indicator does not flash. | Troubleshooting Step 3 | | |

24. TROUBLESHOOTING GUIDE (BASE UNIT)

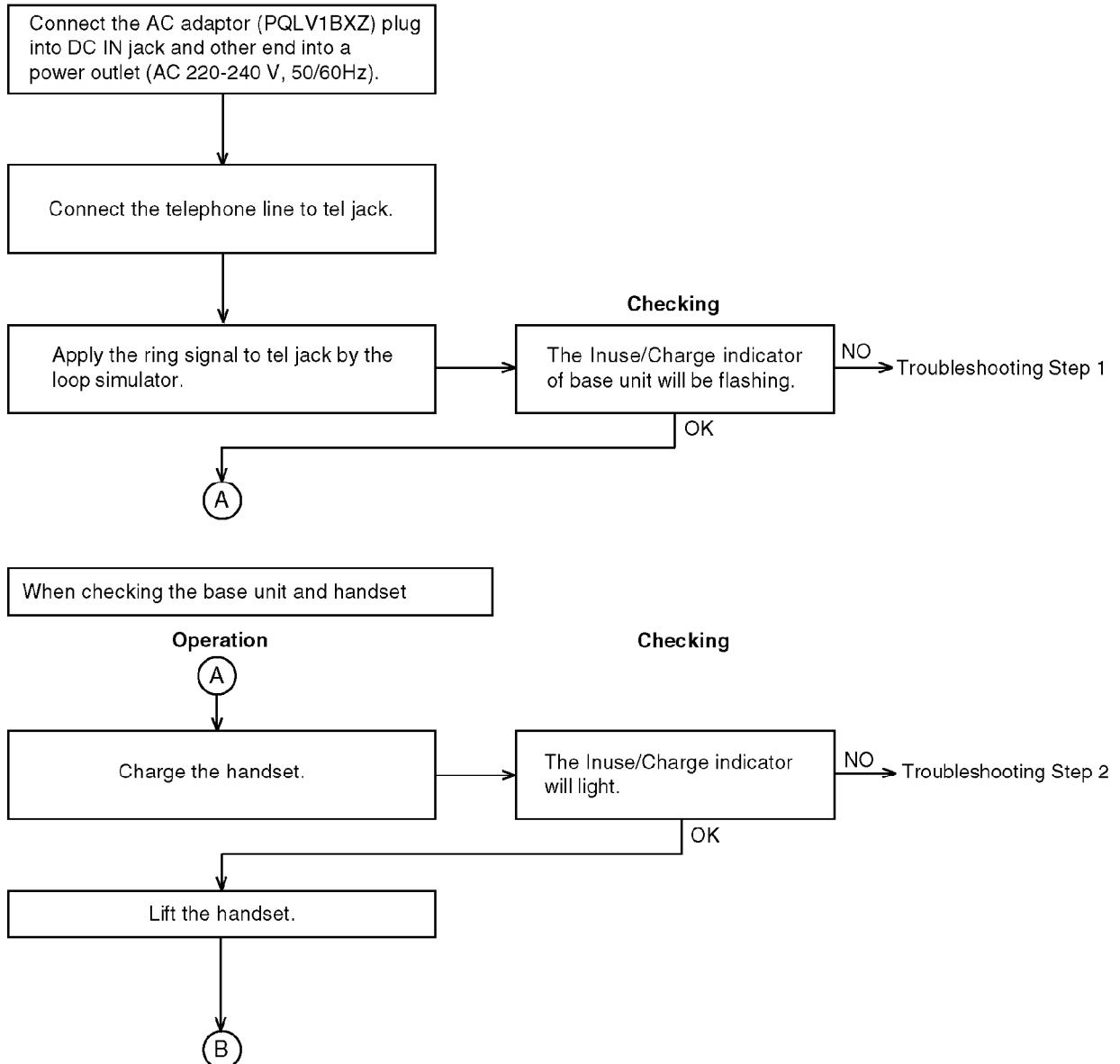
Base Unit Condition:

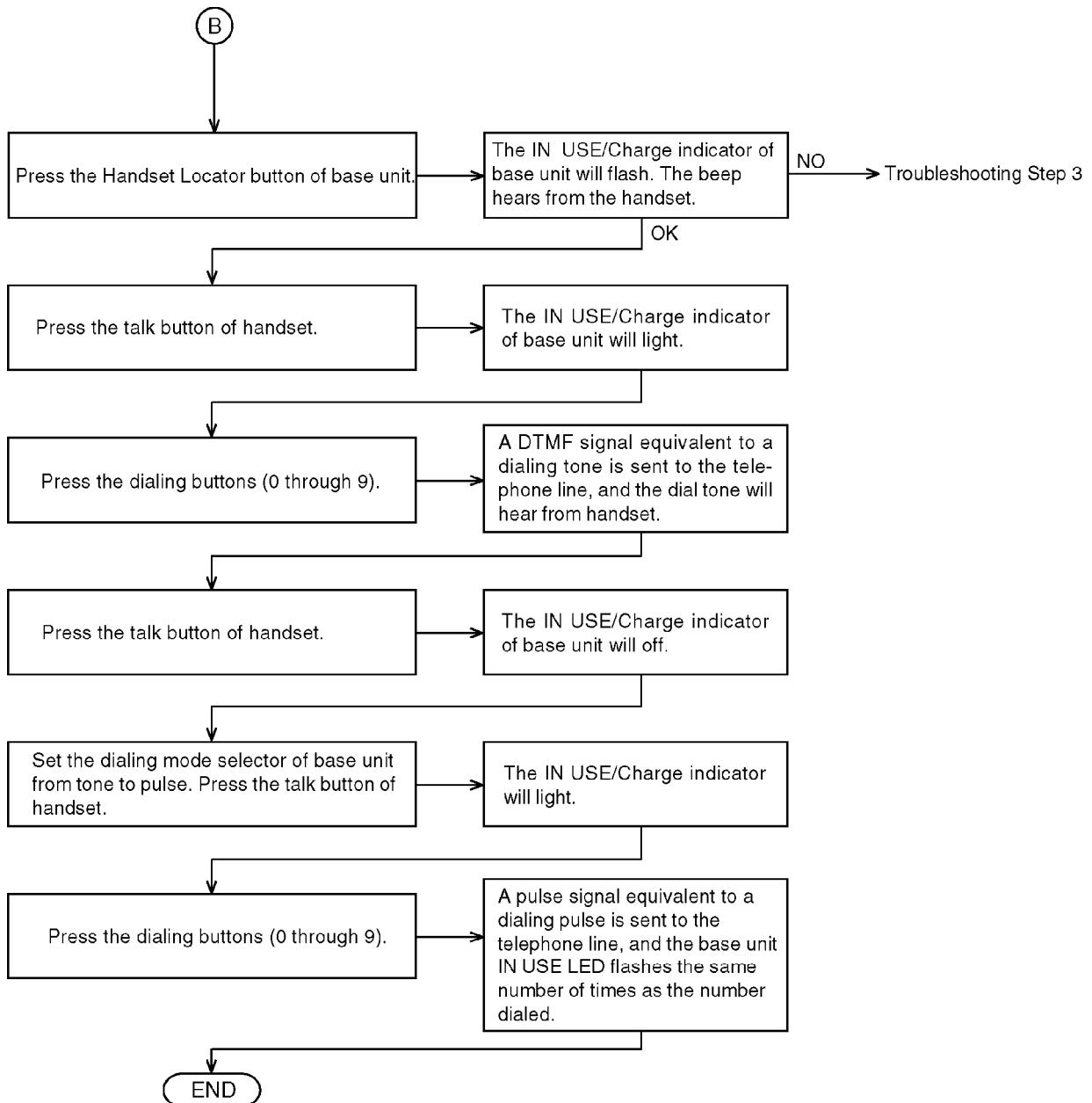
- Set the dialing mode selector to "Tone".

When checking the base unit only

Check the base unit as shown by following below flow chart.

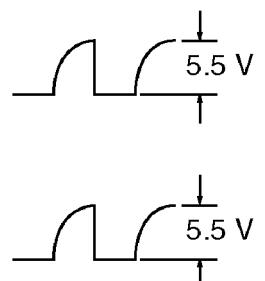
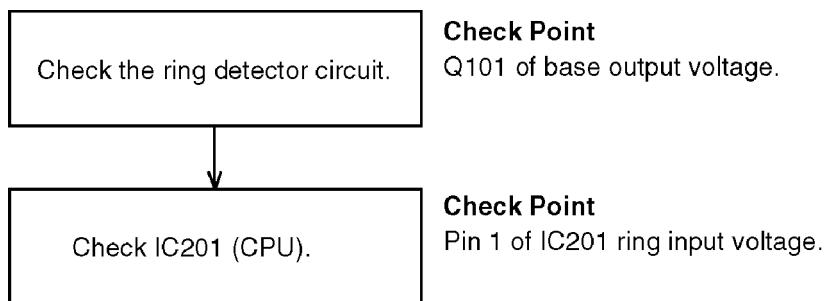
Operation





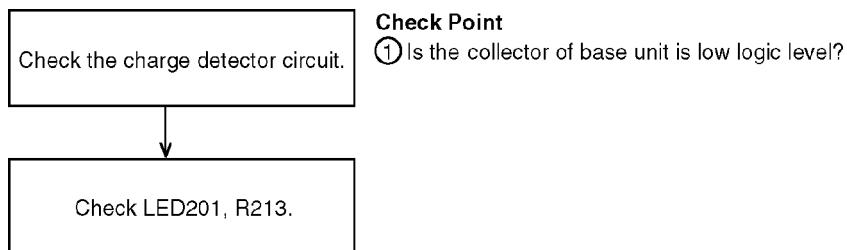
24.1. Troubleshooting Step 1:

The base unit does not flash In Use/Charge indicator.



