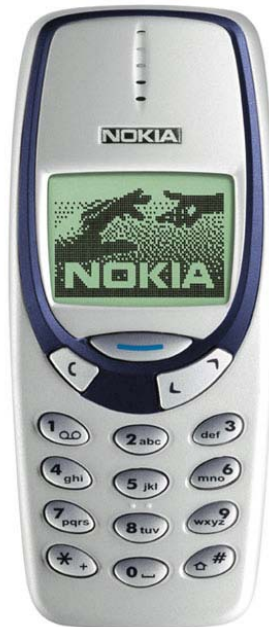




Nokia 3310
NHM-5



Nokia 3330
NHM-6



Nokia 3410
NHM-2

Service Manual

Service Level 2

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Introduction

The purpose of this document is to give Nokia service level 2 workshops aids to carry out service for 3310/3330/3410. The picture material is based on 3410 and is exemplary for 3310 and 3330. The use of this Service Manual is only for Nokia authorized service partners additionally to other service documentation like Service Bulletins.

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".

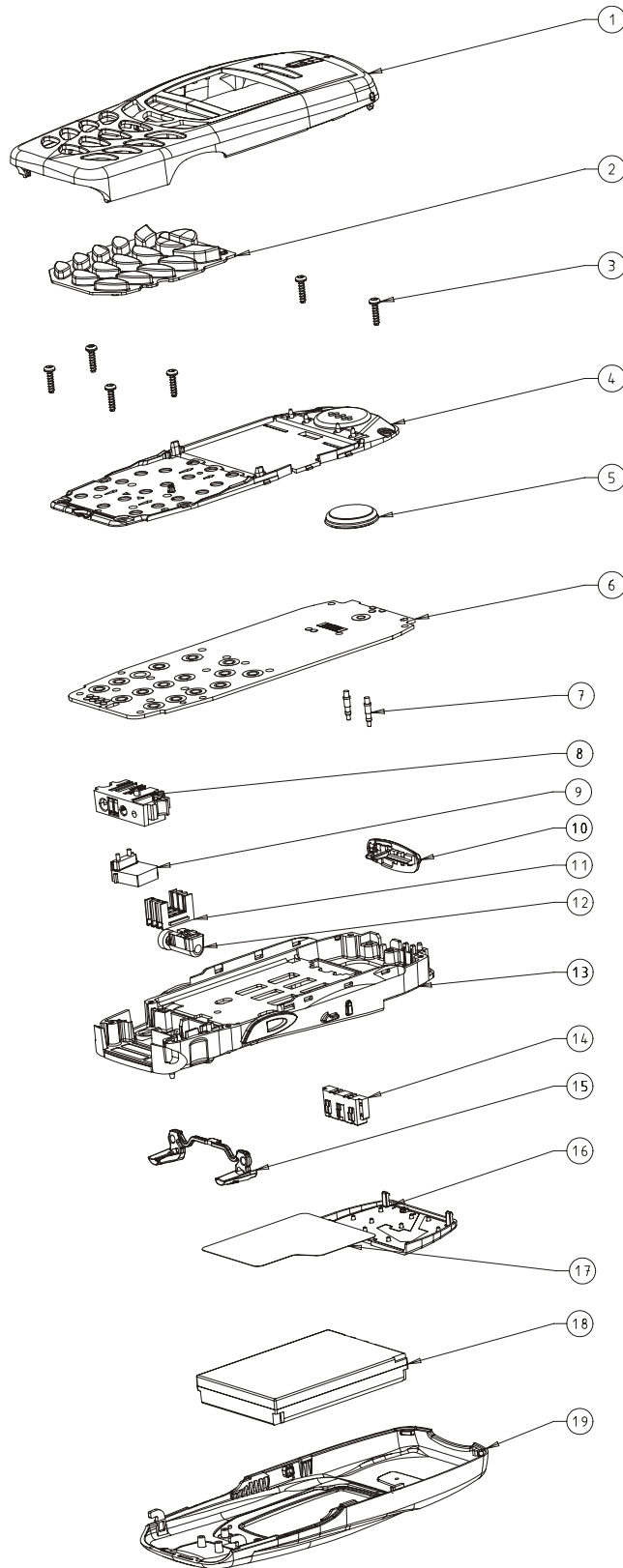
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Change History

