

# SERVICE MANUAL

## Level 1&2

**NOKIA**  
**6101**

RM-76/RM-77

**NOKIA**  
**6102**

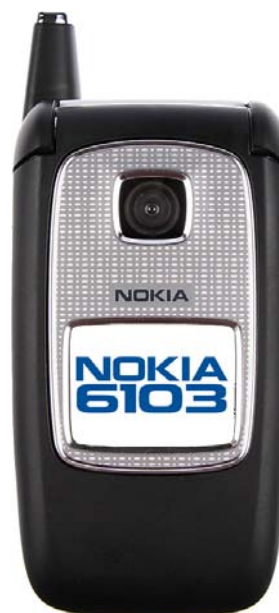
RM-76/RM-77

**NOKIA**  
**6103**

RM-161/RM-162

**NOKIA**  
**6102i**

RM-162



### Transceiver characteristics:

- Tri-band GSM coverage on up to five continents
- 6101 RM-76 (GSM 900/1800/1900)  
RM-77 (GSM 850/1800/1900)
- 6102 RM-76 (GSM 900/1800/1900)  
RM-77 (GSM 850/1800/1900)
- 6103 RM-161 (GSM 900/1800/1900)
- 6102i RM-162 (GSM 850/1800/1900)
- Digital VGA camera
- Two color displays: 128 x 160 pixel internal display with up to 65,536 colors and external mini display
- Video recording and playback
- FM stereo radio and headset
- XHTML browser
- Five-way navigation key including select key
- Email: supports SMTP, POP3, and IMAP4 protocols
- 3.5 MB internal shared memory
- Infrared
- Bluetooth (6103 RM-161/162; 6102i RM-162 only)
- USB with Pop-Port™ Connector
- Integrated XHTML browser connects over TCP/IP
- EDGE, class 6: download speed up to 177.6 kbps, uplink speed up to 118.4 kbps
- GPRS class 10: download speed up to 85.6 kbps, uplink speed up to 42.8 kbps
- HSCSD class 6: downlink speed up to 43.2 kbps, uplink speed up to 28.8 kbps TCP/IP

Transceiver with BL-4C 760mAh Li-Ion battery pack

Talk time	Standby	Note
2h -4h	150xh -350h	Depends on network parameters

### Environmental characteristics:

- Lead-free soldered

## TABLE OF CONTENT

	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 INSTRUCTIONS LOWER BLOCK .....	12
10. DISASSEMBLY INSTRUCTIONS UPPER BLOCK .....	15
11. CAMERA EXCHANGE INSTRUCTIONS .....	17
12. DOMESHEET EXCHANGE INSTRUCTIONS .....	18
13. DISPLAY EXCHANGE INSTRUCTIONS .....	19
14. IMD WINDOW EXCHANGE INSTRUCTIONS .....	20
15. LEGEND FOR QUICK TROUBLE SHOOTER .....	21
16. QUICK TROUBLE SHOOTER PART 1 .....	22
17. QUICK TROUBLE SHOOTER PART 2 .....	23
18. CAMERA GONOGO TEST .....	24
19. BLUETOOTH & INFRARED TEST .....	25
20. GONOGO TEST .....	26
21. BATTERY TEST .....	26
22. FORWARDING OF REPAIRS .....	27
23. ESD PROTECTION REQUIREMENTS .....	28

## CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	01.03.2005	Initial draft
Approved	1.0	23.05.2005	Approval
Approved	2.0	12.10.2005	Front page information updated
Approved	3.0	11.01.2006	6102i 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 THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. 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](http://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 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 contents, 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




#### Phones



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"> <li>• <b>Online Troubleshooting</b></li> <li>• <b>Product information</b></li> <li>• <b>Videos – Disassembly/Assembly</b></li> </ul>	can be found on <b>Nokia Online</b>
		
<p><a href="#">Nokia Online</a></p> <p>↓</p> <p><b>Care Services</b></p> <p>↓</p> <p><b>Training</b></p> <p>↓</p> <p><b>Phone Models</b></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:

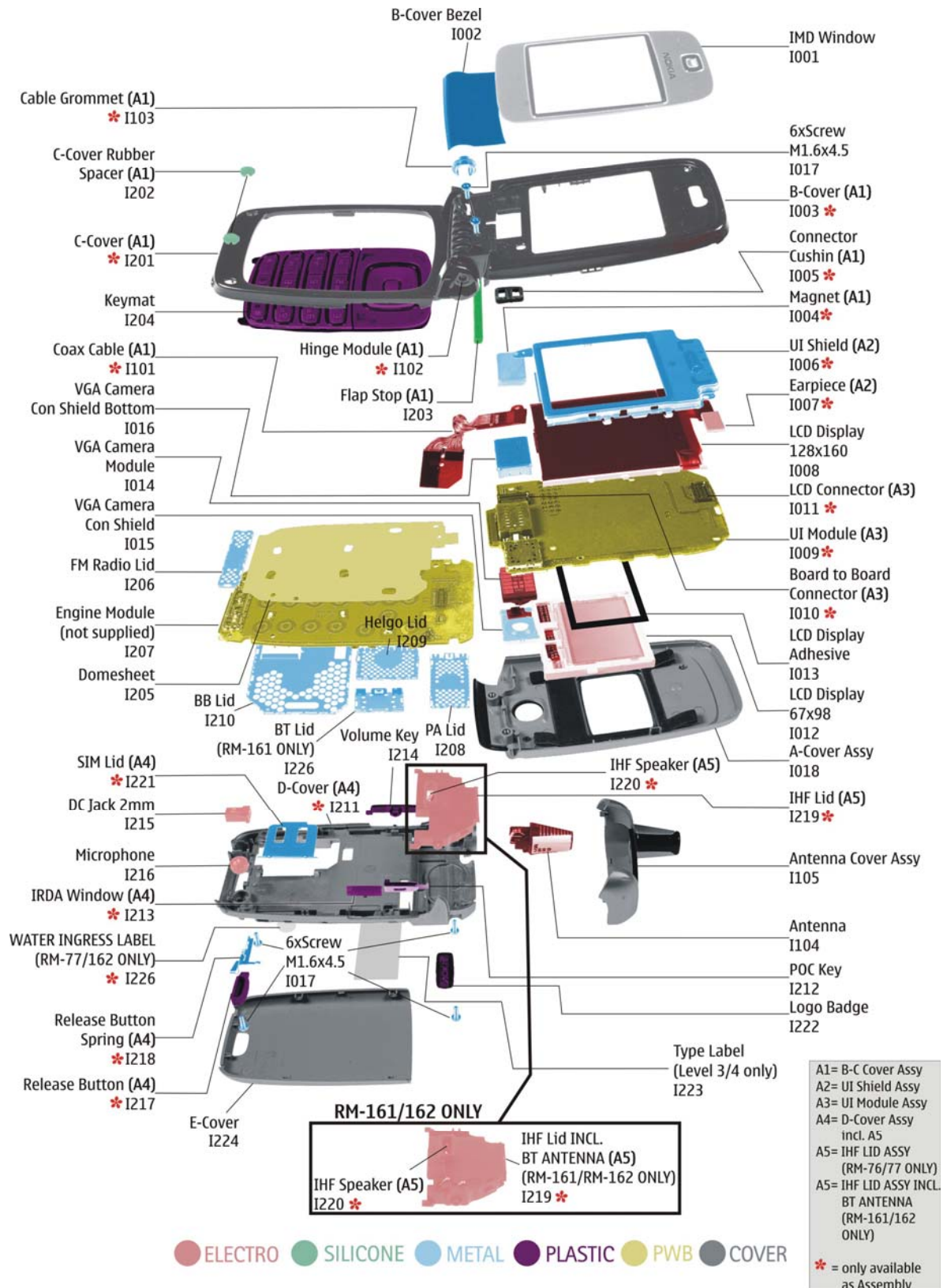
<b>Overview &amp; Guides</b> Basic information about the phone, features and technologies	<b>Disassembly &amp; Assembly</b> Instructions how to disassemble and assemble the phone	<b>Troubleshooting</b> Step-by-step instructions on how to locate and repair the most common problems with the phone
--	---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

