

Trouble Shooting Guide, Mechanical

Applicable for K800 and K790

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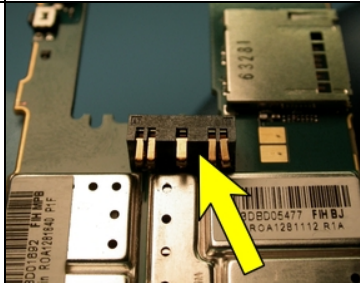
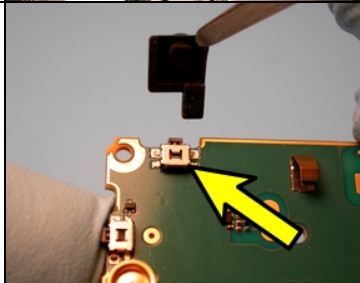
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1 General

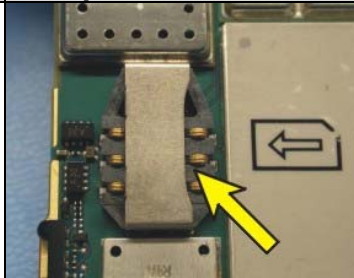
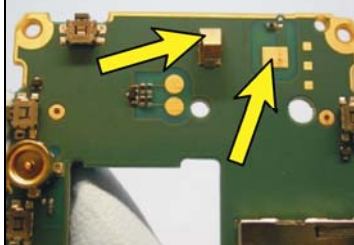

This document outlines the mechanical repairs that should be made in an attempt to fix the common failures that are seen in the field. To gain a complete understanding of how to test and repair a unit, this document should be used in conjunction with the Test Instructions, Mechanical and the Working 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 the Mechanical Test Instructions for details regarding inspecting for liquid damage and upgrading software.*
- NOTE!** *The camera flash should always be discharged before performing any disassembly. Refer to the “General” section of the Mechanical Working Instructions for a detailed procedure for discharging the camera flash.*
- NOTE!** *If all of the repair actions listed in this document for addressing a problem have been preformed and a unit still is not working, handle the unit according to your local company directives*

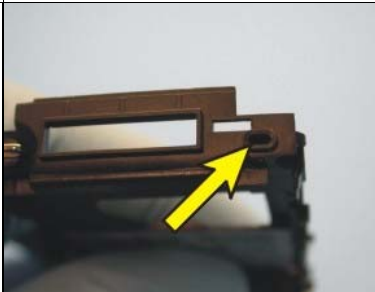

2 Power Problems

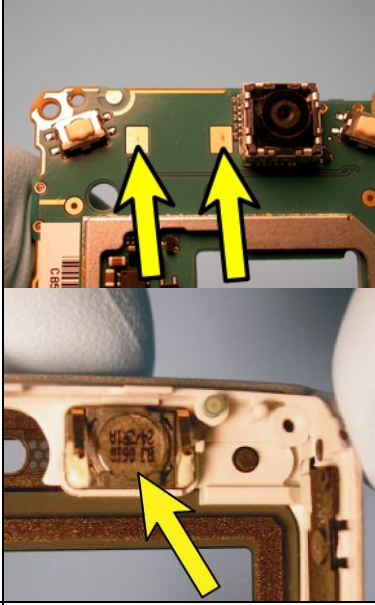
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Unit will not Power On	Check whether the keyboard illuminates 15 to 20 seconds after pressing the power key	If illumination of the keyboard is detected, refer to the “Display Problems” section	
	Inspect battery connector	<ul style="list-style-type: none"> • If dirty or oxidized – Clean • If damaged – Send to an electrical repair location 	
	Inspect the power key and the power key's switch	<ul style="list-style-type: none"> • 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 the switch is damaged – Escalate to an electrical repair level 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	


