

Trouble Shooting Guide, Mechanical

Applicable for V800, V802se, Z800i

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1 Explanations

1.1 Service functions in the software

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

⇒*←←*←*

They are as follows:

Service info

Service tests

Text labels

The phones software service can do a functionality test of the following parts in the phone:

Main display

External display

Camera

LED/illumination

Flash LED

Keyboard

Vibrator

Earphone

Speaker

Microphone

Real time clock

Total call time

Memory Stick

1.2 Misuse and other no warranty issues

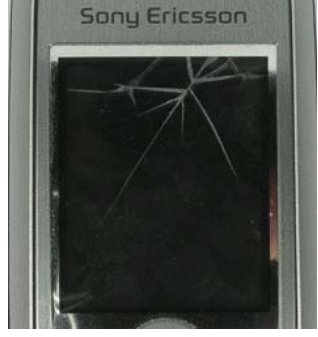


This chapter will explain what is not covered by warranty.


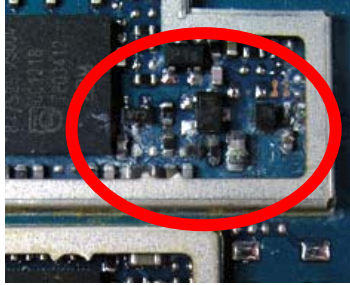
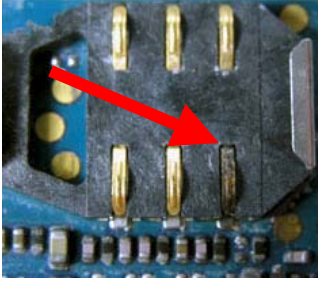
Phones that have been exposed to misuse will not be covered by warranty. If the phone is repairable, the customer will have to pay for it. SEMC will not allow any of these phones to be claimed into WCMS. Some local perspectives may interfere with this. Please reference to local directives.

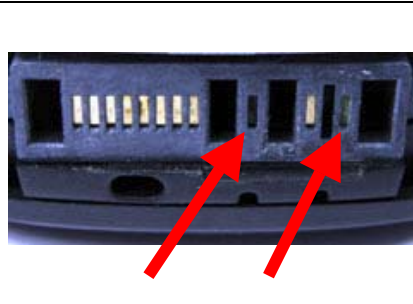
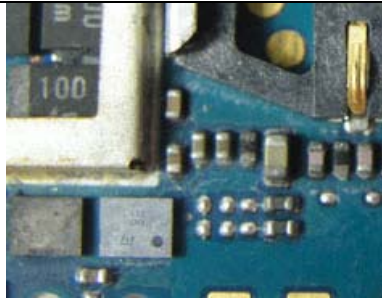
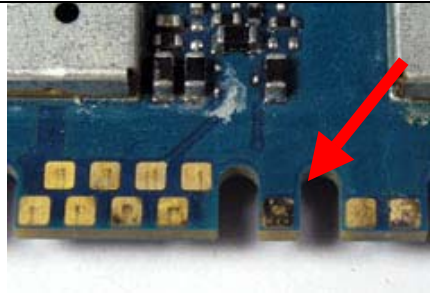
1.2.1 Action

Make a general visual inspection for misuse.

Below are some examples of what is not covered by warranty.

		
Front window broken due to misuse.	LCD cracked due to drop.	Clear scratches

		
Corrosion components on the PCB.	Corrosion components on the PCB.	SIM reader damaged by liquid.

		
System connector damaged by liquid	Components around system connector damaged by liquid	System connector pad(s) damaged by liquid

1.2.2 Liquid damage sticker

There are stickers placed in the phone that can give you the possibility to see if the phone is damage by liquid or not. One of these stickers is located near the SIM reader (Fig. 1.2.1) and it is possible to see it without disassemble the phone.

