Trouble Shooting Guide, SP/Mechanical

Applicable for Z200/Z208

NOTE: Latest information (latest Rev.) are marked in Blue.

Contents

4/00021-1/FEA 209 544/81 C

1 Explanations

The Go / No Go test has to be performed with a mounted phone.

1.1 Service function in the software

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

→ □ ← ← □ ← □

There are as follows:

1. Service info
2. Service settings
3. Service tests
4. Text labels

In the software of the phone there is a built in service functionality that allows you to test some of the functions of the phone. (See point 3 above) This is how it looks:

1. Display
2. LED/Illumination
3. Keyboard
4. Buzzer
5. Earphone
6. Microphone
7. Vibrator
8. Real time clock
9. Flip counter
10. Total call time

1.2 Liquid damage

1.2.1 Water Damage Indicator

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

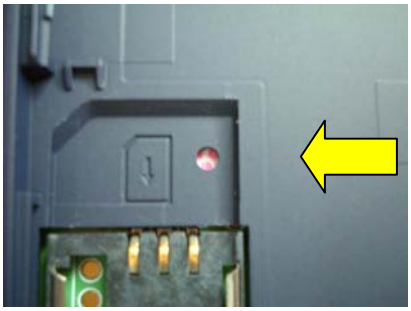

Fig1.1

On the pictures below you will see the difference between a Water Damage Indicator that has been in contact with liquid (Fig.1.3) and one which has not been exposed to liquid (Fig.1.2)

This Water Damage Indicator has not been in contact with liquid.

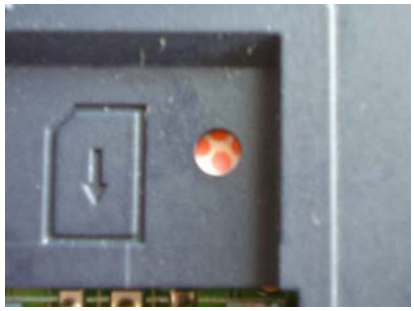

Fig1.2

This Water Damage Indicator has been in contact with liquid. The colour has been changed, the red dots has turn into pink dots. In this case you should check the phone for liquid damage.

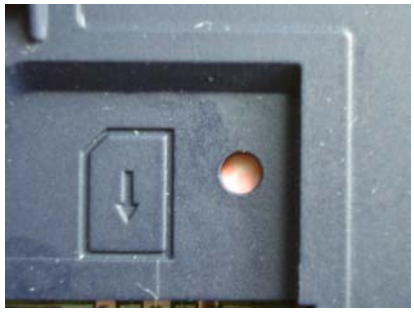

Fig1.3

1.2.2 Action

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

2 Network Problems

- Make a general visual inspection for corrosion, oxidation or mechanical damage according to point 1.2.
- Check that the antenna flex film is properly fitted and undamaged, dirty, or oxidized. (Fig.2.1). Replace the Rear Cover Assy if necessary.
- Check that the Antenna Connector (Fig 2.2) is not mechanical damaged, dirty or oxidized. Clean it if necessary.
- Check that the Antenna Connector and Antenna Flex film (Fig2.3) is well connected.

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

Fig 2.1

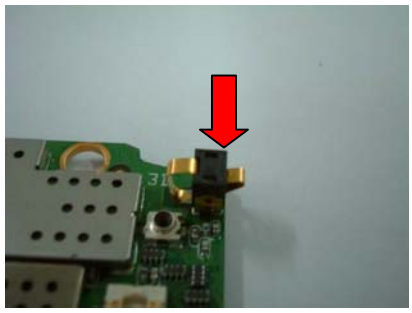

Fig 2.2

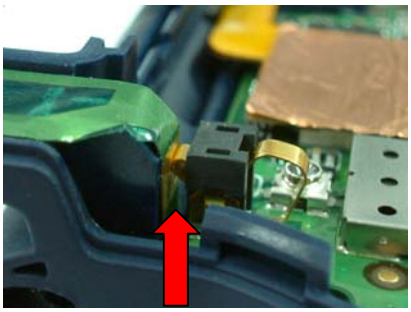

Fig2.3

3 On/Off problems

- Make a general visual inspection for oxidation, corrosion or liquid damage according to point 1.2.
- Check that the battery pads (Fig.3.1.) are not mechanical damaged, dirty or oxidized. If necessary replace the battery.
- Check that the Battery Connectors (Fig.3.2.) are not mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check the Keypad or Dome Foil or “On” key (Fig.3.3) is not mechanical damaged dirty or oxidized. Replace or clean it if necessary.
- Check that the System Connector (Fig.3.4) is not incorrectly soldered, mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check that the battery connector pads (Fig.3.5.) are not dirty or oxidized. Clean them if necessary.
- Check that the Flex film (BTB to FPC) is connection well. Re-assembly it if necessary.
- Check that the BTB connector (Fig3.6) and Flex film (BTB to FPC) (Fig.3.7) are not incorrectly soldered, mechanical damaged, dirty or oxidized. Clean or Replace it if necessary.

