Working Instructions – mechanical

Applicable for J210i

CONTENTS

1 Read this first!

After reading section 2 'Introduction' and the first page of section 3 'Repair Actions',
do as follows when a mechanical part needs to be replaced:

- Search for the part name on the contents page and go to the page number
  where the instruction is found

- Disassemble the phone as far as needed by moving to the instructions stated as e.g.
  Follow the Removal instructions of sections 3.1 – 3.6

- Carry out the actual repair action as described

- Assemble the phone by moving to the instructions stated as e.g.
  Follow the Assembly instructions of sections 3.6 – 3.1 (pls. note the reverse order)

When watching the document off-line (after downloading
and extracting the ZIP-file)), most of the Removal and
Assembly headings are blue-coloured and underlined.

By clicking on such a heading, a Flash Player window
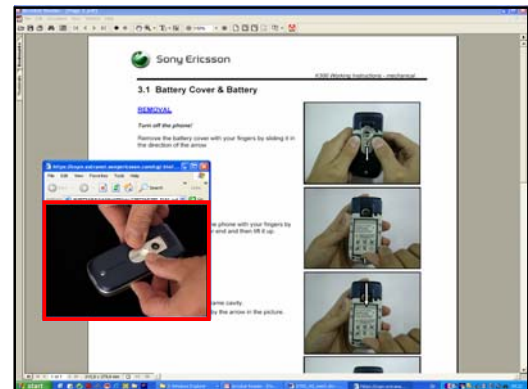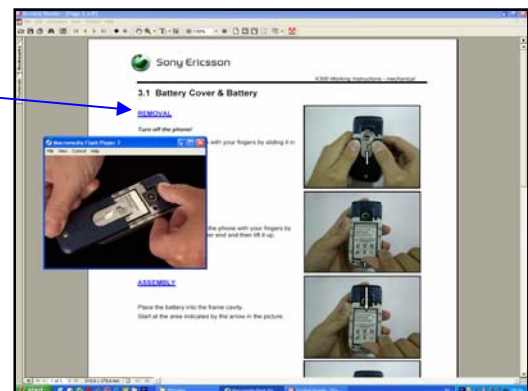opens, showing a video clip of the removal/assembly.

The flash movie can be controlled from the keyboard by
holding down the Ctrl-key and pressing another key as
follows:

- Start and Stop: Ctrl – Enter
- Rewind to start position: Ctrl – R
- Move one small step forward: Ctrl – right arrow
- Move one small step back: Ctrl – left arrow

If your computer is set up to show Flash movies in an
Internet Explorer window, the movie will most likely be full
size, resulting in poor picture quality.

To shrink the video window to its proper size, drag the
bottom right corner of the Internet Explorer window until
the movie is shown without blur and edges, which occurs
when the movie window is approx. 12 x 9 cm (indicated by
the red frame in the adjacent picture).

However, it is recommended to have your computer set up
to have the Flash movies played by the Flash Player
application.

NOTE! Flash Player ver. 6 or later must be installed on the computer.

The Flash Player can be downloaded free of charge from www.macromedia.com.

2 Introduction

SPECIAL TOOLS

No new special tools are introduced but a few other
Sony Ericsson tools are required:

- NTZ 112 459   Torque screwdriver (or equivalent)
  to 11 Ncm $\pm$ 6 %
- NTZ 112 288   Torx bit no. 6

- NTZ 112 302/2 Front opening tool

STANDARD TOOLS

The following tools have to be locally purchased:

- Dentist hook
- Blunt pair of tweezers
- Guitar pick

- Air duster (air blow equipment)

ESD EQUIPMENT

Protect the phone from ESD damages whenever it has been opened by using:

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

CAUTIONS

- *Keep all contact surfaces clean, no dirt or hand grease!*
- *Be careful when using tools like the dentist hook, tweezers, opening tools etc. to avoid scratches or damages to the exterior and interior parts of the phone!*
- *Be careful not to damage the contact springs on parts like the earphone and vibrator!*
- *Remember to remove the protection foils on new parts such as the display!*
- *Never touch the display glass!*
- *Use air blow equipment to keep the front window and display module dust free!*

3 Repair actions

FRONT/REAR VIEW

3.1 Battery Cover ass'y & Battery
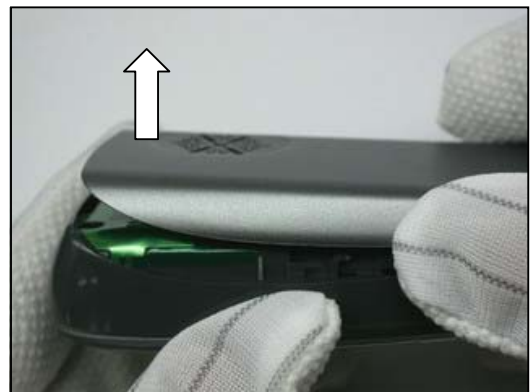
REMOVAL

Turn off the phone!

