

SERVICE MANUAL
Level 1&2

NOKIA
5130
XPRESSMUSIC

RM-495 RM-496



Transceiver characteristics

Band:
RM-495, RM-496: GSM 850/900/1800/1900

Display:
2" (320x240 pixels) QVGA, active area 30.2 mm x 40.3 mm, up to 256k colours

Camera:
2 Mpix with 4x digital zoom

Operating System:
Series 40 5th edition Feature Pack 1

- Connections:**
- Bluetooth 2.0
 - 3.5 mm AV connector
 - 2.0 mm charger connector
 - Micro USB
 - USB 2.0 (high speed)
 - MicroSD card (hot swap)

Transceiver with BL-5C battery pack

Talk time	Standby	Note
GSM: Up to 6 h	GSM: Up to 288 h	Depends on network parameters and phone settings

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1. CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	20.11.2008	Draft
Approved	1.0	08.01.2009	Approved version
Updated	2.0	14.01.2009	Updated disassembly picture 35.
Updated	3.0	23.01.2009	Torque values updated

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:

CMO Operation & Logistics
Training and Vendor Development
Multimedia Creation & Support
<mailto:Service.Manuals@nokia.com>

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

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The availability of particular products may vary by region.

IMPORTANT

This document is intended for use by qualified service personnel only.

3. 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:

3.1 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.

3.2 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

4. ESD PROTECTION



Nokia requires that service points have sufficient ESD protection (against static electricity) when servicing the phone.

Any product of which the covers are removed must be handled with ESD protection. The SIM card can be replaced without ESD protection if the product is otherwise ready for use.

To replace the covers ESD protection must be applied.

All electronic parts of the product are susceptible to ESD. Resistors, too, can be damaged by static electricity discharge.

All ESD sensitive parts must be packed in metallized protective bags during shipping and handling outside any ESD Protected Area (EPA).

Every repair action involving opening the product or handling the product components must be done under ESD protection.

ESD protected spare part packages MUST NOT be opened/closed out of an ESD Protected Area.

For more information and local requirements about ESD protection and ESD Protected Area, contact your local Nokia After Market Services representative.

5. CARE AND MAINTENANCE

This product is of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfil any warranty obligations and to enjoy this product for many years.

- Keep the phone and all its parts and accessories out of the reach of small children.
- Keep the phone dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the phone in dusty, dirty areas. Its moving parts can be damaged.
- Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the phone in cold areas. When it warms up (to its normal temperature), moisture can form inside, which may damage electronic circuit boards.
- Do not drop, knock or shake the phone. Rough handling can break internal circuit boards.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the phone.
- Do not paint the phone. Paint can clog the moving parts and prevent proper operation.
- Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications or attachments could damage the phone and may violate regulations governing radio devices.

All of the above suggestions apply equally to the product, battery, charger or any accessory.

6. BATTERY INFORMATION

Note: A new battery's full performance is achieved only after two or three complete charge and discharge cycles! The battery can be charged and discharged hundreds of times but it will eventually wear out.

When the operating time (talk-time and standby time) is noticeably shorter than normal, it is time to buy a new battery. Use only batteries approved by the phone manufacturer and recharge the battery only with the chargers approved by the manufacturer.

Unplug the charger when not in use. Do not leave the battery connected to a charger for longer than a week, since overcharging may shorten its lifetime.

If left unused a fully charged battery will discharge itself over time. Temperature extremes can affect the ability of your battery to charge.

For good operation times with Ni-Cd/NiMH batteries, discharge the battery from time to time by leaving the product switched on until it turns itself off (or by using the battery discharge facility of any approved accessory available for the product).

Do not attempt to discharge the battery by any other means. Use the battery only for its intended purpose.

Never use any charger or battery which is damaged.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery) for example when you carry a spare battery in your pocket or purse. Short-circuiting the terminals may damage the battery or the connecting object.

Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Batteries' performance is particularly limited in temperatures well below freezing.

