Trouble Shooting Guide, Mechanical

Applicable for G900

Contents

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 information

Service tests

Format internal disk

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:

Display
Camera

Touch screen
Illumination
LED's
Keyboard
Vibrator
Speaker's
Microphone
FM Radio

Memory Stick

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 <u>not</u> 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.
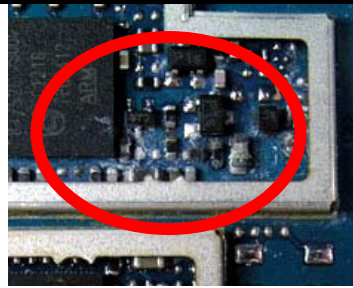
1.2.1 Action

Make a general visual inspection for misuse.

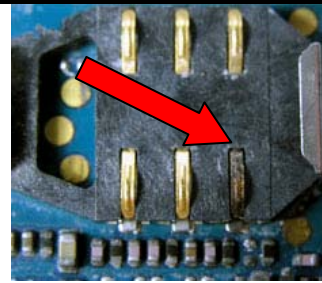Below are some **examples** of what is not covered by warranty.

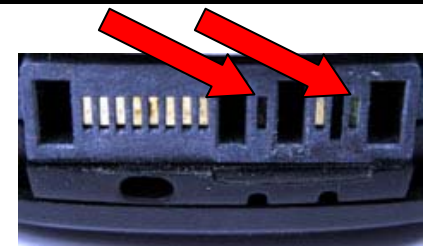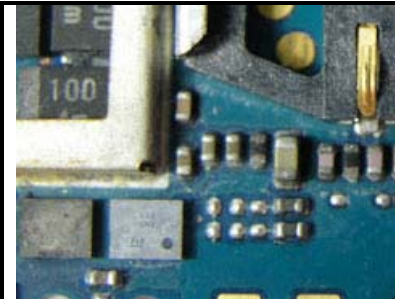|				
Front window broken due to misuse.	LCD cracked due to drop.	Clear scratches	Mark after drop	Corrosion components on the PCB.

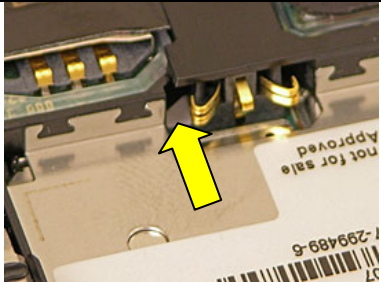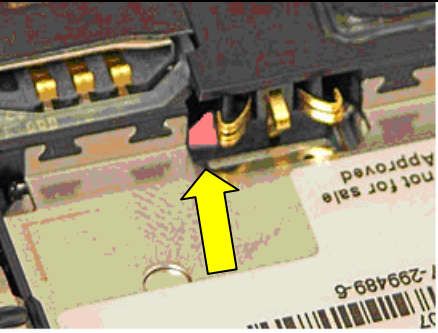|			
Corrosion components on the PCB.	Corrosion components on the PCB.	SIM reader damaged by liquid.	System connector damaged by liquid

Components around system connector damaged by liquid	System connector pad(s) damaged by liquid
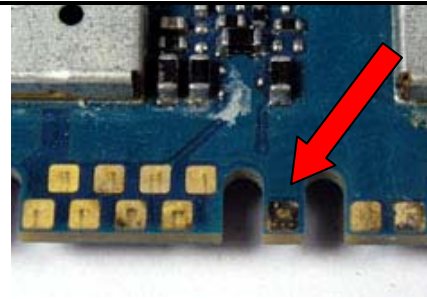
1.2.2 Liquid damage sticker

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

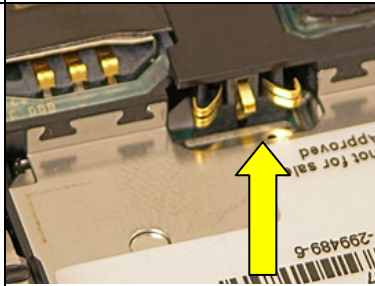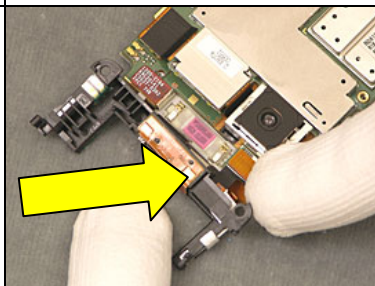| This sticker is ok	This sticker <u>is not</u> ok	
		The white sticker that has been in contact with liquid turns into a red or pink sticker. In this case you should check the phone for liquid damage. Note: There must be clear marks after liquid on the PCB before rejecting the phone for repair.
Fig. 1.2.1	**Fig. 1.2.2**	

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.

