

SERVICE MANUAL

Level 1&2

NOKIA

6280

RM-78



Transceiver characteristics:

Dual Band: EGSM and WCDMA

- GSM: Tri-band phone for GSM 900/1800/1900MHz

- WCDMA: 2100MHz

Camera:

- Backside camera 2 Megapixel with 8x digital zoom

- Frontside VGA camera

Display: Active matrix color display with 262.144 colors,
 resolution 320 x 240 pixel

Bluetooth

IRDA

Visual radio

Vibra Alert: Small round Vibra motor

Connector: Easy Flash connector

Transceiver with BP-6m 970mAh Li-Ion battery pack

Talk time		Standby		Note
EGSM	WCDMA	EGSM	WCDMA	
up to 3h	up to 2.5h	up to 250h	up to 200h	Depends on network parameters

Environmental characteristics:

- Lead-free soldered

TABLE OF CONTENTS

	Page
1. INTRODUCTION	3
2. GENERAL REPAIR INFORMATION	4
3. PATHFINDER FOR WORKSHOP STAFF	5
4. EXPLODED VIEW AND COMPONENT DISPOSAL	6
5. SPARE PARTS OVERVIEW	7
6. SPARE PARTS LIST	8
7. SERVICE TOOLS	9
8. SW-UPDATE	11
9. DISASSEMBLY INSTRUCTION (UPPER PART)	12
10. DISASSEMBLY INSTRUCTION (LOWER PART)	15
11. MAIN DOMESHEET EXCHANGE INSTRUCTIONS	18
12. LEGEND FOR QUICK TROUBLE SHOOTER	19
13. QUICK TROUBLE SHOOTER PART 1	20
14. QUICK TROUBLE SHOOTER PART 2	21
15. QUICK TROUBLE SHOOTER PART 3	22
16. QUICK TROUBLE SHOOTER PART 4	23
17. CAMERA GONOGO TEST	24
18. BLUETOOTH & INFRARED TEST	25
19. GONOGO TEST	26
20. BATTERY TEST	26
21. FORWARDING OF REPAIRS	27
22. ESD PROTECTION REQUIREMENTS	28

CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	21.09.2005	Initial draft
Approved	1.0	12.10.2005	Approval
Approved	2.0	08.11.2005	File quality update
Approved	3.0	16.11.2005	Disassembly lower part picture 14 changed
Approved	4.0	03.01.2006	MAIN DOMESHEET instructions added
Approved	5.0	19.01.2006	Picture 9 in the upper part changed / Tools Chapter CA-53 added

1. INTRODUCTION

The purpose of this document is to help NOKIA service levels 1 and 2 workshop technicians to carry out service to NOKIA products. This Service Manual is to be used only by authorized NOKIA service suppliers, and the content of it is confidential. Please note that NOKIA provides also other guidance documents (e.g. Service Bulletins) for service suppliers, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist. If you find any errors or if you have further suggestions, please notify NOKIA using the address below:

<mailto:cc-ts-rc.documentation@nokia.com>

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE
2. THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
3. Use only approved components as specified in the parts list.
4. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly.



Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on NOKIA Online. Also see ESD Protection Requirements in this Service Manual.

2. GENERAL REPAIR INFORMATION

In this section the technician will get some general hints how to carry out repairs:

- To familiarize oneself with NOKIA product read the tutorials or user guide on www.nokia.com -->Support--> Phones, by selecting the Phone Model.
 - Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
 - Use gloves to avoid corrosion and fingerprints.
 - Protect windows and displays with a film to avoid dust and scratches.
 - When cleaning the LCD Module any lint-free cloth can be used (e.g. Micro-Fibre cloth).
 - When cleaning the pads you have to use a soft cloth/ESD brush and Isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
 - Mechanical parts (except shielding lids and bent parts), which didn't repair the failure, can be reused, if they are not soldered.
 - When removing the shielding lids make sure to replace them with new ones, otherwise the high-frequency leakage can have an influence on the device.
 - Always use original NOKIA spare parts.
 - Check the soldering joints of the parts, which are concerned regarding the indicated error (e.g. soldered connectors or switches) and resolder them if necessary (Level 2 only).
 - Remove redundant soldering flux after repair.
 - Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on NOKIA Partner Web Site/NOKIA Online).
 - Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
 - A SIM card is needed for all GoNoGo tests.
 - When doing the fault log entries, always note the Item code, which caused the malfunction. Also, fill in the appropriate part code from the assembly, if needed.
 - Please be aware that some malfunctions could be software related and solved by an update.
-
- There are several documents available on NOL, which have to be followed:
 - First, take care for the latest content pages of Service Bulletins, which are always available for each folder on NOKIA Online. This is also important to recognize, if existing documents have become invalid.
 - The service level indicator at the bottom of each document tells the appropriate destination.

Downloads > Support Library >

1. Instructions
 2. General Service Bulletins
 3. Product related documents
 4. Spare Part Service Bulletins
 5. Service Tools Service Bulletins
 6. Common Software Service Bulletins
- etc,...

Use General SB-217 as a reference or overview.

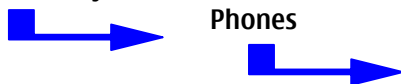
Please also check NOKIA Online (NOL) for latest news and files on a regular basis.

3. PATHFINDER FOR WORKSHOP STAFF

In addition to the information in this Service Manual, there are several instructions and information, which have to be followed. Main documentation database is [NOKIA Online](#) with the purpose of serving different multimedia content, like video clips or interactive tutorials.

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "Latest files in Support Library"). Every new information has to be processed and implemented as soon as possible. When logged into NOL you can also find needed information in different folder like:

Support Library



- Service Manuals
- Service Bulletins
- Software
- Repair Information

Level 1&2 e-learning (former NOKIA CarePoint) on NOKIA Online

Former NOKIA CarePoint content, such as	<ul style="list-style-type: none"> • Online Troubleshooting • Product information • Videos – Disassembly/Assembly 	can be found on NOKIA Online
		<p>NOKIA Online</p> <p>↓</p> <p>Care Services</p> <p>↓</p> <p>Training</p> <p>↓</p> <p>Phone Models</p>

