



# Trouble Shooting Guide, Mechanical

Applicable for S700i, S700c

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# 1 Explanations

## 1.1 Service functions in the software

The service menu will be accessed with the following key combination. Use the joystick.

⇒\*←←\*←\*

They are as follows:

**Service info**

**Service tests**

**Text labels**

The phones software has a built in service functionality that allows you to test some of the phones functions. *(See point 2 above)* It looks like this:

**Main display**

**Camera**

**LED/illumination**

**Flash LED**

**Keyboard**

**Vibrator**

**Earphone**

**Speaker**

**Microphone**

**Real time clock**

**FM radio (You need a headset to test)**

**Total call time**

## 1.2 Misuse and other no warranty issues




Misuse is not covered by warranty. This chapter will explain what's not covered by warranty. Phones that have been exposed to misuse will not be covered by warranty.

This means: if it is possible to repair the phone, the customer will have to pay for the repair. SEMC will not allow any of these phones to be claimed into WCMS. Some local perspectives may interfere with this. Please reference to local directives.


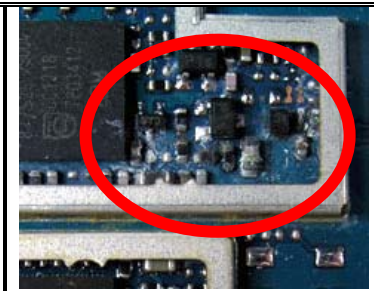
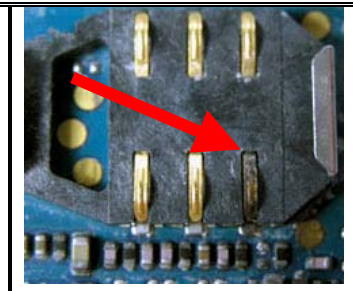
### 1.2.1 Action

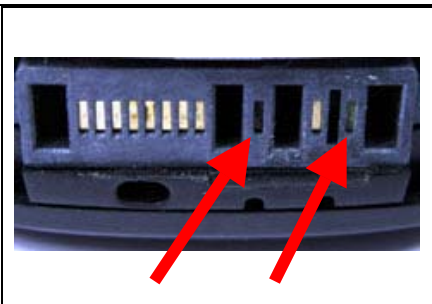
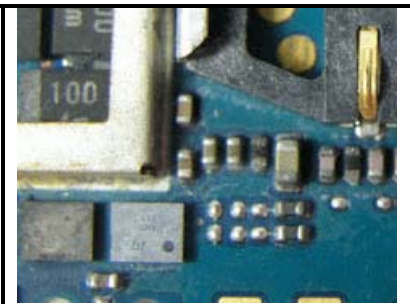
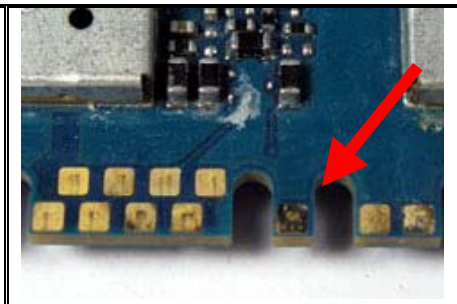
Make a general visual inspection for misuse.

Below are some **examples** of what is not covered by warranty.

		
<p>Front window broken due to misuse.</p>	<p>LCD cracked due to drop.</p>	<p>Clear scratches</p>

	
<p>Mark after drop</p>	<p>Plugs are not covered by warranty.</p>

		
<p>Corrosion components on the PCB.</p>	<p>Corrosion components on the PCB.</p>	<p>SIM reader damaged by liquid.</p>

		
<p>System connector damaged by liquid</p>	<p>Components around system connector damaged by liquid</p>	<p>System connector pad(s) damaged by liquid</p>

## 1.2.2 Water indicator label

In the phone there is placed a sticker that can give you a hint to see if the phone is damage by liquid or not. This sticker is located near the type label (Fig. 1.2.1) and it is possible to see it without disassemble the phone.



Fig. 1.2.1

On the pictures below you will see the different between a sticker that has been in contact with liquid (Fig. 1.2.3) and with one that hasn't (Fig. 1.2.2).



This sticker has not been in contact with liquid.



This sticker has been in contact with liquid. As you can see it has turn into a red or pink label. In this case you should check the phone for liquid damage (See point 1.2.2).

**Note:** There must be clear marks after liquid on the PCB before rejecting the phone for repair.



### **1.2.3 Action**

Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged phone. Handle the unit according to local directives.

## 2 Appearance Problem

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- Check the Case LCD front (Fig. 2.1), the Case Key rear (Fig. 2.2), the Case LCD rear (Fig. 2.3), the Case Key front (Fig. 2.4) The Panel LCD rear (Fig. 2.3), the Panel LCD front (Fig. 2.4) and the battery cover (Fig. 2.2) for damage, scratches and if the parts fit correct. Replace the faulty component(s) if necessary.
- Check the Panel Camera, (Fig. 2.5) and the Cover Camera left and right (Fig. 2.5) for damage, scratches and if the parts fit correct. Replace the faulty component(s) if necessary.
- Check the button key (Fig. 2.4), the button LCD top, side and centre (Fig. 2.1), the button shutter (Fig. 2.6) and the button lock switch (Fig.2.7) for damage, scratches and if the parts fit correct. Replace the faulty component(s) if necessary.
- Check the panel IRDA (Fig. 2.8), the light guide (Fig. 2.7), the cover MS (Fig. 2.9), the cover system connector I/O (Fig. 2.10) and the cover R/F (Fig. 2.11) for damage, scratches and if the parts fit correct. Replace the faulty component(s) if necessary.

If the failure still occurs, handle the unit according to the local directives.