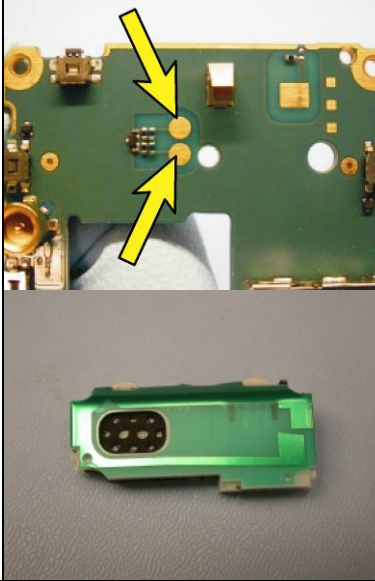
3 Network/Signal Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
No Signal or Poor Signal	Inspect SIM holder	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Escalate to an electrical repair level 	
	If the issue has not been resolved→	<ul style="list-style-type: none"> Clean the antenna-to-board connectors on the circuit board and replace the antenna/speaker box assembly 	 
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

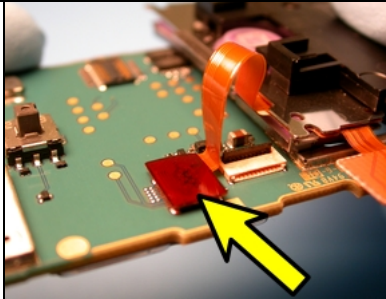
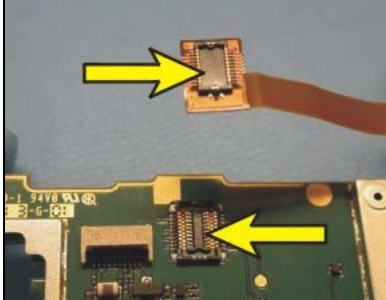
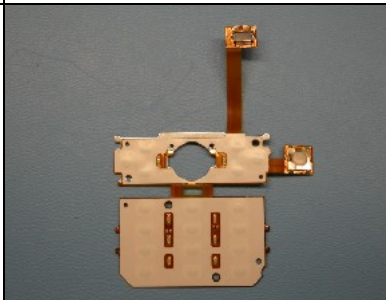
4 Audio Problems

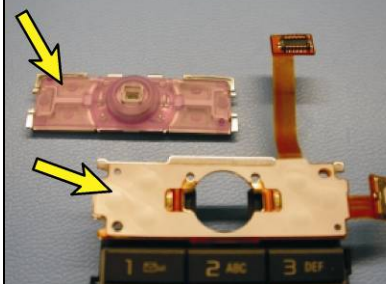
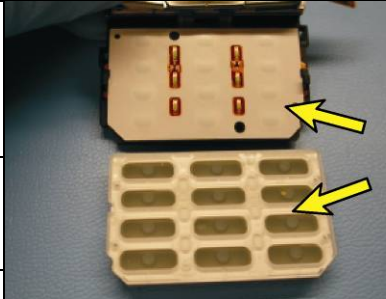
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Microphone:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the microphone's external port	<ul style="list-style-type: none"> If clogged – Clean the microphone port in the board frame or replace the board frame as determined necessary. 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	
Receiver: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Check if the receiver's external ports are clogged	<ul style="list-style-type: none"> If clogged – Clean the external ports in the front cover or replace the front cover and/or receiver as determined necessary 	

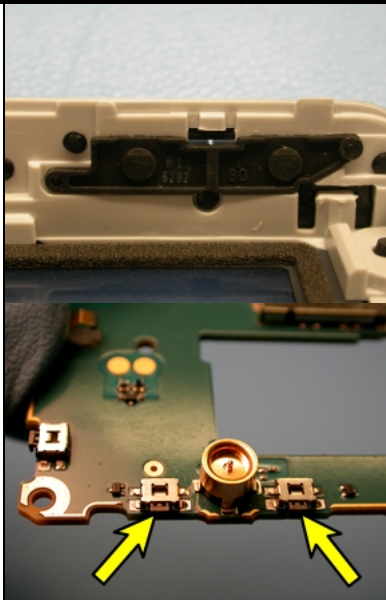
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Receiver: No sound or poor quality sound (Cont.)	If the issue has not been resolved→	<ul style="list-style-type: none"> Clean the receiver's contact pads on the circuit board and replace receiver 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