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.

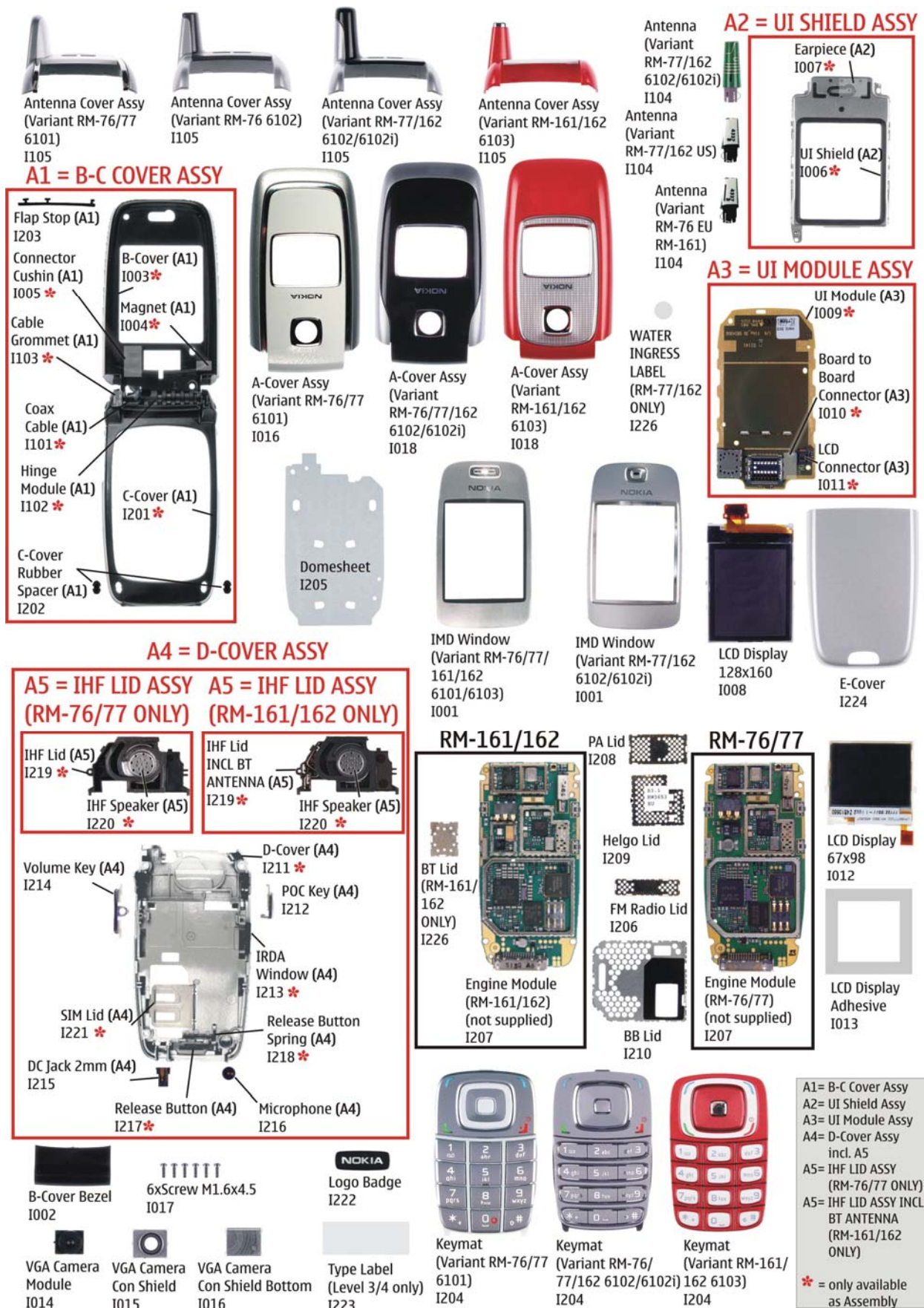


## 4. EXPLODED VIEW AND COMPONENT DISPOSAL

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




## 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 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

■

---

Files for Service level 1 Date: 16.02.2005

■   
■   
■

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



## 7. SERVICE TOOLS



### **FLS-4S incl. ACF-8, Driver and User Guide**

Dongle and flash device incorporated into one package, developed specifically for POS use.



### **ACF-8**

Universal Power Supply is used to power FLS-4S.



### **Internal Battery BL-4C**

Inserted under the back cover, this Li-Ion 760 mAh battery provides power in a lightweight package.



### **Travel Charger AC-4**

Small and lightweight charger for fast charging of your phone battery.



### **Headset HS-5**

Small and lightweight headset for handsfree functionality.



### **SS-30**

Camera removal tool



### **CA-28 DS**

Service Cable is used to connect FLS-4S to **SF-58** XCS-1 service cable can also be used if available.



