Service Manual
for Charmer

Rev. A03
Jan,2006

HTC Corp.
Engineering Mobility

TITLE: Service Manual

REV. NO.	DATE	CONTENTS	DEP.	REVISED	APP'D	STGE.PER.
A01	OCT, 19, 2005	First Draft	Technical Support	HB Chen		
A02	Dec,2,2005	1.CG1 repair notice 2.Measure flight mode current	Technical Support	HB Chen		
A03	Jan,09,2006	Modify Hard reset method	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 :150g with battery pack

Processor

- TI OMAP 850

Memory

- Flash ROM: 128MB
- Flash RAM: 64MB mobile Double Data Rate (DDR)

LCD Module

- 2.8 "240 X320 dots resolution
- 64K-color TFT Transflective LCD with white LED back light.
- Sensitive touch screen
- Support screen rotation battery meter , and key lock icons on the lower right corner of today screen

GSM/EDGE functional

- Audio codec:AMR,EFR,FR,HR
- Quad-band 850/900/1800/1900MHz
- Internal antenna for tri-band GSM
- SMS (MO,MT) concatenated SMS (640 characters)
- Supplement services
    - ~ Call holding/waiting/forwarding
    - ~ Call barring

- ~ CLI (Calling Line Identity)

- ~ Display own number

- ~ Network selection

- ~ Cell broadcast

- ~ Multi-party conference call

- ~ Spool icon

- ~ Phase 2+unstructured supplementary

- ~ Network Lock

- ~ CPHS

DEGE Functionality

- EGPRS class B

- Multi-slot class 10

- PBCCH

- Link Adaptation and Incremental Redundancy

SIM

- Accept 1.8V and 3V operation

- SIM Application Tool Kit release 98 class 3

- Over the Air (OTA) programming

- FND

- AND

- SDN

- Security PIN 1&2

Stylus

- Lock type mechanism

Keyboard/button/switch

- One power button

- One voice dial/voice record (long press) on the same key

- One volume control button (up and down)

- One Camera capture (portrait mode default)

- One 5-way navigation Pad

- Send/Hands-free button

- End button

- 2 AP buttons (Start or Portal (by operator request)-left button, OK-right button)

Notification

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

Audio

- Built-in Microphone,
- Receiver
- Speaker
- Loud speaker for hands-free support
- Full duplex
- Audio sampling rate
  16-bits with 8KHz, 11KHz, 16KHz, 22KHz, 44.1KHz,
- AMR/AAC/WAV/WMA/MP3 stereo

Camera

- Color CMOS VGA/1.3Mega-Pixel camera with macro
- Preview Mirror

Power

- **Battery**
  - ▸ Removable rechargeable Lithium Ion Polymer battery, 1200mAh (Typical)
  - ▸ Charging time: less than 4 hours

  Battery life:
  - ▸ WMA:12 hours (Magneto test case)
  - ▸ WMV:8 hours (Magneto test case)
  - ▸ Talk time : 3.5~5 hours (at nominal RF Tx power level)
  - ▸ Standby time: 150~200hors
- **AC Adapter**
  - ▸ AC input: 100 ~ 240 Vac, 50/60Hz
  - ▸ DC Output voltage: 5V and 1A

Interface

- Infrared Port IrDA SIR
- One Audio Jack (2.5   )

- 1.8V and 3V SIM card
- One SDIO/MMC card slot
- One External antenna connector
- One Mini USB connector

Device to Device connectivity

Bluetooth

- Compliant with v1.2
- Class 2 transmit power
- 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   AV Profiler
    - V   PAN Profile
    - V   HID 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
- Car Kit (capable of muting car stereo when incoming call or call proceeding)
- Stereo Wired headset-stereo earpiece with microphone
- User manual ,quick start guide, sync, software CD
- Stereo Bluetooth headset-mono earphone with microphone

- Optional Battery (1200mAh)
- Car kit w/car stereo mute function
- Travel charger (optional)

   ~Mini-USB

   ~1 slot for 2nd battery charging
- Cradle (optional)

Regulatory

- R&TTE : EMC/EMI,CEM, Safety
- PTCRB
- FCC
- Microsoft Window Mobile Version 5.0
- USB Certification
- WiFi certification

Value Added Applications

MASD

- Photo Album with editing picture capability
- Camera capture utility
- Camcorder (H.263 and MPEG4 encoder and decoder)
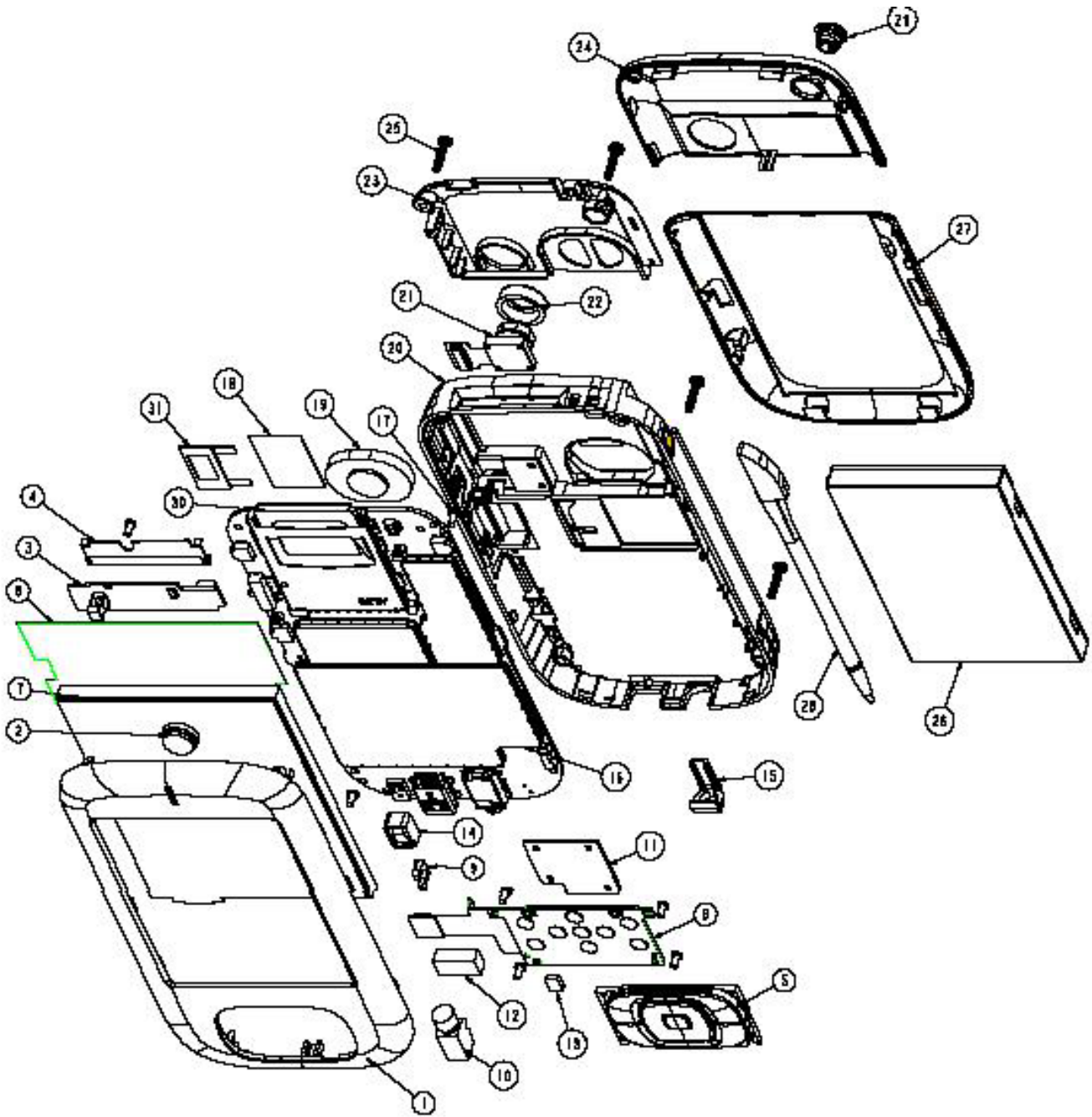- Zip
- Polyphonic MIDI Ring tone Engine
- SmartDial

MSD

- MMS with video clip support
- Voice dial via device, wire headset , or BT headset
- JAVA virtual machine (J2ME CLDC, MIDP 2.0,)
- FAX
- OMA DRM2.0
- Blackberry e-mail client (operator dependent)

SW

- Wireless Modem (IR,USB, Bluetooth)
- Key lock ,screen rotation ,and battery meter