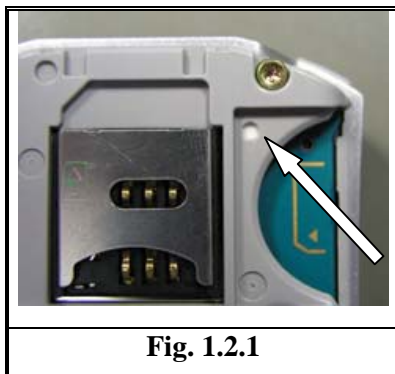
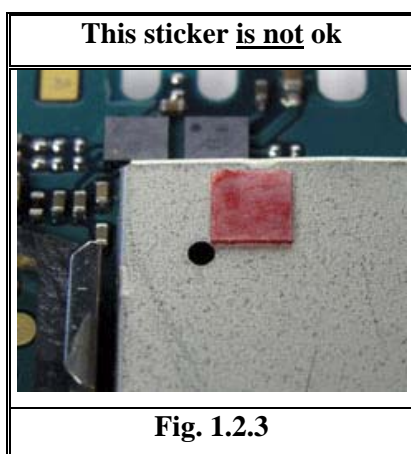


Fig. 1.2.1

On the pictures below you will see the difference between a sticker that has been in contact with liquid (Fig. 1.2.3) and one that has not (Fig. 1.2.2).



This sticker has not been in contact with liquid.



This sticker has been in contact with liquid. As you can see the label color has turn from white into a pink or red. In this case you should check the phone for liquid damage
(See point 1.2.2).

Note: There must be clear marks after liquid on the PCB before rejecting the phone for repair.

1.2.3 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 directives.

2 Appearance Problems

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

2.1 General inspection

- Check the Upper Rear Complete (Fig. 2.1), the Upper Rear Lid (Fig. 2.1), the Lower Rear Cover (Fig. 2.2), the Battery Cover (Fig. 2.2.), the Upper Front Complete (Fig.2.3) and the Lower Front Complete (Fig. 2.4) for damage, scratches and if the parts fit correct. Replace faulty components if necessary.
- Check the Keyboard (Fig. 2.4), the Camera Keys (Fig. 2.5) and the Volume Keys (Fig. 2.5) for damage, scratches and if the parts fit correct. Replace faulty components if necessary.
- Check the Camera Front Assy (Fig. 2.6) and the Camera Back Cover (Fig. 2.7) for damage, scratches and gaps. Also check if the parts fit correct. Replace the faulty components if necessary.
- Check the External Antenna Plug (Fig. 2.2), the USB Cover, (Fig. 2.8) and the IrDA Window (Fig. 2.9) for damage, scratches and if the parts fit correct. Replace faulty components if necessary.

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

2.2 Squeaking sound

Do the following instructions when there is a squeaking sound:

- 1 Remove the two lower screws. Gently bend up the Lower Front and lift up the IRDA Window.
- 2 Put the IRDA Window back and make sure it is pressed down as far as possible.
- 3 When assembling the screws, start with the screw at the IRDA Window and press down over the IRDA while screwing.



Fig. 2.1



Fig. 2.2



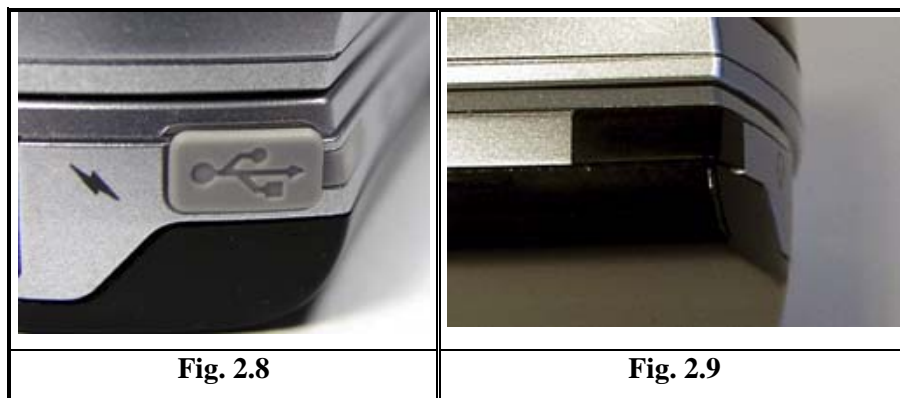
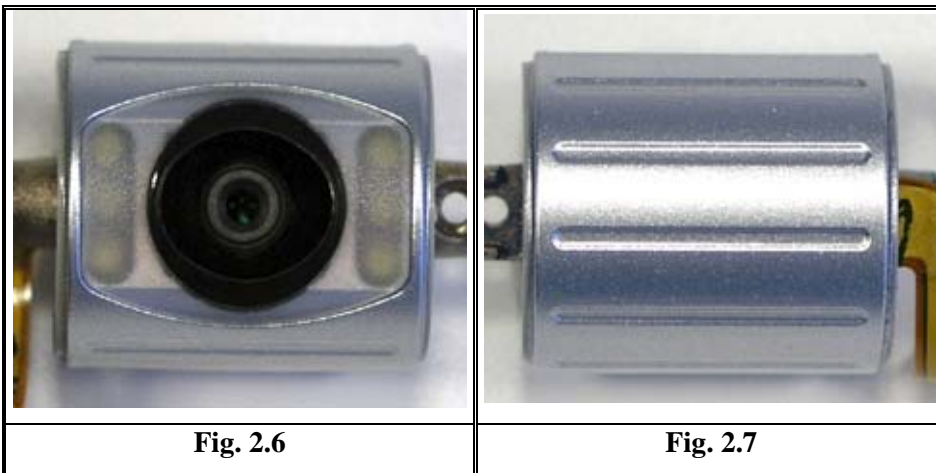
Fig. 2.3



