



Service Manual

for Magician

HTC Proprietary
Confidential Treatment Requested

Rev. A10
Aug2005

HTC Corp.
Engineering Mobility



TITLE: Service Manual

REV. NO.	DATE	CONTENTS	DEP.	REVISED	APP'D	STGE.PER.
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A02	Nov,1,2004	ROM code update add AP	Technical Support	HB Chen		
A03	Nov,19,2004	Entry Bootloader method Modify	Technical Support	HB Chen		
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1. Introduction

This manual provides the technical information to support the service activities of Magician.

This document contains highly confidential information, so any or all of this document should not be revealed to any third party.

2. Product Specification

Platform

- Microsoft Pocket PC 2003 Phone Edition – English, Spanish, Traditional Chinese, Simplified Chinese, Italian, Portuguese, German
- Dimensions: Main unit :108mm(L) *58mm(W) * 18.1 mm(T)
- Weight :120g with battery .

Processor

- Low power, high performance 32-bit Intel 416 CPU 416MHz (embedded 32MB NOR Flash)
- IT Calypso + IOTA, GSM/GPRS solution

Memory

- Flash ROM: 64MB
- Flash RAM: 64/128MB(optional) MB SDRAM

LCD Module

- 2.8 Transflective TFT-LCD with white LED back light.
- Sensitive touch screen
- Support both Portrait and Landscape.

GSM/GPRS functional block

- GPRS/GSM (Tri-band) module
- GSM900/1800/1900MHz



- Internal antenna for tri-band GSM
- Call holding, waiting, forwarding, barring, Calling Line Identity (CLI)
- SMS (Short Message Service), MT, MO, SM reply, replace, acknowledgement, validity, 8 bit SMS data class 0/1 SMS
- Display own number, telephone number storage capability w/Mute feature, Network selection, Cell broadcast
- Explicit Call Transfer (ECT), Spool icon, Phase 2 Unstructured supplementary service data-MO/MT
- WAV Ring tone download/compose, Long message (640 characters), Network Lock
- AMR/EFR/FR/HR, EOTD, CPHS v4.2, PBCCH
- GPRS class B, Multi-slot standard class 10
- 3V SIM operation, SIM Application Toolkit class 3, Release 99, Over the air programming
- ADN (Abbreviation Dial Number)

Stylus

- Lock type mechanism

Keyboard/button/switch

- One power button (Wake-up key)
- One voice recorder/voice command button (Wake-up key)
- One volume control button (up and down)
- One Camera capture button (Wake-up key)
- One 5-way navigation Pad (Wake-up key)
- Two phone buttons: SEND (Yes) & END (No) buttons (Wake-up keys) (with LED backlight)
- 2 AP buttons (Calendar and contact) (Wake-up key)

Notification

- One bi-color LED (Green and Red) LED in the first lens for GSM standby, GSM message, GSM network status, PDA charging status, and PDA notification
- One blue LED for Bluetooth notification .
- Notification by Sound and Message on the display
- Vibrator for notification

Audio

- Built-in Microphone, receiver and speaker
- SW echo cancellation
- Loudspeaker for hands-free support
- SW echo cancellation, HW Full duplex
- Receiver
- 16-bits with 8KHz, 11KHz, 16KHz, 22KHz, 44.1KHz, 48KHz sampling rate [TBD]



- AMR/AAC/WAV/WMA/MP3 stereo
- Automatic answer for car kit and headset.

Camera

- Color CMOS VGA/1.3Mega-Pixel camera with dust-proof cover.
- Preview Mirror

Power

- **Battery**
 - ▶ Removable rechargeable Lithium Ion Polymer battery, 1200mAh (Typical)
 - ▶ backup battery (20mAh, rechargeable)
 - ▶ Battery life: 15hrs of PDA only (without RF) [TBD]
 - ▶ Talk time : 2.5~5 hours (at nominal RF Tx power level)
 - ▶ Standby time: 180hrs
 - ▶ Data Retention Time: 72hrs
- **AC Adapter**
 - ▶ AC input: 100 ~ 240 Vac, 50/60Hz
 - ▶ AC input current: 0.2 Aac (max.)
 - ▶ Output voltage: 5Vdc (typical)
 - ▶ Output current: 2Adc (typical)

Interface

- Infrared Port IrDA SIR
- One Audio Jack (2.5)
- 3V SIM card
- One SDIO/MMC card slot with sliding door (top)
- One External antenna connector
- One Mini USB connector

Device to Device connectivity

Bluetooth

- Bluetooth 1.1 compliant
- Class 2 transmit power-support voice and data transmission
- Support profiles :
 - V Generic Access
 - V Generic Object Exchange profile
 - V Serial Port Profile
 - V Headset Profile



- V Object Push Profile
- V DUN Client Profile
- V File Transfer Profiler
- V Fax Profiler
- V Cordless Profile
- V Intercom Profile
- V Hands-free Profile
- **Infrared IrDA SIR**
- **Mini-USB**
- **SDIO/MMC**

Accessories

- Sync. Cable (Mini-USB/USB)
- Carrying Case
- AC adapter W/ power plug
- Car adapter
- Stylus
- Car Kit (capable of muting car stereo when incoming call or call proceeding)
- Stereo Wired headset-stereo earpiece with microphone
- Mono Bluetooth headset-mono earphone with microphone
- Stereo Bluetooth headset-mono earphone with microphone
- Optional Battery (1200mAh)
- Car kit w/car stereo mute function
- Travel charge
- Hanger
- User Manual , quick start guide, sync. Software CD

Regulatory

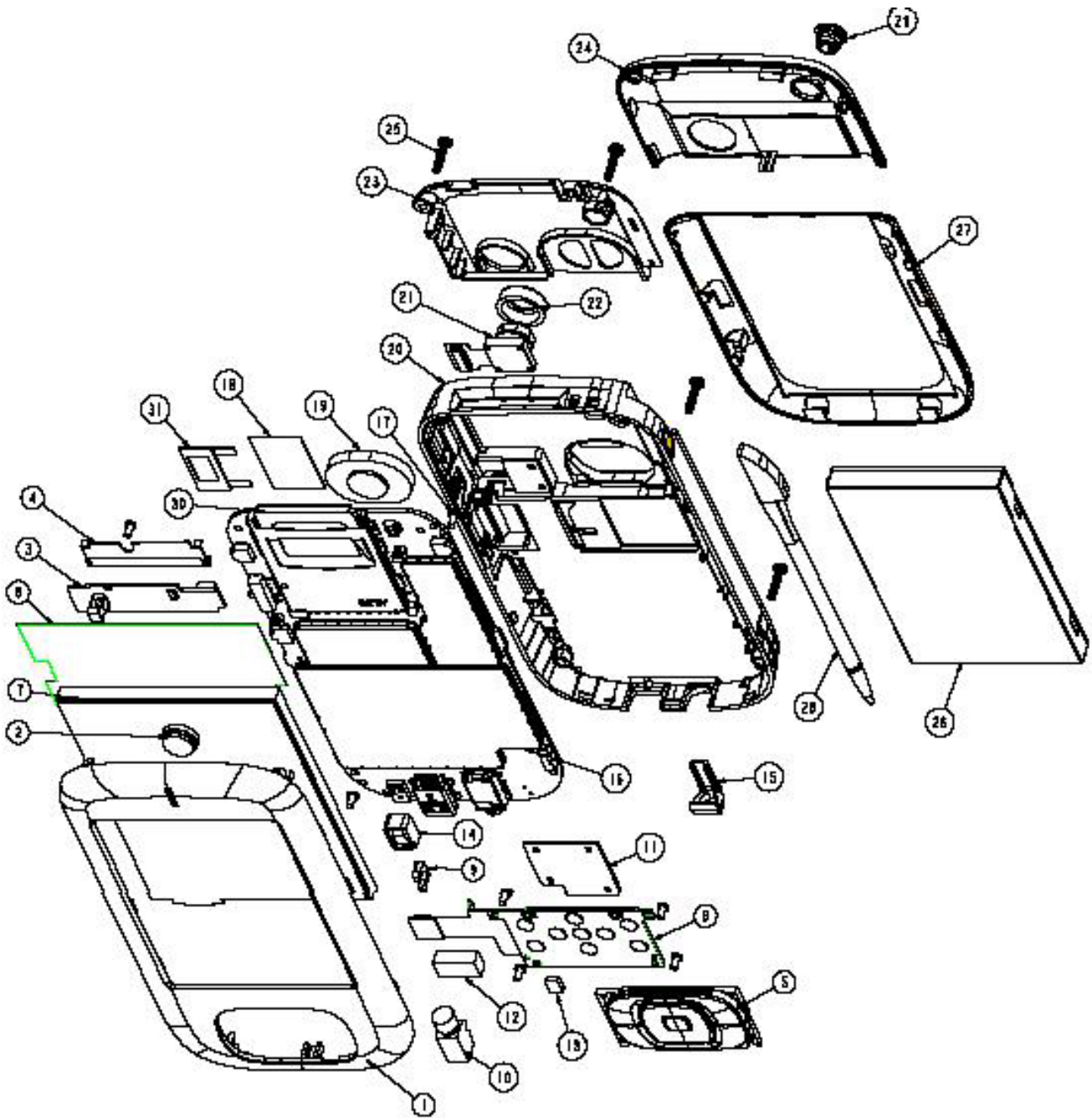
- R&TTE : EMC/EMI,CEM, Safety
- PTCRB
- FCC
- Microsoft Pocket PC 2004 Logo (NTSL)
- USB Certification
- Bluetooth certification



Value Added Applications

- JAVA Virtue Machine (J2ME, CLDC, MIDP 2.0,)
- Photo Caller ID
- Photo Album with editing picture capability
- MMS (with video clip support)
- Camera Capture Utility (Resolution: VGA/QVGA/CIF/QQVGA)
- MPEG4 video /audio Streaming Service
- XBackup & Restore
- Voice command/Voice dial
- Text-to-speech
- Power Point Presenter

2. Exploded Diagram





3. Assembling and Disassembling

3.1 Disassembling

	<p>Tools needed for Assembling and Disassembling the Harrier.</p> <ol style="list-style-type: none"> 1. Lens Cleaning Tissue. 2. Philip Screw Driver 000X50 3. Philip Screw Driver 2.5X40. 4. Torex Screw Driver T6X40 5. Tweezers 6. Special Made Plastic Stick. <p>Tweezers.(Suggest to use plastic made)</p>
	<ol style="list-style-type: none"> 1. Pull up to release the Stylus. 2. Remove the SD Card Filler. 3. Remove the Antenna Insert Rubber. as indicated on the left.
	<p>Next, Remove the battery cover by slightly push backward the battery cover .</p> <p>Note : Cover-Battery 74H00374-00</p>



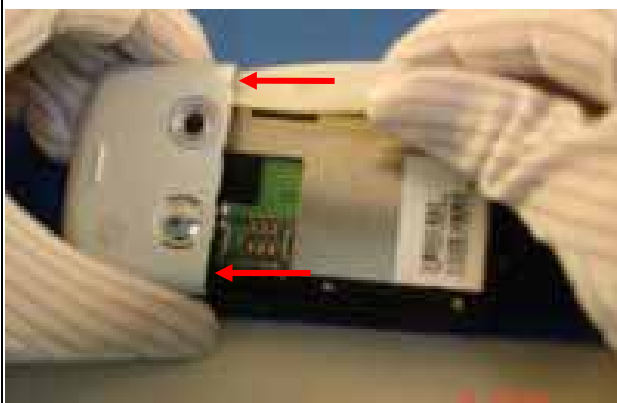
- 1 Unlock the battery rubber lock.
2. Release the Battery P/N: 35H00051-00



Warning: To reduce risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water. Replace only with specified batteries. Recycle or dispose of used batteries properly.



Turn left the philips screw driver and loose the hook of antenna cover .

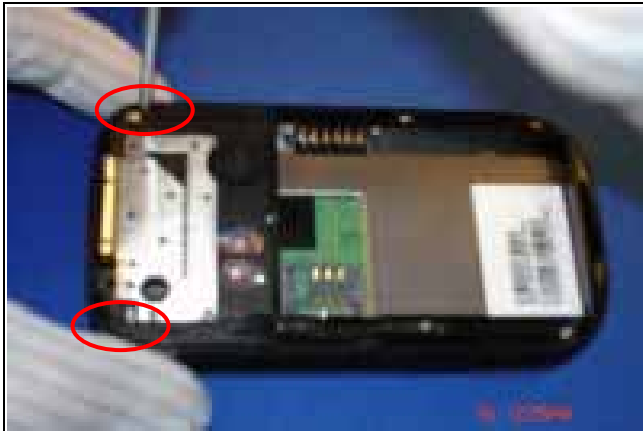


To remove antenna cover

Please use Precision Plastic special tool flat (θ) type 1.2 mm and insert in to the two hole as shown on picture.

Insert in angle: 30 °

Cover-Antenna P/N: 74H00374-00M



Remove the 2 screws for release internal antenna.



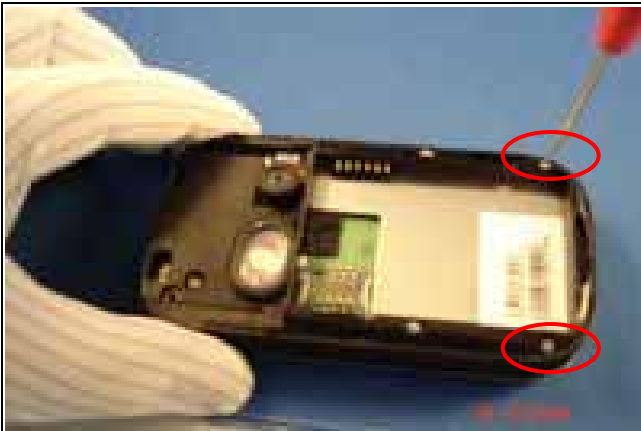
Next, remove the Antenna, unlock the connector lock with the plastic stick.