2. Exploded Diagram

3. Assembling and Disassembling

3.1 Disassembling

	Tools needed for Assembling and Disassembling the Harrier. 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. Tweezers.(Suggest to use plastic made)
	1. Pull up to release the Stylus. 2. Remove the SD Card Filler. 3. Remove the Antenna Insert Rubber. as indicated on the left.
	Next, Remove the battery cover by slightly push backward the battery cover . **Note : Cover-Battery 71H00279-0XM**
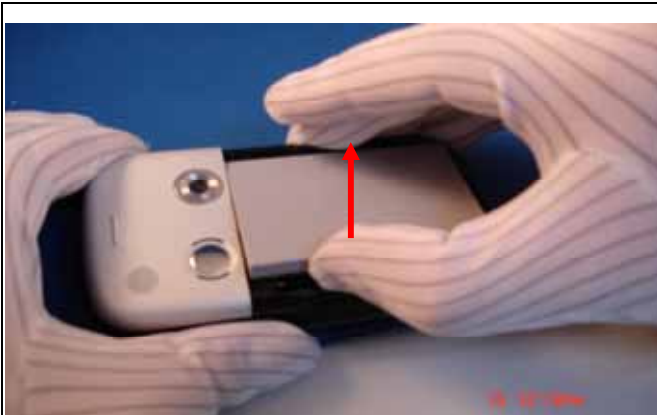
	.Release the Battery P/N: 35H00051-00 ⚠️**Warning:** To reduce risk of fire or burns, do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water. Replace only with specified batteries. Recycle or dispose of used batteries properly.
	Turn left the Philips screw driver and looses 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: 74H00375-0XM**
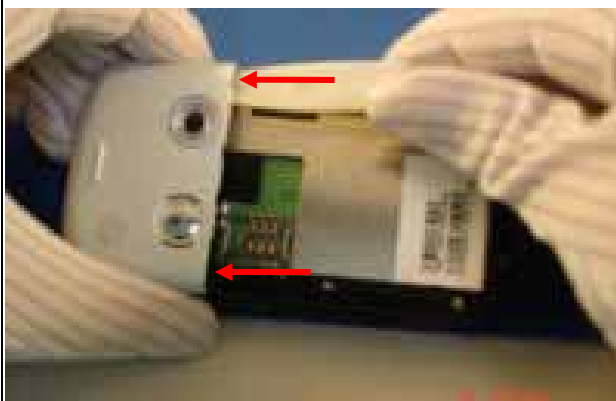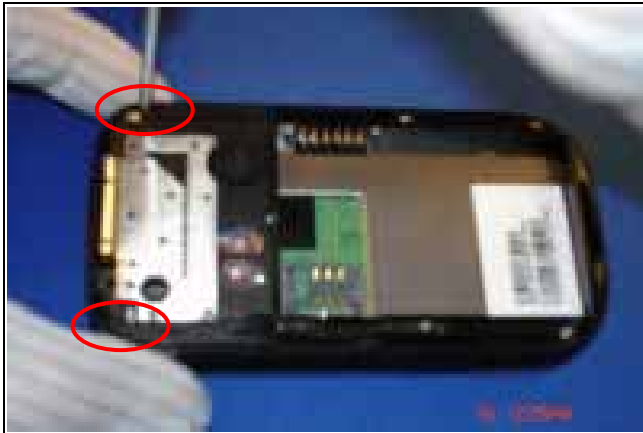
	Remove the 2 screws for release internal antenna.
	Next, remove the Antenna, unlock the connector lock with the plastic stick. Antenna P/N :36H00345-00M
	For Camera FPC, to lift the connector lock upwards from both ends at the same time as indicated in the picture. The angle must not exceed 90 degrees. **Camera P/N : 54H00134-01M**
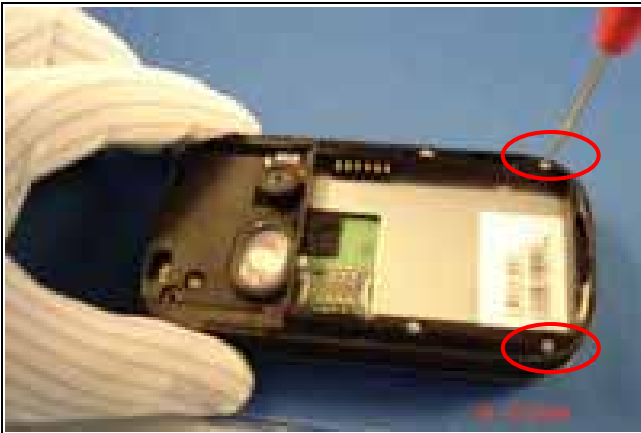
Next , remove 2 screws to disassemble bezel and housing

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

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, disassembly the speaker connector using tweezers and housing.
Speaker **P/N:36H00338-00M**
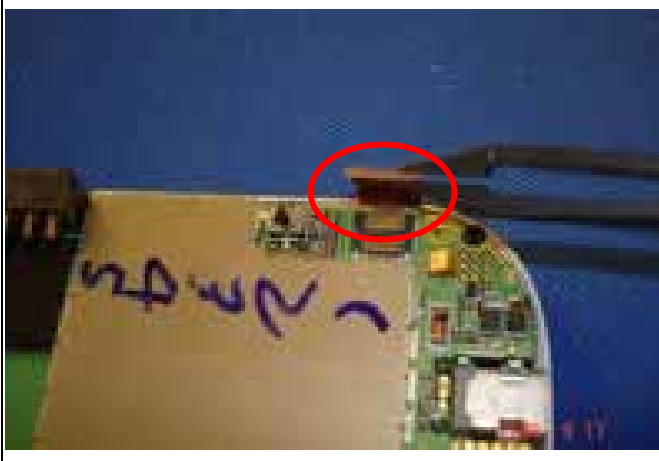
Next, disconnect switch board and Main board FPC.
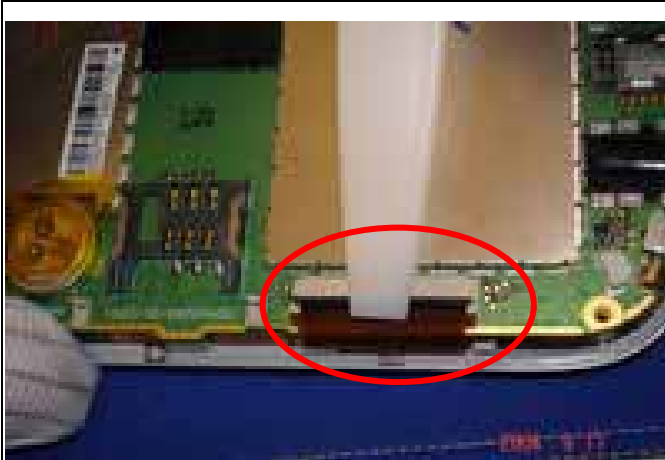
	Next, remove the LCD from MB. 1.Unlock the LCD connector with plstic special tool (hook side) 2.Take out the FPC with plastic tweezers .
	Remove 2 screws on main board to disassemble main board and bezel assembly. Note that screw P/N is **72H00724-00M.**
	Remove the audio jack holder with plastic tweezers 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: 51H00322-00M

	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 : 36H00180-00M**
	                         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.**

	Next, Remove the Navigation keypad rubber from the bezel. Note that Navigation key pad Assembly P/N is: **74H00400-00M**
	Next, to separate the LCD from the bezel as indicated on the left. Note that LCM P/N is:**60H00032-00(Samsung)/60H00037-00M(Toppoly)**
	Remove the Receiver from bezel with plastic tweezers Note that receiver P/N :**36H000253-01M**
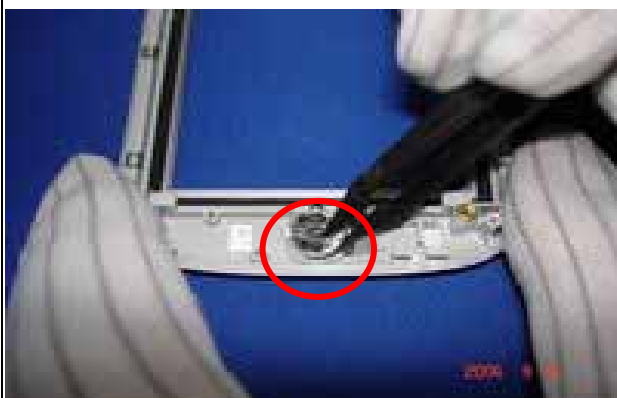
Done for disassembly

3-2 Assembling

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
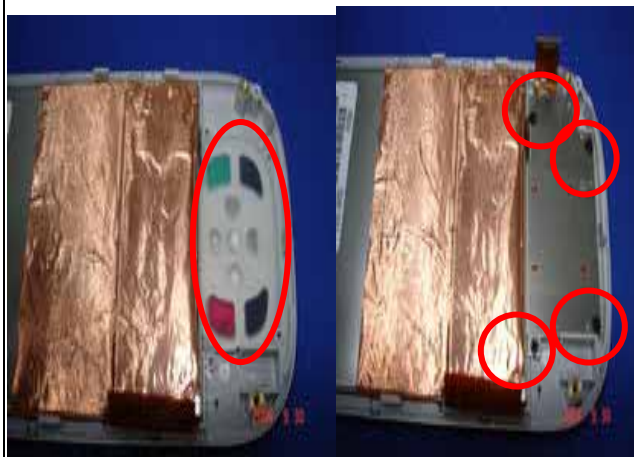
1. Put the Rubber keyboard on the bezel.

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 .
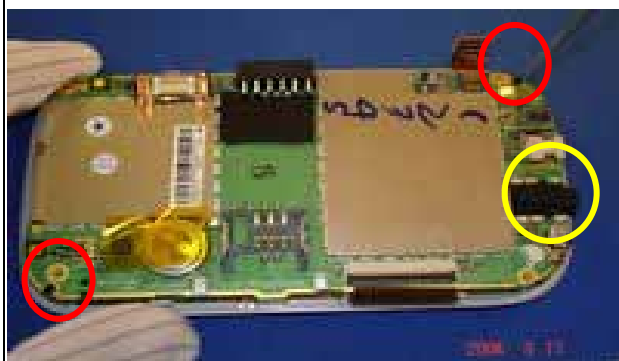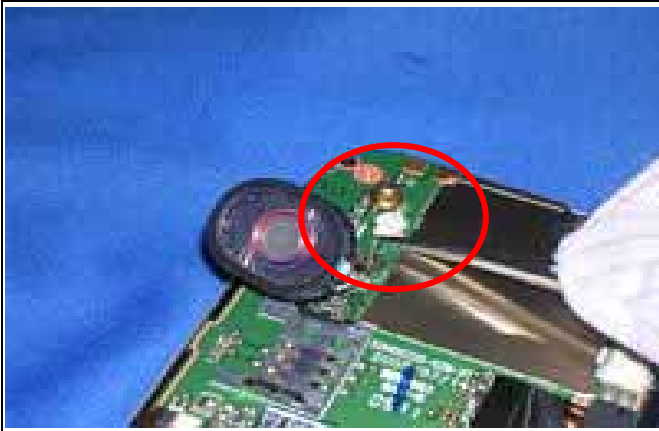
	Insert the speaker connector into the connector of the M/B.
	1. Assembly the housing. **Please set the volume button on the center before assembly.** 2. Assemble the camera module on main board.
	Set up the antenna on the top of the unit.
	Fasten 4 screws on rear side
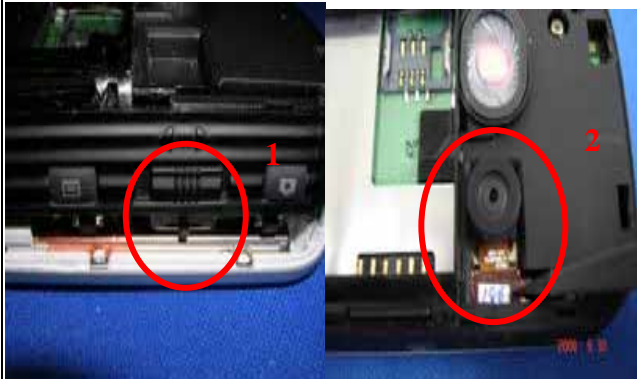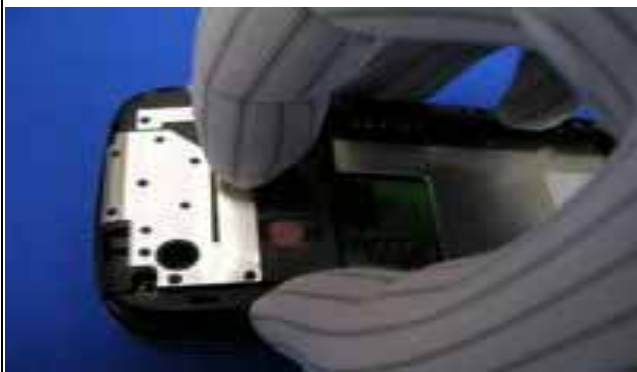
	Assembly the antenna cover **Note:1. insert from the top of hooks** **2.then press down the cover**
	1. put the battery into the unit. 2. slightly push forward the battery cover .
	1. Insert the Stylus. 2. Insert SD Card Filler into the slot. 3. Insert the Antenna Rubber. as indicated on the left.
	The assembly procedure is done.