Fig. 2.4



Fig. 2.5



3 Alert Problems

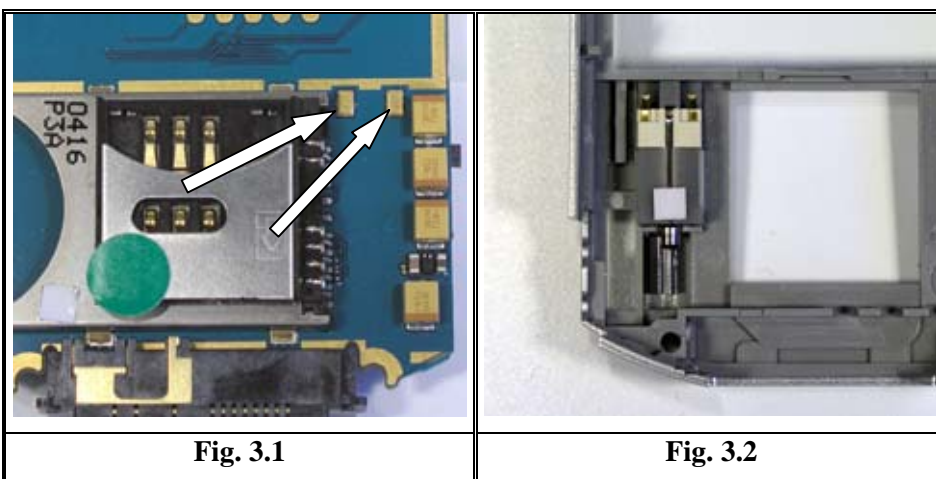
- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

3.1 Vibrator

- Turn on the phone. Go to the service test menu; choose “Vibrator”. Press any key to confirm that the vibrator works properly.
- Check if the Vibrator Pads on the PCB (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.

Note: When replacing vibrator; assure that the water indicator is correct placed, according to the picture (Fig. 3.2).

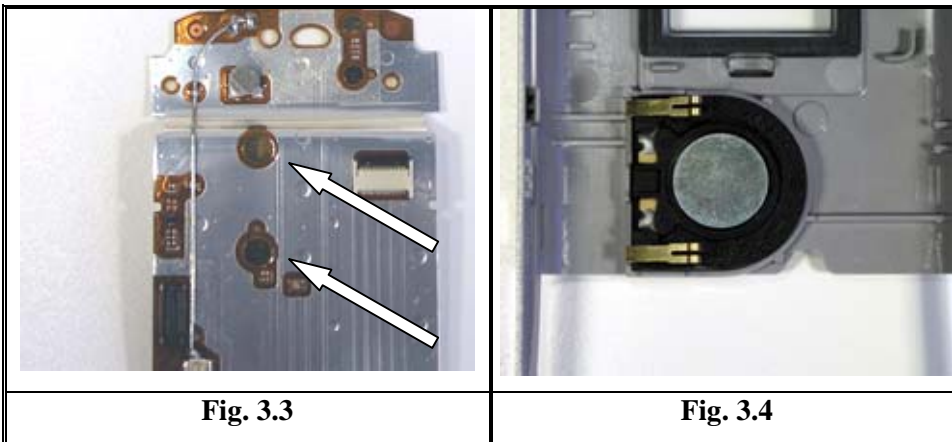
If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



