S25(88)

Level 2.5

Repair Documentation

© by]CC[Toko

1 Introduction

The S25 is the first dualband handset (GSM-900 and GSM-1800) in the S-class. The S2588 is a special version for the asian market with the same hardware but a different Software.

The repairs for S25 and S2588 are identical unless otherwise noted.

This manual is intended to help you carry out repairs on level 2.5, meaning limited component repairs. Failure highlights are documented and should be repaired in the local workshops.

It must be noted that all repairs have to be carried out in an environment set up according to the ESD (Electrostatic Discharge Sensitive Devices) regulations defined in international standards.

If you have any questions regarding the repair procedures or spare parts do not hesitate to contact our technical support team in Kamp-Lintfort, Germany:

Tel.: +49 2842 95 4666 Fax: +49 2842 95 4302

e-mail: dominik.schnoor@klf.siemens.de

Information and Communication Products Communication Devices

SIEMENS

Table of Contents:

1	INTRODUCTION	2
2	ANTENNA CONNECTOR	4
3	RINGER CONNECTOR	8
4	BOTTOM CONNECTOR (LUMBERG)	11
5	18μH COIL	14
6	ANTENNA SPRING	18
7	1,5 A FUSE	21
8	CARDREADER	24
9	VIBRACONNECTOR	27
10	SIDESWITCH MMI	29
11	CONNECTOR MMI	34

2 Antenna Connector

2.1 Affected Units

2.1.1 Type: S25

2.1.2 Affected IMEIs / Date Codes: All / All

2.1.3 Affected SW-Versions: All

2.1.4 Fault Code for LSO reporting: 3ANC

2.2 Fault Description

2.2.1 Fault Symptoms for customers:

Network Search when using the external antenna

(carkit)

No location update possible on external antenna (carkit)

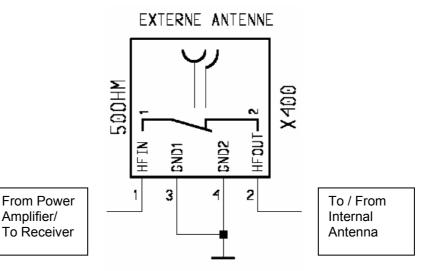
2.2.2 Fault Symptom on GSM-Tester:

Output power problems on the external antenna No location update possible

2.2.3 Component Information

The Antenna Connector is a mechanical switch operated by the RF plug of a carkit or, for testing purposes, of an RF clip.

Normally the RF signal goes to and comes from the internal antenna. Whenever an RF plug is plugged into the antenna connector the connection to the internal antenna is openend and the connection to the external antenna socket is made. See drawing below.



2.3 Priority:

☐ Mandatory

Repair

□ Optional

□ Not Yet Defined

2.4 Repair Documentation

2.4.1 Description of procedure:

2.4.1.1 Diagnosis

Check the output power of the handset with the LSO testprogram. Especially watch the external antenna power!

2.4.1.2 Repair by component change

Use hot air blower to remove defective connector Avoid excessive heat! Watch surrounding components!

Resolder new connector afterwards.

2.4.1.3 Repair by SW-Booting

Not possible!

2.4.1.4 Test

Retest handset after repair as described above.

