

Service Manual

EL71

Level 1-3



Release	Date	Department	Notes to change
R 1.0	27.03.2006	BenQ Mobile CC S CES	New document

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1 Key Feature

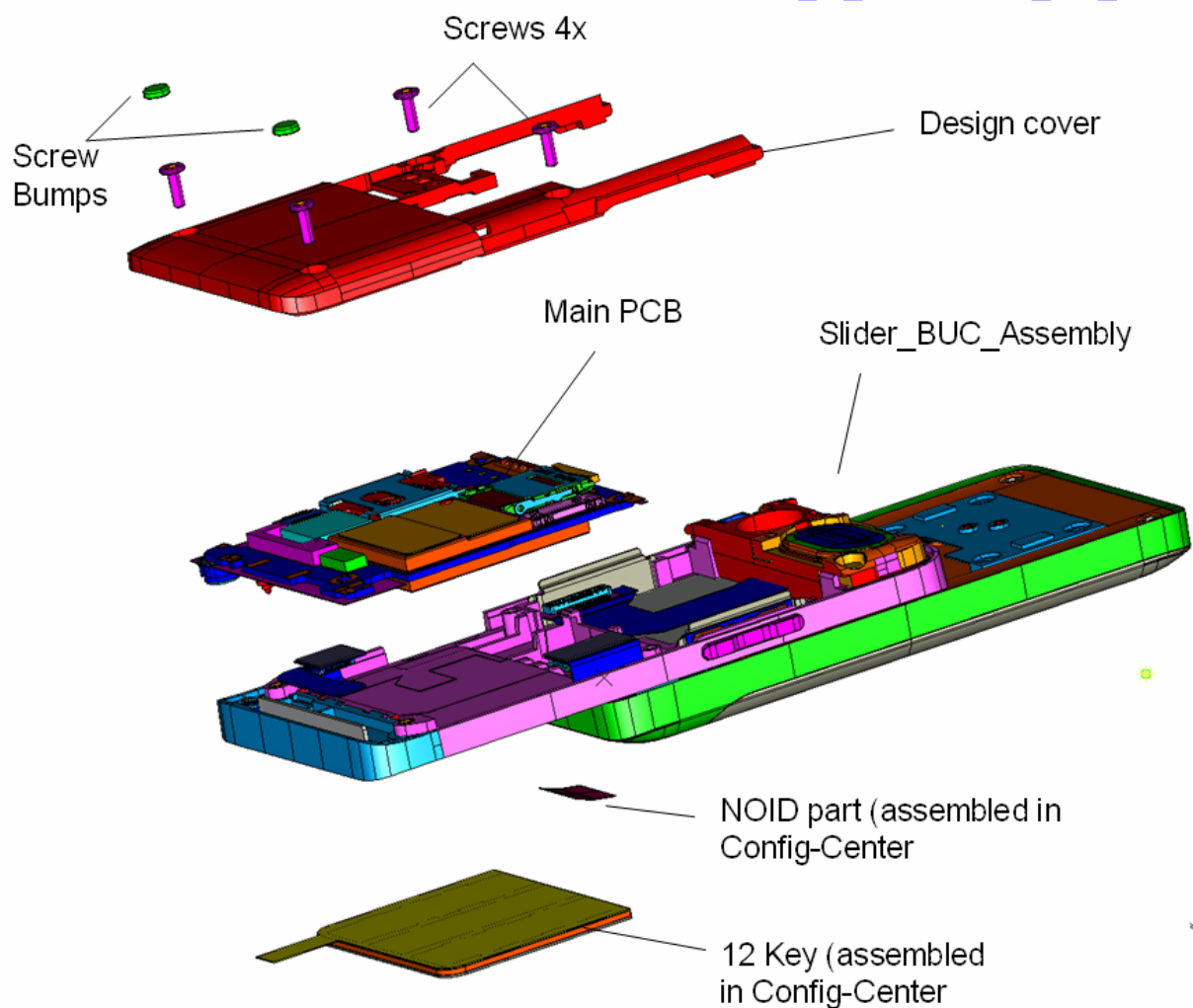
System	<ul style="list-style-type: none"> • Tri – Band GSM 900/1800/1900 • GPRS/EDGE Multislot class 10 • Vocoders FR, HR, EFR, AMR
Battery	<ul style="list-style-type: none"> • Li-Ion 570 mAh
Stand – by Time	<ul style="list-style-type: none"> • Up to 300h
Talking Time	<ul style="list-style-type: none"> • Up to 300min
Memory	<ul style="list-style-type: none"> • Approx 16MB plus microSD card slot
Antenna	<ul style="list-style-type: none"> • Integrated
Display	<ul style="list-style-type: none"> • 2.0inch QVGA (240 x 320 pixels), 262, 144 colors, premium transfective TFT with optimal indoor/outdoor readability
Keypad	
Function key	
Camera	<ul style="list-style-type: none"> • Integrated 1.3 megapixel, improved LED light, camera side key, 5xdigital zoom
Connectivity	<ul style="list-style-type: none"> • USB, Bluetooth
Features	<ul style="list-style-type: none"> • Video recording (H.263), playback and streaming, progressive download (H263, MPEG4) • Music player and play/pause function via front key • IMPS, MMS and e-mail • Music (playback, streaming, progressive download) and ringtones: MP3, AAC/AAC+ • Full-screen video in QVGA display • Video ringtones • WAP 2.0, MIDP 2.0/CLDC 1.1 • 3D Java games /multiplayer games, 3D Java engine • Various Headset Bluetooth and Car Kit Bluetooth solutions for mobile and wireless communication

2 Unit Description of EL71

EL71 is a Slider mobile phone with a 2 inch QVGA Display and a semiautomatic slider system. The cases are molded painted plastic parts and die-casted metal parts with painted surface. On one plastic part is glued an anodized aluminium cover.



3 Exploded View of EL71



4 Disassembly of EL71

All repairs as well as disassembling and assembling have to be carried out in an ESD protected environment and with ESD protected equipment/tools. For all activities the international ESD regulations have to be considered.

For more details please check information in c – market

<https://market.benqmobile.com/SO/welcome.lookup.asp>

There you can find the document “ESD Guideline”.

Step 1







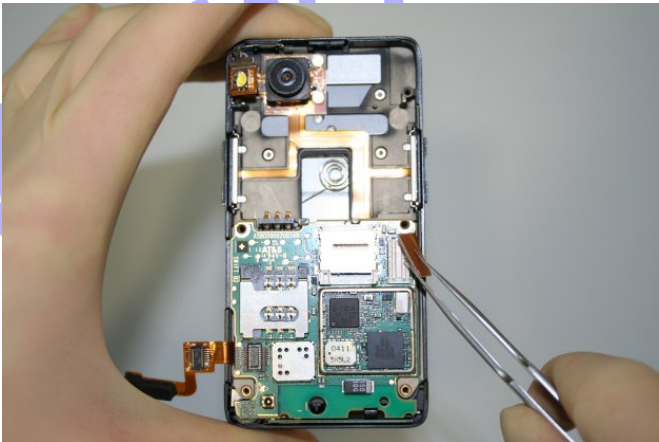

Remove Battery Cover by pushing inside the opening button on top of the mobile.

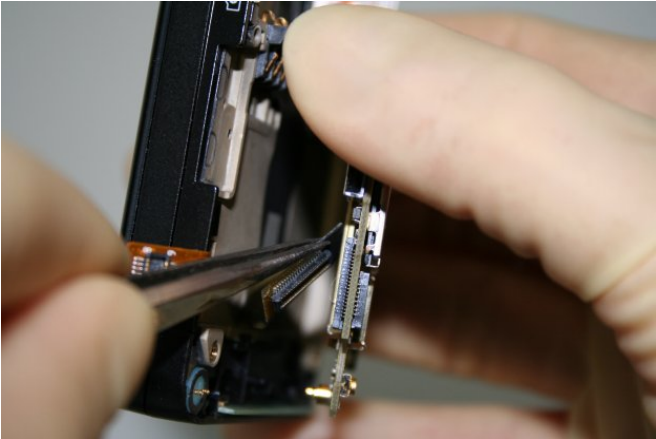

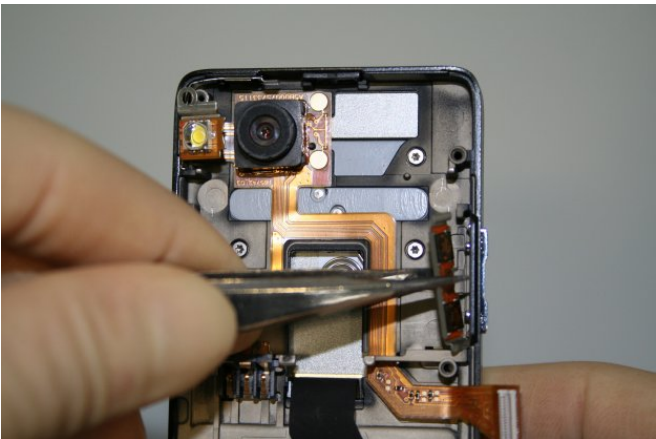
Step 2


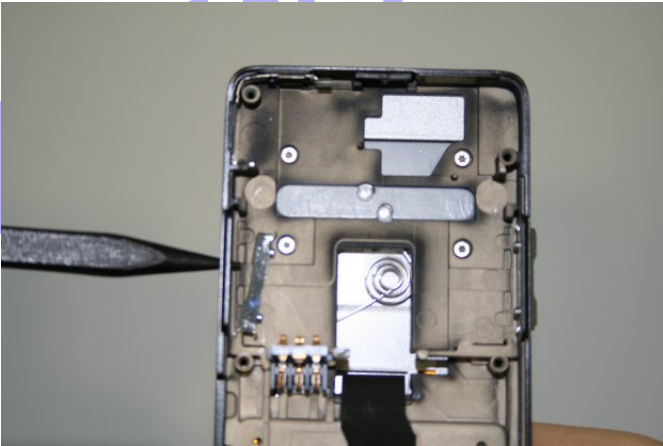
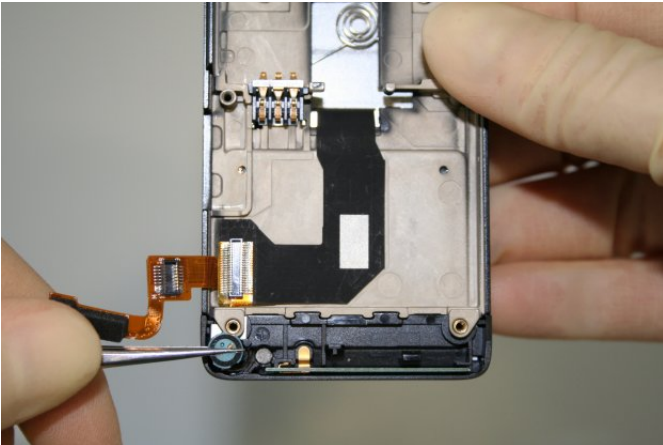



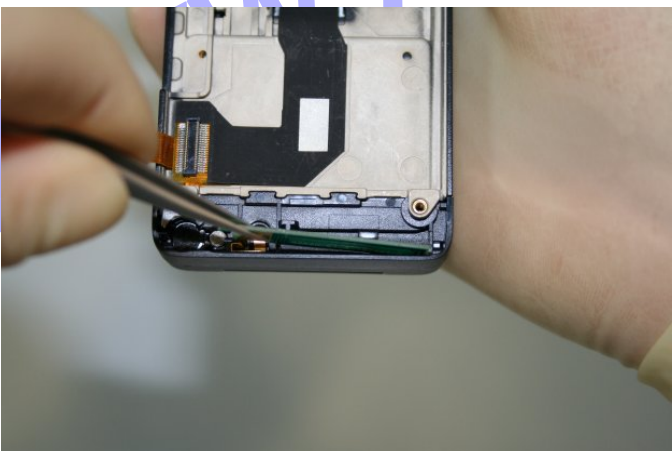

Step 3 	Remove Battery.
Step 4 	Remove screws by using the Torque – Screwdriver T5+.
Step 5 	Remove the Flashlight – Cover by using Tweezers.




