



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

1 of 104

---

# Pilot

---

# Service Manual

---



HTC Proprietary

Confidential Treatment Requested

Rev. Ax02





宏達國際電子股份有限公司  
HTC Corporation

Doc. No.	DOC-00045109	REV.
Issued Date	2008/08/11	Ax02
Revised Date	2008/12/4	

Doc. Title	<b>Pilot Service Manual</b>	Page	2 of 104
------------	-----------------------------	------	----------

**REVISION CONTROL TABLE**

REV	DATE	CONTENTS	DEPT	REVISED	STAGE
Ax01	2008/07/01	Fist Draft	PSE	Joy_Lu	DVT
Ax02	2008/12/04	Update Ch8 SPL list and pictures& Ch6 TS guide & add Ch2.3 replace SIM SOP and add Ch2.4 replace SD card SOP& SD upgrade SOP in Ch3.1&Ch5 Cosmetic inspection criteria. Update the picture in Ch2.3 and Ch5 content and picture of UMTS board in Ch8.2.	PSE	Joy_Lu	CVT



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.	DOC-00045109	REV.
Issued Date	2008/08/11	Ax02
Revised Date	2008/12/4	

Doc. Title	<b>Pilot Service Manual</b>	Page	3 of 104
------------	-----------------------------	------	----------

## Table of Contents

<b>1. INTRODUCTION .....</b>	<b>4</b>
1.1 PRODUCT FEATURES .....	5
PRODUCT OVERVIEW.....	11
<b>2. DEVICE DISASSEMBLING AND ASSEMBLING PROCEDURE .....</b>	<b>12</b>
2.1 DISASSEMBLING PROCEDURE.....	12
2.2 ASSEMBLING PROCEDURE .....	21
2.3 REPLACE SIM CARD SOP .....	31
2.4 REPLACE SD CARD SOP .....	34
<b>3. ROM RE-FLASH PROCEDURE .....</b>	<b>37</b>
3.1 ROM IMAGE UPGRADE THRU SD CARD.....	37
<b>4. DIAGNOSTIC PROGRAM .....</b>	<b>39</b>
4.1 LIST OF WINCE TEST ITEMS .....	39
<b>5. COSMETIC INSPECTION CRITERIA.....</b>	<b>41</b>
5.1 CLASSES DEFINITION OF INSPECTIVE AREA.....	41
5.2 MAIN UNIT INSPECTION .....	42
<b>6. TROUBLE SHOOTING PROCESS/FAULTY TREE .....</b>	<b>44</b>
<b>7. GENERIC LABELING PLAN (NOT READY) .....</b>	<b>88</b>
<b>8. GENERIC SPARE PART LIST AND PHOTOS.....</b>	<b>94</b>
8.1 SPL FOR REPAIR .....	94
8.2 BOARD LEVEL 2.5 REPAIRS.....	98
<b>9. RF SPECIFICATION(NOT READY).....</b>	<b>104</b>
9.1 MODULE .....	104

Doc. Title	<b>Pilot Service Manual</b>	Page	4 of 104
------------	-----------------------------	------	----------

## 1. Introduction

- This manual provides the technical information to support the service activities of Pilot.
- This document contains highly confidential information, so any or all of this document should not be revealed to any third party.
  - Chapter 1: Introduction-This Chapter is about Products features and basic Product function. After reading this chapter, you will know what feature the product has and basic hardware operation. Also you will know how to perform soft-rest and hard-rest in this chapter.
  - Chapter 2: Device Disassembling and Assembling Procedure- After reading this chapter, you will learn how to disassemble and assemble the product. Also, you will know what tools to use and the torque. Please follow the instruction to disassemble the unit to prevent from damaging the unit.
  - Chapter 3: ROM Re-flash Procedure- After reading this chapter, you will learn how to perform the ROM image re-flash by using RUU and SD-Card. Also you can find the steps of enter the boot loader mode.
  - Chapter 4: DIAGNOSTIC PROGRAM- After reading this chapter, you will learn
    - How to use the diagnostic program to perform unit function test
    - How to test some functions in Windows Mobile mode (ex. WLAN, Bluetooth, and USB etc...)
  - Chapter 5: Cosmetic Inspection Criteria- After reading this chapter you will learn the appearance quality inspection criteria, ex. Display, bezel, and housing etc...
  - Chapter 6: Generic Troubleshooting- After reading this chapter, you will learn how to do generic trouble-shooting.
  - Chapter 7: Generic Labeling Plan- In this chapter, you will find generic labels for reference, ex. Regulation label, and battery label etc...
  - Chapter 8: Generic Spare Part List and Photos- In this chapter, you will find Spar parts reference list and photos for repairing, including unit and Board level.
  - Chapter 9: RF Antenna Specification- Reference Spec for RF test.



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

5 of 104

## 1.1 Product Features

### Platform

- ⌚ Car PC – built-in in Car system
- ⌚ Microsoft Windows Automotive Ver. 5.0(Service Pack 2)

### Dimension

- ⌚ 1.7 Din 180 mm(L) x 153 mm(W) x 85 mm(T)
- ⌚ 1900 g

### Processor / Chipsets

- ⌚ Renesas SH7771, 400MHz
- ⌚ Qualcomm 6275(3.G/3G)
- ⌚ TI 6300(BT)
- ⌚ SiRF GSC3 (GPS)

### Memory

- ⌚ ROM: 1GB (for Taiwan, China)
- ⌚ NOR Flash ROM: 2MB for boot
- ⌚ RAM: 128 MB(DDR SDRAM)

### LCD Module

- ⌚ *10.2" 800x480 color LCD without Touch Panel – for MPV2 (NOT designed and Handled by HTC)*
- ⌚ *10.2" 800x480 color LCD with Touch Panel – for SUV (NOT designed and Handled by HTC)*
- ⌚ PIP support
- ⌚ Resolution: 800\*480 WVGA
- ⌚ Analog output
- ⌚ Separate H-sync/V-sync

### HSDPA/UMTS/EDGE/GPRS/GSM Function

- ⌚ Mono-pole antenna with cable
- ⌚ Tri-Mode
  - ⌚ HSDPA/UMTS
    - ⌚ 2100: 1920~1980, 2110~2170Mhz
  - ⌚ Dual-band EDGE/GPRS/GSM
    - ⌚ 900: 880~915, 925~960Mhz
    - ⌚ 1800: 1710~1785, 1805~1880Mhz



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

6 of 104

- ⊕ HSDPA/UMTS Functionality
- ⊕ Data rate:
  - ⊕ Compliant with 3GPP Release 5
  - ⊕ Category 12, QPSK, DL up to 1.8 Mbps, UL up to 384Kbps
- ⊕ Handover and cell selection between GSM/EDGE and WCDMA
- ⊕ Global roaming
- ⊕ Auto band switching
- ⊕ Audio codec: AMR, EFR, FR, HR
- ⊕ SMS (MO, MT), concatenated SMS (640 characters)
- ⊕ Supplementary Services
- ⊕ Call forwarding
- ⊕ CLI (Calling Line Identity)
- ⊕ Display own number
- ⊕ Network Fasten
- ⊕ CPHS (partial support)
- ⊕ E-GPRS Functionality
- ⊕ EGPRS class B
- ⊕ Multi-slot class 10
- ⊕ PBCCH
- ⊕ Link Adaptation and Incremental Redundancy
- ⊕ USIM/SIM
- ⊕ 1.8 / 3V of UICC

### **GPS**

- ⊕ GPS antenna with cable
- ⊕ Sensitivity : provide up-to -156dBm for open sky & static condition
- ⊕ Support NMEA 0183 version 3.0 or above
- ⊕ 20 parallel channel GPS receiver
- ⊕ Acquisition time
- ⊕ Hot start: 10 seconds, typical TTFF (open sky & static condition)
- ⊕ Warm start: 60 seconds, typical TTFF (open sky & static condition)
- ⊕ Cold start: 75 seconds, typical TTFF (open sky & static condition)
- ⊕ Update rate: once/1sec (default)
- ⊕ GPS Accuracy
- ⊕ Position: < 15 meters, 95% typical



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

7 of 104

- ⊕ Velocity: 0.05 meter/sec steady state
- ⊕ DR support(via Gyro + Odometer)

#### **Digital Camera (NOT designed and Handled by HTC)**

- ⊕ 4 CCD cameras: outside of car for birdview image capture
- ⊕ 2 CCD cameras: side-view for image capture
- ⊕ 1CCD camera for night vision
- ⊕ Back sonar, Front sonar

#### **DVD Player (NOT designed and Handled by HTC)**

- ⊕ CD/CD-R/CD-RW/VCD/SVCD/DVD/DVD-R(-RW)/DVD+R(+RW)

#### **Audio**

- ⊕ Microphone with cable
- ⊕ Support AEC
- ⊕ Support MP3 player, Navigation and system sound
- ⊕ *Speaker for Audio out / Hands-Free (Not designed and handled by HTC)*

#### **Connectivity & Interface**

- ⊕ Bluetooth
  - ⊕ Compliant with v2.0 & EDR
  - ⊕ Class 2 transmit power
  - ⊕ Supported profiles:
    - ⊕ Hands-free profile (V.1.5)
    - ⊕ FTP Profile
- ⊕ USB 2.0 Host
- ⊕ Audio-in/Video-in
- ⊕ DVB-T
- ⊕ AUX-1 (Video, Audio)
- ⊕ AUX-2 (Audio)
- ⊕ DVD/VCD
- ⊕ Night Vision CCD
- ⊕ Back CCD
- ⊕ Birdview CCD
- ⊕ Side view CCD
- ⊕ I/O



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

8 of 104

- ⊕ SD/MMC Card slot
- ⊕ Video, Audio, Power & Digital control (76 Pins connector)
- ⊕ USB Host Connector (12 Pins)
- ⊕ 3G antenna connector
- ⊕ BT antenna connector
- ⊕ GPS antenna connector
- ⊕ 1.8/3V SIM card slot
- ⊕ Mini USB connector( for SW debugging)

#### **Power**

- ⊕ Car Battery
- ⊕ Car PC Standby current: 10 mA [TBD]
- ⊕ Car PC Voltage:12V

#### **Microsoft Windows Automotive v.5.0 Applications**

- ⊕ Microsoft Internet Explorer
- ⊕ High-speed graphics processing
- ⊕ High-quality Human-machine Interface

#### **Value Added Applications**

- ⊕ Main Shell
- ⊕ Main Screen, Status Bar
- ⊕ Media Entertainment
- ⊕ FM/AM radio (UI)
- ⊕ DVD (UI) (including DVD/CD/MP3/VCD)
- ⊕ DVB-T (UI)
- ⊕ Storage Media Player
  - ⊕ 1 External Memory device—USB port (can connect to Card Reader)
  - ⊕ Music Player
  - ⊕ Picture Viewer
- ⊕ iPod connection (music, photo, video) (UI)
- ⊕ Aux-IN
- ⊕ Mobile Communication
- ⊕ Phone Shell Dialer (Support Car PC Phone, Bluetooth Phone)
  - ⊕ Call History
  - ⊕ Speed Dial





宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

9 of 104

- ⊕ Phone Settings
  - ⊕ Phone Book
  - ⊕ SMS
  - ⊕ Vehicle Monitoring
  - ⊕ Side View
  - ⊕ Parking Assistance (Bird View)
  - ⊕ Night Vision
  - ⊕ Vehicle Notification
  - ⊕ Maintenance Notification
  - ⊕ Emergency Management
  - ⊕ Personal Safety
  - ⊕ Air bag/ Anti-theft/ SOS
  - ⊕ Driver Zone
  - ⊕ Vehicle online manual
  - ⊕ Car PC online manual
  - ⊕ My Calendar
  - ⊕ Member's area
  - ⊕ Navigation
    - ⊕ Route guidance
    - ⊕ Parking information
    - ⊕ Travel information
    - ⊕ POI information
  - ⊕ Setting
    - ⊕ System Settings
    - ⊕ Display settings
    - ⊕ Audio settings
    - ⊕ Hot key settings
    - ⊕ Bluetooth settings
    - ⊕ Other settings
  - ⊕ Voice Recognition
  - ⊕ Name dial
  - ⊕ Digit Dial
  - ⊕ Phone book search
  - ⊕ Entertainment voice command