2.4.2 List of needed material

2.4.2.1 Components

S25 antenna connector Part-Number: L36334-Z93-C261

2.4.2.2 Jigs and Tools

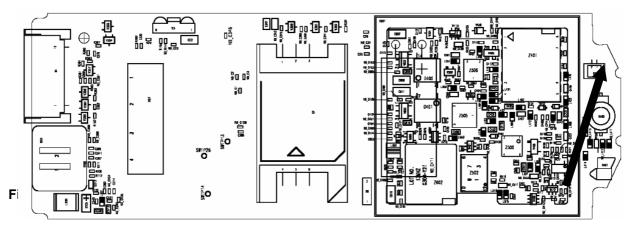
Hot Air Blower Soldering Iron

2.4.2.3 Special Tools

None

2.4.2.4 Working materials

Desolder Wick / Braid Solder





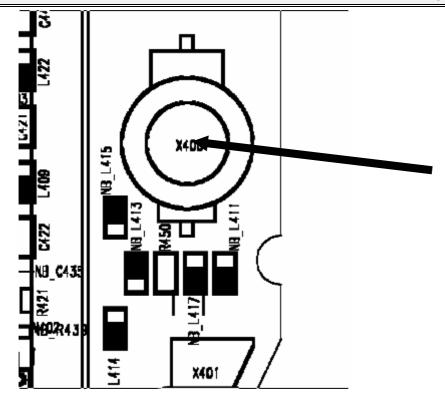


Figure 2: S25 Antenna Connector Side (Top View)

3 Ringer Connector

3.1	Affected Units	
3.1.1	Туре:	S25
3.1.2	Affected IMEIs / Date Codes	s: All / All
3.1.3	Affected SW-Versions:	All
3.1.4	Fault Code for LSO reporting	ng: 3RIC
3.2	Fault Description	
3.2.1	Fault Symptoms for customers:	
		Problems with the handset ringer. No ringer tone audible.
3.2.2	Fault Symptom on GSM-Tester:	
		Handset fails ringer test.
3.3	Priority:	
□ ※ □	Mandatory Repair Optional Not Yet Defined	

3.4 Repair Documentation

3.4.1 Description of procedure:

The connector X5 is connecting the main board of the C25 with the piezo ringer through a two pin cable.

3.4.1.1 Diagnosis

Visually check the connector. Watch for bent contacts and dry joints.

3.4.1.2 Repair by component change

Resolder dry soldering joints.

If the connector is physically damaged use hot air blower or wick to remove defective connector.

Avoid excessive heat!

Watch surrounding components!

Resolder new connector afterwards.

3.4.1.3 Repair by SW-Booting

Not possible!

3.4.1.4 Test

Retest handset after repair.

3.4.2 List of needed material

3.4.2.1 Components

Ringer Connector S25:

Part-Number: L36334-Z97-C43

3.4.2.2 Jigs and Tools

Hot Air Blower Soldering Iron

3.4.2.3 Special Tools

None

3.4.2.4 Working materials

Desolder Wick / Braid Solder Flux

Figure 1: S25 Board Ringer Connector Side

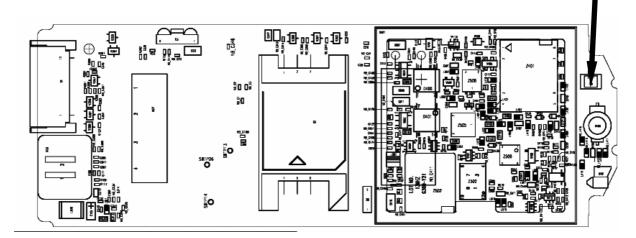
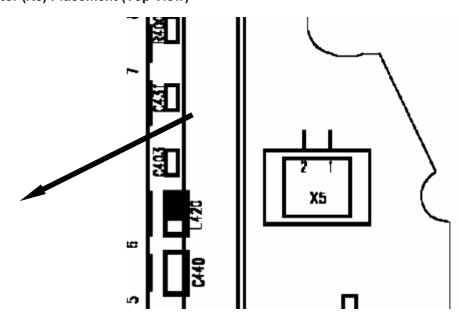


Figure 2: S25 Ringer Connector (X5) Placement (Top View)



4 Bottom Connector (Lumberg)

4.1	Affected Units		
4.1.1	Type:		S25
4.1.2	Affected IMEIs / Date Code	es:	All / All
4.1.3	Affected SW-Versions:		All
4.1.4	Fault Code for LSO reporti	ng:	3LUC
4.2	Fault Description		
4.2.1	Fault Symptoms for custor	mers:	
		Proble when	ing problems. ems with external loudspeaker or microphone using a car kit. ems with accessories connected at the bottom ctor.
4.2.2	Pault Symptom on GSM-Tester:		
		Tested	quipment cannot communicate with the handset
4.3	Priority:		
□ ×	Mandatory Repair Optional		

...... Not Yet Defined

4.4 Repair Documentation

4.4.1 Description of procedure:

4.4.1.1 Diagnosis

Visually check the bottom connector. Watch for dry joints!