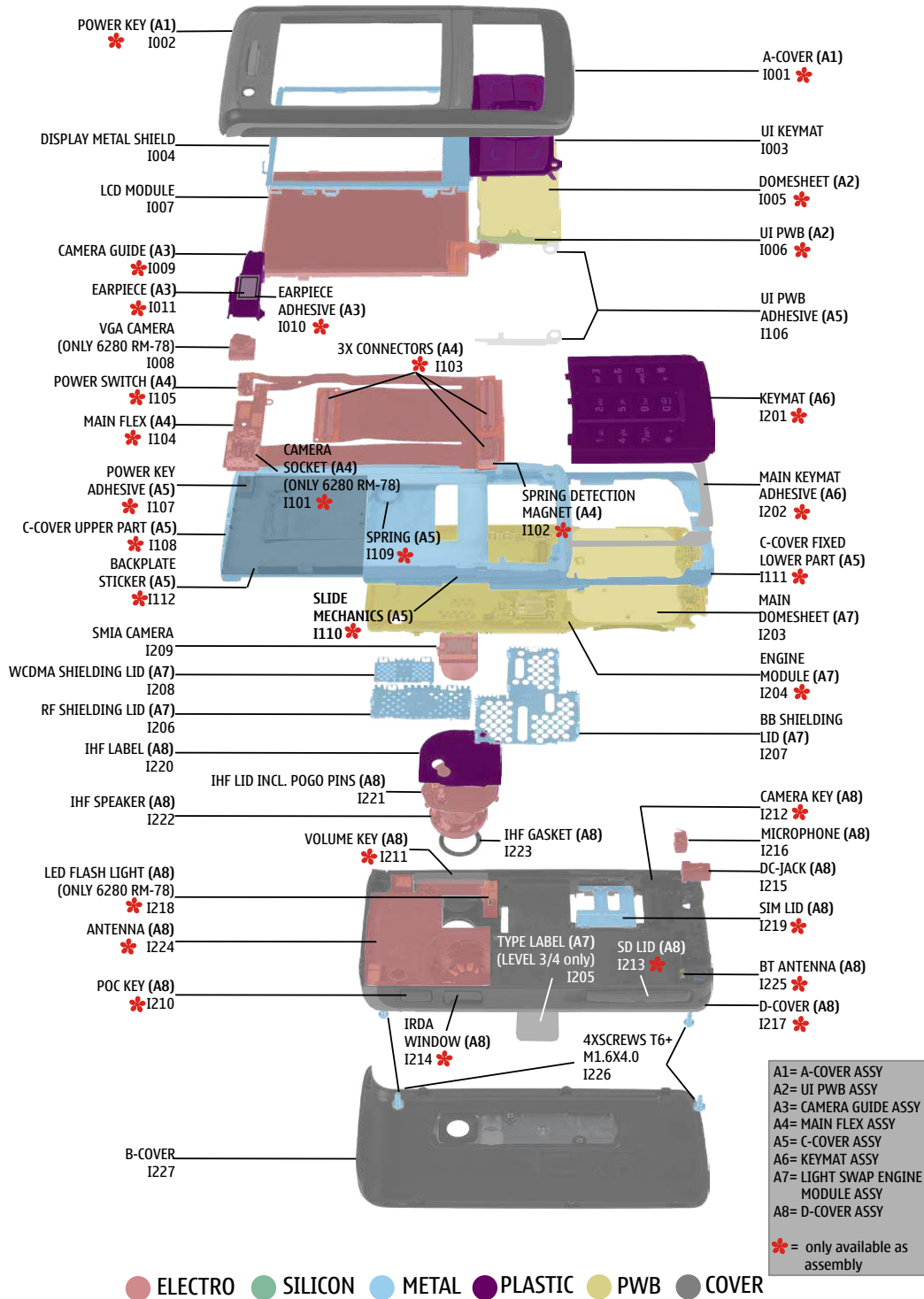
Level 1&2 e-learning courses offer a quick overview of the NOKIA phone and support for how to repair and use the phone:

<p>Overview & Guides Basic information about the phone, features and technologies</p>	<p>Disassembly & Assembly Instructions how to disassemble and assemble the phone</p>	<p>Troubleshooting Step-by-step instructions on how to locate and repair the most common problems with the phone</p>
--	---	---

To reduce the server traffic it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.

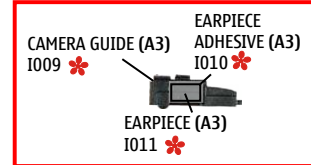
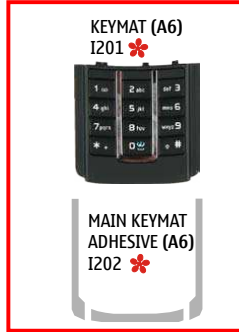
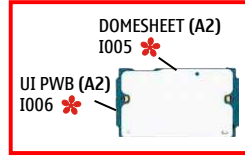
4. EXPLODED VIEW AND COMPONENT DISPOSAL

Recommendation for the ecologically friendly disposal of components. Colorized components show the different categories. See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

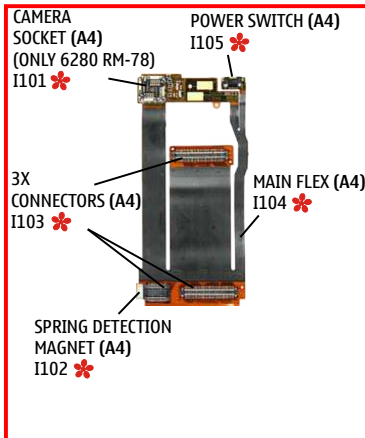


5. SPARE PARTS OVERVIEW

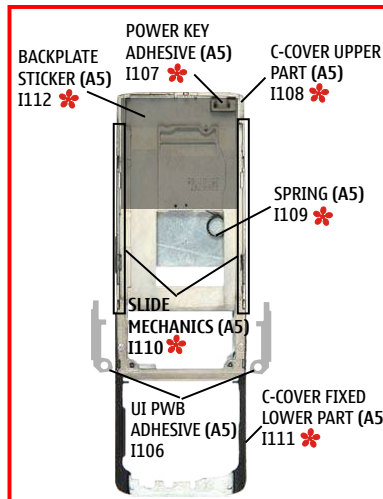
A1 = A-COVER ASSY A2 = UI PWB ASSY A6 = KEYMAT ASSY A3 = CAMERA GUIDE ASSY



