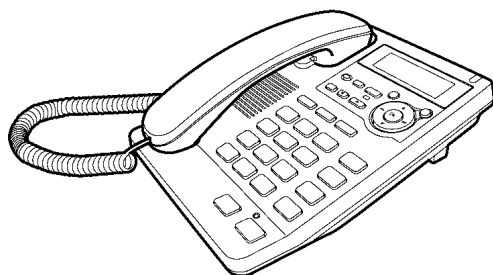


# Service Manual

## Telephone Equipment

Caller ID Compatible



**KX-TS620B**  
**KX-TS620W**

Telephone Answering System

Black Version

White Version

(for U.S.A.)

### ■ SPECIFICATIONS

**Power Supply:**

AC adaptor (AC 120 V, 60 Hz)  
PQLV205Z or PQLV207Z

**Power Consumption:**

Standby: Approx. 2.4 W  
Maximum: Approx. 3.0 W

**Dimensions (H x W x D):**

Approx. 91 mm x 165 mm x 220 mm  
(3<sup>19/32</sup>" x 6<sup>1/2</sup>" x 8<sup>21/32</sup>" )

**Mass (Weight):**

Approx. 670 g (1.49 lb.)

**Ringer Equivalence No. (REN):** 1.0 B

**Dialing Mode:**

Tone (DTMF)/Pulse

**Operating Environment:**

5°C – 40°C (41°F – 104°F)

- Optional Headset: KX-TCA60, KX-TCA86, KX-TCA88HA, KX-TCA91, KX-TCA92, KX-TCA93, KX-TCA94, KX-TCA95 or KX-TCA98.
- Specifications are subject to change without notice.
- The illustrations used in this manual may differ slightly from the actual product.

### IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING

If lead free solder was used in the manufacture of this product the printed circuit boards will be marked PbF. Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.

When this mark does appear, please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.



## WARNING

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

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

## Note:

Because section 3 of this manual is an extract from the operating instructions for this model, it is subject to change without notice. You can download and refer to the original operating instructions on TSN Server for further information.

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# 1 FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

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

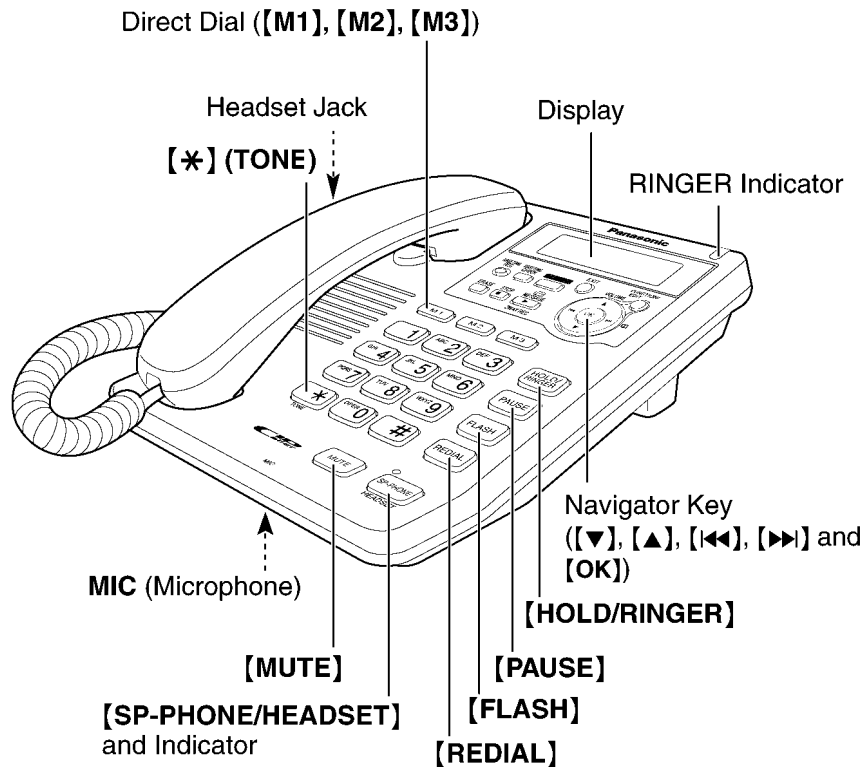
1. Cover the plastic parts boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on the worktable.
4. Do not touch IC or LSI pins with bare fingers.