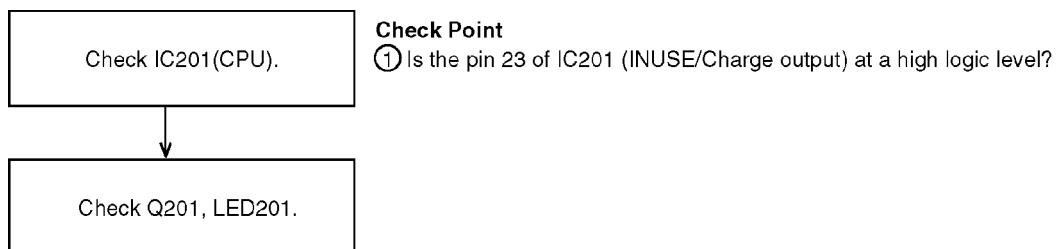
24.2. Troubleshooting Step 2:

The charge indicator does not light.

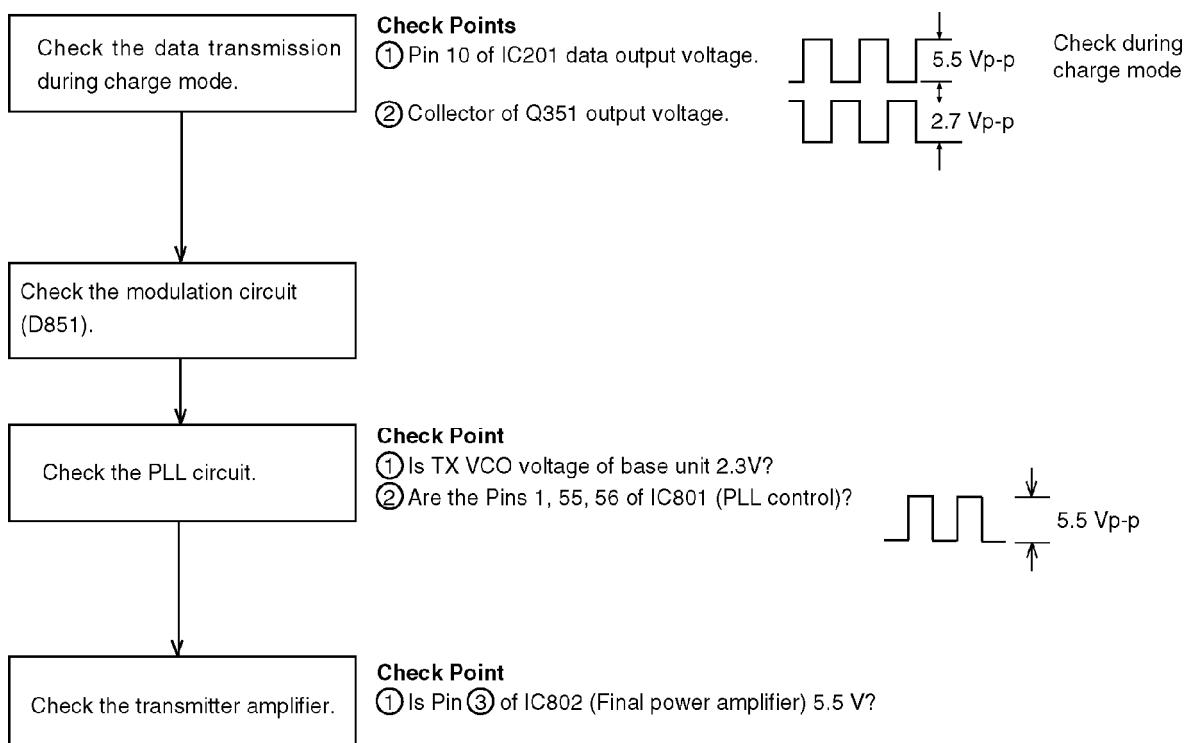


24.3. Troubleshooting Step 3:

1. The INUSE/CHARGE indicator does not flash.



2. The beep is not heard from the handset.



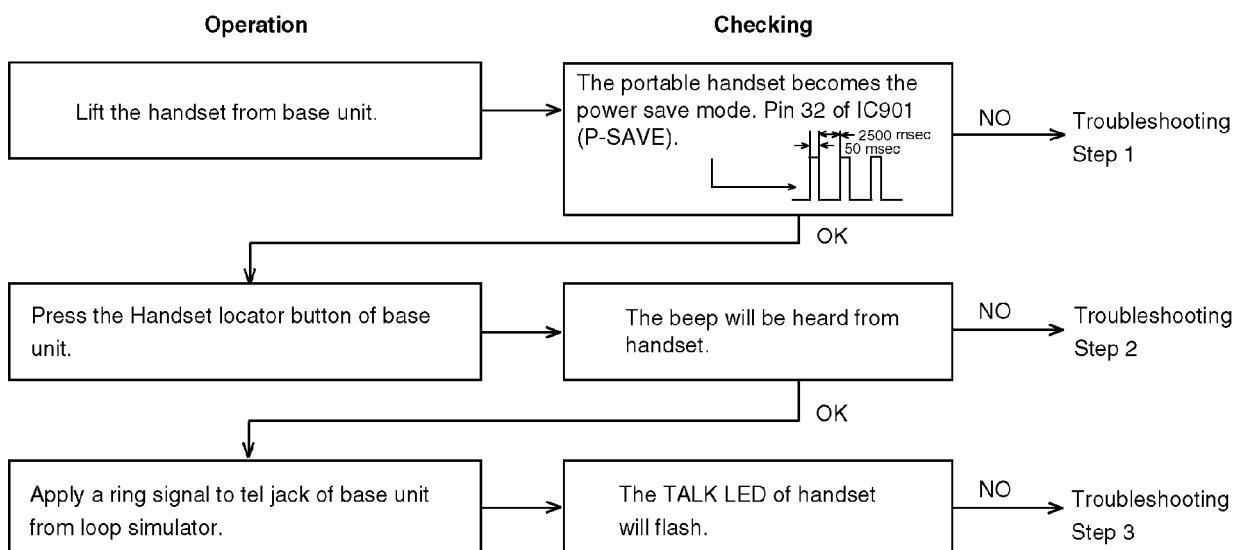
25. TROUBLESHOOTING GUIDE (HANDSET)

Use the right base unit for this troubleshooting. Charge the battery of the handset on the base unit.

Base unit condition:

1. Connect the AC Adaptor (PQLV1BXZ) plug into DC IN jack and the another end into a power outlet (AC 220-240 V, 50/60Hz).
2. Connect the loop simulator (DC 48 V) to tel jack.

Check the handset as shown by following below flow chart.

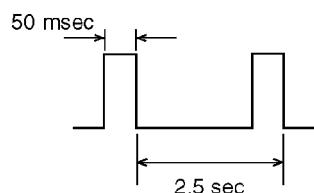


25.1. Troubleshooting Step 1:

The handset does not becomes the battery save mode.

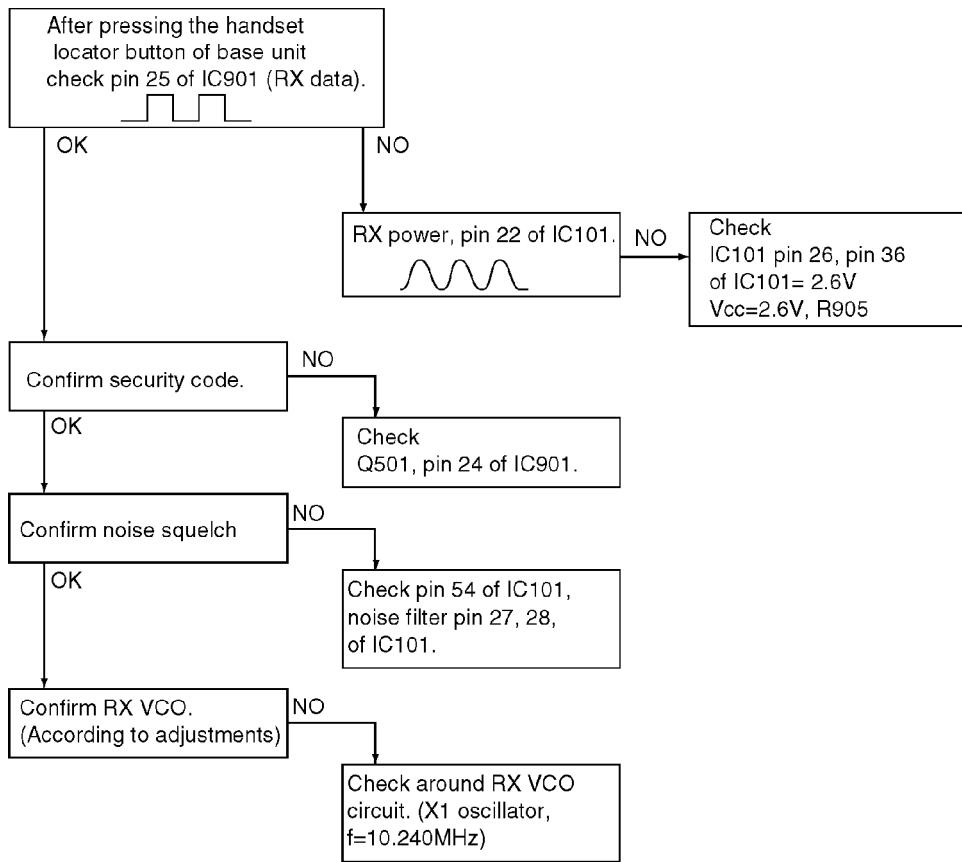
Check point

- (1) Pin 32 of IC901
RX power output voltage
- (2) X901, C911, C912



25.2. Troubleshooting Step 2:

The Beep is not heard from the Handset.



25.3. Troubleshooting Step 3:

The TALK indicator does not flash (Check the data reception).

Check Point

Check the signal of receiver data circuit on [Receiver Data Circuit](#).

26. CABINET AND ELECTRICAL PARTS LOCATION (BASE UNIT)



27. CABINET AND ELECTRICAL PARTS LOCATION (HANDSET)



28. ACCESSORIES AND PACKING MATERIALS



29. REPLACEMENT PARTS LIST

This replacement parts list is KX-TC1035BXW only.

1. RTL (Retention Time Limited)

Note:

The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability 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  mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacturer's parts.

