Service Manual
A31
Level 1-3

Release	Date	Department	Notes to change
R 1.0	28.12.2005	BenQ Mobile S CC CES	New document

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Table of Content

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1 Key Feature

Supported Systems	Band GSM 900/1800 Band GSM 850/1900 EGSM (GSM phase 2/phase 2+) GPRS multislot class 8, coding scheme 1-4* Vocoders FR, HR, EFR, AMR
Stand-by Time	Up to 270 h (standard battery)
Talk Time	Up to 300 min (standard battery)
Battery Technology **Battery Capacity**	Li-Ion 820 mAh Less than 2 h for 100%
Weight	85 g
Volume	75 cm³
Length	102 mm
Width	46 mm
Thickness	17.6 mm
SIM Functionality / **Security Controls**	SIM Application Toolkit (Rel. 99) SIM lock, various levels PIN 1 & 2 control Ciphering A5.1 and A5.2 SIM plug-in (3/1.8 V), SAT rel 99
Antenna	Integrated
Data Services	Mobile Internet access (WAP 1.2.1 & parts of 2.0) Data download OTA via SMS or WAP MMS class 3 EMS rel. 4.3 Data services (CSD) at 9.6 Kbps & GPRS (up to 53.6 Kbps)
Display / Display Illumination	128 x 128 pixels, 65,536 colors, CSTN, 7 lines plus headline
Camera	n / a
Connectivity	Serial cable
Features	4-way navigation key & two soft keys 65,536 color display Messaging: SMS, EMS, MMS 32-chord polyphonic ring tones Basic organizer: event reminder, address book, and calendar Mobile Phone Manager software, WAP, GPRS Java MIDP 1.0, Java based games and applications Speed dialing keys, Programmable soft keys Handsfree talking Alarm function Calculator Stopwatch Silent alert (Vibra) External Antenna Connector in the phone offers an interface for a built-in car kit

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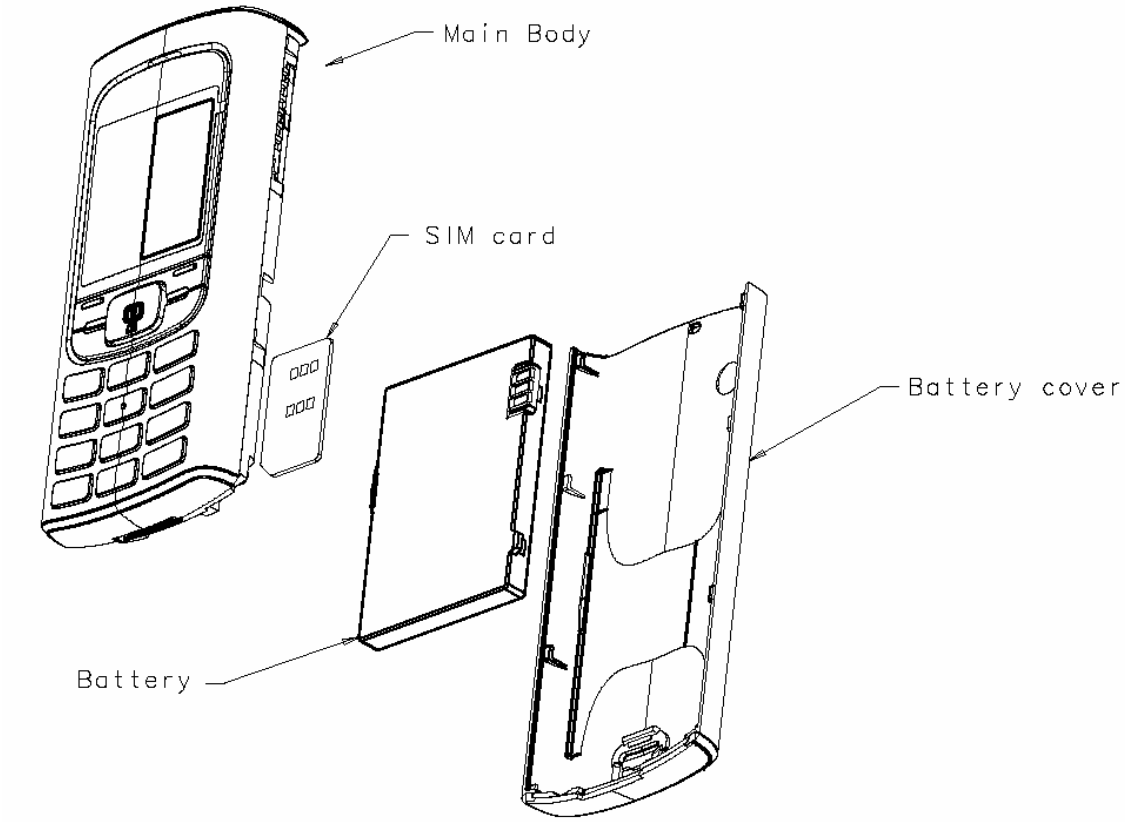
2 A31 Interface to Accessories

The car cradle is the same design of the G85 existing design. Nano I/O connector is for G85 generation. The compatible interface is suitable to use the travel charger.



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3 Unit Description of A31

The A31 Finch is designed as a Mono Block with non-exchangeable housing. The Upper case and battery cover are painted parts (1k; 2 colours). IMD Lens will be mounted by double adhesive, display, 128X128(reuse from Pegasus); semi-bridge keypad, 4-way Navi-Key, 12 keys block; IMD lens (1pcs only); No ID concept will be realized on Battery Cover.

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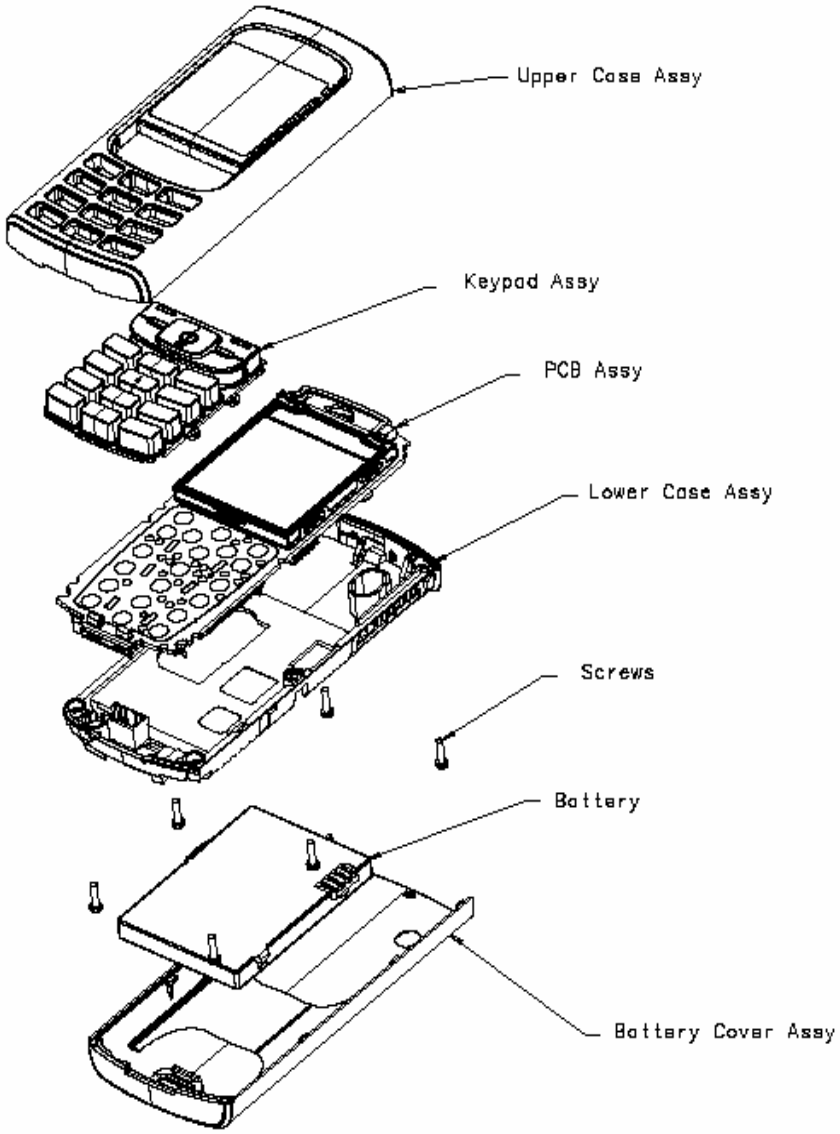
4 Exploded View of A31



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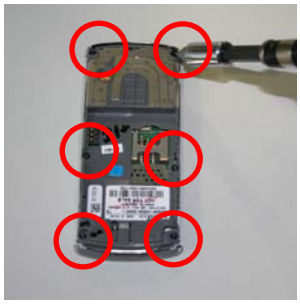
5 Disassembly of A31

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 Assy and Battery.
Step 2  	Remove screws with the Torque – Screwdriver T5+

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Step 3 	Remove Vibramotor by using Tweezers.
Step 4 	Remove Loudspeaker by using Tweezers.
Step 5 	Remove MMI from Upper Case Assy by using the Alternative Opening Tool carefully.

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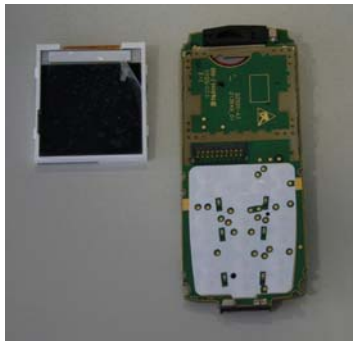
Step 6 	To avoid scratches it is mandatory to place a protection foil onto the Display!!!
Step 7  	Remove Display by using the alternative opening tool carefully.

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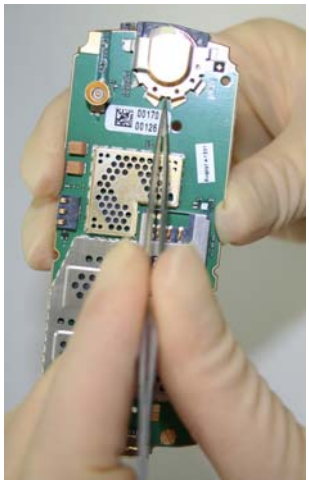
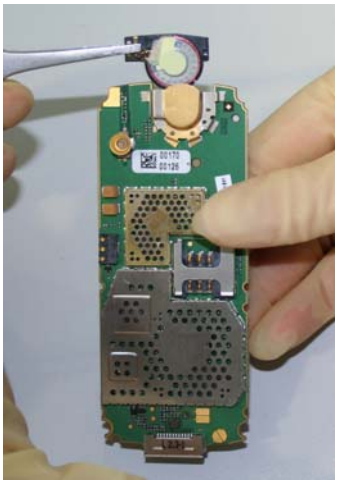
Step 8  	Remove Earphone. Press the hocks together and lift the earphone up.
Step 9  	Remove keypad by using tweezers.

