

Trouble Shooting Guide, Mechanical

Applicable for W595

CONTENTS

1	General	2
2	Power Problems	7
3	Network/Signal Problems	8
4	Audio Problems	9
5	Key Problems.....	12
6	Main Display Problems	14
7	Illumination Problems	15
8	Alert Problems	17
9	Charging/Capacity Problems	19
10	SIM Problems.....	20
11	Data Transfer Problems using a Data Cable	21
12	Hands-Free Problems	21
13	Camera Problems	22
14	Bluetooth Problems	24
15	FM Radio Problems	25
16	Accelerometer Problems	25
17	Real Time Clock Problems	25
18	Slider position detection Problems	26
19	Revision History	27

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 unit, this document should be used in conjunction with the Test Instructions, Mechanical and the Working Instructions, Mechanical.

NOTE! *A unit should always be inspected for liquid damage and flashed with latest software before using the Mechanical Trouble Shooting Guide. Refer to the Mechanical Test Instructions for details regarding upgrading software.*

NOTE! *If all of the repair actions listed in this document for addressing a problem have been performed and a unit still is not working, handle the unit according to your local Sony Ericsson Representative*



1.1 Service functions in the software

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

⇒ * ⇐ ⇐ * ⇐ *

They are as follows:

Service info
Service tests
Text labels

Under the “**Service tests**” option, the phone’s software has a built in service functionality that allows you to test some of the phones functions. It looks like this:

Main display
LED/illumination
Keyboard
Speaker
Earphone
Microphone
Vibrator alert
Camera
Accelerometer
Memory Card
FM radio
Real time clock
Total call time
Security

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.


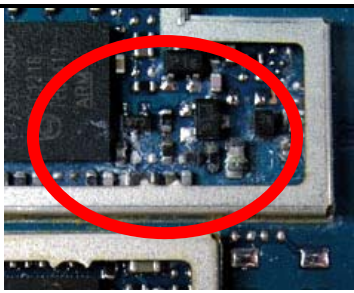
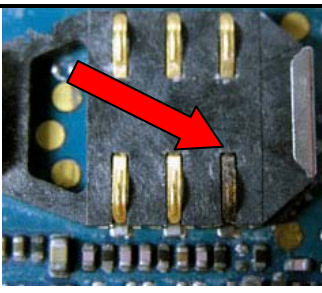
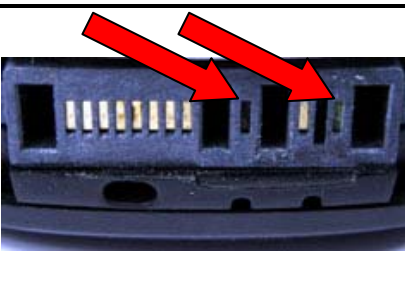
This means: if it is possible to repair the phone, the customer will have to pay for the repair. SEMC will not allow any of these phones to be claimed into WCMS. Some local perspectives may interfere with this. Please reference to local directives.

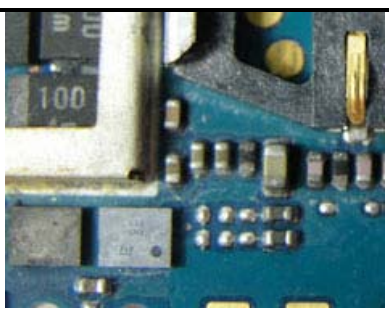
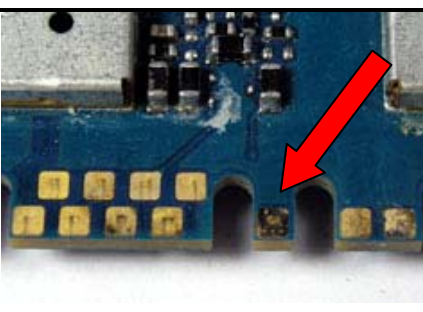
1.2.1 Action

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.

