

Trouble Shooting Guide, Mechanical

Applicable for T303

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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

Real time clock

Bluetooth

FM radio (You need a headset to test)

Total call time

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

1.2 Misuse and other no warranty issues

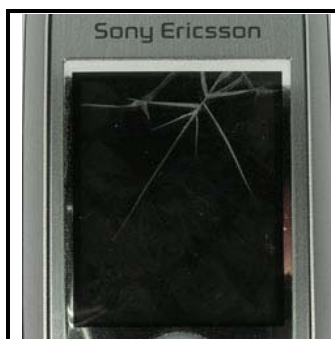



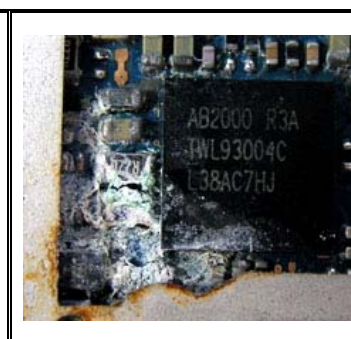
Misuse is not covered by warranty. This chapter will explain what's not covered by warranty. Phones that have been exposed to misuse will not be covered by warranty.


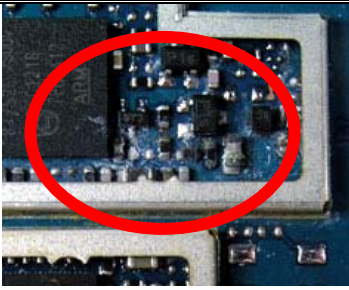
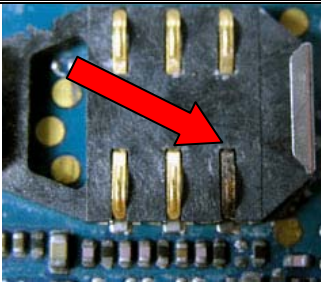
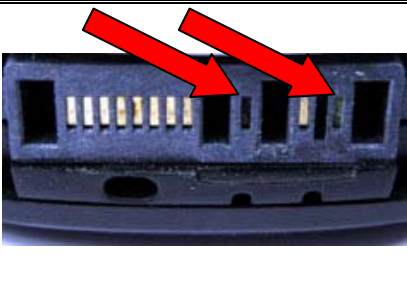
This means: if it is possible to repair the phone, the customer will have to pay for the repair. SEMC will not allow any of these phones to be claimed into WCMS. Some local perspectives may interfere with this. Please reference to local directives.

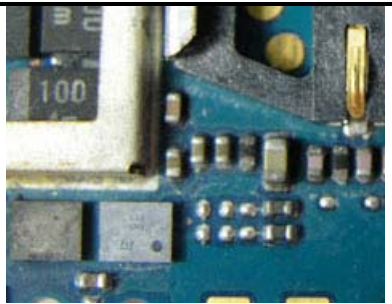
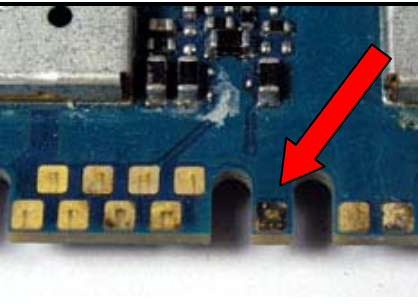
1.2.1 Action

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>

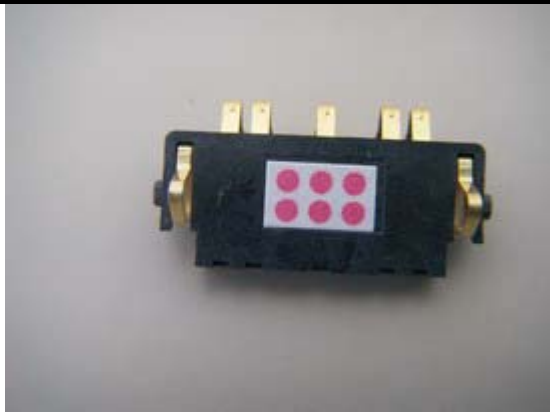
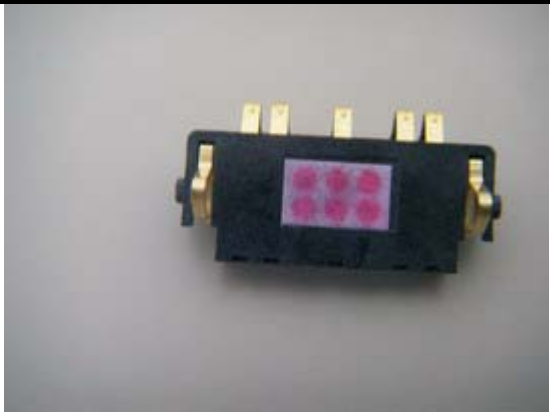
	
<p>Components around system connector damaged by liquid</p>	<p>System connector pad(s) damaged by liquid</p>

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 Battery connector (Fig. 1.2.1) and it is possible to see it without disassemble the phone.