Hold the phone like the picture shows.
Use your thumbs to slide down the *battery cover*,

just until the *antenna flex film* becomes visible.

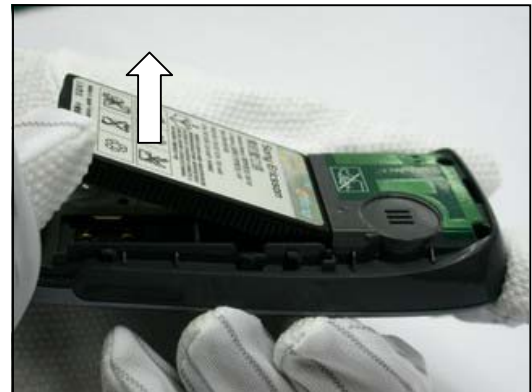Remove the *battery cover* by lifting it up.

Push the *battery* slightly forward,

Battery Cover ass'y & Battery *continued*

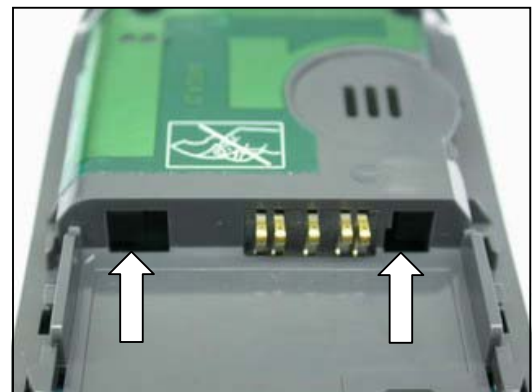and at the same time pull upwards to remove it.

ASSEMBLY

Insert the two *battery* pegs,

into these slots,

and push forward,

Battery Cover ass'y & Battery *continued*

while pressing down to secure the *battery* in its proper position.

Place the *battery cover* as shown in this picture,

so that that the *antenna flex film* becomes visible.

Hold the phone like this and slide the *battery cover* until it gets closed.

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3.2 Front Cover ass'y

<u>REMOVAL</u>

Follow the Removal instructions of section 3.1

Remove the four screws using torx bit no. 6.

The screws cannot be reused and must be scrapped!

Do not use a screwdriver or any other sharp object, as this might damage the covers or other components!

Insert the guitar pick between the *frame* and the *front cover*,

and release the *front cover* by sliding the guitar pick from bottom to top along each side of the phone.

The *front cover* can then be lifted off.

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Front Cover ass'y *continued*

ASSEMBLY

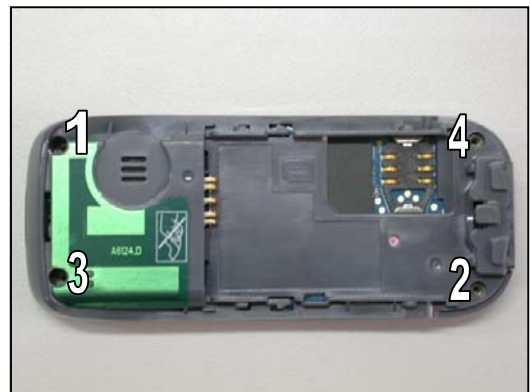Place the *front cover* on top of the *frame*.

Use your fingers to press on each side of the *front cover* as indicated by the arrows, to make it securely snapped.

Tighten four **new** screws with 11 Ncm torque using torx bit no. 6 in order 1-4, as indicated in the adjacent picture.

Follow the Assembly instructions of section 3.1

3.3 Keypad

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.2

Use the tweezers to remove the *keypad*.

ASSEMBLY

Use the tweezers to install the *keypad*.

