

Trouble Shooting Guide, Mechanical

Applicable for W760

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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 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.***

Service functions in the software

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

⇒*←←*←*

The service menu options are:

Service info

Service Settings

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

Vibrating alert

Camera

Accelerometer

Memory card

FM Radio

Real time clock

Total call time

Security





GPS


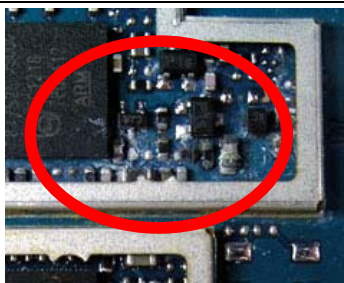
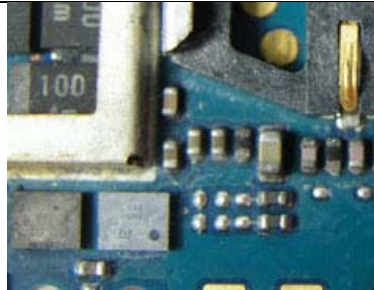
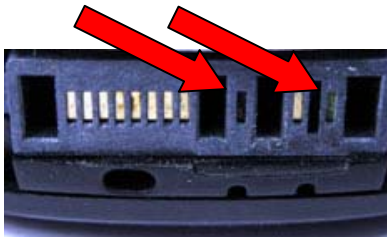
NOTE: Different names may occur depending on language setting and customization.

Misuse and other no warranty issues

A phone that is damaged due to misuse is not covered by warranty. This section shows many of the signs of misuse that are seen in the field. Please refer to local directives on how a phone that appears to be damaged due to misuse should be handled.

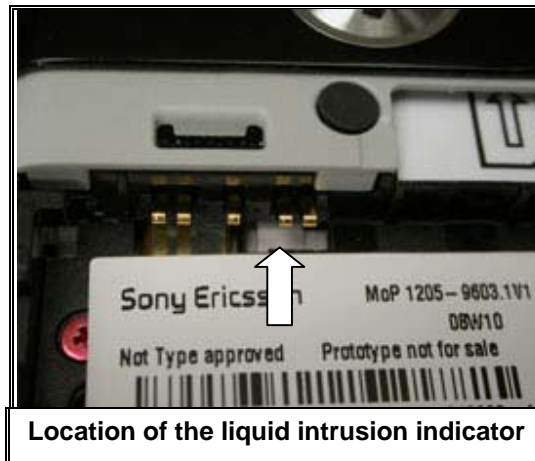
Below are some **examples** of damage due to misuse that are not covered by warranty.

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

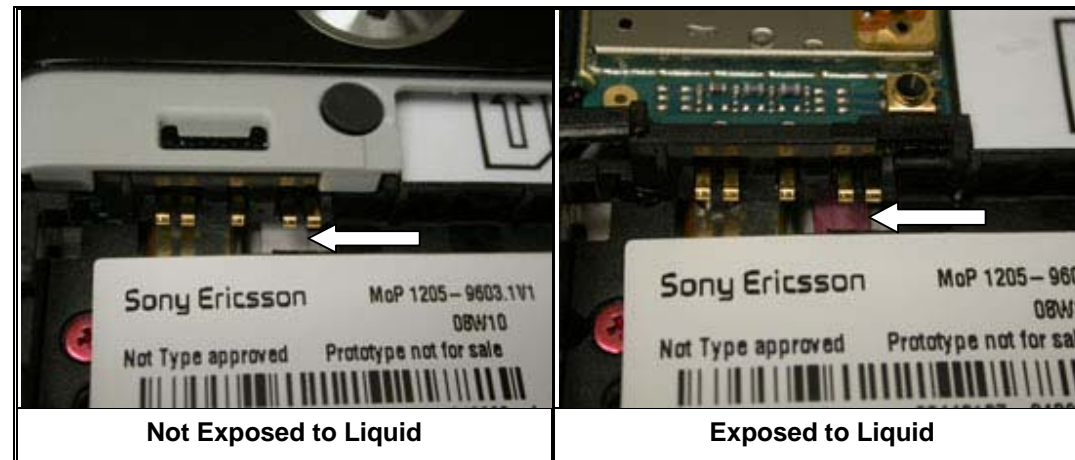
			
Corrosion components on the PCB.	Corrosion components on the PCB.	Components damaged by liquid	System connector damaged by liquid

Liquid Damage

Before any tests are performed, an inspection of the liquid intrusion indicator should be made. If the liquid intrusion indicator is red, this is an indication of possible liquid exposure. If the liquid intrusion indicator suggests liquid exposure, please consult your local SEMC representative for handling instructions.






