

**3510****NHM-8****3510i****RH-9**

Service Manual

Service Level 1&2

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Introduction

The purpose of this document is to help Nokia service levels 1 and 2 workshop technicians to carry out service to Nokia 3510 and 3510i. 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, Nokia should be notified. 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".

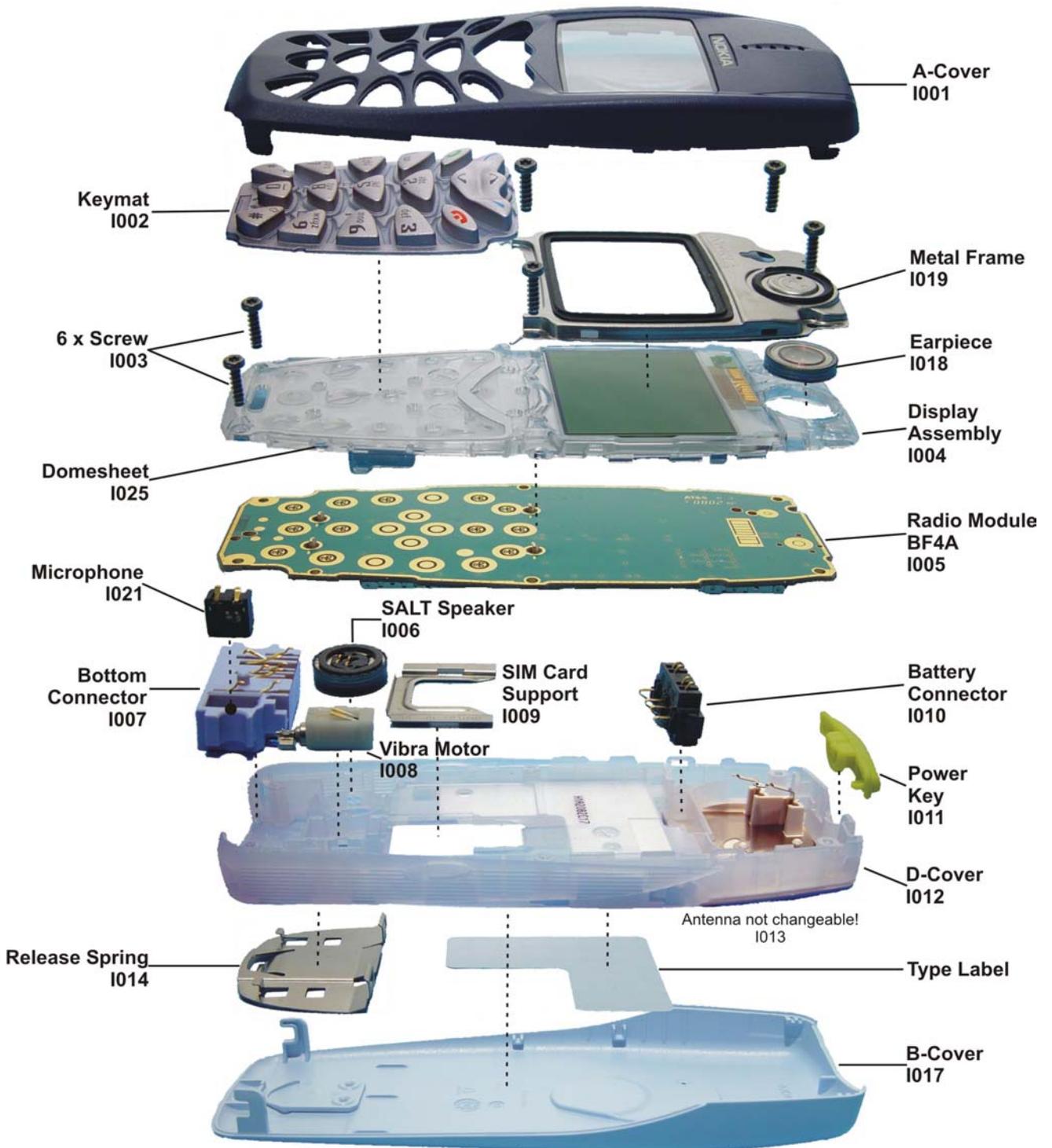
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Change History

Originator	Status	Version No.	Date	Comments
MWy	Draft	0.1	04.04.2002	Initial draft
MWy	Approved	1.0	22.05.2002	approval
Mwy	Approved	2.0	05.06.2002	Corrections in Trouble Shooter
DJK	Approved	3.0	05.12.2002	3510I & Level 2 implementation

