

Trouble Shooting Guide, Mechanical

Applicable for W890

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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 flash it with Software Content Refresh 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 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

Video Call Camera

Memory Card

FM-Radio

Real time clock

Total call time





Security


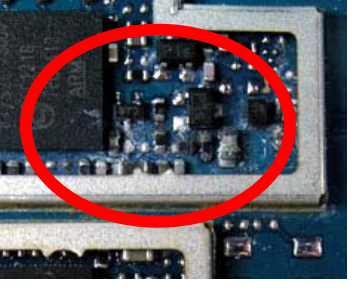

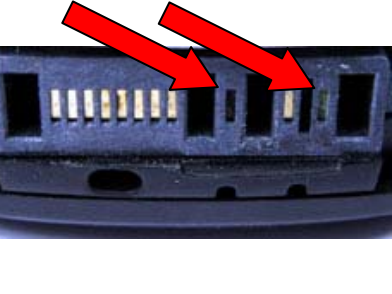
NOTE: Different names may occur depending on language setting and customization.

- 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.

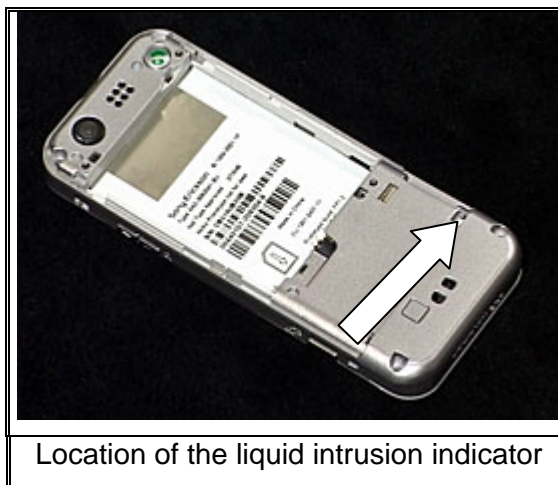
Below are some **examples** of damage due to misuse that are not covered by warranty.

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

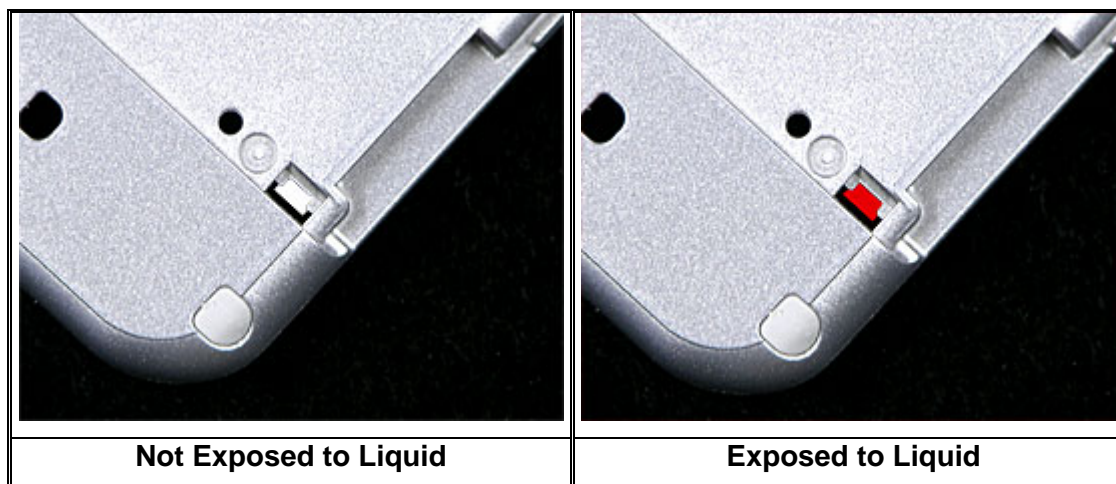
			
Corrosion components on the PCB.	Corrosion components on the PCB.	Components damaged by liquid	System connector damaged by liquid

1.1.1 Liquid Damage Inspection



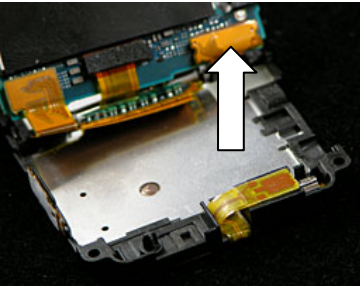
Before any tests are performed, an inspection of the liquid intrusion indicator should be made. If the liquid intrusion indicator is red this is an indication of possible liquid exposure. If the liquid intrusion indicator suggests liquid exposure please consult your local SEMC representative for handling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



