

# Trouble Shooting Guide, Mechanical

Applicable for J110 and J120

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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.

## 2 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**

**Flash LED**

**Real time clock**

**FM radio (You need a headset to test) **NOTE: For J120 only.****

**Total call time**

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

### 3 Misuse and other no warranty issues


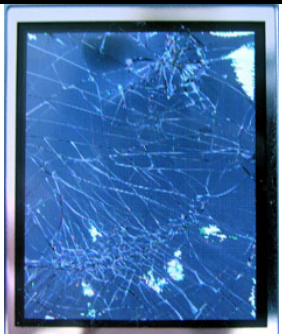



Misuse is not covered by warranty. This chapter will explain what's not covered by warranty. Phones that have been exposed to misuse will not be covered by warranty.

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.


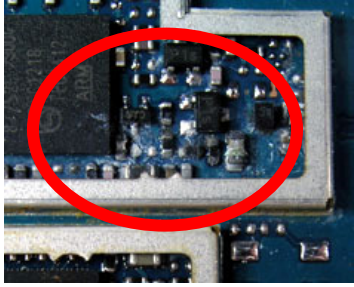
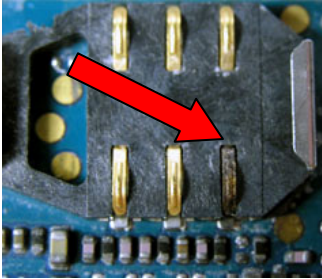
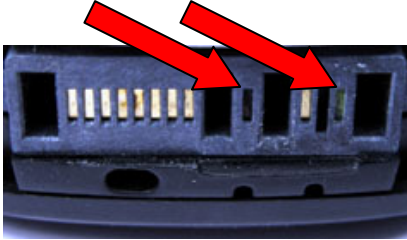
#### 3..1 Action

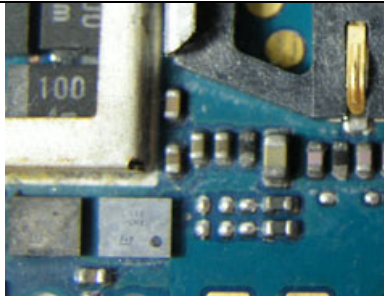
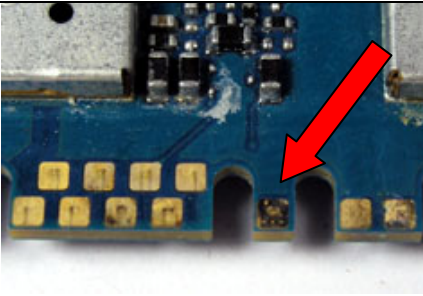
Make a general visual inspection for misuse.

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.

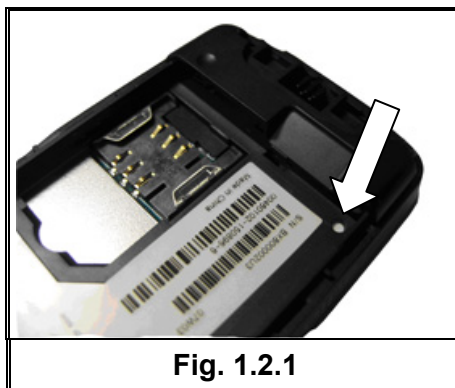
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<p>Corrosion components on the PCB.</p>	<p>Corrosion components on the PCB.</p>	<p>SIM reader damaged by liquid.</p>	<p>System connector damaged by liquid</p>

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

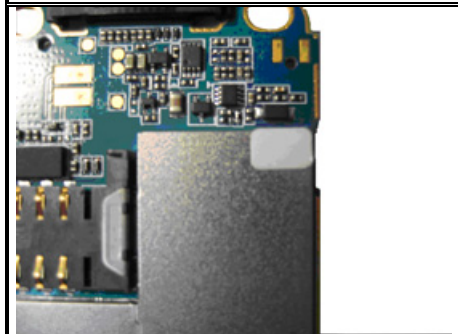
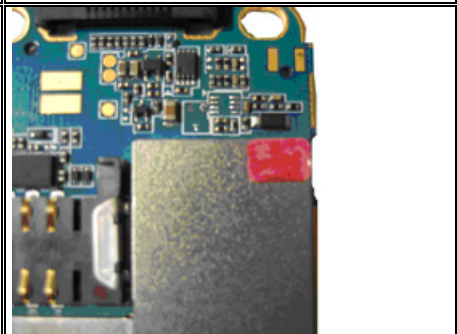
## 3..2 Liquid damage sticker