1. EXPLODED VIEW



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

2. SPARE PARTS LIST

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME	USED IN
A901	1	9517120	BB SHIELD LID	3510 & 3510i
I003	6	6290107	SCREWS 1.8X7.0 FE T6+	3510 & 3510i
I004	1	4850247	DISPLAY ASSEMBLY 96X65	3510
I004	1	4850277	DISPLAY ASSEMBLY POPEYE	3510i
I025	1	XXXXXXX	DOMESHEET	3510 & 3510i
I006	1	5140243	SALT SPEAKER	3510 & 3510i
I007	1	5409159	SM SYSTEM CONN	3510 & 3510i
I008	1	6800053	VIBRA MOT ASSY 1.3V 115MA 9500RPM	3510 & 3510i
I009	1	9517122	SIM CARD SUPPORT	3510 & 3510i
I010	1	5400253	BATTERY CONN 4 POL SPRING	3510 & 3510i
I011	1	9790514	POWERKEY, LIME GREEN	3510
I011	1	9790895	POWERKEY, ORANGE	3510i
I014	1	9510854	RELEASE SPRING CLOSED	3510 & 3510i
I018	1	5140067	SPEAKER+SPRING 103+-3DB 32R d13.2	3510 & 3510i
I019	1	9517121	METAL FRAME ASSEMBLY	3510 & 3510i
I021	1	5140201	MIC+BOOT ASSY -42+-3DB	3510 & 3510i

SOLDERING COMPONENTS ONLY FOR LEVEL 2

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME	USED IN
F100	1	5119019	SM FUSE F 1.5A 32V 0603 1.5A	3510 & 3510i
S300	1	5209001	SM SW TACT SPST 12V 50MA SIDE KEY	3510 & 3510i
V301	1	4860401	LED LNJ322W830NK 575NM 90DEG TBSF	3510
V302	1	4860401	LED LNJ322W830NK 575NM 90DEG TBSF	3510
V308	1	4860401	LED LNJ322W830NK 575NM 90DEG TBSF	3510
V309	1	4860401	LED LNJ322W830NK 575NM 90DEG TBSF	3510
V301	1	4860411	HIGH BRIGHT WHITE TBSF LED	3510i
V302	1	4860411	HIGH BRIGHT WHITE TBSF LED	3510i
V308	1	4860421	LOW BRIGHT WHITE TBSF LED HDB12	3510i
V309	1	4860421	LOW BRIGHT WHITE TBSF LED HDB12	3510i

VARIANT PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME	USED FOR
I001	1	9490588	A-COVER Assembly DARK BLUE	3510
I001	1	9490589	A-COVER Assembly WHITE	3510
I001	1	9490590	A-COVER Assembly BURGUNDY	3510
I002	1	9794055	KEYMAT LATIN	3510
I002	1	9794104	KEYMAT ARABIC	3510
I002	1	9794105	KEYMAT GREEK	3510
I002	1	9794106	KEYMAT HEBREW	3510
I002	1	9794107	KEYMAT CYRILIC	3510
I017	1	9490585	B-COVER ASSEMBLY LIGHT BLUE	3510
I017	1	9490587	B-COVER ASSEMBLY BURGUNDY	3510
I017	1	9490586	B-COVER ASSEMBLY GREEN	3510

VARIANT PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME	USED FOR
I001	1	9458634	A-COVER ASSY POPEYE GREEN E&A	3510i
I001	1	9458857	A-COVER ASSY POPEYE BLUE E&A	3510i
I001	1	9458858	A-COVER ASSY POPEYE BEIGE E&A	3510i
I002	1	9790839	KEYMAT, LATIN	3510i
I002	1	9790840	KEYMAT, CYRILLIC	3510i
I002	1	9790841	KEYMAT, GREEK	3510i
I002	1	9790842	KEYMAT, HEBREW	3510i
I002	1	9790843	KEYMAT, ARABIC	3510i
I017	1	9491056	B-COVER ASSY POPEYE WHITE E&A	3510i
I017	1	9491057	B-COVER ASSY POPEYE BLUE E&A	3510i
I017	1	9491068	B-COVER ASSY POPEYE RED E&A	3510i

SWAP UNITS

	QTY	PART NO	PART NAME	USED FOR
		0074112	NHM-8NX N3510 SWAP ENGINE EUROPE	3510
		0074113	NHM-8NX N3510 SWAP ENGINE RUSSIA	3510
		0074114	NHM-8NX N3510 SWAP ENGINE TURKEY	3510
		0074115	NHM-8NX N3510 SWAP ENGINE CS-SK	3510
		0074116	NHM-8NX N3510 SWAP ENGINE FRANCE	3510
		0074117	NHM-8NX N3510 SWAP ENGINE POLAND	3510
		0076275	NHM-8NX N3510 SWAP SOUTH AFRICA	3510

