PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 1 of 82 Langue : EN Date : 11/04/05

SERVICE MANUAL

Repair for Cellular Telephone

PHILIPS 760 – CT7608

LEVEL 2

Twist Grey   **Swing Blue**

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 2 of 82 Langue : EN Date : 11/04/05

SERVICE MANUAL

Last updates:

DATE	MODIFICATION	PAGE
04/04/2005	CREATION	
11/04/2005	Change 8.2.6 Radio Test Plan (dual band)	P 26
11/04/2005	Change 8.3.2 Current consumption (after backlight off)	P 31

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 3 of 82** **Langue : EN** **Date : 11/04/05**

CONTENTS

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 4 of 82 Langue : EN Date : 11/04/05**

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 5 of 82** **Langue : EN** **Date : 11/04/05**

1.0 PURPOSE

This document establishes the functional test and inspection procedures for the second level service repair of the Philips 760 transceiver.

2.0 SCOPE

The test plan is applicable to all levels of service repair of the Philips 760 transceiver.

3.0 REFERENCE

None.

4.0 GLOSSARY / ACRONYM LIST

Window or Bezzel	Protective plastic over the LCD display
SW	Software
PN	Hardware Configuration of the Mobile
CN	Matrix for Types of SW used on the different hardware
HW	Hardware
ASC	Authorized Service Center
NSC	National Service Center
Test SIM Card	Used for functionality of PHILIPS Mobile Phones
Test SIM Card « SP »	SIM Card used to simulate the user interface and enable radio tests

5.0 TEST EQUIPMENT AND TOOLS

Equipment / Tools
- Test SIM Card « Production »   - Part No. : 4311 255 00781
- Test SIM Card « SP »   - Part No. : 4311 255 00782
- Data Connect Cable   - Part No. : 4311 255 22276

- Digital Multimeter   - Recommended Model : Fluke   (Specification with current reading in mA).
- Specific Screw Driver : Torx 0.6
- Paper Cut tool
- Digital Radio communication Tester.
- Coupling system with shielded chamber ONLY.

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	VY-V-640-P760 Page : 6 of 82 Langue : EN Date : 11/04/05

6.0   TEST AND INSPECTION PLAN

The test plan is derived from the Product Test Reference of PHILIPS 760.

6.1   User Interface Test

Use the Test SIM Card to test the transceivers as follows :

- On/Off button
- LCD Backlight
- Keyboard Test
- Side Keys
- Buzzer Test
- Vibrator Test
- Audio Test
- Antenna Test (to measure the radiated power level. Not necessary when using an antenna coupler)
- LCD
- IMEI
- Tester Status/Eeprom Status

With a fast Charger connected with the PRODUCT's bottom connector, check the full scrolling from one mode to the next when charging IGN (Ignition) – Battery.

6.2   RF Test

The purpose of the radio test is to prove that the tested phone is compliant to the Standard.

The radio test must be performed with a Digital Radio Test Set. The mobile has to be set on the antenna coupler inside the shielded chamber.

Due to a not accessible RF connector when the Product is closed, it will be necessary to make radio test inside Shielded chamber only.

See Help Radio Files Over the antenna - RF Calibration.pdf & Over the antenna - The equipments.pdf under the Internet Web Site :
http://philipscscc.soft2you.net/ in " Technical Support \ Component List \ Wireless \ PHILIPS 760 " section
Use the Test SIM Card « SP »to test the GSM 900 / DCS 1800 band

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 7 of 82 Langue : EN Date : 11/04/05

Use the Test SIM Card « SP »to test the following RF items

- GSM 900 / DCS 1800 band
- GPRS capability

In case the RF tester is not suitable for GPRS tests, GSM900/DCS1800 test may be considered as sufficient provided that the sensivity tests are strengthened by reducing the RF level down to -104dBm.

This reasoning is based on the fact that all the protocol steps (GPRS attach, GPRS detach, ...) are achieved on the GSM/DCS bands and validated by Philips Approval department.

The new parameter to check, introduced by GPRS, would be BLER (Blocks Error Rate).

As shown on the drawing, it involves more modules than BER
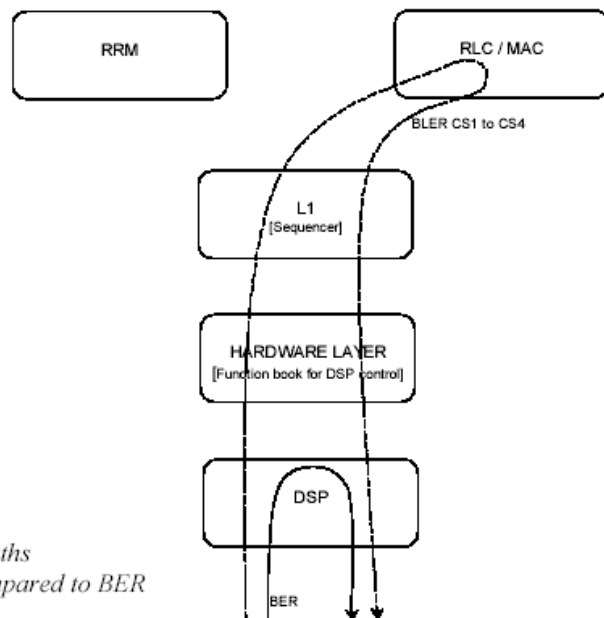
Signals paths
BLER compared to BER

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 8 of 82 Langue : EN Date : 11/04/05

7.0 BEFORE STARTING

7.1   Description Of The Transceiver

Phone mode

Camera mode
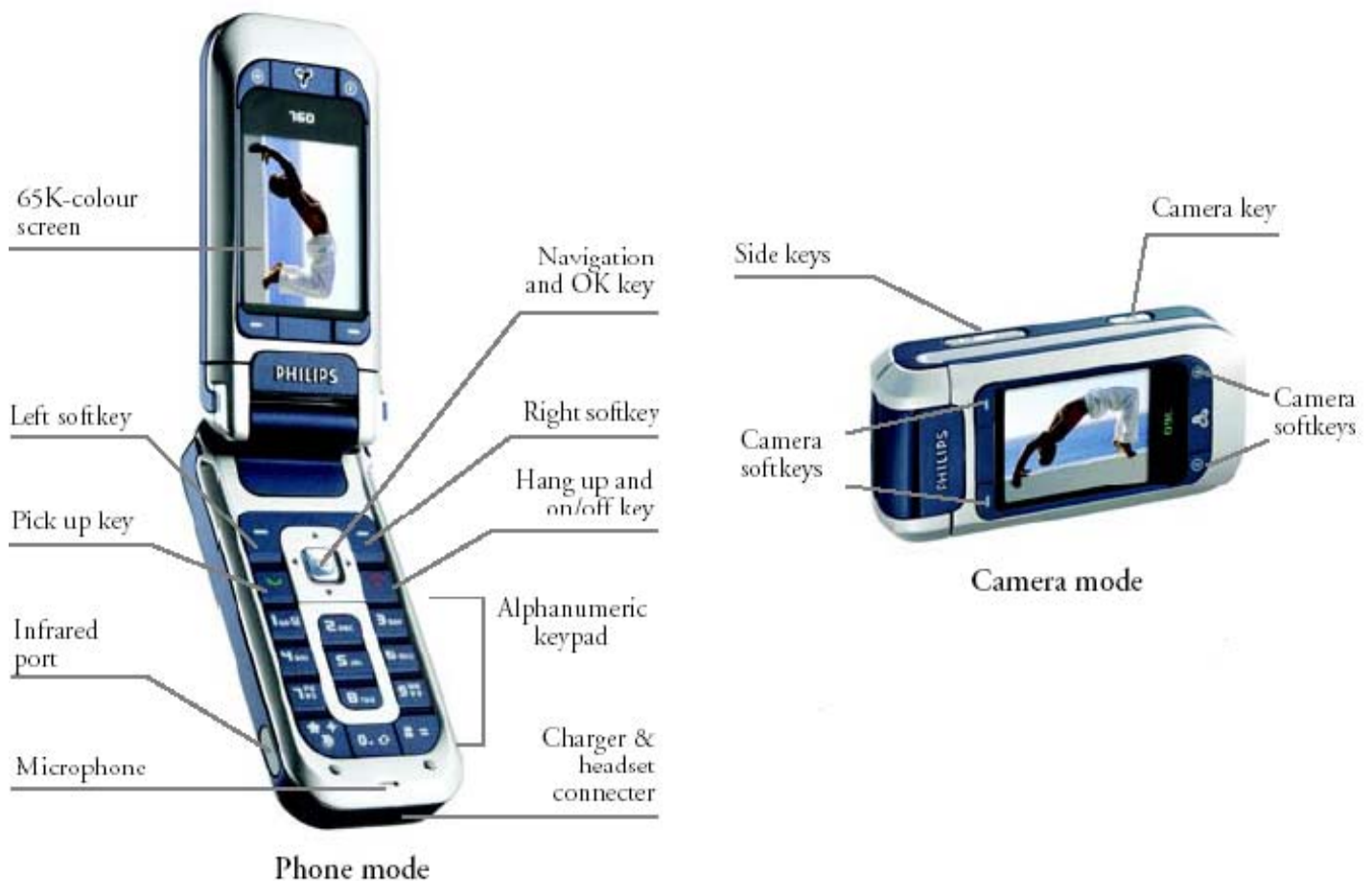
PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 9 of 82 Langue : EN Date : 11/04/05**

7.2   Cosmetic Define
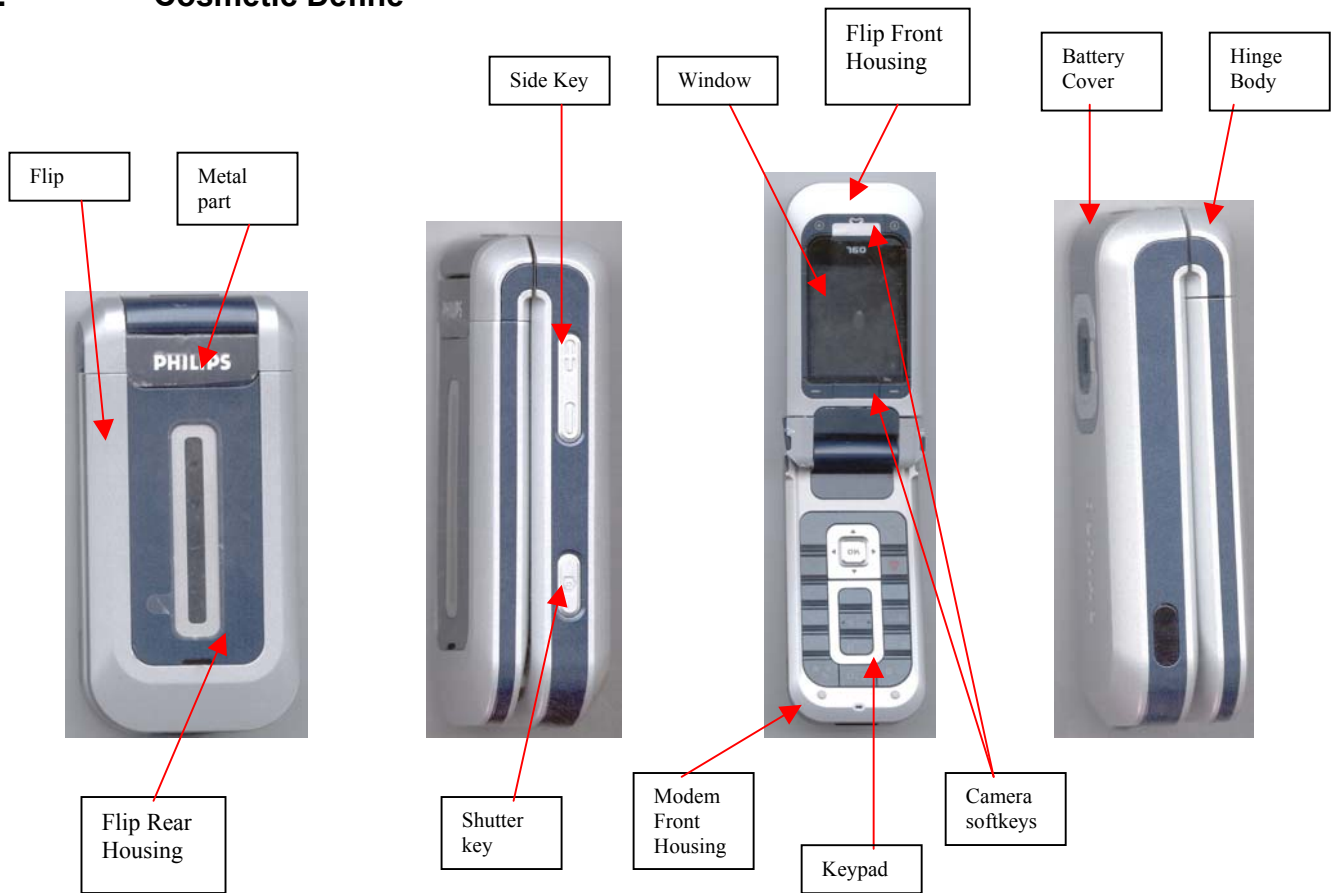
PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 10 of 82** **Langue : EN** **Date : 11/04/05**

7.3   Description Of The Display
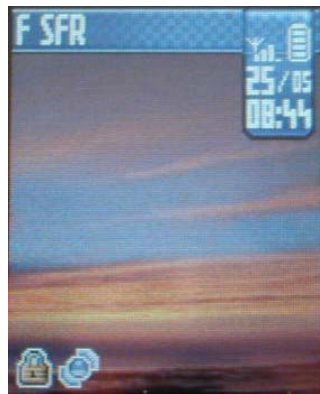
Icons & symbols

In idle mode, several symbols can be displayed simultaneously on the main screen.

If the network symbol isn't displayed, the network is not currently available. You may be in a bad reception area, moving to a different location may help.

Silent - Your phone will not ring when receiving a call.

Vibra - Your phone will vibrate when receiving a call.

GPRS attach - Your phone is connected to the GPRS network.

SMS message - You have received a new message.

Voice mail - You have received a new voice mail.

Battery - The bars indicate the battery level (4 bars = full, 1 bar = low).

Alarm clock activated.

Roaming - Displayed when your phone is registered to a network other than your own (especially when you're abroad).

SMS full - Memory for messages is full. Delete old messages to receive new ones.

Call Forward Unconditional to number - All your incoming voice calls are being forwarded to a number other than voice mail.

Call Forward to voice mailbox - All your calls are being forwarded to voice mail.

Home zone - A zone designated by your network operator. Subscription dependent, contact your service provider for details.

GSM Network: your phone is connected to a GSM network.
Reception quality: the more bars are shown the better the reception is.

SMS Chat - option is set to **On**.

Memory full - The phone's memory is full. Delete items to store new ones.

MMS message - You have received a new multimedia message.

Wap message - You have received a message in the wap push inbox.

Auto witch on/off - option is set to **On**.

| PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 11 of 82 Langue : EN Date : 11/04/05

7.4   Using The Menu

The table below describes the complete menu tree of your mobile phone, and the page reference you should refer to for more information.

Profiles p26

Multimedia p45

Picture album p45

Sound album p45

Demo mode p47

Memory status p47

TV slideshow p47

Sound recording p48

Camera p48

Games & appli. p49

Calculator p49

Time zones p49
Local settings / Foreign settings / International clock display

Alarm clock p50

Organiser p50

Unit converter p52

Brick game p52

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 12 of 82 Langue : EN Date : 11/04/05

JAVA p52

Games
This menu is subscription dependent

Operator services p60

Service numbers
The numbers available in this menu are operator and subscription-dependent, please check with your operator.

WAP

Services +
This menu is operator and subscription-dependent, please check with your operator.

Messages p27

SMS p27
Archive / Send SMS / Send SMS to multircpt / Read SMS / Settings

E-Mail p35
For each available mail box
Settings / Open mailbox / Send mail

Broadcast SMS p40
Reception / Topics / District codes

MMS p30
New MMS / Inbox / Drafts / Templates / Outbox / Settings

Settings p18

Sounds p18
Silent / Ringer volume / Ringtone / Messages ringer / Equaliser / Key tones / Sounds alerts/ Vibra alert

Display p19
Animation / Backlight / Wallpaper

Shortcuts p19
Hotkeys / Voice command / Voice dial / Quick Call

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 13 of 82 Langue : EN Date : 11/04/05

Security p21
Public names / Call barring / Change codes / PIN protection

Network p22
GPRS attach / Register again / Preferred list / Access settings

Time and date p24
Clock display / Set date / Time zone / Daylight saving / Set time

Language p25
List of available languages

Auto switch on & off p24
Auto switch on / Auto switch off

Infrared p54
Data / Receive

Contacts p14

Names list p14

Settings p14
Delete all / Contacts select / Copy to phone

Call information p56

Call list p57
Call list / Reset

Counters p58
GSM counters / GPRS countersGPRS counters

Settings p56
Info at call end / Any key answer / Call waiting / Caller ID / Call forward / Mailboxes / Active flip / Auto redial

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 14 of 82** **Langue : EN** **Date : 11/04/05**

7.5   Remove Back Cover

Slide the back cover of the phone to remove it.
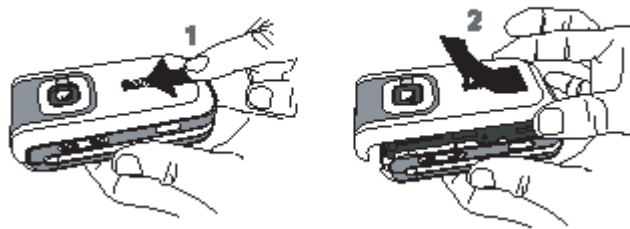
7.6   Inserting The Sim Card

Insert the SIM card in its slot making sure that the clipped corner is in the correct place. Push the clip holder until it maintains the card.
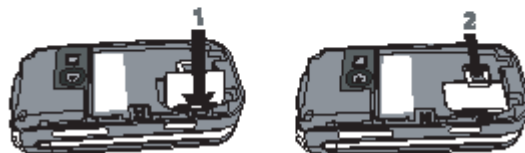
7.7   Inserting the Battery

Insert the battery: place one edge against one edge of the phone and press until it clips (make sure connectors are facing each other).