### **SF-58**

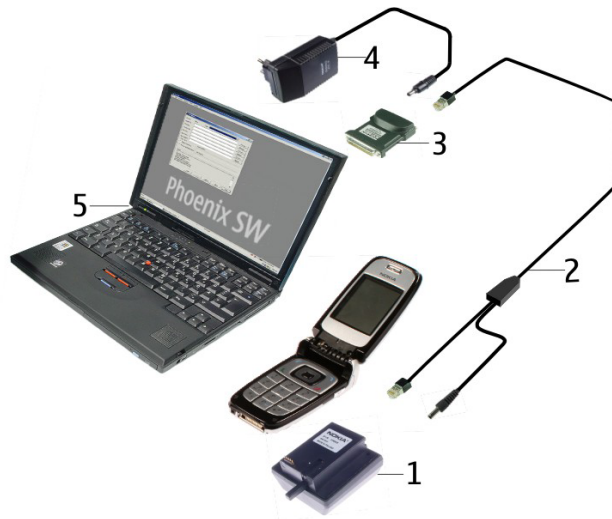
POS Flash Adapter is used in POS (Point of Sales) environment for software updating. It provides controlled supply voltage and necessary connections between the phone and the Flash Device. It substitutes for the phone's standard battery during the software update.

	<p><b>Test Pins</b> For Flash Adapter SF-58</p>
	<p><b>RJ-67</b> Soldering Jig</p>
	<p><b>SS-34</b> Flex Opening Tool</p>
	<p><b>SS-55</b> Domesheet Assembly Jig</p>
	<p><b>Lead-free Solder Wire</b> Mandatory for lead-free products (Level 2 only)</p>
	<p><b>0772040 NMP Standard Toolkit</b></p> <ul style="list-style-type: none"> <li>▪ Nokia opening tool SRT-6 Nokia No. 0770431</li> <li>▪ Tonichi torque driver Nokia No. 6901525</li> <li>▪ <a href="#">Hoya</a> micro fibre cloth MX304</li> <li>▪ <a href="#">Dastex</a> gloves S, M, XL</li> <li>▪ <a href="#">Artlux</a> goggles AH166</li> <li>▪ <a href="#">Wera</a> bit T5 867/4TX 5x50</li> <li>▪ Wera 867/4 6IP; 50mm (Torx 6 PLUS®)</li> <li>▪ Wera bit T6 867/4TX 6x50</li> <li>▪ Wera 867/1 5IP; 25mm (Torx 5 PLUS®)</li> <li>▪ Wera bit T6 PLUS® 867/4TX 6IP</li> <li>▪ <a href="#">Facom</a> side cutter 416E</li> <li>▪ Facom T5 driver SP.14032</li> <li>▪ Facom T6 driver SP.14033</li> <li>▪ Facom slot screwdriver AEF. 2x35.E</li> <li>▪ <a href="#">Wetec</a> tweezers 7abb SA-ESD</li> <li>▪ Wetec tweezers 22 SA-ESD</li> <li>▪ Wetec tweezers 13 SA-SMD ESD</li> <li>▪ Wetec tweezers PSF SA-ESD</li> <li>▪ Wetec ESD brush E1211</li> <li>▪ <a href="#">Kaiser</a> Fototechnik airbrush 6315</li> <li>▪ Wetec dental tool DEM83266/0</li> <li>▪ <a href="#">RS</a> Components Scissors 323-5732</li> </ul>

## 8. SW-UPDATE

### Flash Concept – (Point of Sales)

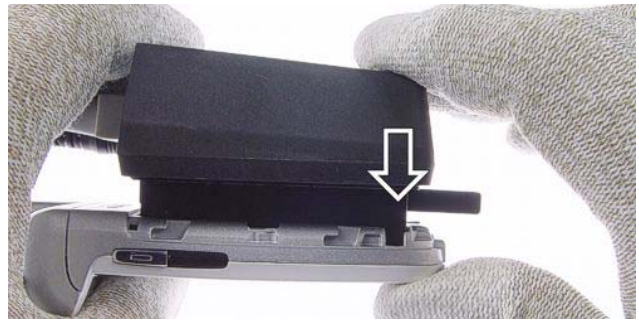
To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always for the latest version of flash software, which is available on [Nokia Online](#).



**It is very important to follow this insertion and removal procedure, otherwise the contact pins of Flash Adapter will be damaged.**



Insert the Flash Adapter like a battery, start at the Battery Connector side.



Lock the Flash Adapter to the Unit by pressing it down carefully.



After the flashing first unlock the Flash Adapter and then remove it from the unit.



## 9. DISASSEMBLY INSTRUCTIONS LOWER BLOCK



1.) Needed tools for disassembly and assembly.



2.) Protect the window with a film.



3.) Press the **Release Button** and remove the **E-Cover**.



4.) Place the SRT-6 between the **Keymat** and the edge of the **C-Cover** and lever out the **Keymat** as shown in the picture.



5.) Remove the **Keymat**.



6.) Use the SRT-6 to open the clip of the **Antenna Cover**.



7.) The same procedure on the other side of the **Antenna Cover**.



8.) Press the **Antenna Cover** a bit upward and place the SRT-6 between the **Antenna Cover** and the **D-Cover**. Now, pull up the **Antenna Cover** by releasing the clips.





9.) Remove the **Antenna**.



10.) Unscrew the four, Torx Plus® size 6 screws in the shown order. **For assembly, use the same order and a Torx Plus® size 6 driver with a torque setting of 17Ncm.**



11.) Place the SRT-6 between **D-Cover** and the **C-Cover** and shift it carefully along the edge.



12.) Do the same procedure on the other side.



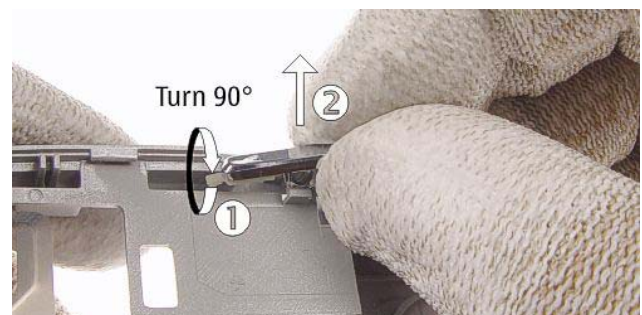
13.) Remove the **D-Cover**.



14.) Open the clip of the **IHF-Lid Assembly**.

