Local Service Organization Service Manual

BE INSPIRED

M75

Version	Date	Department	Notes to change
R1.0	10.06.2005	ICM MP CCQ SLI RHQ	New Document

Our innovation shapes the future

Table of Contents

1 GPRS (General Packet Radio Service)

GPRS is a new non-voice value added services that allows information to be sent and received across a GSM mobile telephone network. It supplements today's Circuit Switched Data (CSD) and Short Message Services (SMS). GPRS involves overlaying a packet based air interface on the existing circuit switched GSM network. This gives the option to use a packet-based data service. The information is split into separated but related "packets" before being transmitted and reassembled at the receiving end. Theoretically, maximum speeds of up to 171.2 kilobits per second (kbps) are achievable with GPRS using all eight timeslots at the same time. This is about 3 times as fast as the data transmission speed possible over today's fixed telecommunications networks and 10 times as fast as current Circuit Switched Data services on GSM networks.

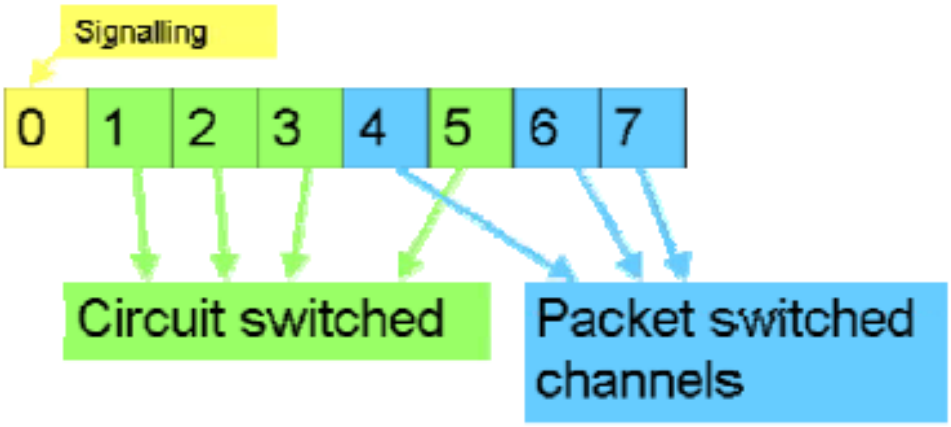


Figure1. Example of GPRS data transmission

Example: Cell with 1 Frequency channel:
1 physical channel for signaling, 4 physical channels for Circuit switched and 3 physical channels for Packet switched.

2 K-Java Application

Java-based game system		
Java Application Manager (JAM)	Application launcher and download manager. Supports HTTP-based OTA download of applications over GPRS and CSD.	yes
RAM for Java applications	Available RAM for Java applications (i.e. Program code and data) during application runtime: Minimum 100 Kbytes (Has to be taken as working assumption for application development). Goal: 145 Kbytes as SL45i (not committed)	yes
MIDP 1.0, CLDC 1.0	As SL45i, including performance optimizations from SL45i-Infusio.	yes
'OEM extensions'	Proprietary API extension as SL45i. Including 'Siemens Game API'	yes
HTTP API over GPRS	Sl45i: only CSD	yes

3 Key Features

Bands	• Triple Band E-GSM 900 / GSM 1800 / GSM 1900 • GPRS Multi Class 10
Battery	• Li-Ion Battery Pack • Nominal Voltage : 3.7V • Nominal Capacity : 780 mAh • GSM Capacity : 750 mAh • Power Input : 2.0A (0.6 ms) / 0.25A (4 ms) • Cut-off Threshold : 3.2V
Stand-by Time	≥ Approx. 250 h (Best Case)
Talk Time	≥ 5 hrs (Best Case)
SIM Card	• Small (”Plug In”) 1.8 or 3V SIM card (Phase II) • To insert the SIM card, the battery pack must be removed.
Speech Codec	• Triple Rate (HR/FR/EFR) and Adaptive Multi Rate are available as standard
Temperature Range	• -10^0C to $+55^0$C (Normal operation) • -20^0C to $+65^0$C (External Power Source) • -40^0C to $+85^0$C (Storage capability)
Display	• Type: Full Graphic • Resolution: 132 x 176 Pixel • Color depth: 262K • Technology: TFT • Active area / mm: 27.7 x 37.0 • Illumination: White LED (6 LEDs integrated) • Frame rate: maximum 15 frames/seconds • Pixel size per mm: 0.21mm x 0.21mm (1 pixel consist of 3 sub pixels in red, green and blue)
Keypad	• Plating function key + IMF number key • 12-key-block (0-9, #, *) • two function keys (SEND, END) • ON/OFF key combined with the END key; the symbol ⏻ (I inside O) is used as a symbol for ON/OFF. • 5 way-joystick with design-cap (soft material), phonebook symbol required on navikey (Siemens standard) • 2 soft-keys for different SW-enabled functions • 1 dedicated hardkey (provider key), target to only have a specific hardkey only for Vodafone and TMO • white as illumination colour • tactile finder on key “5“ • 6 white LEDs for keypad
Side keys	• one for Pat (Push and Talk) control, one for camera activation

Acoustics	• Three-in-one-earpiece for handset, handsfree and ringing tones • uni-directional microphone • Loud signal emitter (soundringer) (>100dB(A) SPL @5cm, 'Hongkong-Spec.') only for rectangular sound signals (NOT POSSIBLE for all Soundringer melodies) • Polyphonic ringer tones (parallel to GPRS: 16 voices; all other Use Cases: 40 voices) • Hands free mode • different selectable volume levels for handsfree, handset and ringer mode (for the amount see SW product description)
Memory	• Approx 14MB, Slot RS-MMC, **Bundled with 32MB card**
Connectivity	• USB • Bluetooth® • Infrared
Ring tones	• Polyphonic 40 voices • AAC& AAC+ Melodies and MP3
Multimedia	• Video recording / encoding • AAC, AAC+ and MP3 music support
Camera	• Integrated 1.3 Mega pixel (attachable Flash accessory)

