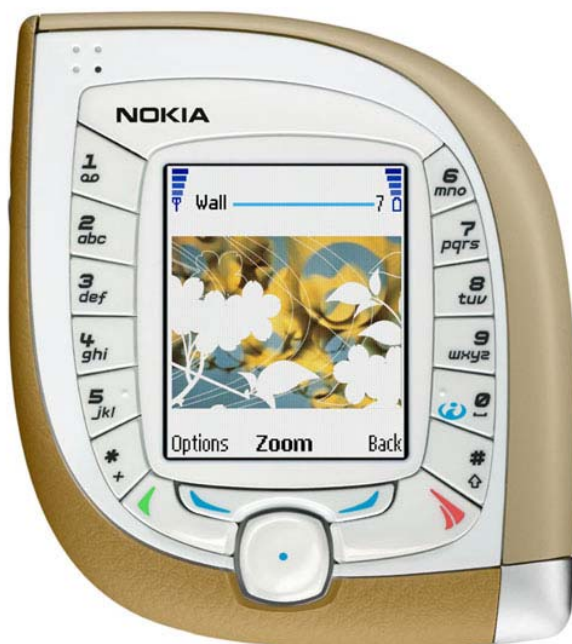


NOKIA 7600

NMM-3



Transceiver Features

- WCDMA/900/1800
- 65.536 color display
- MP3 music player
- Xpress-on™ sleeves
- VGA camera 640x480
- Infrared, Bluetooth, USB
- 29MB dynamic memory
- XHTML Browser
- WAP 2.0
- 3GPP video streaming (network depending)

Transceiver with BL-5C Li-ion 850mAh battery pack

Talk time	Standby	Note
Up to 3h-4h GSM Up to 1.8 - 2.9h WCDMA	Up to 7 days- 12.5 days	Depends on network parameters

SERVICE MANUAL

Service Level 1&2

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CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	17.11.2003	Initial draft
Approved	1.0	08.12.2003	approval

1. INTRODUCTION

The purpose of this document is to help Nokia service levels 1 and 2 workshop technicians to carry out service to Nokia 7600. This Service Manual is to be used **only** by authorized Nokia service partners, and the content of it is **confidential**. Please note that Nokia provides also other guidance documents (e.g. Service Bulletins) for service partners, 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. Ensure solder, wire, or foreign matter does not enter the telephone as damage may result.
4. Use only approved components as specified in the parts list.
5. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment. Ensure all cables and wires are repositioned correctly.
6. All PC's used with NMP Service Software for this produce must be bios and operating system "Year 2000 Compliant".



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 Partner Web Site. 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 7600 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 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), 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.
- Use always 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).
- 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.
- When doing the Faultlogger 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.

These mention Service Bulletins have to be followed:

General

SB-065	Modified GSM phones
SB-089:	Don't try to repair prototypes (indicated on Type Label).
SB-107:	Be sure that you have minimum hardware requirements in place.
SB-115:	Handling of liquid damages.
SB-121:	Return the defective part, if one of your service tools causes malfunction.
SB-124	Service Policy for packaging serviced products
SB-131:	Check these guidelines when refurbishing products.
SB-132	Golden Phone Process
SB-135:	Original Nokia Accessories
SB-148:	Improvements to Faultlog Reporting Tool
SB-156:	Packing Material
SB-163:	Service handling of PWBs and PCBs during repair process
SB-164:	New barcode for future products
SB-165:	NMP Global Symptom Codes
SB-167:	NMP Global Fault Codes (Level 1&2)
SB-203:	New structure of General Bulletins

Service Tools

SB-011: NMP Standard Toolkit

Spare Parts

SB-004:	New swap phone cartons
SB-005	Minimum order values for spare part orders

Please check Nokia Partner Web Site (PWS) 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.

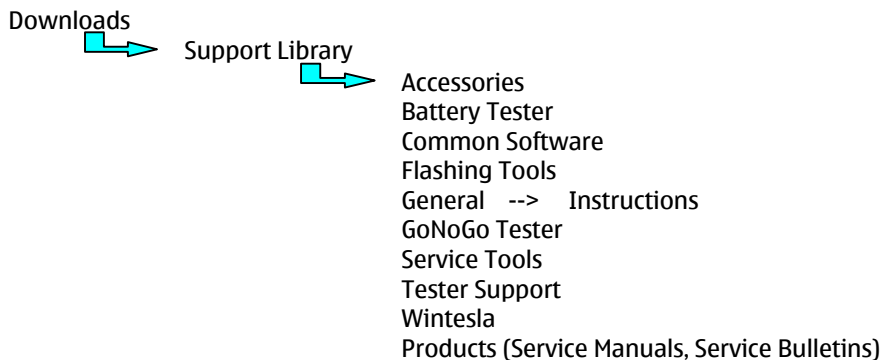
Main documentation database is [Nokia Partner Website](#), which refers also to [Nokia Care Point](#) with the purpose of serving different multimedia content, like video clips or interactive tutorials.

Nokia Partner Web Site	Nokia Care Point (access through Partner Web Site)
<p>Nokia Partner Web Site for EMEA region is the most important document database for all service suppliers (level 1-4). All service relevant information like e.g. Service Manuals, Service Bulletins or general instructions are available. Content is restricted according your access level. To be kept up-to-date also concerning newest software updates, a daily check of "latest updates in support library" is needed.</p>	<p>Nokia Care Point is repair support and training channel for Nokia service suppliers (mainly for service levels 1 and 2). By providing visual and easy to learn support and training material, such as illustrative repair videos, troubleshooting with pictures, product information and general repair information, Nokia Care Point offers user-friendly channel for service partners to learn technical issues.</p>
	

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "**Latest Updates in support Library**"). Every new information has to be processed and implemented as soon as possible.