3. The S mark indicates service standard parts and may differ from production parts.

4. 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 | ERX:Metal Film | PQ4R:Carbon |
| ERD:Carbon | ERG:Metal Oxide | ERS:Fusible Resistor |
| PQRD:Carbon | ER0:Metal Film | ERF:Cement Resistor |

Wattage

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

*Type & Voltage of Capacitor

Type

| | |
|---------------------|--------------------------------|
| ECFD:Semi-Conductor | ECCD,ECKD,ECBT,PQCBC : Ceramic |
| ECQS:Styrol | ECQE,ECQV,ECQG : Polyester |
| PQCUV:Chip | ECEA,ECSZ : Electrolytic |
| ECQMS:Mica | ECQP : Polypropylene |

Voltage

| ECQ Type | ECQG ECQV Type | ECSZ Type | Others | | |
|----------|-------------------|-----------|--------|-------|-----------|
| 1H: 50V | 05: 50V | 0F:3.15V | 0J | :6.3V | 1V :35V |
| 2A:100V | 1:100V | 1A:10V | 1A | :10V | 50,1H:50V |
| 2E:250V | 2:200V | 1V:35V | 1C | :16V | 1J :63V |
| 2H:500V | | 0J:6.3V | 1E,25 | :25V | 2A :100V |

29.1. Base Unit

29.1.1. CABINET AND ELECTRICAL PARTS

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|-------------|-------------------------|---------|
| 1 | PQAS57P03Z | SPEAKER | |
| 2 | PQGT14573Z | NAME PLATE | |
| 3 | PQJT10151X | CHARGE TERMINAL | ▲ |
| 4 | PQKE10082ZZ | HANGER | S |
| 5 | PQKM10360V2 | UPPER CABIENT | S |
| 6 | PQQT11773Z | CHARGE LABEL | |
| 7 | PQQT11822Z | ADAPTOR LABEL | |
| 8 | PQSA10092X | ANTENNA | |
| 9 | PQSX10091W | 20KEY BUTTON, RUBBER | |
| 10 | PQYF10141L2 | LOWER CABINET | S |
| 11 | PQHR10657Z | RF HOLDER | |

29.1.2. MAIN P.C.BOARD PARTS

| Ref. No. | Part No. | Part Name & Description | Remarks |
|-------------|--------------|----------------------------|---------|
| PCB1 | PQWP135BHRF | MAIN P.C.BOARD ASS'Y (RTL) | |
| | | (ICs) | |
| IC201 | MN150832BC2 | IC | S |
| IC301 | PQVIBA3720FP | IC | |
| IC351 | PQVIBA78M08F | IC | S |
| IC601 | PQVISC77655V | IC | |
| | | (TRANSISTORS) | |
| Q101 | 2SD1819A | TRANSISTOR (Si) | |
| Q102 | 2SA1625 | TRANSISTOR (Si) | |
| Q103 | PQVT2N6517CA | TRANSISTOR (Si) | |
| Q104 | 2SC1740S | TRANSISTOR (Si) | |
| Q105 | 2SC2120 | TRANSISTOR (Si) | |
| Q351 | 2SD1994A | TRANSISTOR (Si) | |
| Q352 | 2SD1991A | TRANSISTOR (Si) | |
| Q305 | 2SD1991A | TRANSISTOR (Si) | |
| Q601 | 2SD1819A | TRANSISTOR (Si) | |
| Q602 | 2SD1819A | TRANSISTOR (Si) | |
| Q603 | 2SD1819A | TRANSISTOR (Si) | |
| Q606 | 2SD1819A | TRANSISTOR (Si) | |
| | | (DIODES) | |
| D101 | PQVDS1ZB60F1 | DIODE (Si) | |
| D102 | MA4180 | DIODE (Si) | S |
| D103 | 1SS119 | DIODE (Si) | |
| D108 | MA153 | DIODE (Si) | |
| D301 | PQVDRB751V4 | DIODE (Si) | |
| D352 | MA4300 | DIODE (Si) | S |
| D353 | MA4300 | DIODE (Si) | S |
| D354 | MA4300 | DIODE (Si) | S |
| D801 | MA111 | DIODE (Si) | |
| D802 | MA111 | DIODE (Si) | |
| | | (LEDs) | |
| LED201 | PQVDSML310MT | LED | |
| LED202 | PQVDBR1111C | LED | |
| | | (COILS) | |
| L101 | PQLQXF3R3K | COIL | |
| L102 | PQLQXF3R3K | COIL | |
| L351 | PQLQXF100K | COIL | |
| L353 | ELEV330KA | COIL | |
| L354 | PQLQXF330K | COIL | |
| L355 | ELEV330K | COIL | |
| L356 | PQLQXF330K | COIL | |
| L804 | PQLQZKR82M | COIL | S |
| | | (VARIABLE RESISTORS) | |
| VR401 | EVN5ESX50B24 | VARIABLE RESISTOR | |
| VR402 | EVN5ESX50B53 | VARIABLE RESISTOR | |
| | | (VARISTORS) | |
| SA101 | PQVDDSS301L | VARISTOR | |
| SA102 | PQVDDSS301L | VARISTOR | |
| | | (OTHERS) | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-----------------------------------|---------|
| E1 | PQJM122Z | MICROPHONE | |
| E2 | PQMG10023Z | CUSHION RUBBER, MIC | |
| CN101 | PQJJ2H003Z | JACK | |
| CN352 | PQJP03B70Z | CONNECTOR | |
| X201 | PQVCK3573N9Z | CRYSTAL OSCILLATOR (RESISTORS) | |
| R101 | ERDS2TJ155 | 1.5M | |
| R102 | ERDS2TJ155 | 1.5M | |
| R103 | PQ4R10XJ563 | 56k | |
| R104 | PQ4R10XJ473 | 47k | |
| R105 | ERDS2TJ104 | 100k | |
| R106 | ERDS2TJ472 | 4.7k | |
| R108 | PQ4R10XJ472 | 4.7k | |
| R109 | PQ4R10XJ473 | 47k | |
| R110 | PQ4R10XJ183 | 18k | |
| R111 | PQ4R10XJ682 | 6.8k | |
| R115 | PQ4R10XJ222 | 2.2k | |
| R116 | PQ4R10XJ393 | 39k | |
| R117 | ERDS1TJ330 | 33 | S |
| R118 | PQ4R10XJ222 | 2.2k | |
| R119 | PQ4R10XJ332 | 3.3k | |
| R120 | PQ4R10XJ680 | 68 | |
| R129 | ERJ3GEYJ102 | 1k | |
| R130 | ERJ3GEYJ102 | 1k | |
| R131 | ERJ3GEYJ102 | 1k | |
| R201 | ERJ3GEYJ124 | 120k | |
| R202 | ERJ3GEYJ563 | 56k | |
| R203 | ERJ3GEYJ273 | 27k | |
| R204 | ERJ3GEYJ153 | 15k | |
| R206 | ERJ3GEYJ332 | 3.3k | |
| R207 | ERJ3GEYJ272 | 2.7k | |
| R208 | ERJ3GEYJ223 | 22k | |
| R209 | ERJ3GEYJ472 | 4.7k | |
| R210 | ERJ3GEYJ472 | 4.7k | |
| R211 | ERJ3GEYJ103 | 10k | |
| R212 | ERJ3GEYJ102 | 1k | |
| R213 | ERJ3GEYJ331 | 330 | |
| R214 | ERJ3GEYJ473 | 47k | |
| R215 | ERJ3GEYJ104 | 100k | |
| R216 | ERJ3GEYJ104 | 100k | |
| R217 | ERJ3GEYJ223 | 22k | |
| R218 | ERJ3GEYJ104 | 100k | |
| R219 | ERJ3GEYJ104 | 100k | |
| R220 | ERJ3GEYJ104 | 100k | |
| R223 | ERJ3GEYJ103 | 10k | |
| R224 | ERJ3GEYJ103 | 10k | |
| R225 | ERJ3GEYJ103 | 10k | |
| R226 | ERJ3GEYJ103 | 10k | |
| R228 | ERJ3GEYJ334 | 330k | |
| R229 | ERJ3GEY0R00 | 0 | |
| R231 | ERJ3GEY0R00 | 0 | |
| R232 | ERJ3GEY0R00 | 0 | |
| R301 | ERJ3GEY0R00 | 0 | |
| R302 | ERJ3GEYJ563 | 56k | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R303 | ERJ3GEYJ823 | 82k | |
| R304 | ERJ3GEYJ682 | 6.8k | |
| R305 | ERJ3GEYJ103 | 10k | |
| R306 | ERJ3GEYJ103 | 10k | |
| R307 | ERJ3GEY0R00 | 0 | |