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	
		The red dots on the label that has been in contact with liquid turns into blurred dots. In this case you should check the phone for liquid damage (See point 1.1.1). Note: There must be clear marks after liquid on the PCB before rejecting the phone for repair.
Fig. 1.2.2	Fig. 1.2.3	


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


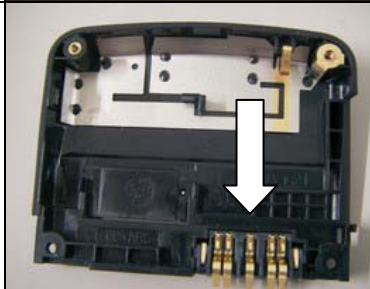

Problem Area	Items to Check	Repair Action	Reference Image
Appearance	Visually inspect the cosmetic quality of all user viewable surfaces	<ul style="list-style-type: none"> • If dirty – Clean • If unacceptably scratched or damaged – Replace parts that are unacceptable 	 
	Visually inspect all keys	<ul style="list-style-type: none"> • If dirty –Clean parts as necessary. • If unacceptably damaged – Replace 	




Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect for improper gap between seams	<ul style="list-style-type: none">Reassemble or replace damaged parts as necessary	

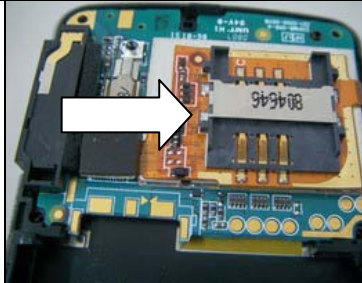
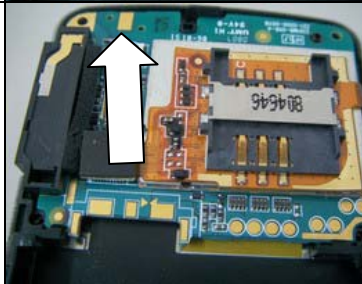
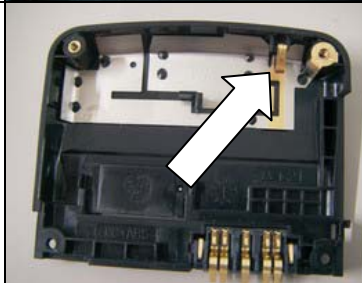
3 Power Problems

Insert a regular functionality Battery and connect a Charger to the phone. The phone will charge the Battery without turning on the phone while the Battery voltage is too low. (It takes less than 10 minutes) When the Battery voltage is high enough to turn on the phone, it will show “charging only” on the LCD.


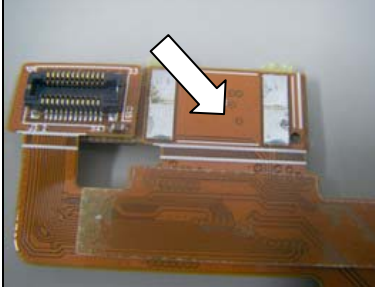
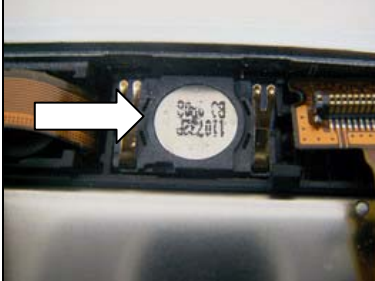
Problem Area	Items to Check	Repair Action	Reference Image
No Power On	Check whether the phone Keypad illuminated	<ul style="list-style-type: none"> If the Keypad are undetectable, refer to the “Display Problems” section 	
	Visually inspect contact the pads of Battery	<ul style="list-style-type: none"> If dirty or oxidized – Clean pads If damaged – Replace Battery 	
	Visually inspect Battery Connector Change to electrical TS guide.	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Replace Battery Connector. 	
	Visually inspect the power key portion of the Keypad for debris or damage	<ul style="list-style-type: none"> If dirty – Clean If damaged – Replace Function Keyboard 	

Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect the power contact portion of the Dome Switch Foil	<ul style="list-style-type: none"> • If dirty – Clean • If damaged – Replace Function Key FPC Assy 	
	If issue is still not resolved →	<ul style="list-style-type: none"> • Send to repair location that are allowed to perform electrical repair on the product 	