3-3. LCM assembly notice

1. Stick 2 Mylars on the back of the LCM (Mylar P/N: 76H00967-00M) as figure1

2. Apply the copper foil to LCM back side as figure2 (Copper foil P/N: 72H00782-00M)

Figure 1

Figure 2

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 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	SDRAM Test	Check SDRAM Size/Write/Read	
	2	Display Test	Test the LCD display quality	
	3	Touch Test	Touch panel calibration test.	
	4	LED Test	Red/green/amber/key LED on/off test	
	5	Key Test	All buttons (Key) press/release test.	
	6	B.L Test	Three levels Backlight test.	
	7	Timer Test	Timer test	
	8	SD Test	SD card read/write/lock/unlock test.	
	9	Battery Test	Check battery capacity, current, voltage	
	A	Vibrator Test	Test the function of Battery	
	B	Checksum Test	Calculation ROM checksum Test.	
	C	Msys- Fromat	Clear call duration (including Talk time and E-user data)	
	D	SPK Play Test	Playback a simulation wave test.	
	E	Rev Play test	Playback to Receiver	
	F	Hst Play	Playback to 3-ring earphone	
	G	IntRec- SpkOut	Internal record & playback	
	H	IntRec- RevOut	Internal record & playback with Receiver	
	I	IntRec-HstOut	Internal record & earphone out	
	J	HstRec-HstOut	Earphone MIC record & earphone out	
		Upload To SD	For HTC Service Center upload Diagnostic to SD card.	

	No.	Item	Description	
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
Diag. program mode	1	RAM Test	Press Action button to process SDRAM 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 Red Color** **Press Action to Green Color** **Press Action to Blue Color** **Press Action to Dark Color** **Press Action to White Color** **Press Action to Gary 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	LED Test	Action LED: Green→ Red→Blue Bluetooth Action LED: Green→ GSM Action keypad LED
	5	Key Test	Follow the indication on device to press buttons for test.
	6	Backlight Test	Press "Action to test LED and brightness level of LCD (three stages), and then return Test Menu.
	7	Timer Test	Press Action to check if it shows "Test OK".
	8	SD card Test	Lock SD card and insert to unit, then remove SD card
	9	Battery Teat	Check battery capacity, current, voltage
	A	Vibrator Test	Press Action, unit should vibrate, and then press Action to return Test Menu
	B	Checksum Test	Press Action to calculate ROM checksum.

	C	Msys-Format	Press Action to clear call duration(talk time and end-user data)
	D	Spk Play test	Playback to SPK
	E	Rev Play test	Receiver Playback test
	F	Hst Play test	Earphone Playback test
	G	IntRec Spkout	Intel Record and Speak out
	H	IntRec Revout	Intel Record and Receiver out
	I	IntRec Hstout	Intel Record and Earphone out
	J	HstRec Hstout	Earphone Record and Earphone out
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.

5. Main Battery Re-certify Procedure

5.1 Flow Chart

Under 3.75V   Measure battery voltage ?   Above 3.75V

Charge ?   Charge to 3.75V above

Charge fail

Fail   Voltage check by Ds2760K ?

OK

Fail   Currect check by Ds2760K ?

OK

Fail   ACR check by Ds2760K ?

OK

Fail   Parameter check by Ds2760K ?

OK

Fail   Whole unit charge test

OK

Fail   Whole unit discharge test ?

OK

Battery is NG   Battery is OK
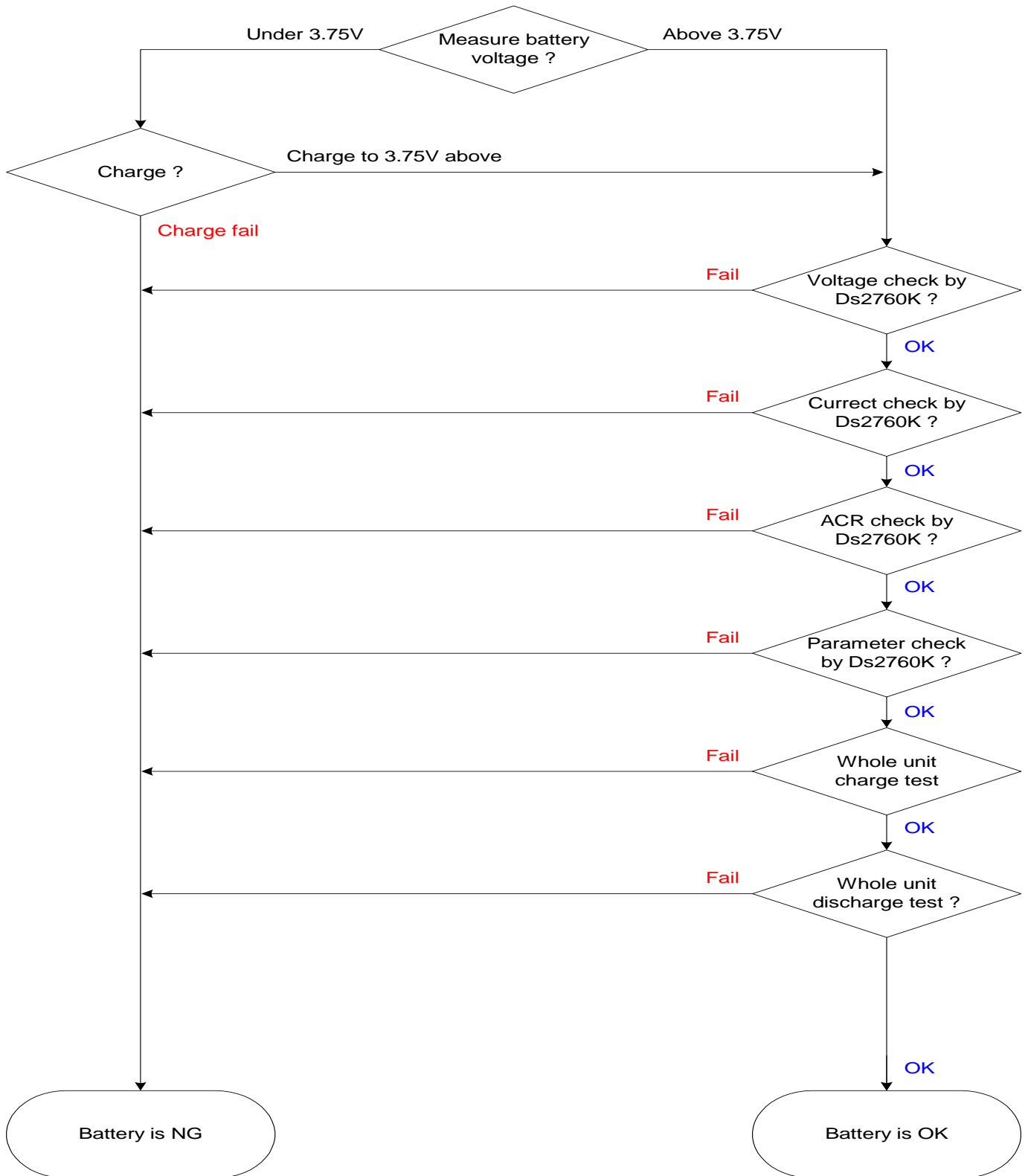
5.2 Measurement Procedure
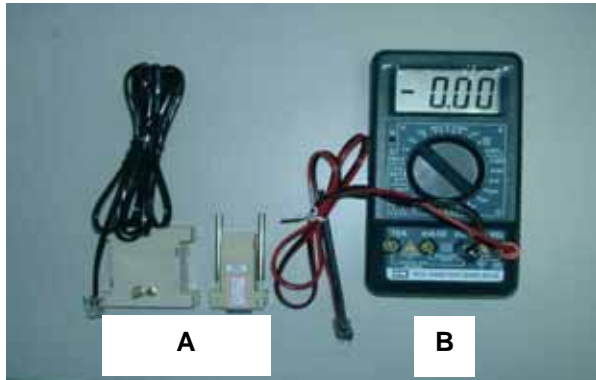
<table>
<tr>
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Tools requirement:

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 installed onto PC in advance.

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Step 1: Main battery voltage check

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

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<td>

b. The battery voltage will appear on the multi-meter, make sure the voltage >= 3.75V above

   If the voltage < 3.75V please charge the main battery and then re-check the battery voltage must > 3.75V.

</td>
</tr>
</table>

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:

Check address of 30h/31h

Must

30h = 93h

31h = 26h

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

	Step 3 : Whole unit charge test 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.
	Step 4 : Whole unit discharge test 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.

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) ActiveSync 4.0 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.
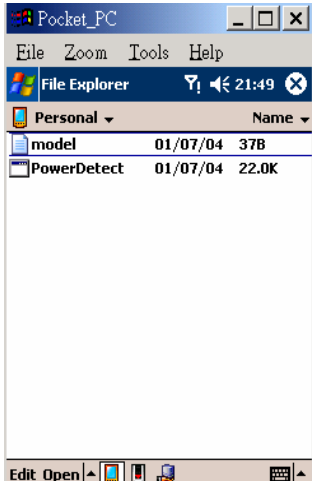
Step 2: It is unnecessary to adjust power management setting by using rundown test program.