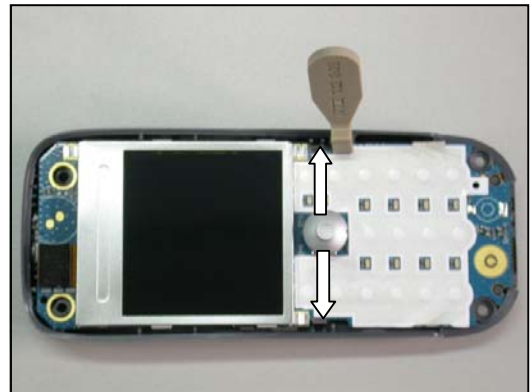*Follow the Assembly instructions of sections 3.2 – 3.1*

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3.4 PCB

<u>REMOVAL</u>

Follow the Removal instructions of sections 3.1 – 3.3

Place the front opening tool in the gap just below one of the hooks, indicated by the arrows, and press the tool down until the *PCB* becomes released from the snap hook of the *frame*.

Do the same thing on the opposite side.

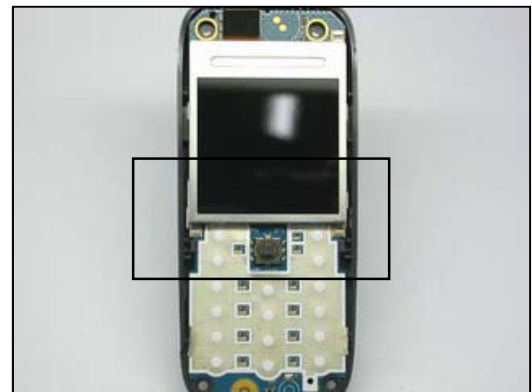Remove the *PCB*.

PCB *continued*

ASSEMBLY

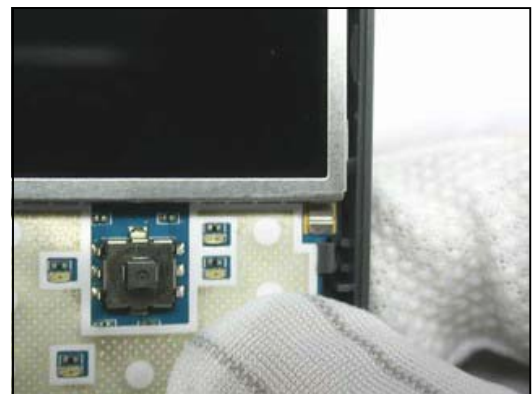Make sure the following items are in the correct positions before you install the *PCB*:

1. IrDA window
2. Louderspeaker ass'y
3. Vibrator
4. Battery Connector
5. Strap Insert Plate
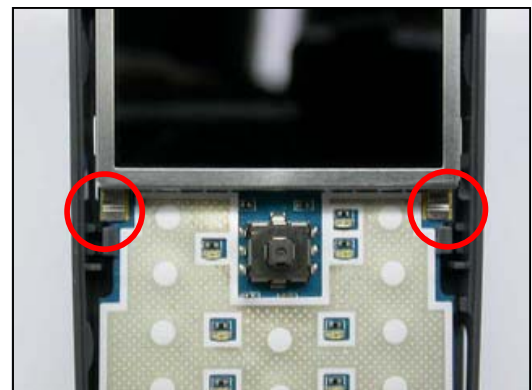6. Water Damage Indicator

Place the *PCB* inside the *frame*.

Use your thumbs to press the *PCB* down into the *frame*.

Press down on each side to snap the hooks (red circles), and check that the *PCB* is securely attached.

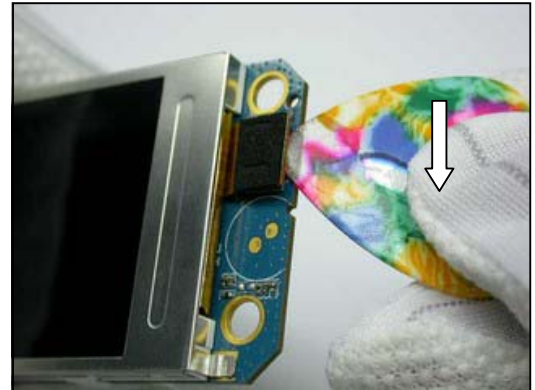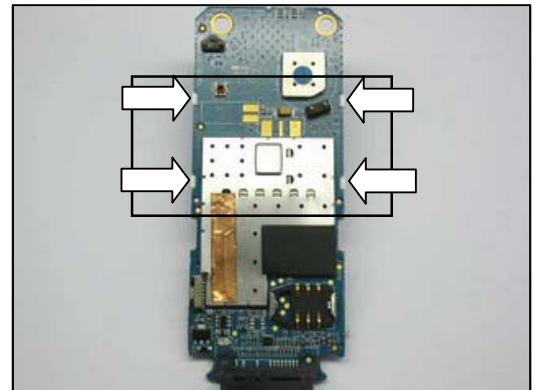*Follow the Assembly instructions of sections 3.3 – 3.1*