4 Comparison with Previous Product

Feature	Penelope	Sirius	Delta
Supported Systems	Triple Band EGSM 900/GSM1800/ GSM1900 (EMEA, APAC)	Triple Band EGSM 900/GSM1800/ GSM1900 (EMEA, APAC)	No GSM 850
Stand-by Time	≥ 250h (approx. 3mA quiescent current)	≥ 250h (approx. 3mA quiescent current)	
Talk Time	≥ 5 h (approx. 150mA average current for lowest TX-power level)	≥ 5 h (approx. 150mA average current for lowest TX-power level)	
Battery Technology Battery Capacity	Li-Ion Battery Pack NOMINAL CAP.: 780 MAH	Li-Ion Battery Pack NOMINAL CAP.: 780 MAH	
Weight	Approx. 102 g	approx. 108 g	
Volume		approx. 110 cm^3	
Length	108.9mm	110.7 mm	
Width	48 mm	51.1 mm	
Thickness	20.5 mm	20.5 mm	
SIM	Plug-In 1.8V/3V	Plug-In 1.8V/3V	
Antenna	Integrated	Integrated	
Antenna Performance in comparison	~28 dBm @ 900 MHz ~24,5 dBm @ 1800 MHz ~23,5 dBm @ 1900 MHz (2,7-Band-Antenna)	~27 dBm @ 900 MHz ~24 dBm @ 1800 MHz ~23,5 dBm @ 1900 MHz (2,7-Band-Antenna)	-1db @ 900 MHz -0,5db @ 1800 MHz +/-0db @ 1900 MHz
Half Rate	Yes	Yes	
Enhanced Full Rate	Yes	Yes	
AMR	Yes	Yes	
Fax/Data	Yes	Yes	
GPRS	Class 10	Class 10	
Keypad Illumination	White LED	White LED	
DISPLAY / DISPLAY ILLUMINATION	TFT/TFD 132 x 176 Pixel 65k colour	TFT 132 x 176 Pixel 262k colour	Increased number of colors
EXCHANGEABLE MEMORY	Yes (RS-MULTI-MEDIA CARD)	Yes (RS-MULTI-MEDIA CARD)	
CAMERA	Mega pixel camera (integrated)	Mega pixel camera (integrated)	Improved optical performance, socket concept
IRDA	SIR (slow Infrared)	SIR	
BLUETOOTH	supported	SUPPORTED	
AAC/AAC+	Not supported	Supported	
Ringer volume level	Min. 95 dB(A) @ 5cm Typ. ≥98dB(A) @ 5cm (for dedicated Siemens- standard melodies) Min. 100dB(A) @ 5cm (only for rectangular sound signals)	Min. 95 dB(A) @ 5cm Typ. ≥98dB(A) @ 5cm (for dedicated Siemens- standard melodies) Min. 100dB(A) @ 5cm (only for rectangular sound signals)	

5 Accessories

For M75, the following accessories will be available.

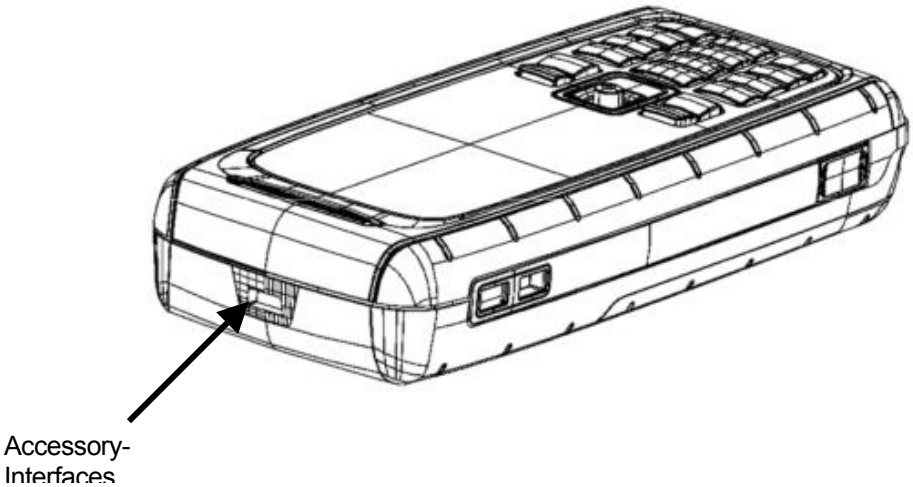
Description	Part number
Tour Case FCT-700	TBC
Belt Case FCL-710	TBC
Li-Ion Battery 750mAh EBA-660	L36880-N7101-A111
Travel Charger ETC-500	L36880-N5601-A104
Travel Charger ETC-510	L36880-N5601-A105
Car Charger Plus ECC-600	L36880-N7101-A109
Car Charger ECC-500	TBC
Headset Bluetooth® HHB-600	L36880-N7401-A100
Headset Bluetooth® HHB-610	L36880-N7401-A101
Headset Purestyle HHS-610	L36880-N7101-A500
Headset HHS-510	L36880-N5601-A108
Headset Stereo HHS-700	TBC
Charger Adapter ECA-500 (for Headset Bluetooth®)	L36880-N7401-A104
Car Kit Bluetooth® Portable HKW-700	TBC
Car Kit Bluetooth® HKW-600	L36880-N6551-A100
Car Kit Comfort Basic HKC-700	TBC
Car Kit Easy HKP-700	TBC
Car Kit Portable HKP-500	L36880-N5601-A109
Mobile Holder Antenna HMH-710	TBC
Car Kit Upgrade HKO-700 (for Car Kit Easy)	TBC
Car Data Adapter HKO-690 (for Car Kit Comfort)	L36880-N7101-A800
Car Kit Upgrade HKO-650 (for Car Kit Bluetooth®)	L36880-N7401-A120
Mobile Music Set IMS-700	TBC
Flash IFL-600	L36880-N7101-A400
Data Cable DCA-500	L36880-N5601-A110
Data Cable USB – serial DCA-510	L36880-N5601-A111
Data Cable USB – USB DCA-540	L36880-N6501-A102

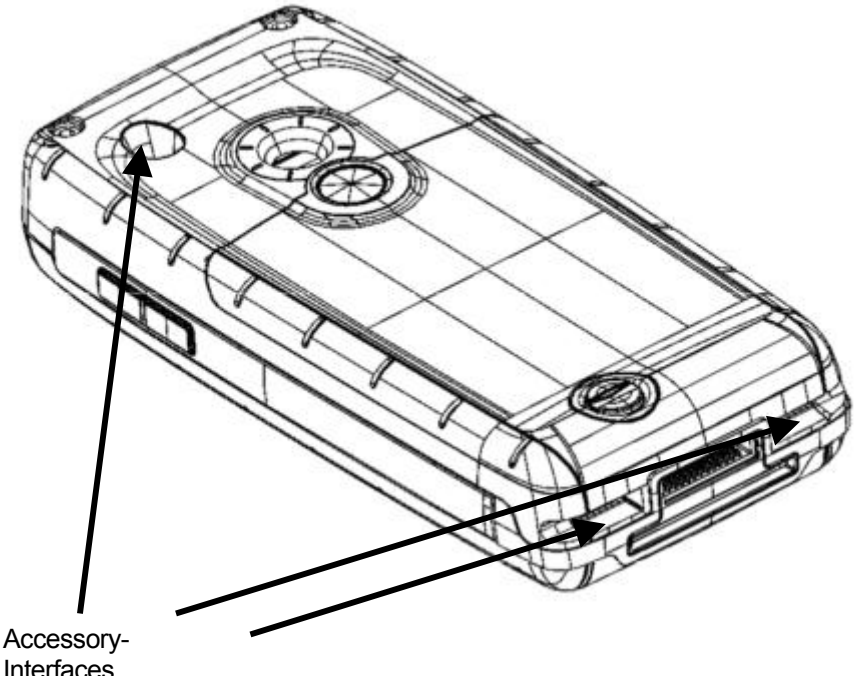
Note: Visit the Communication Market for updated accessories:

https://communication-market.siemens.de/

5.1 M75 Interface to accessories

The phone has got a full compatible interface to accessories. The I/O-Connector (Lumberg-(slim)-connector) and RF-Connector is in the same position as in the 65series Because of the M75 design it's not possible to use the same car holder as R65 Ulysses.
All shown interfaces are for car-cradle. Interfaces for Belt-Clip will not be necessary.



