Installation Instruction, SP/Mechanical

Applicable for T630/T628

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1 Abstract

This document describes the installation procedure for the SP/Mechanical repair package.

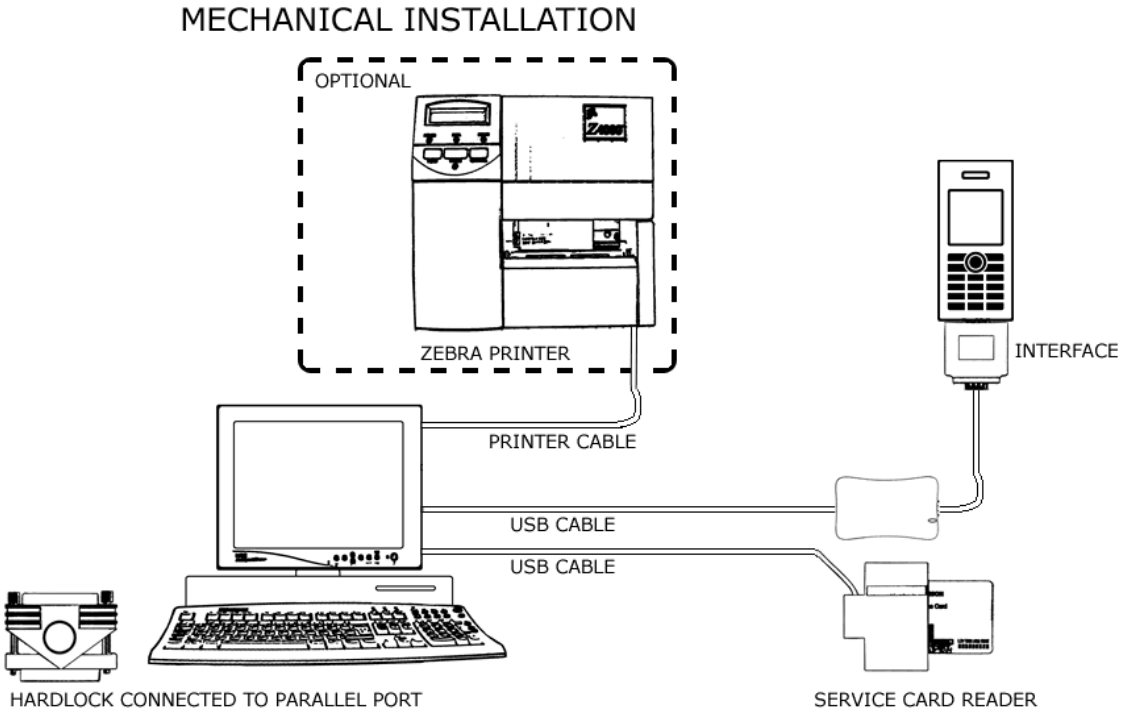
2 General

The Mechanical repair package consists of a Computer and Interface Cables. A Hardlock and a Service Card are required for security reasons. A label printer can be installed to be able to print new labels (optional).

3 Hardware

All hardware must be approved by Sony Ericsson and is documented in the Equipment List.

3.1 Test Setup



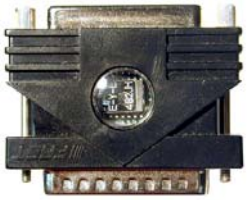
*The equipment in this picture is specified in the Equipment List.

3.2 Computer

IBM compatible computer with Windows 98, Windows XP or Windows 2000 installed. The computer should include at least two USB-ports.

3.3 Hardlock

Hardlock with article number KRY 105 165 is required. The Hardlock should be connected to the parallel port on the computer.



3.4 Service Card Reader

The Service Card Reader is delivered with the necessary software and instructions for installation. The Service Card Reader should be connected to an USB-port on the computer.

Service Card

Service Card Reader

3.5 SonyEricsson programming interface - SEPI

The USB programming interface is delivered with the necessary software and instruction for installation. The USB programming interface should be connected to an USB-port on the computer.

3.6 SonyEricsson interface – SEPI

The cable is the interface between the USB programming interface and the phone.

3.7 USB PC cable

The A-B Plug-Plug cable is the interface between the computer and the USB interface. Connect the cable between the USB programming interface and the computer.

3.8 Infrared Device

A Jet-Eye, inbuilt Infrared on laptop or other Infrared device can be used to verify the Infrared function in the phone. Install the chosen equipment according to the installation instruction from the manufacture.

3.9 Bluetooth Device

Any Bluetooth device as headset, other Bluetooth phone or other Bluetooth device can be used to verify the Bluetooth function in the phone. Set up the connection according to the chosen equipments manufacture.

3.10 Label Printer (optional)

A Zebra printer model 90xi, 90xiII or 4000 deluxe shall be used. Connect the printer with a standard RS 232 serial printer cable [refer to the Zebra printer manual] to the serial port on the computer. Read the Zebra installation manual for more information about the installation.

4 Software

4.1 EMMA II

EMMA II contains all software required to service the product. Installation and user manuals are available in the EMMA II start page.

http://emma.extranet.sonyericsson.com

4.2 Labelmake software (optional)

Download the Labelmake software from CSPN. Unzip the file and run the setup.exe and follow the instructions. Read the file README.txt under C:\Program Files\Ericsson\Labelmake and follow the instructions. Start the program by selecting Labelmake in your Windows START-menu.

This product is using labels from the EU-database. To add the latest Database from CSPN, download the latest file and run the Setup.exe and follow the instructions.

http://cspn.extranet.sonyericsson.com

5 Revision History

Rev.	Date	Changes / Comments
A	2003-11-17	First release

Test Instruction, SP/Mechanical

Applicable for T630/T628

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1 Abstract

This document describes the test procedure for the SP/Mechanical repair package.

2 Test Procedure

To verify all components within the SP/Mechanical repair package, all tests must be performed.

3 Test flow

If the unit is passing these steps of testing without any failures,
it is OK to return it to the customer.

If there are any failures, the phone must be repaired according to the troubleshooting guide or sent to a higher repair level.

3.1 Software Update

Update to latest signalling software and run the service activities software from EMMA II.

3.1.1 Verify Software Version

To verify if the phone needs new software, you have to check the Software Version in the phone. Current Software Versions are checked through the following steps:

1. Start the phone.
2. Press the following navigation-key and keyboard sequence: ⇨✶⇦⇦✶⇦✶
3. Select Service info.
4. Select SW Information.
5. Check the software file revisions on the display.
6. Press OK to return to the Service info menu.

3.1.2 Update Software Version

Update the software in the phone by doing the following steps:

1. Make assure that the phone's battery is fully charged or use a Dummy battery. Connect correct flash cable and interface according to the Installation instruction.
2. Connect to the EMMA II server, choose application "GSM" and follow the instructions.

3.2 Service Settings

Start the phone.
Note: It is not necessary to have a SIM card inserted.

The Service Settings menu is entered using the following navigation-key and key sequence: ⇨✶⇦⇦✶⇦✶ and select “Service Settings”.

3.2.1 Contrast

To adjust the contrast:

1. Make assure that the contrast setting in the display menu (in the user MMI) is set to 0.
2. Select “Contrast” from the “Service Settings”.
3. Adjust the contrast with the navigation-key.
4. Press save and you will return to the Main menu.

3.3 Service Tests

Start the phone.
Note: It is not necessary to have a SIM card inserted.

The Service Tests menu is entered using the following navigation-key and key sequence: ⇨✶⇦⇦✶⇦✶ and select “Service Tests”.

3.3.1 Display Test

To verify the display:

1. Select “Display” from the “Service Tests” menu.
2. The display toggles between four different test patterns.
   Make sure that there are no dots missing and that the colours and contrast is OK.
3. Press the “⮌” key to go back to the service tests menu.

3.3.2 Camera Test

To verify the camera functionality:

1. Select Camera from the “Service Tests” menu.
2. The camera function will now starts and are visible in the display. Make sure that the contrast and light is OK.
3. Press the “⮌” key to go back to the service tests menu.

3.3.3 LED/Illumination Test

To verify that the backlight and the Top LED´s are OK:

1. Select “LED/illumination” from the “Service Tests” menu.
2. Check that the backlight is toggle between on and off, and that the LED in the navigation-key toggles between “red” and “off”.
3. Press the “Ok” key to go back to the service tests menu.

3.3.4 Keyboard Test

To verify that the keyboard, the navigation-key and the volume key are OK:

1. Select “Keyboard” from the “Service Tests”.
2. Press all keys on the keypad, the camera and the volume keys on the right side and the Online key on the left side. If they are ok a text feedback is displayed showing the information which key was pressed. All keys should be tested. On/Off button is not included in the test; functionality is secured if the phone can be switched on/off.
3. If you stop pressing keys the phone will return to the service test menu after 3 seconds.

3.3.5 Polyphonic Ring signal Test

To verify the Polyphonic Ring signal function:

1. Select Polyphonic from the Service Tests menu.
2. Adjust the volume with the navigation-key and then press “Ok” to go back to the service test menu.

3.3.6 Vibrator Test

To verify the vibrator function:

1. Select “Vibrate” from the “Service Tests” menu.
2. Press any key and the vibrator will vibrate 3 times.
3. Press the “Ok” key to go back to the service tests menu.

3.3.7 Earphone Test

The earphone is tested using DTMF tones.

1. Select “Earphone” from the “Service Tests” menu.
2. Press a numeric key and check that you get a tone in the earphone.
3. Press the “Ok” key to go back to the service tests menu.

3.3.8 Microphone Test

This test is intended to test the microphone. Therefore, the earphone should be tested before this test is entered.

1. Select “Microphone” from the “Service Tests” menu.
2. Check that every sound that is going into the microphone can be instantly heard in the earphone.
3. Press the “Ok” key to go back to the service tests menu.

3.3.9 Real Time Clock Test

This test will check if the built in real time clock works.

1. Select “Real time clock” from the “Service Tests” menu.
   After approximately 5 seconds you will get information whether the clock is ok or not.
2. Press the “⮌” key to go back to the service tests menu.

3.4 Manual Tests

3.4.1 On The Air Call To Mobile

To verify the function of the earphone, microphone, buzzer, volumes button and radio:

1. Insert an operator SIM card and start the phone.
2. Set up a call from a landline phone (PSTN) to the mobile phone.
3. Answer the phone call.
4. Check that the polyphonic ring signal is working and that the backlight switches on OK.
5. Also check that the quality of the sound both in the mobile phone and the land-connected phone (PSTN) are OK.
6. Press the volume key up and down and check that the volume in the phone is altered.
7. End the call.
8. Check that the ending procedure is OK and that the speech time is displayed.

3.4.2 Infrared Test

To verify that the Infrared communication is working:

1. Insert a SIM card, connect a battery and start the unit.
2. Activate the function by entering Connectivity/Infrared port and select “10 minutes”.
3. Set up an infrared link between an IR device and the phone. The IR-module is placed in the top of the phone. If a link can be established, the module is considered working.

3.4.3 Bluetooth Test

To verify that the Bluetooth communication is working:

1. Insert a SIM card, connect a battery and start the unit.
2. Activate the Bluetooth function by entering Connectivity/Bluetooth and turn it on.
3. Set up a link between the phone and another Bluetooth compatible device. If a connection can be established the Bluetooth module is considered working.

3.4.4 System Connector Test

Hands free equipment and a charger are used in this test, to check the functionality of the System Connector.