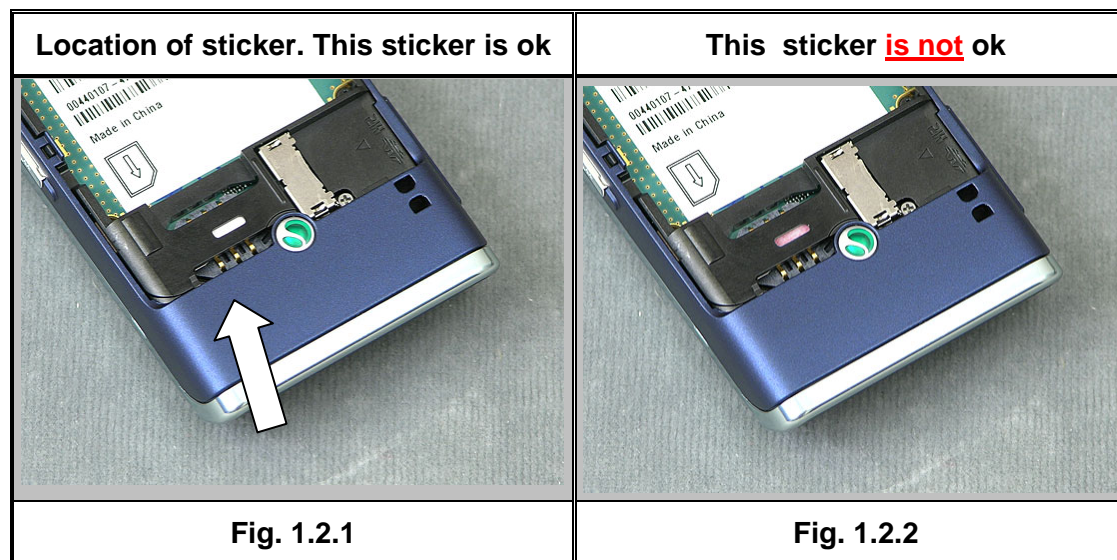
			
Corrosion components on the PCB.	Corrosion components on the PCB.	SIM reader damaged by liquid.	System connector damaged by liquid

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

1.2.2 Liquid Intrusion Indicator

In the phone there is placed an indicator that can give you a hint to see if the phone is damaged by liquid or not. This indicator is located in the Battery housing lower part (Fig. 1.2.1) and it is possible to see it without disassemble the phone.

On the other pictures below you will see the different between a indicator that has been in contact with liquid (Fig. 1.2.2) and with one that hasn't (Fig. 1.2.1).






If the white indicator has been in contact with liquid, it turns into a blurred indicator. 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.

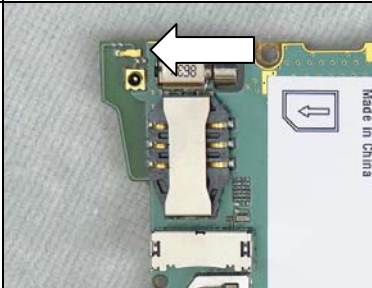

1.2.3 Action

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 Power Problems



Problem Area	Items to Inspect	Repair Action	Inspection Reference
Unit will not Power On or switch off spontaneous	Check whether the phone vibrates when you press the power key	If activation of the vibrator is detected, refer to the “Display Problems” section	
	Inspect battery connector	<ul style="list-style-type: none"> If dirty or oxidized – Clean the connector’s contact pins If adhesive is detected on the contact pins – use an eraser to rub off the adhesive If damaged – Escalate to electrical repair 	
	Inspect the area around the power key	<ul style="list-style-type: none"> If the Key On/Off is damaged, replace the Keyboard Navigation 	
	Inspect the Dome sheet area	<ul style="list-style-type: none"> Replace the PBA Navigation 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