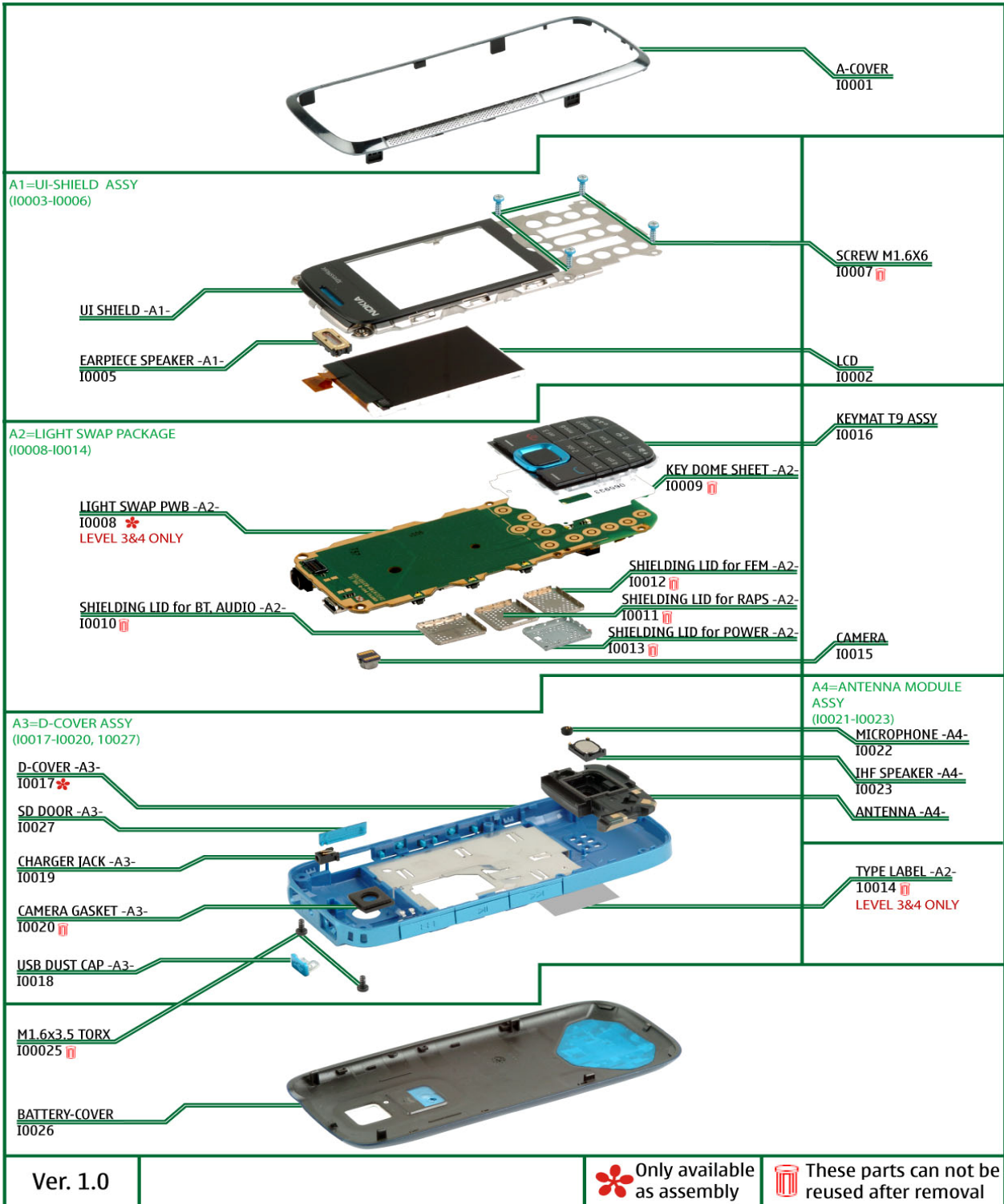
Do not dispose batteries in a fire! Dispose of batteries according to local regulations (e.g. recycling).

Do not dispose as household waste.

