

Trouble Shooting Guide, Mechanical

Applicable for S500 and W580

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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 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

Vibrator

Camera

Accelerometer (W580 only)

Memory Stick

FM Radio (W580 only)

Real time clock

Total call time

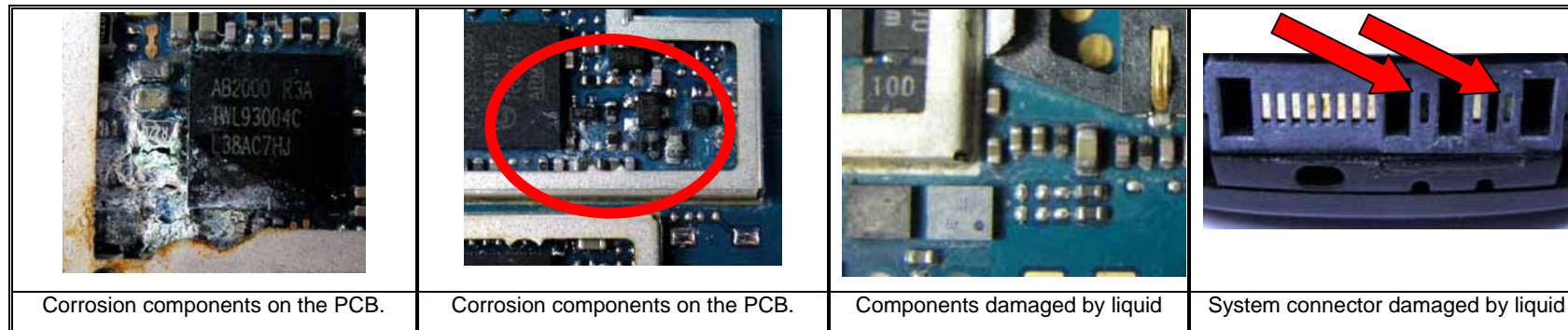
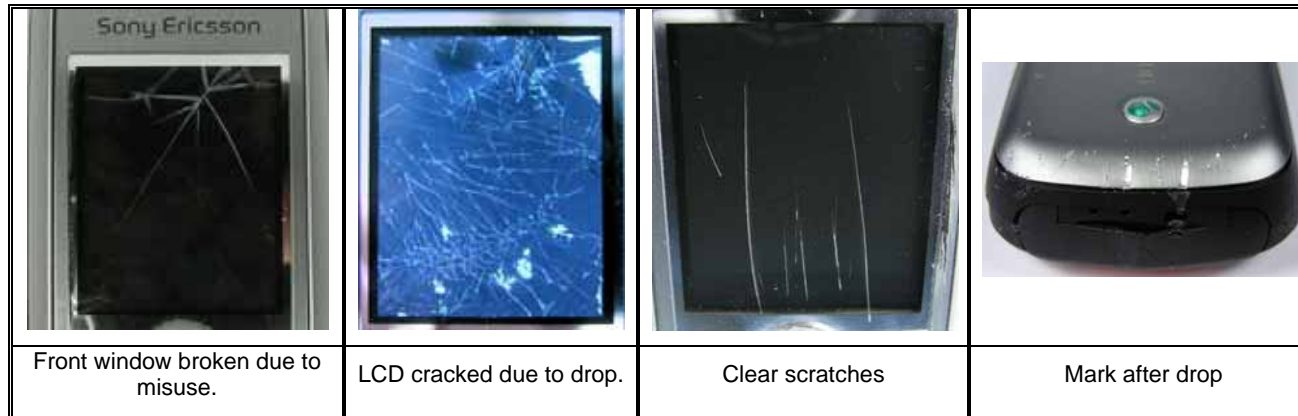
Security

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.



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.