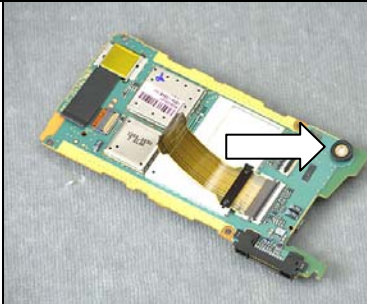
3 Network/Signal Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No Signal or Poor Signal	Before proceeding →	<ul style="list-style-type: none"> Ensure the correct SIM (GSM) or USIM (UMTS) is installed. See Test Instruction for details. 	
	Inspect antenna connector	<ul style="list-style-type: none"> If dirty or oxidized – Clean the antenna connector If damaged – Escalate to electrical repair 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the Frame Assy 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

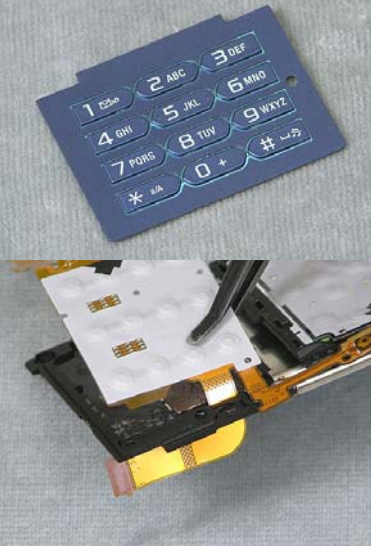

4 Audio Problems

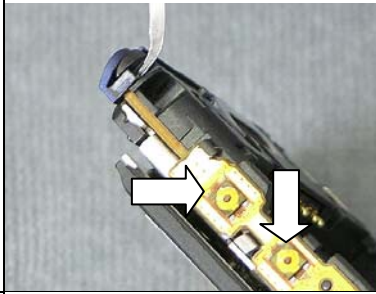

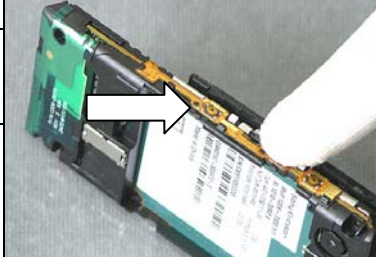
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Earspeaker: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the receiver's external ports	<ul style="list-style-type: none"> If clogged – Clean the ports and receiver's dust cloth 	
	Inspect the receiver's dust cloth	<ul style="list-style-type: none"> If dirty – Clean If damaged – Replace the Front Cover 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the Earspeaker FPC, if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Loudspeaker: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the Loudspeaker's external ports	<ul style="list-style-type: none"> If clogged – Clean the ports If damaged – Replace the Top and Bottom Cap 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	
Microphone:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the microphone's external port	<ul style="list-style-type: none"> If clogged – Clean the microphone's port hole 	


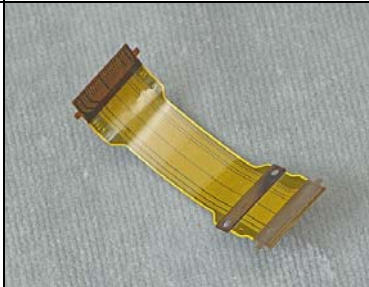
Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the Microphone	<ul style="list-style-type: none"> If dirty – Clean the Microphone 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

5 Key Problems

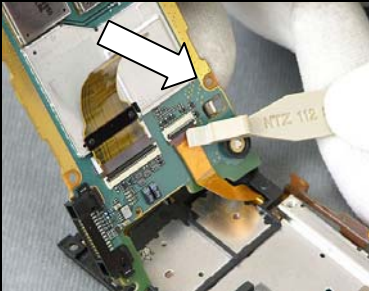
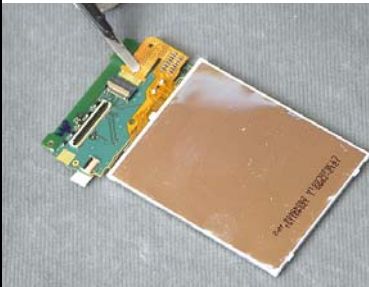
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keypad:	Inspect the area between the keyboard and the dome sheet assembly where the key is not functioning	<ul style="list-style-type: none"> If the keyboard is damaged, replace it 	
	If the issue is not resolved→	<ul style="list-style-type: none"> Replace the dome sheet 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	
Volume key:	Inspect the volume key	<ul style="list-style-type: none"> If dirty or damaged, replace the volume key 	


