

# Trouble Shooting Guide/, Mechanical

Applicable for W350

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# 1 General

This document outlines the mechanical repairs that should be made in an attempt to fix the common failures that are seen in the field. To gain a complete understanding of how to test and repair a specific failure, this document should be used in conjunction with the Test Instructions, Mechanical and the Working Instructions, Mechanical.

## 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 has a built in service functionality that allows you to test some of the phones functions. (See point 2 above) It looks like this:

**Main display**

**LED/illumination**

**Keyboard**

**Speaker**

**Earphone**

**Microphone**

**Vibrator**

**Camera**

**Memory Stick**

**FM radio**

**Real time clock**

**Total call time**

**NOTE: Different names may occur depending on language setting and customization.**

## 1.2 Misuse and other no warranty issues






Misuse is not covered by warranty. This chapter will explain what's not covered by warranty. Phones that have been exposed to misuse will not be covered by warranty.


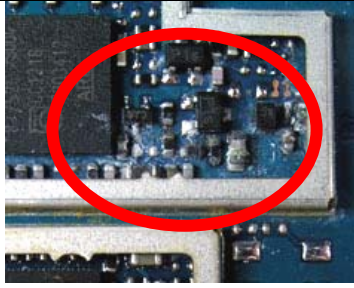
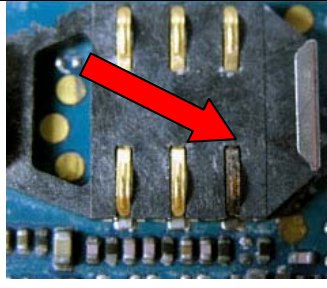
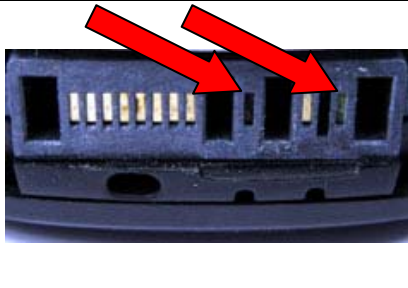
This means: if it is possible to repair the phone, the customer will have to pay for the repair. SEMC will not allow any of these phones to be claimed into WCMS. Some local perspectives may interfere with this. Please reference to local directives.

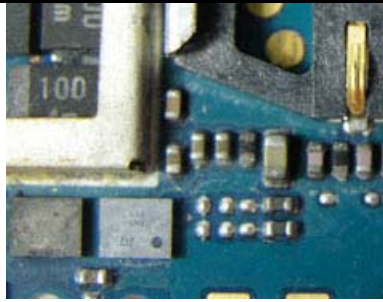
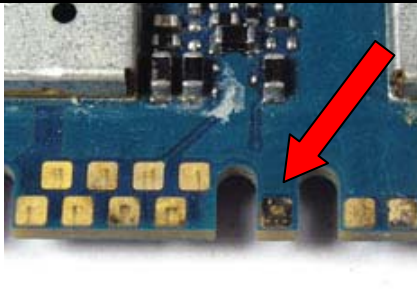
### 1.2.1 Action

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	Mark after drop	Corrosion components on the PCB.

			
<p>Corrosion components on the PCB.</p>	<p>Corrosion components on the PCB.</p>	<p>SIM reader damaged by liquid.</p>	<p>System connector damaged by liquid</p>

	
<p>Components around system connector damaged by liquid</p>	<p>System connector pad(s) damaged by liquid</p>

### 1.2.2 Liquid damage 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. 1.2.1) and it is possible to see it without disassemble the phone.