Fig. 2.3



Fig. 2.4



Fig. 2.5



Fig. 2.6



Fig. 2.7



Fig. 2.8



**Fig. 2.9**



**Fig. 2.10**



**Fig. 2.11**



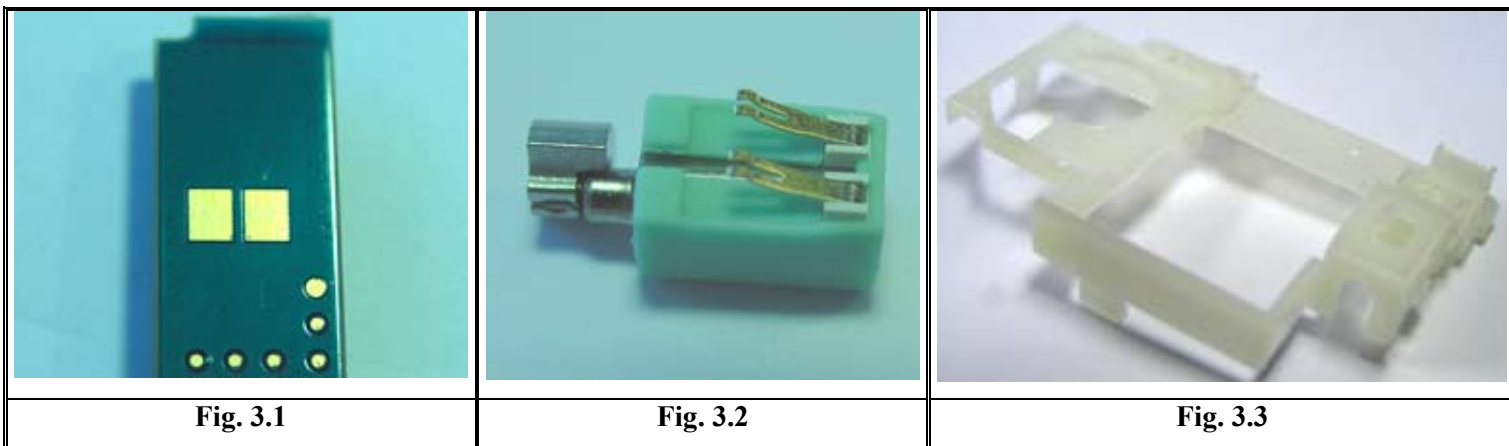
## 3 Alert Problem

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 3.1 Vibrator

- Turn on the phone. Go to the service test menu; choose “Vibrator”. Press any key to check the vibrator works properly.
- Check if the vibrator pads (Fig. 3.1) are dirty or oxidized. Clean them if necessary.
- Check if the vibrator (Fig. 3.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the Frame RF (Fig. 3.3) is mechanical damaged. Replace it if necessary.

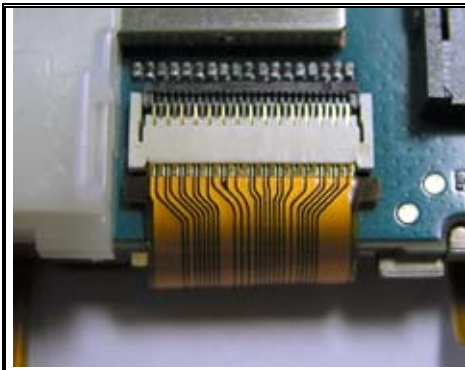
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



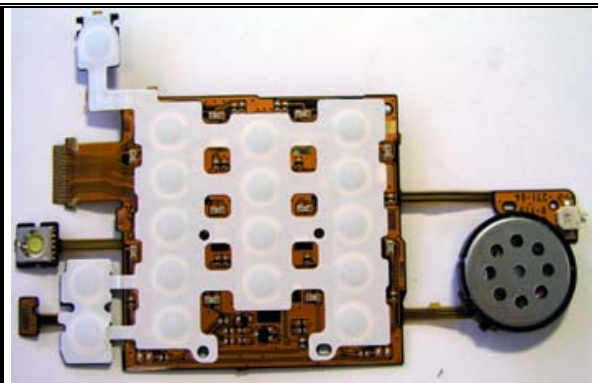
### 3.2 Speaker

- Turn on the phone. Go to the service test menu; choose “Speaker”. Press any key to check the speaker works properly.
- Check if the keyboard flex-film is fitting correct into the FPC connector (Fig. 3.4) and check if the FPC connector is closed.
- Check if the key FPC (Fig. 3.5) is mechanical damage, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



**Fig. 3.4**



**Fig. 3.5**

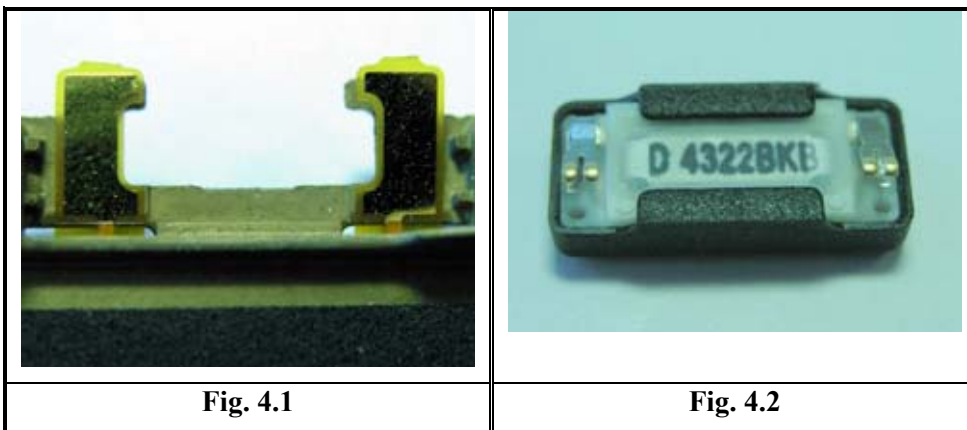
## 4 Audio Problem

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 4.1 Receiver

- Turn on the phone. Go to the service test menu; choose “Earphone” press any key to check the speaker works properly.
- Check if the receiver pads (Fig. 4.1) is dirty or oxidized. Clean or replace the FPC hinge if necessary.
- Check if the receiver (Fig. 4.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.