There is placed a sticker inside the phone that gives a hint to see if the phone is damage by liquid or not. This sticker is located at 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 (see point 1.2.1). 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>	




### **3..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.

## 4 Appearance Problems

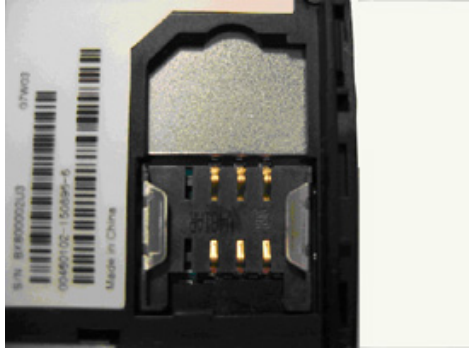
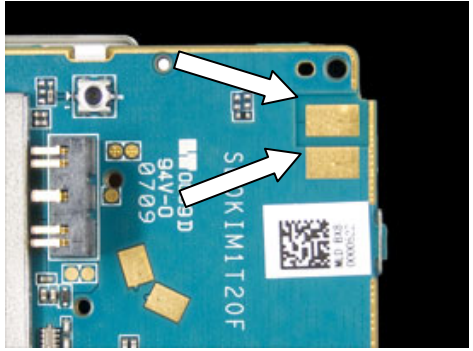
Problem Area	Items to Check	Repair Action	Reference Image
Appearance	Visually inspect the cosmetic quality of all user viewable surfaces	<ul style="list-style-type: none"> <li>• If dirty – clean parts if necessary</li> <li>• If unacceptable scratched or damaged – Replace damage parts if necessary</li> </ul> <p><b>NOTE: Misuse is not covered by warranty. Refer to chapter 1.2</b></p>	


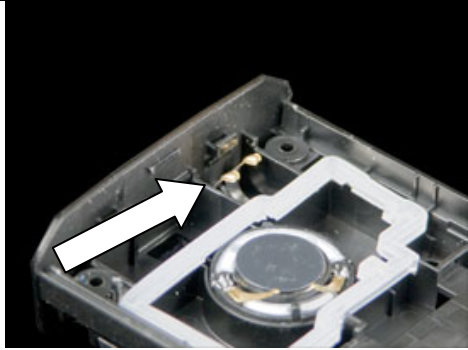
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Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect all keys	<ul style="list-style-type: none"> <li>If dirty – clean parts if necessary</li> <li>If unacceptable scratched or damaged – Replace damage parts if necessary</li> </ul> <p><b>NOTE: Misuse is not covered by warranty. Refer to chapter 1.2</b></p>	






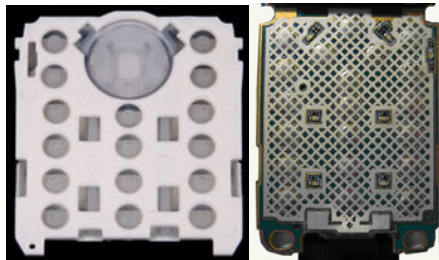
## 5 Network/Signal Problems

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 – Send to an electrical repair location.</li> </ul>	
	Visually inspect antenna pads	<ul style="list-style-type: none"> <li>• If dirty or oxidized – Clean it</li> </ul>	

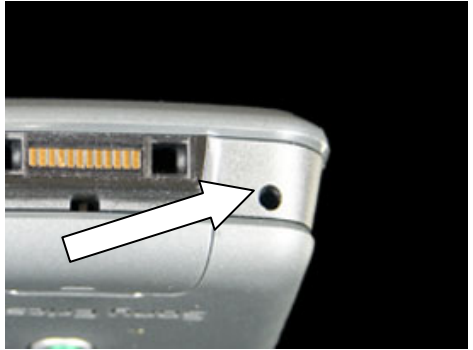
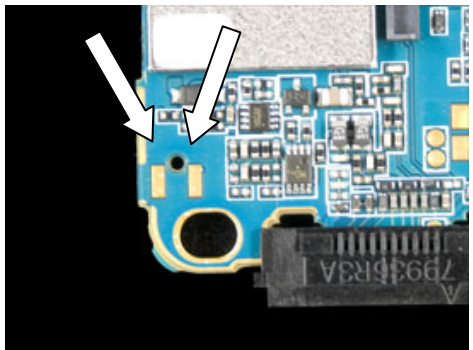
Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect antenna	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean it.</li> <li>If damaged – Replace frame case assy.</li> </ul>	
	Visually inspect antenna springs	<ul style="list-style-type: none"> <li>If antenna springs incorrect height, lower than the rib – Replace frame case.</li> </ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