7. EXPLODED VIEW

See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

5130 RM-495 EXPLODED VIEW



Ver. 1.0

Only available as assembly

These parts can not be reused after removal

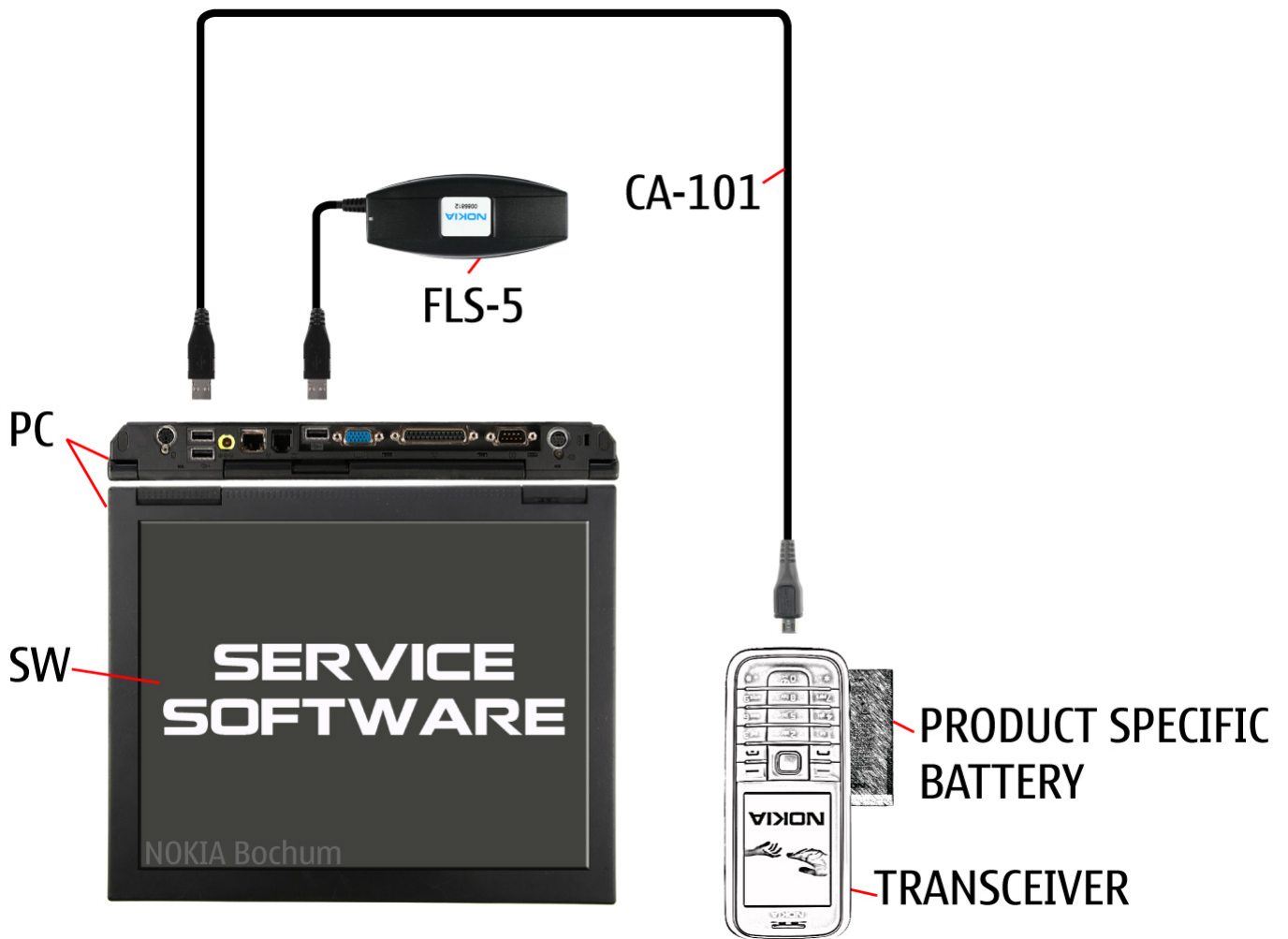
8. SERVICE DEVICES

<p>FLS-5</p>  <p>FLS-5 Flash device</p>	<p>BL-5C</p>  <p>BL-5C Battery</p>	<p>RJ-230</p>  <p>RJ-230 Universal soldering jig</p>
 <p>AC-3 Travel charger (AC-6C & CA-100c for China)</p>	 <p>CA-101 100cm</p> <p>CA-101 D Service cable</p>	
<p>SS-88</p>  <p>SS-88 Camera removal tool</p>		<p>NOKIA Standard Toolkit V2</p>  <p>NMP Standard Toolkit (v2) For more information, refer to the Service Bulletin (SB-011) on NOKIA Online. Supplier or manufacturer contacts for tool re-order can be found in "Recommended service equipment" document on NOKIA Online.</p>

9. SW UPDATE

Flash concept – (Point of Sales)

To use the FLS-5 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.