4.4.1.2 Repair by component change

Use hot air blower remove defective bottom connector. Avoid excessive heat! Watch surrounding components!

Resolder new bottom connector afterwards.

4.4.1.3 Repair by SW-Booting

Not possible!

4.4.1.4 Test

Retest handset after repair.

4.4.2 List of needed material

4.4.2.1 Components

Bottom Connector S25 Part-Number: L36334-Z93-C262

4.4.2.2 Jigs and Tools

Hot Air Blower Soldering Iron

4.4.2.3 Special Tools

None

4.4.2.4 Working materials

Desolder Wick / Braid Solder

Figure 1: S25 Board Bottom Connector Side

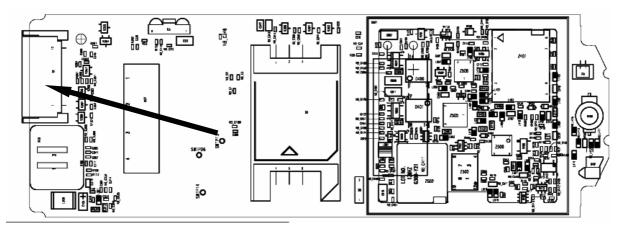
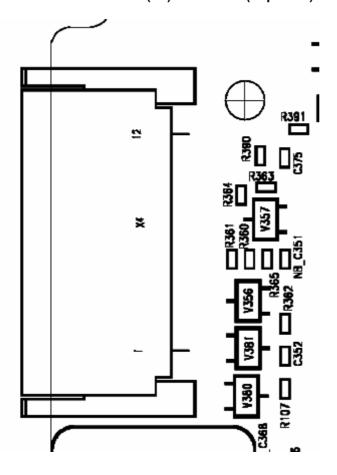


Figure 2: S25 Bottom Connector (X4) Placement (Top View)



5 18µH Coil

5.1	Affected Units		
5.1.1	Type:	S25	
5.1.2	Affected IMEIs / Date Codes:	All / All	
5.1.3	Affected SW-Versions:	All	
5.1.4	Fault Code for LSO reporting:	3COI	
5.2	Fault Description		
5.2.1	Fault Symptoms for customers:		
	Loud	l humming noise in loudspeaker.	
5.2.2	Fault Symptom on GSM-Tester:		
	Hand	dset fails with loud humming noise in echo loop.	
5.3	Priority:		
□	Mandatory Repair Optional		
	Not Yet Defined		

5.4 Repair Documentation

5.4.1 Description of procedure:

5.4.1.1 Diagnosis

The $18\mu H$ coil is used in the step up converter which is generating a 5.4 V supply voltage for the power amplifier out of the 2.8V battery voltage.

If the coil is mechanically damaged (broken) it produces heavy interference with the acoustical elements of the S25 resulting in a loud humming noise in the earpiece.

A broken coil can easily be diagnosed by trying to move it with two fingers. If it moves, the core is broken and the coil has to be replaced.

5.4.1.2 Repair by component change

Use hot air to remove defective coil. Avoid excessive heat! Watch surrounding components!!

Resolder new coil afterwards

5.4.1.3 Repair by SW-Booting

Not possible!

5.4.1.4 Test

Retest handset after repair by checking the audio quality with the echo loop of the testprogram.