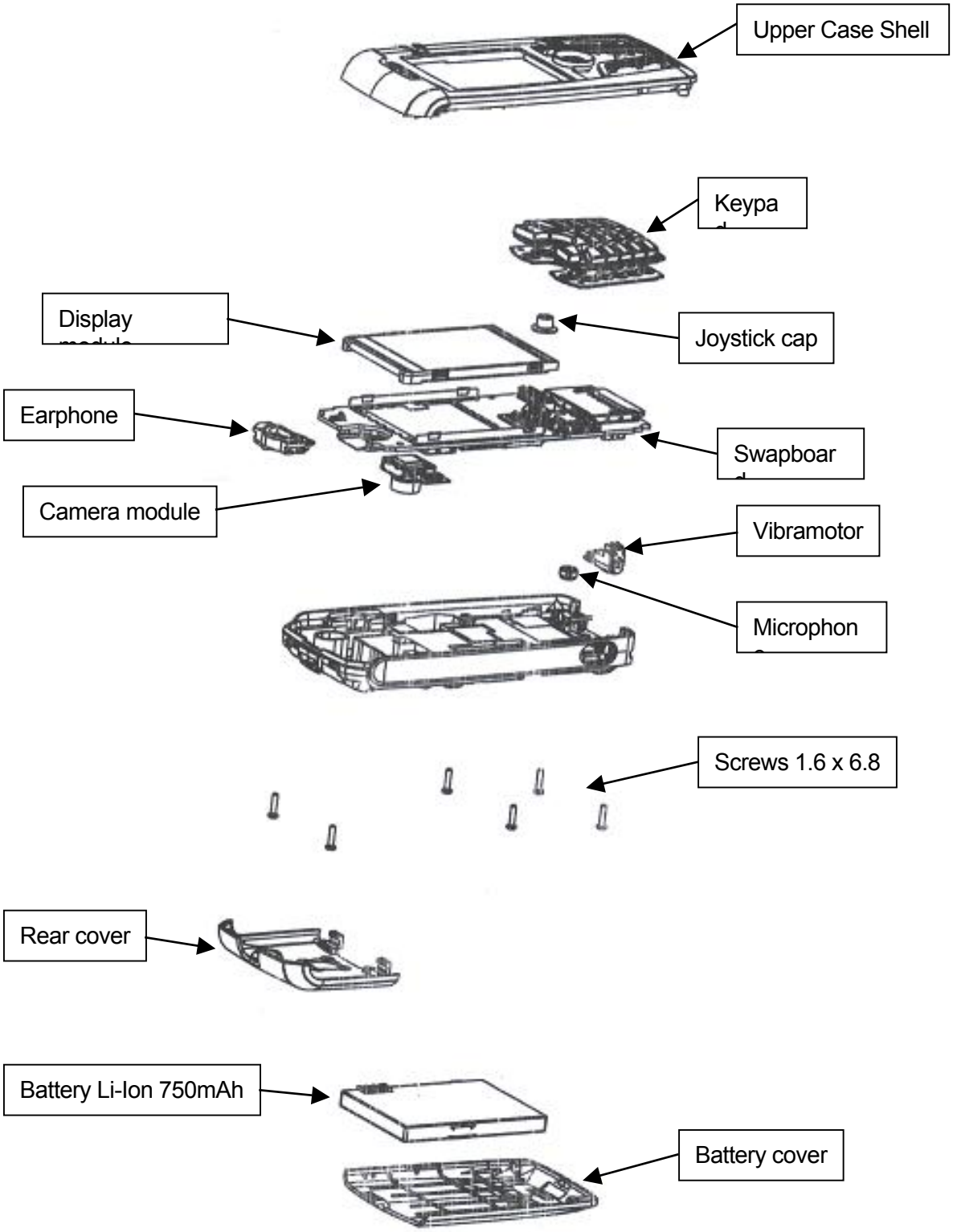


6 Unit Description of M75

The M75 is designed as a two-PCB phone with exchangeable battery cover. The upper case is a two-shot-molded part (chassis with rubber like component) with a real metal part is attached.

The lower case and battery cover are two-shot-molded parts with a painted deco part attached.

6.1 Exploded View of M75



7 Disassembly of M75

Note: ESD concept; the internal circuits will be more susceptible to ESD because of the use of exchangeable housing. The construction of the internal block must be/is designed, in the best possible way, to protect the circuit against sparks.

The keypad must be completely closed to prevent any occurrence of an ESD disruptive discharge.

The SIM contacts may be open, thus reachable for ESD contact discharge. This could lead to damage or destruction of the S-Goldlite pins.

It is a requirement for the service personnel to observe ESD protection rules while performing servicing the M75.

Step 1

Front view of the SP65

Step 2

Back View of the SP65

Step 3

Remove Camera lens cover

Step 4


Remove Plug

Step 5




Remove Battery cover

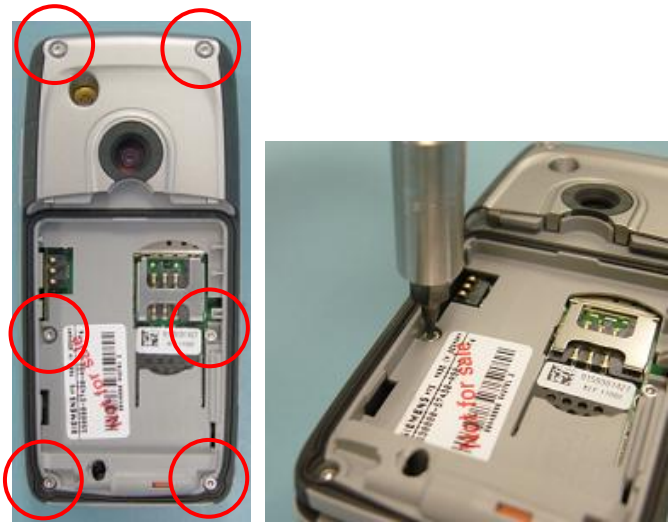
Step 6


Remove Battery

Step 7

Remove SIM card

Step 8



Unscrew the 6 T5 plus screws using a Torque screw driver

Step 9

Remove Lower mounting frame

Step 10

Remove Vibramotor

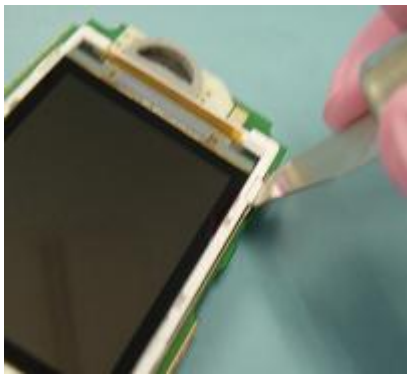
Step 11

Remove Microphone

Step 10

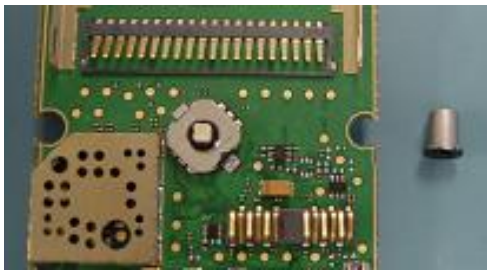
Remove Main Board

Step 11



Remove Display module – place protective foil over on the display module.