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

Fig.3.1

Fig.3.2

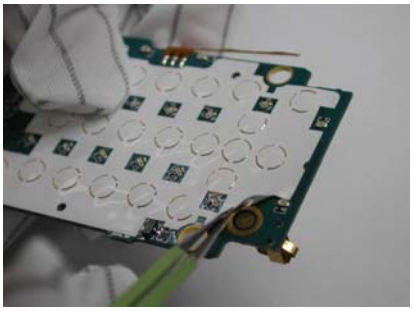

Fig.3.3

Fig.3.4

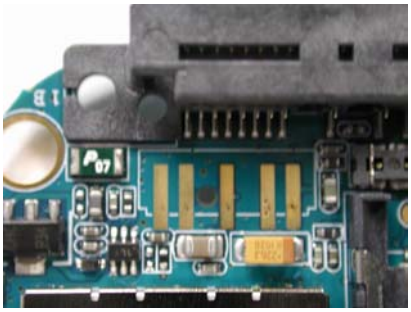

Fig.3.5

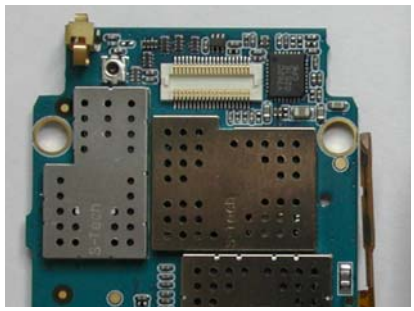

Fig 3.6

Fig 3.7

4 Audio problems

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

4.1 Earphone Assy

- Turn on the phone. Go to service test menu; choose “5.Earphone” press any key to check that the Earphone Assy is working properly.
- Check that the Earphone Assy pads (Fig 4.1) are not dirty or oxidized. Clean them if needed.
- Check that the Earphone Assy (Fig.4.2) is not mechanical damaged, dirty or oxidized. Replace it if necessary.

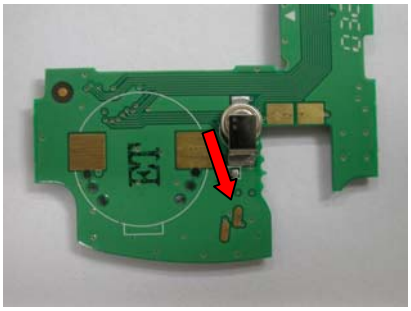

Fig.4.1

Fig.4.2

4.2 Microphone Assy

- Turn on the phone. Go to service test menu; choose “6.Microphone” (an audio loop is activated) check that the Microphone Assy is working properly.
- Check that the Microphone Connector (Fig.4.3) is not oxidized. Clean it if necessary.
- Check that the Microphone Assy (Fig.4.4) is not mechanical damaged, dirty or oxidized. Replace it if necessary.