SWAP UNITS

	QTY	PART NO	PART NAME	USED FOR
		0075985	RH-9 N3510i SWAP ENGINE EUROPE	3510i
		0075986	RH-9 N3510i SWAP ENGINE RUSSIA	3510i
		0075987	RH-9 N3510i SWAP ENGINE TURKEY	3510i
		0075988	RH-9 N3510i SWAP ENGINE FRANCE	3510i
		0075989	RH-9 N3510i SWAP ENGINE CZHECH	3510i
		0075990	RH-9 N3510i SWAP ENGINE POLAND	3510i
		0076274	RH-9N3510i SWAP ENGINE SOUTH AFRICA	3510i

SERVICE TOOLS

TYPE	QTY	PART NO	PART NAME	USED FOR
	1	0271738	BLC-2 BATT.BLOCK LI-ION 950MAH	3510 & 3510i
	1	0271582	DCV-10 DESKTOP STAND	3510 & 3510i
	1	0272169	AC TRAVEL CHARGER ACP-8E (EURO)	3510 & 3510i
	1	0272172	AC TRAVEL CHARGER ACP-8X (UK)	3510 & 3510i
	1	0271503	HDC-5 HEADSET	3510 & 3510i
	1	0775304	FLA-23 POS FLASH LOADING ADAPTER	3510 & 3510i
	1	0730218	XCS-1 SERVICE CABLE	3510 & 3510i
	1	0080541	FLS-4S SALES PACK E&A	3510 & 3510i
	1	0770431	SRT-6 OPENING TOOL 5510	3510 & 3510i

3. 3510<>3510i COMPARISON

There is one difference between these two products. The 3510i is equipped with a color display. All another mechanical parts are identical (see Spare Parts Lists).

4. 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 Partner Website.

Flash Concept – (Point of Sales)

Note that ACF-8 charger is inside FLS-4S sales pack and cannot be ordered separately.



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-23 like a battery, start at the battery connector site.



Now, push down the bottom side of the phone, do not use too much force.



When removing the Flash Adapter, always start from the bottom side of the unit.



Take away the unit now.

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

5. GENERAL REPAIR INFORMATION

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

- Before starting the repair you must take care of ESD precautions like being in your ESD-area and connecting your wristband.
- Use gloves to avoid corrosion and fingerprints.
- Protect windows and displays with a foil to avoid dust and scratches.
- When cleaning the pads you have to use a soft cloth 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, which didn't repair the failure, can be reused, if they are not soldered.
- Use always original Nokia parts or accessories.
- Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on Partner Websites).
- 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

Following General Service Bulletins have to be followed:

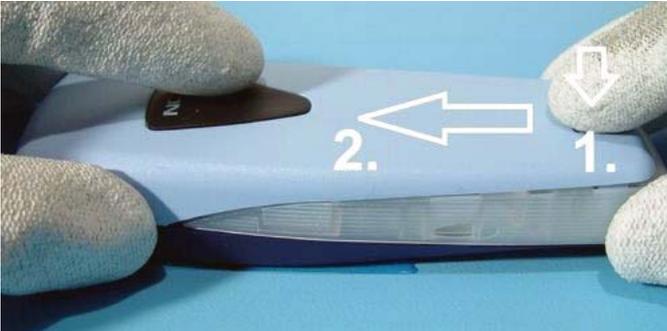
- SB-055 Common notice for good ventilation
- SB-089: Don't try to repair prototypes (indicated on Typelabel).
- SB-107: Be sure that you have minimum hardware requirements in place.
- SB-115: Handling of liquid damages.
- SB-121: If one of your service tools causes malfunction, return the defective part.
- SB-122: Soldering with manual hot air gun is totally forbidden because of the very sensitive μ BGA components and μ Via technology.**
- SB-124 Service Policy for packaging serviced products
- SB-131: Check these guidelines when refurbishing products.
- SB-132: You can use a **Golden Phone** for inspecting your measuring equipment.

Please check Nokia Partner Web Site (PWS) for latest news and files on a regular basis.

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 underlined components (e.g. <u>I007</u>) can be changed.	
	Follow the arrows step by step
	Pads or contacts: Check optical and mechanical condition as well as corrosion. Clean if necessary.
	Measure component for electrical functionality and change, if needed.
	No more actions possible, send product to the appropriate service partner with higher service level.