3.5 Display

Follow the Removal instructions of sections 3.1 – 3.4

Be careful not to damage the display flex film or connector
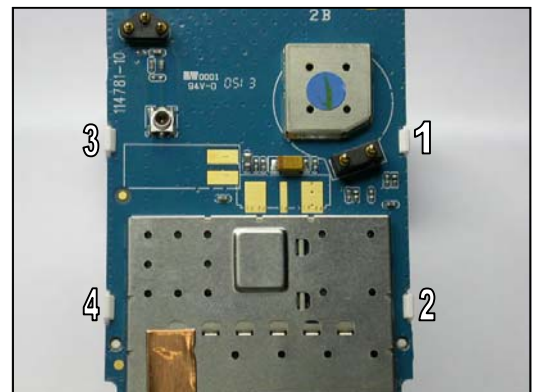
Use the guitar pick or front opening tool to disconnect the *display* from the *board-to-board connector*.

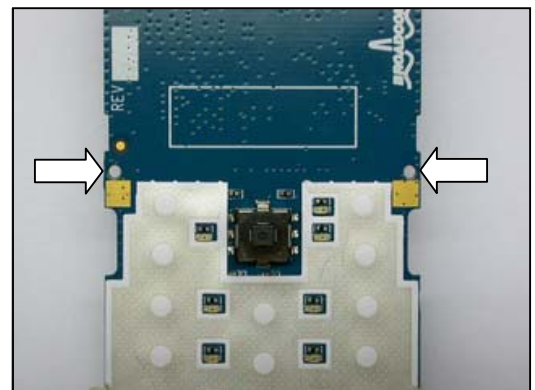There are four snap hooks holding the *display* onto the *PCB*.

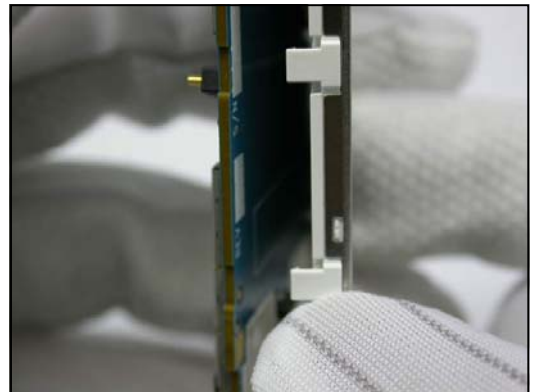Use your fingers to release the hooks in order 1-4.

ASSEMBLY

There are two guiding holes on the *PCB* to facilitate the installation of the *display*.
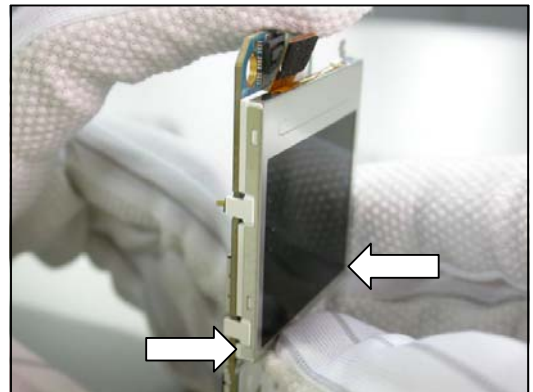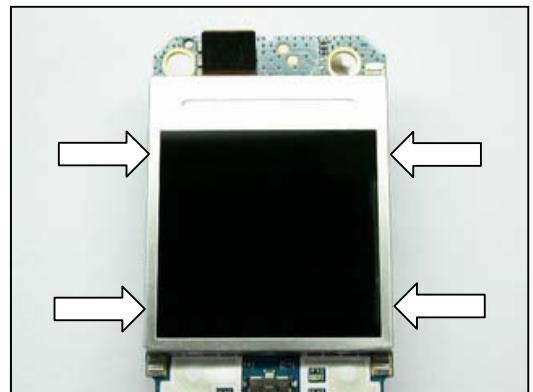
Display *continued*

Tilt the *display* to a 30° angle.