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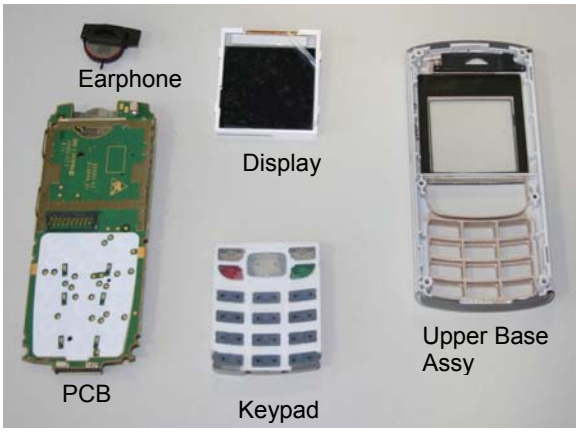
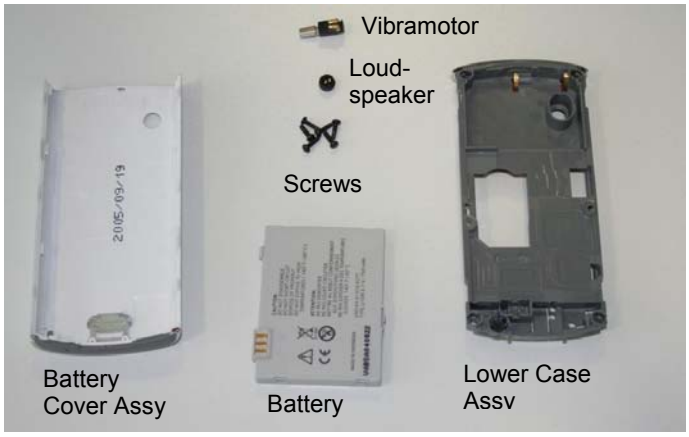
Overview Upper Parts	Overview Lower Parts
	

6 Assembly of A31

Step 1 	Assemble Keypad by using Tweezers.
Step 2 	Assemble Earphone by using Tweezers.

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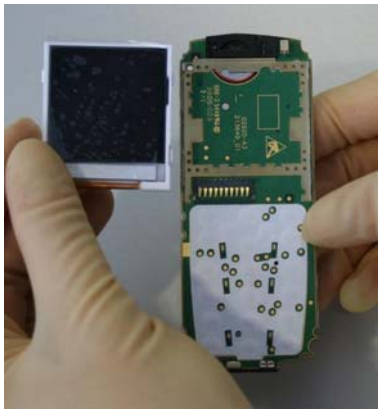
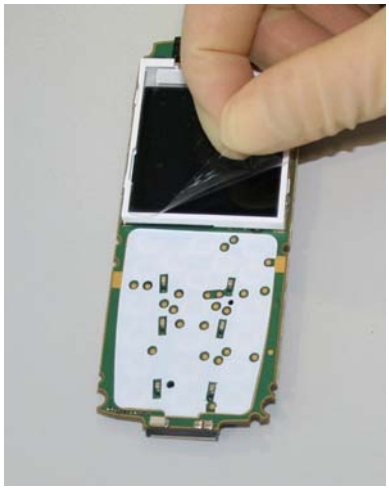
Step 3 	Assemble Display module.
Step 4 	Remove the display protection foil.
Step 5 	Assemble Receiver by using tweezers.

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Step 9	
	Assemble the Vibramotor by using tweezers.
Step 10 	Assemble MMI and Upper Case Assy.
Step 11 	Assemble Lower Case Assy.

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Step 9  	Assemble Battery and Battery Cover Assy.

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7 BenQ Mobile Service Equipment User Manual

Introduction

Every LSO repairing BenQ Mobile handset must ensure that the quality standards are observed. BenQ Mobile 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.

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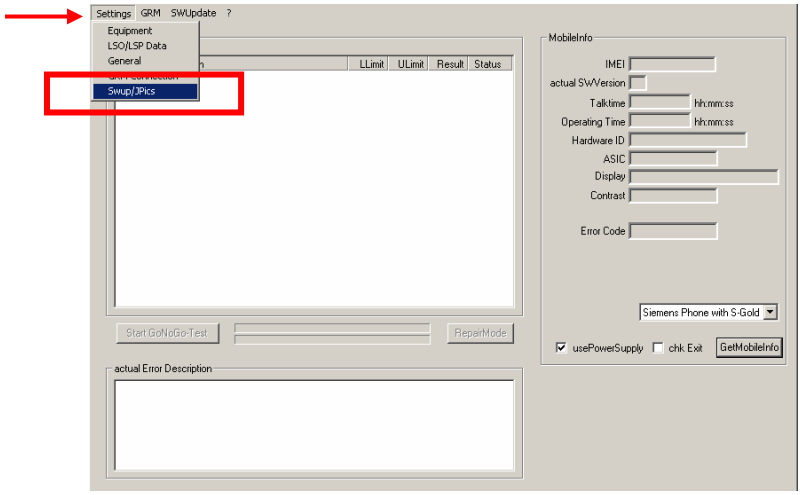
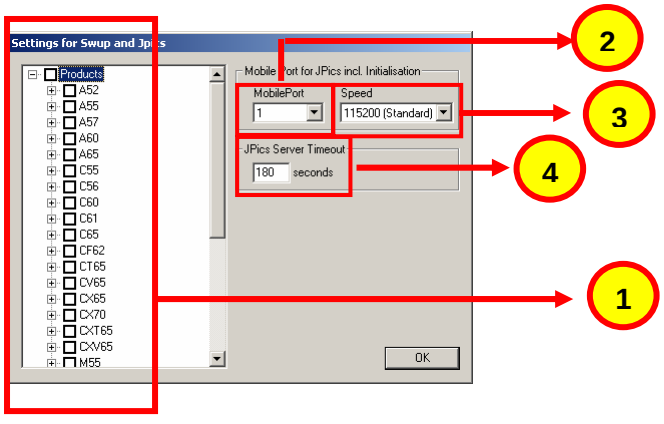
8 GRT Software: Functionality Configuration

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



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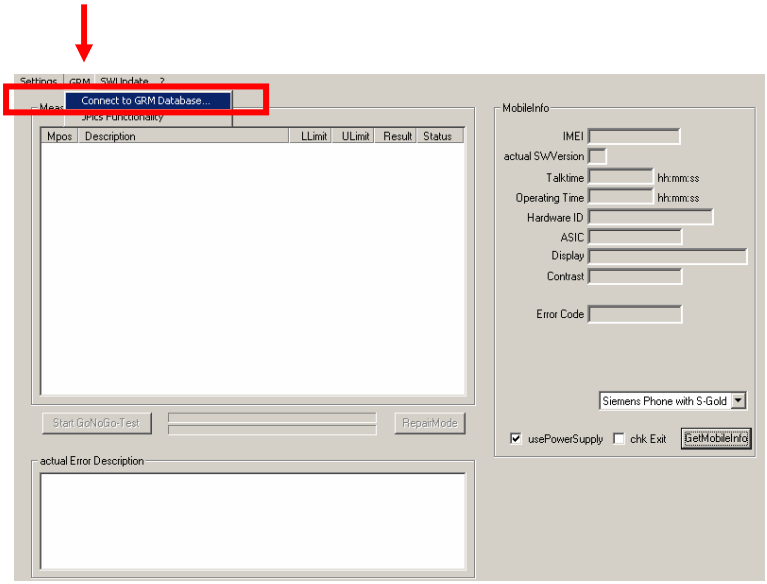
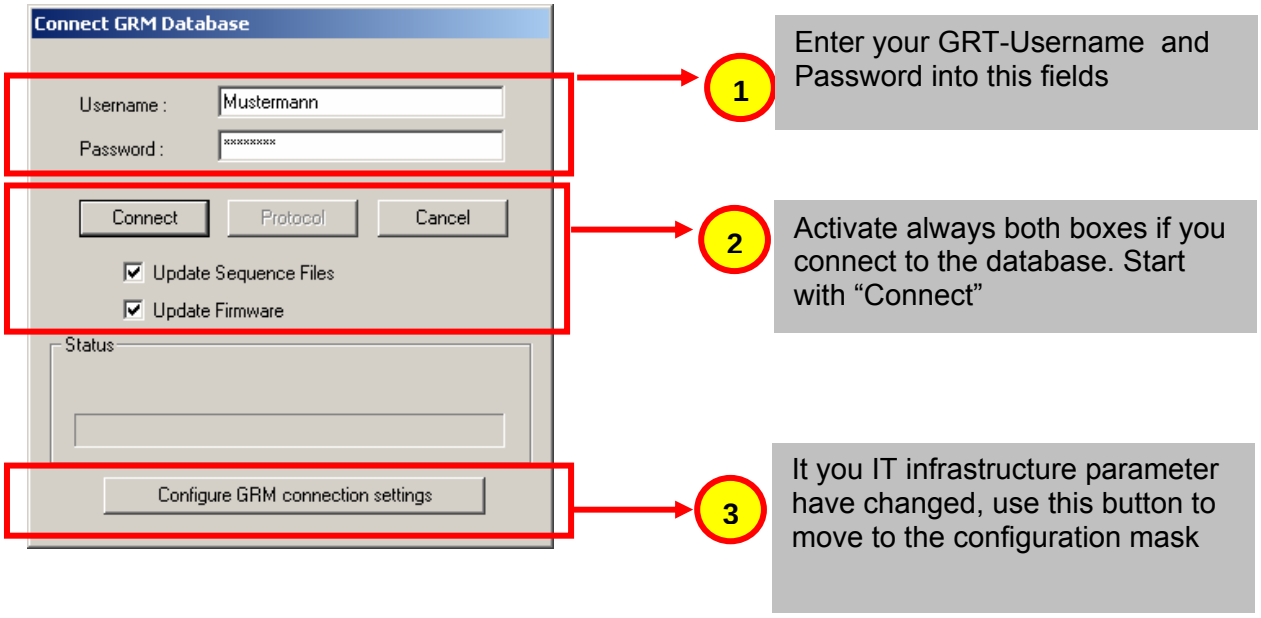
Step 3: Connect to GRM Server

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





- 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)

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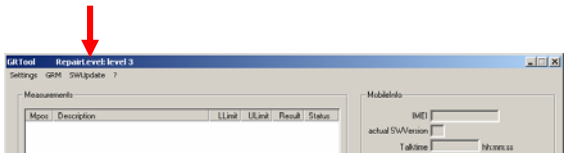
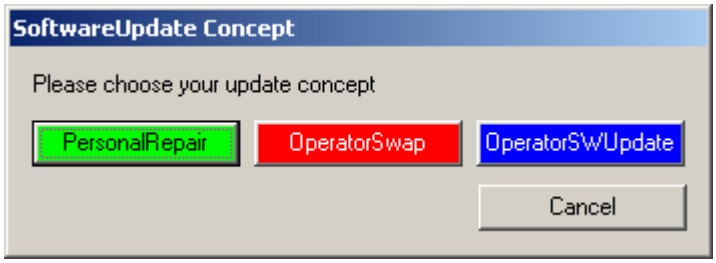
9 GRT Software: Regular Usage

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 BenQ Mobile 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 authorised

  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 BenQ Mobile 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 BenQ Mobile 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.