6. DISASSEMBLY INSTRUCTIONS



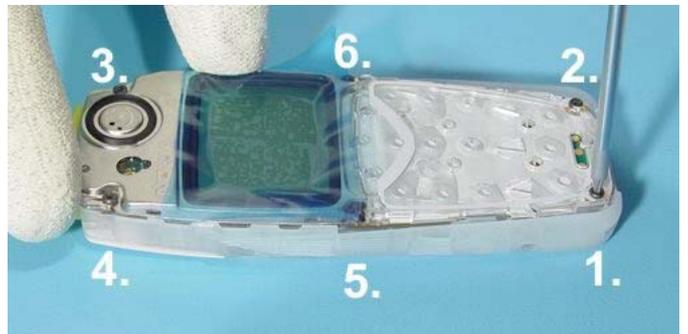
Release the A-Cover from the bottom side of the unit.



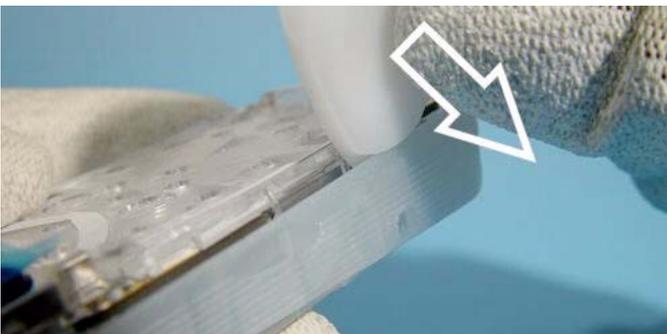
Take away the A-Cover.



Also, protect the inner part of the window with a foil. The Keymat is loose inside the A-Cover.



Unscrew the six T6 screws, using the order shown. **For assembly, the reverse order and a Torx T6 PLUS with a torque of 28 Ncm has to be used.**



When releasing the side clips of the D-Cover you can use the SRT-6.



This is the second clip.



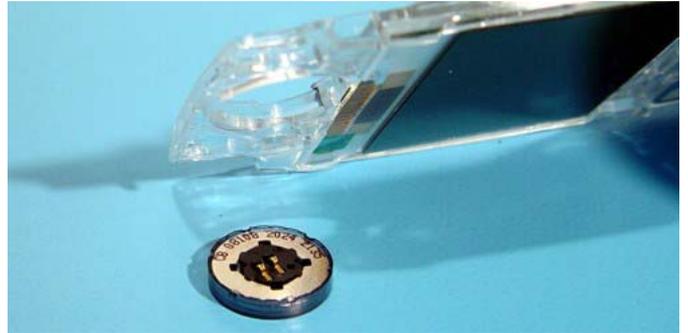
Take away the Display Assembly (UI module) and avoid touching the pads.



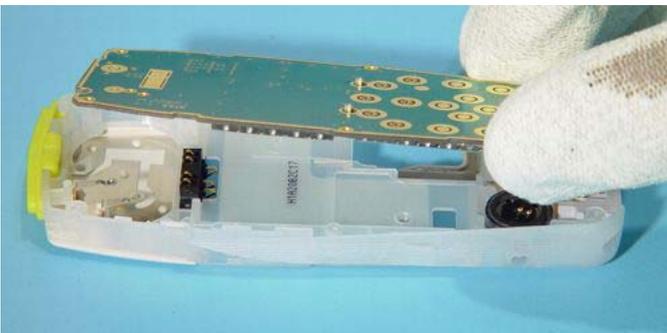
There are two snaps on each side of the Metal Frame.



Remove the Metal Frame.



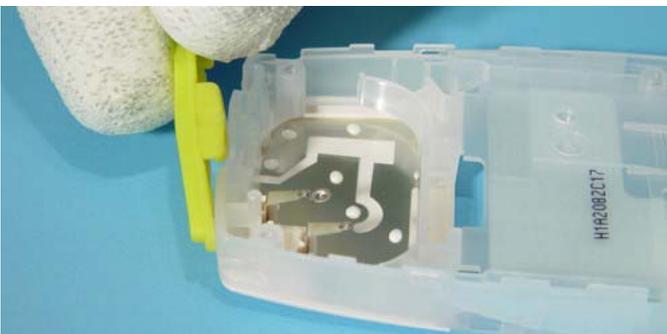
If you hold the UI module upside down, the Speaker drops out of its hollow.



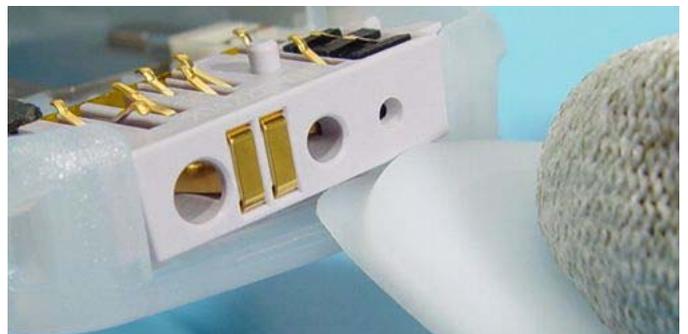
The next step is to take away the Radio Module. Take care not to damage the LED's.