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

10 of 104

⊕ Navigation voice command

⊕ Settings

**Environment**

⊕ Operation temperature: -30~75 degree C

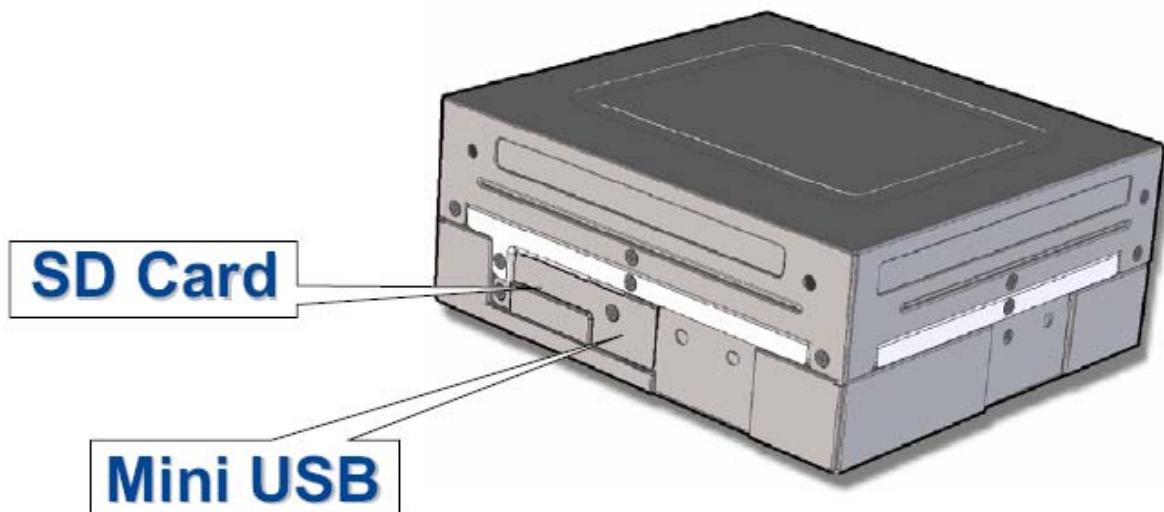
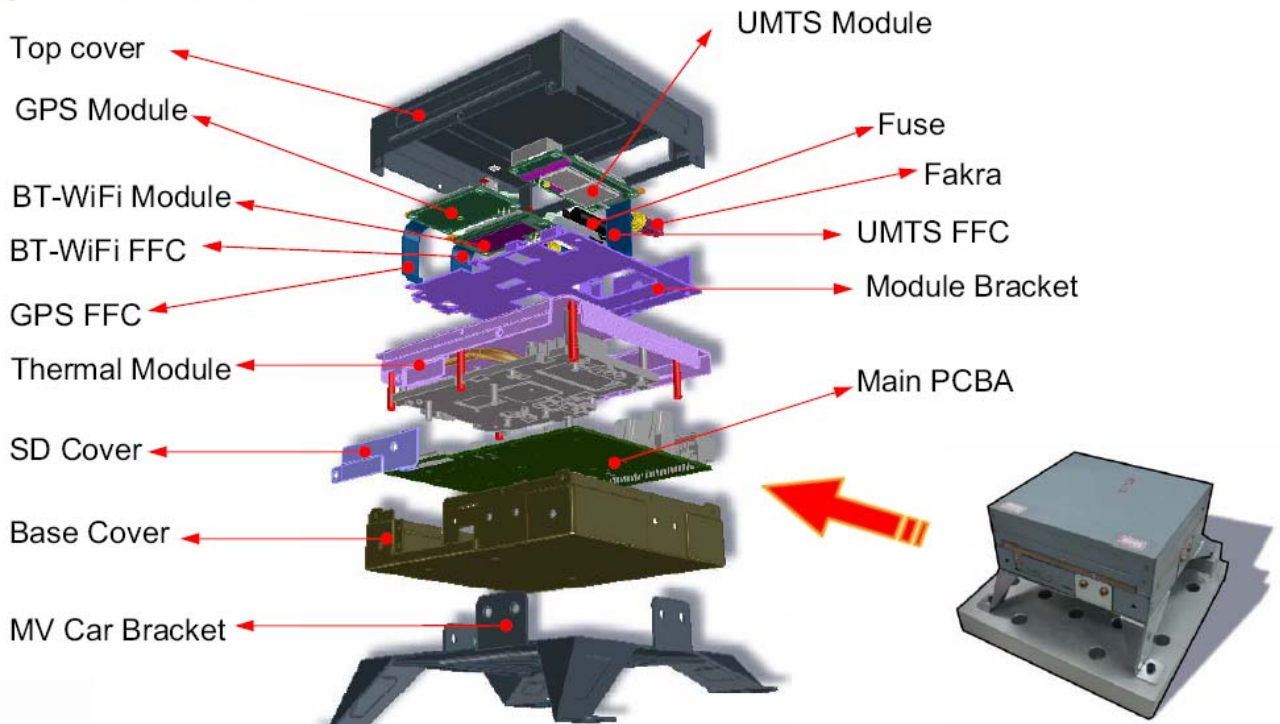
⊕ Non operation temperature: -40~85 degree C

**Regulatory**

⊕ TS-16949

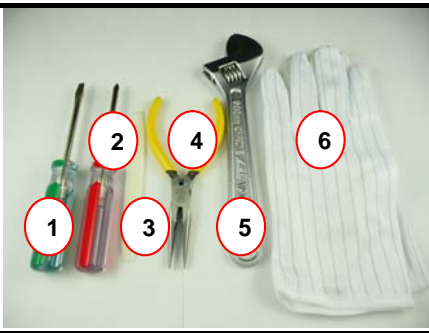
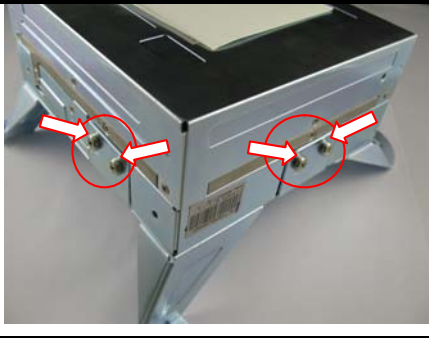
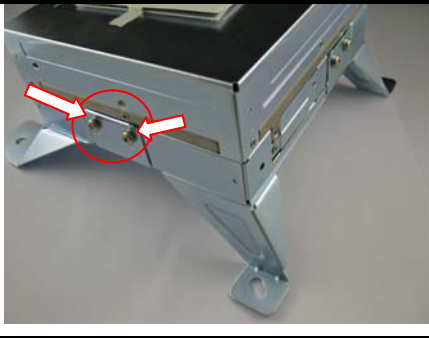
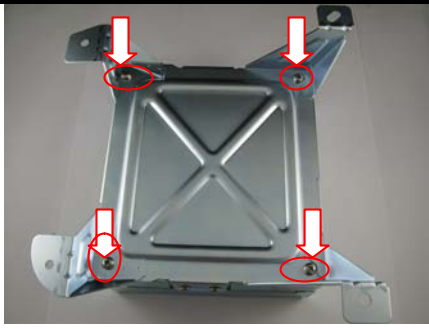
## Product overview

### • Explode View



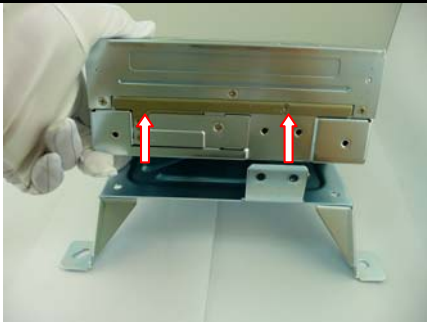
## 2. Device Disassembling and Assembling Procedure

### 2.1 Disassembling procedure

			<p>TOOLS NEEDED FOR ASSEMBLING AND DISASSEMBLING PROCESS.</p> <ol style="list-style-type: none"> <li>1. SCREW DRIVER~ MINUS</li> <li>2. SCREW DRIVER~ CROSS</li> <li>3. FLAT PLASTIC STICK</li> <li>4. PLIERS</li> <li>5. WRENCH</li> <li>6. ANTI-ESD GLOVES</li> </ol>
			<p>UNFASTEN 4 SCREWS FROM RIGHT AND FRONT SIDE OF CAR BRACKET</p>
			<p>UNFASTEN 2 SCREWS FROM LEFT SIDE OF CAR BRACKET</p>
			<p>UNFASTEN 4 SCREWS FROM CAR BRACKET AND BASE COVER AS FIGURE</p>



ID OF THESE TEN SCREWS.  
(DIMENSION: M5 圓頭 0.8x6 )  
(72H02546-00M)



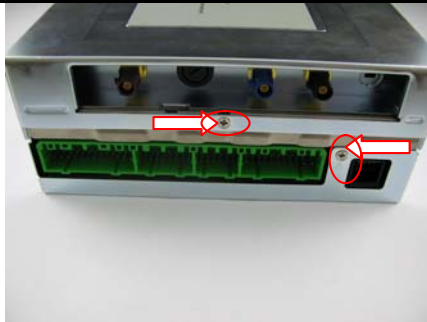
DIS-ASSEMBLE CAR BRACKET WITH CAR PC AS FIGURE



UNFASTEN 3 SCREWS FROM THE RIGHT SIDE OF TOP COVER AS FIGURE



UNFASTEN 3 SCREWS FROM THE LEFT SIDE OF TOP COVER AS FIGURE



UNFASTEN 2 SCREWS FROM THE BACK SIDE OF TOP COVER AS FIGURE



UNFASTEN 7 SCREWS FROM THE FRONT SIDE OF TOP COVER AS FIGURE

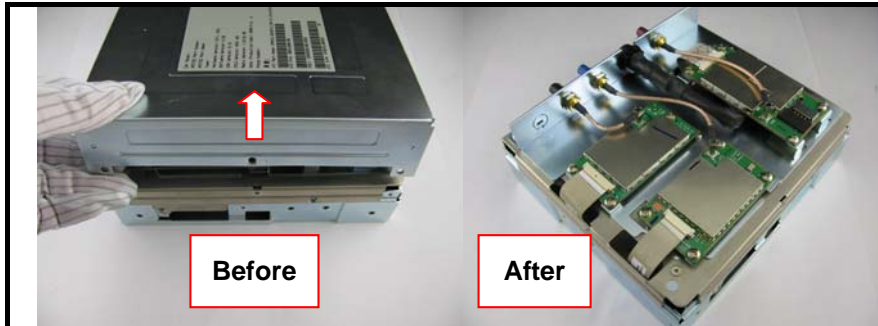


ID OF THESE 15 SCREWS.  
(DIMENSION: M3 平頭 0.5x4)  
([72H02544-00M](#))

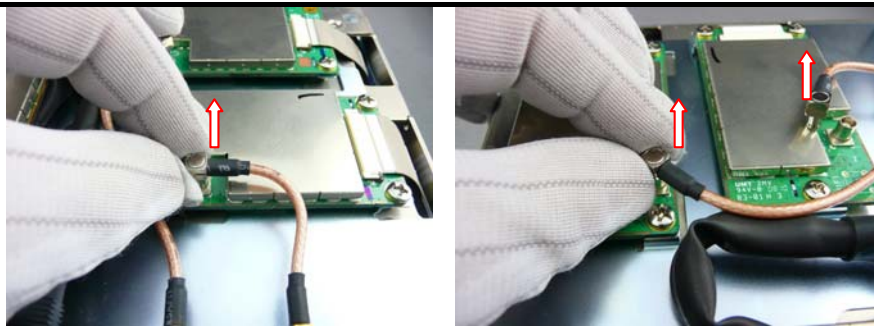


TAKE THE IRON SLICE OF SD& MINI USB CONNECTOR OUT OF THE FRONT SIDE OF CAR PC.

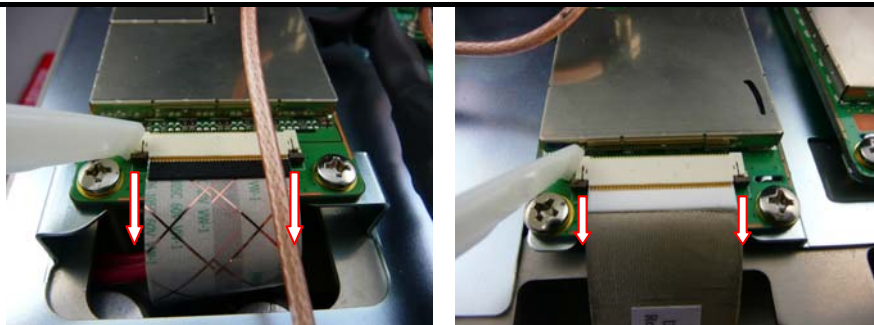




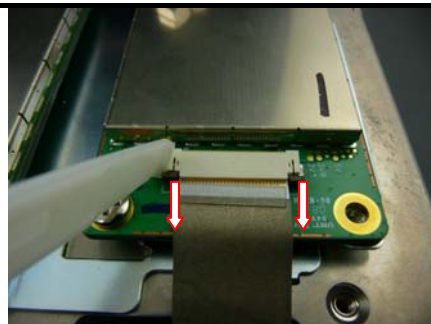
DISASSEMBLE TOP COVER FROM MODULE AS FIGURE



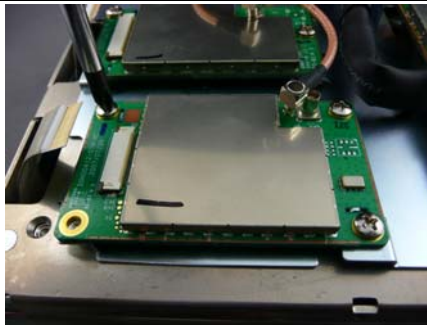
DIS-ASSEMBLE THREE RF CABLES OF FAKRA BRACKET FROM CONNECTORS OF M/B、BT AND GPS BOARD AS FIGURE



DIS-ASSEMBLE THREE FPCs FROM M/B、BT AND GPS BOARD AS FIGURE



DIS-ASSEMBLE THREE FPCs FROM M/B、BT AND GPS BOARD AS FIGURE



UNFASTEN 11 SCREWS OF UMTS、GPS、BT BOARD ON FAKRA BRACKET AS FIGURE



UNFASTEN 11 SCREWS OF UMTS、GPS、BT BOARD ON FAKRA BRACKET AS FIGURE

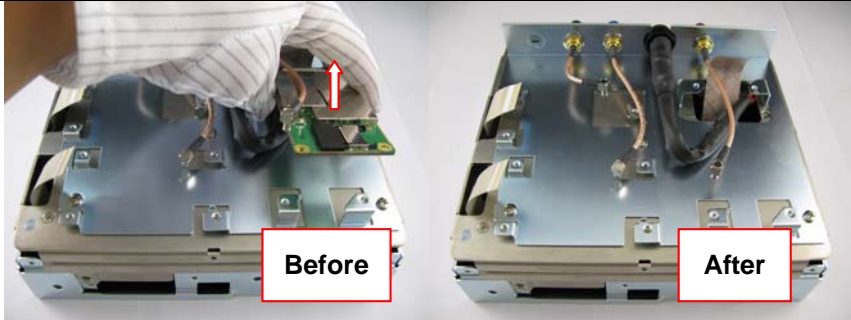
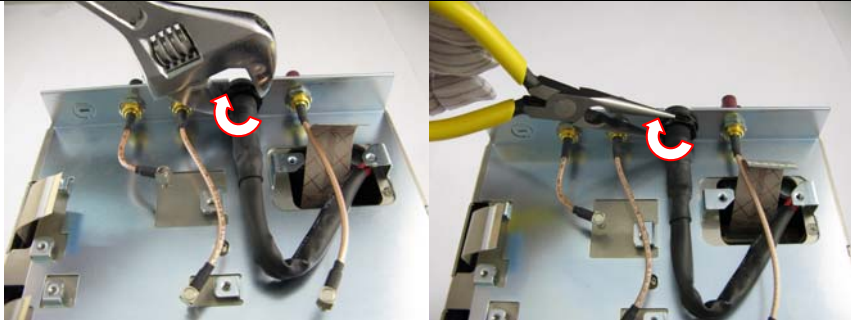
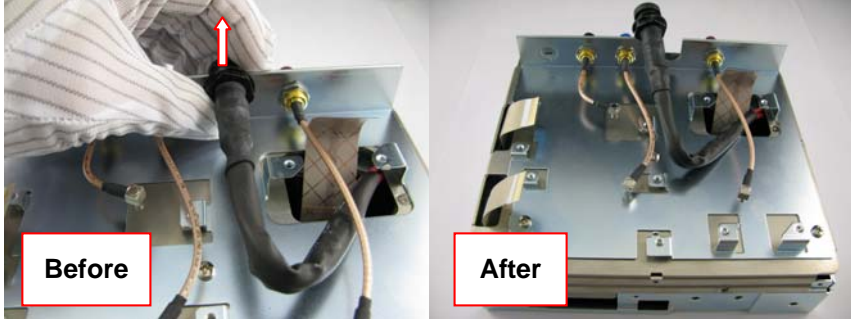
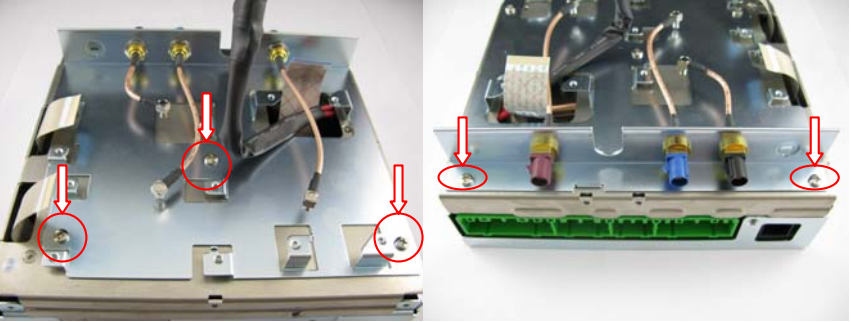