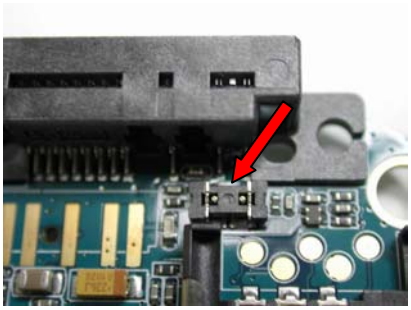

Fig.4.3

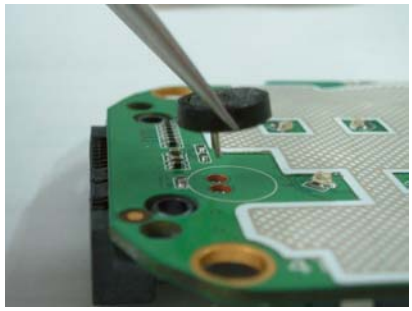

Fig.4.4

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

5 Display/Illumination problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2.
- Turn the phone on. Check the LCD and the illumination. The illumination is lightened when the phone starts and will continue for approximately 20 seconds if the settings/Display/Light/Automatic is selected.
- Turn the phone on. Go to service test menu; choose “1.Display”. You should see a pattern, check that no lines or pixels are missing, and that there is no discolouration. If necessary replace the Main Display Assy.
- If all segments are missing check that the LCD connector (Fig.5.1 & Fig.5.2) and Flex film (BTB to FPC) (Fig 5.3) are not mechanical damaged, dirty or oxidized. Replace the Upper PCB Assy (Fig 5.4) or Flex film (BTB to FPC) if necessary.
- Turn the phone on. Go to service test menu; choose “2.LED/Illumination”. The illumination should start flashing~1Hz.
- Check that all 16 Keypad LEDs have the same illumination strength.
- Check that both Displays are lighting up properly. Replace the Upper PCB Assy or the Main Display if necessary.
- Check that the top led is flashing (red light).

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

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

Fig.5.1

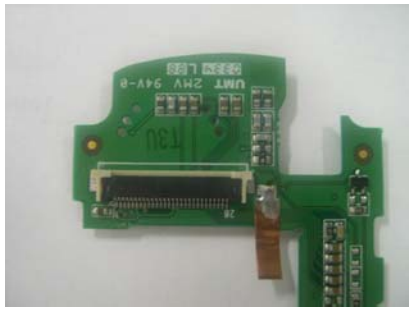

Fig.5.2

Fig 5.3

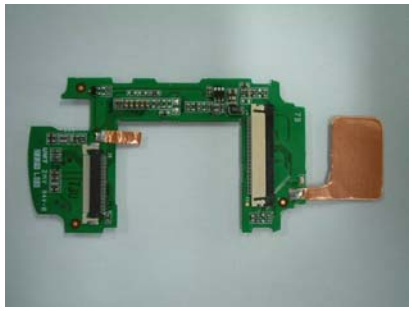

Fig 5.4

6 Capacity/Charging Problems

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

6.1 Charging

- Insert a working battery and connect a working charger to the phone. If the battery voltage is too low, you must 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 display.
- Check that the system connector (Fig.5.1) is incorrectly soldered, not mechanical damaged, 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.5.1

6.2 Capacity

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

7 SIM Problems

- 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 use a test SIM card.
- Check that the SIM reader (Fig.7.1) is incorrectly soldered, not mechanical damaged, dirty or oxidized. Clean or re-solder it if necessary.

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

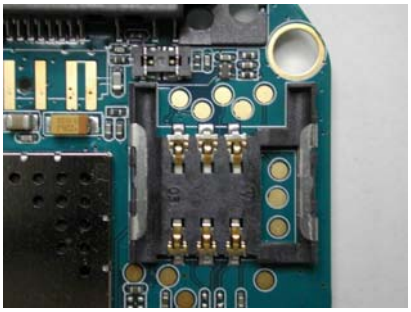

Fig.7.1

8 Key Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2.
- Turn the phone on. Go to service test menu, choose “3.Keyboard”. Press all the buttons. The pressed key will be shown in the Main Display.
- Check that the mechanical response feels normal, and that all the keys had been shown in the display. If necessary replace the dome foil (Fig.8.1.).
- Turn the phone on. Go to service test menu; choose “3.Keyboard”. Check the Sidekey (no click should be heard). Check that the mechanical response feels normal.
- Check that the Sidekey not mechanical damaged.
- Check that the Sidekey PCB (Fig.8.2.) is incorrectly soldered, not mechanical damaged, dirty or oxidized.
- If the Dome Foil will be replaced, make sure that the surface on the PCB is cleaned, remove glue and dust from the PCB Surface.
- If only the On bottom active, please measure the voltage of keyboard bottom (Fig8.3), it should be 3.0V, if the voltage is only 1.5V, re-solder or replace the Sidekey PCB (Fig8.2).

If the fault still remains, send the unit on according to the local company directives.