## 2 CAUTION

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

## 3 OPERATING INSTRUCTIONS

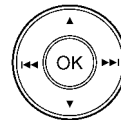
### 3.1. Location of Controls



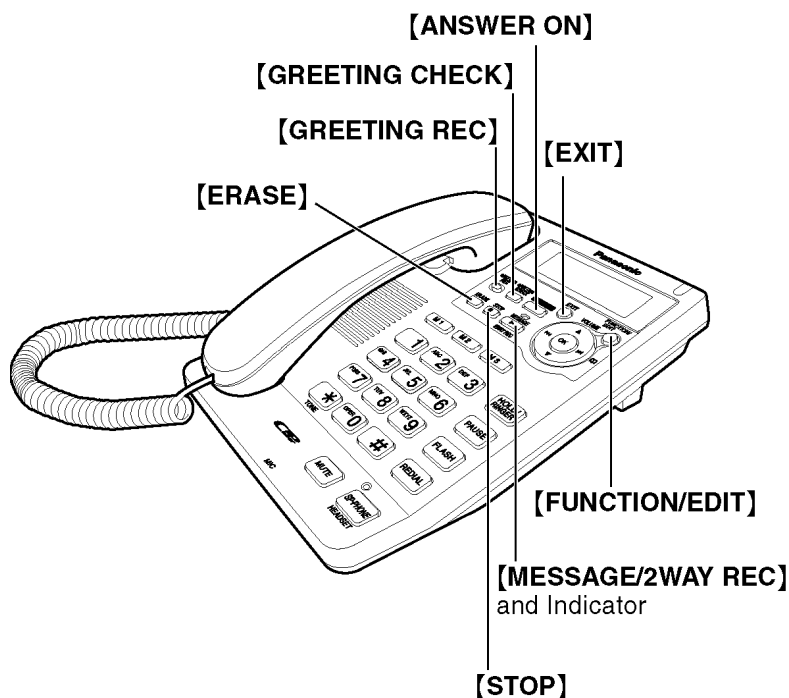
#### How to use the Navigator key and [OK] button

This key has five active areas that are indicated by arrows and [OK].

- Pressing the [▲] and [▼] arrows allows you to enter the Caller List and scroll through the function menu, the Caller List and the Phonebook list.
- Pressing the [◀] and [▶] arrows allows you to:
  - enter the Phonebook list.
  - move the cursor when entering items.
  - to repeat and skip a message during playback.
- The [OK] button is used to select or confirm your menu choices.



Throughout these Operating Instructions, the navigator key is indicated by the arrows [▼], [▲], [◀], [▶] and [OK].



## 3.2. Display

1234567890123456  
 ABCDEFGHIJKLMNOP  
 abcdefghijklmnop  
 [Icons: Phonebook, Music, Call, Mute, Ringer Off, Redial]

(This display shows all the possible configurations.)

12:34AM DEC.31  
 10 missed calls  
 5 messages

When the handset on the cradle, the AC adaptor is connected and the SP-PHONE/HEADSET indicator light is off, the display shows the current time and date, the number of new calls, and the number of recorded messages.

12:00AM DEC.31  
 0 message  
 [Clock Adjustment Icon]

If "⌚" flashes on the display, the clock needs adjustment.

12:34AM DEC.15  
 01-06-35

During a conversation, the display shows the length of the call (Example: 1 hour, 6 minutes and 35 seconds).

SMITH, JACK  
 1-111-444-7777  
 11:50AM NOV.24

This is a display from the Caller List.