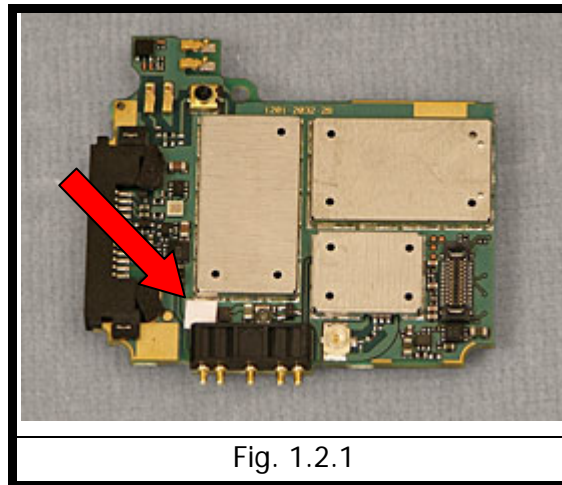
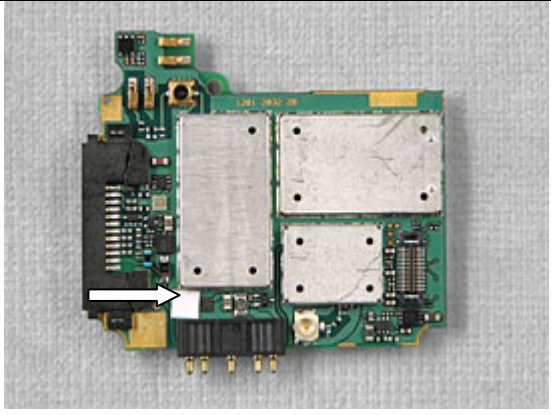
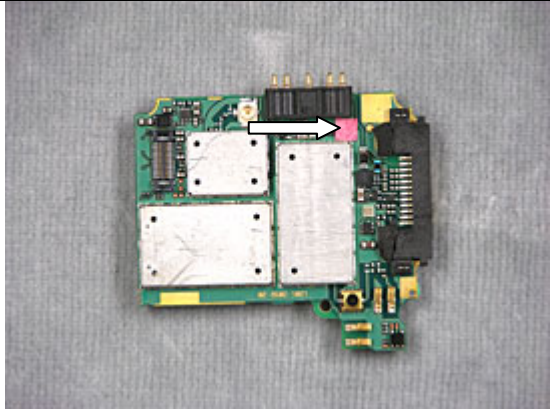


Fig. 1.2.1



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

This sticker is ok	This sticker <u>is not</u> ok	
		<p>The white sticker that has been in contact with liquid turns into a red or pink sticker. In this case you should check the phone for liquid damage (<i>See point 1.1.1</i>).</p> <p>Note: There must be clear marks after liquid on the PCB before rejecting the phone for repair.</p>
<b>Fig. 1.2.2</b>	<b>Fig. 1.2.3</b>	

### 1.2.3 Action

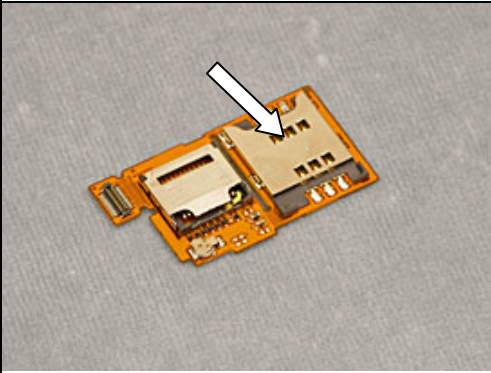
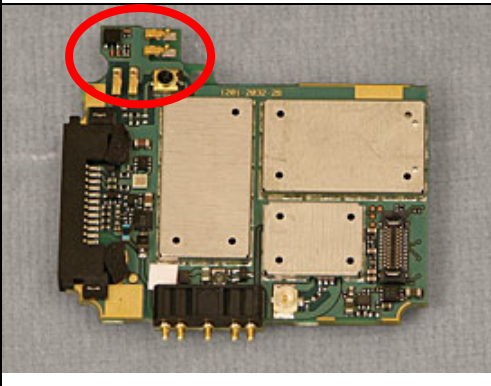
Make a general visual inspection for misuse, corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged phone. Handle the unit according to local directives.