ID OF THESE 11 SCREWS.  
(DIMENSION: M3 圓頭 0.5x6)  
([72H02545-00M](#))



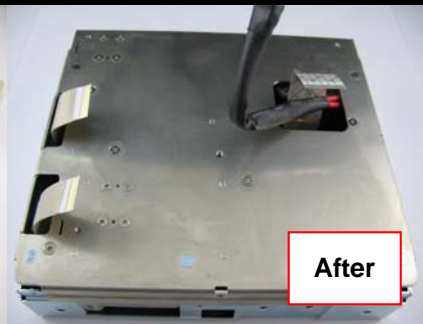
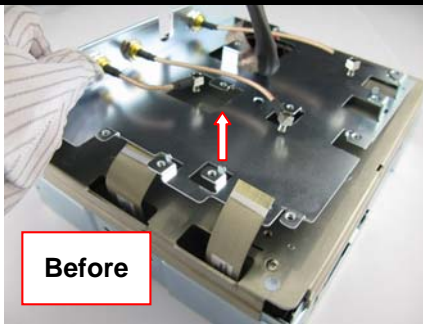
TAKE OUT GPS, BT BOARDS FROM THE FAKRA BRACKET.



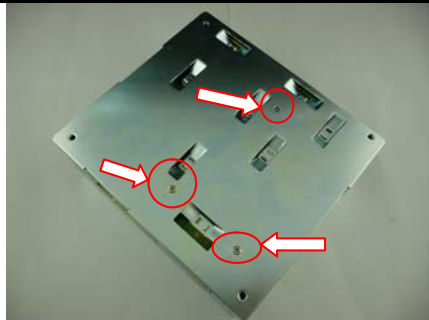
 <p><b>Before</b>                      <b>After</b></p>	<p>TAKE OUT THE UMTS BOARD FROM THE FAKRA BRACKET.</p>
	<p>USE THE WRENCH &amp; PLIERS TO LOOSE THE SCREW NUT (螺帽) OF THE POWER CABLE.</p>
 <p><b>Before</b>                      <b>After</b></p>	<p>TAKE OUT THE POWER CABLE FROM THE FAKRA BRACKET.</p>
	<p>UNFASTEN 5 SCREWS FROM THE ARROW POINTED LOCATIONS ON THE FAKRA BRACKET AS FIGURE.</p>



ID OF THESE 5 SCREWS.  
(DIMENSION: M3 圓頭 0.5x6)  
([72H02545-00M](#))



REMOVE THE FAKRA BRACKET FROM THE THERMAL MODULE AS FIGURE.



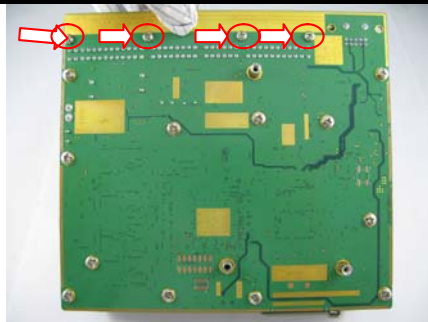
UNFASTEN 3 SCREWS ON THE BOTTOM COVER.



ID OF THESE 3 SCREWS.  
(DIMENSION: M3 平頭 0.5x4)  
([72H02544-00M](#))



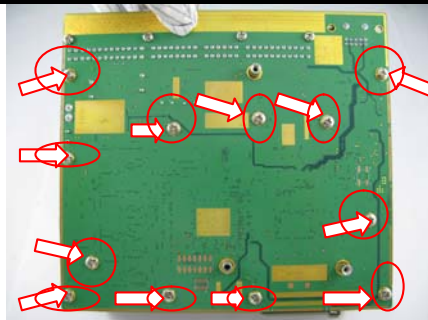
DIS-ASSEMBLE THERMAL MODULE AND BOTTOM COVER AS FIGURE.



UNFASTEN 4 SCREWS FROM THE ARROW POINTED LOCATIONS ON MAIN BOARD AS FIGURE.



ID OF THESE 4 SCREWS.  
(DIMENSION: M3 自攻)  
(72H02547-00M)

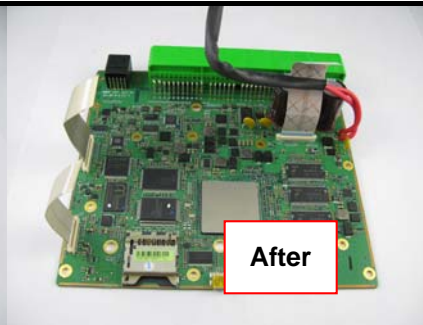
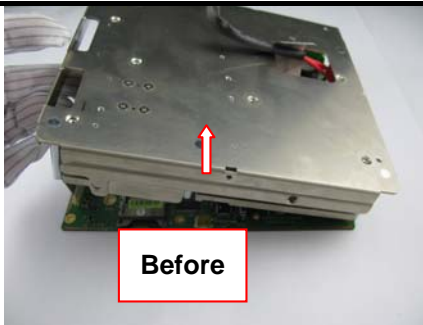


UNFASTEN 12 SCREWS FROM THE ARROW POINTED LOCATIONS ON MAIN BOARD AS FIGURE.

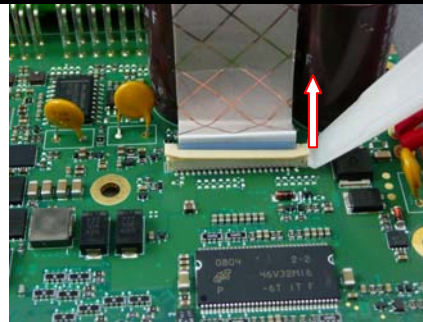
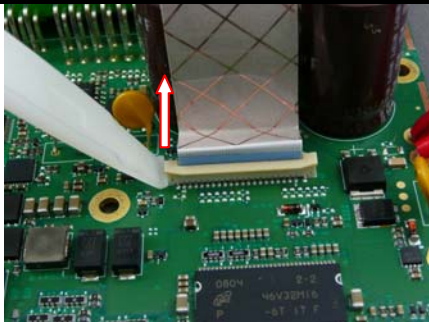




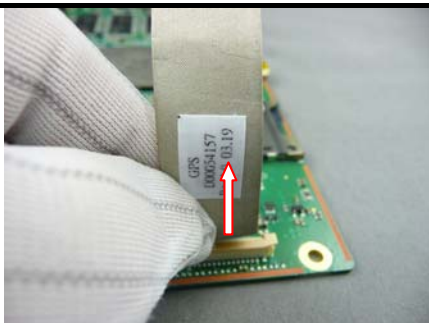
ID OF THESE 12 SCREWS.  
(DIMENSION: M3 圓頭 0.5x6)  
([72H02545-00M](#))



DIS-ASSEMBLE THERMAL MODULE ON M/B AS FIGURE.



USE PLASTIC STICK TO LOOSE THE RIGHT & LEFT SIDE OF THREE FFC CONNCTORS BY PULLING THE HOOK UP



TAKE OUT THREE FFC PINS ON M/B



TAKE OUT THREE FFC PINS ON M/B



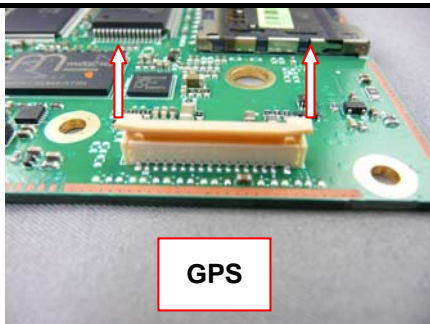
DISASSEMBLE COMPLETE

## 2.2 Assembling procedure

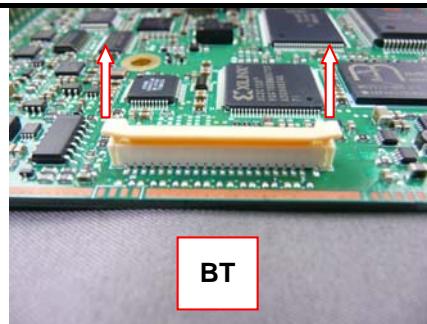


TOOLS NEEDED FOR ASSEMBLING AND DISASSEMBLING PROCESS.

1. SCREW DRIVER~ MINUS
2. SCREW DRIVER~ CROSS
3. FLAT PLASTIC STICK
4. PLIERS
5. WRENCH
6. ANTI-ESD GLOVES

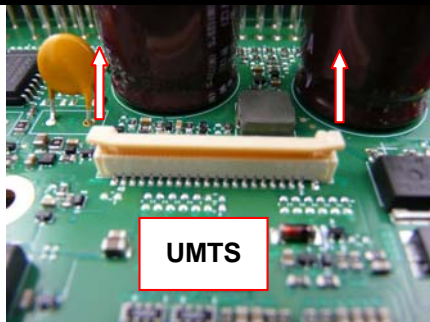


GPS

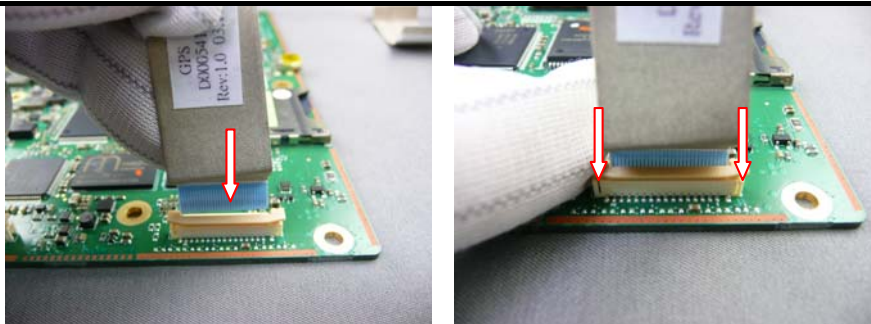


BT

PULL THREE FFC HOOKS UP TO LOOSE THE CONNECTOR



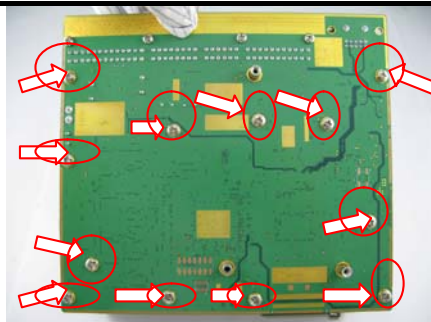
PULL THREE FFC HOOKS UP TO LOOSE THE CONNECTOR



PUT THREE FFCs INTO THE SOCKETS ON M/B AND PUSH DOWN THE HOOK TO CLOSE THE CONNECTOR.



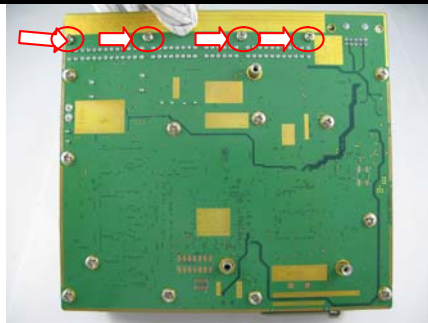
COMBINE THERMAL MODULE WITH M/B AS FIGURE



FASTEN 12 SCREWS BETWEEN THERMAL MODULE AND MAIN BOARD AS FIGURE



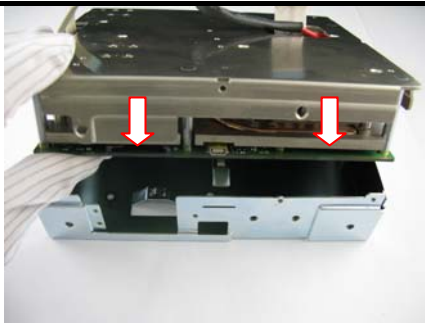
ID OF THESE 12 SCREWS.  
(DIMENSION: M3 圓頭 0.5x6)  
(TORQUE: 2.8±0.05KGF-CM)  
(72H02545-00M)



FASTEN 4 SCREWS BETWEEN  
THERMAL MODULE AND MAIN BOARD  
AS FIGURE

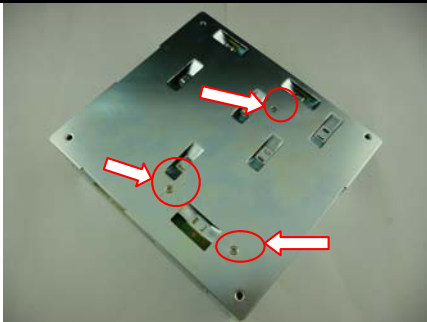


ID OF THESE 4 SCREWS.  
(DIMENSION: M3 自攻)  
(TORQUE: 2.8±0.05KGF-CM)  
(72H02547-00M)



ASSEMBLE BOTTOM COVER WITH  
M/B+ THERMAL MODULE.