Step 12

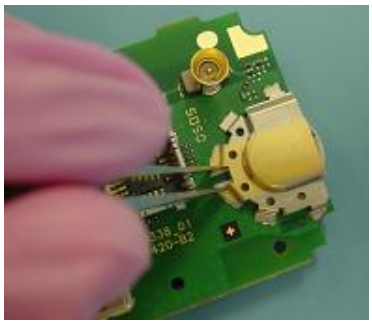


Remove Joystick cap

Step 13

Remove Camera module – Refer to Chapter N for Camera module assembling and disassembling instructions

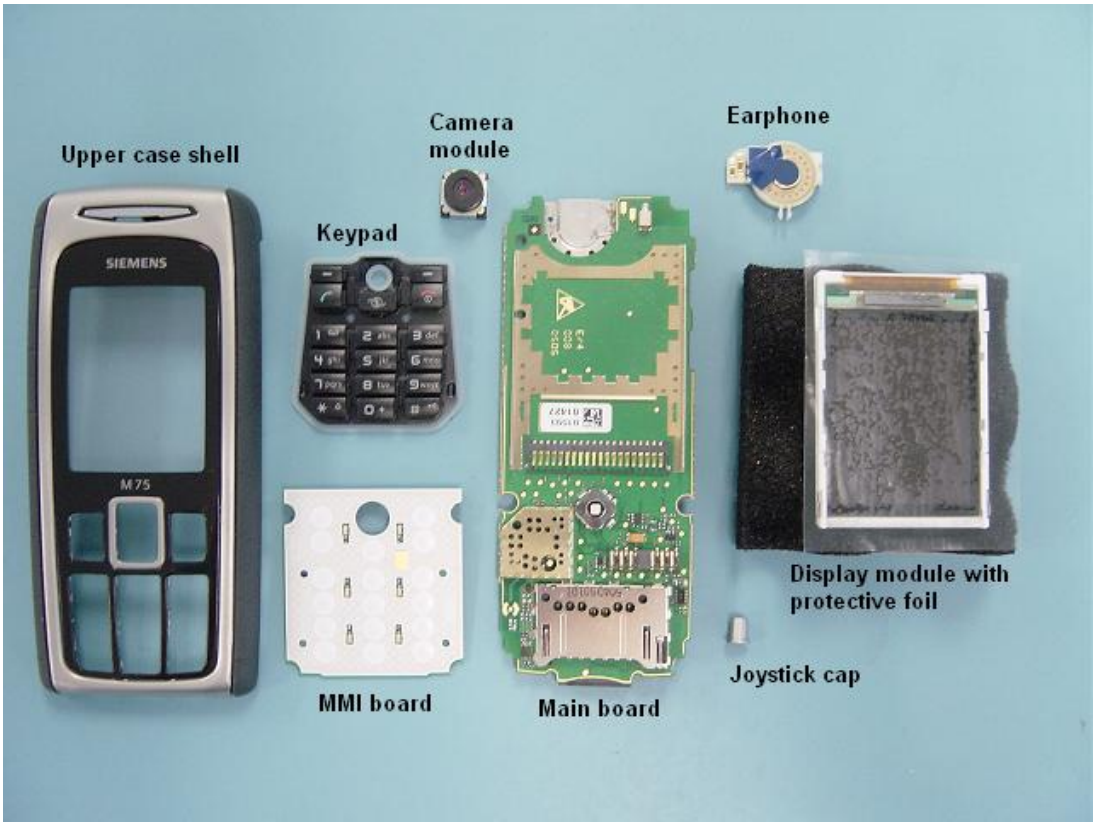
Step 14



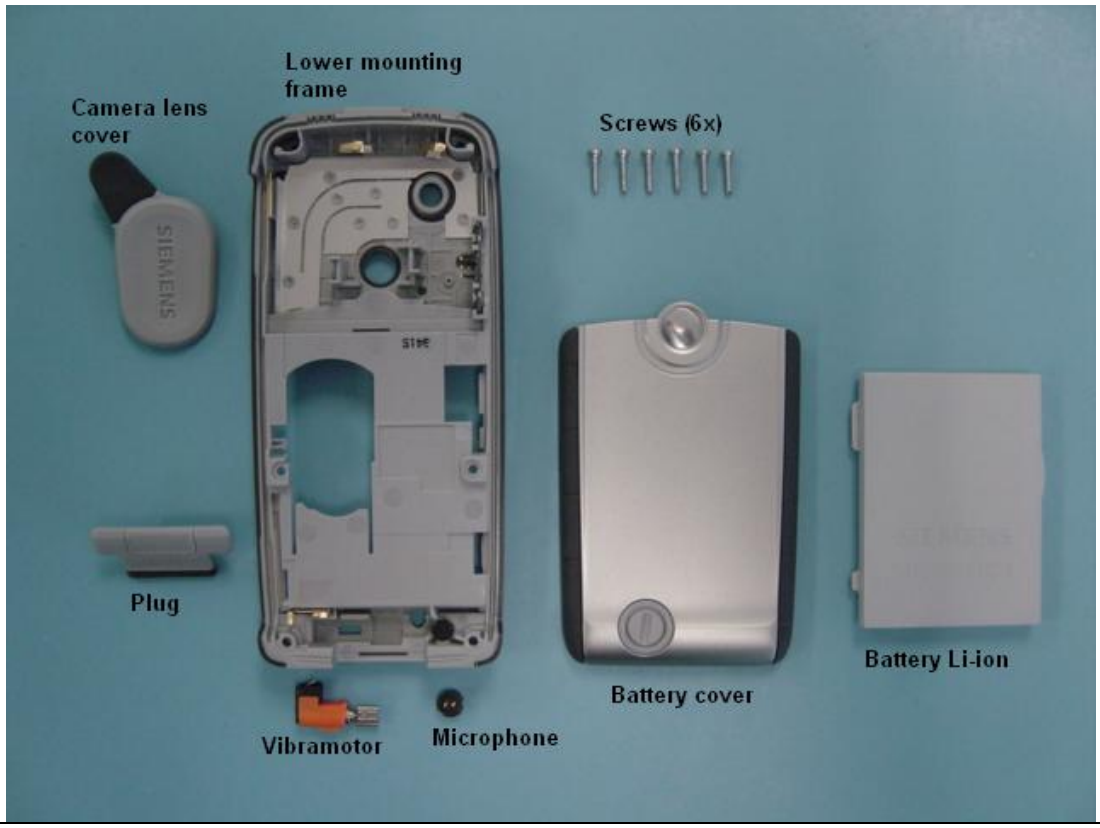

Remove earphone

Step 15


Remove MMI and Keypad



Fully disassembled M75 - upper parts (top) and lower parts (bottom).



