# Trouble shooting guide, Mechanical

Applicable for Z600, Z608

**Contents:**

# 1 Explanations

## 1.1 Service functions in the software

The service menu will be accessed with the following key combination. Use the keys.

⇒*⇐⇐*⇐*

They are as follows:

**Service info**

**Service settings**

**Service tests**

**Text labels**

The phones software has a built in service functionality that allows you to test some of the phones functions. *(See point 3 above)* It looks like this:

**Display**

**Camera**

**LED/illumination**

**Keyboard**

**Polyphonic**

**Vibrator**

**Earphone**

**Microphone**

**Real time clock**

**Total call time**

### 1.1.1 Reset

The phones software has a possibility to reset the language and themes by pressing the following key combinations:

⇐**0000**⇒ (This combination will reset the language to English and sets the themes to default)
⇐**8888**⇒ (This combination will reset the language to automatic and sets the themes to default.)

## 1.2 Liquid damage

### 1.2.1 Sticker

In the phone there is placed a sticker that can give you a hint to see if the phone is damage by liquid or not. This sticker is located near the SIM reader *(Fig. 1.1)* and it is possible to see it without disassemble the phone.

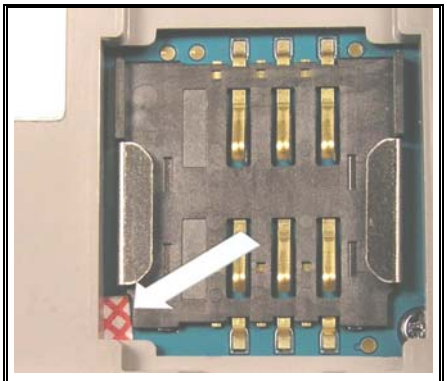

**Fig. 1.1**

On the pictures below you will see the different between a sticker that has been in contact with water *(Fig. 1.3)* and with on that hasn't *(Fig. 1.2)*.

**This sticker is ok**

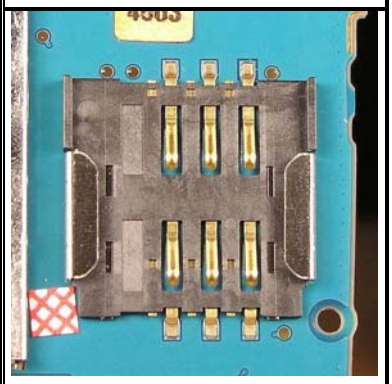

**Fig. 1.2**

This sticker has not been in contact with liquid.

**This sticker <u>is not</u> ok**

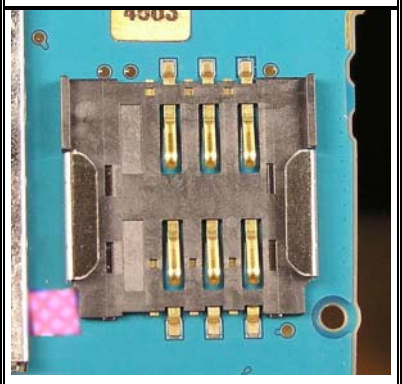

**Fig. 1.3**

This sticker has been in contact with liquid. As you can see the red dots has turn into pink dots. In this case you should check the phone for liquid damage *(See point 1.2.2)*.

## 1.2.2 Action

Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged phone. Handle the unit according to local company or GSP directives.

# 2 Appearance Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Check the cabinet upper rear assy. *(Fig. 2.1)*, cabinet upper front assy. *(Fig. 2.2)*, for damage and if the parts fit correct. Replace faulty components if necessary.
- Check the cabinet lower rear assy. *(Fig. 2.3)* and cabinet lower front assy. *(Fig. 2.4)*, for damage and if the parts fit correct. Replace faulty components if necessary.
- Check the cover, hinge right and left and the cover hinge back *(Fig. 2.5)*
- Check the rubber key (keyboard) *(Fig. 2.4)* for damage, scratches, and that no key occurs more than ones do. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.