When logged into PWS you can also find needed information to different headlines respectively tools

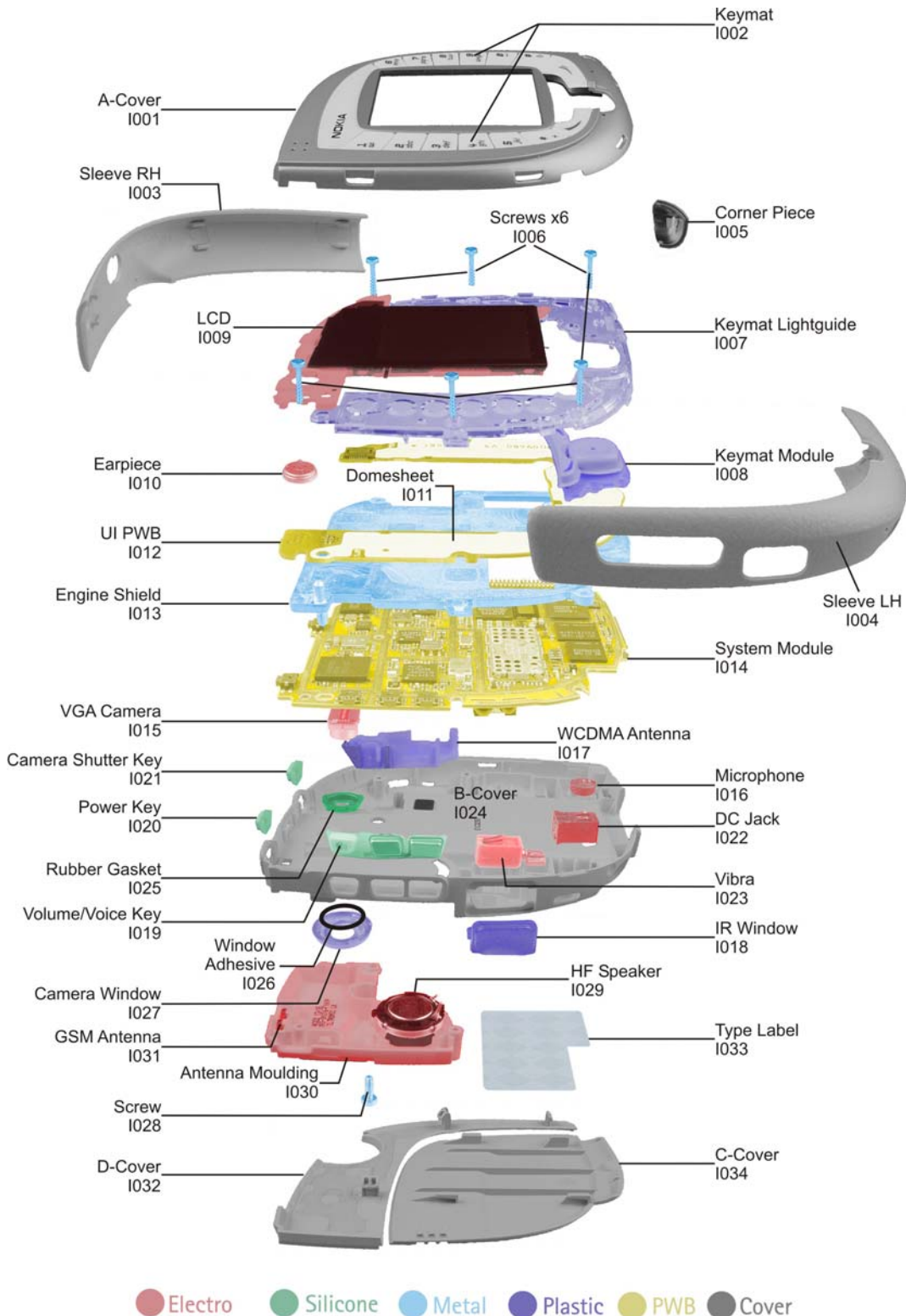
like:



To spare server bandwidth 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.



Description: See corresponding ITEM/CIRCUIT REF of the SPL (Spare Parts List)

5. SPARE PARTS LIST

MECHANICAL PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
	1	XXXXXXX	A-COVER MODULE
I001	1	-	A-COVER
I002	1	-	KEYMAT
I003	1	XXXXXXX	SLEEVE RH
I004	1	XXXXXXX	SLEEVE LH
I005	1	9470311	CORNER PIECE
I006	6	6150903	SCREWS M1.6 X 9
I007	1	9460507	KEYMAT LIGHTGUIDE
I008	1	9790781	KEYMAT MODULE
I009	1	4850289	LCD MODULE
I010	1	5140251	EARPIECE
	1	9470365	UI PWB ASSY
I011	1	-	DOMESHEET
I012	1	-	UI PWB
I013	1	9511079	ENGINE SHIELD
I014	1	-	SYSTEM MODULE ME8
I015	1	4858009	CAMERA MODULE
I016	1	5140263	MICROPHONE
I017	1	0660271	WCDMA ANTENNA
I018	1	9460496	IR WINDOW
I019	1	9460495	VOLUME/VOICE KEY
I020	1	9460493	POWER KEY
I021	1	9460579	CAMERA SHUTTER KEY
I022	1	5400243	DC JACK
I023	1	0680069	VIBRA
	1	-	B-COVER MODULE
I024	1	-	B-Cover
I025	1	9481137	CAMERA WINDOW RUBBER GASKET
I026	1	7520043	CAMERA WINDOW ADHESIVE
I027	1	9470314	CAMERA WINDOW
I028	1	6150905	SCREW M1.6 X 3.3
	1	0660270	GSM ANTENNA INTERNAL
I029	1	5140253	HANDSFREE SPEAKER
I030	1	-	ANTENNA MOULDING
I031	1	-	GSM ANTENNA