Information and Communication Products Communication Devices

SIEMENS

5.4.2 List of needed material

5.4.2.1 Components 18µH Coil

Part-Number: L36151-F5183-M

5.4.2.2 Jigs and Tools

Soldering Iron Hot Air Blower

5.4.2.3 Special Tools

None

5.4.2.4 Working materials

Desolder Wick / Braid Solder

Figure 1: S25 Board 18µH Coil (L201) Side

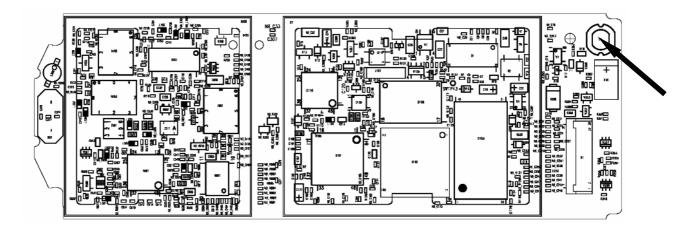
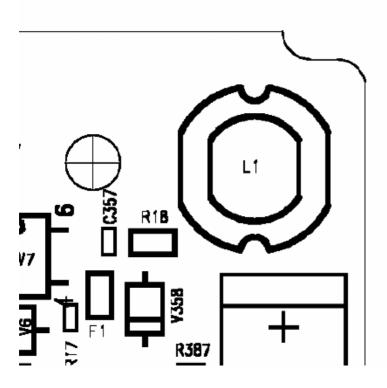


Figure 2: S25 18µH Coil (L1) Placement (Top View)



6 Antenna Spring

6.1	Affected Units	
6.1.1	Туре:	S25
6.1.2	Affected IMEIs / Date Codes	: All / All
6.1.3	Affected SW-Versions:	All
6.1.4	Fault Code for LSO reporting	g: 3ANS
6.2	Fault Description	
6.2.1	Fault Symptoms for custom	ers:
6.2.2		Network Search. Handset drops calls. ter:
-	F	Power problems on the <i>internal</i> antenna of the handset only.
6.3	Priority:	
□ ※ □	Mandatory Repair Optional Not Yet Defined	

6.4 Repair Documentation

6.4.1 Description of procedure:

The antennaspring connects the main board with the internal antenna of the handset.

6.4.1.1 Diagnosis

Visually check the status of the spring. Bent or oxidated springs have to be replaced.

6.4.1.2 Repair by component change

Use soldering iron to remove defective spring. Avoid excessive heat! Watch surrounding components!

Resolder new spring afterwards.

6.4.1.3 Repair by SW-Booting

Not possible!

6.4.1.4 Test

Retest handset after repair.

6.4.2 List of needed material

6.4.2.1 Components

Antenna Spring S25 Part-Number: L36158-A25-C9

6.4.2.2 Jigs and Tools

Hot Air Blower Soldering Iron

6.4.2.3 Special Tools

None

6.4.2.4 Working materials

Desolder Wick / Braid Solder

Figure 1: S25 Board Antenna Spring Side

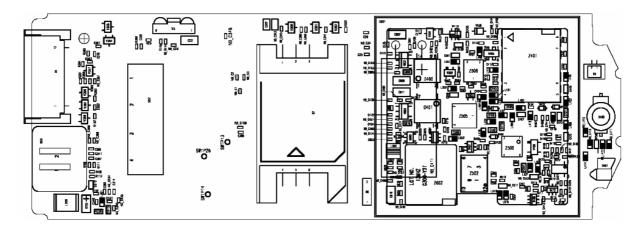
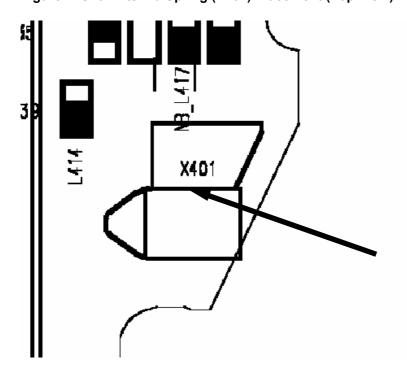


Figure 2: S25 Antenna Spring (X401) Placement (Top View)



7 1,5 A Fuse

7.1	Affected Units		
7.1.1	Type:	S25	
7.1.2	Affected IMEIs / Date Codes:	All / All	
7.1.3	Affected SW-Versions:	All	
7.1.4	Fault Code for LSO reporting:	3FU1	
7.2	Fault Description		
7.2.1	Fault Symptoms for customers:		
	Batter	y charging doesn't work.	
7.2.2	Fault Symptom on GSM-Tester:		
	This fa	ault cannot be detected with a GSM-Tester.	
7.3	Priority:		
	Mandatory		
X	Repair		
	Optional		
	Not Yet Defined		

7.4 Repair Documentation

7.4.1 Description of procedure:

7.4.1.1 Diagnosis

Simply measure the resistance of the fuse with a multimeter. Open connection means the fuse is defective. Otherwise it should be close to zero ohms.

