



# Trouble Shooting Guide, SP/Mech

Applicable for T226, T230, T238

## Contents

1	General Information.....	2
2	Appearance Problems .....	3
3	Network Problems .....	4
4	On/Off Problems.....	5
5	Audio Problems .....	6
6	Keypad/Volume Keys/Navigation Button Problems .....	7
7	Display/Illumination Problems .....	8
8	Capacity/Charging Problems .....	9
9	Alert Problems .....	10
10	SIM Problems .....	11
11	Revision History .....	11



# 1 General Information

The Mechanical Troubleshooting Guide outlines the mechanical repairs that can be made to try and fix the common failure areas that are seen in the field. The subsections under “General Information” are steps that apply to all phones that are being looked at for repair at a mechanical level. To gain a complete understanding of how to test and repair a specific failure, this document should be used in conjunction with the Test Instructions, SP/Mech and the Working Instructions, SP/Mech.

## 1.1 Liquid Damage

Before any repair is made, an inspection for corrosion or oxidation from liquid damage should be performed. If evidence of liquid damage is present, no repair actions should be taken. Please consult your local company for additional handling instructions.

## 1.2 Flashing

Before any repair is made, a phone should be flashed to see if that fixes the problem. If the first attempt at flashing a phone is unsuccessful, check whether the system connector is dirty or oxidized, clean it if necessary, and try reflashing the phone. If the second attempt at flashing is not successful, handle the unit according to your local company directives.

## 1.3 Unrepairable at the SP/Mechanical Level

If the Mechanical Troubleshooting Guide is exhausted and the cause of the failure was not determined or the failure cannot be repaired at this level, handle the unit according to your local company directives.



## 2 Appearance Problems

### Troubleshooting Steps


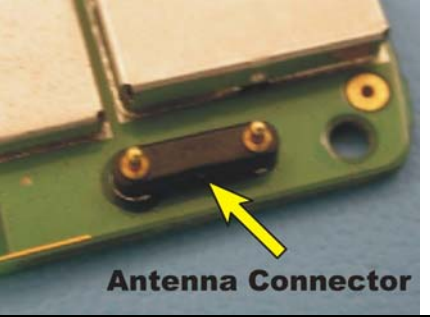
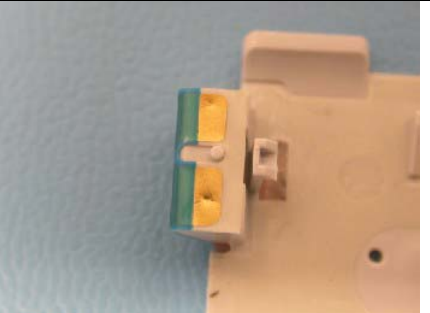
1. Check for cosmetic damage on the external surfaces of the phone. Make sure that the various external seams between the front cover, back frame, antenna cover, and battery cover fit together correctly. Replace any faulty component, if necessary.



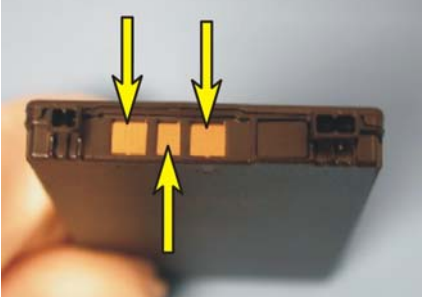
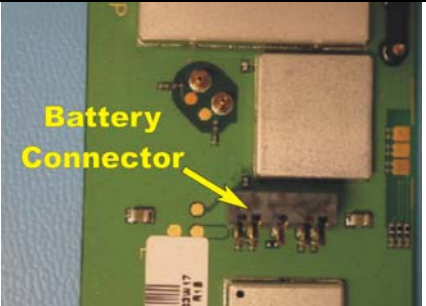

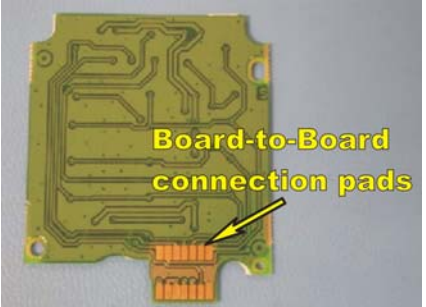
2. Check the keypad for marks. Replace the keypad if necessary.