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I032	1	XXXXXXX	D-COVER
I033	1	-	TYPE LABEL
I034	1	XXXXXXX	C-COVER

SOLDERING COMPONENTS **ONLY FOR LEVEL 2**

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
B253	1	4700135	CELL CAPACITOR
F400	1	5119019	SM FUSE F 1.5A 32V
S100	1	5209001	SM SW TACT SPST SIDE KEY (CAMERA SWITCH)
S400	1	5209001	SM SW TACT SPST SIDE KEY (POWER-ON)
S401	1	5209001	SM SW TACT SPST SIDE KEY (VOICE-REC.)
S402	1	5209001	SM SW TACT SPST SIDE KEY (VOLUME KEY)
S403	1	5209001	SM SW TACT SPST SIDE KEY (VOLUME KEY)

VARIANT PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
	1	9458722	A-COVER MODULE WHITE
I001	1	-	A-COVER
I002	1	-	KEYMAT LATIN
	1	9458935	A-COVER MODULE GREY
I001	1	-	A-COVER
I002	1	-	KEYMAT LATIN
	1	9459124	A-COVER MODULE WHITE
I001	1	-	A-COVER
I002	1	-	KEYMAT CYRILLIC
	1	9459134	A-COVER MODULE GREY
I001	1	-	A-COVER
I002	1	-	KEYMAT CYRILLIC
	1	9459123	A-COVER MODULE WHITE
I001	1	-	A-COVER
I002	1	-	KEYMAT GREEK

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
	1	9459133	A-COVER MODULE GREY
I001	1	-	A-COVER
I002	1	-	KEYMAT GREEK
	1	9459121	A-COVER MODULE WHITE
I001	1	-	A-COVER
I002	1	-	KEYMAT HEBREW
	1	9459131	A-COVER MODULE GREY
I001	1	-	A-COVER
I002	1	-	KEYMAT HEBREW
	1	9459122	A-COVER MODULE WHITE
I001	1	-	A-COVER
I002	1	-	KEYMAT ARABIC
	1	9459132	A-COVER MODULE GREY
I001	1	-	A-COVER
I002	1	-	KEYMAT ARABIC
I003	1	9470312	SLEEVE RH BEIGE
I003	1	9470404	SLEEVE RH LIGHT BLUE
I004	1	9470313	SLEEVE LH GOLDEN YELLOW
I004	1	9470402	SLEEVE LH GREY BLUE
I032	1	9460556	D-COVER MODULE WHITE
I032	1	9460557	D COVER MODULE GREY
I034	1	9460513	C COVER PAINTED WHITE
I034	1	9460520	C-COVER PAINTED GREY

SWAP UNITS

	QTY	PART NO	PART NAME
		0051503	NMM-3 N7600 SWAP UNIT EUROPE&AFRICA
		0051506	NMM-3 N7600 SWAP UNIT FRANCE
		0051505	NMM-3 N7600 SWAP UNIT SOUTH AFRICA
		0051504	NMM-3 N7600 SWAP UNIT POLAND
		0051507	NMM-3 N7600 SWAP UNIT TURKEY
		0051508	NMM-3 N7600 SWAP UNIT CZECH/SLOVAKIA
		0051509	NMM-3 N7600 SWAP UNIT RUSSIA
		0051510	NMM-3 N7600 SWAP UNIT UKRAINE

6. SERVICE TOOLS

	<p>0080541 FLS-4S sales pack incl. Driver/User Guide is a dongle and flash device incorporated into one package, developed specifically for POS use.</p>
	<p>0680032 ACF-8 Universal Power Supply is used to power FLS-4S.</p>
	<p>0273558 Internal Battery BL-5C sales pack Inserted under the C-Cover, this Li-ion battery provides power in a lightweight package.</p>
	<p>0272169 Travel Charger ACP-8E (EURO) sales pack 0272172 Travel Charger/ACP-8X (UK) sales pack Lightweight multi-voltage charger for charging your phone battery.</p>
	<p>0274086 Headset HS-5 sales pack An easy and convenient handsfree solution with remote control.</p>
	<p>0775340 FLA-45 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>
	<p>0730218 XCS-1 Service Cable is used to connect FLS-4S to FLA-45.</p>
	<p>0770591 MJS-85 Soldering Jig (for Level 2 or higher service level supplier).</p>



0770527 SRT-9

Camera removal tool. One side is for disassembly, the other side for assembly.



0770450 New Test Pins (10pcs.)
for POS Flash Adapter FLA-45.



0772040 Nokia Standard Toolkit

- Nokia opening tool SRT-6 Nokia No. 0770431
- Tonichi torque driver Nokia No. 6901525
- [Hoya](#) micro fibre cloth MX304
- [Dastex](#) gloves S, M, XL
- [Artilux](#) goggles AH166
- [Wera](#) bit T5 867/4TX 5x50
- Wera bit T6 867/4TX 6x50
- 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

7. SW-UPDATE

To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always the latest version of flash software, which is available on Nokia Partner Web Site.

Flash Concept - (Point of Sales)



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



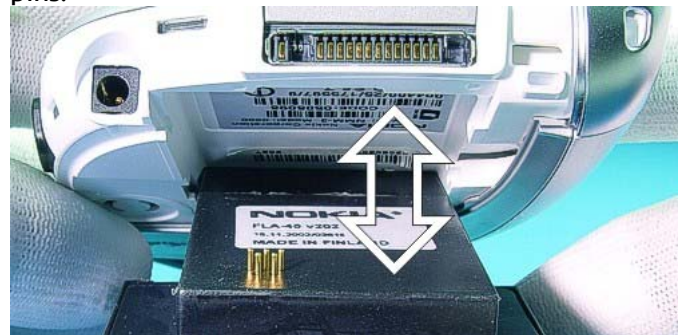
Insert the Flash Adapter FLA-45 like a battery, start at the Battery Connector side.