1.2.4 Gaskets

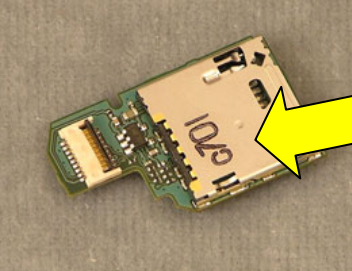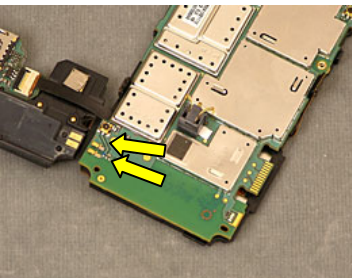Any gaskets that are damaged before or during repair should be replaced.
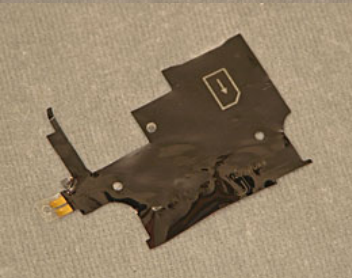
Power Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Unit will not Power On	Check whether the keyboard illuminates 15 to 20 seconds after pressing the power key	If illumination of the keyboard is detected, refer to the "Display Problems" section	
	Inspect battery connector	• If dirty or oxidized – Clean • If damaged – Send to an electrical repair location	
	Inspect whether the Flash Flex foil assembly is properly connected to the circuit board	• If improperly connected - Reestablish proper connection	

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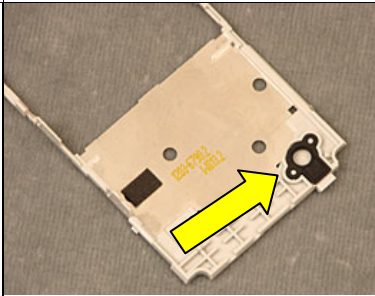| Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the power key and the Flash Flex Foil	• Make sure the power key is properly positioned in the frame. • If dirt or debris is detected – Clean both the key and the switch • If the key is damaged – Replace it • If the Flash Flex is damaged – Replace it **Note: New Flash Flex Require calibration with ITP in SL4 centre**	
	If the issue is still not resolved➔	• Escalate to an electrical repair level	
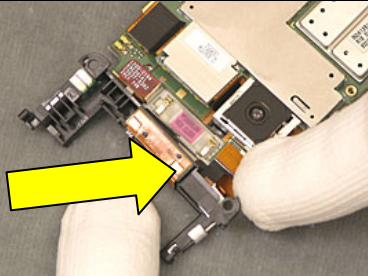
2 Network/Signal Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No Signal or Poor Signal	Inspect SIM holder	• If dirty or oxidized – Clean • If damaged – replace the PCB Sub Asm	
	If the issue has not been resolved→	• Clean the antenna-to-board connectors on the circuit board and replace the antenna flex	
	If the issue is still not resolved→	• Escalate to an electrical repair level	
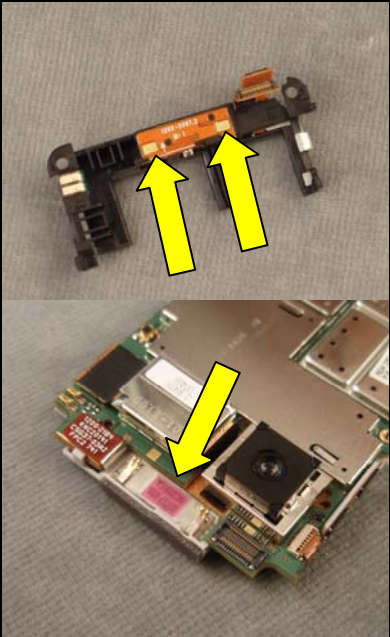
3 Audio Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Microphone:	Before proceeding →	• Perform a setting reset	
	Inspect the microphone's external port	• If clogged - Clean microphone gasket mounted on carrier inside. • If damaged. Replace it	
	Visually inspect the microphone net	• If improperly mounted - Secure properly connection • If damaged. Replace it	
	If the issue is still not resolved→	• Escalate to an electrical repair level	
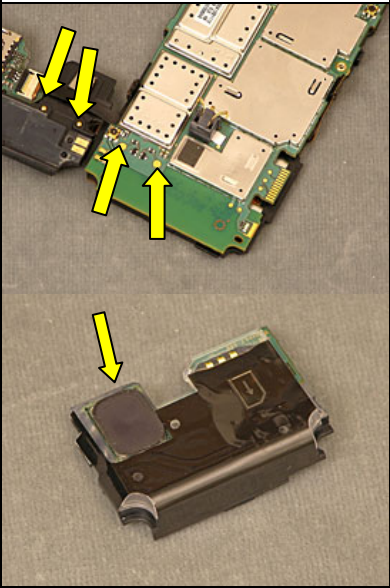
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Receiver: No sound or poor quality sound	Before proceeding →	• Perform a setting reset	
	Check if the receiver's external ports are clogged	• If clogged – Clean the external ports in the front cover complete or replace the front assy	
		• If clogged – Clean the net on the ear speaker complete or replace the ear speaker as determined necessary	
	Inspect whether the Flash Flex foil assembly is properly connected to the circuit board	• If improperly connected - Reestablish proper connection	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Receiver: No sound or poor quality sound (Cont.)	If the issue has not been resolved→	• Clean the receiver's contact pads on the Flash Flex and replace receiver • Change the ear speaker • Change the Flash Flex **Note: New Flash Flex Require calibration with ITP in SL4 centre**	
	If the issue is still not resolved→	• Escalate to an electrical repair level	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Rear Speaker: No sound or poor quality sound	Before proceeding →	• Perform a setting reset	
	Inspect whether the battery covers external ports and Loud speaker gasket are clogged	• If clogged – Clean out the battery covers external ports and replace the loudspeaker gasket	
		•	
	If the issue has not been resolved→	• Check if Pogo pins are corroded or dirty, Clean the pins if necessary • Clean the rear speaker's contact pads on the circuit board. • Replace the Speaker Box	
	If the issue is still not resolved→	• Escalate to an electrical repair level	