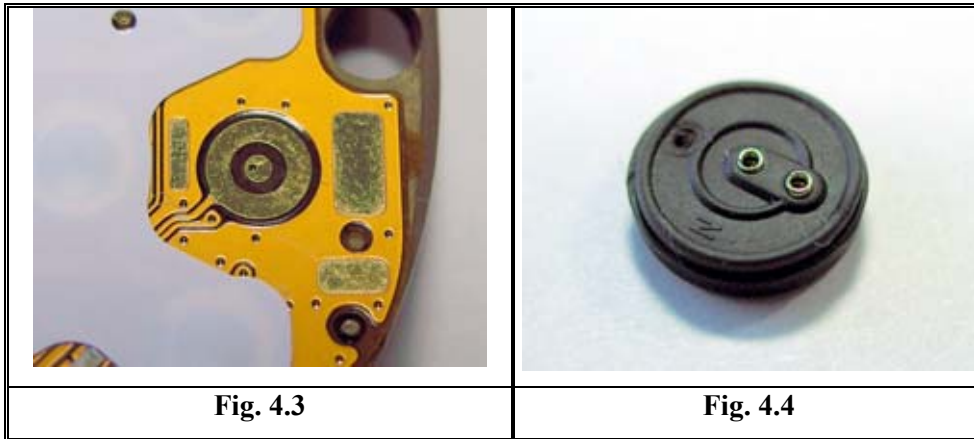
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



### 4.2 Microphone

- Turn on the phone. Go to the service test menu; choose “Microphone”. Check if the microphone works properly.
- Check if the microphone pads (Fig. 4.3) are dirty or oxidized. Clean or replace the FPC hinge if necessary.
- Check if the microphone (Fig. 4.4) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



## 5 Charging/Capacity

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 5.1 Charging

- Insert a working battery and connect a working charger to the phone. If the battery voltage is too low the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD.
- Check if the system connector (Fig 6.1) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

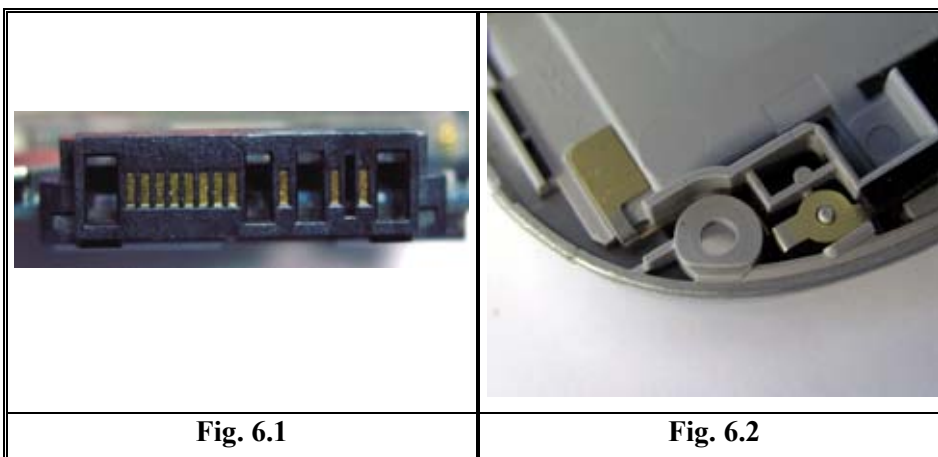
### 5.2 Capacity

- The standby time will be reduced if, the light is turned on all the time, the bluetooth is turned on, or if the infrared is turned on.

## 6 Data Communication Problem

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- If there is a problem with the communication through the system connector, e.g. if it is not possible to synchronizing with MS Outlook, check if the system connector (Fig. 6.1) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if there is a problem with bluetooth communication. Replace the BT Antenna (Fig. 6.2) if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.