1. Insert a SIM card, connect a battery and start the unit.
2. Connect the Hands free equipment to the system connector and set up a call and listen if you can speak/hear in the hands free set.
3. Connect the charger to the system connector and see if the phone starts to charge and if the charging is indicated in the display.

4 Revision History

Rev.	Date	Changes / Comments
A	2003-11-18	First release

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Applicable for T630/T628

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1 Disassembly

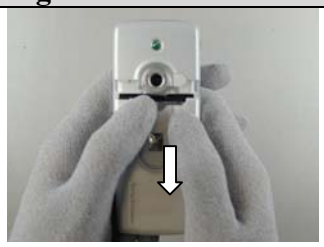
Process Tools

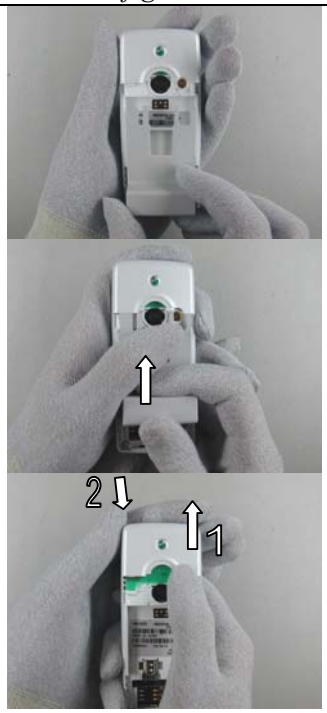
- Torque screwdriver, torx no.6 set to 20 Ncm.
- Blunt Pair of tweezers
- Antenna Cover Opener NTZ 112 520
- Flex film Assembly Tool NTZ 112 521
- Front opening tool NTZ 112 302

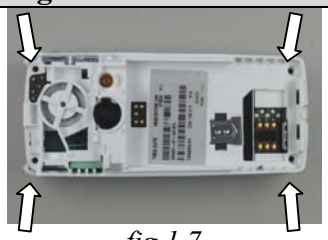
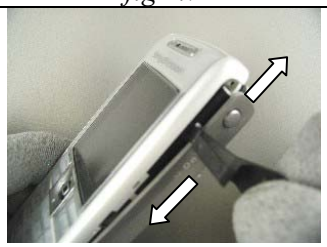
Equipment

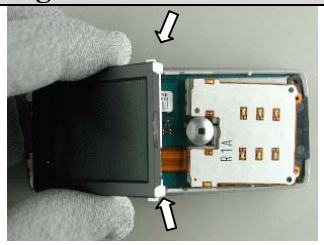
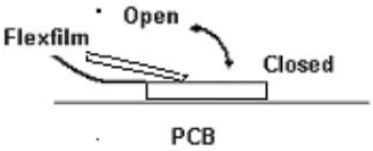
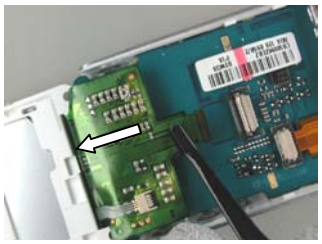
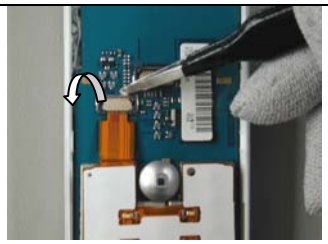
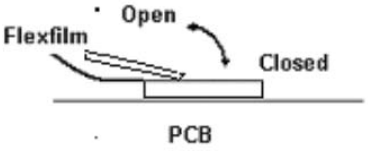
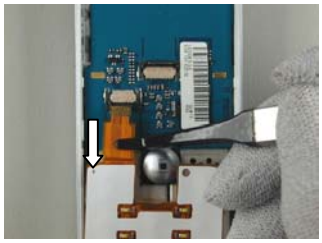
- ESD-gloves (cotton gloves)
- ESD-wristband

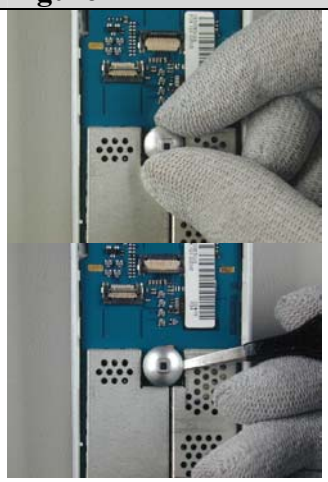
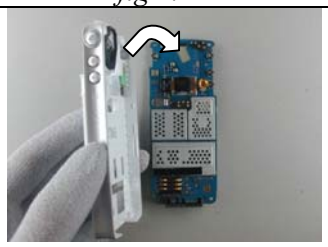
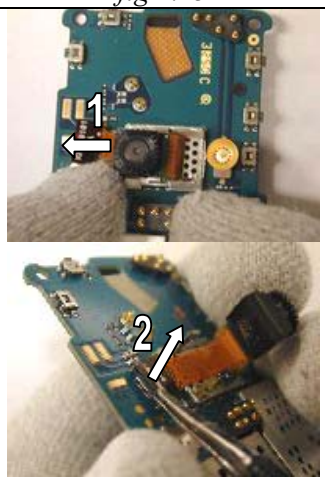
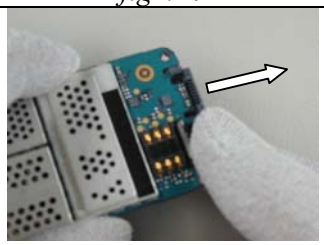
Instructions

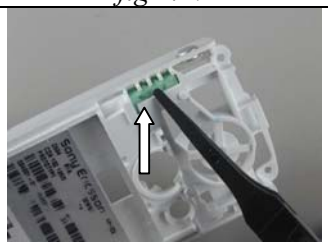
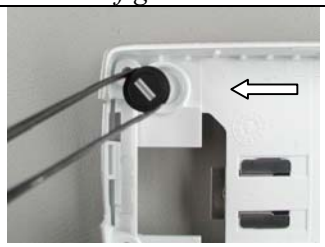
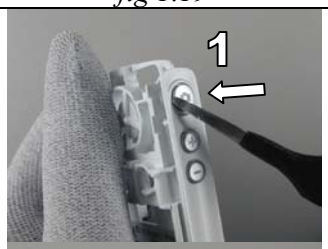
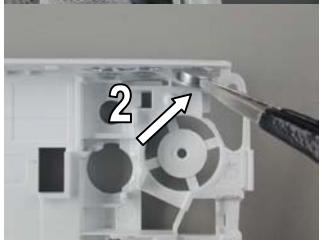
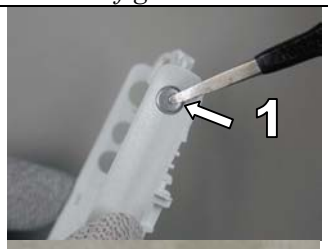
#	Figure	Instruction	Note
1	 *fig 1.1*	Remove the battery cover with your fingers. Slide the battery cover down. (*fig 1.1)*	
2	 *fig 1.2*	Remove the battery from the phone by overturn the phone. *(fig 1.2)*	
3	 *fig 1.3*	Remove the rubber plug, for the external antenna, with a pair of tweezers. (*fig 1.3)*	

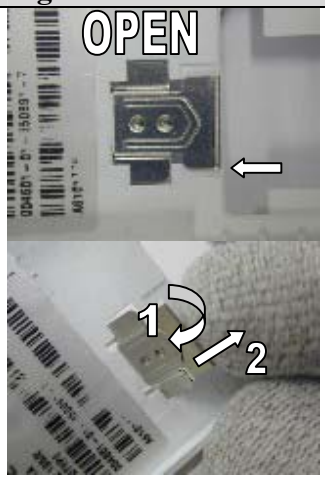
#	Figure	Instruction	Note
4	 *fig 1.4*	Remove the camera ring by using the front opening tool. Place the tool under the camera ring in the arrow direction Turn the tool in the arrow direction until a click sound is heard. Remove the camera ring. *(fig 1.4)*	
5	 *fig 1.5*	Remove the antenna cover. Use the Antenna Cover Opening tool. Push the tool inside the battery cavity in the arrow direction until it contacts the battery cavity wall. The cover should only be pushed until the snap lock is released and a "click" sound is heard. Remove the antenna cover, with your fingers, in the arrow (1) direction. The on/off key sometimes falls out when the antenna cover is removed. The arrow (2) shows the on/off key location. *(fig 1.5)*	Be careful not to damage the close clips on the antenna cover with the antenna cover opening tool. If you damage it you must replace the antenna cover.
6	 *fig 1.6*	Remove the antenna assembly by using the front opening tool NTZ 112 302. *(fig 1.6)*	Place the thumb on the antenna assembly at the left side to release the assembly in a controlled way.

#	Figure	Instruction	Note
7	 *fig 1.7*	Remove the 4 screws. *(fig 1.7)*	Removed screws can not be reused and must be scrapped.
8	 *fig 1.8*	Open the phone with the front opening tool. Begin as the picture shows. If necessary gently move the tool along the gap both ways until the latch on the inside is loose. If necessary do the same thing on the other side. (*fig 1.8*)	Be careful not to scratch the phone with the front opening tool.
9	 *fig 1.9*	Remove the keyboard with your fingers. (*fig1.9)*	

#	Figure	Instruction	Note
10		Lift the display with your fingers. You may have to loose the latches at the arrows.	Do not touch the display-glass with your fingers
		Remove the ZIF tape with the help of a pair of tweezers.	
		Open the ZIF-connector, connected to the display, with a pair of tweezers.	Be careful not to damage the ZIF-connector.
			
		Remove the Flex film from the ZIF-connector with the flex-film-assembly tool. (*fig 1.10*)	Use the correct pair of tweezers !!
	fig 1.10		
11		Open the ZIF-connector, connected to the dome foil assembly, with a pair of tweezers.	Be careful not to damage the ZIF-connector.
			
		Remove the Flex film from the ZIF-connector with the flex film assembly tool. (*fig 1.11*)	Use the correct pair of tweezers !!
	fig 1.11		

#	Figure	Instruction	Note
12	 *fig 1.12*	Remove the joystick button with your fingers. If necessary use a pair of tweezers. Put the tweezers under the joystick button and press gently upwards. (*fig 1.12*)	The Joystick may be a little bit tight fitted to the switch. Be careful not to damage the button, gasket and PCB when using a pair of tweezers.
13	 *fig 1.13*	Release the PCB from the frame cavity by overturn the frame. *(fig 1.13)*	
14	 *fig1.14*	Tilt the camera and remove it from the camera holder by sliding it gently with your fingers in the arrow (1) direction. Lift the camera board to board connector (2) gently with a pair of tweezers. *(fig 1.14)*	Be careful not to damage the camera holder or camera flexfilm when removing the camera. Be careful not to damage the components on the PCB when using the pair of tweezers.
15	 *fig 1.15*	Remove the system connector from the board with your fingers. *(fig 1.15)*	
16	 *fig 1.16*	Remove the speaker gasket. Use a pair of tweezers. *(fig 1.16)*	Removed speaker gasket can not be reused and must be scrapped. Do not touch the contact pads on the speaker with your fingers.