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the volume keys on the PBA Main Keyboard FPC	<ul style="list-style-type: none"> If damaged, replace the PBA Main Keyboard FPC 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	
Camera key	Inspect the Camera key	<ul style="list-style-type: none"> If dirty or damaged, replace the Camera key 	 
	Inspect the camera key on the PBA Main Keyboard FPC	<ul style="list-style-type: none"> If damaged, replace the PBA Main Keyboard FPC 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

6 Main Display Problems


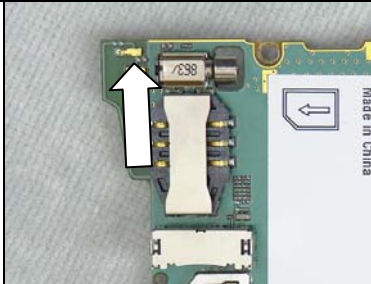
Problem Area	Items to Inspect	Repair Action	Inspection Reference
If display is not functioning	Check whether the phone vibrates when you press the power key	<ul style="list-style-type: none"> If activation of the vibrator is not detected, refer to the “Power Problems” section 	
	Inspect the display flex film's connection to the PBA Navigation	<ul style="list-style-type: none"> If improperly connected – establish proper connection If dirty or oxidized – Clean both halves of the connection If the display's portion of the connection is damaged – replace the Display If the portion of the connection on the PBA Navigation is damaged – replace the PBA Navigation 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the Half to Half FPC 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	
Display is not Illuminating properly	Refer to the “Illumination Problems” section of this document		


7 Illumination Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keypad Illumination:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the Half to Half FPC and circuit board connection	<ul style="list-style-type: none"> If dirty or oxidized – Clean both halves of the connection If the portion of the connection on the Half to Half FPC is damaged – Replace the Half to Half FPC If the portion of the connection on the circuit board is damaged – Escalate to electrical repair 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	
Main Display Illumination:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the display flex film's connection to the PBA Navigation	<ul style="list-style-type: none"> If improperly connected – establish proper connection If dirty or oxidized – Clean both halves of the connection If the display's portion of the connection is damaged – replace the Display If the portion of the connection on the PBA Navigation is damaged – replace the PBA Navigation 	


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the Half to Half FPC 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	

8 Alert Problems

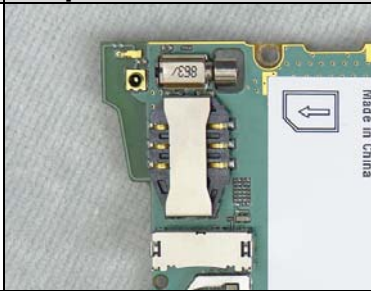
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Vibrator:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	If the issue is not resolved →	<ul style="list-style-type: none"> Send to a repair location allowed to perform electrical repairs on this product 	
Loudspeaker: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect whether the rear speaker's external port is clogged Inspect antenna-to-board spring connectors	<ul style="list-style-type: none"> If clogged – Clean the port If dirty or oxidized – Clean the antenna-to-board spring connectors If damaged – Send to a repair location allowed to perform electrical repairs on this product 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the Frame Assy 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	


9 Charging/Capacity Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Phone is not charging properly	Inspect the battery connector	<ul style="list-style-type: none"> • If dirty or oxidized – Clean the connector's contact pins • If adhesive is detected on the contact pins – use an eraser to rub off the adhesive • If damaged – Escalate to electrical repair 	
	Inspect the system connector	<ul style="list-style-type: none"> • If dirty or oxidized – Clean the connector's contacts • If damaged – Escalate to electrical repair 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Escalate to electrical repair 	


