SPP-Q123

SERVICE MANUAL

E Model

SPECIFICATIONS

General	
Frequency control	Crystal-controlled PLL
Operation mode	FM, duplex
Operation channel	25 channels
Supplied accessories	AC power adaptor AC-T56 (1) Telephone line cord (1) Rechargeable battery pack BP-T16 (2) Screws (2) Directories (2 sheets)
Handset	
Power source	Rechargeable battery pack BP-T16
Battery life	Standby: Approx. 14 days Talk: Approx. 6 hours
Battery charging time	Approx. 12 hours
Dimensions	Approx. 59 x 201 x 59 mm (w/h/d), antenna excluded Antenna: Approx. 110 mm
Mass	Approx. 230 g, battery included
Base unit	
Power source	DC 9V from AC power adaptor
Battery charging time	Approx. 48 hours
Dimensions	Approx. 148 x 58 x 233 mm (w/h/d), antenna excluded Antenna: Approx. 430 mm
Mass	Approx. 345 g, battery excluded

Design and specifications are subject to change without notice.

CORDLESS TELEPHONE

MICROFILM

SONY®

TABLE OF CONTENTS

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

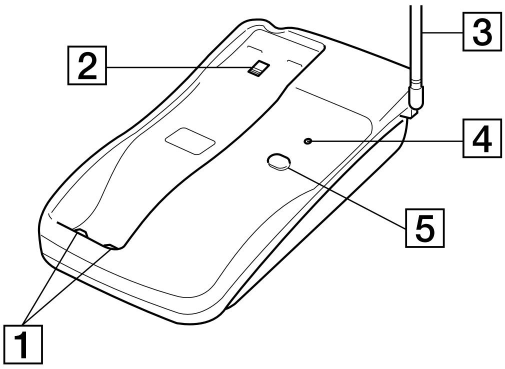
SAFETY-RELATED COMPONENT WARNING !!

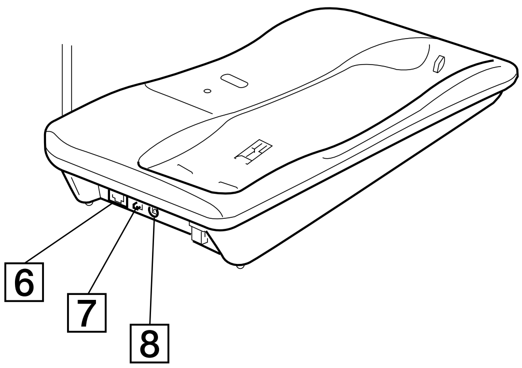
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

LOCATION AND FUNCTION OF CONTROLS

BASE UNIT

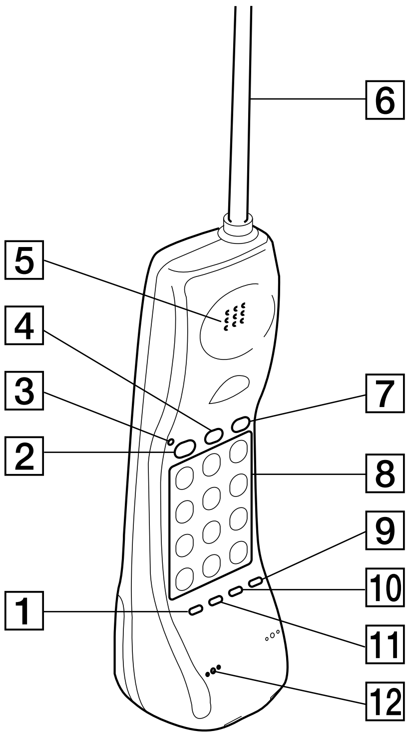




1 Charging terminals
2 Hang-up tab
3 Telescopic antenna
4 CHARGE lamp
5 PAGE key

6 LINE jack
7 DIAL MODE switch
8 DC IN 9V jack

HANDSET



1 SPEED DIAL
2 TALK button
3 TALK/BATT low lamp
4 OFF button
5 SPEAKER
6 Helical antenna
7 FLASH button
8 Dialing keys
9 CHANNEL button
10 REDIAL/PAUSE button
11 PGM
12 Microphone

This section is extracted from instruction manual.

Setting up the phone

Choose the best location

Where you place the base unit affects the reception quality of the handset.

Place the base unit:

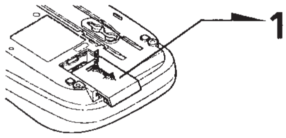
- near a central location and on a level surface
- away from television sets and other electronic equipment, a personal computer, or a microwave oven
- away from noise sources such as a window by a street with heavy traffic
- away from another cordless telephone
- away from heat sources, such as radiators, airducts, and sunlight
- away from excessive moisture, extremely low temperatures, dust, mechanical vibration, or shock

CAUTION

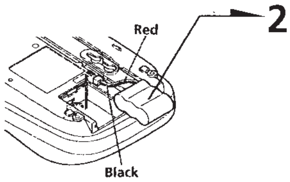
The cordless telephone operates at a frequency that may cause interference to nearby TVs and VCRs; the base unit should not be placed near or on the top of a TV or VCR; and, if interference is experienced, moving the cordless telephone farther away from the TV or VCR will often reduce or eliminate the interference.

Insert the battery pack

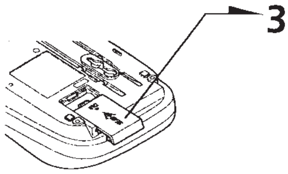
The supplied battery packs are common to the base unit and handset. Insert one of the supplied battery packs into the base unit to enable telephone usage in case of power failure.



1 Slide open the battery compartment lid of the base unit.



2 Connect the battery connector with correct polarity (black and red cords).



3 Insert the battery pack, and then close the lid.

Charge the battery pack for more than 48 hours so that the battery is fully charged.

CAUTION: Make sure that the telephone line cord is disconnected before opening the battery compartment lid.

On power failure

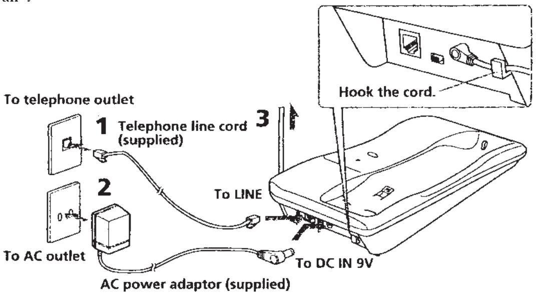
Even during a power failure, you can make or receive calls, or use the phone's functions normally.

During a power failure:

- **The phone can be used for about 2 hours continuously if the battery is fully charged.**
- The CHARGE lamp on the base unit goes off.
- The battery duration is about 10 hours when the phone is in standby mode.
- The battery pack in the handset cannot be charged with the base unit.

Connect the base unit

If you want to hang the base unit on the wall, see "Mounting the base unit on a wall".



1 Connect the telephone line cord to the LINE jack and to a telephone outlet.

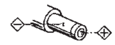
2 Connect the AC power adaptor to the DC IN 9V jack and to an AC outlet.

3 Fully extend the antenna. Make sure it points toward the ceiling.

Notes

- Use only the supplied AC-T56 AC power adaptor. Do not use any other AC power adaptor.
- Connect the AC power adaptor to a continuous power supply.
- Place the base unit close to the AC outlet so that you can unplug the AC power adaptor easily.

Polarity of the plug



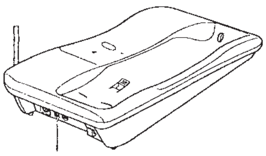
Tip

If your telephone outlet is not modular, contact your telephone service company for assistance.

Modular

Choose the dialing mode

For the telephone to work properly, select an appropriate dialing mode (tone or pulse).



DIAL MODE switch

Depending on your dialing system, set the DIAL MODE switch as follows:

If your dialing system is	Set the switch to
Tone	T
Pulse	P

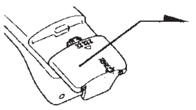
If you are not sure of your dialing system

Make a trial call with the DIAL MODE switch set to T.

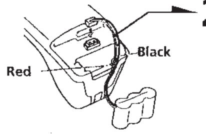
If the call connects, leave the switch as is; otherwise, set to P.

Prepare the battery pack

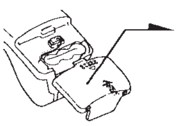
Charge the battery pack for more than 12 hours before you start using your phone.



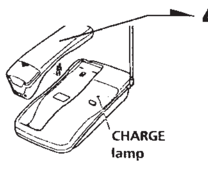
1 Slide open the battery compartment lid of the handset.



2 Connect the battery connector with correct polarity (black and red cords).



3 Insert the battery pack, and then close the lid.



4 Place the handset on the base unit.

The CHARGE lamp lights up when the handset is properly seated on the charge terminals of the base unit. Charge the battery pack for more than 12 hours so that the battery is fully charged. The CHARGE lamp remains lit even after charging is completed.

Battery duration

A fully charged battery pack lasts for about:

- 6 hours when you use the handset continuously.
- 14 days when the handset is standing by.

Notes

- The battery pack will gradually discharge over a long period of time, even if not in use.
- The battery works best when charged every two or three days. For best performance, do not return the handset to the base unit after every call.
- If the battery runs out completely, the speed dial numbers and the digital security code will be erased. If this happens, charge it on the base unit for over 12 hours. Then reprogram the speed dial numbers, and assign a new digital security code (see "Resetting the digital security code"). You may need to charge the battery several times before it is recharged to its full capacity.

When to purchase a new battery pack

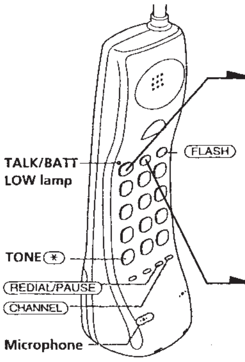
If the battery lasts only a few minutes even after 12 hours of charging, the usable life of the battery has expired and needs replacement. Contact your local Sony authorized dealer or service center, and ask for Sony BP-T16 rechargeable battery pack.

Note

Battery life may vary depending on usage condition and ambient temperature.

Making and receiving calls

Making calls



1 Pick up the handset from the base unit.

2 Press (TALK), and wait until the TALK/BATT LOW lamp lights up.

The dialing keys light up.

You then hear a dial tone. If you hear beeps, move closer to the base unit.

3 Dial the phone number.

4 When you've done talking, press (OFF).

The TALK/BATT LOW lamp goes off.

Additional tasks

To	Do this
Switch to tone dialing temporarily	Press TONE (*) after you're connected. The line will remain in tone dialing until disconnected.

Receiving calls

1 When you hear the phone ring;

- Press (TALK) (or any key except (OFF)).

  or

- Pick up the handset from the base unit when the handset is placed on the base unit.

  The TALK/BATT LOW lamp lights up.

2 When you've done talking, replace the handset on the base unit or press (OFF).

The TALK/BATT LOW lamp goes off.

Additional tasks

To	Do this
Switch to another call ("call waiting" service*)	Press (FLASH). Press (FLASH) again to get back to the first caller.

* You need to subscribe to this service from your telephone company.

Notes
- Do not cover the microphone during the conversation; otherwise, the other party cannot hear your voice.
- If you hear beeps during the conversation, move closer to the base unit; otherwise, the call will be disconnected after 15 seconds. Note that, however, you may not hear beeps if it's noisy on the handset.
- During a power failure, press (TALK) or any key except (OFF) to connect the call. To disconnect the call, press (OFF).

If interference occurs on the handset

When you press (TALK), the handset automatically searches for the channel with the best reception. However, if you notice interference during a conversation, move closer to the base unit.

If interference persists, press (CHANNEL) to switch to another channel to improve the sound quality of your telephone conversation.

Note
If you hear five short beeps when you press (CHANNEL), move closer to the base unit.

If the handset battery becomes weak during a call

The handset will beep every three seconds with the TALK/BATT LOW lamp flashing at the same time. Finish your call and charge the battery pack.

If this occurs, you cannot use the handset without charging it for more than one minutes.
For optimum performance, charge the battery for full 12 hours.

Redialing

1 Press (TALK), and wait until the TALK/BATT LOW lamp lights up.

2 Press (REDIAL/PAUSE) to redial the number last dialed.

Note
If the number exceeds 32 digits or if it is erased, the beeps will alert you that the number can't be dialed.

To erase the last phone number dialed

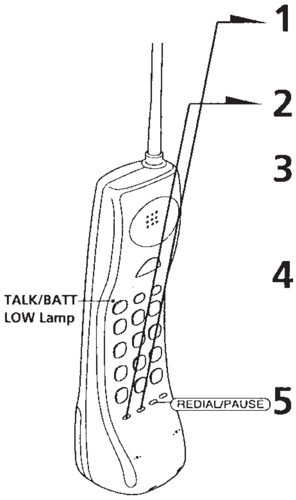
Press (REDIAL/PAUSE) twice.

The number will be erased from the memory, and you'll hear a long confirmation beep.

Speed dialing

You can dial with a touch of a few keys by storing a phone number on a dialing key.

Storing phone numbers



1 Press (PGM).

The TALK/BATT LOW lamp flashes.

2 Press (SPEED DIAL).

The dialing keys light up.

3 Press one of the dialing keys ((0) to (9)) to store a phone number on.

You hear a confirmation beep.

4 Enter the phone number you want to store.

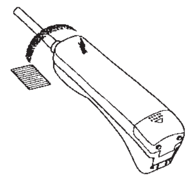
You can enter up to 16 digits, including a tone and a pause, each of which is counted as one digit.

5 Press (PGM).

You hear a long confirmation beep, and the number is stored. The TALK/BATT LOW lamp goes off.

Note
Do not allow more than 20 seconds to elapse between each step of the procedure.

Tips
- If you enter a wrong number, press (PGM), then start from the beginning.
- You can attach the supplied directory on the handset.
- You cannot receive calls while you're storing numbers.