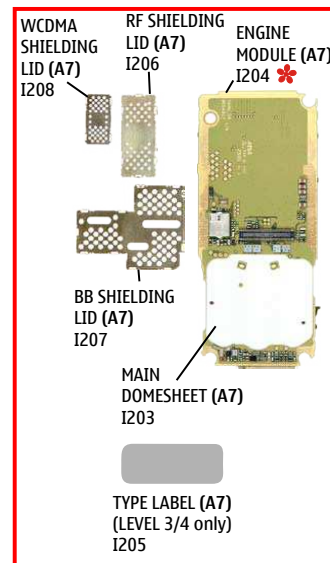
A4 = MAIN FLEX ASSY



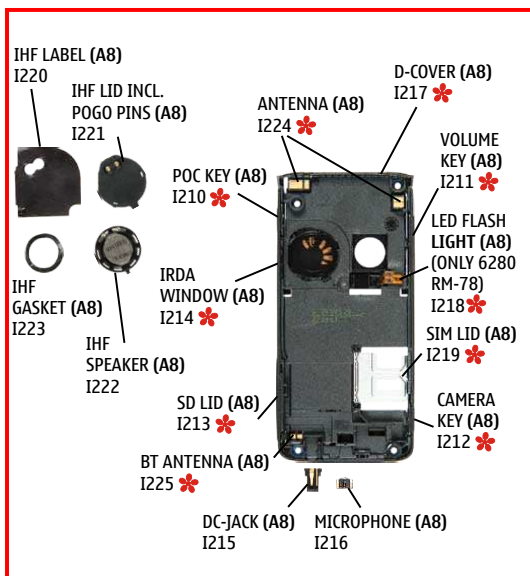
A5 = C-COVER ASSY



A7 = LIGHT SWAP ENGINE MODULE ASSY



A8 = D-COVER ASSY



4XSCREWS T6+ M1.6X4.0 I226



LCD MODULE I007

DISPLAY METAL SHIELD I004



B-COVER (6282 RM-79) I227



B-COVER (6280 RM-78) I227



VGA CAMERA (ONLY 6280 RM-78) I008

SMIA CAMERA I209

- A1= A-COVER ASSY
- A2= UI PWB ASSY
- A3= CAMERA GUIDE ASSY
- A4= MAIN FLEX ASSY
- A5= C-COVER ASSY
- A6= KEYMAT ASSY
- A7= LIGHT SWAP ENGINE MODULE ASSY
- A8= D-COVER ASSY


* = only available as assembly

6. SPARE PARTS LIST

Please exchange this page (placeholder) with latest corresponding Service Bulletins (spare parts, SWAP units and service tools) from NOL!

This will ensure, that you are using up-to-date order codes only.

Therefore Service Bulletins have to be checked from NOL on daily basis.



NOKIA
CONNECTING PEOPLE

Nokia Online

[Home](#) | [User](#) | [Sitemap](#) | [Log Out](#)

Search

Care Services

Support Library | [Warranty Info](#) | [Service Points](#) | [Training](#)

Support Library

Browse files

[Latest files](#)

» [Browse files](#)

Select category:

Select subcategory:

Select subcategory:

Date range from: / /

until: / /

Search:

Files for Service level 2 Date:03.02.2005


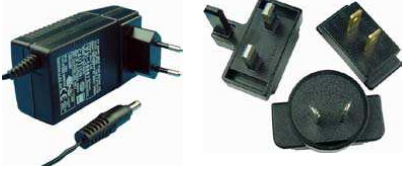





- XXXXXXXXXXXXXXXXXXXX

Files for Service level 1 Date:16.02.2005

- XXXXXXXXXXXXXXXXXXXX
- XXXXXXXXXXXXXXXXXXXX
- XXXXXXXXXXXXXXXXXXXX

© Nokia 2005 [legal notice and site usage terms](#) | [privacy policy](#).

7. SERVICE TOOLS

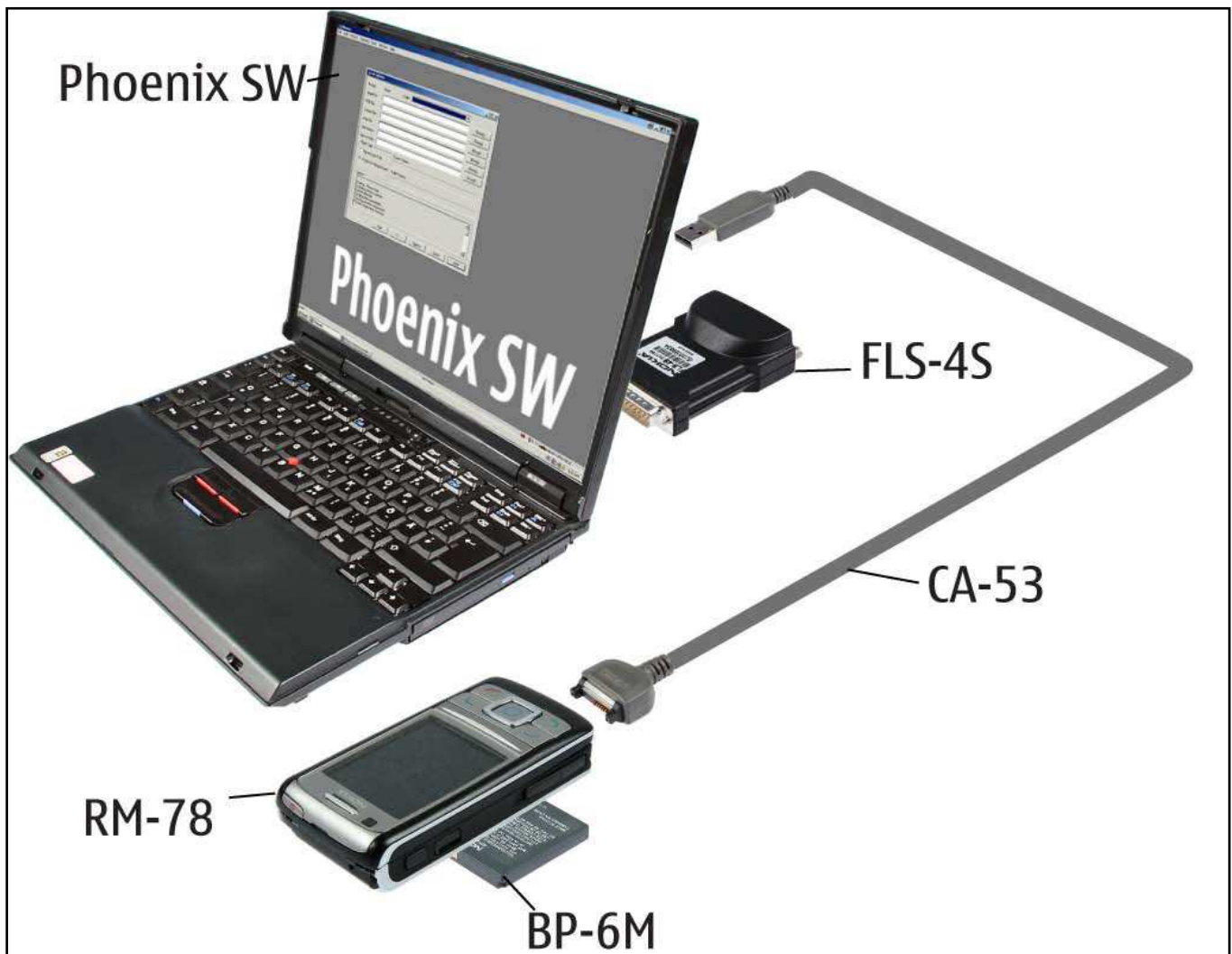
	<p>FLS-4S incl. ACF-8, Driver and User Guide Dongle and flash device incorporated into one package, developed specifically for POS use.</p>
	<p>ACF-8 Universal Power Supply is used to power FLS-4S.</p>
	<p>Travel Charger AC-4 Small and lightweight charger with smaller charging plug to charge your phone battery fast.</p>
	<p>Internal Battery BP-6M Inserted under the back cover, this Li-Ion 970 mAh battery provides power in a lightweight package.</p>
	<p>Headset HS-23 Small and lightweight stereo headset with handsfree functionality, volume control, Push to talk support, and comfortable earpieces for listening to the FM radio or MP3 player in compatible phones.</p>
	<p>SS-51 Camera removal tool for VGA camera (Frontside)</p>
	<p>SS-45 Camera removal tool for 2 Megapixel camera (Backside)</p>