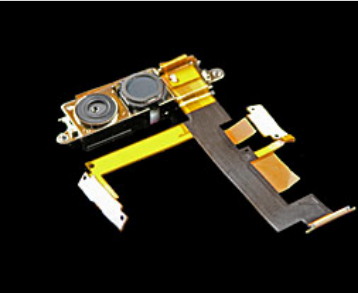
The following pictures show the difference between an indicator that has been in contact with liquid and one that has not.



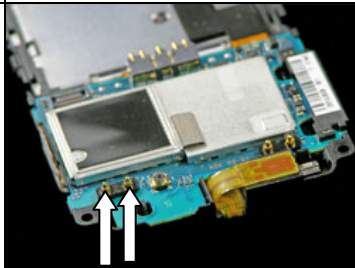
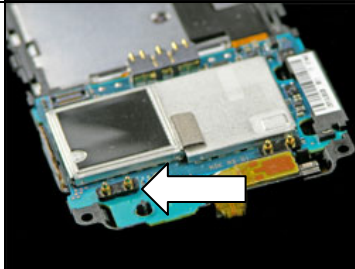

2 Power Problems

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 – Send to a repair location allowed to perform electrical repairs on this product 	
	Inspect the area around the power key	<ul style="list-style-type: none"> • If the Key On/Off is damaged, replace it 	
	Inspect the two camera flex assembly connections 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 camera assembly flex film is damaged – replace the camera flex assembly • If either of the camera flex assembly connections on the circuit board is 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 camera flex assembly if it has not already been replaced	
	If the issue is still not resolved→	<ul style="list-style-type: none">Send to a repair location allowed to perform electrical repairs on this product	

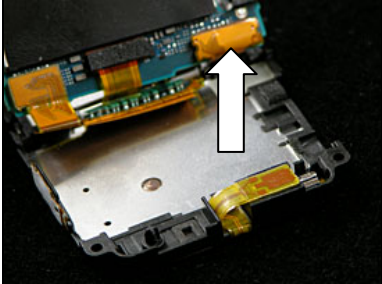
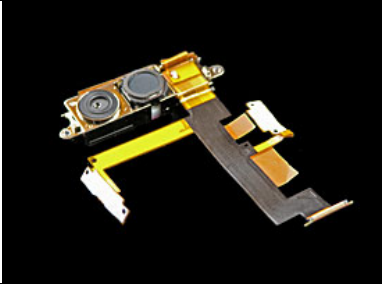
3 Network/Signal Problems

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. 	
		<ul style="list-style-type: none"> Check the resistance between the Antenna pogopins with a multimeter. If it is higher than 3 Ohm, escalate to next repair level. 	
	Inspect antenna-to-board spring connectors	<ul style="list-style-type: none"> 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 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the antenna 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Send to a repair location allowed to perform electrical repairs on this product 	


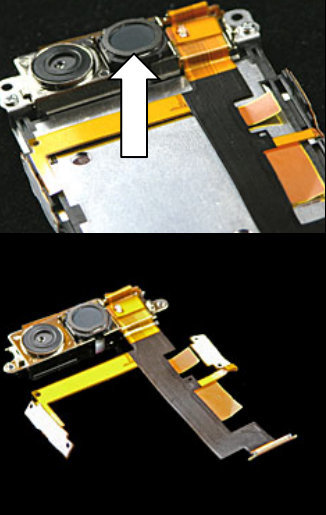
4 Audio Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Receiver: 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 camera flex assembly 	

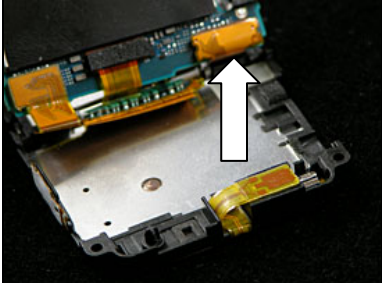
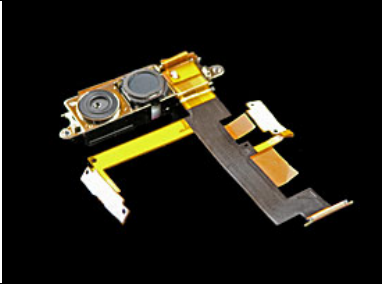