Antenna P/N :36H00251-00



For Camera FPC, to lift the connector lock upwards from both ends at the same time as indicated in the picture. The angle must not exceed 90 degrees.

Camera P/N : 54H00093-00



Next , remove 2 screws to disassemble bezel and housing

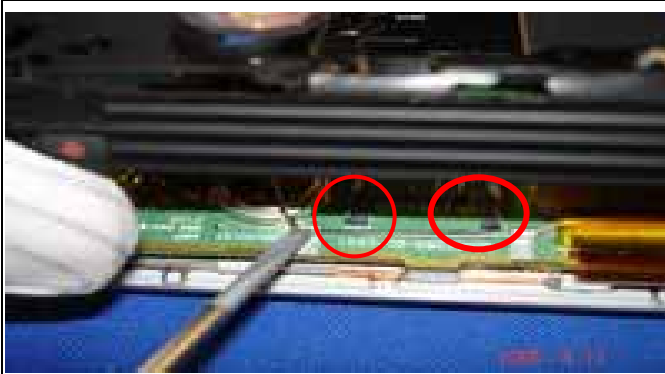


Next , start disassembly the housing cover
Please be noticed that improper way of disassembly may caused the cover worn easily

1. Insert the plastic stick to the gap between front and rear cover deep inside.
2. Move the stick slightly from lower side to upper to release the 6 hooks (3 each at both side)



Release all hooks at both side.



Next, release the wire of speaker, unlock the 2 iron hooks with a tweezers.
(Suggest to use plastic type)

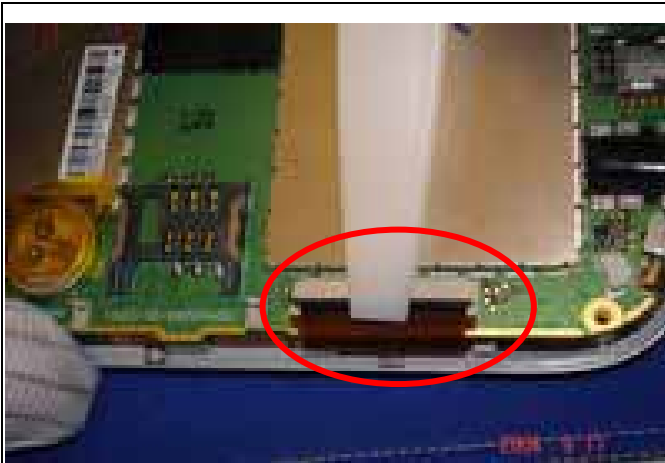
For Camera FPC, lift the connector lock upwards from both ends at the same time as indicated in the picture. The angle must not exceed 90 degrees.



Next , 1.diseassembly the speaker connector using tweezers .(Suggest to use plastic type)
2.Remove the yellow mylar and housing .



Next, disconnect switch board and Main board FPC.



Next, remove the LCD from MB.
1.Unlock the LCD connector with plastic special tool (hook side)
2.Take out the FPC with plastic tweezers .



Remove 2 screws on main board to disassemble main board and bezel assembly.

Note that screw P/N is **72H00724-00M**.



Remove the audio jack holder with plastic tweezers

Note that holder P/N is **71H00960-00M**



Separate the Audio Daughter Board from the Main Board as indicated on the left.

Note that Daughter Board P/N is:
51H00276-00



- 1.Remove Vibrator from bezel .
- 2.Remove Spacer on switch board
- 3.Remove on GASKET switch board
- 4.Remove gasket on switch board

Note those P/N

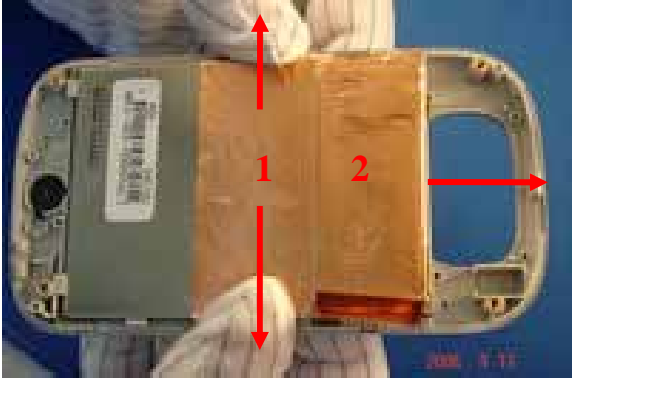
- 1 : 36H00180-00**
- 2 : 76H00748-00M**
- 3 : 72H00498-00M**
- 4 : 72H00548-00**

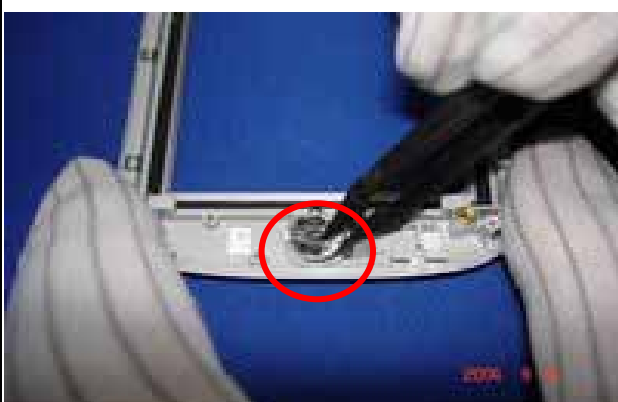


Remove 4 screws on switch board to disassemble switch board and bezel assembly.

Note that screw P/N is **72H00724-00M**.



 A close-up photograph of a component labeled 'Clipper' in red text. The component is a small metal strip with a red circle highlighting a specific part of it. It is positioned on a blue surface.	<p>Next , remove LCD spacer with plastic tweezers</p> <p>Note that Clipper P/N is: 71H00961-00M</p>
 A photograph of the back of a mobile phone showing the navigation keypad assembly. The keypad is highlighted with a red circle. The keypad has several colored buttons (green, blue, red, yellow) and a central trackball.	<p>Next, Remove the Navigation keypad rubber from the bezel.</p> <p>Note that Navigation key pad Assembly P/N is: 74H00400-00M</p>
 A photograph of the back of a mobile phone showing the LCD spacer. Two red arrows, labeled '1' and '2', indicate the removal of the spacer. Arrow '1' points upwards and downwards, and arrow '2' points to the right.	<p>Next, to separate the LCD from the bezel as indicated on the left.</p> <p>Note that LCM P/N is: 60H00032-00</p>



Remove the Receiver from bezel with plastic tweezers

Note that receiver P/N : **36H000253-00**



Take out the speaker from the Housing .
Notice : Push the speaker use finger from the back

Speaker P/N : **36H000252-00**

Done for disassembly

3-2 Assembling



Assembly Speaker into its place on the housing.

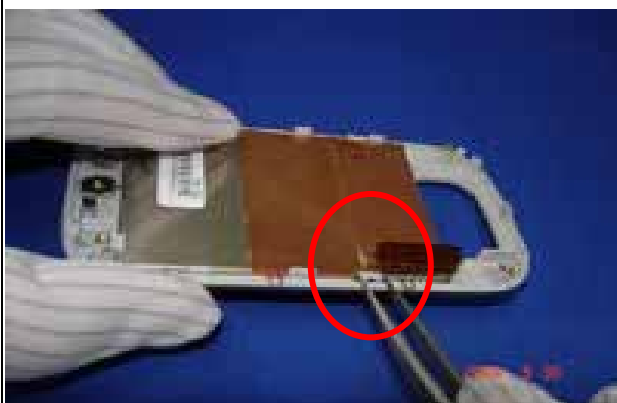


1. Assembly receiver into its place on the bezel LCM assembly :

2-1 Insert LCM into its place on the bezel , the angle about 30 degrees .

2-2. Put down LCM .

Note: if a new LCD needs to be replaced, please paste two copper foils before assembly



Nest , Insert the Clipper to fix the LCM well.

Clipper P/N : **72H00782-00**

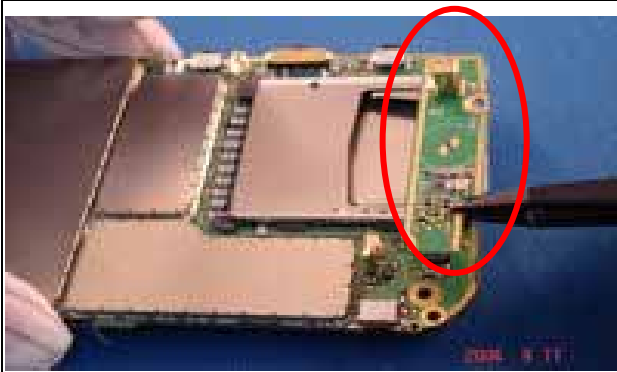


1. Put the Rubber keyboard on the bezel.
Note: there're 4 guide pins on bezel, so please aim at them when the Rubber keyboard is put on it.

2. Put the switch board on Action button and fasten 4 screws as indicated on the left.



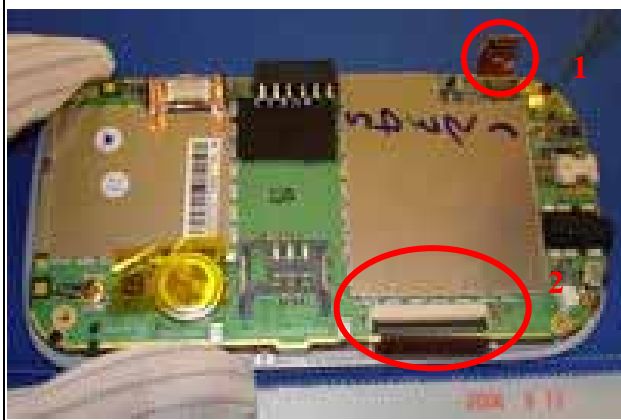
1. Put the gasket on switch board.
2. Put the gasket on switch board
3. Put the spacer on switch board
4. Put the Vibrator into its place on the bezel .



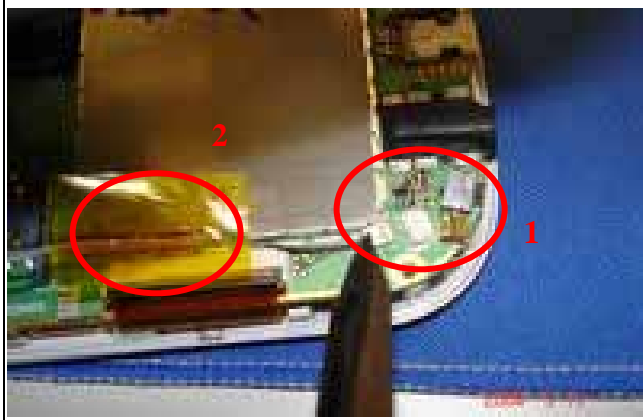
Assemble the Audio daughter board on main board and please pay attention on the Antenna location.



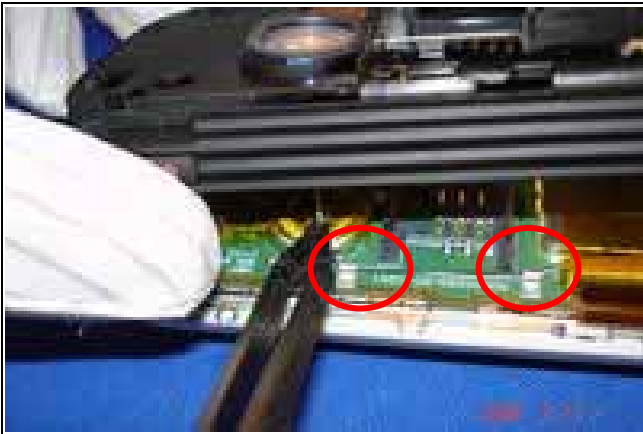
1. Put the Holder on audio jack.
2. Fasten 2 screws to fix main board on bezel as indicated on the left.



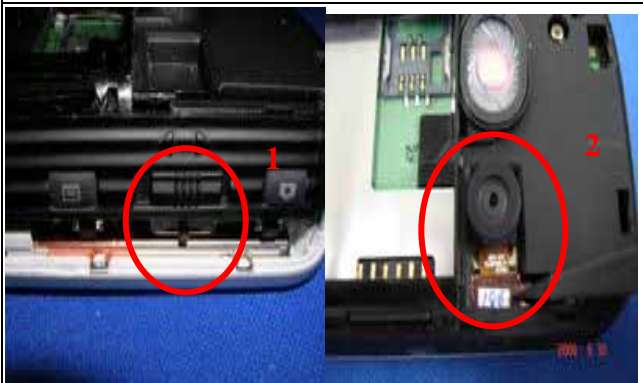
1. Press down S/W board FPC connector into the connector of M/B .
2. Insert LCM FPC into M/B connector .



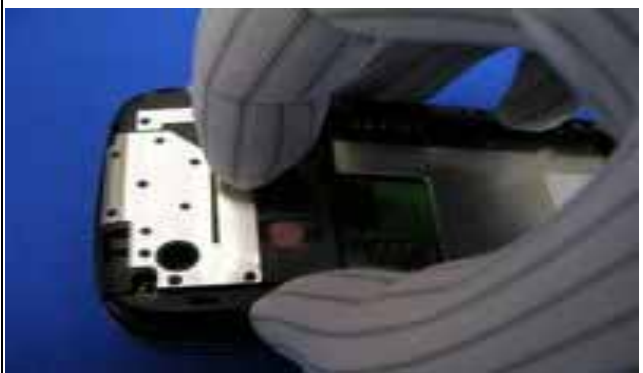
1. Insert the speaker connector into the connector of the M/B.
2. Paste the yellow mylar among the shielding and LCM connector.