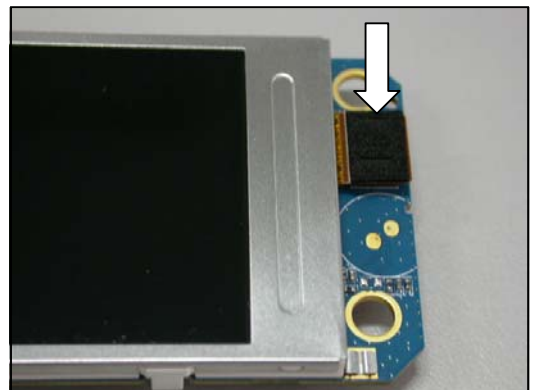Insert the two guiding pegs of the *display* into the guiding holes of the *PCB*.

Press gently on the four snap fit hooks from the left side to the right side of *display* with your fingers and check that the *display* is securely attached.

Use your fingers to connect the *board-to-board connector* to the *PCB*.

Follow the Assembly instructions of sections 3.4 – 3.1

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3.6 Name Plate

REMOVAL

The name plate cannot be reused!

Be careful not to scratch the front cover!

Gently remove the *name plate* by using tweezers.

ASSEMBLY

Clean the surface with isopropyl alcohol.

Attach a **new** *name plate* by using tweezers and/or your fingers.

3.7 Microphone ass'y

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.2

Use a dentist hook to lift the *microphone* out of its cavity and then the tweezers to remove it.

ASSEMBLY

Use your fingers or tweezers to install the *microphone*. Gently press on the *microphone* until it reaches the bottom of the cavity.

Follow the Assembly instructions of sections 3.2 – 3.1

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3.8 Earphone & Earphone Gasket

Follow the Removal instructions of sections 3.1 – 3.2

Be careful not to damage the spring connectors.

Insert the tweezers into the gap of the *front cover*.
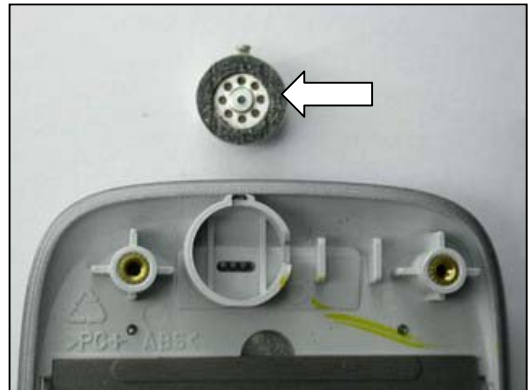
Lift the *earphone* upwards and remove it.

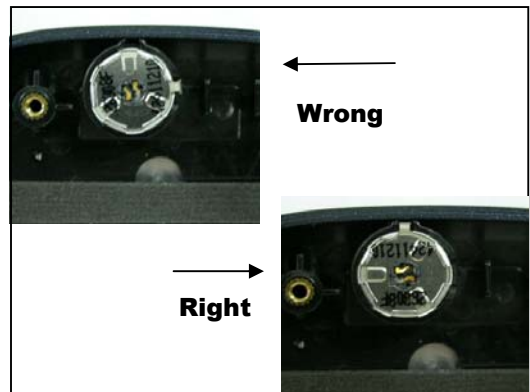Remove the remaining *earphone gasket* residue from the *earphone* cavity.

ASSEMBLY

This picture shows how an *earphone gasket* mounted on an *earphone* looks like.

But when installing, first place a **new** *earphone gasket* into the *earphone* cavity with the adhesive side face up.

Mount the *earphone* so that the *earphone* peg is pointing upwards.

Use tweezers to place the *earphone* inside the cavity.

Press on the *earphone* to make it securely attached.

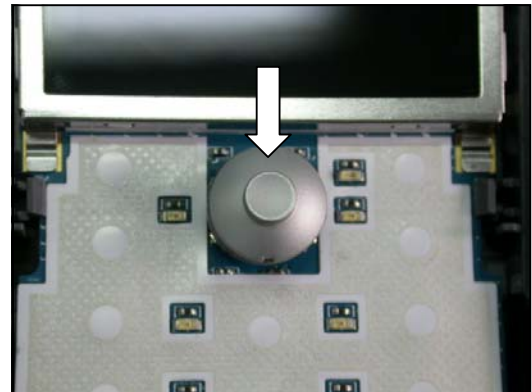*Follow the Assembly instructions of sections 3.2 – 3.1*