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the connection where the camera flex assembly connects to the circuit board	<ul style="list-style-type: none">• If either connection is improperly connected – Reestablish proper connection• If one or both of the connections is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


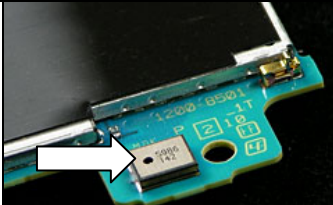


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Rear Speaker: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none">Perform a setting reset	
	Inspect whether the rear speaker's external port is clogged	<ul style="list-style-type: none">If clogged – Clean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


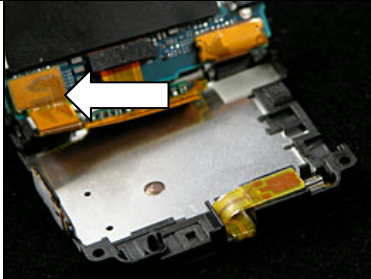
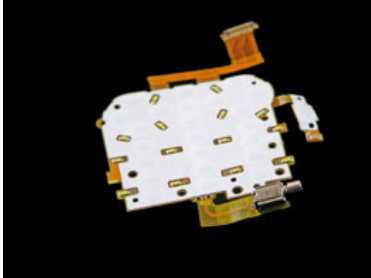


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the two camera flex assembly connections to the circuit board	<ul style="list-style-type: none">• If either connection is improperly connected – Reestablish proper connection• If one or both of the connections is dirty or oxidized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



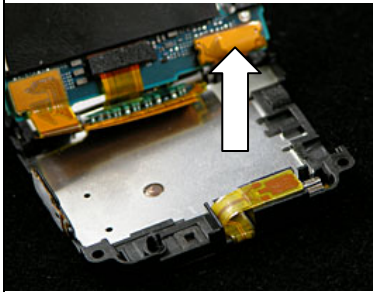


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Microphone:	Before proceeding →	<ul style="list-style-type: none">Perform a setting reset	
	Inspect the microphone's external port	<ul style="list-style-type: none">If clogged – Remove the co-brand label and clean the microphone's port hole	
	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">Send to a repair location allowed to perform electrical repairs on this product	

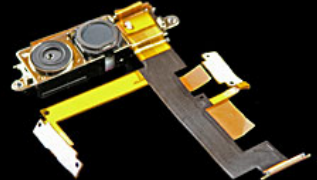

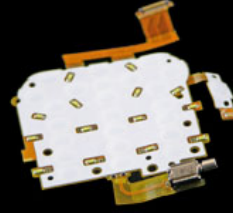
5 Key Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keypad: A key on the keypad is not functioning or is intermittent	Inspect the area between the keypad and the dome foil assembly where the key is not functioning	<ul style="list-style-type: none"> If the keypad is damaged, replace it 	
	If the issue is not resolved→	<ul style="list-style-type: none"> Replace the dome foil assembly 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Send to a repair location allowed to perform electrical repairs on this product 	
Entire keypad or a portion of the keypad is not functioning or is intermittent	Inspect the dome foil assembly to circuit board 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 dome foil assembly's half of the connection is damaged – replace the dome foil assembly 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 	
	If the issue is not resolved→	<ul style="list-style-type: none"> Replace the dome foil assembly 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Send to a repair location allowed to perform electrical repairs on this product 	


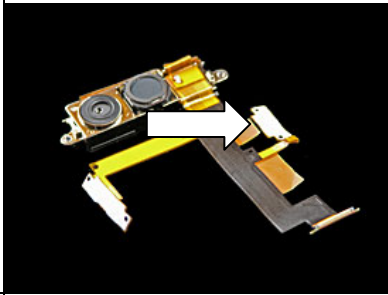
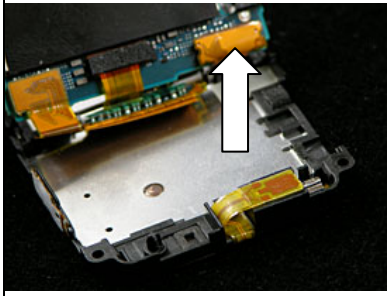