Step 3: Execute powerdetect.exe under WinCE, it will enter Sleep Mode after **one hour** and generate a file named powercap.txt log.
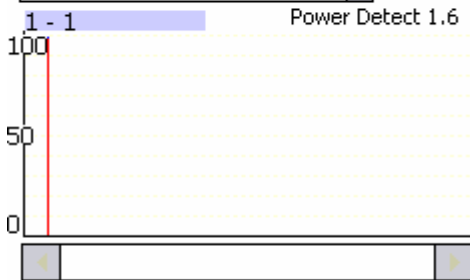
→**Record every two minutes & Brightness is maximum**

Powercap.txt

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)
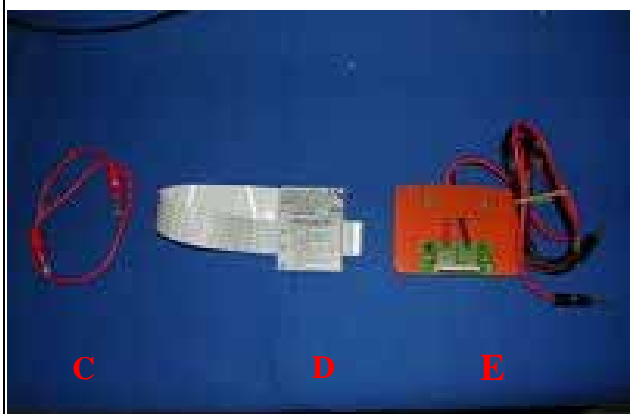
	3. Connect cable (C) to positive polarity of power supply (A) and current meter (B)
	4. Connect cable of fixture(E) to negative polarity of power supply (A) and current meter (B) Note : black cable to power supply (A) and red cable to current meter (B)
	5. Setting is **Ready now for testing** (Don't 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.**
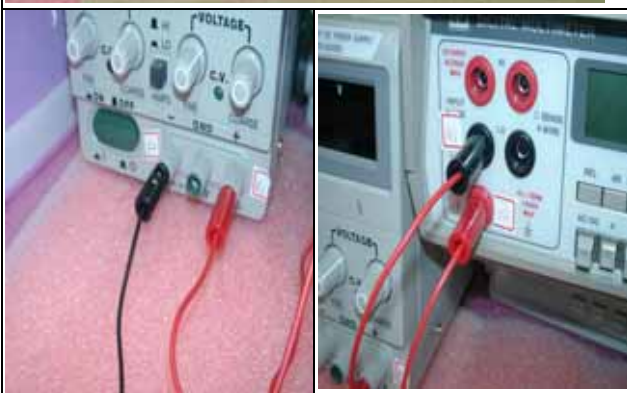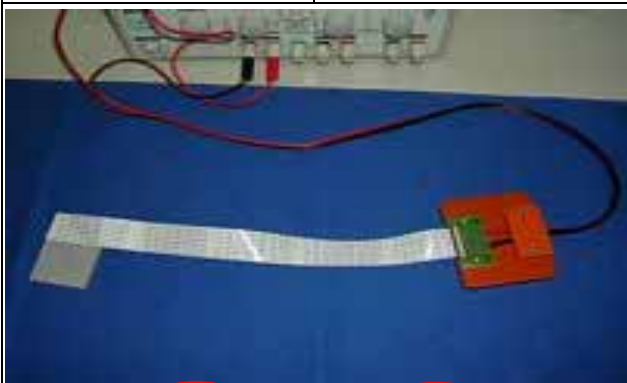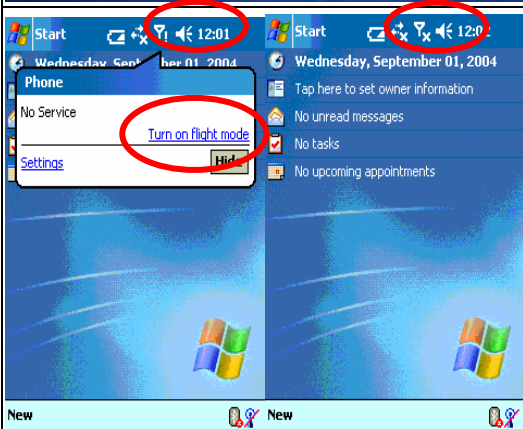
7. Measure flight mode current

Setting display off:
start→settings-→System→backlight, set the cursor to Power Save , 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

Measurement mode	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

6.1. 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 1000±20 lux.

2.2 The inspector shall examine the device at a distance of 30cm ± 30 degrees 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 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 2 dots 0.1mm< D 0.3mm	Area 3	Scratch	1) L 15mm, W 0.4mm 2) Total number 5
	Dark dot**	Dark dots 2 0.1mm< D 0.3mm		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 3 w 0.1mm 1.0mm L 2.0mm		Bump	1) D < 1mm, S 10mm 2) Total number 4
	Lint	Total number 2 0.03mm<W 0.01 1.0mm L 2.0mm		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
				Navigation button	Button needs to be pressed smoothly
Area 2	Scratch	1) L 7mm, W 0.15mm 2) Total number 3		Gap between housing and battery, battery and battery lock	Gap < 0.5mm
	Spot	1) D < 0.7mm, 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
	Dent	1) D < 0.6mm, S 15mm 2) Total number 4			1) 0.05mm<Gap <0.6mm 2) Button needs to be pressed smoothly
	Bump	1) D < 0.6mm, S 15mm 2) Total number 4			
	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 5 counts.

** The total of defected dots (bright dot and dark dots) must be less than 4.

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 :

1.Boot up device into OS mode.

2.Allow USB connections in ActiveSync connection settings.
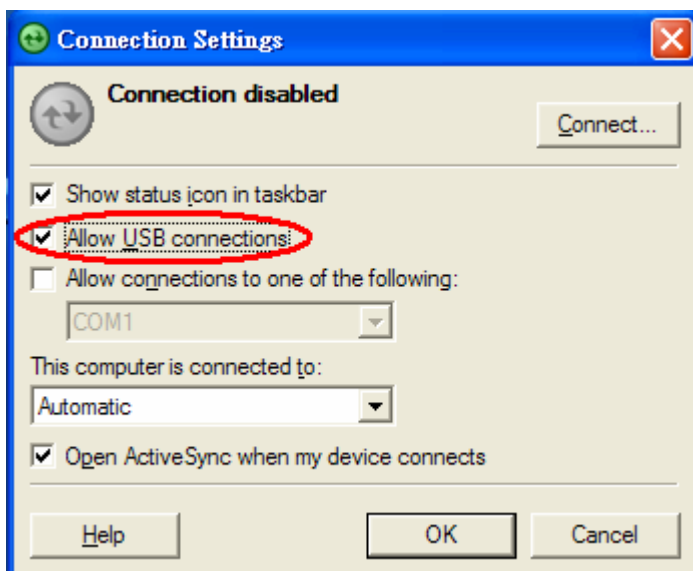
3.Connect with PC by USB cable.

4.Execute RUU program to re-flash ROM code.
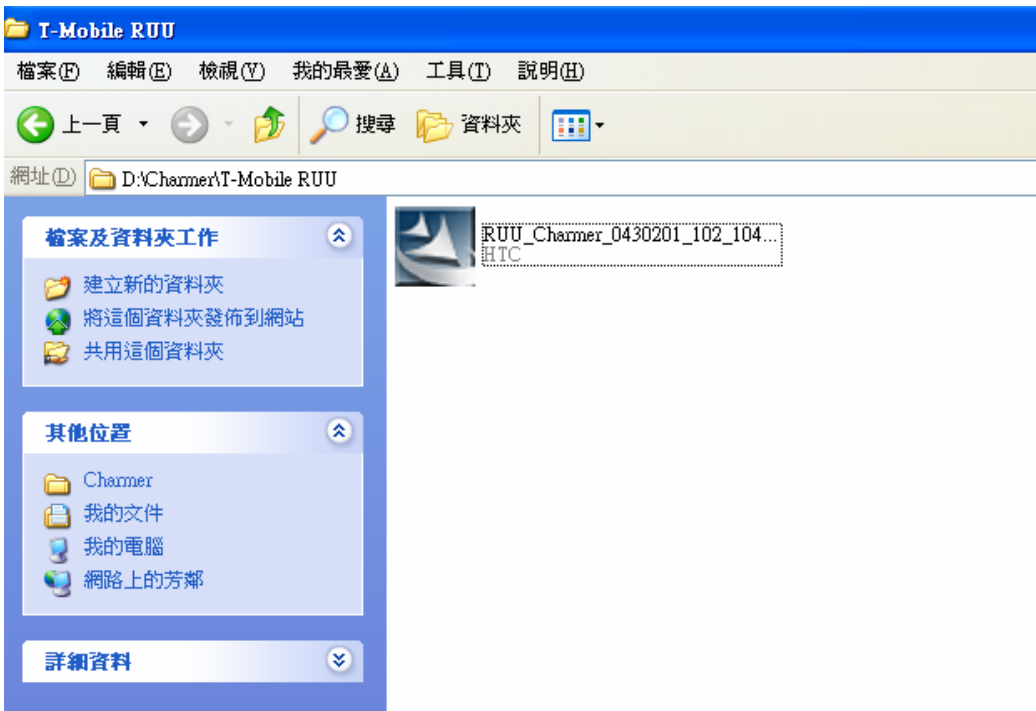
1. Check "I understand the action indicated above and have reviewed the Read me"
2. Click "Next"
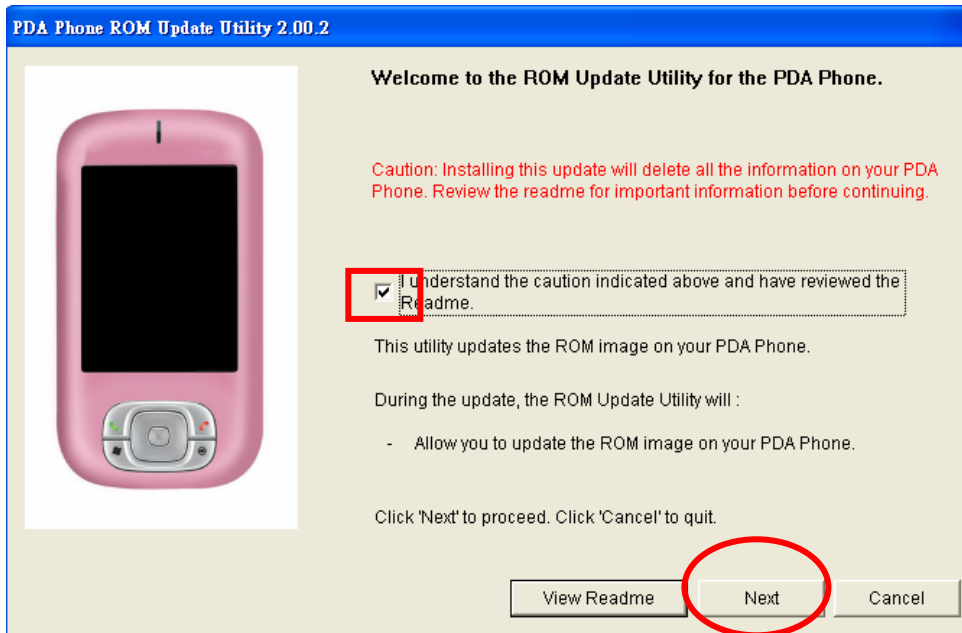
Check "I completed the steps indicated above"