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 15 of 82** **Langue : EN** **Date : 11/04/05**

7.8   Replace Back Cover.

Replace the back cover by sliding it until it stops. Remove the protective film covering the screen before using the phone.

7.9   Charging The Battery

Phone is powered by a rechargeable battery. A new battery is partially charged and an alarm will warn you when the battery reaches low. If the battery is completely flat, it will take 2 or 3 minutes of charging for its icon to reappear.

Once the battery is in place and the battery cover clipped on the phone, plug the charger into the socket at the bottom of the phone on one end, then plug it into a main AC power socket with easy access on the other end.

The battery symbol indicates the state of charge:

- during charging, the 4 charge indicators scroll;
it takes around 2 hours to fully recharge your mobile phone.

- when all 4 bars are steady the battery is fully charged: disconnect the charger.

Depending on the network and condition of use, talk time goes from 2 to 4 hrs and 40 min. and stand-by time from 200 to 560 hrs.
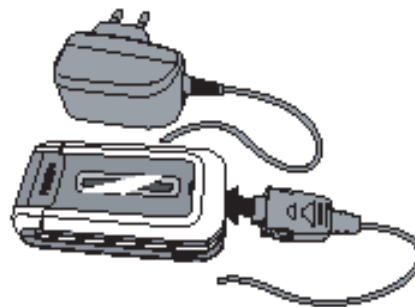
PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 16 of 82** **Langue : EN** **Date : 11/04/05**

7.10   Camera mode

Your phone features a swivel screen, which allows you to activate the camera.

To activate the camera mode, turn the screen anticlockwise then close the phone. (see below).
Te camera application is automatically launched.
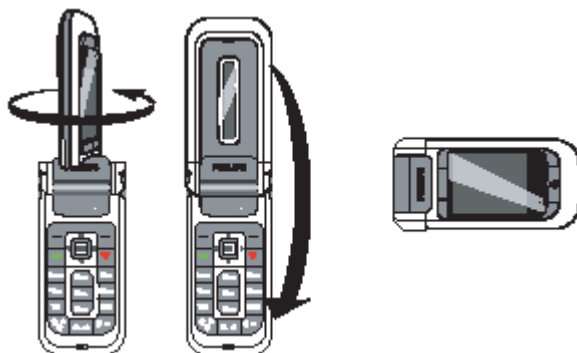
When the camera is active, the preview screen is displayed and the lens is automatically focused.

Keys used are:
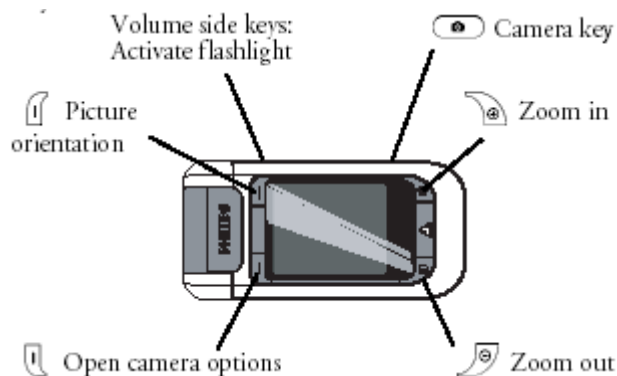
PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 17 of 82** **Langue : EN** **Date : 11/04/05**

7.11   Infrared Quick Presentation

       Your mobile phone integrates the infrared technology, that allows you to send or receive data to and from other infrared-compliant devices through a wireless link (e.g. another phone, a PC or PDA, a printer etc.).

       Before transmitting data between two devices, they must be correctly positioned in relation to your mobile phone (this one must be opened).

       Make sure that:

- the infrared ports are facing each other,
- they are at a maximum of 50 cm away from each other.
- Nothing obstructs the infrared beam.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 18 of 82 Langue : EN Date : 11/04/05

7.12   MMS Quick Presentation

This menu allows you to send and receive multimedia messages (MMS) featuring texts, pictures and sounds.

MMS can be made of one or several slides and are played in slideshow. From idle mode, directory access this menu by pressing **MMS**

If "Memory full" message appears, you must delete messages (e.g. template, draft, received message, etc.).

In the MMS creation screen, 5 icons allow you to add a Picture, add Text, add Sound, Send the message

or access the MMS options. Use ▲ or ▼ to go to next or previous menu and press OK or to access the menu.

1- Design you message: add a Picture, a Text and/ or a Sound. Press ▸ to create more slides.
2- Access the MMS options (see user guide)
3- Select Send now to send the MMS to the selected recipient(s).

Pictures are chosen from the Picture album.

Sounds can be chosen from the Sound Album melodies. If you wish to send a sound memo, you need to record it when creating the MMS. In this case, in Sound…menu, select <Records>, then <New> and follow the procedure that appears on the screen.

For more information concerning MMS function, please read User Guide.

7.13   Java Quick Presentation

Philips 760 features JAVA, which allows you to run JAVA-compatible applications such a games downloaded on the network

Allows you to set the automatic launch of JAVA On or Off. When On, a JAVA application will be automatically launched right after it was installed.

The application is then sent by radio connection towards your Mobile, where it is installed and immediately usable.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 19 of 82 Langue : EN Date : 11/04/05

Games and applications Downloading based on Java technology on the Mobile telephones.
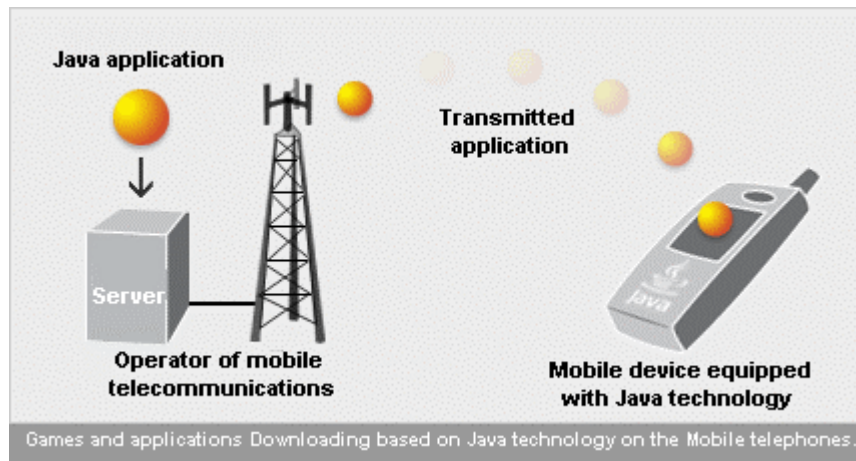
For More Information concerning Java function, please read user Guide.

7.14   TV Slideshow Quick Presentation

This menu allows you to display the pictures listed in the Picture album (automatically in a slideshow or manually one-by-one) on the main internal screen of your phone and/or on a TV screen via the TV Link accessory.

TV Link may not supplied with your product. In this case, you must purchase it separately. See "Philips authentic accessories"

For More Information concerning TV Slideshow function, please read user Guide.

8.0 TEST PROCEDURES

8.1   Initial Functional check for PHILIPS 760

8.1.1   Insert the Test Production Card into the SIM reader at the back of the mobile phone and clip a charged battery on the phone.

8.1.2   Press the "ON" button for 2 seconds at least the LCD TEST is running. Wait the message "LCD TEST END" to start the Functional test.

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 20 of 82 Langue : EN Date : 11/04/05**

8.1.3   Follow the instructions as mentioned below:

Step	Procedure		Observation
1	Press key 2 Press key 2 again		Camera Test (Allows to check camera visualization) Left corner displays IDLE STATE Key 0001
2	Press key 3 (Audio loop local effect) Press key 3 again		"Audio Test " Local" " Audio Section" "OK" Left corner displays IDLE STATE Key 0002
3	Press key 4 Press key 4 again		"LEDS TEST" Check keypad Backlight + flashlight Left corner displays IDLE STATE Key 0003
4	Press Key 5 (Checkerboard test) & Backlight activation Press Key 5 again		Checkerboard 1, 2 & 3 pixel on Left corner displays IDLE STATE Key 0004
5	Press Key 6 Clamshell Test Press Key 6 again		"MAT CLAM SHELL TEST" "OPENED" Close clamshell to test LED blinking Open the clamshell and put it on video position "MAT CLAM SHELL TEST" "TURNED OVER" Left corner displays IDLE STATE Key 0005
6	Press Key 7 Press key 7 again		"KEY WITHOUT TEST" Left corner displays IDLE STATE Key 0006
7	Press key 8 (Eeprom Status)		"EEPROM STATUS" 00003000 00000000

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 21 of 82 Langue : EN Date : 11/04/05

	Press Key 8 again	Left corner displays	IDLE STATE Key 0007
8	Press Key 9 Product information Compare information with label printed on back case	"PN: EOxxxxxx" (PN Number) "0xXXXXXXXXXXXXXXXX" (Sw version) "PCB:XX" "DUT:XX" *VY made in Le Mans* *SA made in Singapore* *EO made in Shenzhen*	
	Press key 9 again	Left corner displays	IDLE STATE Key 0008
9	Press key 0	" MELODY TEST " User Melody should be heard and vibrations felt.	
	Press key 0 again	Left corner displays	IDLE STATE Key 0009
10	Press *	"MANUAL TEST BAD" No PC detected	
	Press * again	Left corner displays	IDLE STATE Key 0012
11	Press	"KEY WITHOUT TEST"	
	Press Key again	Left corner displays	IDLE STATE Key 0010
12	Press	"KEY WITHOUT TEST"	
	Press Key again	Left corner displays	IDLE STATE Key 000F
13	Press Key "Left Softkey" Press Key "Left Softkey" again	"Audio Test " Local" " Audio Section" "OK" Left corner displays	IDLE STATE Key 0014
14	Press Key "Right Softkey" Press Key "Right Softkey" again	"Audio Test " Local" " Audio Section" "OK" Left corner displays	IDLE STATE Key 0016

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 22 of 82 Langue : EN Date : 11/04/05

15	Press Key "OK " Press Key "OK" again	"KEY WITHOUT TEST" Left corner displays IDLE STATE Key 0015	
16	Press "Left" Key ◄ Press "Left" Key again	Checkerboard 1, 2 & 3 pixel on Left corner displays IDLE STATE Key 000c	
17	Press "Right" Key ► Press "Right" Key again	"PN: EOxxxxxx" (PN Number) "0xXXXXXXXXXXXXXXXX" (Sw version) "PCB:XX" "DUT:XX" *VY made in Le Mans* *SA made in Singapore* *EO made in Shenzhen* Left corner displays IDLE STATE Key 000d	
18	Press "Up" Key ▲ Press "Up" Key again	"Audio Test " internal" " Audio Section" "OK" Left corner displays IDLE STATE Key 000a	
19	Press "Down" Key ▼ Press "Down" Key again	"KEY WITHOUT TEST" Left corner displays IDLE STATE Key 000b	
20	Press Key "Left Camera Softkey" Press Key "Left Camera Softkey" again	"Audio Test " Local" " Audio Section" "OK" Left corner displays IDLE STATE Key 0014	
21	Press Key "Right Camera Softkey" Press Key "Right Camera Softkey" again	"Audio Test " Local" " Audio Section" "OK" Left corner displays IDLE STATE Key 0016	
22	Press Key "Camera Zoom +"	"Audio Test " Local" " Audio Section" "OK"	

PHILIPS Consumer Communications Centre du Mans		**Service Repair Support**	**VY-V-640-P760 Page : 23 of 82 Langue : EN Date : 11/04/05**	

	Press Key "Camera Zoom +" again		Left corner displays	IDLE STATE Key 001b
23	Press Key "Camera Zoom -" Press Key "Camera Zoom -" again		"Audio Test " Local" " Audio Section" "OK" Left corner displays	 IDLE STATE Key 001c
24	Press Key "Camera" Press Key "Camera" again		"KEY WITHOUT TEST" Left corner displays	 IDLE STATE Key 001d
25	Press Key " volume side key +" Press Key "volume side key +" again		"KEY WITHOUT TEST" Left corner displays	 IDLE STATE Key 0017
26	Press Key " volume side key -" Press Key "volume side key -" again		"KEY WITHOUT TEST" Left corner displays	 IDLE STATE Key 0018
27	Press Key 1		STOP MAT	

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	VY-V-640-P760 **Page : 24 of 82** **Langue : EN** **Date : 11/04/05**

Advanced autotests (used generally for troubleshooting) :

Press " # " key to display "Enter page to select."

PRESS Key "1" to change test page to "01", then press OK. (default test page is 00)

Key	Functional test		Observation

1	Press Key 1
	
	 Press Key 1 again
			"AUDIO TEST"
			 "INTERNAL"
			 "Audio Section"
			   "OK"
			
			 Left corner displays IDLE STATE
			                        Key 0000

2	Press Key 2
	
	 Press Key 2 again
			"HandsFree"
			 "Test"
			 "Audio Section"
			   "OK"
			 You can check micro headset
			
			 Left corner displays IDLE STATE
			                        Key 0001

3	Press Key 3		"Consumption" as Sleep mode
4	Press Key 4 Press Key 4 again		"ADC MEASURES" "XXXX XXXX" "XXXX XXXX" Left corner displays IDLE STATE Key 0003
5	Press Key 5 Press Key 5 again		"FLASH ID" " XXXXXXXXX " " RAM OK " Left corner displays IDLE STATE Key 0004

8.1.4   If any of these steps failed functional, please refer to Chapter 10.

8.1.5   Perform visual check on battery connectors, car kit connectors and casing. If corrosion or deform send to NSC for repair.

8.1.6   If the product is good, it is considered as a NFF (No Fault Found) product.

      All the NFF products must be directly returned to the customer.

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 25 of 82** **Langue : EN** **Date : 11/04/05**

8.2   RF Test

8.2.1   The Test SIM Card "SP" must be inserted in the phone before starting the tests.

8.2.2   Set the equipment as shown on the picture in chapter 6.2

8.2.3   Set RF losses.

8.2.4   The following operations must be done:

-        Synchronization/Registration
-        Call set up from the mobile
-        Voice loopback (to check the sound quality)
-        Call release
-        Call set up from tester
-        Call release from tester

-        GPRS attach   those two operations have to be added when the radio tester
-        GPRS detach   allows it

8.2.5   The following parameters must be checked in TCH loop mode :

Emission parameters :

-        Power level
-        RMS phase error
-        Peak phase error
-        Frequency error
-        Power ramping
-        Timing Advance

Reception parameters :

-        Rx level
-        Rx quality
-        BER (Byte Error Rate)
-        FER (Frame Error Rate)
-        BLER (Block Error Rate)   (only when GPRS problems reported by the End User)

Generally the test sequences built inside the testers will be used to check the mobile. You must assess that the test sequences limits comply with the standard specifications and defined test plan.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 26 of 82 Langue : EN Date : 11/04/05

8.2.6   Radio test plan

Find below all the measurements that have to be done by test sequences

Synchronization/Registration	To be checked
Call set up from the mobile	To be checked
Voice loopback (to check the sound quality)	To be checked
Call release	To be checked
Call set up from tester	To be checked
Call release from tester	To be checked
Dualband handover	To be checked
GPRS attach	To be checked
GPRS detach	To be checked

	Power level	Measurements	GSM Channels			DCS Channels		
			Low	Mid	High	Low	Mid	High
TX measurements	High level	Power level	X		X	X		X
		RMS phase error	X		X	X		X
		Peak phase error	X		X	X		X
		Frequency error	X		X	X		X
		Power ramping	X		X	X		X
		Timing advance			X			X
	Mid level	Power level	X		X	X		X
		RMS phase error						
		Peak phase error						
		Frequency error						
		Power ramping						
		Timing advance						
	Low Level	Power level	X		X	X		X
		RMS phase error						
		Peak phase error						
		Frequency error						
		Power ramping	X		X	X		X
		Timing advance						

	RF Level	Measurements	GSM Channels			DCS Channels		
			Low	Mid	High	Low	Mid	High
RX measurements	-85.0 dBm	Rx level	X		X	X		X
		Rx qual						
		BER (Byte Error Rate)	X		X	X		X
		FER (Frame Error Rate)						
	-102.0 dBm	Rx level	X		X	X		X
		Rx qual	X		X	X		X
		BER (Byte Error Rate)	X		X	X		X
		FER (Frame Error Rate)	X		X	X		X
	-104.0 dBm	BLER*(Bloc Error Rate)		X			X	

BER Measurements on 104 frames = 8200 bits minimum
* BLER tests on 200 blocs only
  In case the Radio tester is not GPRS capable replace this test by a BER test at -104.0dBm

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 27 of 82** **Langue : EN** **Date : 11/04/05**

When using a wired test solution (via RF cable), don't forget that it is mandatory to measure the power level radiated by the antenna (powermeter recommended). It is the only way to ensure good contact between antenna and main board.