#	Figure	Instruction	Note
17	 *fig 1.17*	Pick up the speaker from the frame cavity with a pair of tweezers. *(fig 1.17)*	Do not touch the contact pads on the speaker with your fingers.
18	 *fig 1.18*	Remove the vibrator by pushing it from the rear end of the frame with a pair of tweezers. *(fig 1.18)*	Do not touch or damage the vibrator contact springs.
19	 *fig 1.19*	Pick up the microphone from the frame with a pair of tweezers. *(fig 1.19)*	Do not touch the elastomer with your fingers.
20	  *fig 1.20*	Gently push the camera key and the two volume keys in from the outside (1). Pick it up on the inside with a pair of tweezers (2). *(fig 1.20)*	Be gentle! Keys might be cosmetically damaged if pushing to hard (1). The rubber can be damaged when picking it up (2)
21	  *fig 1.21*	Remove the internet access key by gently pushing it in from the outside (1). Pick it up on the inside with a pair of tweezers (2). *(fig 1.21)*	Be gentle! The rubber can be damaged when picking it up (2)

#	Figure	Instruction	Note
22	 *fig 1.22*	Remove the Sim lock lid with your fingers by first open it. Lift it up (1) and then pull it backwards (2). (*fig 1.22)*	

2 Reassembly

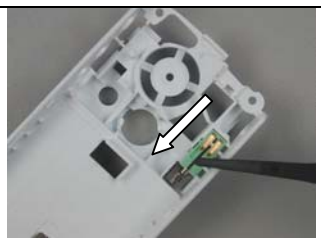
Process Tools

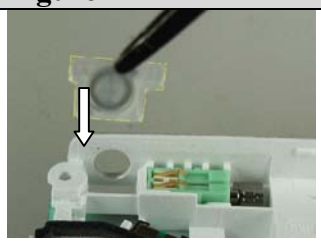
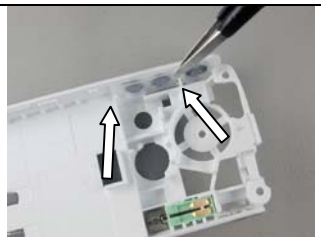
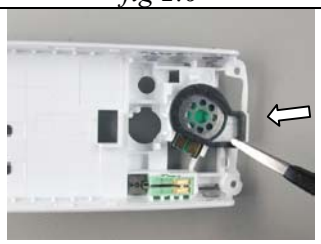
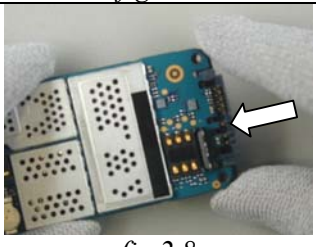
- Torque screwdriver, torx no.6 set to 20 Ncm.
- Blunt Pair of tweezers.
- Flex film Assembly Tool NTZ 112 521
- Camera gasket assembly tool NTZ 112 507

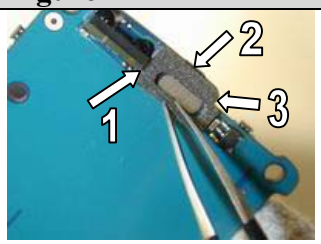
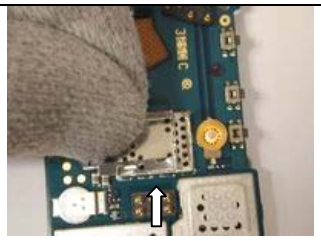
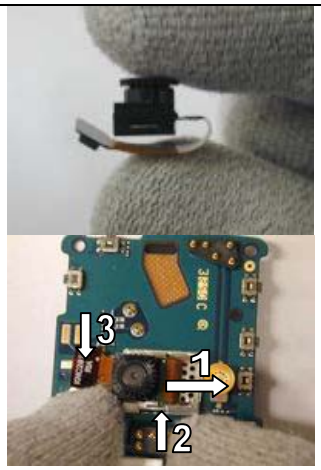
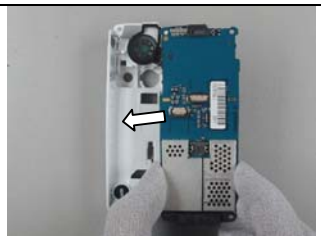
Equipment

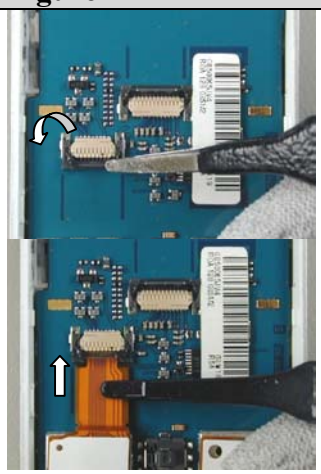
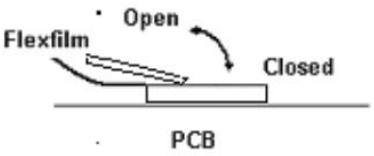
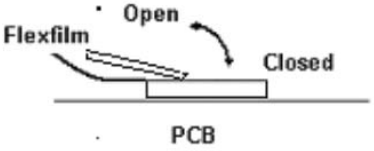
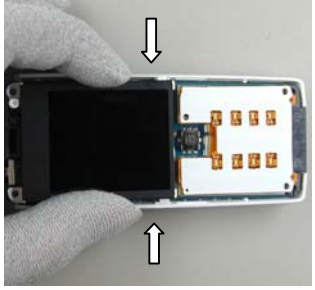
- ESD-gloves (cotton gloves)
- ESD-wristband

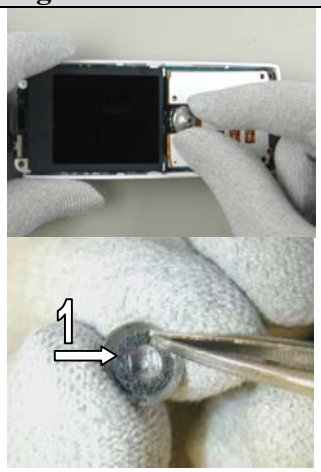
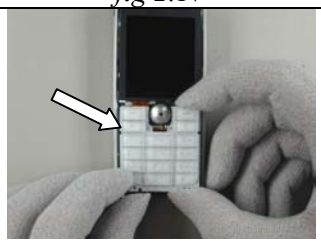
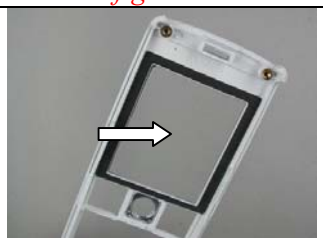
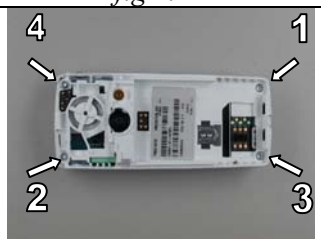
Instructions

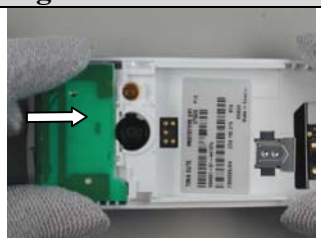
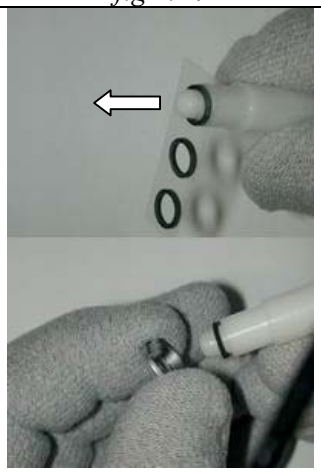
#	Figure	Instruction	Note
1	 *fig 2.1*	Put the SIM-lock lid into the frame cavity (1) flip it down (2) and lock it (3). (*fig 2.1)*	
2	 *fig 2.2*	Mount the vibrator with a pair of tweezers. Push it gently down, with the contact springs up, into the frame cavity with the flywheel in the arrow direction. (*fig 2.2*)	Do not touch or damage the vibrator contact springs.

#	Figure	Instruction	Note
3	 *fig 2.3*	Mount the internet access key with the narrow side down. Use a pair of tweezers. The rubber mat extended must be tight attached to the cavity walls. (*fig 2.3*)	Be careful not to damage the rubber with the pair of tweezers.
4	 *fig 2.4*	Mount the volume/camera key with a pair of tweezers. The rubber mat extended must be fitted behind the support pegs at the arrows. (*fig 2.4*)	Make sure that the volume/camera key rubber has contact with the frame cavity walls. Be careful not to damage the rubber with the pair of tweezers.
5	 *fig 2.5*	Put the microphone in its place with a pair of tweezers. The microphone does not have to be mounted in any special direction. Assure that the elastomer is pointing upwards. *(fig 2.5)*	Do not touch the elastomer with your fingers but make sure the elastomer is pointing upwards.
6	 *fig 2.6*	Pick up the speaker with the flex film assembly tool and mount the speaker in the frame cavity. *(fig 2.6)*	The contact pads on the speaker must be mounted upwards. Do not contaminate the speaker contact pads.
7	 *fig 2.7*	Mount the speaker gasket over the speaker. The gasket shall not cover the contact pads or speaker cavity edge at the arrow. (*fig 2.7)*	
8	 *fig 2.8*	Mount the system connector on the PCB with your fingers. Push it on in the arrow direction (*fig 2.8)*	The system connector will be straight and parallel to the bottom line of the PCB. Incorrect mounted the connector can cause damage to the small components close to the PCB bottom line.

#	Figure	Instruction	Note
9	 *fig 2.9*	Mount the sound channel gasket on the PCB with a pair of tweezers. Use the IRDA sidewall (1), the PCB edge (2) and the PCB cut (3) to place it in the correct position. *(fig 2.9)*	
10	 *fig 2.10*	Mount the camera holder over the shielding can, with your fingers. Snap fit the holder centred over the shielding can and make sure that the camera stop pin (arrow) is correctly oriented. *(fig 2.10)*	The camera holder has normally not been removed in disassembly. This is only to be done if the camera holder has been removed by accident.
11	 *fig 2.11*	Pick up the camera with your fingers. The flex film on the camera must be folded under the camera. Push the camera into the camera holder (1) and use the camera holder stop pins (2) for the correct position. Snap fit the camera flex film (3) onto the board to board connector with your fingers. *(fig 2.11)*	
12	 *fig 2.12*	Place the PCB in the frame cavity. Start by putting the volume and camera switch side into frame cavity and then lay the PCB down. *(fig 2.12)*	Make sure that the switches on the PCB are in contact with the camera/volume key. Check also that the switch for internet is in contact with the internet key.