3.9 Joystick Button ass'y

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.3

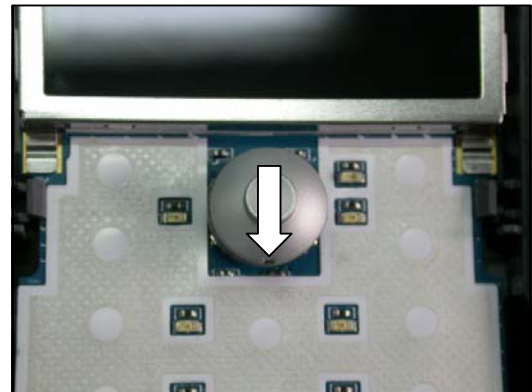Use your fingers to remove the *joystick button* by lifting it upwards.

ASSEMBLY

The small cavity on the joystick button must be pointing towards the bottom of the phone.

Use your fingers and place the *joystick button* on top of the *joystick switch* and press to make it securely attached. Check that the button cavity is in the position shown in this picture.

Follow the Assembly instructions of sections 3.3 – 3.1

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3.10 Tape Shield Can

REMOVAL

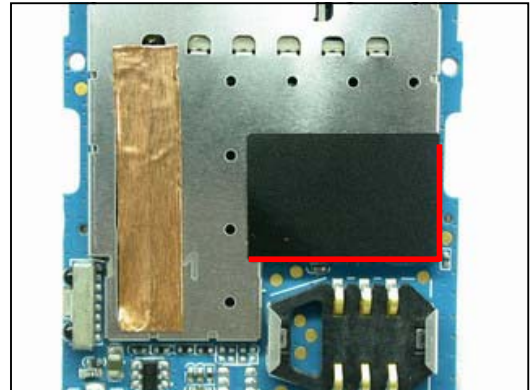*Follow the Removal instructions of sections 3.1 – 3.4*

Use the tweezers to remove the *tape shield can*.

ASSEMBLY

Clean the surface with isopropyl alcohol.

Attach a **new** *tape shield can* to be aligned with the red line.

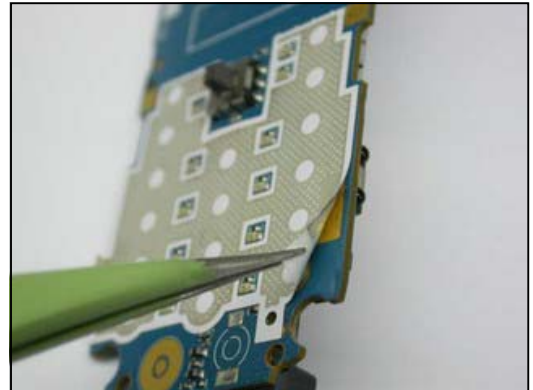*Follow the Assembly instructions of sections 3.4 – 3.1*

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3.11 Keypad Dome

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.4

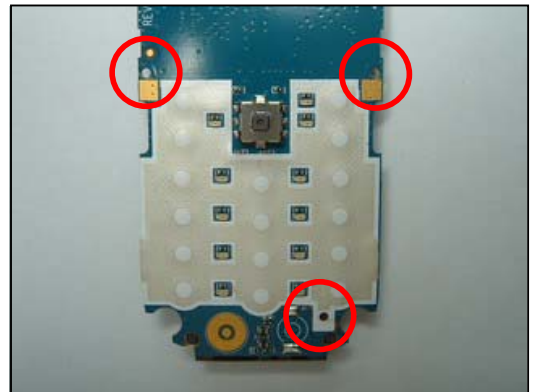Use the tweezers to remove the *keypad dome*.

ASSEMBLY

Clean the PCB with isopropyl alcohol!

The PCB and a new keypad dome have three guiding holes each, as indicated by the red circles.

Place the new *keypad dome* on the *PCB*.

Make sure that the guiding holes of the *keypad dome* are placed above the guiding holes of the *PCB*.