4 Key Problems

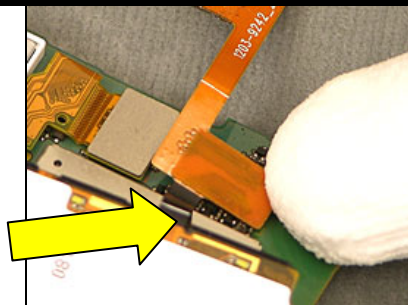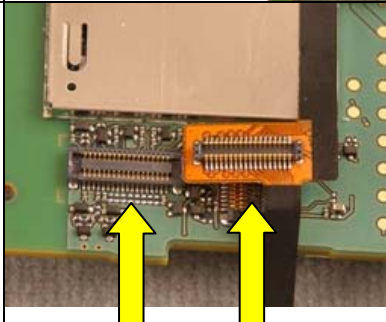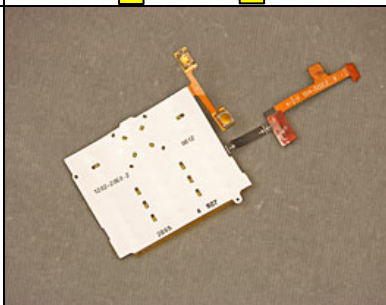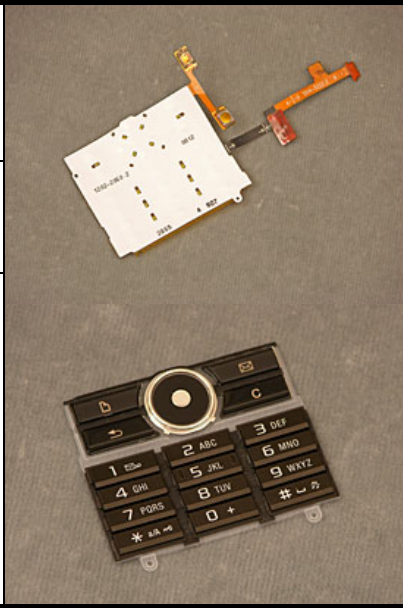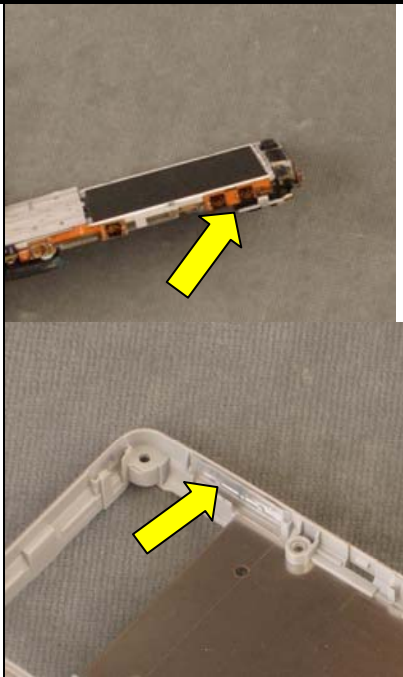| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keyboard: None of the keys on the keyboard are functioning (excluding the navigation key)	Inspect whether the keyfoil assembly is properly connected to the circuit board	• If improperly connected - Reestablish proper connection	
	Inspect each half of the keyfoil to circuit board connection	• If dirty or oxidized – Clean both halves of the connection • If the portion of the connection on the key foil complete is damaged - Replace the key foil complete • If the portion of the connection on the circuit board is damaged – Send to an electrical repair location	
	If the issue has not been resolved →	• Replace the key foil complete, if it has not already been replaced	
	If the issue is still not resolved→	• Escalate to an electrical repair level	