## 2 Appearance Problems


Problem Area	Items to Check	Repair Action	Reference Image
Appearance	Visually inspect the cosmetic quality of all user viewable surfaces	<ul style="list-style-type: none"> <li>If dirty – Clean parts as necessary.</li> <li>If unacceptably scratched or damaged – Replace damage parts as necessary.</li> </ul> <p><b>NOTE: Misuse is not covered by warranty. Refer to <a href="#">chapter 1.2</a></b></p>	
	Visually inspect all keys	<ul style="list-style-type: none"> <li>If dirty – Clean parts as necessary.</li> <li>If unacceptably scratched or damaged – Replace damaged parts as necessary.</li> </ul> <p><b>NOTE: Misuse is not covered by warranty. Refer to <a href="#">chapter 1.2</a></b></p>	
	Visually inspect for improper gap between seams	<ul style="list-style-type: none"> <li>Reassemble or replace damaged parts as necessary.</li> </ul>	



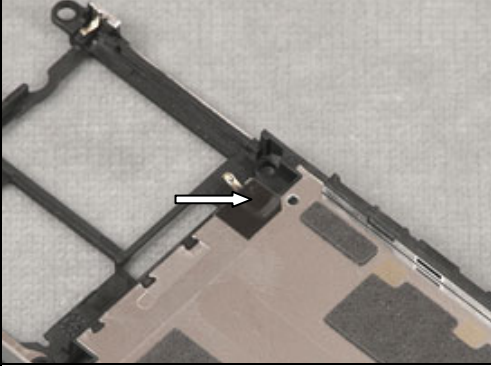
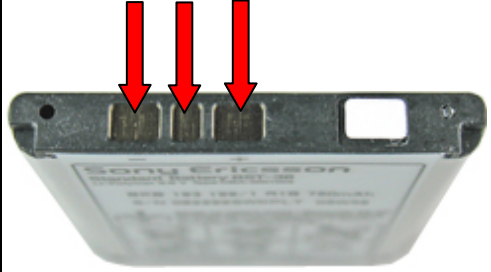
### 3 Network/Signal Problems



Problem Area	Items to Check	Repair Action	Reference Image
No Signal or Poor Signal	Before proceeding →	Perform a flash upgrade.	
	Visually inspect SIM holder	<ul style="list-style-type: none"> <li>• If dirty or oxidized – Clean it.</li> <li>• If damaged – Replace SIM M2 Assy</li> </ul>	
	Visually inspect antenna contact pads	<ul style="list-style-type: none"> <li>• If dirty or oxidized – Clean the pads, if damaged send to electrical repair</li> </ul>	

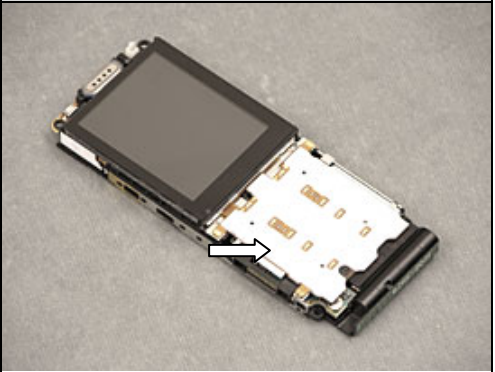


Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect antenna	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean it</li> <li>If damaged – Replace the Speaker Box Assembly.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	


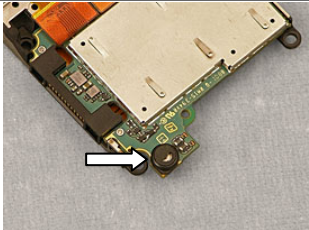
## 4 On/Off Problems



Problem Area	Items to Check	Repair Action	Reference Image
Power On problems	Check whether the phone vibrates 10 to 15 seconds after pressing the power key and whether the keypad illuminates	<ul style="list-style-type: none"> <li>If activation of the vibrator or keypad are detected, refer to the “Display Problems” <a href="#">chapter 7</a></li> <li>If not activated check to see if the protective tape is installed and that the LCD flex is not shorted to the frame.</li> </ul>	
	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade.</li> </ul>	
	Visually inspect contact pads on battery	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean pads.</li> <li>If damaged – Replace the battery.</li> </ul>	