Fix the wire of speaker by the 2 iron hooks . with plastic tweezers .



1. Assembly the housing .
Please set the volume button on the center before assembly.
2.Assemble the camera module on main board .



Set up the antenna on the top of the unit.



Fasten 4 screws on rear side



Assembly the antenna cover

Note:1. insert from the top of hooks
2.then press down the cover



1. put the battery into the unit.
2. slightly push forward the battery cover .



1. Insert the Stylus.
2. Insert SD Card Filler into the slot.
3. Insert the Antenna Rubber.
as indicated on the left.



The assembly procedure is done.



The Unit Assembly is done already.

4. Diagnostic Program and Win CE test item

4.1 Tools required

SD card with Diagnostic program loaded.

4.2 How to enter Diagnostic Program

- (1) Insert SD card with Diagnostic program loaded to the unit.
- (2) Press and hold Power +Capture + Reset to enter diagnostic mode to perform the test.

4.3 List of Diagnostic / WinCE Test Items

	No.	Item	Description	Remark
Diag. Program mode	1	RAM Test	Check SDRAM Size/Write/Read	
	2	Display Test	Test the LCD display quality	
	3	Touch Test	Touch panel calibration test.	
	4	Playback Test	Playback a simulation wave test.	
	5	Record Test	Internal/external record and playback test.	
	6	Button Test	All buttons press/release test.	
	7	Checksum Test	Calculation ROM checksum Test.	
	8	B Light Test	Three levels Backlight test.	
	9	LED Test	Red/green/amber/key LED on/off test.	
	10	Battery Test	Main Battery test	
	11	Vibrator Test	Test the function of Battery	
	12	SD Ttest	SD card read/write/lock/unlock test.	
	13	ClearTalkTime	Clear call duration (Talk Time)	
	14	Upload To SD	For HTC Service Center upload Diagnostic to SD card.	
Win CE	1	USB Test	Suggest to test in Windows CE	
	2	SIR Test	Suggest to test in Windows CE	



4.4 Test Items Operation

How to select test item: Using navigation button -"Up" or "Down" to select the test items

How to execute the test program: Press "Action" button to start each of test items.

No.	Item	Description	
1	RAM Test	Display Size and read/write test. It will show OK if pass. Stop on fail.	
2	Display Test	Unit prompts for different display page to detect the defect of LCD, lines or dots. First display is Multiple Color, Press Action to White Color Press Action to Dark Color Press Action to return Test Menu	
3	Touch Test	Tap the cross mark (+) with stylus on the correct location. Fail if no reaction	
4	Playback Test	Press Action to test the audio out from Internal speak or earphone.	
5	Touch Panel Test	Tap the cross mark (+) with stylus on the correct location. Fail if no reaction.	
6	Record Test	Press Action to test the audio out from Internal speak or earphone.	
7	Check Sun Test	Verifies the checksum of the code for manufacturing.	
8	Blight Test	Press "Action to test LED and brightness level of LCD (three stages), and then return Test Menu.	
9	Battery Teat	Check the battery charging and capacity status.	
10	Timer Test	Check the Real Time Clock if it works. Stop on Fail.	
11	Vibrator Test	Press Action, unit should vibrate, and then press Action to return Test Menu.	
12	SD test	Press Action to test Read/Write for SD card.	
13	ClearTalkTime	Clear call duration (Talk Time)	
WinCE	1	USB Test	Plug USB cable to connect UUT to PC then and check if USB OK or not.
	2	SIR Test	Use a device that can support SIR function to connect UUT.

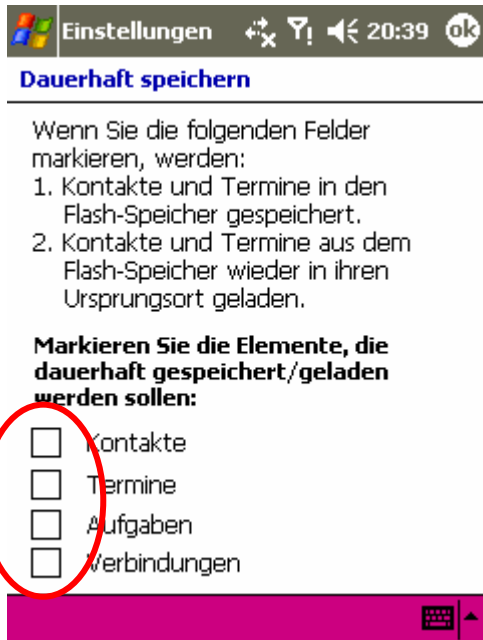


4-5 Erase PIM data procedure & clear talking time

Subject :

This item is applied for refurbishment case only. For same unit repair back to customer is not necessary.

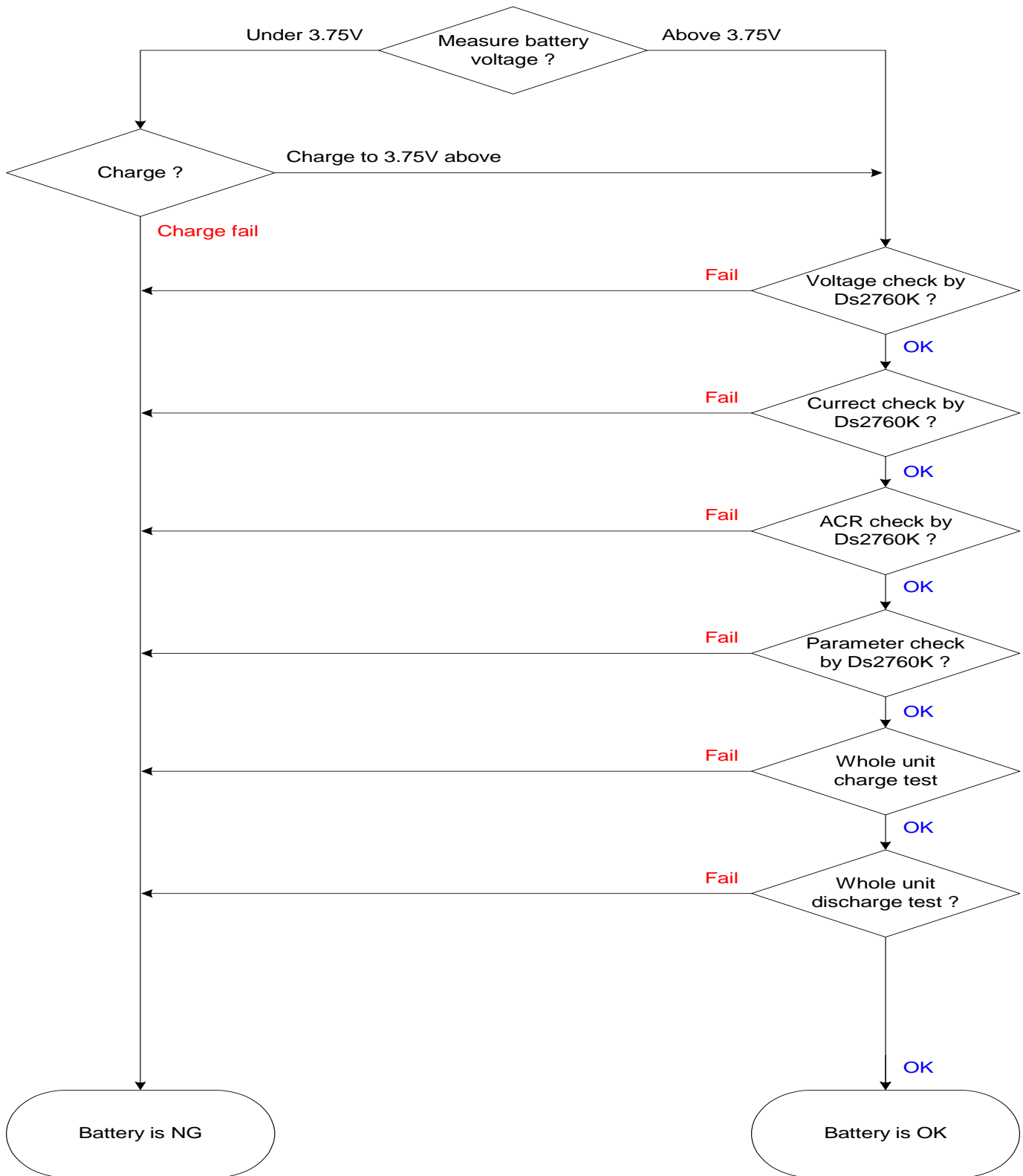
1. Uncheck permanent Save data as :
 - Contact
 - Appointments
 - Task
 - Connection Setting



2. Select Diagnostic "Clear Talk Time" item to clean Talk time .
3. Reflash or upgrade new ROM code for repair units .

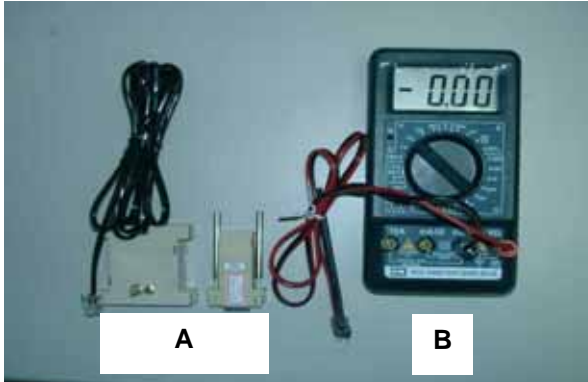
5. Main Battery Re-certify Procedure

5.1 Flow Chart





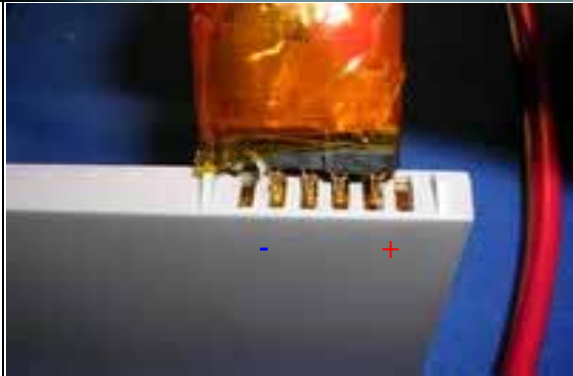
5.2 Measurement Procedure



Tools requirement:

- A. Battery testing fixture
- B. Multi-meter with battery detecting plug
- C. Win2000 or above OS PC system
- D. Ds2760K battery testing program.

Note: The Ds2760K program needs to be installed onto PC in advance.



Step 1: Main battery voltage check

- a. To detect battery voltage by multi-meter through battery connector.



- b. The battery voltage will appear on the multi-meter, make sure the voltage $\geq 3.75V$ above. **If the voltage $< 3.75V$ please charge the main battery and then re-check the battery voltage must $> 3.75V$.**



Step 2: Parameter check by DS2760K test program

- a. Contact battery to detect battery parameter by DS2760K program



The battery's core parameter areas as follows:

Registers | EEPROM Block 0 | **EEPROM Block 1** | SRAM

	Address	Address	Address
Protection Register	30h	93h	38h
Status Register	31h	26h	39h
	32h	78h	3Ah
Current Offset Register	33h	FFh	3Bh
	34h	00h	3Ch
	35h	55h	3Dh
	36h	4Fh	3Eh
	37h	33h	3Fh
			40h
			78h
			00h
			04h
			06h
			02h
			02h
			06h

Buttons: Read, Write, Recall, Copy, Permanently Lock Block 1

Check address of 30h/31h
Must
30h = 93h
31h = 26h

If the register address is incorrect, it means that the EEPROM is defective.



	<p>Step 3 : Whole unit charge test</p> <p>Plug in AC adapter to unit, the charge light must be turn on (Red), If it is failed in charge test, replace another good battery for double check.</p>
	<p>Step 4 : Whole unit discharge test</p> <p>Unplug AC voltage, the charge light must be off, but the LCD screen must be still on display. If it is failed in discharge test, replace another good battery for double check.</p>



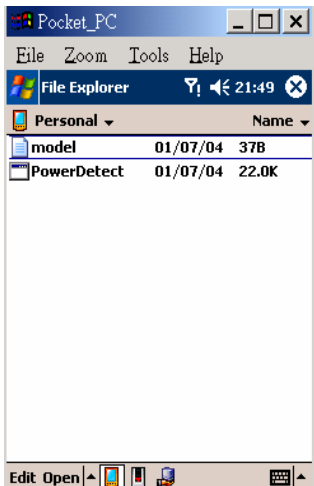
If you still have the misgiving for the battery you can execute rundown test to verify.

5.3 Battery Rundown Test Procedure

**(A) Tool Requirement: (1) Windows 2000 or above (2) Battery Rundown Software
(3) USB Cable or Cradle (4) ActiveSync3.7 or above**

(B) Please charge your unit to full capacity for battery (4 hours) before doing the test.

Step 1: It is required to save **powerdetect.exe** and **model.txt** in the same folder under WinCE via ActiveSync.



Step 2: It is unnecessary to adjust power management setting by using rundown test program.

Step 3: Execute **powerdetect.exe** under WinCE, it will enter Sleep Mode after one Hour and generate a file named **powercap.txt** log.



Time	Cap	Volt	Count
00:00:00	99%	4.152	1

01:51
00:59:51
Reset
Record

1 - 1 Power Detect 1.6

Capacity 99% Voltage 4.152 v

Sleep: 60 min Record: 120 Sec Brightness: Level 10

Model: Magician Hide Quit

→ Record every two minutes & Brightness is maximum.