Step 6 	Remove Rear Cover incl. Ringer.
Step 7 	Remove Lower Case Shell.
Step 8 	Remove Sheet Metal Battery Pocket by using Tweezers.


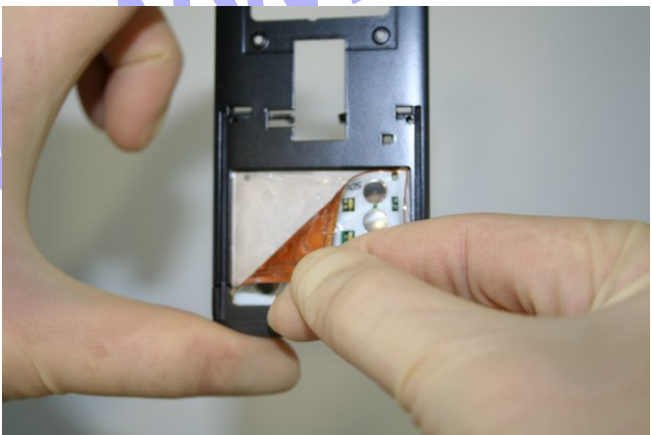

Step 9 	<p>Disconnect Flex Cable from the PCB by using Tweezers carefully.</p>
Step 10 	<p>Disconnect Flex Cable from the PCB by using Tweezers carefully.</p>
Step 11 	<p>Take out partly the PCB by using Alternative Opening Tool.</p>

Step 12 	<p>Disconnect the Flex Cable from the lower side of the PCB by using Tweezers very carefully.</p>
Step 13 	
Step 14 	<p>Take out the end of the Flex Cable which fixtures the Side – Key.</p>

Step 15 	<p>Take out the end of the Flex Cable which fixtures the other Side – Key.</p>
Step 16 	<p>Now you can push the Side – Keys easily out of the side – key – frame.</p>
Step 17 	<p>Remove the Microphone by using Tweezers carefully. Take care of the spring contacts!</p>

Step 18 	Remove the Battery Connector by using Tweezers.
Step 19 	Remove the Antenna by using Tweezers.
Step 20 	Remove screws by using the Torque – Screwdriver T5+.


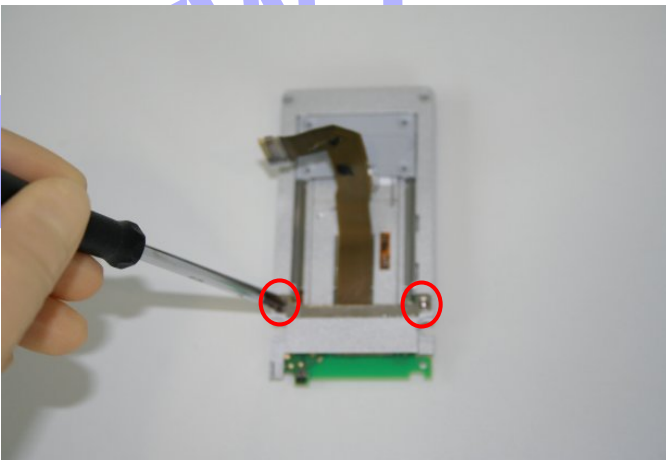
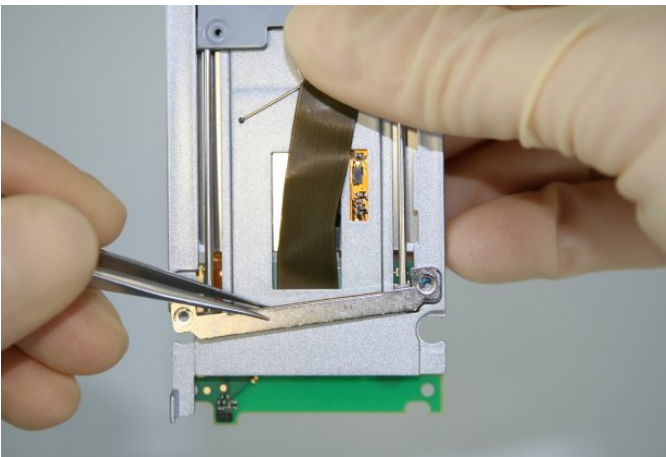
Step 21 	<p>The Flex Cable is glued to the Lower Case. Remove it with Tweezers very carefully and take care, that it doesn't rip!</p>
Step 22 	<p>Now you can separate the Lower Case from the Slider Plate. Direct the Flex Cable through the Out cut of the Lower Case. Be very careful with the Flex Cable!</p>
Step 23 	

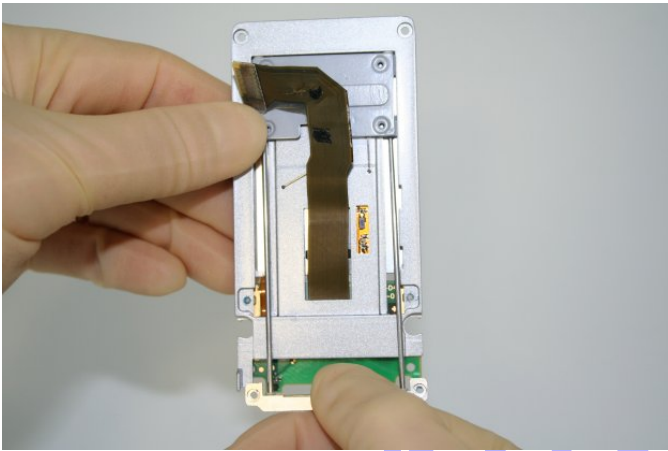

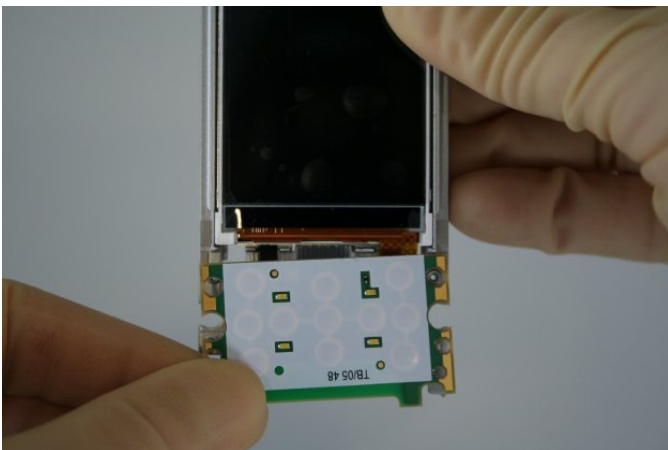
Step 24 	<p>Remove the keypad by fixing the Alternative Opening Tool at the front side of the keypad.</p>
Step 25 	<p>Remove the Keypad MMI. Be very careful!</p>
Step 26 	<p>Direct the Flex Cable through the Cut Out of the Lower Case. Take care of the Flex Cable.</p>


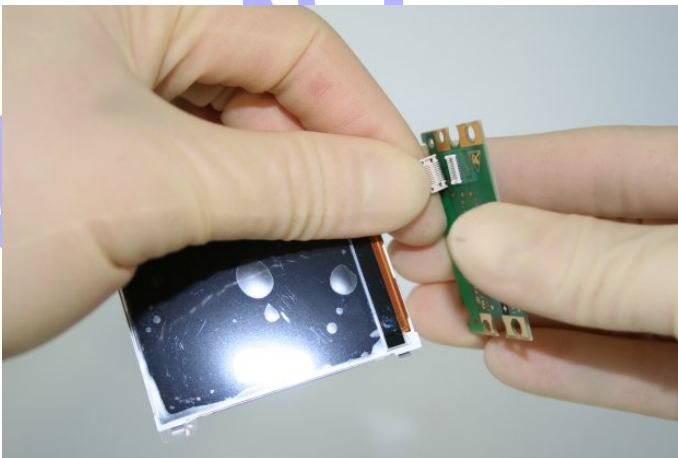
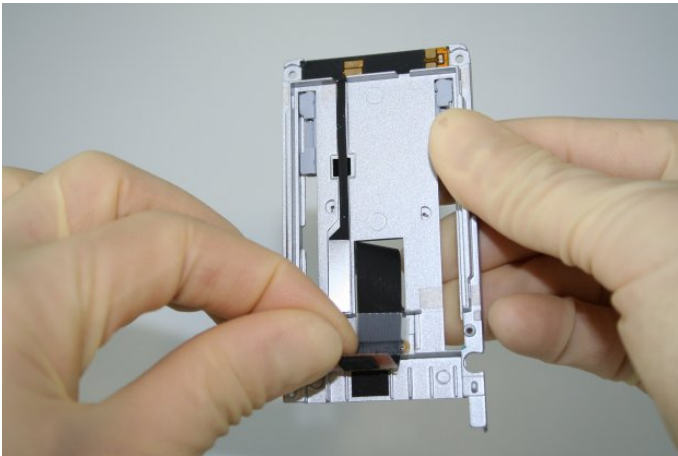
Step 27 	Remove the Antenna Cap.
Step 28 	
Step 29 	Remove screws by using the Torque – Screwdriver T5+.