3.2 Loudspeaker

- Turn on the phone. Go to the service test menu; choose “Speaker”. Press any key to confirm that the polyphonic ring signal works properly.
- Check if the Loudspeaker pads on the PCB (Fig. 3.3) are dirty or oxidized. Clean them if necessary.
- Check if the Loudspeaker (Fig. 3.4) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



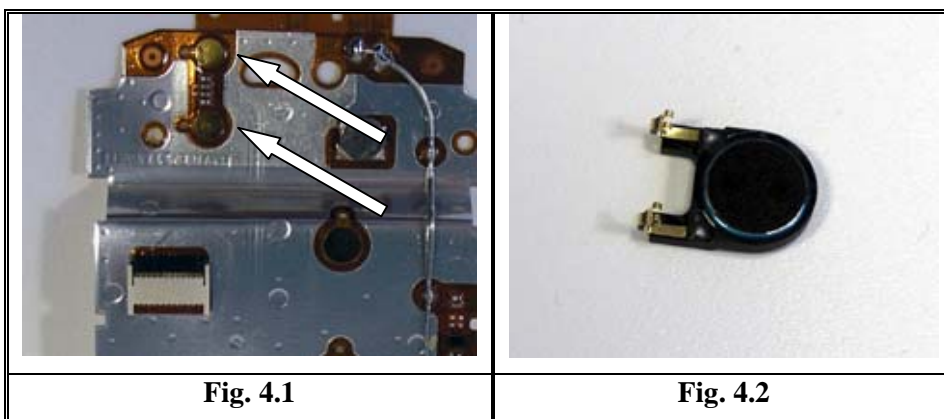
4 Audio Problems

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

4.1 Earphone

- Turn on the phone. Go to the service test menu; choose “Earphone”. Press any key to confirm that the speaker works properly.
- Check if the Earphone pads on the PCB (Fig. 4.1) are dirty or oxidized. Clean them if necessary.
- Check if the Earphone (Fig. 4.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.

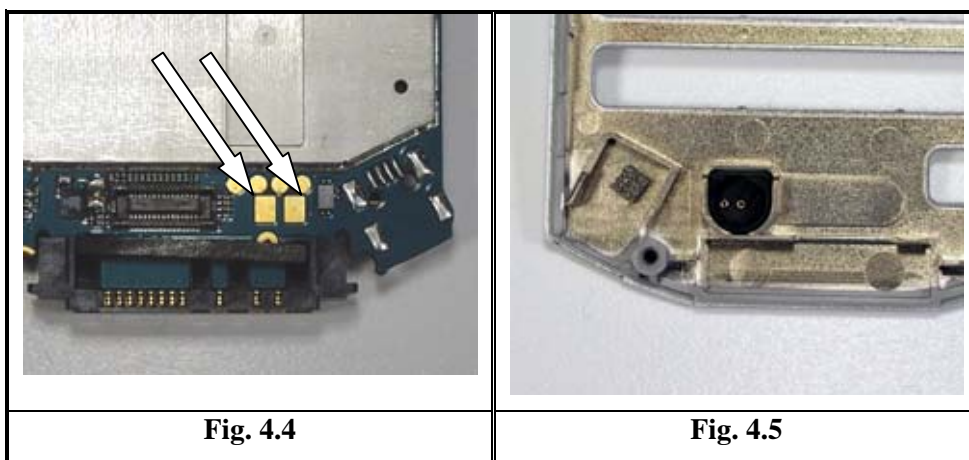
If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



4.2 Microphone problems

- Turn on the phone. Go to the service test menu; choose “Microphone”. Confirm that the microphone works properly.
- Check if the Microphone Pads (Fig. 4.4) are dirty or oxidized. Clean them if necessary.
- Check if the Microphone Assy (Fig. 4.5) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



5 Charging/Capacity Problems

- Make a general visual inspection for misuse, 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. When the battery voltage is high enough the phone will be able to turn on and show charging in the LCD and the Status Led.
- Check if the system connector (Fig 6.1) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.