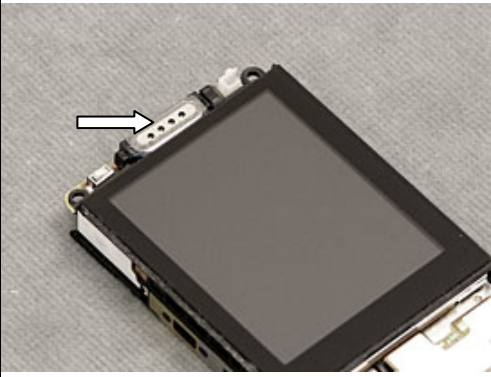
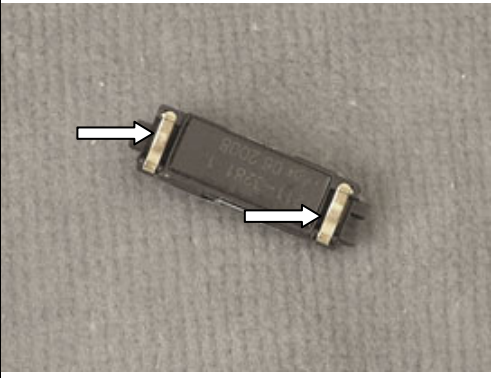
Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect battery connector	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean it.</li> </ul> <p><b>Note: Be gentle do not bend or damage the gold surface on connector pin's</b></p> <ul style="list-style-type: none"> <li>If damaged – Send to an electrical repair location.</li> </ul>	
	Visually inspect the power ON key	<ul style="list-style-type: none"> <li>If damaged – Replace the Keyboard.</li> </ul>	

Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect the Dome Foil	<ul style="list-style-type: none"> <li>If damaged – Replace the Key Foil assy.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

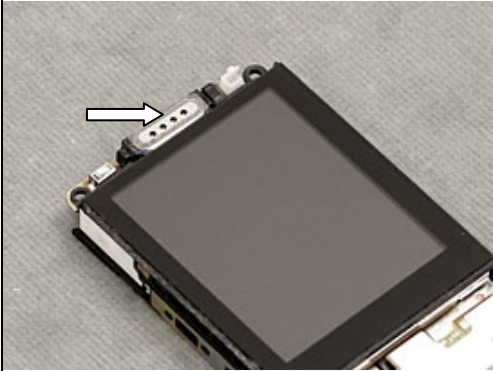

## 5 Audio Problems


Problem Area	Items to Check	Repair Action	Reference Image
Microphone:	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Visually inspect the microphone's external port	<ul style="list-style-type: none"> <li>If clogged - Clean it.</li> <li>If damaged - Replace Front Assembly</li> </ul>	
	Visually inspect the Gasket Microphone Grommet	<ul style="list-style-type: none"> <li>If clogged – Clean it</li> <li>If damaged – Replace the Gasket Microphone Grommet</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	
Ear Speaker: No sound or poor	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	

Problem Area	Items to Check	Repair Action	Reference Image
Quality sound	Visually inspect Ear Speaker's external port	<ul style="list-style-type: none"> <li>If clogged – Clean or replace Front Panel</li> </ul>	
	Visually inspect Ear Speaker's dust cloth	<ul style="list-style-type: none"> <li>If clogged or damaged – Replace Net Ear speaker or front assembly.</li> </ul>	


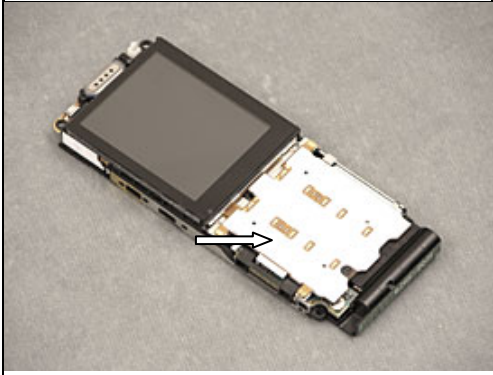
Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect the Ear Speaker	<ul style="list-style-type: none"> <li>If damaged or clogged– replace the Gasket Ear speaker.</li> <li><b>Note! Be sure to replace the Net Ear Speaker (1203-8800) and the Gasket Ear Speaker (1212-4715) when ever the Front Assembly is removed. No Re- use of these parts!</b></li> </ul>	
	Visually inspect the connectors	<ul style="list-style-type: none"> <li>If dirty or oxidized– Clean them</li> <li>If damaged - Replace Ear speaker.</li> </ul>	