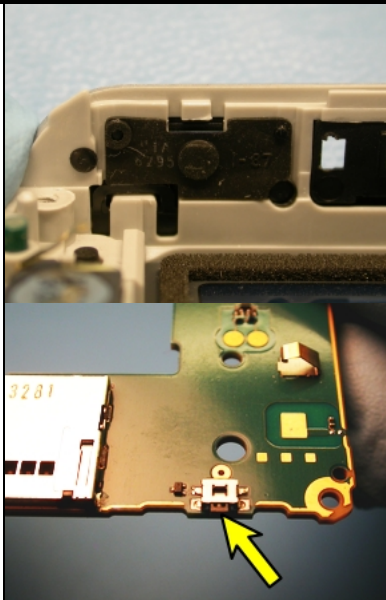
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Rear Speaker: No sound or poor quality sound	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect whether the rear speaker's external ports are clogged	<ul style="list-style-type: none"> If clogged – Clean out the rear speaker's external ports and replace the rear speaker cloth 	
	If the issue has not been resolved→	<ul style="list-style-type: none"> Clean the rear speaker's contact pads on the circuit board and replace antenna/speaker box assembly 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

5 Key Problems

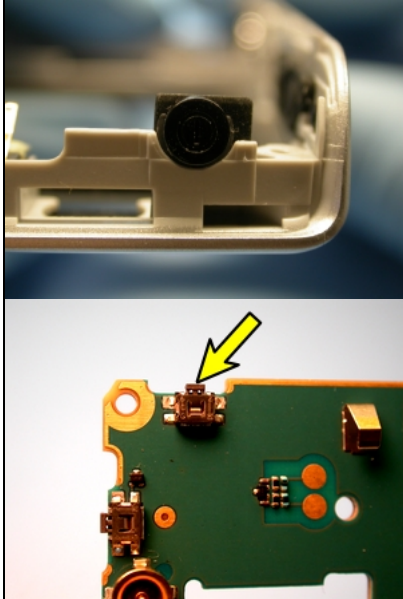
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keyboard: None of the keys on the keyboard are functioning (excluding the navigation key)	Inspect whether the keyfoil assembly is properly connected to the circuit board	<ul style="list-style-type: none"> If improperly connected - Reestablish proper connection 	
	Inspect each half of the keyfoil 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 keyfoil assembly is damaged - Replace the keyfoil assembly 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 →	<ul style="list-style-type: none"> Replace the keyfoil assembly, if it has not already been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Functional Keyboard: A key on the functional keyboard is not functioning or is intermittent	Inspect for debris between and/or damage to the functional keyboard and the corresponding portion of the keyfoil assembly.	<ul style="list-style-type: none"> If debris is found – Clean both parts If damage is seen – Replace the functional keyboard and/or the keyfoil assembly as necessary 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the functional keyboard and the keyfoil assembly, if they have not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	
Navigation Key:	Perform the following action →	Escalate to an electrical repair level	
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.	<ul style="list-style-type: none"> If debris is found – Clean both parts If damage is seen – Replace the numeric keyboard and/or the keyfoil assembly as necessary 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the numeric keyboard and the keyfoil assembly, if they have not already been replaced 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

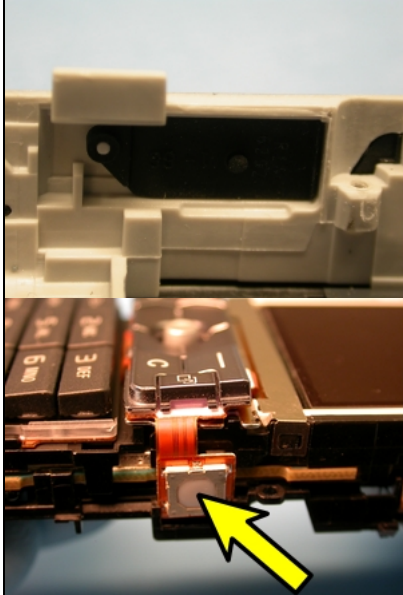
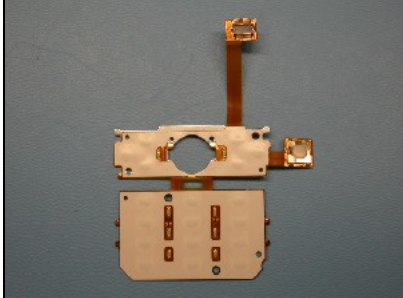
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Volume key: A direction of the key is not functioning or is intermittent	Inspect the portion of the volume key that is not functioning and its corresponding switch.	<ul style="list-style-type: none"> • Make sure the volume key is properly positioned in the front cover. • If dirt or debris is detected – Clean the volume key and both switches • If the key is damaged – Replace it • If the switch is damaged – Escalate to an electrical repair level 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Music Player Key:	Inspect the music player key and its switch	<ul style="list-style-type: none"> • Make sure the music player key is properly positioned in the front cover. • If dirt or debris is detected – Clean both the key and the switch • If the key is damaged – Replace it • If the switch is damaged – Escalate to an electrical repair level 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