7.4.1.2 Repair by component change

Use soldering iron to resolder dry joints or use hot air blower to remove defective fuse.

Avoid excessive heat!

Watch surrounding components!

Resolder new fuse afterwards.

7.4.1.3 Repair by SW-Booting

Not possible!

7.4.1.4 Test

Retest handset after repair.

7.4.2 List of needed material

7.4.2.1 Components

1,5 A fuse S25:

Part-Number: L36145-A820-Y12

7.4.2.2 Jigs and Tools

Hot Air Blower Soldering Iron

7.4.2.3 Special Tools

None

7.4.2.4 Working materials

Desolder Wick / Braid Solder

Figure 1: S25 Board 1,5 A Fuse Side

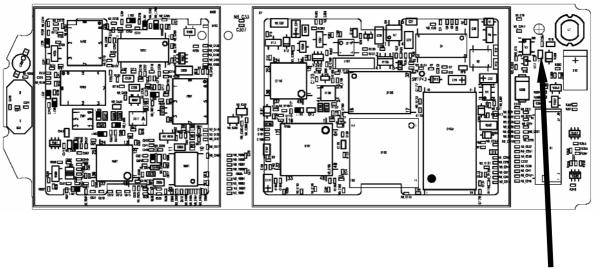
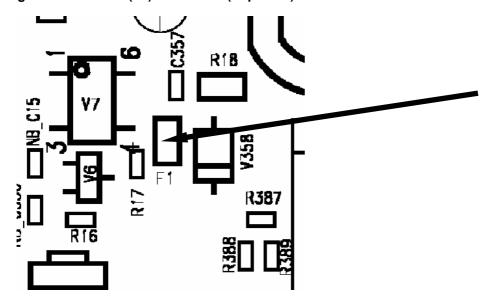


Figure 2: S25 Fuse (F1) Placement (Top View)



8 Cardreader

8.1	Affected Units		
8.1.1	Type:	S25	
8.1.2	Affected IMEIs / Date Codes:	All / All	
8.1.3	Affected SW-Versions:	All	
8.1.4	Fault Code for LSO reporting:	3REA	
8.2	Fault Description		
8.2.1	Fault Symptoms for customers:		
	Hand	set does not accept Simcard	
8.2.2	Fault Symptom on GSM-Tester:		
	This f	ault cannot be detected with a GSM-Tester.	
8.3	Priority:		
X D	Mandatory Repair Optional Not Yet Defined		

8.4 Repair Documentation

8.4.1 Description of procedure:

8.4.1.1 Diagnosis

Visually check the SIM-Card reader. Look for dry joints or mechanical problems.

8.4.1.2 Repair by component change

Use soldering iron to resolder dry joints or use hot air blower to remove defective reader.

Avoid excessive heat!

Watch surrounding components!

Resolder new reader afterwards.

8.4.1.3 Repair by SW-Booting

Not possible!

8.4.1.4 Test

Retest handset after repair.