This warning doesn't apply when using an antenna coupler.

8.2.7   GSM Specification (900 Mhz)

Test parameter	**Channel**	**Level**	**Standard specifications**
EMISSION			
Phase Error RMS	1, 62, 124	5, 10, 15	0 to 5 degrees
Phase Error Peak	1, 62, 124	5, 10, 15	-20 to +20 degrees
Frequency Error	1, 62, 124	5, 10, 15	-90 Hz to +90 Hz
Power Ramping	1, 62, 124	5, 10, 15	Mask
Modulation	1, 62, 124	5, 10, 15	Mask
Switching Transients	1, 62, 124	5, 10, 15	Mask
Timing Advance	1, 62, 124	5, 10, 15	+/- 1.00 bit
Power Reading			
Output Power Average	1, 62, 124	Level 19	5 +/- 5 dBm
	1, 62, 124	Level 15	13 +/- 3 dBm
	1, 62, 124	Level 10	23 +/- 2 dBm
	1, 62, 124	Level 5	33 +/- 2 dBm
RECEPTION			
Rx Level	1, 62, 124	-102 dBm	4 to 12
Rx Qual			0 to 1
Rx Level	1, 62, 124	-85 dBm	21 to 29
Rx Qual			0
Rx Level	1, 62, 124	-60 dBm	46 to 54
Rx Qual			0 to 0
TCH LOOP			
SENSITIVITY			
BER	1, 62, 124	-85 dBm	0%
FER	1, 62, 124	-85 dBm	0%
BER	1, 62, 124	-102 dBm	< 2.44%
FER	1, 62, 124	-102 dBm	0%

If a phone is out of the specifications, it must be sent to the Repair Centre.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 28 of 82 Langue : EN Date : 11/04/05

8.2.8   PCN Specification (1800 Mhz)

Test parameter	Channel	Level	Standard specifications
ÉMISSION			
Phase error RMS	512, 700, 885	0,5,10	0 to 5 degree
Phase error Peak		0,5,10	-20 to +20 degree
Frequency Error		0,5,10	-180 Hz to + 180 Hz
Power Ramping		0,5,10	Mask
Modulation		0,5,10	Mask
Switching Transients		0,5,10	Mask
Timing Advance		0,5,10	+/- 1.00 bit
Power reading			
Output Power		Level 0	30 +/- 2 dBm
		Level 10	10 +/- 4.0 dBm
		Level 15	0 +/- 5.0 dBm
RECEPTION			
Rx Level	512, 700, 885	-102dbm	4 to 12
Rx Qual		-102dbm	0 to 1
Rx Level	512, 700, 885	-85dbm	21 to 29
Rx Qual		-85dbm	0
Rx Level	512, 700, 885	-60dbm	46 to 54
Rx Qual		-60dbm	0
TCH LOOP			
SENSITIVITY			
BER	512, 700, 885	-85dbm	0%
FER	512, 700, 885	-85dbm	0%
BER	512, 700, 885	-102dbm	2.44%
FER	512, 700, 885	-102dbm	0%

If a phone is out of the specifications, it must be sent to the Repair Centre.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 29 of 82 Langue : EN Date : 11/04/05

8.2.9   GPRS Specification (900Mhz & 1800 Mhz)

| RADIO : GPRS part				
	Class 4	Class 10	Class 12	§ GSM 11.10
Rx				
Rx Levels	idem GSM 900/1800			21.5
Rx Levels Linearity	idem GSM 900/1800			21.5
Sensivity				
BER/FER -85dBm (8200 samples)	idem GSM 900/1800			14.2.1
BER/FER -102dBm (8200 samples)	idem GSM 900/1800			14.2.1
BLER CS-1 (-104dBm)	< 10% on 400blocs with 20 blocs errors			14.16
BLER CS-2 (-104dBm)	< 10% on 400blocs with 20 blocs errors			14.16
BLER CS-3 (-104dBm)	< 10% on 400blocs with 20 blocs errors			14.16
BLER CS-4 (-101dBm)	< 10% on 400blocs with 20 blocs errors			14.16
Tx				
Phase error RMS	idem GSM 900/1800 on last timeslot			13.16.1
Phase error Peak	idem GSM 900/1800 on last timeslot			13.16.1
Frequency error	idem GSM 900/1800 on last timeslot			13.16.1
Output Power Levels	GSM 900/1800 on all timeslot and conf.			13.16.2
Power Ramping	GSM 900/1800 on all timeslot and conf.			13.16.2

If a phone is out of the specifications, it must be sent to the Repair Centre.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 30 of 82 Langue : EN Date : 11/04/05

8.3   Battery Charging (IGN : Ignition) / Current consumption

8.3.1   Charger detection / Battery charging

-    Plug the transformer unit into an easily accessible AC power socket.
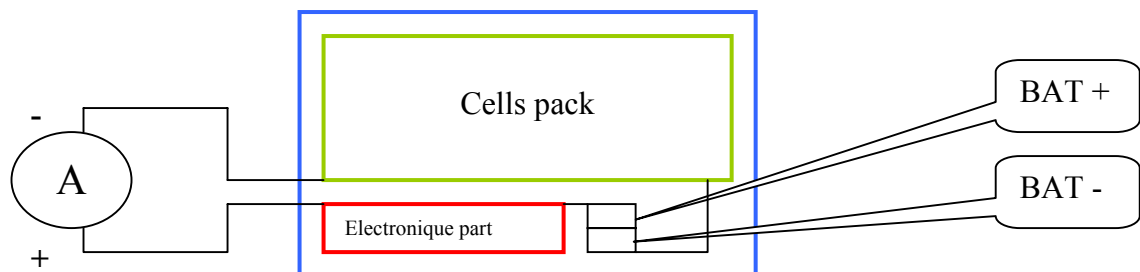
- Mobile OFF, Plug the connector of the charger (FAST CHARGER EURO P760) into the bottom connector at the base of the transceiver.
- Just after charger plugging a pre-charge current **20< I (mA) < 90** can be observed during 5 seconds approx.
- After few seconds a charge current of **600 mA** approx. has to be observed
- The battery symbol should indicate the state of charge:

- Bars moving   - means the battery is being charged.
- Steady   - means the battery is fully charged.

- If the battery is totally discharged, the battery icon will start scrolling 2 to 3 minutes only after being connected to charger.

- Unplug the charger

8.3.2   Current consumption

a) Check current_OFF :

When the mobile is OFF the current measured must be around : 0.00 < I (mA) < 1

b) Check Current_ON

-    Turn the mobile on.

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 31 of 82** **Langue : EN** **Date : 11/04/05**

Measurement during first seconds after switch on around:
60 < I (mA) < 90

During Welcome message animation, the current measured must be around:
130 < I (mA) < 170

When the mobile is ON (backlight activated) the current measured must be around:
800 < I (mA) < 1100

When the mobile is ON (just after backlight off_product on Idle Mode) the current
measured must be around:
80 < I (mA) < 110

8.4   W@P Test Procedure

With regard to the mobile phones only four things can prevent the W@P applications to operate properly :

- The Mobile Phone is not W@P able
- Registration problem (W@P & data/fax options should be needed depending on the operator)
- A bad configuration (wrong W@P parameters)
-                          The mobile has a deficient Radio part.

So that's why to solve W@P problems the following process must be observed.

➢ Ensure about the W@P capability of the mobile phone.
➢ Interrogate the customer regarding his operator registration.
➢ Check with the customer that all the needed parameters are stored in the phone memory
                                        (a quick test has to be performed to check memory reliability)
➢ Perform a functional and a radio test of the mobile phone.

The W@P Test procedure as to be performed only if the customer complains about W@P applications.

8.4.1   Functional and radio test

Before starting the W@P procedure it must be assumed that the functional test and the radio test have been done successfully.

(Refer to chapters 8.1 & 8.2)

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 32 of 82** **Langue : EN** **Date : 11/04/05**

8.4.2   W@P Menu explanation (to be checked using the Operator Simcard)

When you launch Wap functions, you see this screen.

1.Home page parameter (URL):
         This parameter is a string of characters (ASCII) used to identify the protocol (eg: HTTP), the location of the server (eg: WAP.Philips.com), the port number (optional if = 80) and the access path (eg:/glossair/glossair.htm).The end user can use the operator's home page or set up another one in the mobile phone. The URL can be set as follows:

The Homepage is the link to the first WAP site you will access when launching WAP from the idle screen. In most cases, this menu item of the WAP services menu is preconfigured and will connect directly to your operator's WAP homepage.
You can change this default homepage by specifying the name and URL address of another homepage, which will then replace the current one

2.Enter Address:

Allows to enter a WAP site address, to which you can connect directly when selecting it and pressing "OK". This is a quick way to access WAP addresses

3.Settings:

   a) Edit HomePage:
       Allow you to change the Homepage name and address:

   b) Select Profiles:
       This menu allows you to select one of the available profiles, and to then define the connection settings
       for each of them:

   c) Connection:

       - Select Connection: Allows you to select one of the data profiles you have

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PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 33 of 82 Langue : EN Date : 11/04/05

defined in Settings > Network > Access settings.
In the list that appears, select the connection setting of your choice.

- Bearer: Allows selecting the type of network used by the selected
profile when launching a connection. GSM or GPRS: your mobile will only use the GSM or
the GPRS network for WAP connections.

- Proxy address: Allows specify a proxy gateway address to be used when launching a WAP
connection using the selected profile.

- Proxy Port: Allows specify a proxy port number, in case the
Proxy you are using requires a different port number.

- Security:
  ➢ Certificates: Display the list installed security certificates
  ➢ Session Info: Display information about the current WAP session : security type, class, etc.
  ➢ Current Certificate: Display the currently used securitycertificate.

8.4.3   W@P Parameter settings (to be checked using the Operator Simcard)

GSM Settings

GSM settings consist in many parameters :

Phone number parameter:

      This parameter is the phone number required to perform a data transmission to the Internet Service
Provider (ISP) and given by the operator. ISP use either analogue or numeric interfaces to connect to the

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 34 of 82 Langue : EN Date : 11/04/05**

subscriber. If the operator uses a digital interface but the phone number is set in the analogue area of the phone, data connection will fail (and vice versa).

Login parameter:

> This parameter is provided by the operator.

Password parameter:

> This parameter is provided by the operator.

Gateway parameter (IP):

> An IP address is used to recognize computers connected to a network. It is made up of 4 * 3 digits (8 bits) and separated by points. Each computer has its own IP address. For W@P application, IP address is used to access the gateway. This parameter is provided by the operator.

Inactivity time:
This parameters allows you to manage an inactivity time period after which the phone automatically ends up the w@p session and returns to idle mode screen.

GPRS Settings

GPRS settings consist in many parameters:

APN   Login   Password   Inactivity time

APN Number:
This parameter sets the address of the external data network. You want to connect to, a text string or an IP address used to establish the connection with your w@p service provider (ISP).

8.4.4   W@P Application launch

The phone is now ready to access to the W@P Gateway. Please launch the W@P application to ensure it works properly.

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760** **Page : 35 of 82** **Langue : EN** **Date : 11/04/05**

8.4.5   Memory reliability

After recording the W@P parameters :

➢ Turn off the mobile
➢ Remove the battery
➢ Wait 5 seconds
➢ Clip the battery again
➢ Turn on the mobile
➢ Check that the parameters are still present.

8.4.6   W@P Error messages

Error messages may be displayed on the mobile phone screen. Some of these are listed next:

Network not responding:

This error message is displayed for various problems, such as:
Network cannot be reached (not enough reception bars).
Login and/or password are wrong.
Subscription does not allow W@P access

Server not responding:

Could be due to:

Bad IP address (gateway parameter).

Internet server is not enabled:

Could be due to:

Bad IP address (gateway parameter).

Not acceptable:

Could be due to:

Bad home page address (URL)

An internal gateway error prevents the gateway from fulfilling your request:

Could be due to:

Bad home page address (URL)

PROCEED http://phone.com

Could be due to:

Bad home page address (URL)

Error content exit size XXXX bytes:

Could be due to:

Too much data are coming to the phone.
Operator dependent.

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 36 of 82** **Langue : EN** **Date : 11/04/05**

Try later:

Could be due to:

Network cannot be reached (not enough reception bars).
Busy network.

Bitmap error:

Could be due to:

The content is not W@P; the image can not be displayed.

Note: The phone can not be switched off with ON/OFF key when W@P application is used. **It has not to be considered as a bug.**

8.4.7   W@P Exchange criteria

Exchanges for W@P problems should be **extremely rare** because the chances of having a defective mobile phone is small compared to the misuse of the customers. W@P is a software application and must be considered as such. From a hardware point of view, the Flash memory may have to be changed if W@P parameters cannot be saved but the probability of encountering this problem is near to zero.

The mobile phone has to be considered as a defective one only if the memory test or the functional & radio tests are wrong.

The points which have to be checked carefully with the customers are listed next:

* W@P parameters (phone not W@P locked) ➔ These parameters are very critical. If a letter, a sign or a number is wrong, W@P connection will fail.

* Covered area ➔ The end user should access W@P services with only 1 reception bar. In practice, it is assumed that more than 2 bars are required. For testing purpose, the help desk/ASC/NSC operator will have to ask the end user to test the phone in a well covered area (minimum of 3 bars).

* WAP phone ➔ A WAP phone is mandatory in order to access W@P services. However, the subscription is operator dependent.

* Call barring ➔ Call barring has to be cancelled (menu: outgoing/data calls)

* Hourglass icon ➔ If the end user can see the transmitting icon (after the hourglass icon) on the mobile   phone, it means Internet access was successful. Hence, the mobile phone is working correctly.

* Roaming ➔ If the end user is in a foreign country, he may not be able to use the W@P feature or may have to change the W@P parameters (for example, use the analogue number instead of the ISDN one). The customer has to contact his/her operator for further information.

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 37 of 82** **Langue : EN** **Date : 11/04/05**

* Number of attempts ➔ W@P services may be accessed after several attempts depending on the covered area or the network status (busy). Obviously, this is not a case for exchange and the help desk/ASC/NSC operator will have to make sure that the end user has tried several times before diagnosing the problem.

* Impossible to display W@P pages ➔A W@P page may be displayed on the mobile phone screen of a competitor and not by the Philips transceiver. The help desk /ASC/NSC operator will have to explain that the W@P navigators are different. Sometimes, contents of particular pages can be decoded by a navigator and not by another (idem for Netscape and Internet Explorer).

8.5   E-MAIL Test Procedure

With regard to the mobile phones only two things can prevent the W@P applications to operate properly :

- A bad configuration (wrong E-mail parameters)
- The mobile has a deficient Radio part.

So that's why to solve E-mails problems the following process must be observed.

➢   Interrogate the customer regarding his Internet subscription and his Internet Service Provider.
➢   Check with the customer that all the needed parameters are stored in the phone memory
                                  (a quick test has to be performed to check memory reliability)
➢   Perform a functional and a radio test of the mobile phone.

The E-mail Test procedure as to be performed only if the customer complains about E-mail applications.

8.5.1   Functional and radio test

Before starting the E-mail procedure it must be assumed that the functional test and the radio test have been done successfully.

(Refer to chapters 8.1 & 8.2)

8.5.2   E-mail parameters settings (to be checked using the Operator Simcard)

First Press OK key and select the E-mail icon and press OK.

Then proceed as explain in the User Guide (Chapter 8 – page 50)

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 38 of 82** **Langue : EN** **Date : 11/04/05**

8.5.3   E-mail sending/receiving verification

Once all the parameters mentioned in the previous chapter have been checked. The mobile phone is ready to send/receive E-mails.

Check this by sending an E-mail from the mobile phone and checking the destination mailbox from a computer.

Or send an E-mail from a computer and check your mailbox from the mobile phone.

8.5.4   Memory reliability

After recording the E-mail parameters :

➢   Turn off the mobile
➢   Remove the battery
➢   Wait 5 seconds
➢   Clip the battery again
➢   Turn on the mobile
➢   Check that the parameters still present.

8.5.5   E-mail Error messages

Error messages may be displayed on the mobile phone screen. Some of these are listed in Chapter 8.4.5 W@P Error Message

8.5.6   E-mail Exchange criteria

Exchanges for E-mail problems should be extremely rare because the chances of having a defective mobile phone is small compared to the misuse of the customers.

Error messages during connections are mainly due to incorrect parameters: you should contact your GSM operator and your Internet Service Provider before first use, in order to have the appropriate GSM/GPRS parameters and mailbox parameters.