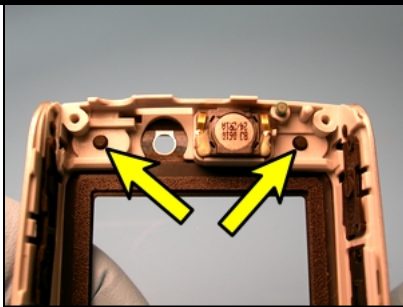


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Power Key:	Inspect the power key and the power key's switch	<ul style="list-style-type: none">• Make sure the power key is properly positioned in the phone.• If dirt or debris is detected – Clean both the key and the switch• If the key is damaged – Replace it• If the switch is damaged – Escalate to an electrical repair level	
	If the issue has not been resolved →	<ul style="list-style-type: none">• Escalate to an electrical repair level	

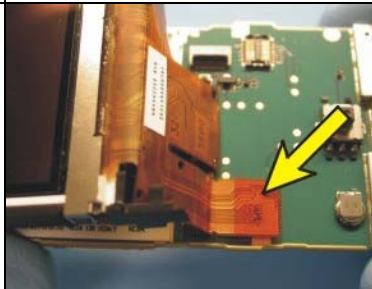
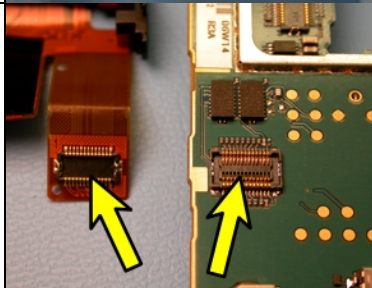
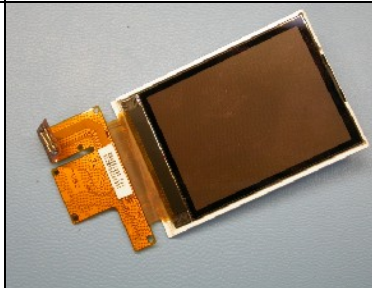


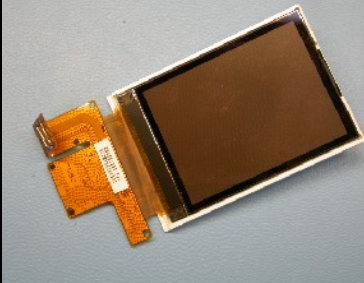
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Camera Key:	Inspect the camera key and its switch	<ul style="list-style-type: none">• Make sure the camera key is properly positioned in the front cover.• Make sure the camera switch is properly positioned in the board frame.• If dirt or debris is detected – Clean both the camera key and its switch• If the camera key is damaged – Replace it	
	If the issue has not been resolved →	<ul style="list-style-type: none">• Replace the keyfoil assembly	
	If the issue is still not resolved →	<ul style="list-style-type: none">• Escalate to an electrical repair level	



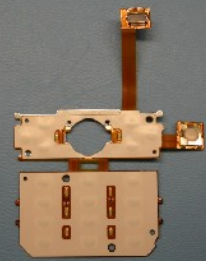
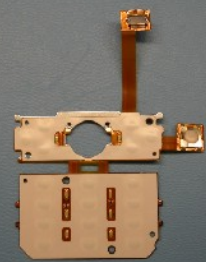
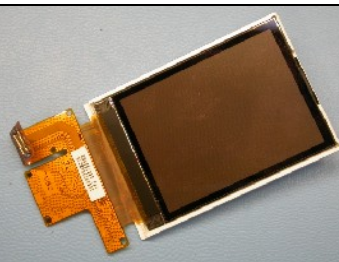
Problem Area	Items to Inspect	Repair Action	Inspection Reference
A or B key If an A or B key is not functioning	Inspect the key in question and its corresponding switch for the appropriate amount on movement when pressed and released	<ul style="list-style-type: none">• If dirt or debris is detected – Clean both the key and the switch• If the key is damaged or does not move correctly when pressed – Replace the front cover• If the switch is damaged – Escalate to an electrical repair level	
	If the issue has not been resolved →	<ul style="list-style-type: none">• Escalate to an electrical repair level	