10. DISASSEMBLY INSTRUCTION



1. Slide the battery cover back.



2. Remove the battery cover.



3. Lift and remove the battery.



4. Remove 2ea. #6 TORX screws (black).



5. Use the dental tool to remove the screws.



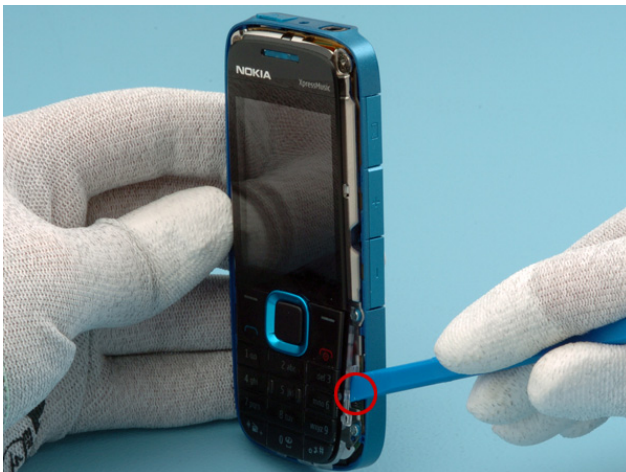
6. Release 4 clips to release the A-cover.



7. Carefully wedge the SS-93 tool under the edge of the A-cover and work carefully around the A-cover.



8. Remove carefully the A-cover.



9. Release the clips on both sides of the keymat. Use the SS-93 tool and insert it from the right side first.



10. Remove the keymat.



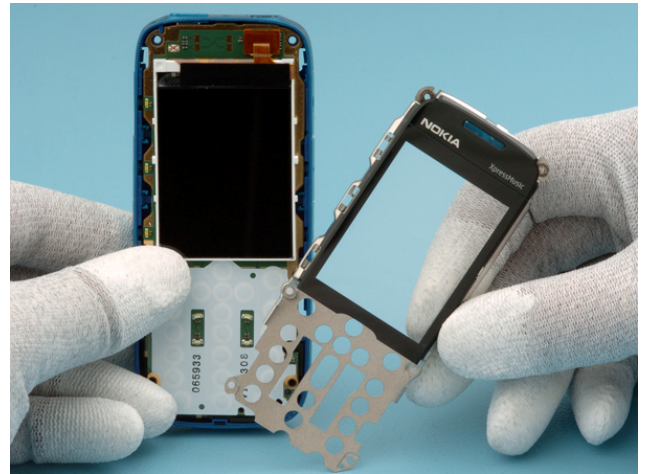
11. Remove 4ea. #6 TORX screws (silver).



12. Use the dental tool to remove the screws.



13. Release the clips holding the UI shield. Use the SS-93 tool and start on any side.



14. Remove the UI shield.



15. Lift and pull back slightly the engine module to free the USB connector.



16. Remove the engine module.



17. Remove the USB dust cap. Use the SS-93 tool and push the cap from inside the device.



18. Carefully bend the C-cover slightly backwards with your thumb and lift the back side of the charge jack with tweezers.



19. Remove the charge jack with tweezers.



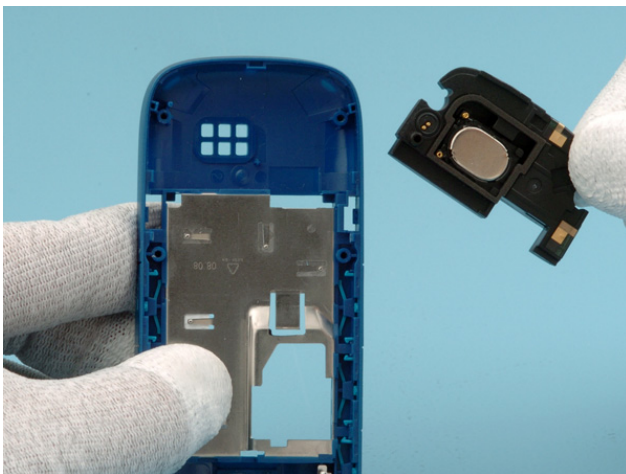
20. Remove the camera gasket as one piece.