File Explorer

Personal	Name
model	10/26/04 36B
PowerDetect	10/26/04 22.0K
PowerCap	10/26/04 212B

Pocket Word

```

Power Status Record 26 13:51:27
=====
===
00:00:00 100% 4.162
00:02:00 99% 4.157
02:00:03 99% 4.157
00:04:01 99% 4.152
00:06:01 99% 4.148
00:08:01 98% 4.143
    
```

Edit Open Powercap.txt

New Edit View Tools Benchmark is 72%

Step 4: Tap powercap.txt log to check if the rest battery capacity. If under **72%**, please replace a new battery.



Chapter 6 – Leakage current measurement

This is a quick method to measure if any abnormal leakage current on main board which caused high power consumption compare to GOOD main board.

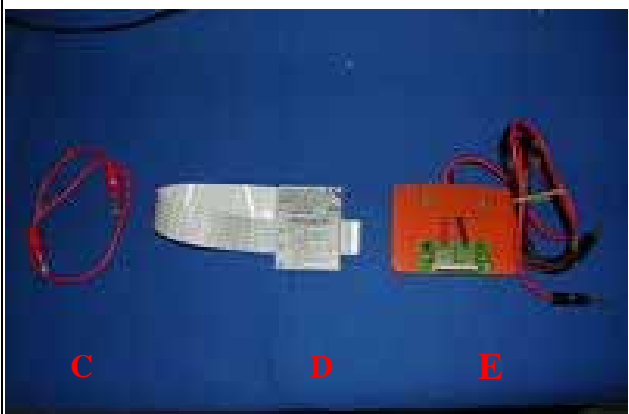
(1) Requirement :

- Power Supply
- Micro-current Meter
- Current series JIG
- CABLE
- Battery JIG



Equipment need:

- A. Power Supply (set at 4 V /1A).
- B. Micro-Current Meter (support 0.5mA ~ 1A).

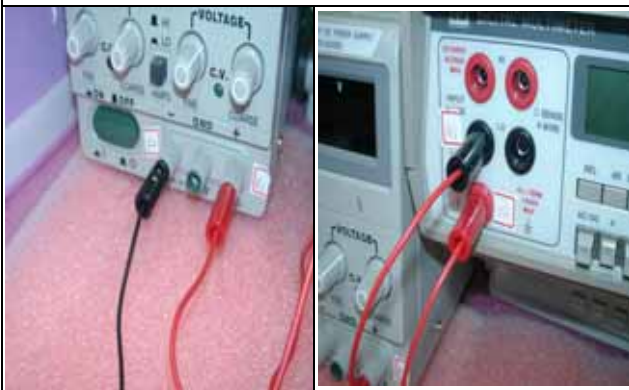


2. Fixture needed

- C. Cable
- D. Battery with extension cable
- E. Current series jig.(with black and red cable)

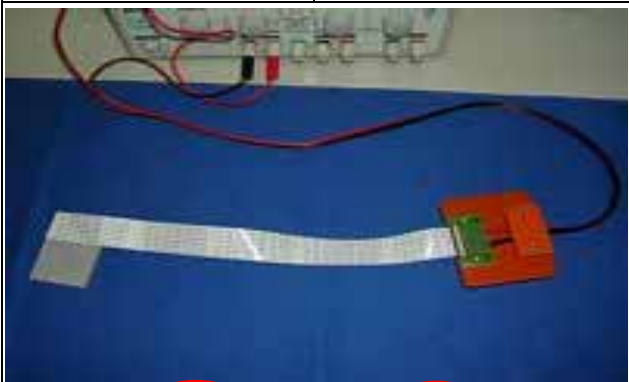


3. Connect cable (C) to positive polarity of power supply (A) and current meter (B)

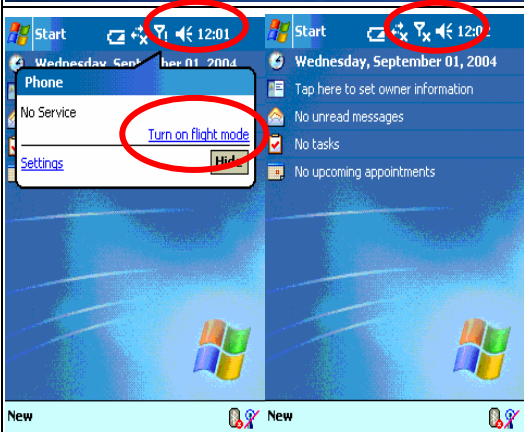


4. Connect cable of fixture (E) to negative polarity of power supply (A) and current meter (B)

Note : black cable to power supply (A) and red cable to current meter (B)



5. Setting is Ready now for testing
(Don't turn the power on at this moment)



6. Turn on power supply (4V) and current meter (2A)

Set the unit to :

- * Flight mode
- * Turn on Bluetooth

Note : Need to put SIM card first on the unit.



7. Measure flight mode current

Wait about 1 minutes, display will be off, in this condition, please check current value on the current meter,
Current value must under **65mA**, if over, it means M/B failed, please replace M/B for repair.

Unit is turn on and no back Light



8. Switch OFF the unit.

Unit is turn off and no display



12. Measure power off current

Check current value on the current meter,
Current value must under **5 mA**, if over, it means M/B failed, please replace M/B for repair.

Conclusion:

If current consumption are passed at both of flight and power off mode, it means M/B is GOOD.

If there is any item FAILED at flight or power off mode, it means M/B is failed, please replace M/B for repair.



Measurement parameter

<u>Measurement mode</u>	Measured Current	REMARK
Flight Mode (Idle mode)	Under 65mA	MB is good
	Over 65mA	Fail, MB need to be futher repaired
POWER OFF (Sleeping mode)	Under 5 mA	MB is good
	Over 5 mA	Fail, MB need to be futher repaired



7. Cosmetic Inspection Criteria

7.1. Definition of Cosmetic Standard

B Standard is for refurbishment inspection.

7.2. Visual Inspection Requirements

2.1 Examination of the device shall be made with workbench light turned on.

Ambient illumination is to be 500-1000 lux.

2.2 The inspector shall examine the device at a distance of 30cm± 30degrees for approximately 5 seconds.

2.3 If a visual defect is noted, the inspector shall have an additional 7 seconds to closely examine the defect and classify it according to the criteria table.

7.3. Definitions of Inspection Defects and Areas

Scratch : A linear cut that penetrated beyond the surface of the material.

A scratch can be felt by running your finger over it.

Dot / Dent : A recessed spot or void in the surface of the material.

Lint : A linear foreign object beyond the surface of the LCD.

Bump : A hump in the surface of material.

Area I : LCM, Bezel including phone key, APP button, action key and LED lens.

Area II : Keyboard, Housing, back side of battery, antenna cover, release button, stylus and side buttons.

Area III : Inner side of battery (not include battery), inside of SD connector, inside of USB port inside of Earphone jack and other area marked in the figure below.

D: Diameter/ L: Length/ W: Width/ Number: Number of defects/ S: Distance of dot to dot

Remark: 1. Crack is not allowed. 2. All dimensions in millimeters..

Area I



Area II



Area III





7.4. Cosmetic Criteria Table

	Specs Item	B standard (Refurbishment specs)		Specs Item	B standard (Refurbishment specs)
LCM*	Bright dot**	Red + Green + Blue 3 dots	Area 3	Scratch	1) L 15mm, W 0.4mm 2) Total number 5
	Dark dot**	Dark dots 2		Spot	1) D < 1mm, S 10mm 2) Total number 4
	Dark or Bright line	None		Dent	1) D < 1mm, S 10mm 2) Total number 4
	Scratch	Total scratch number 5		Bump	1) D < 1mm, S 10mm 2) Total number 4
	Lint	Total number 2		Bur	1) L 3mm, W 0.254mm 2) No Hand Scrape
	Particle	Total number 3			
	Breakage on T/P	None	IR Cap	*Scratch	1) L 3mm, W 0.2mm 2) Total number 3
Area 1	Scratch	1) L 3mm, W 0.15mm 2) Total number 3	Stylus	Scratch	1) L<7mm, W<0.15mm 2) Total number<3
	Spot	1) D < 0.3mm, S 15mm 2) Total number 3		Protruding over the top of bezel	None
	Dent	1) D < 0.5mm, S 15mm 2) Total number 4		Deformed/ Missing/ Loosen	None
	Bump	1) D < 0.5mm, S 15mm 2) Total number 4			
	Bur	1) L 3mm, W 0.254mm 2) No Hand Scrape	Gap	Gap between touch panel and bezel (Skip corner)	Gap < 0.9mm
	Bright mark	L 2.5mm W 0.25mm N 2		Gap between bezel and housing	Gap < 0.6mm
		Buttons on the bezel		Button needs to be pressed smoothly	
Area 2	Scratch	1) L 7mm, W 0.15mm 2) Total number 3	Navigation button	Button needs to be pressed smoothly	
	Spot	1) D < 0.7mm, S 15mm 2) Total number 4	Gap between housing and battery, battery and battery lock	Gap < 0.5mm	
	Dent	1) D < 0.6mm, S 15mm 2) Total number 4	Gap surrounding the buttons on the side	1) 0.05mm<Gap <0.6mm 2) Button needs to be pressed smoothly	
	Bump	1) D < 0.6mm, S 15mm 2) Total number 4		1) 0.05mm<Gap <0.6mm 2) Button needs to be pressed smoothly	
	Bur	1) L 3mm, W 0.254mm 2) No Hand Scrape			
	Bright mark	1) L 3.0mm, W 0.25mm 2) Total number 4			

* The total of LCM defect number must be less than 7 counts.

** The total of defected dots (bright dot and dark dots) must be less than 5.



8. OS, GSM Image Reflash Procedure

System Requirement:

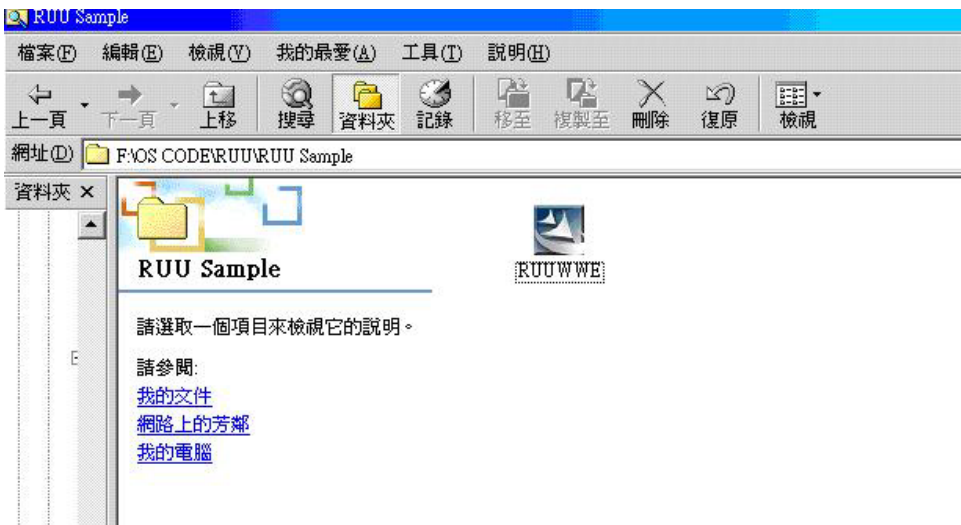
- Windows 2000
- USB Cable or Cradle
- MTTY.exe
- Master Unit with most update Rom Code
- 64 MB SD/MMC card SD card

Caution: The unit must have at least 70% of battery capacity before starting the re-flash process. Charge the battery in advance if necessary.

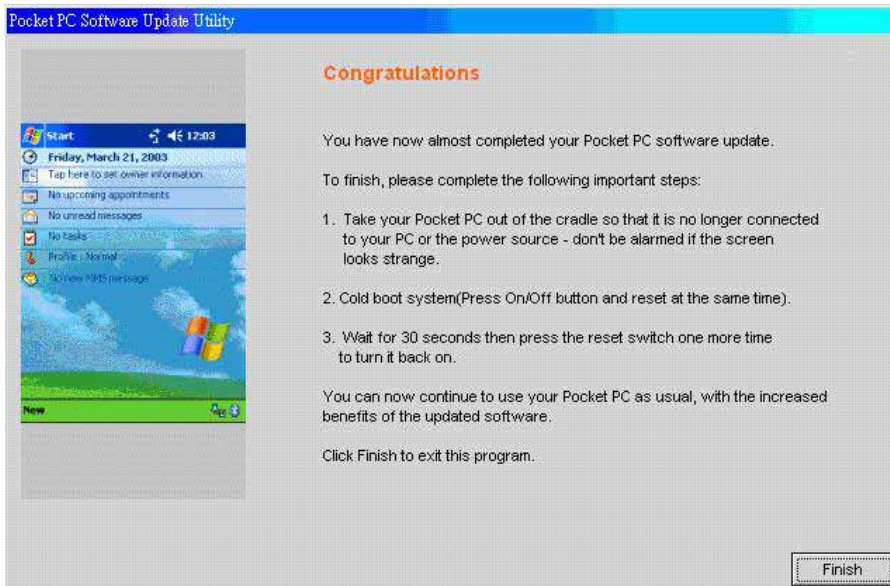
Note : For the master unit, you could prepare it on these following ways:

- Take one from Swap unit with most update Rom Code.
- Build one first by connecting to customer web for OS Upgrade/ Download Via RUU.