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Volume key:	Inspect the volume key	<ul style="list-style-type: none">If dirty or damaged, replace the volume key	
	Inspect the volume switch on the camera flex assembly	<ul style="list-style-type: none">If damaged, replace the camera flex assembly	
	Inspect the two camera flex assembly connections to the circuit board	<ul style="list-style-type: none">If either connection is improperly connected – Reestablish proper connectionIf one or both of the connections is dirty or oxidized – Clean both halves of the connection(s)If any portion on the camera assembly flex film is damaged – replace the camera flex assemblyIf either of the camera flex assembly connections on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product	

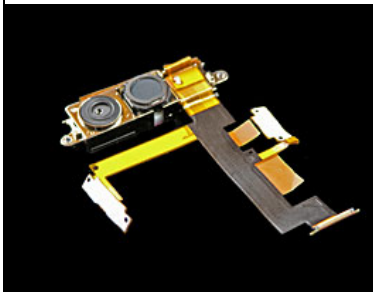


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace camera flex assembly if it has not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Send to a repair location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

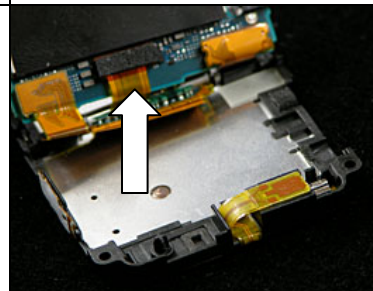
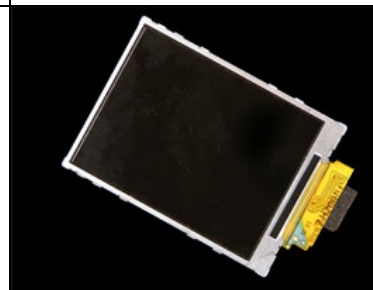


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Music Key	Inspect the Music key	<ul style="list-style-type: none">If dirty or damaged, replace the Music key	
	Inspect the Music key's dome foil on the camera flex assembly	<ul style="list-style-type: none">If damaged, replace the camera flex assembly	
	Inspect the two camera flex assembly connections to the circuit board	<ul style="list-style-type: none">If either connection is improperly connected – Reestablish proper connectionIf one or both of the connections is dirty or oxidized – Clean both halves of the connection(s)If any portion on the camera assembly flex film is damaged – replace the camera flex assemblyIf either of the camera flex assembly connections on the circuit board is damaged – Send to a repair location allowed to perform electrical repairs on this product	

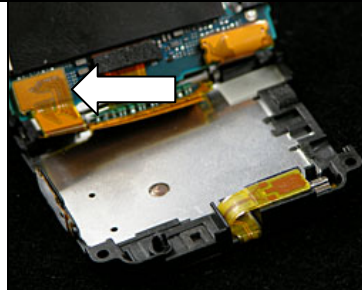
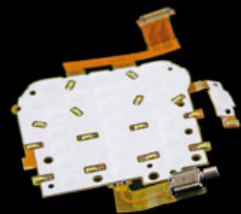
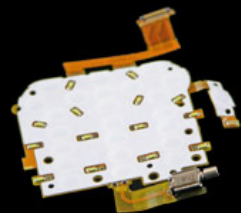


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue has not been resolved →	<ul style="list-style-type: none">Replace camera flex assembly if it has not already been replaced	
	If the issue is still not resolved→	<ul style="list-style-type: none">Send to a repair location allowed to perform electrical repairs on this product	

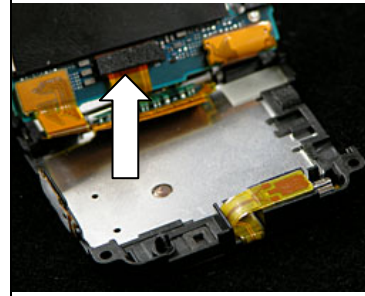

6 Display Problems

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 circuit board	<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 assembly 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 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the display assembly if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to a repair location allowed to perform electrical repairs on this product 	
Display is not Illuminating properly	Refer to the “Illumination Problems” section of this document		