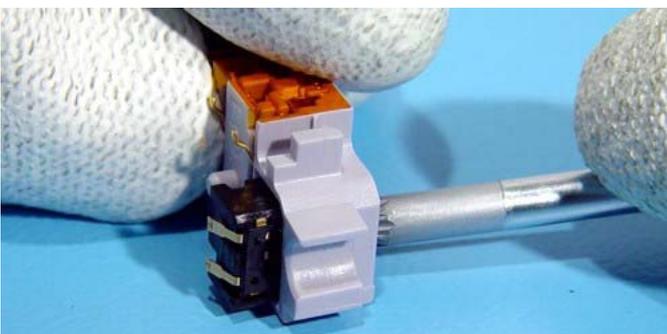
Lift up the Battery Connector with your fingers.



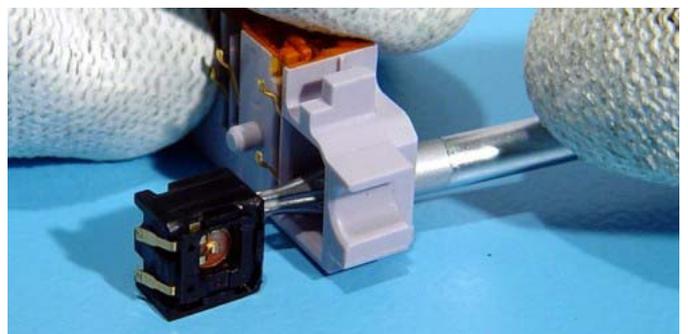
Remove the Power Key.



To loosen the System Connector you can use SRT-6 opening tool. Take care not to scratch the D-Cover or the connector housing.



The Microphone can be changed separately. To remove it from the connector housing, you have to push it with e.g. Torx Driver.



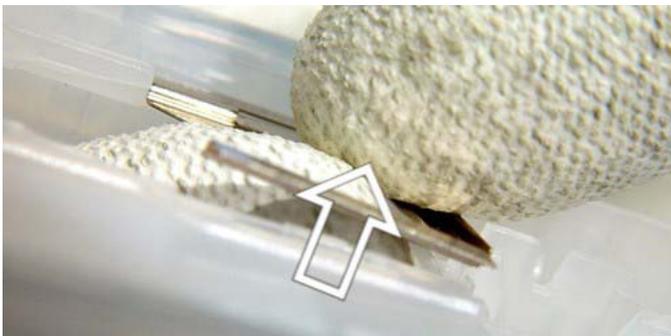
When re-assembling the Microphone remember the right direction. The opening of the Microphone has to point to the opening of the connector housing.



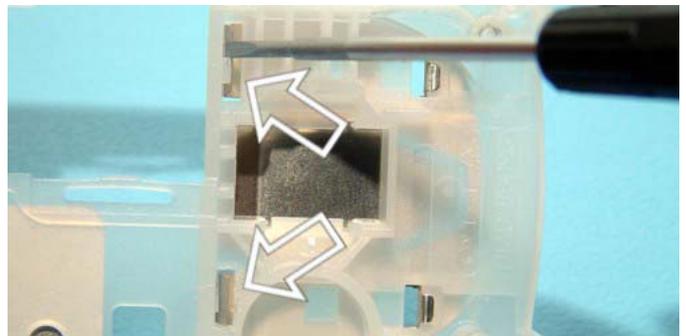
The SALT Speaker is taped to the D-Cover and can be removed with a straight bladed screwdriver.



If you need to change the Vibra Motor, strong tweezers or pliers can be taken.



Remove the SIM Card Support using this way.