Problem Area	Items to Check	Repair Action	Reference Image
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace Ear Speaker.</li> <li><b>Note! Be sure to replace the Net Ear Speaker (1203-8800) and the Gasket Ear Speaker (1212-4715) when the Front Assembly is removed. No Re-use of these parts!</b></li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	
Speaker: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Visually inspect speaker's external port	<ul style="list-style-type: none"> <li>If clogged – Clean it.</li> <li>If damaged – Replace Rear Cover Assy</li> </ul>	

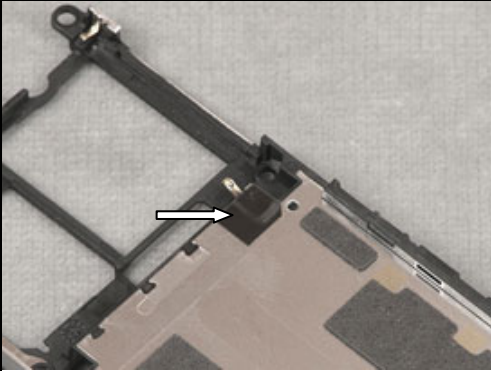

Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect the Speaker Box Assembly dust cloth	<ul style="list-style-type: none"> <li>If dirty or damaged – Replace Speaker Box Assembly).</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

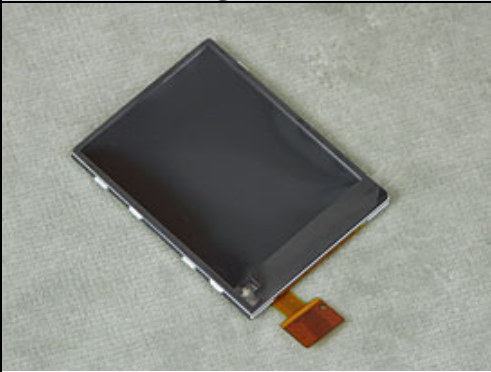
## 6 Key Problems

Problem Area	Items to Check	Repair Action	Reference Image
<b>Keyboard:</b> A key on the keyboard is not functioning or is intermittent	Visually inspect for debris between keypad and dome sheet and for damage to the keypad and the dome foil.	<ul style="list-style-type: none"> <li>• If dirty – Clean both parts.</li> <li>• If damaged - Replace keypad and/or dome foil as necessary.</li> </ul>	 
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>• Handle the unit according to local directives.</li> </ul>	

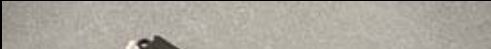
Problem Area	Items to Check	Repair Action	Reference Image
Side keys	Visually inspect for damage to the side keys	<ul style="list-style-type: none"> <li>If damaged - Replace keys as necessary.</li> </ul>	
			
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

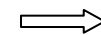
## 7 Display Problems

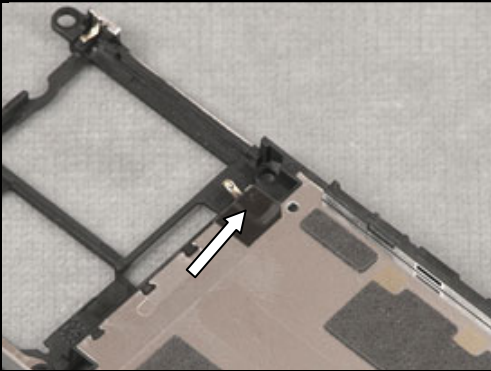

Problem Area	Items to Check	Repair Action	Reference Image
LCD problem	Check whether the phone vibrates 10 to 15 seconds after pressing the power key and whether the keypad illuminates	<ul style="list-style-type: none"> <li>If activation of the vibrator are <b>not detected</b>, refer to the On/Off Problems" <a href="#">chapter 4</a></li> </ul>	
	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Check that the protective tape pointed out in picture is mounted. If the tape is missing, mount it according to Working instructions mechanical.	<ul style="list-style-type: none"> <li>Mount the protective tape</li> <li>If the protected tape were missing, replace the Display.</li> </ul>	
	Visually inspect whether the Display Assy is properly connected to its connector on the PCB	<ul style="list-style-type: none"> <li>If improperly connected – Re-establish proper connection.</li> </ul>	