The mobile phone has to be considered as a defective one only if the memory test or the functional & radio tests are wrong

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 39 of 82** **Langue : EN** **Date : 11/04/05**

8.6   MMS Test Procedure

With regard to the mobile phones only two things can prevent the MMS applications to operate properly :

- A bad configuration.
- The mobile has a deficient Radio part.

So that's why to solve MMS problems the following process must be observed.

➢   Check with the customer that all the needed parameters are stored in the phone memory
                      (a quick test has to be performed to check memory reliability)
➢   Perform a functional and a radio test of the mobile phone.

The MMS Test procedure as to be performed only if the customer complains about MMS applications.

8.6.1   Functional and radio test

Before starting the MMS procedure it must be assumed that the functional test and the radio test have been done successfully.

(Refer to chapters 8.1 & 8.2)

8.6.2   MMS parameters settings (to be checked using the Operator Simcard)

Phone may have been pre-configured to directly access the services offered. If not, you must have received from operator the information items described in the in the User Guide (Chapter 8 – page 63)
and enter them as given.
With some operators, access parameters can be set «over the air». Please check directly by your operator.

 "**Network Account**" allows you to choose a data profile from the ones you
have set (see "Access settings" page 43 for complete information on how to configure or modify a data profile).
This profile and the parameters it features will then be used for connection.

8.6.3   MMS sending/receiving verification

Once all the parameters mentioned in the previous chapter have been checked. The mobile phone is ready to send/receive MMS.

Check this by sending an MMS from the Customer mobile phone and checking the destination mailbox from a computer (if you send it to an email address) or the reference product on which you send it (If you send MMS to mobile phone number).

Or send an MMS from a computer (e-mail address) or reference product (phone number) and check reception from the Customer mobile phone.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 **Page : 40 of 82** **Langue : EN** **Date : 11/04/05**

8.6.4   Memory reliability

After recording the MMS parameters:

➢   Turn off the mobile
➢   Remove the battery
➢   Wait 5 seconds
➢   Clip the battery again
➢   Turn on the mobile
➢   Check that the parameters still present.

8.6.5   MMS Error messages

Error messages may be displayed on the mobile phone screen. Some of these are listed in Chapter 8.4.5 W@P Error Message, which are the same than MMS functions.

8.6.6   MMS Exchange criteria

Exchanges for MMS problems should be extremely rare because the chances of having a defective mobile phone is small compared to the misuse of the customers.

Error messages during connections are mainly due to incorrect parameters: you should contact your GSM operator and your Internet Service Provider before first use, in order to have the appropriate GSM/GPRS parameters and center parameters.

The mobile phone has to be considered as a defective one only if the memory test or the functional & radio tests are wrong

8.7   Java Test Procedure

With regard to the mobile phones only two things can prevent the JAVA applications to operate properly :

- A bad configuration.
- The mobile has a deficient Radio part.

So that's why to solve Java problems the following process must be observed.

➢   Check with the customer that all the needed parameters are stored in the phone memory
                                        (a quick test has to be performed to check memory reliability)
➢   Perform a functional and a radio test of the mobile phone.

The JAVA Test procedure as to be performed only if the customer complains about MMS applications.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 41 of 82 Langue : EN Date : 11/04/05

8.7.1   Functional and radio test

Before starting the MMS procedure it must be assumed that the functional test and the radio test have been done successfully.

(Refer to chapters 8.1 & 8.2)

8.7.2   Java parameters settings (to be checked using the Operator Simcard)

Phone may have been pre-configured to directly access the services offered. If not, you must have received from operator the information items described in the in the User Guide (Chapter 8 – page 33)
and enter them as given.
With some operators, access parameters can be set «over the air». Please check directly by your operator.

 "**Network Account**" allows you to choose a data profile from the ones you
have set (see "Access settings" page 33 in User Guide for complete information on how to configure or modify a data profile).
This profile and the parameters it features will then be used for connection.

8.7.3   JAVA application downloading verification

Once all the parameters mentioned in the previous chapter have been checked. The mobile phone is ready to JAVA applications.

Check this by downloading JAVA Applications from the mobile phone.

8.7.4   Memory reliability

After recording the Java parameters :

➢   Turn off the mobile
➢   Remove the battery
➢   Wait 5 seconds
➢   Clip the battery again
➢   Turn on the mobile
➢   Check that the parameters still present.

8.7.5   JAVA Error messages

Error messages may be displayed on the mobile phone screen. Some of these are listed in Chapter 8.4.5 W@P Error Message

8.7.6   JAVA Exchange criteria

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 42 of 82** **Langue : EN** **Date : 11/04/05**

Exchanges for JAVA problems should be extremely rare because the chances of having a defective mobile phone is small compared to the misuse of the customers.

Error messages during connections are mainly due to incorrect parameters: you should contact your GSM operator and your Internet Service Provider before first use, in order to have the appropriate GSM/GPRS parameters and mailbox parameters.

The mobile phone has to be considered as a defective one only if the memory test or the functional & radio tests are wrong

8.8   Infrared Test Procedure

The IRDA Test procedure as to be performed only if the customer complains about IRDA applications.

To test IRDA function, you must test reception and emission mode.
So take a reference product.

Place product as bellow picture.

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 43 of 82** **Langue : EN** **Date : 11/04/05**

With the customer product, go to Infrared Menu, press "OK", got to receive, press "OK".
In the same time, with the reference product" from "Multimedia" Menu, send a picture or melody or ….
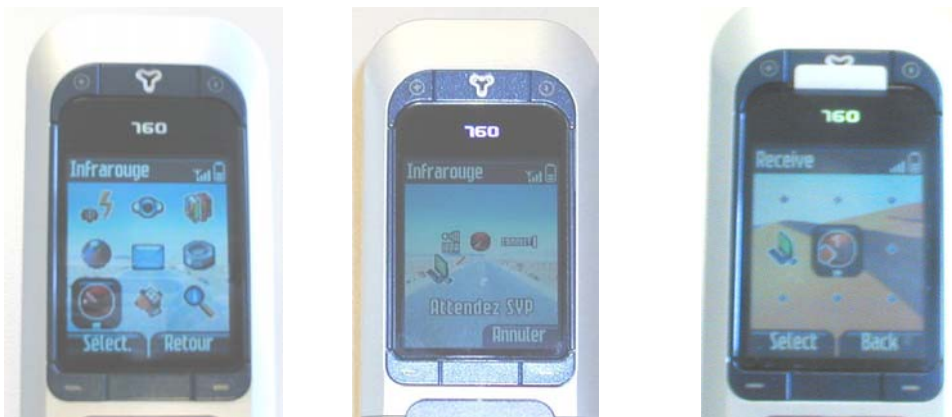
After, invert the reception and emission product to test customer product in the two mode.

8.9   Camera Test Procedure

Before starting the Camera procedure it must be assumed that the functional test and the radio test have been done successfully.

➢ Activate the camera mode, turn the screen anticlockwise then close the phone. (See below).
The camera application is automatically launched.

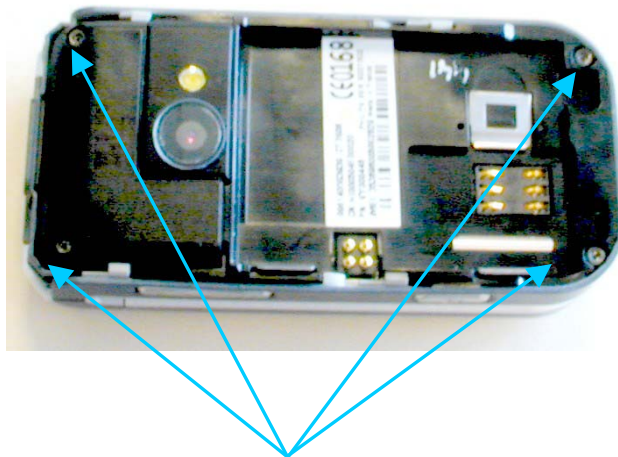|		
PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 44 of 82 Langue : EN Date : 11/04/05**
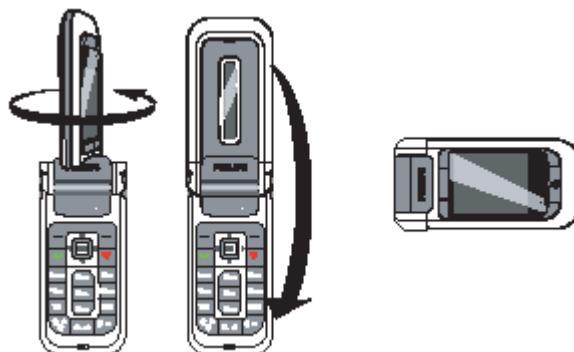
Clamshell is closed, and screen is flipped. Camera is only accessible is this mode.

When the camera is active, the preview screen is displayed and the lens is automatically focused.

The Keyboard is split into functional blocks which are described below:

- The 4 softkeys

- Two side keys, call volume side keys

- Feature dedicated key: Camera key

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 45 of 82 Langue : EN Date : 11/04/05



In camera mode, 4 softkeys are available. These keys are:
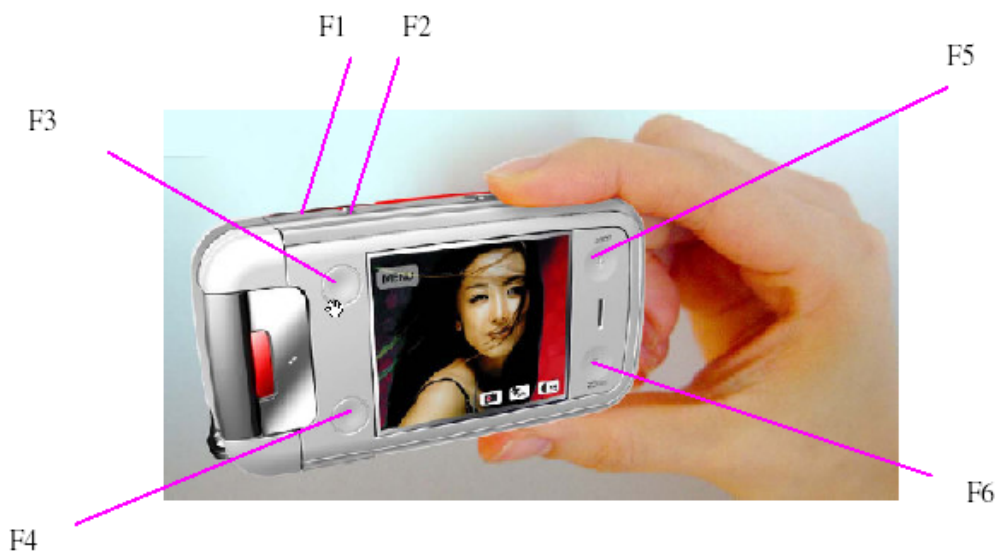
PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 46 of 82 Langue : EN Date : 11/04/05

- The **[F3]** key.

  Switch between Landscape and portrait display

  Go upper in menu, as softkey is used for Cancel action.

  Reject an incoming call

- The **[F4]** key.

  Enter in Camera options menu

  Go deeper in menu, as softkey is used for OK action.

- The **[F5]** key

  Zoom in the preview picture

  Go up in list menu, as softkey is used for up action.

- The **[F6]** key

  Zoom out the preview picture

  Go down in list menu, as softkey is used for up action.

Keypad	Functionnality
F3	Back
F4	OK, Options, View, Menu, Save...
F5	Up, Zoom in
F6	Down, Zoom out
Camera Key	Take a picture or Save a picture

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 47 of 82 Langue : EN Date : 11/04/05

> In camera preview: it allows the user to activate/deactivate the flash (toggle) by using the volume keys

> Press on "Camera" Key 〔 📷 〕 to take a picture, activate the flashlight if necessary.

Once the picture is taken, a view screen is displayed with the following options:

Discard   To ignore the picture and go back to preview mode.

Save   To save the picture in **My photos**.

Send   To send the picture via **MMS**, **E-mail** or **Infrared**. A message will tell you to switch to phone mode.

> The picture you save are automatically stored in the **"Multimedia > Picture album > Own pictures"** menu. Check if picture that you just have taking in present. Select a picture in the list and press on the right of "OK" key to access the graphical display. Then press ⇨ or ⇨ to go to the next or previous picture.After test, don't forget to delete picture test.

IMPORTANT: If you find a defective camera module by the test described above, you must exchange it by a new one.

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 48 of 82** **Langue : EN** **Date : 11/04/05**

9.0   ASSEMBLY / DISMANTLEMENT PROCEDURES

During dismantlement and assembly operations, an antistatic bracelet must be used.

9.1   Dismantlement

9.1.1   Removing the "Battery Cover"
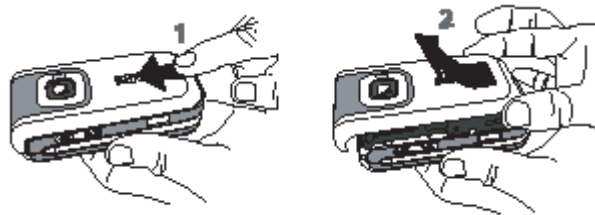
Slide the back cover of the phone to remove it.

9.1.2   Removing "Battery"

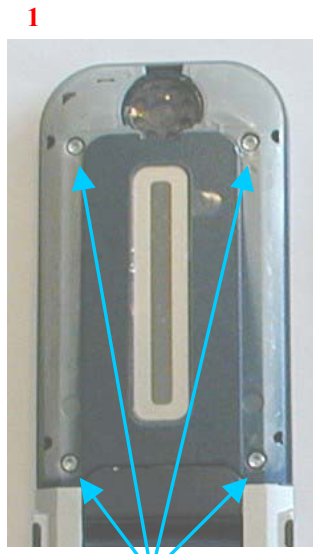| PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 49 of 82 Langue : EN Date : 11/04/05

9.1.3   Removing "Modem Chassis Ass'y"

  ➢ Removing "Screw "

Unscrew the 4 Screws

  ➢ Unclip "Front Housing Base" in each side
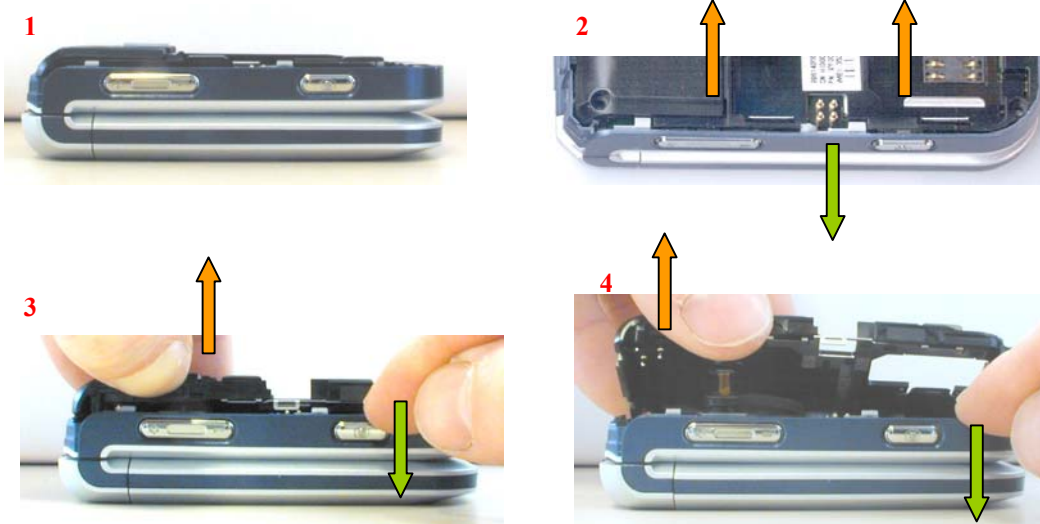
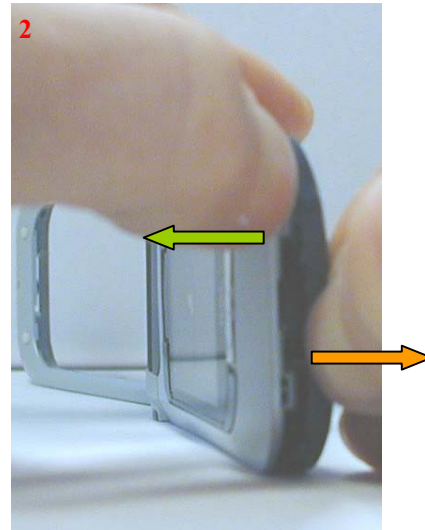| PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 50 of 82 Langue : EN Date : 11/04/05