To store a number to be dialed via Private Branch Exchange (PBX)

Before entering a phone number in step 4, do as follows:

1 Enter the outside line access digit (e.g., 9).

2 Press (REDIAL/PAUSE).

To change a stored number

Store a new number, as described previously.

Making calls with speed dialing

1 Press (TALK) and wait until the TALK/BATT LOW lamp lights up.

The dialing keys light up.

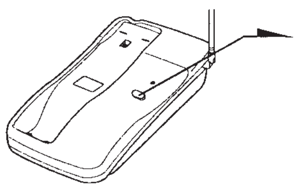
2 Press (SPEED DIAL).

3 Enter the desired speed dialing number ((0) to (9)).

The phone number stored in the speed dialing number will be dialed.

Paging

You can page the handset from the base unit. Note that you cannot page if the handset is in use.



To page

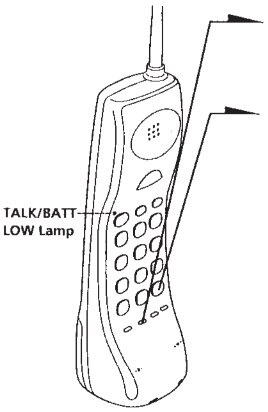
Press (HANDSET LOCATOR).

The handset rings.

When you keep pressing (HANDSET LOCATOR), the handset rings continuously.

Resetting the digital security code

The first time you charge the battery pack, a random security code is automatically assigned between the base unit and the handset. Only a handset which has this security code can make calls through the base unit. This system prevents the possibility of other cordless telephone handsets making calls through your base unit. You normally do not need to reset the security code. However, in the unlikely event that you suspect that another cordless phone uses the same security code, you can manually change the code. Pick up the handset from the base unit, and proceed as follows:



1 Press (PGM).
The TALK/BATT LOW lamp flashes.

2 Press (#).
You hear a confirmation beep. The dialing keys light up.

3 Press three of the dialing keys (001 to 999) to store a new code.

4 Press (PGM).
You hear a long confirmation beep and the TALK/BATT LOW lamp goes off.

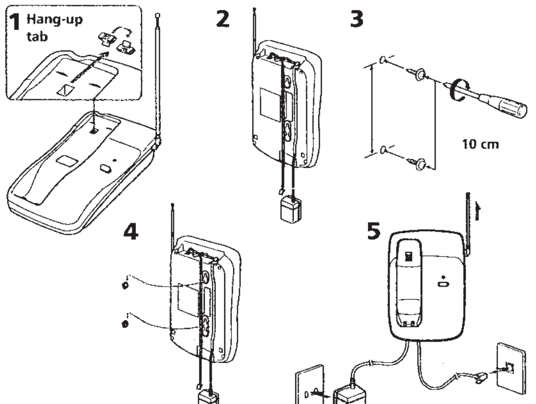
5 Immediately replace the handset on the base unit.
You hear a long confirmation beep and the phone stores the new code.

Note
If the battery pack in the handset is completely discharged, or is removed from the handset, the digital security code will be erased. In this case, charge the battery pack. A new digital security code will be assigned automatically.

Tips
- This procedure changes the security code in both the base unit and the handset.
- You can change the security code as often as desired.

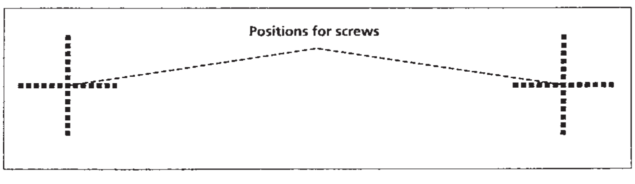
Mounting the base unit on a wall

1 Reverse the hang-up tab and insert it back.
2 Plug the telephone line cord to the LINE jack and the AC power adaptor to the DC IN 9V jack.
Then attach each cord to the base unit.
3 Attach the supplied screws to the wall.
4 Hook the base unit to the screws.
5 Plug the telephone line cord to the telephone outlet, and the AC power adaptor to an AC outlet. Then fully extend the antenna.



Template for mounting the phone on the wall

To determine the positions for the screws, cut out the template below and use it as a guide. Consider the weight of the phone when you choose the place to hang it.



Maintenance

On handling
- Do not attempt to disassemble the casing. Refer servicing to qualified personnel only.
- Do not put foreign objects into the base unit. Should any liquid or solid object fall into the base unit, unplug the unit and have it checked by qualified personnel before operating the unit any further.
- Do not put anything in the DC IN 9V (external power input) jack.
- Do not drop the unit as a malfunction may result.

On cleaning
- Clean the cabinets with a soft cloth slightly moistened with water or a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine as they may damage the finish of the cabinet.
- If the charge terminals of the base unit and handset are soiled, wipe them with a soft cloth.

Notes on power sources

On battery pack
- Store the battery pack at a temperature between 5°C (41°F) and 35°C (95°F) for best performance.
- If you do not use the phone for a long period of time, remove the battery packs from the handset after charging for more than 12 hours and base unit after charging for more than 48 hours. Then unplug the AC power adaptor.
- Keep the battery pack away from fire.
- Do not short-circuit the battery terminals.
- Do not disassemble the battery pack.

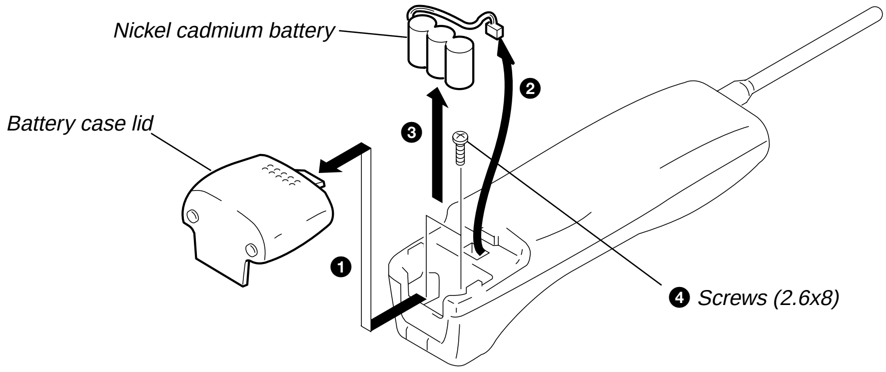
On power failure
Insert one of the supplied battery packs into the base unit to enable telephone usage in case of power failure.
Even during a power failure, you can make or receive calls, or use the phone's functions normally for about 2 hours. However, you cannot charge the battery pack in the handset with the base unit.

On safety
- Do not unnaturally bend or crimp the cord, and do not place heavy objects on it.
- If the cord or plug is damaged, do not continue to use it. Contact your local Sony dealer for replacement.
- To remove the AC power adaptor from an AC outlet, pull on the plug.

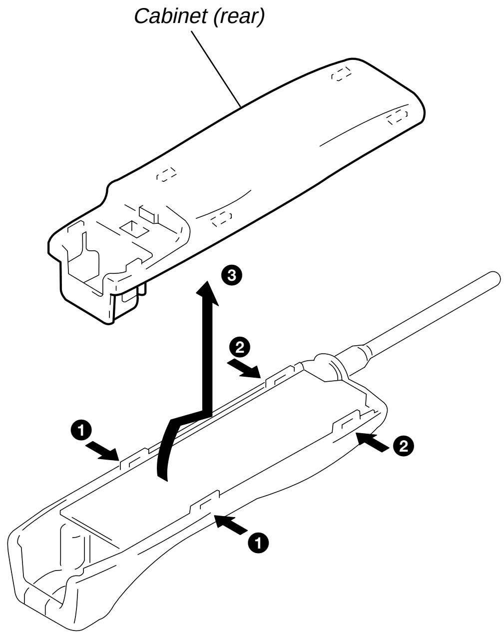
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

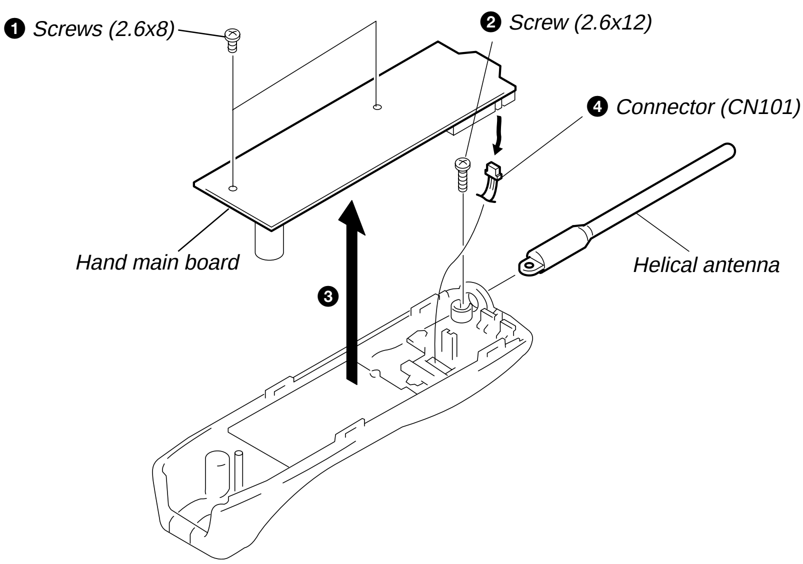
2-1. BATTERY CASE LID



2-2. CABINET (REAR)



2-3. HAND MAIN BOARD



SECTION 3
TEST MODE

BASE UNIT SECTION

MANUAL TEST MODE

Set the Test Mode:

1. Set the DIAL MODE switch to "P" (pulse).
2. While pressing the PAGE key, switch on the power supply (Reset start).
3. With the PAGE key, still held down, switch the DIAL MODE switch "P" (pulse) → "T" (tone) → "P" (pulse).
4. When you release the PAGE key, test mode starts.
5. First dial "0" at 10 pps. Then output "1", "4", "8" and "#" with DTMF.
6. Set to TX ON. Goes to external line state in 1 CH.

Release the Test Mode:

1. Pull out the AC adaptor and turn off the power.

MACHINE TEST MODE

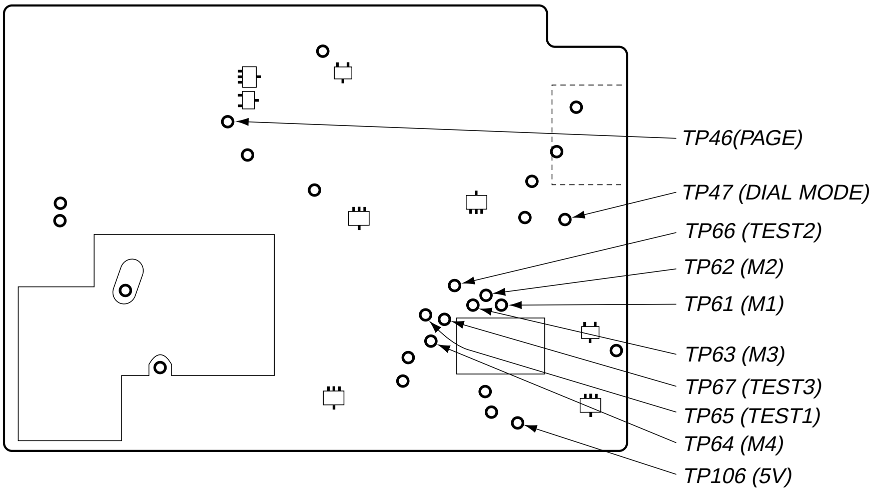
Set the Test Mode:

1. With one of the CH setting terminals in "H" input state, cause Reset of Power ON. Equipment enters machine test mode.
2. Setting of CH according to logic input with CH setting terminal.
3. ON/OFF of TX is according to the input logic of the DIAL MODE terminal.

Release the Test Mode:

1. Pull out the AC adaptor and turn off the power.
2. Remove the short plug and turn on the power again.

– base main board (conductor side) –



Channel Setting:
During startup in machine test mode, make the following channel settings by loading the terminal input data.

Pin No. / Channel	23 M1(TP61)	24 M2(TP62)	25 M3(TP63)	26 M4(TP64)	TX frequency (MHz)	RX frequency (MHz)
CH1	H	L	L	L	43.720	48.760
CH2	L	H	L	L	43.740	48.840
CH3	H	H	L	L	43.820	48.860
CH4	L	L	H	L	43.840	48.920
CH5					43.920	49.020
CH6					43.960	49.080
CH7					44.120	49.100
CH8					44.160	49.160
CH9					44.180	49.200
CH10					44.200	49.240
CH11					44.320	49.280
CH12					44.360	49.360
CH13					44.400	49.400
CH14	H	L	H	L	44.460	49.460
CH15	L	H	H	L	44.480	49.500
CH16	H	H	H	L	46.610	49.670
CH17	L	L	L	H	46.630	49.845
CH18					46.670	49.860
CH19					46.710	49.770
CH20					46.730	49.875
CH21					46.770	49.830
CH22					46.830	49.890
CH23	H	L	L	H	46.870	49.930
CH24	L	H	L	H	46.930	49.990
CH25	H	H	L	H	46.970	49.970
TEST1	L	L	H	H	43.780	48.800
TEST2	H	L	H	H	43.890	48.970
TEST3	L	H	H	H	46.800	49.910
TEST4	H	H	H	H	46.900	49.950

Machine Test Mode Input / Output:
1. Input (Input ports for other than main tasks)

Pin Name	Pin No.	Function	Logic
M1 (TP61)	23	Setting the CH (channel)	Refer to channel settig
M2 (TP62)	24		
M3 (TP63)	25		
M4 (TP64)	26		
DIAL MODE (TP47)	17	Setting the TX ON/OFF	H(T) : OFF, L(P) : ON
PAGE (TP46)	16	Manual : Channel increment	Incrementing of channels in order from 1 to 25.
		Machine : Dial data "5" is output to DTMF/DP exchange	Key input with "L" input. The first time there is output of "5" with DTMF.