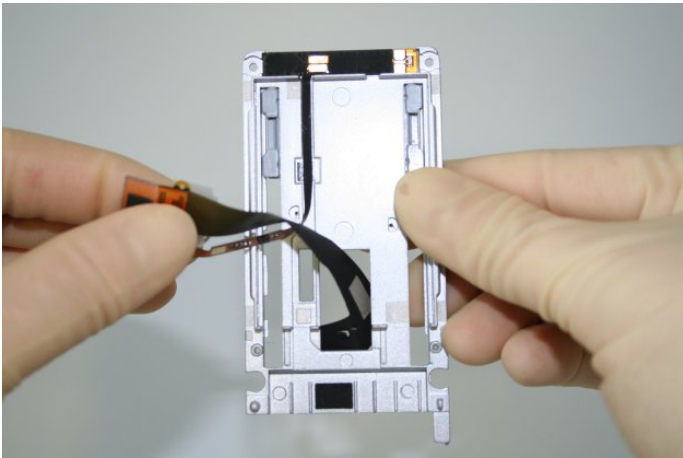
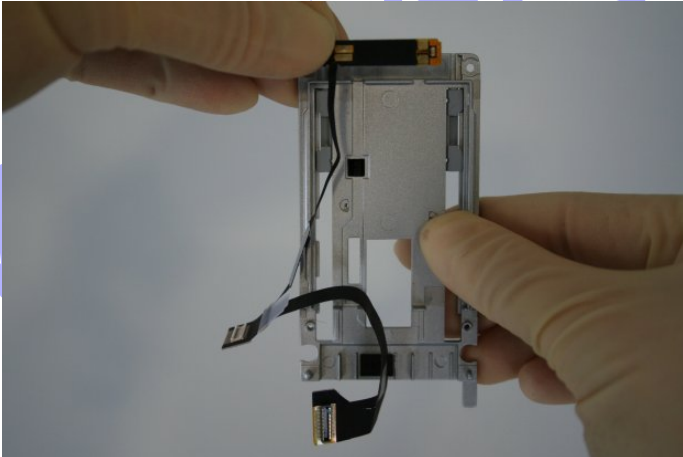

Step 30 	<p>Remove the Slider Cover.</p>
Step 31 	<p>Take the Slider Plate out of the Upper Case.</p>
Step 32 	<p>To avoid scratches it is mandatory to place a protection foil onto the Display!!!</p>

Step 30 	Remove the Keypad by using Tweezers.
Step 31 	Remove Earphone by using Tweezers.
Step 32 	Remove Vibrator by using Tweezers.

Step 33 	<p>Remove the Light Guide LED by pushing it outside of the frame.</p>
Step 34 	<p>Remove screws by using Screwdriver ph.</p>
Step 35 	<p>Remove the Slider Cover.</p>

Step 36 	Remove the Slider Sticks.
Step 37 	
Step 38 	Remove the Keypad MMI.

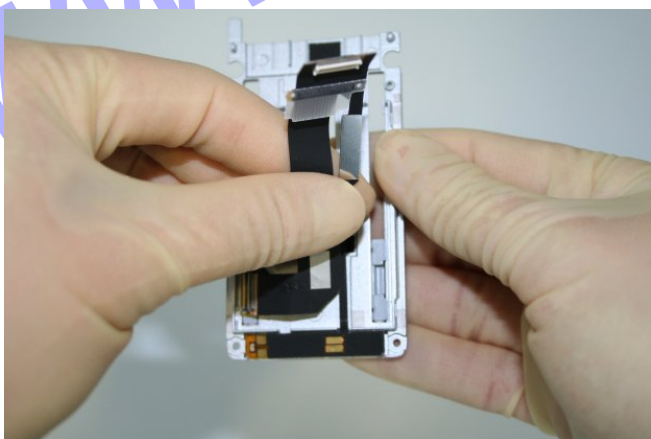
Step 30 	<p>Disconnect the Display Module from the Slider Plate.</p>
Step 31 	<p>Disconnect the Display Flex Cable from Keypad MMI.</p>
Step 32 	<p>Loosening the Flex Cable from the Slider Plate.</p>

Step 30 	Direct the Flex Cable through the Cut Out of the Slider Plate.
Step 31 	Now you can remove the Flex Cable completely from the Slider Plate.
Step 32 	



5 Assembly of EL71

Step 1

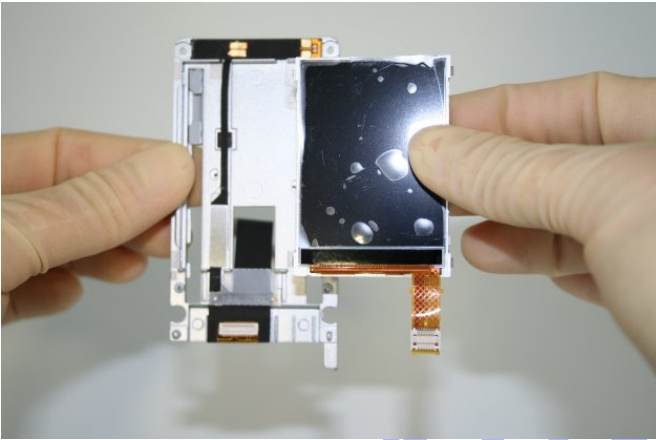
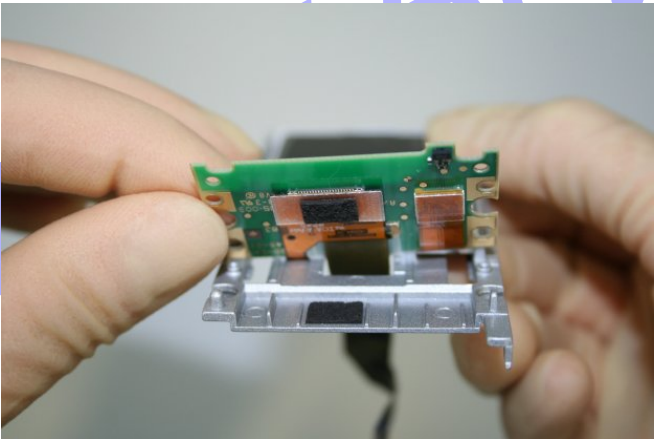
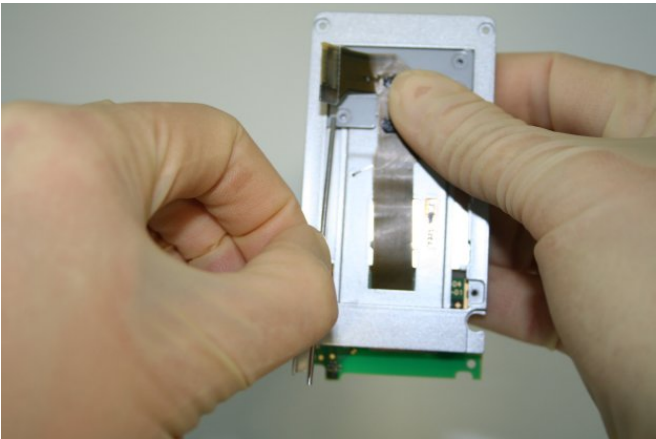


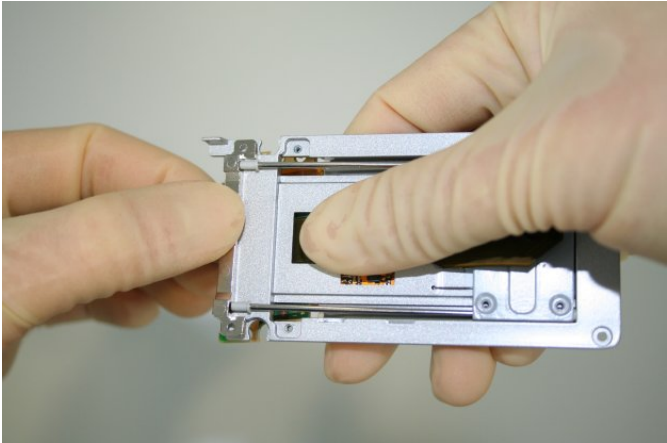
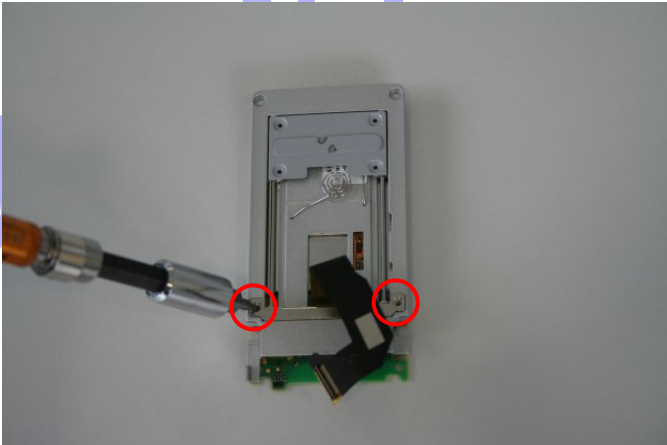

Assemble the Flex Cable onto the Slider Plate.

Step 2



Direct the Flex Cable through the Cut Out of the Slider Plate.




Step 3 	Assemble the Display Module onto the Slider Plate.
Step 4 	Connect the Flex Cable from the Keypad MMI with the Connector on the Slider Plate.
Step 5 	Assemble the Slider Sticks.

Step 6 	<p>Assemble the Slider Cover.</p>
Step 7 	<p>Place screws by using the Torque – Screwdriver T3+.</p>
Step 8 	<p>Assemble the Earphone into the frame by using Tweezers.</p>

Step 9  A close-up photograph showing a person's hands using tweezers to place a small, blue, cylindrical component (the vibrator) into a slot on the back of a black smartphone frame. The frame has various other components like a camera lens and a microphone already installed.	<p>Assemble the Vibrator into the frame by using Tweezers.</p>
Step 10  A close-up photograph showing a person's hands using tweezers to place a small, white, rectangular component (the light guide LED) into a slot on the back of the black smartphone frame. The frame is held steady by the other hand.	<p>Assemble the Light Guide LED by using Tweezers.</p>
Step 11  A photograph showing a person's hands using tweezers to place a keypad module (MMI) into the back of the black smartphone frame. The keypad module is a small, rectangular component with several buttons. The frame is held steady by the other hand.	<p>Assemble the Keypad MMI by using Tweezers.</p>