	<p>CA-53 Service Cable to connect the PC with the Pop-Port™ connector.</p>
	<p>RJ-88 Soldering Jig</p>
	<p>Lead-free Solder Wire Mandatory for lead-free products (Level 2 only).</p>
	<p>0772040 NMP Standard Toolkit</p> <ul style="list-style-type: none"> • NOKIA opening tool SRT-6 NOKIA No. 0770431 • Tonichi torque driver NOKIA No. 6901525 • Hoya micro Fibre cloth MX304 • Dastex gloves S, M, XL • Artlux goggles AH166 • Wera bit T5 867/4TX 5x50 • Wera 867/4 6IP; 50mm (Torx 6 PLUS®) • Wera 867/4TX 6x50 • Wera 867/1 5IP; 25mm (Torx 5 PLUS®) • Wera bit T6 PLUS® 867/4TX 6IP • Facom side cutter 416E • Facom T5 driver SP.14032 • Facom T6 driver SP.14033 • Facom slot screwdriver AEF. 2x35.E • Wetec tweezers 7abb SA-ESD • Wetec tweezers 22 SA-ESD • Wetec tweezers 13 SA-SMD ESD • Wetec tweezers PSF SA-ESD • Wetec ESD brush E1211 • Kaiser Fototechnik airbrush 6315 • Wetec dental tool DEM83266/0 • RS Components Scissors 323-5732








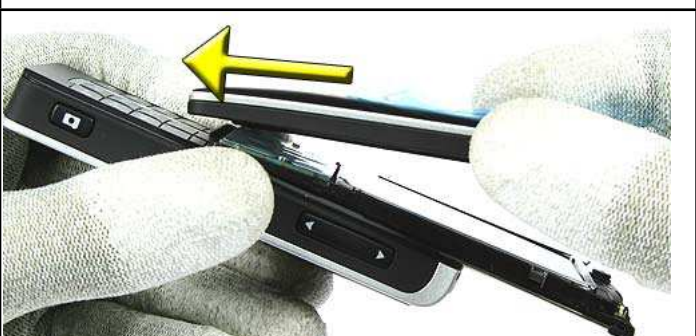
8. SW-UPDATE

Flash Concept – (Point of Sales)

To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always for the latest version of flash software, which is available on [NOKIA Online](#).



9. DISASSEMBLY INSTRUCTION (UPPER PART)

 <p>1.) You need the following tools.</p>	 <p>2.) Protect the window with a plastic film.</p>
 <p>3.) Protect the camera window with a plastic film.</p>	 <p>4.) Release the B-Cover.</p>
 <p>5.) Remove the Battery Cover. Ensure that no battery is inserted before continue.</p>	 <p>6.) Shift out the unit. Release the clips of the top side first.</p>
 <p>7.) Slide along on both sides of the A-Cover to release all clips.</p>	 <p>8.) Lift up the A-Cover.</p>



9.) Protect the inner side window with a plastic film. Remove the Keymat as shown.



10.) Protect the LCD with a plastic film.



11.) Shift together the unit. Lift up the glued UI PWB Assy carefully with the SRT-6.



12.) Lift the UI PWB together with the LCD Module.



13.) Carefully release the flex connector at one side first.



14.) Now release the other side of the flex connector.



15.) Take away the UI PWB Assy.



16.) Release the connector of the LCD Module carefully while fixing the flex foil. Remove the LCD Module now.



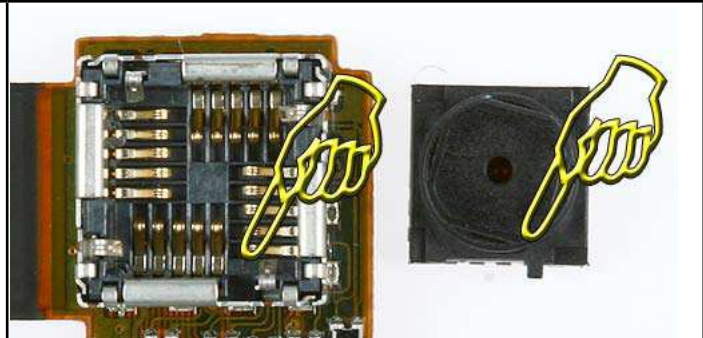
17.) Separate the LCD Module from the Display Metal Shield.



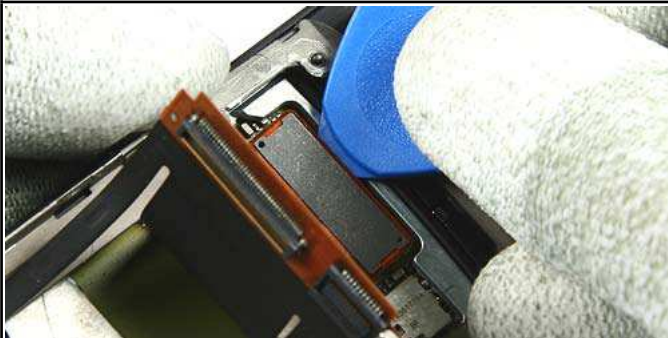
18.) Release the Camera Guide Assy with the SRT-6.