Click "Next"
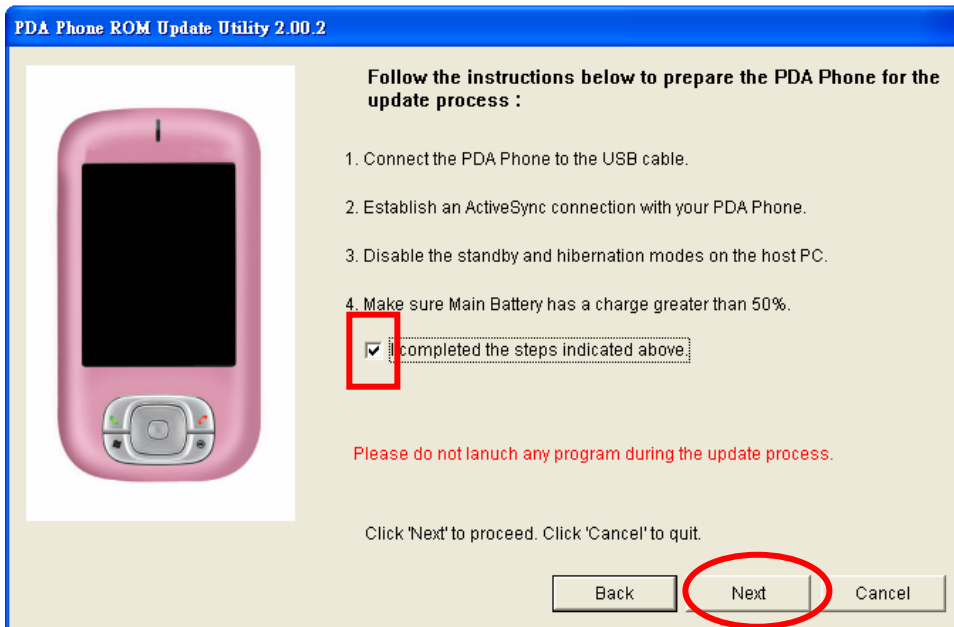
Click "Update"
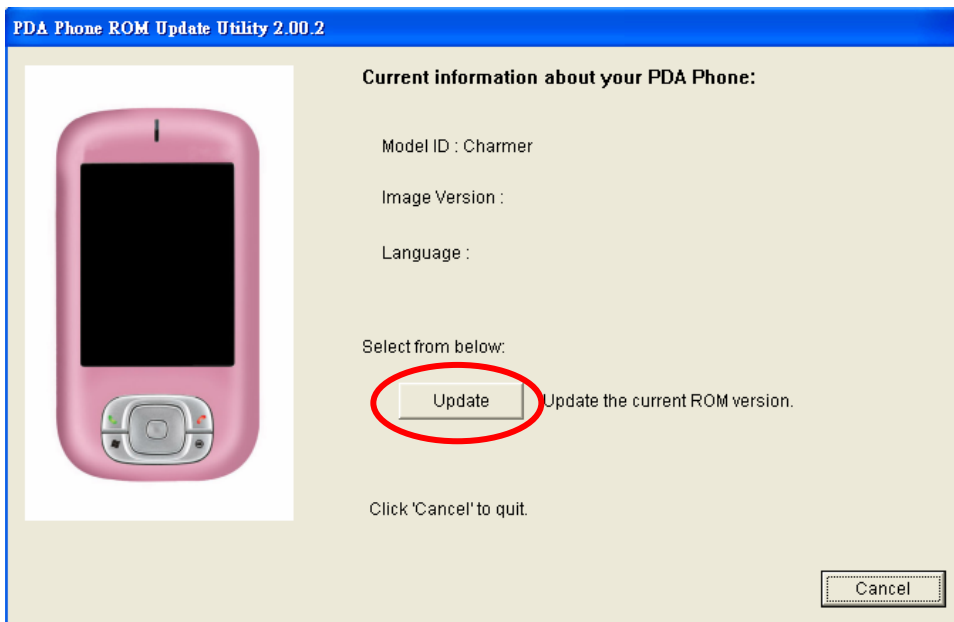
Click "Next"
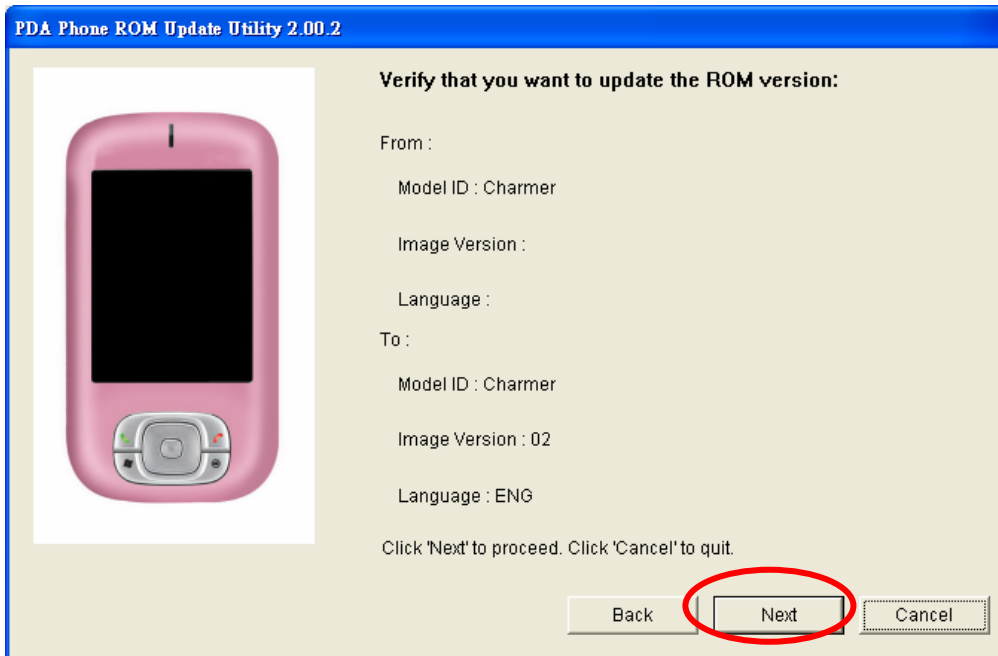
Click "Next"
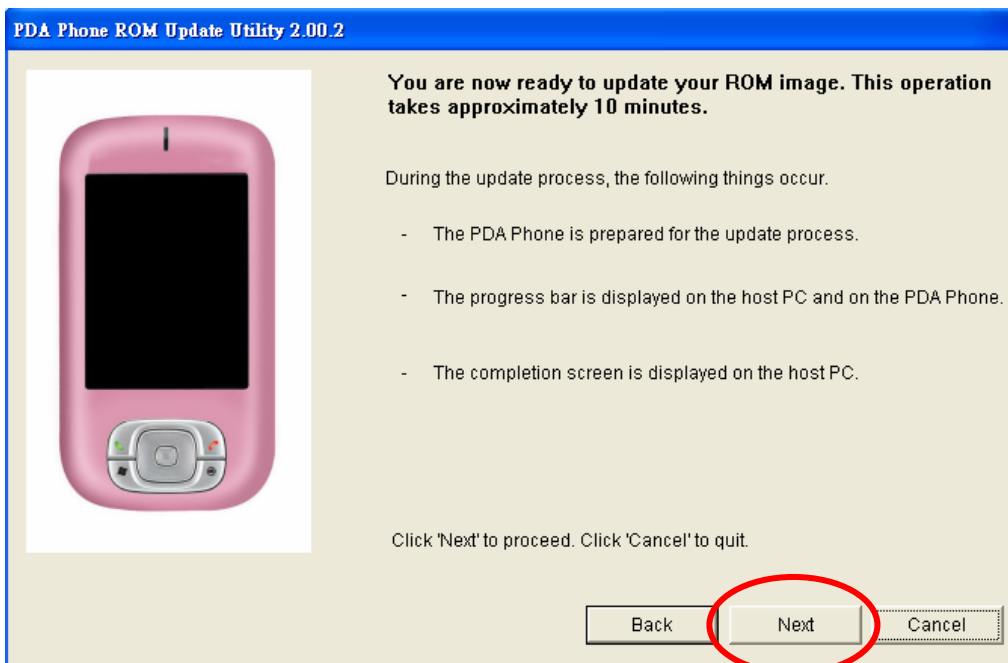
Next:

Updating the ROM image on your PDA Phone...   51%

Please do not remove the USB connection from the PDA Phone or launch any program during the update process.

Remember, the operation will take about 10 minutes.

Done for ROM code updated

PDA Phone ROM Update Utility 2.00.2

Congratulations ! Your ROM update is now complete. Your PDA Phone is ready for use.

Follow the instructions on your host PC to re-establish a partnership and synchronize your data using ActiveSync.

Click 'Finish' to close the utility.

Finish

Execute hard reset!

Press and hold the Camera button+ Comm Manager button, at the same time use the stylus to press the RESET button.until the Following Hard Reset Screen is pop out, " Press Send to restore factory default or press others key to quit "

You can press Talk/Send key to do Hard Reset.