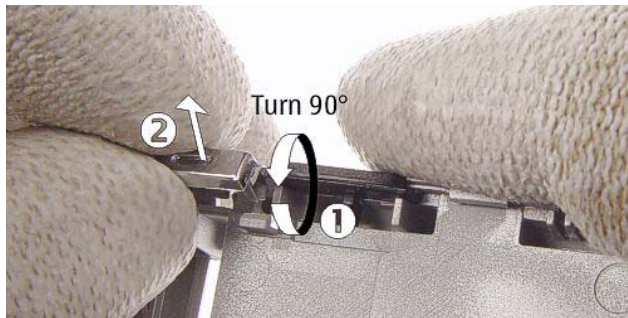


15.) Now, remove the **IHF-Lid Assembly**.

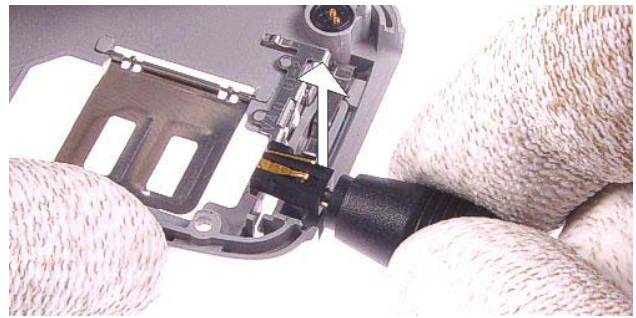


16.) First turn the **Volume Key** and then remove it as shown in the picture.

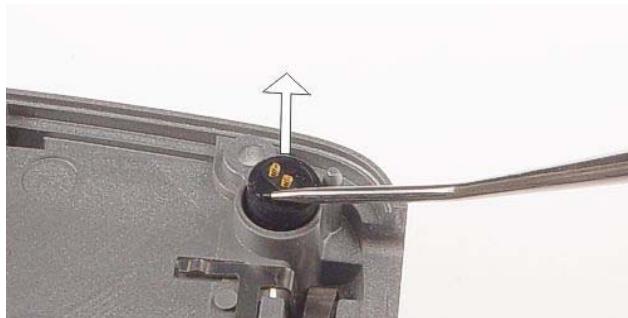




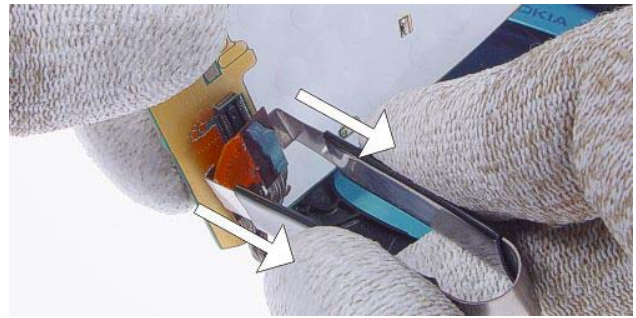
17.) The same procedure when removing the **Poc Key**.



18.) Remove the **DC-Jack** by using the DC-plug.



19.) Remove the **Microphone** with the dental tool.



20.) Open the Board-to-Board connector with the Flex Opening Tool SS-34 carefully.

**For assembly only!**



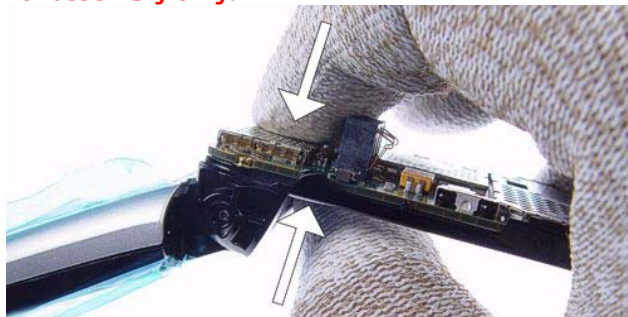
21.) Place the Board-to-Board connector into its compartment. Note the guide pin.

**For assembly only!**

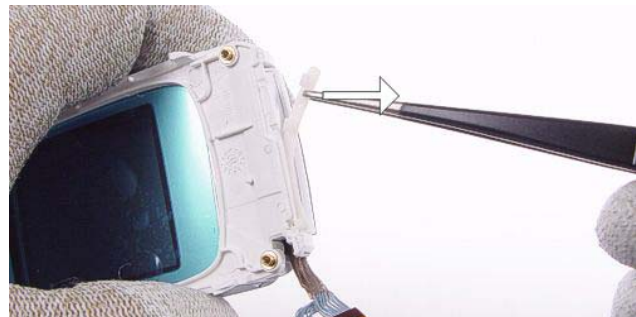


22.) Place the **Engine Module** on the **C-Cover**.

**For assembly only!**



23.) Press on the **Engine Module** and on the **C-Cover** carefully to close the Board-to-Board connector.



24.) Remove the **Flap Stop** with tweezers if necessary.





21.) Push out the **C-Cover Rubber Spacer** with tweezers.

## 10.DISASSEMBLY INSTRUCTIONS UPPER BLOCK



1.) Protect the window with a film.



2.) Press the **Release Button** and remove the **E-Cover**.

Note: Always remove the battery before continuing the disassembly.



3.) The **B-Cover Bezel** is glued to the **B-Cover**. Use the SRT-6 as a lever to lift it a bit.



4.) Now, remove the **B-Cover Bezel**. Use always a new one when re-assembling the unit.



5.) Unscrew the two, Torx Plus® size 6 screws in the shown order. For assembly, use the same order and a Torx Plus® size 6 driver with a torque setting of 17Ncm.



6.) Close the unit.





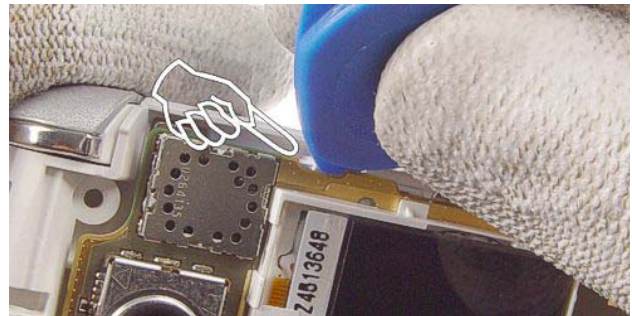
7.) First place the SRT-6 between the **A-Cover** and **B-Cover** and shift it carefully along the edge, then open the clip by pushing the tip of SRT-6 carefully.



8.) Do the same procedure on the other side.



9.) Remove the **A-Cover**.