| R308 | ERJ3GEYJ472 | 4.7k | |
| R311 | ERJ3GEY0R00 | 0 | |
| R312 | ERJ3GEYJ103 | 10k | |
| R314 | ERJ3GEYJ104 | 100k | |
| R315 | ERJ3GEYJ103 | 10k | |
| R316 | ERJ3GEYJ823 | 82k | |
| R317 | ERJ3GEYJ332 | 3.3k | |
| R318 | ERJ3GEYJ225 | 2.2M | |
| R351 | ERJ3GEYJ473 | 47k | |
| R352 | ERDS2TJ821 | 820 | |
| R354 | PQ4R10XJ560 | 56 | |
| R355 | PQ4R10XJ101 | 100 | |
| R357 | ERDS2TJ102 | 1k | |
| R358 | PQ4R10XJ221 | 220 | |
| R359 | ERJ3GEYJ103 | 10k | |
| R360 | ERJ3GEYJ103 | 10k | |
| R363 | ERJ3GEYJ472 | 4.7k | |
| R364 | PQ4R10XJ153 | 15k | |
| R403 | ERJ3GEY0R00 | 0 | |
| R404 | ERJ3GEY0R00 | 0 | |
| R405 | ERJ3GEY0R00 | 0 | |
| R406 | ERJ3GEY0R00 | 0 | |
| R410 | ERJ3GEYJ332 | 3.3k | |
| R420 | ERJ3GEYJ224 | 220k | |
| R421 | ERJ3GEYJ224 | 220k | |
| R422 | ERJ3GEYJ334 | 330k | |
| R426 | ERJ3GEY0R00 | 0 | |
| R451 | ERJ3GEYJ153 | 15k | |
| R455 | ERJ3GEY0R00 | 0 | |
| R456 | ECUV1C104KBV | 0.1 | |
| R601 | ERJ3GEYJ122 | 1.2k | |
| R602 | ERJ3GEYJ472 | 4.7k | |
| R603 | ERJ3GEYJ562 | 5.6k | |
| R604 | ERJ3GEYJ222 | 2.2k | |
| R605 | ERJ3GEYJ303 | 30k | |
| R606 | ERJ3GEYJ683 | 68k | |
| R607 | ERJ3GEYJ225 | 2.2M | |
| R608 | ERJ3GEYJ275 | 2.7M | |
| R609 | ERJ3GEYJ104 | 100k | |
| R610 | ERJ3GEYJ472 | 4.7k | |
| R611 | ERJ3GEYJ103 | 10k | |
| R612 | ERJ3GEYJ332 | 3.3k | |
| R613 | ERJ3GEYJ472 | 4.7k | |
| R614 | ERJ3GEYJ823 | 82k | |
| R615 | ERJ3GEYJ183 | 18k | |
| R616 | ERJ3GEYJ104 | 100k | |
| R617 | ERJ3GEYJ103 | 10k | |
| R618 | ERJ3GEYJ332 | 3.3k | |
| R619 | ERJ3GEYJ332 | 3.3k | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R620 | ERJ3GEYJ471 | 470 | |
| R621 | ERJ3GEYJ104 | 100k | |
| R622 | ERJ3GEYJ104 | 100k | |
| R623 | ERJ3GEYJ103 | 10k | |
| R624 | ERJ3GEYJ103 | 10k | |
| R625 | ERJ3GEYJ563 | 56k | |
| R626 | ERJ3GEYJ184 | 180k | |
| R631 | ERJ3GEYJ273 | 27k | |
| R632 | ERJ3GEYJ223 | 22k | |
| R633 | ERJ3GEYJ104 | 100k | |
| R634 | ERJ3GEYJ474 | 470k | |
| R636 | ERJ3GEYJ392 | 3.9k | |
| R637 | ERJ3GEYJ474 | 470k | |
| R638 | ERJ3GEYJ472 | 4.7k | |
| R639 | ERJ3GEYJ104 | 100k | |
| C117 | PQ4R10XJ000 | 0 | |
| C222 | ERJ3GEYJ105 | 1M | |
| C410 | PQ4R10XJ000 | 0 | |
| C451 | PQ4R10XJ000 | 0 | |
| C802 | PQ4R10XJ000 | 0 | |
| D356 | PQ4R10XJ000 | 0 | |
| J100 | PQ4R10XJ000 | 0 | |
| J200 | PQ4R10XJ000 | 0 | |
| L201 | ERJ3GEY0R00 | 0 | |
| | | (CAPACITORS) | |
| C101 | PQCUV1H183KB | 0.018 | |
| C102 | PQCUV1H183KB | 0.018 | |
| C103 | PQCUV1H102J | 0.001 | S |
| C104 | ECKD2H681KB | 680P | S |
| C105 | ECKD2H681KB | 680P | S |
| C106 | PQCUV1E333MD | 0.033 | S |
| C107 | PQCUV1H103ZF | 0.01 | |
| C108 | ECEA1CKA221 | 220 | |
| C109 | PQCUV1H103ZF | 0.01 | |
| C110 | PQCUV1C105ZF | 1 | |
| C112 | ECEA1HKS100 | 10 | S |
| C113 | PQCUV1H101JC | 100P | |
| C114 | PQCUV1H103KB | 0.01 | |
| C115 | ECEA1EK470 | 47 | S |
| C116 | PQCUV1H393KB | 0.039 | S |
| C128 | ECUV2H681KB | 680P | |
| C201 | PQCUV1E104MD | 0.1 | S |
| C202 | PQCUV1H220JC | 22P | |
| C203 | PQCUV1H220JC | 22P | |
| C204 | ECA0JM222 | 0.0022 | |
| C206 | ECST0JY106 | 10 | |
| C209 | PQCUV1E104MD | 0.1 | S |
| C224 | ECUV1H103KBV | 0.01 | |
| C301 | PQCUV1C104KB | 0.1 | |
| C302 | PQCUV1H101JC | 100P | |
| C303 | PQCUV1C104KB | 0.1 | |
| C304 | PQCUV1C105ZF | 1 | |
| C305 | ECEA1CKS100 | 10 | S |
| C306 | PQCUV1C104KB | 0.1 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C307 | PQCUV1H472KB | 0.0047 | |
| C308 | PQCUV1H472KB | 0.0047 | |
| C309 | PQCUV1E333MD | 0.033 | S |
| C310 | PQCUV1H103ZF | 0.01 | |
| C311 | ECEA1HU100 | 10 | S |
| C312 | ECEA1HU100 | 10 | S |
| C313 | ECEA1AU470 | 47 | |
| C314 | PQCUV1C104KB | 0.1 | |
| C315 | PQCUV1E104MD | 0.1 | S |
| C316 | ECUV1H103KBV | 0.01 | |
| C351 | PQCUV1C105ZF | 1 | |
| C352 | PQCUV1C105ZF | 1 | |
| C353 | ECEA1EK470 | 47 | S |
| C354 | PQCUV1H103ZF | 0.01 | |
| C355 | PQCUV1H103ZF | 0.01 | |
| C356 | PQCUV1H103ZF | 0.01 | |
| C357 | PQCUV1H103KB | 0.01 | |
| C360 | PQCUV1H102J | 0.001 | S |
| C362 | ECEA1EKA100 | 10 | |
| C364 | ECUV1H103KBV | 0.01 | |
| C401 | PQCUV1E104MD | 0.1 | S |
| C421 | PQCUV1H821JC | 820P | S |
| C422 | PQCUV1H821JC | 820P | S |
| C423 | PQCUV1H103KB | 0.01 | |
| C426 | PQCUV1C105ZF | 1 | |
| C601 | PQCUV1H103ZF | 0.01 | |
| C602 | PQCUV1H393KB | 0.039 | S |
| C603 | PQCUV1C683KB | 0.068 | |
| C604 | PQCUV1E473MD | 0.047 | S |
| C605 | PQCUV1C104KB | 0.1 | |
| C606 | PQCUV1C104KB | 0.1 | |
| C607 | PQCUV1C104KB | 0.1 | |
| C608 | PQCUV1C105ZF | 1 | |
| C609 | PQCUV1C105ZF | 1 | |
| C610 | ECEA1EK470 | 47 | S |
| C611 | ECEA1VKS4R7 | 4.7 | S |
| C612 | ECEA1AKS330 | 33 | S |
| C613 | PQCUV1E473MD | 0.047 | S |
| C614 | PQCUV1C105ZF | 1 | |
| C615 | PQCUV1C105ZF | 1 | |
| C616 | ECEA1CKS100 | 10 | S |
| C617 | ECEA1AU102 | 1000 | |
| C618 | PQCUV1H393KB | 0.039 | S |
| C619 | ECEA1VKS4R7 | 4.7 | S |
| C620 | ECEA1EK470 | 47 | S |
| C621 | ECEA1AU221 | 220 | |
| C622 | PQCUV1E473MD | 0.047 | S |
| C623 | PQCUV1E273KB | 0.027 | |
| C624 | PQCUV1H272KB | 0.0027 | |
| C625 | PQCUV1C104KB | 0.1 | |
| C626 | PQCUV1C224KB | 0.22 | |
| C627 | PQCUV1H153KB | 0.015 | |
| C629 | PQCUV1C104KB | 0.1 | |
| C631 | PQCUV1C104KB | 0.1 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C632 | PQCUV1H103KB | 0.01 | |
| C633 | PQCUV1H103KB | 0.01 | |
| C634 | PQCUV1H222KB | 0.0022 | |
| C635 | PQCUV1H562KB | 0.0056 | |
| C636 | PQCUV1C104KB | 0.1 | |
| C801 | ECKERS102MB | 0.001 | |