5.2 Capacity

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

6 Data Communication Problems

- Make a general visual inspection for misuse, 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. 6.1) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check for problems with the Bluetooth communication. Replace the System Connector (Fig. 6.1) if necessary.

Note: The Bluetooth Antenna is included in the system connector.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.

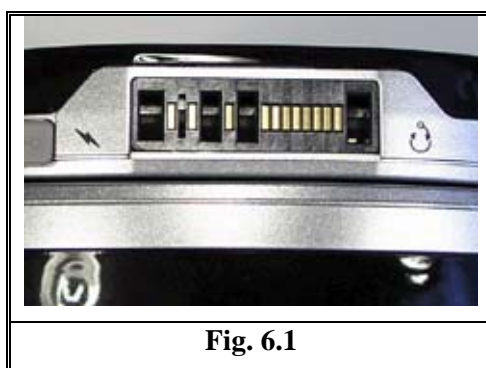


Fig. 6.1

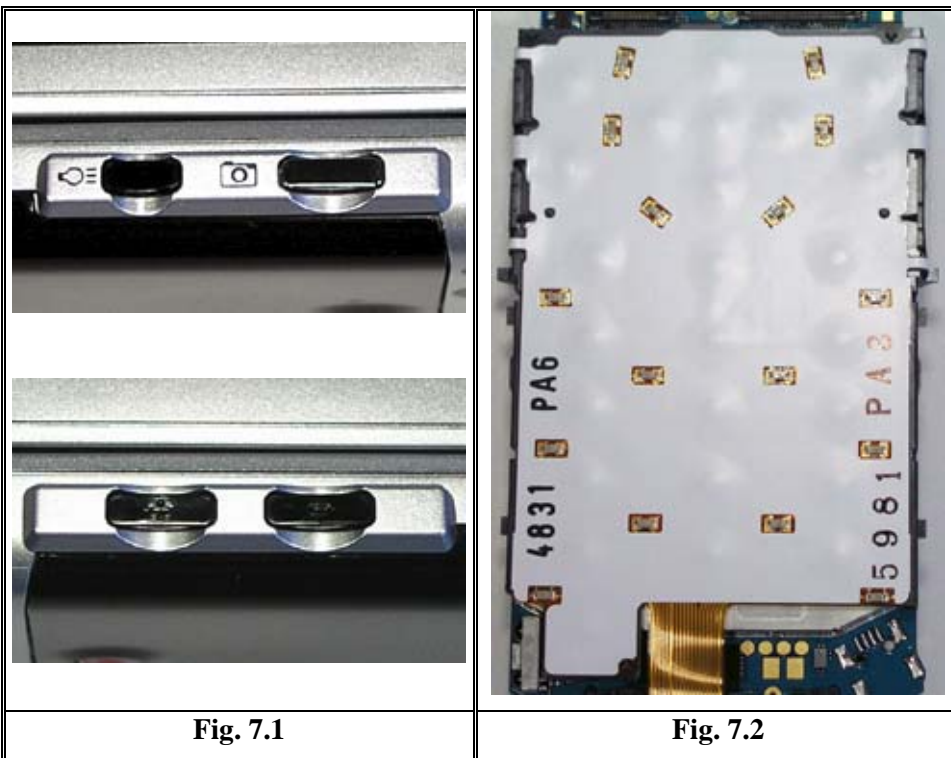
7 Key/Flip Problems

- Make a general visual inspection for misuse, 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 DTMF tones will be heard.
- Check if the Camera Leys (Fig. 7.1) and the Volume Keys (Fig. 7.1) are working properly. Also check if the mechanical response feels normal. Replace the faulty component if necessary.
- Check if the Key Foil Assy (Fig. 7.2) is working properly and that the mechanical response feels normal. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



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 DTMF tones will be heard.
- Check if the mechanical response feels normal and that all the keys have been showed in the LCD.
- Check if the Keyboard (Fig. 7.3) is mechanical damaged or dirty. Replace it if necessary.
- Check if the Keyboard is working properly and if the mechanical response feels normal. Replace the Key Foil Assy (Fig. 7.2) if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



Fig. 7.3

8 LCD/Illumination Problems

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

8.1 Steps to make for detecting a clam open, or close, fault.

If the Sub and/or Main Display does not work at any of the questions under the problem is a clam open/close problem. No SIM Card is needed for this procedure.