Originator	Status	Version No.	Date	Comments
MWy	Draft	0.1	04.04.2002	Initial draft
MWy	Approved	1.0	03.05.2002	approval
MWy	Approved	2.0	27.05.20002	3310 and 3330 added

1. EXPLODED VIEW



Description: See corresponding ITEM/CIRCUIT REF of the BOR (Bill Of Repair)

2. BILL OF REPAIR

SPARE PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
A103	1	9510593	BB LID DMD05402-EN HDA12
I003	6	6290107	SCREWS
I004	1	4850123	DISPLAY ASSEMBLY 3310/3330
I004	1	4850221	DISPLAY ASSEMBLY 3410
I005	1	5140067	SPEAKER
I005	1	9480588	SPEAKER GASKET
I007	2	5400171	ANTENNA POGO PIN DMS02722 SPR
I008	1	5460039	SYS CONN ASSY SPR. 5AF+5DC+MIC
I009	1	5140191	BUZZER ASSY DMC02718 HDA12
I010	1	9790437	POWERKEY DMD05798-EN HDA12
I011	1	5400169	SIM CONN 2X3POL P2.54 SPR 15V 1A
I012	1	6800049	VIB MOT ASSY 1.3V 115MA 9500RPM
I014	1	5409153	SM BATT CONN 4POL SPR 200V 2A
I015	1	9460355	BATTERY LOCK DMD05789 HDA12
I016	1	0660212	INT. PIFA EGSM/PCN (ANTENNA)

SOLDERING COMPONENTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
F200	1	5119019	SM FUSE F 1.5A 32V 0603
S419	1	5209001	SM SW TACT SPST 12V 50MA SIDE KEY
V403	1	4864471	LED CL260YGBF YELGRN>11.5MCD 1305
V408	1	4864471	LED CL260YGBF YELGRN>11.5MCD 1305
V409	1	4864471	LED CL260YGBF YELGRN>11.5MCD 1305
V410	1	4864471	LED CL260YGBF YELGRN>11.5MCD 1305
V411	1	4864471	LED CL260YGBF YELGRN>11.5MCD 1305
V412	1	4864471	LED CL260YGBF YELGRN>11.5MCD 1305

VARIANT PARTS 3310

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I001	1	9451807	A-COVER ASSEMBLY NAVY BLUE
I001	1	9451822	A-COVER ASSEMBLY POLAR BLUE
I001	1	9451830	A-COVER ASSEMBLY VESUVIUS RED
I001	1	9451835	A-COVER ASSEMBLY HIMALAJA WHITE
I001	1	9451833	A-COVER ASSEMBLY SAHARA YELLOW
I001	1	9451839	A-COVER ASSEMBLY ICEBER GREY
I001	1	9451911	A-COVER ASSEMBLY ARCTIC SILVER
I002	1	9790420	KEYMAT ENGLISH
I002	1	9790576	KEYMAT CYRILLIC
I002	1	9790466	KEYMAT HEBREW
I002	1	9790465	KEYMAT ARABIC
I019	1	9451797	B-COVER ASSEMBLY NAVY BLUE
I019	1	9451821	B-COVER ASSEMBLY POLAR BLUE
I019	1	9451836	B-COVER ASSEMBLY VESUVIUS RED
I019	1	9451834	B-COVER ASSEMBLY HIMALAJA WHITE
I019	1	9451832	B-COVER ASSEMBLY SAHARA YELLOW
I019	1	9451841	B-COVER ASSEMBLY ICEBER GREY
I019	1	9451915	B-COVER ASSEMBLY ARCTIC SILVER