## 6 On/Off Problems

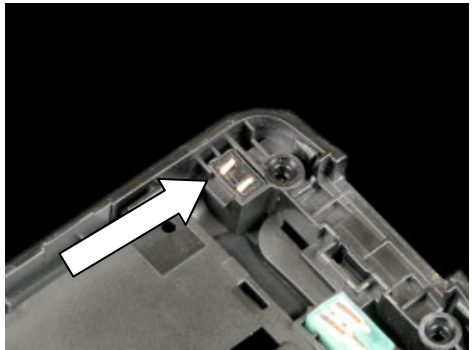
Problem Area	Items to Check	Repair Action	Reference Image
Power On problems	Check whether the phone vibrates after pressing the power key and whether the keypad illuminates.	<ul style="list-style-type: none"> <li>If activation of the vibrator or keypad is detected, refer to the “Display Problems” chapter 7.</li> </ul>	
	Before proceeding →	Perform a flash upgrade	
	Visually inspect contact pads on battery.	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean pads.</li> <li>If damage – Replace the battery.</li> </ul>	
	Visually inspect battery connector.	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean it.</li> </ul> <p><b>Note:</b> Take care not to bend connector pins.</p> <ul style="list-style-type: none"> <li>If damaged – Send to an electrical repair location.</li> </ul>	


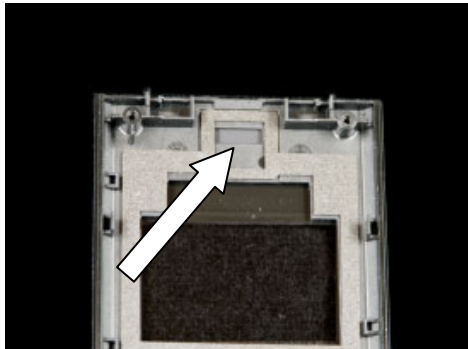
Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect the power key.	<ul style="list-style-type: none"> <li>If damaged – Replace the keypad.</li> </ul>	
	Inspect the area between the keypad and the dome sheet	<ul style="list-style-type: none"> <li>If the keypad is damaged – Replace it</li> <li>Replace the dome sheet</li> </ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed perform electrical repairs on this product</li> </ul>	

## 7 Audio Problems

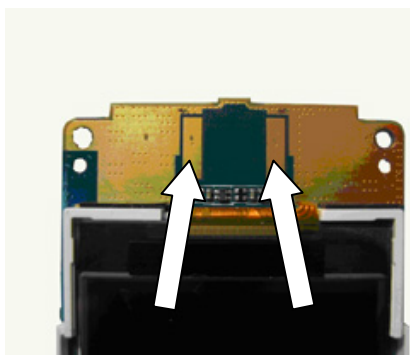

Problem Area	Items to Check	Repair Action	Reference Image
<b>Microphone</b>	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Visually inspect the microphone's external port	<ul style="list-style-type: none"> <li>If clogged – Remove the microphone, clean the microphone port and replace the microphone again.</li> </ul>	
	Visually inspect the microphone pads	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean it.</li> </ul>	

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Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect the microphone springs	<ul style="list-style-type: none"> <li>• If dirty or oxidized – Clean.</li> <li>• If damaged – Replace microphone.</li> </ul>	
	If the issue is still not 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
<b>Receiver</b>  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 receiver's external port and dust cloth	<ul style="list-style-type: none"> <li>If clogged – Clean or replace Front Cover Assy.</li> <li>If dust cloth damaged – Replace Front Cover Assy</li> </ul> <p><b>NOTE: If the dust cloth has been damaged – clean the inside of the phone carefully.</b></p>	 

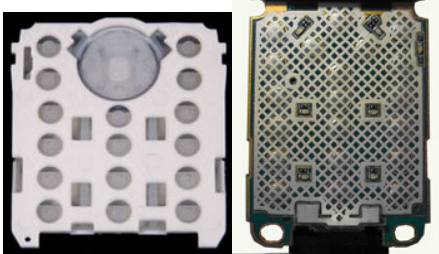
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Problem Area	Items to Check	Repair Action	Reference Image
	Visually receiver pads.	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean it.</li> </ul>	
	Visually inspect receiver's port on the metal frame.	<ul style="list-style-type: none"> <li>If damaged – Replace the LCM metal frame and the Receiver</li> <li>If clogged – Clean the LCM metal frame port and replace the Receiver</li> </ul>	
	If the issue is still not 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
<b>Loudspeaker</b>  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 and dust cloth.	<ul style="list-style-type: none"> <li>If dirty or damaged – Replace battery cover assy.</li> </ul>	
	Visually inspect the loudspeaker	<ul style="list-style-type: none"> <li>If damage – Replace loudspeaker</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 Key Problems