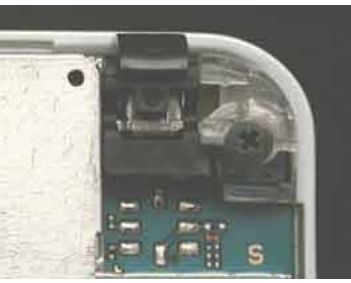


Location of the liquid intrusion indicator

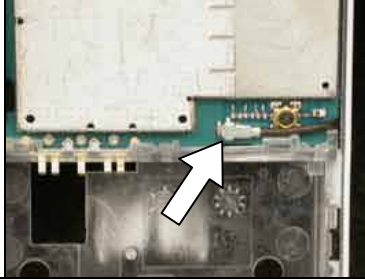

The following pictures show the difference between an indicator that has been in contact with liquid and one that has not.




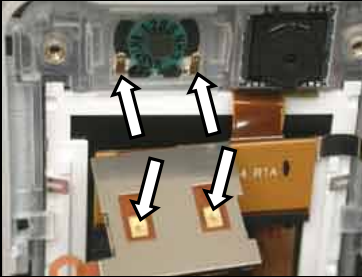
2 Power Problems


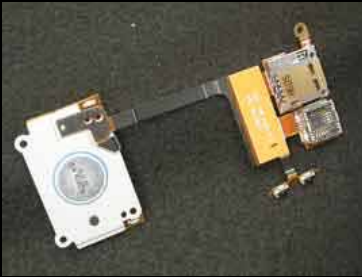
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Unit will not Power On	Check whether the phone vibrates when you press the power key and whether the navigation keypad illuminates 15 to 20 seconds after the phone vibrates	If activation of the vibrator and illumination of the navigation keypad are 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 an electrical level repair location 	
	Inspect the power key and the power switch	<ul style="list-style-type: none"> • If debris is detected around the power key or between the power key and the power switch, clean the power key, the power switch and the surrounding area • If the power key is damaged, replace it • If the power switch is damaged, send to an electrical level repair location 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	


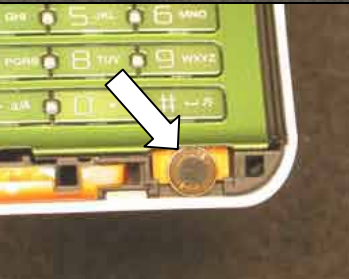
3 Network/Signal Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No Signal or Poor Signal	Inspect antenna coax cable-to-board connection <i>(NOTE: Only use the coax removal tool to disconnect the antenna coax cable from the connector on the circuit board)</i>	<ul style="list-style-type: none"> • If the connector on the circuit board is damaged, send to an electrical level repair location • If the coax cable is damaged, replace the antenna coax cable and the antenna assembly 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Replace the antenna coax cable and the antenna assembly, if they have not already been replaced. 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	


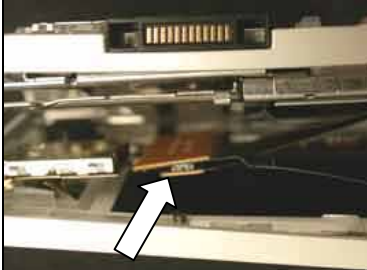

4 Audio Problems



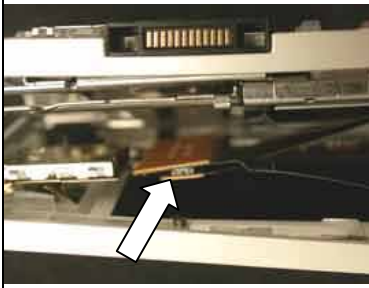
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Receiver: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the receiver's external port	<ul style="list-style-type: none"> If clogged – Replace the front cover 	
	Inspect the two connections where the receiver connects to the bonzer flex	<ul style="list-style-type: none"> If one or both of the connections between the receiver and the bonzer flex are dirty or damaged – replace both the receiver and the bonzer flex 	
If the issue is not resolved →		<ul style="list-style-type: none"> Send to an electrical level repair location 	