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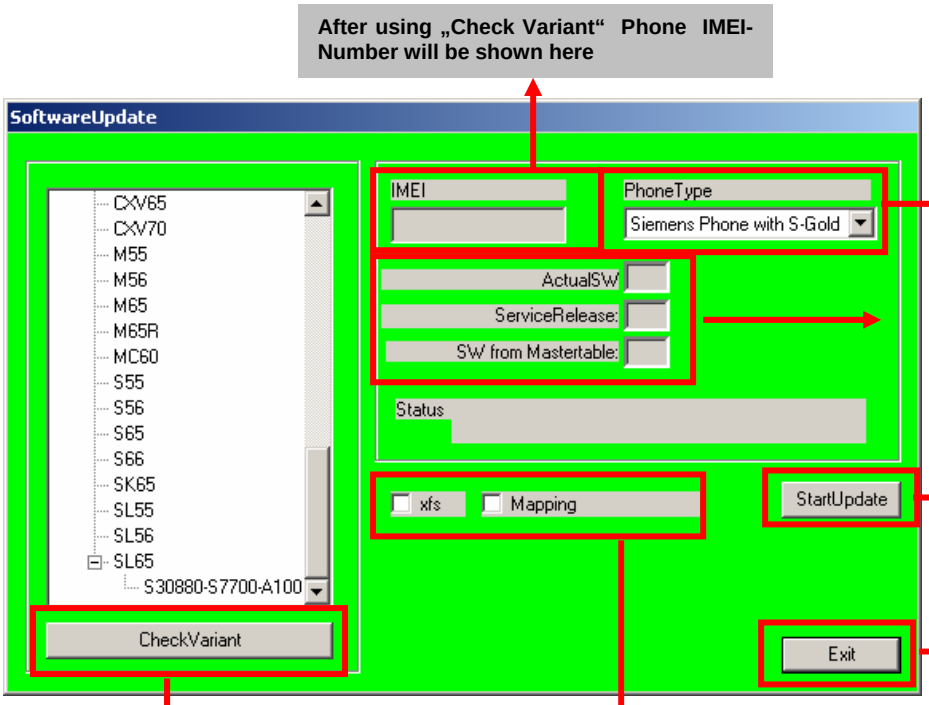
9.1 Window explanation

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



After using „Check Variant" Phone IMEI-Number will be shown here

Window to select the mobile phone CPU

Shows the different SW –Versions
a) SW inside the mobile phone
b) Version of Service Release Table SW
c) Version of Master Table SW

Start button for SW-Update

Stop / leave SW-Update

1.1.1.1.1.1.1 Automatic read out function of phone type/Variant. Appearing in the window above.

Select boxes for:
Content = xfs
Settings = mapping
Attention:
Activation of the boxes will cause erase of customer date while SW-Update

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 conncet the GRM Server. Then continue with SW-Update.

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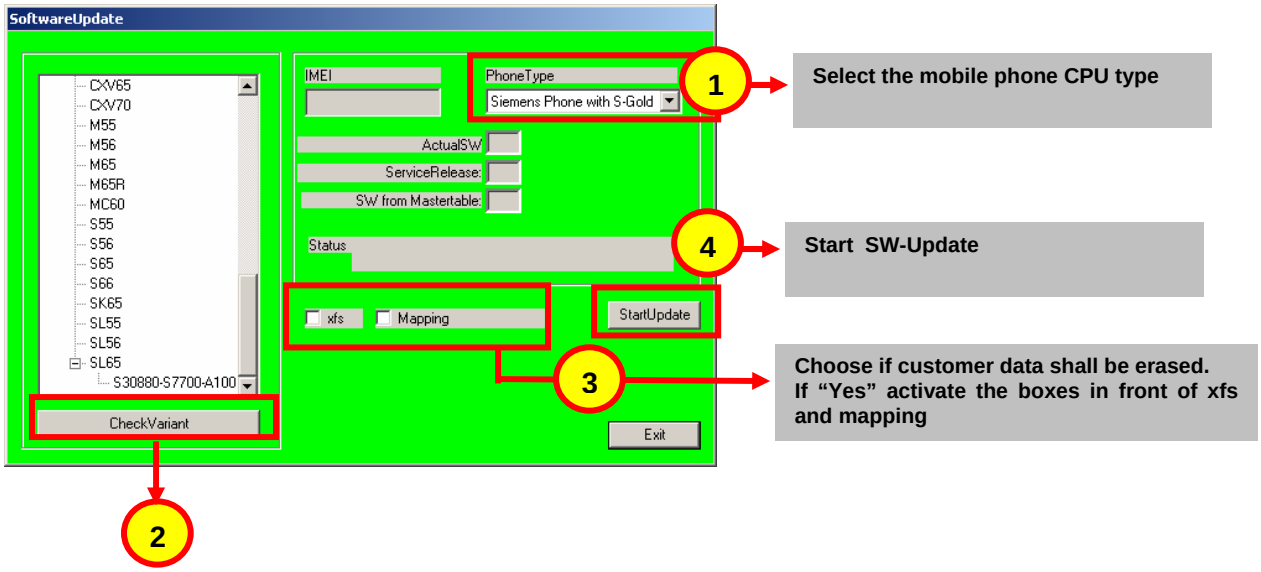
5.1 9.2 Case 1: Personal Repair (green)

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



Remarks:

- The decision about a BenQ Mobile 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 an other variant then the automatically identified one, he has simply to select an other variant from the list. Afterwards he has to start the SW-Update

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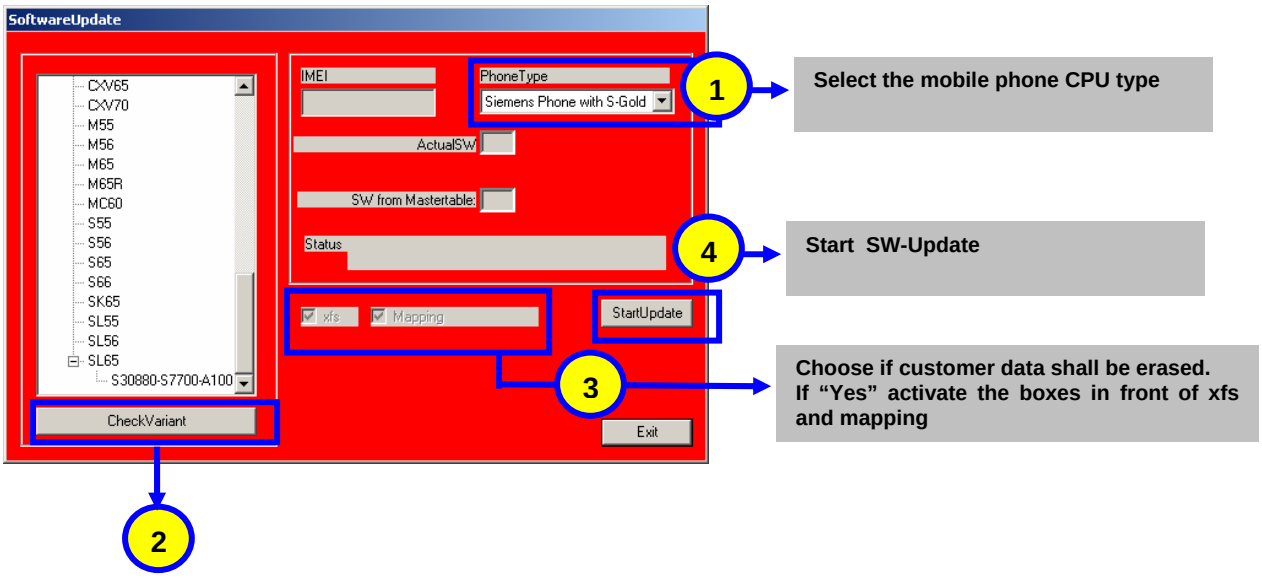
9.3 Case 2: Operator SWAP (red)

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



Remarks:

- The decision about a BenQ Mobile 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 an other variant then the automatically identified one, he has simply to select an other variant from the list. Afterwards he has to start the SW-Update

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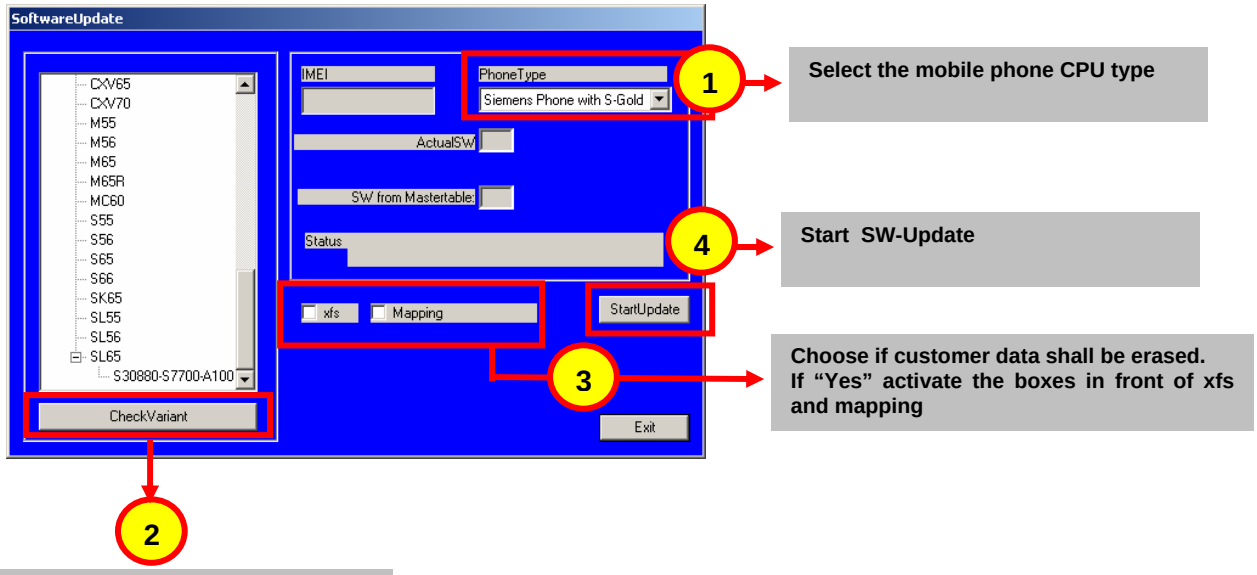
9.4 Case 3 Operator SWUPdate (blue)

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



Remarks:

- The decision about a BenQ Mobile 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 an other variant then the automatically identified one, he has simply to select an other variant from the list. Afterwards he has to start the SW-Update