10.) The **UI Module** is attached to the **B-Cover** with two snaps. Use SRT-6 to open the snaps.



11.) First lift the **UI Module** carefully to disconnect it from the **Coax Cable** and then remove it from the **B-Cover**.



12.) Press on the **UI Module** carefully to close the Board-to-Board connector.



13.) Protect the inner side of the window with a film.



14.) Also protect the LCD Display.





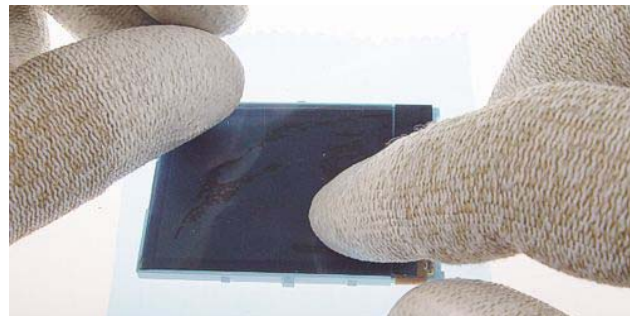
15.) The **UI Shield** is attached to the **UI-Module** with four snaps. Release the snaps by using the SRT-6.



16.) Open the LCD connector with SRT-6 carefully.

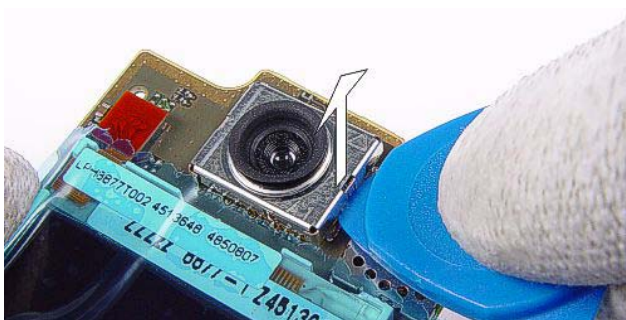


17.) Use the SRT-6 as a lever to remove the **LCD Display**.

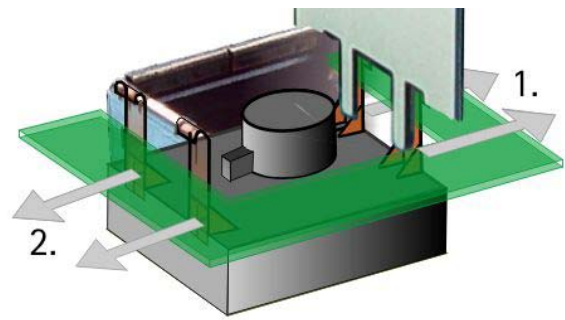


18.) Protect the **LCD Display** with the film.

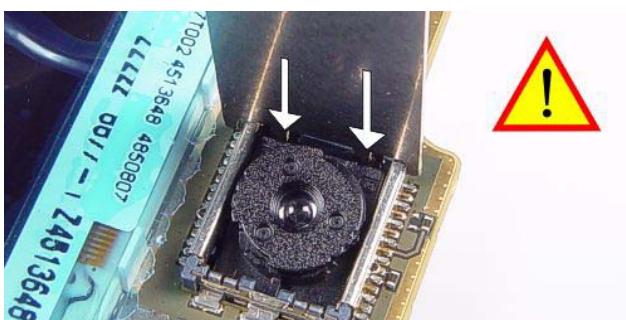
## 11.CAMERA EXCHANGE INSTRUCTIONS



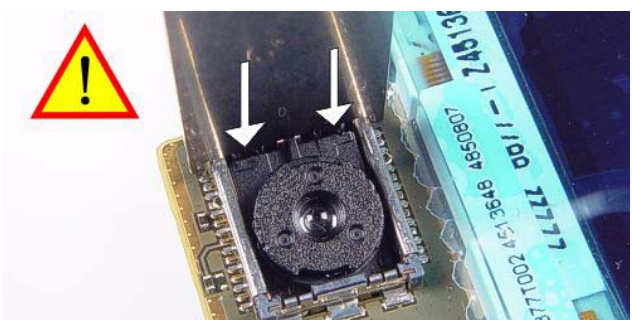
1.) Use SRT-6 to lift a bit the **Camera Con Shield**.



2.) Camera Module is attached with four snaps into its guidance. Place SS-30 as shown in the picture and unlock the snaps on both sides. Note releasing order.

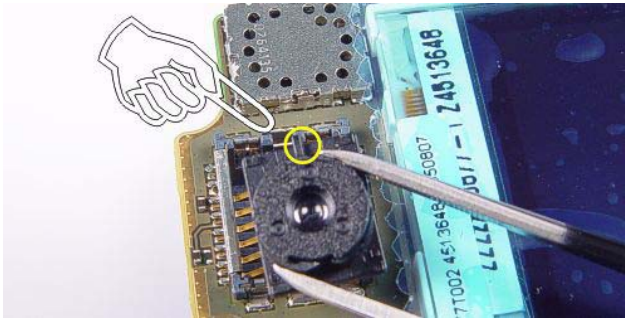


3.) Be carefully when open the snaps.



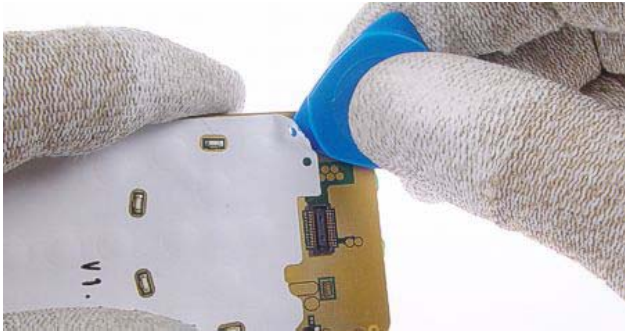
4.) The same procedure on the other side.



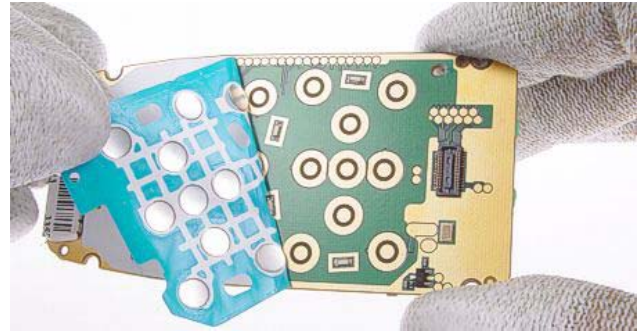


5.) Remove the **Camera Module** with tweezers. Note the guiding when re-assembling.