Problem Area	Items to Check	Repair Action	Reference Image
Keypad  One or several keys on the keypad are not functioning or are intermittent.	Visually inspect the keypad. Inspect the area between the keypad and the dome foil assembly where the key is not functioning	<ul style="list-style-type: none"> <li>If the keypad is damaged – replace it</li> <li>Replace the dome sheet</li> </ul>	
	If the issue is not resolved →	<ul style="list-style-type: none"> <li>Handle the unit according to local directives.</li> </ul>	

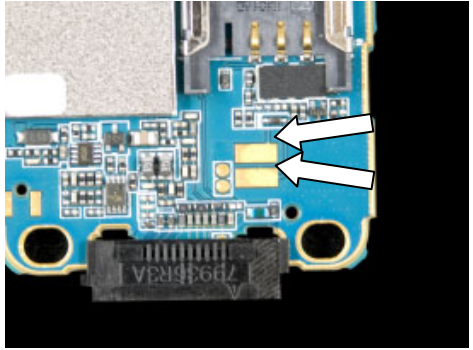
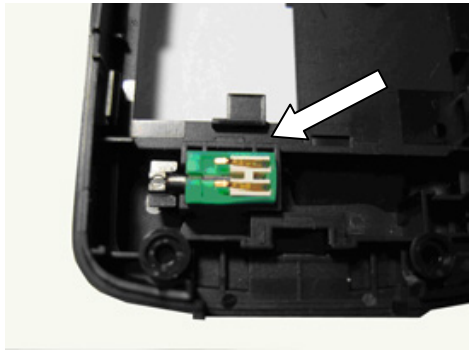
## 9 Display Problems

Problem Area	Items to Check	Repair Action	Reference Image
Display will not work	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	If the issue is not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed perform electrical repairs on this product</li> </ul>	

## 10 Illumination Problems


Problem Area	Items to Check	Repair Action	Reference Image
Keypad illumination: The entire keypad will not illuminate	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	If the issue is not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed perform electrical repairs on this product</li> </ul>	

## 11 Alert Problems



Problem Area	Items to Check	Repair Action	Reference Image
<b>Vibrator</b>	Before proceeding	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Visually inspect the vibrator pads on the PCB.	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean them.</li> </ul>	
	Visually inspect the vibrator	<ul style="list-style-type: none"> <li>If dirty, oxidized or damaged – Replace it.</li> </ul>	

Problem Area	Items to Check	Repair Action	Reference Image
<b>Loudspeaker</b> No sound or poor quality sound	Refer to Chapter 5 – “Audio Problem” of this document		

## 12 SIM Problems

Problem Area	Items to Check	Repair Action	Reference Image
SIM undetected (Insert SIM)	Before proceeding	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Inspect SIM holder.	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean.</li> <li>If damaged – Send to an electrical repair location.</li> </ul>	
	Before proceeding	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</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.  Go to the service menu, service info and SIM lock to see the status of the SIM lock.	<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>	


## 13 Charging/Capacity Problems

Problem Area	Items to Check	Repair Action	Reference Image
Battery will not charge.	Before proceeding	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	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 battery connector.	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean it.</li> <li>If damaged – Send to a repair location allowed perform electrical repairs on this product</li> </ul>	

Problem Area	Items to Check	Repair Action	Reference Image
Battery loses charge quickly/ Standby time seems short.	Before proceeding →  <b>NOTE: Some features reduce the length of standby time obviously if they are on, for example the backlight.</b>	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	If the issue has not been solved →	<ul style="list-style-type: none"> <li>Replace battery.</li> </ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed perform electrical repairs on this product</li> </ul>	



## 14 Hands-Free Problems

Problem Area	Items to Check	Repair Action	Reference Image
Hands-free is not working	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a flash upgrade and a setting reset.</li> </ul>	
	Inspect the system connector	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean the connector contacts</li> <li>If damaged – Replace the system connector</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 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 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.

## 16 Revision History

Rev.	Date	Changes / Comments
A	2007-06-08	1 <sup>st</sup> release