Execute RUU :



Done for RUU :

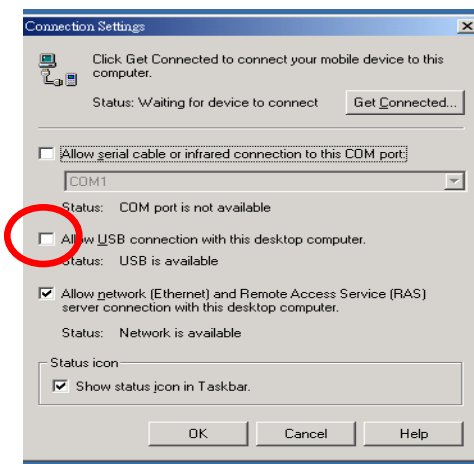


A. Upload most update code from master unit to SD /MMC card.

(You Only need to do this ONCE when New Update is received)

Requirement: (1) Mtty.exe tool ver.116 (2) USB cable (3) Window2000 or above (4) Master unit with most update ROM image

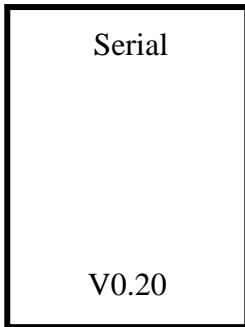
1. Uncheck USB and COM1 in Connection Settings in ActiveSync if you have installed the ActiveSync in your PC and make sure the USB port is available.



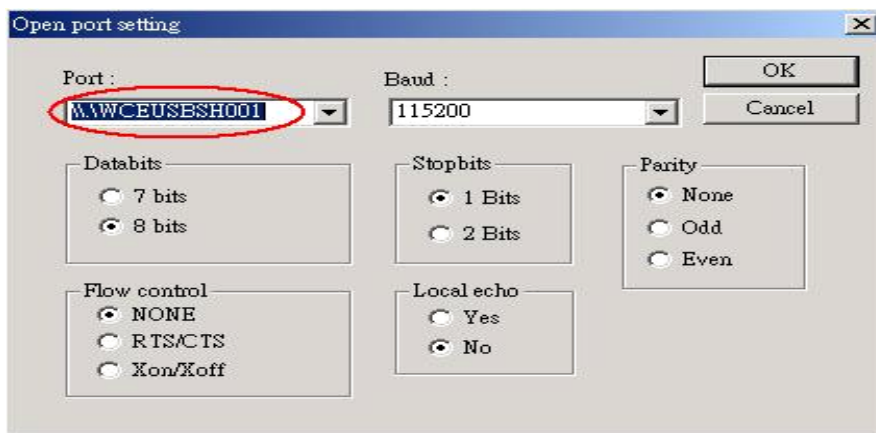


2. Set the Unit into Bootloader Mode (While Press & Hold **Power + Capture + Reset**), wait for Serial on display.

Message on PDA Screen:



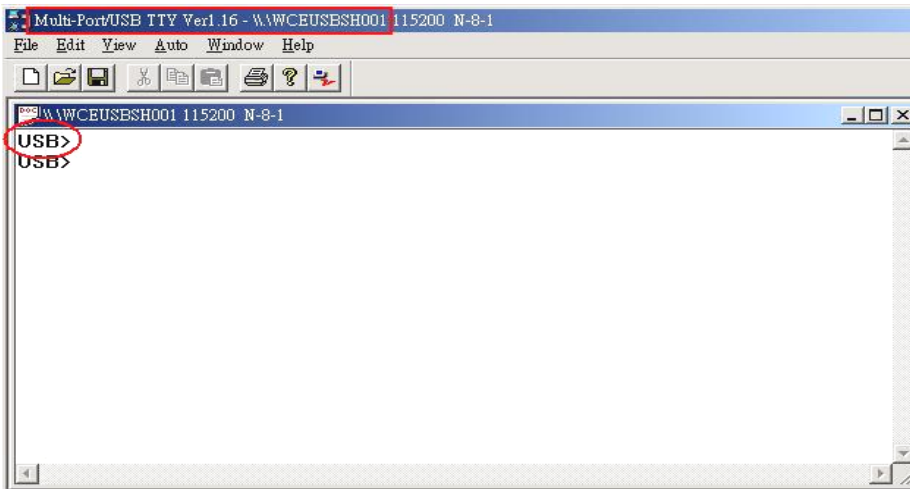
3. Connect the unit to the PC with **USB cable or USB cradle**, unit display will change to **USB**, and then open MTTY116.exe to select USB port.



4. Insert 64 MB SD or MMC card into SD slot of PDA Phone

5. On the PC side, Select **OK** and press **ENTER**.

Following display will be shown:

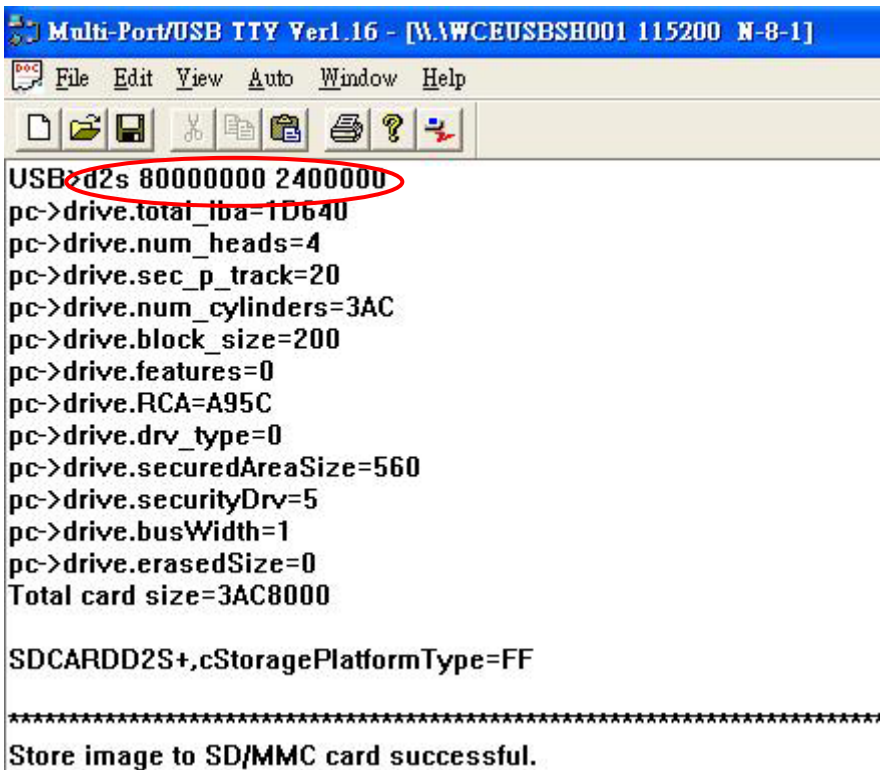


6. The prompt "USB>" will appear, to UPLOAD (**Bootloader +CE**) then Type:

USB>d2s 8000000 240000

(Please notice the blank space between d2s and address, sd)

Then press ENTER, following display will be shown:





7. The prompt "USB>" will appear, to UPLOAD (**Extended ROM**) then Type:

USB>d2s 82c00000 13c0000 sd a

(Please notice the blank space between d2s and address, sd)

Then press ENTER, following display will be shown:

```
Multi-Port/USB TTY Ver1.16 - [\\WCEUSBSH001 115200 N-8-1]
File Edit View Auto Window Help
USB>d2s 82c00000 13c0000 sd a
pc->drive.total_lba=1D640
pc->drive.num_heads=4
pc->drive.sec_p_track=20
pc->drive.num_cylinders=3AC
pc->drive.block_size=200
pc->drive.features=0
pc->drive.RCA=A95C
pc->drive.driv_type=0
pc->drive.securedAreaSize=560
pc->drive.securityDrv=5
pc->drive.busWidth=1
pc->drive.erasedSize=0
Total card size=3AC8000

*****
Store image to SD/MMC card successful.
```

8. The process begins and waits for 3 to 4 minutes until it shows **the display will be shown:**

```
Multi-Port/USB TTY Ver1.16 - [\\WCEUSBSH001 115200 N-8-1]
File Edit View Auto Window Help
pc->drive.busWidth=1
pc->drive.erasedSize=0
Total card size=3AC8000

*****
Store image to SD/MMC card successful.
```

Again, on PDA phone will show message : 100% Checksum is OK.



Once done, above display will be shown on PC display, while on PDA phone, a message of: 100% Checksum is OK.
Next, continue to upload **GSM ROM Image** by typing:

9. Continue with GSM image upload.

USB>d2s 6000000 300000 sd a

Then press ENTER, and then the display will be shown:

```
Multi-Port/USB TTY Ver1.16 - [M:\WCE\USB\SH001 115200 N-8-1]
File Edit View Auto Window Help
pc->drive.busWidth=1
pc->drive.erasedSize=0
Total card size=3AC8000
*****
Store image to SD/MMC card successful.
USB>d2s 6000000 300000 sd a
pc->drive.total_lba=1D640
pc->drive.num_heads=4
pc->drive.sec_p_track=20
pc->drive.num_cylinders=3AC
pc->drive.block_size=200
```

10. The process begins and waits for 7 to 8 minutes until it shows **the display will be shown:**



```
Multi-Port/USB TTY Ver1.16 - [MAWCEUSBSH001 115200 N-8-1]
File Edit View Auto Window Help
pc->drive.busWidth=1
pc->drive.erasedSize=0
Total card size=3AC8000
*****
Store image to SD/MMC card successful.

USB>d2s 60000000 300000 sd a
pc->drive.total_lba=1D640
pc->drive.num_heads=4
pc->drive.sec_p_track=20
pc->drive.num_cylinders=3AC
pc->drive.block_size=200
pc->drive.features=0
pc->drive.RCA=EA18
pc->drive.driv_type=0
pc->drive.securedAreaSize=560
pc->drive.securityDrv=5
pc->drive.busWidth=1
pc->drive.erasedSize=0
Total card size=3AC8000
*****
Store image to SD/MMC card successful.
```

Now the upload to SD card is done!

Take out the SD card from PDA phone and mark it according to the Language you build for.

CAUTION! DO NOT REMOVE THE USB CABLE FROM THE PC OR PDA, FAIL TO DO SO MAY CAUSE DEVICE UNIT FAIL TO BOOT.



B. Use Pre-loaded SD card to Re-flash Unit.

1. Insert Pre-loaded SD card to the unit.
2. Reset the unit and enter the bootloader mode, by pressing Press & Hold **Power + Capture** simultaneously and Reset the unit. Display will show....

SD Download

Sections=2
Press Power
To Flash.....



SD Download

Sections=0
Please Wait
for
Downloading

XX%
Updating.....

3. Following the instruction on PDA phone by pressing Power to start flash.
4. Once it is Done, display will show

SD Download

Sections=1
Please Wait
for
Downloading

XX%
Radio updating



SD download

Sections=1
Download
Completed

Checksum OK!
100%

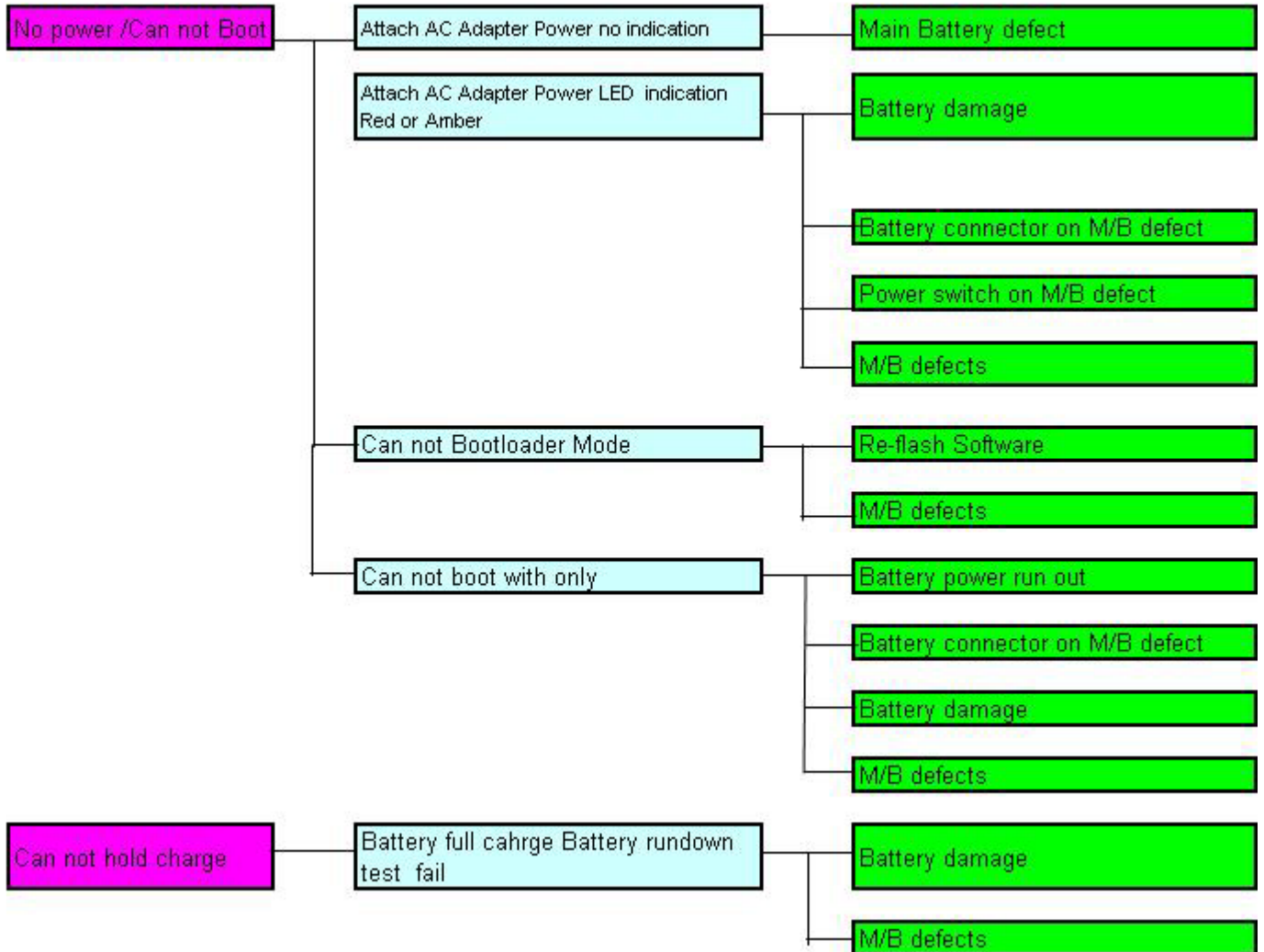
5. Take out the SD card and Cold boot the device (unit).
6. Press " Power + Reset " to cold boot the device (unit)

Now the upgrade is done!