Be careful not to destroy the sensitive flash contact pins.



Push down the bottom side of the unit as far as it will go.



After flashing procedure, remove the unit from bottom side on.

8. DISASSEMBLY INSTRUCTIONS (ALSO SEE THE VIDEO CLIPS ON CARE POINT)



First remove LH Sleeve.



Now, remove RH Sleeve.



Dismount C-Cover.



Pull up D-Cover, which is attached to B-Cover with adhesive tape.



Unscrew Antenna screw. Use a **new Torx Plus® screw** and a torque of **24 Ncm** for assembling the old B-Cover and use **26 Ncm** when using a new B-Cover.



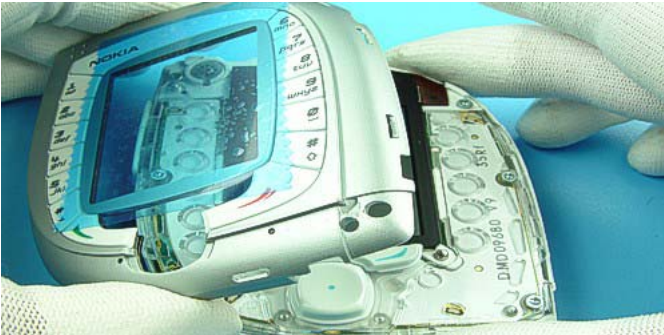
The Corner Piece fits very tight, so it needs some extra force to separate it from B-Cover with SRT-6.



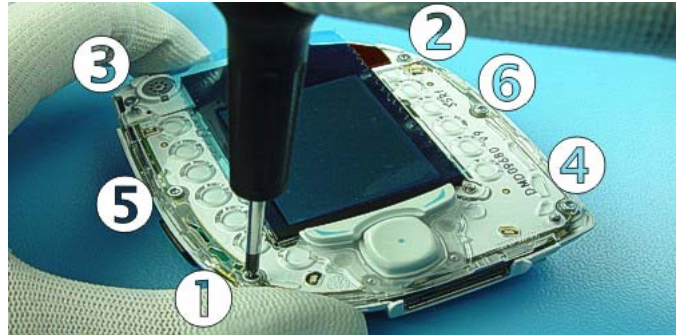
A-Cover is fixed with several plastic clips. Start with the clip near system connector.



Loosen the clips anti-clockwise by using the SRT-6 as a lever. Do not twist SRT-6 because this could cause damages to the covers.



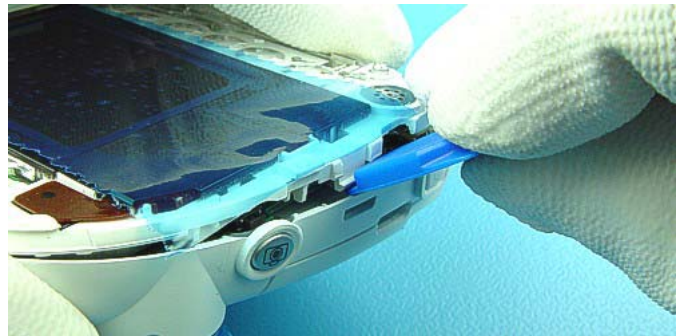
Remove A-Cover.



Unscrew the six Torx Plus screws using the order shown. **For assembly the reverse order and a torque of 19 Ncm have to be used for an old B-Cover and 22Ncm for a new B-Cover.** No electric or air drivers are allowed for assembly!



Unlock the three clips from UI Assy as shown in the next picture.



If unlocking doesn't work you may have forgotten to remove Antenna screw.



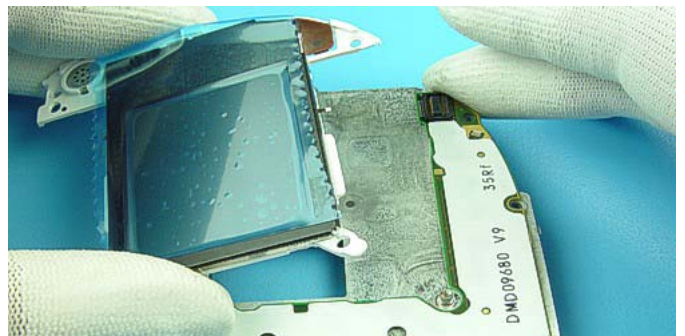
Now, UI Assy can be removed.



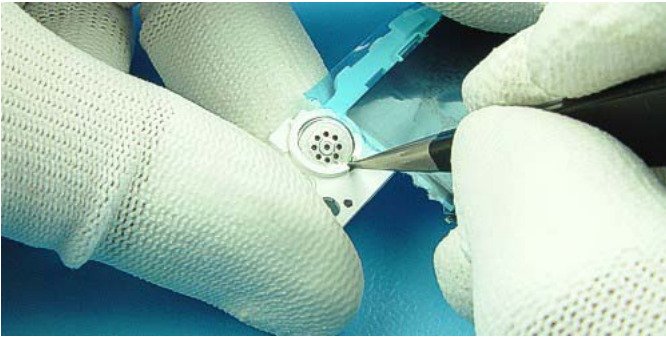
After opening the side clips the Lightguide can be taken away.