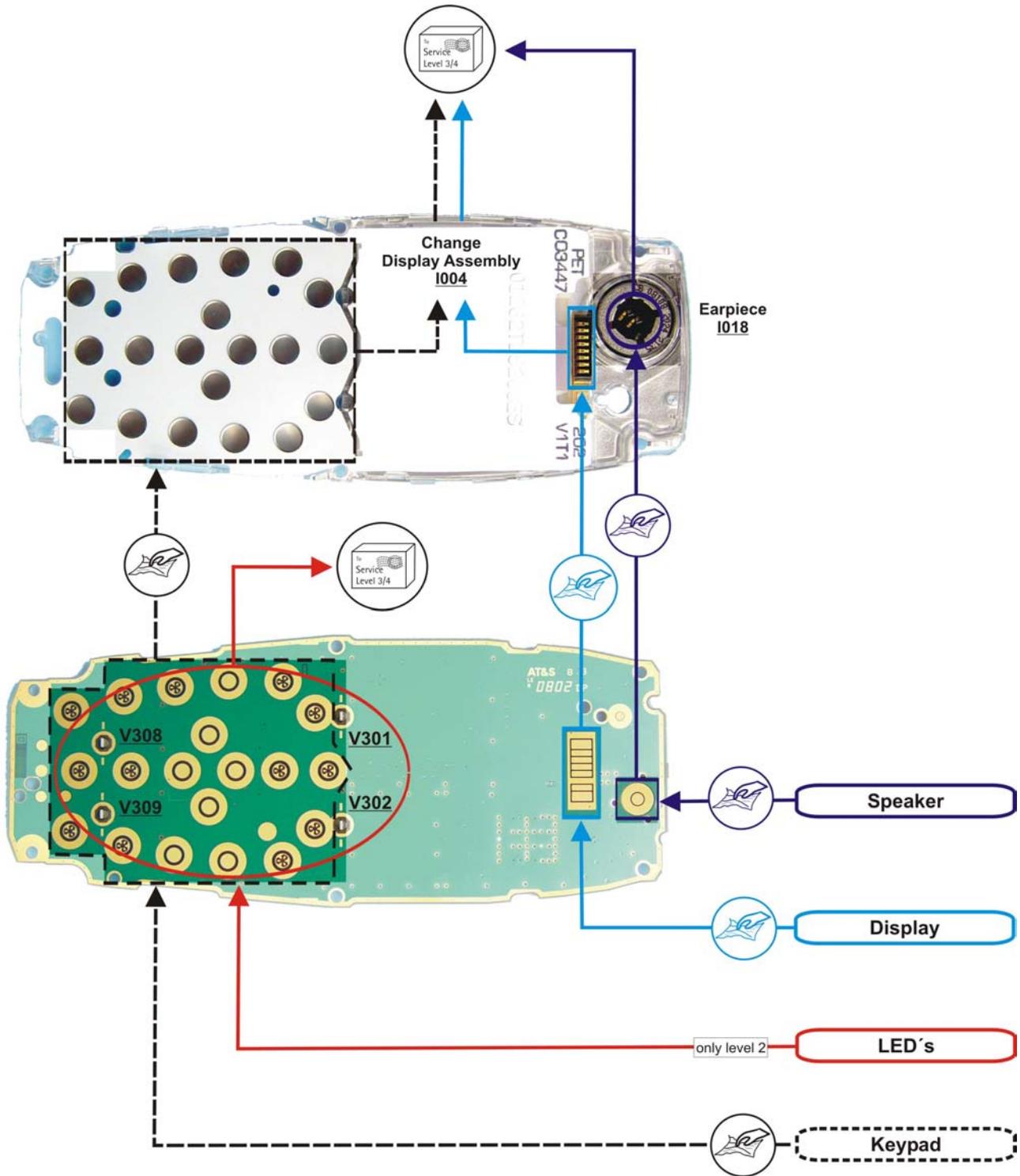


The Release Spring is locked on two sides. Use a screwdriver to unlock the two snaps.