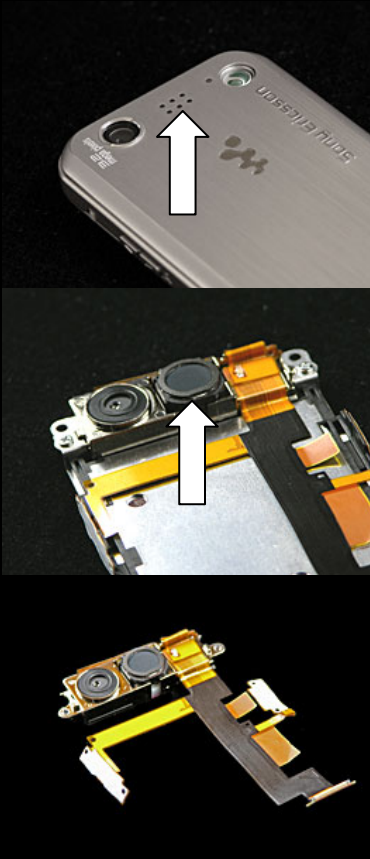
7 Illumination Problems

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

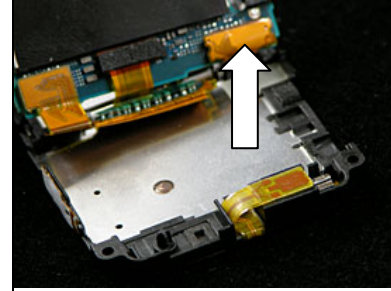
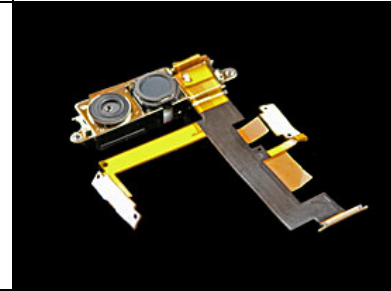


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Display Illumination:	Before proceeding →	<ul style="list-style-type: none">Perform a setting reset	
	Inspect the display flex film's connection to the circuit board	<ul style="list-style-type: none">If improperly connected – establish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

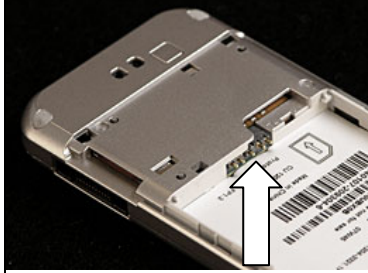

8 Alert Problems

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 	
Rear speaker: 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	<ul style="list-style-type: none"> If clogged – Clean the port and rear speaker cloth 	
	Inspect the rear speaker cloth	<ul style="list-style-type: none"> If dirty – Clean If damaged – Replace the camera flex assembly 	

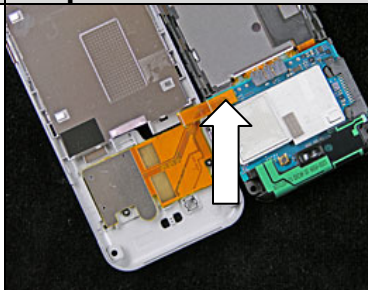
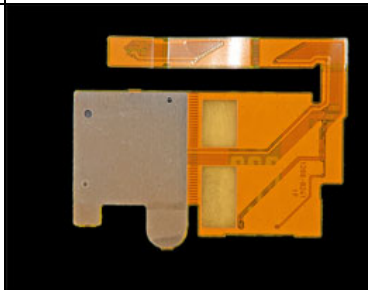


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	Inspect the two camera flex assembly connections to the circuit board	<ul style="list-style-type: none">• If either connection is improperly connected – Reestablish proper connection• If one or both of the connections is dirty or oxidized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


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 – Send to a repair location allowed to perform electrical repairs on this product 	
	Inspect the system connector	<ul style="list-style-type: none"> • If dirty or oxidized – Clean the connector's contacts • If damaged – Send to a repair location allowed to perform electrical repairs on this product 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Send to a repair location allowed to perform electrical repairs on this product 	


10 SIM Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
SIM undetected	Inspect camera flex assembly to SIM 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 SIM flex half of the connection is damaged – replace the SIM Flex • If Camera flex half of the connection is damaged – replace the Camera Flex Assembly 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Replace the SIM Flex, if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to a repair location allowed to perform electrical repairs on this product 	
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 	