29 Pin TEST1 (TP65)	28 Pin TEST2 (TP66)	27 Pin TEST3 (TP67)	Operation with CHARGE LED	Operation with TX ON
L	L	L	If RSSI(H) is detected : Light ON	If RSSI(H) is detected : Light ON
L	L	H	If RSSI(L) is detected : Light ON	If RSSI(L) is detected : Light ON
L	H	L	If TX LOCK is detected : Light OFF	If TX LOCK is detected : Light OFF
L	H	H	If RX LOCK is detected : Light OFF	If RX LOCK is detected : Light OFF
H	L	L	———	BEEP output
H	L	H	———	ID CODE output
H	H	L	If RING is detected : Light ON	If RING is detected : Light ON
H	H	H	If PAGE KEY is input : Light ON	If PAGE KEY is input : Light ON

2. Output (Output ports for other than main tasks)

Pin Name	Pin No.	Function	H Logic	L Logic
CHARGE DET (TP21)	18	State in section 1. Input	Refer to section 1. Input	

HANDSET SECTION

MANUAL TEST MODE

Set the Test Mode:

1. Enter the test mode by pressing [0] key while pressing [1] key and [TALK] when in idle condition.
   (Key operation [0] → [1] → [TALK])
2. The RINGER will ring for 500msec when the test mode is started.
3. Measurement mode of consumption current. (42# state. Refer to 2-3.)
4. Use key input to carry out the various settings.
5. Use port inputs to set output from LED terminals.

Release the Test Mode:

1. Press the [0], [0] and [#] key.
2. Turn off the power. (Remove the battery and replace them.)

MACHINE TEST MODE

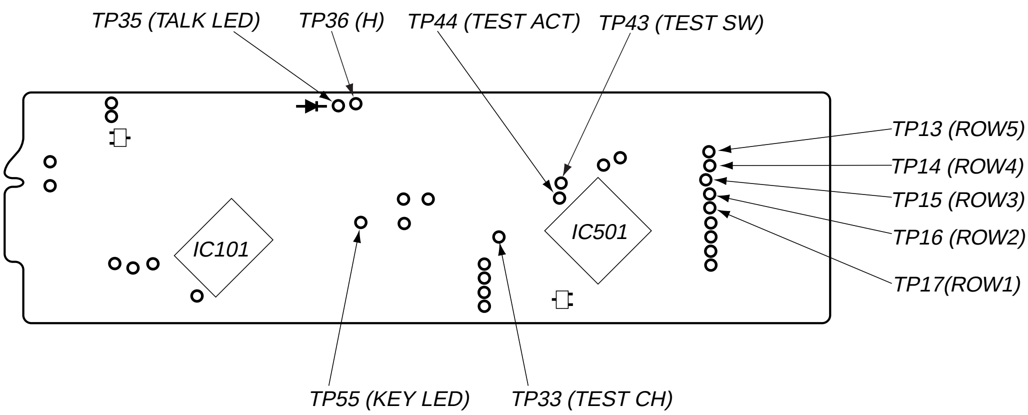
Set the Test Mode:

1. When power on reset is applied while a "H" (high) is input the TEST SW(TP43) terminal (IC501 40pin), the RING (Level H, 500msec) sounds.
2. Following that, at a timing in which the TEST SW terminal has "H" (high) input, there is output of "L" (low) by the CH (channel) setting control terminal. Then there is PLL setting to the CH which was read to wit the CH setting terminal according to that "L" (low) output.
3. Set the TX setting to TX OFF.
4. The channel is set by voice not by data.
5. Use port inputs to set output from LED terminals.

Release the Test Mode:

1. Turn off the power.
2. Remove the short plug and turn on the power.

– hand main board (conductor side) –



Channel Setting:
During startup in machine test mode, make the following channel settings by loading the terminal input data.

Pin No. / Channel	34 ROW5(TP13)	33 ROW4(TP14)	32 ROW3(TP15)	31 ROW2(TP16)	29 ROW1(TP17)	RX frequency (MHz)	TX frequency (MHz)
CH1	H	L	L	L	L	43.720	48.760
CH2	H	L	L	L	H	43.740	48.840
CH3	H	L	L	H	L	43.820	48.860
CH4	H	L	L	H	H	43.840	48.920
CH5	H	L	H	L	L	43.920	49.020
CH6	H	L	H	L	H	43.960	49.080
CH7	H	L	H	H	L	44.120	49.100
CH8	H	L	H	H	H	44.160	49.160
CH9	H	H	L	L	L	44.180	49.200
CH10	H	H	L	L	H	44.200	49.240
CH11	H	H	L	H	L	44.320	49.280
CH12	H	H	L	H	H	44.360	49.360
CH13	H	H	H	L	L	44.400	49.400
CH14	H	H	H	L	H	44.460	49.460
CH15	H	H	H	H	L	44.480	49.500
CH16	L	L	H	H	L	46.610	49.670
CH17	L	L	H	H	H	46.630	49.845
CH18	L	H	L	L	L	46.670	49.860
CH19	L	H	L	L	H	46.710	49.770
CH20	L	H	L	H	L	46.730	49.875
CH21	L	H	L	H	H	46.770	49.830
CH22	L	H	H	L	L	46.830	49.890
CH23	L	H	H	L	H	46.870	49.930
CH24	L	H	H	H	L	46.930	49.990
CH25	L	H	H	H	H	46.970	49.970
TEST1	L	L	L	H	L	43.780	48.800
TEST2	L	L	L	H	H	43.890	48.970
TEST3	L	L	H	L	L	46.800	49.910
TEST4	L	L	H	L	H	46.900	49.950

Machine Test Mode Input / Output:

1. Input (Input ports for other than main tasks)

Pin Name	Pin No.	Function	Logic
ROW1 (TP17)	29	Setting the CH (channel)	Refer to channel settig
ROW2 (TP16)	31		
ROW3 (TP15)	32		
ROW4 (TP14)	33		
ROW5 (TP13)	34		
TEST CH(TP33)	1	Control terminal for setting the CH (channel)	H : OFF, L : ON
TEST SW(TP43)	40	Start up of the tet mode	H : Start, L : No start
TEST ACT (TP44)	44	During the test mode, causes start of intermittent operation with external input.	H : Intermittent start

2. Output (Output ports for other than main tasks)

Pin Name	Pin No.	Function	H Logic	L Logic
TALK LED(TP35)	48	Various input/output monitor output (default : RSSI(H) detection).	No detection	Detection
KEY LED(TP55)	2	During test mode : All light lit. However, does not include measurment of consumption current.	No light	Light

Key Processing (Setting the Manual Test Mode) :

1. (Upper position) (Lower position) Set with #.
2. 3X# can be substituted with X*.

Upper position / Lower position	0	1	2	3	4					7
					TX	RX RF	RX AF	MIC	Lk	
0	QUIT	10 ch	20 ch	Batt Alarm	H	A	L	T	×	KEY TEST
1	1 ch	11 ch	21 ch	CHARGE DET	×	○	×	×	×	
2	2 ch	12 ch	22 ch		×	○	○	×	×	
3	3 ch	13 ch	23 ch		○	○	×	×	×	
4	4 ch	14 ch	24 ch	RX LOCK	○	○	○	×	×	
5	5 ch	15 ch	25 ch	TX LOCK	○	○	○	○	×	
6	6 ch	16 ch	T1 ch	RSSI(H)	○	○	○	○	○	
7	7 ch	17 ch	T2 ch	RSSI(L)	-	-	-	-	-	
8	8 ch	18 ch	T3 ch	DATA TX	-	-	-	-	-	
9	9 ch	19 ch	T4 ch		-	-	-	-	-	
Purpose	CH setting only			SIGOUT control						General operation
Application	The standard is external communication state. State for standard electrical adjustment process.			Condition sureillance with TALK LED.	Mesurement mode of consumption current.					

- By pressing the CH key there is increment of the channel. However, this does not include the test channel.
- Control of the power source durig 38# DATA TX is (TX & RX RF & RX AF=ON) in 44# state.
- Control of the power source durig the 70# key check mode is 41# state (TX OFF).
- For CH setting, SIGOUT control and power souce control (with the exception of above-mentioned 38# state) the state can be set independently.

  Example : In 15 ch, the order for carrying out TX modulation level and RSSI (H) sensitivity setting is as follows :

  The following are possible : 15# → 44# → 36#

  36# → 15# → 44#

  44# → 36# → 15#

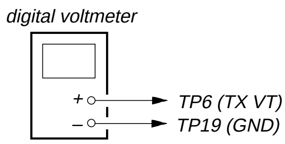
SECTION 4
ELECTRICAL ADJUSTMENTS

BASE UNIT SECTION

Note:
- Apply 9V dc from regurated DC power supply.
- Perform the adjustment at T3CH (28CH : 49.910MHz) as a rule.
- Set to base unit machine test mode. (Refer to page 8.)
- Switch position :
  S302 (DIAL MODE) : P(pulse)

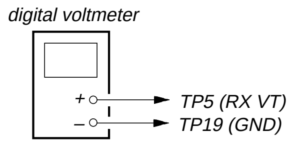
TX SECTION ADJUSTMENT
- The electrolytic capacitor (10µF/10V) connected TP23 (DET OUT) to GND. (Only TX section adjustment)

TX VT Adjustment
Setting :



Procedure :
1. The digital voltmeter connected TP6 (TX VT) to TP19 (GND).
2. Adjust the L52 for 2.2 ± 0.05V reading on the digital voltmeter.

RX VT Adjustment
Setting :

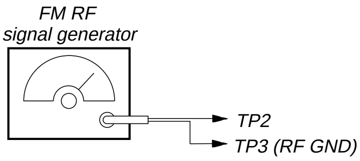


Procedure :
1. The digital voltmeter connected TP5 (RX VT) to TP19 (GND).
2. Adjust the L101 for 2.4 ± 0.05V reading on the digital voltmeter.

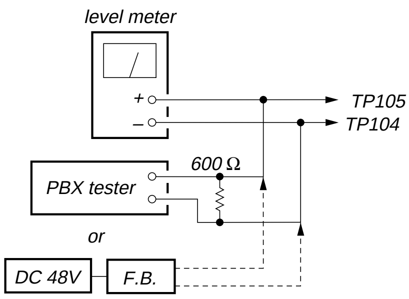
RX SECTION ADJUSTMENT

RX Level Adjustment
Note:
- Perform the adjustment at T3CH (28CH : 49.910MHz) as a rule.

Setting :



Carrier frequency: 49.910 MHz
Modulation: 1 kHz
Deviation: 3 kHz
Output level: 60 dBµV (1 mV) (EMF)

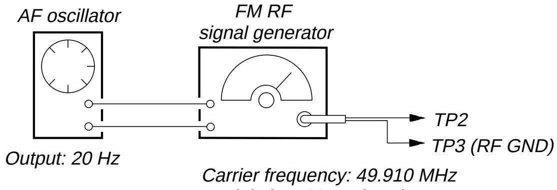


Procedure :
1. Adjust the FL101 for the maximam reading on the level meter.
   Also check that the output level is the specified values.

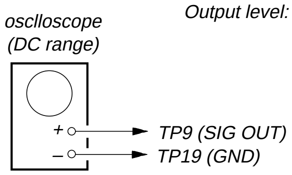
Specified Value : –2.6 to –10.6dBV

RSSI(H) Sensitivity Adjustment
Note:
- Perform the adjustment at T3CH (28CH : 49.910MHz) as a rule.

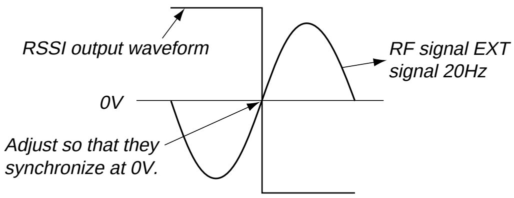
Setting :



Carrier frequency: 49.910 MHz
Modulation: 20 Hz (EXT)
Deviation: AM 50%
Output level: 6 dBµV (2 µV) (EMF)



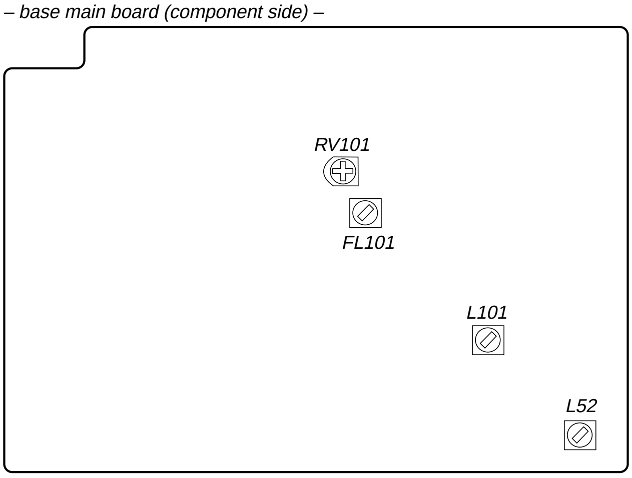
Procedure :
1. Use the osclloscope to confirm the FM RF signal generator input (AF) signal waveform and RSSI signal, and use the RV101 so that they are synchronized (duty is synchronized).



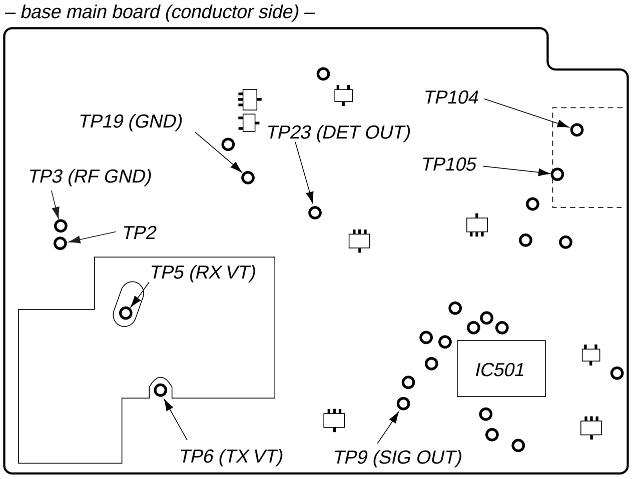
RSSI WAVEFORM

Adjustment Location :

– base main board (component side) –



– base main board (conductor side) –



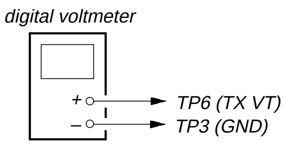
HANDSET SECTION

Note:
- Apply 4V dc from regurated DC power supply.
- Perform the adjustment at T1CH (26CH : 43.780MHz) as a rule.
- Set to handset machine test mode. (Refer to page 10.)