19.) Release the VGA Camera with the SS-51. Hold the Main Flex near the Camera Socket while removing the



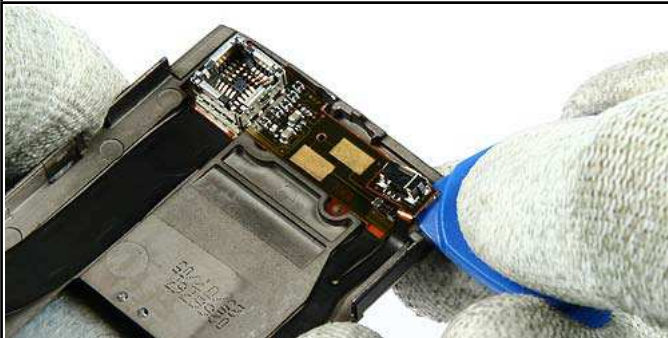
20.) For Assembly: Mind the correct positioning of the VGA Camera.



21.) Shift the unit into mid position. Release the connector of the Main Flex Assy.



22.) Slot the flex connector through the C-Cover Assy carefully.



23.) Lift the glued Power Switch carefully.

10. DISASSEMBLY INSTRUCTION (LOWER PART)



1.) Open the B-Cover by pressing it from the bottom side.



2.) Ensure that no battery is inserted.



3.) Unscrew all Torx size 6 plus screws in the shown order. For Assembly use the reverse order and a torque of 25 Ncm.



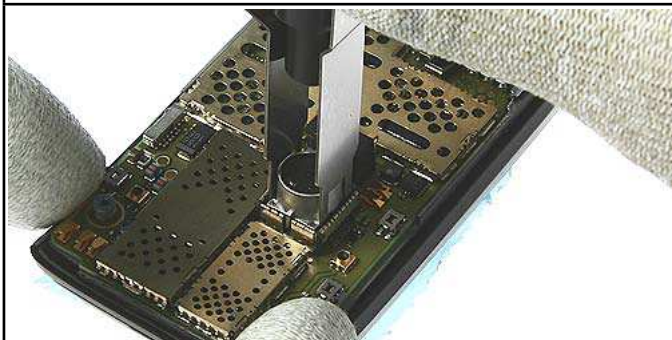
4.) Once removed, the screws can't be used again. Always use new screws for assembly.



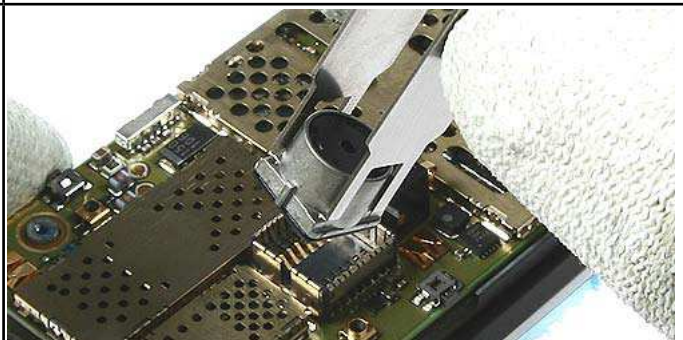
5.) Release the clips of the D-Cover.



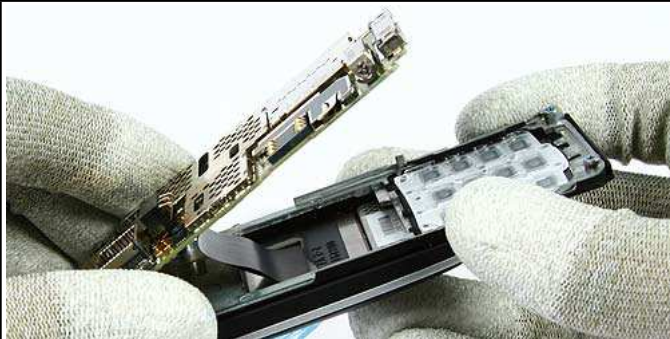
6.) Remove the D-Cover.



7.) Remove the SMIA Camera with the SS-45.



8.) Mind the correct position while assembling.



9.) Lift up the Engine Module, but bear in mind that the flex connector is still connected.



10.) Open the flex connector carefully.



11.) Lever out the glued Keymat Assy.



12.) Ensure that no residue of the adhesive remains. Always use new adhesive when reassemble.



13.) Remove the DC Jack with the DC Plug.



14.) Release the IHF Label with the SRT-6.



15.) Remove the IHF Lid.



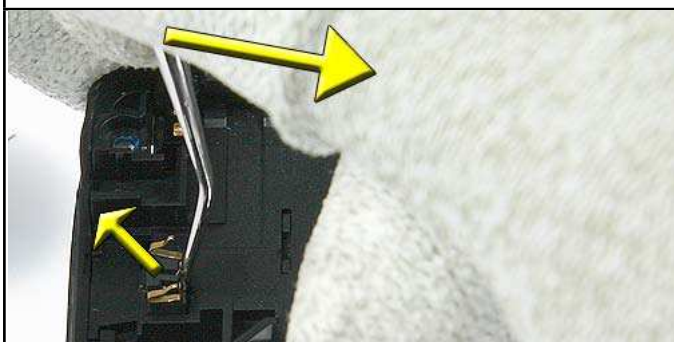
16.) Peel up the IHF Label completely. Always use a new one when reassembly. Ensure that no residues remain.



17.) Lever out the IHF Speaker.

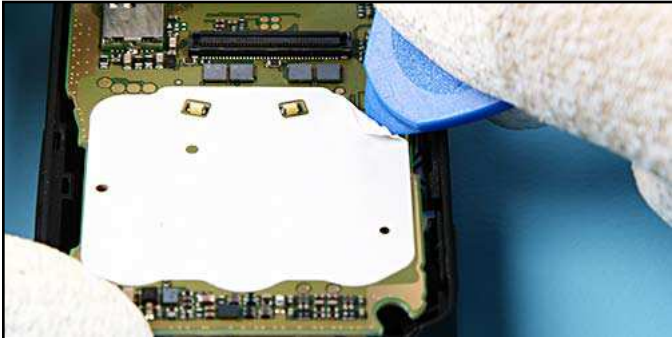


18.) Always remove the residues of the IHF Gasket. Use a new one when reassemble.