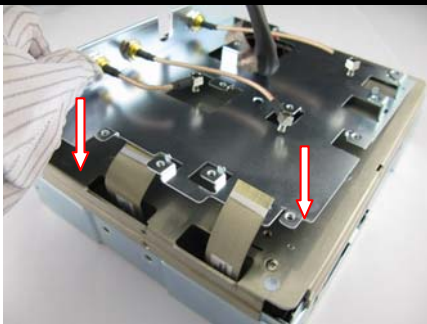




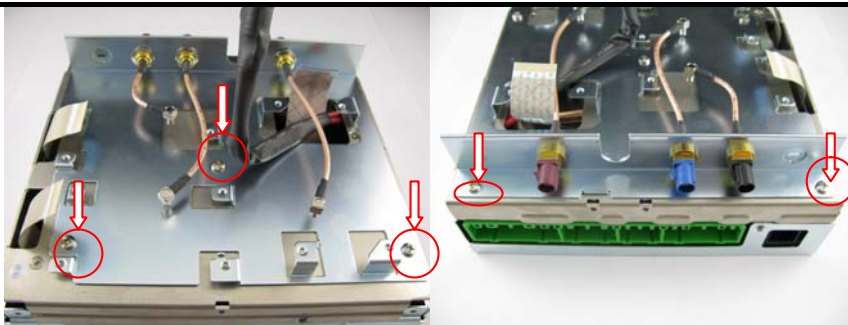
FASTEN 3 SCREWS ON BOTTOM COVER.



ID OF THESE 3 SCREWS.  
(DIMENSION: M3 平頭 0.5x4)  
(TORQUE:  $2.8 \pm 0.05$  KGF-CM)  
([72H02544-00M](#))



COMBINE FAKRA BRACKET WITH THERMAL MODULE AS FIGURE

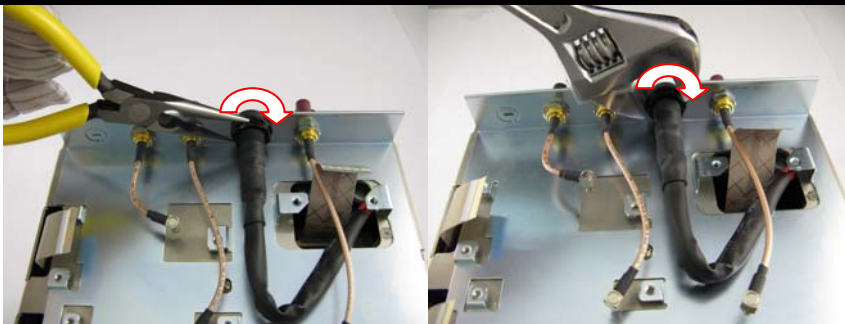


FASTEN 5 SCREWS BETWEEN THERMAL MODULE AND FAKRA BRACKET AS FIGURE

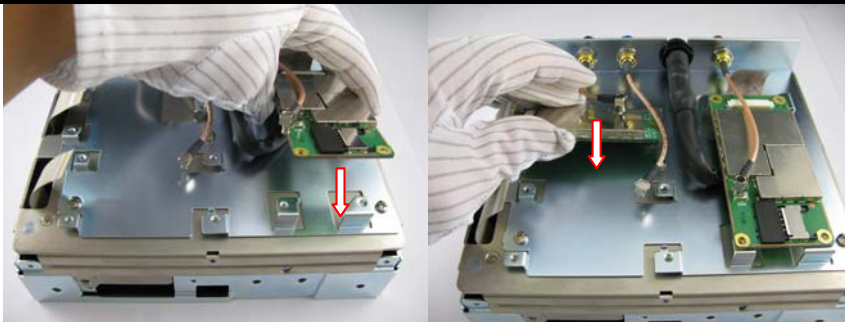




ID OF THESE 5 SCREWS.  
(DIMENSION: M3 圓頭 0.5x6)  
(TORQUE: 2.8±0.05KGF-CM )  
(72H02545-00M)



USE PLIERS & WRENCH TO FASTEN THE SCREW NUT OF POWER CABLE.



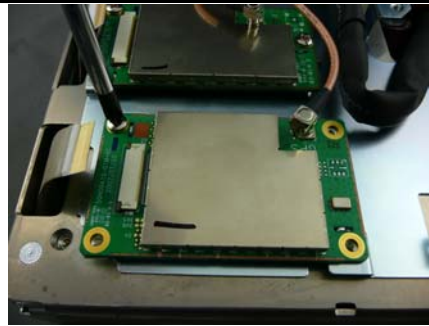
PUT UMTS · GPS BOARDS ON FAKRA BRACKET.



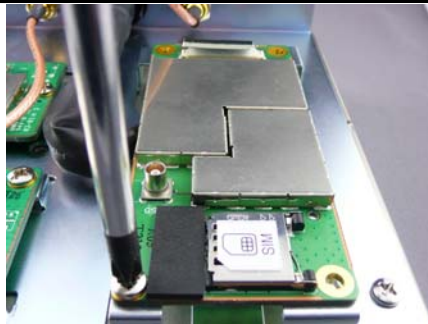
PUT BT BOARD ON FAKRA BRACKET.



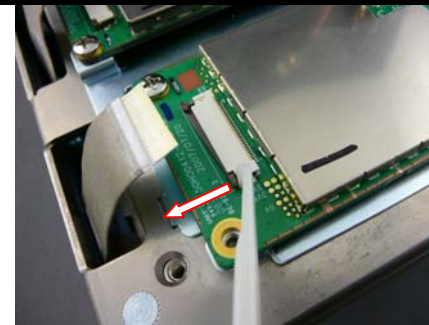
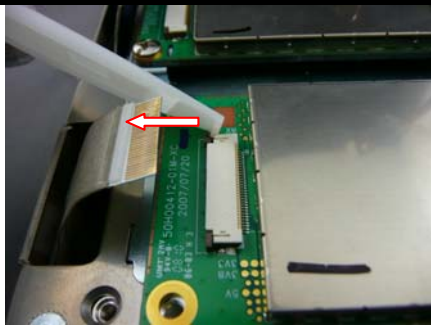
ID OF THE FOLLOWING 11 SCREWS.  
(DIMENSION: M3 圓頭 0.5x6)  
(TORQUE: 2.8±0.05KGF-CM)  
(72H02545-00M)



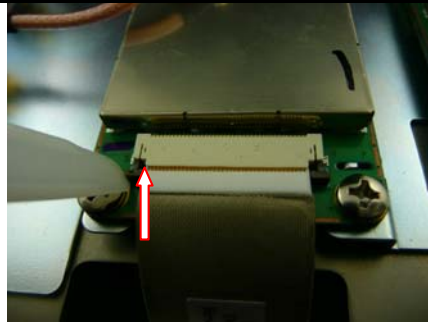
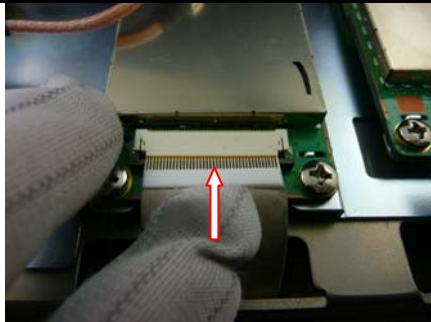
FASTEN GPS、BT BOARD WITH 7 SCREWS ON FAKRA BRACKET AS FIGURE



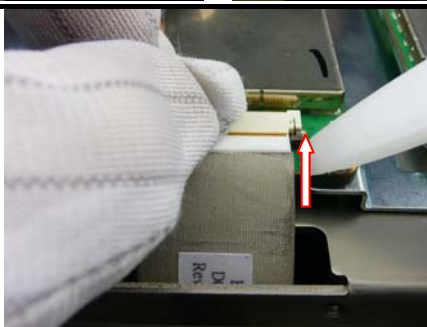
FASTEN UMTS 4 SCREWS ON FAKRA BRACKET AS FIGURE



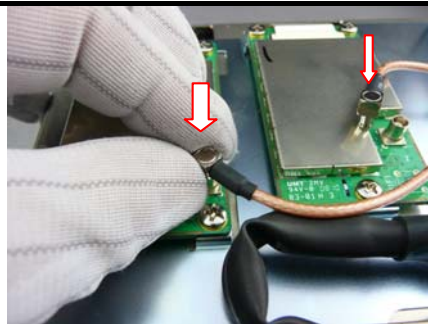
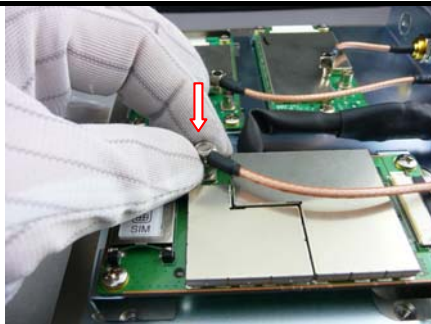
USE PLASTIC STICK TO LOOSE THE RIGHT & LEFT SIDE OF THREE FFC CONNECTORS BY PULLING THE HOOK OUT



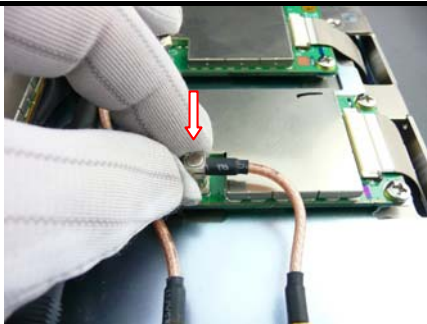
PUSH THREE FFCs INTO THE CONNECTORS AND THEN USE PLASTIC STICK TO CLOSE THE CONNECTORS.



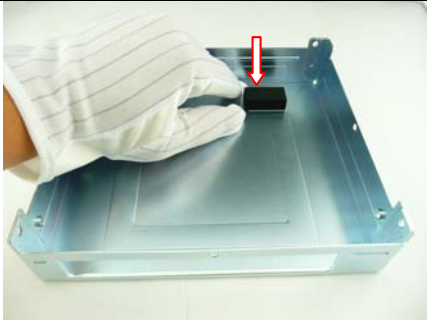
USE PLASTIC STICK TO CLOSE THE CONNECTORS.



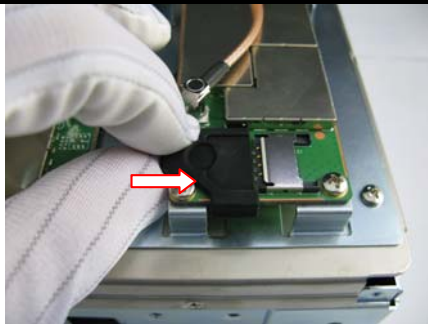
ASSEMBLE THREE RF CABLES INTO UMTS、GPS、BT BOARD.



ASSEMBLE THREE RF CABLES INTO UMTS、GPS、BT BOARD.



STICK 1PC MYLAR ON TOP COVER AS FIGURE



STICK MYLAR ON UMTS BOARD AS FIGURE



ASSEMBLY TOP COVER ON MODULE AS FIGURE



ASSEMBLE THE IRON SLICE OF SD& MINI USB CONNECTOR INTO THE FONT SIDE OF CAR PC.

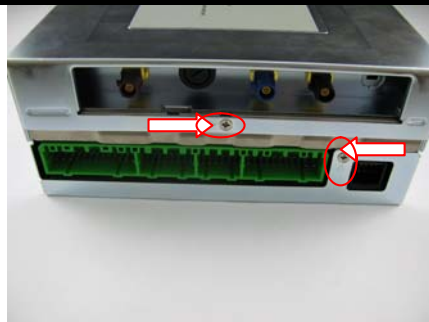




ID OF THE FOLLOWING 15 SCREWS.  
(DIMENSION: M3 平頭 0.5x4)  
(TORQUE: 2.8±0.05KGF-CM)  
(72H02544-00M)



FASTEN 7 SCREWS IN THE FRONT SIDE OF TOP COVER AS FIGURE



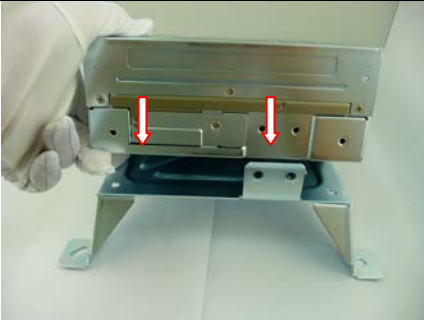
FASTEN 2 SCREWS IN THE BACK SIDE OF TOP COVER AS FIGURE.



FASTEN 3 SCREWS IN THE LEFT SIDE OF TOP COVER AS FIGURE.



FASTEN 3 SCREWS IN THE RIGHT SIDE OF TOP COVER AS FIGURE.



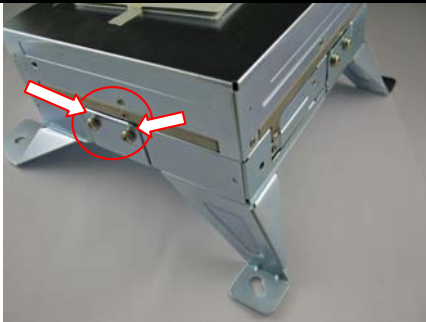
COMBINE CAR BRACKET WITH CAR PC AS FIGURE



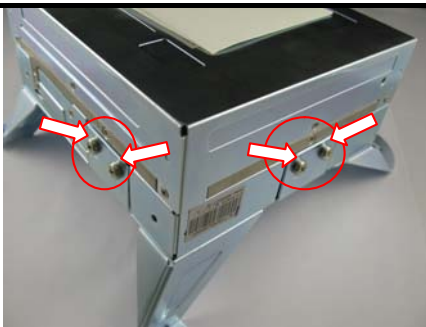
ID OF THE FOLLOWING TEN SCREWS.  
(DIMENSION: M5 圓頭 0.8x6)  
(TORQUE: 2.8±0.05KGF-CM)  
(72H02546-00M)



FASTEN 4 SCREWS IN THE BOTTOM SIDE OF CAR BRACKET AS FIGURE.



