

# Trouble Shooting Guide, Mechanical

Applicable for T700i, T700c

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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. Use the joystick.

⇒\*←←\*←\*

The service menu options are:

**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**

**Camera**

**Flash LED**

**Memory Stick**

**FM Radio**

**Real time clock**

**Total call time**





**Security**


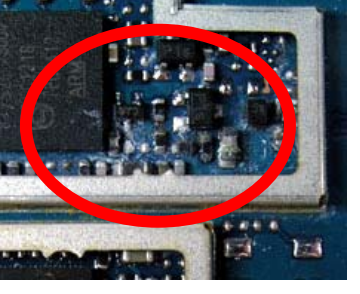

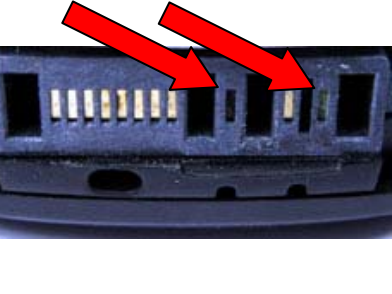
**NOTE: Different names may occur depending on language setting and customization.**

- 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.

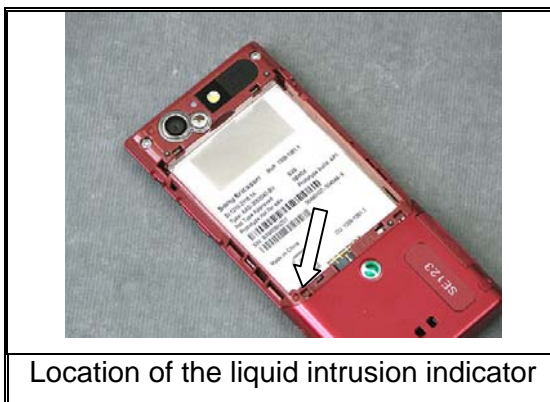
Below are some **examples** of damage due to misuse that are not covered by warranty.

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

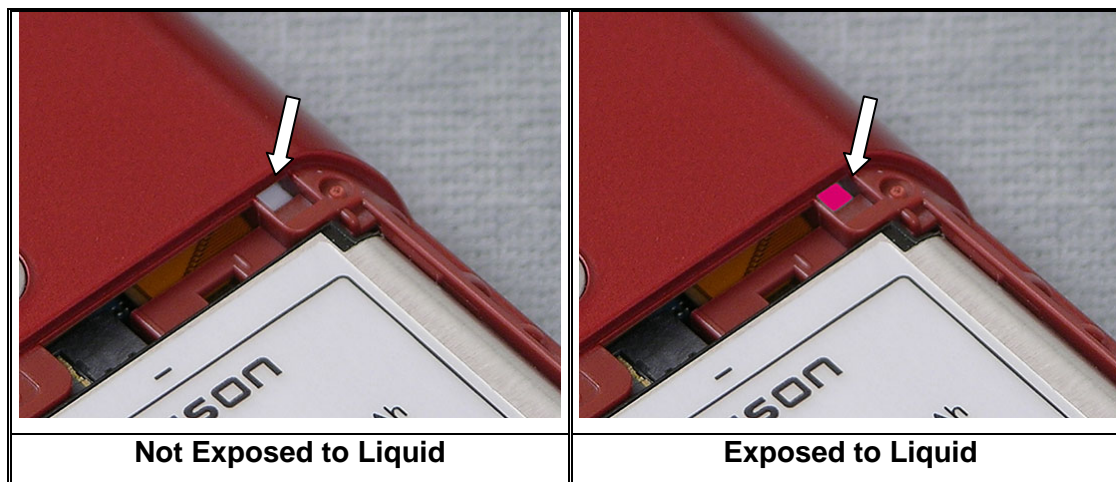
			
Corrosion components on the PCB.	Corrosion components on the PCB.	Components damaged by liquid	System connector damaged by liquid

## 2 Liquid Damage Inspection

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.