RESET button

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.
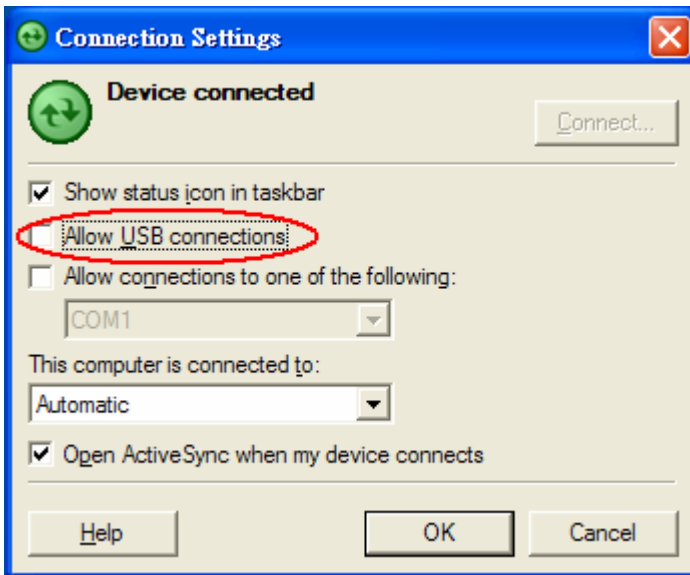
2. Set the Unit into Bootloader Mode (While Press **Capture + Reset**), wait for Serial on display. Message on PDA Screen:

Serial

V1.XX

---
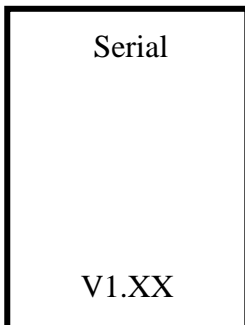
3. Connect the unit to the PC with **USB cable or USB cradle**, unit display will change to **USB**, and then open MTTY116.exe to select USB port.
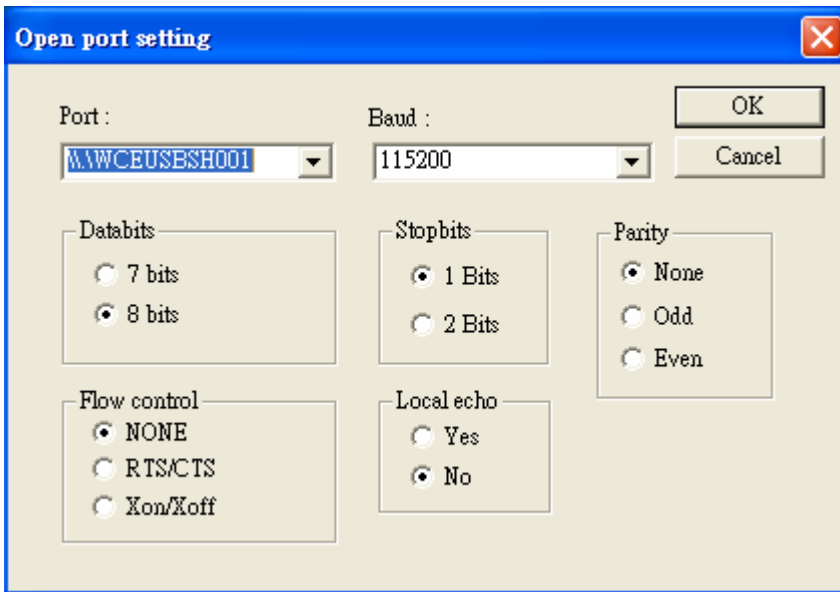
4. Insert 64 MB SD or MMC card into SD slot of PDA Phone

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

   Following display will be shown:
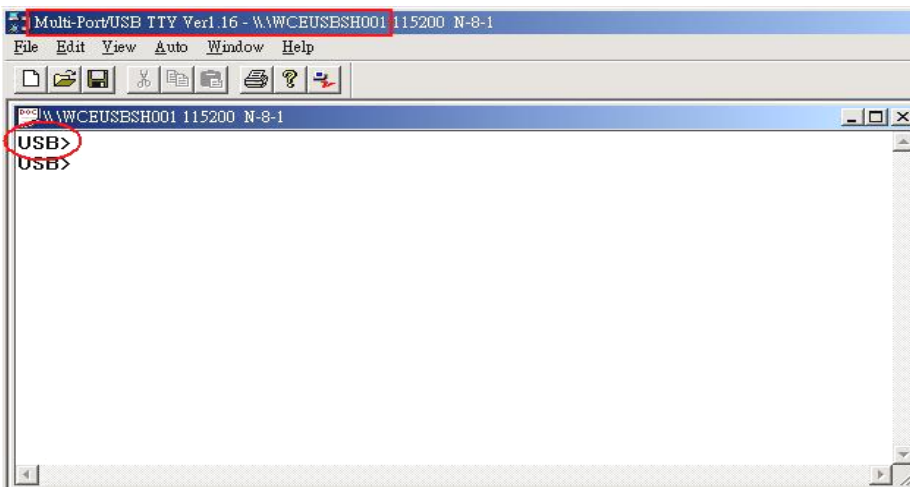
6. The prompt "USB>" will appear, to UPLOAD then type.

USB>r2sd all

(Please notice the blank space between r2s and all)

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

\\WCEUSBSH001 115200 N-8-1

-WriteDataToSDCard() - pusSourceAddr = 0x8CB00000 , ulSourceLength=0xA00000
Double Check 0 Start=0x80000000, Length=0x800, Checksum=0x7D7A7380
Double Check 1 Start=0x80000800, Length=0xC0000, Checksum=0xE79F73F9
Double Check 2 Start=0x800C0800, Length=0x40000, Checksum=0x6C60B041
Double Check 3 Start=0x80100800, Length=0x280000, Checksum=0xEB53BC71
Double Check 4 Start=0x4E3D4C0, Length=0x3900000, Checksum=0xC6A48BC4
Double Check 5 Start=0x743D4C0, Length=0xA00000, Checksum=0xCC39EBD6
usTotalBlock = 1 sizeof(SDCARD_SIGNATRUE_TABLE)=512

+WriteHTCSignature,download type = 6
Common Info Checksum=0x9E5D0D1B

-WriteHTCSignature...

Cmd>
```

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 **Capture** simultaneously and Reset the unit.

   Display will show….

Restore ALL image from SD **Press Voice dial Key** **To start Download** **Download SD image?** **Format BINFS success**	Press record button ➡
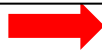
Restore ALL image from SD **Press Voice dial Key** **To start Download**   **Download SD image?**   **Format BINFS success**   �－▬▬▬▬▬▬▬

3. Once it is done, display will show

Restore ALL image from SD **Press Voice dial Key** **To start Download**   **Download SD image?**   **Format FAT success**   ▬▬▬▬▬▬▬▬▬▬ **Success Press any key.**

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)

No power /Can not Boot		
	Attach AC Adapter Power no indication	Main Battery defect
	Attach AC Adapter Power LED indication Red or Amber	Battery damage
		Battery connector on M/B defect
		Power switch on M/B defect
		M/B defects
	Can not Bootloader Mode	Re-flash Software
		M/B defects
	Can not boot with only	Battery power run out
		Battery connector on M/B defect
		Battery damage
		M/B defects

Can not hold charge		
	Battery full cahrge Battery rundown test fail	Battery damage
		M/B defects

Can not Charge	→	Attach AC Adapter Power no indication	→	Battery connector on M/B defect
				Battery damage
				Mini-USB connector on M/B Defects
				Power LED on M/B defect
				M/B defects
				AC Apapter defect
				DC converter defect
				Cradle defects
		Attach AC Adapter Power LED indication	→	Battery damage
				M/B defects

Can not turn power OFF	→	Press power button for 3 seconds but can not turn off	→	Reset the phone(X Storage)
				Re- flash Softeare
				M/B defects

Power OFF during operation	→	Power OFF automatically	→	Battery power run off
				Battery damage
				M/B defects
		Shutdown immetiately in anytime	→	M/B defects

Defective Vibrator	Vibrator dose not work	Unit re-assembly
		Vibrator defect
		M/B defects
Defective LED	No indication on power LED	Power LED defect
		M/B defects
	No indication on keypad LED	keypad LED defects
		M/B defects
System hang at booting	System boot up but luck on LOGO screen	Reset the phone
		Switch board defects
		M/B defects
SD card Defects	SD card read & write function fail	SD connector defects
		SD connector pins poor solder
		M/B defects
	SD card can not hold in place	SD connector defects
	SD card can not eject	SD connector defects
	SD card Protection fail under OS	SD connector defects
		SD card defects
		Forgot luck SD card switch
		M/B defects

System hung under OS	System lock often under operation in anytime ; press any key dosen't help	Battery power run out
		Reset the phone
		Re-flash software
		M/B defects

USB comunication	Can not sync with PC by ActiceSync	Checkcobbection setting in ActiveSync
		USB or Cradle cable defects
		Mini USB connector damage
		M/B defects

| Defective IR | IR test fail under Diagnostic program | M/B defects |

Dumb Speaker	No sound in internal speaker	Check the setting (Sound ,profile)
		Something stuck in audio jack
		Unit Re-assembly
		Speaker defect
		M/B defects

```
Defective Recording ──┬── No voice be recorded ──┬── Unit Re-assembly
                      │                           ├── Micorphone defects
                      │                           ├── Something stuck in audio jack
                      │                           ├── M/B defects
                      │                           └── Record switch defects
                      │
                      ├── Noise deformed sound by recording ──┬── Micorphone defects
                      │                                        └── M/B defects
                      │
                      └── Voice note function dosen't work under OS ── Reset the phone

Audio Play problem ──┬── No sound when playing music or ──┬── Speaker defects
with speaker         │    ringtone thru inter speaker      ├── Speaker connector defect
                     │                                      └── M/B defects
                     │
                     └── Abnormal Volume ── M/B defects

Defective External ── No sound when playing music or ──┬── Audio Jack on M/B defects
Audio                  ringtone thru Earphone            ├── Earphone defect
                                                         └── M/B defects