The following pictures show the difference between an indicator that has been in contact with liquid and one that has not.




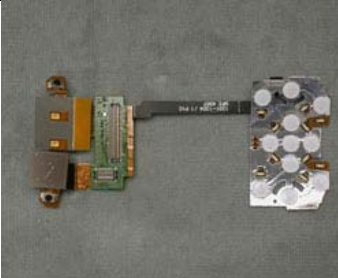
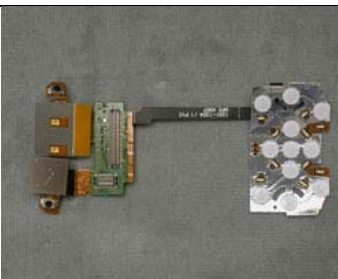
2 Accelerometer Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Accelerometer not working properly	Perform the following →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	


3 Bluetooth Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not connect with a functional Bluetooth device	Inspect the Bluetooth antenna and its contact pins on the circuit board	<ul style="list-style-type: none"> If the contact pins are dirty or oxidized, clean them If the contact pins are damaged, escalate to an electrical repair level If the Bluetooth antenna is dirty or damaged, replace the rear cover assembly 	 
	If the issue is not resolved →	<ul style="list-style-type: none"> Replace the rear cover assembly, if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

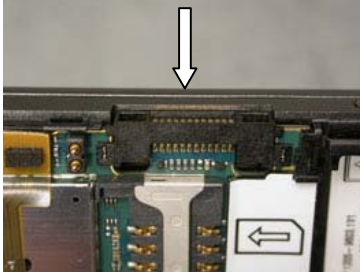
4 Camera Problems

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 front frame 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the NeoBon Flex and camera at the same time NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	
Camera not functioning properly	Perform the following action →	<ul style="list-style-type: none"> Replace the NeoBon Flex and camera at the same time NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

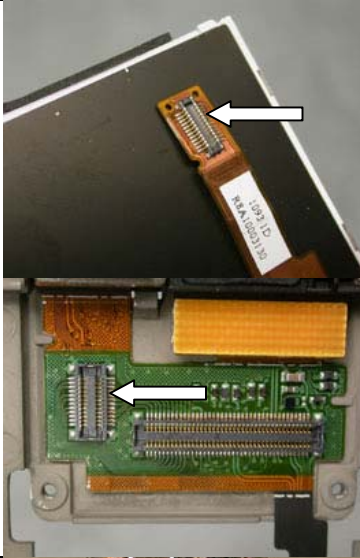

5 Charging/Capacity Problems

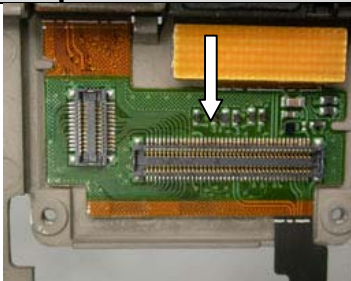

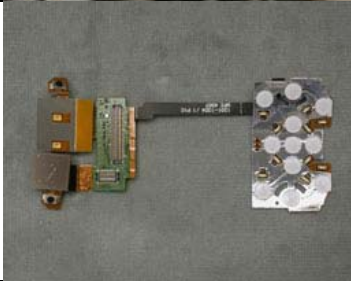
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Phone is not charging properly	Inspect the battery connector	<ul style="list-style-type: none"> If dirty or oxidized, clean the battery connector's contact pins If damaged, escalate to an electrical repair level 	
	Inspect the system connector	<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 	

6 Data Transfer Problems using a Data Cable



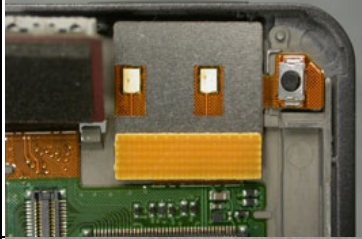

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Problem transferring data using a direct connection	Inspect the system connector	<ul style="list-style-type: none"> If the system connector is dirty or oxidized, clean it If the system connector is damaged, escalate to an electrical repair level 	
	If the issue is not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	