TX SECTION ADJUSTMENT

TX VT Adjustment

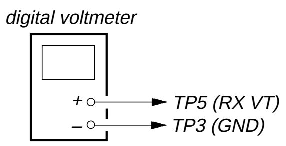
Setting :



Procedure :
1. The digital voltmeter connected TP6 (TX VT) to TP3 (GND).
2. Adjust the L52 for 1.2 ± 0.05V reading on the digital voltmeter.

RX VT Adjustment

Setting :



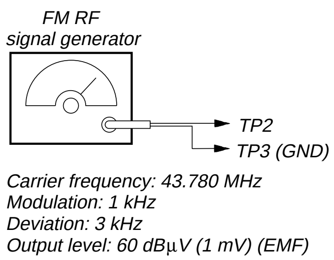
Procedure :
1. The digital voltmeter connected TP5 (RX VT) to TP3 (GND).
2. Adjust the L102 for 0.8 ± 0.05V reading on the digital voltmeter.

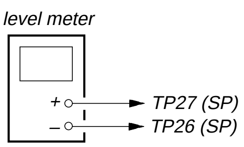
RX SECTION ADJUSTMENT

RX Level Adjustment

Note:
- Perform the adjustment at T1CH (26CH : 43.780MHz) as a rule.

Setting :





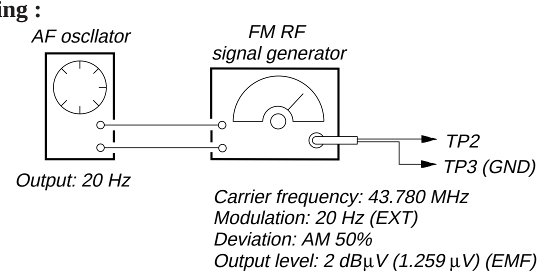
Procedure :
1. Adjust the FL101 for the maximam reading on the level meter. Also check that the output level is the specified values.

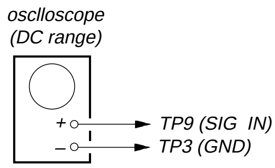
Specified Value : –8.6 to –16.6dBV

RSSI(H) Sensitivity Adjustment

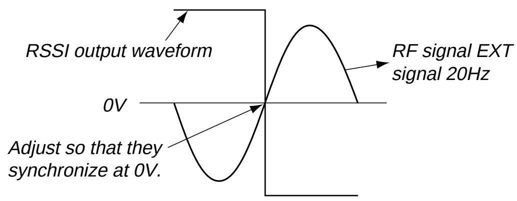
Note:
- Perform the adjustment at T1CH (26CH : 43.780MHz) as a rule.

Setting :





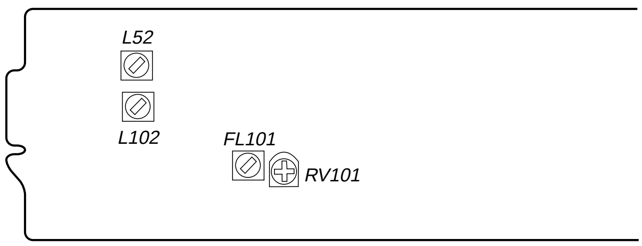
Procedure :
1. Use the osclloscope to confirm the FM RF signal generator input (AF) signal waveform and RSSI signal, and use the RV101 so that they are synchronized (duty is synchronized).



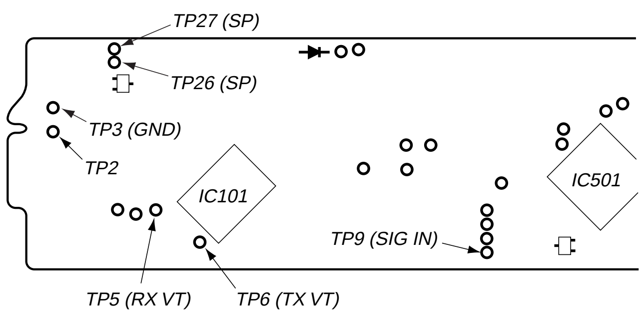
RSSI WAVEFORM

Adjustment Location :

– hand main board (component side) –

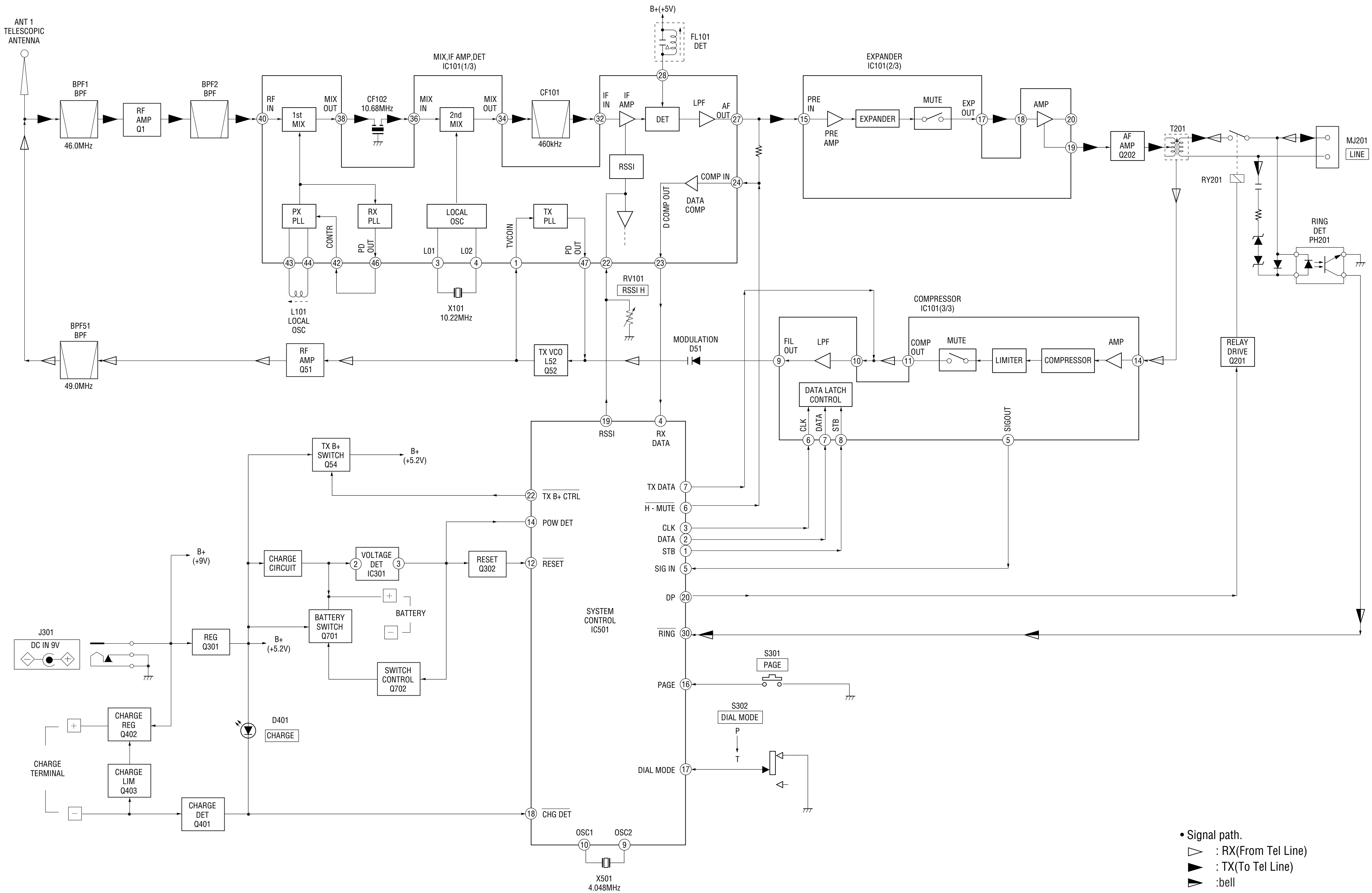


– hand main board (conductor side) –

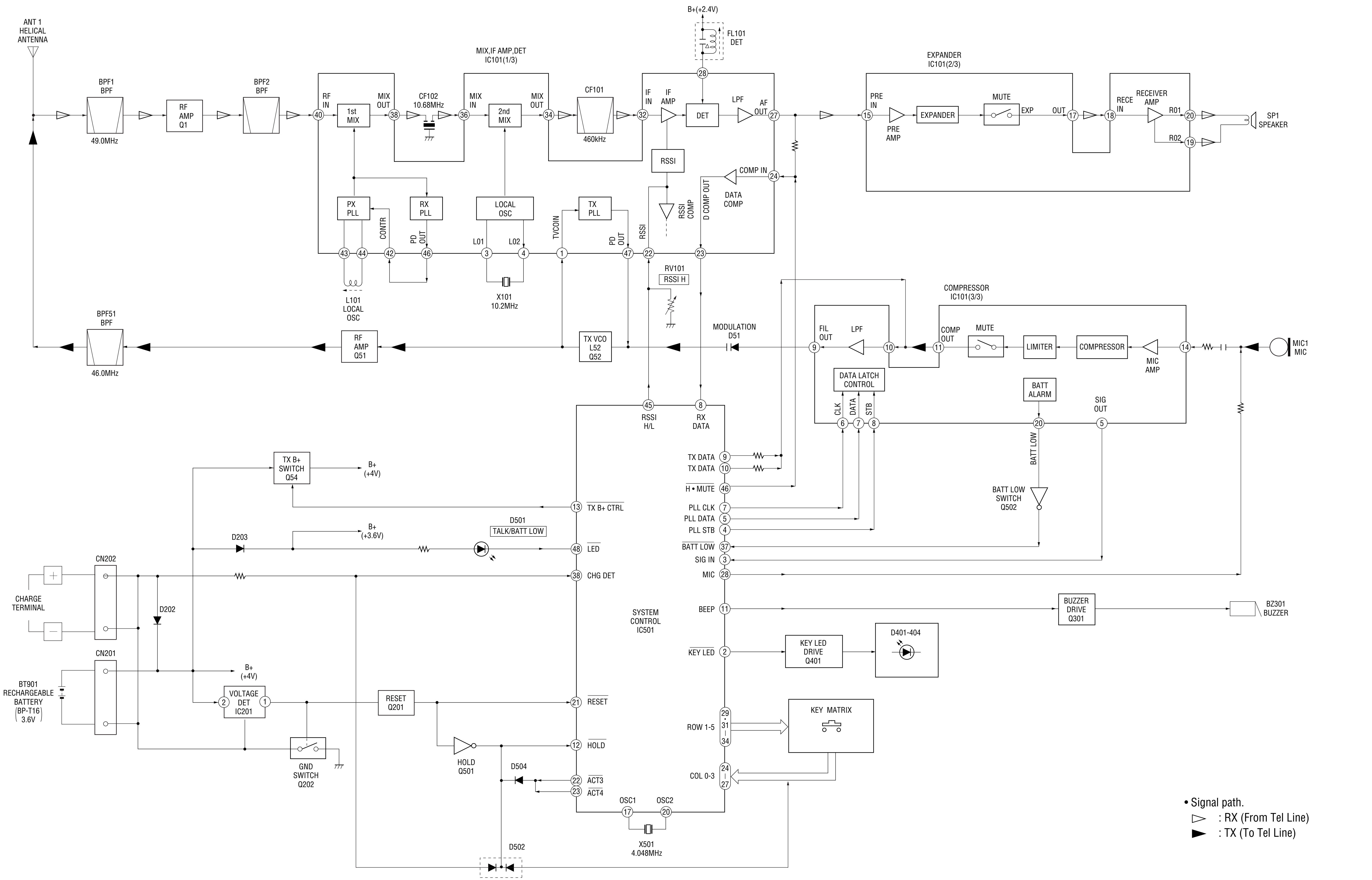


SECTION 5 DIAGRAMS

5-1. BLOCK DIAGRAMS
– BASE UNIT SECTION –



– HANDSET SECTION –



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $^1/_4$ W or less unless otherwise specified.
- △ : internal component.

> **Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
> Replace only with part number specified.

- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack. (base unit)
- Power voltage is dc 12V and fed with regulated dc power supply from MJ201 with 100Ω in series. (base unit)
- Power voltage is dc 4V and fed with regulated dc power supply from external battery terminal (CN201). (handset)
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark : TALK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

Signal path.
▷ : bell

For printed wiring boards.