29.1.3. RF P.C. BOARD PARTS

| Ref. No. | Part No. | Part Name & Description | Remarks |
|-------------|--------------|--------------------------|---------|
| PCB2 | PQWP2C1035BH | RF P.C.BOARD ASS'Y (RTL) | |
| | | (ICs) | |
| IC801 | AN6266FA | IC | |
| IC802 | PQVITK14620M | IC | |
| | | (TRANSISTORS) | |
| Q854 | UN5113 | TRANSISTOR (Si) | |
| | | (DIODES) | |
| D804 | MA111 | DIODE (Si) | |
| D851 | PQVDHVC375 | DIODE (Si) | |
| D881 | MA111 | DIODE (Si) | |
| | | (CERAMIC FILTERS) | |
| CF801 | PQVFCS107MT | CERAMIC FILTER | S |
| CF802 | PQVFCH455F1 | CERAMIC FILTER | |
| | | (COILS) | |
| T801 | PQL04B002 | COIL | |
| T851 | PQL04B001 | COIL | |
| | | (CONNECTORS) | |
| CN801 | PQJP02B80Z | CONNECTOR | |
| CN802 | PQJP12B73Z | CONNECTOR | |
| | | (DUPLEXES) | |
| DUP801 | ELB6A004 | DUPLEX | |
| DUP802 | ELB6A003 | DUPLEX | |
| | | (OTHERS) | |
| X801 | PQVCK1024LC5 | CRYSTAL OSCILLATOR | |
| | | (RESISTORS) | |
| R802 | ERJ3GEYJ331 | 330 | |
| R803 | ERJ3GEYJ223 | 22k | |
| R804 | ERJ3GEYJ394 | 390k | |
| R805 | ERJ3GEYJ392 | 3.9k | |
| R806 | ERJ3GEYJ103 | 10k | |
| R807 | ERJ3GEYJ103 | 10k | |
| R808 | ERJ3GEYJ333 | 33k | |
| R809 | ERJ3GEYJ153 | 15k | |
| R810 | ERJ3GEY0R00 | 0 | |
| R811 | ERJ3GEYJ223 | 22k | |
| R815 | ERJ3GEYJ473 | 47k | |
| R817 | ERJ3GEYJ123 | 12k | |
| R818 | ERJ3GEYJ154 | 150k | |
| R819 | ERJ3GEYJ103 | 10k | |
| R820 | ERJ3GEYJ682 | 6.8k | |
| R821 | ERJ3GEYJ103 | 10k | |
| R822 | ERJ3GEYJ222 | 2.2k | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R824 | ERJ3GEYJ103 | 10k | |
| R825 | ERJ3GEY0R00 | 0 | |
| R851 | ERJ3GEYJ103 | 10k | |
| R853 | ERJ3GEYJ393 | 39k | |
| R854 | ERJ3GEYJ823 | 82k | |
| R856 | ERJ3GEYJ223 | 22k | |
| R857 | ERJ3GEYJ104 | 100k | |
| R858 | ERJ3GEYJ102 | 1k | |
| R859 | ERJ3GEYJ220 | 22 | |
| R860 | PQ4R10XJ4R7 | 4.7 | |
| R862 | ERJ3GEYJ391 | 390 | |
| R864 | ERJ3GEYJ221 | 220 | |
| R865 | ERJ3GEYJ151 | 150 | |
| R881 | ERJ3GEYJ220 | 22 | |
| J881 | PQ4R10XJ000 | 0 | |
| J882 | ERJ3GEY0R00 | 0 | |
| J884 | ERJ3GEY0R00 | 0 | |
| J886 | ERJ3GEY0R00 | 0 | |
| L805 | PQ4R18XJ000 | 0 | S |
| | | (CAPACITORS) | |
| C804 | ECUV1C104KBV | 0.1 | |
| C805 | ECUV1C104ZVF | 0.1 | |
| C806 | ECUV1C104KBV | 0.1 | |
| C807 | ECUV1C104KBV | 0.1 | |
| C808 | ECEA1CKA100 | 10 | |
| C809 | ECUV1C104ZVF | 0.1 | |
| C810 | ECUV1H680JCV | 68P | |
| C811 | ECUV1C104KBV | 0.1 | |
| C812 | ECUV1H121JCV | 120P | |
| C813 | ECUV1H121JCV | 120P | |
| C814 | ECUV1C104KBV | 0.1 | |
| C815 | ECUV1C104KBV | 0.1 | |
| C816 | ECUV1H472KBV | 0.0047 | |
| C818 | ECUV1H152KBV | 0.0015 | |
| C819 | ECUV1C104KBV | 0.1 | |
| C820 | ECUV1C683KBV | 0.068 | |
| C821 | ECUV1C473KBV | 0.047 | |
| C822 | ECUV1C104KBV | 0.1 | |
| C824 | ECUV1H391JCV | 390P | |
| C825 | ECUV1H681JCV | 680P | S |
| C826 | ECUV1C104ZVF | 0.1 | |
| C827 | ECEA1CKA470 | 47 | |
| C828 | ECUV1E333KBV | 0.033 | |
| C829 | ECUV1C104ZVF | 0.1 | |
| C830 | ECUV1H101JCV | 100P | |
| C831 | ECUV1C104KBV | 0.1 | |
| C832 | ECUV1H152KBV | 0.0015 | |
| C833 | ECUV1H151JCV | 150P | |
| C834 | ECUV1C104KBV | 0.1 | |
| C835 | ECUV1H430GCV | 43P | |
| C836 | ECUV1H270GCV | 27P | |
| C837 | ECUV1H103KBV | 0.01 | |
| C838 | ECEA1CKS100 | 10 | S |
| C839 | ECST0JY475 | 4.7 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C840 | PQCUV1C224KB | 0.22 | |
| C841 | ECUV1H180JCV | 18P | |
| C842 | ECUV1H103KBV | 0.01 | |
| C843 | ECUV1H103KBV | 0.01 | |
| C852 | ECUV1C104ZVF | 0.1 | |
| C854 | ECUV1C104KBV | 0.1 | |
| C856 | ECUV1C104ZVF | 0.1 | |
| C857 | ECUV1H150JCV | 15P | |
| C858 | ECUV1H681JCV | 680P | S |
| C859 | ECUV1H330JCV | 33P | |
| C860 | ECUV1H103KBV | 0.01 | S |
| C861 | ECUV1H103KBV | 0.01 | |
| C862 | ECUV1H103KBV | 0.01 | S |
| C863 | ECUV1C104KBV | 0.1 | |
| C864 | ECUV1C104KBV | 0.1 | |
| C865 | ECUV1H103KBV | 0.01 | |
| C867 | ECUV1H100DCV | 10P | |
| C882 | ECUV1C104ZVF | 0.1 | |
| C883 | ECUV1H103KBV | 0.01 | |
| C891 | ECUV1H220JCV | 22P | |
| C893 | ECST0JY475 | 4.7 | |

29.2. Handset

29.2.1. CABINET AND ELECTRICAL PARTS

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|-------------|-------------------------|---------|
| 101 | PQAX3P24Z | SPEAKER | |
| 102 | PQFJ4Z | ANTENNA TERMINAL | |
| 103 | PQGT14574Z | NAME PLATE | |
| 104 | PQHG10527Y | SHEET RUBBER | |
| 105 | PQHR10639Z | SP HOLDER | |
| 106 | PQHR10640Z | LED LENSE | |
| 107 | PQJT10150Z | CHARGE TERMINAL | |
| 108 | PQKF10277S2 | REAR CABINET | S |
| 109 | PQKK10089Z2 | BATTERY COVER | S |
| 110 | PQKM10366UA | FRONT CABINET | |
| 111 | PQMH10372Z | WEIGHT | |
| 112 | PQSA10091Y | ANTENNA | |
| 113 | PQSX10092R | RUBBER SWITCH, 12KEY | |
| 114 | PQXA36ASVC | BATTERY | S |
| 115 | PQHS10400Z | MIC SPACER | |