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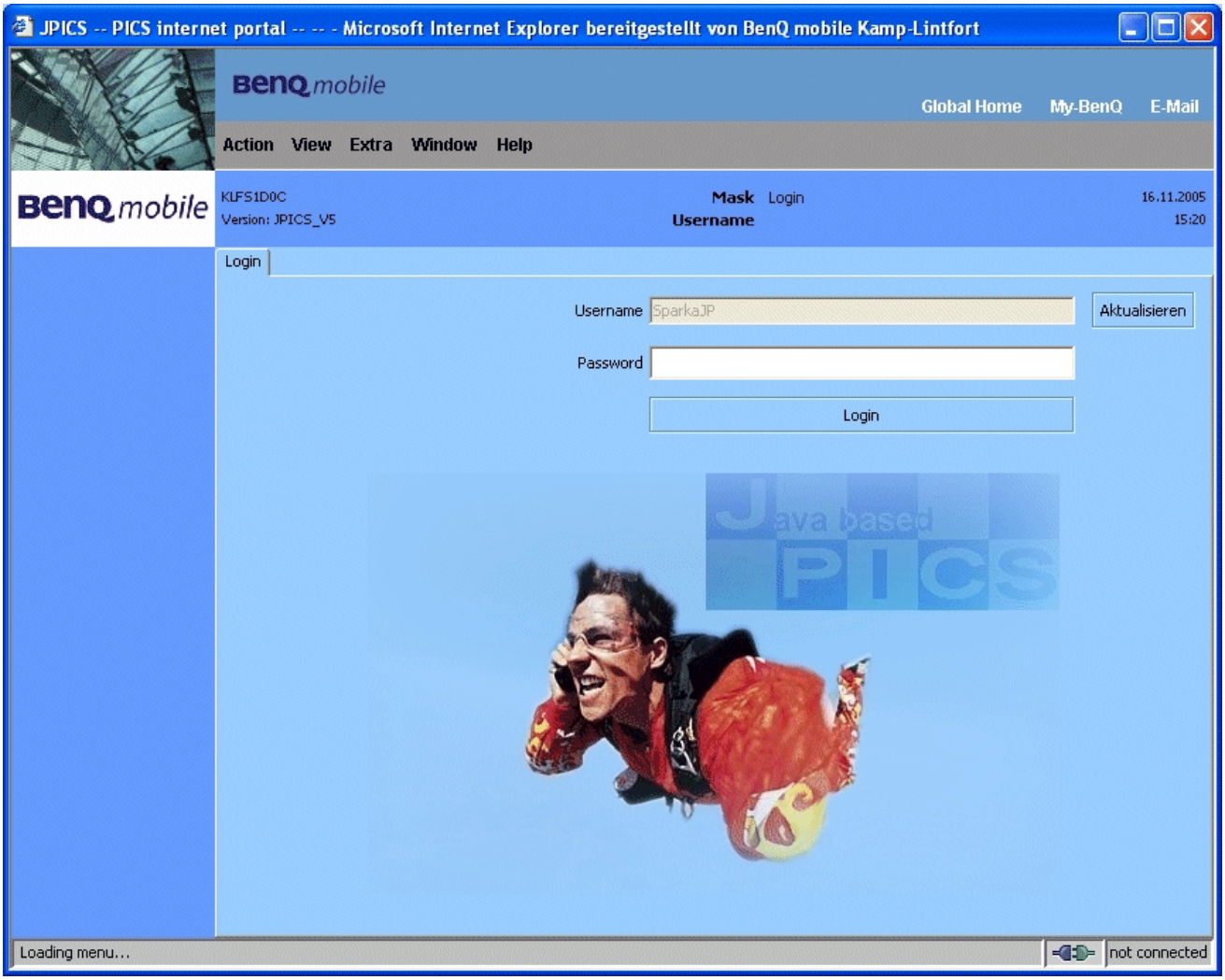
10 JPICS (Java based Product Information Controlling System)



Overview

The following functions are available for the LSO:

- General mobile information
- Generate PINCODE
- Generate SIMLOCK – UNLOCK – Code
- Print IMEI labels
- Lock, Unlock and Test the BF - Bus

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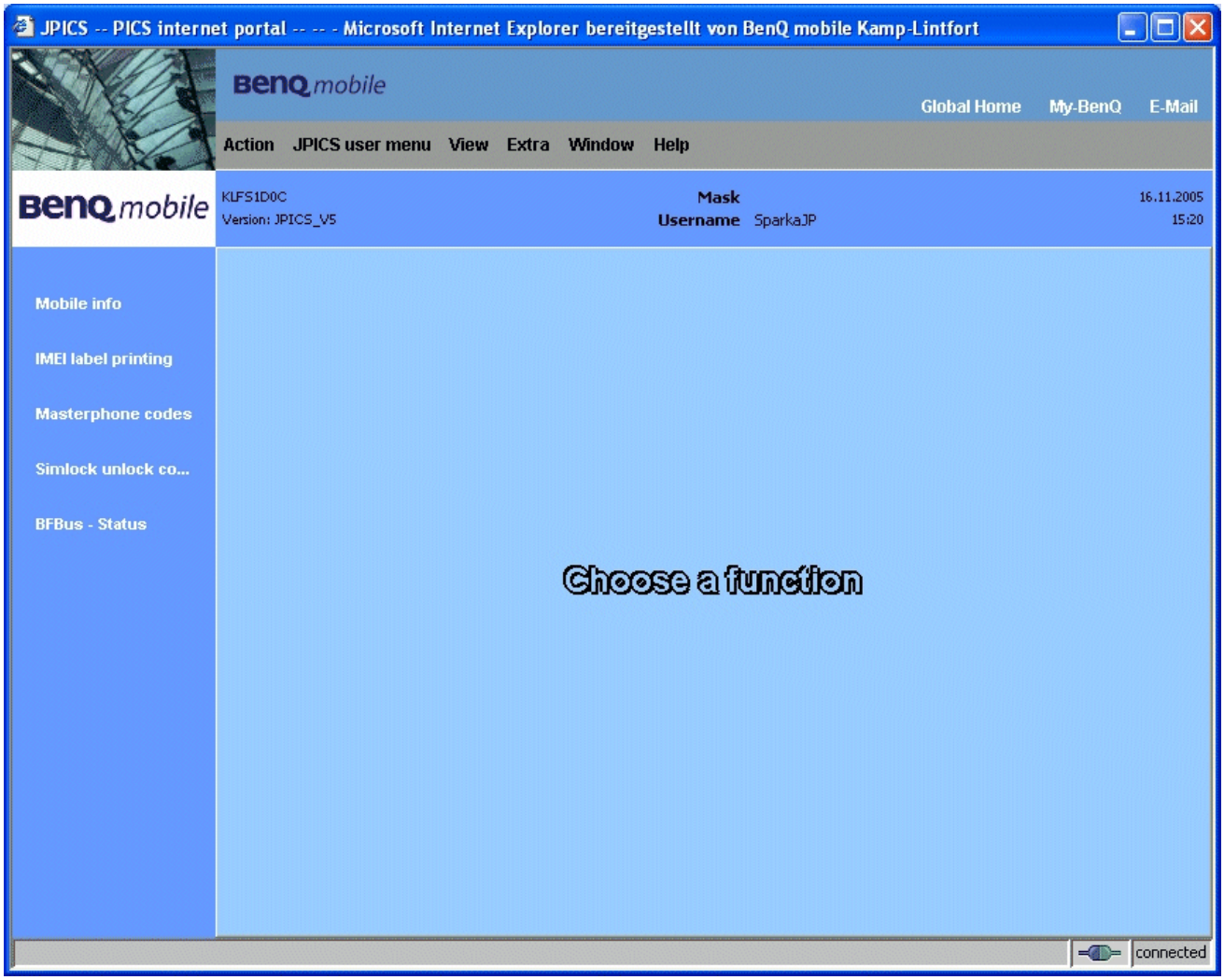

The access to the JPICS server which is located in Kamp – Lintfort is protected by chip card and in addition using secure socket layer (SSL) connection.

The JPICS server is only available for authorized users with a specially coded smart card. These smart cards and the administration of the JPICS web server and the PICS database – server can only be provided by the JPICS – TRUST – Center of the responsible department in Kamp – Lintfort.

In case of any questions or requests concerning smart cards or administration of the databases please ask your responsible BenQ Mobile Customer Care Manager.

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Installation overview

The following installation description assumes that a web browser is already installed.

JPICS is tested with the following browsers:

1. Internet Explorer Version 5.5 and higher
2. Netscape Version 6 and higher

For further information regarding supported browsers, browser version and supported operating systems, see the Sun FAQ's.

Here is a step by step instruction to install all the required components:

It is necessary to follow this order!

1. Smart Card Reader (Omnikey: Cardman 2020 USB or Cardman 3121 USB)
2. CardOS interface (BenQ Mobile Version 3.0 B)
3. Java Runtime Environment (Sun)
4. Java additional components

Every user is responsible for a proper installation matching the license agreements.

For installation and further access you need the following:

1. The JPICS Installation – CD
2. The Smart Card JPICS. These cards can be ordered via your responsible Customer Care Manager within BenQ Mobile or on http://jpics.BenQ.com/jpics/admin/request-new_jpics.jsp
3. A supported Smart Card Reader (Omnikey Cardman) in order to access your Smart Card.

Remark: We recommend using Cardman 2020 USB or Cardman 3121 USB. Serial card readers are not supported!!!

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Generate Codes

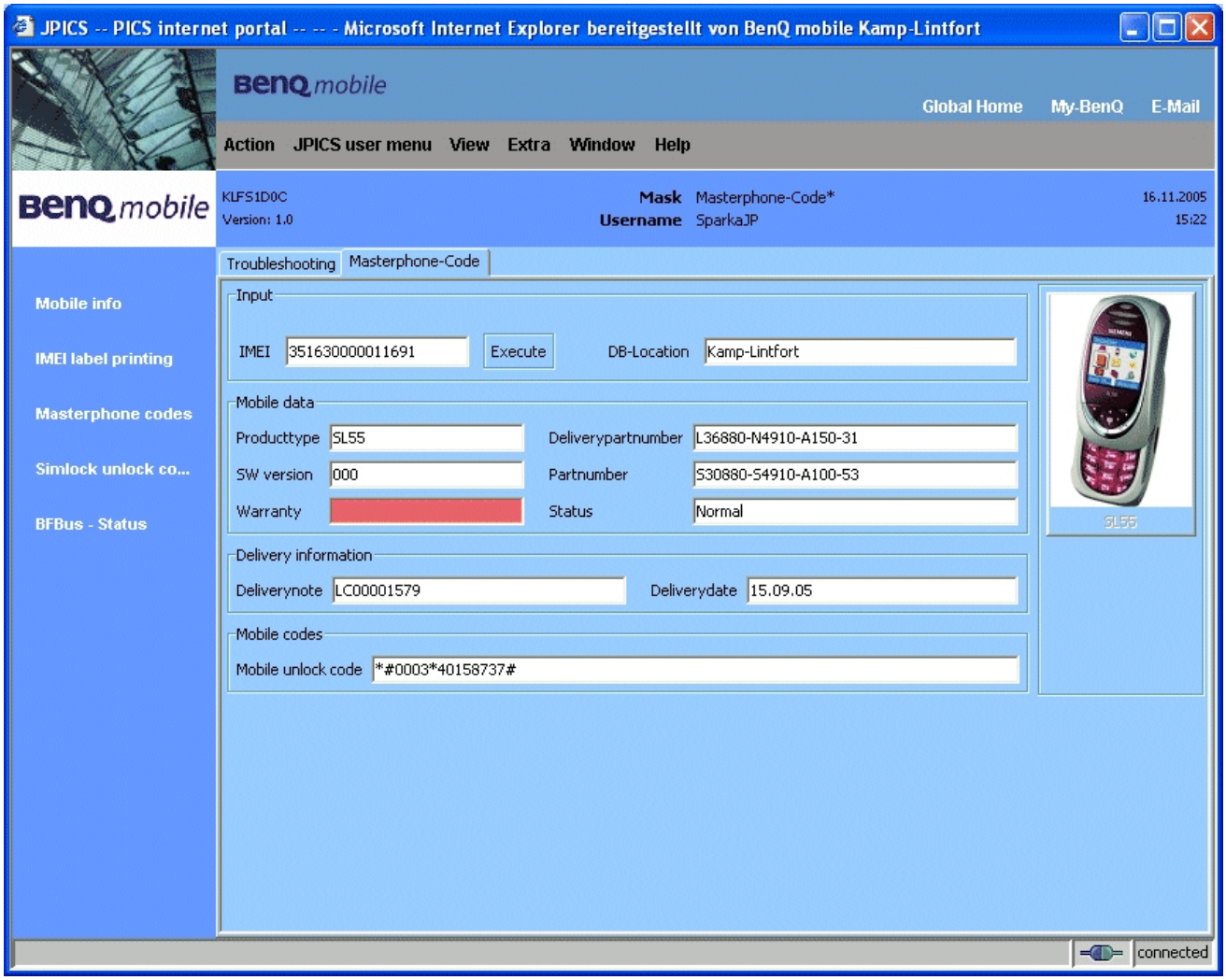
In the JPICS application you can choose to generate:

- **Masterphone codes**
- **Simlock – Unlock – Codes**

Masterphone codes

The **Masterphone code** is used to unlock blocked mobiles.