4 Network/Signal Problems

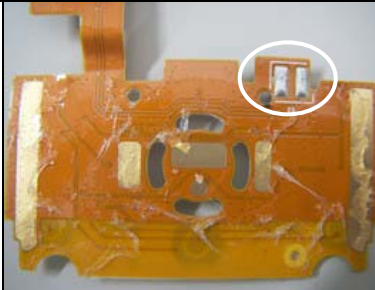

Problem Area	Items to Check	Repair Action	Reference Image
No Signal or Poor Signal	Visually inspect SIM Holder	<ul style="list-style-type: none"> If dirty or oxidized– Clean If damaged – Change Main Keypad FPC Assy 	
	Visually inspect the Antenna Pad	<ul style="list-style-type: none"> If dirty or oxidized– Clean 	
	Visually inspect the Antenna Connector	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Replace the Antenna ass'y 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	

5 Audio Problems

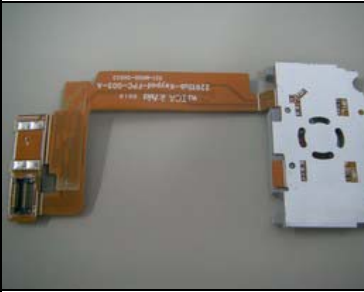
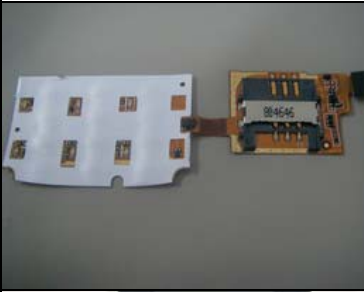

Problem Area	Items to Check	Repair Action	Reference Image
Receiver	Before proceeding	<ul style="list-style-type: none"> Perform a setting reset 	
	Check for the latest Software version	<ul style="list-style-type: none"> Update to the latest Software 	
	Visually inspect the Front Cover Assy Insert external	<ul style="list-style-type: none"> If clogged – Replace Front Cover Assy 	
	Visually inspect the Earphone Speaker pads	<ul style="list-style-type: none"> If dirty or oxidized – Clean 	
	Visually inspect the Earphone Speaker	<ul style="list-style-type: none"> If damaged, dirty or oxidized - Replace Earphone Speaker 	

Problem Area	Items to Check	Repair Action	Reference Image
	If issue is still not resolved →	<ul style="list-style-type: none"> Handle the unit according to local directives 	

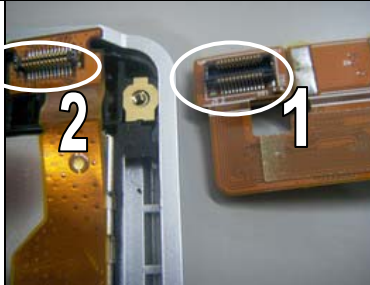

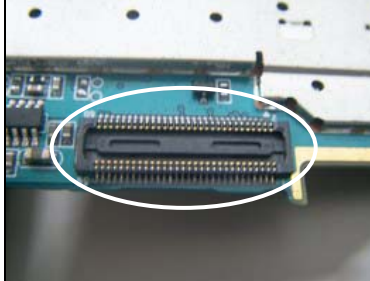
6 Alert Problems


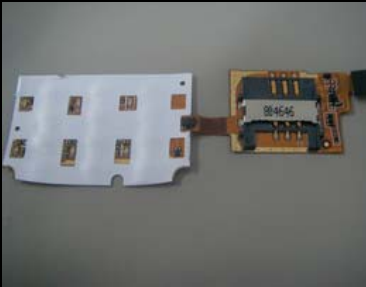
Problem Area	Items to Check	Repair Action	Reference Image
Loudspeaker	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Visually inspect the Speaker pads	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Replace Function Key FPC Assy 	
	Visually inspect the Loudspeaker Box	<ul style="list-style-type: none"> If damaged, dirty or oxidized - Replace Loudspeaker Box 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Handle the unit according to local directives 	

7 Key Problems

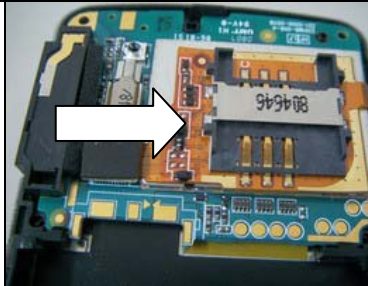
Problem Area	Items to Check	Repair Action	Reference Image
Key problems	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
Function Keys	Visually inspect the sub Function Key FPC Assy.	<ul style="list-style-type: none"> If Sub-Key FPC damaged, dirty or oxidized - Replace 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	
Numeric keys	Visually inspect the Main Keypad FPC Assy.	<ul style="list-style-type: none"> If Main Keypad FPC Assy is damaged, dirty or oxidized - Replace 	
	Visually inspect the Keyboard	<ul style="list-style-type: none"> If damaged, dirty or oxidized - Replace 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	