The display shows:

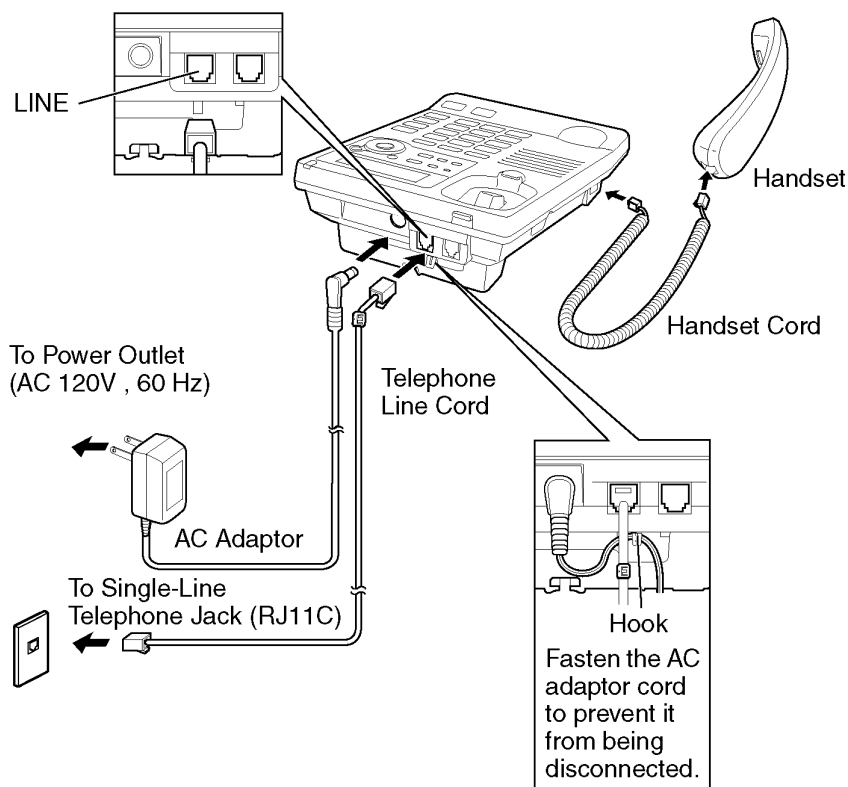
- the caller's number,
- the time and date of the call (Example: Nov. 24, 11:50 AM).

- [Phonebook Icon] : The unit enters in the Phonebook.
- [Music Icon] : The unit plays music during the hold for a caller.
- [Call Icon] : The second call has been received while talking.
- [Mute Icon] : **[MUTE]** was pressed during a conversation.
- [Ringer Off Icon] : The ringer is set to off.
- [Redial Icon] : **[REDIAL]** was pressed while the handset is on the cradle and the SP-PHONE/HEADSET indicator is off.
- P** : **[PAUSE]** was pressed while dialing or storing phone numbers.
- F** : **[FLASH]** was pressed while storing phone numbers.

### 3.3. Connection

#### 3.3.1. Connecting the Handset/AC Adaptor/Telephone Line Cord

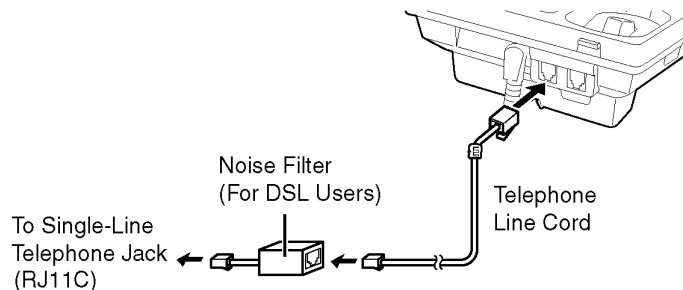
After line connection, lift the handset to check for a dial tone.



- USE ONLY WITH Panasonic AC ADAPTOR PQLV205Z or PQLV207Z.
- Use only a Panasonic Handset for the KX-TS620W or KX-TS620B.
- 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.
- If your unit is connected to a PBX which does not support Caller ID services, you cannot access those services.