Problem Area	Items to Check	Repair Action	Reference Image
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Display</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

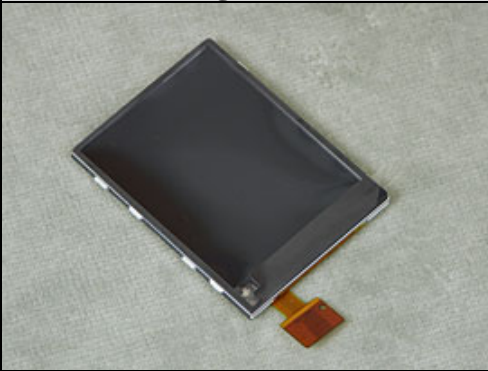
## 8 Illumination Problems

Problem Area	Items to Check	Repair Action	Reference Image
Keys: The entire keypad or a portion of the	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Visually inspect the dome foil.	<ul style="list-style-type: none"> <li>If damaged – Replace it</li> </ul>	


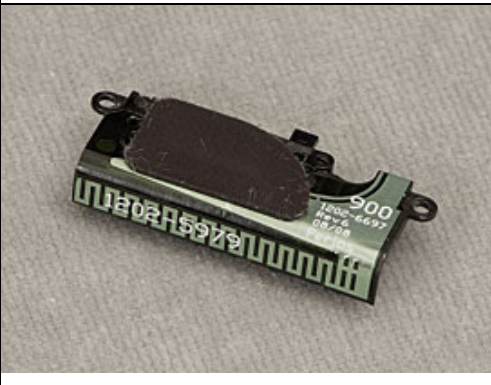


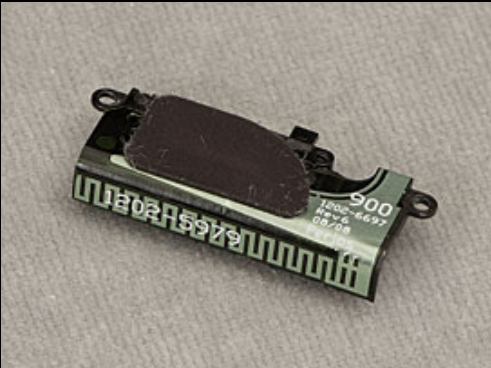
Problem Area	Items to Check	Repair Action	Reference Image
keypad does not illuminate.	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Key foil assy.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	
Display	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Check that the protective tape pointed out in picture is mounted. If the tape is missing, mount it according to Working instructions mechanical.	<ul style="list-style-type: none"> <li>Mount the protective tape</li> <li>If the protected tape were missing, replace the LCD assy.</li> </ul>	
	Visually inspect whether the Display Assy is properly connected to its connector on the PCB	<ul style="list-style-type: none"> <li>If improperly connected – Re-establish proper connection.</li> </ul>	



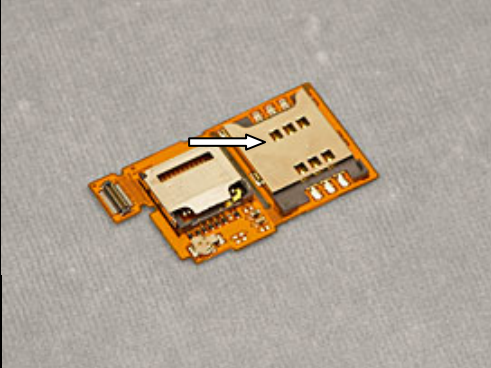
Problem Area	Items to Check	Repair Action	Reference Image
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Display</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