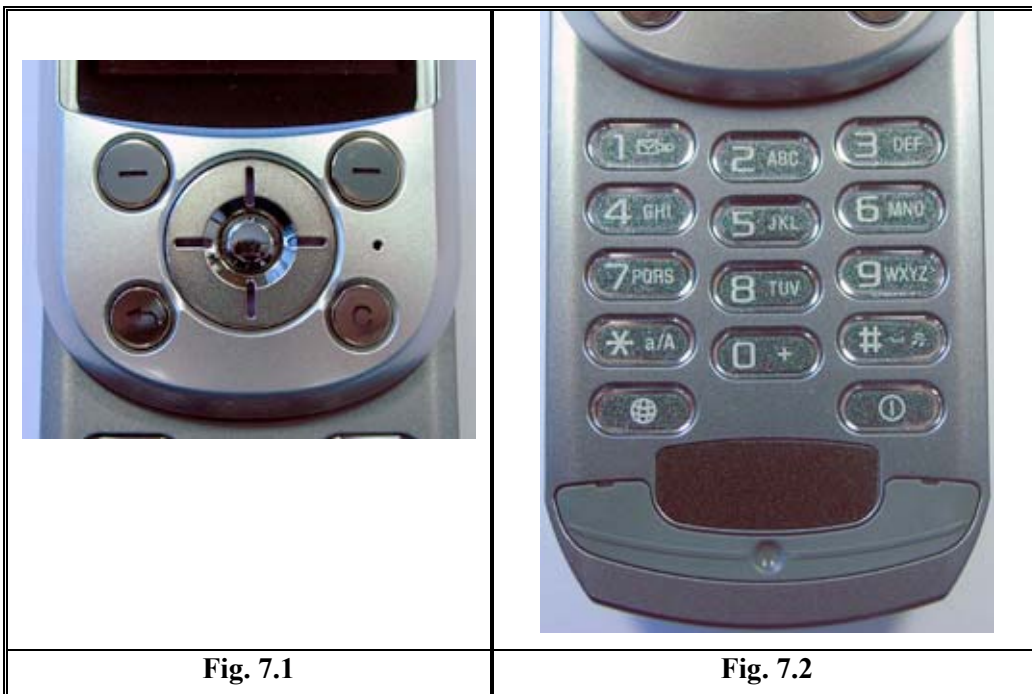
## 7 Key/Flip

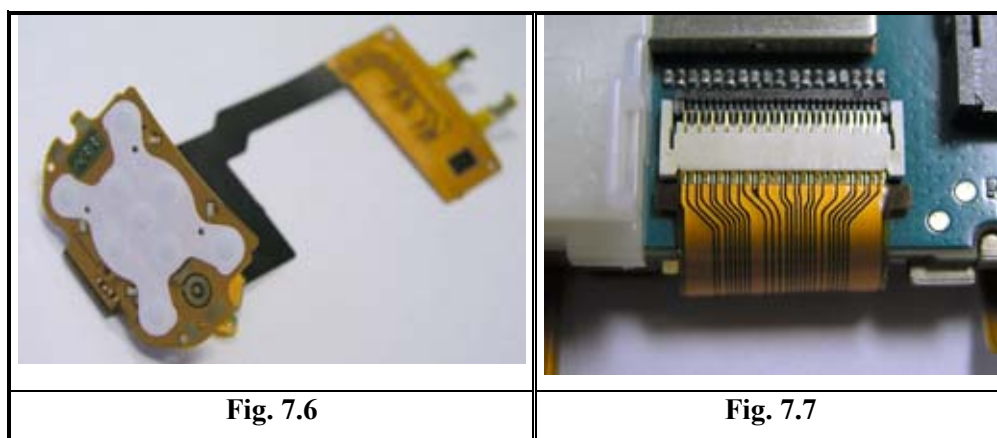
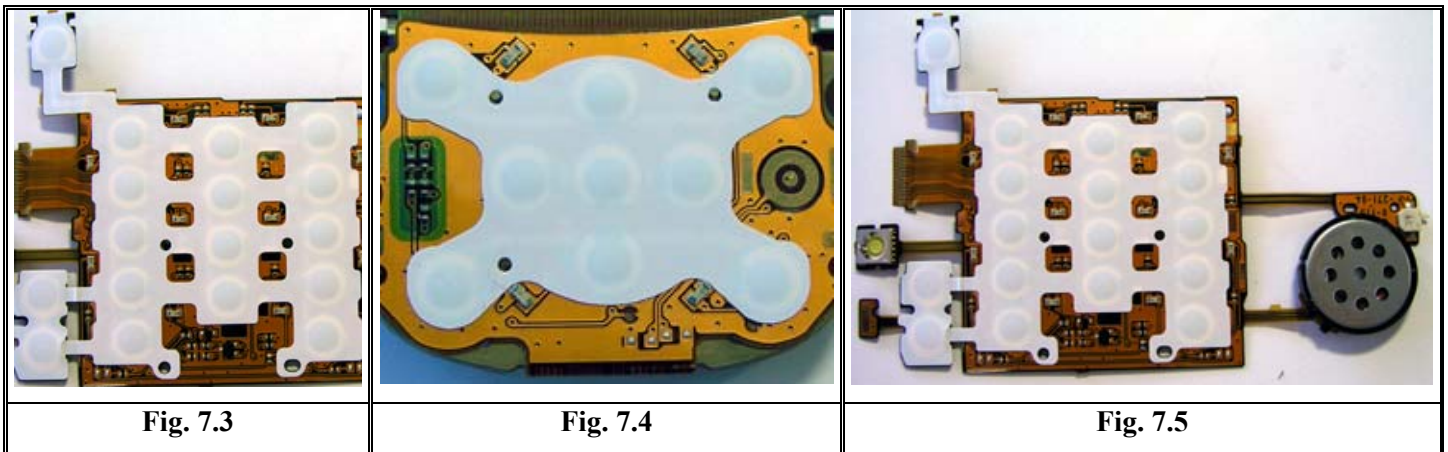
- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 7.1 Keyboard

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the keys. The pressed key will be indicated in the LCD and a DTMF tone is heard.
- Check if the mechanical response feels normal and that all the keys have been showed in the LCD.
- Check if the button LCD top, side, base and centre (Fig. 7.1) or the button key (Fig. 7.2) is mechanical damaged or dirty. Replace the faulty necessary.
- Check if the key flex sheet (Fig. 7.3) or the LCD flex sheet (Fig.7.4) is mechanical damaged, dirty or oxidized. Replace the faulty component if necessary.
- Check if the key FPC (Fig. 7.5) or the FPC hinge (Fig.7.6) is mechanical damaged, dirty or oxidized. Replace the faulty component if necessary.
- Check if the keyboard flex-film is fitting correct into the FPC connector (Fig. 7.7) and check if the FPC connector is closed.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