➢ Disconnect the vibrator connector and remove the flashlight from the "Modem Chassis Ass'y"
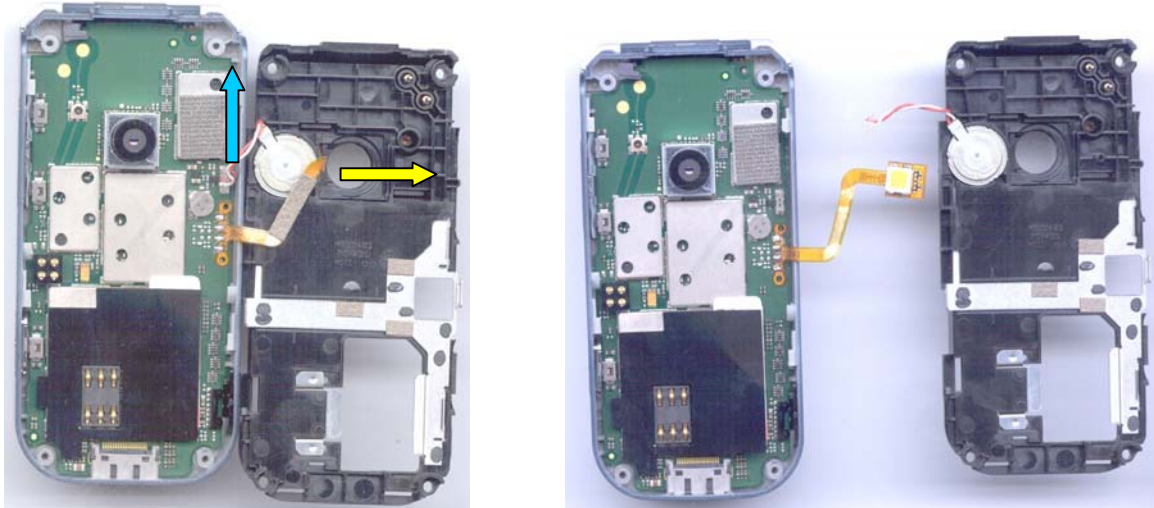
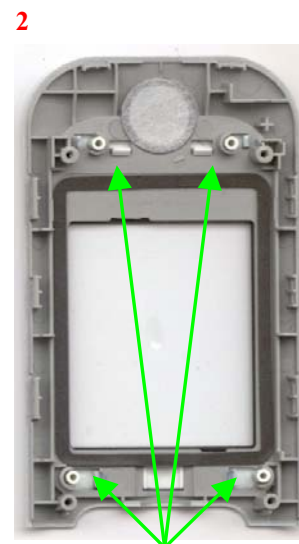➢ Remove the "Antenna Ass'y" the "Chassis Cover" and "Vibrator" from "Modem Chassis Ass'y"
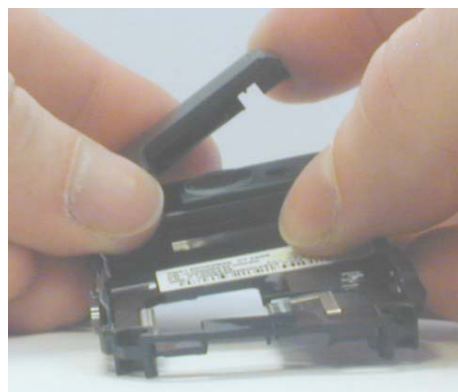
PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 51 of 82 Langue : EN Date : 11/04/05
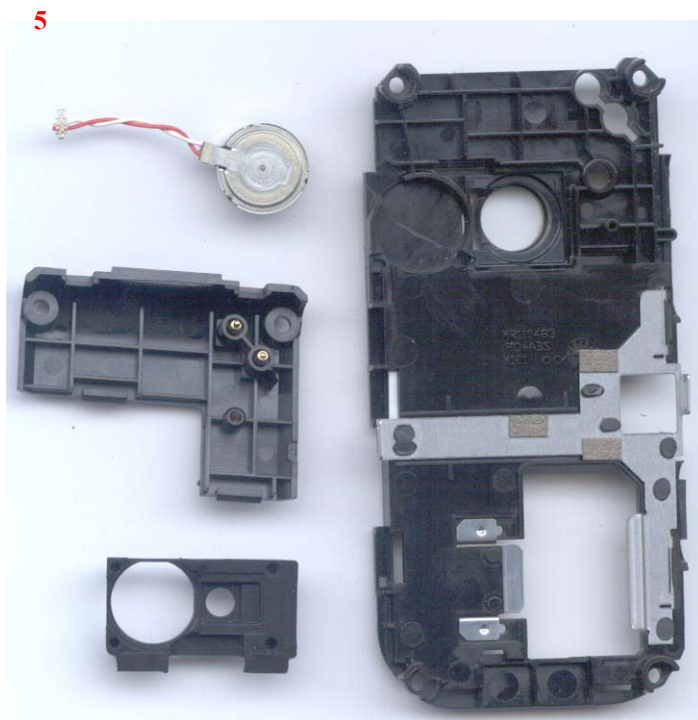
3

4

5

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 52 of 82 Langue : EN Date : 11/04/05**

> ➢ Remove the "Cap Flex"

Remove the Cap Flex by using pliers
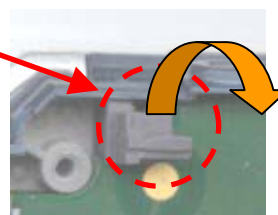
9.1.4   Removing "Board"

> ➢ Open the "Clamshell"
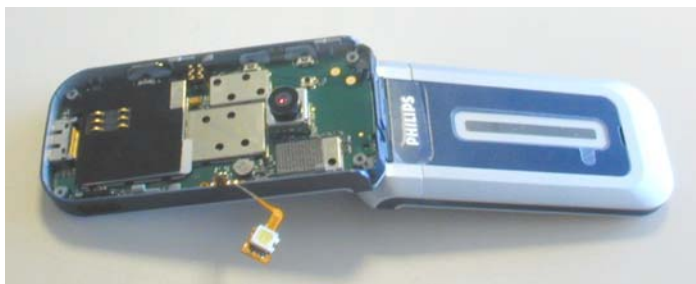
> ➢ Unclip the "Base Board" from "Modem Front Housing Base"
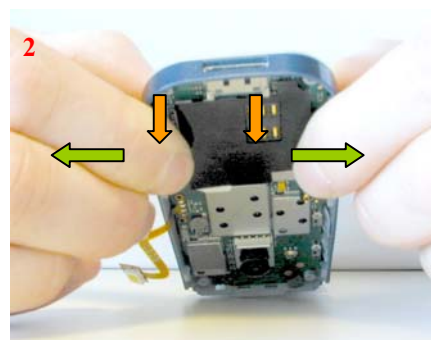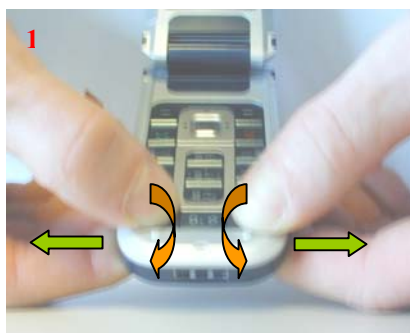
PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	VY-V-640-P760 Page : 53 of 82 Langue : EN Date : 11/04/05

3

4
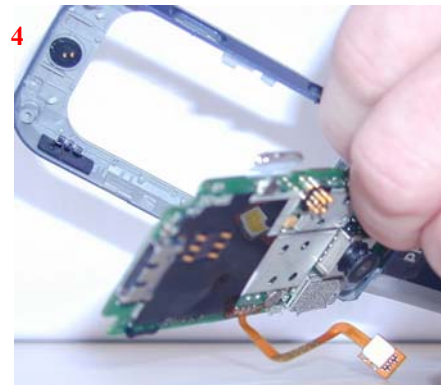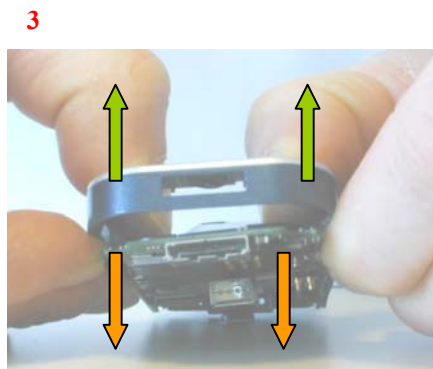
> ➢ Disconnect the "Flex Ass'y" Board to Board
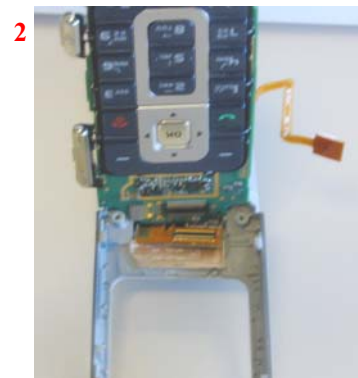
1

2

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 54 of 82** **Langue : EN** **Date : 11/04/05**

3

4

Remove keypad if necessary

9.1.5   Removing "Microphone" from "Rear Housing base"

1
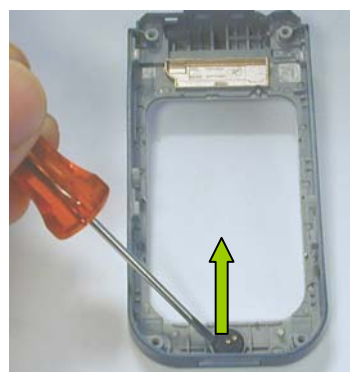
2

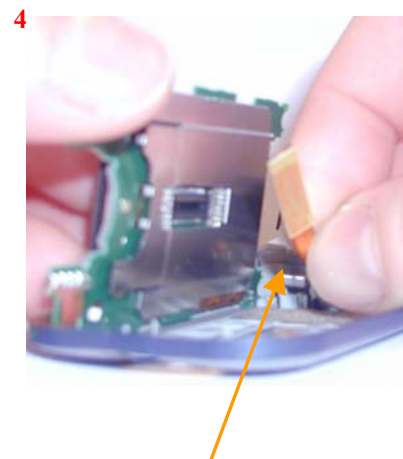| **PHILIPS Consumer Communications** **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 55 of 82** **Langue : EN** **Date : 11/04/05**

9.1.6   Removing "Flip Housing" and "module LCD Ass'y"

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 56 of 82 Langue : EN Date : 11/04/05**

> ➢ Removing the "Flip Rear Housing"

1

Unscrew the 4 Screws

2

3

4

Set a protection film on the main LED to avoid dust contamination and fingerprints

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 57 of 82 Langue : EN Date : 11/04/05

5
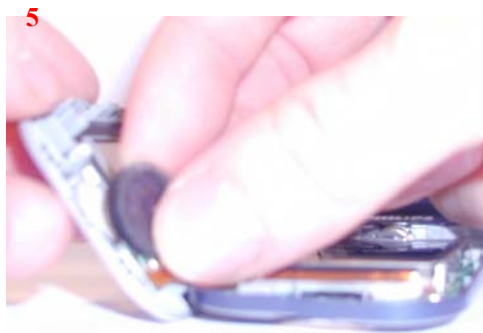
Detach the Loudspeaker

6

➢ Dismantlement the "Window"

1

2

Unclip the "Camera Softkey"

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 58 of 82** **Langue : EN** **Date : 11/04/05**

3

4

➢   Removing the "module LCD Ass'y"

1

2
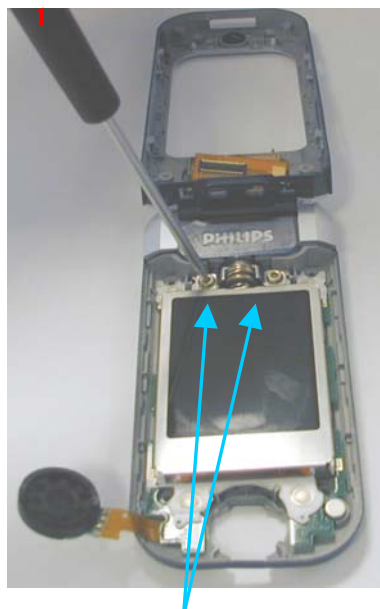
Unscrew the 2 Screws
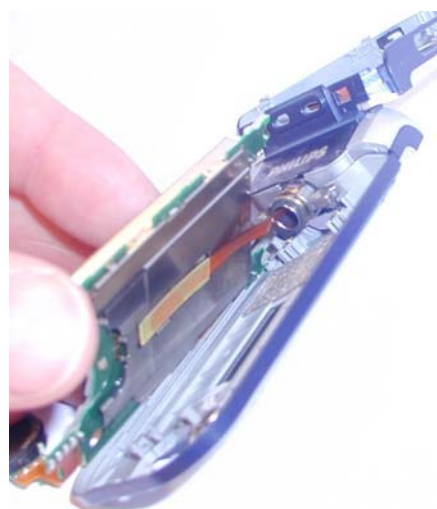
PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 59 of 82 Langue : EN Date : 11/04/05**

3

4

Disconnect the board to board connector

5

If necessary, there is possibility to remove the "magnet" (Flip opening detection)

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 60 of 82** **Langue : EN** **Date : 11/04/05**

➢ Removing the "Flip Rear Housing"

➢ Remove "Hinge Cover" and unscrew the "Rotary Hinge"
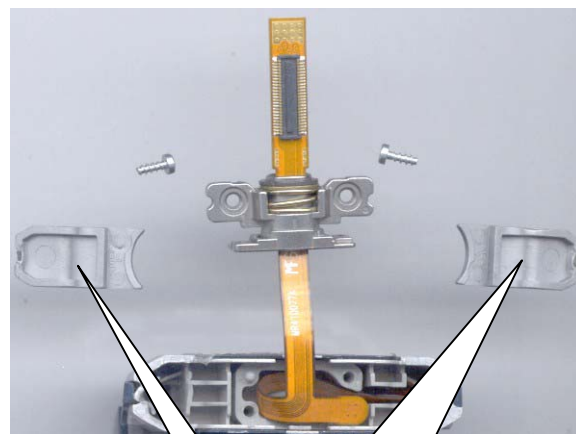
Hinge covers

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 61 of 82 Langue : EN Date : 11/04/05

9.1.7   Dismantlement of the "Hinge Body Ass'y"
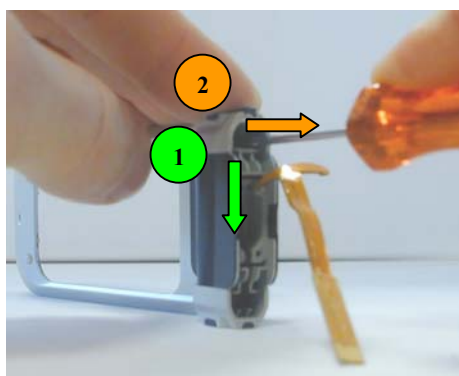

THE PRODUCT IS NOW COMPLETELY DISMANTLED.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 62 of 82 Langue : EN Date : 11/04/05

9.2   BOARD Exchange component

On the board in level 2 repair, you are able to change some connectors components, please find the list below:

9.2.1   "LCD Module"

EAR/LSP
SDRD
(Pos: 181)

SMO LCD ASSY
(w'out earpiece)
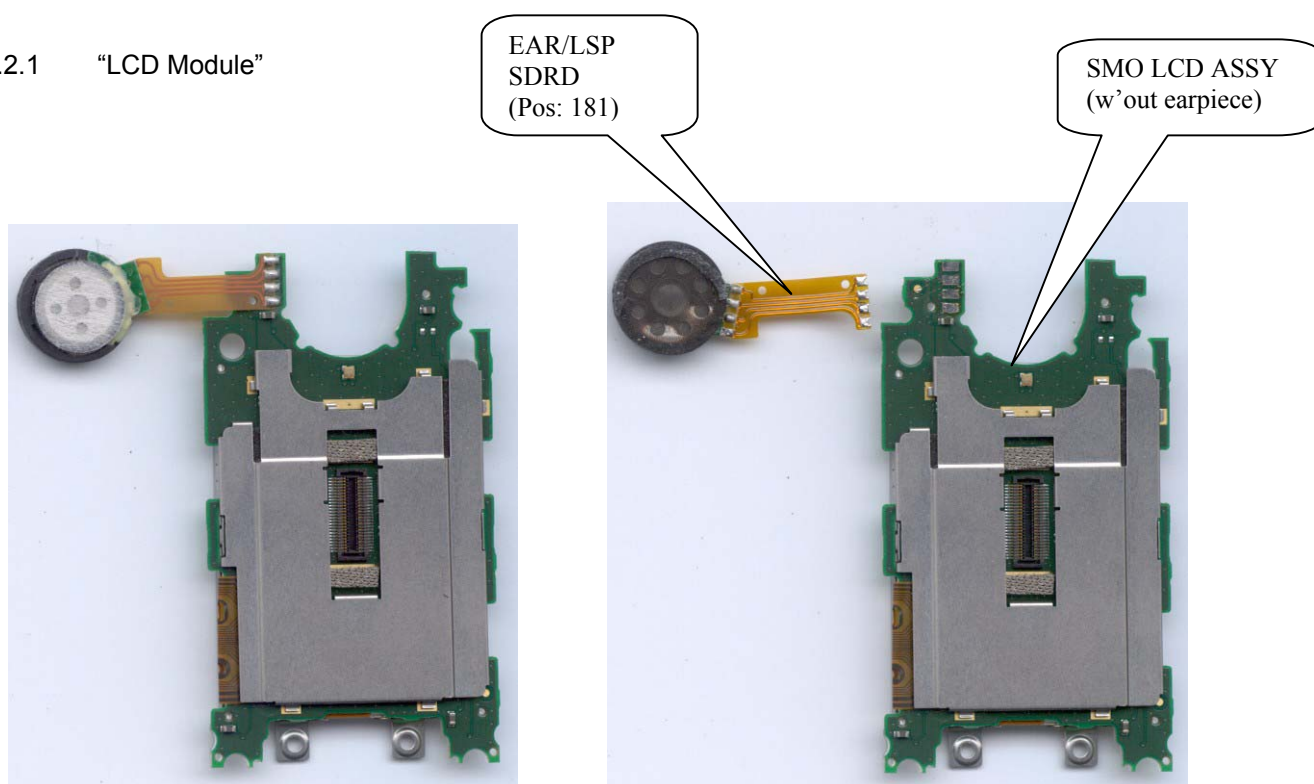
IF PROBLEM ON MODULE LCD, DO NOT OPEN IT, CHANGE IT COMPLETELY "SMO LCD ASSY".