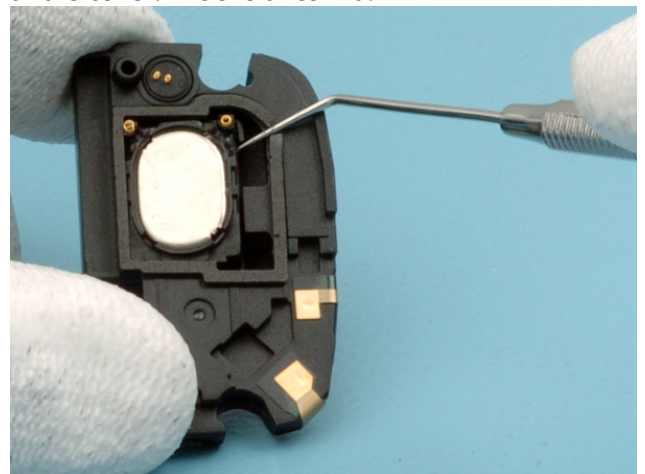
21. Use the dental tool to free the camera gasket.



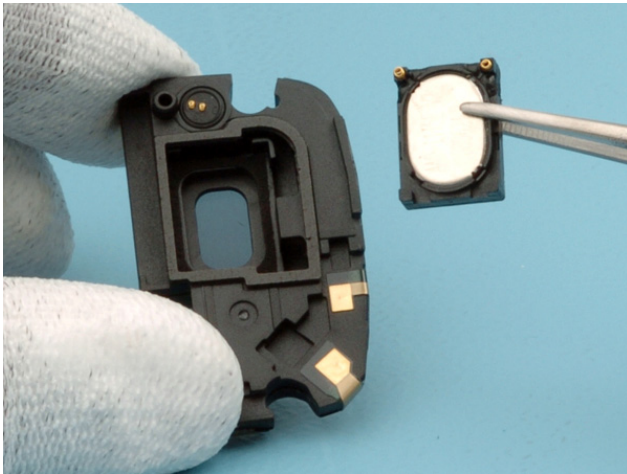
22. Insert the SS-93 tool between the antenna and C-cover. Lift the antenna.



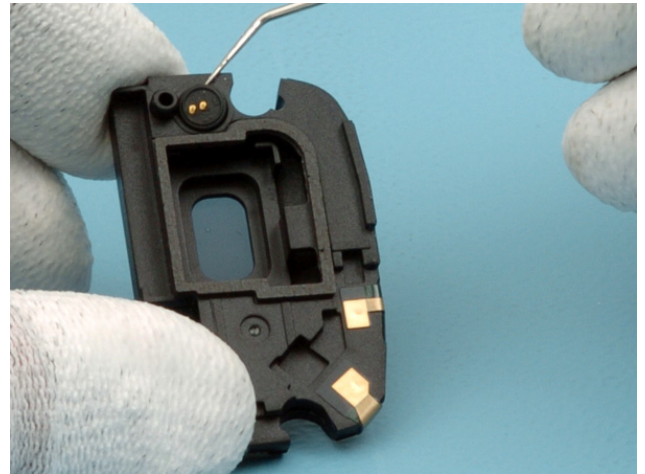
23. Remove the antenna assy.



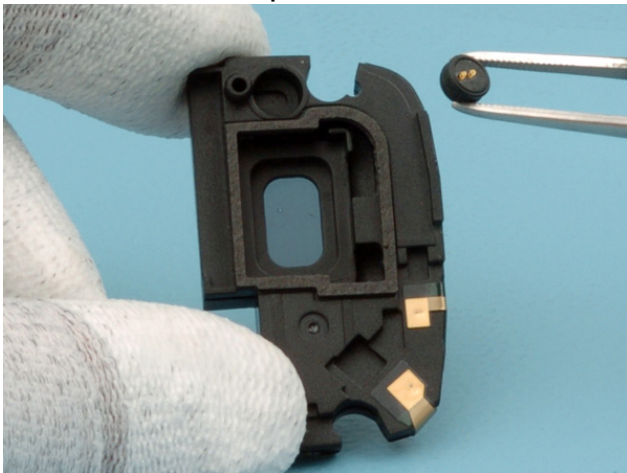
24. Use the dental tool to remove the IHF speaker.