8 Reassembly of M75

For the reassembly of the M75, reverse the disassembly procedures from Step 15 to Step 1. However there are some areas to be taken note of during reassembling of the phone.

During the installation of the SIM card, make sure that the SIM card is inserted properly and that the golden contact area is facing downwards. Insert the SIM card downwards to lock the SIM card into position.

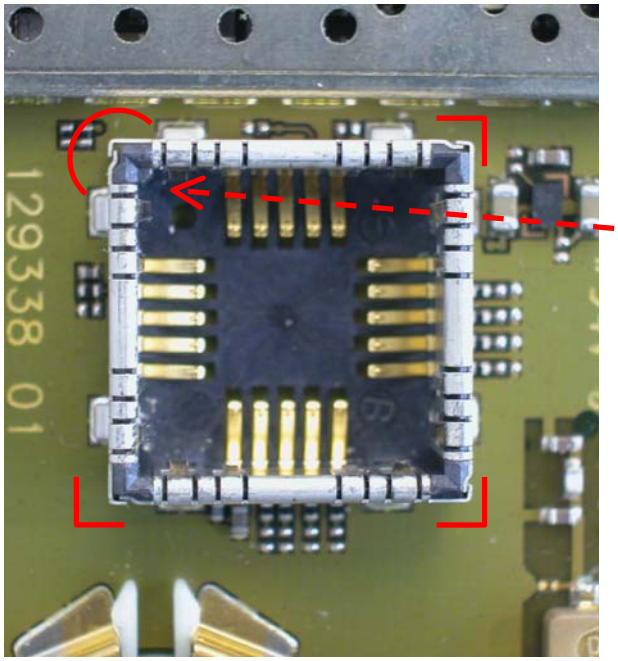
Installation of the SIM card

During the installation of the battery, make sure that the hinges are properly in place (See picture below). Otherwise the battery will not be able to fit into the phone properly.

When placing the screws, set Torque to 18cNm.

9 Assembling and Disassembling of Camera Module

Assembling of camera module



Place the Camera with the rounded corner into the corresponding corner of the Camera Connector.

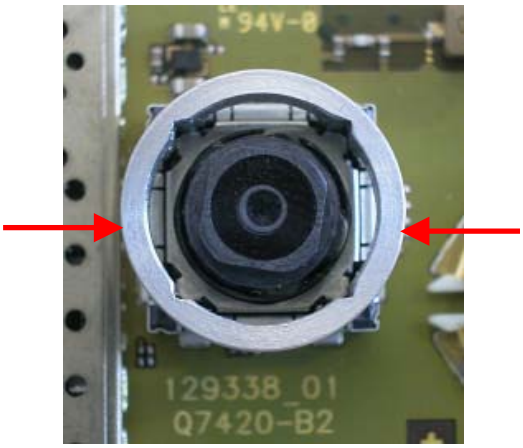
Disassembling of camera module

Tools required:

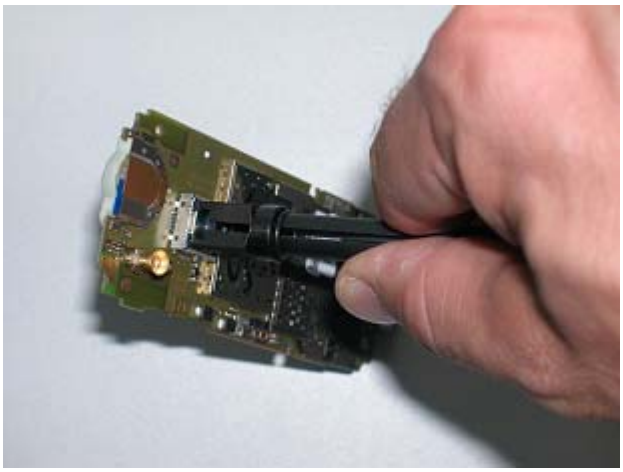
Description: Camera Ejector Jig
Part number: F30032-P514-A1

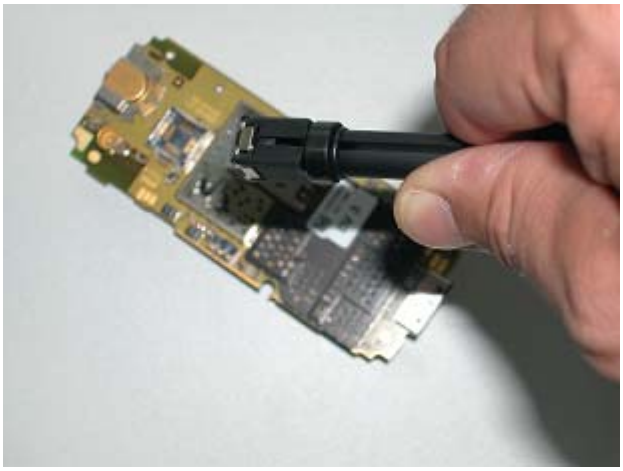
or

Description: Camera Ejector Tool Professional
Part number: F30032-P507-A1



To disassemble the Camera, put the Camera Ejector jig or the camera ejector tool professional through the four edges between the Camera and the Camera connector. Now push the Ejector jig and pull out the Camera.





10 Mobile Software Programming

The common mobile software available is divided into language groups. However, this software does not contain the specific settings, such as ringing tones, greeting text, and short dial list etc., required by the operator or service provider. Therefore, it is common to have some menu item(s) differ in different variants or are not visible at all. These settings are stored in different memory area of the mobile and will be activated depending on the customer specific model or variant of the phone by a separate test step during the production process.

Due to this separation of common mobile software and customer specific initialization, it is possible to fulfil the demands of the market requiring customization and flexibility. As a consequence the software programming process in the LSO is divided into two different steps as followed:

- Software update to actual version and appropriate language group
- Programming of CUSTOMER SPECIFIC INITIALIZATION