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 63 of 82 Langue : EN Date : 11/04/05

9.2.2   Onboard repleacable components
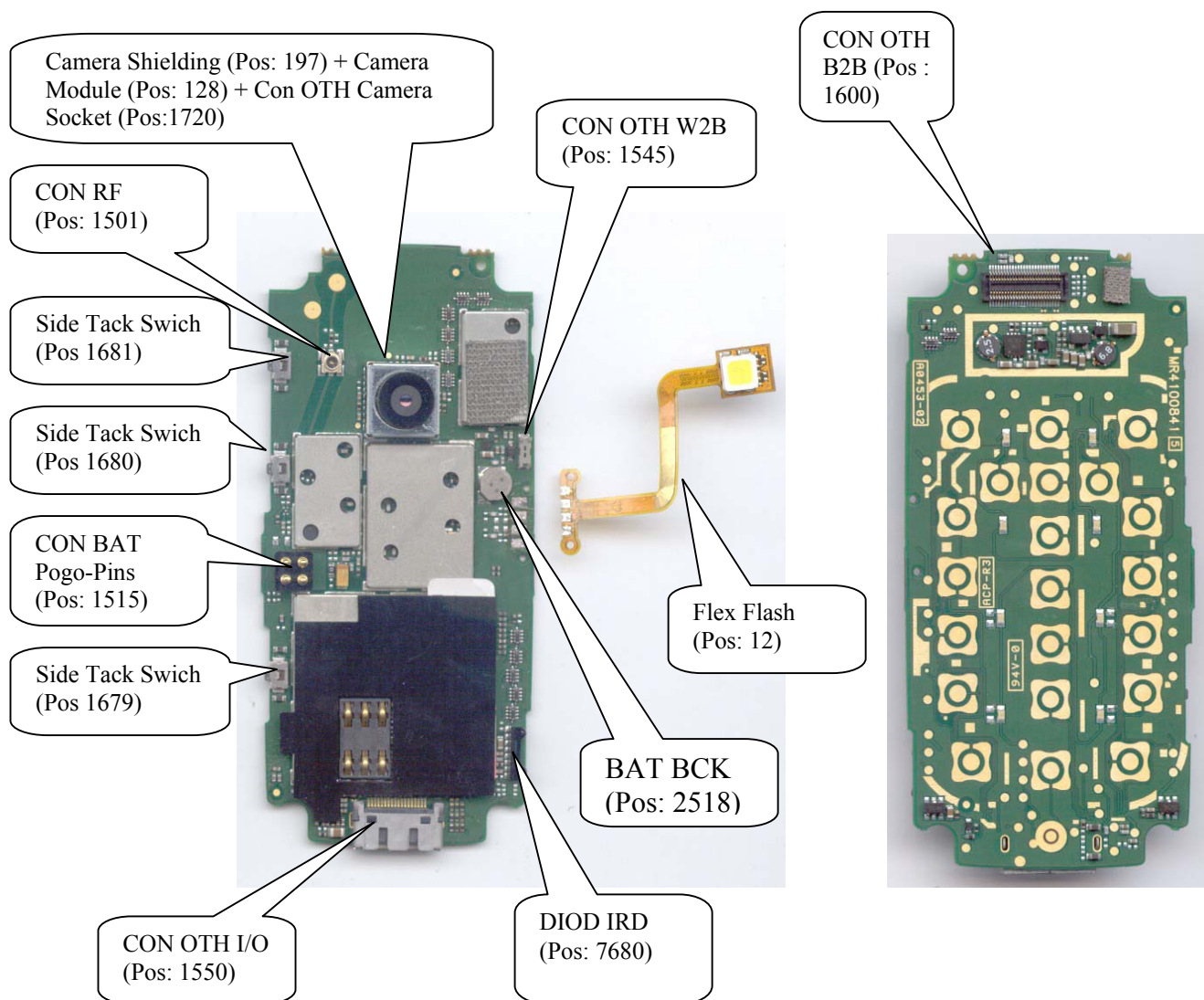

Camera Shielding (Pos: 197) + Camera Module (Pos: 128) + Con OTH Camera Socket (Pos:1720)

CON RF (Pos: 1501)

Side Tack Swich (Pos 1681)

Side Tack Swich (Pos 1680)

CON BAT Pogo-Pins (Pos: 1515)

Side Tack Swich (Pos 1679)

CON OTH W2B (Pos: 1545)

CON OTH B2B (Pos : 1600)

Flex Flash (Pos: 12)

BAT BCK (Pos: 2518)

CON OTH I/O (Pos: 1550)

DIOD IRD (Pos: 7680)

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 64 of 82 Langue : EN Date : 11/04/05

9.3   Assembly

9.3.1   "Flex" insertion

1
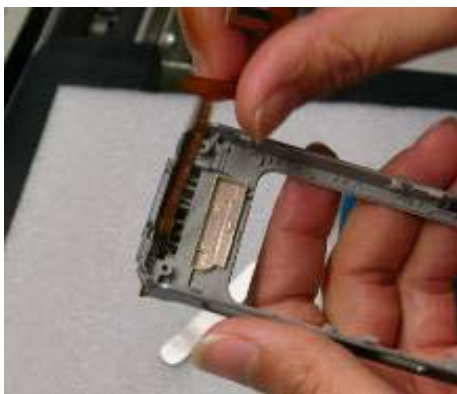
Take one Front Housing Modem

2
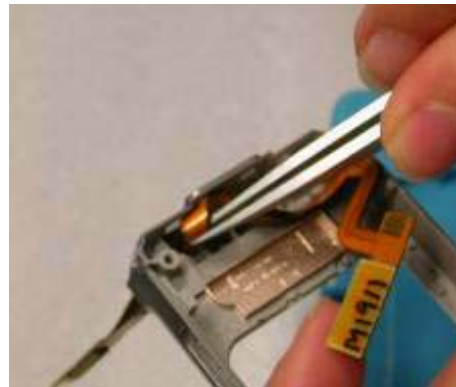
Take one Flex insert in Front Housing

3

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 65 of 82 Langue : EN Date : 11/04/05**

9.3.2   "Microphone" positioning.

Insert "Microphone" on "Modem Front Housing".
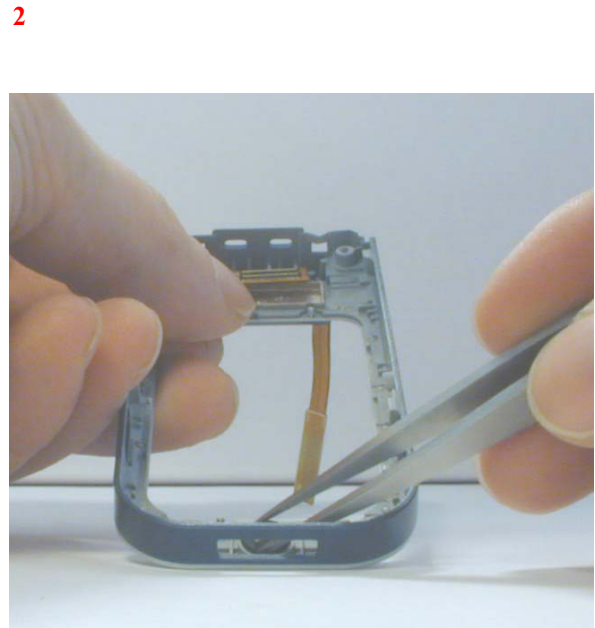
1

2

3

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 66 of 82 Langue : EN Date : 11/04/05

9.3.3   Weld "Flex Flash" and Place "Keypad"

1

Weld "Flex Flash"

2

Take and stick "Keypad" on PCB

3

ell.
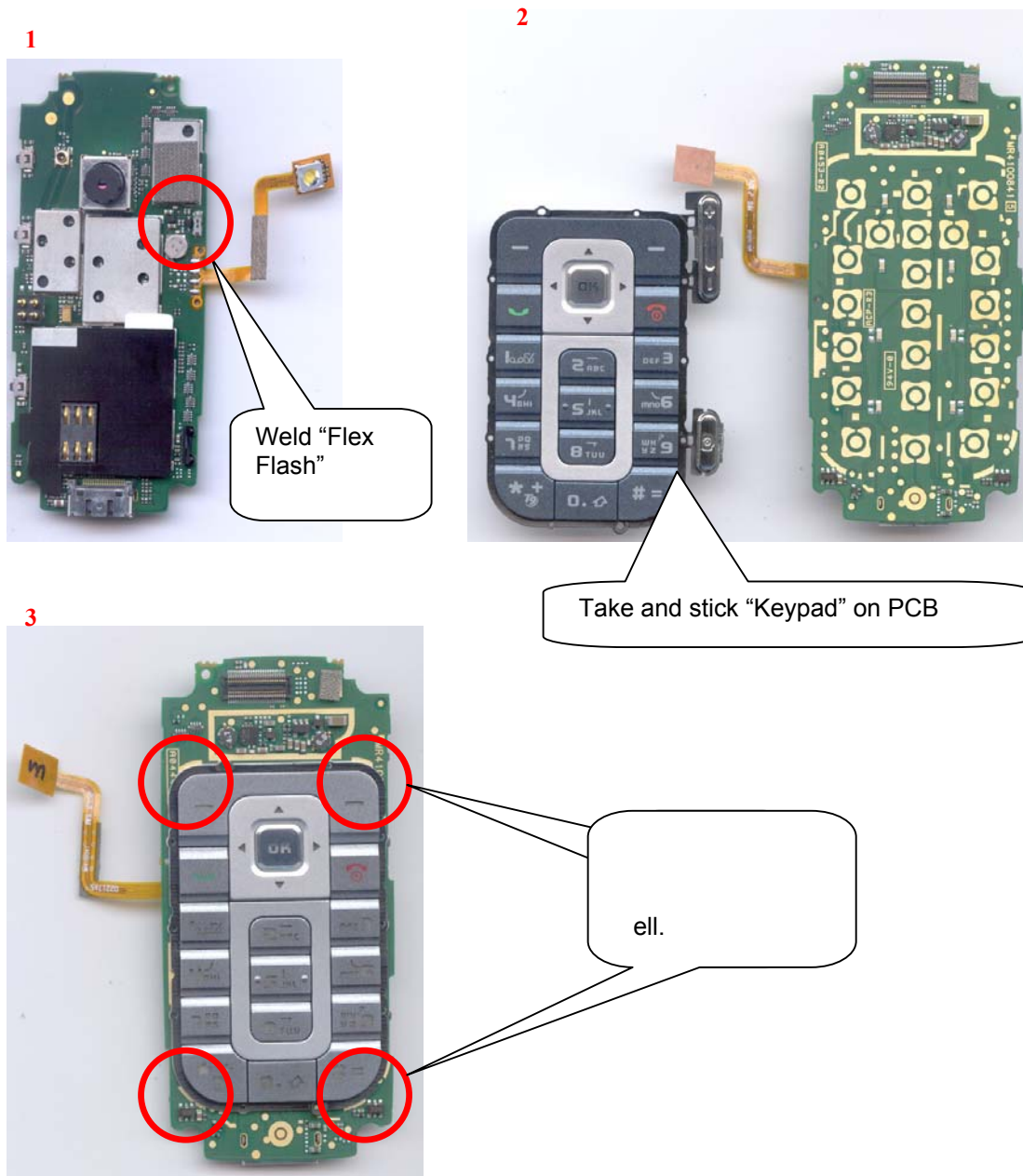
Take "Keypad" and check presence of "Camera Key" and "side key". Then Insert "Keypad" in Front housing Base.

PHILIPS Consumer Communications Centre du Mans	**Service Repair Support**	**VY-V-640-P760 Page : 67 of 82 Langue : EN Date : 11/04/05**

9.3.4   Insert the "BOARD" in the "Modem Front Housing".

1

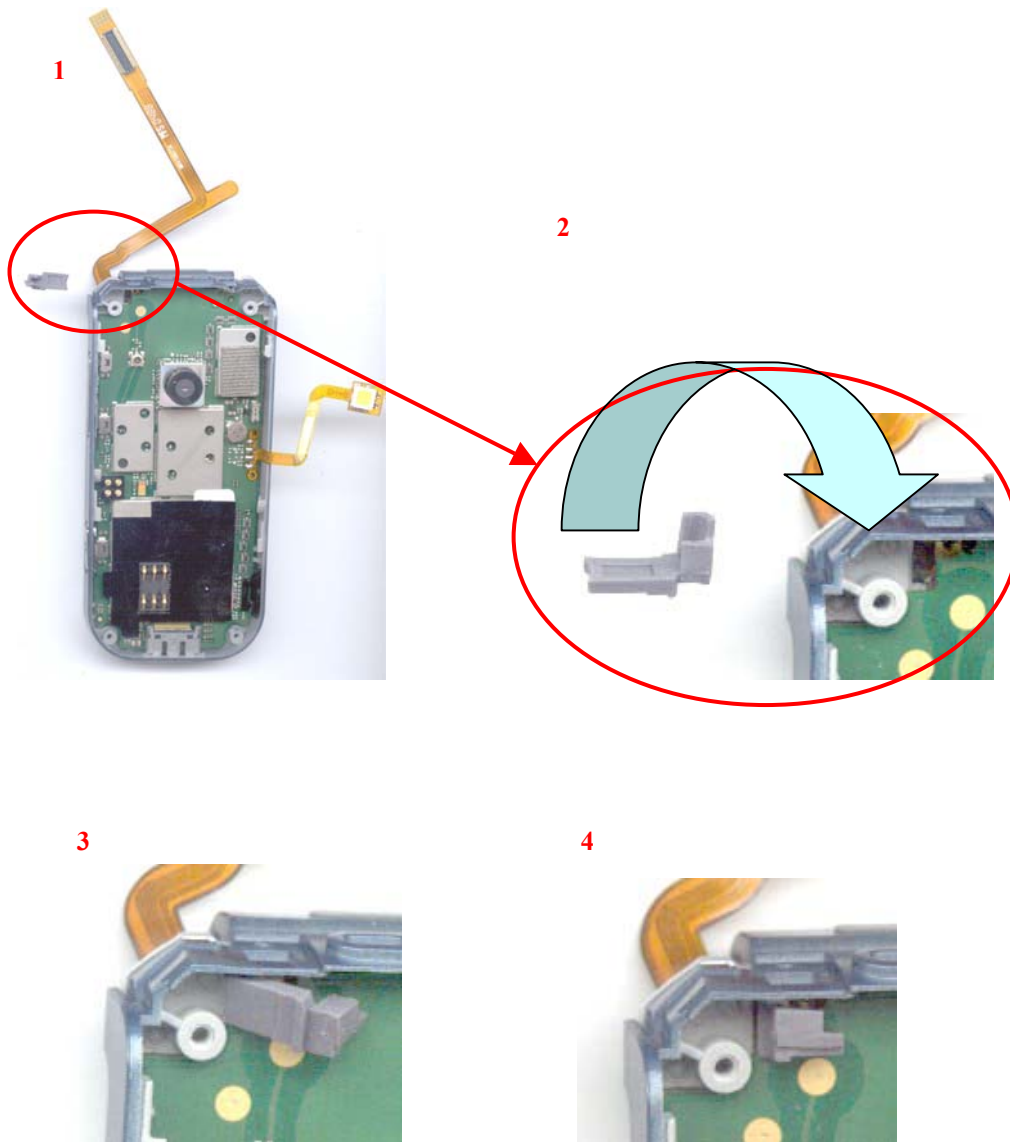Plug the B2B flex with B2B PCB modem

2

3

4

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 68 of 82 Langue : EN Date : 11/04/05
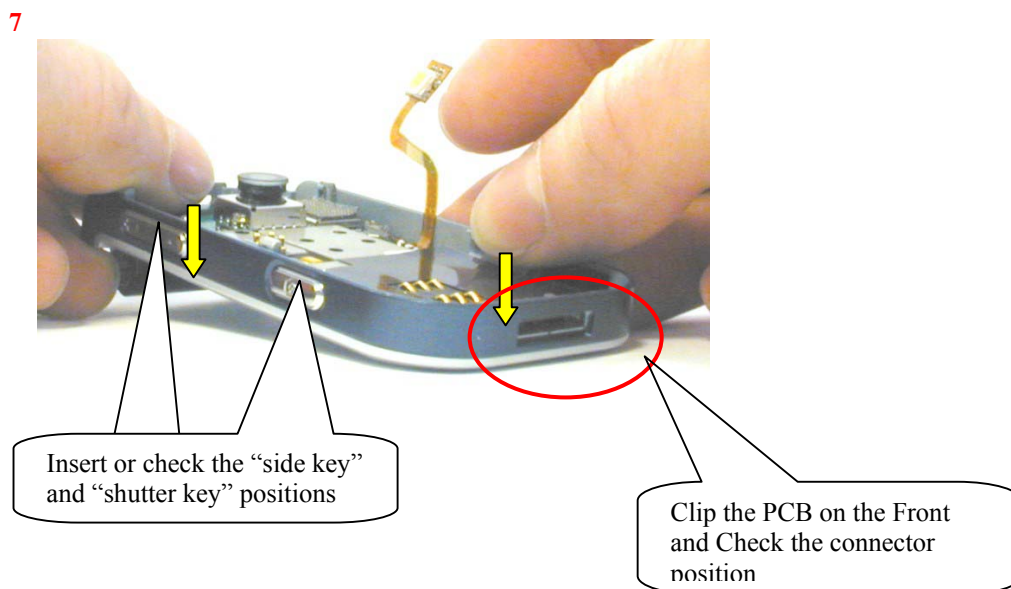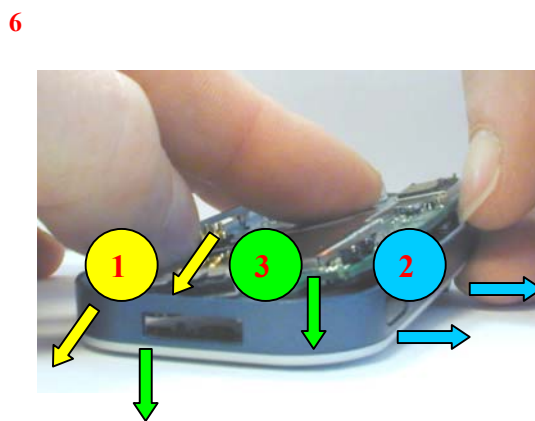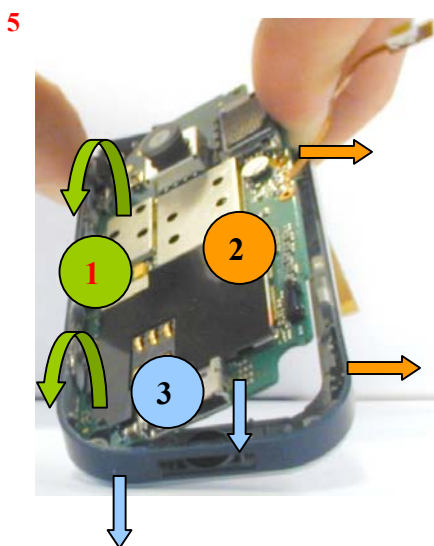
5