These are the steps to make for detecting a clam open, or close, fault:

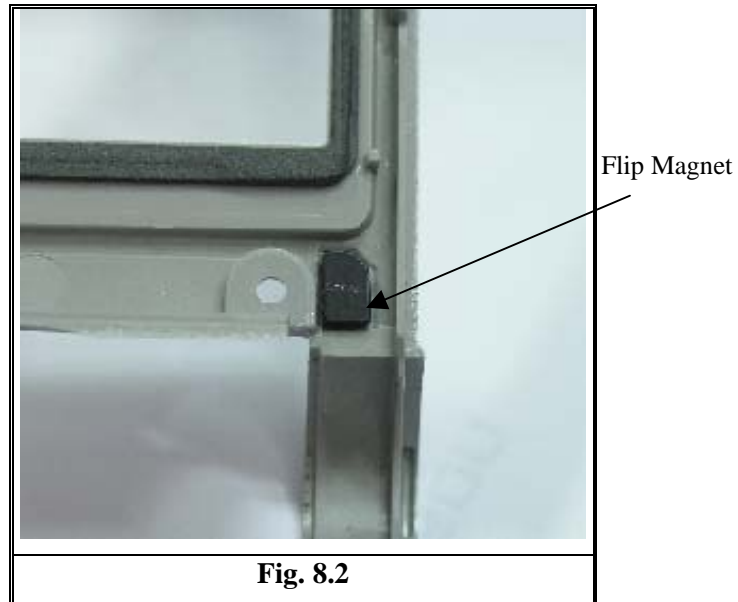
- 1 Rotate the Camera to its end 'click' position so that it points toward the joystick/rocker key.
- 2 Turn the phones power off and then turn the power on again.
- 3 Close the clam and check if the Sub Display work. After that open the clam and check if the Main Display work.
- 4 Rotate the Camera to its end 'click' position so that it points towards the user.
- 5 Close the clam and check if the Sub Display work. After that open the clam and check if the Main Display work.
- 6 Rotate the Camera to its end 'click' position so that it points away from the user.
- 7 Close the clam and check if the Sub Display work. After that open the clam and check if the Main Display work.

Continue doing the Steps to make for detecting a clam open, or close, fault if no fault has been detected yet.

- 8 Rotate the Camera a little bit towards the user.
- 9 Close the clam and check if the Sub Display work. After that open the clam and check if the Main Display work.
- 10 Repeat the steps 8 and 9 at least two more times until the Camera is in 'click' position, pointing towards the user.

If there is a clam open/close fault do the following steps:

- 1 Open the Upper Part of the phone and change the Flip Magnet, which is located according to the arrow in Fig. 8.2.



- 2 Make sure that the new Flip Magnet is placed straight and in bottom of the left corner of the cavity marked in the plastic part.
- 3 Put together the phone again and go through the steps to make for detecting a clam open, or close, fault. If a clam open/close fault is detected again continue at step number 4.
- 4 Put together the phone again and go through the steps to make for detecting a clam open, or close, fault. If a clam open/close fault is detected again continue at step number 6.
- 5 In the Camera Module there is a similar Magnet. Either this or the complete Camera Module is replaced.

8.2 Main LCD

- Turn on the phone. Go to service test menu; choose “Display”. A colour pattern should appear in the Main LCD.
- Check if the Main Display Assy (Fig. 8.1) works properly and if there are lines missing or discolours. Replace it if necessary.

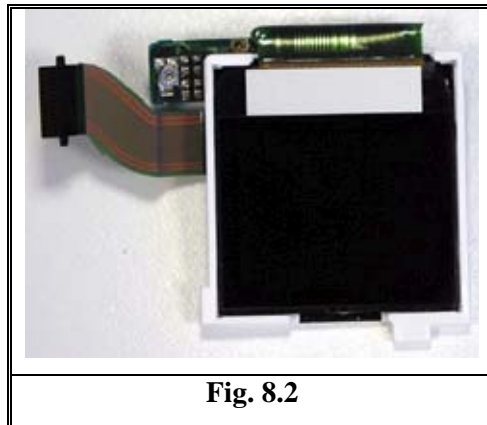


If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.