6 Display Problems

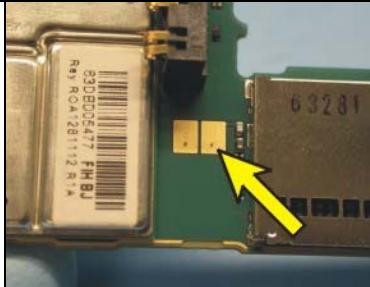
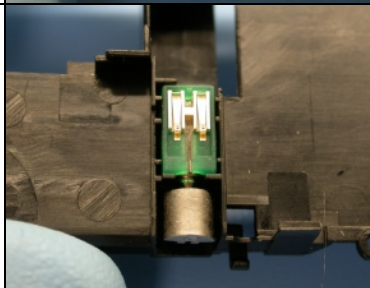
Problem Area	Items to Inspect	Repair Action	Inspection Reference
If a display is not functioning	Check whether the keyboard illuminates 15 to 20 seconds after pressing the power key	<ul style="list-style-type: none"> If the keyboard does not illuminate, refer to the “Power Problems” section 	
	Inspect whether the LCD assembly's flex film is properly connected to the circuit board	<ul style="list-style-type: none"> If improperly connected - Reestablish proper connection 	
	Inspect each half of the LCD 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 connector on the LCD assembly is damaged - Replace the LCD assembly 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 →	<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"> Escalate to an electrical repair level 	


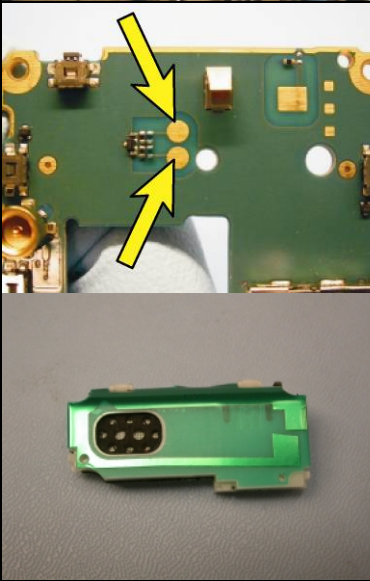
Problem Area	Items to Inspect	Repair Action	Inspection Reference
If a display has lines or missing pixels	Perform the following action →	<ul style="list-style-type: none"> Replace the LCD assembly 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

7 Illumination Problems

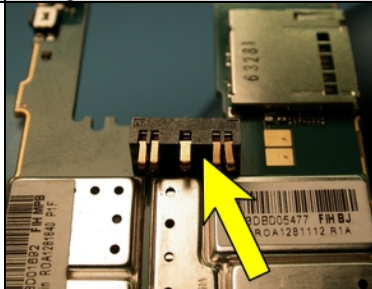
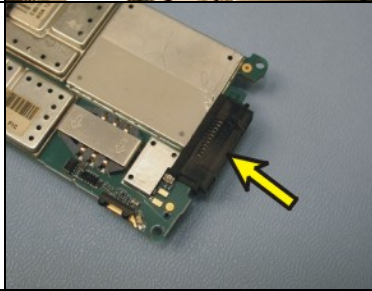
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Keyboard Illumination: Neither the numeric or the functional keyboard illuminates	Perform the following action →	<ul style="list-style-type: none">Replace the keyfoil assembly	
	If the issue is still not resolved→	<ul style="list-style-type: none">Escalate to an electrical repair level	
Keyboard Illumination: A portion of the numeric or functional keyboard does not illuminate	Perform the following action →	<ul style="list-style-type: none">Replace the keyfoil assembly	
	If the issue is still not resolved→	<ul style="list-style-type: none">Escalate to an electrical repair level	
Navigation Key Illumination:	Refer to the “ Keyboard ” sections under “ Illumination Problems ”		
Display Illumination:	Before proceeding →	<ul style="list-style-type: none">Perform a setting reset	
	Perform the following action →	<ul style="list-style-type: none">Replace the LCD assembly	
	If the issue is still not resolved →	<ul style="list-style-type: none">Escalate to an electrical repair level	