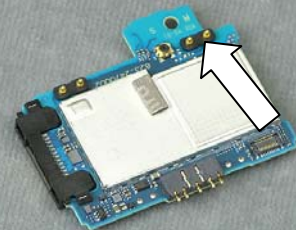





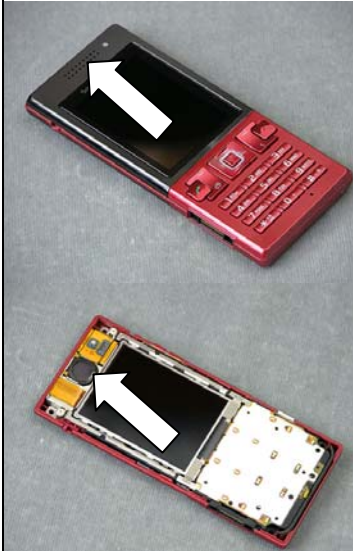
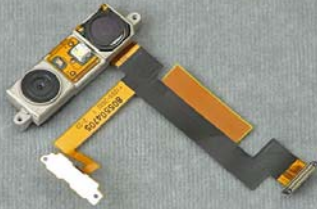
### 3 Power Problems

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"> <li>• If dirty or oxidized – Clean the connector's contact pins</li> <li>• If adhesive is detected on the contact pins – use an eraser to rub off the adhesive</li> <li>• If damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
	Inspect the area between the power key portion of the keypad and the Key Flex Module	<ul style="list-style-type: none"> <li>• If the keypad is damaged, replace it</li> <li>• Replace the Key Flex Module</li> </ul>	 
	If the issue is still not resolved→	<ul style="list-style-type: none"> <li>• Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	

## 4 Network/Signal Problems

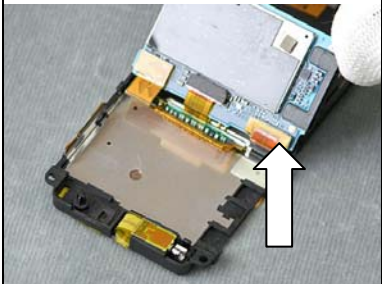

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No Signal or Poor Signal	Before proceeding →	<ul style="list-style-type: none"> <li>Ensure the correct SIM (GSM) or USIM (UMTS) is installed. See Test Instruction for details.</li> </ul>	
	Inspect antenna-to-board spring connectors	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean the antenna-to-board spring connectors</li> <li>If damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Ant Main PIFA</li> </ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	

## 5 Audio Problems



Problem Area	Items to Inspect	Repair Action	Inspection Reference
<b>Receiver:</b> No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a setting reset</li> </ul>	
	Inspect the Receiver's external ports	<ul style="list-style-type: none"> <li>If clogged – Clean the ports and Receiver's dust cloth</li> </ul>	
	Inspect the Receiver's dust cloth	<ul style="list-style-type: none"> <li>If dirty – Clean</li> <li>If damaged – Replace the Camera Flex Module</li> </ul>	



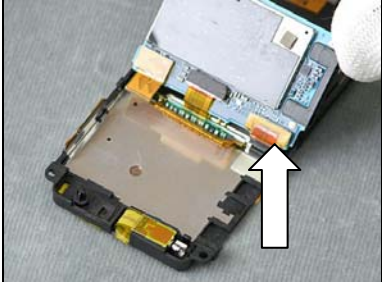



Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the connection where the Camera Flex Module connects to the Frame PWB Sub Assembly	<ul style="list-style-type: none"><li>• If either connection is improperly connected – Reestablish proper connection</li><li>• If one or both of the connections is dirty or oxidized – Clean both halves of the connection(s)</li><li>• If any portion on the camera assembly flex film is damaged – replace the Camera Flex Module</li><li>• If either of the Camera Flex Module connections on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product</li></ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"><li>• Replace the Camera Flex Module, if it has not been replaced</li></ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"><li>• Send to a repair location allowed to perform electrical repairs on this product</li></ul>	


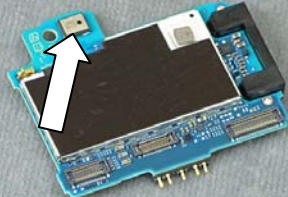


Problem Area	Items to Inspect	Repair Action	Inspection Reference
<b>Rear Speaker:</b> No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"><li>Perform a setting reset</li></ul>	
	Inspect whether the rear Speaker's external port is clogged	<ul style="list-style-type: none"><li>If clogged – Clean the port and rear Speaker cloth</li></ul>	
	Inspect the rear Speaker cloth	<ul style="list-style-type: none"><li>If dirty – Clean</li><li>If damaged – Replace the Camera Flex Module</li></ul>	