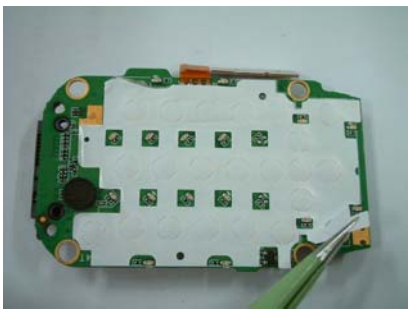

Fig.8.1

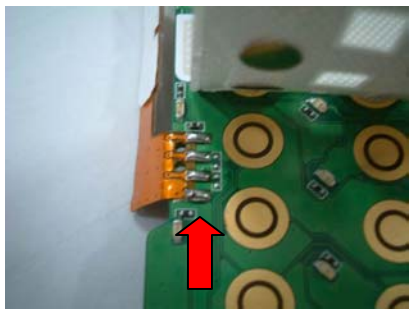

Fig.8.2

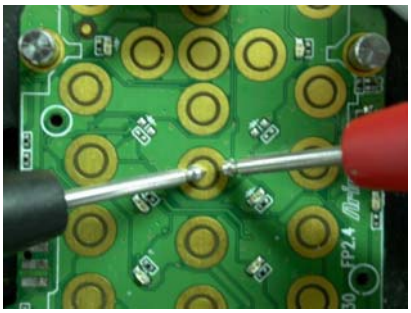

Fig 8.3

9 Alert Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2.
- Turn on the phone. Go to service test menu; choose “4.Buzzer” use the joystick or the Side key to increase or decrease the ring volume. Check that all steps are working properly (the tune heard is the selected one in the menu).
- Check that the Loudspeaker (Polyphonic) Assy (Fig.9.1) is not mechanical damaged, dirty or oxidized. Replace it necessary.
- Check that Loudspeaker (Polyphonic) Assy pads (Fig.9.2) are not dirty or oxidized. Clean them if necessary.
- Turn on the phone. Go to service test menu; choose “7.Vibrator” press any key to check if the vibrator is working properly.
- Check that the Vibrator Assy (Fig.9.3) is not mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check that the vibrator pads on the PCB (Fig.9.4) are not dirty or oxidized. Clean them if necessary.

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

Fig.9.1

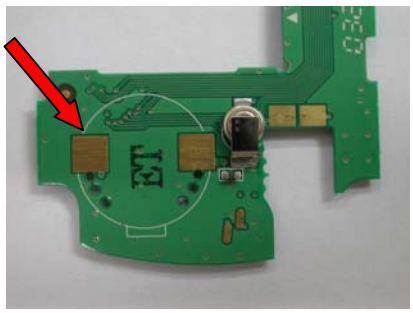

Fig.9.2

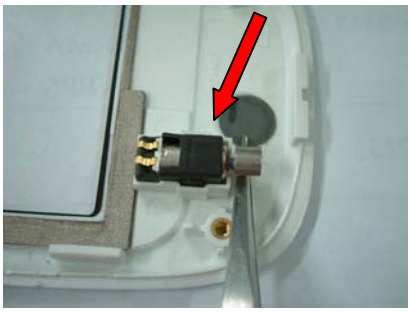

Fig.9.3

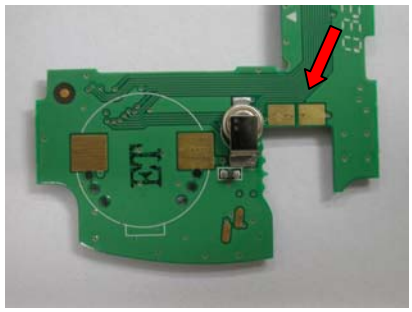

Fig.9.4

10 Data Communication Problems

If no communication is accomplished with the system connector:

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2.
- Check that the system connector (Fig.10.1.) is incorrectly soldered, not mechanical damaged, dirty or oxidized. Clean it if necessary.

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

Fig.10.1

11 Infrared Port Problems

If no communication is accomplished with the Infrared port:

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2.
- Check there is no dust, or dirt in the IrDA window, Clean it if necessary.
- Check that the IrDA window is not scratched or damaged. Replace it if necessary.

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

12 Flip Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2.
- Turn on the phone. Go to service test menu; choose “9.Flip Counter”. Open the shell; the flip counter value will be increased in the display.
- If the back ground light is turned on when the shell is closed, or if the Main display takes long time to load up when the shell is opened, reverse the magnet according to the Working Instruction.
- Check that the magnet (Fig.12.1.) is not mechanical damaged, dirty or oxidized. Replace the Upper inside Cover Assy if necessary.

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

Fig.12.1

13 Software Problems

- If there are problems with the response of the key board commands or spelling errors in the menu, which are 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 are shown in the display.

If the fault still remains, send the unit on, according to the local company directives.

14 Revision History

Rev.	Date	Changes / Comments
A	2003-10-30	First release
B	2004-04-29	Updated chapter Flip problem
C	2004-07-28	Updated chapter On/Off (page 5 “Flex film”, BTB” connector”). Chapter SIM problems (page 10 “SIM reader”). Chapter Key Problems (page 11)

NOTE: The latest made changes (found in the latest Rev) are marked in BLUE. This will make it easier to find the relevant changes from last Rev. So this does not mean that they are more important than other information what so ever, only a way to make it easier to find it.