6

7

Insert or check the "side key" and "shutter key" positions

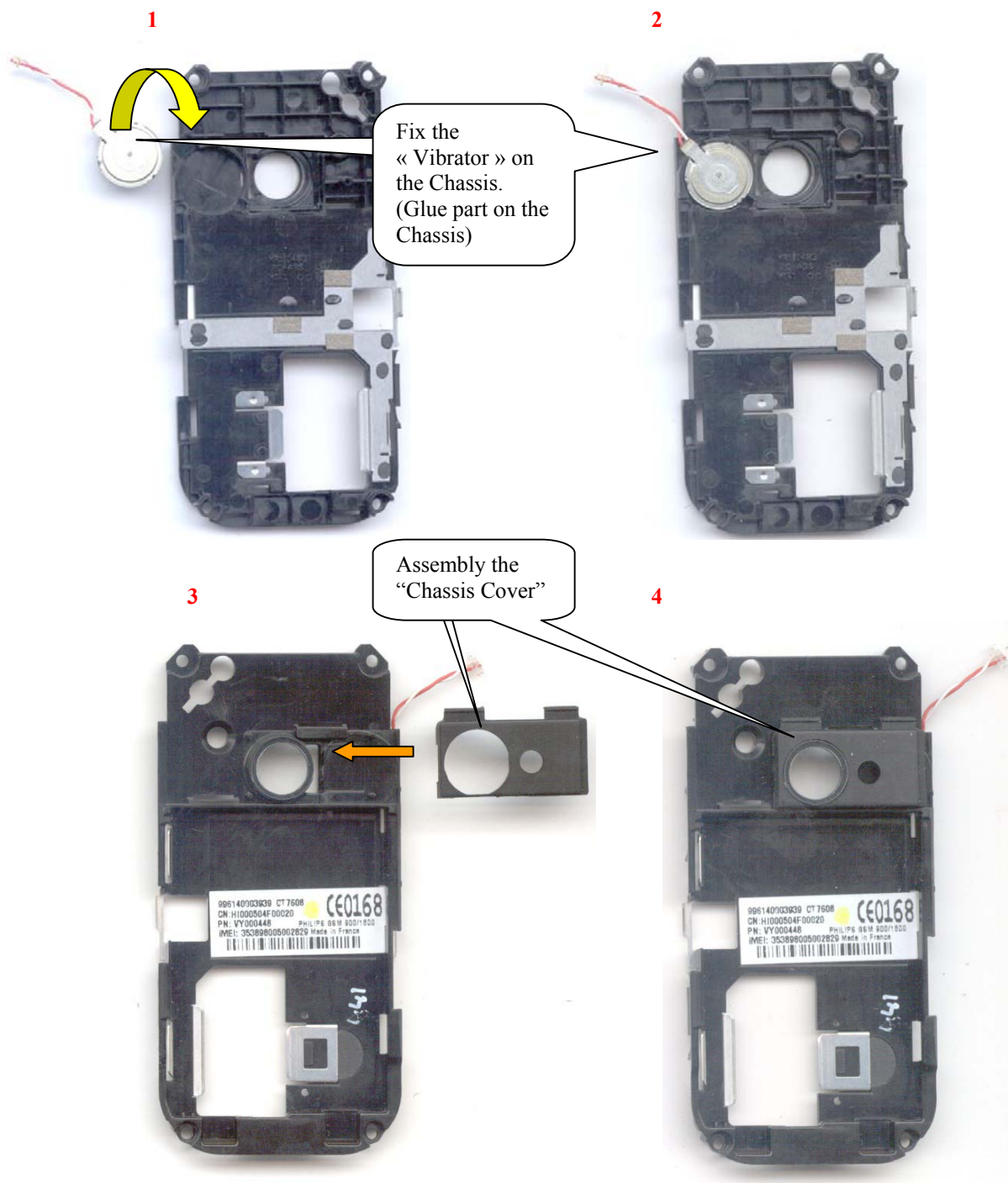Clip the PCB on the Front and Check the connector position

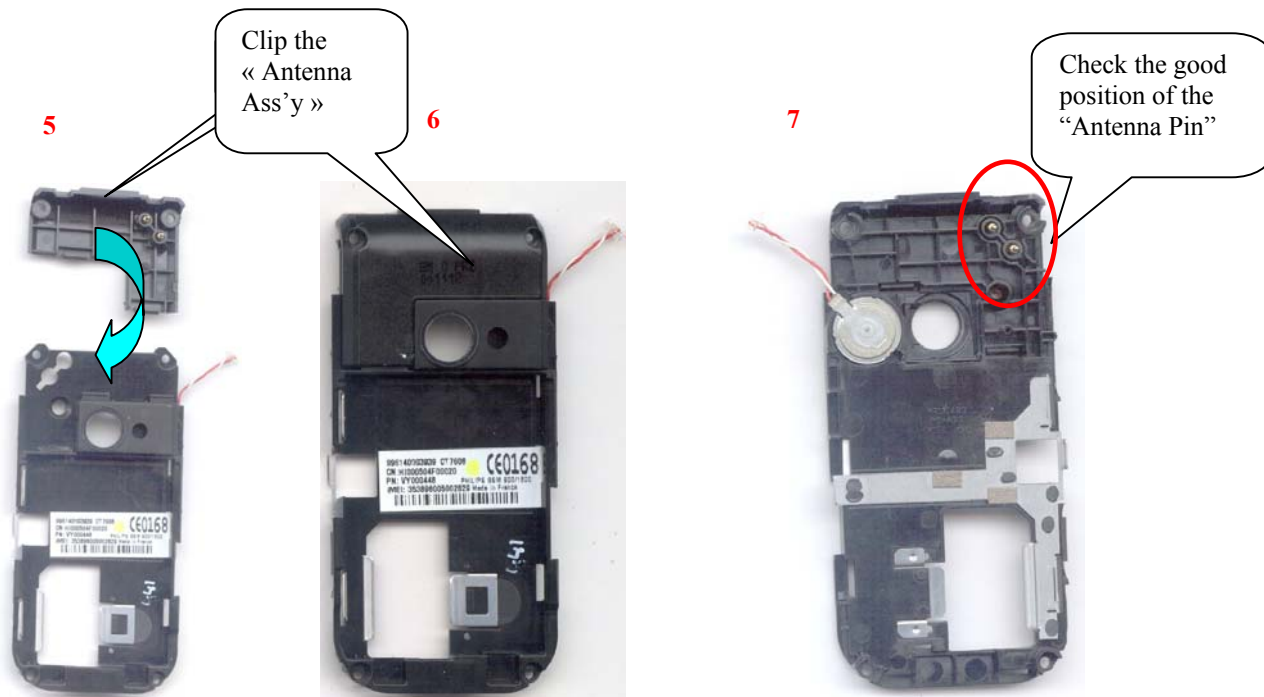| PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 69 of 82 Langue : EN Date : 11/04/05

> ➤ Insert the "CAP FLEX".

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 70 of 82 Langue : EN Date : 11/04/05

> Assembly the "Modem Chassis Ass'y".

1

2

Fix the « Vibrator » on the Chassis. (Glue part on the Chassis)
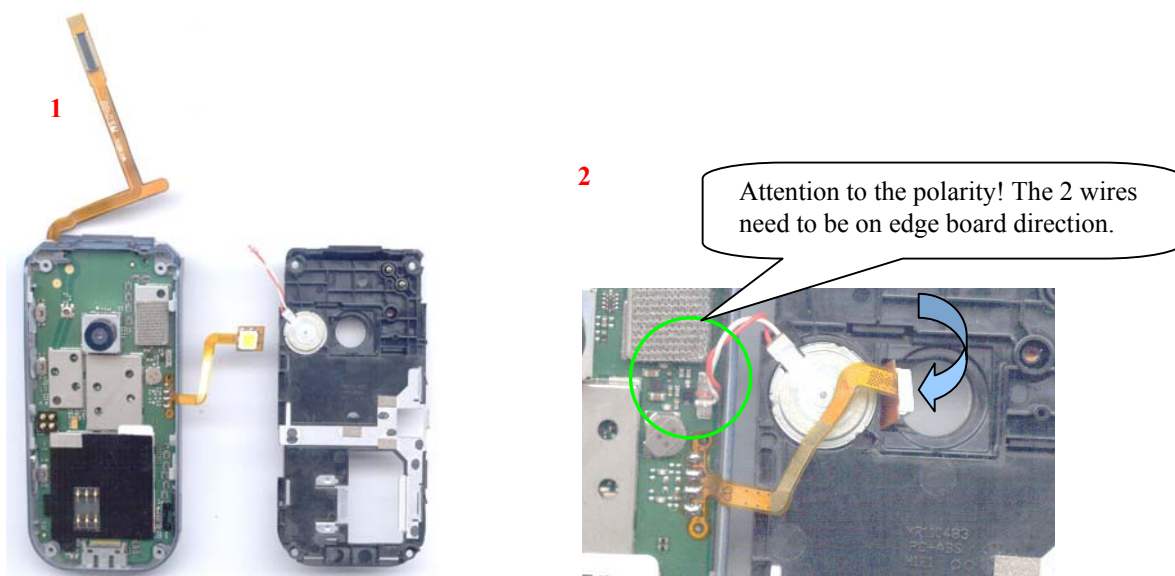
Assembly the "Chassis Cover"

3

4

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 71 of 82 Langue : EN Date : 11/04/05

5

Clip the « Antenna Ass'y »

6

7

Check the good position of the "Antenna Pin"

9.3.5   Assembly "Modem Front Housing" and "Modem Chassis Ass'y".

➢   Connect the "Vibrator" and insert the "Flash" in the "Chassis Cover".

1

2

Attention to the polarity! The 2 wires need to be on edge board direction.

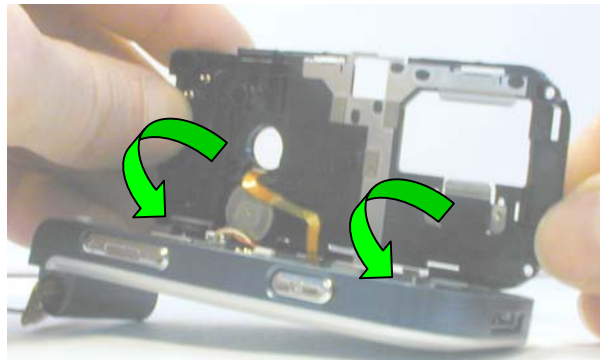| PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 72 of 82 Langue : EN Date : 11/04/05

3

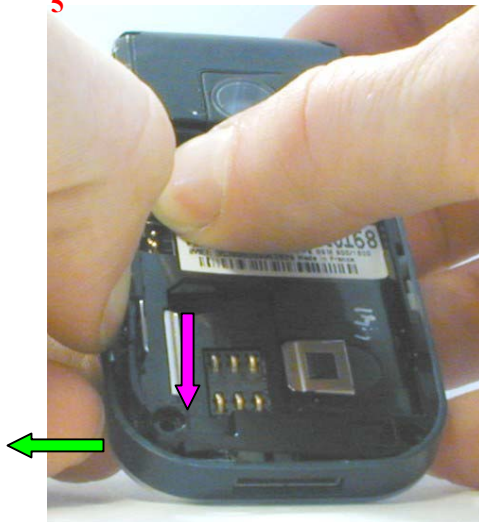Verify the good position of the « Flash »

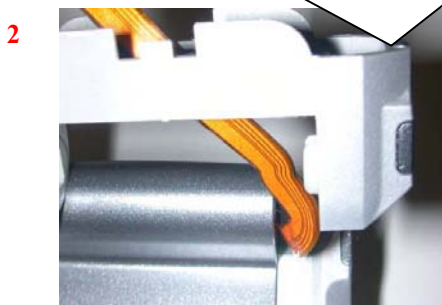

4

➤ Close and Clip the "Modem Chassis"

5

6

For electrical screwdriver:
Tork:0,2Nm Rotating speed 500R/mm

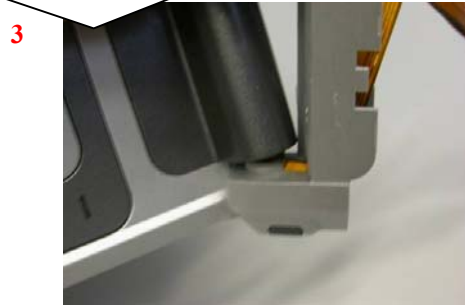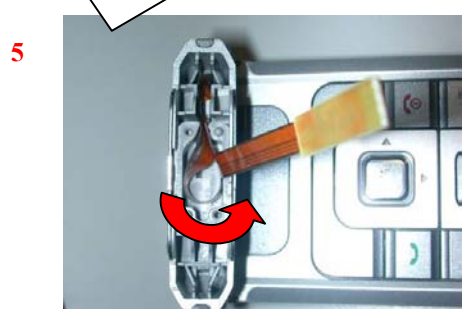| **PHILIPS Consumer Communications Centre du Mans**	**Service Repair Support**	**VY-V-640-P760 Page : 73 of 82 Langue : EN Date : 11/04/05**

9.3.6   Assembly the "Hinge Body Ass'y"

goes down flex in body hinge (1/ 2). **(be careful not to grip the flex)**

Push on the Hinge to clip the body hinge. **Assembly the Hinge in Open position**

Roll up the flex in body hinge

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 74 of 82 Langue : EN Date : 11/04/05

Take one hinge metal insert flex in

6

7
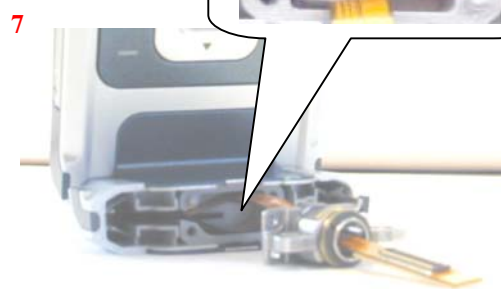
Place Hinge metal in Body hinge
(be careful to the orientation)

8

Take screwdriver and screw 2 screws
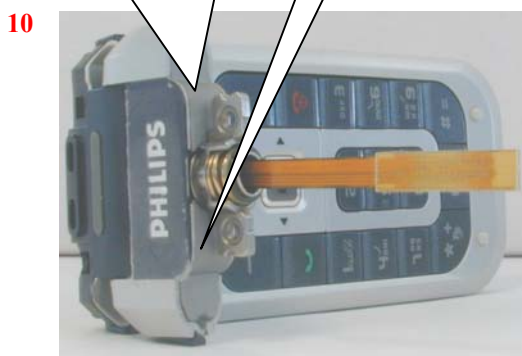
9

For electrical screwdriver:
Tork:0,1Nm Rotating speed 500R/mm

Insert the 2 « Hinge Cover »