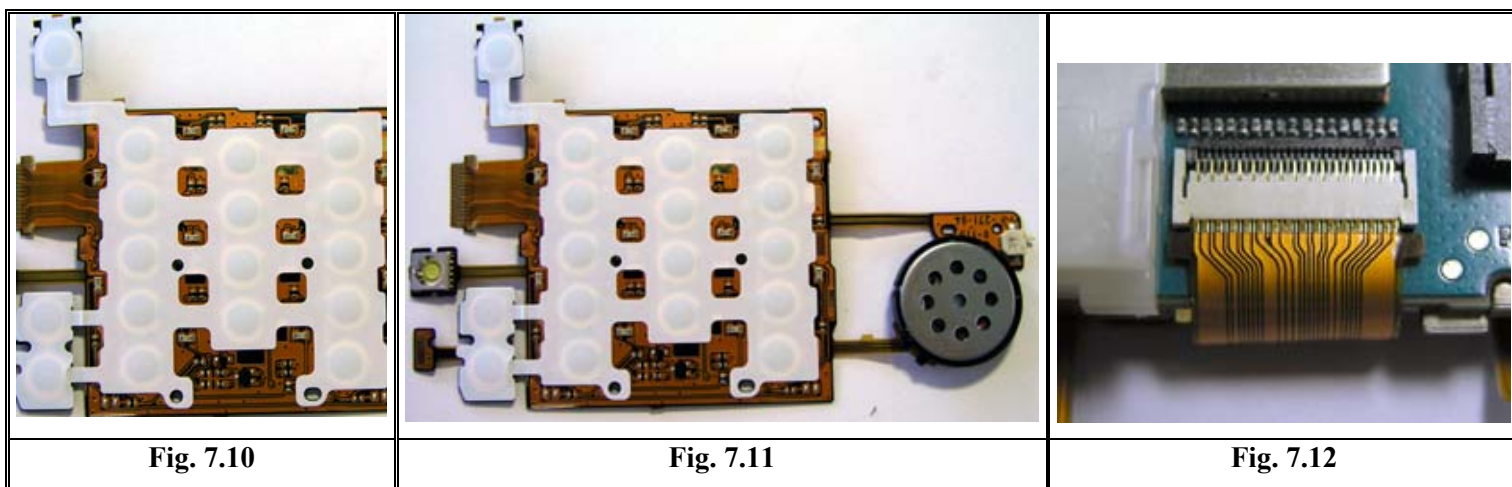
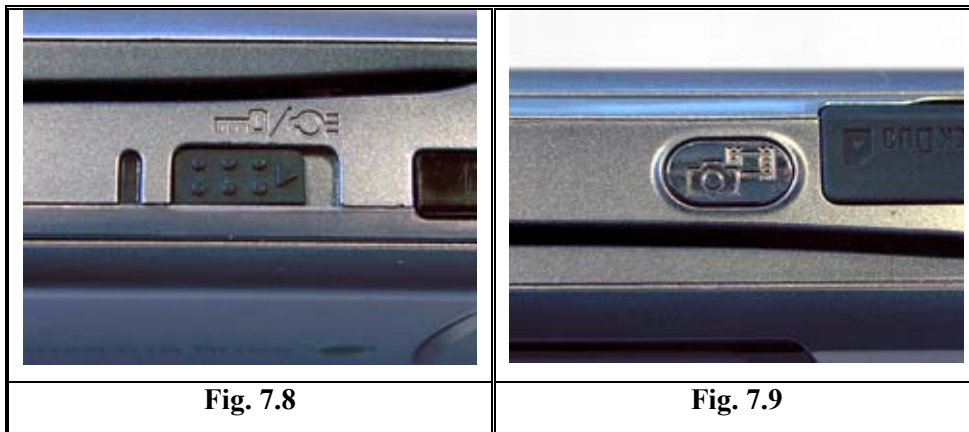




## 7.2 Side keys

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the side keys. The pressed key will be indicated in the LCD and a DTMF tone is heard.
- Check if the Button lock switch (Fig. 7.8) and the button shutter (Fig.7.9) is working properly and if the mechanical response feels normal. Replace the faulty component if necessary.
- Check if the key flex sheet (Fig. 7.10) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the key FPC (Fig. 7.11) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the FPC Connectors (Fig. 7.12) are closed properly and if the flex films are mounted right in the FPC connectors.

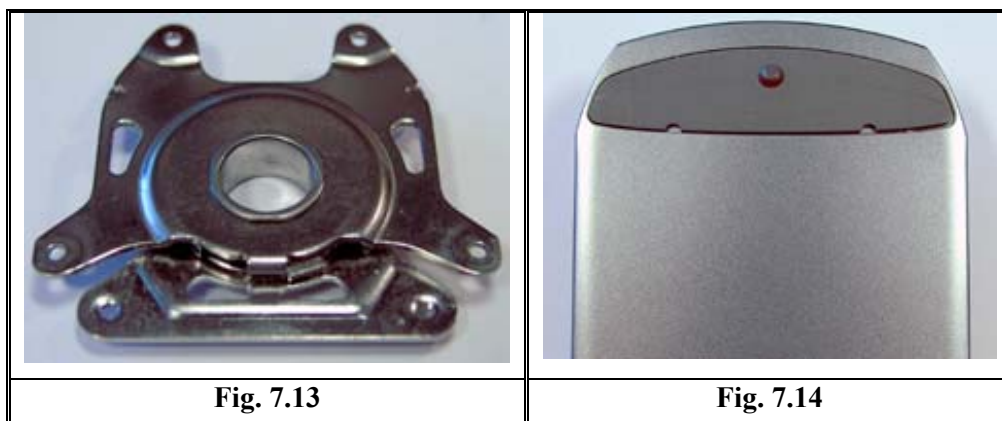
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