8.3 Sub LCD

- Turn on the phone. Go to service test menu; choose “Display”. A colour pattern should appear in the Sub LCD.
- Check if the Sub LCD Assy (Fig. 8.2) works properly and if there are lines missing or discolours. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



8.4 Illumination

- Turn on the phone. Go to service test menu; choose “LED/Illumination”. The illumination should start blinking (~1Hz).
- Check if the Main Display Assy (Fig 8.1) is lighting up properly. Replace it if necessary.
- Check if the Sub Display Assy (Fig. 8.2) is lighting up properly. Replace it if necessary.
- Check if the Keyboard is lighting up properly. Confirm that all LED's has the same luminance. Replace the Key Foil Assy (Fig. 8.3) if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.

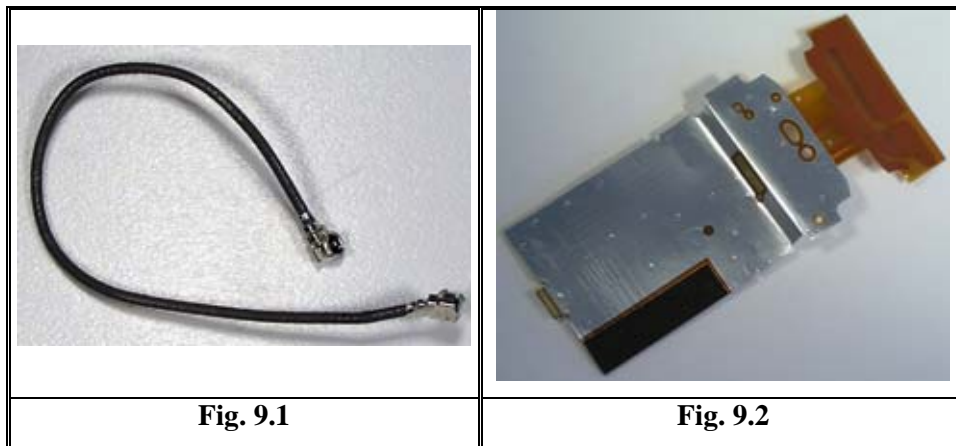


Fig. 8.1

9 Network Problems

- Make a general visual inspection for misuse, 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 value in the Display. Compare this value to the value from a similar test on a properly working phone.
- Check if the Coax Cable (Fig. 9.1) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the Antenna Assembly (Fig. 9.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



10 On/Off Problems

- Make a general visual inspection for misuse, 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. When the Battery Voltage is high enough the phone will be able to turn on and show charging in the LCD and the Status LED.

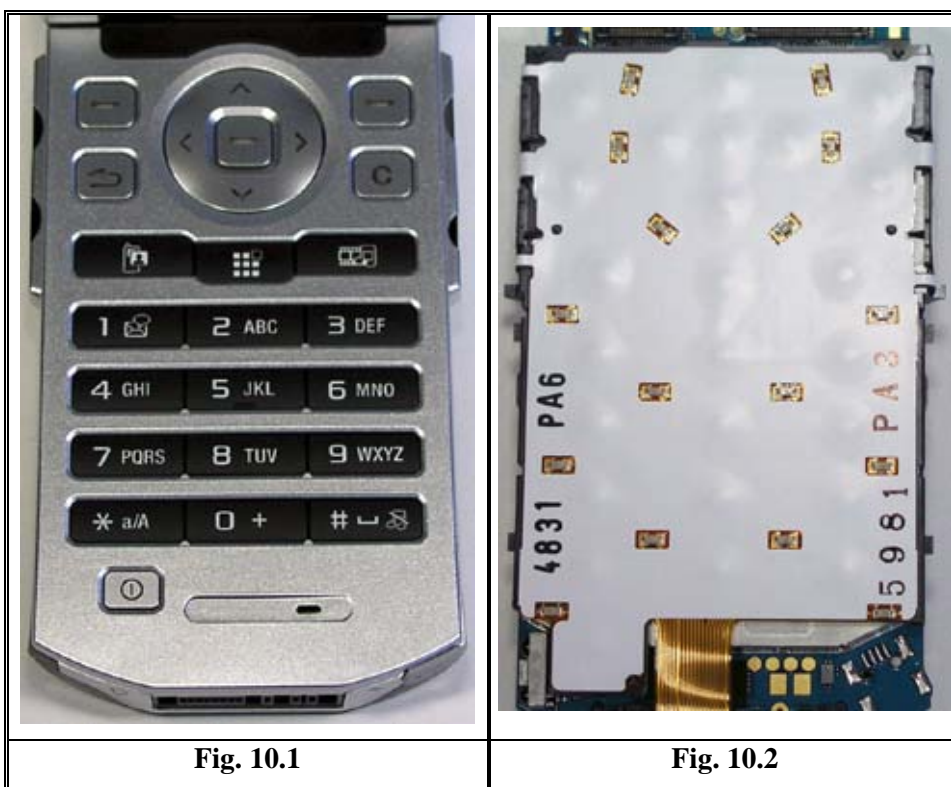
If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.