10

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	VY-V-640-P760 Page : 75 of 82 Langue : EN Date : 11/04/05

9.3.7   Assembly "Flip Housing" and "module LCD Ass'y"

Insert the "Rear Housing" and the "Magnet"

1

Connect the "Board to Board" connector to the "LCD Module"

2

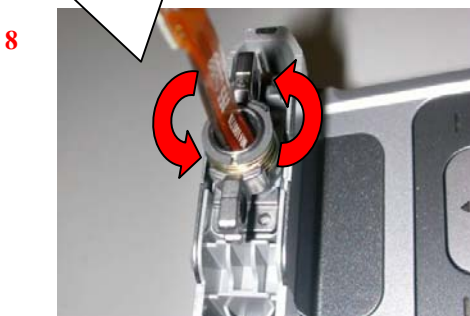| PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 76 of 82 Langue : EN Date : 11/04/05

Warning: During Assembly of "LCD Module", be careful of Main LCD or Sub LCD (no fingers on it, no dust)

Assembly with 2 screws the "LCD Module", the "Rotary Hinge" and "Rear Housing"

3
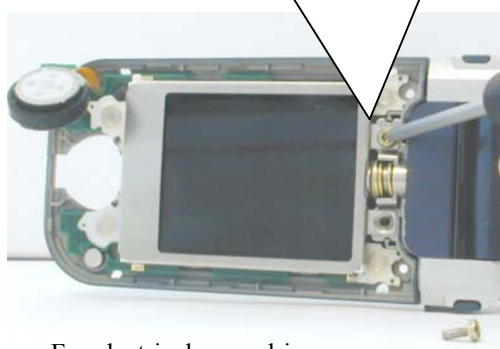
For electrical screwdriver:
Tork:0,1Nm Rotating speed 500R/mm

Position of the « Ear/Lsp »

4

Insert and Clip the complete "Window Ass'y" (Flip Front Housing + window + Camera keys)
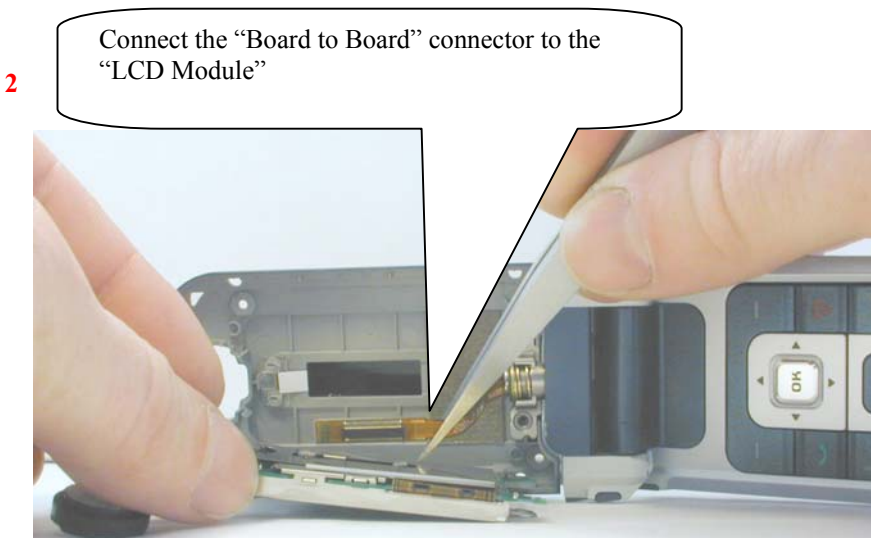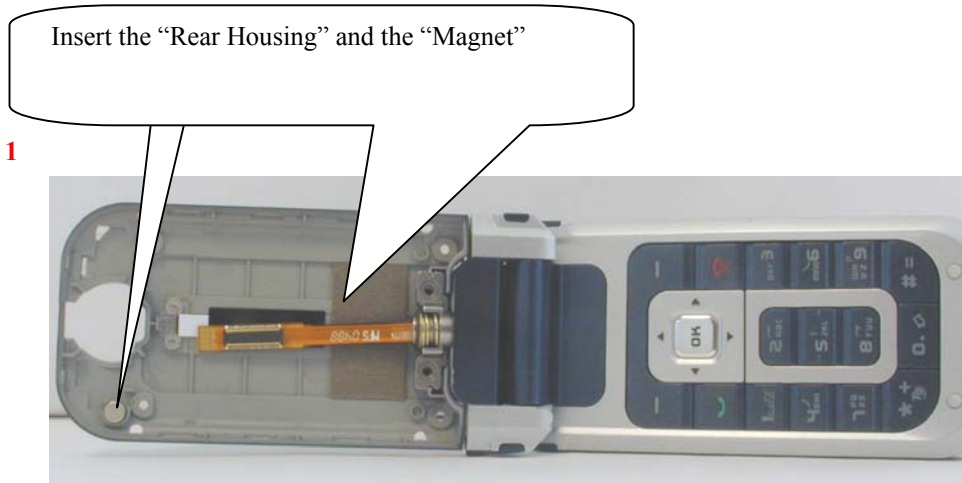
5

Assembly the window with the 4 screws

6
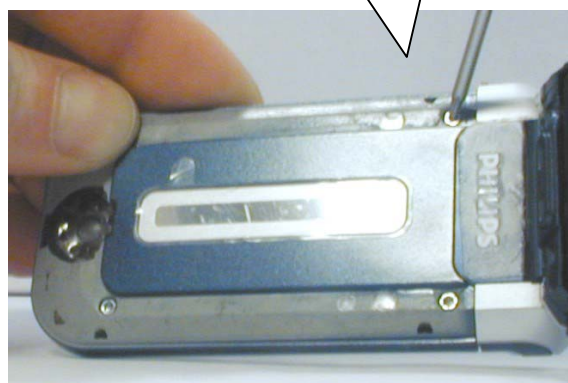
For electrical screwdriver:
Tork:0,1Nm Rotating speed 500R/mm

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P760** **Page : 77 of 82** **Langue : EN** **Date : 11/04/05**

Clip the "Flip Rear"

7

8
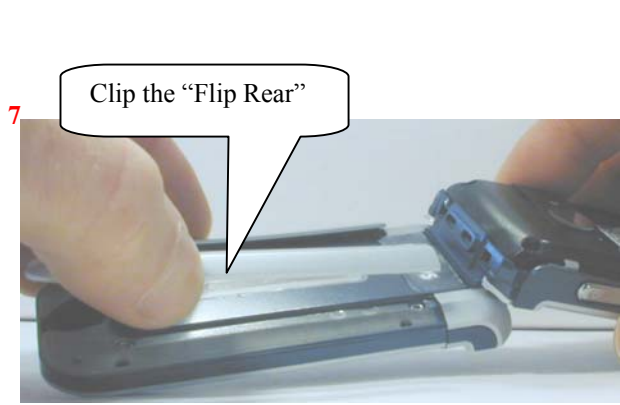
→ **INSERT BATTERY, BATTERY COVER AND THE PRODUCT IS COMPLETELY ASSEMBLED**

9.4   Exploded view
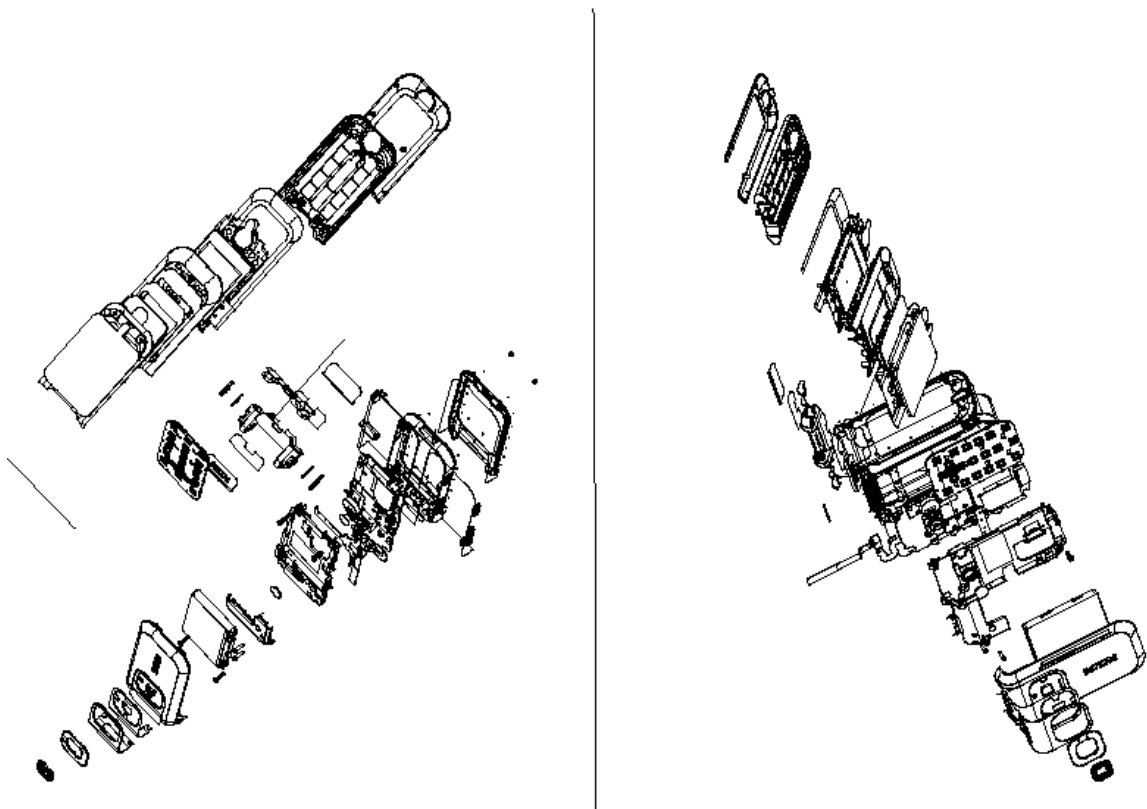
PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 78 of 82 Langue : EN Date : 11/04/05

Pos 135 : Flip Front Housing + camera key

Pos 137 : Flip rear Housing

Pos 194 : Rotary Hinge

Pos 166 : Cap Flex

Pos 170 : Screw 1.4x4

Magnet

Main Board

Pos 163 : Side key

Pos 150 : Window

Pos 147 : Flip Ring

Pos 12 : SMO Flex Flash

Pos 110 : Keypad

Pos 181 : Ear/LSP

Pos 9708: antenna Ass'y

Battery

Pos 199 : Shutter key

Pos198 :SMO LCD Ass'y

Pos134: Hinge Body Ass'y

Pos 198 : SMO LCD Ass'y

Pos 1545: Vibrator

Pos 171 : screw M11.6x4.4

IRDA Window

Pos149: Hinge Cover

Pos172: Screw 1.8x5

Pos179: Chassis Cover

Pos104: Battery Cover

Pos1535: Microphone

Pos11: Flex Ass'y

Pos 103: Modem Chassis Ass'y

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 79 of 82 Langue : EN Date : 11/04/05

10.0 SOLUTIONS IN CASE OF PROBLEMS DURING THE TESTS

Under no circumstances the phone have to be disassembled to fix a defect detected during the test procedure on level 1.

10.1   The phone does not switch on.

- Check the tactile feeling of the "ON/OFF" button.
- Check the LCD Fonction
- Remove the battery. Check that both the connectors (Keypad connector, LCD connector) of the phone and those of the battery are not damaged.
- Clean the connectors.
- Plug the battery again, making sure that it is securely fitted. Charge the mobile until the icon has stopped flashing. Then unplug from the charger and attempt to switch the mobile on.

If it still does not switch on. If the failure can't be found out then dismantle the product and swap the board.

10.2   Charge does not start or no detection of the charger. (refer to chapter 8.3)

- Check the charger contacts for dust or missing pins.
- Check the mobile connector.
- Check the charger is plugged into correct connector.
- Remove the battery. Check that both the connectors of the phone and those of the battery are not damaged.
- Check the charger individually with a reference mobile. If the charger works properly try to charge the customer mobile with a reference battery.

If neither of the battery and the charger can be incriminated, dismantle the mobile change the battery connector. If the problem remains, swap the board.

10.3   The display shows "No SIM card. Please insert your SIM card." or "SIM FAILURE"

- If the SIM card cannot be inserted, check for any foreign part and try to remove it.
- Check the SIM Card connector. All the contacts must be at the same level. Make sure that there is no dust on the connector contacts and the SIM card contacts.
- If the test SIM card can be detected but the message "SIM Failure" remains on the customer's card, his card must be damaged. Ask him to contact his network operator.

Otherwise dismantle the product change the Simcard connector. If the problem remains, swap the board.

10.4   Display problems

Contrast, icons and matrix of the display can be checked with the test SIM card by pressing keys "5",.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 80 of 82 Langue : EN Date : 11/04/05

If everything works in test configuration that means that a phone setting is disabled or does not suit well. It can be solved in the phone menu.

Otherwise dismantle the product change the Module LCD. If with a new Module LCD the problem remains, swap the board.

10.5   Polyphonic Buzzer problems

Polyphonic Buzzer tone can be checked with the test SIM card by pressing key "0".
- If it does not sound properly dismantle the mobile change the antenna which contains Buzzer. If the problem remains swap the board.

10.6   No sound in Loudspeaker

The sound from the loudspeaker can be checked with the test SIM card by pressing key "3".

- Check the microphone and the earpiece, If needed dismantle the product change the loudspeaker then the microphone. If the audio problem cannot be solved, swap the board.

10.7   Communication problems

- Sound quality can be checked in audio loop test (sound distortion, whistling, echo, …)
- If the mobile passes the radio tests successfully, we can assume that the phone works properly. The customer must check the coverage area of his network operator or that he does not use the phone in a radio shadow (outside the coverage area, in a tunnel or between tall buildings, …)

- If the mobile does not pass the radio tests, swap the board.

10.8   Keyboard problems

-The keyboard can be checked with the test SIM card.
- If a key or a row does not respond, check the keyboard and keyboard connectors. If needed, dismantle the product, change the keypad. If the problem remains, swap the board.

10.9   Problems to send MMS/SMS messages or to download JAVA application.

Check the Center number for SMS/MMS and all network parameter like Wap for MMS/JAVA. It may be empty or wrong.

10.10   IRDA Problems

If IRDA function test is bad and If it cannot be solved, swap the board.

10.11   Camera Problems

- If Test Camera is not. Dismantle the product, check the Camera flex connector and if it is necessary, change Camera Module.
If the Camera problem cannot be solved, swap the board.

PHILIPS Consumer Communications Centre du Mans	Service Repair Support	VY-V-640-P760 Page : 81 of 82 Langue : EN Date : 11/04/05

11.0 RECOMMENDED PART LIST CT7608 PHILIPS 760

See File " PHILIPS 760 Lvl2 Components List.pdf " under the Internet Web Site
http://philipscscc.soft2you.net/   in " Technical Support \ Component List \ Wireless \ PHILIPS 760 " section

PHILIPS Consumer Communications **Centre du Mans**	**Service Repair Support**	**VY-V-640-P655** **Page : 82 of 82** **Langue : EN** **Date : 17/05/04**

ANNEX 1

	1 NO.ACTION	2 LEVEL	3 QUALITY	4 NOISE	6 PHYSICAL PROBLEMS	7 SPECIAL FUNCTIONS	8 OTHER CONDITIONS
1 GENERAL	Power problem 117 Short battery life 119 Does not switch on 11B Switch on/off recurrent 11X Bad charge/power-supply	Charging problem 121 Does not charge battery	Display function problem 131 No display[2] 136 Missing line/pixel on LCD 13B No backlight 137 Auxiliary display problem[2]		Physical damage 166 Damaged plug or socket 169 Broken aerial 16G Broken/Slanted LCD 16J Heating issue 16X Other Physical damage	General function problem 178 Faulty memory function 17F Wap/Email function not operable[2] 17G Blue Tooth/Irda not operable[2] 17H Vocal command pb[2]	Special requirements 18Z Symptom not available 187 Missing parts
2 COMMUNICATION	21A No reception 21A Drops calls	220 Reception level problem	Transmission problem 231 No emission 234 No radio link between Handset & Base 240	Noisy or distorted audio 244 Echo		Special communication problem 277 No dial tone 278 No buzzer ring 279 Not register ring 27A Synchro problem with modem[1] 27B Modem causes pb with phone[1] 27X Other problem with modem[1]	
5 AUDIO	510 No audio	Audio level problem 521 Low audio level		560 General problem with Answering machine.[1]		Poor special audio function 571 FM radio problem[2] 572 Be DJ function problem[2] 57A Hands-free problem	581 Headset not operable
6 MECHANISM	No mechanical 61B Vibrator not operable 61D Pilot/compass key not operable			648 Mechanical noise Foreign parts inside		671 No clamshell opening detection[2] 672 Camera not operable	
7 DATA PROCESSING	No data processing operation 715 No keyboard operation 718 TV link not operable	725 Bad click feeling on keyboard[2] 72B No subscription[1]	731 Wrong icon battery mgnt[2] 733 Touch screen failure[2]			Special data processing function problem 774 Defective CLI[1] 775 Defective SMS/MMS function	781 SIM blocked[2] 782 Display frozen[2] 783 Does not read SIM card[2]