Masterphone codes can only be supplied for mobiles which have been delivered in a regular manner.



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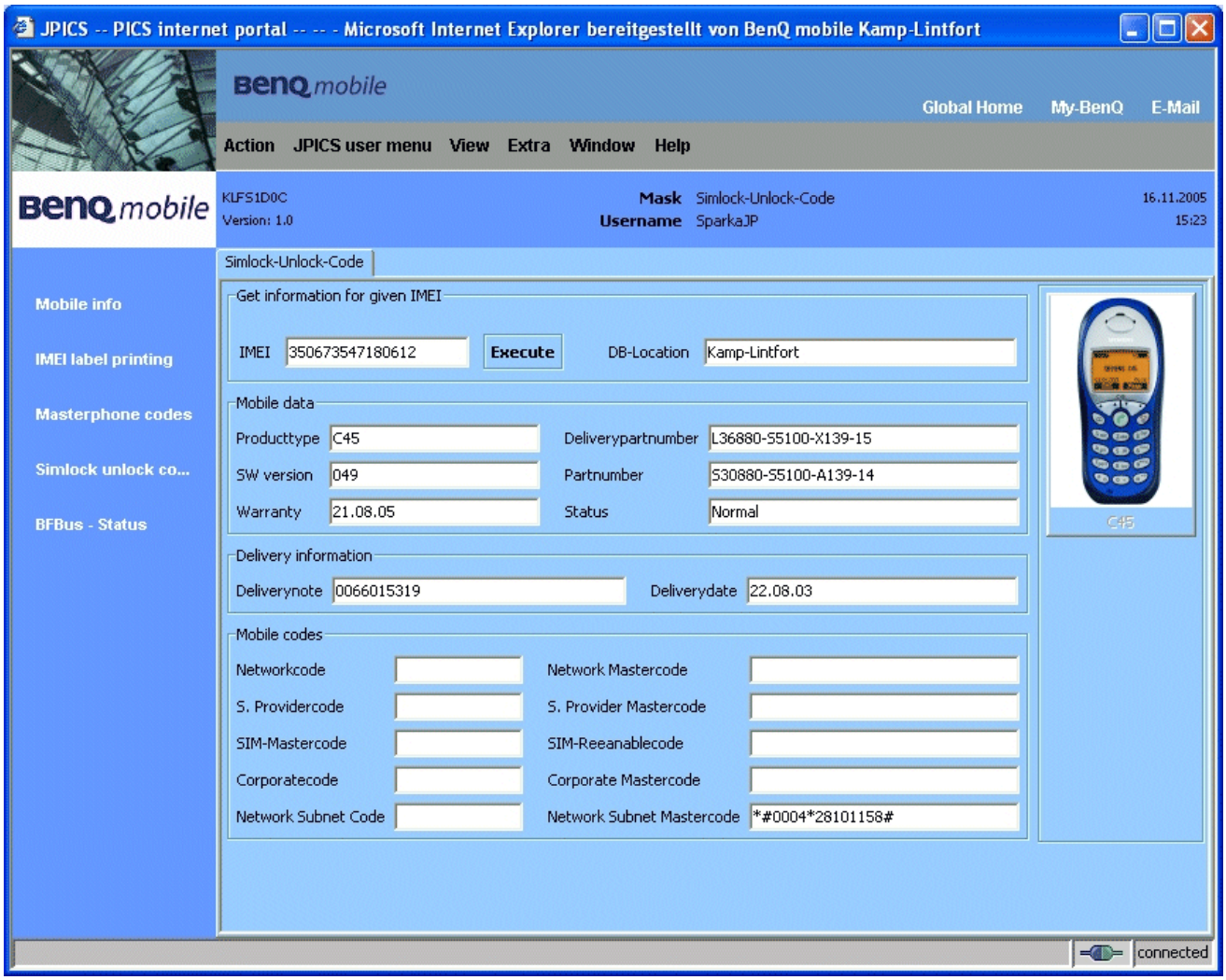
Simlock – Unlock – Code

The **Simlock – Unlock – Codes** can only be generated if the following conditions are given:

- Mobile must have an active **Simlock** inside.
- The user must be given the authorization to obtain **Simlock – Unlock – Codes** for the variant of the operator to which the mobile was delivered last time.



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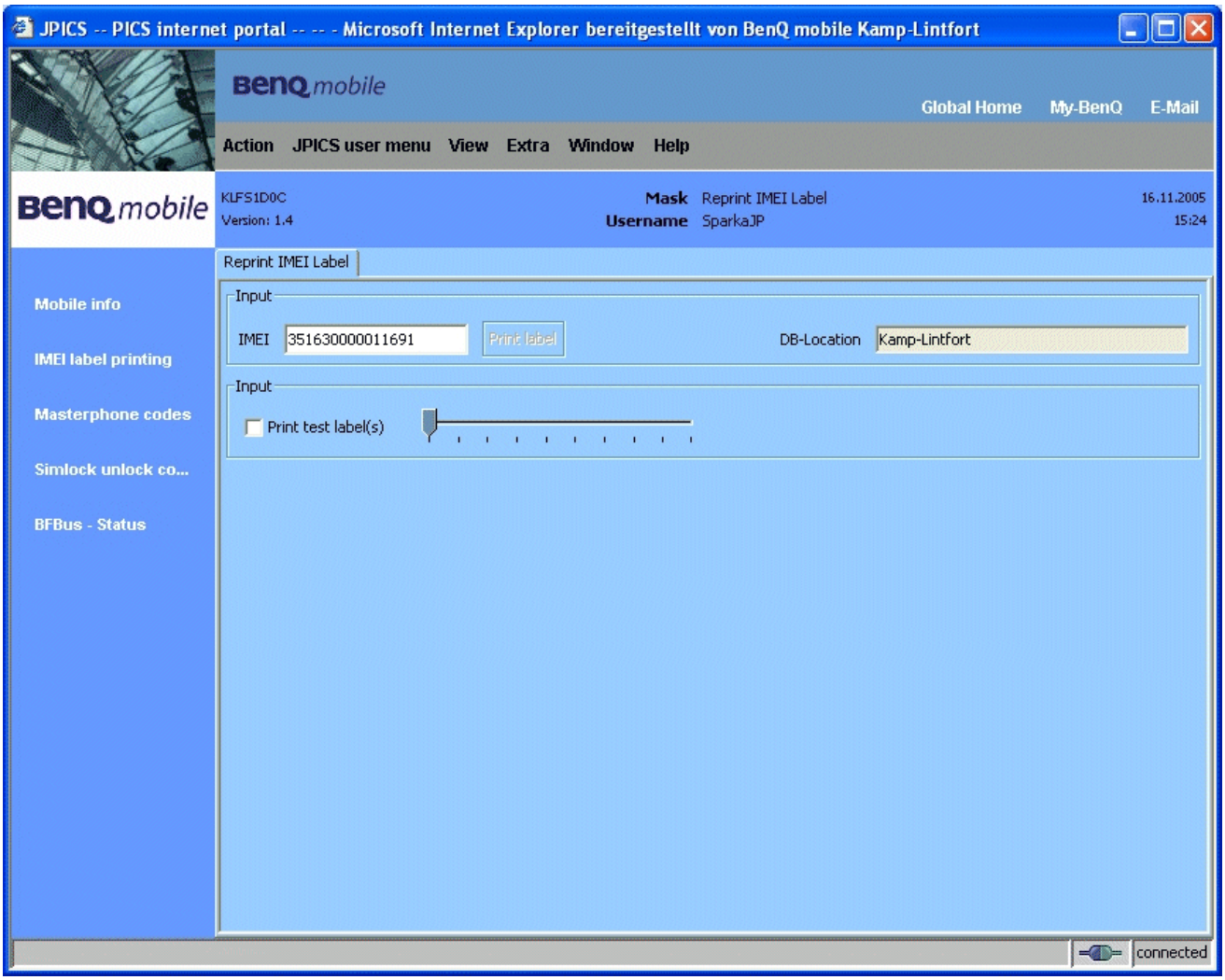
Printing IMEI label

The module **"printing IMEI label"** offers the possibility to re-print IMEI labels for mobiles again.



You are able to print 1 label in just one step.

To prevent that misaligned labels are being printed, the setting "Print test labels = ✓" is activated by default. After having printed a well aligned test label you can uncheck the setting and print the correct label.

Hint:

For correct printing of IMEI labels you must have a **Zebra – label printer** with special material that fits for label printing. This printer has to be connected to local LPT1 printer port (also see Installation of IMPRINT) and MUST feature a printing resolution of 300dpi.

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11 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.

The part number for the A31 is S30880-S2920-#xxx where the last for letters specify the housing and software variant.

A31 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.

On this IMEI label, BenQ Mobile has also includes the data code for production or service, which conforms to the industrial standard DIN EN 60062. The data code comprises of 2 characters: first character denotes the **year** and the second character denotes the **month**.

For example: S5

CODE	Year	Month	CODE
P	2002	MARCH	3
R	2003	APRIL	4
S	2004	MAY	5
T	2005	JUNE	6
U	2006	JULY	7

To display the IMEI number, exit code and SW/HW version, key: * # 0 6 #

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12 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 BenQ Mobile authorized level 1 up to 3 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.

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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

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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	• GSM Band 1 • BS Power = -55 dBm • middle BCCH	• Display check	• individual check
2	Call from BS	• low TCH • highest PCL • BS Power = -75 dBm • middle BCCH	• Ringer/Loudspeaker check	• individual check
3	TX GSM Band 1	• low TCH • highest PCL • BS Power = -75 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
4	Handover to GSM Band 2 Including Handover Check			
5	TX GSM Band 2	• low TCH • highest PCL0 • BS Power = -75 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
6	Call release from BS			

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External Antenna				
7	Call from MS	• GSM900 • high TCH • second highest PCL • BS Power = -75 dBm • middle BCCH	• Keyboard check	• individual check
8	TX GSM Band 1	• high TCH • second highest PCL • BS Power = -75 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
9	RX GSM Band 1	• high TCH • BS Power = -102 dBm • 50 Frames • middle BCCH	• RX Level • RX Qual • BER Class Ib • BER Class II • BER Erased Frames	• GSM Spec.
10	Handover to GSM Band 2 Including Handover Check			
11	TX GSM Band 2	• high TCH • second highest PCL • BS Power = -75 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
12	RX GSM Band2	• high TCH • BS Power = -102 dBm • 50 Frames • middle BCCH	• RX Level • RX Qual • BER Class Ib • BER Class II • BER Erased Frames	• 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.