29.2.2. MAIN P.C. BOARD PARTS

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---------------|--------------|----------------------------|---------|
| PCB100 | PQWPC1035GFR | MAIN P.C.BOARD ASS'Y (RTL) | |
| | | (ICS) | |
| IC101 | AN6265FA | IC | |
| IC301 | PQVITK14620M | IC | |
| IC901 | PQVI9046G027 | IC | S |
| | | (TRANSISTORS) | |
| Q501 | 2SD601A | TRANSISTOR (Si) | |
| Q502 | 2SD601A | TRANSISTOR (Si) | |
| Q910 | PQVT143XK146 | TRANSISTOR (Si) | S |
| Q911 | PQVTD123T146 | TRANSISTOR (Si) | S |
| Q912 | PQVTD123T146 | TRANSISTOR (Si) | S |
| Q913 | PQVTD123T146 | TRANSISTOR (Si) | S |
| Q914 | PQVTDTC143E | TRANSISTOR (Si) | |
| | | (DIODES) | |
| D501 | PQVDS5688G | DIODE (Si) | |
| D901 | PQVDHRU0203A | DIODE (Si) | |
| D911 | MA111 | DIODE (Si) | |
| VD301 | MA2SV01001KU | DIODE (Si) | |
| | | (LEDs) | |
| LED901 | PQVDSML310MT | LED | |
| LED902 | PQVDBR1111C | LED | |
| LED904 | PQVDSML310MT | LED | |
| LED911 | PQVDSML310MT | LED | |
| LED912 | PQVDSML310MT | LED | |
| LED913 | PQVDSML310MT | LED | |
| LED914 | PQVDSML310MT | LED | |
| | | (CERAMIC FILTERS) | |
| CF1 | PQVFCS107MT | CERAMIC FILTER | S |
| CF2 | PQVFCFH455F1 | CERAMIC FILTER | |
| | | (COILS) | |
| L301 | PQLQZK1R8K | COIL | |
| L502 | PQLQZM220K | COIL | |
| L503 | PQLQR3ER10K | COIL | |
| L504 | PQLQZM1R0K | COIL | |
| L901 | PQLQZMR68M | COIL | S |
| T201 | PQL04B003 | COIL | |
| T301 | PQL04B004 | COIL | |
| | | (CRYSTAL OSCILLATORS) | |
| X101 | PQVCK1024LC5 | CRYSTAL OSCILLATOR | |
| X102 | PQVCJ3991N9Z | CRYSTAL OSCILLATOR | |
| X901 | PQVCL3276N9Z | CRYSTAL OSCILLATOR | |
| | | (DUPLEXES) | |
| DUP101 | ELB6A002 | DUPLEX | |
| DUP301 | ELB6A001 | DUPLEX | |
| | | (RESISTOR ARRAYS) | |
| RA901 | EXRV8V331JV | RESISTOR ARRAY | |
| RA902 | EXRV8V222JV | RESISTOR ARRAY | |
| | | (OTHERS) | |
| CN1 | PQJP2D13Z | CONNECTOR | |
| E101 | PQJM122Z | MICROPHONE | |
| E102 | PQEFBDB111GF | RINGER | |
| JT- | PQJT10152Z | CHARGE TERMINAL | |
| JT+ | PQJT10152Z | CHARGE TERMINAL | |
| JTC | PQJT10152Z | CHARGE TERMINAL | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| VR201 | EVN5ESX50B33 | VARIABLE RESISTOR | |
| | | (RESISTORS) | |
| R101 | ERJ3GEYJ220 | 22 | |
| R102 | ERJ3GEY0R00 | 0 | |
| R104 | ERJ3GEYJ331 | 330 | |
| R106 | ERJ3GEY0R00 | 0 | |
| R120 | ERJ3GEYJ223 | 22k | |
| R121 | ERJ3GEYJ394 | 390k | |
| R122 | ERJ3GEYJ392 | 3.9k | |
| R123 | ERJ3GEYJ562 | 5.6k | |
| R124 | ERJ3GEYJ393 | 39k | |
| R125 | ERJ3GEYJ823 | 82k | |
| R126 | ERJ3GEYJ103 | 10k | |
| R127 | ERJ3GEY0R00 | 0 | |
| R129 | ERJ3GEYJ683 | 68k | |
| R130 | ERJ3GEYJ683 | 68k | |
| R140 | ERJ3GEYJ223 | 22k | |
| R151 | ERJ3GEYJ102 | 1k | |
| R152 | ERJ3GEYJ822 | 8.2k | |
| R153 | ERJ3GEYJ103 | 10k | |
| R201 | ERJ3GEYJ103 | 10k | |
| R202 | ERJ3GEYJ222 | 2.2k | |
| R203 | ERJ3GEYJ224 | 220k | |
| R204 | ERJ3GEYJ223 | 22k | |
| R205 | ERJ3GEYJ222 | 2.2k | |
| R221 | ERJ3GEYJ333 | 33k | |
| R222 | ERJ3GEYJ564 | 560k | |
| R301 | ERJ3GEYJ2R2 | 2.2 | |
| R302 | ERJ3GEYJ220 | 22 | |
| R307 | ERJ3GEYJ220 | 22 | |
| R321 | ERJ3GEYJ102 | 1k | |
| R322 | ERJ3GEYJ473 | 47k | |
| R323 | ERJ3GEYJ393 | 39k | |
| R324 | ERJ3GEYJ684 | 680k | |
| R351 | ERJ3GEYJ472 | 4.7k | |
| R352 | ERJ3GEYJ333 | 33k | |
| R353 | ERJ3GEYJ473 | 47k | |
| R501 | ERJ3GEYJ562 | 5.6k | |
| R502 | ERJ3GEYJ104 | 100k | |
| R503 | ERJ3GEYJ562 | 5.6k | |
| R505 | ERJ3GEYJ472 | 4.7k | |
| R506 | ERJ3GEYJ103 | 10k | |
| R905 | ERJ3GEYJ224 | 220k | |
| R906 | ERJ3GEYJ104 | 100k | |
| R907 | ERJ3GEYJ104 | 100k | |
| R910 | ERJ3GEYJ473 | 47k | |
| R911 | ERJ3GEY0R00 | 0 | |
| R913 | ERJ3GEYJ221 | 220 | |
| R914 | PQ4R10XJ120 | 12 | S |
| R915 | PQ4R10XJ4R7 | 4.7 | S |
| R921 | ERJ3GEYJ331 | 330 | |
| R922 | ERJ3GEYJ681 | 680 | |
| R924 | ERJ3GEYJ331 | 330 | |
| R925 | ERJ3GEYJ222 | 2.2k | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C100 | PQ4R10XJ000 | 0 | S |
| C301 | PQ4R10XJ000 | 0 | S |
| C314 | ERJ3GEYJ391 | 390 | |
| J100 | PQ4R10XJ000 | 0 | S |
| J101 | ERJ3GEY0R00 | 0 | |
| J102 | PQ4R10XJ000 | 0 | S |
| J103 | PQ4R10XJ000 | 0 | S |
| J111 | ERJ3GEY0R00 | 0 | |
| J302 | ERJ3GEY0R00 | 0 | |
| L101 | PQ4R18XJ000 | 0 | S |
| L501 | PQ4R10XJ000 | 0 | S |
| | | (CAPACITORS) | |
| C101 | ECUV1H103KBV | 0.01 | |
| C102 | ECUV1C104ZFV | 0.1 | |
| C103 | ECUV1H103KBV | 0.01 | |
| C104 | ECUV1C104ZFV | 0.1 | |
| C106 | ECUV1H103KBV | 0.01 | |
| C107 | ECUV1C104ZFV | 0.1 | |
| C108 | ECUV1C104ZFV | 0.1 | |
| C109 | ECUV1H680JCV | 68P | |
| C110 | ECEA1AKS330 | 33 | S |
| C111 | ECUV1C104KBV | 0.1 | |
| C112 | ECUV1C104ZFV | 0.1 | |
| C120 | ECUV1H121JCV | 120P | |
| C121 | ECUV1H121JCV | 120P | |
| C122 | ECUV1C104KBV | 0.1 | |
| C123 | ECUV1C104KBV | 0.1 | |
| C124 | ECUV1C473KBV | 0.047 | |
| C126 | ECUV1H152KBV | 0.0015 | |
| C127 | ECUV1H472KBV | 0.0047 | |
| C128 | PQCUV1E473MD | 0.047 | S |
| C129 | ECUV1C104KBV | 0.1 | |
| C130 | ECUV1C473KBV | 0.047 | |
| C131 | PQCUV1C104KB | 0.1 | |
| C132 | ECUV1H272KBV | 0.0027 | |
| C141 | ECUV1H270GCV | 27P | |
| C142 | ECUV1H390GCV | 39P | |
| C150 | ECUV1H240JCV | 24P | |
| C151 | ECUV1H103KBV | 0.01 | |
| C152 | PQCUV1C224ZF | 0.22 | S |
| C153 | ECUV1H103KBV | 0.01 | |
| C155 | ECEA1CKA100 | 10 | |
| C156 | PQCUV1E473MD | 0.047 | S |
| C157 | PQCUV1E104MD | 0.1 | S |
| C201 | PQCUV1H103ZF | 0.01 | |
| C202 | PQCUV1H333JC | 0.033 | S |
| C203 | ECUV1H101JCV | 100P | |
| C204 | ECUV1C104KBV | 0.1 | |
| C205 | ECUV1H152KBV | 0.0015 | |
| C206 | ECUV1H151JCV | 150P | |
| C207 | PQCUV1C104KB | 0.1 | |
| C208 | ECUV1C104ZFV | 0.1 | |
| C210 | ECUV1C104ZFV | 0.1 | |
| C211 | ECST0JY106 | 10 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C221 | ECUV1C104ZFV | 0.1 | |
| C310 | PQCUV1E104MD | 0.1 | S |
| C311 | ECUV1H103KBV | 0.01 | S |
| C313 | ECUV1H103KBV | 0.01 | S |
| C317 | ECUV1H103KBV | 0.01 | S |
| C321 | ECUV1H220JCV | 22P | S |
| C322 | ECUV1H150JCV | 15P | |
| C323 | ECUV1H681JCV | 680P | S |
| C325 | ECUV1H220JCV | 22P | |
| C330 | PQCUV1C104KB | 0.1 | |
| C331 | PQCUV1H103KB | 0.01 | |
| C351 | PQCUV1C224ZF | 0.22 | S |
| C352 | ECUV1E223KBV | 0.022 | |
| C354 | ECUV1H103KBV | 0.01 | S |
| C505 | PQCUV1H103ZF | 0.01 | |
| C507 | PQCUV1H103ZF | 0.01 | |
| C901 | ECEA0JK221 | 220 | S |
| C903 | PQCUV1E104MD | 0.1 | S |
| C904 | ECUV1C104ZFV | 0.1 | |
| C905 | PQCUV1C105ZF | 1 | |
| C906 | PQCUV1C105ZF | 1 | |
| C907 | PQCUV1H103ZF | 0.01 | |
| C911 | ECUV1H330JCV | 33P | |
| C912 | ECUV1H330JCV | 33P | |
| C913 | ECUV1H330JCV | 33P | |
| C914 | ECUV1H330JCV | 33P | |
| C915 | ECST0JY106 | 10 | |
| C916 | ECST0JY106 | 10 | |

29.3. ACCESSORIES AND PACKING MATERIALS

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|-------------|----------------------------------|---------|
| A1 | PQLV1BXZ | AC ADAPTOR | ⚠ |
| A2 | PQJA10075Z | TEL CORD | |
| A3 | PQQX12224X | INSTRUCTION BOOK | |
| P1 | PQPP170Z | PROTECTION COVER (for Base Unit) | |
| P2 | XZB10X35A02 | PROTECTION COVER (for Handset) | |
| P3 | PQPK13355Z | GIFT BOX | |

30. FOR SCHEMATIC DIAGRAM

30.1. Base Unit

DC voltage measurements are taken with electronic voltmeter from negative voltage line. (Talk Position)

This schematic diagram may be modified at any time with development of new

technology.

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

30.2. Handset

DC voltage measurements are taken with electronic voltmeter from negative voltage line. (Talk Position)