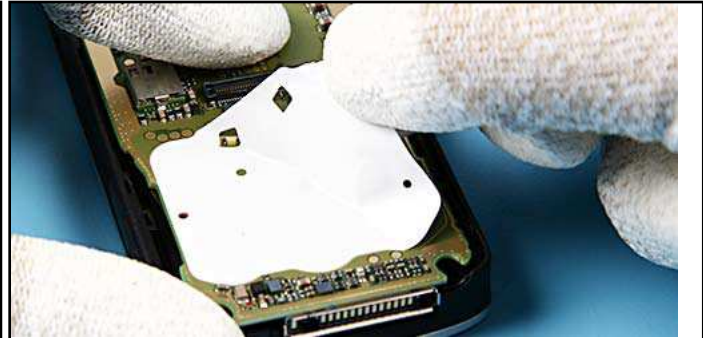


19.) Place the dental tool in the gap between Microphone and Cover. Ease out the Microphone as shown. Once removed, it can't be reused again.

11. MAIN DOMESHEET EXCHANGE INSTRUCTIONS



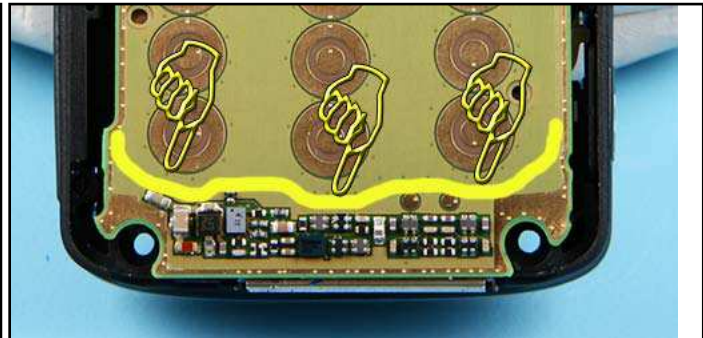
1. Carefully remove the MAIN DOMESHEET with SRT-6. Be careful not to damage surrounding components.



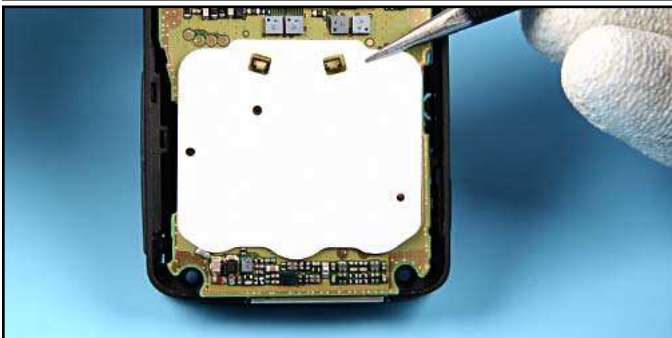
2. Remove the MAIN DOMESHEET slowly.



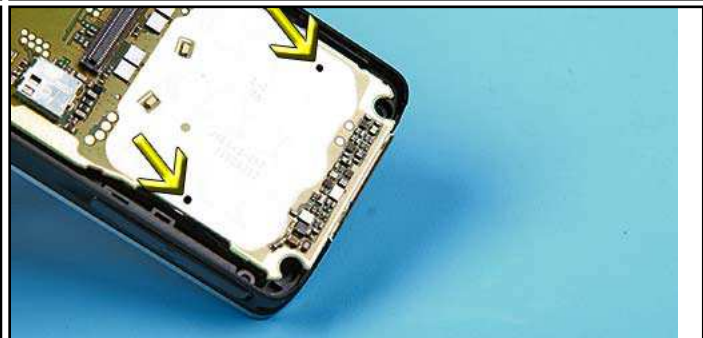
3. Take the new MAIN DOMESHEET from the carrier film.



4. There are outline markings which show the exact placement of the DOMESHEET.



5. Place the new MAIN DOMESHEET onto the ENGINE MODULE.






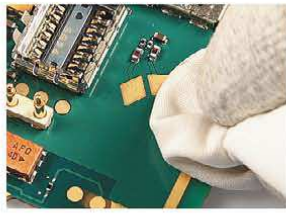
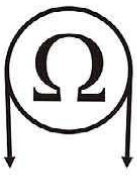

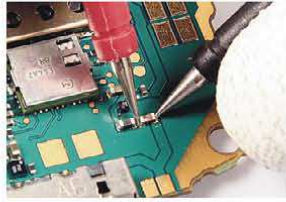


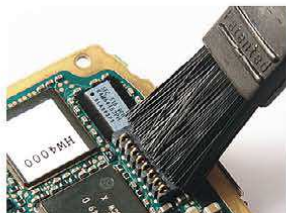
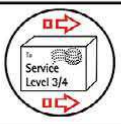


6. The holes of the dome sheet must also match exactly to those in the module.



7. Finally, fix the MAIN DOMESHEET all-over.

12.LEGEND FOR QUICK TROUBLE SHOOTER

Legend for Quick Troubleshooter	
This legend is valid for all parts of the Quick Troubleshooter	
Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward.	
	The start point of repair activities regarding the appeared fault symptoms.
	Only marked components (e.g. I002 ) can be replaced.
	<p>Cloth usage: Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.</p>  
	<p>Measure component for electrical functionality and change, if needed. (Level 2 only)</p>  
	<p>ESD Brush usage: Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.</p>  
	No more action possible - send product to the appropriate service supplier with higher service level.