Usage of GRT is mandatory!! For more detail check GRT User manual

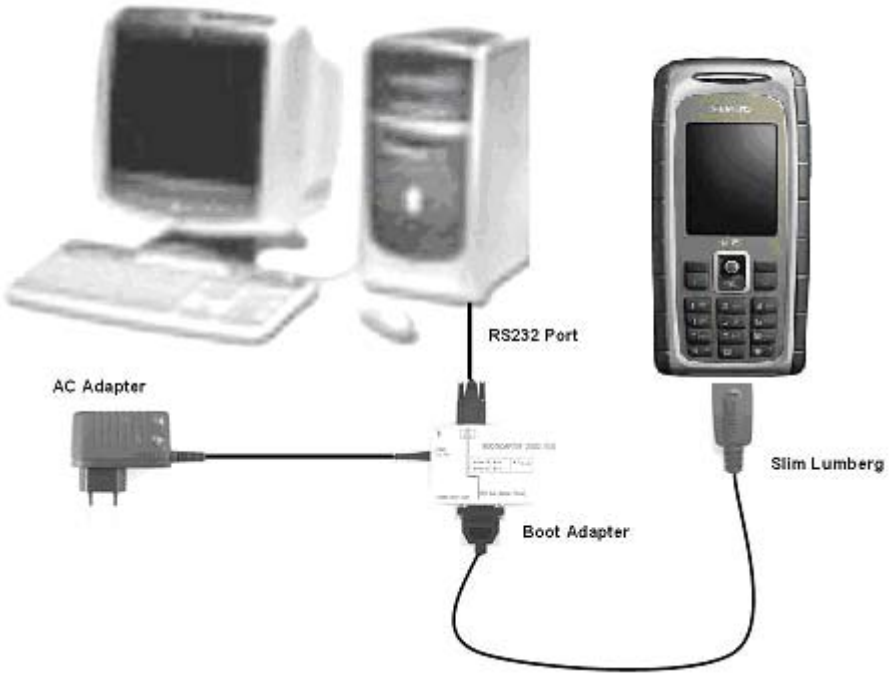


Figure 1. M75 Software Programming Setup

10.1 Mobile Software Updating

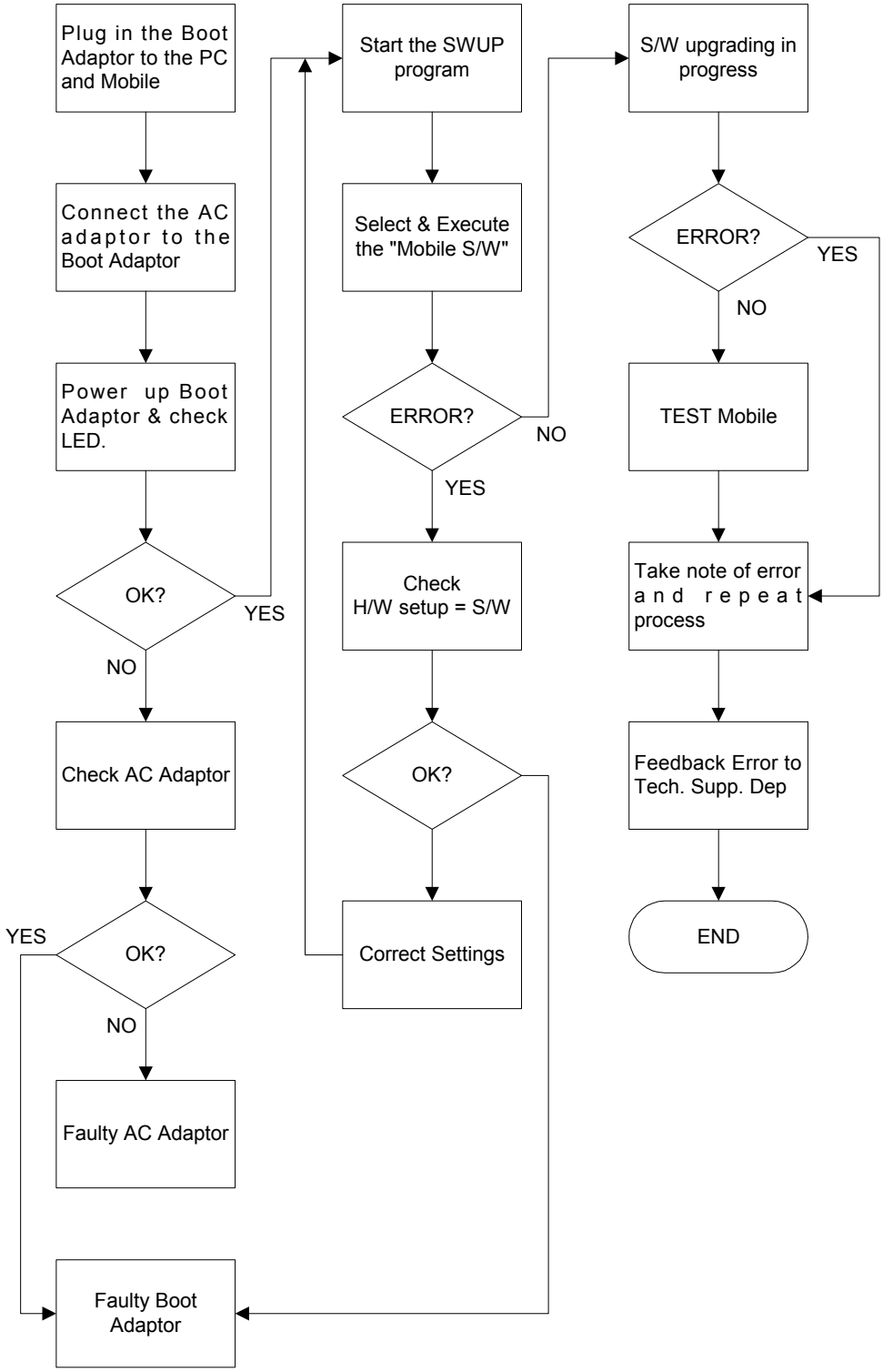
The software of the 75 series mobiles, is loaded from a PC directly. Hardware interconnection between the mobile and the PC is shown in Figure 1. Because of the new type of external connector used since 55 series (Slim-Lumberg type) an additional adaptor cable between mobile and boot adaptor is required. Table 1 listed all the hardware requirements

If you use the battery dummy, make sure that the power supply voltage is correctly adjusted.

Description	Part No.
Bootadapter 2000 incl. AC-Adapter, serial cable and mobile connection cable	L36880-N9241-A200
IBM Compatible PC – Pentium	-
Adapter cable – Slim Lumberg to Old	F30032-P226-A1

TABLE 1. EQUIPMENT LIST FOR SOFTWARE PROGRAMMING

10.2 Flow Chart for Software Upgrading



FLOW CHART FOR S/W PROGRAMMING PROCESS

11 Siemens Service Equipment User Manual

Introduction

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

Siemens Mobile Service Equipment

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

12 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

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 chip card. These chip 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 chip cards or administration of the databases please ask your responsible Siemens Customer Care Manager.

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. Card reader (Omnikey)
2. CardOS interface (Siemens)
3. JPICS Certificates
4. Java Plugin JVM/JRE (Sun)
5. 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. A chip card. Chip cards can be ordered via your responsible Customer Care Manager within Siemens.

3. A supported chip card reader (Smarty or Siemens B1) in order to access your chip card.

Remark:

We recommend using Siemens B1 reader. Similar device to B1 is Cardman 9010.