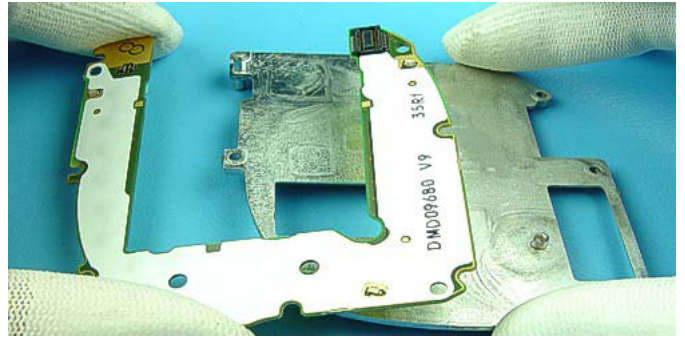
Carefully open LCD Connector with SRT-6. Do not damage the sensitive flex foil.



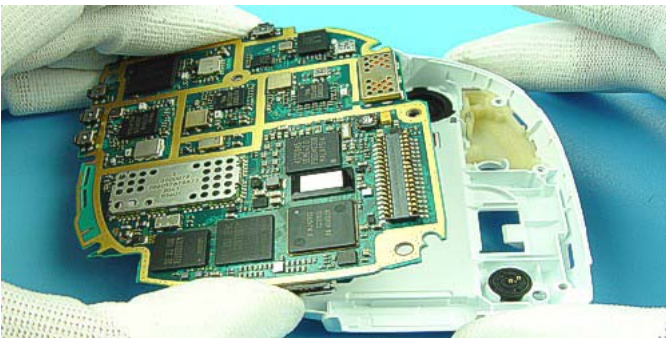
Remove LCD.



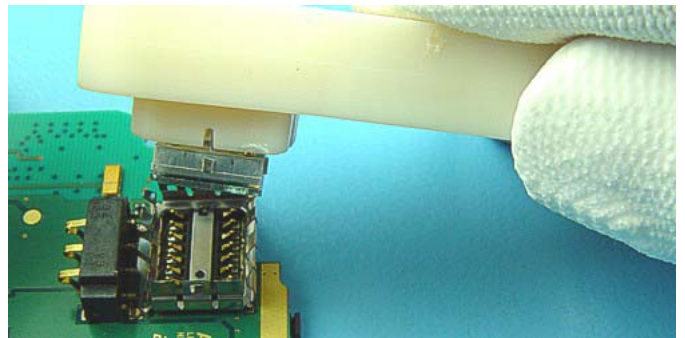
Press out Earpiece from guiding pin side.



Separate UI PWB from Engine Shield.



Dismount Engine module.



Use disassembly side of SRT-9 to remove VGA Camera.
Use the other side of SRT-9 for assembly.



Lever out WCDMA Antenna from B-Cover.



Take a charger plug to remove DC Jack.



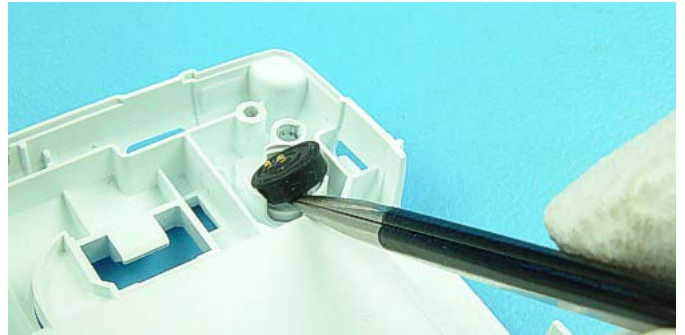
Do not damage the spring contacts when removing
Vibra Motor.



Unlock the side snaps to remove IR Window.



Be careful not to rip the silicon when pushing out the Volume Keys.



Removing the Microphone from its guidance goes very easy.



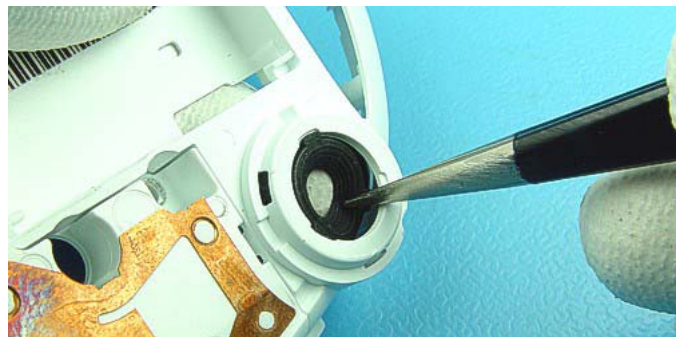
Take away Camera Shutter Key.



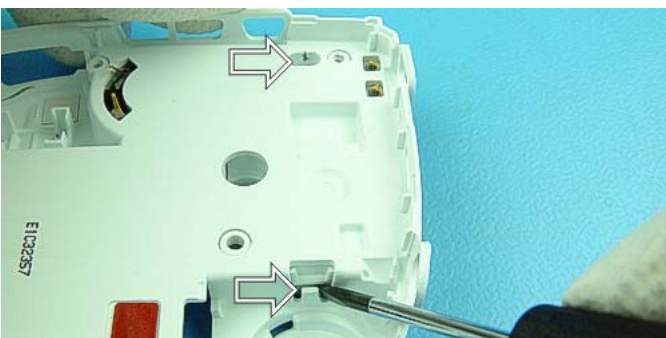
Take away Power Key.



Detach Camera Window by placing SRT-6 as shown and pressing upwards forcefully.



Press out Rubber Gasket from the outside.









There are two plastic clips, which have to be unlocked before removing GSM Antenna.