Problem Area	Items to Inspect	Repair Action	Inspection Reference
Polyphonic 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 – Replace the navigation keypad 	
	If the issue is not resolved →	<ul style="list-style-type: none"> Replace the bonzer flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	


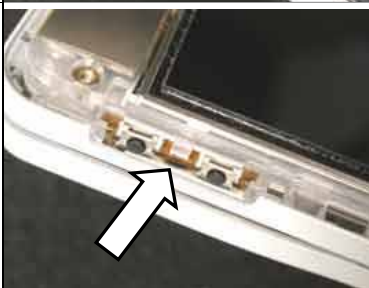

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Microphone:	Before proceeding →	<ul style="list-style-type: none"> • Perform a setting reset 	
	Inspect the microphone's external port	<ul style="list-style-type: none"> • If clogged –Clean or replace the decorative chin cover 	
	Inspect the microphone	<ul style="list-style-type: none"> • If dirty – Clean the microphone and replace the microphone grommet • If damaged – Replace the microphone 	
	If the issue is not resolved →	<ul style="list-style-type: none"> • Replace the microphone and microphone grommet, if they have not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> • Send to an electrical level repair location 	

5 Key Problems


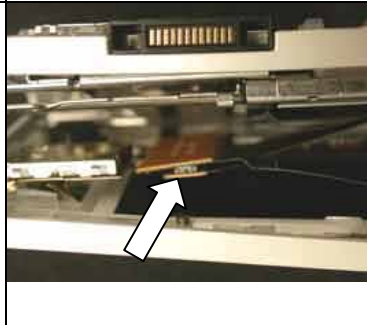
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keypad: A key on the keypad is not functioning or is intermittent	Perform the following action→	<ul style="list-style-type: none"> Replace the numeric keypad and the main keypad flex 	
	If the issue is still not resolved→	<ul style="list-style-type: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



Problem Area	Items to Inspect	Repair Action	Inspection Reference
Navigation Keypad: A key on the navigation keypad is not functioning or is intermittent	Visually inspect for debris between and/or damage to the navigation keypad and its dome foil.	<ul style="list-style-type: none"> • If dirty – Clean both parts • If damaged – Replace the navigation keypad and/or the bonzer flex as necessary 	
	If the issue is not resolved →	<ul style="list-style-type: none"> • Replace the bonzer flex, if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	
Entire navigation keypad or a portion of the navigation keypad is not functioning or is intermittent	Inspect the bonzer flex's connection to hinge flex	<ul style="list-style-type: none"> • If the connector is improperly connected, reestablish proper connection • If the connection is dirty, clean both halves of that connection • If either half of the connection is damaged, replace both the bonzer flex assembly and the hinge assembly 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue is not resolved→	<ul style="list-style-type: none"> Replace bonzer flex assembly, if it has not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Replace hinge assembly, if it has not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Send to an electrical level repair location 	

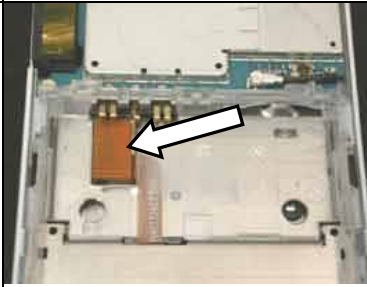

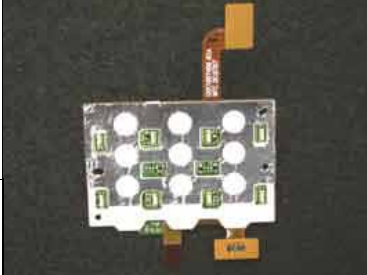
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Volume key:	Inspect the volume key	<ul style="list-style-type: none"> If dirty or damaged, replace the volume key 	
	Inspect the volume switch on the bonzer flex assembly	<ul style="list-style-type: none"> If damaged, replace the bonzer flex assembly 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace bonzer flex assembly if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	