#	Figure	Instruction	Note
13	 *fig 2.13*	Open the dome foil assembly ZIF connector.  Take a dome foil assembly and mount it in the ZIF connector. Push it into the ZIF connector with the flex film assembly tool. It is in the correct position when the edge is tight to the connector. Close the connector with a pair of tweezers. (*fig 2.13*)	Be careful not to damage the flex film with the flex film assembly tool. Make sure the ZIF connector is properly closed. When the connector is closed a gap between the flex film edge and the connector is visible.
14	 *fig 2.14*	Open the display ZIF connector.  Mount the flex film into the ZIF connector. Use the flex film assembly tool. Close the connector with a pair of tweezers. *(fig 2.14)*	Make sure the flex film is in the proper position before closing the ZIF connector. Be careful not to damage the flex film with the tool. Make sure that the ZIF connector is properly closed.
15	 *fig 2.15*	Assemble a new ZIF tape over the two ZIF connectors by hand or with a pair of tweezers. *(fig 2.15)*	
16	 *fig 2.16*	Gently press the display edges until the two latches at the arrows locks the display assembly in the proper position with a “click” sound. (*fig 2.16*)	

#	Figure	Instruction	Note
17	 *fig 2.17*	Press the joystick button down onto the square plastic pin on the joystick switch. Make sure the gasket (1) is left on the button *(fig 2.17)*	The button does not have to be oriented in any special direction.
18	 *fig 2.18*	Pick up the keyboard with your fingers and mount it over the dome foil assembly. *(fig 2.18)*	Use the 2 keyboard guiding pins below * and # keys to mount the keyboard in its correct position.
19	 *fig 2.19*	Extra paragraph. *(fig 2.19)*	If you have assembled a new LCD display: Don`t forget to remove the display protection foil with a pair of tweezers before assembling the front (See fig 2.20).
20	 *fig 2.20*	Pick up the front. Make sure that no dust, particles or adhesive remains on the glass. *(fig 2.20)*	
21	 *fig 2.21*	Place the front over the frame. (*fig 2.21*)	Very important: Check for dust inside the phone before assembling the front. Use air blow equipment
22	 *fig 2.22*	Mount the screws, with washers, in the order 1 to 4. *(fig 2.22)*	Use Torque screwdriver torx no 6 set to 20 Ncm Screw until the torque is reached. Removed screws cannot be reused and must be scrapped due to lock tite.

#	Figure	Instruction	Note
23	 *fig 2.23*	Place the antenna assembly on the cavity with your fingers. Then push the antenna assembly in the arrow direction until a click sound is heard. *(fig 2.23)*	Be careful not to damage the pogo pins on the board.
24	 *fig 2.24*	Place the on/off key, with a pair of tweezers, at the top of the antenna cover (1). Slide on the antenna cover over the antenna assembly in the arrow direction (2) Continue to push the antenna cover until it properly fits in it`s right place with a click sound. *(fig 2.24)*	Make sure that the antenna cover has not been damaged when opening the phone. If the close clip or any other part is damaged, the antenna cover must be replaced. Check so the on/off key remains in its right position.
25	 *fig 2.25*	Remove the camera gasket from the carrier tape with the camera gasket tool Mount the gasket in the camera ring with the Camera gasket tool. *(fig 2.25)*	Make sure that the adhesive side is up (in the arrow direction).

#	Figure	Instruction	Note
26	 *fig 2.26*	Place the camera ring as the picture shows. Press with your fingers to fasten the camera ring. (*fig 2.26*)	
27	 *fig 2.27*	Mount the rubber plug for the external antenna connector. (*fig 2.27)*	
28	 *fig 2.28*	Place the battery into the frame cavity like the picture shows. (fig 2.28)	
29	 *fig 2.29*	Slide the battery cover onto the phone. (fig 2.29)	

3 Replacement of Mechanical Parts

3.1 Microphone

3.1.1 Process tools

- Pair of tweezers

3.1.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.1.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.1.1*	Remove the microphone from the frame cavity with a pair of tweezers. *(fig 3.1.1)*	
2	 *fig 3.1.2*	Pick up the new microphone with a pair of tweezers. Mount the microphone in the cavity in the frame. Press the microphone to the bottom of the frame cavity *(fig 3.1.2)*	Do not touch the elastomer. The microphone does not have to be oriented in any special direction except the elastomer that must be pointing upwards

- Assemble the phone as described in *2 Reassembly*

3.2 Vibrator Assembly

3.2.1 Process Tools

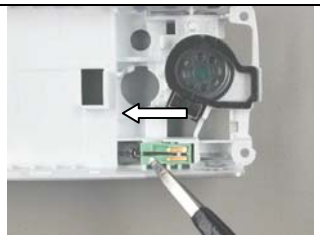
- Pair of tweezers.

3.2.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.2.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.2.1*	Remove the vibrator. Use a pair of tweezers. *(fig 3.2.1)*	To remove the vibrator press on it from the rear side of the frame
2		Take a new vibrator.	Hold the vibrator on the rubber parts.
3	 *fig 3.2.2*	Mount the vibrator in the frame cavity with a pair of tweezers. *(fig 3.2.2)*	Do not touch or damage the vibrator contact springs. The flywheel shall be in the arrow direction

- Assemble the phone as described in *2 Reassembly*

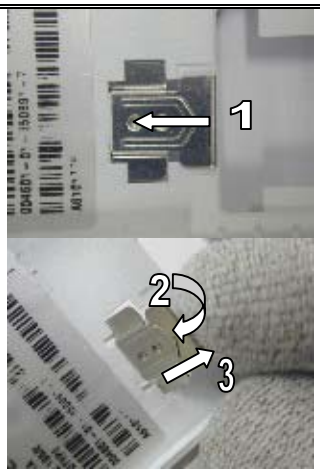
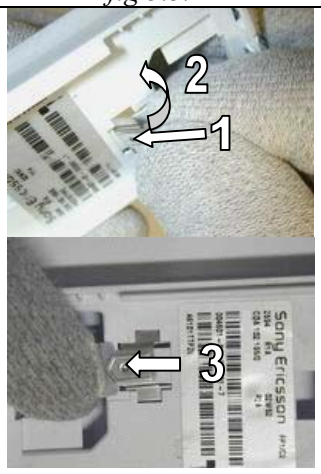
3.3 SIM-lock lid

3.3.1 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.3.2 Instructions

- Disassemble the phone as described in *1 Disassembly*

1	 *fig 3.3. 1*	Remove the old SIM-lock lid with your fingers by first pushing it in open position (1) Lift it up (2) and pull it backwards (3) (*fig 3.3.1*)	
2	 *fig 3.3.2*	Mount the new SIM-lock lid with your fingers. Put the SIM-lock lid into the frame cavity (1) and push it down (2). Lock the SIM-lock lid by pushing it in the arrow direction (3). *(fig 3.3.2)*	

- Assemble the phone as described in *2 Reassembly*

3.4 Speaker

3.4.1 Process Tools

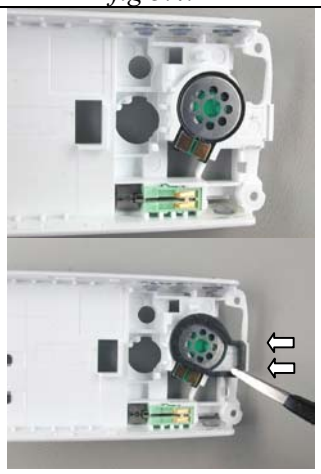
- Pair of tweezers

3.4.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.4.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.4.1*	Remove the speaker gasket with a pair of tweezers. Remove the speaker with a pair of tweezers. (*fig 3.4.1*).	
2	 *fig 3.4.2*	Mount the new speaker in the frame cavity with a pair of tweezers Mount the speaker gasket over the speaker. The gasket shall not cover the contact pads or speaker cavity edge at the arrows. *(fig 3.4.2)*	Do not touch the speaker pads with your fingers.

- Assemble the phone as described in *2 Reassembly*

3.5 Keyboard

3.5.1 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.5.2 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.5.1*	Replace the old keys, with a new set, with your fingers. *(fig 3.5.1)*	Use the 2 keyboard guiding pins below keys * and # to mount the keyboard in its correct position.

- Assemble the phone as described in *2 Reassembly*

3.6 Volume/Camera Key

3.6.1 Process Tools

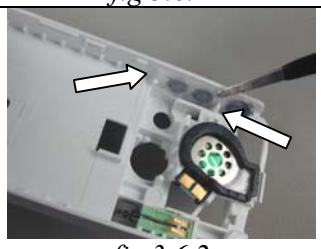
- Pair of tweezers.

3.6.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.6.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.6.1*	Push the camera key and the two volume keys in from the outside (1). Pick it up on the inside with a pair of tweezers (2). *(fig 3.6.1)*	
2	 *fig 3.6.2*	Take a new volume/camera key and mount it in the frame with a pair of tweezers. The rubber mat extend must be fitted behind the support pegs at the arrows. *(fig 3.6.2)*	Make sure that the volume/camera key rubber has contact with the frame cavity walls. Be gentle! The rubber can be damaged when mounting it.

- Assemble the phone as described in *2 Reassembly*

3.7 Internet Access Key

3.7.1 Process tools

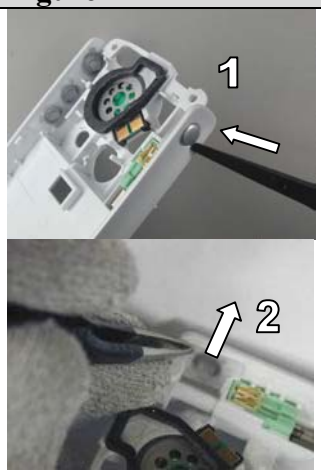
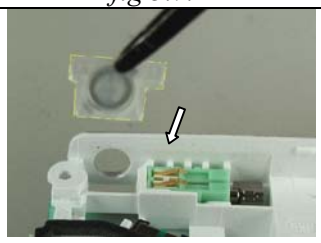
- Pair of tweezers

3.7.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.7.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.7.1*	Remove the internet access key by gently pushing it in from the outside (1). Pick it up on the inside with a pair of tweezers (2). *(fig 3.7.1)*	
3	 *fig 3.7.2*	Mount the new internet access key with a pair of tweezers. The rubber mat extend must be tight attached to the cavity walls. (*fig 3.7.2*)	Be careful not to damage the rubber with the pair of tweezers.

- Assemble the phone as described in *2 Reassembly*

3.8 Sound channel Gasket

3.8.1 Process Tool

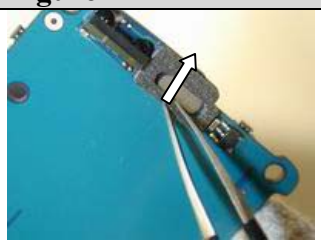
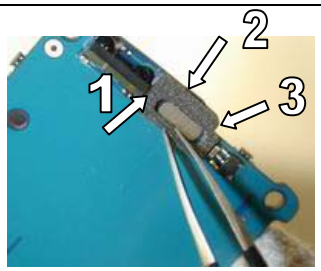
- Pair of tweezers.

3.8.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.8.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.8.1*	Remove the sound channel gasket from the PCB with a pair of tweezers. *(fig 3.8.1)*	Do not reuse the sound channel gasket.
2		Take a new sound channel gasket with a pair of tweezers.	
3	 *fig 3.8.2*	Mount the sound channel gasket onto the PCB. Use the IRDA sidewall (1), the PCB edge (2) and the PCB cut (3) to place it in the proper position. *(fig 3.8.2)*	

- Assemble the phone as described in *2 Reassembly*

3.9 Joystick gasket

3.9.1 Process Tool

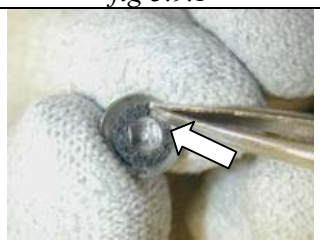
- Pair of tweezers.