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

31. CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (RF UNIT)

31.1. Component View



31.2. Flow Solder Side View



32. SCHEMATIC DIAGRAM (RF UNIT)



33. CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (BASE UNIT)

33.1. Component View



33.2. Flow Solder Side View



34. CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (HANDSET)

34.1. Component View



34.2. Flow Solder Side View



35. SCHEMATIC DIAGRAM

35.1. Base Unit

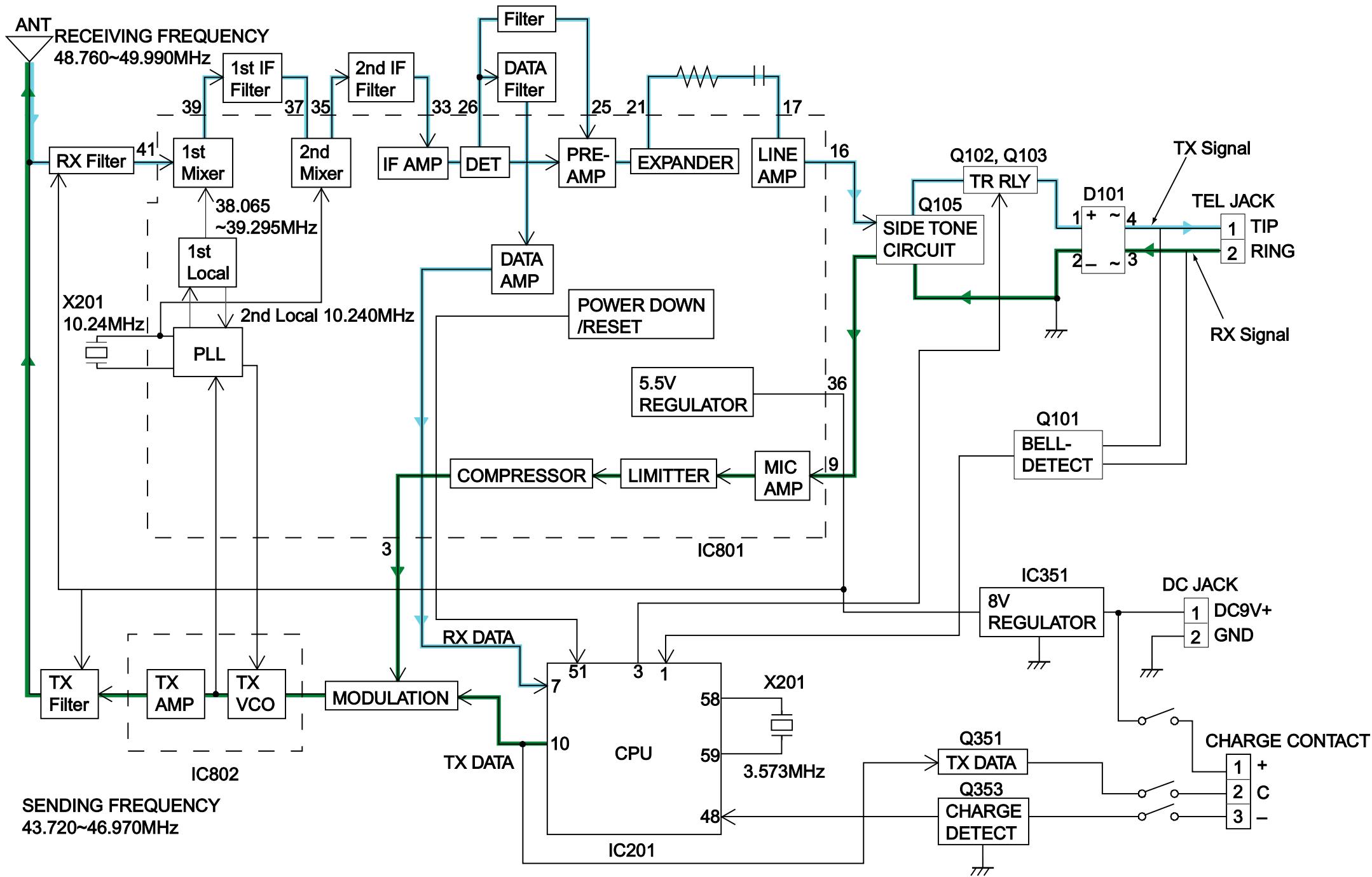


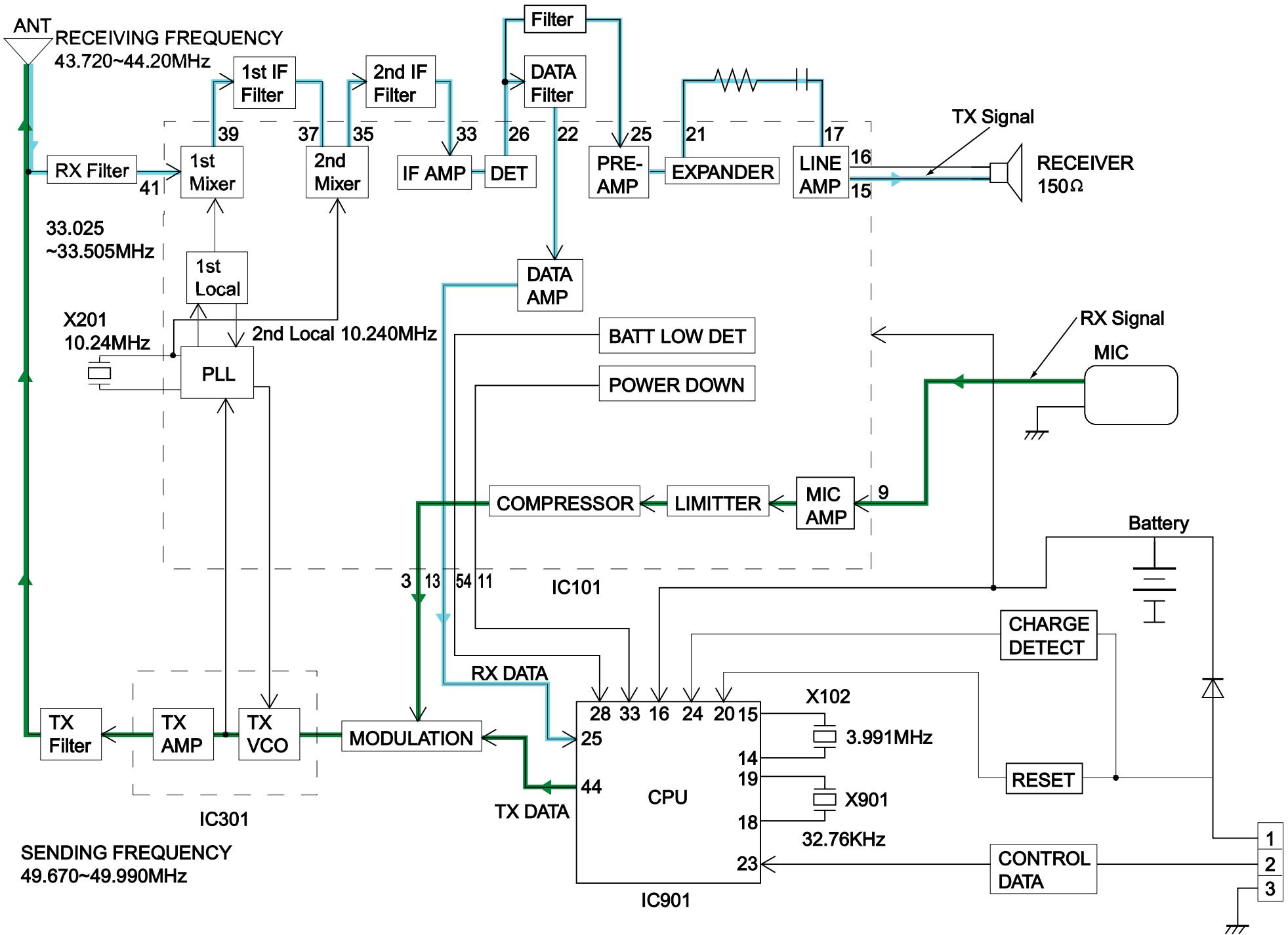
35.2. Handset

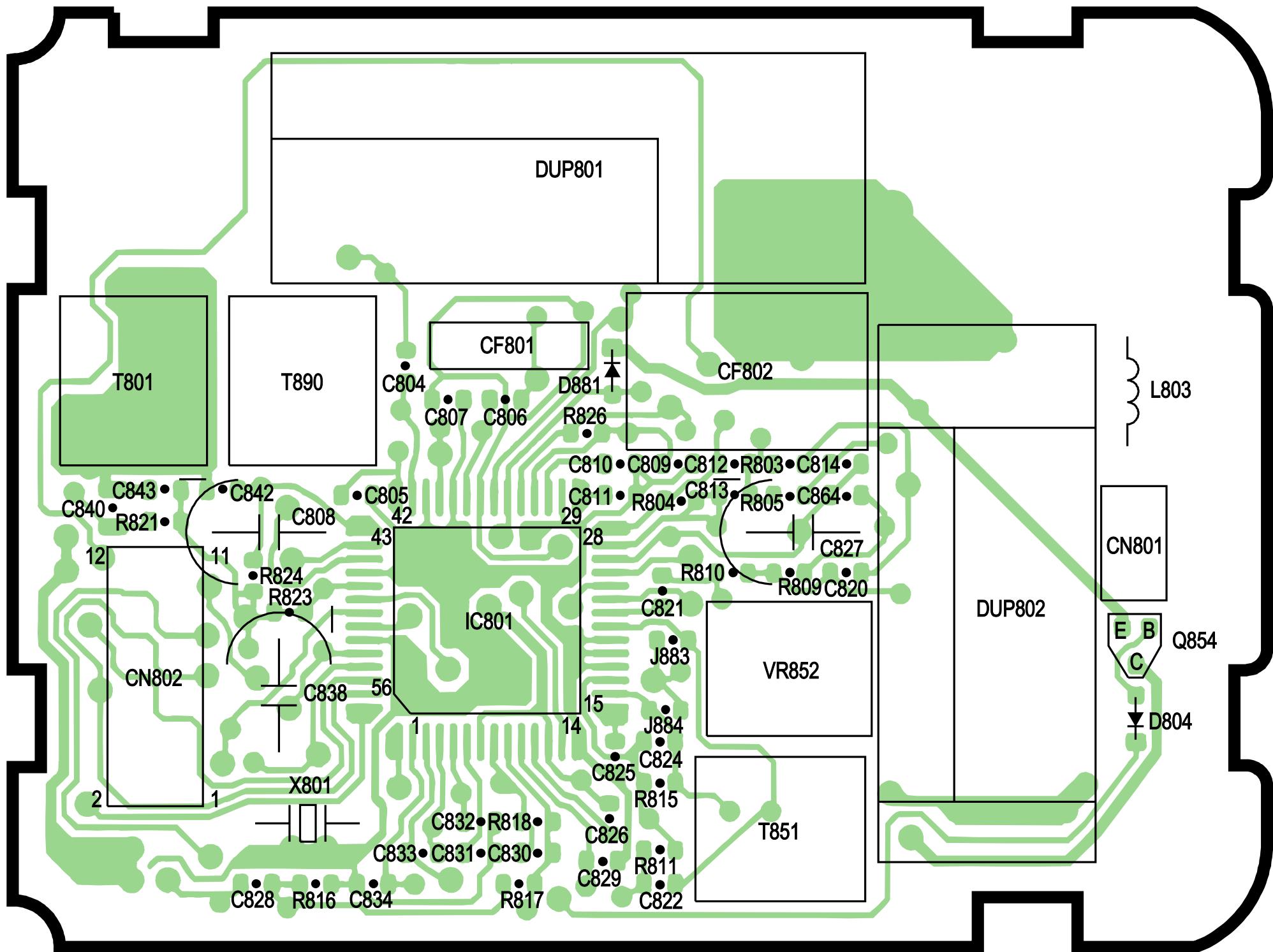


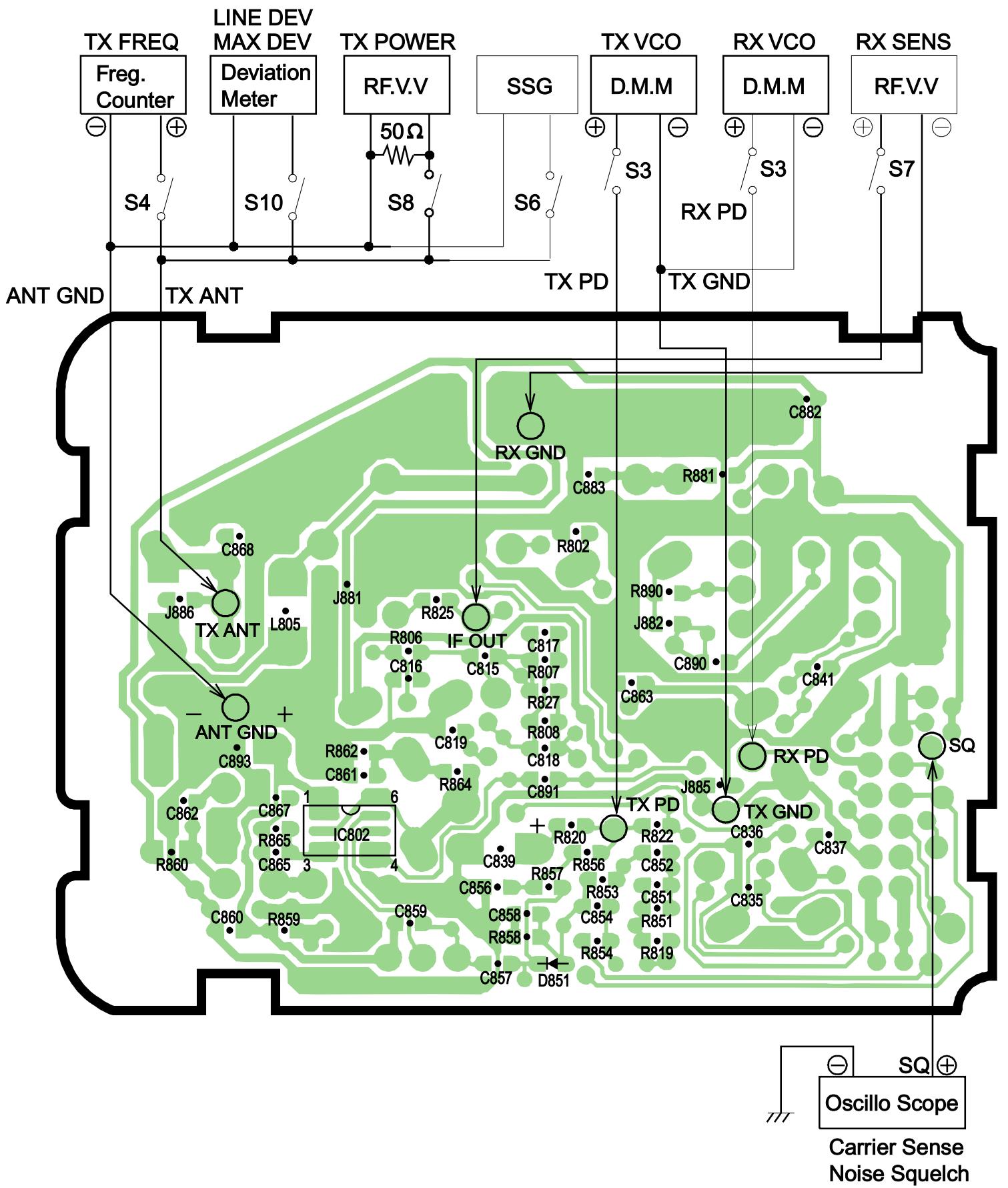
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Printed in Japan

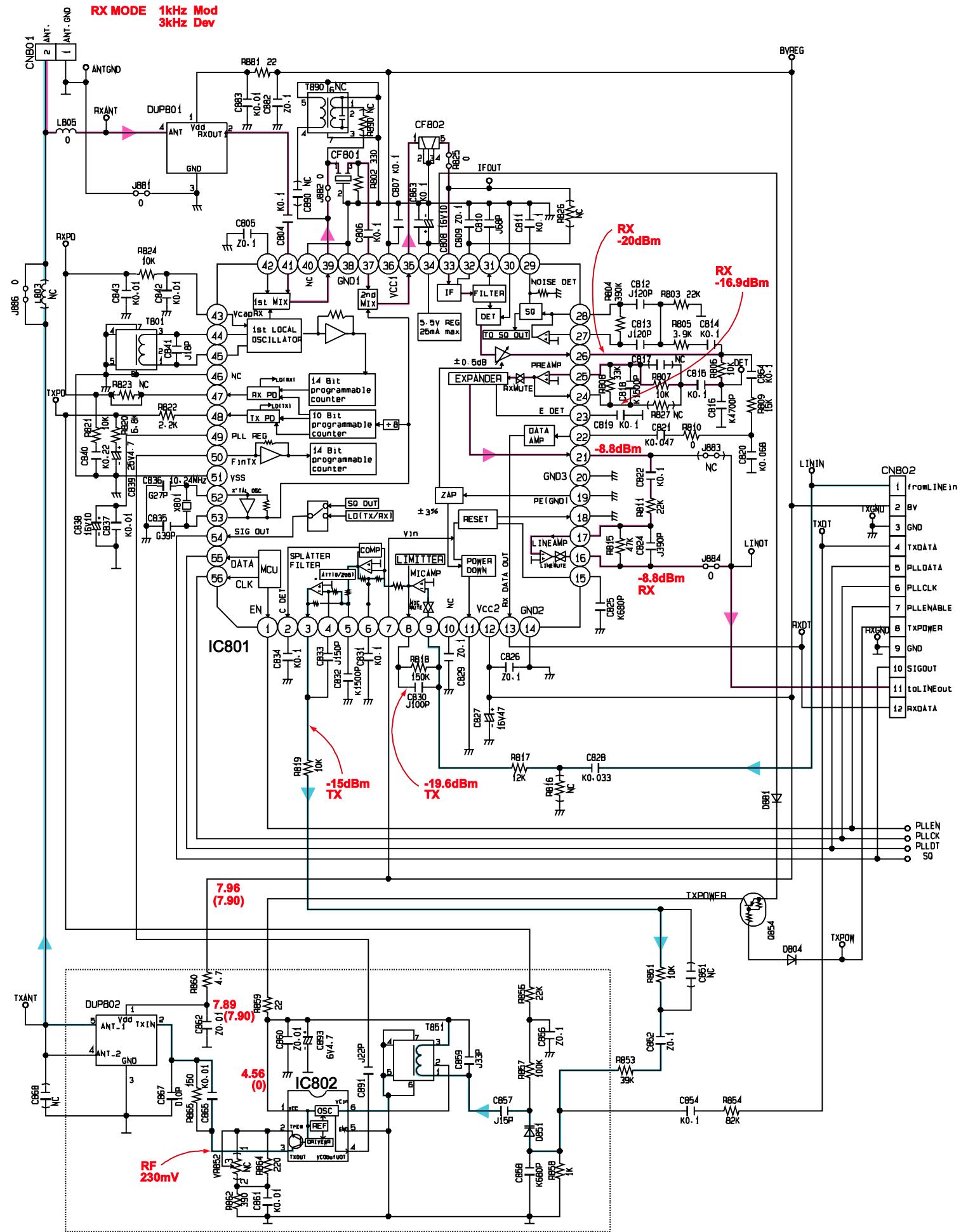
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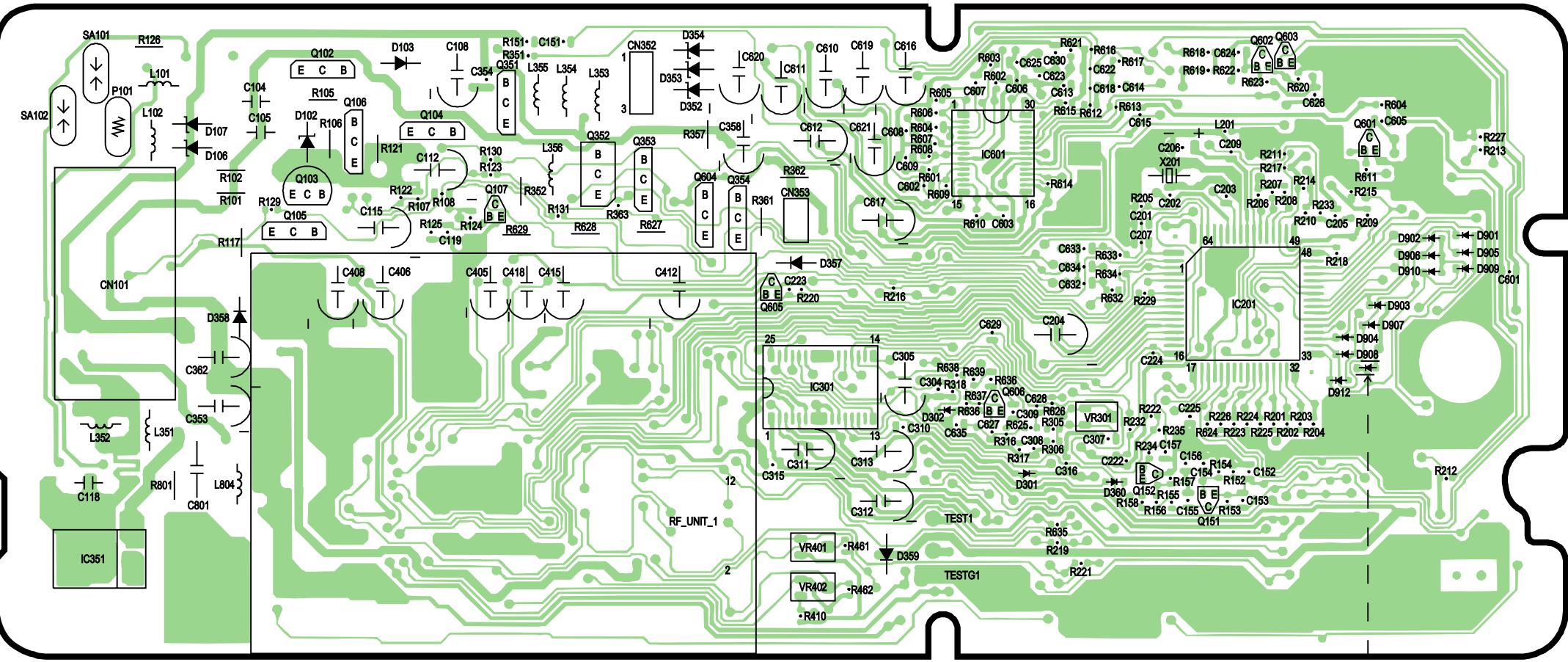












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