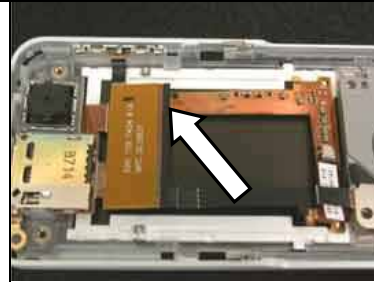

6 Display Problems

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 and whether the navigation keypad illuminates 15 to 20 seconds after the phone vibrates	If activation of the vibrator and illumination of the navigation keypad are not detected , refer to the "Power Problems" section	
	Inspect the display flex film's connection to the bonzer flex	<ul style="list-style-type: none"> • If improperly connected – establish proper connection • If dirty or oxidized – Clean both halves of the connection • If the display's portion of the connection is damaged – replace the LCD assembly • If the portion of the connection on the bonzer flex is damaged – replace the bonzer flex 	
	Inspect the bonzer flex's connection to hinge flex	<ul style="list-style-type: none"> • If the connector is improperly connected – Reestablish proper connection • If the connection is dirty – Clean both halves of that connection • If either half of the connection is damaged – replace both the bonzer flex assembly and the hinge assembly 	

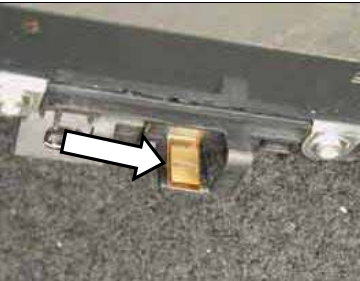

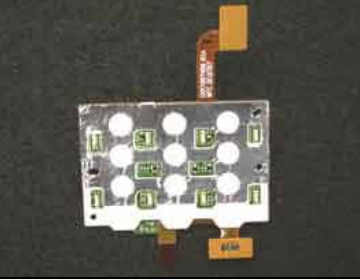
Problem Area	Items to Inspect	Repair Action	Inspection Reference
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the LCD assembly if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Replace the bonzer flex if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	
Display is not Illuminating properly	Refer to the "Illumination Problems" section of this document		


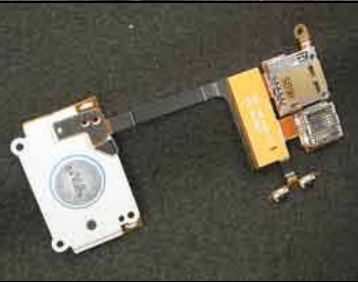
7 Illumination Problems

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 the main keypad flex connection to hinge flex	<ul style="list-style-type: none"> If the connector is improperly connected – Reestablish proper connection If the connection is dirty – Clean both halves of that connection If either half of the connection is damaged – replace the hinge assembly 	
	If the issue is not resolved →	<ul style="list-style-type: none"> Replace the hinge assembly, if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	
Keypad Illumination: A portion of the keypad does not illuminate	Perform the following action →	<ul style="list-style-type: none"> Replace the keypad flex assembly 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	



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 bonzer flex	<ul style="list-style-type: none"> • If improperly connected – establish proper connection • If dirty or oxidized – Clean both halves of the connection • If the display's portion of the connection is damaged – replace the LCD assembly • If the portion of the connection on the bonzer flex is damaged – replace the bonzer flex 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Replace the LCD assembly if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	

8 Alert Problems

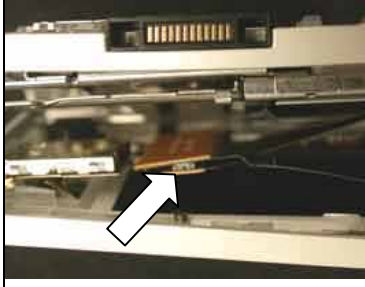
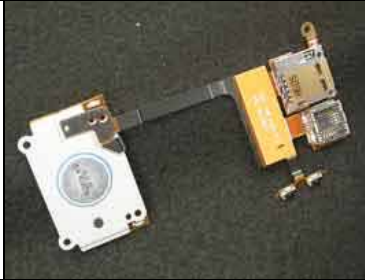
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Vibrator:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the vibrator contact pads on the main keypad flex assembly	<ul style="list-style-type: none"> If dirty, clean If damaged, replace the main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