8 Display Problems


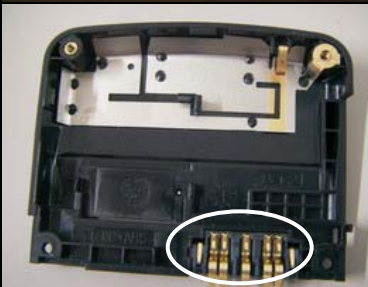

Problem Area	Items to Check	Repair Action	Reference Image
Display problem	Check whether the phone keypad is illuminates	<ul style="list-style-type: none"> If the Keypad are undetectable, refer to the "Power Problems" section 	
	Visually inspect whether the sub key FPC connector as picture (1) is properly connected into the LCD FPC connector as picture (2)	<ul style="list-style-type: none"> If improperly connected - Reestablish proper connection If dirty or oxidized – Clean If damaged – Replace the Display 	
	Visually inspect the Hinge FPC Connector	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Replace the Hinge FPC Assy 	
	Visually inspect the Main PCB connector	<ul style="list-style-type: none"> If damaged – Send to an electrical repair location to change it. 	

Problem Area	Items to Check	Repair Action	Reference Image
	If issue has not been resolved →	<ul style="list-style-type: none"> Replace the LCD 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	
Keypad Illumination	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Visually inspect the 6 LEDS	<ul style="list-style-type: none"> If damaged or no light – Reassemble or change Main Keypad FPC Assy. 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Handle the unit according to local directives 	

9 SIM Problems

Problem Area	Items to Check	Repair Action	Reference Image
Unit indicates the incorrect SIM is inserted	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"> Use Correct Carrier SIM or test SIM 	
	Inspect SIM holder	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Replace Main Keypad FPC Assy. 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	


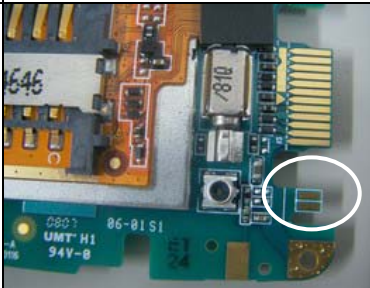

10 Charging/Capacity Problems

Problem Area	Items to Check	Repair Action	Reference Image
Charging Problems	Visually inspect the contact pads of the Battery	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Replace the Battery 	
	Visually the Battery Connector	<ul style="list-style-type: none"> If dirty or oxidized– Clean If damaged – Replace Battery connector. 	
	Visually inspect the System Connector	<ul style="list-style-type: none"> If damaged, dirty or oxidized – Send to an electrical repair location 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	

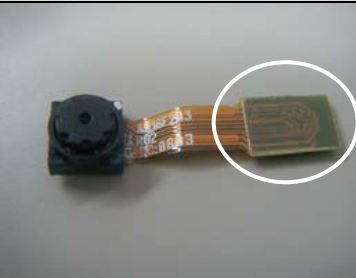


Problem Area	Items to Check	Repair Action	Reference Image
Battery looses charge quickly/ standby time seems short	NOTE - Some features noticeably reduce the amount of standby time if they are turned on. Some examples are the backlight (when turn on all the time), Bluetooth. Perform the following repair action →	<ul style="list-style-type: none">Replace the Battery	
	If issue is still not resolved →	<ul style="list-style-type: none">Send to repair location that are allowed to perform electrical repair on the product	

11 Data Communication Problems

Problem Area	Items to Check	Repair Action	Reference Image
Problem with transferring data using a data communication cable	Visually inspect the System Connector	<ul style="list-style-type: none"> If damaged, dirty or oxidized – Send to an electrical repair location 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	
Can't transfer data via Blue-tooth	Visually inspect the Blue tooth pads as follows.	<ul style="list-style-type: none"> If dirty – Clean 	
	Investigate into blue-tooth antenna as picture (system connector)	<ul style="list-style-type: none"> If oxidized or defective – Replace 	
	If issue is still not resolved →	<ul style="list-style-type: none"> Send to repair location that are allowed to perform electrical repair on the product 	

12 Camera Video/ Picture problem

Problem Area	Items to Check	Repair Action	Reference Image
Camera problems	Visually inspect the camera connector as follows.	<ul style="list-style-type: none"> • If dirty – Clean • If oxidized or defective – Replace 	
	If issue is still not resolved →	<ul style="list-style-type: none"> • Send to repair location that are allowed to perform electrical repair on the product 	

13 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.

14 Revision History

Rev.	Date	Changes / Comments
1	2008-07-10	1 st Release