Generate Codes

In the module "**Generate Codes**"you can choose to generate:

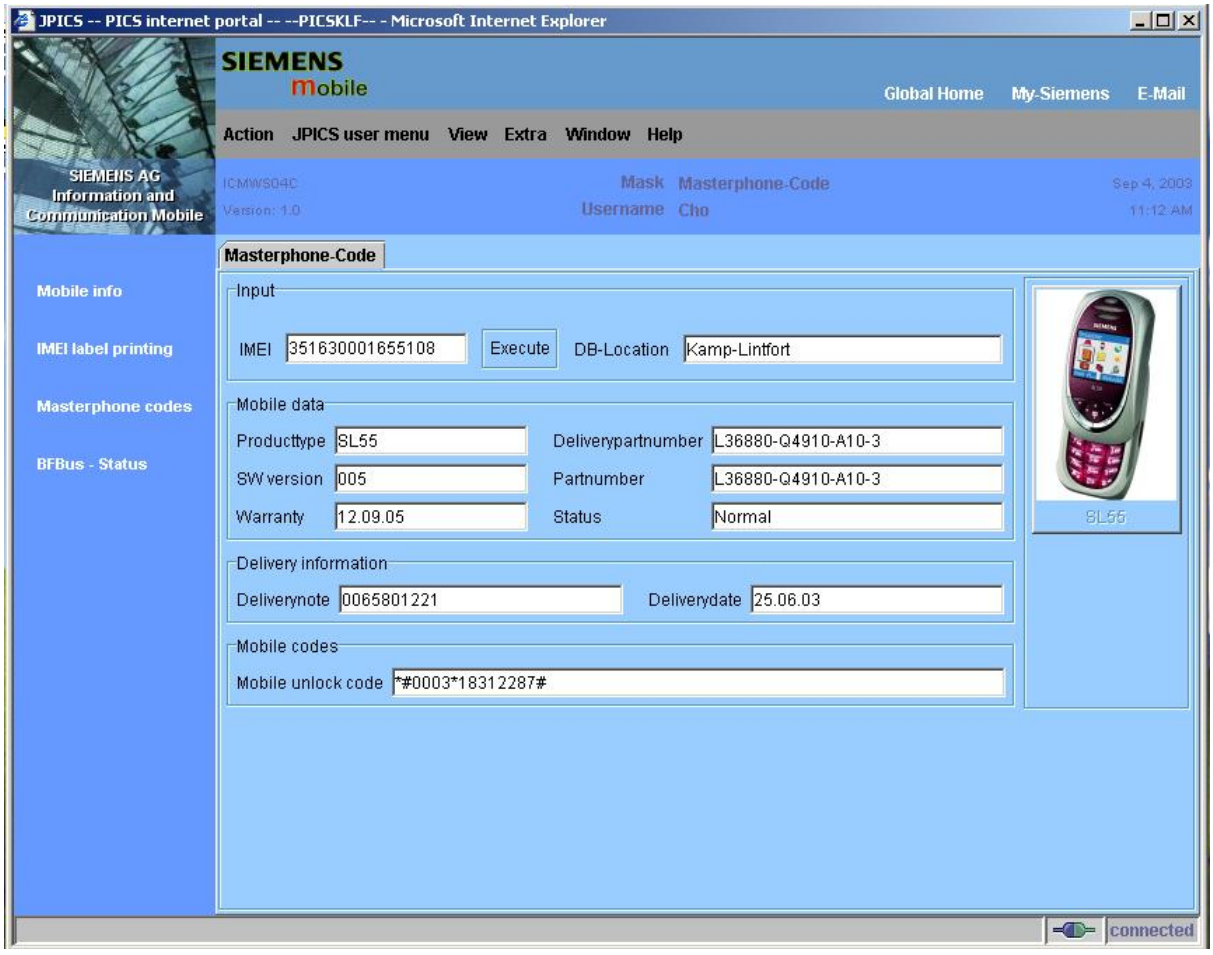
- Master – Phonecodes

- Simlock Unlock – Codes

Master - Phonecodes

The **Master – Phonecode** is used to unlock blocked mobiles.

Master – Phonecodes can only be supplied for mobiles which have been delivered in a regular manner.