3.9.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.9.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.9.1*	Remove the old joystick gasket with a pair of tweezers. The joystick gasket is not always possible to remove in one piece. *(fig 3.9.1)*	Remove all left residues with alcohol.
2	 *fig 3.9.2*	Pick up the new joystick gasket with a pair of tweezers and the joystick with your fingers. Place the gasket in the centre of the joystick button. *(fig 3.9.2)*	

- Assemble the phone as described in *2 Reassembly*

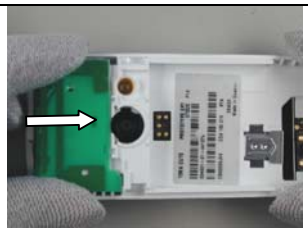
3.10 Antenna assembly

3.10.1 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.10.2 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.10.1*	Remove the antenna assembly by using the front opening tool. (*fig 3.10.1*)	Place the thumb at the left side to release the assembly in a controlled way.
2		Take a new antenna assembly.	
3	 *fig 3.10.2*	Place the antenna assembly on the cavity, with your fingers. Then push the antenna assembly in the arrow direction until a click sound is heard. (*fig 3.10.2*)	Be careful not to damage the pogo pins on the board.

- Assemble the phone as described in *2 Reassembly*

3.11 Dome Foil assembly

3.11.1 Process tool

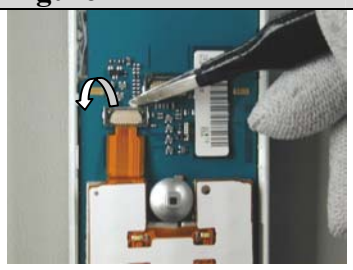
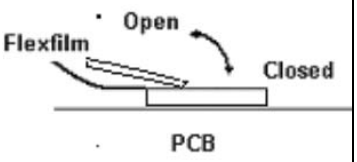
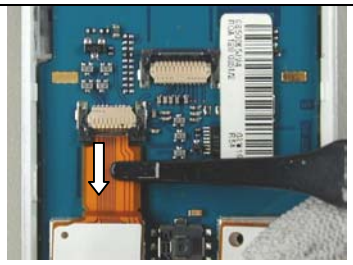
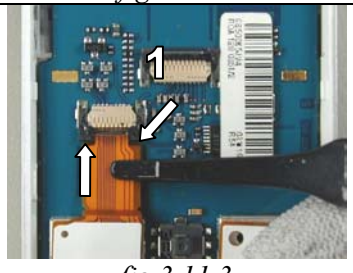
- Blunt Pair of tweezers
- Flexfilm assembly tool NTZ 112 521

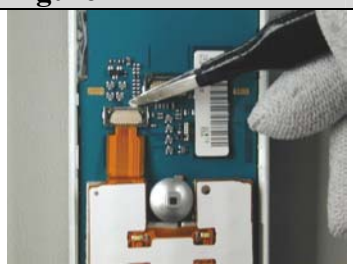
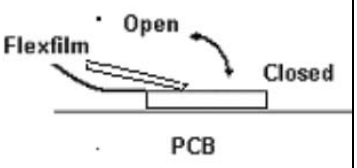
3.11.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.11.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.11.1*	Open the dome foil assembly ZIF connector with a pair of tweezers.  *(fig 3.11.1)*	Be careful not to damage the ZIF-connector.
2	 *fig 3.11.2*	Remove the dome foil assembly with the flex film assembly tool. *(fig 3.11.2)*	
3	 *fig 3.11.3*	Take a new dome foil assembly and mount it in the ZIF connector. Push it into the connector with the flex film assembly tool. It is in the correct position when the edge (1) is tight to the connector. *(fig 3.11.3)*	Be careful not to damage the flex film with the flex film assembly tool.

#	Figure	Instruction	Note
4	 *fig 3.11.4*	Close the ZIF connector with a pair of tweezers.  *(fig 3.11.4)*	When the connector is closed a gap between the flex film edge and the connector is visible.

- Assemble the phone as described in *2 Reassembly*

3.12 Display assembly

3.12.1 Process tool

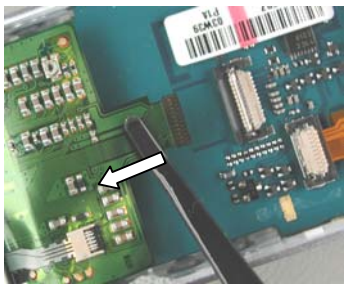
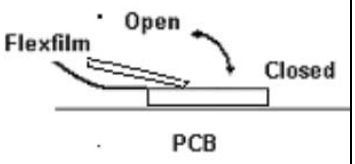
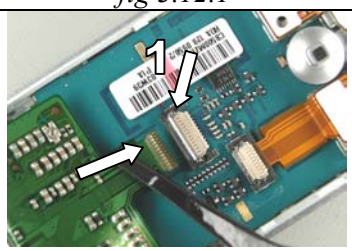
- Blunt Pair of tweezers
- Flex film assembly tool NTZ 112 521

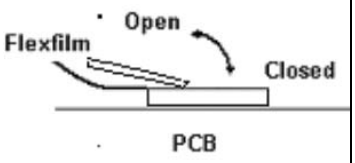
3.12.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.12.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	  *fig 3.12.1*	Lift the display with your fingers. Open the display ZIF-connector with a pair of tweezers.  Remove the Flex film from the ZIF-connector with the flex film assembly tool. *(fig 3.12.1)*	Be careful not to damage the ZIF-connector. Do not touch the display-glass with your fingers. Use the correct pair of tweezers !! Be careful not to damage the flex film with the flex film assembly tool.
2	 *fig 3.12.2*	Take a new display assembly and mount it in the ZIF connector. Push the flex film into the connector with the flex film assembly tool. It is in the correct position when the edge (1) is tight to the connector. *(fig 3.12.2)*	Be careful not to damage the flex film with the flex film assembly tool.

#	Figure	Instruction	Note
3	 *fig 3.12.3*	Close the ZIF connector with a pair of tweezers.  *(fig 3.12.3)*	Be careful not to damage the flex film with the tool. Make sure that the ZIF connector is properly closed.
4	 *fig 3.12.4*	Assemble a new ZIF tape over the two ZIF connectors by hand or with a pair of tweezers. *(fig 3.12.4)*	
5	 *fig 3.12.5*		Don`t forget to remove the LCD display protection foil with a pair of tweezers before reassembling the front.

- Assemble the phone as described in *2 Reassembly*

3.13 Camera ring and camera ring gasket

3.13.1 Process tool

- Front opening tool NTZ 112 302
- Camera gasket tool NTZ 112 507

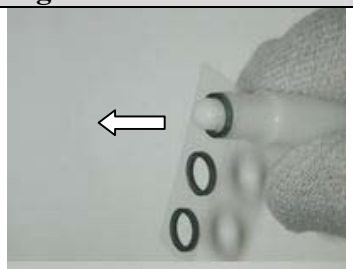
3.13.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.13.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.13.1*	Remove the camera ring by using the front opening tool. Place the tool under the camera ring in the arrow direction Turn the tool in the arrow direction until a click sound is heard. Remove the camera ring. *(fig 3.13.1)*	

#	Figure	Instruction	Note
2	    *fig 3.13.2*	Remove the camera gasket from the carrier tape with the camera gasket tool Mount the camera gasket in the camera ring with the camera gasket tool. Place the camera ring as the picture shows. Press with your fingers to fasten the camera ring. *(fig 3.13.2)*	Make sure that the adhesive side is up (in the arrow direction).

- Assemble the phone as described in *2 Reassembly*

3.14 Front replacement

3.14.1 Process tools

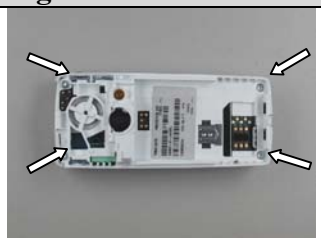
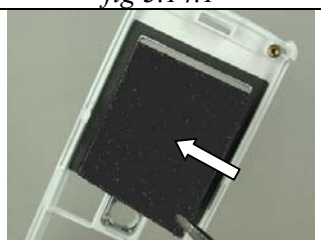
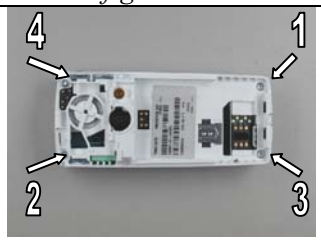
- Pair of tweezers.

3.14.2 Equipment

- ESD-gloves (cotton gloves)
- ESD-wristband

3.14.3 Instructions

- Disassemble the phone as described in *1 Disassembly*

#	Figure	Instruction	Note
1	 *fig 3.14.1*	Remove the four screws at the arrows. *(fig 3.14.1)*	Use screwdriver, torx no 6. Removed screws cannot be reused and must be scrapped
2	 *fig 3.14.2*	Remove the dust gasket, inside the new front, with a pair of tweezers. Make sure no dust, particles or adhesive remains on the glass. *(fig 3.14.2)*	Be careful not to scratch the inside of the window with the pair of tweezers.
4	 *fig 3.14.4*	Place the front over the frame. *(fig 3.14.4)*	Very important: Check for dust inside the phone before assembling the front. Use air blow equipment
5	 *fig 3.14.5*	Mount the screws, with washer, in the order 1 to 4. *(fig 3.14.5)*	Use Torque screwdriver torx no 6 set to 20 Ncm Screw until the torque is reached. Removed screws cannot be reused and must be scrapped.

- Assemble the phone as described in *2 Reassembly*

4. Process Tools for Label

- Hot air blower.
- Pair of tweezers.

4.1 Instructions

This instruction should be used when you intend to exchange an old label and/or mount a new one.

1. Heat up the label with a hot air blower.
2. Carefully remove the label, make sure that all the residue is removed. Do not scratch the frame.
3. Printing: The text must be fully readable visually and through bar code readers.
4. Take the new label and place it in the battery cavity. The label should be centred and parallel to the sides of the cavity.

   NOTE! Make sure there are no air bubbles under the label. Only one label is allowed in the battery cavity.

5 Revision History

Rev.	Date	Changes / Comments
A	2003-11-18	First release

Trouble shooting guide, SP/ Mechanical

Applicable for T630/T628

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1 Explanations

1.1 Service functions in the software

The service menu will be accessed with the following key combination. Use the joystick.

⇒*⇐⇐*⇐*

They are as follows:

Service info

Service settings

Service tests

Text labels

The phones software has a built in service functionality that allows you to test some of the phones functions. *(See point 3 above)* It looks like this:

Display

Camera

LED/illumination

Keyboard

Polyphonic

Vibrator

Earphone

Microphone

Real time clock

Total call time

1.1.1 Reset

The phones´ software has a possibility to reset the language and themes by pressing the following key combinations:

⇐0000⇒ (This combination will reset the language to English and sets the themes to default.)
⇐8888⇒ (This combination will reset the language to automatic and sets the themes to default.)

1.2 Liquid damage

1.2.1 Action

Make a general visual inspection for corrosion or oxidation caused by liquid damage. No further action should be taken for a liquid damaged phone. Handle the unit according to local company or GSP directives.

2 Appearance Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Check the front cover *(Fig. 2.1)*, the battery cover *(Fig. 2.2)*, the frame, *(Fig.23)* and the antenna cover assy *(Fig. 2.2)*, for damage and if the parts fit correctly. Replace faulty components if necessary.
- Check the keyboard *(Fig. 2.4)* for damage, scratches, and if no key number or symbol occurs more than once. Replace it if necessary.
- Check the camera ring *(Fig. 2.5)* for scratches and if it fits correctly. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

Fig. 2.1

Fig. 2.2

Fig. 2.3

Fig. 2.4

Fig. 2.5

3 Alert Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

3.1 Vibrator

- Turn on the phone. Go to the service test menu; choose “Vibrator”. Press any key to check that the vibrator works properly.
- Check if the vibrator pads *(Fig. 3.1)* are dirty or oxidized. Clean them if necessary.
- Check if the vibrator *(Fig. 3.2)* is mechanically damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, handle the unit according to the local company or the GSP directives.