8.4.2 List of needed material

8.4.2.1 Components

SIM-Card reader S25:

Part-Number: L36334-Z97-C51

8.4.2.2 Jigs and Tools

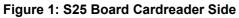
Hot Air Blower Soldering Iron

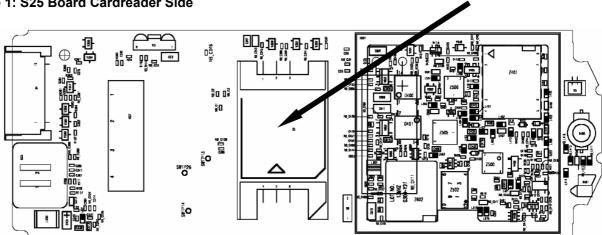
8.4.2.3 Special Tools

None

8.4.2.4 Working materials

Desolder Wick / Braid Solder





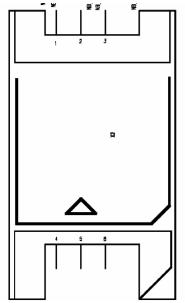


Figure 2: S25 Cardreader Placement (Top View)

9 Vibraconnector

9.1	Affected Units		
9.1.1	Type:	S25	
9.1.2	Affected IMEIs / Date Codes:	All / All	
9.1.3	Affected SW-Versions:	All	
9.1.4	Fault Code for LSO reporting:	3VIC	
9.2	Fault Description		
9.2.1	Fault Symptoms for customers:		
	Vibrat	or function does not work	
9.2.2	Fault Symptom on GSM-Tester:		
	This fa	ault cannot be detected with a GSM-Tester.	
9.3	Priority:		
□ ※ □	Mandatory Repair Optional Not Yet Defined		

9.4 Repair Documentation

9.4.1 Description of procedure:

9.4.1.1 Diagnosis

Visually check the Vibramotor connector.

9.4.1.2 Repair by component change

Use soldering iron to resolder dry joints or use hot air blower to remove defective connector.

Avoid excessive heat!

Watch surrounding components!

Resolder new connector afterwards.

9.4.1.3 Repair by SW-Booting

Not possible!

9.4.1.4 Test

Retest handset after repair.

9.4.2 List of needed material

9.4.2.1 Components

Vibraconnector S25:

Part-Number: L36334-Z93-C268

9.4.2.2 Jigs and Tools

Hot Air Blower Soldering Iron

9.4.2.3 Special Tools

None

9.4.2.4 Working materials

Desolder Wick / Braid Solder

9.4.3 Drawings

Figure 1: S25 Board Vibraconnector Side

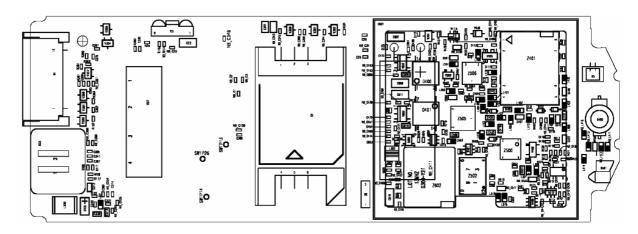


Figure 2: S25 Vibraconnector Placement (Top View)

7 NB_C468 [Page 29 of 37 ICP CD ST D. Schnoor 5/99

10.1 Affected Units

10.1.1	Type:		S25
10.1.2	Affect	ed IMEIs / Date Codes:	All / All
10.1.3	Affecto	ed SW-Versions:	All
10.1.4	Fault (Code for LSO reporting:	3SSW
10.2	Fault [Description	
10.2.1	2.1 Fault Symptoms for customers:		
		Void	ce memo or up/down button does not work
10.2.2	.2.2 Fault Symptom on GSM-Tester:		
		The	keyboard test fails on the defective button.
10.3	Priorit	y:	
□ ※ □		Mandatory Repair Optional Not Yet Defined	

10.4 Repair Documentation

10.4.1 Description of procedure:

10.4.1.1 Diagnosis

Visually check the switches on the MMI board.

10.4.1.2 Repair by component change

Use soldering iron to resolder dry joints or use hot air blower to remove defective switch.

Avoid excessive heat!

Watch surrounding components!

Resolder new switch afterwards.

10.4.1.3 Repair by SW-Booting

Not possible!

10.4.1.4 Test

Retest handset after repair.