10 SIM Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
SIM undetected	Inspect the SIM reader and circuit board connection	<ul style="list-style-type: none"> If dirty or oxidized – Clean both halves of the connection If the portion of the connection on the circuit board is damaged – Escalate to electrical repair 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	
Unit indicates the incorrect SIM is inserted	Before proceeding →	<ul style="list-style-type: none"> Ensure the correct SIM (GSM) or USIM (UMTS) is installed. See Test Instruction for details. 	
	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 	


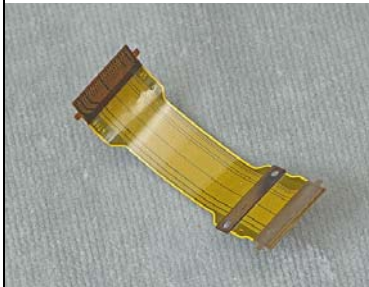

11 Data Transfer Problems using a Data Cable

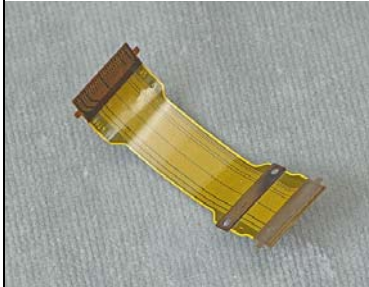
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Problem transferring data using a direct connection	Inspect the system connector	<ul style="list-style-type: none"> If dirty or oxidized – Clean the connector's contacts 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	

12 Hands-Free Problems



Problem Area	Items to Inspect	Repair Action	Inspection Reference
Hands-free not working	Inspect the system connector	<ul style="list-style-type: none"> If dirty or oxidized – Clean the connector's contacts 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	

13 Camera Problems


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the camera window	<ul style="list-style-type: none"> If dirty – Clean the camera window If scratched or damaged – Replace the Rear cover 	
	Inspect the Half to Half FPC assembly connection to the circuit board	<ul style="list-style-type: none"> If either connection is improperly connected – Reestablish proper connection If one or both of the connections is dirty or oxidized – Clean both halves of the connection(s) If any portion on the Half to Half FPC is damaged – replace the HtH FPC If the camera flex connections on the circuit board is damaged – Escalate to electrical repair 	
	Inspect the camera	<ul style="list-style-type: none"> Replace the Camera assy 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to electrical repair 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not capture an image	To determine whether or not the problem is with the camera key, try capturing an image by pressing the navigation key	<ul style="list-style-type: none"> If pressing the navigation key does take a picture – Perform the steps listed in the camera key portion of the “Key Problems” section If pressing the navigation key does not take a picture– Perform the remaining inspect/repair procedures in this section. 	
	Inspect the Half to Half FPC assembly connection to the circuit board	<ul style="list-style-type: none"> If either connection is improperly connected – Reestablish proper connection If one or both of the connections is dirty or oxidized – Clean both halves of the connection(s) If any portion on the Half to Half FPC is damaged – replace the Half to Half FPC If the camera flex assembly connections on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

14 Bluetooth Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not connect with a functional Bluetooth device	Inspect Bluetooth antenna-to-board spring connectors	<ul style="list-style-type: none"> If dirty or oxidized – Clean the Bluetooth antenna-to-board spring connectors If damaged – Escalate to electrical repair 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the Frame assy 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

15 FM Radio Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
FM Radio not working	Perform the following action→	<ul style="list-style-type: none"> If the system connector is dirty or oxidized, clean it If the system connector is damaged, escalate to an electrical repair level 	
	If the issue is not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

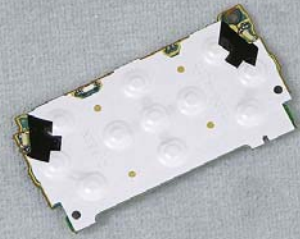
16 Accelerometer Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Accelerometer not working properly	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

17 Real Time Clock Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Real Time Clock not working properly	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

18 Slider position detection Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
If the phone doesn't detect a movement with the slider		<ul style="list-style-type: none"> Replace the PBA Navigation 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to electrical repair 	

19 Revision History

Rev.	Date	Changes / Comments
1	2008-09-26	First release
2	2009-08-11	Added the chapter about Slider position detection Problems