#### If you subscribe to a DSL service:

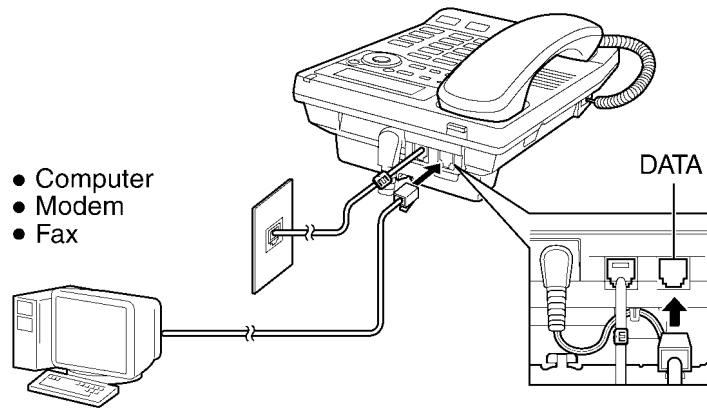
- Please attach a noise filter (contact your DSL provider) to the telephone line between the unit and the telephone line jack in the event of the following:
  - Noise is heard during conversations.
  - Caller ID feature does not function properly.



### 3.3.2. Connecting a Communication Device



If you connect a communication device (computer, modem, fax, etc.) to the telephone line, you can connect it through this unit using the DATA jack.

After connecting the handset, AC adaptor and telephone line cord, connect the communication device telephone line cord to the DATA jack.



Make sure the communication device is not in use before using this unit (making calls, storing phone numbers in memory etc.) or the communication device may not operate properly.

## 3.4. Troubleshooting

Problem	Cause and Remedy
The unit does not work.	<ul style="list-style-type: none"> <li>• Check the settings.</li> <li>• Unplug the AC adaptor to reset. Plug in, and try again.</li> </ul>
The unit does not ring.	<ul style="list-style-type: none"> <li>• The ringer volume is set to OFF and “” is displayed. Select the ringer volume to HIGH, MID or LOW by pressing <b>[HOLD/RINGER]</b>.</li> </ul>
You cannot dial.	<ul style="list-style-type: none"> <li>• Check that the dialing mode selection is correct.</li> <li>• The dialed number is restricted.</li> </ul>
The other party suddenly cannot hear your voice during a conversation.	<ul style="list-style-type: none"> <li>• <b>[MUTE]</b> may have been pressed during the conversation. If “” is displayed, press <b>[MUTE]</b>.</li> </ul>
You cannot program items such as the dialing mode.	<ul style="list-style-type: none"> <li>• Programming is not possible when the handset is off the cradle, the SP-PHONE/HEADSET indicator lights, or when viewing caller information.</li> <li>• Do not pause for over 60 seconds while programming.</li> </ul>
You cannot store a name and phone number in memory.	<ul style="list-style-type: none"> <li>• Programming is not possible when the handset is off the cradle or the SP-PHONE/HEADSET indicator lights.</li> <li>• Check the AC adaptor is connected to the unit.</li> <li>• Do not pause for over 60 seconds while storing.</li> <li>• Do not enter a phone number more than 32 digits long.</li> <li>• When using the Call Restriction feature, you cannot store a phone number in the Direct Dial memory (<b>[M1]</b>, <b>[M2]</b> or <b>[M3]</b>) and emergency numbers (#).</li> <li>• If “Phonebook full” is displayed, erase other stored items from the Phonebook memory.</li> </ul>
While programming or searching, the unit starts to ring and stops the program/search.	<ul style="list-style-type: none"> <li>• To answer the call, lift the handset or press <b>[SP-PHONE/HEADSET]</b>. Start again from the beginning after hanging up.</li> </ul>



Problem	Cause and Remedy
The unit does not display the caller's name and phone number.	<ul style="list-style-type: none"> <li>• You need to subscribe to a Caller ID service.</li> <li>• Check the AC adaptor is connected to the unit.</li> <li>• If you receive a call with the Caller ID information while viewing the Caller List, the redial list, the Phonebook list or the Direct Dial Memory, while programming or while playing back the message, the caller's information may not be displayed.</li> <li>• Other telephone equipment may be interfering with your phone. Disconnect it and try again.</li> <li>• Other electrical appliances connected to the same outlet may be interfering with the Caller ID information.</li> <li>• Telephone line noise may be interfering with the CallerID information. Consult your telephone company.</li> <li>• 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.</li> </ul>
The display exits the Caller List.	<ul style="list-style-type: none"> <li>• Do not pause for over 60 seconds while searching.</li> </ul>
You cannot redial by pressing <b>[REDIAL]</b> .	<ul style="list-style-type: none"> <li>• If the last number dialed was more than 32 digits long, the number will not be redialed correctly.</li> </ul>