## 12.DOMESHEET EXCHANGE INSTRUCTIONS



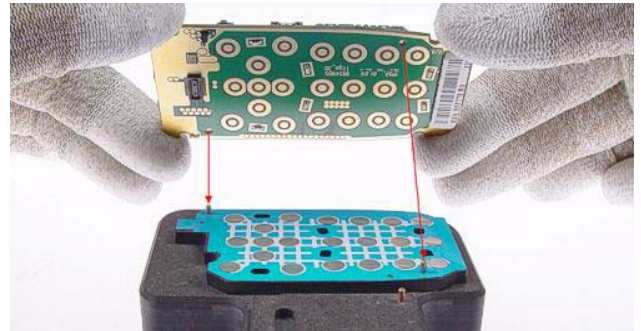
9.) Use SRT-6 to lift a bit the **Domesheet** from **Engine Module**.



10.) Remove the **Domesheet** carefully. Do not damage the LEDs. Check the surface of the **Engine Module** for remaining adhesive and clean it if necessary.



11.) Place the Domesheet onto the SS-55. Use tweezers for support when removing the carrier foil.



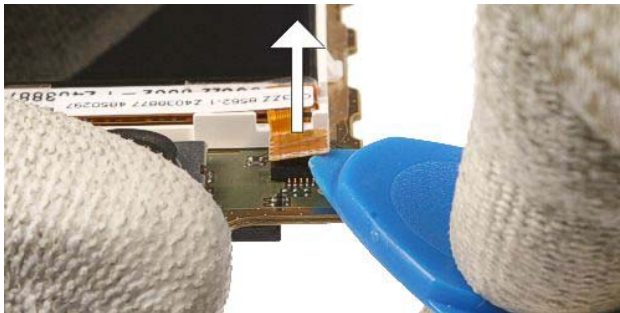
12.) Note the guide pins and the corresponding openings before placing the **Engine Module** on the Domesheet Assembly Jig SS-55.



13.) First press on the **Engine Module** carefully. Then lift the **Engine Module** from the Jig and check if the **Domesheet** is correctly stuck.



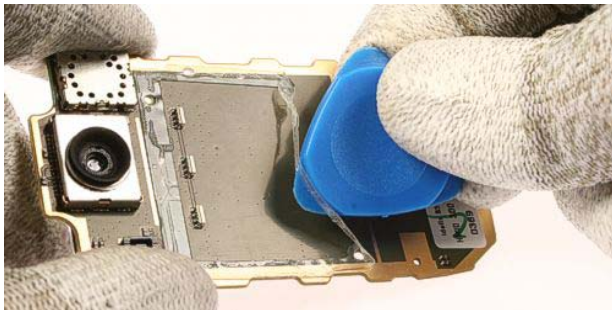
## 13. DISPLAY EXCHANGE INSTRUCTIONS



1.) Use SRT-6 to open the display connector.



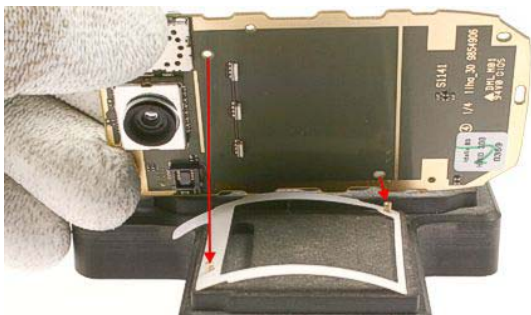
2.) The **LCD Display** is glued to the **UI Module** with the **LCD Display Adhesive**. Use SRT-6 to separate these parts from each other.



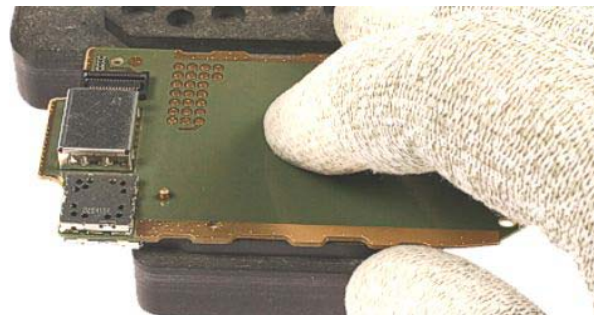
3.) Remove the remaining **LCD Display Adhesive** by using the SRT-6.



4.) Use tweezers for support when removing the carrier film.



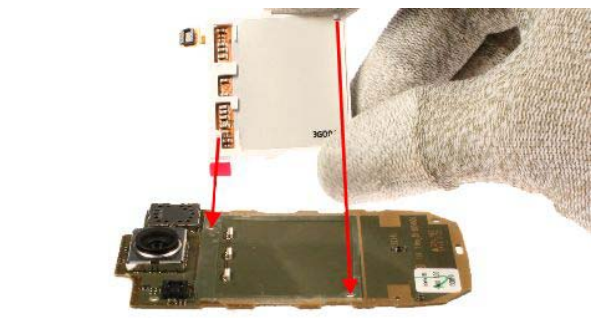
5.) Note the guide pins and the corresponding openings before placing the **UI Module** on the SS-55 Domesheet assembly Jig.



6.) First press on the **UI-Module** carefully. Then lift the **UI-Module** from the Jig and check if the **LCD Display Adhesive** sticks correctly.



7.) Remove the protection film from the **LCD Display Adhesive**.



8.) Be sure that the surface of the **LCD Display** is protected with a film. Note the guide pins and the corresponding openings before placing the **LCD Display** on the **UI Module**.



9.) First press on the **LCD Display** carefully and than connect it to the **UI Module**.

## 14.IMD WINDOW EXCHANGE INSTRUCTIONS



1.) The **IMD Window** is glued to the **C-Cover**. Use SRT-6 to separate these parts from each other.



2.) Remove the **IMD Window** carefully, do not damage the **C-Cover**.



3.) Remove the protection film from the **IMD Window**.



4.) Be sure that the surface of the **C-Cover** is clean. Note the guide pins and the corresponding openings before placing the **IMD Window** on the **C-Cover**.

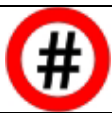









5.) Press on the **IMD Window** carefully.