Note:

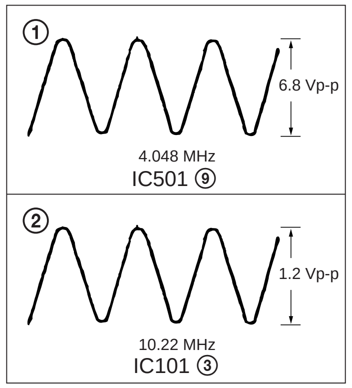
- ○—— : parts extracted from the component side
- ○- - -○ : carbon pattern.
- ● : Through hole.
- ░ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

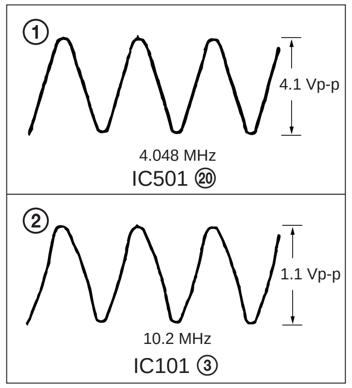
Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

WAVEFORMS

– BASE UNIT SECTION –

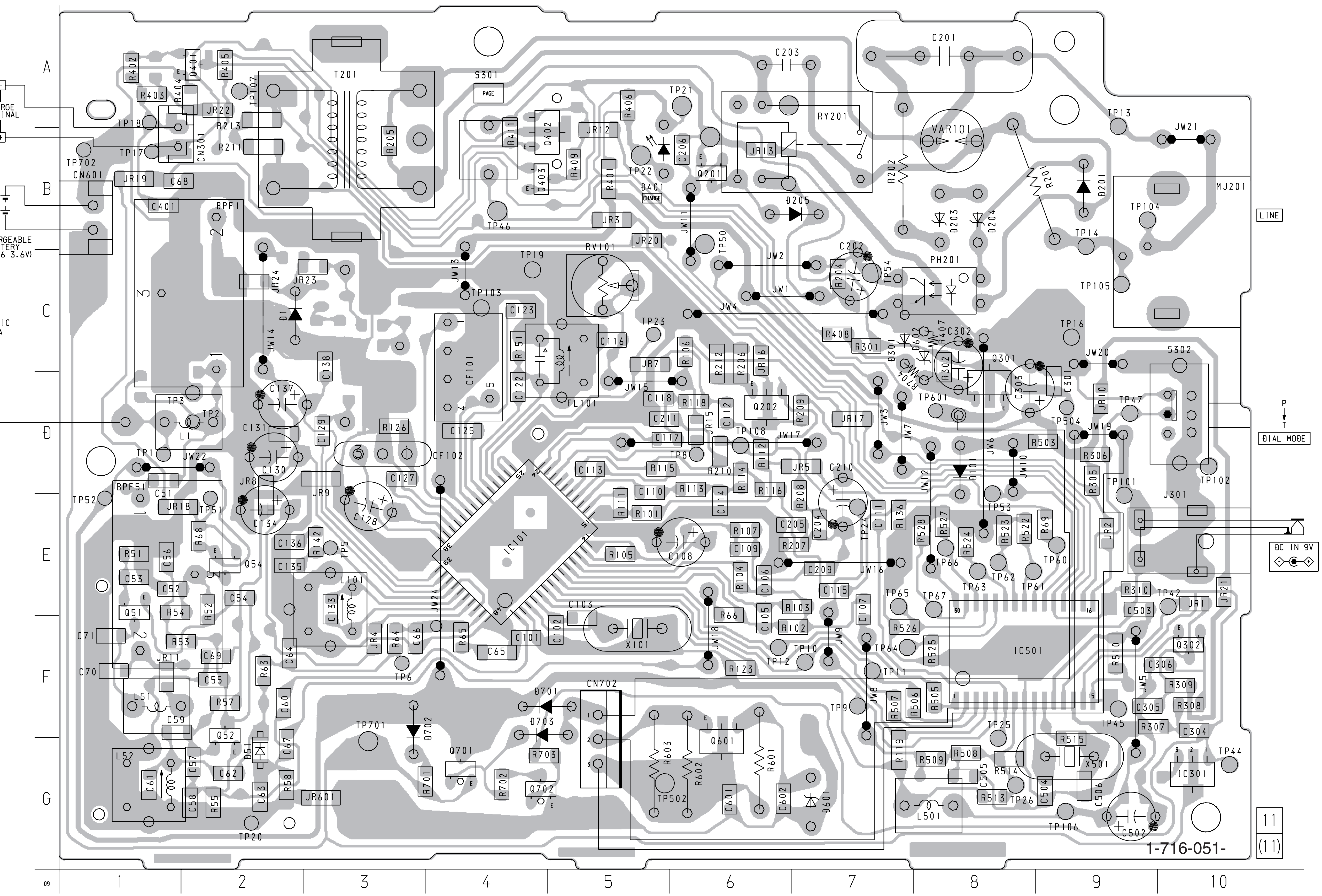


– HANDSET SECTION –



5-2. PRINTED WIRING BOARD – BASE UNIT SECTION –

【BASE MAIN BOARD】

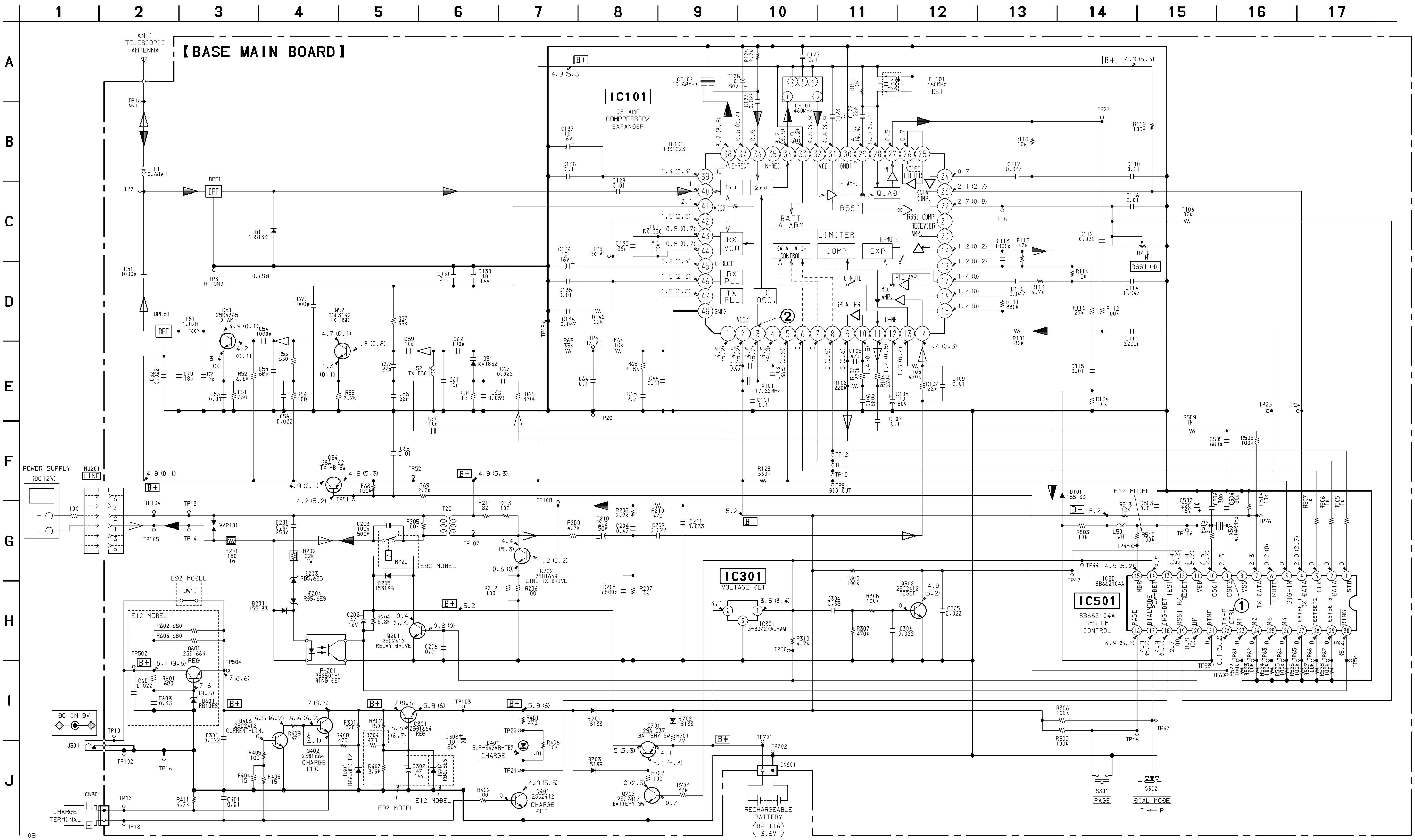


• **Semiconductor Location**

Ref. No.	Location
D1	C-2
D51	G-2
D101	D-8
D201	B-9
D203	B-8
D204	B-8
D205	B-7
D301	C-8
D401	B-5
D601	G-7
D602	C-8
D701	F-4
D702	F-3
D703	F-4
IC101	E-4
IC301	G-10
IC501	F-8
Q51	E-1
Q52	F-2
Q54	E-2
Q201	B-6
Q202	D-6
Q301	C-8
Q302	F-10
Q401	A-2
Q402	B-4
Q403	B-4
Q601	G-6
Q701	G-4
Q702	G-4

5-3. SCHEMATIC DIAGRAM – BASE UNIT SECTION –

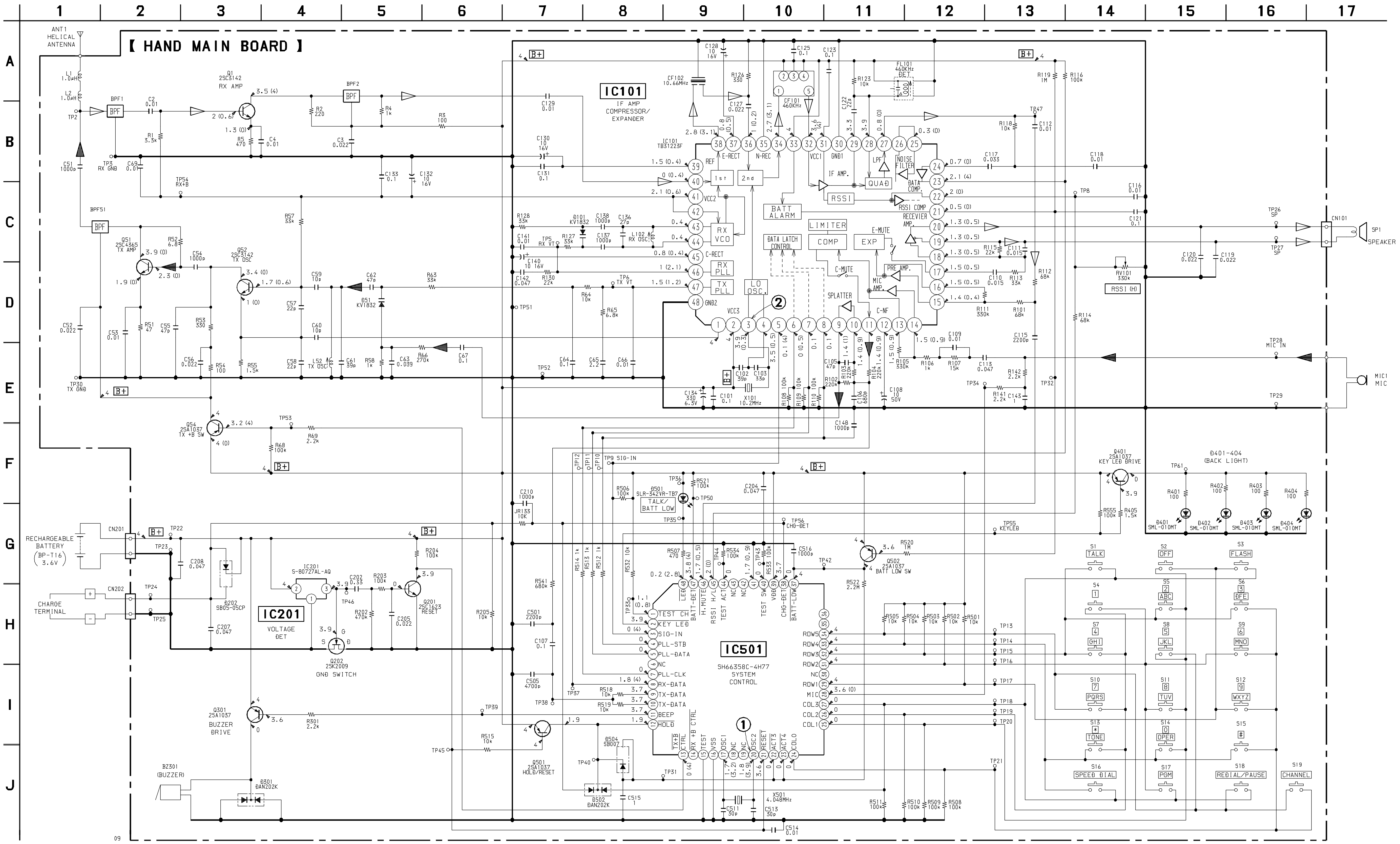
• See page 20 for Waveforms.