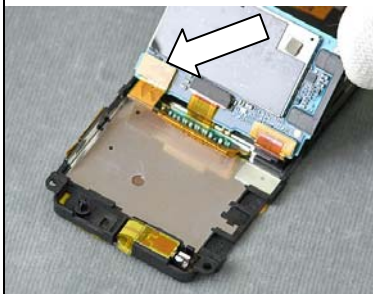


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the two Camera Flex Module connections to the circuit board	<ul style="list-style-type: none"><li>• If either connection is improperly connected – Reestablish proper connection</li><li>• If one or both of the connections is dirty or oxidized – Clean both halves of the connection(s)</li><li>• If any portion on the camera assembly flex film is damaged – replace the Camera Flex Module</li><li>• If either of the Camera Flex Module connections on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product</li></ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"><li>• Replace Camera Flex Module if it has not already been replaced</li></ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"><li>• Send to a repair location allowed to perform electrical repairs on this product</li></ul>	



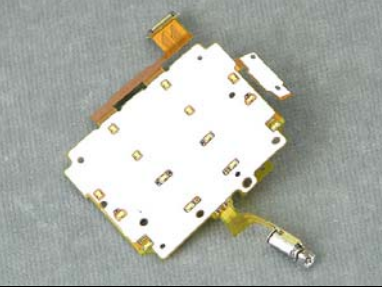

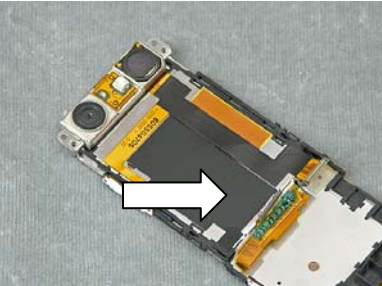
Problem Area	Items to Inspect	Repair Action	Inspection Reference
<b>Microphone:</b>	Before proceeding →	<ul style="list-style-type: none"><li>Perform a setting reset</li></ul>	
	Inspect the Microphone's external port	<ul style="list-style-type: none"><li>If clogged –Clean the Microphone's port hole</li></ul>	
	Inspect the Microphone	<ul style="list-style-type: none"><li>If dirty – Clean the Microphone</li><li>If damaged – Send to a repair location allowed to perform electrical repairs on this product</li></ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"><li>Send to a repair location allowed to perform electrical repairs on this product</li></ul>	

## 6 Key Problems


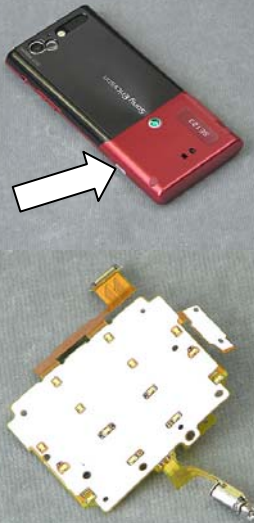
Problem Area	Items to Inspect	Repair Action	Inspection Reference
<b>Keypad:</b> A key on the Keypad is not functioning or is intermittent	Inspect the area between the Keypad and the Key Flex Module where the key is not functioning	<ul style="list-style-type: none"> <li>If the Keypad is damaged, replace it</li> </ul>	
	If the issue is not resolved→	<ul style="list-style-type: none"> <li>Replace the Key Flex Module</li> </ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
Entire Keypad or a portion of the Keypad is not functioning or is intermittent	Inspect the Key Flex Module to circuit board connection	<ul style="list-style-type: none"> <li>If the connector is improperly connected – Reestablish proper connection</li> <li>If the connection is dirty – Clean both halves of that connection</li> <li>If the Key Flex Module's half of the connection is damaged – replace the Key Flex Module</li> <li>If the half of the connection on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	



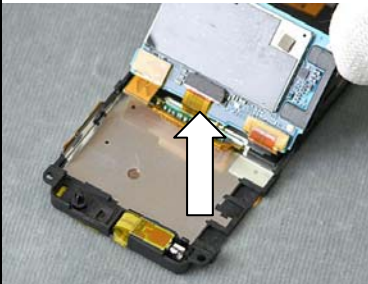



Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue is not resolved→	<ul style="list-style-type: none"><li>Replace the Key Flex Module</li></ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"><li>Send to a repair location allowed to perform electrical repairs on this product</li></ul>	
<b>Key Volume:</b>	Inspect the Key Volume	<ul style="list-style-type: none"><li>If dirty or damaged, replace the Key Volume</li></ul>	
	Inspect the volume switch on the Camera Flex Module	<ul style="list-style-type: none"><li>If damaged, replace the Camera Flex Module</li></ul>	