VARIANT PARTS 3330

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I001	1	9452043	A-COVER ASSEMBLY NAVY BLUE
I001	1	9452038	A-COVER ASSEMBLY POLAR BLUE
I001	1	9452039	A-COVER ASSEMBLY VESUVIUS RED
I001	1	9452040	A-COVER ASSEMBLY HIMALAJA WHITE
I001	1	9452041	A-COVER ASSEMBLY SAHARA YELLOW
I001	1	9452042	A-COVER ASSEMBLY ICEBER GREY
I001	1	9452037	A-COVER ASSEMBLY ARCTIC SILVER
I002	1	9790420	KEYMAT ENGLISH
I002	1	9790576	KEYMAT CYRILLIC
I002	1	9790466	KEYMAT HEBREW
I019	1	9451797	B-COVER ASSEMBLY NAVY BLUE
I019	1	9451821	B-COVER ASSEMBLY POLAR BLUE
I019	1	9451836	B-COVER ASSEMBLY VESUVIUS RED
I019	1	9451834	B-COVER ASSEMBLY HIMALAJA WHITE
I019	1	9451832	B-COVER ASSEMBLY SAHARA YELLOW
I019	1	9451841	B-COVER ASSEMBLY ICEBER GREY
I019	1	9451915	B-COVER ASSEMBLY ARCTIC SILVER

VARIANT PARTS 3410

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I001	1	9458276	A-COVER ASSEMBLY
I002	1	9790657	KEYMAT LATIN
I002	1	9790658	KEYMAT CYRILLIC
I002	1	9790695	KEYMAT HEBREW
I002	1	9790698	KEYMAT ARABIC
I019	1	9458278	B-COVER ASSEMBLY

SWAP UNITS 3310

	QTY	PART NO	PART NAME
	1	0073642	NHM-5NX N3310 SWAP ENGINE
	1	0073643	NHM-5NX N3310 SWAP ENGINE PL
	1	0073644	NHM-5NX N3310 SWAP ENGINE RU
	1	0073645	NHM-5NX N3310 SWAP ENGINE FR

SWAP UNITS 3330

	QTY	PART NO	PART NAME
	1	0071631	NHM-6NX N3330 SWAP ENGINE
	1	0071729	NHM-6NX N3330 SWAP ENGINE RU
	1	0071730	NHM-6NX N3330 SWAP ENGINE PL
	1	0071731	NHM-6NX N3330 SWAP ENGINE FR

SWAP UNITS 3410

	QTY	PART NO	PART NAME
		0074068	NHM-2NX N3410 SWAP ENGINE PL
		0074069	NHM-2NX N3410 SWAP ENGINE CS
		0074070	NHM-2NX N3410 SWAP ENGINE RU
		0074071	NHM-2NX N3410 SWAP ENGINE TR
		0074072	NHM-2NX N3410 SWAP ENGINE FR
		0074073	NHM-2NX N3410 SWAP ENGINE E&A

SERVICE TOOLS

TYPE	QTY	PART NO	PART NAME
		0080541	FLS-4S SALES PACK E&A
		0670403	BLC-2 BATTERY PACK
		0630262	FLP-2 POS FLASH ADAPTER
		0730218	XCS-1 SERVICE CABLE
		0271582	DCV-10 DESKTOP STAND
		0272169	AC TRAVEL CHARGER ACP-8E (EUR)
		0272172	AC TRAVEL CHARGER ACP-8X (UK)
		0271467	HDC-5 HEADSET
		0774071	WINTESLA 3,5 DISKETTE
		0770269	SERVICE SW
		0770431	SRT-6 OPENING TOOL 5510

3. 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.



Description: See corresponding ITEM/CIRCUIT REF of the BOR (Bill Of Repair)

4. GENERAL REPAIR INFORMATION

In this section you 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.





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 cause 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 need a **Golden Phone** for inspecting your measuring equipment.