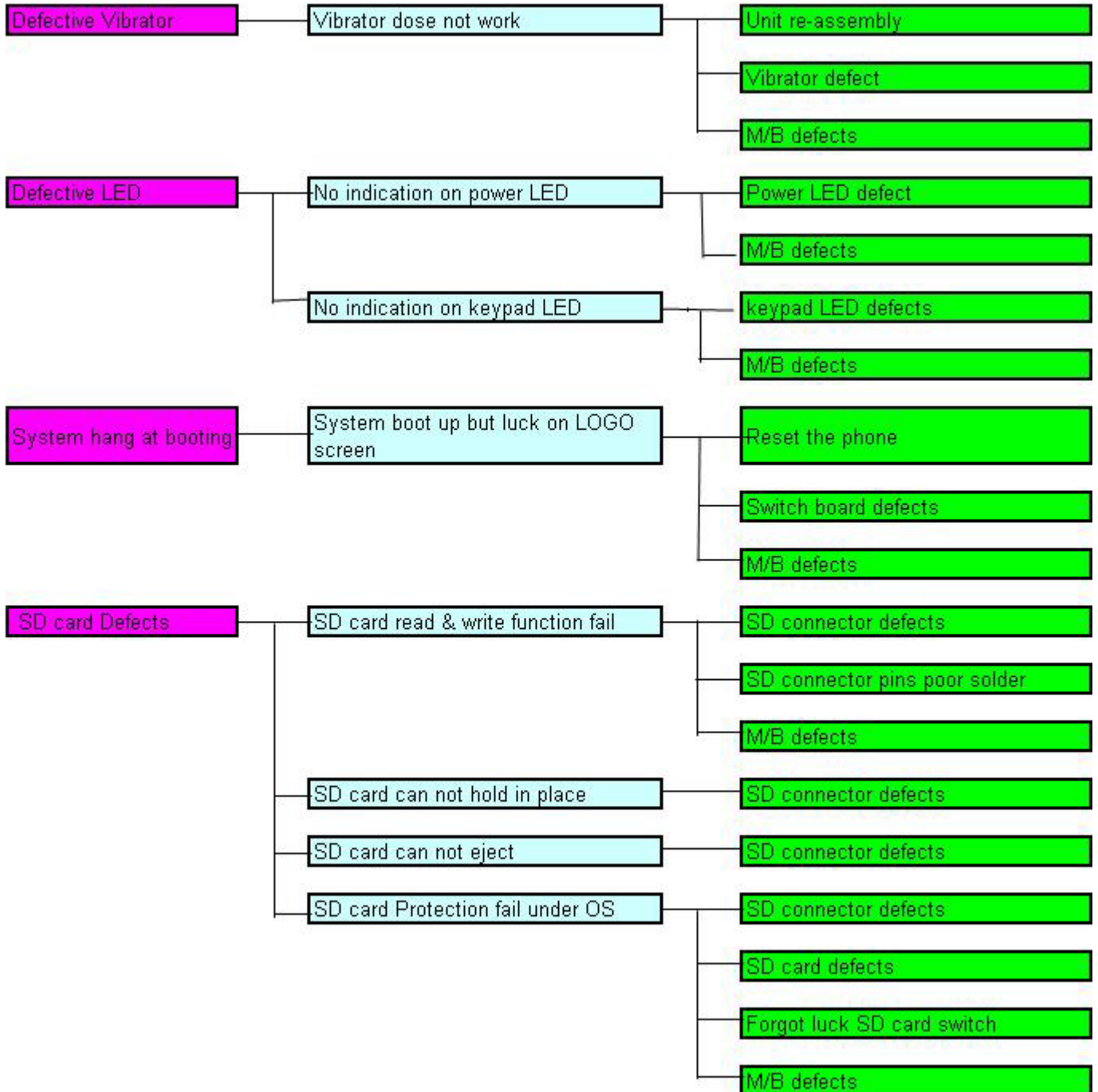
Note: Due to security issue, it is not allowed to re-flash different customer ID.



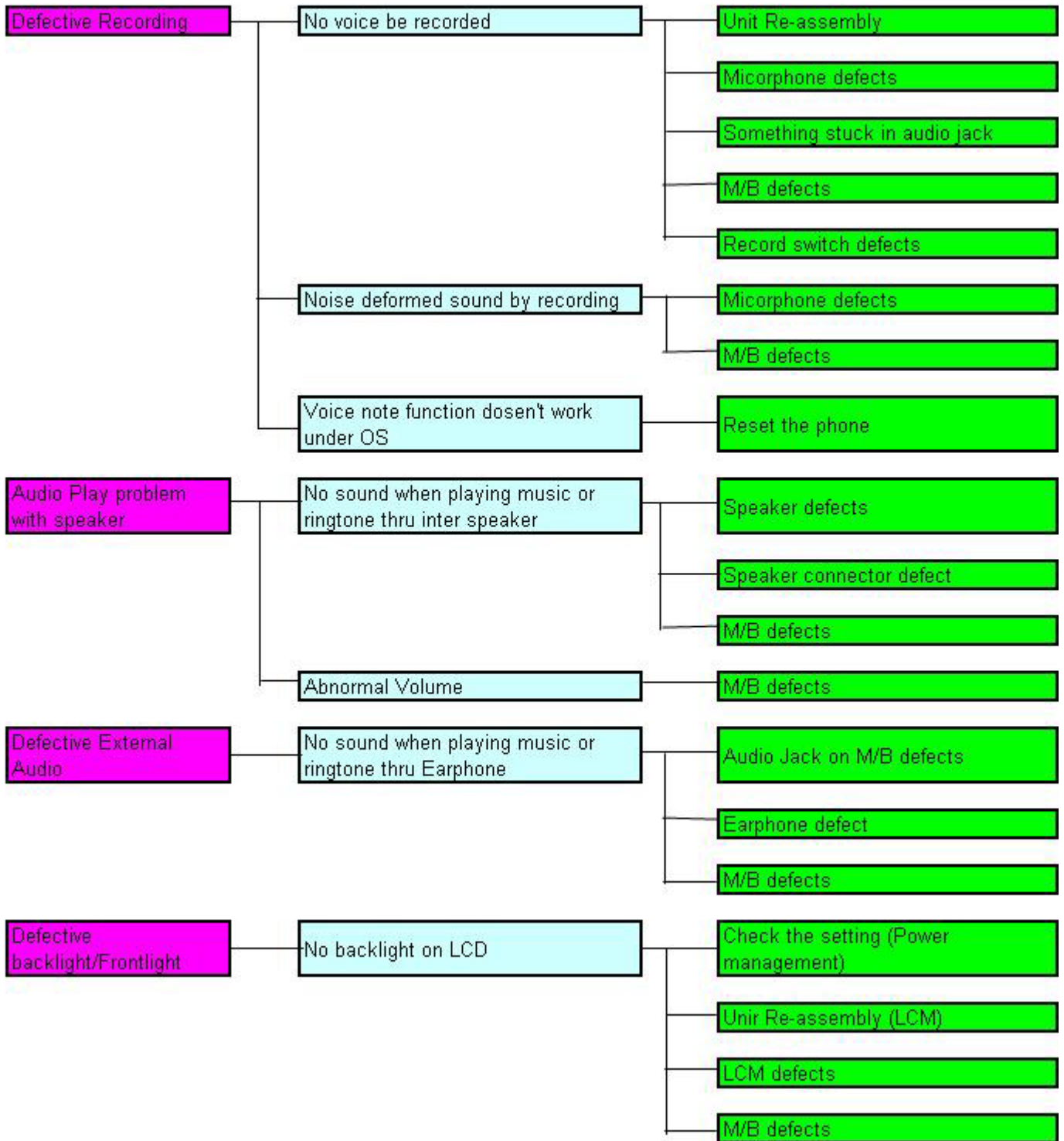
9.FTA (Faulty Tree Analysis)