25. Remove the IHF speaker with tweezers.



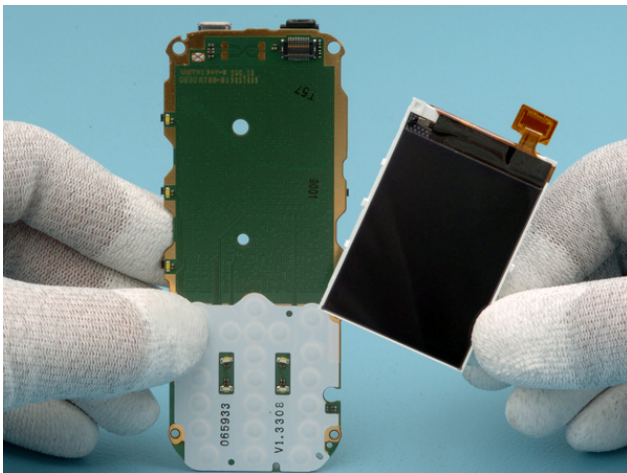
26. Use the dental tool to lift microphone.



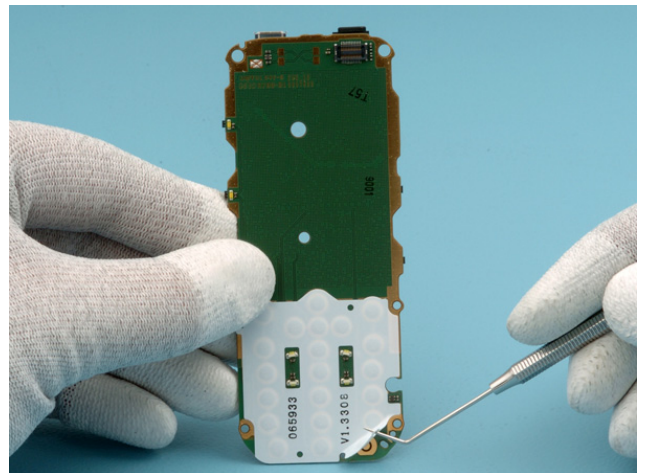
27. Remove the microphone.



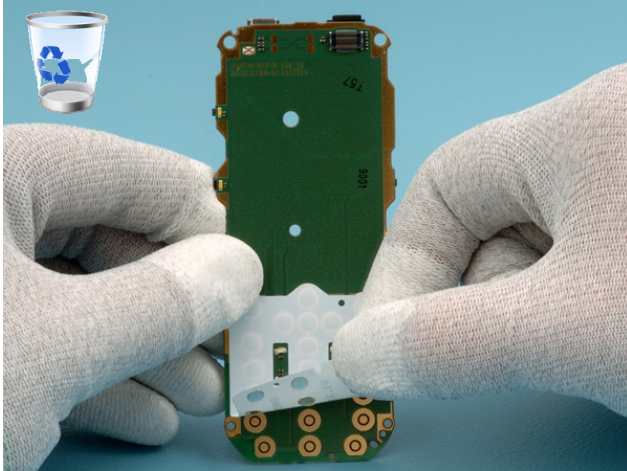
28. Use the SS-93 tool to release the LCD connector.



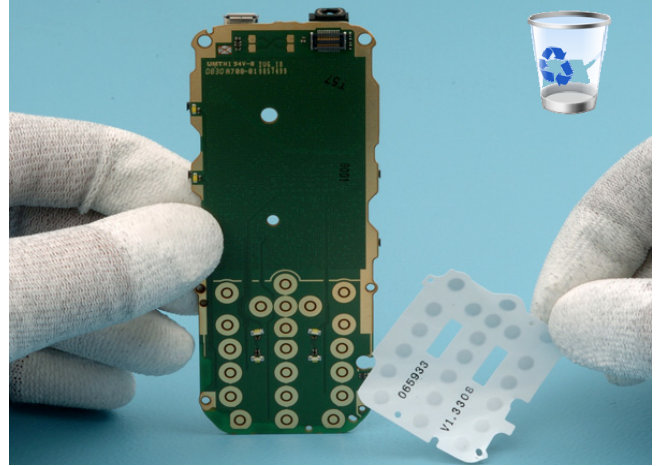
29. Remove the LCD.