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

Legend for Quick Trouble Shooter:

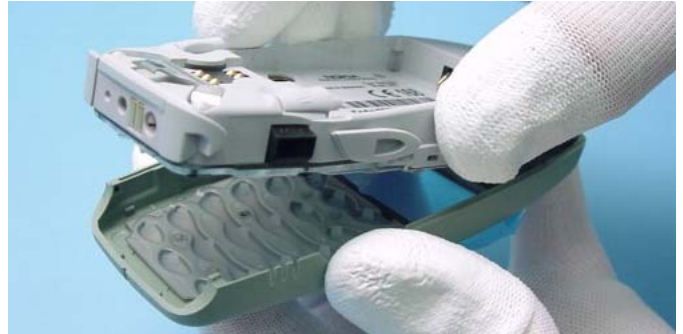
This legend is valid for all parts of the **Quick Trouble Shooter**

Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward. Only 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 action possible, send product to the appropriate service partner with higher service level.
^{4, 5}	Superscript numbers are for additional comments or instructions

5. DISASSEMBLY INSTRUCTIONS



Take care that your workbench is always clean and protect the Window with a foil against dust and scratches. Release the A-Cover from the bottom side of the unit.



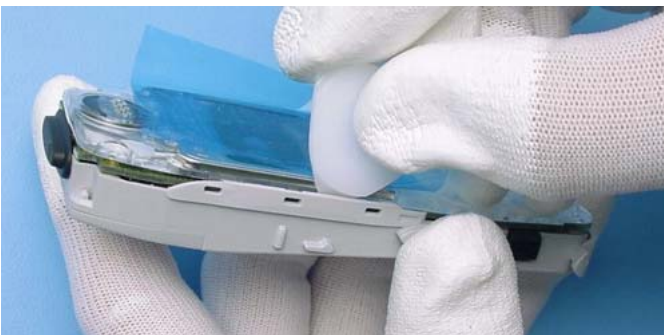
Take away the A-Cover.



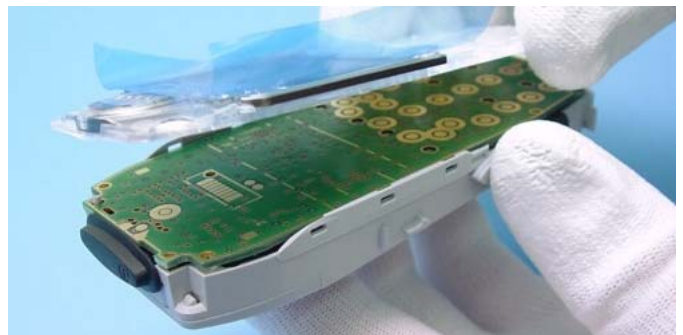
Also, protect the inner part of the window with a foil. The Keymat is loose inside the cover.



Open the six screws in the predefined order with a Torx 6 driver. **When re-assembling, the reverse order has to be taken with a torque of 30 Ncm.**



When releasing the side clips of the D-Cover you can use plastic tweezers or the opening tool from 5510 (SRT-6, 0770431), as shown in the picture.



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



If you need to remove the Speaker with Gasket, do not take it from the spring contacts.



Lifting up the radio module UW5 is also very easy now.



The Vibra Motor with its rubber housing is pressed into the D-Cover.



No special tools are needed to remove the System Connector. Note that the Microphone cannot be changed separately (like in other products), because it is one unit with the System Connector.



Remove the SIM Connector by hand. Note the right direction, when replacing the SIM connector. It only fits in one direction.



The Buzzer can be taken away with tweezers.



Remove the Power Key.



There are different ways to remove the Battery Connector. One way is, to press it from the backside of the D-Cover. The other way is to take it with fingers from the front side of the D-Cover.



The SRT-6 opening tool is also very helpful, when opening the Antenna.



Take away the Antenna from the D-Cover.



You need some power to press the Antenna Pogo Pins from the D-Cover.



If you need to change the Battery Lock, you first have to press the retaining clips before rotating the straight bladed screwdriver.

**When assembling the phone, screws must be tightened with a torque of 30 Ncm!
The GoNoGo test verifies that the electrical specifications will be fulfilled.**