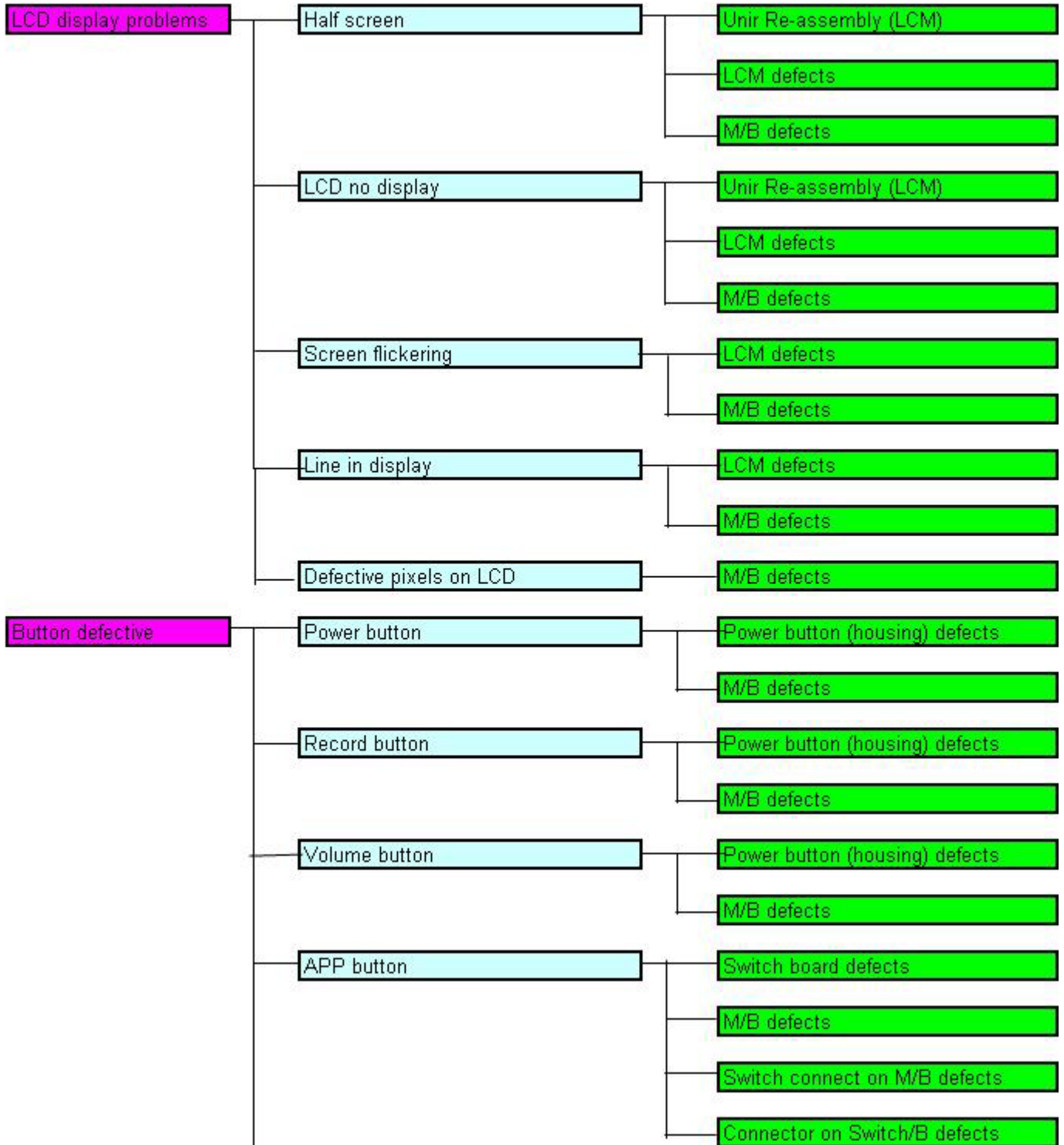


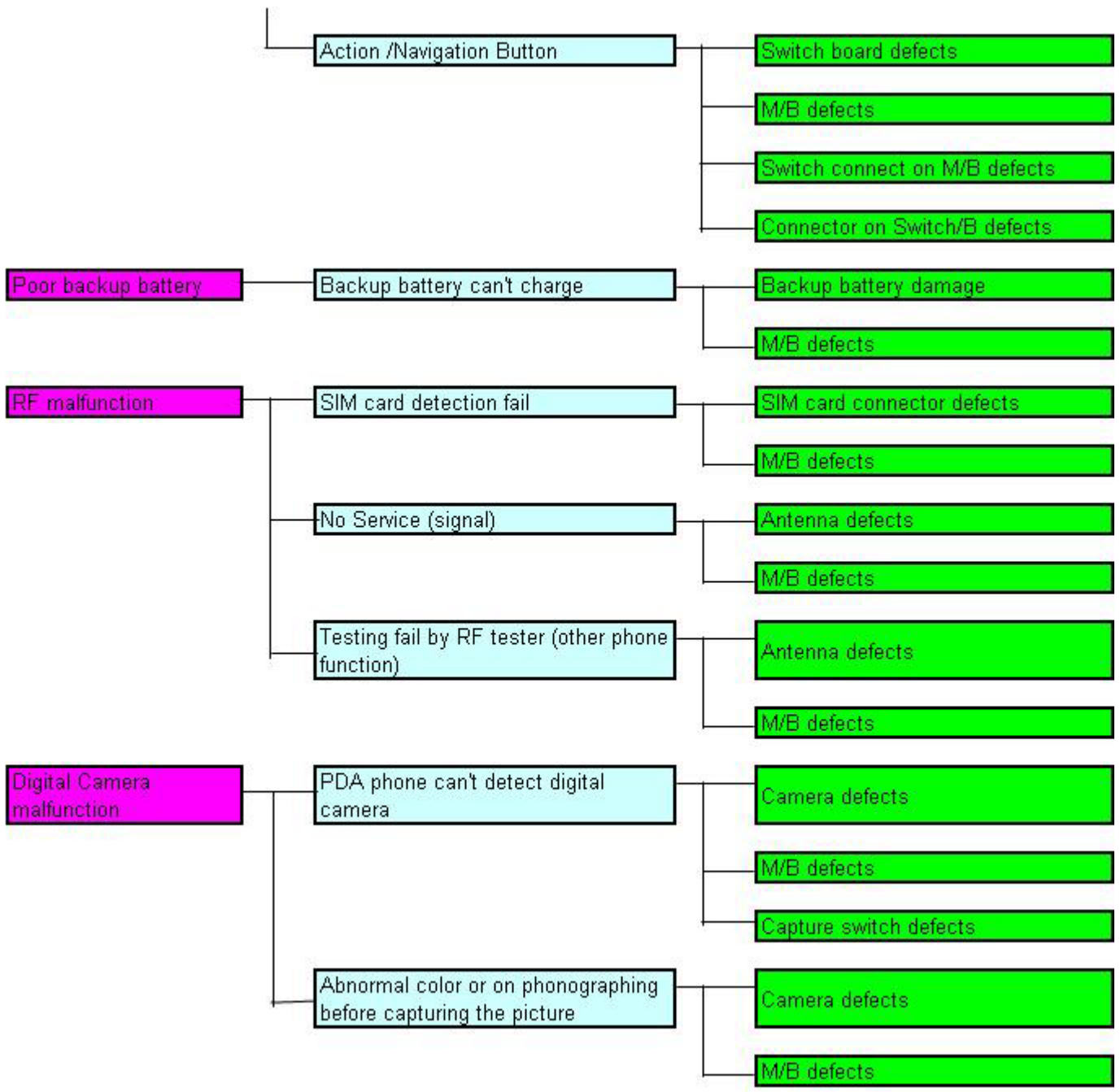














10. Spare Part List





Magician Part List









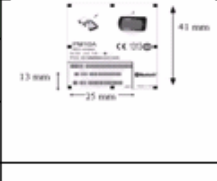



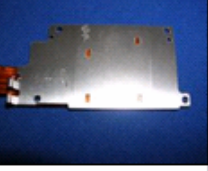



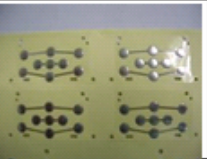
1	35H00039-00M	Backup Battery
2	35H00051-00	Rechargeable LI-ION Battery, 1200mAh, 3.7V, DAK500130-00B801, DynaPack
3	36H00180-00M	Vibrator, Cylinder type, A4A-05-WTB-3, C.I. Kasei, dia. 4mm shell, dia. 5mm c.w., w /
4	36H00251-00	Internal Antenna, Amphenol, Magician
5	36H00252-01M	20 x 15 micro-speaker, SBD201538P-CC01, SAMBU, 20.0*15.0*3.8mm
6	36H00253-01M	Option 8mm receiver with spring contact, WD20398/32, 2403 252 28908, Philips
7	51H00260-00	PCB ASSY, MAIN BOARD, MAGICIAN
7A	51H00260-04	PCBA-MAIN BOARD, Samsung LCM, 50H00260-xxM-
8	51H00276-00	PCB ASSY, Audio Daughter Board, Magician
9	54H00093-00	Camera, LT9640FCL-HT-P2P, Lite-On, 9.0*7.08*9.0mm, Magician
10	60H00032-00	LCM Assy, LTP280QV-E01, Samsung
11	71H00960-00M	Holder, Audio-jack, PC, Magician
12	71H00961-00M	Clipper, LCM, plastic, MB1700, PC+ABS, Mitsubishi, Magician
13	72H00339-00	SCREW, TORX, M1.6x8, NYLOK, L4.5
14	72H00480-00M	Cover, Backup Battery, D12.75*2.25mm, Nickel Silver, Pb-FREE, Blue Angels
15	72H00498-00M	GASKET AUDIO RF, Pb-FREE, Vivida
16	72H00548-00	Gasket, 5*3.5*10mm, 630GT, NAUTILUS
17	72H00724-00M	Screw, PH, FD, T1.4*2.9, Nickel, Black, ASAI 1018
18	72H00782-00M	Copper Foil, LCM, Magician
19	72H00830-00M	Copper Foil, Camera, Magician
20	72H00831-00M	Dome Metal Switch Magician, SUS-301
21	73H00222-00	SWITCH FPC ASSY, MAGICIAN, Non Pb-FREE
22	74H00367-00M	Housing, Pre-Assembly, Magician
23	74H00371-01M	Bezel Pre-Assembly, Magician
24	74H00374-00M	Cover-battery Pre-Assembly, Magician
25	74H00375-00M	Cover, Antenna, Pre-Assembly, Magician
26	74H00390-00M	Support switch Pre-assy
27	74H00391-00M	Support audio Pre-assy
28	74H00399-00M	Stylus Pre-Assy, Nylon+Copper+POM, Magician
29	74H00400-00M	Keypad Navigation Pre-Assy, Magician
30	76H00398-01M	rubber-cover, antenna-cover, gray, Himalayas
31	76H00671-00	Mylar for LCD, Typhoon 0.01
32	76H00748-00M	Spacer, rubber, Switch, Silicon, Magician
33	76H00749-00M	Rubber, Camera, S1, Poron, Magician
34	76H00754-00M	Mylar, Battery Connector, Magician
35	76H00777-00M	Boot, Microphone, Silicon Rubber, Magician
36	77H00192-XX	REGULATION LABEL, MAIN UNIT, T-Mobile, Magician, 35*41mm
37	77H00222-00M	Label security, Magician
38	77H00226-00	ActiveSync Static Label, 70*44mm, 原虹、T-Mobile、Magician
39	77H00230-00	Tamper-Evident Label, 20*58mm, T-mobile, Magician
40	76H00761-00M	(Screen Protector, TT0015A, T-TEK, 57.6x43.3x0.175mm)



11. Spare Part Photo

35H00051-00		36H00180-00M		36H00251-00	
Main Battery		Vibrator		Antenna	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
36H00252-00		36H00252-01M		51H00260-04	
Speaker Assy		Receiver		Main Board	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
51H00276-00		54H00093-00		60H00032-00	
Audio Daughter Board		Camera Module		LCM Samsung	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
71H00096-00		71H00961-00		72H00339-00	
Holder Audio Jack		Clipper LCM		Screw TORX M1 6*8	
Q' ty: 1		Q' ty: 1		Q' ty: 4	
72H00489-00		72H00548-00		72H00724-00	
GASKET Audio RF		Gasket 5*3.5*10mm		Screw PH FD T1.4*2.9	
Q' ty: 1		Q' ty: 1		Q' ty: 6	
72H00782-00		73H00222-00		74H00367-00	
Copper Foil LCM		Switch PPC Assembly		Housing Pre-Assembly	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
74H00371-01M		74H00374-00		74H00375-00	
Bezel Assembly		Cover Battery		Cover Antenna	
Q' ty: 1		Q' ty: 1		Q' ty: 1	



74H00399-00M		74H00400-00M		76H00748-00M	
Stylus		Keypad Navigation		Spacer Rubber	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
76H00749-00M		76H00754-00M		76H00777-00M	
Rubber camera		Mylar Battery Connector		Boot Microphone	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
77H00222-00M		77H00192-01		35H00039-00M	
Security label		Regulation Label		Backup Battery	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
36H00269/40-00		74H00391-00M		74H00390-00M	
Headset Stereo TS888-03206N		Support audio Pre-assy, Magician		Support switch Pre-assy	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
77H00203-00		76H00398-01M		71H00651-00M	
Water Sensitive Label, 4*2.5mm, Ming Jye, BlueAngels		rubber-cover, antenna-cover, gray, Himalayas		DUMMY, SD, CARD, HIMALAYAS	
Q' ty: 1		Q' ty: 1		Q' ty: 1	
72H00831-00M					
Dome Metal Switch Magician, SUS-301					
Q' ty : 1					



Appendix

A. Customer, Retailer Misjudgment

Before attempt repairing the unit, make sure the type of reported failure could be clearly reproduced; otherwise, check with the customer or distributor once again to identify the problem correctly.

The following are failure symptoms that are typical by misjudgment

No.	Item	Possibility
1	No Power even the power button is pressed	Main Battery low power exhausted.
		While Back Light is turned OFF, the surrounding lighting will be reflected on the panel and in a dim location, it looks like the unit is turned OFF.
		According to the Power Management settings, the units will be switched OFF automatically.
2	Battery discharges quickly	The battery life depends on the devices being used in SD Card Slot, and frequency of use of the Backlight. These functions consume a lot of energy.
		Operating with front light ON, or using high-energy consumption devices such as SD Memory Card will drain out the battery pack faster.
3	Battery cannot be charged	Using AC adapter that is NOT supplied with the unit.
		Charging the battery while operating the unit with heavy loadings could cause the temperature inside the unit to build up which could cause the unit stop charging. At this moment, the LED indicator will flash Yellow to notify user that the charging has been stopped. Or the temperature is extremely low will also stop charging. Since the extreme high or low temperature will cause the battery to discharge quickly, it has been designed to cut battery charge below 0 and above 35~40 to protect the battery pack.
4	Cannot make communications via mobile phones through exclusive cable.	If the unit could pass the test with Loop back Interface card, the possibility of unit malfunction becomes low. Then the following items could be the reason of problem such as location, timing, signal strength, service provider's mixed up, or problem with the mobile itself. Or could be incompatibility issue.
5	Cannot use SD Memory Card	Card is not being pre-formatted.
		SD card has been switched to Write Protect mode.
		Card not inserted completely, or bad contact between connector contacts.
6	Black or White dot on the screen.	For LCD panel's normal behavior, it is hard to find a panel without any bad pixel. Once the numbers of dots and the distance between them are within the specifications, it is allowed.



7	Touch Screen or Program Buttons are not reacting.	Could be wrong operation.
		Screen not properly aligned with the stylus calibration.
8	Front Light dim, cannot turn ON, or shuts OFF automatically.	Check the Front Light settings in Power Management settings
9	Cannot playback music, No sound or volume is low.	When Battery low, the music playback becomes difficult and the volume could become lower.
10	Cannot execute installed application programs	Could be an incompatible software
11	Operation is slow in response	Could be insufficient memory. Check amount of system memory.
12	Hang up	Software being used sometimes is not fully compatible with the system.
		Execute many application programs simultaneously
		Software that requires big amount of memory spaces or the system memory is low or the files being used is fragmented.
13	System Memory is enough, but is shows insufficient.	Software that requires big amount of memory spaces or the system memory is low or the files being used is fragmented.

***Note: Nevertheless, the above symptoms could be solved by a warm boot or cold boot, make sure the warm/cold boot has been executed and try to reproduce the symptom reported.**

How to perform Warm Boot and Cold Boot:

Warm Boot: Reset the unit by pressing reset button.

Cold Boot: Press Power ++ Reset the unit simultaneously.



B. Labeling Plan (Generic)

B.1 Main unit Regulatory label (on the rear housing of main unit)

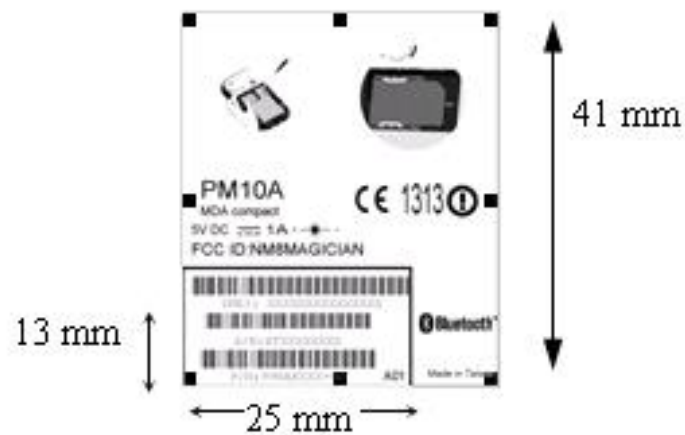
It includes:

- ◆ Unit IMEI & Barcode
- ◆ Unit Serial Number & Barcode
- ◆ Unit Part Number & Barcode

Image file name: MAIN_UNIT_REGULATION

Please note: 1. The brand name is shown on Bezel.

2. All bar codes must be code 128 symbology.





B.2 Definition of Serial Number

For S/N: **SSYWWPPZZZZZ**

SS: SITE CODE → **HT**

Y: Year Last Digital of the Year.

WW: Week Code: **01 ~ 54**

PP: Product Code: **AK**

ZZZZZ: Serial Number (00001 ~ 99999) Use Base 10

For MODEL: PHXXB is for label vendor's ID.