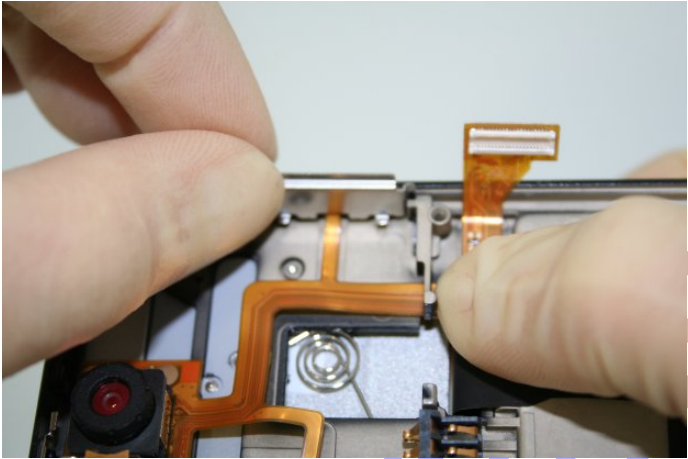
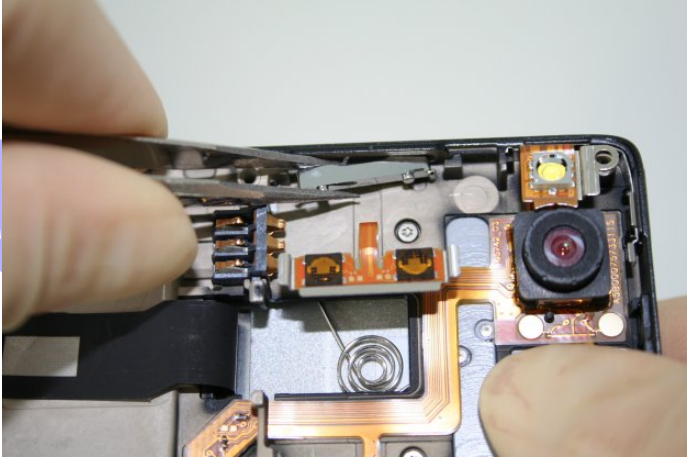
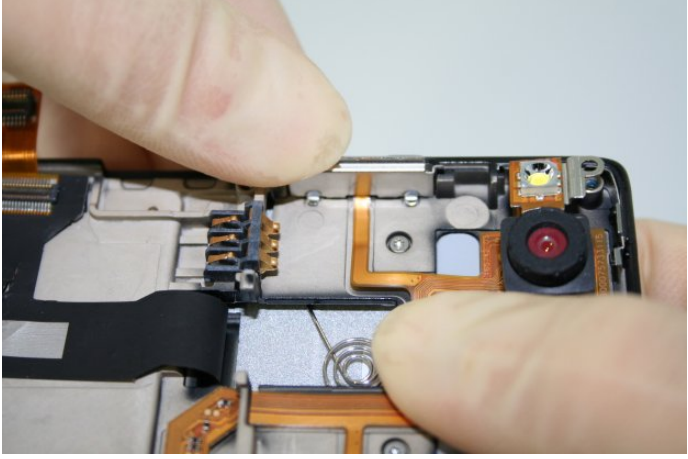
Step 12 	Remove the Display Foil from the Display.
Step 13 	Assemble the Slider Plate into the Upper Case.
Step 14 	

Step 15 	<p>Place screws by using the Torque – Screwdriver T5+.</p>
Step 16 	<p>Assemble the Antenna Cap.</p>
Step 17 	<p>Direct the Flex Cable of the Keypad MMI through the Cut Out of the Lower Case.</p>

Step 15 	Fix the Keypad MMI into the given frame.
Step 16 	Assemble the Keypad onto the Keypad MMI.
Step 14 	Direct the Flex Cable of the Slider Plate through the Cut Out of the Lower Case. Take care of the Flex Cable.

Step 15 	<p>Place screws by using the Torque – Screwdriver T5+.</p>
Step 16 	<p>Assemble the Battery Connector by using Tweezers.</p>
Step 17 	<p>Assemble the Microphone by using Tweezers.</p>

Step 18 	<p>Assemble the Antenna by using Tweezers.</p>
Step 19 	<p>Lay the Camera Flex Cable into the Lower Case. Take care that it has the correct position!</p>
Step 20 	<p>Assemble the Side key into the frame by using Tweezers.</p>

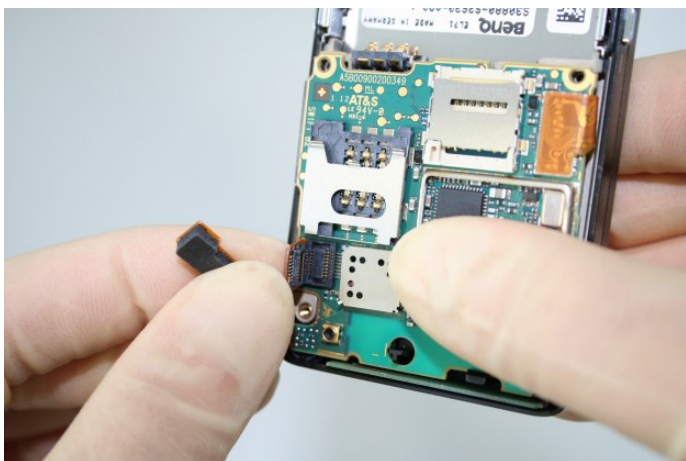
Step 21 	<p>To fix the Side Key you have to assemble the end of the Flex Cable in the given frame.</p>
Step 22 	<p>Assemble the Side key into the frame by using Tweezers.</p>
Step 23 	<p>To fix the Side Key you have to assemble the end of the Flex Cable in the given frame.</p>

Step 21




Assemble the Sheet Metal Battery Pocket.

Step 22

Assemble the PCB into the Lower Case.

Step 23

Connect the Flex Cable of the Keypad MMI with the PCB.

Step 21 	Assemble the Rear Cover incl. Ringer.
Step 22 	Assemble the Flashlight Cover by using Tweezers.
Step 23 	Assemble the Lower Case Shell.

Step 21 	<p>Place screws by using the Torque – Screwdriver T5+.</p>
Step 22 	<p>Assemble Battery.</p>
Step 23 	<p>Assemble Battery Cover.</p>

5 BenQ Service Equipment User Manual

Introduction

Every LSO repairing BenQ handset must ensure that the quality standards are observed. BenQ has developed an automatic testing system that will perform all necessary measurements. This testing system is known as:

BenQ Mobile Service Equipment

- For disassembling / assembling

	Torque – Screwdriver Part Number: F 30032 – P 228 – A1
	Opening tool (Case opening without destroying) Part Number: F 30032 – P 38 – A1
	Alternative Opening tool Part Number: F30032 – P583 – A1
	Tweezers

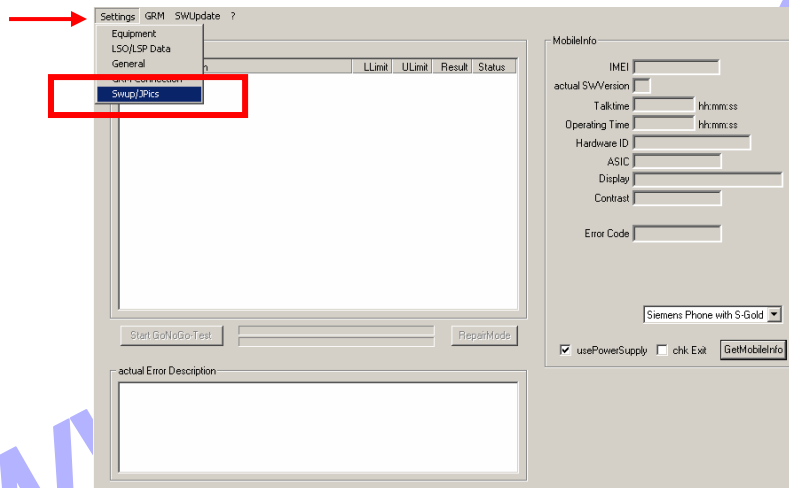
- For testing

All mobile phones have to be tested with the GRT – Software. The service partner is responsible to ensure that all required hardware is available.

For additional Software and Hardware options as well as the supported GRT equipment, please check the GRT User manual.

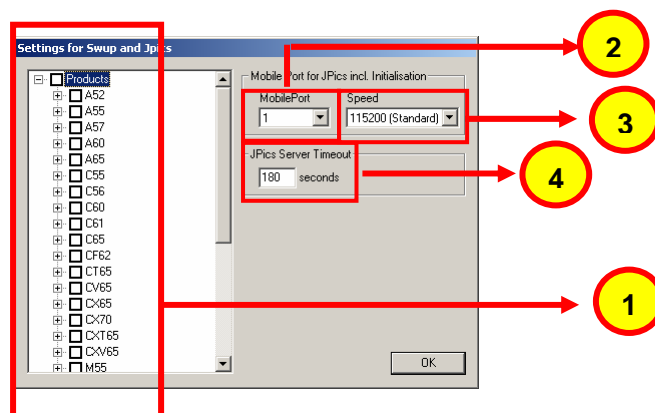
6 GRT Software: Functionality Configuration

Sep 1: Select „Settings >> SWUP / JPICS”



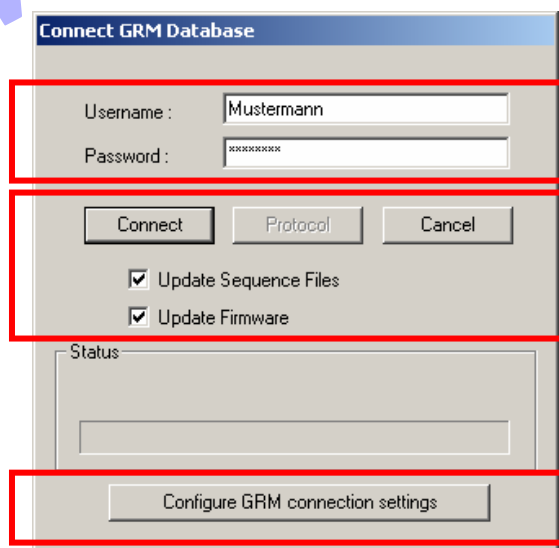
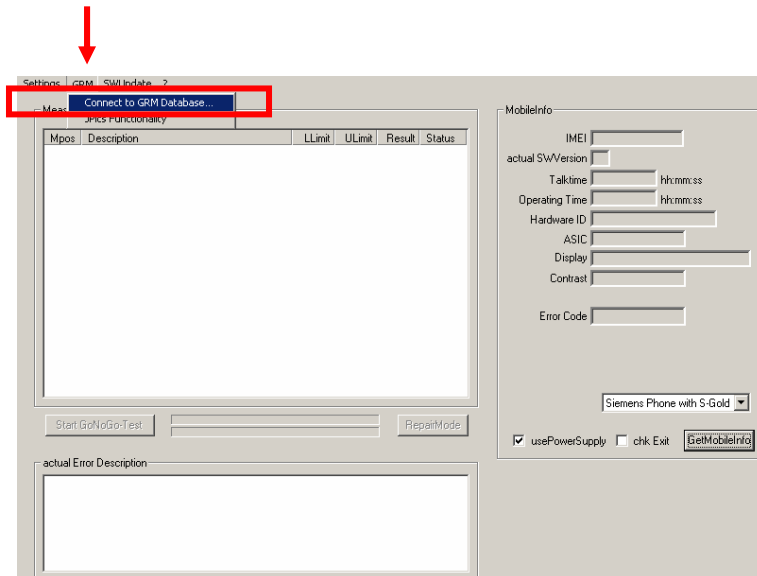
Step 2: Proceed as follows:

- Select all required Variants you need to repair (click onto the “+” in front of the product name).
- Check Com-Port setting. If necessary change it
- Check speed setting. Select always the lowest speed if your PC does not have a fast serial card
- Enter the value for “JPICS Server Timeout”. Be careful, this value defines how long GRT tries to reach the server until you get an error message. Do not select a very long time