## 9 Alert Problems

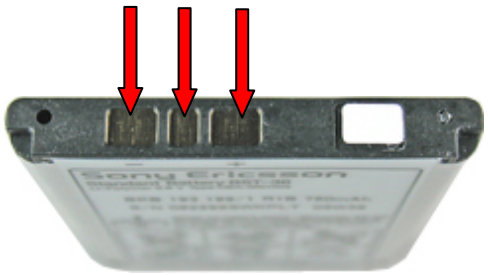

Problem Area	Items to Check	Repair Action	Reference Image
Speaker: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Visually inspect speaker's external port	<ul style="list-style-type: none"> <li>If clogged – Clean it.</li> </ul>	
	Visually inspect the speaker dust cloth	<ul style="list-style-type: none"> <li>If dirty or damaged – Replace Speaker Box Assembly</li> </ul>	

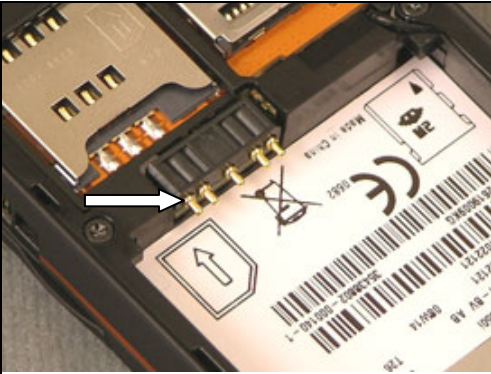

Problem Area	Items to Check	Repair Action	Reference Image
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace speaker box assembly.</li> </ul>	

## 10 SIM Problems



Problem Area	Items to Check	Repair Action	Reference Image
SIM undetected (Insert SIM)	Inspect SIM M2 Holder	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean.</li> <li>If damaged – Replace SIM M2 Assy</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	
Unit indicates an incorrect SIM is inserted (Insert correct SIM)	Check whether the phone is locked to a particular carrier and whether the correct carrier's SIM is being used	<ul style="list-style-type: none"> <li>Use Correct Carrier SIM or test SIM.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	



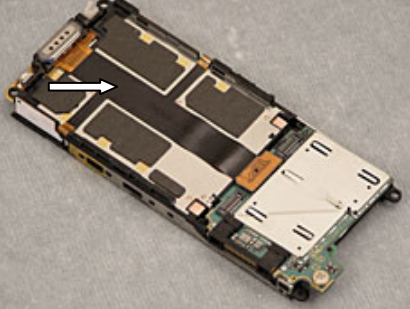
## 11 Charging/Capacity Problems

Problem Area	Items to Check	Repair Action	Reference Image
Battery will not charge	Visually inspect the contact pads of the battery	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean.</li> <li>If damaged – Replace battery.</li> </ul>	
	Visually inspect the system connector	<ul style="list-style-type: none"> <li>If dirty or oxidized– Clean it.</li> </ul> <p><b>NOTE: Misuse is not covered by warranty. Refer to <a href="#">chapter 1.2</a></b></p>	

	Visually inspect the battery connectors	<ul style="list-style-type: none"> <li>• If dirty or oxidized – Clean.</li> <li>• If damaged – Send to an electrical repair location.</li> </ul>	
Battery loses charge quickly/ standby time seems short	Before proceeding →	<ul style="list-style-type: none"> <li>• Perform a flash upgrade and a setting reset.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>• Replace battery.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>• Handle the unit according to local directives.</li> </ul>	

## 12 Camera Problems

Problem Area	Items to Check	Repair Action	Reference Image
Camera Lines, marks, blurred or discolored picture	Visually inspect the camera window	<ul style="list-style-type: none"> <li>If scratched or damaged – Replace the camera window</li> </ul>	
	Visually inspect whether the camera is properly connected to its socket on the Camera PBA Assy.	<ul style="list-style-type: none"> <li>If improperly connected – Re-establish proper connection.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the camera.</li> </ul>	