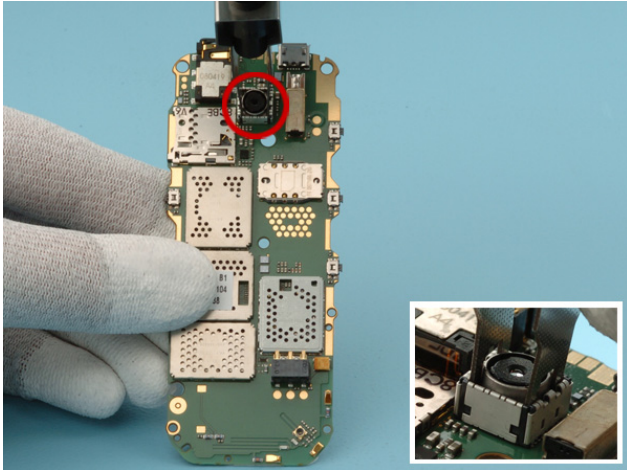
30. Use the dental tool to lift a corner of the dome sheet. Gradually work the dental tool further under the dome sheet until you can get a hold of the sheet with your fingers.



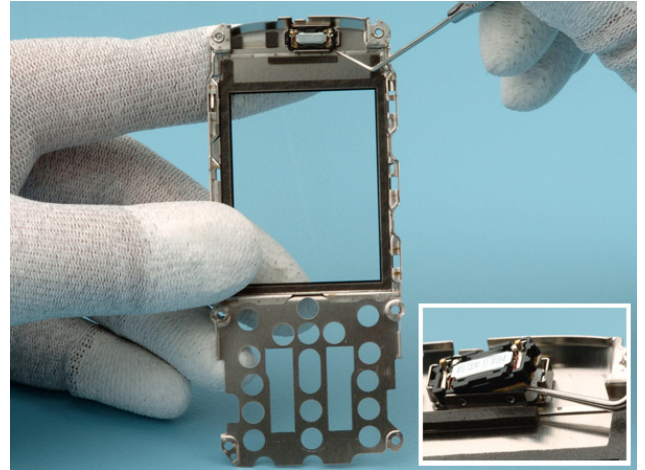
31. Peel back the dome sheet by hand.



32. Remove the dome sheet by hand.



33. Remove the camera with the SS-88 tool.

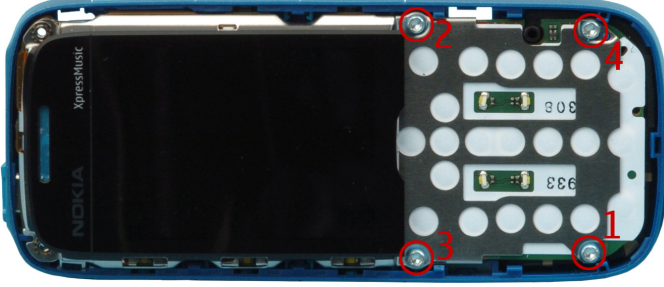
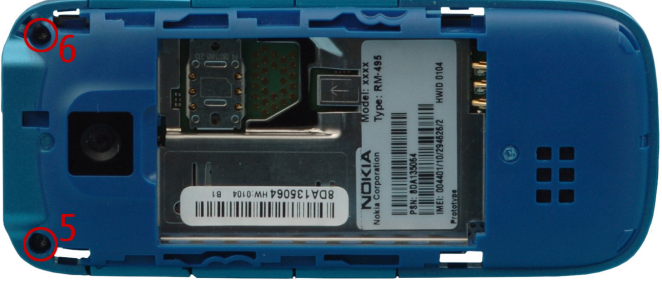


34. Use the dental tool to lift the earpiece speaker.



35. Remove the earpiece speaker with tweezers. End of disassembly.

11. ASSEMBLY HINTS

 <p>The image shows the internal battery compartment of the Nokia 5130 XpressMusic RM-495 / RM-496. Four screws are highlighted with red circles and numbered 1, 2, 3, and 4. Screw 1 is at the bottom right, screw 2 is at the top right, screw 3 is at the bottom left, and screw 4 is at the top left. The battery compartment contains two battery cells with serial numbers 803 and 933.</p>	 <p>The image shows the external view of the Nokia 5130 XpressMusic RM-495 / RM-496 with the battery compartment open. Two screws are highlighted with red circles and numbered 5 and 6. Screw 5 is at the bottom left, and screw 6 is at the top left. The battery compartment contains a battery with a label that includes the model number RM-495, the serial number 8DA13664 HW 0104 81, and the Nokia logo.</p>
<p>1) Tighten the screws to the torque of 17 Ncm in the order shown.</p>	<p>2) Tighten the screws to the torque of 20 Ncm in the order shown.</p>

12. SOLDER COMPONENTS

5130 XpressMusic RM-495 RM-496 Components overview

Solder components only for Level 2