FASTEN 2 SCREWS FROM LEFT SIDE OF CAR BRACKET.



FASTEN 4 SCREWS FROM RIGHT AND FRONT SIDE OF CAR BRACKET.



ASSEMBLING IS DONE.

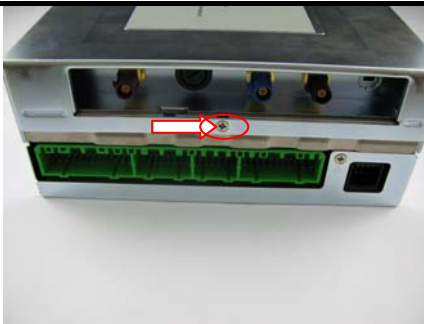
### 2.3 Replace SIM card SOP



UNFASTEN 2 SCREWS FROM THE RIGHT SIDE OF TOP COVER AS FIGURE  
使用十字螺絲起子鬆開箭頭箭頭所指螺絲



UNFASTEN 3 SCREWS FROM THE LEFT SIDE OF TOP COVER AS FIGURE  
使用十字螺絲起子鬆開箭頭箭頭所指螺絲



UNFASTEN 1 SCREWS FROM THE BACK SIDE OF TOP COVER AS FIGURE  
使用十字螺絲起子鬆開箭頭箭頭所指螺絲


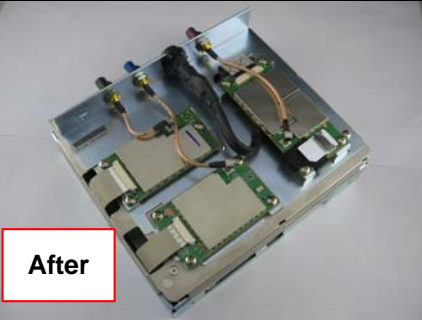
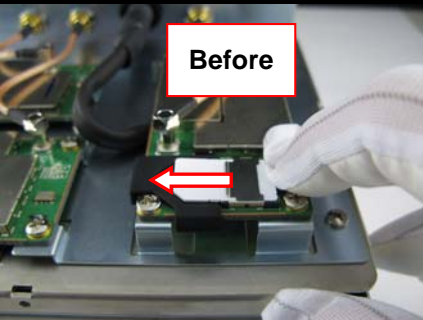
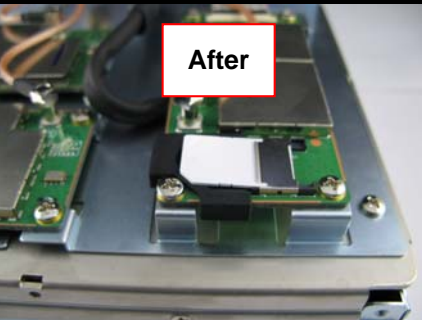
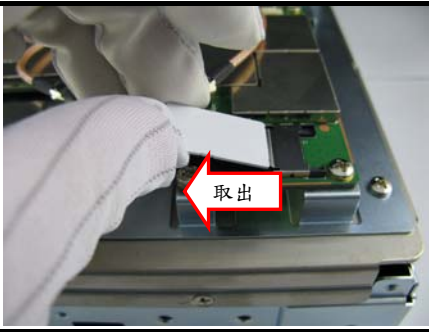
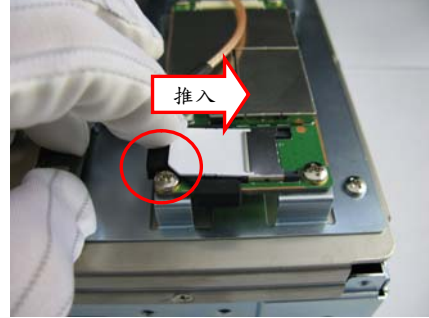


UNFASTEN 4 SCREWS FROM THE FRONT SIDE OF TOP COVER AS FIGURE  
使用十字螺絲起子鬆開箭頭箭頭所指螺絲



ID OF THESE 15 SCREWS.  
(DIMENSION: M3 平頭 0.5x4)  
(72H02544-00M)  
螺絲外觀參考圖



 <p><b>Before</b></p>	 <p><b>After</b></p>	<p>DISASSEMBLE TOP COVER FROM MODULE AS FIGURE 向上提起上蓋以分離上蓋與主機</p>
 <p><b>Before</b></p>	 <p><b>After</b></p>	<p>WEARING ANTI-ESD GLOVES TO PUSH OUT THE SIM CARD FROM THE SIM SOCKET. 套上靜電手套並將 SIM 卡從 SIM 插槽中推出</p>
 <p>取出</p>		<p>TAKE OUT THE SIM CARD BY POINT FINGER AND THUMB. 用食指及姆指將 SIM 卡取出</p>
 <p>推入</p>		<p>CHECK AND CONFIRM THE CUTTING ANGLE OF THE SIM CARD TO PUT IT INTO THE SIM SOCKET WITH THE RIGHT DIRECTION ON ANOTHER DEVICE. 檢查及確認 SIM 卡缺口方向後再依指示方向推入 SIM 插槽</p>



FASTEN ALL 8 SCREWS TO COMBINE THE UPPER COVER WITH CAR PC  
鎖附所有上蓋螺絲以固定上蓋

IN FRONT AND BACK SIDE STICK TWO WARRANTY LABELS IN THE POINTED POSITION.  
於主機前、後方依箭頭指示貼上兩張防拆標籤

## 2.4 Replace SD card SOP



USING CROSS SCREWDRIVER TO UNFASTEN ONE SCREW IN THE POINTED POSITION  
使用十字螺絲起子轉開箭頭所指向的螺絲



USING CROSS SCREWDRIVER TO UNFASTEN ONE SCREW IN THE POINTED POSITION

使用十字螺絲起子轉開箭頭所指向的螺絲



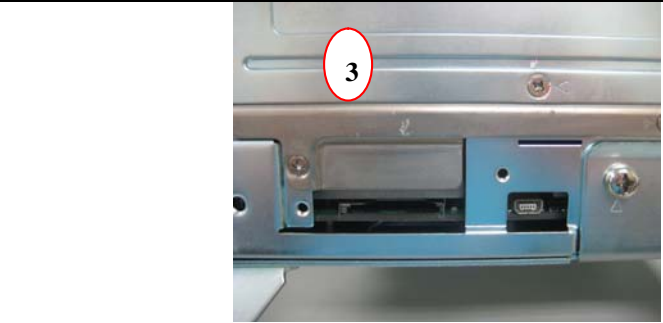
WEARING THE ANTI-ESD GLOVES TO REMOVE THE SD COVER.

套上靜電手套以取下 SD 檔板



PUSH THE SD CARD ONE TIME TO REMOVE THE SD CARD BY FOLLOWING THE STEP 1->2->3.

將 SD 卡往內推即可取出 SD 卡  
遵循步驟 1->2->3

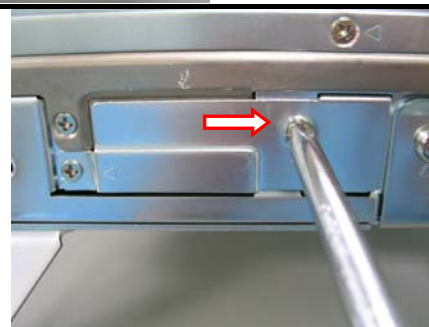




PUT THE SD CARD IN ANOTHER DEVICE AND PUSH IT INTO THE SD SLOT.  
將 SD 卡移至另一台機器並將其推入且固定在 SD 插槽內。



ASSEMBLE THE SD COVER WITH THE CAR PC.  
將 SD 檔板與主機結合起來



FASTEN TWO SCREWS ON THE SD COVER.  
鎖上兩顆螺絲固定 SD 檔板

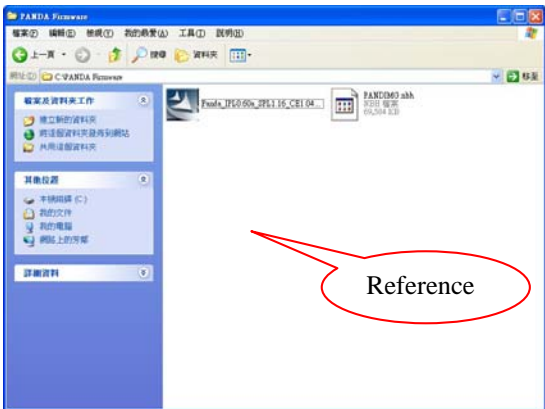



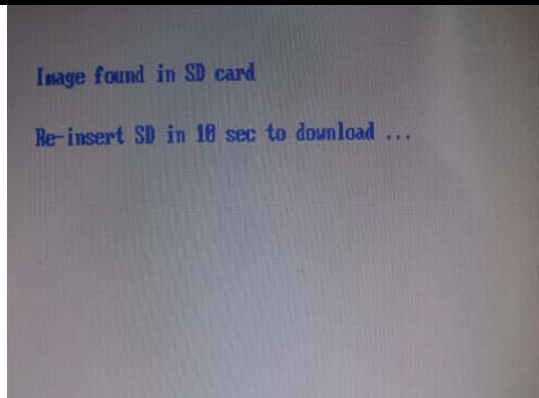
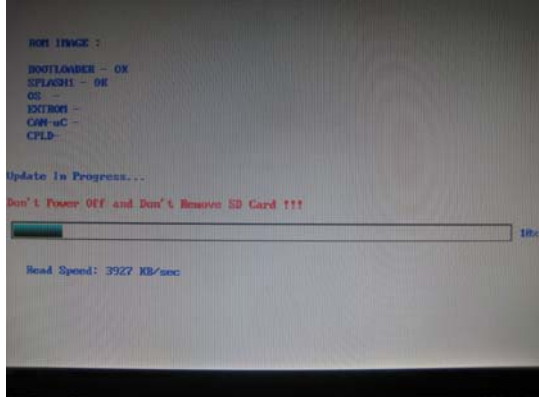
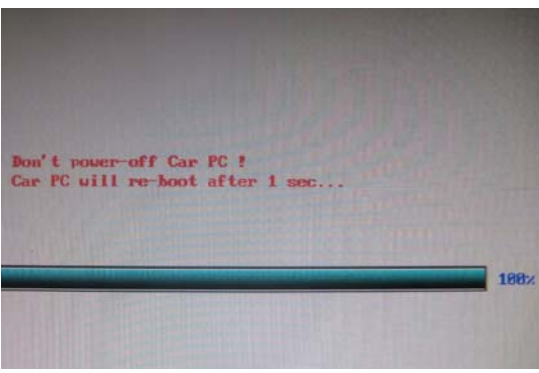

USE TWEEZERS TO PICK ONE WARRANTY LABEL AND THEN STICK IT IN THE POINTED POSITION.  
使用鑷子取下一張防拆標籤並貼在箭頭所指處



### 3. ROM Re-flash Procedure

#### 3.1 Rom Image upgrade thru SD card

Download ROM Image from SDO	
<p>I. Download ROM image from SDO. <a href="http://htcscm10.htc.com.tw/SDO">http://htcscm10.htc.com.tw/SDO</a></p> <p>II. Un-zip the image file.</p>	
Format SD card and copy image file to SD card	
<p>III. Select file system and format the SD card to FAT32 mode.</p> <p>IV. Copy image file XXX.nbh to the micro SD card and rename to <b>PILOIMG.NBH</b></p>	
SD Upgrade	

<p>V. Insert USB SD card reader and then turn on the device.</p> <p>VI. Re-insert the SD card again to start the image download program, and the program will start itself.</p>	
<p>VII. Reading source code from SD card.</p> <p>[Note]: This process will takes 5 mins, please don't turn off the engine.</p>	
<p>VIII. After finished the device will auto-reboot, and don't turn off the power anyway.</p>	
<p>IX. After auto-reboot the device will enter to the "ColdBoot Configuration" page, please wait for this action.</p>	

## 4. DIAGNOSTIC PROGRAM

### 4.1 List of WinCE Test Items

Mode	No	Item	Description	Remark
Win CE	<b>Function Test</b>			
	1	Audio test	a. record test (MIC->Speaker)	
			b. DVBT-> DVD+/-	
			c. AV front-> DVD	
			d. IPOD-> DVD	
			e. 3.5mm audio jack-> DVD	
	2	Video test	a. DVBT	
			b. IPOD	
			c. AUX1	
			d. DVD	
			e. Birdview	
			f. Night Vision	
	3	LCD test		
	4	RS485 loopback test		
	5	LCD loopback test		
	6	USB storage R/W		
7	Flash R/W test			
8	SD R/W test			
9	SD write protect test			
10	GYRO test			
11	Shut down test			
12	Bluetooth Test	Bluetooth test		
13				
14				
15				
16				



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

40 of 104

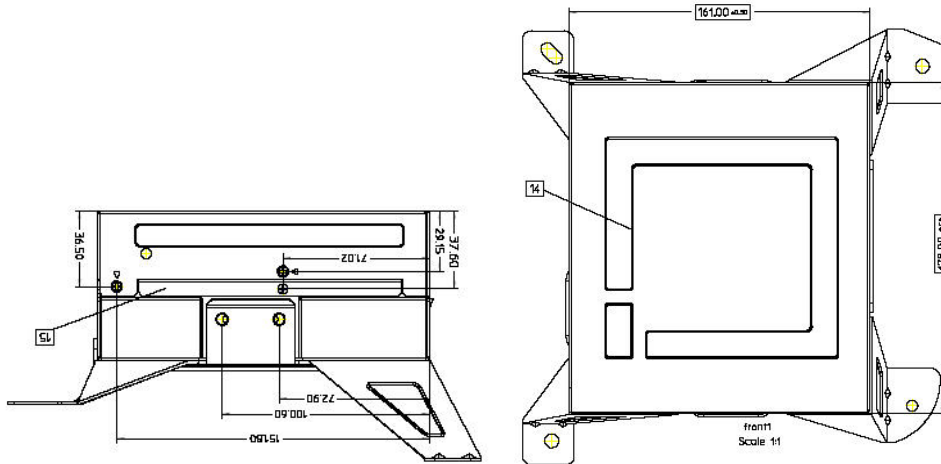
## Test Procedure

### Diagnostic

Audio Test	
I. Press the Action key to start the MegaSIM Test. Note. If your unit doesn't support Mega SIM, you don't have to perform the test.	
Video input Test	
II. Press Action key to select III. The Rom Checksum will be displayed on the screen	







## 說明(Description) :

1 D: 平均直徑 / L: 長度 / W: 寬度 / N: 不良數量 / S: 兩不良點之距離

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

2 目檢距離:  $30 \pm 5$  cm / 機構件檢驗角度: 視線與檢驗面呈 90 度 /

LCM 檢驗角度: 視線與檢驗面呈  $90 \pm 15$  度 / 每面目檢時間: 5 secs

Inspecting distance:  $30 \pm 5$  cm / Mechanical inspection angle : 90 degrees /

LCM inspection angle :  $90 \pm 15$  degrees / Inspection time: 5 secs per surface.