8 Alert Problems


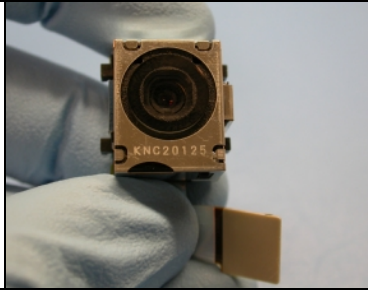
Problem Area	Items to Inspect	Repair Action	Inspection Reference
Vibrator:	Before proceeding →	<ul style="list-style-type: none"> Perform a setting reset 	
	Inspect the vibrator contact pads on the circuit board	<ul style="list-style-type: none"> If dirty – Clean 	
	Perform the following action →	<ul style="list-style-type: none"> Replace the vibrator 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

Problem Area	Items to Inspect	Repair Action	Inspection Reference
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 out the rear speaker's external ports and replace the rear speaker cloth 	
	If the issue has not been resolved→	<ul style="list-style-type: none"> Clean the rear speaker's contact pads on the circuit board and replace antenna/speaker box assembly 	
	If the issue is still not resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

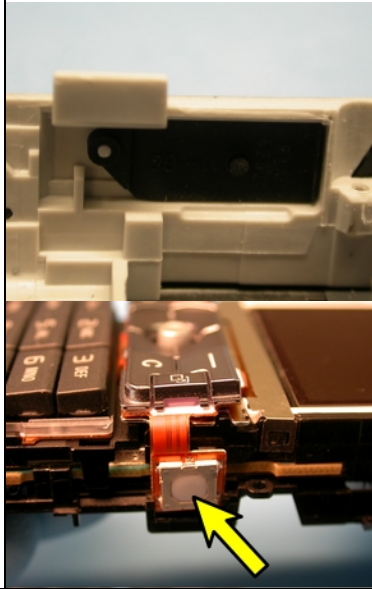
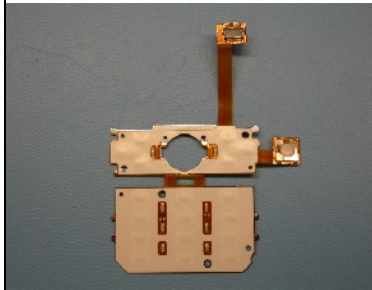
9 Charging/Capacity Problems

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 If damaged – Send to an electrical repair location 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the system connector 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

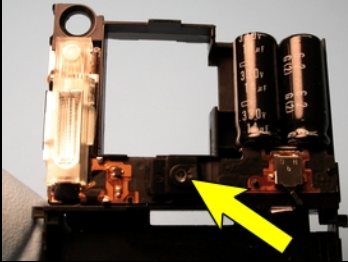
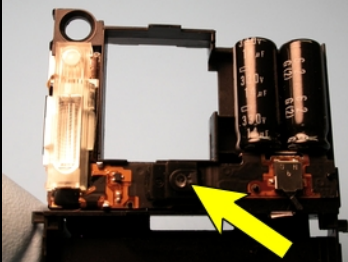
10 Rear Camera Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the rear camera's lens	<ul style="list-style-type: none"> If dirty – Clean the rear camera's lens If scratched or damaged – Replace the rear camera module 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Replace the rear camera module, if it has not yet been replaced 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

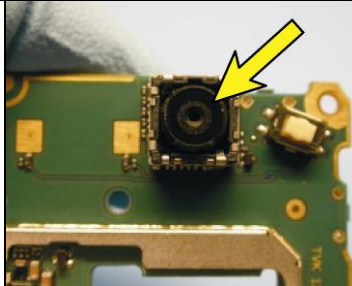


Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not capture an image when pressing the camera key	To determine whether or not the problem is with the camera button, try capturing an image by pressing the navigation key	<ul style="list-style-type: none"> If pressing the navigation key does not take a picture - Send to an electrical repair location If pressing the navigation key does take a picture – Perform the remaining inspect/repair procedures in this section 	
	Inspect the camera key and its switch	<ul style="list-style-type: none"> 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 →	<ul style="list-style-type: none"> Replace the keyfoil assembly 	
	If the issue is still not resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	