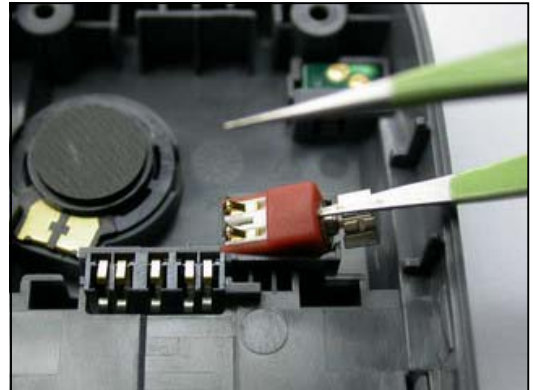*Follow the Assembly instructions of sections 3.4 – 3.1*

3.12 Vibrator

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.4

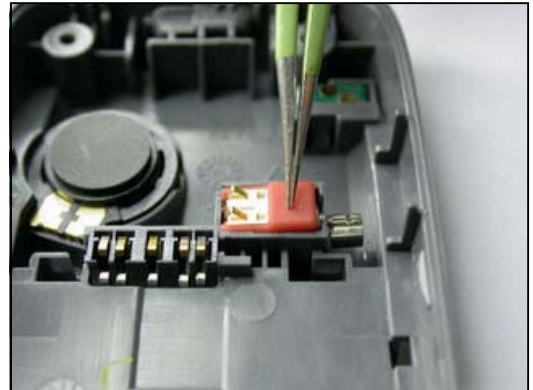Lift the *vibrator* up using the tweezers and remove it.

ASSEMBLY

Do not touch or damage the vibrator contact springs and the flywheel!

Use the tweezers to put the *vibrator* into the frame cavity. Press on the *vibrator* until it reaches the bottom of the cavity.

Follow the Assembly instructions of sections 3.4 – 3.1

3.13 Battery Connector

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.4

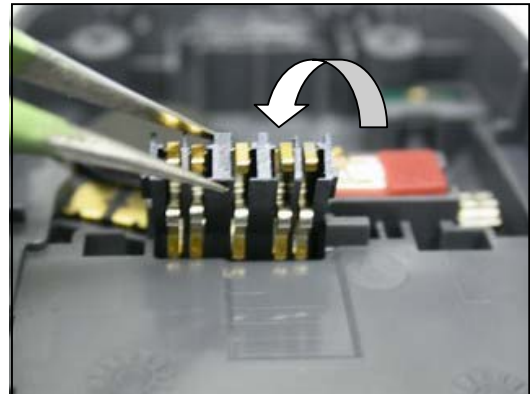***The battery connector cannot be reused!***

Grab the *battery connector* with the tweezers and press it downwards, through the *frame*.

ASSEMBLY

Be careful not to damage the battery connector!

Use a pair of tweezers or your fingers to grab the *battery connector*.
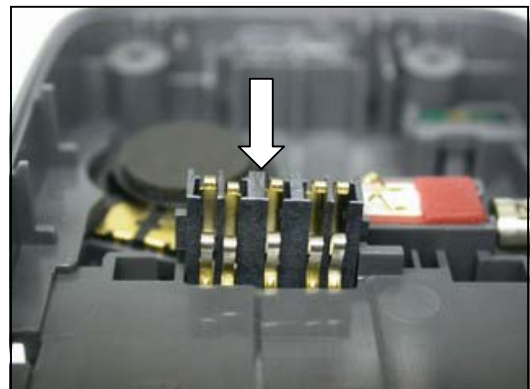

Position the *battery connector* at a 30° angle.

Use your fingers to push on the *battery connector* until it fits properly.

Follow the Assembly instructions of sections 3.4 – 3.1

3.14 Loudspeaker ass'y

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.4

The loudspeaker cannot be reused!
Insert the tweezers as shown in the picture.
Lift the *loudspeaker* upwards and remove it.

ASSEMBLY

Remove the residues from the earphone cavity by cleaning with isopropyl alcohol!

Remove the protection foil and place the *loudspeaker* into the cavity as shown in picture.
Press on the *loudspeaker* until it is securely attached.

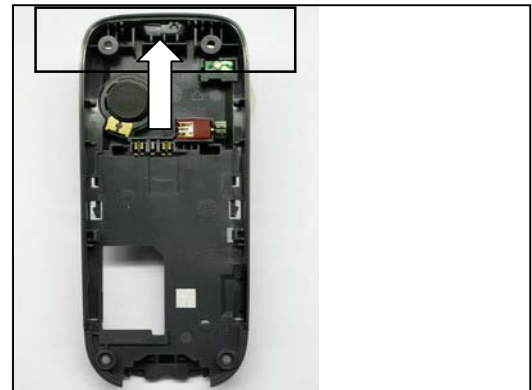*Follow the Assembly instructions of sections 3.4 – 3.1*

3.15 Strap Insert Plate

<u>**REMOVAL**</u>

Follow the Removal instructions of sections 3.1 – 3.4

This is where the *strap insert plate* is located.