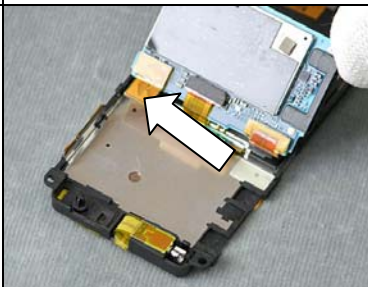
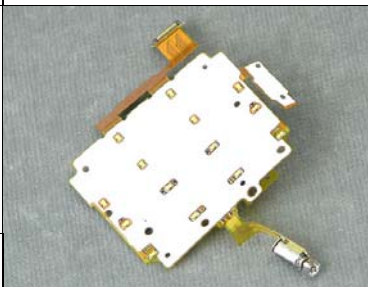
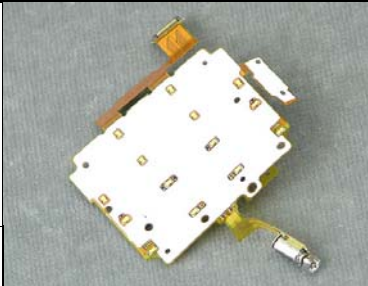


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace Camera Flex Module if it has not already been replaced</li> </ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
<b>Key Camera</b>	Inspect the area between the Key Camera and the Key Flex Module	<ul style="list-style-type: none"> <li>If the Key Camera is damaged, replace it</li> <li>If the Key Camera portion of the Key Flex Module is damaged, replace the Key Flex Module</li> </ul>	
	If the issue is not resolved→	<ul style="list-style-type: none"> <li>Replace the Key Flex Module, if it has not already been replaced</li> </ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	

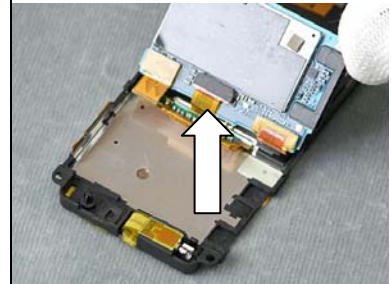

## 7 Display Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
If display is not functioning	Check whether the phone vibrates when you press the <b>power key</b>	<ul style="list-style-type: none"> <li>If activation of the Vibrator is <b>not detected</b>, refer to the “Power Problems” section</li> </ul>	
	Inspect the Display 2,02A-SI TFT flex film’s connection to the circuit board	<ul style="list-style-type: none"> <li>If improperly connected – establish proper connection</li> <li>If dirty or oxidized – Clean both halves of the connection</li> <li>If the display’s portion of the connection is damaged – replace the Display 2,02A-SI TFT</li> <li>If the portion of the connection on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Display 2,02A-SI TFT if it has not been replaced</li> </ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
Display is not Illuminating properly	Refer to the “Illumination Problems” section of this document		

## 8 Illumination Problems




Problem Area	Items to Inspect	Repair Action	Inspection Reference
<b>Keypad Illumination: The entire Keypad will not illuminate</b>	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a setting reset</li> </ul>	
	Inspect both halves of the Key Flex Module to circuit board connection	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean both halves of the connection</li> <li>If the portion of the connection on the Key Flex Module is damaged – Replace the Key Flex Module</li> <li>If the portion of the connection on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the dome foil assembly, if it has not been replaced</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
<b>Keypad Illumination: A portion of the Keypad does not illuminate</b>	Perform the following action →	<ul style="list-style-type: none"> <li>Replace the Key Flex Module</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	



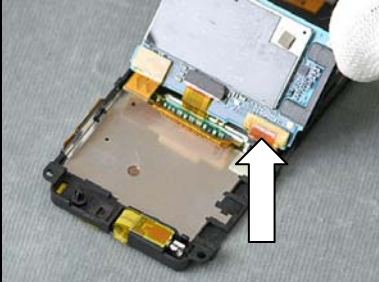

Problem Area	Items to Inspect	Repair Action	Inspection Reference
<b>Display Illumination:</b>	Before proceeding →	<ul style="list-style-type: none"><li>• Perform a setting reset</li></ul>	
	Inspect the Display 2,02A-SI TFT flex film's connection to the circuit board	<ul style="list-style-type: none"><li>• If improperly connected – establish proper connection</li><li>• If dirty or oxidized – Clean both halves of the connection</li><li>• If the Display 2,02A-SI TFT portion of the connection is damaged – replace the Display 2,02A-SI TFT</li><li>• If the portion of the connection on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product</li></ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"><li>• Replace the Display 2,02A-SI TFT if it has not been replaced</li></ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"><li>• Send to a repair location allowed to perform electrical repairs on this product</li></ul>	





## 9 Alert Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
<b>Vibrator:</b>	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a setting reset</li> </ul>	
	If the issue is not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
<b>Rear speaker:</b> No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> <li>Perform a setting reset</li> </ul>	
	Inspect whether the rear Speaker's external port is clogged	<ul style="list-style-type: none"> <li>If clogged – Clean the port and rear Speaker cloth</li> </ul>	
	Inspect the rear Speaker cloth	<ul style="list-style-type: none"> <li>If dirty – Clean</li> <li>If damaged – Replace the Camera Flex Module</li> </ul>	 