10.2 On/Off Key

Insert a fully charged Battery and turn the phone on. If it fails to the following actions below.

- Check the keyboard (Fig. 10.1) for mechanical damaged. Replace it if necessary.
- Check if the On/Off Key is working properly and that the mechanical response feels normal. Replace the Key Foil Assy (Fig. 10.2) if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



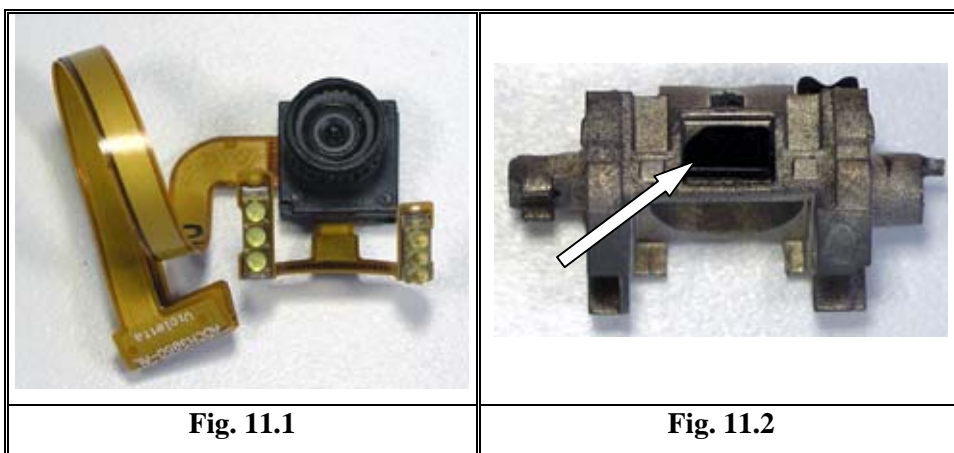
11 Other Problems

11.1 Camera Problems

- Make a general visual inspection of the Camera for misuse, 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. 11.1) is working properly. Confirm the Viewfinder functionality in the LCD. Confirm that there are no black spots or if the picture is not out of focus. Replace the Camera Module if necessary.
- Check if the picture is flipped upside down. Replace the Camera Magnet (Fig. 11.2) if necessary.

Note: When replacing the Camera Module. Check if the Camera Gasket is damaged. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this does not solve the problem, handle the unit according to the local directives.



12 Software Problems

There can be problems with the response of the keypad commands, or spelling errors can occur in the menu. If they are not related to mechanical damage, make a master reset and update 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 appear in the display.

If a software upgrade is interrupted for some reason, EMMA II will prompt "Error in sequence" after which the phone will not start up. In order to restore functionality you will need to run "V800x Flash Recovery". The script can be found under "Flash" in EMMA II.

After a successful recovery you will need to re-flash the phone with correct signalling software before start up.

Note: Do a software upgrade before sending the unit to a higher level. Do not scrap a phone that has not been upgraded with the latest software.

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

13 Revision History

Rev.	Date	Changes / Comments
A	2004-11-05	First release
B	2004-12-13	Due to system problem
C	2004-12-15	Due to system problem
D	2005-02-11	Chapter 2.2 and 8.1 is added
E	2005-04-21	Z800i added