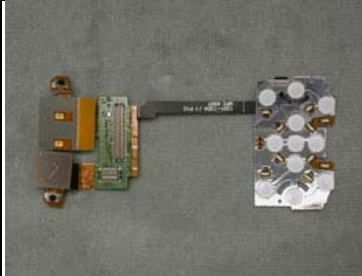
7 Display Problems

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 and whether the navigation keypad illuminates after the phone vibrates	If activation of the vibrator and illumination of the navigation keypad are not detected , refer to the "Power Problems" section	
	Inspect the display flex film's connection to the NeoBon flex	<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 LCD assembly • If the portion of the connection on the NeoBon flex is damaged – replace the NeoBon flex 	
	Plug in a good LCD assembly and see if the problem is resolved	<ul style="list-style-type: none"> • If the problem is resolved – install a new LCD assembly 	

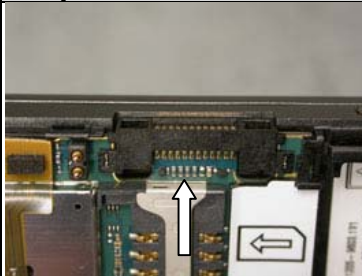
Problem Area	Items to Inspect	Repair Action	Inspection Reference
If display is not functioning (Cont)	Inspect the NeoBon/hinge flex connection	<ul style="list-style-type: none"> • If improperly connected – establish proper connection • If dirty or oxidized – Clean both halves of the connection • If either half of the connection is damaged, replace the NeoBon flex and/or hinge flex as necessary 	 
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Replace the NeoBon flex if it has not been replaced • NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	
A display is not illuminating properly	Refer to the “Illumination Problems” section of this document		

8 Ear Speaker (Receiver) Problems


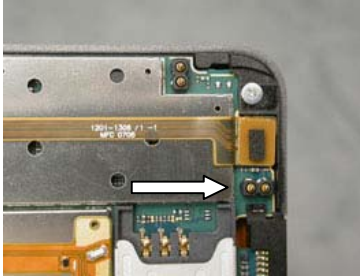

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	   
	Inspect the ear speaker's external port	<ul style="list-style-type: none"> If clogged – Replace the front cover 	
	Inspect the two connections where the ear speaker connects to the NeoBon flex	<ul style="list-style-type: none"> If one or both of the connections between the ear speaker and the NeoBon flex are dirty or damaged – Clean and/or replace the ear speaker and the NeoBon flex as necessary NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	Inspect the ear speaker housing for damage	<ul style="list-style-type: none"> If damaged, replace the ear speaker housing 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No sound or poor quality sound (Cont)	If the issue is not resolved →	<ul style="list-style-type: none"> Replace the ear speaker and ear speaker gasket if they have not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Replace the NeoBon flex if it has not been replaced NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue remains unresolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

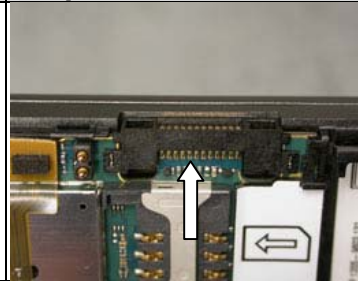
9 FM Radio Problems

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 	



10 GPS Problems



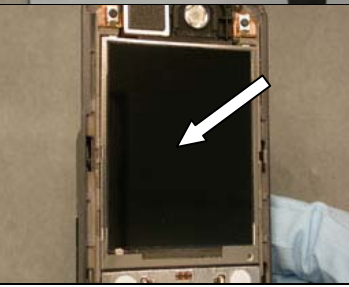
Problem Area	Items to Inspect	Repair Action	Inspection Reference
GPS not functioning	Inspect the GPS antenna and its contact pins on the circuit board	<ul style="list-style-type: none"> • If the contact pins are dirty or oxidized, clean them • If the contact pins are damaged, escalate to an electrical repair level • If the GPS antenna is dirty or damaged, replace the rear cover assembly 	 
	If the issue is not resolved →	<ul style="list-style-type: none"> • Replace the rear cover, if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