3.2 Polyphonic

- Turn on the phone. Go to the service test menu; choose “Polyphonic”. Press any key to check if the polyphonic ring signal works properly.
- Check if the speaker *(Fig. 3.3)* is mechanically damaged, dirty or oxidized. Replace it if necessary.
- Check if the speaker gasket *(Fig. 3.4)* is mechanically damaged or dirty. Replace it if necessary.
- Check if the sound channel gasket *(Fig. 3.5)* is mechanical damaged or dirty. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

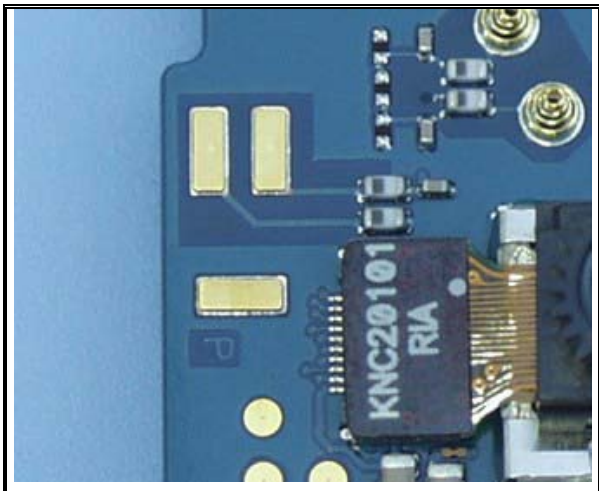


Fig. 3.1

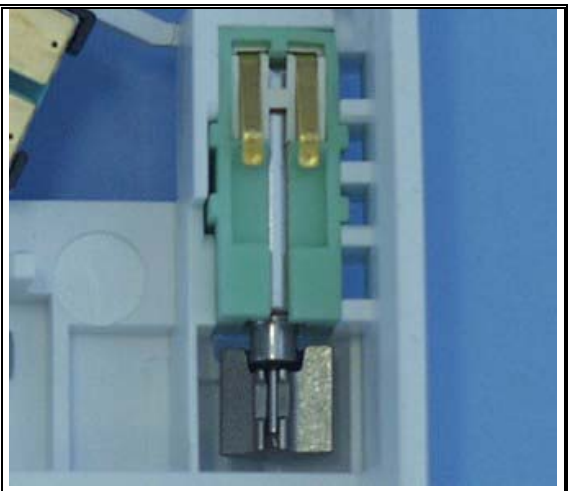


Fig. 3.2

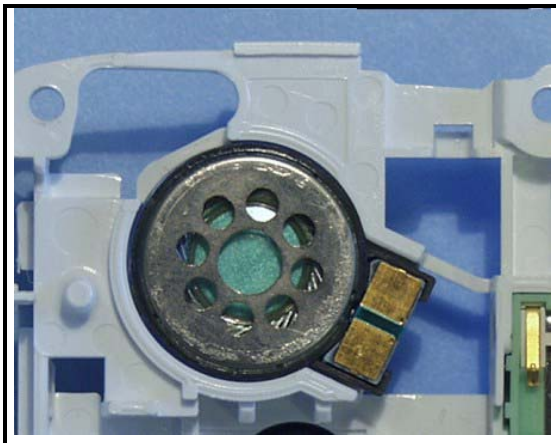


Fig. 3.3

Fig. 3.4

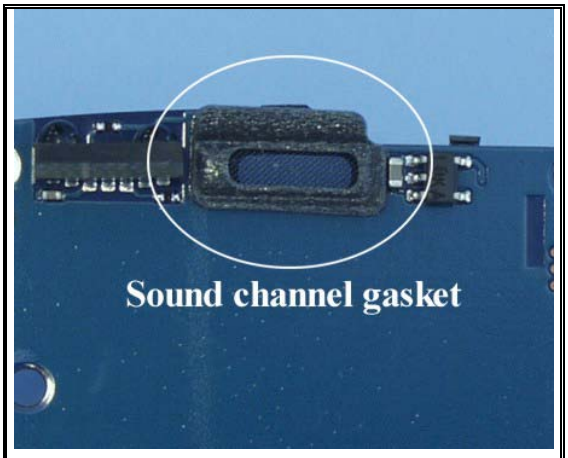


Fig. 3.5

4 Audio Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

4.1 Earphone problems

- Turn on the phone. Go to the service test menu; choose “Earphone” press any key to check if the speaker works properly.
- Check if the speaker *(Fig 4.1)* is mechanically damaged, dirty or oxidized. Replace it if necessary.
- Check if the speaker gasket *(Fig 4.2)* is mechanically damaged or dirty. Replace it if necessary.
- Check if the sound channel gasket *(Fig 4.3)* is mechanically damaged or dirty. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

4.2 Microphone problems

- Turn on the phone. Go to the service test menu; choose “Microphone” *(an audio loop is activated)* check if the microphone works properly.
- Check if the microphone pads *(Fig. 4.4)* are dirty or oxidized. Clean them if necessary.
- Check if the microphone *(Fig. 4.5)* is mechanically damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

Fig. 4.1

Fig. 4.2

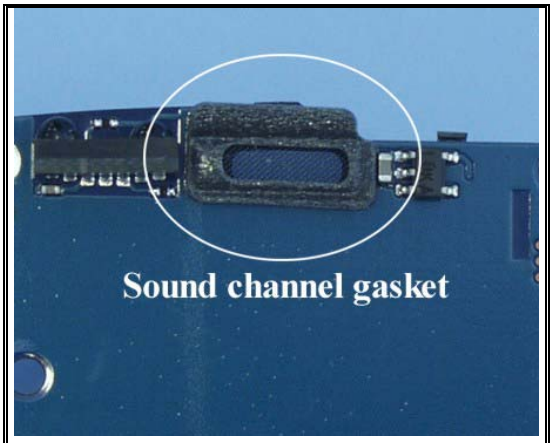


Fig. 4.3

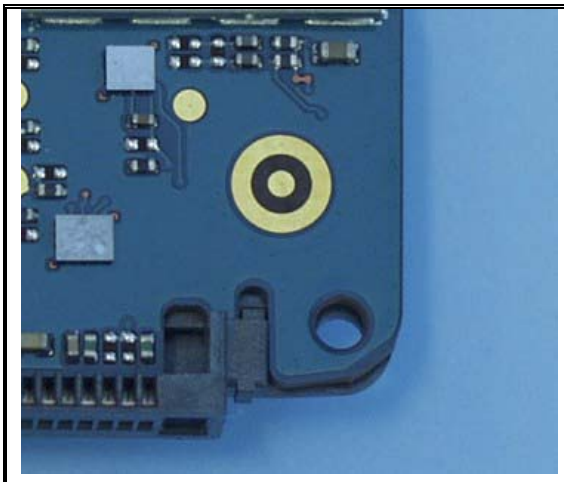


Fig. 4.4

Fig. 4.5

5 Charging/Capacity

- Make a general visual inspection for corrosion or oxidation caused by liquid damage according to point 1.2

5.1 Charging

- Insert a working battery and connect a working charger to the phone. If the battery voltage is too low the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD.
- Check if the system connector *(Fig. 5.1)* is mechanically damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

5.2 Capacity

- The standby time will be reduced if the light is turned on all the time, the bluetooth is turned on, or if the infrared is turned on.

6 Data Communication Problems

- Make a general visual inspection for corrosion or oxidation caused by liquid damage according to point 1.2
- If there is a problem with the communication through the system connector, for example if it is not possible to synchronize with MS Outlook, check if the system connector *(Fig. 5.1)* is mechanically damaged, dirty or oxidized. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

Fig. 5.1

7 Key problem

- Make a general visual inspection for corrosion or oxidation caused by liquid damage according to point 1.2

7.1 Side keys

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the side keys. The pressed key will be indicated in the LCD and a click is heard (no click is heard for the volume keys).
- Check if the volume keys *(Fig. 7.1)*, the camera key *(Fig.7.1)*, the Internet-access key *(Fig. 7.2),* and the on/off key *(Fig. 7.3)* work properly and if the mechanical response feels normal. Replace the volume keys, the camera key, the Internet access key or the on/off key if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

7.2 Keyboard

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the keys. The pressed key will be indicated in the LCD and a click is heard.
- Check if the mechanical response feels normal and that all the keys have been showed in the LCD.
- Check if the dome foil assy *(Fig. 7.4)* is mechanically damaged, dirty or oxidized. Replace it if necessary.
- Check if the keyboard flex-film is fitted correctly into the FPC connector *(Fig. 7.5)* and check if the FPC connector is closed.
- Check if the keyboard *(Fig. 7.6)* is mechanically damaged or dirty. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

7.3 Joystick

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Move the joystick in all directions *(do not forget to press it downwards)*. The moved direction will be indicated in the LCD and a click is heard.
- Check if the mechanical response feels normal and that all directions have been indicated in the LCD.
- Check if the joystick button *(Fig. 7.7)* is mechanical damaged or dirty. Replace it if necessary.

Note: When replacing the joystick button remember to replace the joystick dust gasket as well.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

Fig. 7.1

Fig. 7.2

Fig. 7.3

Fig. 7.4

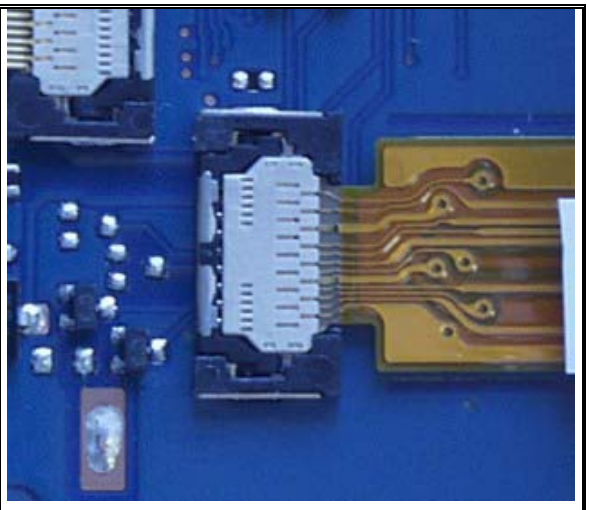
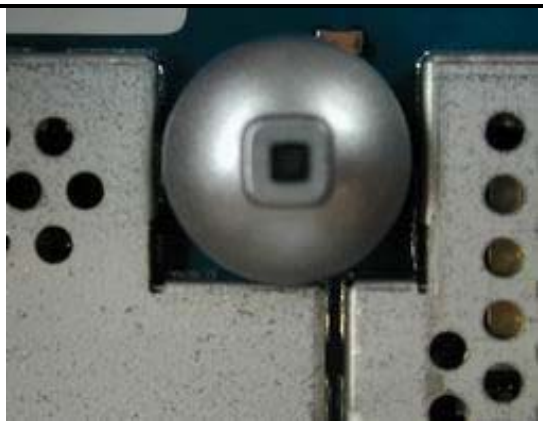


Fig. 7.5

	
Fig. 7.6	**Fig. 7.7**

8 LCD/Illumination

- Make a general visual inspection for corrosion or oxidation caused by liquid damage according to point 1.2

8.1 LCD

- Turn on the phone. Go to service test menu; choose “Display”. You should see a colour pattern.
- Check if the LCD works properly and if there are missing lines or discolouring. Replace it if necessary.
- Check if the LCD flex-film fits correctly into the FPC connector *(Fig. 8.1)* and check if the FPC connector is closed.