Problem Area	Items to Inspect	Repair Action	Inspection Reference
Receives a message instructing you to open the lens cover when the lens cover is already open	Perform the following action →	<ul style="list-style-type: none">Replace the flash assembly	
	If the issue has not been resolved →	<ul style="list-style-type: none">Escalate to an electrical repair level	
Camera flash does not work	Perform the following action →	<ul style="list-style-type: none">Replace the flash assembly	
	If the issue has not been resolved →	<ul style="list-style-type: none">Escalate to an electrical repair level	

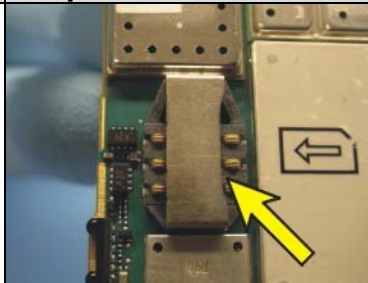
11 Video Call Camera Problems (K800 Only)

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Lines or marks in picture	Visually inspect the front camera's lens	<ul style="list-style-type: none"> • If dirty – Clean the front camera's lens • If scratched or damaged – Send to an electrical repair location 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	
Do not see image when in video call mode	Perform the following action →	<ul style="list-style-type: none"> • Escalate to an electrical repair level 	

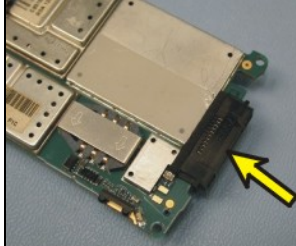
12 IR Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not connect with a functional IR device	Inspect the IR window	<ul style="list-style-type: none"> If dirty – Clean If scratched or damaged – Replace front cover 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

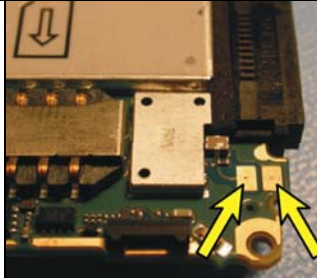
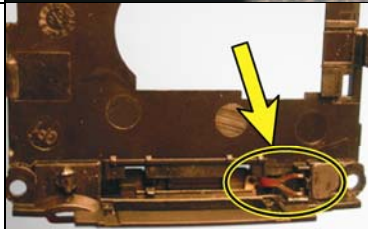
13 SIM Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
SIM undetected	Inspect SIM holder	<ul style="list-style-type: none"> If dirty or oxidized – Clean If damaged – Send to an electrical repair location 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	
Unit indicates the incorrect SIM is inserted	Check whether the phone is locked to a particular carrier and whether the correct carrier's SIM is being used	<ul style="list-style-type: none"> Use correct carrier SIM or test SIM 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

14 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 →	<ul style="list-style-type: none"> Replace the system connector 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

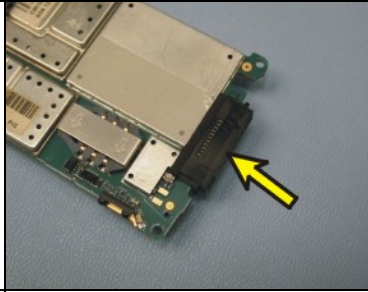
15 Bluetooth Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Will not connect with a functional Bluetooth device	Inspect the Bluetooth antenna's contact pads on the circuit board	<ul style="list-style-type: none"> If dirty – Clean 	
	Inspect the spring fingers of Bluetooth antenna	<ul style="list-style-type: none"> If bent or damaged – Replace board frame 	
	If the issue has not been resolved →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

16 Memory Stick Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Phone does not detect memory stick	Perform the following action →	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

17 Hands-Free Problems

Problem Area	Items to Inspect	Repair Action	Inspection Reference
Hands-free will not work	Perform the following action →	<ul style="list-style-type: none"> Replace the system connector 	
	If the issue has not been resolved→	<ul style="list-style-type: none"> Escalate to an electrical repair level 	

18 Revision History

Rev.	Date	Changes / Comments
A	2006-June 8	Initial Release
B	2006-July 6	Adjusted document so that it also covers K790
C	2006-July 18	Due to system problem. No changes in content