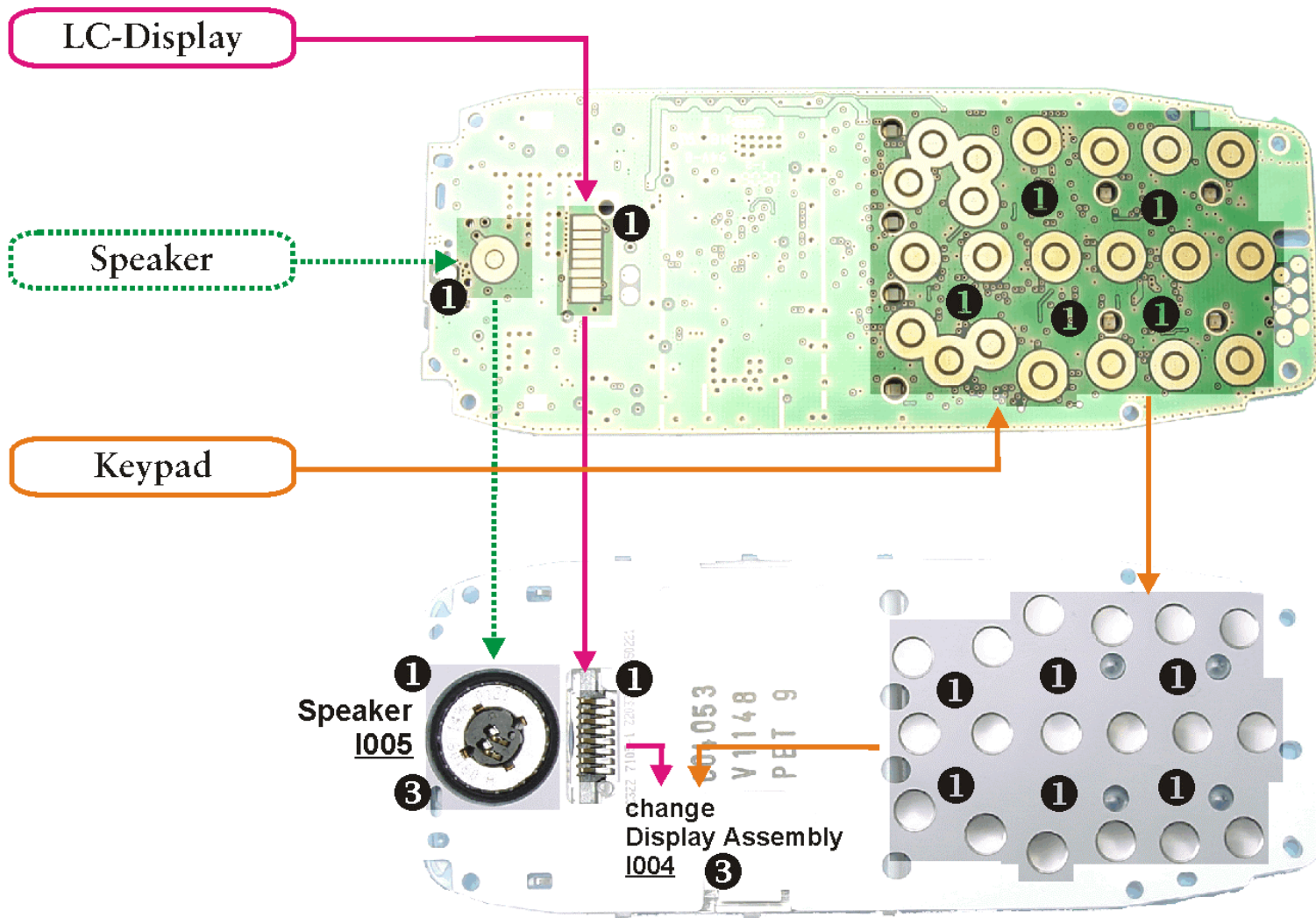
6. MAIN PARTS

		
<p>Speaker I005</p>	<p>Buzzer I009</p>	<p>SIM Connector I011</p>
 <p>Microphone not changeable</p>		
<p>System Connector I008</p>	<p>Keymat I002</p>	<p>Battery Connector I014</p>
		