Note: When replacing the LCD the contrast must be checked. If necessary, adjust the contrast in the service settings menu. Remember to store the setting with “SAVE”.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

8.2 Illumination

- Turn on the phone. Go to service test menu; choose “LED/Illumination”. The illumination should start flashing (~1Hz).
- Check if the LCD is lighting up properly. Replace the LCD if necessary.
- Check if the entire 8 key LED’s *(Fig. 8.2)* light up at the same strength. Replace the dome foil assy if necessary.
- Check if the keyboard flex-film fits correctly into the FPC connector *(Fig. 8.3)* and check if the FPC connector is closed.

Note: When replacing the LCD the contrast must be checked. If necessary, adjust the contrast in the service settings menu. Remember to store the setting with “SAVE”.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

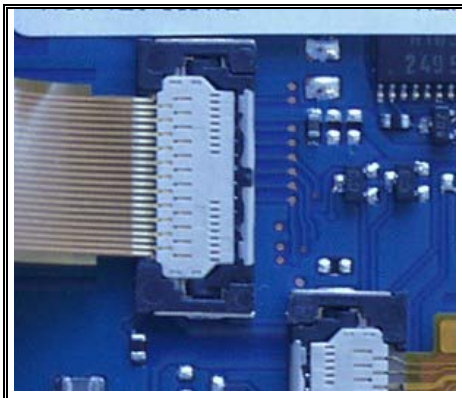


Fig. 8.1

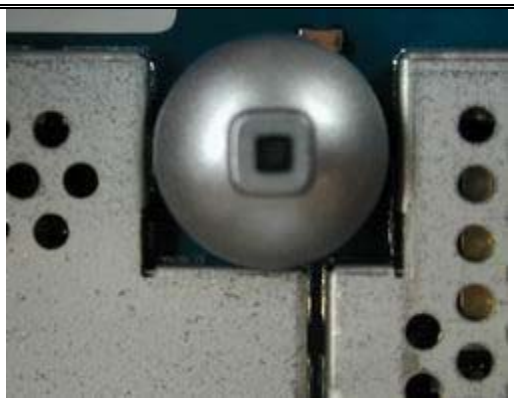


Fig. 8.2

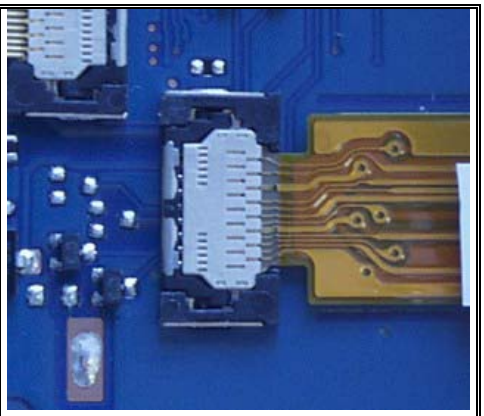


Fig. 8.3

9 Network

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Insert a correctly working SIM-card in the phone and turn it on. Check if the phone gets service and if the signal strength indicator shows a correct value on the display. Compare the value with a working phone.
- Check if the antenna assy *(Fig. 9.1-9.2)* is mechanically damaged, dirty or oxidized. Replace it if necessary.
- Check if the antenna connector *(Fig. 9.3)* is dirty or oxidized. Clean it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

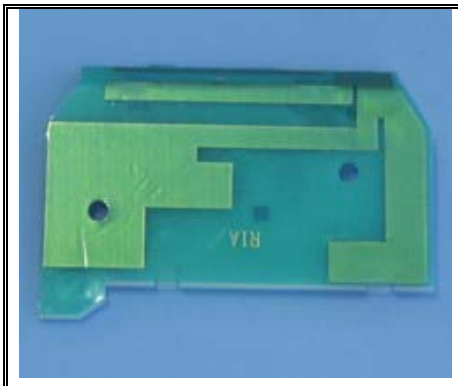


Fig. 9.1

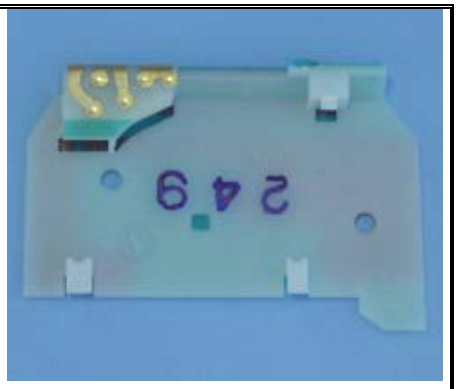


Fig. 9.2

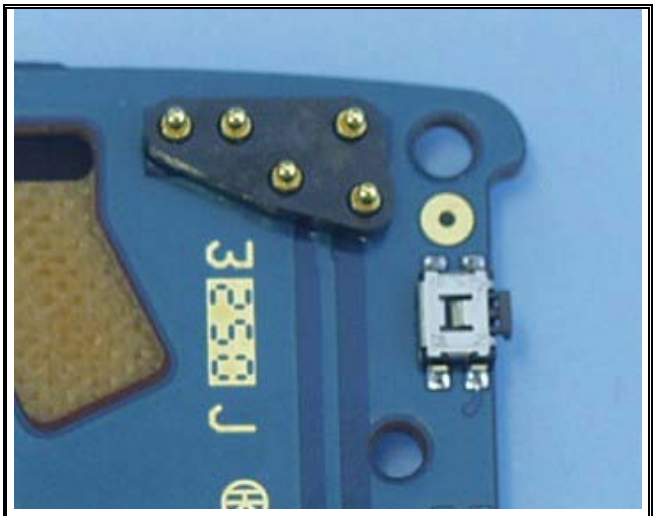


Fig. 9.3

10 On/Off

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2

10.1 Battery

- Insert a working battery and connect a working charger to the phone. If the battery voltage is too low the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD.
- Check if the battery pads *(Fig. 10.1)* are mechanically damaged, dirty or oxidized. Replace the battery if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

10.2 On/Off key

- Insert a fully charge battery, turn the phone on. If it fails;
- Check if the Power on/off key *(Fig. 10.2)* is mechanically damaged or dirty. Replace it if necessary.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

Fig. 10.1

Fig. 10.2

11 SIM-Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Insert a functioning SIM card. If the display shows “Insert card”, there is a SIM problem, if it shows “Insert correct card”, the phone might be SIM locked in this case try to use a test SIM card.
- Check if the SIM-lock lid *(Fig. 11.1)* is mechanically damaged, dirty or oxidized. Replace it if necessary.
- Check if the SIM-reader *(Fig. 11.2)* is dirty or oxidized. Clean it if necessary.

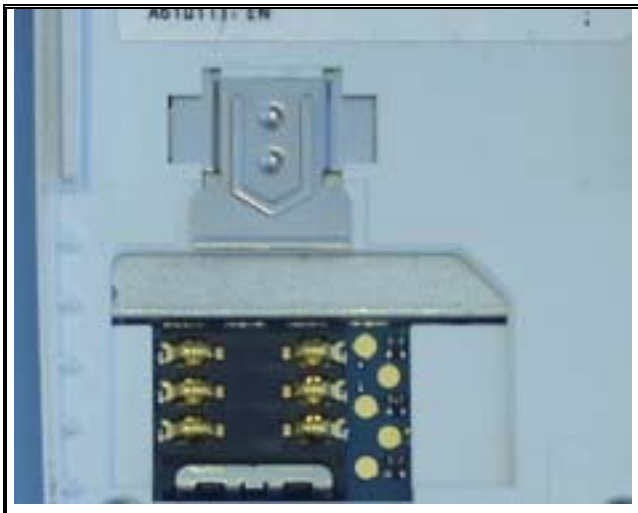


Fig. 11.1

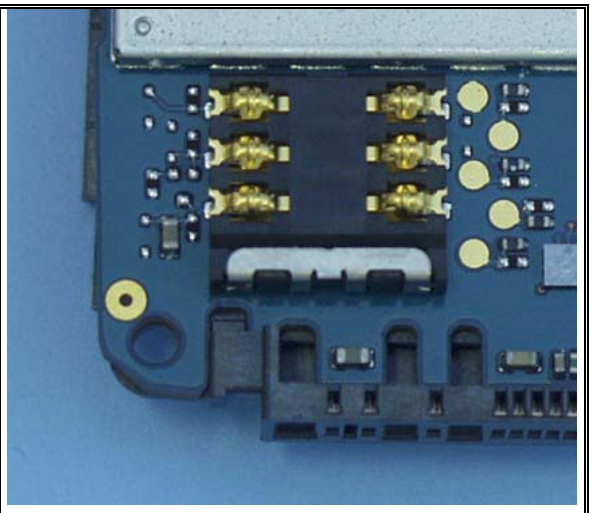


Fig. 11.2

12 Other

12.1 Camera Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage according to point 1.2
- Turn on the phone. Go to the service test menu; choose “Camera”. The viewfinder will be visible in the LCD.
- Check if the camera module *(Fig. 12.1)* is working properly; verify the viewfinder functionality in the LCD. Check if there are black spots and if the picture is in focus. Replace the camera module if necessary.

Note: When replacing the camera module, check if the camera module gasket *(Fig. 12.2)* is damaged in any way. Replace it if necessary.

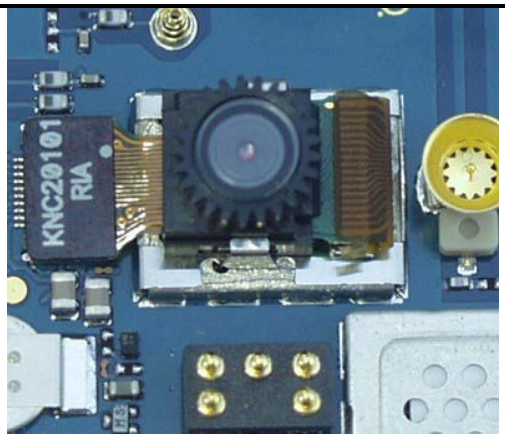


Fig. 12.1

Fig. 12.2

13 Software Problems

- If there are problems with the response of the keypad commands or spelling errors in the menu and the failure is not related to mechanical damage, make a master reset and flash the phone with the latest software from EMMA II.
- Checking the software revision can be done in the Service info, see chapter *Service functions in the software*.
  Choose: Service info / SW information.
  The Software revision and date will be indicated in the display.

If the failure still occurs, handle the unit according to the local company or the GSP directives.