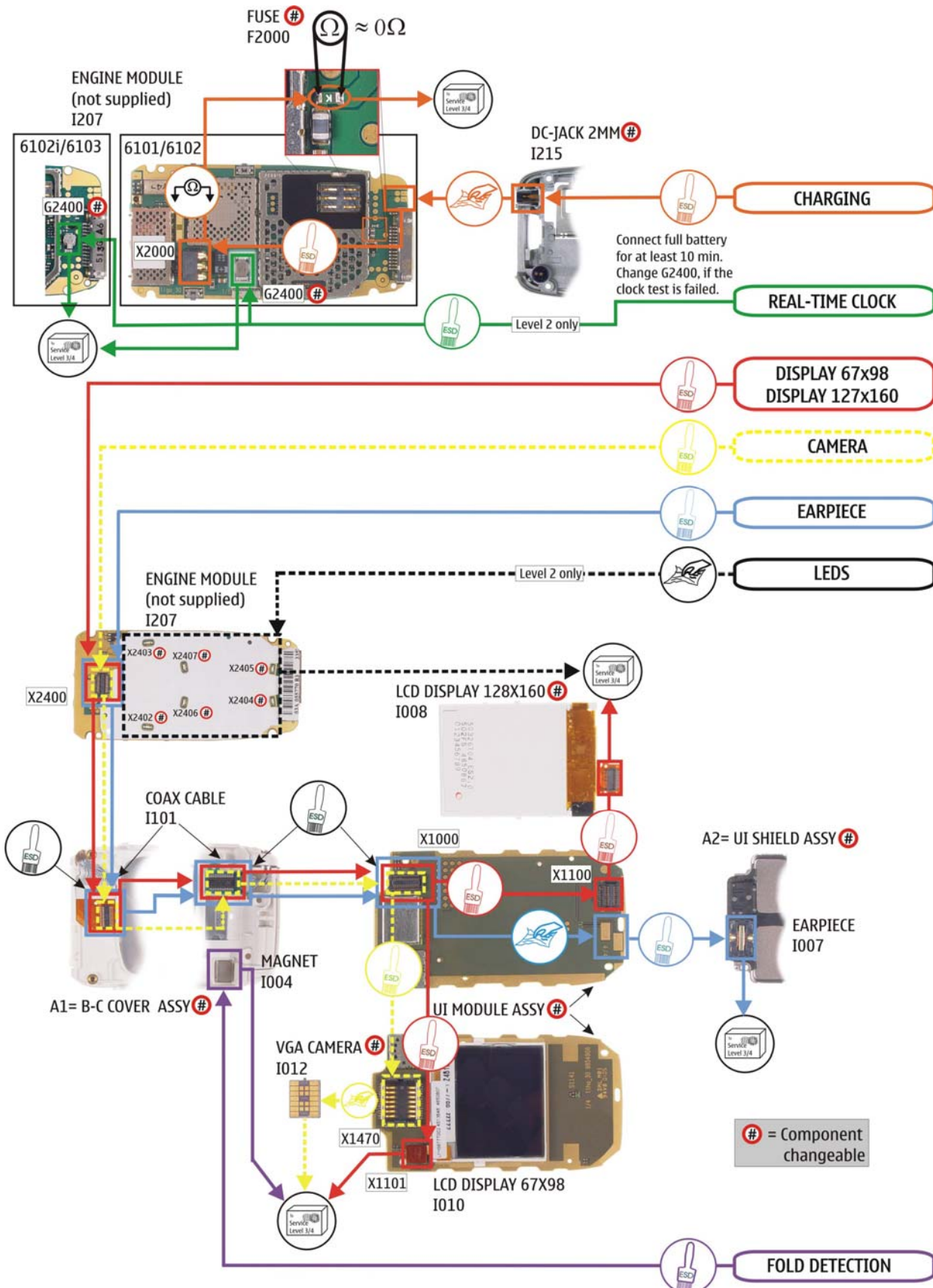


## 15.LEGEND FOR QUICK TROUBLE SHOOTER

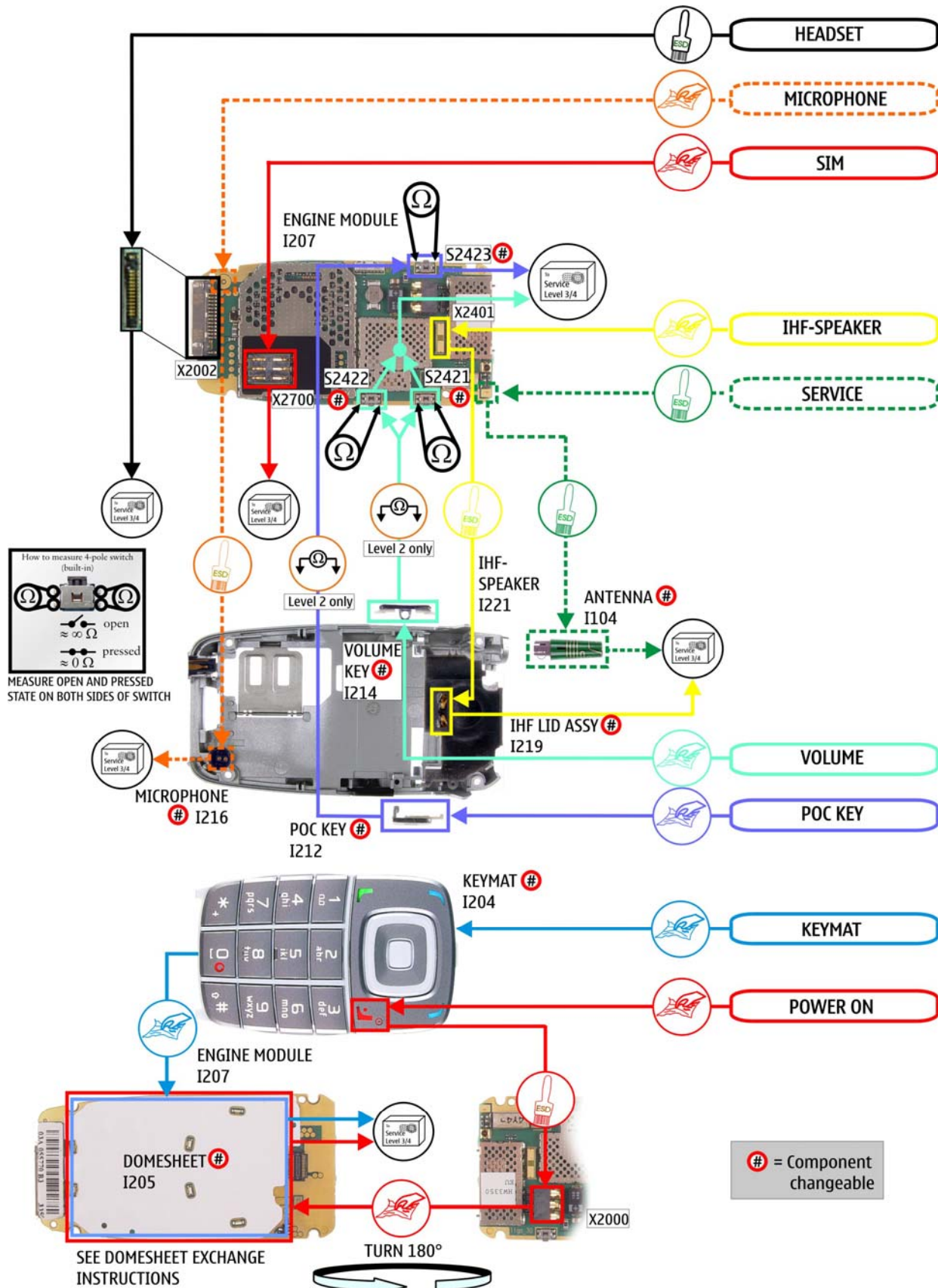
This legend is valid for all parts of the **Quick Trouble Shooter**

Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward.	
	Only marked components ( e.g. I002  ) can be changed.
	The start point of repair activities regarding the appeared fault symptoms.
	Follow the arrows step by step
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean if necessary.
	Measure component for electrical functionality and change, if needed. (Level 2 only)
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean with ESD brush only, if necessary.
	No more actions possible send product to the appropriate service supplier with higher service level.

## 16. QUICK TROUBLE SHOOTER PART 1





## 17. QUICK TROUBLE SHOOTER PART 2



## 18. CAMERA GONOGO TEST

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



- From Home Menu, press the **Menu Key**  (upper key)
  - Press **Capture** to take a photo  (middle key)  
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.



## 19. 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.

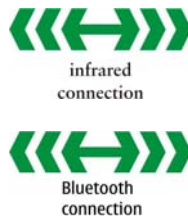
### Infrared test

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.



Test unit



Reference unit, /infrared activated

Settings on the test unit:

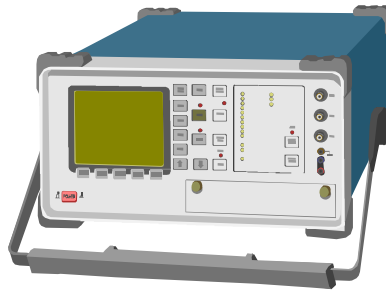
- Press the red **End** key to reach the Home Menu
- Select **Names** and select **Details** for an entry  
If phone and SIM memory is empty, create one new entry.
- Select **Options**
- Select **Send bus. card**
- Select **Via infrared**
  - A) - for infrared test: Select **Via infrared**  
If sending of business card fails, make sure again those infrared windows are directed to each other and infrared is activated in reference unit. Then try again sending.  
Test was successful, if you get the message "Business card received" on the Reference unit.  
You will not get a confirmation on sender device.
  - B) - for Bluetooth test: Select **Via Bluetooth**  
Search window appears and shows all Bluetooth units in range.  
Choose one unit and press **Select**  
Press **Accept** on the Reference unit.  
Test was successful, if you get the message "Business card received" on the Reference unit.
- Press red **End** key to reach the Home Menu

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

## 20.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

## 21.BATTERY TEST

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

Please refer to the actual information on Nokia Online.



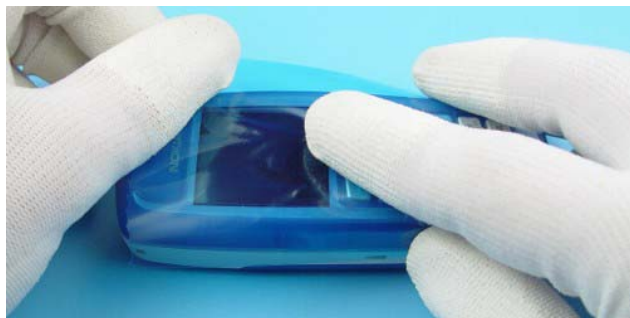
<http://www.astratec.co.uk/>



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

## 22.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.

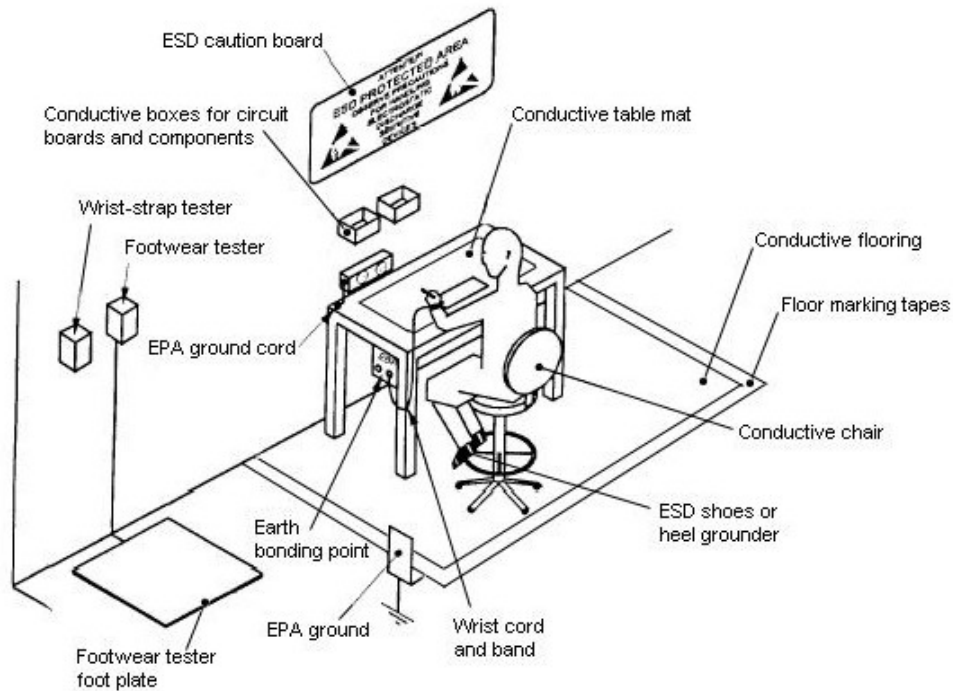


There are two different sizes of swap cartons for common mobile phones.



## 23. 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)