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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

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Annex 2

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)

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13 Introduction of Service Repair Documentation for Level 3 Basic Repairs – A31

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 A31 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 A31 related Customer Care Information

A31 Part number on IMEI label: S30880-S2920 - #xxx

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 3Basic.

Terms and Abbreviations

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14 List of available Level 3 Basic Parts

(According to Component Matrix V1.09 - check C-market for updates)

Product	ID	Order Number	Description CM
A31	V286	L36840-L2082-D670	LED BLUE TOP
A31	V287	L36840-L2082-D670	LED BLUE TOP
A31	V288	L36840-L2082-D670	LED BLUE TOP
A31	V289	L36840-L2082-D670	LED BLUE TOP
A31	V290	L36840-L2082-D670	LED BLUE TOP
A31	V291	L36840-L2082-D670	LED BLUE TOP
A31	X1400	L36334-Z97-C213	CONNECTOR BATTERY 3-POL
A31	X1603	L36334-Z97-C337	CONNECTOR SIM CARD READER K1
A31	X211	L50634-Z93-C364	IO-JACK NANO 12-POL
A31	X2202	L36334-Z97-C205	CONNECTOR DISPLAY 10POL
A31	X3800	L36334-Z93-C297	CONNECTOR ANTENNA 6mm
A31	Z1601	L50620-U6029-D670	FILTER EMI (Fi-Type6) PB Free

15 Hardware Requirements

(According to L2.5L-L2.5 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

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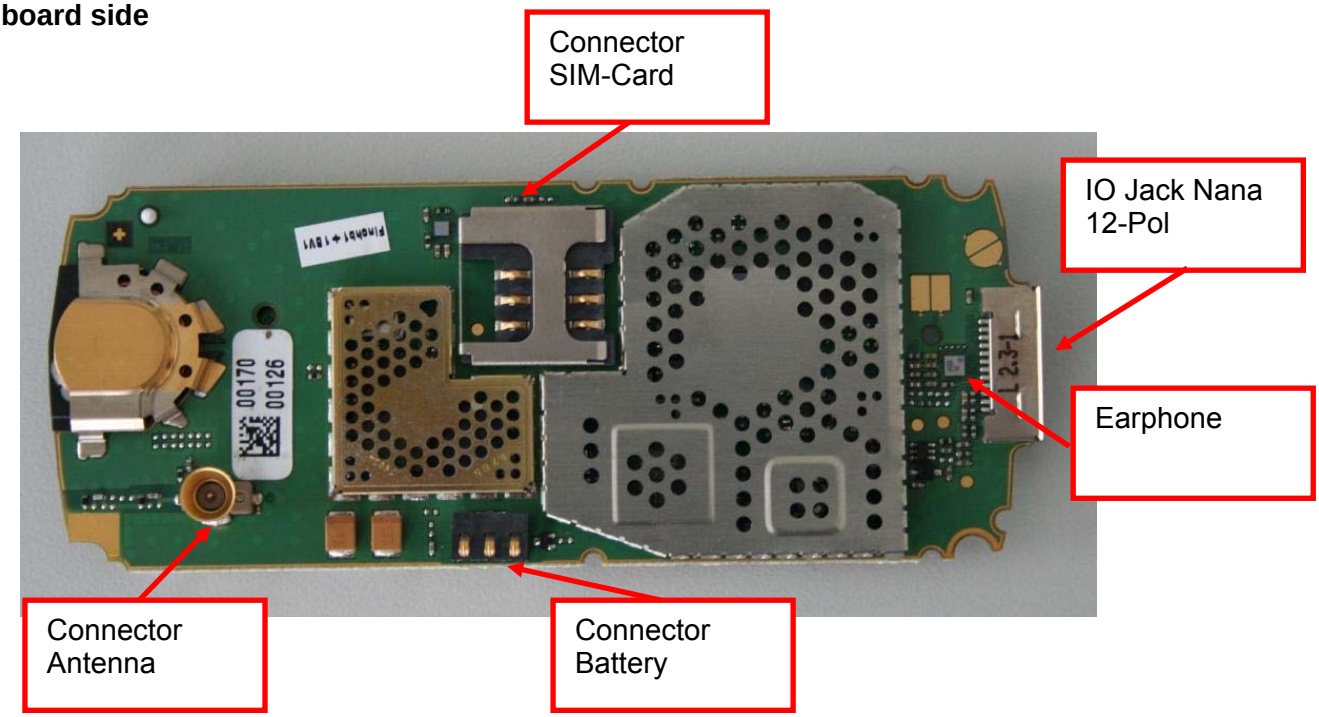
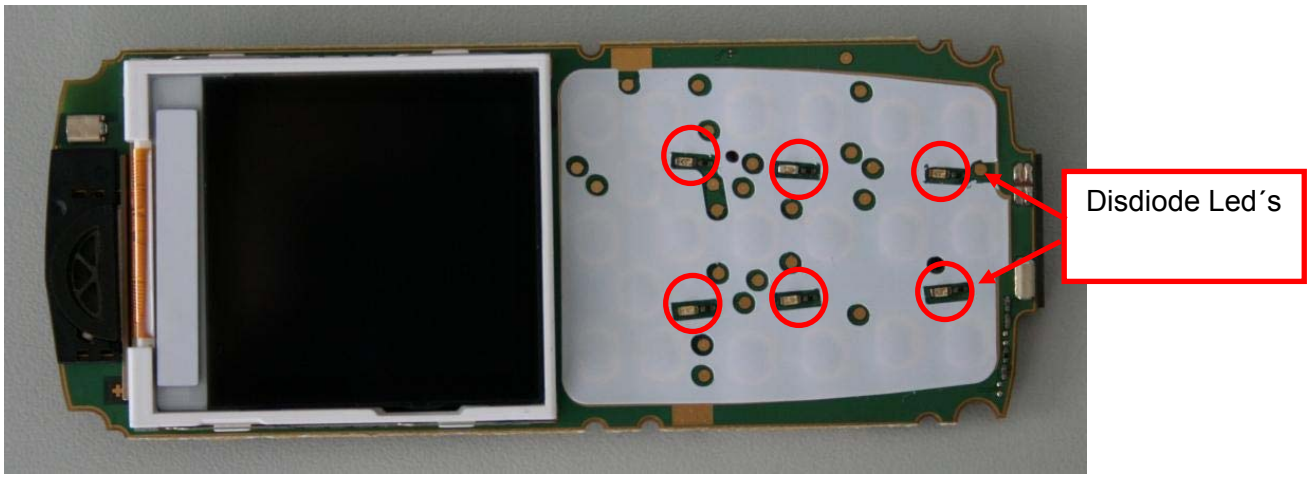
16 A31 Board Layout

Lower board side



Upper board side



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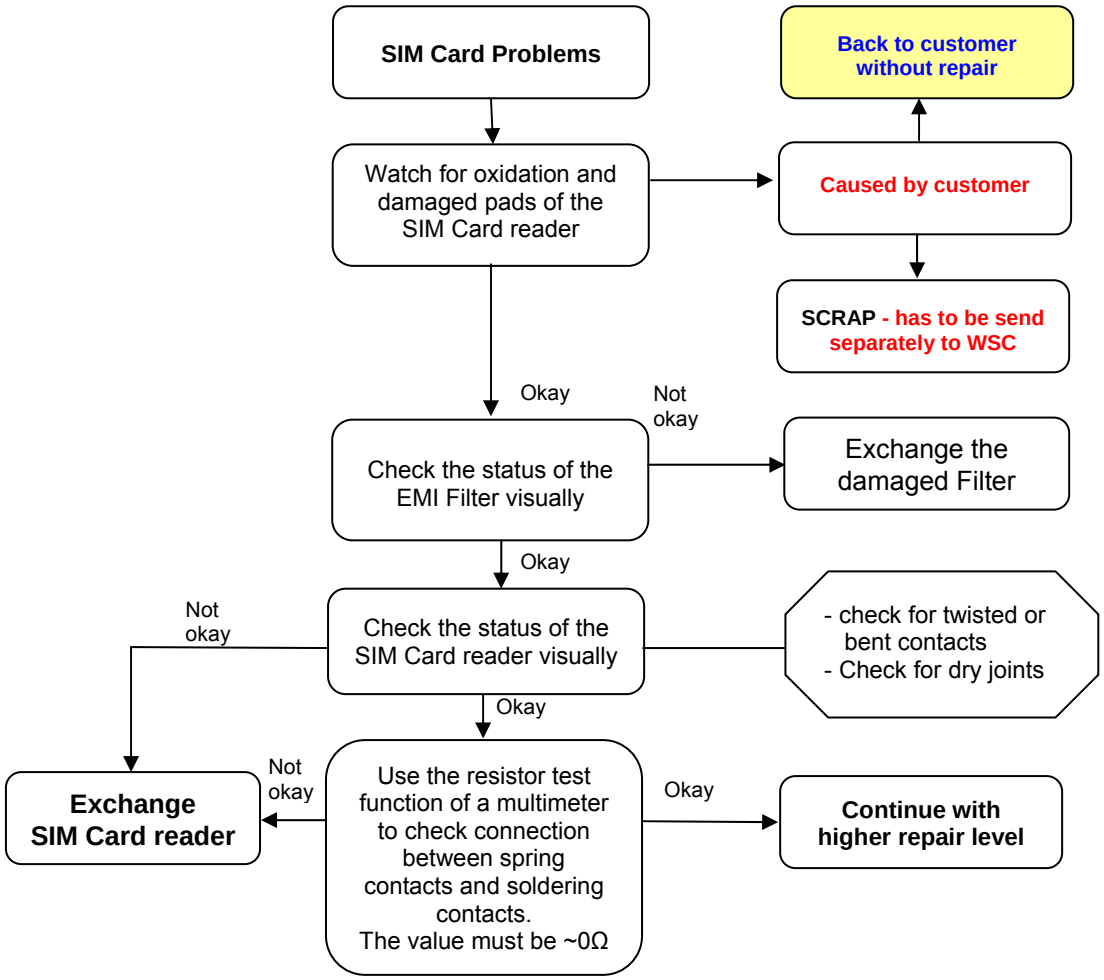
17 SIM Card Problems

Fault Symptoms	
Customer: Handset does not accept SIM card	GRT: SIM Card Problems



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: L36334-Z97-C337
E-commerce order name: CONNECTOR SIM CARD READER K1
Soldering temperature: ~ 360°C TIP Temp.