Note:
Signal path.
▷ : RX
▶ : TX

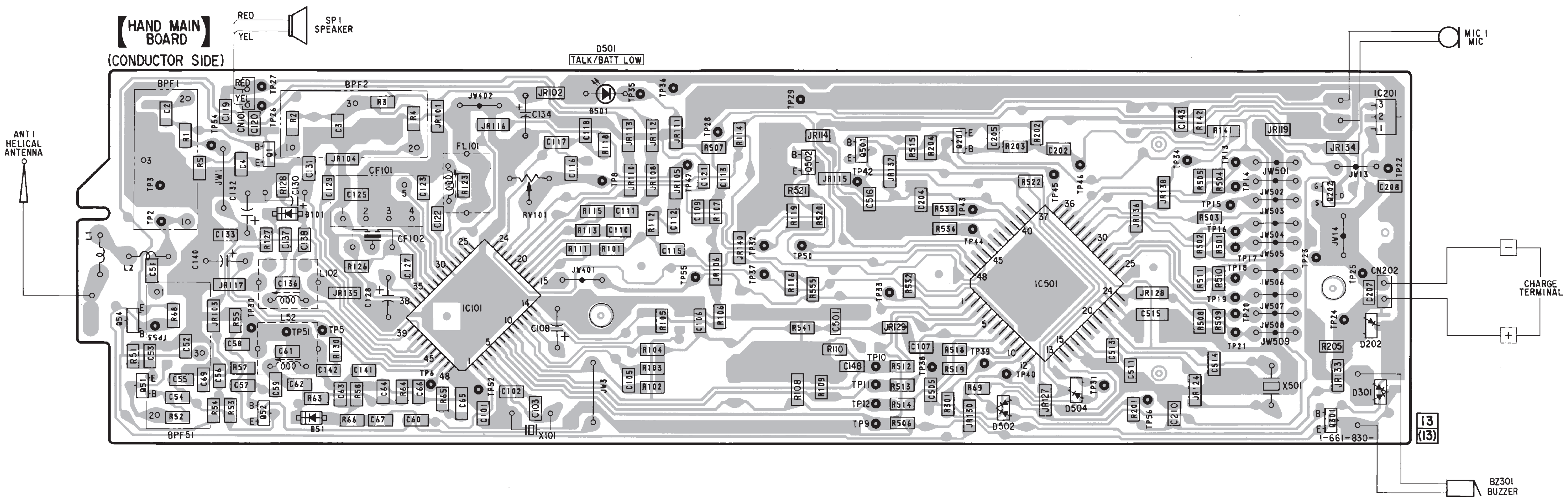
5-4. SCHEMATIC DIAGRAM – HANDSET SECTION –

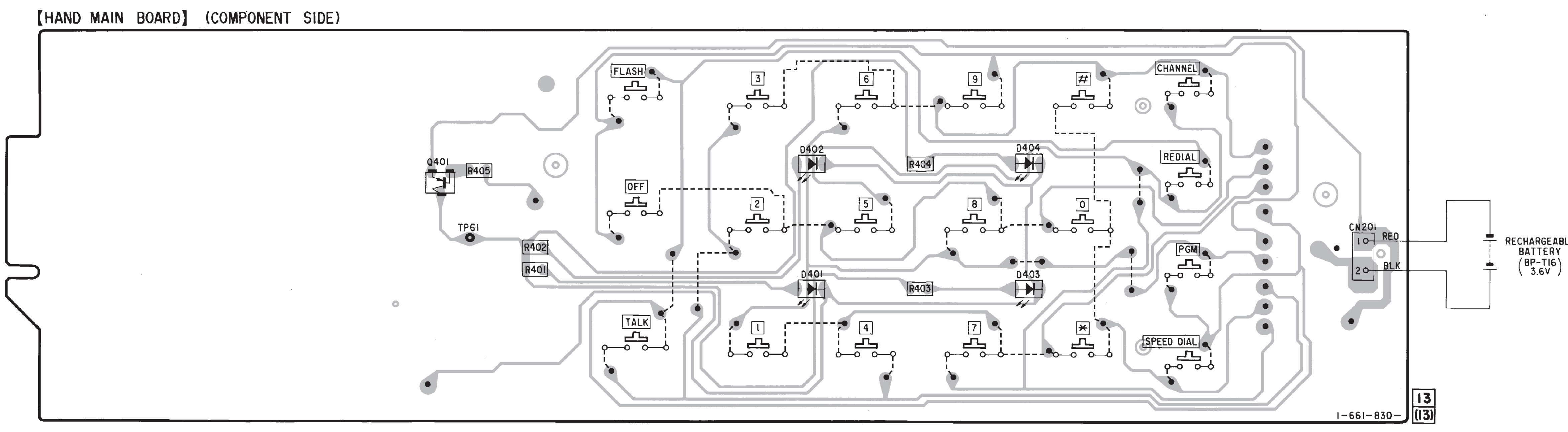
- See page 20 for Waveforms.



Note:
Signal path.
▷ : RX (From Tel Line)
▶ : TX (To Tel Line)

5-5. PRINTED WIRING BOARD – HANDSET SECTION –





• **Semiconductor Location**

Ref. No.	Location
D51	D-3
D101	B-3
D202	C-11
D203	B-9
D301	C-11
D401	G-7
D402	F-7
D403	G-9
D404	F-9
D501	A-5
D502	D-8
D504	D-9
IC101	C-4
IC201	A-11
IC501	C-8
Q1	B-3
Q51	C-2
Q52	D-3
Q54	C-2
Q201	B-8
Q202	B-11
Q301	D-11
Q401	F-4
Q501	B-7
Q502	B-7

5-6. IC PIN FUNCTION DESCRIPTION

• IC501 SB662106A (BASE UNIT CPU)

Pin No.	Pin Name	I/O	Function
1	STB	O	Strobe signal output to PLL.
2	DATA	O	Serial data output to PLL.
3	CLK	O	Serial clock output to PLL.
4	RX-DATA	I	RX data input terminal.
5	SIG-IN	I	RSSI,PLL-Lock signal input terminal.
6	H-MUTE	O	Half mute control output. L : Mute ON
7	TX-DATA	O	TX data,external system alarm output terminal.
8	VSS	–	Ground
9	OSC2	O	External oscillator (4.048MHz).
10	OSC1	I	Internal oscillator (4.048MHz).
11	VDD	–	Power supply terminal (+3V).
12	RESET	I	System reset terminal. L : Reset
13	TEST	I	Test terminal(connect to ground).
14	POW-DET	I	Power failure DET terminal. L : Power failure
15	MBR	I	Make 30/40 (%) selection input. H : 30%, L : 40%
16	PAGE	I	Page key input. H : input
17	DIAL MODE	I	Dial mode selection input terminal.
18	CHG-DET	I	Charge DET. L : Charge
19	RSSI	O	RSSI sensitivity selection output.
20	DP	O	Dial pulse ON/OFF control.
21	DTMF	O	DTMF output terminal.
22	TX +B CTRL	I	TX B+ ON/OFF control. L : TX ON
23	M1	I	Channel setting for test mode.
24	M2	I	Channel setting for test mode.
25	M3	I	Channel setting for test mode.
26	M4	I	Channel setting for test mode.
27	TEST SET1	I	Test mode setting 1.
28	TEST SET2	I	Test mode setting 2.
29	TEST SET3	I	Test mode setting 3.
30	RING	I	Ring DET input. L : Ring in

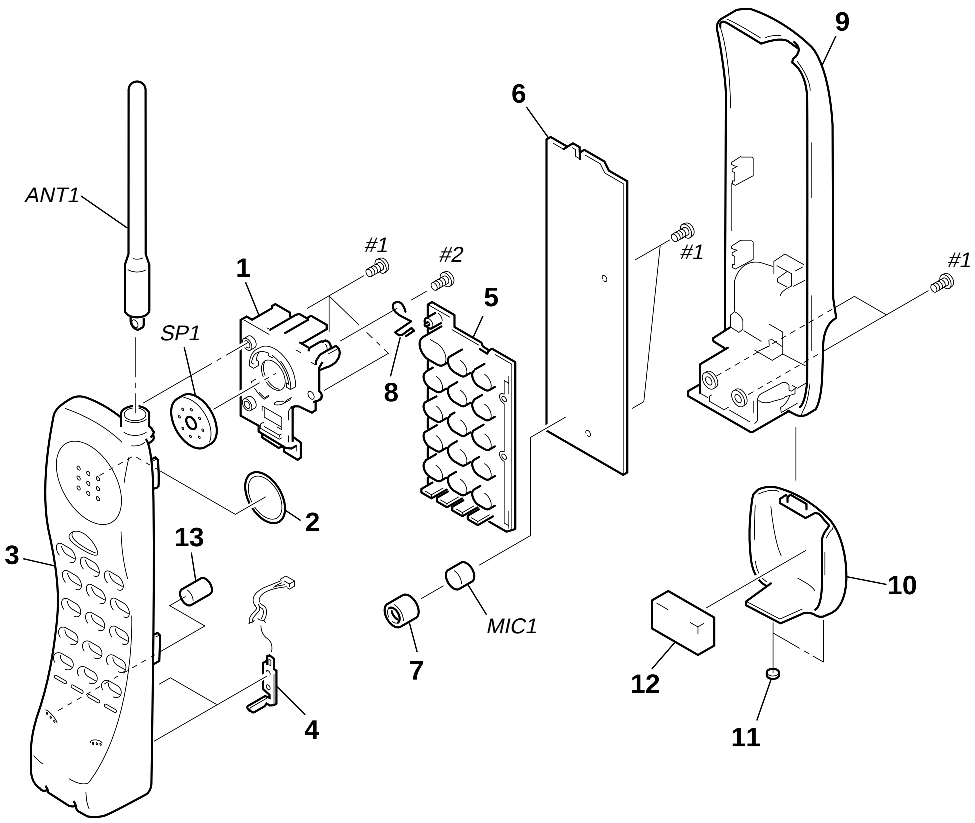
• IC501 SH66358C-4H77 (HANDSET CPU)

Pin No.	Pin Name	I/O	Function
1	TEST CH	O	Test mode channel control. L : ACT
2	KEY LED	O	Key LED ON/OFF control. L : ON
3	SIG-IN	I	RSSI, PLL-Lock signal input terminal.
4	PLL-STB	O	Strobe signal output to PLL.
5	PLL-DATA	O	Serial data output to PLL.
6	NC	–	Not uaed (Open).
7	PLL-CLK	O	Serial clock output to PLL.
8	RX-DATA	I	RX data input terminal.
9	TX-DATA	O	TX data output terminal.
10	TX-DATA	O	TX data output terminal.
11	BEEP	O	Beep signal output.
12	HOLD	I	Hold control input. L : Hold
13	TX +B CTRL	O	TX B+ ON/OFF control. L : TX ON
14	RX +B CTRL	O	RX B+ ON/OFF control. (not used:Open).
15	TEST	I	Test terminal (connect to ground).
16	VSS	–	Ground.
17	OSC1	I	Internal osillator (4.048MHz).
18	NC	–	Not used (Open).
19	NC	–	Not used (Open).
20	OSC2	O	External osillator (4.048MHz).
21	RESET	I	System reset terminal. L : Reset
22	ACT3	O	Intermittent reception activation control. L : ACT
23	ACT4	O	Intermittent reception activation control. L : ACT
24	COL0	I	Key input terminal.
25	COL1	I	Key input terminal.
26	COL2	I	Key input terminal.
27	COL3	I	Key input terminal.
28	MIC	O	MIC bias output control.
29	ROW1	O	Key scan output.
30	NC	–	Not used (Open).
31	ROW2	O	Key scan output.
32	ROW3	O	Key scan output.
33	ROW4	O	Key scan output.
34	ROW5	O	Key scan output.
35		–	Not used (Open).
36		–	Not used (Open).
37	BATT-LOW	I	Battery level signal input.
38	CHG-DET	I	Charge DET input terminal. H : DET
39	VDD	I	Power supply (+3V).
40	TEST SW	I	Test mode activation input. H : Start
41		–	Not used (connect to ground).
42	NC	–	Not used (Open).
43	NC	–	Not used (Open).
44	TEST ACT	I	During test mode,causes start of intermittent operation with external input.
45	RSSI H/L	O	RSSI sense H/L selector. L : Low sense
46	H • MUTE	O	Half mute control. L : Mute ON
47	BATT-DET	I	Battery detection input. H : DET
48	LED	O	Talk LED control. L : LED ON

SECTION 6
EXPLODED VIEWS

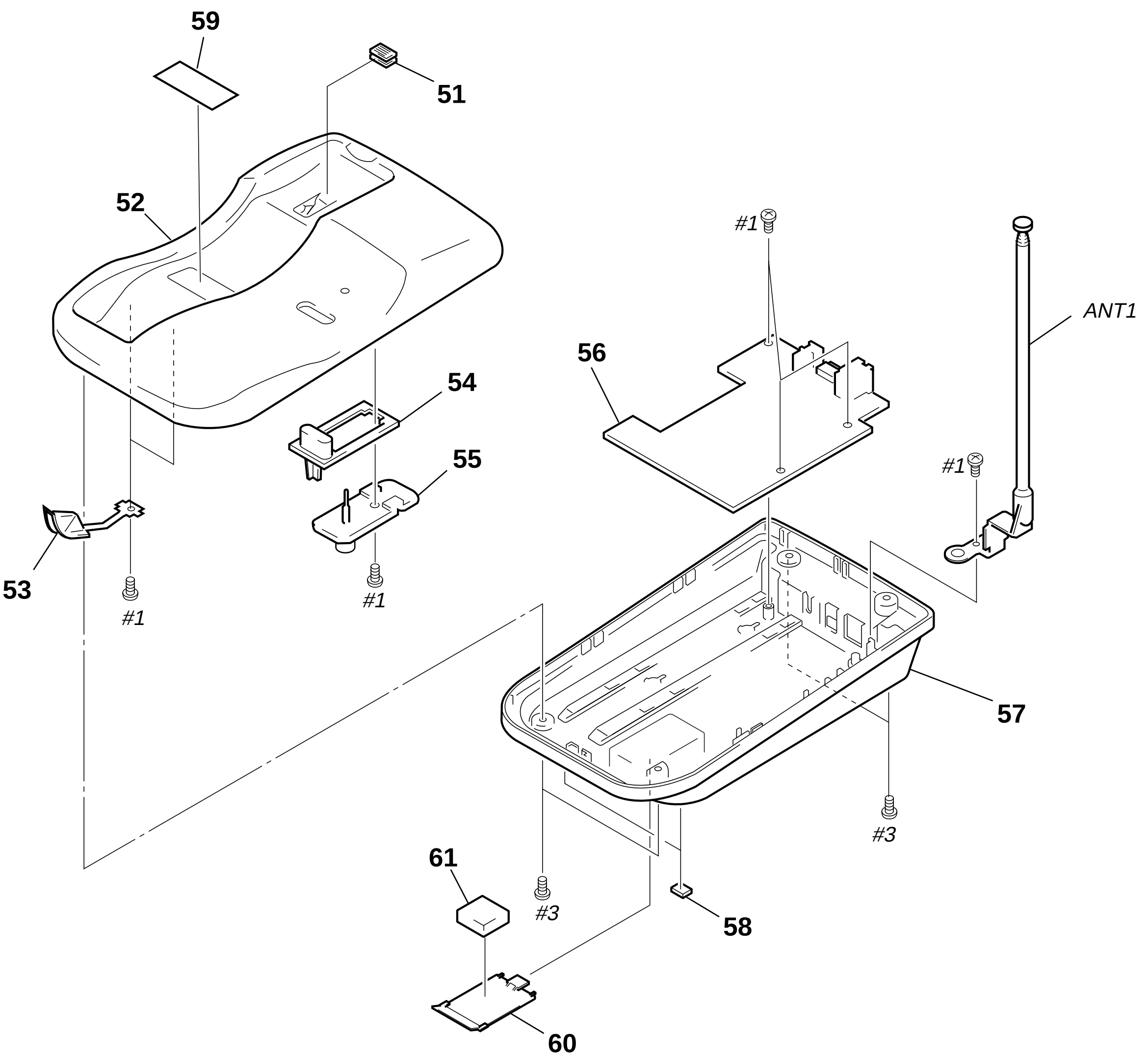
NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  E12 : E model (220-240V AREA)
  E92 : E model (120V AREA)