Step 3: Connect to GRM Server

- Choose in the section „GRM“ the „Connect to GRM Database“ functionality



Enter your GRT-Username and Password into this fields

Activate always both boxes if you connect to the database. Start with "Connect"

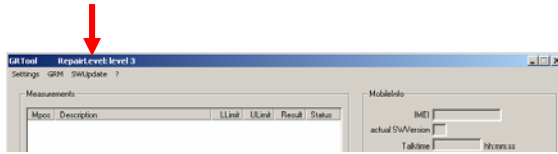
If you IT infrastructure parameter have changed, use this button to move to the configuration mask

- End the connection with a click onto the „Exit button“ (appearing after successful data exchange)

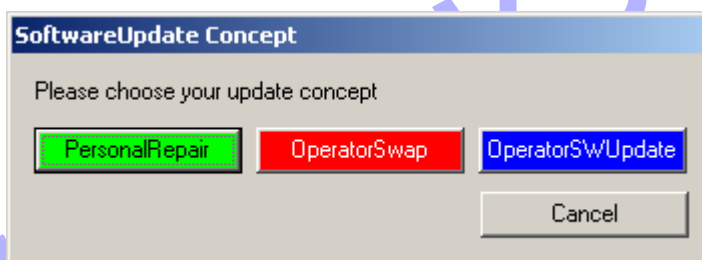
GRT Software has now finished all required settings and configuration tasks. All files have been down- and uploaded.
In dependency of the selected number of mobile phones and variants the volume of transferred date could be (~100MB)

7 GRT Software: Regular Usage

Step 1: Select the section SWUpdate



Step 2: Choose the area you want to work with



- **Personal Repair**

Personal Repair is always accessible. Basis for the decision if a SW-Update is authorised by Siemens is the so called Service Release-Table.

Example: Mobile Phone has already SW50. Service -Release-Table shows SW50

In this case SW-Update is not necessary and therefore not authorized

In any case customer data can be erased on request. (xfs and mapping have to be activated) Of course **JPICS** hardware and authorisation have to be available.

- **Operator SWAP**

This area is only accessible if you are released by the service management to perform SW-Updates for Net-Operators. Basis for the decision if a SW-Update is authorised by Siemens is the so called Master-Table.

Customer data will be erased without any exception and any chance to influence by the user. **JPICS** hardware and authorisation have to be available.

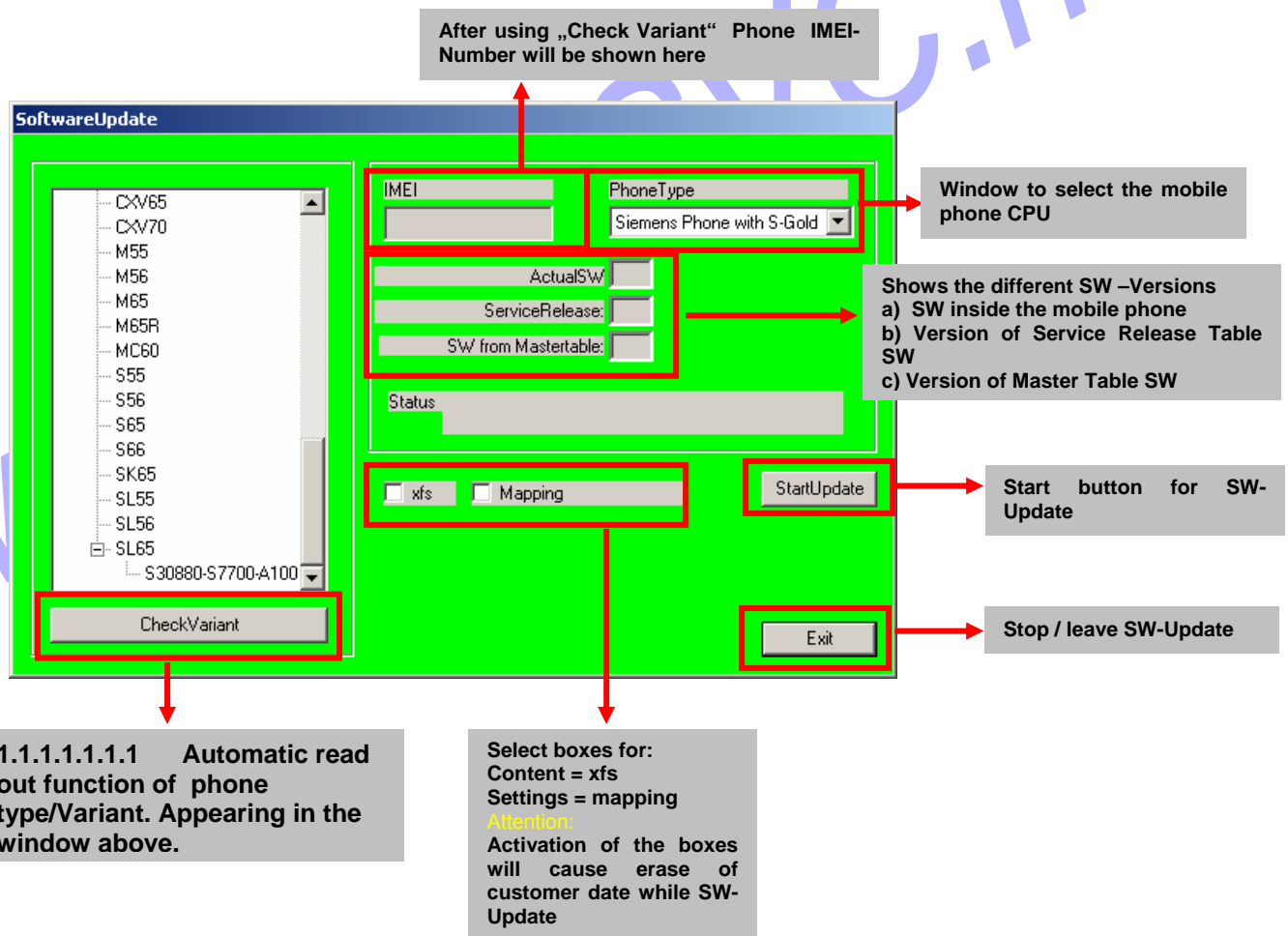
- **Operator SWUpdate**

This area is only accessible if you are released by the service management to perform SW-Updates for Net-Operators. Basis for the decision if a SW-Update is authorised by Siemens is the so called Master-Table.

Like in "Personal Repair" customer data can be erased on request. (xfs and mapping have to be activated) Of course **JPICS** hardware and authorisation have to be available.

Window explanation

This general explanation is valid for all SW-Update channels
(**Personal Repair**, **Operator SWAP**, **Operator SWUpdate**)



Remarks:

In case of malfunction please check

- Is the correct phone type selected
- Is the correct COM-Port selected
- If a variant is missing, move back to Settings select the missing variant and connect the GRM Server. Then continue with SW-Update.

Case 1: Personal Repair (green)

Step 1: Carry out step 1 – 4 to start SW-Update.

The screenshot shows the 'SoftwareUpdate' window. On the left is a list of phone models: CXV65, CXV70, M55, M56, M65, M65R, MC60, S55, S56, S65, S66, SK65, SL55, SL56, SL65. Below this list is a dropdown menu showing 'S30880-S7700-A100' and a 'CheckVariant' button. On the right, there are fields for 'IMEI', 'PhoneType' (a dropdown menu showing 'Siemens Phone with S-Gold'), 'ActualSW', 'ServiceRelease', and 'SW from MasterTable'. Below these is a 'Status' field. At the bottom, there are checkboxes for 'xfs' and 'Mapping', a 'StartUpdate' button, and an 'Exit' button. Four numbered callouts are present: 1 points to the 'PhoneType' dropdown, 2 points to the 'CheckVariant' button, 3 points to the 'xfs' and 'Mapping' checkboxes, and 4 points to the 'StartUpdate' button.

Select the mobile phone CPU type

Start SW-Update

Choose if customer data shall be erased.
If "Yes" activate the boxes in front of xfs
and mapping

1.1.1.1.1.4 Read out phone
type/Variant. >>Appears in the
window above.

Remarks:

- The decision about a Siemens authorised SW-Update depends only on the Service Release-Table.
- The SW which is booted by GRT can be below the SW mentioned in the Service Release Table, if this SW is not released for the Net-Operator
- If **xfs** and **mapping** are activated, GRT will erase in any case the customer data even if the action is cancelled.
- If the user wants to download another variant then the automatically identified one, he has simply to select another variant from the list. Afterwards he has to start the SW-Update

Case 2: Operator SWAP (red)

Step 1: Carry out step 1 – 4 to start SW-Update.

The screenshot shows the 'SoftwareUpdate' window. It features a list of phone variants on the left, including CXV65, CXV70, M55, M56, M65, M65R, MC60, S55, S56, S65, S66, SK65, SL55, SL56, and SL65. Below the list is a 'CheckVariant' button. On the right, there are fields for 'IMEI', 'PhoneType' (set to 'Siemens Phone with S-Gold'), 'ActualSW', 'SW from Mastertable', and 'Status'. There are also checkboxes for 'xfs' and 'Mapping', and buttons for 'StartUpdate' and 'Exit'. Numbered callouts are as follows: 1 points to the 'PhoneType' dropdown; 2 points to the 'CheckVariant' button; 3 points to the 'xfs' and 'Mapping' checkboxes; 4 points to the 'StartUpdate' button.

1 Select the mobile phone CPU type

4 Start SW-Update

3 Choose if customer data shall be erased. If "Yes" activate the boxes in front of xfs and mapping

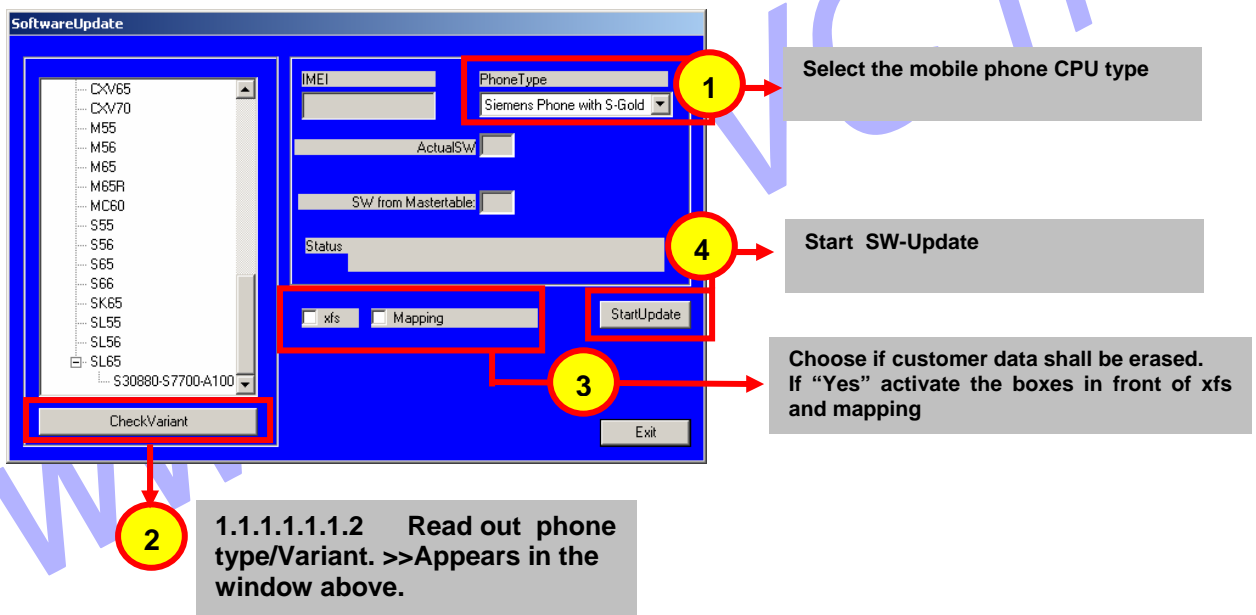
2 1.1.1.1.1.3 Read out phone type/Variant. >>Appears in the window above.