Label Characteristic:

Material: polyester

Color: pantone 422c

Ink: pantone 425c



C. RF Antenna Test Specification

E-GSM 900 Antenna Test Specification

Item	Test Name	Tx level	TCH	1 st Download cell power	Note
1	Camp @DCS Band	0	512	-75	BCH=600
2	BS Originate call	0	512	-75	
GSM 900 RECEIVER TEST					
3	Fast Bit Error Rate	5	975	-104	
4	Fast Bit Error Rate	5	40	-104	
5	Fast Bit Error Rate	5	124	-104	
GSM 900 Transmitter TEST					
6	TX Phase RMS Error	5	975	-104	
7	TX Phase Peak Error	5	975	-104	
8	TX Frequency Error	5	975	-104	
9	TX Phase RMS Error	5	40	-104	
10	TX Phase Peak Error	5	40	-104	
11	TX Frequency Error	5	40	-104	
12	TX Phase RMS Error	5	124	-104	
13	TX Phase Peak Error	5	124	-104	
14	TX Frequency Error	5	124	-104	
15	Check TX Power	5	975	-104	
16	Check TX Power	5	40	-104	
17	Check TX Power	5	124	-104	



DCS-1800 Antenna Test Specifications

DCS 1800 Receiver Test					
1	Fast Bit Error Rate	0	512	-104	
2	Fast Bit Error Rate	0	698	-104	
3	Fast Bit Error Rate	0	885	-104	
DCS 1800 Transmitter Test					
4	TX Phase RMS Error	0	512	-104	
5	TX Phase Peak Error	0	512	-104	
6	TX Frequency Error	0	512	-104	
7	TX Phase RMS Error	0	698	-104	
8	TX Phase Peak Error	0	698	-104	
9	TX Frequency Error	0	698	-104	
10	TX Phase RMS Error	0	885	-104	
11	TX Phase Peak Error	0	885	-104	
12	TX Frequency Error	0	885	-104	
13	Check TX Power	0	512	-104	
14	Check TX Power	0	698	-104	
15	Check TX Power	0	885	-104	



PCS-1900 Antenna Test Specifications

PCS 1900 Receiver Test					
1	Fast Bit Error Rate	0	512	-104	
2	Fast Bit Error Rate	0	662	-104	
3	Fast Bit Error Rate	0	810	-104	
PCS 1900 Transmitter Test					
4	TX Phase RMS Error	0	512	-104	
5	TX Phase Peak Error	0	512	-104	
6	TX Frequency Error	0	512	-104	
7	TX Phase RMS Error	0	662	-104	
8	TX Phase Peak Error	0	662	-104	
9	TX Frequency Error	0	662	-104	
10	TX Phase RMS Error	0	810	-104	
11	TX Phase Peak Error	0	810	-104	
12	TX Frequency Error	0	810	-104	
13	Check TX Power	0	512	-104	
14	Check TX Power	0	662	-104	
15	Check TX Power	0	810	-104	



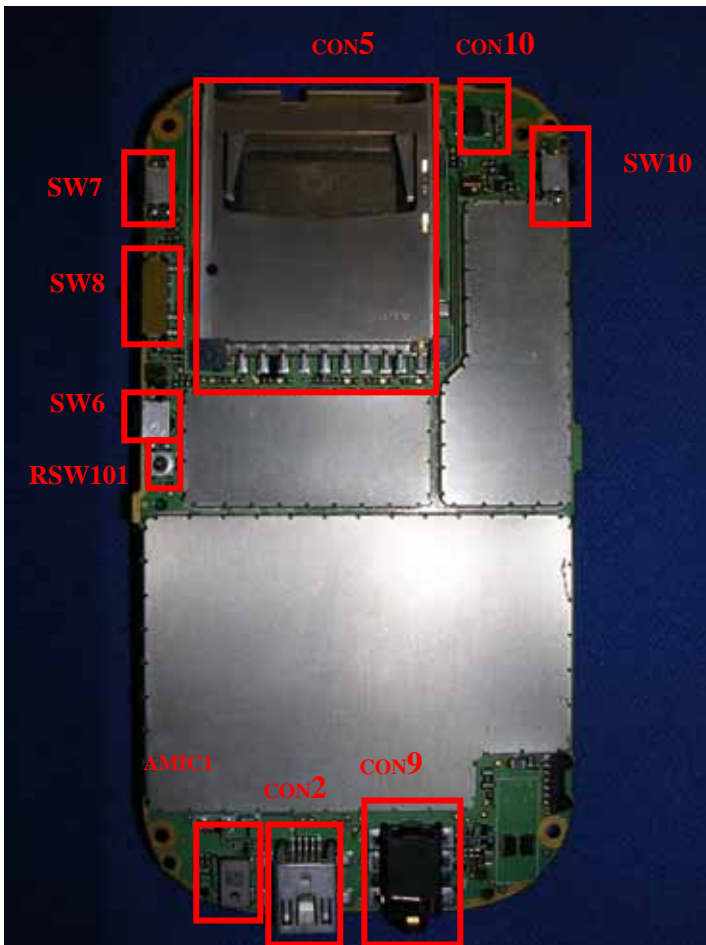
D. Board Level 2.5 Repairs

A. Components to be replaced

I. Main Board: ONLY the following items have been allowed to replace for M/B.

Obverse side

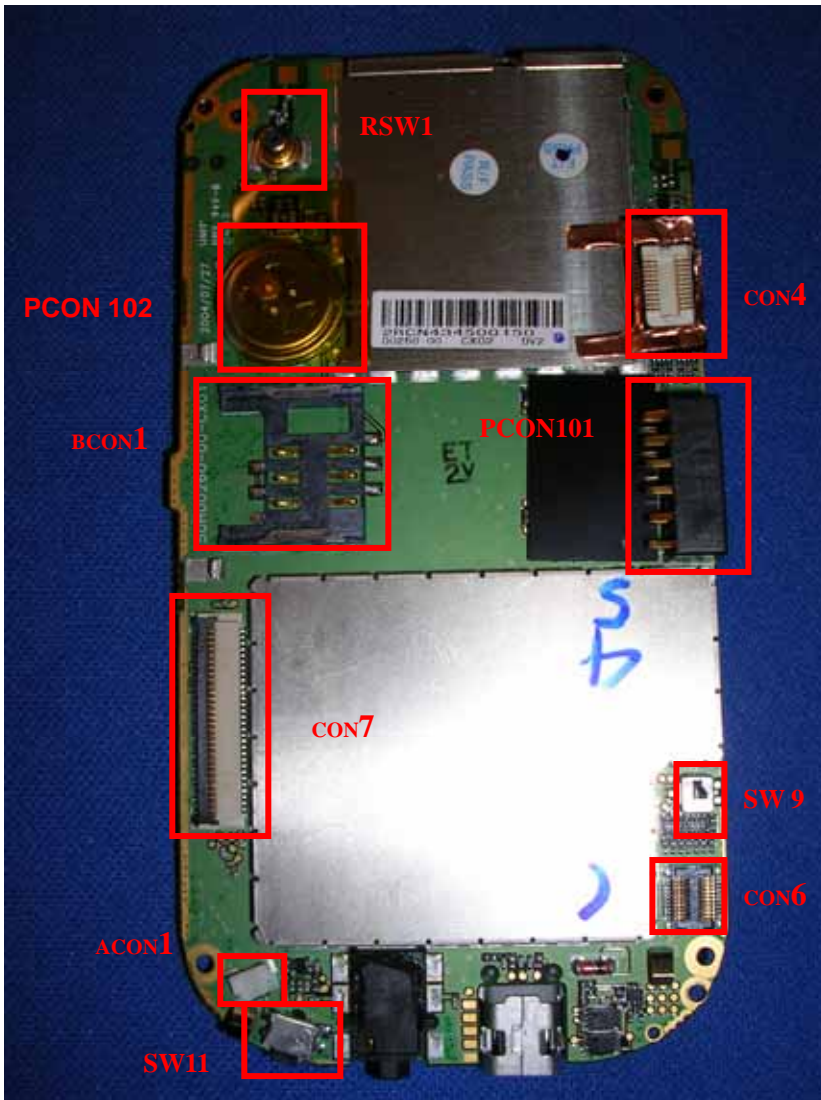
1. SD Card Slot (CON5)
2. Audio daughter Connector (CON10)
3. Power Switch (SW 10)
4. Capture Switch (SW7)
5. Volume Slide Switch (SW8)
6. Record Switch (SW6)
7. Microphone (AMIC1)
8. Mini-USB connector (CON2)
9. Audio Jack (CON9)



11. COAXIAL Connector RF with SW (RSW101)

Reverse side

1. RF Connector (RSW1)
2. Camera connector (CON4)
3. Battery Connector (PCON101)
4. SIM Card Connector (BCON1)
5. LCM connector (CON 7)
6. Speaker connector (ACON1)
7. Reset Key (SW 11)
8. Switch board connector (CON6)
9. Battery detector Switch (SW9)
10. Ring Backup Battery (PCON 102)



B. Problem Identification & Troubleshooting

I. Basic Repair Instructions for Component Replacement:

Step 1. Place the solder-proof tape to cover the surrounding area of the components which being replaced.

Warning : *DO NOT* overheat the tape and components to avoid the tape melted and make the component damage.

Step 2 Use Heater Gun (HAKO850B, set the temperature between 350 , Air Speed 3~5) to remove the components.

Step 3 It has to wait the temperature cool down before the damaged components been removed. Or, the others components could be gone when the solder-proof tape been taken off.



Step 4 After the damaged components has been replaced; clean the surroundings for solder and flux residues.

II. Main Board: The following items have been allowed to replace for Main Board

1. Recording Switch (SW6), Camera Switch (SW7), Reset Switch (SW11), Power Switch (SW10)

If the switch is broken, warp or doesn't work properly (measure by scope), replace it.

1.1 If the switch still doesn't work properly after replace new one, please replace the M/B.

2. Camera FPC Connector (CON4)

2.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.

2.2 If the connector still doesn't work properly after replace new one, please replace the M/B.

3. Mini-USB Connector (CON2)

3.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.

3.2 If the connector still doesn't work properly after replace new one, please replace the M/B.

4. Audio Jack (CON9)

5.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.

5.2 If the connector still doesn't work properly after replace new one, please replace the M/B.

5. LCD FPC Connector (CON7)

5.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.

5.2 If the connector still doesn't work properly after replace new one, please replace the M/B.

5.3 Place solder-proof tape on CON7 to prevent it melted when using heater gun to remove CON77.

6. Switch Board FPC Connector (CON6)

6.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.

6.2 If the connector still doesn't work properly after replace new one, please replace the M/B.

6.3 Place solder-proof tape on CON6 to prevent it melted when using heater gun to remove CON6

7. Battery Connector (PCON101)

7.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.

7.2 If the connector still doesn't work properly after replace new one, please replace the M/B.



8. Ring Backup Battery (PCON102)

- 8.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.
- 8.2 If the connector still doesn't work properly after replace new one, please replace the M/B.

9. SIM Card Connector (BCON1)

- 9.1 If the connector is broken, warp or doesn't work properly (measure by scope), replace it.
- 9.2 If the connector still doesn't work properly after replace new one, please replace the M/B.

9.3 Use solder iron only to replace new component. DO NOT use Heater Gun to remove component to prevent next connector melted.

10. Antenna Switch (RSW1)

- 10.1 If the switch is broken, warp or doesn't work properly (measure by scope), replace it.
- 10.2 If the switch still doesn't work properly after replace new one, please replace the M/B.

11. Battery Detector Switch (SW9)

- 11.1 If the switch is broken, warp or doesn't work properly (measure by scope), replace it.
- 11.2 If the switch still doesn't work properly after replace new one, please replace the M/B.

12. Volume Control Switch (SW8)

- 12.1 If the switch is broken, warp or doesn't work properly (measure by scope), replace it.
- 12.2 If the switch still doesn't work properly after replace new one, please replace the M/B.

13. SD Card Slot (CON5)

- 13.1 If the slot is broken, warp or doesn't work properly (measure by scope), replace it.
- 13.2 If the slot still doesn't work properly after replace new one, please replace the M/B.



B. Magician Spare Part List For Board Level Repair

Magician BOARD LEVEL Spare part List

Item	Description	HTC P/N	Using Q'ty	Location	Remark
1	36H00129-00	SWITCH BUTTON,PTS-106,HCH,4.7*4.5*1.65	4	SW6,7,10,11	
2	36H00160-00	Slide_Switch,HSS112,HCH 1	1	SW8	
3	36H00208-00M	MIC,SP0103NC3,EMKAY,Pb-FREE,100/-40degC,6.15*3.76*1.45 mm 1	1	AMIC1	
4	36H00250-00M	detector,CLS-203,HCH 1 each 1(AX01) SW9	1	SW9	
5	36H00256-00M	2.5 MM AUDIO JACK,DTJ-0281,12.5* 7 *4 MM,DIHTAIN 1	1	CON9	
6	75H00204-00	CONNECTOR,B-TO-FPC,FH23-61S-0.3SHAW(05),PITCH=0.6mm,HRS	1	CON7	
7	75H00228-00	CONNECTOR,SM02B-SURS-TF,JST 1	1	ACON1	
8	75H00248-00	COAXIAL CONNECTOR,RF,WITH SWITCH,SMD,MM8430-2600RA1,MURATA	1	RSW101	
9	75H00309-00	Connector SD Card,SCDA1A0701,ALPS 1	1	CON5	
10	75H00321-00M	Connector RF,4P,LPC TP-1,120220-0129,ITT Cannon,Pb-FREE	1	RSW1	
11	75H00395-00M	Connector SIM Card,50mohm,ICC-429,hamburg	1	BCON1	
12	75H00396-00M	Connector,Battery,6PIN,Pitch=2.5mm,R-angle,BTR1M-6K2000,Acon	1	PCON101	
13	75H00397-00M	Connector B to B,22P,0.5pitch,AXK5F22345Y,MATSUSHITA	1	CON4	
14	75H00400-00M	Connector I/O,male,mini-usb,MNE41-5G5P10, type ab, straddle type,ACON	1	CON2	
15	75H00402-00M	Connector B to B,AXK814145Y,70mohm,14P,P=0.4mm,0.3A,60V,Matsushita	1	CON10	
16	75H00415-00M	Connector B to B,Female,20pin,Pitch=0.4mm,AXK7L20227,Matsushita	1	CON6	
17.	.72H00479-00M	. Ring,Backup Battery,D12.35*1.9mm,COPPER,Plating Sn,Pb-FREE	.1	.PCON 102	