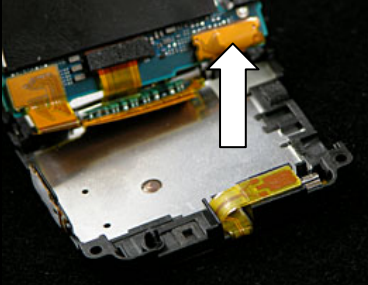

11 Data Transfer Problems using a Data Cable

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"> Send to a repair location allowed to perform electrical repairs on this product 	

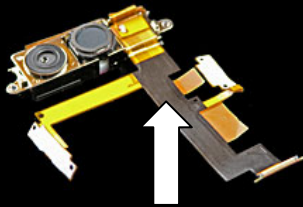
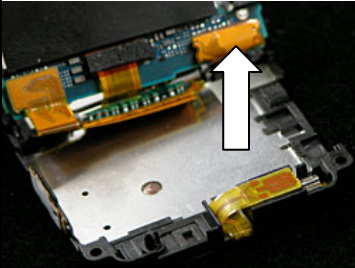
12 Hands-Free Problems

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"> Send to a repair location allowed to perform electrical repairs on this product 	

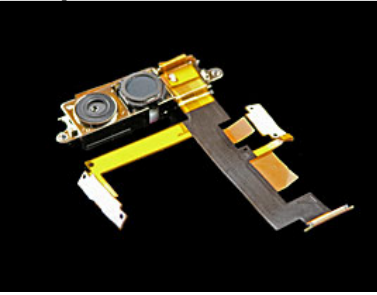
13 Rear Camera Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the rear camera window	<ul style="list-style-type: none"> If dirty – Clean the rear camera window If scratched or damaged – Replace the rear camera window 	
	Inspect the two camera flex assembly connections 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 camera assembly flex film is damaged – replace the camera flex assembly 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 	
		<ul style="list-style-type: none"> Replace the Rear camera 	





Problem Area	Items to Inspect	Repair Action	Inspection Reference
		<ul style="list-style-type: none"> Replace the camera flex assembly 	
<p>If the issue is still not resolved →</p> <ul style="list-style-type: none"> Send to a repair location allowed to perform electrical repairs on this product 			
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 camera flex 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 camera assembly flex film is damaged – replace the camera flex assembly 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 	

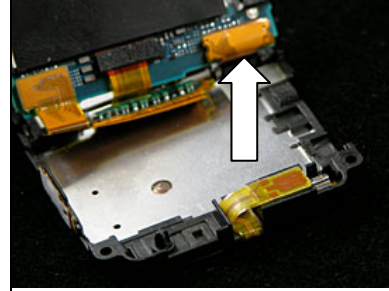
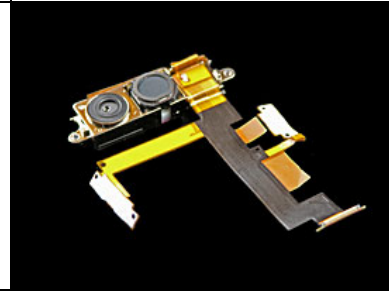


Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue has not been resolved →	<ul style="list-style-type: none">Replace camera flex assembly if it has not already been replaced	
	If the issue is still not resolved→	<ul style="list-style-type: none">Send to a repair location allowed to perform electrical repairs on this product	

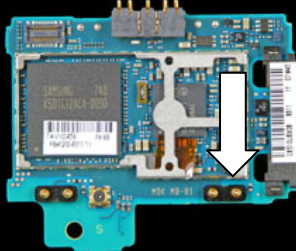
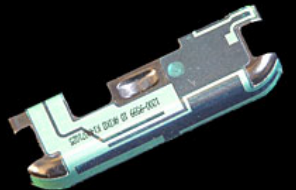
14 Video Call Camera Problems

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



Problem Area	Items to Inspect	Repair Action	Inspection Reference
Do not see image when in video call mode	Inspect the two camera flex assembly connections 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 camera assembly flex film is damaged – replace the camera flex assembly• If either of 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 has not been resolved →	<ul style="list-style-type: none">• Replace camera flex assembly if it has not already been replaced	
	If the issue is still not resolved→	<ul style="list-style-type: none">• Send to a repair location allowed to perform electrical repairs on this product	

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

16 Revision History

Rev.	Date	Changes / Comments
1	2008-02-20	Initial Release
2	2008-06-13	Added instruction under Network Problems
3	2008-06-23	Changed instruction under Network Problems