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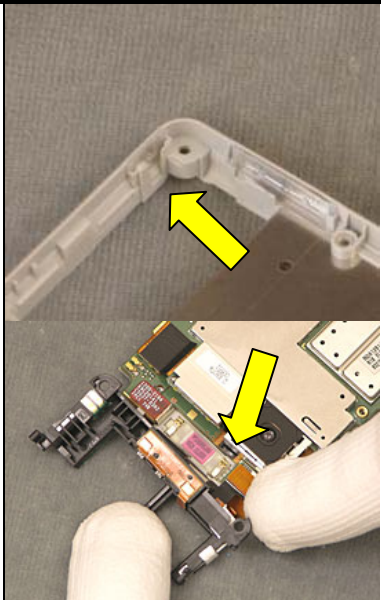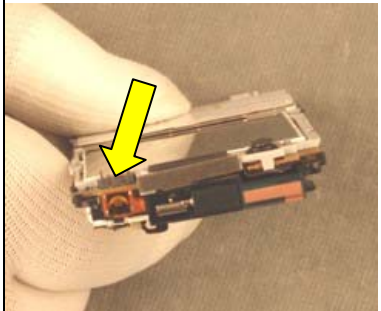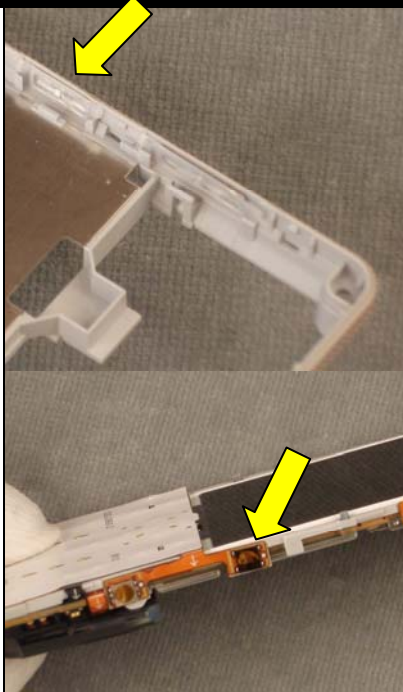| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Numeric Keyboard: A key on the numeric keyboard is not functioning or is intermittent	Inspect for debris between and/or damage to the numeric keyboard and the corresponding portion of the keyfoil assembly.	• If debris is found – Clean both parts • If damage is seen – Replace the numeric keyboard and/or the key foil complete as necessary	
	If the issue has not been resolved →	• Replace the numeric keyboard and the key foil complete, if they have not already been replaced	
	If the issue is still not resolved→	• Escalate to an electrical repair level	

![Sony Ericsson logo]