EMI Filter

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

E-commerce order number: L50620-U6029-D670
E-commerce order name: FILTER EMI (Fi-Type6) PB Free
Soldering temperature: ~ 360°C TIP Temp

IRIS Diagnose Code: 43300 Interface/SIM Card reader/Mechanical Damage

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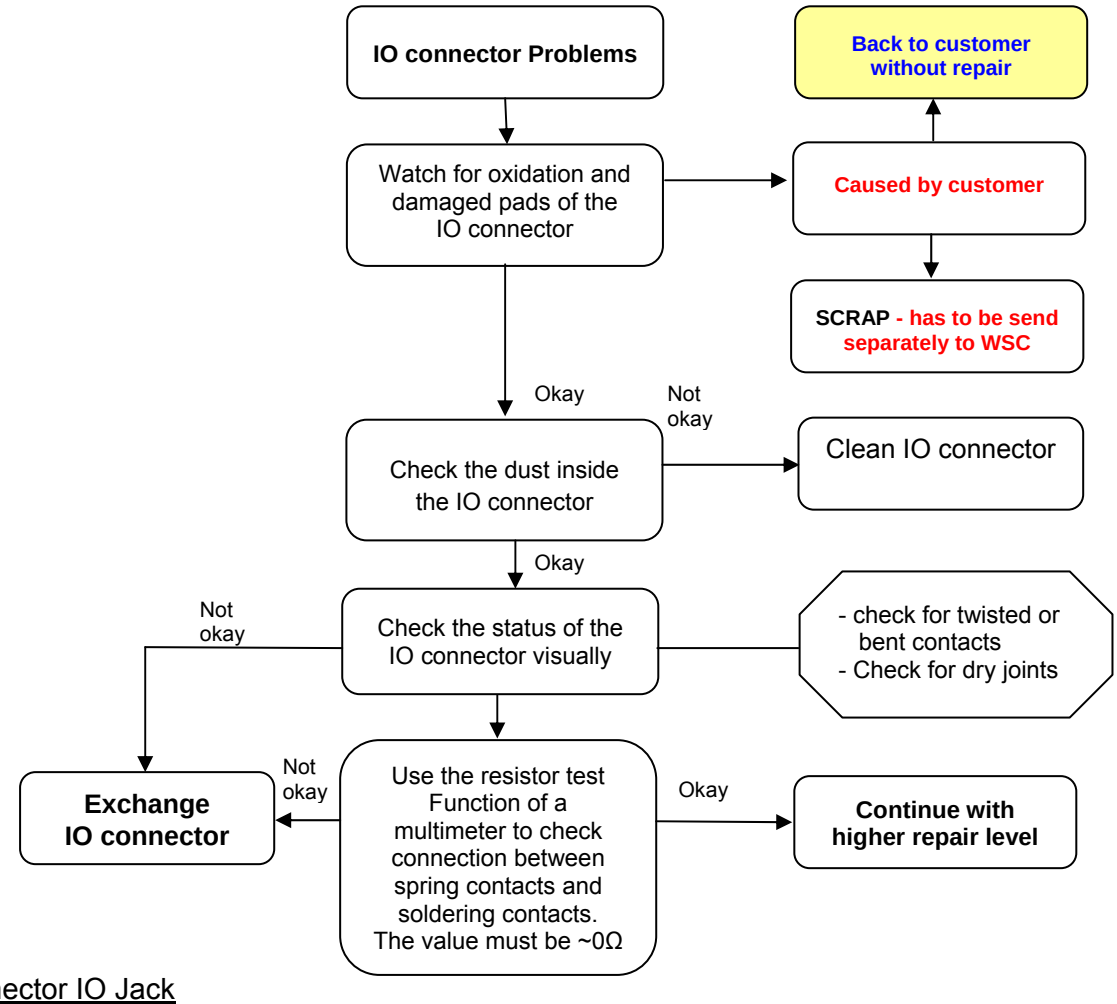
18 IO Connector Problems

Fault Symptoms	
Customer: Charging Problems Problems with external loudspeaker or microphone when using a car kit Problems with accessories connected at the IO connector	GRT: No connection to GRT



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
Soldering temperature: ~ 360°C TIP Temp.

IRIS Diagnose Code: 46100 Interface/Charging Connector/Mechanical Damage
47300 Interface/Data Interface/Mechanical Damage
4B100 Interface/Headset Connector/Mechanical Damage

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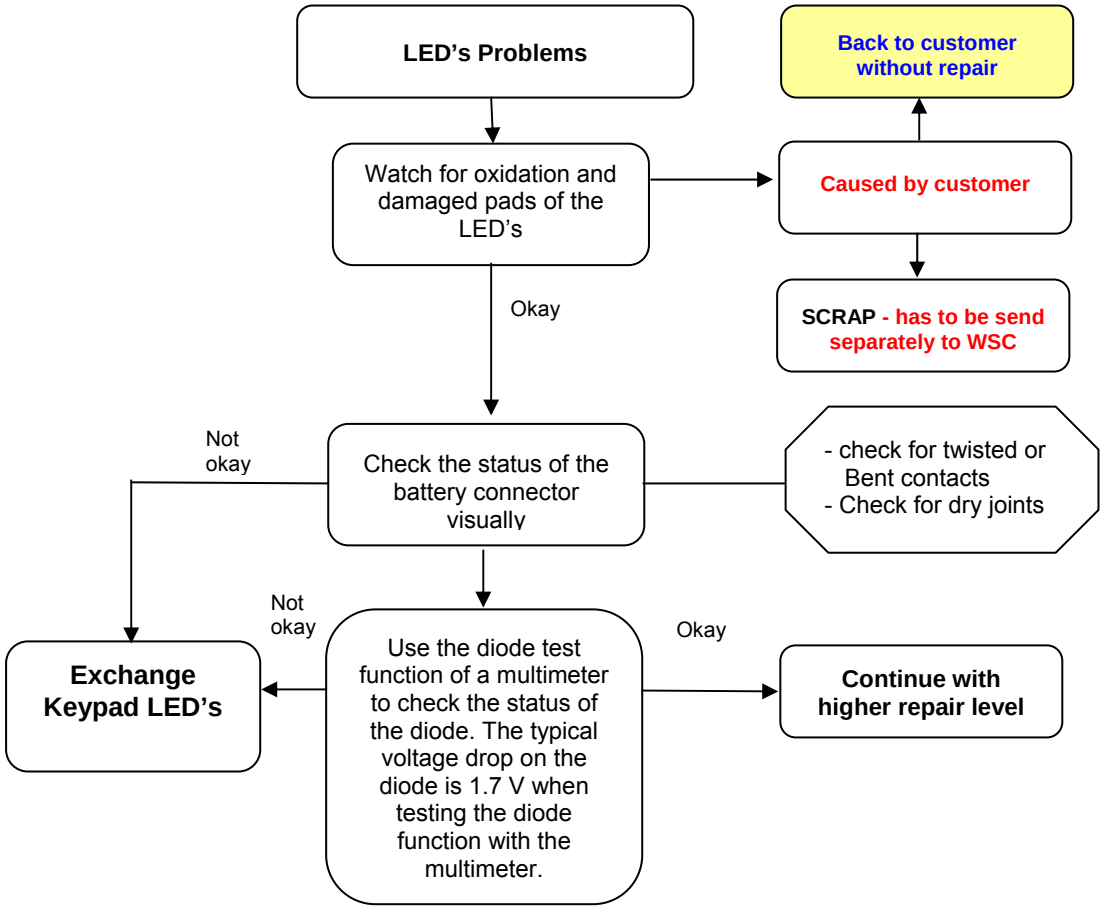
19 Main Keypad Illumination Problems

Fault Symptoms	
Customer: Main keypad illumination does not work	GRT: Current measured failed



LED WHITE TOP

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

Attention: Remove Metal Dome Sheet before!!!

E-commerce order number: L36840-L2082-D670
E-commerce order name: LED BLUE TOP
Soldering temperature: ~ 360°C TIP Temp.

IRIS Diagnose Code: 36000 Keys / Illumination

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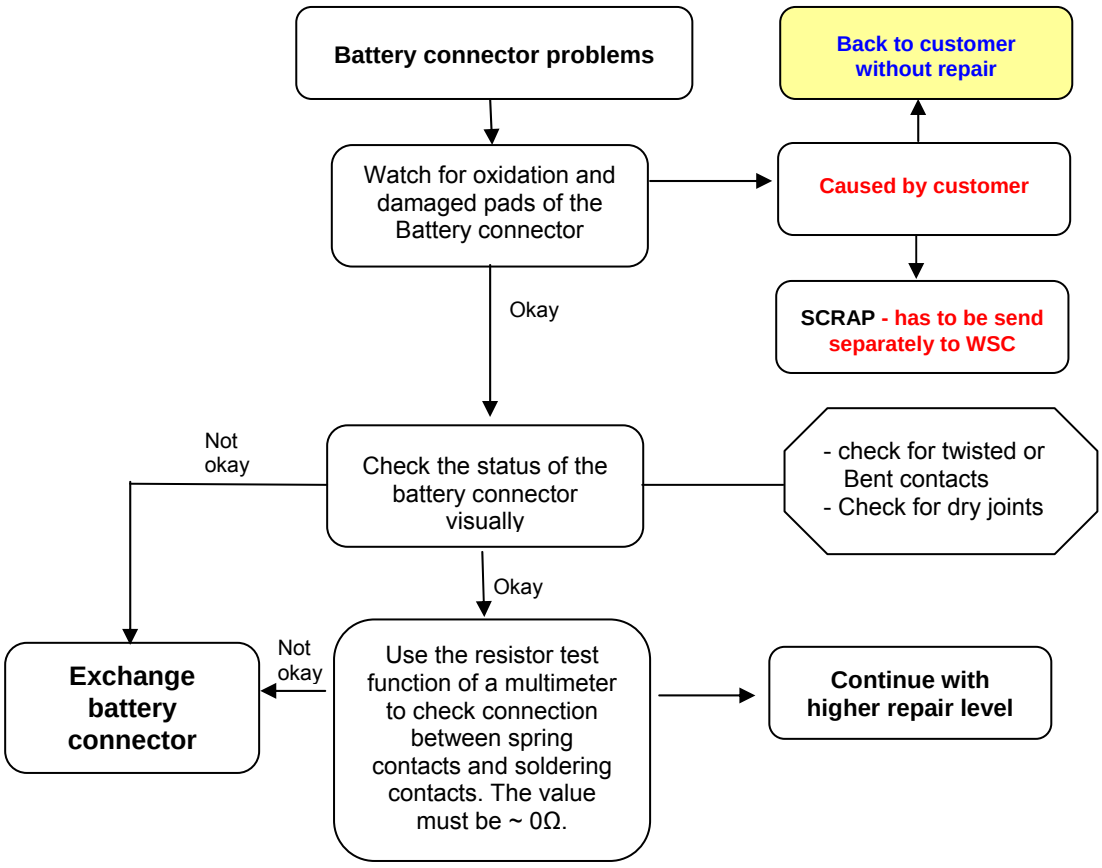
20 Connector Battery

Fault Symptoms	
Customer: Mobile does not switch on	GRT: No connection to GRT



Connector BATTERY
Use hot air blower to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L36334-Z97-C213
E-commerce order name: CONNECTOR BATTERY 3-POL
Soldering temperature: 240 - 255°C
IRIS Diagnose Code: 13000 Battery/Mechanical Damage