14 Revision History

Rev.	Date	Changes / Comments
A	2003-11-18	First release

Process Flow, SP/Mechanical

Applicable for T630/T628

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2 Process Flow, Label **3**
2.1 Process Flow label, Description 4
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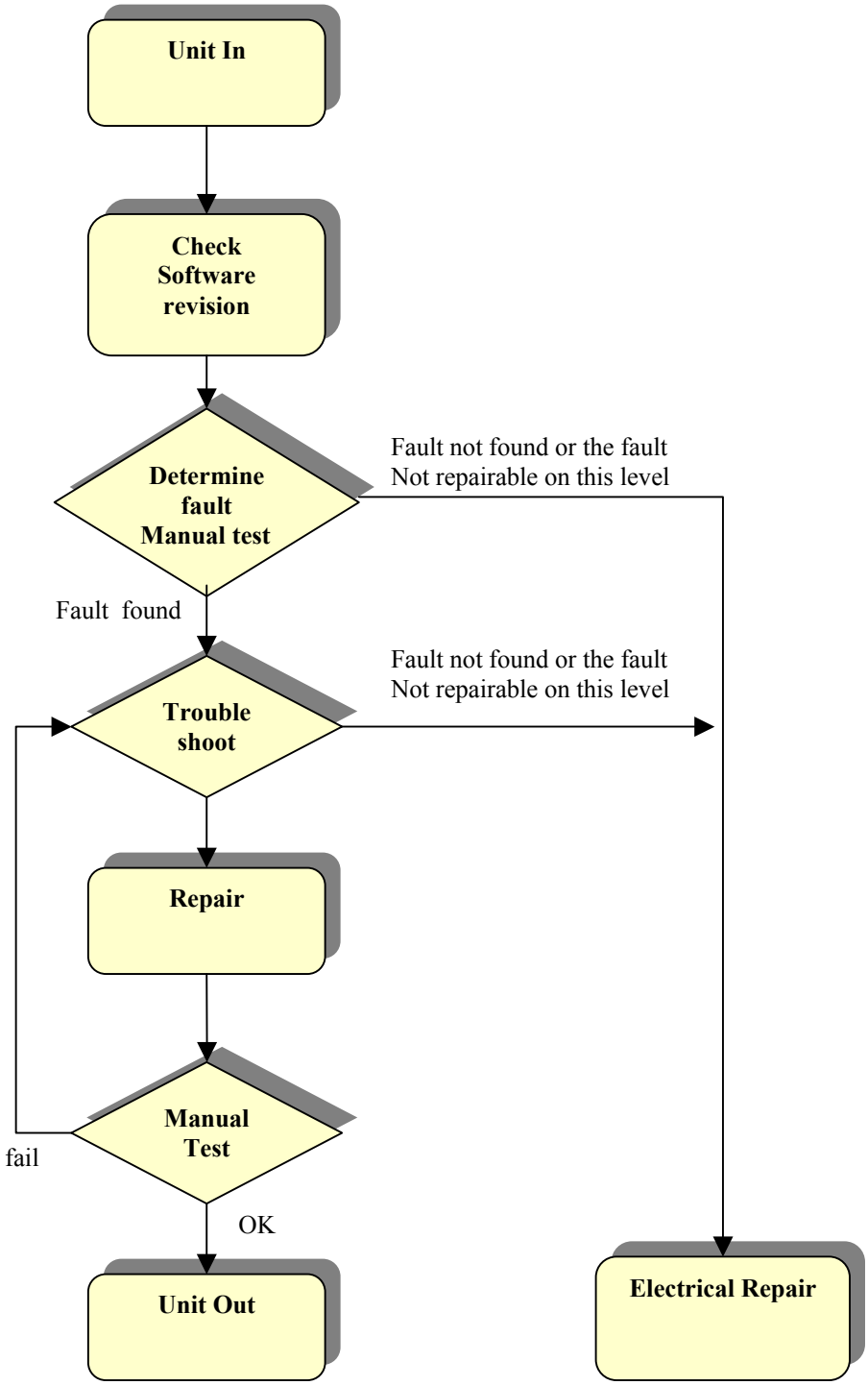
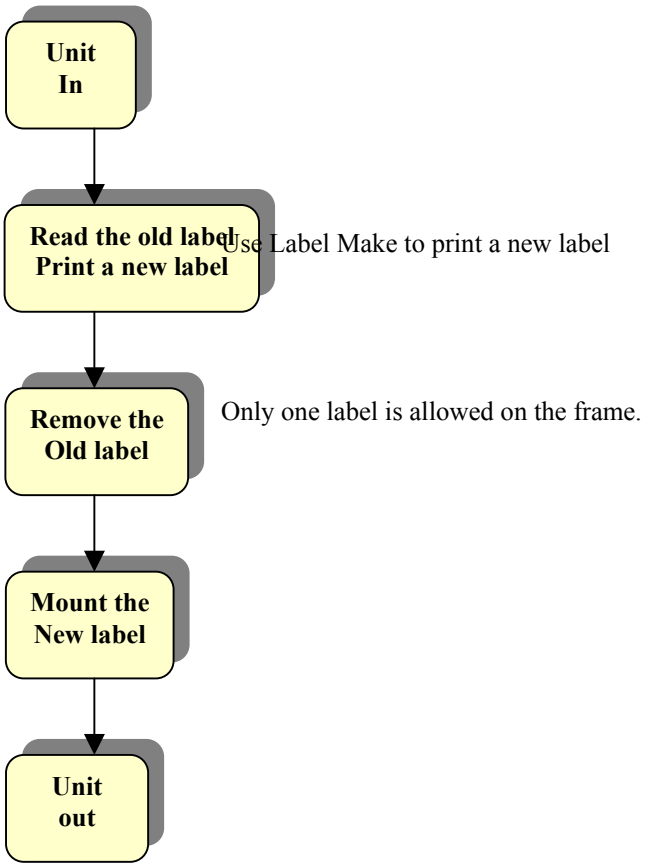
Process Flow



1.1 Process Flow Description

Box	Reference
Flash upgrade (Check software)	***Test Instruction, SP/ Mechanical*** If necessary, update the phone with the latest software revision.
Manual test	***Test Instruction, SP/ Mechanical*** To verify the phone, all test actions must be performed.
Trouble-shoot	***Trouble Shooting Guide, SP/ Mechanical*** Trouble-shoot the phone according to the guide for the most common faults.
Repair	***Working Instruction, SP/ Mechanical*** Repair the faulty phone according to the instruction.

2 Process Flow, Label



2.1 Process Flow label, Description

Box	Reference
Read the old label **Print a new label**	In the **Label Make** program, read the information on the old label and select system, etc. (Use the **Help** function in **Label Make** for guidance on how to use the program.) Print a new Label. Continue with **Remove the old label**.
Remove the old label	***Working Instructions.*** Remove the old label according to the instructions. Only one label is allowed on the frame. Continue with **Mount the new label**.
Mount the new label	***Working Instructions***. Mount the new label according to the instructions.

3 Revision History

Rev.	Date	Changes / Comments
A	2003-11-18	First release

Equipment List, SP/Mechanical

Applicable for T630/T628

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2 Repair Equipment, Mechanical **3**

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1 Abstract

This document describes all the required equipment for the Mechanical Repair Process of the T630/T628 mobile phone. Equipment listed without a part number is not orderable from Sony Ericsson and must be bought locally.

The matrices in the end of the equipment tables describe where the actual equipment is needed (marked with an X) or may be needed/optional (marked with a Z).

Flash upgrade: Equipment for downloading software to the unit.

Manual test: Equipment necessary to perform a manual test.

Repair: Equipment necessary for replacing components.

2 Repair Equipment, SP/Mechanical

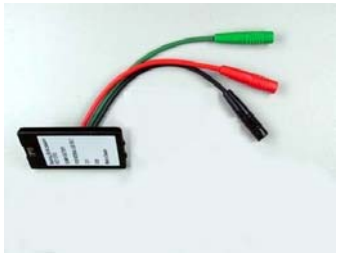
2.1 Sony Ericsson Provided Repair Equipment

Description	Part Number	Comments	Flash Upgrade	Manual Test	Repair
Torque Screwdriver *	NTZ 112 459	Torque set to 20 Ncm +/- 6%			X
- Torx Bits No. 6	NTZ 112 288	Spare part to screwdriver			X
USB Service Card Reader	LZY 213 1191	Software Package/CD+USB Reader	X		
Service Card	LZY 213 595		X		
Hard lock	KRY 105 165		X		
Programming Interface, 3V	NTZ 112 334		Z		
SonyEricsson programming interface - SEPI	LTN 214 1484	Interface Box + CD	X		
SonyEricsson interface cable - SEPI	KRY 101 1115	USB Cable 3V/Accessories	X		
Camera gasket assembly tool	NTZ 112 507	Camera gasket assembly tool			X
Antenna cover opener	NTZ 112 520	Antenna cover opener			X
Flex film assembly tool	NTZ 112 521	Flex film assembly tool			X
Front opening tool	NTZ 112 302	Front opening tool			X
Dummy battery cover	NTZ 112 530		Z		
Dummy Battery	NTZ 112 512		Z		

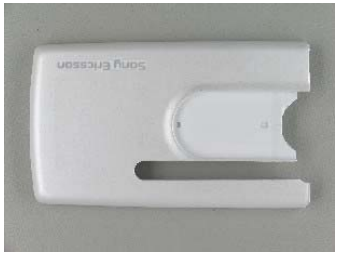
* Any screwdriver that fulfil torque and bit demands can be used.

**The matrices describe where the actual equipment is needed (marked with an X) or may be needed/optional (marked with a Z).

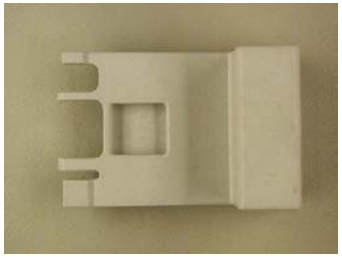
NTZ 112 288



NTZ 112 512

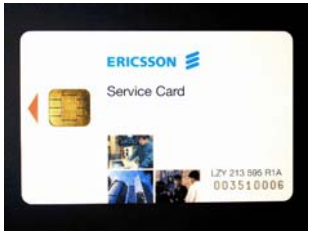


NTZ 112 530

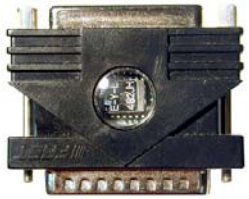


NTZ 112 520

LZY 213 1191



LZY 213 595



KRY 105 165

LTN 214 1484

NTZ 112 507

NTZ 112 521

NTZ 112 302

KRY 101 1115

NTZ 112 459

NTZ 112 334

2.2 Equipment Provided by Other Suppliers

Description	Comments	Flash Upgrade	Manual Test	Repair
Battery	BST-25, BKB 193 167/1	X	X	
- Battery Charger			X	
Tweezers	ESD-safe			X
Isopropyl Alcohol	To be used when removing glue.			X
Cotton Glove	ESD-safe			X
Computer	IBM compatible Pentium with at least two USB-ports	X		
RS 232 Serial cable	9-Pin	Z		
USB-PC Cable	Type A-B Plug-Plug Cable	X		
Zebra Printer	90xi, 90xi II or 4000 deluxe			Z
Printer Cable	Standard RS 232 serial printer cable [referred to Zebra printer manual]			Z
Hot Air Flow Repair Station, Medium.	Temperature range 360-380° C. Air-flow up to 9 l/min			Z
IR-device	To be used to make connection between the phone and the device		X	
Bluetooth-device	To be used to make connection between the phone and the device		X	
Hands free equipment	To be used to verify the system connector. Applicable for T630T/T628		X	
Air blow equipment**	To secure there is no dust left on the display when reassemble the phone.			X
Operator SIM card	To be used when making a call to a landline phone		X	

*The matrices describe where the actual equipment is needed (marked with an X) or may be needed/optional (marked with a Z).

** The best equipment to use is ionisation-blow equipment, but ordinary air blow equipment e.g. a hand driven air can or airbrush is allowed.

9-Pin RS 232 Serial cable

Type A-B Plug-Plug Cable

3 Revision History

Rev.	Date	Changes / Comments
A	2003-11-18	First release