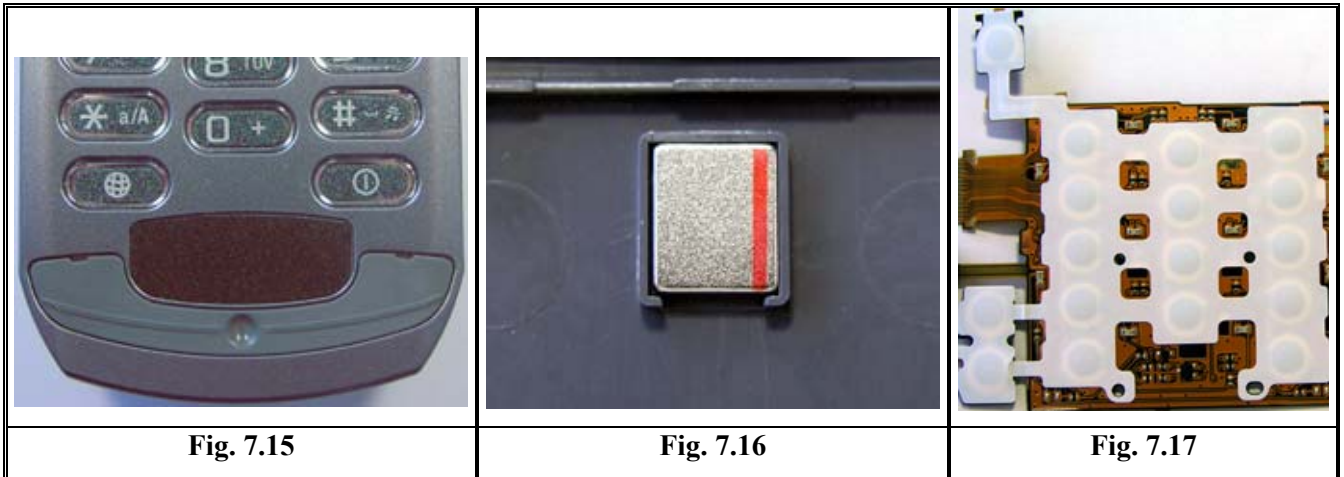


### 7.3 Hinge

- Check if the mechanically response feels normal and if the hinge is loose. Replace the hinge (Fig. 7.13), the panel LCD rear (Fig. 7.14) or the panel LCD front (Fig. 7.15) if necessary.
- Check if the electrical response when opening the flip works. Replace the magnet (Fig. 7.16) if necessary. If the fault still occurs replace the key FPC (Fig. 7.17).

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.







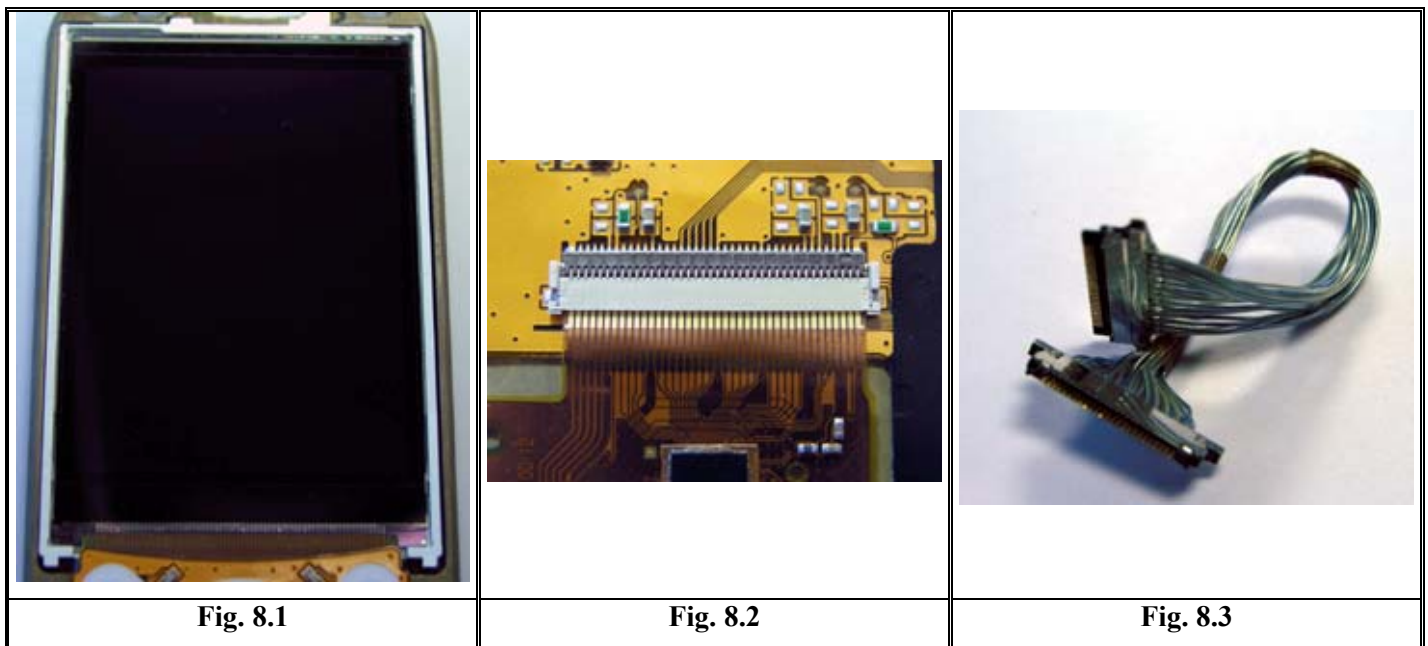
## 8 LCD/Illumination

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 8.1 LCD

- Turn on the phone. Go to service test menu; choose “Display”. You should see a colour pattern.
- Check if the LCD unit (Fig. 8.1) works properly and if there are missing lines or discolours. Replace it if necessary.
- Check if the LCD flex-film is fitting correct into the FPC connector (Fig. 8.2) and check if the FPC connector is closed.
- Check if the harness (Fig. 8.3) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



### 8.2 Illumination

- Turn on the phone. Go to service test menu; choose “LED/Illumination”. The illumination should start blinking ~1Hz.
- Check if the LCD unit (Fig. 8.1) is lighting up properly. Replace it if necessary.
- Check if the harness (Fig. 8.3) is mechanical damaged, dirty or oxidized. Replace it if necessary.