#### Answering System

Problem	Cause and Remedy
The answering system is on, but incoming messages are not recorded.	<ul style="list-style-type: none"> <li>• The recording time is set to "Greeting only". Select "1 minute", "2 minutes" or "3 minutes".</li> <li>• Memory is full. Erase some, or all, of the messages.</li> </ul>
The MESSAGE indicator flashes rapidly, "Message full" is displayed, and no new messages are recorded.	<ul style="list-style-type: none"> <li>• Memory is full. Erase some, or all, of the messages.</li> </ul>
You cannot operate the answering system from a touch tone phone.	<ul style="list-style-type: none"> <li>• Make sure you enter the correct remote code.</li> <li>• The answering system may not respond if the tones are too short to activate the unit. Press each button firmly.</li> <li>• The answering system is off. Turn it on.</li> </ul>
You cannot operate the answering system.	<ul style="list-style-type: none"> <li>• Someone is operating the answering system.</li> <li>• The unit is recording a message. To answer the call, lift the handset or press <b>[SP-PHONE/HEADSET]</b>.</li> </ul>
Caller ID information is not displayed during message playback.	<ul style="list-style-type: none"> <li>• The caller information will not be displayed if the Caller List is renewed and the caller information is erased.</li> </ul>

## 4 REPLACEMENT PARTS LIST

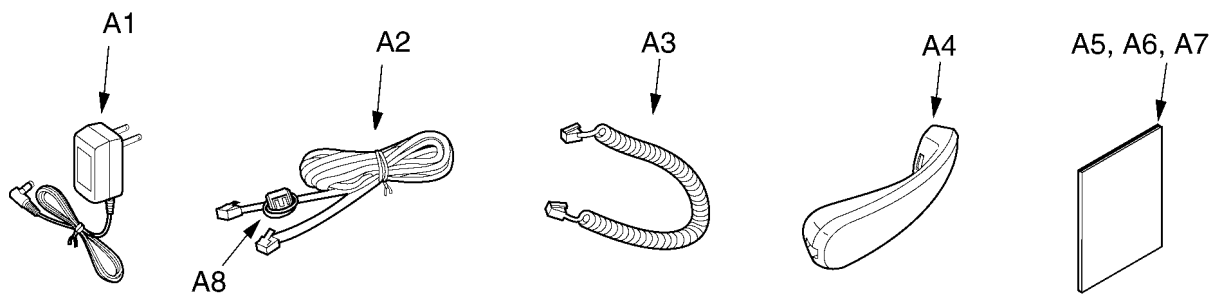
### Note:

#### 1. Important safety notice

Components identified by the ⚠ mark indicates special characteristics important for safety.

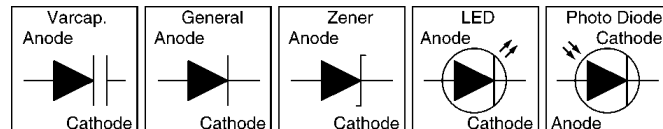
When replacing any of these components, only use specified manufacture's parts.

Ref. No.	Part No.	Part Name & Description	Remarks
A1	PQLV205Z/PQLV207Z	AC ADAPTOR	⚠
A2	PQJA10075Z	TEL CORD	
A3	PQJA212N	CURL CORD (for KX-TS620B)	
A3	PQJA212M	CURL CORD (for KX-TS620W)	
A4	PQJXF0101Z	HANDSET (for KX-TS620B)	
A4	PQJXF0102Z	HANDSET (for KX-TS620W)	
A5	PQQX15397Y	INSTRUCTION BOOK (for English)	
A6	PQQW15305Y	LEAFLET, QUICK GUIDE (for Spanish)	
A7	PQQW12560Z	LEAFLET	
A8	KRCBC130714B	FERITE CORE	