Use the tweezers to grab the *strap insert plate*, then slide it outwards and remove it.

<u>**ASSEMBLY**</u>

Use the tweezers to grab the *strap insert plate*, then slide it inwards.

Follow the Assembly instructions of sections 3.4 – 3.1
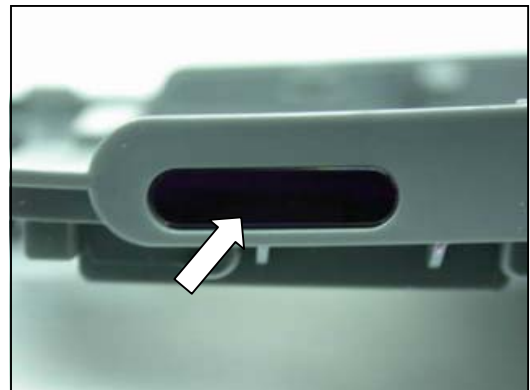
3.16 IrDA Window

REMOVAL

Follow the Removal instructions of sections 3.1 – 3.4

This is where the *IrDA window* is located.

.

Push and remove the *IrDA window* from the outside of the frame.

ASSEMBLY

Place the *IrDA window* onto the hooks of the *frame*, here being indicated by the red circles.

Push from the inside of the *frame* on the *IrDA window* until it snaps into its proper position.

Follow the Assembly instructions of sections 3.4 – 3.1

3.17 Water Damage Indicator

REMOVAL

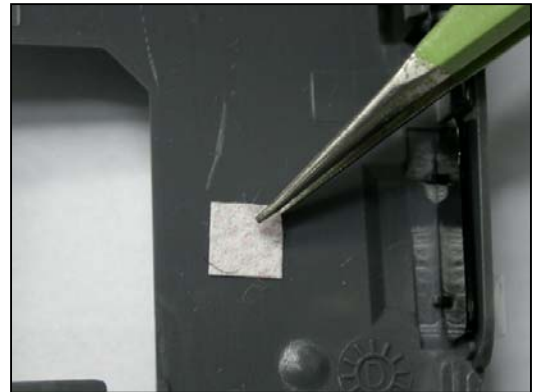*Follow the Removal instructions of sections 3.1 – 3.4*
Never reuse an activated water damage indicator!
Use tweezers to remove the *water damage indicator*.

 ASSEMBLY

Clean the surface with isopropyl alcohol and carefully
apply a **new** *water damage indicator* using tweezers.
Follow the Assembly instructions of sections 3.4 – 3.1

3.18 Frame ass'y

REMOVAL & ASSEMBLY

*Follow the Assembly instructions of sections 3.4 – 3.1 &
3.12 – 3.17*

Replace the *frame* with a new one.

*Follow the Assembly instructions of sections 3.12 – 3.17
(as assembled in adjacent picture) & 3.4 – 3.1*
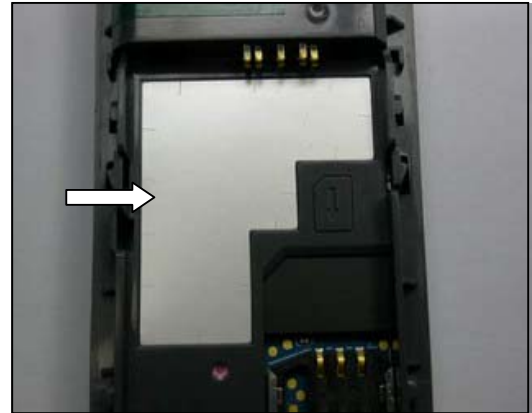
4 Label

TOOLS

- Hot air flow solder station
- Blunt pair of tweezers
- Zebra printer and computer

INSTRUCTION

This instruction should be used when exchanging an old label or assembling a new one.

Note the position of the label before removal!
One label only is allowed on the frame!

- Read the old label and/or write the information into the "Labelmake" program.

- Heat up the label with a hot air flow solder station, if needed.

- Carefully remove the label and make sure that all residues are gone.
  If necessary, clean the surface with isopropyl alcohol. Do not scratch the frame.

- Check that the right label format is loaded in the Zebra printer.

- Write a new label by using the program "Labelmake".
  Check that the printing is ok.

- Take the new label and place it onto the frame as in the picture.
  Make sure the label is placed in its proper position.

5 Revision History

Rev.	Date	Changes / Comments
A	2005-08-25	Initial release