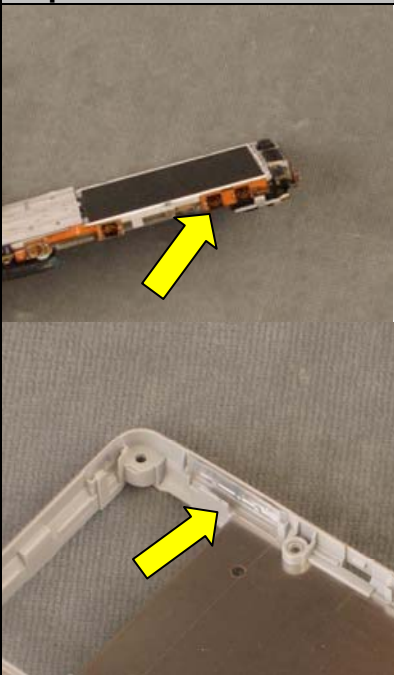| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Volume key: A direction of the key is not functioning or is intermittent	Inspect the portion of the volume key that is not functioning and its corresponding switch.	• Make sure the volume flex is properly positioned in the PCB assembly. • If the switch is damaged – Change the Flex Foil • Make sure the volume key is properly positioned in the frame assembly. • If dirt or debris is detected – Clean the volume key and both switches • If the key is damaged – Replace it	
	If the issue has not been resolved →	• Escalate to an electrical repair level	

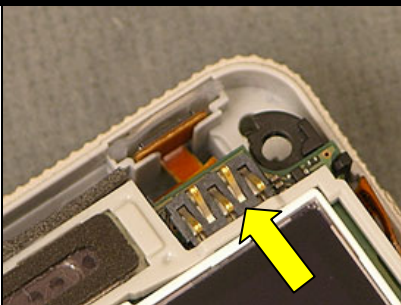| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Power Key:	Inspect the power key and the power key's switch	• Make sure the power key is properly positioned in the phone. • If dirt or debris is detected – Clean both the key and the switch • If the key is damaged – Replace it • If improperly connected - Reestablish proper connection	
	Inspect whether the Flash Flex foil assembly is properly connected to the circuit board	• If the switch is damaged – Change the Flash Flex **Note: New Flash Flex Require calibration with ITP in SL4 centre**	
	If the issue has not been resolved ➔	• Escalate to an electrical repair level	

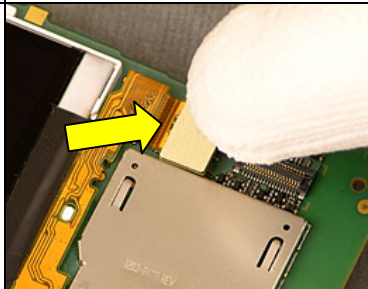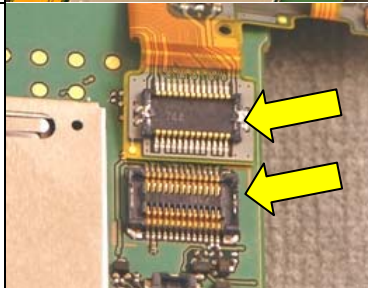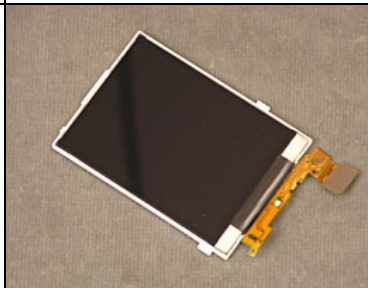| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Hold Key:	Inspect the camera key and its switch	• Make sure the hold key is properly positioned in the front cover. • Make sure the hold switch is properly positioned in the Frame assy. • If dirt or debris is detected – Clean both the hold key and its switch • If the hold key is damaged – Replace it • If the hold key portion of the dome foil assembly is damaged, replace the dome foil assembly	
	If the issue is still not resolved→	• Escalate to an electrical repair level	

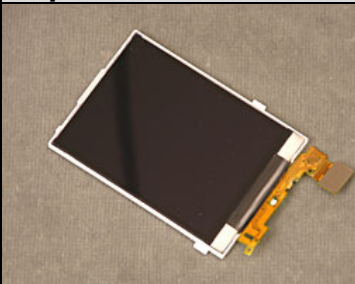| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Volume key: A direction of the key is not functioning or is intermittent	Inspect the portion of the volume key that is not functioning and its corresponding switch.	• Make sure the volume flex is properly positioned in the PCB assembly. • If the switch is damaged – Change the Flex Foil • Make sure the volume key is properly positioned in the frame assembly. • If dirt or debris is detected – Clean the volume key and both switches • If the key is damaged – Replace it	
	If the issue has not been resolved →	• Escalate to an electrical repair level	