11 Hands-Free Problems


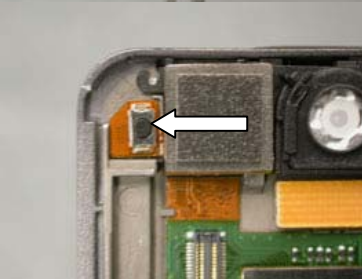

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Hands-free not working	Perform the following action→	<ul style="list-style-type: none"> If the system connector is dirty or oxidized, clean it If the system connector is damaged, escalate to an electrical repair level 	
	If the issue is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





12 Illumination Problems




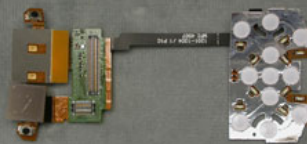
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keypad Illumination: The entire keypad will not illuminate	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the keypad FPC connection to hinge flex	<ul style="list-style-type: none"> If the connector is improperly connected – Reestablish proper connection If the connection is dirty – Clean both halves of that connection If either half of the connection is damaged – replace the hinge assembly 	
	If the issue is not resolved→	<ul style="list-style-type: none"> Replace the hinge assembly, if it has not been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

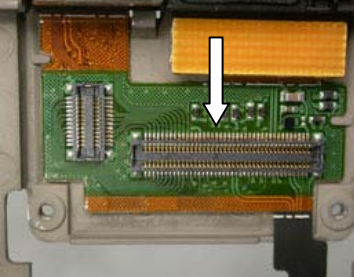

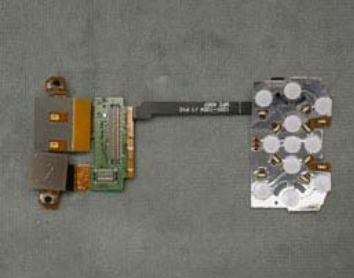

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keypad Illumination: A portion of the keypad does not illuminate	Perform the following action →	<ul style="list-style-type: none"> Replace the keypad FPC 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	
Display Illumination:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the display flex film's connection to the NeoBon flex	<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 LCD assembly If the portion of the connection on the NeoBon flex is damaged – replace the NeoBon flex 	
	Plug in a good LCD assembly and see if the problem is resolved	<ul style="list-style-type: none"> If the problem is resolved – install a new LCD assembly 	
	If the issue is not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	


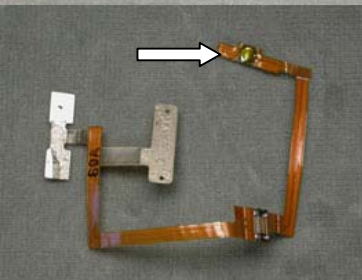
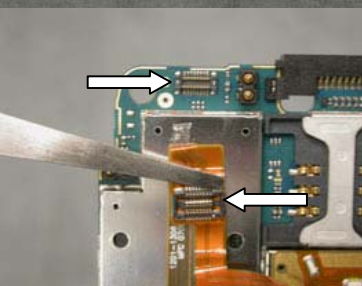
13 Key Problems



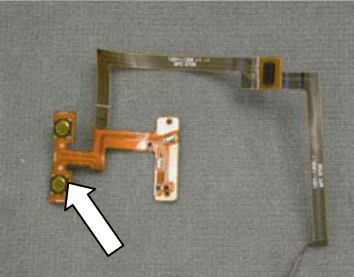
Problem Area	Items to Inspect	Repair Action	Inspection Reference
A/B Buttons: One or both of the A/B buttons are not functioning or intermittent	Visually inspect for debris between and/or damage to the key and the switch of the A/B button in question	<ul style="list-style-type: none"> • If dirty – Clean both parts • If damaged – Replace the A/B button and/or the NeoBon flex as necessary 	 
	If the issue is not resolved→	<ul style="list-style-type: none"> • Replace the NeoBon flex, if it has not already been replaced • NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