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Polyphonic Speaker: No sound or poor quality sound	Before proceeding → Inspect whether the rear speaker's external port is clogged	<ul style="list-style-type: none"> • Perform a setting reset • If clogged, replace the navigation keypad 	
	If the issue is not resolved →	<ul style="list-style-type: none"> • Replace the bonzer flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	


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 an electrical level repair location 	
	Inspect the system connector	<ul style="list-style-type: none"> • If dirty or oxidized, clean the connector's contacts • If damaged, replace the system connector 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Replace the system connector if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	


10 SIM Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
SIM undetected	Inspect the bonzer flex's connection to hinge flex	<ul style="list-style-type: none"> • If the connector is improperly connected – Reestablish proper connection • If the connection is dirty – Clean both halves of that connection • If either half of the connection is damaged – replace both the bonzer flex assembly and the hinge assembly 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Replace the bonzer flex, if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	
Unit indicates the incorrect SIM is inserted	Check whether the phone is locked to a particular carrier and whether the correct carrier's SIM is being used	<ul style="list-style-type: none"> • Use Correct Carrier SIM or test SIM 	


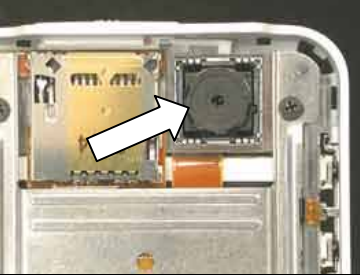

11 Data Transfer Problems using a Data Cable

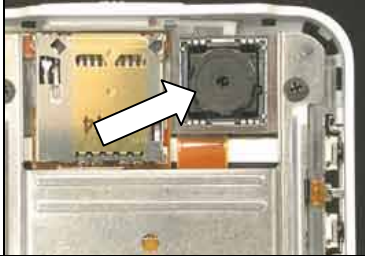

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Problem transferring data using a direct connection	Inspect the system connector	<ul style="list-style-type: none"> If dirty or oxidized, clean the connector's contacts If damaged, replace the system connector 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the system connector, if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	

12 Hands-Free Problems

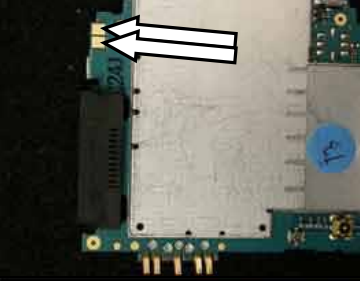
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Hands-free not working	Inspect the system connector	<ul style="list-style-type: none"> If dirty or oxidized, clean the connector's contacts If damaged, replace the system connector 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the system connector if it has not been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	

13 Camera Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the camera window	<ul style="list-style-type: none"> If dirty, clean the camera window If scratched or damaged, replace the camera cover 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the camera module 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Replace the bonzer flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Camera not functioning properly	Perform the following action →	<ul style="list-style-type: none"> • Replace the camera module 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Replace the bonzer flex 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> • Send to an electrical level repair location 	

14 Bluetooth Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not connect with a functional Bluetooth device	Inspect the Bluetooth antenna contact pads on the circuit board	<ul style="list-style-type: none"> If dirty or oxidized – Clean the contact pads on the circuit board If damaged – Send to a repair location allowed to perform electrical repairs on this product 	
	Inspect the Bluetooth antenna spring fingers	<ul style="list-style-type: none"> If damaged, replace the Bluetooth antenna 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the Bluetooth antenna, if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Send to an electrical level repair location 	

15 Revision History

Rev.	Date	Changes / Comments
A	May 18, 2007	Initial Release