#### 8.2.1 Main keyboard



- Check if the entire 10 key LED's (Fig. 8.5) is lighting in the same strength. Replace the key FPC if necessary.
- Check if the key FPC is fitting correct into the FPC connector (Fig. 8.4) and check if the FPC connector is closed.

### 8.2.2 Navigation keys

- Check if the entire 4 key LED's (Fig. 8.6) is lighting in the same strength. Replace the FPC hinge if necessary.
- Check if the harness (Fig. 8.3) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

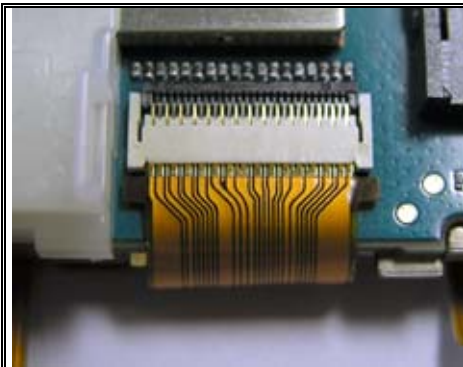


Fig. 8.4

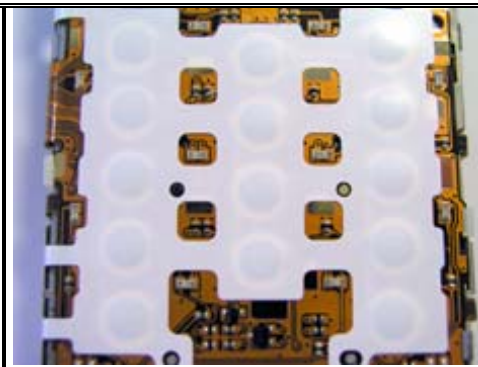


Fig. 8.5

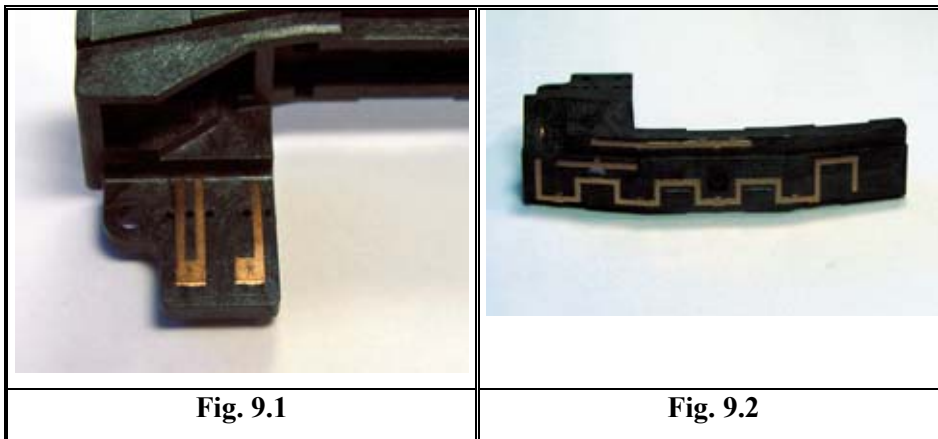


Fig. 8.6

## 9 Network

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- Insert a correct working SIM-card in the phone and turn it on. Check if the phone gets service and if the signal strength indicator shows a correct value at the display. Compare the value with a working phone.
- Check if the antenna flex (Fig. 9.1-9.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



## 10 On/Off

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 10.1 Battery

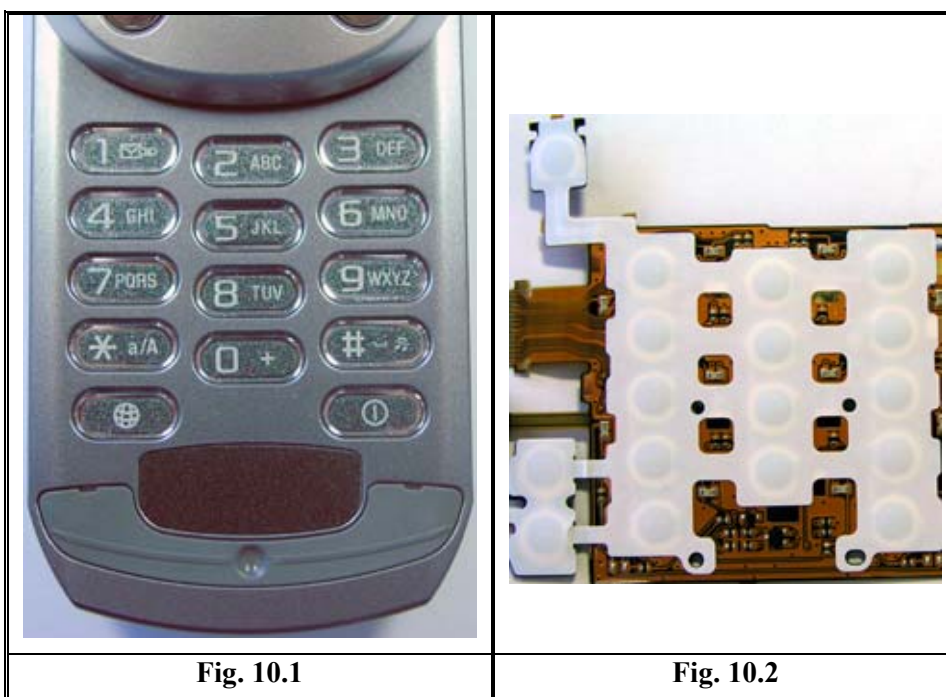
- Insert a working battery and connect a working charger to the phone. If the battery voltage is too low the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD.