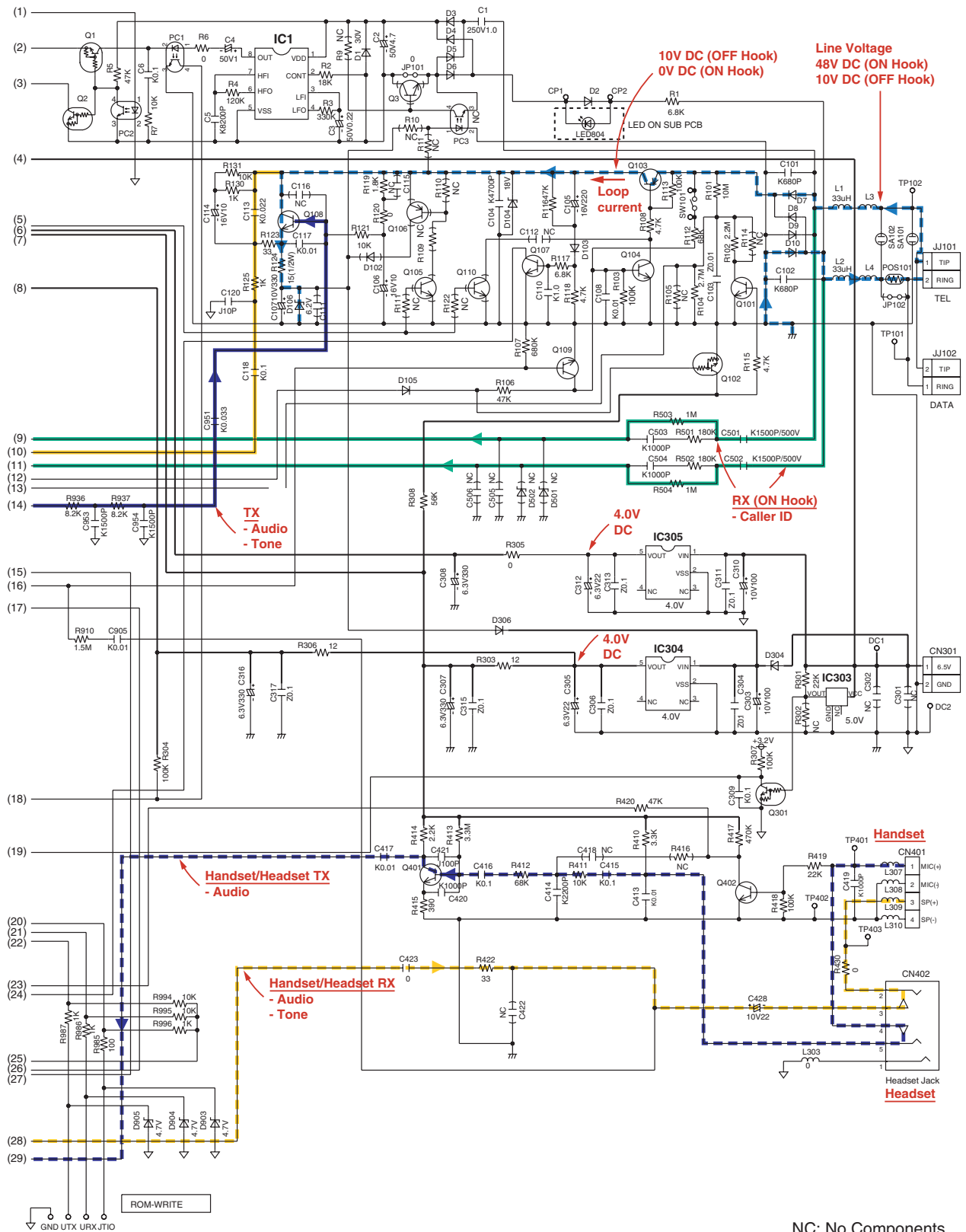


## 5 FOR SCHEMATIC DIAGRAM

1. SW1: Hook switch.
2. DC voltage measurements are taken with electronic voltmeter from negative voltage line.
3. (Add 40 mA to telephone line from the loop simulator.)
4. Off-hook condition
5. No Mack: Handset Mode
6. This schematic diagram may be modified at any time with the development of new technology.
7. **The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.**
8. **When servicing, it is essential that only manufacture's specified parts be used for the critical components in the shaded areas of the schematic.**