Problem Area	Items to Check	Repair Action	Reference Image
Will not capture an image	Visually inspect for damage to the Keyboard	<ul style="list-style-type: none"> <li>If damaged - Replace the Keyboard if necessary.</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace Camera module 1.3 MPixel.</li> </ul>	
	If issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Camera PBA Assy</li> </ul>	



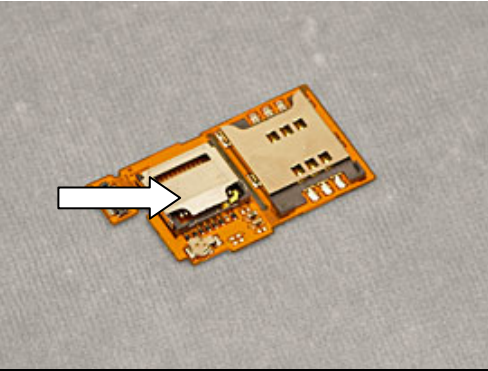


Problem Area	Items to Check	Repair Action	Reference Image
	If the issue has not been resolved →	<ul style="list-style-type: none"><li>• Handle the unit according to local directives.</li></ul>	



## 13 Data Communication Problems

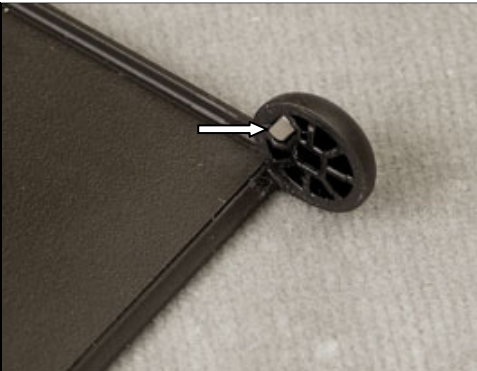
Problem Area	Items to Check	Repair Action	Reference Image
Will not connect with a functional bluetooth device	Before proceeding →	Perform a flash upgrade.	
	Visually inspect Bluetooth antenna Assy	If dirty or damaged – replace the Bluetooth Antenna Assy	
	Visually inspect the system connector	<ul style="list-style-type: none"> <li>If dirty or oxidized– Clean it.</li> </ul> <p><b>NOTE: Misuse is not covered by warranty. Refer to <a href="#">chapter 1.2</a></b></p>	
	If the issue has not been resolved →	Handle the unit according to local directives.	

## 14 Media Memory Problems

Problem Area	Items to Check	Repair Action	Reference Image
Media Memory problems  (Phone will not detect the memory stick).	Visually inspect the memory stick micro connector.	<ul style="list-style-type: none"> <li>If damaged – Replace the SIM M2 Assy</li> </ul>	
	If the issue has not been resolved→	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

## 15 Flip Assembly Problems

Problem Area	Items to Check	Repair Action	Reference Image
Open/close function	Visually inspect the Flip Assembly	<ul style="list-style-type: none"> <li>If dirty - Clean it</li> <li>If damaged – Replace the Flip Assembly</li> </ul>	
	Visually inspect the Hinge	<ul style="list-style-type: none"> <li>If damaged or malfunctioning– Replace the Hinge</li> </ul>	

Phone will not switch between phone mode and walkman mode	Visually inspect if the magnet is in correct position	<ul style="list-style-type: none"> <li>If missing – Replace the Flip Assembly</li> </ul>	
	If the issue has not been resolved→	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

## 16 Software Problems

- If there are problems with the response of the keypad commands, or spelling errors in the menu, if they are not related to mechanical damage, make a master reset and flash the phone with the latest software from EMMA II or III.
- 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 shown in the display.

**Note:** Do a SW upgrade before sending the unit to a higher level. Do **not** scrap a phone that hasn't been upgraded.

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

## 17 Revision History

Rev.	Date	Changes / Comments
1	2008-05-06	First release
2	2008-10-02	Display and Illumination area updated with new part "Protection tape"
3	2008-10-19	Display and Illumination area updated with new picture showing separate display instead of assy.
4	2008-12-11	On/Off section updated