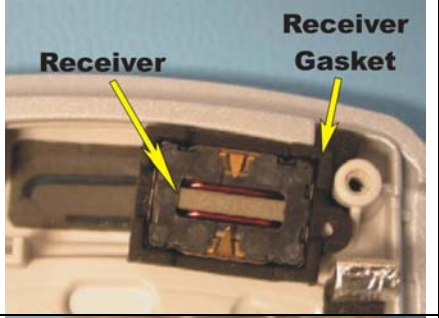


### 3 Network Problems

<b>Troubleshooting Steps</b>	
<p>1. If a network problem exists, check whether the SIM cardholder is damaged, dirty, or oxidized. Clean it if necessary.</p>	
<p>2. Check whether the antenna connector on the PCB is damaged, dirty, or oxidized. Clean it if necessary.</p>	 <p><b>Antenna Connector</b></p>
<p>3. Check that the antenna contact pads on the antenna assembly are not damaged, dirty, or oxidized. Clean the contact pads or replace the antenna assembly as necessary.</p>	

## 4 On/Off Problems

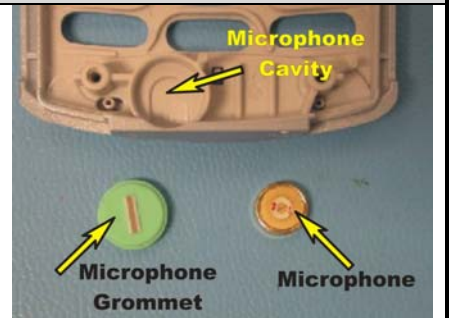
Troubleshooting Steps	
<p><b>NOTE!</b> If the phone does not appear to power up, check whether the keypad is illuminated. If the keypad is illuminated, refer to Section 6, Display/Illumination Problems.</p> <ol style="list-style-type: none"> <li>1. If the LCD and keypad are not illuminated, check that the contact pads on the battery are not damaged, dirty, or oxidized. Clean the contact pads or replace the battery as necessary.</li> </ol>	
<ol style="list-style-type: none"> <li>2. Also, check whether the phone's battery connector is damaged, dirty, or oxidized. Clean the battery connector if necessary.</li> </ol>	
<ol style="list-style-type: none"> <li>3. If an issue with the "NO" button is suspected to be the problem, check whether the keypad PCB-to-main PCB connector or the contact pads on the keypad PCB assembly are damaged, dirty, or oxidized. Clean them if necessary.</li> <li>4. If the phone still will not power on, replace the keypad PCB assembly.</li> </ol>	 

## 5 Audio Problems

<b>Troubleshooting Steps</b>	
<p>1. If an audio problem is determined to be with the receiver, check that the receiver's external port is not clogged. Clean the port if necessary.</p>	
<p>2. Check that the receiver's board connections are not dirty or oxidized. Clean them if necessary.</p>	 <p style="text-align: center;"><b>Receiver Pads</b></p>
<p>3. Also, check whether the receiver or the receiver gasket is damaged or dirty. Clean or replace them as necessary.</p>	 <p style="text-align: center;"><b>Receiver      Receiver Gasket</b></p>
<p>4. If an audio problem is determined to be with the microphone, check that the microphone's external port is not clogged. Clean the port if necessary.</p>	
<p>5. Check that the microphone board connection is not dirty or oxidized. Clean it if necessary.</p>	 <p style="text-align: center;"><b>Microphone contact pads</b></p>

**Troubleshooting Steps**

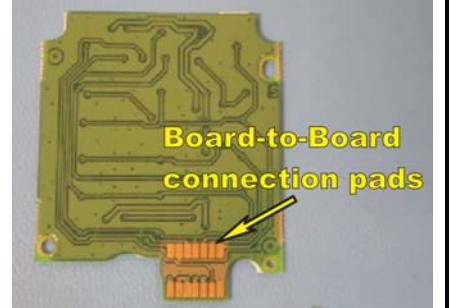
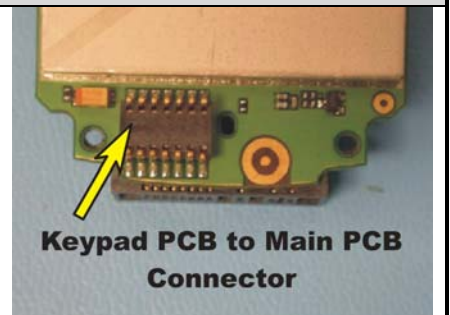
6. Also, check whether the microphone is damaged, dirty, or oxidized. Replace it if necessary.
7. Replace the microphone grommet.



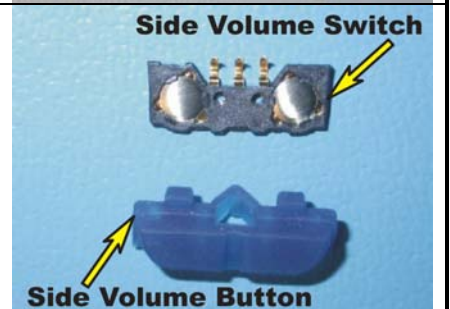
## 6 Keypad/Volume Keys/Navigation Button Problems

**Troubleshooting Steps**


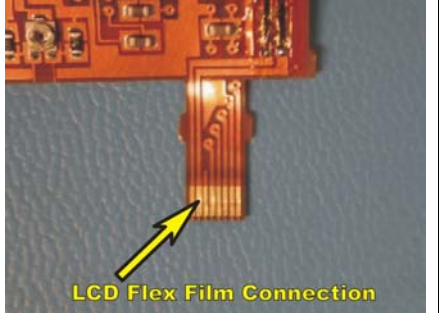

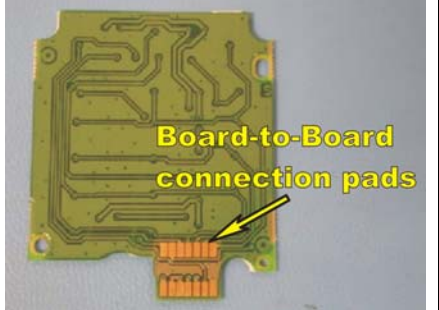
1. If there is an issue with any of the keys on the keypad including the navigation switch, disassemble the phone and check whether keypad PCB-to-main PCB connector and/or the contact pads on the keypad PCB assembly are damaged, dirty, or oxidized. Clean them if necessary.
2. If the problem persists, replace the keypad PCB assembly.