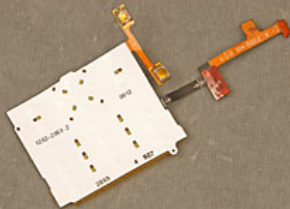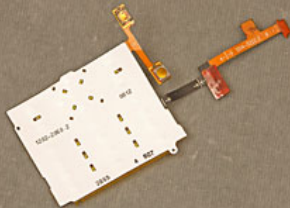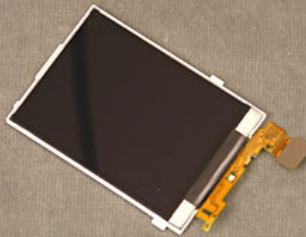| Touch screen:	Inspect the Touch screen contact pin on the circuit board.	• Clean the Touch screen contact pin on the circuit board. • Clean the Touch screen contact pad on the Front Asm	
	If the issue has not been resolved →	• Replace the Front Asm	
	If the issue is still not resolved→	• Escalate to an electrical repair level	

5 Display Problems

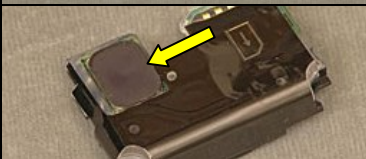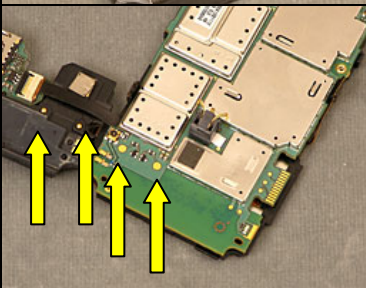| Problem Area	Items to Inspect	Repair Action	Inspection Reference
If a display is not functioning	Check whether the keyboard illuminates 15 to 20 seconds after pressing the power key	• If the keyboard **does not illuminate**, refer to the "Power Problems" section	
	Inspect whether the LCD assembly's flex film is properly connected to the circuit board	• If improperly connected - Reestablish proper connection	
	Inspect each half of the LCD to circuit board connection	• If dirty or oxidized – Clean both halves of the connection • If the portion of the connector on the LCD is damaged - Replace the LCD • If the portion of the connector on the circuit board is damaged – Escalate to an electrical repair level	
	If the issue has not been resolved →	• Replace the LCD if it has not been replaced	
	If the issue is still not resolved →	• Escalate to an electrical repair level	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
If a display has lines or missing pixels	Perform the following action →	• Replace the Diplay	
	If the issue is still not resolved →	• Escalate to an electrical repair level	

6   Illumination Problems

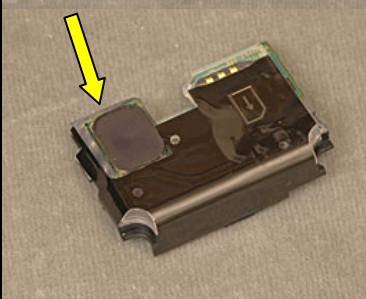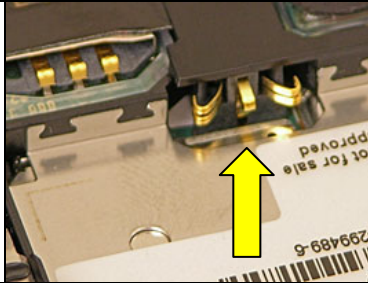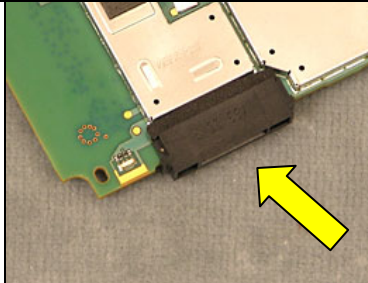| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keyboard Illumination: If the numeric keyboard illuminates	Perform the following action →	• Replace the key foil complete	
	If the issue is still not resolved→	• Escalate to an electrical repair level	
Keyboard Illumination: A portion of the numeric keyboard does not illuminate	Perform the following action →	• Replace the key foil complete	
	If the issue is still not resolved→	• Escalate to an electrical repair level	
Display Illumination:	Before proceeding →	• Perform a setting reset	
	Perform the following action →	• Replace the Display	
	If the issue is still not resolved →	• Escalate to an electrical repair level	