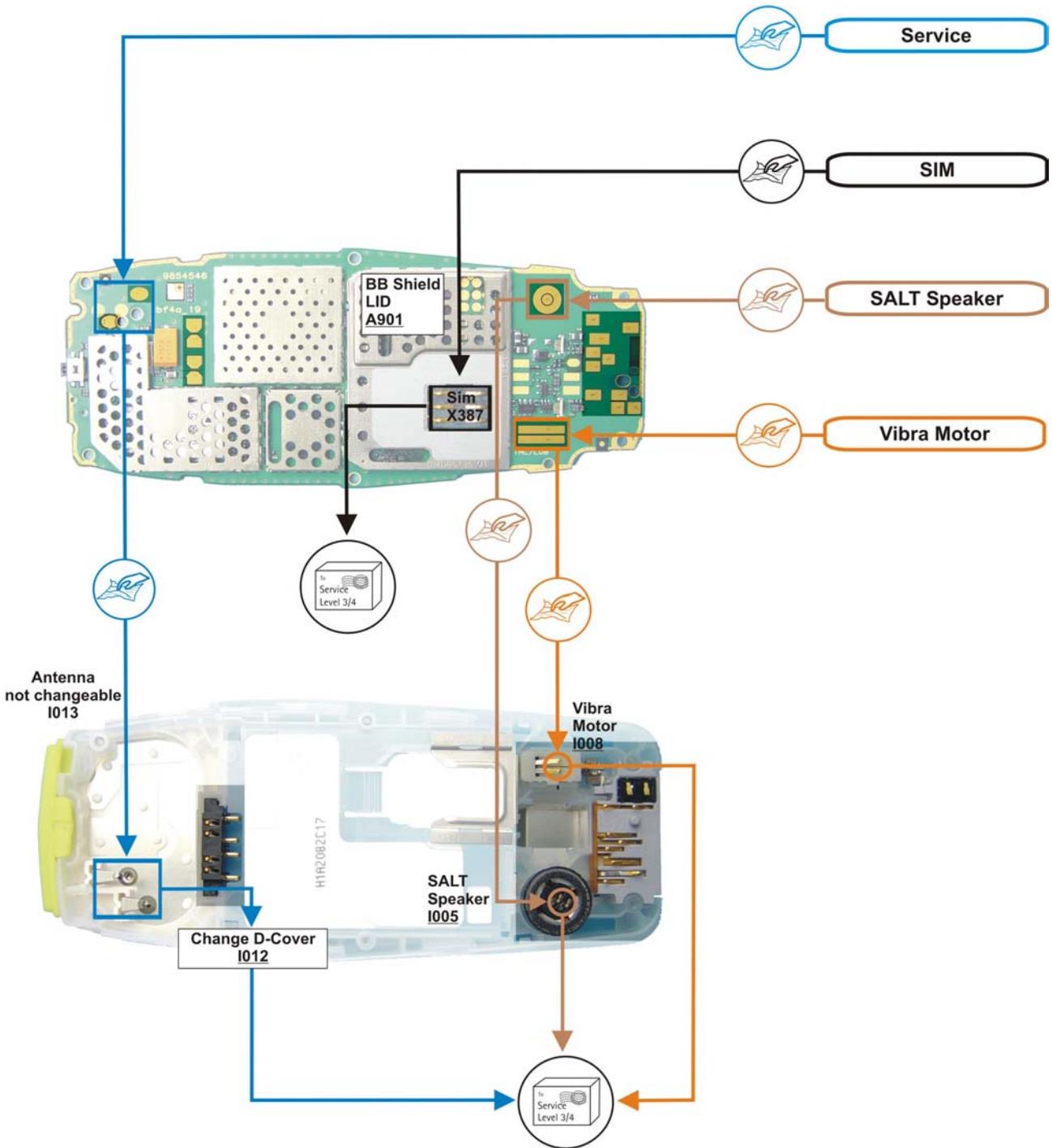


After releasing the two hooks, you can remove the Release Spring easily.