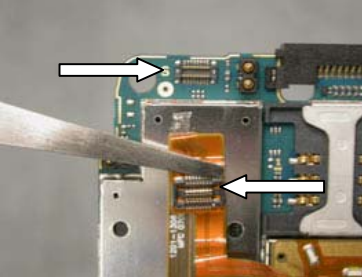

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Numeric Keyboard: A key on the numeric keyboard is not functioning or is intermittent	Perform the following action→	<ul style="list-style-type: none"> Replace the keyboard and keypad FPC 	 
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	
Numeric Keyboard: The entire numeric keyboard or a portion of the numeric keyboard is not functioning or is intermittent	Inspect the keypad FPC connection to hinge flex	<ul style="list-style-type: none"> If the connector is improperly connected – Reestablish proper connection If the connection is dirty – Clean both halves of that connection If either half of the connection is damaged – replace the hinge assembly 	
	If the issue is not resolved→	<ul style="list-style-type: none"> Replace the hinge assembly, if it has not been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Navigation Keypad: A key on the navigation keypad is not functioning or is intermittent	Visually inspect for debris between and/or damage to the navigation keypad and its dome foil.	<ul style="list-style-type: none"> • If dirty – Clean both parts • If damaged – Replace the navigation keypad and/or the NeoBon flex as necessary 	 
	If the issue is not resolved →	<ul style="list-style-type: none"> • Replace the navigation keypad, if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Replace the NeoBon flex, if it has not already been replaced • NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue remains unresolved →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

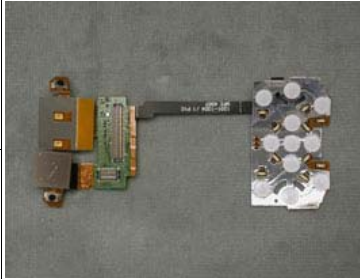
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Navigation Keypad: The entire navigation keypad or a portion of the navigation keypad is not functioning or is intermittent	Inspect the NeoBon/hinge flex connection	<ul style="list-style-type: none"> • If the connector is improperly connected, reestablish proper connection • If the connection is dirty, clean both halves of that connection • If either half of the connection is damaged, replace the NeoBon flex assembly and the hinge assembly as necessary 	 
	If the issue is not resolved →	<ul style="list-style-type: none"> • Replace NeoBon flex assembly, if it has not already been replaced • NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Replace hinge assembly, if it has not already been replaced 	
	If the issue remains unresolved →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Walkman Key:	Visually inspect for debris between and/or damage to the walkman key and walkman key switch portion of the side key flex assembly	<ul style="list-style-type: none"> • If dirty – Clean both parts • If damaged – Replace the walkman key and/or the side key flex assembly as necessary 	 
	Inspect the side key flex assembly's connection to the circuit board	<ul style="list-style-type: none"> • If the connector is improperly connected, reestablish proper connection • If the connection is dirty, clean both halves of that connection • If the half of the connection on the side key flex assembly is damaged, replace the side key flex assembly • If the half of the connection on the circuit board is damaged escalate to an electrical repair level 	

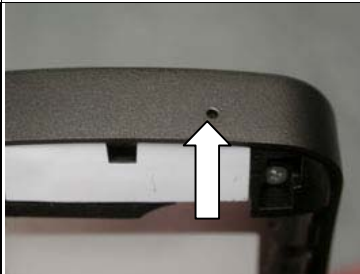
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Walkman Key: (Cont)	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace side key flex assembly if it has not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	
Volume key:	Visually inspect for debris between and/or damage to the volume key and volume key switch portion of the side key flex assembly	<ul style="list-style-type: none"> If dirty – Clean both parts If damaged – Replace the volume key and/or the side key flex assembly as necessary 	 

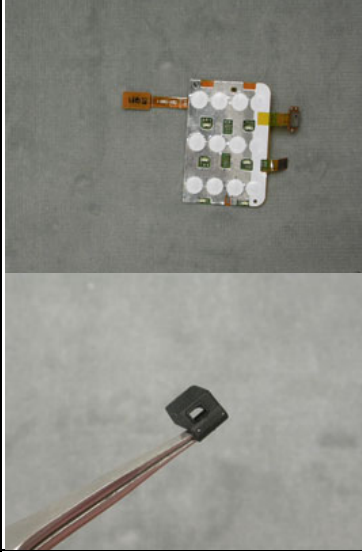
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Volume key: (Cont)	Inspect the side key flex assembly's connection to the circuit board	<ul style="list-style-type: none"> • If the connector is improperly connected, reestablish proper connection • If the connection is dirty, clean both halves of the connection • If the half of the connection on the side key flex assembly is damaged, replace the side key flex assembly • If the half of the connection on the circuit board is damaged escalate to an electrical repair level 	
	If the issue is not resolved→	<ul style="list-style-type: none"> • Replace side key flex assembly if it has not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