6-1. HANDSET SECTION



Ref. No.	Part No.	Description	Remark
1	3-024-411-01	HOLDER (SPEAKER)	
* 2	3-935-522-01	CUSHION (SP) (2)	
3	3-935-513-61	CABINET (FRONT)	
4	3-935-517-01	TERMINAL (CHARGE.H), CHARGE	
5	1-762-664-31	SWITCH, RUBBER KEY	
* 6	A-3672-562-A	HAND MAIN BOARD, COMPLETE	
7	3-935-518-01	CUSHION (MICROPHONE)	
8	3-939-070-01	TERMINAL, ANTENNA	
9	3-020-459-31	CABINET (REAR)	
10	3-935-515-41	LID, BATTERY CASE	
11	3-370-982-01	FOOT (H) (TWN), RUBBER	
12	3-935-520-01	CUSHION (BATTERY)	
13	3-939-071-01	SPONGE (MICROPHONE)	
ANT1	1-501-839-11	ANTENNA, HELICAL (HANDSET)	
MIC1	1-542-118-11	MICROPHONE, ELECTRET CONDENSER	
SP1	1-505-333-11	SPEAKER (2.1CM)	

6-2. BASE UNIT SECTION



Ref. No.	Part No.	Description	Remark
51	3-936-694-41	CLAW (WALL HOOK)	
52	3-020-458-61	CABINET (UPPER)	
53	3-936-695-01	TERMINAL (CHARGE)	
54	3-936-692-41	BUTTON (PAGE)	
55	3-936-693-01	LENS	
* 56	A-3672-564-A	BASE MAIN BOARD, COMPLETE (E12 MODEL)	
* 56	A-3672-565-A	BASE MAIN BOARD, COMPLETE (E92 MODEL)	

Ref. No.	Part No.	Description	Remark
57	3-029-151-01	CABINET (LOWER)	
58	3-936-696-21	FOOT, RUBBER	
59	3-007-173-01	LABEL (TERMINAL CAUTION) (/S)	
60	3-029-150-01	LID (BASE), BATTERY CASE	
61	3-029-154-01	CUSHION (BASE BATTERY)	
ANT1	1-501-511-11	ANTENNA, TELESCOPIC (BASE UNIT)	

SECTION 7
ELECTRICAL PARTS LIST

BASE MAIN

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μ A..., uPA...: μ PA..., uPB...: μ PB..., uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H
- Abbreviation
  E12 : E model (220-240V AREA)
  E92 : E model (120V AREA)

Ref. No.	Part No.	Description			Remark
*	A-3672-564-A	BASE MAIN BOARD, COMPLETE (E12 MODEL)			
		**************************			
*	A-3672-565-A	BASE MAIN BOARD, COMPLETE (E92 MODEL)			
		**************************			
		< BAND PASS >			
BPF1	1-233-692-11	FILTER, BAND PASS			
BPF51	1-239-918-11	FILTER, BAND PASS			
		< CAPACITOR >			
C51	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C52	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C53	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C54	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C55	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C56	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C57	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C58	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C59	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C60	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C61	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C62	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C63	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C64	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C65	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C66	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C67	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C68	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C69	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C70	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C71	1-163-224-11	CERAMIC CHIP	7PF	0.25PF	50V
C101	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C102	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C103	1-163-106-00	CERAMIC CHIP	36PF	5%	50V
C105	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C106	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C107	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C108	1-124-261-00	ELECT	10uF	20%	50V
C109	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C110	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C111	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C112	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C113	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C114	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C115	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C116	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V

Ref. No.	Part No.	Description			Remark
C117	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C118	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C122	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C123	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C125	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C127	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C128	1-124-261-00	ELECT	10uF	20%	50V
C129	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C130	1-104-396-11	ELECT	10uF	20%	16V
C131	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C133	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C134	1-104-396-11	ELECT	10uF	20%	16V
C135	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C136	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C137	1-104-396-11	ELECT	10uF	20%	16V
C138	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C201	1-136-193-11	FILM	0.47uF	10%	250V
C202	1-104-664-11	ELECT	47uF	20%	16V
C203	1-162-117-00	CERAMIC	100PF	10%	500V
C204	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C205	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C206	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C209	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C210	1-126-961-11	ELECT	2.2uF	20%	50V
C211	1-163-034-00	CERAMIC CHIP	0.033uF		50V
C301	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C302	1-104-664-11	ELECT	47uF	20%	16V
					(E92 MODEL)
C303	1-124-261-00	ELECT	10uF	20%	50V
C304	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C305	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C306	1-163-033-91	CERAMIC CHIP	0.022uF		50V
C401	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C502	1-126-934-11	ELECT	220uF	20%	16V
C503	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C504	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C505	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C506	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C601	1-163-033-00	CERAMIC CHIP	0.022uF		50V
					(E12 MODEL)
C602	1-164-336-11	CERAMIC CHIP	0.33uF		25V
					(E12 MODEL)
		< FILTER >			
CF101	1-767-418-11	FILTER, CERAMIC			
CF102	1-767-129-81	FILTER, CERAMIC			

BASE MAIN

Ref. No.	Part No.	Description				Remark
		< CONNECTOR >				
* CN301	1-568-951-11	PIN, CONNECTOR 2P				
CN601	1-766-180-11	PIN, CONNECTOR (PC BOARD) 2P				
		< DIODE >				
D1	8-719-991-33	DIODE 1SS133T-77				
D51	8-719-055-14	DIODE KV1832CTR3				
D101	8-719-991-33	DIODE 1SS133T-77				
D201	8-719-991-33	DIODE 1SS133T-77				
D203	8-719-109-89	DIODE RD5.6ESB2				
D204	8-719-109-89	DIODE RD5.6ESB2				
D205	8-719-991-33	DIODE 1SS133T-77				
D301	8-719-109-97	DIODE RD6.8ES-B2				
D401	8-719-059-87	DIODE SLR-342VRTB7 (CHARGE)				
D601	8-719-110-17	DIODE RD10ESB2 (E12 MODEL)				
D602	8-719-109-97	DIODE RD6.8ES-B2 (E12 MODEL)				
D701	8-719-991-33	DIODE 1SS133T-77				
D702	8-719-991-33	DIODE 1SS133T-77				
D703	8-719-983-62	DIODE MTZJ-T-72-3.3A				
		< FLUORESCENT INDICATOR >				
FL101	1-409-671-11	COIL, IFT				
		< IC >				
IC101	8-759-361-65	IC TB31223F				
IC301	8-759-082-66	IC S-80727AL-AQ-T1				
IC501	8-759-397-06	IC SB662106A-4H78-TLM				
		< JACK >				
J301	1-778-380-11	JACK,DC(POLARITY UNIFIED TYPE)(DC IN 9V)				
		< JUMPER RESISTOR >				
JR1	1-216-295-00	SHORT	0			
JR2	1-216-295-00	SHORT	0			
JR3	1-216-296-00	SHORT	0			
JR4	1-216-295-00	SHORT	0			
JR5	1-216-296-00	SHORT	0			
JR7	1-216-296-00	SHORT	0			
JR8	1-216-296-00	SHORT	0			
JR9	1-216-296-00	SHORT	0			
JR10	1-216-295-00	SHORT	0			
JR11	1-216-295-00	SHORT	0			
JR12	1-216-296-00	SHORT	0			
JR13	1-216-295-00	SHORT	0			
JR15	1-216-295-00	SHORT	0			
JR16	1-216-295-00	SHORT	0			
JR17	1-216-296-00	SHORT	0			
JR18	1-216-296-00	SHORT	0			
JR19	1-216-296-00	SHORT	0			
JR20	1-216-295-00	SHORT	0			
JR21	1-216-295-00	SHORT	0			
JR22	1-216-295-00	SHORT	0			
JR23	1-216-295-00	SHORT	0			
JR24	1-216-295-00	SHORT	0			
JR601	1-216-296-00	SHORT	0			
		< COIL >				
L1	1-414-108-11	INDUCTOR 0.68uH				
L51	1-408-958-21	INDUCTOR 1uH				
L52	1-411-884-11	COIL, OSC				
L101	1-409-798-11	COIL, OSC				
L501	1-408-958-21	INDUCTOR 1uH				
		< MODULAR JACK >				
MJ201	1-766-250-11	JACK, MODULAR (2C) 6P				
		< PHOTO INTERUPTER >				
PH201	8-719-156-73	PHOTO COUPLER PS2501-1LA				
		< TRANSISTOR >				
Q51	8-729-031-85	TRANSISTOR 2SC4365-34-TB				
Q52	8-729-031-86	TRANSISTOR 2SC3142-J3J4-TB				
Q54	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R				
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q202	8-729-106-68	TRANSISTOR 2SD1615A-GP				
Q301	8-729-106-68	TRANSISTOR 2SD1615A-GP				
Q302	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q402	8-729-106-68	TRANSISTOR 2SD1615A-GP				
Q403	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
Q601	8-729-106-68	TRANSISTOR 2SD1615A-GP (E12 MODEL)				
Q701	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R				
Q702	8-729-120-28	TRANSISTOR 2SC1623-L5L6				
		< RESISTOR >				
R51	1-216-037-00	METAL CHIP	330	5%	1/10W	
R52	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R53	1-216-037-00	METAL CHIP	330	5%	1/10W	
R54	1-216-025-00	RES,CHIP	100	5%	1/10W	
R55	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R57	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R58	1-216-049-00	RES,CHIP	1K	5%	1/10W	
R63	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R64	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R65	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R66	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R68	1-216-097-00	RES,CHIP	100K	5%	1/10W	
R69	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R101	1-216-095-00	METAL CHIP	82K	5%	1/10W	
R102	1-216-105-00	RES,CHIP	220K	5%	1/10W	
R103	1-216-105-00	RES,CHIP	220K	5%	1/10W	
R104	1-216-105-00	RES,CHIP	220K	5%	1/10W	
R105	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R106	1-216-095-00	METAL CHIP	82K	5%	1/10W	
R107	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R111	1-216-109-00	METAL CHIP	330K	5%	1/10W	
R112	1-216-097-00	RES,CHIP	100K	5%	1/10W	
R113	1-216-065-00	RES,CHIP	4.7K	5%	1/10W	
R114	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R115	1-216-089-00	RES,CHIP	47K	5%	1/10W	
R116	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R119	1-216-246-00	RES,CHIP	100K	5%	1/8W
R123	1-216-109-00	METAL CHIP	330K	5%	1/10W
R126	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W
R142	1-216-081-00	METAL CHIP	22K	5%	1/10W
R151	1-216-073-00	METAL CHIP	10K	5%	1/10W
R201	1-215-864-00	METAL OXIDE	150	5%	1W F
R202	1-215-877-11	METAL OXIDE	22K	5%	1W F
R204	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R205	1-216-097-00	RES,CHIP	100K	5%	1/10W
R206	1-216-174-00	RES,CHIP	100	5%	1/8W
R207	1-216-049-00	RES,CHIP	1K	5%	1/10W
R208	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R209	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R210	1-216-041-00	METAL CHIP	470	5%	1/10W
R211	1-216-172-00	METAL CHIP	82	5%	1/8W
R212	1-216-174-00	RES,CHIP	100	5%	1/8W
R213	1-216-174-00	RES,CHIP	100	5%	1/8W
R301	1-216-033-00	METAL CHIP	220	5%	1/10W
R302	1-216-041-00	METAL CHIP	470	5%	1/10W (E92 MODEL)
R305	1-216-097-00	RES,CHIP	100K	5%	1/10W
R306	1-216-097-00	RES,CHIP	100K	5%	1/10W
R307	1-216-113-00	METAL CHIP	470K	5%	1/10W
R308	1-216-097-00	RES,CHIP	100K	5%	1/10W
R309	1-216-097-00	RES,CHIP	100K	5%	1/10W
R310	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R401	1-216-190-00	RES,CHIP	470	5%	1/8W
R402	1-216-025-91	RES,CHIP	100	5%	1/10W
R403	1-216-005-00	METAL CHIP	15	5%	1/10W
R404	1-216-005-00	METAL CHIP	15	5%	1/10W
R405	1-216-025-00	RES,CHIP	100	5%	1/10W
R406	1-216-073-00	METAL CHIP	10K	5%	1/10W
R407	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (E92 MODEL)
R408	1-216-041-00	METAL CHIP	470	5%	1/10W
R409	1-216-017-00	RES,CHIP	47	5%	1/10W
R411	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R503	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-049-91	RES,CHIP	1K	5%	1/10W
R506	1-216-049-00	RES,CHIP	1K	5%	1/10W
R507	1-216-049-00	RES,CHIP	1K	5%	1/10W
R508	1-216-097-00	RES,CHIP	100K	5%	1/10W
R509	1-216-121-00	RES,CHIP	1M	5%	1/10W
R510	1-216-246-00	RES,CHIP	100K	5%	1/8W (E12 MODEL)
R511	1-216-097-00	RES,CHIP	100K	5%	1/10W
R513	1-216-075-00	METAL CHIP	12K	5%	1/10W
R514	1-216-073-00	METAL CHIP	10K	5%	1/10W
R515	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R523	1-216-097-00	RES,CHIP	100K	5%	1/10W
R524	1-216-097-00	RES,CHIP	100K	5%	1/10W
R525	1-216-097-00	RES,CHIP	100K	5%	1/10W
R526	1-216-097-00	RES,CHIP	100K	5%	1/10W
R527	1-216-097-00	RES,CHIP	100K	5%	1/10W
R528	1-216-097-00	RES,CHIP	100K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R601	1-249-415-11	CARBON	680	5%	1/4W F (E12 MODEL)
R602	1-249-415-11	CARBON	680	5%	1/4W F (E12 MODEL)
R603	1-249-415-11	CARBON	680	5%	1/4W F (E12 MODEL)
R701	1-216-017-00	METAL CHIP	47	5%	1/10W
R702	1-216-174-00	METAL CHIP	100	5%	1/10W
R703	1-216-085-00	METAL CHIP	33K	5%	1/10W
R704	1-216-041-00	METAL CHIP	470	5%	1/10W (E92 MODEL)
		< VARIABLE RESISTOR >			
RV101	1-241-770-11	RES, ADJ, CARBON 1M (RSSI (H))			
		< RELAY >			
RY201	1-755-150-11	RELAY (E92 MODEL)			
		< SWITCH >			
S301	1-571-977-11	SWITCH, TACTIL (PAGE)			
S302	1-692-991-11	SWITCH, SLIDE (DIAL MODE)			
		< TRANSFORMER >			
T201	1-429-648-11	TRANSFORMER, LINE			
		< ABSORBER >			
VAR101	1-533-751-11	ABSORBER, SURGE			
		< VIBRATOR >			
X101	1-760-325-11	VIBRATOR, CRYSTAL (10.22MHz)			
X501	1-760-324-11	VIBRATOR, CRYSTAL (4.048MHz)			