7 Alert Problems

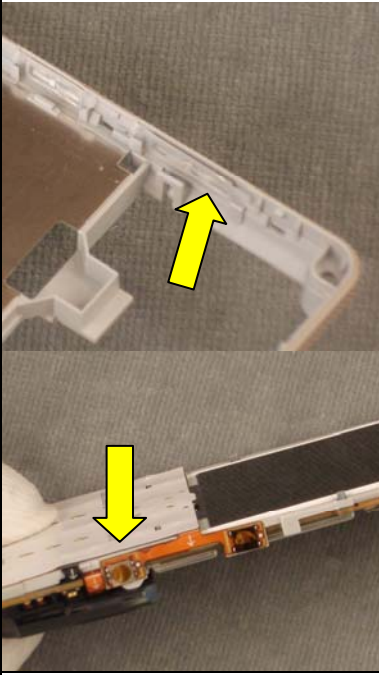| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Rear speaker: No sound or poor quality sound	Inspect whether the Battery cover external ports and Loudspeaker gasket are clogged	• If clogged – Clean out the Battery covers external ports.	
		• If the Loudspeaker gasket is damaged or clogged – replace it	
	If the issue has not been resolved➔	• Re-elevate the connector springs if they are depressed • Clean the rear speaker's contact pads on the circuit board. • Replace the Speaker Box	
	If the issue is still not resolved➔	• Escalate to an electrical repair level	
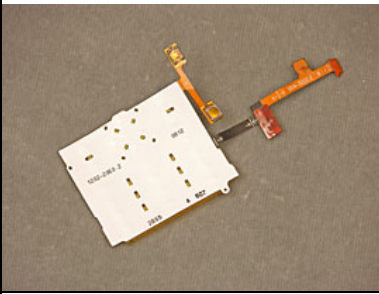
8 Charging/Capacity Problems

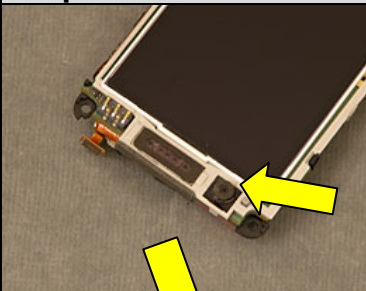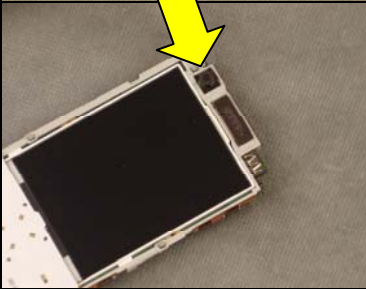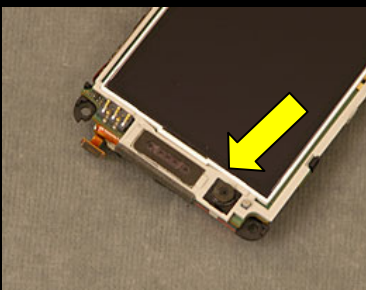| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Phone is not charging properly	Inspect the battery connector	• If dirty or oxidized – Clean • If damaged – Send to an electrical repair location	
	If the issue has not been resolved →	• Replace the I/O connector	
	If the issue is still not resolved →	• Escalate to an electrical repair level	

9   Rear Camera Problems

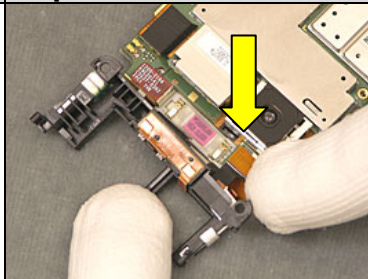| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the rear camera's lens	• If dirty – Clean the camera's lens	
	Visually inspect the camera cover lens and gasket	• If dirty – Clean the camera's lens • If damaged change the gasket • If the lens is scratched – Replace the Camera cover	
	Visually inspect the camera gasket in the frame	• If damaged change the gasket	
	If the issue has not been resolved →	• Replace the rear camera module, if it has not yet been replaced **Note: New Camera module Require calibration with ITP in SL4 centre**	
	If the issue is still not resolved →	• Escalate to an electrical repair level	
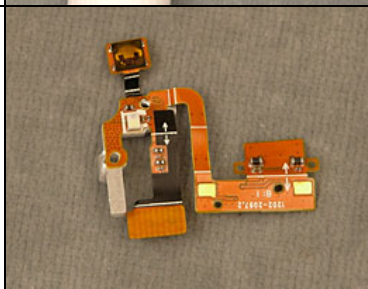
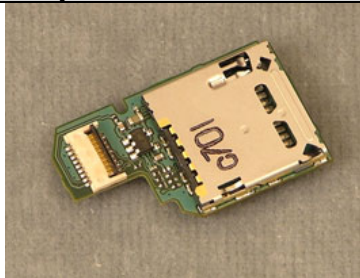| Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the camera key and its switch	- Make sure the camera key is properly positioned in the front cover. - Make sure the camera switch is properly positioned in the board frame. - If dirt or debris is detected – Clean both the camera key and its switch - If the key is damaged – Replace it	
	If the issue has not been resolved →	Replace the key foil complete	
	If the issue is still not resolved →	Escalate to an electrical repair level	