Defective ── No backlight on LCD ──┬── Check the setting (Power management)
backlight/Frontlight                ├── Unir Re-assembly (LCM)
                                    ├── LCM defects
                                    └── M/B defects
```


LCD display problems

- **Half screen**
  - Unir Re-assembly (LCM)
  - LCM defects
  - M/B defects
- **LCD no display**
  - Unir Re-assembly (LCM)
  - LCM defects
  - M/B defects
- **Screen flickering**
  - LCM defects
  - M/B defects
- **Line in display**
  - LCM defects
  - M/B defects
- **Defective pixels on LCD**
  - M/B defects

Button defective

- **Power button**
  - Power button (housing) defects
  - M/B defects
- **Record button**
  - Power button (housing) defects
  - M/B defects
- **Volume button**
  - Power button (housing) defects
  - M/B defects
- **APP button**
  - Switch board defects
  - M/B defects
  - Switch connect on M/B defects
  - Connector on Switch/B defects

	Action /Navigation Button	Switch board defects
		M/B defects
		Switch connect on M/B defects
		Connector on Switch/B defects
Poor backup battery	Backup battery can't charge	Backup battery damage
		M/B defects
RF malfunction	SIM card detection fail	SIM card connector defects
		M/B defects
	No Service (signal)	Antenna defects
		M/B defects
	Testing fail by RF tester (other phone function)	Antenna defects
		M/B defects
Digital Camera malfunction	PDA phone can't detect digital camera	Camera defects
		M/B defects
		Capture switch defects
	Abnormal color or on phonographing before capturing the picture	Camera defects
		M/B defects

10. Spare Part List

Charmer Part List

Item	HTCP/N	Description
1	35H00051-00	Rechargeable LI-ION Battery,1200mAh,3.7V,DAK500130-00B801,DynaPack ,Magician
2	36H00180-00M	Vibrator,Cylinder type,A4A-05-WTB-3,C.I.Kasei,dia.4mm shell,dia.5mm c.w.,w/ rubber
3	36H00253-01M	Receiver,8mm receiver with tape,WD20398/32,2403 263 00007,PHILIPS
4	36H00338-00M	Speaker,SAMBU,SBD201538P-CC01,20*15*3.8mm,Charmer
5	36H00345-00M	Antenna Pre-Assy,AMPHENOL,GAN40028A,CHARMER
6	51H00320-02M	PCBA-MAIN BOARD,Samsung LCM,1.3M Camera,CHARMER
7	51H00322-00M	PCBA,AUDIO BOARD,CHARMER
8	54H00134-01M	Module Assy,PREMIER,HTC-NBR149,OV9653+Largan796,9.1*9.1*7.59mm
9	60H00032-00	LCD Module,LTP280QV-E01,Samsung
10	71H00960-00M	Holder, Audio-jack,PC,Magician
11	71H01279-02M	Cover,Battery,Gray,T-Mobile,Charmer
11A	71H01279-03M	Cover,Battery,Pink,T-Mobile,Charmer
11B	71H01279-01M	Cover,Battery,Dark Blue,T-Mobile,Charmer-O3
12	72H00339-00	SCREW,TORX,M1.6x8,NYLOK,L4.5
13	72H00498-00M	GASKET,AUDIO_RF,Pb-FREE,Vivida
14	72H00548-00	Gasket,5*3.5*10mm,630GT,NAUTILUS
15	72H00724-00M	Screw,PH,FD,T1.4*2.9, Nickel,Black,AISI 1018
16	72H00782-00M	Copper Foil,LCM,Magician
17	72H01134-00M	EMI Gasket,SD-Holder,U-TEK,Charmer
18	73H20034-15M	FPC Pre-Assy,Switch Board,AFLEX,CHARMER,59.21*19.99*0.2mm
19	74H00371-13M	Bezel Pre-Assy,Gray,T-Mobile,Charmer-O3
19A	74H00371-14M	Bezel Pre-Assy,Pink,T-Mobile,Charmer-O3
19B	74H00371-12M	Bezel Pre-Assy,Dark Blue,T-Mobile,CHARMER
20	74H00375-04M	Cover Pre-Assy,Antenna,Gray,T-Mobile,Charmer-O3
20A	74H00375-05M	Cover Pre-Assy,Antenna,Pink,T-Mobile,Charmer-O3
20B	74H00375-03M	Cover Pre-Assy,Antenna,Dark Blue,T-Mobile,Charmer-O3
21	74H00399-00M	Stylus Pre-Assy,Nylon+Copper+POM,Magician
22	74H00400-00M	Keypad Navigation Pre-Assy,Magician
23	74H00534-00M	Housing Pre-Assy,CHARMER
24	76H00398-01M	rubber-cover, antenna-cover, gray, Himalayas
25	76H00967-00M	Mylar for LCD,Magician
26	76H00724-00M	Tape for keypad support,Typhoon
27	76H00748-00M	Spacer,rubber,Switch,Silicon,Magician
28	76H00749-00M	Rubber,Camera,S1,Poron,Magician
29	76H00754-00M	Mylar,Battery Connector,Magician
30	76H01088-00M	Rubber,Microphone,Silicone,Charmer
31	76H01093-00M	Conductive Gasket,Shielding-back,Charmer
32	76H01131-00M	Mylar,LCM-SD,CHARMER
33	77H00222-00M	Label security,Magician
34	77H00311-00M	Regulation Label,41*35mm,MING JYE,Charmer
35	77H00203-00	Water Sensitive Label,4*2.5mm,Ming Jye,BlueAngels

11. Spare Part Photo

Part Number	Description		Part Number	Description		Part Number	Description
35H00051-00	Main Battery Q'ty : 1		36H00180-00M	Vibrator Q'ty : 1		36H00345-00M	Antenna Q'ty : 1	
36H00338-00M	Speaker Assy Q'ty : 1		36H00253-01M	Receiver Q'ty : 1		51H00320-02M	Main Board Q'ty : 1	
51H00322-00M	Audio Daughter Board Q'ty : 1		54H00134-01M	Camera Module Q'ty : 1		60H00032-00/60H00037-00M	LCM Samsung Q'ty : 1	
71H00960-00M	Holder Audio Jack Q'ty : 1		76H00398-01M	rubber-cover, antenna-cover, gray Q'ty : 1		72H00339-00	Screw TORX M1 6*8 Q'ty : 4	
72H00498-00M	GASKET Audio RF Q'ty : 1		72H00548-00	Gasket 5*3.5*10mm Q'ty : 1		72H00724-00M	Screw PH FD T1.4*2.9 Q'ty : 6	
72H00782-00M	Copper Foil LCM Q'ty : 1		73H20034-15M	Switch FPC Assembly Q'ty : 1		74H00534-00M	Housing Pre-Assembly Q'ty : 1	
74H00371-13M	Bezel Assembly Q'ty : 1		74H00374-XXM	Cover Battery Q'ty : 1		74H00375-04M	Cover Antenna Q'ty : 1	

74H00399-00M			74H00400-00M			76H00748-00M	
Stylus Q'ty : 1			Keypad Navigation Q'ty : 1			Spacer Rubber Q'ty : 1	
76H00749-00M			76H00754-00M			76H01088-00M	
Rubber camera Q'ty : 1			Mylar Battery Connector Q'ty : 1			Boot Microphone Q'ty : 1	
77H00222-00M			71H00651-00M			72H00831-00M	
Security label Q'ty : 1			DUMMY,SD,CARD, HIMALAYAS Q'ty : 1			Dome Metal Switch Magician,SUS-301 Q'ty : 1	
77H00203-00			36H00310-00M			76H01093-00M	
Water Sensitive Label,4*2.5mm,Mi ng Jye, BlueAngels Q'ty : 1			Earphone,EACETECH,TS 888-03206N-VM-01ZS Q'ty : 1			Conductive Gasket,Shielding-back,Charmer Q'ty : 1	
76H00131-00M			72H01134-00M				
Mylar,LCM-SD,CHARMER Q'ty : 1			EMI Gasket,SD-Holder,U-TEK,Charmer 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 code128 symbology.