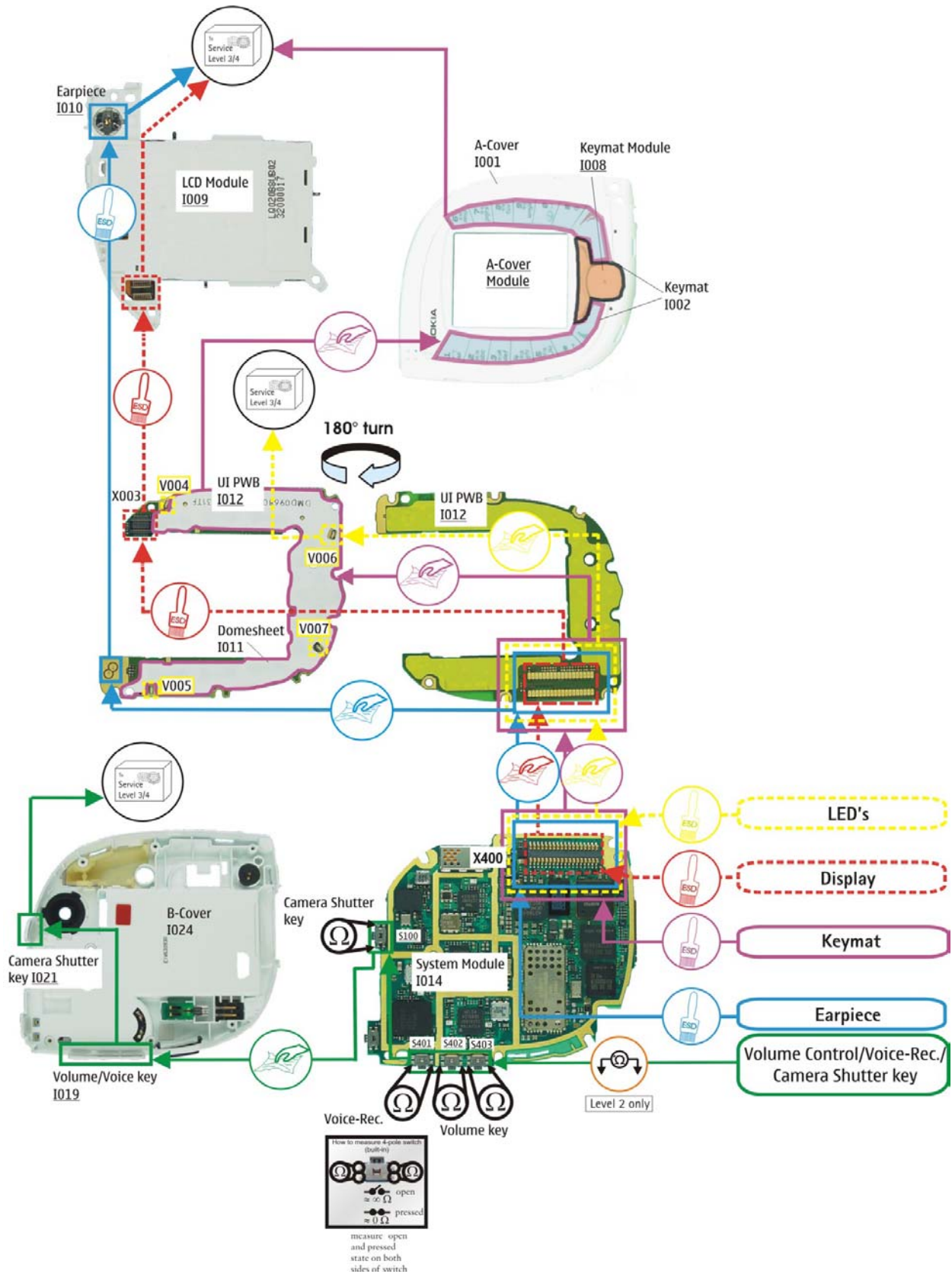
Finally remove HF Speaker with tweezers.

9. LEGEND FOR QUICK TROUBLE SHOOTER

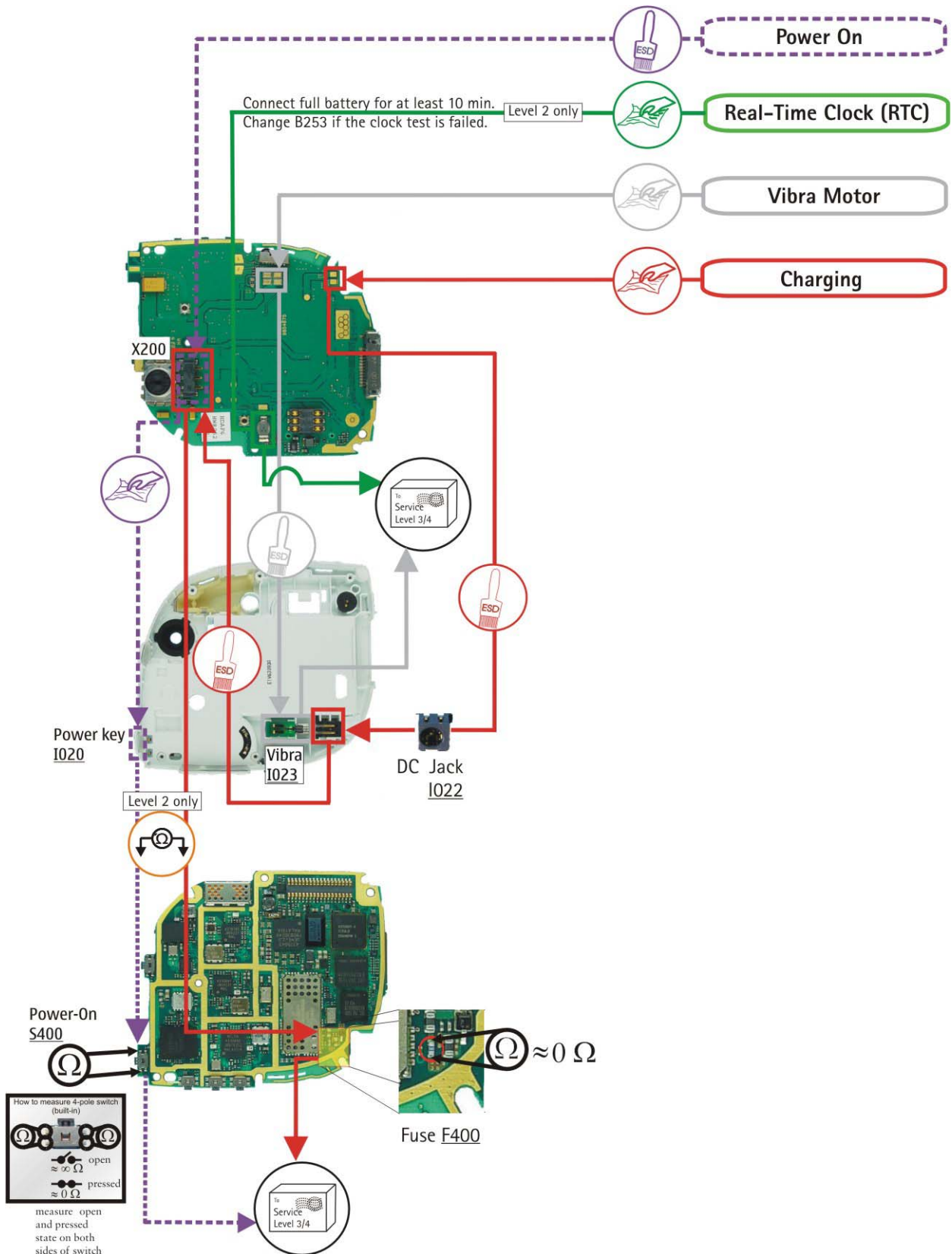
This legend is valid for all parts of the **Quick Trouble Shooter**