Remarks:

- The decision about a Siemens authorised SW-Update depends only on the Master-Table.
- The user has no chance to influence the decision
- **Xfs** and **mapping** are always activated there is no chance to deactivate them. GRT will erase in any case the customer data even if the action is cancelled.
- If the user wants to download another variant then the automatically identified one, he has simply to select another variant from the list. Afterwards he has to start the SW-Update

Case 3 Operator SWUpdate (blue)

Step 1: Carry out step 1 – 4 to start SW-Update.



Remarks:

- The decision about a Siemens authorised SW-Update depends only on the Master-Table.
- The user has no chance to influence the decision
- **Xfs** and **mapping** can be activated on demand. GRT will erase in any case the customer data even if the action is cancelled.
- If the user wants to download another variant then the automatically identified one, he has simply to select another variant from the list. Afterwards he has to start the SW-Update

8 International Mobile Equipment Identity, IMEI

The mobile equipment is uniquely identified by the International Mobile Equipment Identity, IMEI, which consists of 15 digits. Type approval granted to a type of mobile is allocated 6 digits. The final assembly code is used to identify the final assembly plant and is assigned with 2 digits. 6 digits have been allocated for the equipment serial number for manufacturer and the last digit is spare.

EL71 series IMEI label is accessible by removing the battery.

Re – use of IMEI label is possible by using a hair – dryer to remove the IMEI label.

Date code is shown on IMEI label: Detailed description on how to read date code is given in Annex 2.

To display the IMEI number, exit code and SW/HW version, key: * # 300 #

Code *#301# activates self diagnosis.

9 General Testing Information

General Information

The technical instruction for testing GSM mobile phones is to ensure the best repair quality.

Validity

This procedure is to apply for all from Siemens AG authorized level 2 up to 2.5e workshops.

Procedure

All following checks and measurements have to be carried out in an ESD protected environment and with ESD protected equipment/tools. For all activities the international ESD regulations have to be considered.

Get delivery:

- Ensure that every required information like fault description, customer data a.s.o. is available.
- Ensure that the packing of the defective items is according to packing requirements.
- Ensure that there is a description available, how to unpack the defective items and what to do with them.

Enter data into your database:

(Depends on your application system)

- Ensure that every data, which is required for the IRIS-Reporting is available in your database.
- Ensure that there is a description available for the employees how to enter the data.

Incoming check and check after assembling:**!! Verify the customers fault description!!**

- After a successful verification pass the defective item to the responsible troubleshooting group.
- If the fault description can not be verified, perform additional tests to save time and to improve repair quality.
 - Switch on the device and enter PIN code if necessary unblock phone.
 - Check the function of all **keys** including **side keys**.
 - Check the **display** for error in line and row, and for illumination.
 - Check the **ringer/loudspeaker** acoustics by individual validation.
 - Perform a **GSM Test** as described on page 36.

Check the storage capability:

- Check internal resistance and capacity of the battery.
- Check battery charging capability of the mobile phone.
- Check charging capability of the power supply.
- Check current consumption of the mobile phone in different mode.

Visual inspection:

- Check the entire board for liquid damages.
- Check the entire board for electrical damages.
- Check the housing of the mobile phone for damages.

SW update:

- Carry out a software update and data reset according to the master tables and operator/customer requirements.

Repairs:

The disassembling as well as the assembling of a mobile phone has to be carried out by considering the rules mentioned in the dedicated manuals. If special equipment is required the service partner has to use it and to ensure the correct function of the tools.

If components and especially soldered components have to be replaced all rules mentioned in dedicated manuals or additional information e.g. service information have to be considered

GSM Test:

With the availability of the GRT Test /Alignment software, this tool has to be used to perform the outgoing test!

>Connect the mobile/board via internal antenna (antenna coupler) and external antenna (car cradle/universal antenna clip) to a GSM tester

>Use a Test SIM

For Triple Band phones use a separate test case, if the test software allows only one handover.

Skip the GSM Band test cases if not performed by the mobile phone

Example: 1. Test file Band 1 = GSM900 / Band 2 = GSM1800
 2. Test file Band 1 = GSM1900

Internal Antenna				
Test case		Parameter	Measurements	Limits
1	Location Update	<ul style="list-style-type: none"> • GSM Band 1 • BS Power = -55 dBm • middle BCCH 	<ul style="list-style-type: none"> • Display check 	<ul style="list-style-type: none"> • individual check
2	Call from BS	<ul style="list-style-type: none"> • low TCH • highest PCL • BS Power = -75 dBm • middle BCCH 	<ul style="list-style-type: none"> • Ringer/Loudspeaker check 	<ul style="list-style-type: none"> • individual check
3	TX GSM Band 1	<ul style="list-style-type: none"> • low TCH • highest PCL • BS Power = -75 dBm • middle BCCH 	<ul style="list-style-type: none"> • Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template 	<ul style="list-style-type: none"> • GSM Spec.
4	Handover to GSM Band 2 Including Handover Check			
5	TX GSM Band 2	<ul style="list-style-type: none"> • low TCH • highest PCL0 • BS Power = -75 dBm • middle BCCH 	<ul style="list-style-type: none"> • Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template 	<ul style="list-style-type: none"> • GSM Spec.
6	Call release from BS			

External Antenna				
7	Call from MS	<ul style="list-style-type: none"> • GSM900 • high TCH • second highest PCL • BS Power = -75 dBm • middle BCCH 	<ul style="list-style-type: none"> • Keyboard check 	<ul style="list-style-type: none"> • individual check
8	TX GSM Band 1	<ul style="list-style-type: none"> • high TCH • second highest PCL • BS Power = -75 dBm • middle BCCH 	<ul style="list-style-type: none"> • Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template 	<ul style="list-style-type: none"> • GSM Spec.
9	RX GSM Band 1	<ul style="list-style-type: none"> • high TCH • BS Power = -102 dBm • 50 Frames • middle BCCH 	<ul style="list-style-type: none"> • RX Level • RX Qual • BER Class Ib • BER Class II • BER Erased Frames 	<ul style="list-style-type: none"> • GSM Spec.
10	Handover to GSM Band 2 Including Handover Check			
11	TX GSM Band 2	<ul style="list-style-type: none"> • high TCH • second highest PCL • BS Power = -75 dBm • middle BCCH 	<ul style="list-style-type: none"> • Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template 	<ul style="list-style-type: none"> • GSM Spec.
12	RX GSM Band2	<ul style="list-style-type: none"> • high TCH • BS Power = -102 dBm • 50 Frames • middle BCCH 	<ul style="list-style-type: none"> • RX Level • RX Qual • BER Class Ib • BER Class II • BER Erased Frames 	<ul style="list-style-type: none"> • GSM Spec.
13	Call release from MS			

Final Inspection:

The final inspection contains:

- 1) A 100% network test (location update, and set up call).
- 2) Refer to point 3.3.
- 3) A random sample checks of:
 - Data reset (if required)
 - Optical appearance
 - complete function
- 4) Check if PIN-Code is activated (delete the PIN-Code if necessary).

Basis is the international standard of **DIN ISO 2859**.

Use Normal Sample Plan Level II and the Quality Border 0,4 for LSO.

Remark: All sample checks must be documented.

Annex 1

Test SIM Card

There are two different "Test SIM Cards" in use:

1) Test SIM Card from the company "**ORGA**"

Pin 1 number: 0000
PUK 1 : 12345678

Pin 2 number: 0000
PUK 2 : 23456789

2) Test SIM Card from the company "**T-D1**"

Pin 1 number: 1234
PUK : 76543210

Pin 2 number: 5678
PUK 2 : 98765432

Annex 2

Battery Date Code overview

Varta

Date code example → N 9 A VA

Year (N:2001, O:2002...)

Month (1:Jan, 2:Feb,...9:Sep, O:Oct, N:Nov, D:Dec)

Revision Letter (A, B,...)

Supplier Code
(Maker's marking)

Hitachi / Maxwell

Date code example → N 9 A MX

Year (N:2001, O:2002...)

Month (1:Jan, 2:Feb,...9:Sep, O:Oct, N:Nov, D:Dec)

Revision Letter (A, B,...)

Supplier Code
(Maker's marking)

Sanyo

Date code example → N 9 A SY

Year (N:2001, O:2002...)

Month (1:Jan, 2:Feb,...9:Sep, O:Oct, N:Nov, D:Dec)

Revision Letter (A, B,...)

Supplier Code
(Maker's marking)

NEC

Date code example → N 8 A NT

Year (N:2001, O:2002...)

Month (1:Jan, 2:Feb,...9:Sep, O:Oct, N:Nov, D:Dec)

Revision Letter (A, B,...)

Supplier Code
(Maker's marking)

Panasonic

Date code example → O N A PAN

Year (N:2001, O:2002...)

Month (1:Jan, 2:Feb,...9:Sep, O:Oct, N:Nov, D:Dec)

Revision Letter (A, B,...)

Supplier Code
(Maker's marking)

Sony

Date code example → P N A SO

Year (O:2002, P:2003...)

Month (1:Jan, 2:Feb,...9:Sep, O:Oct, N:Nov, D:Dec)

Revision Letter (A, B,...)

Supplier Code
(Maker's marking)

10 Introduction of Service Repair Documentation Level 3 (basic) – EL71

Purpose

This part of Service Repair Documentation is intended to carry out repairs on BenQ Mobile repair level 3basic (only for workshops without level 3 equipment (special agreement required). The described failures shall be repaired in BenQ authorized local workshops only.

The level 3basic partners are obliged to send exchanged boards (SWAP) to the next higher Service Repair Partner.