13. QUICK TROUBLE SHOOTER PART 1

CHARGING

Ω 0 ≈ Ω

LEVEL 2 ONLY

F2000

ENGINE MODULE (not supplied) I204

A8=D-COVER ASSY

DC-JACK I215

X2070

ENGINE MODULE (not supplied) I204

EARPIECE

ENGINE MODULE (not supplied) I204

X3301

CONNECTORS I103

A8=D-COVER ASSY

EARPIECE I011

A3=CAMERA GUIDE ASSY

DISPLAY

ENGINE MODULE (not supplied) I204

X3301

CONNECTORS I103

A4=MAIN FLEX ASSY

LCD MODULE I007

KEYMAT

ENGINE MODULE (not supplied) I204

MAIN DOMESHEET I203

KEYMAT I201

14. QUICK TROUBLE SHOOTER PART 2

IHF SPEAKER

SERVICE GSM

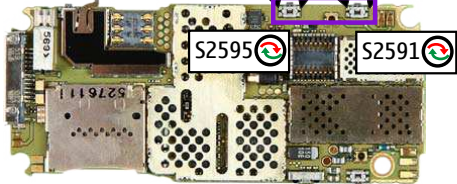
SERVICE WCDMA

UI KEYMAT

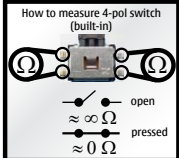
15. QUICK TROUBLE SHOOTER PART 3

VOLUME

LEVEL 2 ONLY

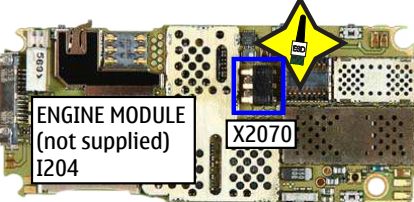


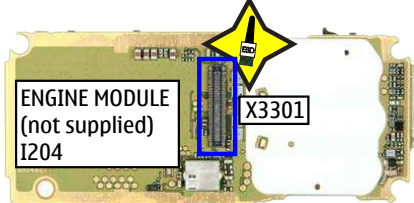
How to measure 4-pol switch (built-in)

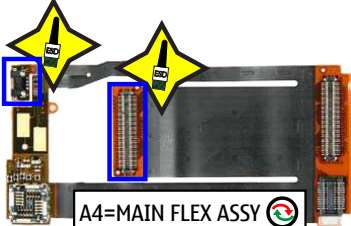


MEASURE OPEN AND PRESSED STATE ON BOTH SIDES OF THE SWITCH

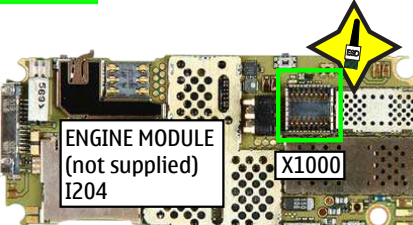
POWER






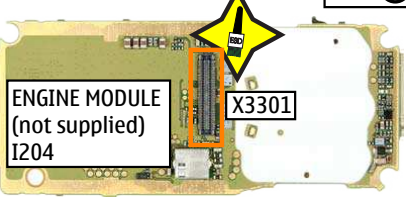


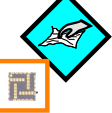
SMIA CAMERA

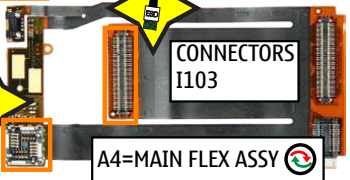






VGA CAMERA












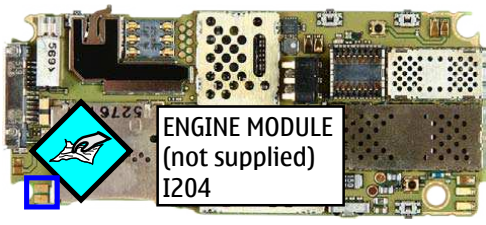
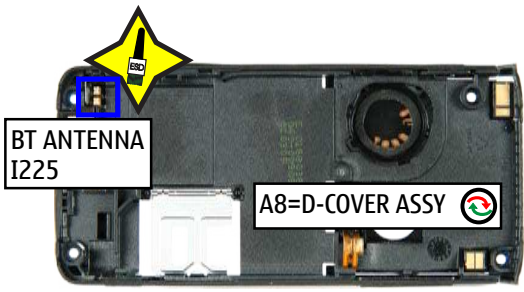

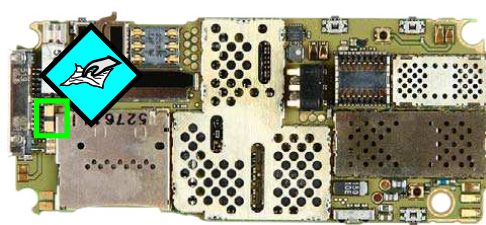
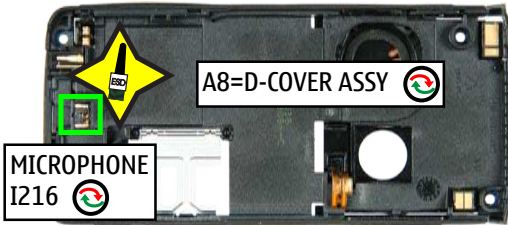

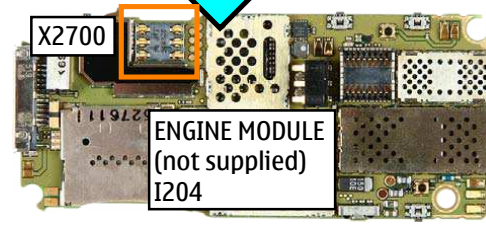










16. QUICK TROUBLE SHOOTER PART 4

LED FLASH	<p>LEVEL 2 ONLY</p> <p>X2530</p> <p>X2531</p> <p>ENGINE MODULE (not supplied) I204</p> 	<p>A8=D-COVER ASSY</p> <p>LED FLASH LIGHT I218</p> 	
BLUETOOTH	<p>ENGINE MODULE (not supplied) I204</p> 	<p>BT ANTENNA I225</p> <p>A8=D-COVER ASSY</p> 	
MICROPHONE		<p>A8=D-COVER ASSY</p> <p>MICROPHONE I216</p> 	
SIM	<p>X2700</p> <p>ENGINE MODULE (not supplied) I204</p> 	<p>A8=D-COVER ASSY</p> <p>SIM LID I219</p> 	

17. CAMERA GONOGO TEST

Before starting the GoNoGo test, check that camera window is clean. If not, clean the window with cloth.



SMIA CAMERA TEST

- Press the red receiver button to reach the Home Menu
 - Select **Menu**
 - Select **Media**
 - Select **Camera**
 - Press **Capture** to take a photo
This Image will be saved to Gallery into the Photos folder automatically.
Test was successful, if the Image appears on your Display. The camera is ok.
 - Select **Options**
 - Select **Delete**
 - Select **Yes**
 - Press the red receiver button to reach the Home Menu
- If the test is failed see Quick Trouble Shooter.

18. BLUETOOTH & INFRARED TEST

Bluetooth test

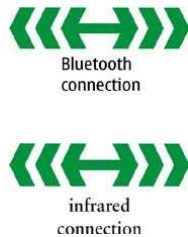
You need another Bluetooth device (e.g. 6230) to do a GoNoGo test.