<p>Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward. Only underlined components (e.g. <u>1002</u>) can be changed.</p>	
	<p>The start point of repair activities regarding the appeared fault symptoms.</p>
	<p>Follow the arrows step by step</p>
	<p>Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean if necessary.</p>
	<p>Measure component for electrical functionality and change, if needed. (Level 2 only)</p>
	<p>Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean with ESD brush only, if necessary.</p>
	<p>No more actions possible send product to the appropriate service partner with higher service level.</p>

10. QUICK TROUBLE SHOOTER PART 1







11. QUICK TROUBLE SHOOTER PART 2



13. INFRARED AND BLUETOOTH GONOGO TEST

You need another infrared device (e.g. 6310i) 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	Test unit	
<p>Settings on the test unit:</p> <ul style="list-style-type: none"> ○ From Home Menu, press  key. This displays Phonebook entries. If phone and SIM memory is empty, create one new entry. ○ Choose one phonebook entry and select Details ○ Select Options ○ Select Send bus. card ○ Select Via infrared ○ Sending in progress, please wait ○ 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 a message on receiver device. You will not get a confirmation on sender device. ○ Press red receiver button for Home Menu 		

14. CAMERA GONOGO TEST

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

Check cleanness of camera lens and clean if necessary.

Exchange of Camera Module does not improve picture quality!



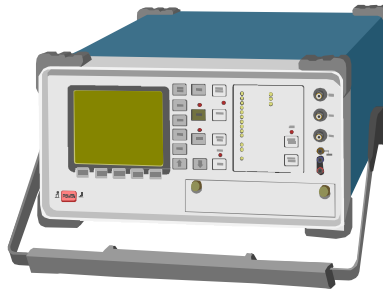
- From Home Menu, press the **Camera Shutter Key** 
- To take a picture press the **Camera Shutter Key** 
- This Image will be saved to Gallery into the Photos folder automatically.
- Test was successful, if the Image appears on your Display. The camera is ok.
- Select **Delete** 
- Select **Yes** 
- Select **EXIT**  for Home Menu
- If the test is failed see Quick Trouble Shooter.

15. 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 Partner Web Site and Nokia Care Point. 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 Partner Web Site.



Mobile Phone Tester

16. BATTERY TEST

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

Please refer to the actual information on Partner Web Site.



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



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

17. SERVICE NOTES

We recommend using Service Notes when shipping phones to other Service Partners. It prevents the product from scratches, it is ESD-neutral and has the possibility to give valuable feedback of the fault symptom through a structured form. Please refer to the document [Service Notes for faulty NMP transceiver](#) on Partner Web Site to get further information.

Sender <u>Repair Center</u>		Our Ref. <u>4711</u>
Handled by _____		Product Code <u>050381</u>
Serial n.o.: <u>449333/20/975406/2</u>		Date <u>10.07.01</u>
Yes <input checked="" type="checkbox"/> Warranty Case <input type="checkbox"/> No		Inst <input type="checkbox"/> Instant Service <input type="checkbox"/> DOA

<input checked="" type="checkbox"/> R Repair	<input type="checkbox"/> RR Repair and Refurbishment
<input type="checkbox"/> RO Refurbishment only	<input type="checkbox"/> SW Software update
<input type="checkbox"/> A Analysis	<input type="checkbox"/> C Claim
<input type="checkbox"/> 24h 24 h Service	<input checked="" type="checkbox"/> SR Special Request <u>Save User data</u>

A) EXISTENCE OF FAULT

1. <input checked="" type="checkbox"/> Continuous fault	2. <input type="checkbox"/> Intermittent fault	3. <input type="checkbox"/> Temperature
4. <input type="checkbox"/> By shock or vibration	5. <input type="checkbox"/> No clear fault	6. <input type="checkbox"/> Only as portable
7. <input type="checkbox"/> Only in a car	8. <input type="checkbox"/> Only in desktop	