All repairs have to be carried out in an ESD protected environment and with ESD protected equipment/tools. For all activities the international ESD regulations have to be considered.

Assembling/disassembling has to be done according to the latest EL71 Level 1-3 repair documentation.

The Service Partner has to ensure that every repaired mobile Phone is checked according to the latest released General Test Instruction document (both documents are available in the Technical Support section of the C-market).

Check at least weekly C-market for updates and consider all EL71 related Customer Care Information

EL71 Partnumber on IMEI label: S30880-S2620-#xxx

, while # may be any letter (A-Z) and xxx may be any number from 100, 101, 102....

Scrap Handling: All Scrap information given in this manual are related to the SCRAP-Rules and instructions.

Attention: Consider the new "LEAD-FREE" soldering rules (available in the communication market), avoid excessive heat.

Scope

This document is the reference document for all BenQ mobile authorised Service Partners which are released to repair BenQ mobile phones up to level 2.5 light.

Terms and Abbreviations

List of available Level 3 (basic) parts

Product	RF Chipset	ID	Order Number	Description CM
EL71	HIT	X1510	L50634-Z93-C364	IO-JACK NANO 12-POL
EL71	HIT	X1603	L50634-Z97-C458	CONNECTOR SIM CARD READER R65 SHORT
EL71	HIT	X2201	L50634-Z97-C461	CONNECTOR BOARD TO BOARD 40-POL 1,5MM
EL71	HIT	X2705	L50697-F5008-F306	CONNECTOR BOARD TO BOARD 16-POL
EL71	HIT	X3500	L50634-Z97-C460	CONNECTOR BOARD TO BOARD 40-POL 1MM
EL71	HIT	X4899	L50634-Z97-C448	CONNECTOR CARDREADER TRANSFLASH HINGE
EL71	HIT	Z1601	L50620-U6029-D670	FILTER EMI (Fi-Type6) PB Free

Hardware requirements

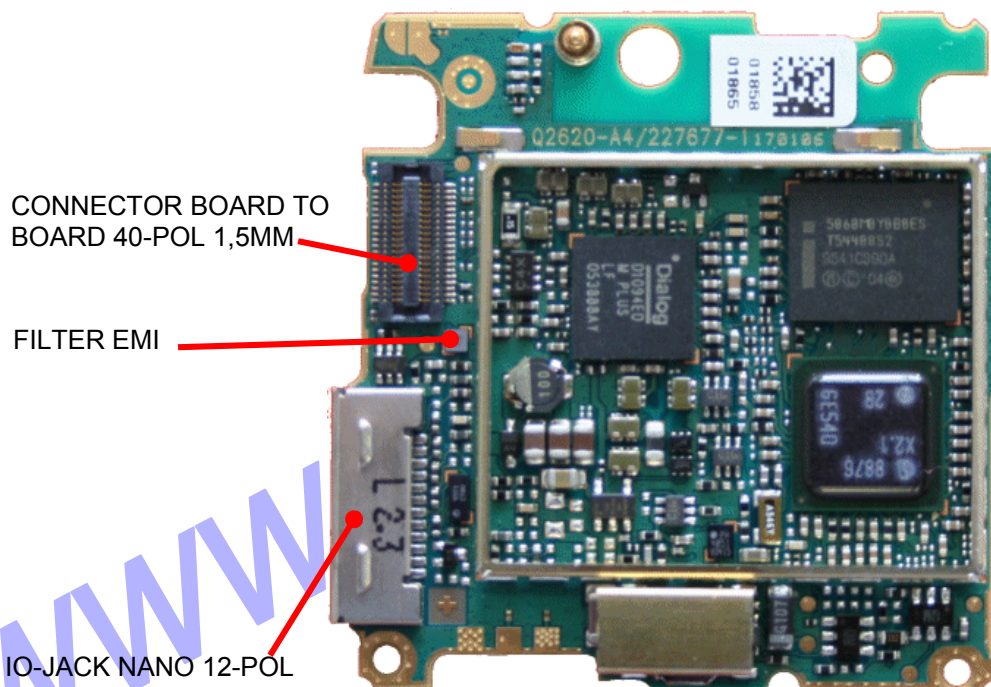
(According to General soldering information V1.3 - check C-market for updates)

Jigs, Tools and working materials for all described repairs:

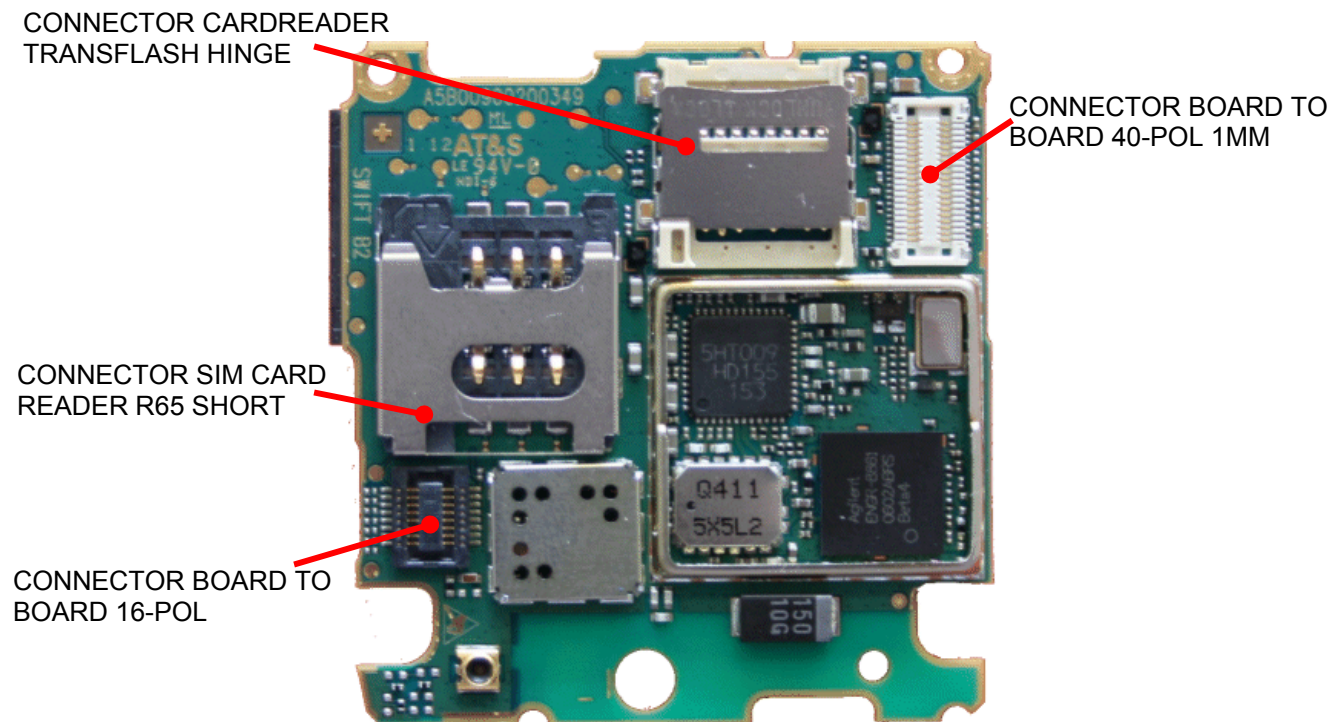
- hot air blower
- soldering gun
- tweezers
- flux
- solder

EL71 Board Layout

Upper board side

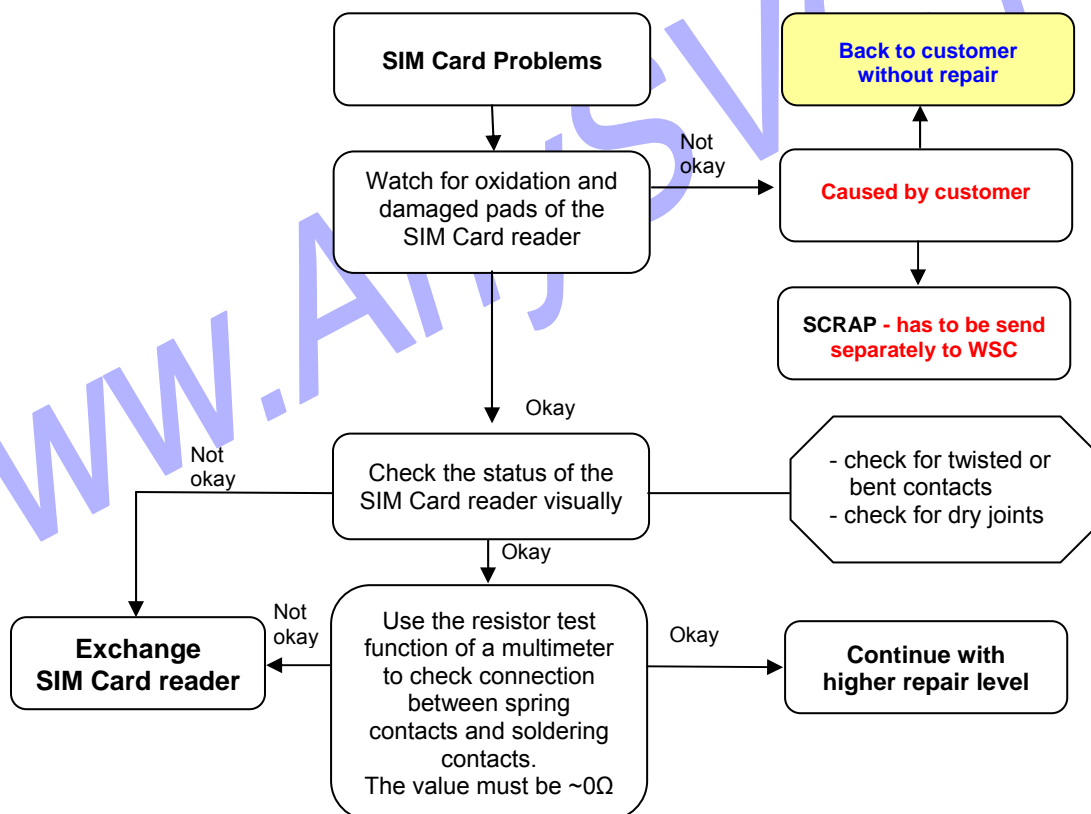


Lower board side



SIM Card Problems

Fault Symptoms
Customer: Handset does not accept SIM card



Connector SIM Card Reader

Use soldering iron to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50634-Z97-C458

E-commerce order name: CONNECTOR SIM CARD READER R65 SHORT

Soldering temperature: ~ 360°C TIP Temp.