**Fig. 2.1**


**Fig. 2.2**

**Fig. 2.3**


**Fig. 2.4**

**Fig. 2.5**

# 3 Alert Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

## 3.1 Vibrator

- Turn on the phone. Go to the service test menu; choose “Vibrator”. Press any key to check the vibrator works properly.
- Check if the vibrator pads *(Fig. 3.1)* are dirty or oxidized. Clean them if necessary.
- Check if the vibrator *(Fig. 3.2)* is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, handle the unit according to the local company or the GSP directives.

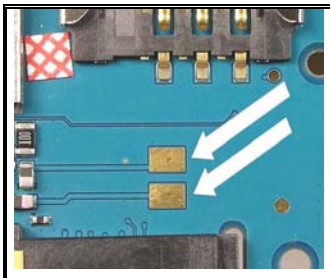

**Fig. 3.1**

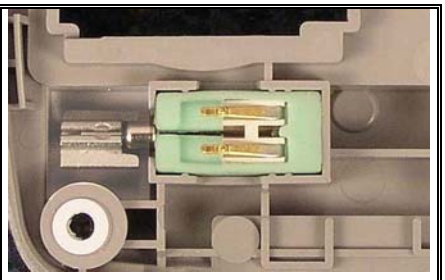

**Fig. 3.2**

## 3.2 Polyphonic

- Turn on the phone. Go to the service test menu; choose “Polyphonic”. Press any key to check the polyphonic ring signal works properly.
- Check if the speaker 10x15mm and the flex film *(Fig. 3.3)* are mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the pogo pin *(Fig. 3.4)* is dirty or oxidized. Clean it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

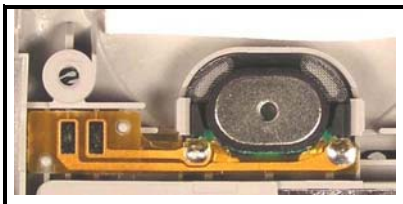

**Fig. 3.3**

**Fig. 3.4**

# 4 Audio Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

## 4.1 Earphone problems

- Turn on the phone. Go to the service test menu; choose “Earphone” press any key to check the speaker works properly.
- Check if the speaker (10mm) *(Fig 4.1)* is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the hinge flex mount *(Fig. 4.2)* is mechanical damaged, dirty or oxidized. Replace it is necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

**Fig. 4.1**

**Fig. 4.2**

## 4.2 Microphone problems

- Turn on the phone. Go to the service test menu; choose “Microphone” *(an audio loop is activated)*. Check if the microphone works properly.
- Check if the microphone pads *(Fig. 4.3)* are dirty or oxidized. Clean it if necessary.
- Check if the microphone *(Fig. 4.4)* is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

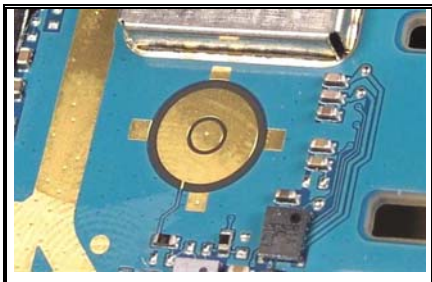

**Fig. 4.3**

**Fig. 4.4**

# 5 Charging/Capacity Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

## 5.1 Charging

- Insert a working battery and connect a working charger to the phone. If the battery voltage is too low the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD.
- Check if the system connector *(Fig. 5.1)* is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

## 5.2 Capacity

- The standby time will be reduced if, the light is turned on all the time, the bluetooth is turned on, or if the infrared is turned on.