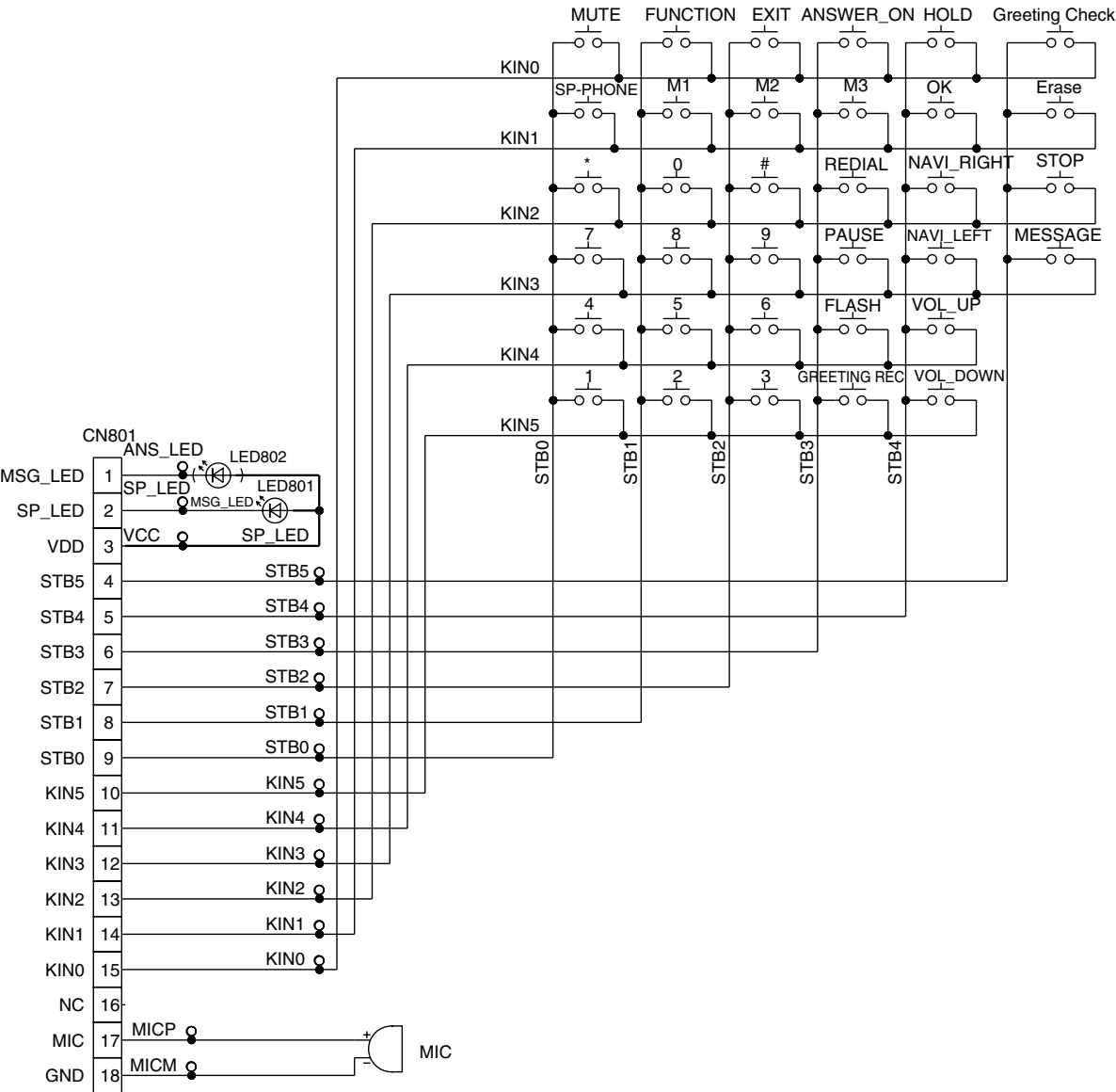






KX-TS620B/W SCHEMATIC DIAGRAM (MAIN)

# 7 SCHEMATIC DIAGRAM (OPERATION)



NC: No Components

KX-TS620 SCHEMATIC DIAGRAM (OPERATION)