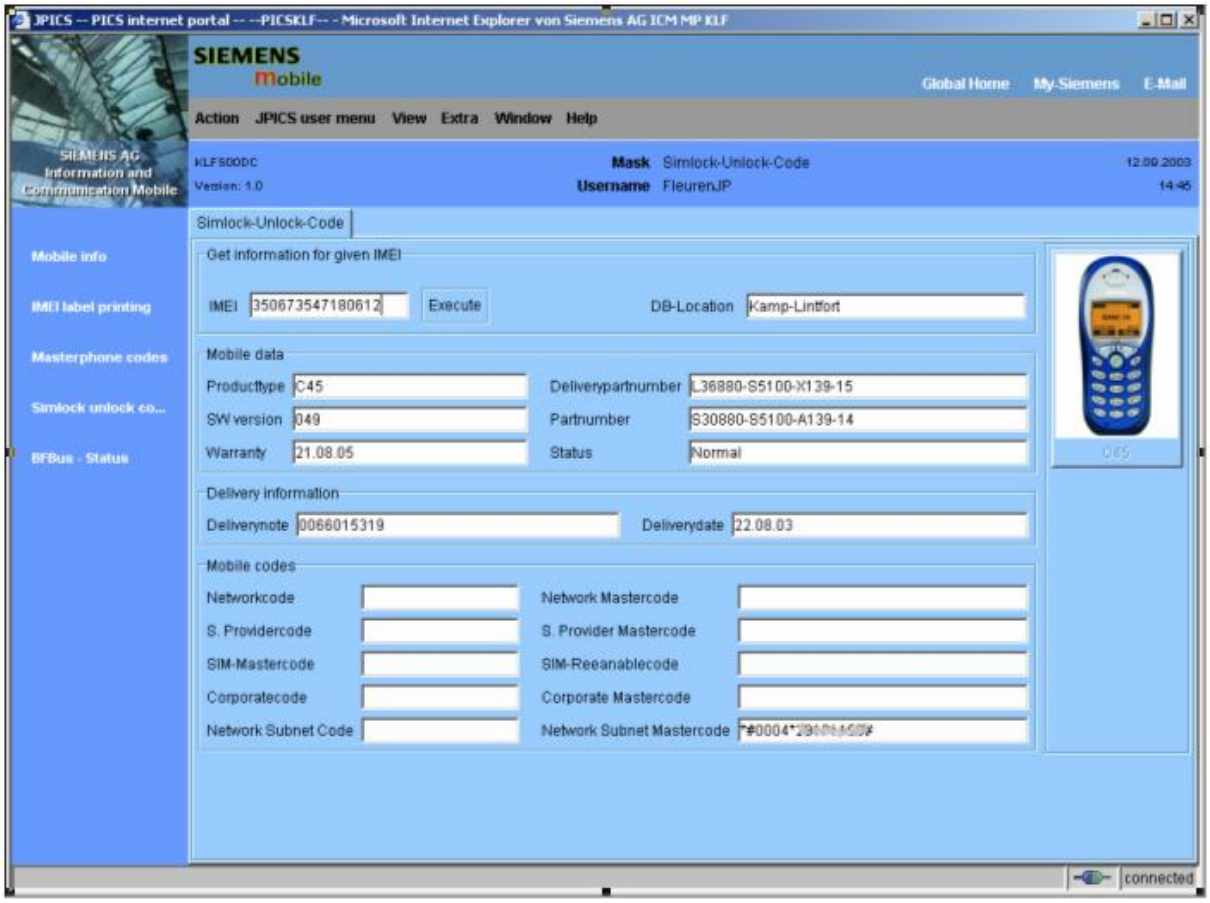


Simlock Unlock - Code

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

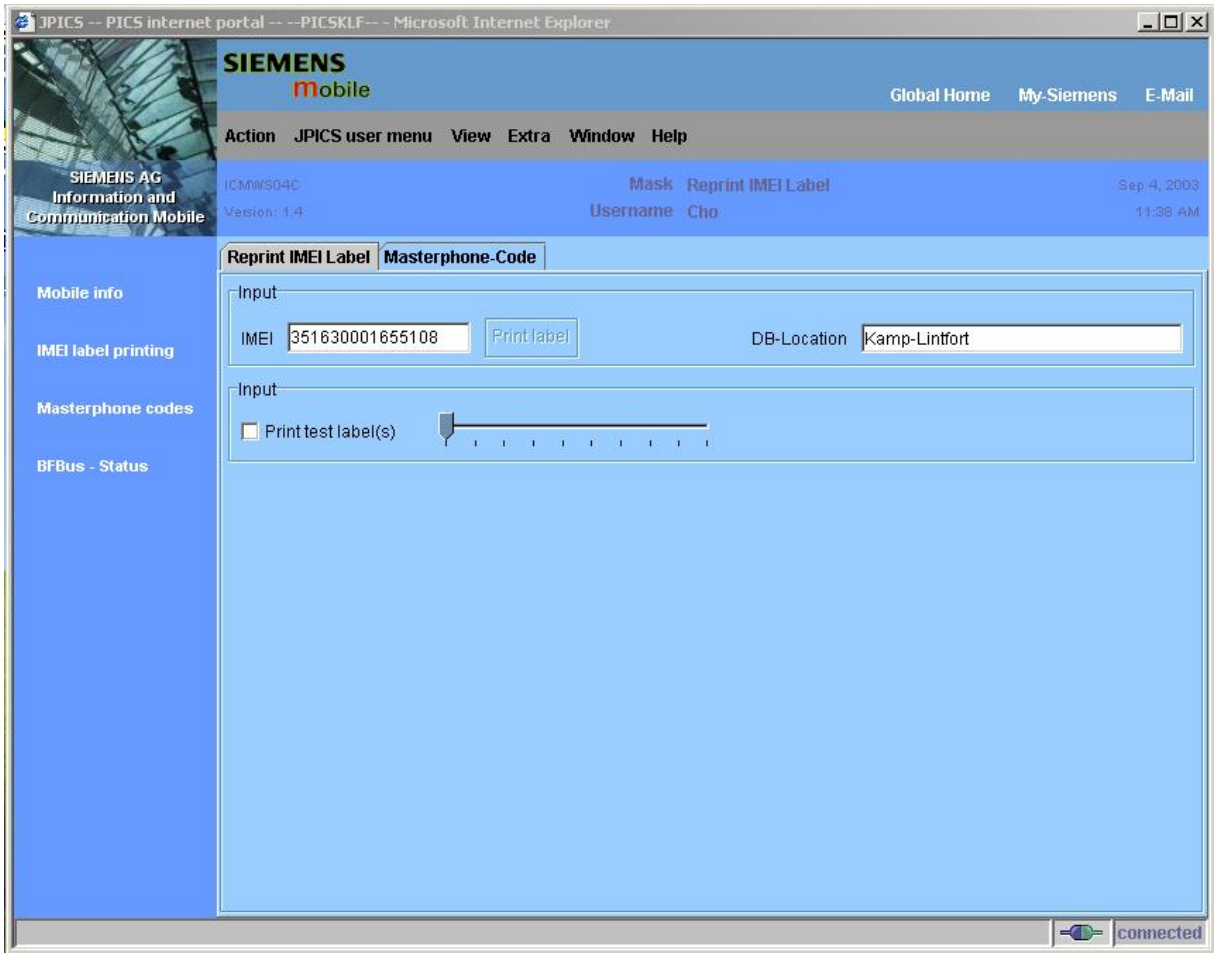
- Mobile must have an active **Simlock** inside.

- 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.



Printing IMEI label

The module "**Print 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 as 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.

13 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 M75 is S30880-S7430-Axx-x where the last 4 letters specify the housing and software variant.

M75 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, Siemens has also includes the date code for production or service, which conforms to the industrial standard DIN EN 60062. The date code comprises of 2 characters: first character denotes the Year and the second character denotes the Month.

For example: **M3**

CODE	YEAR	MONTH	CODE
M	2000	MARCH	**3**
N	2001	APRIL	4
P	2002	MAY	5
R	2003	JUNE	6
S	2004	JULY	7

TABLE 2 DIN EN 60062 DATE CODE

To display the IMEI number, exit code and SW/HW version, key: *#06#.

14 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:

- Connect the mobile/board via internal antenna (antenna coupler) and external antenna (car cradle) to a GSM tester.
- Use a Test SIM.
- Skip GSM 900/GSM1800 or GSM1900 test cases if not performed by the mobile phone.

Internal Antenna			
Test case	**Parameter**	**Measurements**	**Limits**
1 Location Update	• GSM900 • BS Power = -55 dBm • middle BCCH	• Display check	• individual check
2 Call from BS	• low TCH • PCL 5 • BS Power = -55 dBm • middle BCCH	• Ringer/Loudspeaker check	• individual check
3 TX GSM900	• low TCH • PCL 5 • BS Power = -55 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
4 Handover to GSM1800 Including Handover Check			
5 TX GSM1800	• low TCH • PCL 0 • BS Power = -55 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
6 Handover to GSM1900 Including Handover Check			
7 TX GSM1900	• low TCH • PCL 0 • BS Power = -55 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
8 Call relaese from BS			

External Antenna			
Test case	**Parameter**	**Measurements**	**Limits**
9 Call from MS	• GSM900 • high TCH • PCL 6 • BS Power = -55 dBm • middle BCCH	• Keyboard check	• individual check
10 TX GSM900	• high TCH • PCL 6 • BS Power = -55 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
11 RX GSM900	• 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.
12 Handover to GSM1800 Including Handover Check			
13 TX GSM1800	• high TCH • PCL 1 • BS Power = -55 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
14 RX GSM1800	• 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.
15 Call relaese from MS			

16	Handover to GSM1900 Including Handover Check			
17	TX GSM1900	• high TCH • PCL 1 • BS Power = -55 dBm • middle BCCH	• Frequency Error • Phase Error RMS • Phase Error Peak • Average Power • Power Time Template	• GSM Spec.
18	RX GSM1900	• 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.
19	Echo Test	• high TCH • PCL 1 • BS Power = -70 dBm • middle BCCH		• individual check

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)