# 6 Data Communication Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- If there is a problem with the communication through the system connector, e.g. if it is not possible to synchronizing with MS Outlook, check if the system connector *(Fig. 5.1)* is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

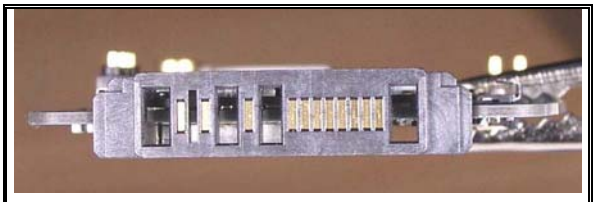

**Fig. 5.1**

# 7 Key/Flip Problem

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

## 7.1 Side keys

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the side keys. The pressed key will be indicated in the LCD and a click is heard (no click is heard for the volume keys).
- Check if the volume keys *(Fig. 7.1)* and the camera key *(Fig.7.2)* are working properly and the mechanically response feels normal. Replace the faulty component if necessary.
- Check if the key dome *(Fig. 7.4)* is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

**Fig. 7.1**

**Fig. 7.2**

## 7.2 Keyboard

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the keys. The pressed key will be indicated in the LCD and a click is heard.
- Check if the mechanically response feels normal and that all the keys have been showed in the LCD.
- Check if the rubber key (keyboard) *(Fig. 7.3)* is mechanical damaged or dirty. Replace it if necessary.
- Check if the key dome *(Fig. 7.4)* is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

**Fig. 7.3**

**Fig. 7.4**

## 7.3 Flip/Hinge

- Check if the phone can open and close; check that it closes tight together. Replace the hinges if necessary.
- Check if the bumper's *(Fig. 7.5)* is mechanical damaged. Replace them if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

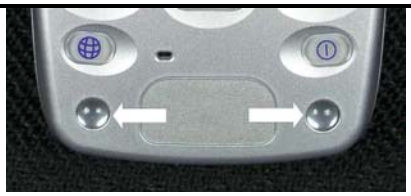

**Fig. 7.5**

# 8 LCD/Illumination Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Check if the hinge flex mount *(Fig. 8.1)* is mechanical damaged, dirty or oxidized. Replace it is necessary.

**Fig. 8.1**

## 8.1 LCD

### 8.1.1 Main LCD

- Turn on the phone. Go to service test menu; choose “Display”. You should see a colour pattern in the main LCD.
- Check if the main LCD works properly and if there are missing lines or discolours. Replace it if necessary.
- Check if the main LCD flex-film is fitting correct into the FPC connector *(Fig. 8.2)* and check if the FPC connector is closed.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

Note: When replacing the main LCD the contrast should be checked. If necessary, adjust the contrast in the service settings menu. Remember to store the setting with “SAVE”.

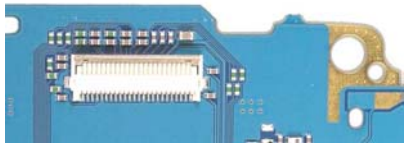

**Fig. 8.2**

### 8.1.2 Sub LCD

- Turn on the phone.
- Check if the sub LCD works properly and if there are missing lines. Replace it if necessary.
- Check if the sub LCD flex-film is fitting correct into the FPC connector *(Fig. 8.3)* and check if the FPC connector is closed.

- Check if the FFC/FPC-connector, sub LCD *(Fig. 8.3)* is mechanical damaged, dirty or oxidized. Replace sub LCD if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

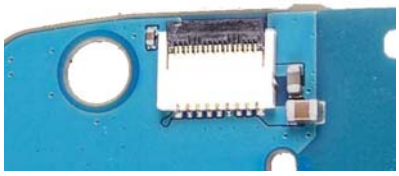

**Fig. 8.3**

## 8.2 Illumination

- Turn on the phone. Go to service test menu; choose “LED/Illumination”. The illumination should start blinking ~1Hz.

### 8.2.1 Main LCD

- Check if the main LCD is lighting up properly.
- Check if the main LCD flex-film is fitting correct into the FPC connector *(Fig. 8.1)* and check if the FPC connector is closed.