B) SYMPTOM OF THE FAULT ON CMT-PART - Symptom Code _____


1. <input type="checkbox"/> Totally dead	2. <input type="checkbox"/> Selftest failure	3. <input type="checkbox"/> SIM Fail
4. <input checked="" type="checkbox"/> No service	5. <input type="checkbox"/> No calls in	6. <input type="checkbox"/> No calls out
7. <input type="checkbox"/> Keypad failure	8. <input type="checkbox"/> Display failure	9. <input type="checkbox"/> Audio failure
10. <input type="checkbox"/> Doesn't charge	11. <input type="checkbox"/> Overcharging	12. <input type="checkbox"/> Hand-free failure
13. <input type="checkbox"/> Burns fuses	14. <input type="checkbox"/> Accessory fail, which _____	
15. <input type="checkbox"/> Switches off	16. <input type="checkbox"/> Other _____	

C) OBSERVED OR MEASURED FAULT

1. <input checked="" type="checkbox"/> TX Power
2. <input type="checkbox"/> TX Phase error
3. <input type="checkbox"/> Bit Error Rate
4. <input type="checkbox"/> Burst Template
5. <input type="checkbox"/> Ramping spectra
6. <input type="checkbox"/> RX Quality
7. <input type="checkbox"/> RSSI
8. <input type="checkbox"/> Other _____

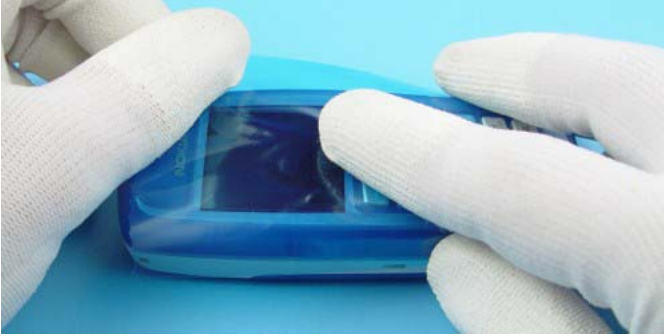
D) SYMPTOM OF THE FAULT ON PDA-PART - Symptom Code _____

1. <input type="checkbox"/> PDA doesn't start
2. <input type="checkbox"/> Internal error
3. <input type="checkbox"/> Keypad failure
4. <input type="checkbox"/> Display failure



18. FORWARDING OF REPAIRS TO SERVICE LEVEL 3 OR 4 SUPPLIERS

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.



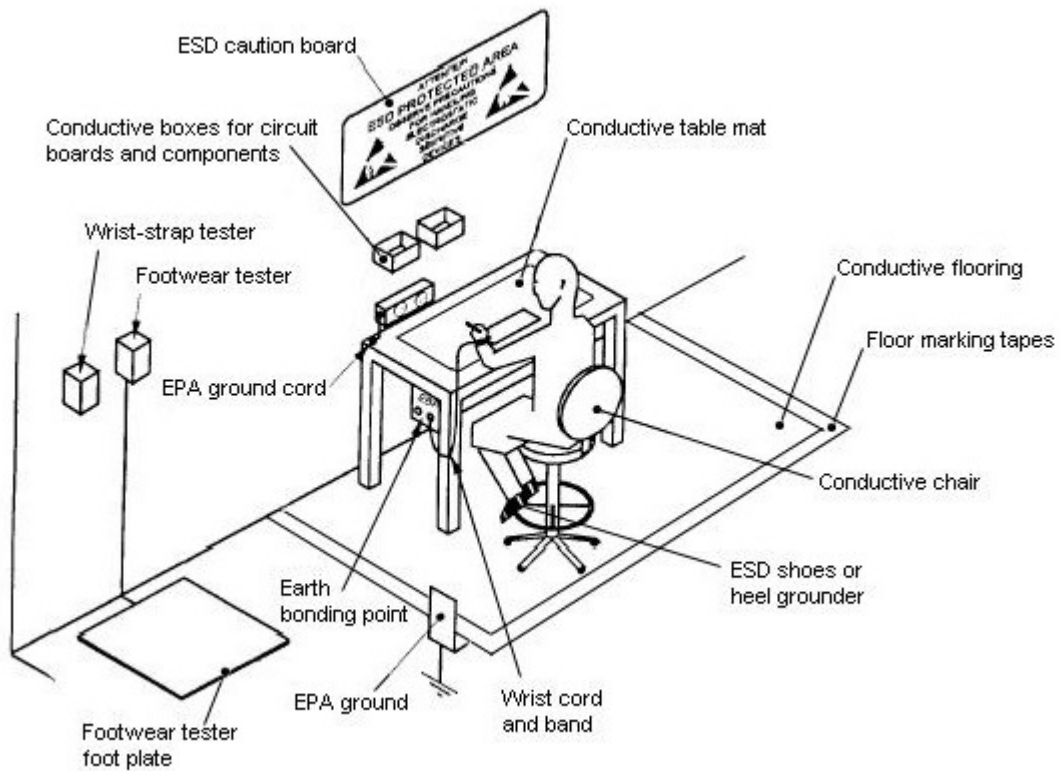
Fold the swap carton as shown in Spare Parts SB-004.



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

19. ESD PROTECTION REQUIREMENTS

Please refer to the Partner Web Site document [Service Partner Requirements](#) in folder General instructions.



- | | |
|---|--|
| USE Conductive bags and boxes | NO Smoking |
| USE ESD compatible service tools | NO Drinking |
| USE Conductive wastebaskets | NO Eating |
| USE ESD gloves when handling PWBs/PCBs | NO Dust |
| USE Cleaning material without changing el. Characteristics | NO Useless Items |
| USE Grounded service equipment, i.e. soldering station | NO Normal pressured air for cleaning modules/displays |
| USE ESD clothes such as coat or frock | |



The video covers general issues concerning Electro-Static Discharge (ESD)
source: Nokia Care Point