10.4.2 List of needed material

10.4.2.1 Components

Sideswitch S25:

Part-Number: L36315-.Z77-C194

10.4.2.2 Jigs and Tools

Hot Air Blower Soldering Iron

10.4.2.3 Special Tools

None

10.4.2.4 Working materials

Desolder Wick / Braid Solder

Figure 1: S25 MMI Board Sideswitch Side

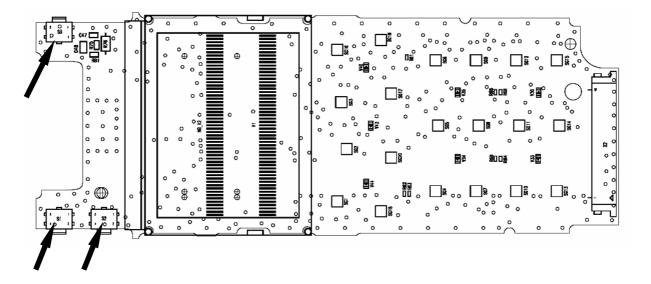


Figure 2: S25 Up/Down Switch Placement (Top View)

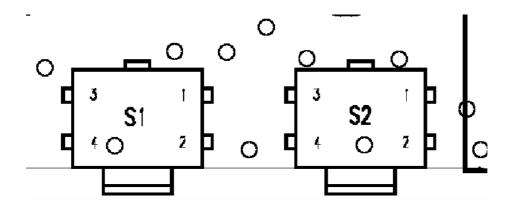
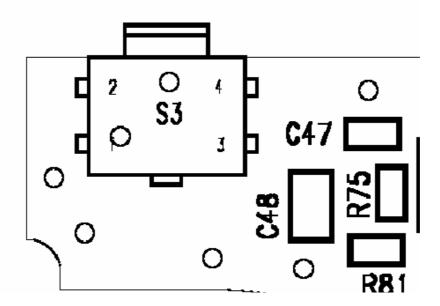


Figure 3: S25 Voice Memo Switch Placement (Top View)



11 Connector MMI

11.1	Affected Units	
11.1.1	Туре:	S25
11.1.2	Affected IMEIs / Date Codes	s: All / All
11.1.3	Affected SW-Versions:	All
11.1.4	Fault Code for LSO reporting	g: 3MMC
11.2	Fault Description	
11.2.1	Fault Symptoms for custon	ners:
		Problems with MMI functions like:
		Display malfunctionKeyboard malfunctionIllumination problems
11.2.2	Fault Symptom on GSM-Te	ster:
		The keyboard / display test fails.
11.3	Priority:	
□ × □	Mandatory Repair Optional Not Yet Defined	

11.4 Repair Documentation

11.4.1 Description of procedure:

11.4.1.1 Diagnosis

Visually check the connector on the MMI board. Look for mechanical damages or dry joints.

11.4.1.2 Repair by component change

Use soldering iron to resolder dry joints or use hot air blower to remove defective connector.

Avoid excessive heat!

Watch surrounding components!

Resolder new connector afterwards.

11.4.1.3 Repair by SW-Booting

Not possible!

11.4.1.4 Test

Retest handset after repair.

11.4.2 List of needed material

11.4.2.1 Components

MMI Connctor S25:

Part-Number: L36195-Z26-C626

11.4.2.2 Jigs and Tools

Hot Air Blower Soldering Iron

11.4.2.3 Special Tools

None

11.4.2.4 Working materials

Desolder Wick / Braid Solder

Figure 1: S25 MMI Board Sideswitch Side

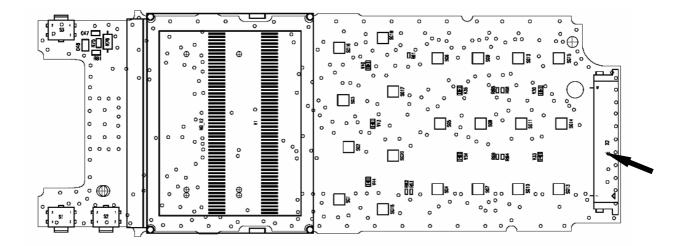


Figure 2: S25 MMI Connector Placement (Top View)