3 目檢周圍環境之照度: 500-1100 勒克司

Ambient illumination is to be 500-1100 lux

4 此規範若與其它文件有衝突時, 以此份文件為主

In the event of any inconsistencies between this document and the Relationship agreement, the parties agree that this document of shall prevail.

## 5.2 Main unit inspection

### A. 尺寸與斷差檢驗 (Gap & Step inspection):

1 尺寸規格如下 (Dimension spec. as following)

一般機構組裝完成後之尺寸與檢具  $< 0.7$  mm

Dimension between inspection fixture and generic ME parts  $< 3.7$  mm

2 斷差規格 (step )

順斷差 (Step)  $< 0.7$  mm



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

43 of 104

3 刮傷規格(scratch)

見底部之刮傷不可(Label 可覆蓋處不計)

Exposure of substrate do not accept

4 毛邊(Burr..)

不可刮手 Don't accept hand scrape

**B. 外觀檢驗(Cosmetic inspection):**

1 見底部之脫漆不可.

Exposure of substratum is not acceptable for peeling. If not exposure of substratum, please check by SPEC of dot or scratch.

2 不可有生鏽以及外觀變型

Can't rust or out of shape.

3 搖晃不可有異音

The noise when rock is no acceptable.

4 主機上標籤不可有印刷不良，刮傷，沾污，脫漆，黑白點。

The label on main unit does not allow bad printing, scratch, dirty, lacquered peeling, dark/white dot on it)

It is generic cosmetic inspection criteria for all products if there have any conflict with these generic criterions; please follow the product inspection criteria respectively.

## 6. Trouble shooting process/Faulty tree

### 1 電源電路檢查

#### Car PC 不開機

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查保險絲→檢查下列保險絲是否燒斷

單元	電源	保險絲編號
Junction BOX I15/ I37	電瓶	FS-03
	ACC-IN 按鈕閃紅燈	FS-02
	IGN-IN 按鈕亮綠燈	FS-17

OK 或 NG

OK >>到 3

NG >>如果保險絲燒斷，在更換新的保險絲之前，一定要消除故障原因。請參閱“電源配置電路”

3. 檢查電源電路

檢查 Car PC 電源電路

單元	端子號碼			OFF	ACC 按鈕閃紅燈	ON 按鈕亮綠燈
	(+)		(-)			
	接頭	端子 (線色)				
Car PC 主機	A20	A13/1(R)	搭鐵	電瓶電壓	電瓶電壓	電瓶電壓
		A26/2(R)	搭鐵	電瓶電壓	電瓶電壓	電瓶電壓
		A12/3(R/L)	搭鐵	0 V	電瓶電壓	電瓶電壓
		A25/4(R/G)	搭鐵	0 V	0V	電瓶電壓

OK 或 NG

OK >>到 4

NG >>檢查 Car PC 與保險絲之間的線束是否有斷路或短路。

#### 4. 檢查搭鐵電路導通性

##### 檢查搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子 (線色)			
Car PC 主機	A20	A11/5(B)	搭鐵	OFF	是
		A24/6(B)	搭鐵	OFF	是

##### OK 或 NG

OK >>到 5

NG >>修理線束或接頭

#### 5. 檢查線束接頭→檢查線束端子導通性\*\*

關閉點火開關

拆開 Car PC 主機接頭 A20

檢查 Car PC 線束接頭 A20 端子 A13(R)& A26(R)與線束接頭 I15 端子 C2(R)之間的導通性。~應有導通

檢查 Car PC 線束接頭 A20 端子 A25(R/G)與線束接頭 I37 端子 H15(R/G)之間的導通性。~應有導通

檢查 Car PC 線束接頭 A20 端子 A12(R/L)與線束接頭 I15 端子 C8(R/L)之間的導通性。~應有導通

##### OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

#### 6. 檢查線束接頭→檢查線束端子導通性\*\*

關閉點火開關

檢查 Car PC 線束接頭 A20 端子 A13(R)& A26(R)與線束接頭 A24 端子 11(R)之間的導通性。~應有導通

檢查 Car PC 線束接頭 A20 端子 A25(R/G)與線束接頭 A32 端子 63(R/G)之間的導通性。~應有導通

檢查 Car PC 線束接頭 A20 端子 A12(R/L)與線束接頭 A32 端子 10(R/L)之間的導通性。~應有導通

##### OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

#### 7. 檢查線束接頭→檢查線束端子導通性\*\*

關閉點火開關



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.	DOC-00045109	REV.
----------	--------------	------

Issued Date	2008/08/11	Ax02
-------------	------------	------

Revised Date	2008/12/4
--------------	-----------

Doc. Title	<b>Pilot Service Manual</b>	Page	46 of 104
------------	-----------------------------	------	-----------

檢查線束接頭 I95 端子 11(R)與線束接頭 I15 端子 C2(R)之間的導通性。~應有導通

檢查線束接頭 I92 端子 63(R/G)與線束接頭 I37 端子 H15(R/G)之間的導通性。~應有導通

檢查線束接頭 I92 端子 10(R/L)與線束接頭 I15 端子 C8(R/L)之間的導通性。~應有導通

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

## 2 LCD Problems 螢幕顯示問題 \*\*

### LCD 前/後螢幕(AUX1 或 IPOD 或 DVBT 或 DVD 或 Bird View 或 Night Vision)“全尺寸”畫面異常或無顯示

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 確認前或後螢幕相關顯示是否正常

OK 或 NG

OK >>到 3

NG >>到 5

3. 檢查 Car PC 輸出訊號

檢查 Rear LCD Video 輸出訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D5/67(L)	搭鐵	Vp-p=1V

檢查 Rear LCD 搭鐵電路

單元	端子號碼	點火開關	導通性
----	------	------	-----





宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

47 of 104

	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D16/68(P)	搭鐵	OFF	是

#### 檢查 Front LCD 影像輸出訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D4/69(L)	搭鐵	Vp-p=1V

#### 檢查 Front LCD 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D15/70(P)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>更換 Car PC

#### 4. 檢查線束接頭→檢查線束端子導通性\*\*

4.1 關閉點火開關

4.2 拆開 Car PC 主機接頭 A23

4.3 線束導通性請參照 AV-06/ AV-08

OK 或 NG

OK >>更換前/後螢幕

NG >>修理線束或接頭

#### 5. 檢查相關影像輸入訊號是否正常(IPOD/DVBT/DVD/Bird view/Night vision)

檢查 AUX1 Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D11/55(Y)	搭鐵	Vp-p=1V

檢查 IPOD Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D10/57(Y)	搭鐵	Vp-p=1V

檢查 DVBT Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D9/59(L)	搭鐵	Vp-p=1V

檢查 DVD Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D8/61(BR)	搭鐵	Vp-p=1V

檢查 Bird View Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D7/63(Y)	搭鐵	Vp-p=1V

檢查 Night Vision Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D6/65(W)	搭鐵	Vp-p=1V

OK 或 NG

OK >>到 6

NG >>檢查有問題的輸入訊號相對應單元

**6. 檢查相關搭鐵電路導通性**

檢查 AUX1 Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D22/56(B/R)	搭鐵	OFF	是

檢查 IPOD Video 搭鐵電路

單元	端子號碼		點火開關	導通性
	(+)	(-)		



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

50 of 104

	接頭	端子(線色)			
Car PC 主機	A23	D21/58(BR)	搭鐵	OFF	是

檢查 DVBT Video 搭鐵電路

單元	端子號碼		(-)	點火開關	導通性
	(+)				
	接頭	端子(線色)			
Car PC 主機	A23	D20/60(P)	搭鐵	OFF	是

檢查 DVD Video 搭鐵電路

單元	端子號碼		(-)	點火開關	導通性
	(+)				
	接頭	端子(線色)			
Car PC 主機	A23	D19/62(Y)	搭鐵	OFF	是

檢查 Bird View Video 搭鐵電路

單元	端子號碼		(-)	點火開關	導通性
	(+)				
	接頭	端子(線色)			
Car PC 主機	A23	D18/64(BR)	搭鐵	OFF	是

檢查 Night Vision Video 搭鐵電路

單元	端子號碼		(-)	點火開關	導通性
	(+)				
	接頭	端子(線色)			



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.	DOC-00045109	REV.
Issued Date	2008/08/11	Ax02
Revised Date	2008/12/4	

Doc. Title	<b>Pilot Service Manual</b>	Page	51 of 104
------------	-----------------------------	------	-----------

Car PC 主機	A23	D17/66(G)	搭鐵	OFF	是
--------------	-----	-----------	----	-----	---

OK 或 NG

OK >>到 7

NG >>檢查線束與接頭(請參閱相關對手件線束接頭)

**7. 檢查 Car PC 相關輸出訊號是否正常(IPOD/DVBT/DVD/Bird view/Night vision)**

**檢查 Rear LCD Video 輸出訊號**

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D5/67(L)	搭鐵	Vp-p=1V

**檢查 Rear LCD 搭鐵電路**

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D16/68(P)	搭鐵	OFF	是

**檢查 Front LCD 影像輸出訊號**

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D4/69(L)	搭鐵	Vp-p=1V

**檢查 Front LCD 搭鐵電路**

單元	端子號碼		點火開關	導通性
	(+)	(-)		

	接頭	端子(線色)			
Car PC 主機	A23	D15/70(P)	搭鐵	OFF	是

OK 或 NG

OK >>到 8

NG >>更換 Car PC

### 8. 檢查線束接頭→檢查線束端子導通性\*\*

8.1 關閉點火開關

8.2 拆開 Car PC 主機接頭 A23

8.3 線束導通性請參照 AV-06/ AV-08

OK 或 NG

OK >>更換前/後螢幕

NG >>修理線束或接頭

## LCD 前螢幕(AUX1 或 IPOD 或 DVBT 或 DVD 或 Bird View 或 Night Vision)”大小

### 畫面右側顯示”畫面異常或無顯示

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查相關影像輸入訊號是否正常(IPOD/DVBT/DVD/Bird view/Night vision)

檢查 AUX1 Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D11/55(Y)	搭鐵	Vp-p=1V



檢查 IPOD Video 輸入訊號

單元	端子號碼			ON
	(+) 端子號碼		(-) 端子號碼	
	接頭	端子(線色)		
Car PC 主機	A23	D10/57(Y)	搭鐵	Vp-p=1V

檢查 DVBT Video 輸入訊號

單元	端子號碼			ON
	(+) 端子號碼		(-) 端子號碼	
	接頭	端子(線色)		
Car PC 主機	A23	D9/59(L)	搭鐵	Vp-p=1V

檢查 DVD Video 輸入訊號

單元	端子號碼			ON
	(+) 端子號碼		(-) 端子號碼	
	接頭	端子(線色)		
Car PC 主機	A23	D8/61(BR)	搭鐵	Vp-p=1V

檢查 Bird View Video 輸入訊號

單元	端子號碼			ON
	(+) 端子號碼		(-) 端子號碼	
	接頭	端子(線色)		
Car PC 主機	A23	D7/63(Y)	搭鐵	Vp-p=1V

檢查 Night Vision Video 輸入訊號



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

54 of 104

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D6/65(W)	搭鐵	Vp-p=1V

OK 或 NG

OK >>到 3

NG >>檢查有問題的輸入訊號相對應單元

### 3. 檢查相關搭鐵電路導通性

#### 檢查 AUX1 Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D22/56(B/R)	搭鐵	OFF	是

#### 檢查 IPOD Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D21/58(BR)	搭鐵	OFF	是

#### 檢查 DVBT Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC	A23	D20/60(P)	搭鐵	OFF	是

HTC CONFIDENTIAL

SM-TP001-0704



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

55 of 104

主機

檢查 DVD Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D19/62(Y)	搭鐵	OFF	是

檢查 Bird View Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D18/64(BR)	搭鐵	OFF	是

檢查 Night Vision Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D17/66(G)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>檢查線束與接頭

4. 檢查 Car PC 相關輸出訊號是否正常(IPOD/DVBT/DVD/Bird view/Night vision)

檢查 Front LCD 三原色影像輸出訊號

單元	端子號碼		ON
	(+)	(-)	

	接頭	端子 (線色)		
Car PC 主機	A23	D3/71(V)	搭鐵	5V
		D14/72(W)	搭鐵	5V
		D2/73(Y)	搭鐵	0.7
		D1/75(G)	搭鐵	0.7
		D12/76(W)	搭鐵	0.7

### 檢查 Front LCD 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D13/74(L)	搭鐵	OFF	是

#### OK 或 NG

OK >>到 5

NG >>更換 Car PC

### 5. 檢查線束接頭→檢查線束端子導通性\*\*

5.1 關閉點火開關

5.2 拆開 Car PC 主機接頭 A23

5.3 線束導通性請參照 AV-06

#### OK 或 NG

OK >>更換前螢幕

NG >>修理線束或接頭

### 顯示異常/奇怪的顏色

#### 1. 檢查影像輸入訊號是否正常(IPOD/DVBT/DVD/Bird view/Night vision)

##### 檢查 AUX1 Video 輸入訊號

單元	端子號碼	ON
----	------	----



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

57 of 104

	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D11/55(Y)	搭鐵	Vp-p=1V

檢查 IPOD Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D10/57(Y)	搭鐵	Vp-p=1V

檢查 DVBT Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D9/59(L)	搭鐵	Vp-p=1V

檢查 DVD Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D8/61(BR)	搭鐵	Vp-p=1V

檢查 Bird View Video 輸入訊號

單元	端子號碼		ON
	(+)	(-)	