10 Video Call Camera Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the VGA camera window	• If dirty – Clean the VGA camera window • If scratched – Replace VGA camera window • If damaged – Replace VGA Camera	
	Visually inspect the Camera Gasket	• If damaged – replace it	
	If the issue has not been resolved →	• Escalate to an electrical repair level	
Do not see image when in video call mode	Perform the following action →	• Replace VGA Camera	
	If the issue has not been resolved →	• Escalate to an electrical repair level	

11 Flash Problems

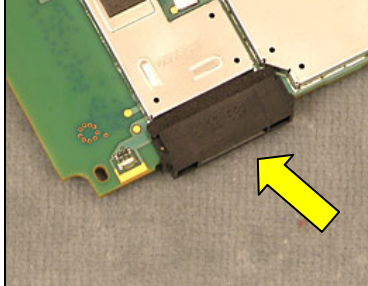| Problem Area	Items to Inspect	Repair Action	Inspection Reference
If the Flash don't work.	Perform the following action →	• Clean the contacts and reestablish proper connection.	
	If the issue is still not resolved →	• Change the Flash Flex • **Note: New Flash Flex Require calibration with ITP in SL4 centre**	
	If the issue is still not resolved →	• Escalate to an electrical repair level	

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12 SIM Problems

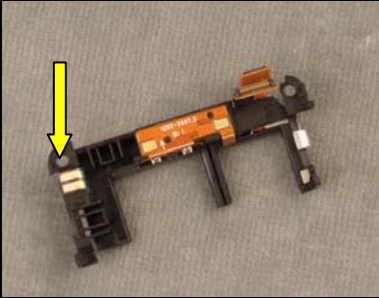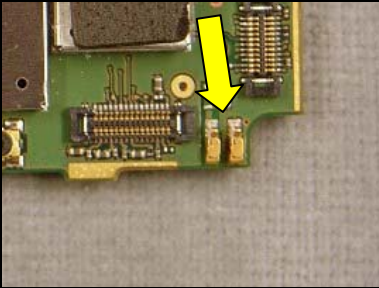| Problem Area	Items to Inspect	Repair Action	Inspection Reference
SIM undetected	Inspect SIM holder Inspect BTB flex + connectors	• If dirty or oxidized – Clean • If damaged – replace the PCB Sub Asm	
	If the issue has not been resolved →	• Escalate to an electrical repair level	
Unit indicates the incorrect SIM is inserted	Check whether the phone is locked to a particular carrier and whether the correct carrier's SIM is being used	• Use correct carrier SIM or test SIM	
	If the issue has not been resolved →	• Escalate to an electrical repair level	

13 Data Transfer Problems using a Data Cable

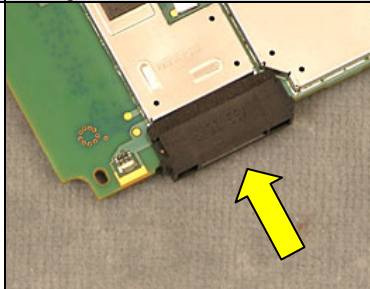| Problem Area	Items to Inspect	Repair Action	Inspection Reference
Problem transferring data using a direct connection	Perform the following action →	• Replace the I/O connector	
	If the issue has not been resolved →	• Escalate to an electrical repair level	

14 Bluetooth and WLAN Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not connect with a functional Bluetooth device or connect to Wlan	Inspect the Bluetooth/Wlan antenna contact surfaces	• If dirty – Clean	
	Inspect the Bluetooth/Wlan antenna contacts on the PCB	• If dirty – Clean	
	If the issue has not been resolved	Replace the carrier	
	If the issue has not been resolved →	• Escalate to an electrical repair level	

15 Hands-Free Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Hands-free will not work	Perform the following action →	• Replace the I/O connector • Check connector pads on PWB, clean if necessary	
	If the issue has not been resolved→	• Escalate to an electrical repair level	

16 Revision History

Rev.	Date	Changes / Comments
1	2008-05-21	Initial Release