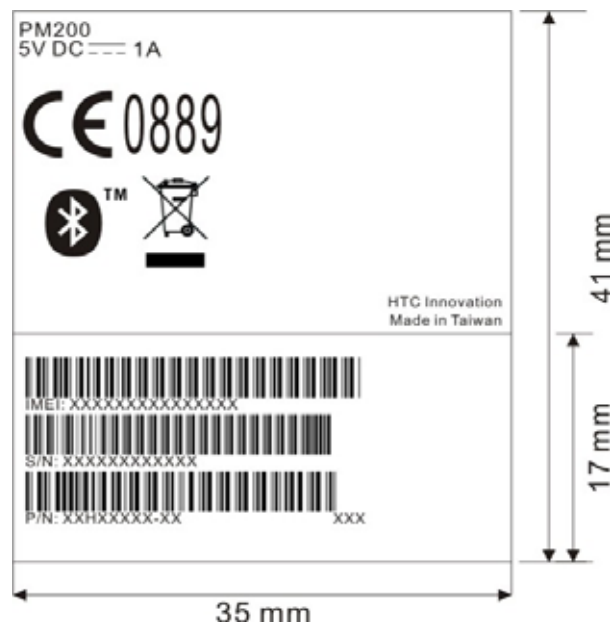
B.2 Definition of Serial Number

For S/N: **SSYWWPPZZZZZ**

SS: SITE CODE→ **HT**

Y: Year Last Digital of the Year.

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

PP: Product Code: **BD**

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

Label Characteristic:

Material: polyester

Color: pantone 422c

Ink: pantone 425c

C. RF Antenna Test Specification

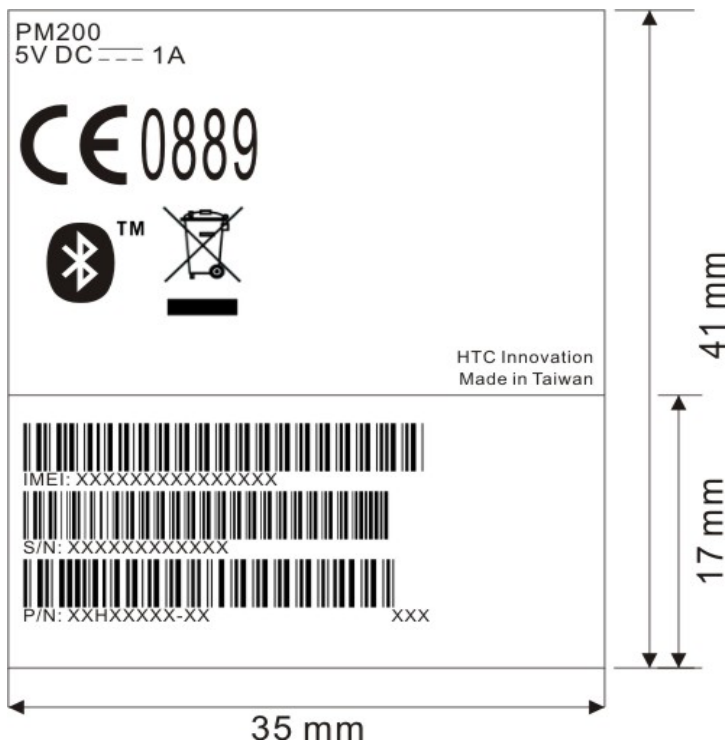| Items	Test Name	TxLevel	TCH	1st Downlink CellPower	Note
1	Camp @ DCS Band	0	512	-75	BCCH=600
2	BS Originate Call	0	512	-75	
E-GSM 900 ReceiverTest					
3	Fast Bit Error Rate	5	975	-104	
4	Fast Bit Error Rate	5	42	-104	
5	Fast Bit Error Rate	5	124	-104	
E-GSM 900 Ttansmitter Test					
6	TX Phase RMS 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	42	-104	
10	TX Phase Peak Error	5	42	-104	
11	TX Frequency Error	5	42	-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	42	-104	
17	Check TX Power	5	124	-104	

DCS 1800 ReceiverTest					
1	Fast Bit Error Rate	0	512	-104	
2	Fast Bit Error Rate	0	698	-104	
3	Fast Bit Error Rate	0	8885	-104	
DCS 1800 Ttansmitter 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 ReceiverTest					
1	Fast Bit Error Rate	0	512	-104	
2	Fast Bit Error Rate	0	661	-104	
3	Fast Bit Error Rate	0	810	-104	
PCS 1900 Ttansmitter 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	661	-104	
8	TX Phase Peak Error	0	661	-104	
9	TX Frequency Error	0	661	-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	661	-104	
15	Check TX Power	0	810	-104	

| GSM 850 ReceiverTest					
1	Fast Bit Error Rate	0	128	-104	
2	Fast Bit Error Rate	0	189	-104	
3	Fast Bit Error Rate	0	251	-104	
GSM 850 Transmitter Test					
4	TX Phase RMS Error	0	128	-104	
5	TX Phase Peak Error	0	128	-104	
6	TX Frequency Error	0	128	-104	
7	TX Phase RMS Error	0	189	-104	
8	TX Phase Peak Error	0	189	-104	
9	TX Frequency Error	0	189	-104	
10	TX Phase RMS Error	0	251	-104	
11	TX Phase Peak Error	0	251	-104	
12	TX Frequency Error	0	251	-104	
13	Check TX Power	0	128	-104	
14	Check TX Power	0	189	-104	
15	Check TX Power	0	251	-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 (CON3)

2. Audio daughter Connector (CON5)

3. Power Switch (SW1)

4. Capture Switch (SW4)

5. Volume Slide Switch (SW5)

6. Record Switch (SW3)

7. Mini-USB connector (CON6)

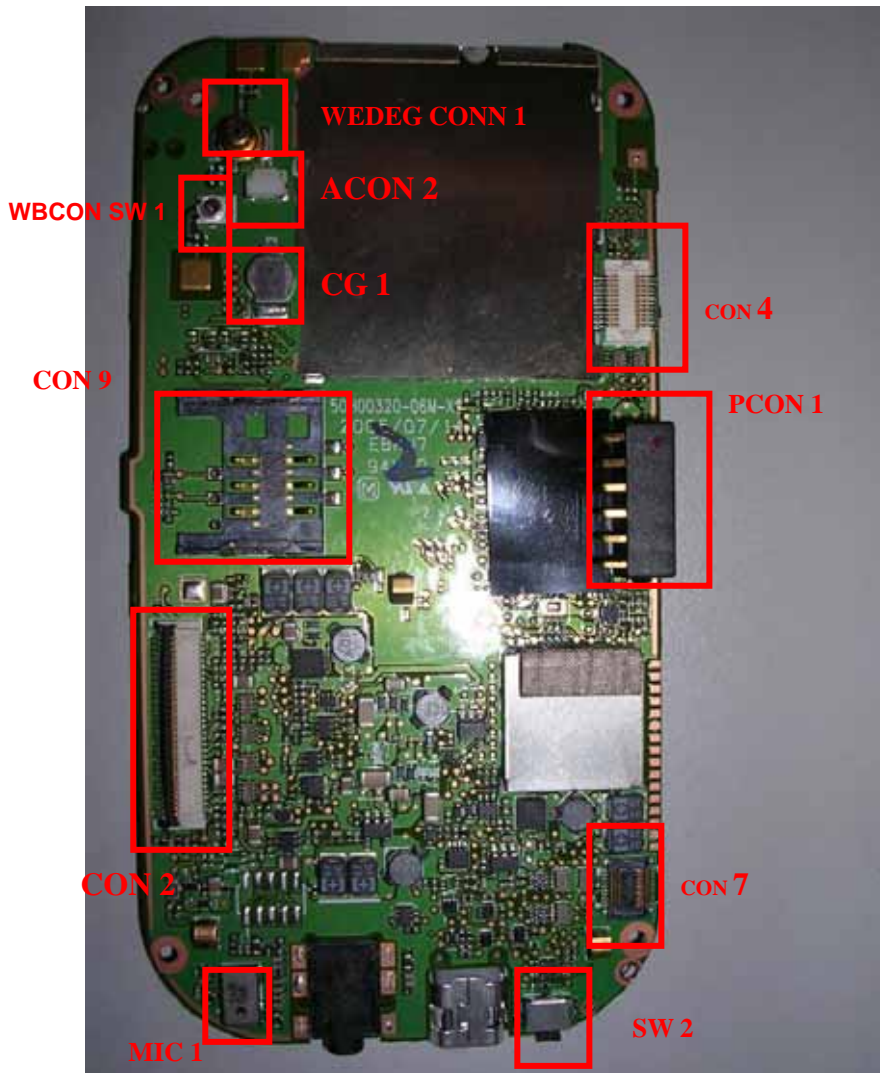8. Audio Jack (ACON1)

9. FUSE (PTC1)
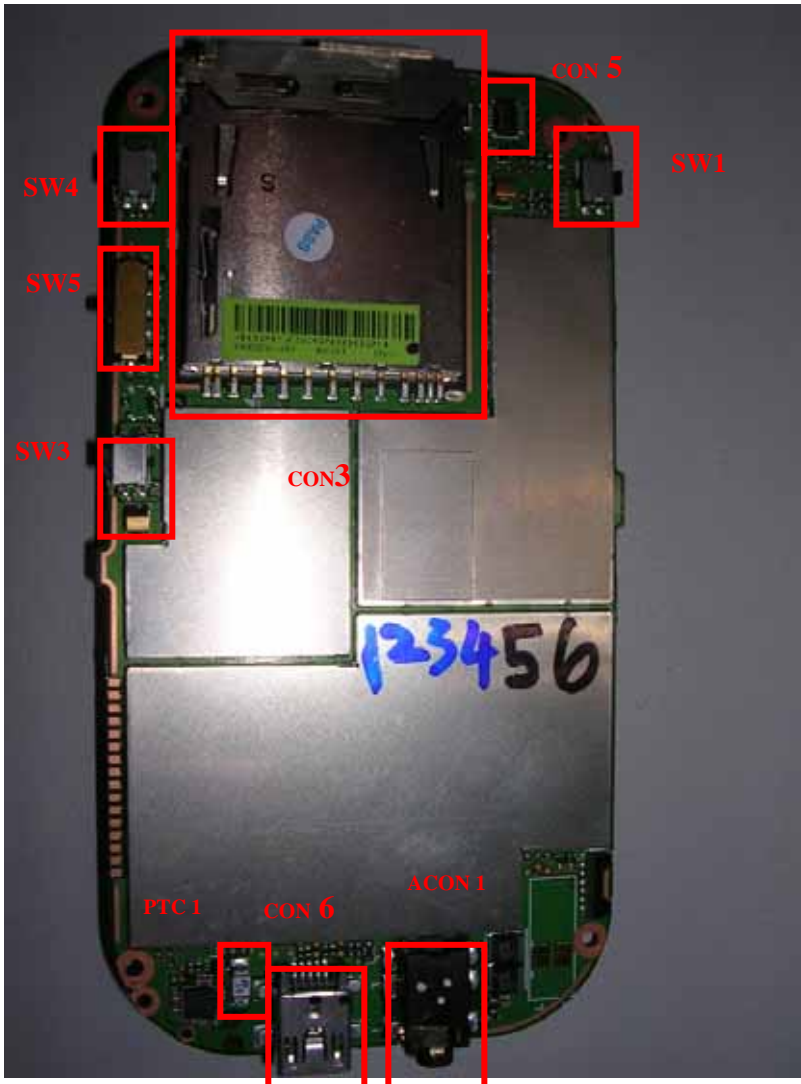
Reverse side

1. Connector RF, WEDEG (WEDEG CONN1)

2. Speaker connector (ACON2)

3. Battery Connector (PCON1)

4. SIM Card Connector (CON9)

5. LCM connector (CON2)

6. COAXIAL CONNECTOR (WBCON_SW1)

7. Reset Key (SW2)

8. Switch board connector (CON7)

9. Gold Cap,0.07F,70ohm, 3.3V   (CG1)

10. Camera connector (CON4)

11. MIC (MIC1)

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 (SW3), Camera Switch (SW4), Reset Switch (SW2), Power Switch (SW 1)

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 (CON6)

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 (ACON 1)

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 (CON2)

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 CON2 to prevent it melted when using heater gun to remove CON2.

6. Switch Board FPC Connector (CON7)

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 (PCON 1)

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. Gold Cap (CG1)

8.1 If the Golden cap function failure (can not keep the date, RTC failure) replace it.

Replace process:

A. Remove CG1 (DO NOT use Heater Gun to remove)

B. Take a new one for replace:

Notice: 1. Set up the welding iron temperature 350 degree C

2. Don't stay on the pins (positive and negative pin) of component (CG1) over 5 seconds.

3. Don't contact the component body with welding iron directly.

8.2 If the component doesn't work properly after replace new one, please replace the M/B.

9. SIM Card Connector (CON 9)

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. WEDEG RF connector (WEDEG CONN1)

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. FUSE (PTC 1)

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 (SW5)

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 (CON3)

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. Charmer Spare Part List For Board Level Repair

Charmer BOARD LEVEL Spare part List

Item	Description	HTC P/N	Using Q'ty	Location	Remark
1	36H00129-00M	SWITCH BUTTON,PTS-106,HCH,4.7*4.5*1.65	4	SW1,2,3,4	
2	36H00160-00M	Slide_Switch,HSS112,HCH 1	1	SW5	
3	36H00208-00M	MIC,SP0103NC3,EMKAY,Pb-FREE,100/-40degC,6.15*3.76*1.45 mm 1	1	MIC1	
4	36H00301-00M	Fuse,PTC,1.5A, 6V 0.04 ohm~0.12 ohm,0.08ohm,+/-50%,1206	1	PTC1	
5	36H00256-00M	2.5 MM AUDIO JACK,DTJ-0281,12.5* 7 *4 MM,DIHTAIN 1	1	ACON1	
6	75H00204-00M	CONNECTOR,B-TO-FPC,FH23-61S-0.3SHAW(05),PITCH=0.6mm,HRS	1	CON2	
7	75H00228-00M	CONNECTOR,SM02B-SURS-TF,JST 1	1	ACON2	
8	75H00248-00M	COAXIAL CONNECTOR,RF,WITH SWITCH,SMD,MM8430-2600RA1,MURATA	1	WBCON_ SW1	
9	75H00450-00M	Connector SDIO,15P,2.5mmPitch,0.5A,AXA29200933,MATSUSHITA	1	CON3	
10	75H00321-00M	Connector RF,4P,LPC TP-1,120220-0129,ITT Cannon, Pb-FREE	1	WEDGE CONN1	
11	75H00395-00M	Connector SIM Card,50mohm,ICC-429,hamburg	1	CON9	
12	75H00396-00M	Connector,Battery,6PIN,Pitch=2.5mm,R-angle,BTR1M-6K2000,Acon	1	PCON1	
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	CON6	
15	75H00402-00M	Connector B to B,AXK814145Y,70mohm,14P,P=0.4mm,0.3A,60V,Matsushita	1	CON7	
16	75H00415-00M	Connector B to B,Female,20pin,Pitch=0.4mm,AXK7L20227,Matsushita	1	CON6	
17.	16H00012-00M	Gold Cap, 0.07F, 70ohm,3.3V, -25/+50% XH414H II 02EY, SEIKO	.1	CG1	