	接頭	端子(線色)		
Car PC 主機	A23	D7/63(Y)	搭鐵	Vp-p=1V

### 檢查 Night Vision Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D6/65(W)	搭鐵	Vp-p=1V

OK 或 NG

OK >>到 2

NG >>檢查有問題的輸入訊號相對應單元

## 2. 檢查影像輸出 R/G/B 訊號

### 檢查 Front LCD 三原色影像輸出訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D3/71(V)	搭鐵	5V
		D14/72(W)	搭鐵	5V
		D2/73(Y)	搭鐵	0.7
		D1/75(G)	搭鐵	0.7
		D12/76(W)	搭鐵	0.7

OK 或 NG

OK >>到 3

NG >>檢查有問題的輸入訊號相對應單元

## 3. 檢查搭鐵電路導通性

檢查類比 RGB 訊號搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D13/74(L)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>修理線束或接頭

4. 檢查 Rear LCD Video 輸出訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D5/67(L)	搭鐵	Vp-p=1V

檢查 Rear LCD 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D16/68(P)	搭鐵	OFF	是

檢查 Front LCD 影像輸出訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC	A23	D4/69(L)	搭鐵	Vp-p=1V

主機

檢查 Front LCD 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D15/70(P)	搭鐵	OFF	是

OK 或 NG

OK >>到 5

NG >>更換 Car PC

**5. 檢查線束接頭→檢查線束端子導通性\*\***

5.4 關閉點火開關

5.5 拆開 Car PC 主機接頭 A23

5.6 線束導通性請參照 AV-06

OK 或 NG

OK >>更換前螢幕

NG >>修理線束或接頭

**前螢幕亮度/對比無法調整**

**1. Exclude software issue. → Try to reset the unit and try again.**

OK 或 NG

OK >>沒問題

NG >>到 2

**2. 檢查 Car PC 輸出控制訊號是否正常**

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A16/21(SB)	搭鐵	+/-12V
		A3/22(B/R)	搭鐵	+/-8V



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

61 of 104

OK 或 NG

OK >>到 3

NG >>更換 Car PC

### 3. 檢查線束接頭→檢查線束端子導通性\*\*

3.1 檢查 Car PC 線束接頭 A20 端子 A16(BR)與線束接頭 I75 端子 10(BR)之間的導通性。~應有導通

3.2 檢查 Car PC 線束接頭 A20 端子 A3(SB)與線束接頭 I75 端子 3(SB)之間的導通性。~應有導通

OK 或 NG

OK >>更換前螢幕

NG >>修理線束或接頭

## 3 Storage Card Problems \*\*

### 儲存卡問題

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 拆開 SD 卡鐵片，確認 SD 卡外觀

OK 或 NG

OK >>到 3

NG >>更換 SD 卡

3. 以隨身碟讀取 SD 卡，測試卡片功能性

OK 或 NG

OK >>更換 Car PC

NG >>更換 SD 卡

## 4 UMTS/Phone function problems\*\*

### 車用話機問題

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

## 2. 確認此款 Car PC 有附加電話功能

OK 或 NG

OK >>到 3

NG >>檢查結束

## 3. 檢查外接天線外觀

OK 或 NG

OK >>到 4

NG >>更換天線

## 4. 檢查天線與 Car PC 接頭接合狀況

OK 或 NG

OK >>到 5

NG >>修理線束或接頭

## 5. 檢查 SIM 卡外觀 → 檢查 SIM 卡是否受損或變形

OK 或 NG

OK >>到 6

NG >>更換 SIM 卡

## 6. 檢查 SIM 卡功能 → 將 Car PC 上的 SIM 卡插入手機測試

OK 或 NG

OK >>更換 Car PC

NG >>更換 SIM 卡

## 5 GPS Problems\*\*

### 衛星定位收訊問題

#### 1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

#### 2. 檢查外接天線外觀

OK 或 NG

OK >>到 3





宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

63 of 104

NG >>更換天線

### 3. 檢查天線與 Car PC 接頭接合狀況

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

### 無法讀取地圖資訊

#### 1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

#### 2. 拆開 SD 卡鐵片，確認 SD 卡外觀

OK 或 NG

OK >>到 3

NG >>更換 SD 卡

#### 3. 以隨身碟讀取 SD 卡，測試卡片功能性

OK 或 NG

OK >>更換 Car PC

NG >>更換 SD 卡

## 6 Bird view Problems\*\*

### 鳥瞰影像問題

#### 1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

#### 2. 確認 Bird view 輸入訊號是否正常

檢查 Bird View Video 輸入訊號

單元	端子號碼		ON
	(+)	(-)	

	接頭	端子(線色)		
Car PC 主機	A23	D7/63(Y)	搭鐵	Vp-p=1V

OK 或 NG

OK >>到 3

NG >>檢查 Bird view 攝影機

### 3. 檢查搭鐵電路導通性

檢查 Bird View Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D18/64(BR)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>修理線束或接頭

### 4. 檢查 Car PC 輸出訊號是否正常(確認是前螢幕全畫面或分割畫面或者是後螢幕哪一個無法顯示, 在依據無法顯示的單元做以下確認)

檢查 Rear LCD Video 輸出訊號(全螢幕)

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D5/67(L)	搭鐵	Vp-p=1V

檢查 Front LCD 影像輸出訊號(全螢幕)

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		

	接頭	端子 (線色)		
Car PC 主機	A23	D4/69(L)	搭鐵	Vp-p=1V

**檢查 Front LCD 三原色影像輸出訊號(分割畫面)**

單元	端子號碼			ON
	(+) 端子號碼		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D3/71(V)	搭鐵	5V
		D14/72(W)	搭鐵	5V
		D2/73(Y)	搭鐵	0.7
		D1/75(G)	搭鐵	0.7
		D12/76(W)	搭鐵	0.7

OK 或 NG

OK >>到 5

NG >>更換 Car PC

**5. 檢查前後螢幕搭鐵電路導通性**

**檢查 Rear LCD 搭鐵電路**

單元	端子號碼			點火開關	導通性
	(+) 端子號碼		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D16/68(P)	搭鐵	OFF	是

**檢查 Front LCD 搭鐵電路(全螢幕)**

單元	端子號碼	點火開關	導通性
----	------	------	-----



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

66 of 104

	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D15/70(P)	搭鐵	OFF	是

### 檢查類比 RGB 訊號搭鐵電路(分割畫面)

單元	端子號碼		(-)	點火開關	導通性
	(+)				
	接頭	端子(線色)			
Car PC 主機	A23	D13/74(L)	搭鐵	OFF	是

#### OK 或 NG

OK >>到 6

NG >>修理對應單元線束或接頭

#### **6. 檢查線束接頭→檢查線束端子導通性\*\***

甲、關閉點火開關

乙、拆開 Car PC 主機接頭 A23

丙、線束導通性請參照 DI/ BIRD VIEW

#### OK 或 NG

OK >>更換前/後螢幕

NG >>修理線束或接頭

### **7 Night vision Problems\*\***

#### **夜視系統問題**

**1.** Exclude software issue. → Try to reset the unit and try again.

#### OK 或 NG

OK >>沒問題

NG >>到 2

**2.** 確認 Night view 輸入訊號是否正常

檢查 Night Vision Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D6/65(W)	搭鐵	Vp-p=1V

OK 或 NG

OK >>到 3

NG >>檢查 Night Vision 攝影機

### 3. 檢查搭鐵電路

檢查 Night Vision Video 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D17/66(Bla)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>修理線束或接頭

### 4. 檢查 Car PC 輸出訊號是否正常(確認是前螢幕全畫面或分割畫面或者是後螢幕哪一個無法顯示, 在依據無法顯示的單元做以下確認)

檢查 Rear LCD Video 輸出訊號(全螢幕)

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D5/67(L)	搭鐵	Vp-p=1V

檢查 Front LCD 影像輸出訊號(全螢幕)



單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D4/69(L)	搭鐵	Vp-p=1V

**檢查 Front LCD 三原色影像輸出訊號(分割畫面)**

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A23	D3/71(V)	搭鐵	5V
		D14/72(W)	搭鐵	5V
		D2/73(Y)	搭鐵	0.7
		D1/75(G)	搭鐵	0.7
		D12/76(W)	搭鐵	0.7

OK 或 NG

OK >>到 5

NG >>更換 Car PC

**5. 檢查前後螢幕搭鐵電路導通性**

**檢查 Rear LCD 搭鐵電路**

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D16/68(P)	搭鐵	OFF	是

**檢查 Front LCD 搭鐵電路(全螢幕)**



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

69 of 104

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D15/70(P)	搭鐵	OFF	是

### 檢查類比 RGB 訊號搭鐵電路(分割畫面)

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D13/74(L)	搭鐵	OFF	是

#### OK 或 NG

OK >>到 6

NG >>修理對應單元線束或接頭

### 6. 檢查線束導通性→檢查線束端子導通性\*\*

6.1 關閉點火開關

6.2 拆開 Car PC 主機接頭 A23

6.3 檢查線束導通性請參照 DI/ NIGHT VISION

#### OK 或 NG

OK >>更換前/後螢幕

NG >>修理線束或接頭

### Bird View& Night Vision 無法互相切換

1. Exclude software issue. → Try to reset the unit and try again.

#### OK 或 NG

OK >>沒問題

NG >>到 2

## 2. 檢查 Car PC 控制訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A6/15(W)	搭鐵	Differential,+5V/0V
		A19/16(W/B)	搭鐵	Differential,+5V/0V
		A5/17(R)	搭鐵	Differential,+5V/0V
		A18/18(R/B)	搭鐵	Differential,+5V/0V

OK 或 NG

OK >>到 3

NG >>更換 Car PC

## 3. 檢查線束導通性→檢查線束端子導通性

### 3.1 關閉點火開關

### 3.2 拆開 Car PC 主機接頭 A20

3.3 請參閱 DI/ Night Vision, DI/ Bird View 線路，以檢查 A5(R)/A18(R/B)/A6(W)/A19(W/B)線路導通性

OK 或 NG

OK >>更換 Bird View or Night Vision

NG >>修理線束或接頭

## 8. BT Problems\*\*

### 藍芽無法連線

#### 1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

#### 2. 檢查外接天線外觀

OK 或 NG

OK >>到 3

NG >>更換天線

### 3. 檢查天線與 Car PC 接頭接合狀況

OK 或 NG

OK >>更換 Car PC

NG >>更換天線

## 9. Car PC Problems\*\*

### Car PC 問題

#### 1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

#### 2. 檢查電源電路

檢查 Car PC 電源電路

單元	端子號碼			OFF	ACC 按鈕閃紅燈	ON 按鈕亮綠燈
	接頭	(+)	(-)			
		端子 (線色)				
Car PC 主機	A20	A13/1(R)	搭鐵	電瓶電壓	電瓶電壓	電瓶電壓
		A26/2(R)	搭鐵	電瓶電壓	電瓶電壓	電瓶電壓
		A12/3(R/L)	搭鐵	0 V	電瓶電壓	電瓶電壓
		A25/4(R/G)	搭鐵	0 V	0V	電瓶電壓

OK 或 NG

OK >>到 3

NG >>檢查 Car PC 與保險絲之間的線束是否有斷路或短路。

#### 3. 檢查搭鐵線路

檢查搭鐵電路

單元	端子號碼			點火開關	導通性
	接頭	(+)	(-)		
		端子 (線色)			

Car PC 主機	A20	A11/5(B)	搭鐵	OFF	是
		A24/6(B)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>修理線束或接頭

#### 4. 檢查線束接頭→檢查線束端子導通性\*\*

4.1 關閉點火開關

4.2 拆開 Car PC 主機接頭 A20

4.3 檢查 Car PC 線束接頭 A20 端子 A13(R)& A26(R)與線束接頭 I15 端子 C2(R)之間的導通性。~應有導通

4.4 檢查 Car PC 線束接頭 A20 端子 A25(R/G)與線束接頭 I37 端子 H15(R/G)之間的導通性。~應有導通

4.5 檢查 Car PC 線束接頭 A20 端子 A12(R/L)與線束接頭 I15 端子 C8(R/L)之間的導通性。~應有導通

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

## 10 IPOD Problems\*\*

### IPOD 選取功能無法控制

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查 IPOD 控制訊號

檢查 IPOD 控制訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A8/11(L)	搭鐵	+/-8V
		A21/12(R)	搭鐵	+/-12V

OK 或 NG

OK >>到 3

NG >> 更換 Car PC

### 3. 檢查 IPOD 控制訊號搭鐵電路導通性

#### 檢查 IPOD 控制訊號搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子 (線色)			
Car PC 主機	A20	A7/13(B)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>修理線束或接頭

### IPOD 影像無法顯示

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查 IPOD 輸入訊號

#### 檢查 IPOD Video 輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D10/57(Y)	搭鐵	Vp-p=1V

OK 或 NG

OK >>到 3

NG >>檢驗 IPOD 功能或接頭

3. 檢查 IPOD Video 搭鐵電路導通性



**檢查 IPOD Video 搭鐵電路**

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D21/58(BR)	搭鐵	OFF	是

OK 或 NG

OK >>到 4

NG >>修理線束或接頭

4. 檢查 Car PC 輸出訊號是否正常(確認是前螢幕全畫面或分割畫面或者是後螢幕哪一個無法顯示, 在依據無法顯示的單元做以下確認)

**檢查 Rear LCD Video 輸出訊號**

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D5/67(L)	搭鐵	Vp-p=1V

**檢查 Front LCD 影像輸出訊號(全螢幕)**

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		
Car PC 主機	A23	D4/69(L)	搭鐵	Vp-p=1V

**檢查 Front LCD 三原色影像輸出訊號(分割畫面)**

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子(線色)		

	接頭	端子 (線色)		
Car PC 主機	A23	D3/71(V)	搭鐵	5V
		D14/72(W)	搭鐵	5V
		D2/73(Y)	搭鐵	0.7
		D1/75(G)	搭鐵	0.7
		D12/76(W)	搭鐵	0.7

OK 或 NG

OK >>到 5

NG >>更換 Car PC

#### 5. 檢查前後螢幕搭鐵電路導通性

##### 檢查 Rear LCD 搭鐵電路

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D16/68(P)	搭鐵	OFF	是

##### 檢查 Front LCD 搭鐵電路(全螢幕)

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D15/70(P)	搭鐵	OFF	是

##### 檢查類比 RGB 訊號搭鐵電路(分割畫面)

單元	端子號碼			點火開關	導通性
----	------	--	--	------	-----



宏達國際電子股份有限公司  
HTC Corporation

Doc. No. DOC-00045109 REV.