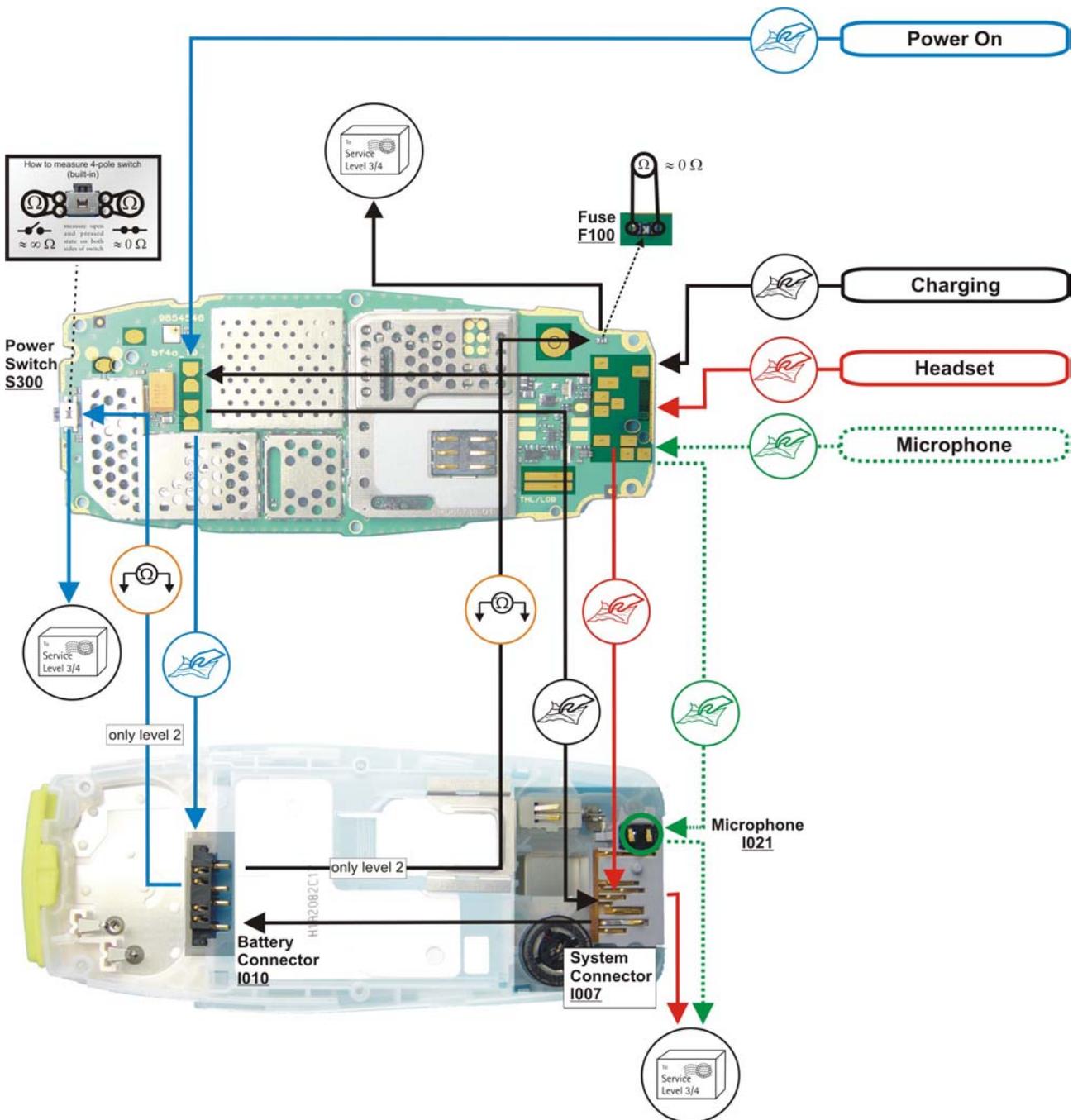
7. QUICK TROUBLE SHOOTER PART1



8. QUICK TROUBLE SHOOTER PART2



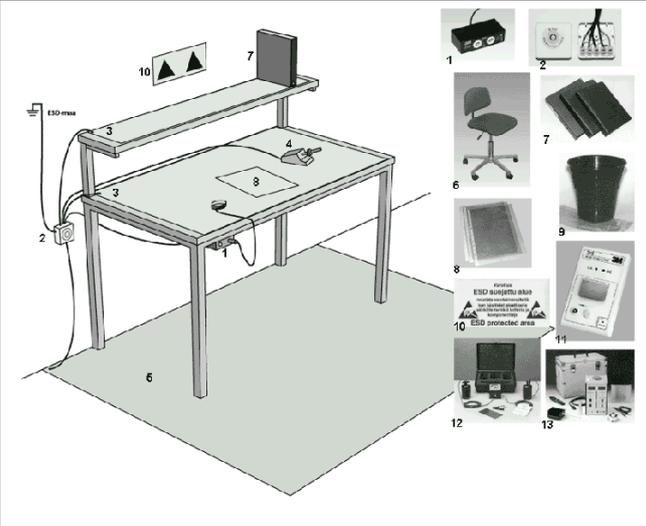
9. QUICK TROUBLE SHOOTER PART3



10. ESD PROTECTION REQUIREMENTS

	<p>Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Partner has to take care of at least some precautions like ESD restricted area, floor, table, covering, chair(s), shoes or arm wrist.</p>
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Please refer to the Partner Website document
[ESD protection requirements for NMP Service Level 1/2 Service Suppliers](#)

	
<p>example configuration of an epa-area source: www.armeka.com</p>	<p>example configuration of a workbench source: www.warmbier.com</p>
	
<p>example workbench and testers source: http://www.armekaengineering.com</p>	

11. 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 Website to get further information.

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

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

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



The image shows the back of a Nokia mobile phone with a service label. The label contains the following information: NOKIA MOBILE PHONES LTD, Type: NPE-SNX, Model: 8210, MADE IN GERMANY, CE 0168 X, 449333/20/975406/2, Code: 050381, and Owner: R&D Bochum TTA. The phone is a black Nokia 8210.

12. GONOGO TESTER

The Acterna/Wavetek GoNoGo Tester has to be used to carry out the final test after your service action to guarantee the functionality of the phone.

Please refer to the actual information in the Nokia Care Point Extranet within the Partner Website.



13. BATTERYTESTER

The Astratec battery tester lets you test the capacity of Nokia batteries.

Please refer to the actual information in the Nokia Care Point Extranet within the Partner Website.