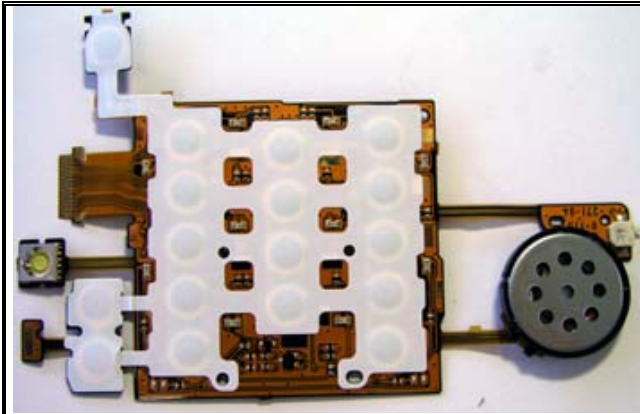
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

### 10.2 On/Off key

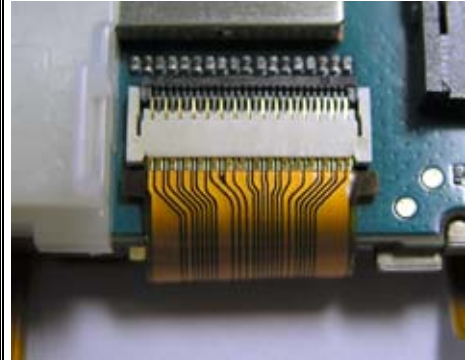
- Insert a fully charged battery and turn the phone on. If it fails;
- Check if the button key (Fig. 10.1) is mechanical damaged or dirty. Replace it if necessary.
- Check if the key flex sheet (Fig. 10.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the key FPC (Fig. 10.3) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the keyboard flex-film is fitting correct into the FPC connector (Fig. 10.5) and check if the FPC connector is closed.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.





**Fig. 10.3**



**Fig. 10.4**

# 11 Other

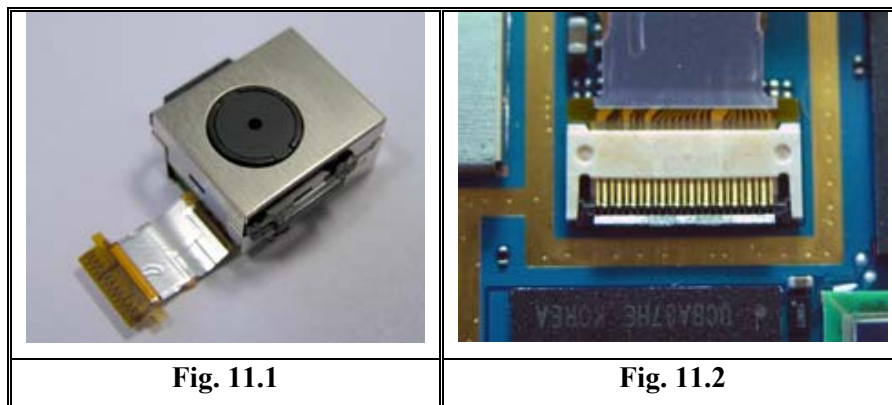
## 11.1 Camera Problem

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- Turn on the phone. Go to the service test menu; choose “Camera” and open the shutter. The viewfinder will be visible in the LCD.

**Note:** if the flip is open the picture will be upside down

- Check if the 1.3M CCD camera (Fig. 11.1) is working properly; verify the viewfinder functionality in the LCD.
- Check if the camera flex film is fitting correct into the FPC connector (Fig. 11.2) and check if the connector is closed.
- Check if there are black spots and if the picture is in focus. Replace the camera module if necessary.

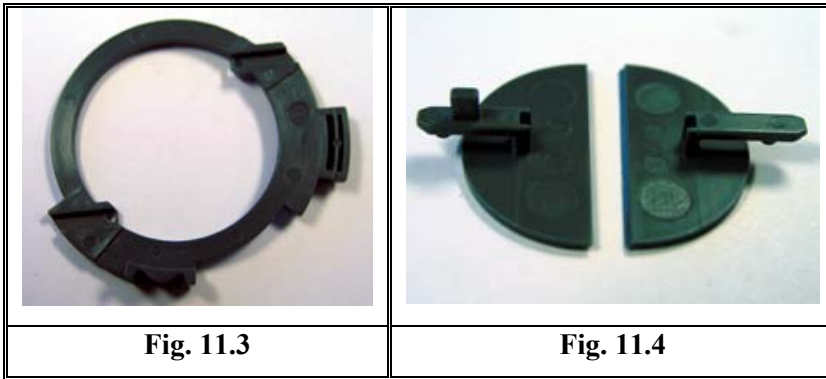
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



## 11.2 Camera shutter

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- Check if the camera shutter works properly. Check if it loose and if it will close tight. Replace the frame camera cover (Fig. 11.3) and the cover camera right & left (Fig. 11.4) if necessary.





## 12 Software Problem

- If there are problems with the response of the keypad commands, or spelling errors in the menu, if they are not related to mechanical damage, make a master reset and flash the phone with the latest software from EMMA II.
- Checking the software revision can be done in the Service info, see chapter *Service functions in the software*.  
Choose: Service info / SW information.  
The Software revision and date will be shown in the display.
- If a flash upgrade is interrupted for some reason, EMMA II will prompt "Error in sequence". After which the phone will not start up. In order to restore functionality you need to run "S700x Flash Recovery". The script can be found under "Flash" in EMMA II. After a successful recovery you need to re-flash the phone with correct signalling software before start up.

**Note:** Do a SW upgrade before sending the unit to a higher level. Do **not** scrap a phone that hasn't been upgraded.

If the failure still occurs, handle the unit according to the local directives.

## 13 Revision History

<b>Rev.</b>	<b>Date</b>	<b>Changes / Comments</b>
A	2004-09-24	Initial Release