14 Memory Card Problems

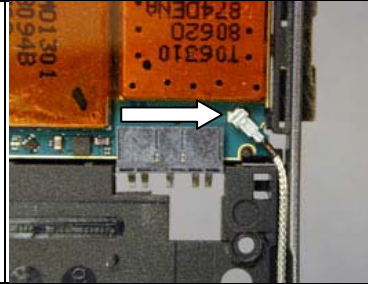

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Memory card undetected	Inspect memory card reader	<ul style="list-style-type: none"> If dirty or oxidized, clean If damaged, replace the NeoBon Flex 	
	If the issue is not resolved →	<ul style="list-style-type: none"> Replace the NeoBon Flex, if it has not already been replaced NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

15 Microphone Problems



Problem Area	Items to Inspect	Repair Action	Inspection Reference
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 microphone's external port 	


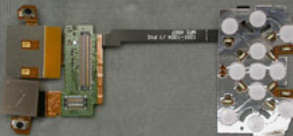
Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue is not resolved →	<ul style="list-style-type: none"> Replace the keypad FPC and microphone gasket 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

16 Network/Signal Problems


Problem Area	Items to Inspect	Repair Action	Inspection Reference
No Signal or Poor Signal	Inspect antenna coax cable-to-board connection	<ul style="list-style-type: none"> If the connector on the circuit board is damaged, escalate to an electrical repair level If the coax cable is damaged, replace the antenna assembly 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the antenna assembly, if it has not already been replaced. 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

17 Power Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Unit will not Power On	Check whether the phone vibrates when you press the power key and whether the keyboard illuminates after the phone vibrates	If activation of the vibrator and illumination of the keyboard are detected, refer to the “Display Problems” section	
	Inspect battery connector	<ul style="list-style-type: none"> • If dirty or oxidized, clean the battery connector’s contact pins • If damaged, escalate to an electrical repair level 	
	Inspect for debris and/or damage between the power key area on the navigation keypad and the dome foil on the NeoBon flex	<ul style="list-style-type: none"> • Clean and/or replace the navigation keypad and the NeoBon Flex as necessary 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Unit will not Power On (Cont.)	If the issue is not resolved →	<ul style="list-style-type: none"> • Replace the navigation keypad if it has not already been replaced • Replace the NeoBon flex if it has not already been replaced • NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	 
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	




18 Opening/Closing Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Phone does not slide open/closed smoothly	Perform the following →	<ul style="list-style-type: none"> • Replace the hinge assembly 	

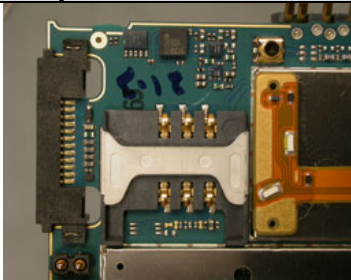
19 Real Time Clock Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Real Time Clock not working properly	Perform the following →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	




20 Speaker Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect whether the speaker's external ports are clogged	<ul style="list-style-type: none"> If clogged – Replace the navigation keypad 	
	If the issue is not resolved →	<ul style="list-style-type: none"> Replace the speaker box and the NeoBon flex NOTE: See also the updated Working Instruction regarding the NeoBon Flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

21 SIM Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
SIM undetected	Inspect the SIM holder	<ul style="list-style-type: none"> • If dirty or oxidized, clean SIM holder • If 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 	
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 	

22 Vibrator Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Vibrator not working	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the vibrator contact pads on the keypad FPC	<ul style="list-style-type: none"> If dirty, clean If damaged, replace the keypad FPC 	
	Perform the following action →	<ul style="list-style-type: none"> Replace the vibrator 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the main keypad FPC if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

23 Revision History

Rev.	Date	Changes / Comments
1	2008-May 27	Initial Release
2	2008-July-23	Added Accelerometer and Real Time Clock sections
3	2009-03-03	Added information regarding the NeoBon Flex