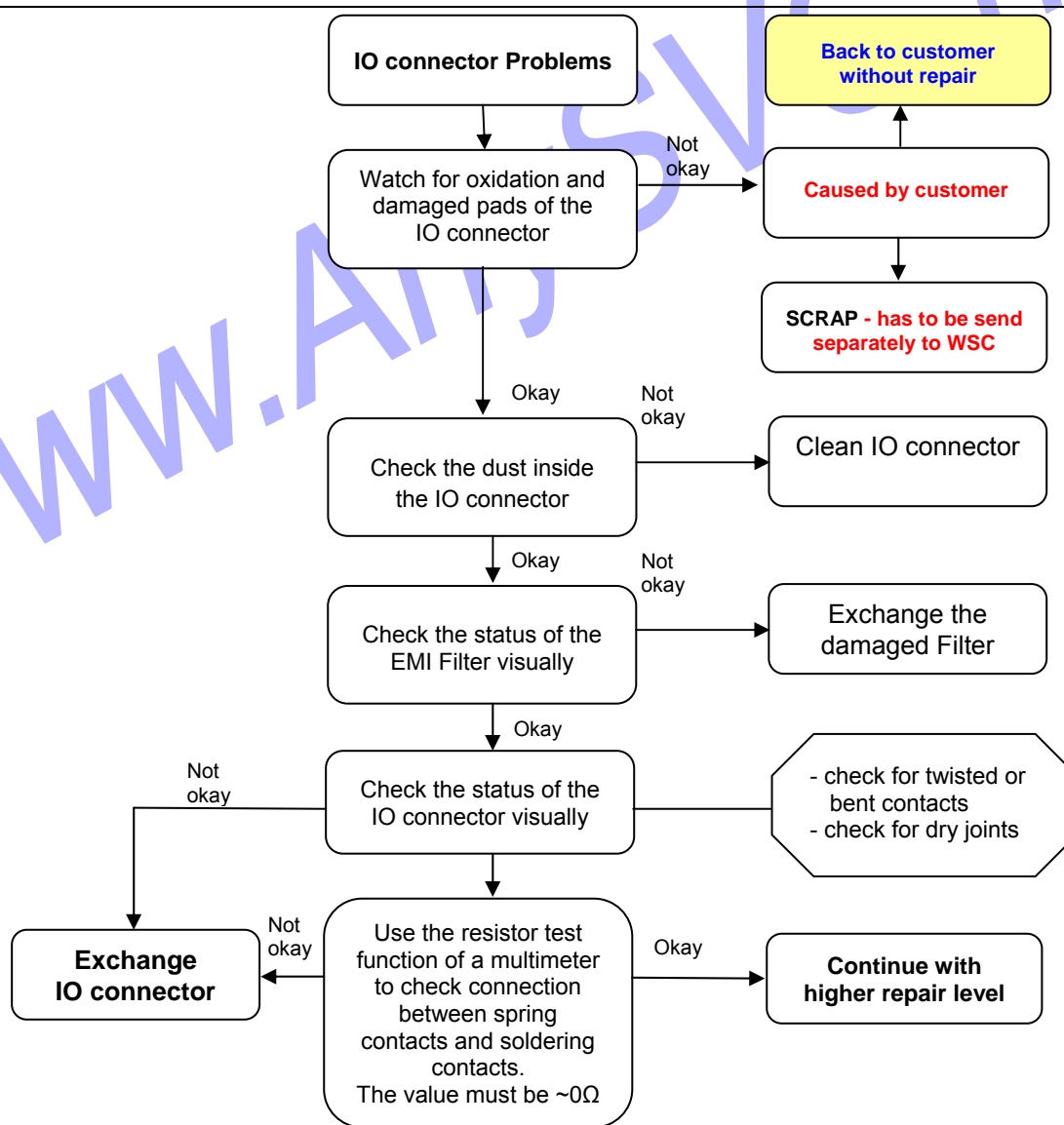
I/O Connector Problems

Fault Symptoms

Customer:

Problems with external loudspeaker or microphone when using a car kit

Problems with accessories connected at the IO connector



Connector IO Jack

Use soldering iron to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50634-Z93-C364

E-commerce order name: IO-JACK NANO 12-POL

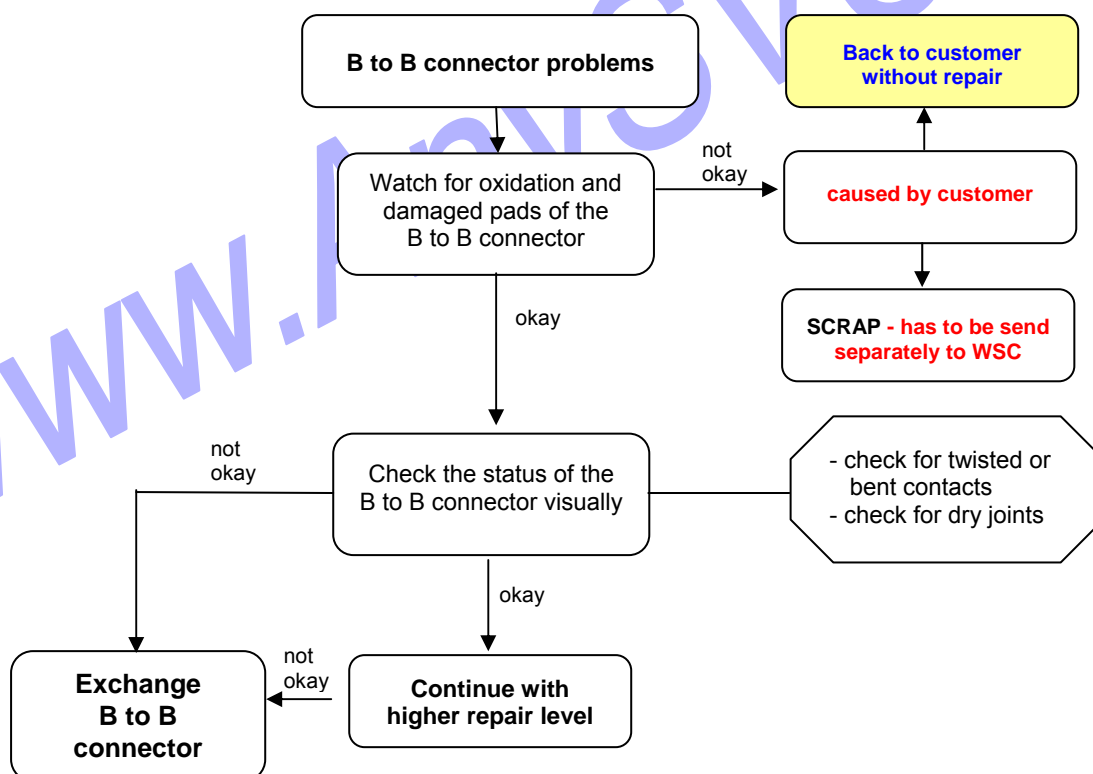
E-commerce order number: L50620-U6029-D670

E-Commerce name: FILTER EMI (Fi-Type6) PB Free

Soldering temperature: ~ 360°C TIP Temp.

Board to Board Connector Problems

Fault Symptoms	
Customer: Display problems Keypad illumination problems Keypad malfunction	GRT: Keypad malfunction Current measured failed



Connector BOARD TO BOARD

Use soldering iron/hot air blower to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50634-Z97-C461

E-commerce order name: CONNECTOR BOARD TO BOARD 40-POL 1,5MM

E-commerce order number: L50697-F5008-F306

E-commerce order name: CONNECTOR BOARD TO BOARD 16-POL

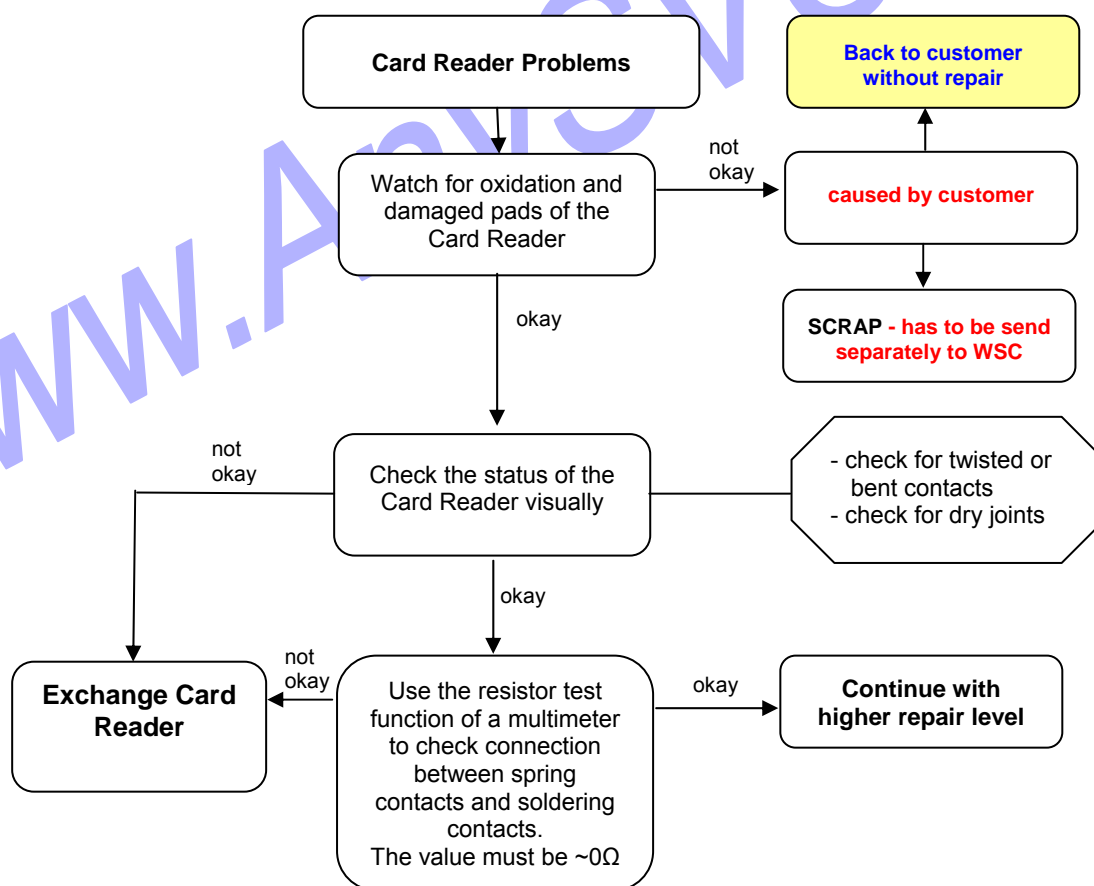
E-commerce order number: L50634-Z97-C460

E-commerce order name: CONNECTOR BOARD TO BOARD 40-POL 1MM

Soldering temperature: ~ 360°C TIP Temp.

Transflash Card Reader Problems

Fault Symptoms
Customer: Card Reader malfunction



Connector Transflash Card Reader

Use soldering iron to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L50634-Z97-C448

E-commerce order name: CONNECTOR CARDREADER TRANSFLASH HINGE

Soldering temperature: ~ 360°C TIP Temp.