Note: When replacing the LCD the contrast should be checked. If necessary, adjust the contrast in the service settings menu. Remember to store the setting with “SAVE”.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

### 8.2.2 Keyboard

- Check if the entire 18 key LED’s are lighting in the same strength. Replace the key dome *(Fig. 8.4)* if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

**Fig. 8.4**

# 9 Network Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Insert a correct working SIM-card in the phone and turn it on. Check if the phone gets service and if the signal strength indicator shows a correct value at the display. Compare the value with a working phone.
- Check if the internal coaxial connector cable *(Fig. 9.1)* is mechanical damaged and oxidized. Replace it is necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

**Fig. 9.1**

# 10 On/Off Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

## 10.1 Battery

- Insert a working battery and connect a working charger to the phone. If the battery voltage is too low the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD.
- Check if the battery pads *(Fig. 10.1)* are mechanical damaged, dirty or oxidized. Replace the battery if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

**Fig. 10.1**

## 10.2 On/Off key

- Insert a fully charged battery and turn the phone on. If it fails;
- Check if the rubber key (Keypad) *(Fig. 10.2)* is mechanical damaged or dirty. Replace it if necessary.
- Check if the key dome *(Fig. 10.3)* is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

**Fig. 10.2**

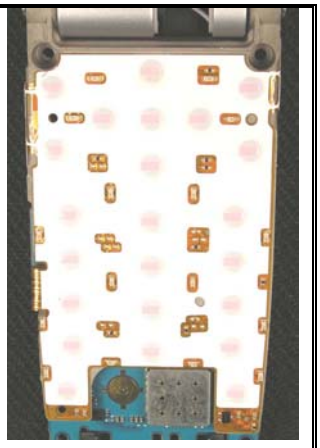

**Fig. 10.3**

# 11 SIM-problem

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Insert a SIM card with known function. If the display shows “Insert card”, there is a SIM problem, if it shows “Insert correct card”, the phone might be SIM locked in this case try to use a test SIM card.
- Check if the SIM-reader *(Fig. 11.1)* is dirty or oxidized. Clean it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

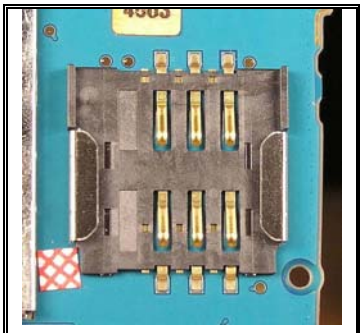

**Fig. 11.1**

# 12 Other Problems

## 12.1 Camera Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Turn on the phone. Go to the service test menu; choose “Camera”. The viewfinder will be visible in the LCD.
- Check if the camera module *(Fig. 12.1)* is working properly; verify the viewfinder functionality in the LCD. Check if there are black spots and if the picture is in focus. Replace the camera module if necessary.
- Check if the camera holder *(Fig. 12.2)* is mechanical damaged. Replace it if necessary.

Note: When replacing the camera module, check if the camera holder *(Fig. 12.2)* is damaged in any way. Replace it if necessary.

- Check if the hinge flex mount *(Fig. 12.3)* is mechanical damaged, dirty or oxidized. Replace it is necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

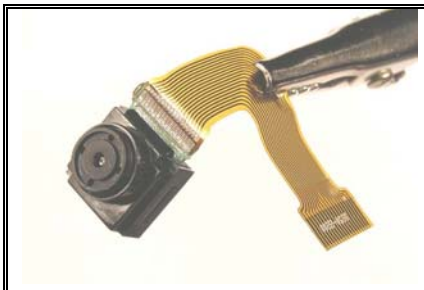

**Fig. 12.1**

**Fig. 12.2**

**Fig. 12.3**

# 13 Software Problems

- If there are problems with the response of the keypad commands, or spelling errors in the menu and the failure is not related to mechanical damage, make a master reset and flash the phone with the latest software from EMMA II.
- Checking the software revision can be done in the Service info, see chapter *Service functions in the software*.
  Choose: Service info / SW information.
  The Software revision and date will be indicated in the display.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

# 14 Revision History

| Rev. | Date | Changes / Comments |
|---|---|---|
| A | 2003-09-17 | First release |