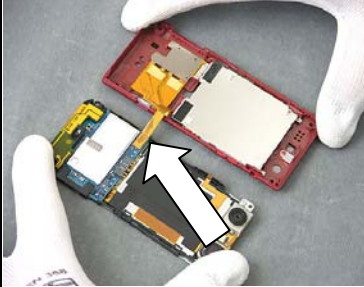
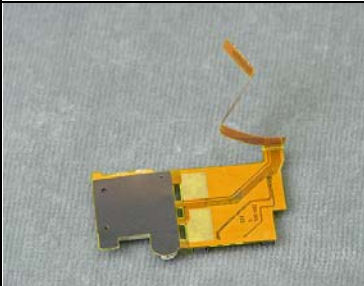


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the two Camera Flex Module connections to the circuit board	<ul style="list-style-type: none"><li>• If either connection is improperly connected – Reestablish proper connection</li><li>• If one or both of the connections is dirty or oxidized – Clean both halves of the connection(s)</li><li>• If any portion on the Camera Flex Module flex film is damaged – replace the Camera Flex Module</li><li>• If either of the Camera Flex Module connections on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product</li></ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"><li>• Replace Camera Flex Module if it has not already been replaced</li></ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"><li>• Send to a repair location allowed to perform electrical repairs on this product</li></ul>	


## 10 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"> <li>• If dirty or oxidized – Clean the connector's contact pins</li> <li>• If adhesive is detected on the contact pins – use an eraser to rub off the adhesive</li> <li>• If damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
	Inspect the system connector	<ul style="list-style-type: none"> <li>• If dirty or oxidized – Clean the connector's contacts</li> <li>• If damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>• Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	


## 11 SIM Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
SIM undetected	Inspect Camera Flex Module to SIM flex connection	<ul style="list-style-type: none"> <li>If the connector is improperly connected – Reestablish proper connection</li> <li>If the connection is dirty – Clean both halves of that connection</li> <li>If SIM flex half of the connection is damaged – replace the SIM/M2 Flex Module</li> <li>If Camera Flex Module half of the connection is damaged – replace the Camera Flex Module</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the SIM/M2 Flex Module, if it has not been replaced</li> </ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
Unit indicates the incorrect SIM is inserted	Before proceeding →	<ul style="list-style-type: none"> <li>Ensure the correct SIM (GSM) or USIM (UMTS) is installed. See Test Instruction for details.</li> </ul>	
	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"> <li>Use Correct Carrier SIM or test SIM</li> </ul>	

## 12 Data Transfer Problems using a Data Cable


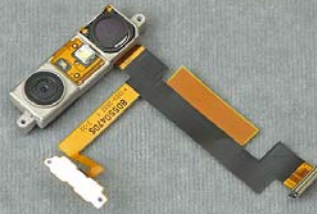
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Problem transferring data using a direct connection	Inspect the system connector	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean the connector's contacts</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: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

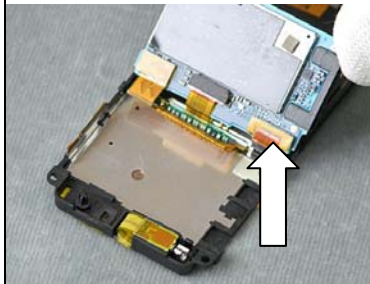

## 13 Hands-Free Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Hands-free not working	Inspect the system connector	<ul style="list-style-type: none"> <li>If dirty or oxidized – Clean the connector's contacts</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	





## 14 Camera Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the <b>rear camera window</b>	<ul style="list-style-type: none"> <li>If dirty – Clean the rear camera window</li> <li>If scratched or <b>damaged</b> – <b>Replace the rear camera window</b></li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Camera Flex Module</li> </ul>	
	If the issue is still not resolved →	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	

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

## 15 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"> <li>If dirty or oxidized – Clean the Bluetooth antenna-to-board spring connectors</li> <li>If damaged – Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	
	If the issue has not been resolved →	<ul style="list-style-type: none"> <li>Replace the Ant Main PIFA</li> </ul>	
	If the issue is still not resolved→	<ul style="list-style-type: none"> <li>Send to a repair location allowed to perform electrical repairs on this product</li> </ul>	



## 16 Revision History

Rev.	Date	Changes / Comments
1	2008-09-29	Initial Release