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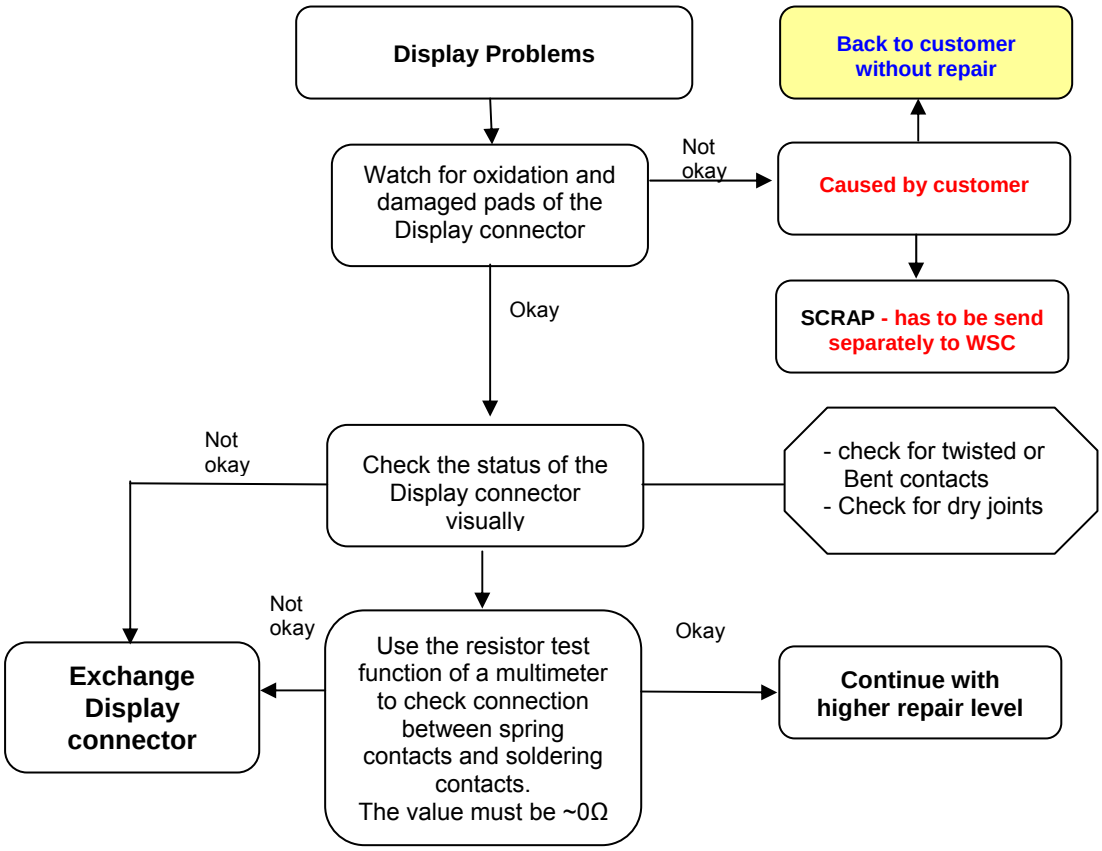
21 Display Problems

Fault Symptoms	
Customer: Display problems	GRT: Current measured failed



Connector DISPLAY
Use hot air blower to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L36334-Z97-C205
E-commerce order name: CONNECTOR DISPLAY 10POL
Soldering temperature: ~ 360°C TIP Temp.
IRIS Diagnose Code: 21000 Display / Performance
22000 Display / Background Illumination

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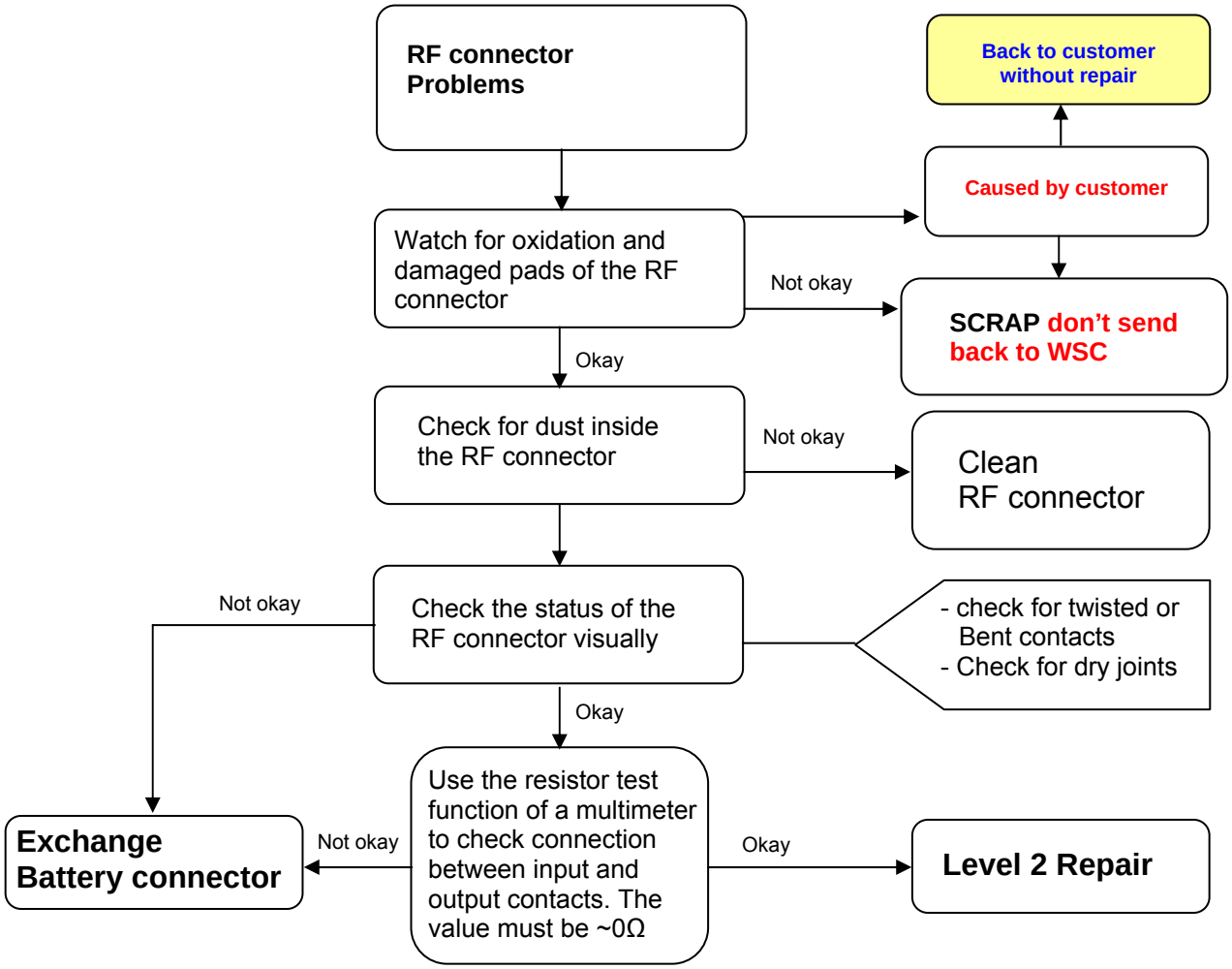
22 Connector RF Internal Antenna

Fault Symptoms	
Customer: Network search No location update possible	GRT: Failure by TX/RX measurements No location update possible



Connector RF
Use hot air blower to remove defective component. Avoid excessive heat! Watch surrounding components! Resolder new component afterwards.

E-commerce order number: L36334-Z93-C297
E-commerce order name: CONNECTOR ANTENNA 6mm
Soldering temperature: 240 - 255°C
IRIS Diagnose Code:
81100 Radio / No Contact / Int. Antenna
81200 Radio / No Contact / Ext. Antenna
82100 Radio / Low Receiving Signal / Int. Antenna
82200 Radio / Low Receiving Signal / Ext. Antenna

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83100 Radio / Dropped Calls / Int. Antenna
83200 Radio / Dropped Calls / Ext. Antenna
84100 Radios / Call Setup / Int. Antenna
84200 Radio / Call Setup / Ext. Antenna

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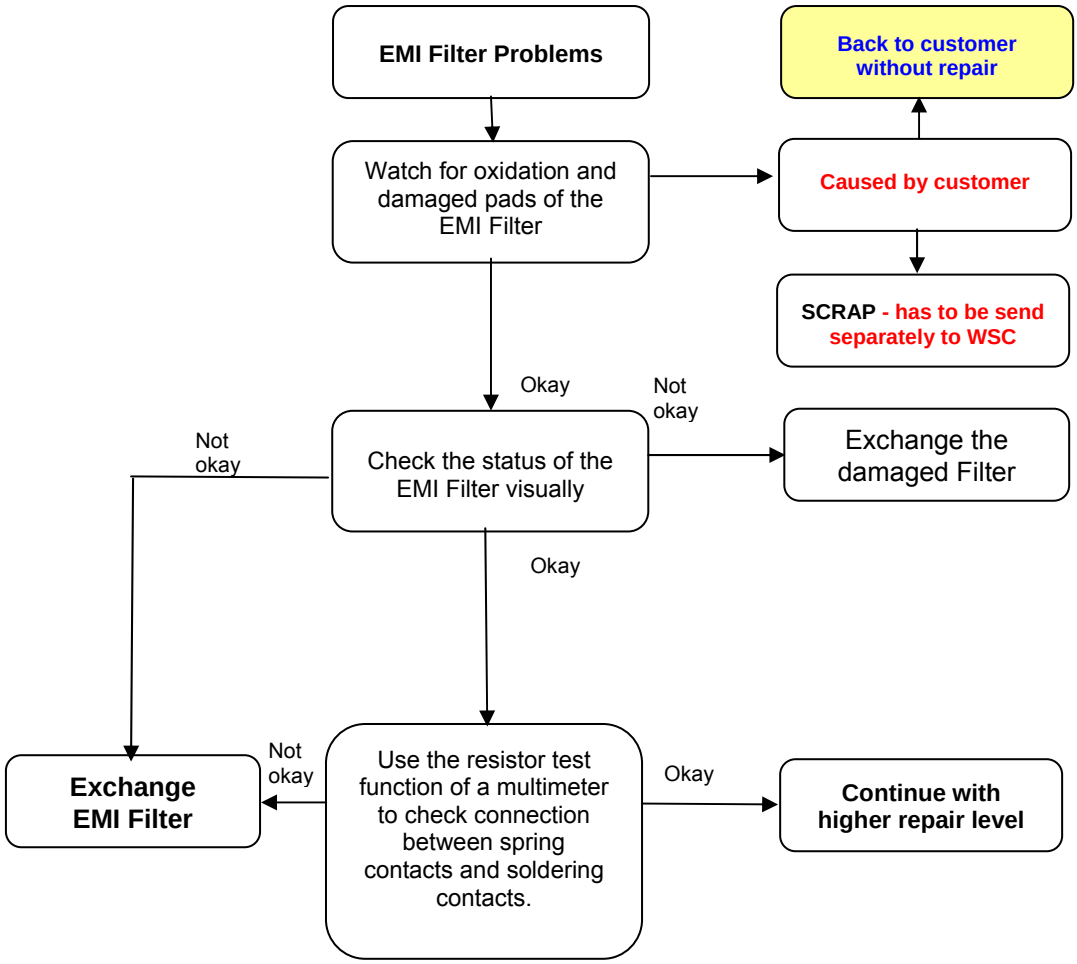
23 Filter EMI Problems

Fault Symptoms	
Customer: Handset does not allow data communication via I/O connector	GRT: No service mode possible No software update possible



EMI Filter

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

E-commerce order number: L50620-U6029-D670
E-commerce order name: FILTER EMI (Fi-Type6) PB Free
Soldering temperature: ~ 360°C TIP Temp
IRIS Diagnose Code: 47000 Data connectivity

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