Make sure that Bluetooth is activated in the reference unit. The distance of the devices should be not more than 5m from each other.

Infrared test

You need another infrared device (e.g. 6230) to do a GoNoGo test. The infrared windows of the devices must be directed to each other and should have a distance of approximate 15 cm. Make sure that infrared is activated in receiver device.

Warning: Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 Laser product.



Reference unit, Bluetooth /infrared activated

Test unit

Settings on the test unit:

- Press the red End key to reach the Home Menu
- Select **Names** and select **Search** for an entry
If phone and SIM memory is empty, create one new entry.
- Select an entry and select **Details**
- Select **Options**
- Select **Send business card**
 - A) - for infrared test: Select **Via infrared**
If sending of business card fails, make sure again that infrared windows are directed to each other and infrared is activated in reference device. Then try again sending.
Test was successful, if you get this message on receiver device.
You will not get a confirmation on sender device.
 - B) - for Bluetooth test: Select **Via Bluetooth**
If needed (for e.g. after a sw-update), enter a name for this device
- select **Options**
- select **Accept**
Search window appears, if all Bluetooth devices in range will be displayed, the test is successful!
- Press red End key to reach the Home Menu

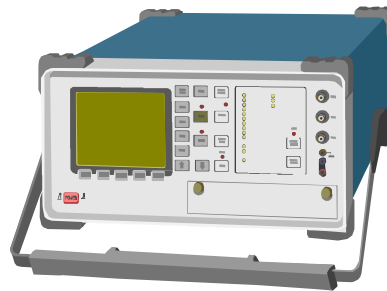
Note: If the Bluetooth is activated, switch it off!

19. GONOGO TEST

After the optical check, a GoNoGo test has to be carried out if the unit has been unscrewed to guarantee the functionality of the phone.

Please refer to the actual information on NOKIA Online. When using delivered tester support files, take care of the right setup according to the tester type and product type.

Please refer to "Recommended Service Equipment" on NOKIA Online.



Mobile Phone Tester

20. BATTERY TEST

A battery tester lets you test the capacity of NOKIA batteries.

Please refer to the actual information on NOKIA Online.



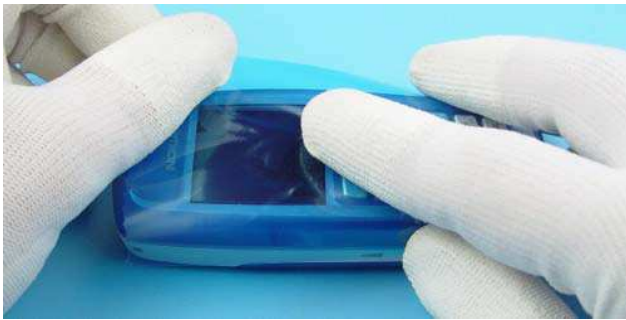
<http://www.astratec.co.uk/>



<http://www.cadex.com/>

21. FORWARDING OF REPAIRS

When it is necessary to forward of repairs to appropriate service supplier with higher service level we recommend using the offered swap phone cartons as described in Spare Parts SB-004.



Always Protect the window with a protection film.



Put the unit under the stretch film.



Add repair documentation e.g. filled-in service note into the swap carton.



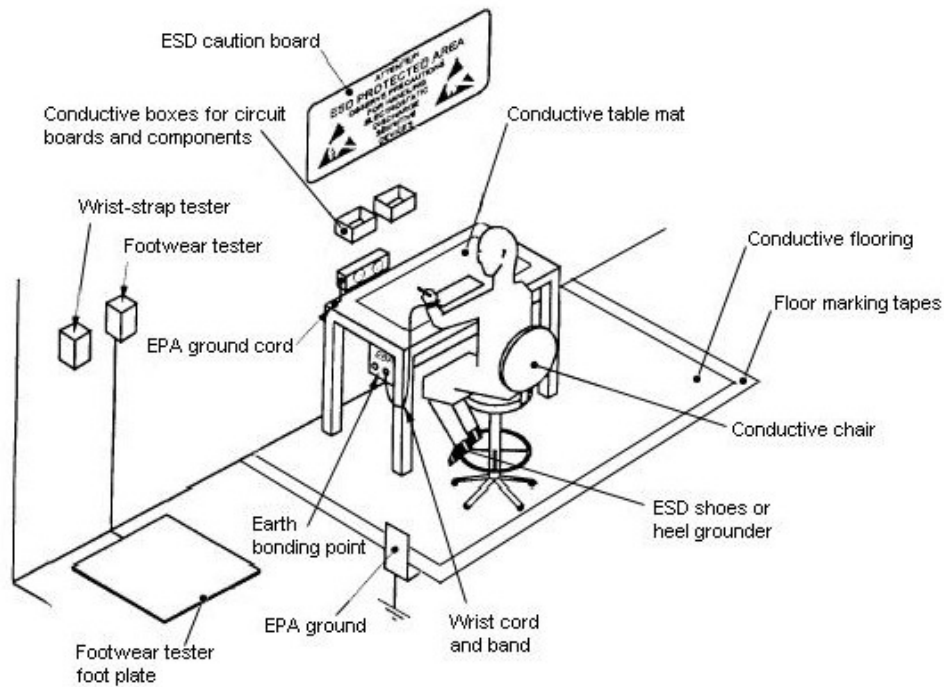
Fold the swap carton as shown in Spare Parts SB-004.



There are two different sizes of swap cartons for common mobile phones.

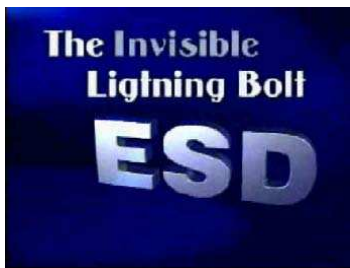
22.ESD PROTECTION REQUIREMENTS

Please refer to the NOKIA Online document [Service Supplier Requirements](#) in folder General instructions.



- USE** Conductive bags and boxes
- USE** ESD compatible service tools
- USE** Conductive wastebaskets
- USE** ESD gloves when handling PWBs/PCBs
- USE** Cleaning material without changing el. Characteristics
- USE** Grounded service equipment, i.e. soldering station
- USE** ESD clothes such as coat or frock

- NO** Smoking
- NO** Drinking
- NO** Eating
- NO** Dust
- NO** Useless Items
- NO** Normal pressured air for cleaning modules/ displays



The video covers general issues concerning Electro-Static Discharge (ESD)

www.s-manuals.com