<p>Vibra Motor I012</p>	<p>Antenna Pogo Pins I007</p>	<p>Battery Lock I015</p>
		
<p>A-Cover I001</p>	<p>D-Cover, not changeable</p>	<p>Display Assembly I004</p>

7. QUICK TROUBLE SHOOTER PART1

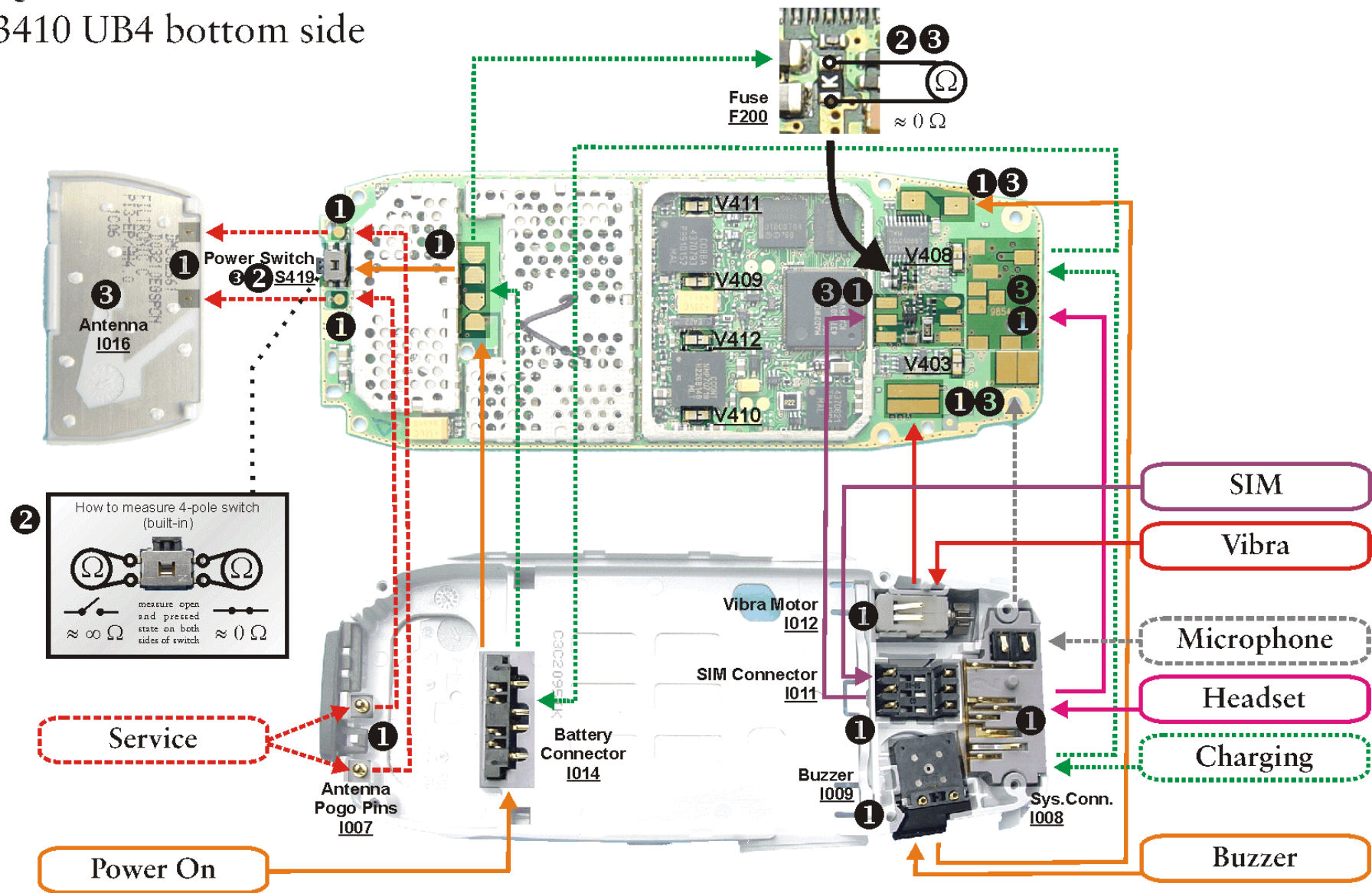
Quick Trouble Shooter

3410 UB4 top side



8. QUICK TROUBLE SHOOTER PART2

Quick Trouble Shooter 3410 UB4 bottom side



9. 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>	

10. 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

11. 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.



12. 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.