3. If there is an issue with the volume keys, disassemble the phone and visually inspect the side volume button and side volume switch for damage, dirt, or oxidation. Clean or replace the side volume switch and/or the side volume button as necessary.

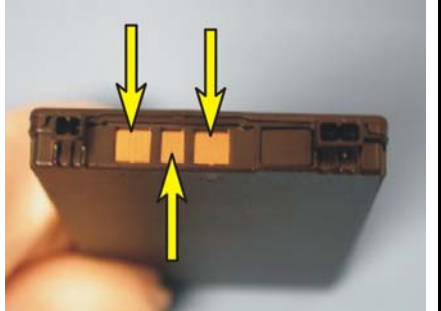
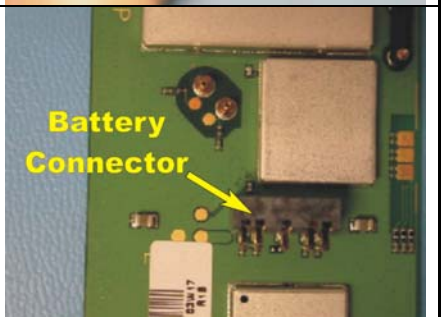



## 7 Display/Illumination Problems

Troubleshooting Steps	
<p><b>NOTE!</b> If neither the keypad nor the LCD illuminate, there may be a power problem. Refer to Section 4, On/Off Problems.</p> <ol style="list-style-type: none"> <li>1. If the LCD does not illuminate, disassemble the phone and check whether the LCD ZIF connector is damaged, dirty, oxidized, or improperly closed. Clean and/or adjust how the ZIF connector is closed as necessary.</li> </ol>	
<ol style="list-style-type: none"> <li>2. Also, check whether the LCD's flex film connection is damaged, dirty, or oxidized. Clean the connection or replace the LCD as necessary.</li> <li>3. If the LCD still is not lighting up properly and has not been replaced, replace it.</li> </ol> <p><b>NOTE!</b> When replacing the LCD, the contrast should be checked.</p>	
<ol style="list-style-type: none"> <li>4. If the LCD illuminates, but the keypad does not, disassemble the phone and check whether the keypad PCB-to-main PCB connector and/or the contact pads on the keypad PCB assembly are damaged, dirty, or oxidized. Clean them if necessary.</li> <li>5. If the LEDs on the keypad PCB assembly still are not lighting up properly, replace the keypad PCB assembly.</li> </ol>	 



## 8 Capacity/Charging Problems

Troubleshooting Steps	
<p>1. If the phone will not charge, check whether the contact pads on the battery are damaged, dirty, or oxidized. Clean the battery's contact pads or replace the battery as necessary.</p>	
<p>2. Also, check whether the phone's battery connector is damaged, dirty, or oxidized. Clean the battery connector if necessary.</p>	
<p>3. Check whether the system connector is dirty or oxidized. Clean it if necessary.</p>	

## 9 Alert Problems

### Troubleshooting Steps

1. If the phone will not vibrate, disassemble the phone and check whether the vibrator contact pads on the PCB are damaged, dirty, or oxidized. Clean the pads if necessary.
2. Also, check whether the contacts on the vibrator are damaged, dirty, or oxidized. Replace the vibrator if necessary.



3. If the polyphonic speaker cannot be heard, check that the speaker's external port is not clogged. Clean the port if necessary.
4. Check whether the contacts on the polyphonic speaker are damaged, dirty, or oxidized. Clean the contacts or replace the speaker as necessary.
5. Also, check whether the polyphonic speaker contacts on the PCB are damaged, dirty, or oxidized. Clean them if necessary.



## 10 SIM Problems

### Troubleshooting Steps

4. Check whether the SIM cardholder is damaged, dirty, or oxidized. Clean it if necessary.



## 11 Revision History

Rev.	Date	Changes / Comments
PA1	2003-05-19	First Draft
A	2003-08-04	Initial Release
B	2003-09-18	<ul style="list-style-type: none"> <li>• Clarified the “Flashing” subsection under the “General Information” section</li> <li>• Added a SIM cardholder check to the “Network Problems” Section</li> <li>• Added receiver port and microphone port checks to “Audio Problems” section</li> <li>• Added polyphonic speaker port check to “Alert Problems” section</li> </ul>