****

Ref. No.	Part No.	Description			Remark
*	A-3672-562-A	HAND MAIN BOARD, COMPLETE *************************			
	3-935-518-01	CUSHION (MICROPHONE)			
	3-939-070-01	TERMINAL, ANTENNA			
		< BAND PASS FILTER >			
BPF1	1-239-918-11	FILTER, BAND PASS			
BPF2	1-233-667-11	FILTER, BAND PASS			
BPF51	1-239-916-11	FILTER, BAND PASS			
		< BUZZER >			
BZ301	1-544-603-11	BUZZER			
		< CAPACITOR >			
C2	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C3	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C4	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C51	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C52	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C53	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C54	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C55	1-163-243-11	CERAMIC CHIP	47PF	5%	50V

HAND MAIN

Ref. No.	Part No.	Description			Remark
C56	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C57	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C58	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C59	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C60	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C61	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C62	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C63	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C64	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C65	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C66	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C67	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C69	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C101	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C102	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C103	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C105	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C106	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C107	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C108	1-124-261-00	ELECT	10uF	20%	50V
C109	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C110	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C111	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C112	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C113	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C116	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C117	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C118	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C119	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C120	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C121	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C122	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C123	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C125	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C127	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C128	1-104-396-11	ELECT	10uF	20%	16V
C129	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C130	1-104-396-11	ELECT	10uF	20%	16V
C131	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C132	1-104-396-11	ELECT	10uF	20%	16V
C133	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C134	1-126-245-11	ELECT	330uF	20%	6.3V
C136	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C137	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C138	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C140	1-104-396-11	ELECT	10uF	20%	16V
C141	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C142	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C143	1-162-638-11	CERAMIC CHIP	1uF		16V
C148	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C202	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C204	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C205	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C207	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C208	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C210	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V

Ref. No.	Part No.	Description			Remark
C501	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C505	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C511	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C513	1-163-104-00	CERAMIC CHIP	30PF	5%	50V
C514	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C515	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C516	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
		< FILTER >			
CF101	1-767-418-11	FILTER, CERAMIC			
CF102	1-767-129-81	FILTER, CERAMIC			
		< CONNECTOR >			
* CN101	1-568-951-11	PIN, CONNECTOR 2P			
CN201	1-766-180-11	PIN, CONNECTOR (PC BOARD) 2P			
* CN202	1-568-951-11	PIN, CONNECTOR 2P			
		< DIODE >			
D51	8-719-055-14	DIODE KV1832CTR3			
D101	8-719-055-14	DIODE KV1832CTR3			
D202	8-719-938-75	DIODE SB05-05CP			
D301	8-719-914-43	DIODE DAN202K			
D401	8-719-059-94	DIODE SML-010MT-T86			
D402	8-719-059-94	DIODE SML-010MT-T86			
D403	8-719-059-94	DIODE SML-010MT-T86			
D404	8-719-059-94	DIODE SML-010MT-T86			
D501	8-719-059-87	DIODE SLR-342VRTB7 (TALK/BATT LOW)			
D502	8-719-914-43	DIODE DAN202K			
D504	8-719-941-04	DIODE SB007-03CP			
		< FLUORESCENT INDICATOR >			
FL101	1-409-671-11	COIL, IFT			
		< IC >			
IC101	8-759-361-65	IC TB31223F			
IC201	8-759-082-66	IC S-80727AL-AQ-T1			
IC501	8-759-397-07	IC SH66358C-4H77			
		< JUMPER RESISTOR >			
JR101	1-216-296-00	SHORT	0		
JR102	1-216-296-00	SHORT	0		
JR103	1-216-296-00	SHORT	0		
JR104	1-216-296-00	SHORT	0		
JR105	1-216-296-00	SHORT	0		
JR106	1-216-296-00	SHORT	0		
JR108	1-216-296-00	SHORT	0		
JR110	1-216-296-00	SHORT	0		
JR111	1-216-296-00	SHORT	0		
JR112	1-216-296-00	SHORT	0		
JR113	1-216-296-00	SHORT	0		
JR114	1-216-296-00	SHORT	0		
JR115	1-216-296-00	SHORT	0		
JR116	1-216-296-00	SHORT	0		
JR117	1-216-296-00	SHORT	0		
JR119	1-216-296-00	SHORT	0		
JR124	1-216-296-00	SHORT	0		

Ref. No.	Part No.	Description			Remark
JR127	1-216-296-00	SHORT	0		
JR128	1-216-296-00	SHORT	0		
JR129	1-216-296-00	SHORT	0		
JR130	1-216-296-00	SHORT	0		
JR133	1-216-222-00	RES,CHIP	10K	5%	1/8W
JR134	1-216-296-00	SHORT	0		
JR135	1-216-296-00	SHORT	0		
JR136	1-216-296-00	SHORT	0		
JR137	1-216-296-00	SHORT	0		
JR138	1-216-296-00	SHORT	0		
JR140	1-216-296-00	SHORT	0		
		< COIL >			
L1	1-408-958-21	INDUCTOR 1uH			
L2	1-408-958-21	INDUCTOR 1uH			
L52	1-411-883-11	COIL, OSC			
L102	1-409-670-11	COIL, OSC			
		< MIC >			
MIC1	1-542-118-11	MICROPHONE, ELECTRET CONDENSER			
		< TRANSISTOR >			
Q1	8-729-031-86	TRANSISTOR 2SC3142-J3J4-TB			
Q51	8-729-031-85	TRANSISTOR 2SC4365-34-TB			
Q52	8-729-031-86	TRANSISTOR 2SC3142-J3J4-TB			
Q54	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q301	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q401	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q501	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q502	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
		< RESISTOR >			
R1	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R2	1-216-033-00	METAL CHIP	220	5%	1/10W
R3	1-216-025-00	RES,CHIP	100	5%	1/10W
R4	1-216-049-00	RES,CHIP	1K	5%	1/10W
R5	1-216-041-00	METAL CHIP	470	5%	1/10W
R51	1-216-017-00	RES,CHIP	47	5%	1/10W
R52	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R53	1-216-037-00	METAL CHIP	330	5%	1/10W
R54	1-216-025-00	RES,CHIP	100	5%	1/10W
R55	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R57	1-216-085-00	METAL CHIP	33K	5%	1/10W
R58	1-216-049-00	RES,CHIP	1K	5%	1/10W
R63	1-216-085-00	METAL CHIP	33K	5%	1/10W
R64	1-216-073-00	METAL CHIP	10K	5%	1/10W
R65	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R66	1-216-107-00	METAL CHIP	270K	5%	1/10W
R68	1-216-097-00	RES,CHIP	100K	5%	1/10W
R69	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R101	1-216-093-00	METAL CHIP	68K	5%	1/10W
R102	1-216-105-91	RES,CHIP	220K	5%	1/10W
R103	1-216-105-00	RES,CHIP	220K	5%	1/10W
R104	1-216-105-00	RES,CHIP	220K	5%	1/10W
R105	1-216-109-00	METAL CHIP	330K	5%	1/10W
R106	1-216-049-00	RES,CHIP	1K	5%	1/10W
R107	1-216-077-00	METAL CHIP	15K	5%	1/10W
R108	1-216-246-00	RES,CHIP	100K	5%	1/8W
R109	1-216-097-00	RES,CHIP	100K	5%	1/10W
R110	1-216-097-00	RES,CHIP	100K	5%	1/10W
R111	1-216-109-00	METAL CHIP	330K	5%	1/10W
R112	1-216-093-00	METAL CHIP	68K	5%	1/10W
R113	1-216-085-00	METAL CHIP	33K	5%	1/10W
R114	1-216-093-00	METAL CHIP	68K	5%	1/10W
R115	1-216-081-00	METAL CHIP	22K	5%	1/10W
R116	1-216-097-00	RES,CHIP	100K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
R119	1-216-121-00	RES,CHIP	1M	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R126	1-216-037-00	METAL CHIP	330	5%	1/10W
R127	1-216-085-00	METAL CHIP	33K	5%	1/10W
R128	1-216-085-00	METAL CHIP	33K	5%	1/10W
R130	1-216-081-00	METAL CHIP	22K	5%	1/10W
R141	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R142	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R201	1-216-295-00	SHORT	0		
R202	1-216-113-00	METAL CHIP	470K	5%	1/10W
R203	1-216-097-00	RES,CHIP	100K	5%	1/10W
R204	1-216-097-00	RES,CHIP	100K	5%	1/10W
R205	1-216-073-00	METAL CHIP	10K	5%	1/10W
R301	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R401	1-216-025-00	RES,CHIP	100	5%	1/10W
R402	1-216-025-00	RES,CHIP	100	5%	1/10W
R403	1-216-025-00	RES,CHIP	100	5%	1/10W
R404	1-216-025-00	RES,CHIP	100	5%	1/10W
R405	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R501	1-216-073-00	METAL CHIP	10K	5%	1/10W
R502	1-216-073-00	METAL CHIP	10K	5%	1/10W
R503	1-216-073-00	METAL CHIP	10K	5%	1/10W
R504	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-073-00	METAL CHIP	10K	5%	1/10W
R506	1-216-097-00	RES,CHIP	100K	5%	1/10W
R507	1-216-041-00	METAL CHIP	470	5%	1/10W
R508	1-216-097-00	RES,CHIP	100K	5%	1/10W
R509	1-216-097-00	RES,CHIP	100K	5%	1/10W
R510	1-216-097-00	RES,CHIP	100K	5%	1/10W
R511	1-216-097-00	RES,CHIP	100K	5%	1/10W (E92 MODEL)
R512	1-216-049-00	RES,CHIP	1K	5%	1/10W
R513	1-216-049-00	RES,CHIP	1K	5%	1/10W
R514	1-216-049-00	RES,CHIP	1K	5%	1/10W
R515	1-216-073-00	METAL CHIP	10K	5%	1/10W
R518	1-216-073-00	METAL CHIP	10K	5%	1/10W
R519	1-216-073-00	METAL CHIP	10K	5%	1/10W
R520	1-216-121-00	RES,CHIP	1M	5%	1/10W
R521	1-216-097-00	RES,CHIP	100K	5%	1/10W
R522	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R532	1-216-073-00	METAL CHIP	10K	5%	1/10W
R533	1-216-097-00	RES,CHIP	100K	5%	1/10W
R534	1-216-097-00	RES,CHIP	100K	5%	1/10W
R541	1-216-117-00	METAL CHIP	680K	5%	1/10W
R555	1-216-097-00	RES,CHIP	100K	5%	1/10W

HAND MAIN

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV101	1-223-387-21	RES, ADJ, CARBON 330K (RSSI (H))	
		< VIBRATOR >	
X101	1-760-326-11	VIBRATOR, CRYSTAL (10.2MHz)	
X501	1-760-324-11	VIBRATOR, CRYSTAL (4.048MHz)	

****

MISCELLANEOUS
****

5	1-762-664-31	SWITCH, RUBBER KEY	
ANT1	1-501-511-11	ANTENNA, TELESCOPIC (BASE UNIT)	
ANT1	1-501-839-11	ANTENNA, HELICAL (HANDSET)	
MIC1	1-542-118-11	MICROPHONE, ELECTRET CONDENSER	
SP1	1-505-333-11	SPEAKER (2.1CM)	

****

ACCESSORIES & PACKING MATERIALS
****

⚠	1-473-708-11	ADAPTOR, AC (AC-T56)(E92 MODEL)	
⚠	1-475-210-11	ADAPTOR, AC (AC-T56)(E12 MODEL)	
	1-528-710-12	BATTERY,NICKEL CADMIUM(BP-T16)	
	1-696-454-11	CORD (WITH MODULAR PLUG)(LINE)	
	3-864-676-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH)	
	3-864-676-21	MANUAL, INSTRUCTION (PORTUGUESE, CHINESE)	
	3-906-289-01	SCREW, STEP TAPPING (A)	
	3-936-680-01	LABEL (ADRESS)	

****

****
HARDWARE LIST
****

#1	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#2	7-685-136-19	SCREW +BTP 2.6X12 TYPE2 N-S	
#3	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Sony Corporation
9-926-021-11
Personal & Mobile Communication Company
98I090221-1
Printed in Japan © 1998. 9
Published by Quality Assurance Dept.