Issued Date 2008/08/11

Revised Date 2008/12/4 Ax02

Doc. Title **Pilot Service Manual** Page 76 of 104

	(+)		(-)		
	接頭	端子(線色)			
Car PC 主機	A23	D13/74(L)	搭鐵	OFF	是

OK 或 NG

OK >>到 6

NG >>修理線束或接頭

6. 檢查線束接頭→檢查線束端子導通性\*\*

關閉點火開關

6.1 拆開 Car PC 主機接頭 A23(針對 IPOD VIDEO)

6.2 檢查 Car PC 線束接頭 A23 端子 D10(Y)與線束接頭 I89 端子 10(Y)之間的導通性。~應有導通

6.3 檢查 Car PC 線束接頭 A23 端子 D21(BR)與線束接頭 I89 端子 11(BR)之間的導通性。~應有導通

6.4 檢查線束接頭 I78 端子 14(Y)與線束接頭 I89 端子 10(Y)之間的導通性。~應有導通

6.5 檢查線束接頭 I78 端子 13(BR)與線束接頭 I89 端子 11(BR)之間的導通性。~應有導通

6.6 檢查 Car PC 線束接頭 A23 端子 D10(Y)與線束接頭 A29 端子 14(Y)之間的導通性。~應有導通

6.7 檢查 Car PC 線束接頭 A23 端子 D21(BR)與線束接頭 A29 端子 13(BR)之間的導通性。~應有導通

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

**IPOD 聲音問題**

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查 IPOD 輸入聲音訊號

檢查 IPOD 輸入聲音訊號

單元	端子號碼		(-)	ON
	(+)			
	接頭	端子 (線色)		

Car PC 主機	A22	C2/39(G)	搭鐵	Vrms=0.707
		C10/40(L)	搭鐵	Vrms=0.707

OK 或 NG

OK >>到 3

NG >>檢驗 IPOD 功能或接頭

### 3. 檢查 Car PC 輸出訊號

單元	端子號碼			ON
	接頭	(+)	(-)	
		端子 (線色)		
Car PC 主機	A22	C6/31(L/R)	搭鐵	2Vpp
		C14/32(O/B)	搭鐵	2Vpp
		C5/33(G/R)	搭鐵	2Vpp
		C13/34(P/B)	搭鐵	2Vpp

OK 或 NG

OK >>到 4

NG >>更換 Car PC

### 4. 檢查線束接頭→檢查線束端子導通性\*\*

4.1 關閉點火開關

4.2 拆開 Car PC 主機接頭 A22

4.3 檢查 Car PC 線束接頭 A22 端子 C10(L)與線束接頭 I89 端子 8(L)之間的導通性。~應有導通

4.4 檢查 Car PC 線束接頭 A22 端子 C2(G)與線束接頭 I89 端子 9(G)之間的導通性。~應有導通

4.5 檢查線束接頭 I78 端子 16(L)& 19(G)與線束接頭 I89 端子 8(L)& 9(G)之間的導通性。~應有導通

4.6 檢查 Car PC 線束接頭 A22 端子 C10(L)&C2(G)與線束接頭 A29 端子 16(L)&19(G)之間的導通性。  
~應有導通

OK 或 NG

OK >>更換 DVD 音響系統

NG >>修理線束或接頭

### 11 SONAR problems\*\*

## 聲納測距問題

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查聲納輸入訊號

單元	端子號碼			ON
	(+) 端子		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A10/7(L/W)	搭鐵	Vih = 7~16V Vil = 0~0.3V
		A23/8(L/R)	搭鐵	Vih = 8~16V Vil = 0~0.3V, Input freq. : 40 ± 2 KHz

OK 或 NG

OK >>到 3

NG >>檢查聲納單元

3. 檢查線束接頭→檢查線束端子導通性\*\*

請參照 DI/ Parking System 線路

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

## 12 USB problems\*\*

### USB 連線問題

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查線束接頭→檢查線束端子導通性\*\*

3.

### 13 GYRO problems\*\*

#### 旋轉儀問題

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>更換 Car PC

### 14 Break status information problems

#### 煞車狀態問題 (手煞車未拉起，前螢幕仍可播放影音功能)

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查煞車狀態輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A20/14(L/W)	搭鐵	手煞車拉起(煞車啓動)0V 手煞車放下 12V

OK 或 NG

OK >>到 3

NG >>檢查對應手煞車單元

3. 檢查線束接頭→檢查線束端子導通性\*\*

3.1 關閉點火開關

3.2 拆開 Car PC 主機接頭 A20

3.3 檢查 Car PC 線束接頭 A20 端子 A20(L/W)與線束接頭 I9 端子 1(Y/G)之間的導通性。~應有導通

3.4 檢查 Car PC 線束接頭 A20 端子 A20(L/W)與線束接頭 A32 端子 2(L/W)之間的導通性。~應有導通

3.5 檢查線束接頭 I92 端子 2(L/W)與 I9 端子 1(Y/G)之間的導通性。~應有導通

OK 或 NG



OK >>更換 Car PC  
NG >>修理線束或接頭

## 15 數位電視/AUX-IN/AV Front/Car MIC ; Phone& MP3 ; 導航聲音 problem

### 數位電視/電話與導航/AUX-IN/DVD/Car MIC 聲音 problem

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查 Car PC 聲音輸出訊號

檢查車機電話與導航聲音輸出訊號

單元	端子號碼			ON
	(+) 端子		(-)	
	接頭	(線色)		
Car PC 主機	A22	C8/27(G)	搭鐵	6Vpp
		C16/28(G/B)	搭鐵	6Vpp

檢查 MP3 聲音輸出訊號

單元	端子號碼			ON
	(+) 端子		(-)	
	接頭	(線色)		
Car PC 主機	A22	C6/31(L/R)	搭鐵	2Vpp
		C14/32(O/B)	搭鐵	2Vpp
		C5/33(G/R)	搭鐵	2Vpp
		C13/34(P/B)	搭鐵	2Vpp

OK 或 NG

OK >>到 3

NG >>更換 Car PC

### 3. 檢查 Car PC 聲音輸入訊號

#### 檢查 AUX-IN 聲音輸入訊號

單元	端子號碼			ON
	(+) 端子號碼		(-) 端子號碼	
	接頭	端子 (線色)		
Car PC 主機	A22	37(W)	搭鐵	Vrms=0.707
		38(R)	搭鐵	Vrms=0.707

#### 檢查 IPOD 輸入聲音訊號

單元	端子號碼			ON
	(+) 端子號碼		(-) 端子號碼	
	接頭	端子 (線色)		
Car PC 主機	A22	C2/39(G)	搭鐵	Vrms=0.707
		C10/40(L)	搭鐵	Vrms=0.707

#### 檢查 AV-Front 輸入聲音訊號

單元	端子號碼			ON
	(+) 端子號碼		(-) 端子號碼	
	接頭	端子 (線色)		
Car PC 主機	A22	C1/41(W)	搭鐵	Vrms=0.707
		C9/42(R)	搭鐵	Vrms=0.707

檢查 DVBT 聲音輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A21	B6/43(G/R)	搭鐵	Vrms=0.707
		B12/44(W/B)	搭鐵	Vrms=0.707
		B5/45(GY/R)	搭鐵	Vrms=0.707
		B11/46(LG/B)	搭鐵	Vrms=0.707

檢查 Car MIC 聲音輸入訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A21	B2/51(R)	搭鐵	Vrms=0.707
		B8/52(B)	搭鐵	Vrms=0.707
		B1/53(W)	搭鐵	Vrms=0.707
		B7/54(G)	搭鐵	Vrms=0.707

OK 或 NG

OK >>到 4

NG >>檢查對手件系統

4. 檢查 AUX-IN/ Car MIC 搭鐵電路導通性

檢查 AUX-IN 搭鐵電路

單元	端子號碼		點火開關	導通性
	(+)	(-)		

	接頭	端子 (線色)			
Car PC 主機	A22	36()	搭鐵	OFF	是

檢查 Car MIC 搭鐵電路導通性

單元	端子號碼			點火開關	導通性
	(+)		(-)		
	接頭	端子 (線色)			
Car PC 主機	A21	B3/49	搭鐵	OFF	是
	A21	B9/50	搭鐵	OFF	是

OK 或 NG

OK >>到 5

NG >>修理線束或接頭

**5. 檢查線束接頭→檢查線束端子導通性\*\***

5.1 關閉點火開關

5.2 拆開 Car PC 主機接頭 A22

5.3 檢查 Car PC 線束接頭 A22 端子 C10(L)與線束接頭 I89 端子 8(L)之間的導通性。~應有導通

5.4 檢查 Car PC 線束接頭 A22 端子 C2(G)與線束接頭 I89 端子 9(G)之間的導通性。~應有導通

5.5 檢查線束接頭 I78 端子 16(L)& 19(G)與線束接頭 I89 端子 8(L)& 9(G)之間的導通性。~應有導通

5.6 檢查 Car PC 線束接頭 A22 端子 C10(L)&C2(G)與線束接頭 A29 端子 16(L)&19(G)之間的導通性。

~應有導通

OK 或 NG

OK >>更換 DVD 音響系統

NG >>修理線束或接頭

**6. 檢查線束接頭→檢查線束端子導通性\*\***

6.1 關閉點火開關

6.2 拆開 Car PC 主機接頭 A21(針對 Car Microphone)

6.3 檢查 Car PC 線束接頭 A21 端子 B2(R)與線束接頭 I26 端子 3(R)之間的導通性。~應有導通

- 6.4 檢查 Car PC 線束接頭 A21 端子 B8(B)與線束接頭 I26 端子 4(B)之間的導通性。~應有導通
- 6.5 檢查 Car PC 線束接頭 A21 端子 B1(W)與線束接頭 I26 端子 5(W)之間的導通性。~應有導通
- 6.6 檢查 Car PC 線束接頭 A21 端子 B7(G)與線束接頭 I26 端子 6(G)之間的導通性。~應有導通
- 6.7 檢查 Car PC 線束接頭 A21 端子 B2(R)/B8(B)/B1(W)/B7(G)與線束接頭 A24 端子 5(R)/6(B)/16(W)/17(G)之間的導通性。~應有導通
- 6.8 檢查 Car PC 線束接頭 I95 端子 5(R)/6(B)/16(W)/17(G)與線束接頭 I26 端子 3(R)/4(B)/5(W)/6(G)之間的導通性。~應有導通

OK 或 NG

- OK >>更換 DVD 音響系統
- NG >>修理線束或接頭

## 16. 防盜功能異常

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

- OK >>沒問題
- NG >>到 2

2. 檢查 Car PC 警報啟動訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A22/10(V)	搭鐵	防盜未啟動 Vih = 8~16V 防盜啟動 Vil = 0~0.3V

OK 或 NG

- OK >>到 3
- NG >>檢查對手件

3. 檢查線束接頭→檢查線束端子導通性

- 3.1 關閉點火開關
- 3.2 拆開 Car PC 主機接頭 A20 端子
- 3.3 檢查 Car PC 線束接頭 A20 端子 A22(V)與線束接頭 I18 端子 22(LG)之間的導通性。~應有導通
- 3.4 檢查 Car PC 線束接頭 A20 端子 A22(V)與線束接頭 A32 端子 3(V)之間的導通性。~應有導通

3.5 檢查線束接頭 I92 端子 3(LG)與線束接頭 I18 端子 22(LG)之間的導通性。~應有導通

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

## 17. SOS 功能異常

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查 Car PC SOS 啟動訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A15/24(Y/G)	搭鐵	SOS 未啓動 Vih SOS 啓動 Vil

OK 或 NG

OK >>到 3

NG >>檢查對手件

3. 檢查線束接頭→檢查線束端子導通性

3.1 關閉點火開關

3.2 拆開 Car PC 主機接頭 A20 端子

3.3 檢查 Car PC 線束接頭 A20 端子 A15(Y/G)與線束接頭 I64 端子 A6(Y/G)之間的導通性。~應有導通

3.4 檢查 Car PC 線束接頭 A20 端子 A15(Y/G)與線束接頭 A32 端子 11(Y/G)之間的導通性。~應有導通

3.5 檢查線束接頭 I92 端子 11(Y/G)與線束接頭 I64 端子 A6(Y/G)之間的導通性。~應有導通

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

## 18. 中控台按鈕功能異常

1. Exclude software issue. → Try to reset the unit and try again.



OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查 Car PC CANII 訊號

單元	端子號碼			ON
	(+)		(-)	
	接頭	端子 (線色)		
Car PC 主機	A20	A4/19(B)	搭鐵	+5Vpp
		A17/20(R)	搭鐵	-5Vpp

OK 或 NG

OK >>到 3

NG >>檢查 CAN SYSTEM

3. 檢查線束接頭→檢查線束端子導通性

3.1 關閉點火開關

3.2 拆開 Car PC 主機接頭 A20 端子

3.3 請參閱 CAN SYSTEM 線路，以檢查 Car PC 線束接頭 A20 端子 A4(B)/ A17(R)與 CAN SYSTEM 線束導通性~應有導通

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭

**19. 胎壓偵測顯示不正常**

1. Exclude software issue. → Try to reset the unit and try again.

OK 或 NG

OK >>沒問題

NG >>到 2

2. 檢查 Car PC CANII 訊號

單元	端子號碼		ON
	(+)	(-)	



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

87 of 104

	接頭	端子 (線色)		
Car PC 主機	A20	A4/19(B)	搭鐵	5Vpp
		A17/20(R)	搭鐵	5Vpp

OK 或 NG

OK >>到 3

NG >>檢查 CANII 系統

### 3. 檢查 TPMS 胎壓偵測 ECU

OK 或 NG

OK >>到 4

NG >>更換 TPMS 胎壓偵測 ECU

### 4. 檢查線束接頭→檢查線束端子導通性

4.1 關閉點火開關

4.2 拆開 Car PC 主機接頭 A20 端子

4.3 請參閱 CAN SYSTEM 線路，以檢查 Car PC 線束接頭 A20 端子 A4(B)/ A17(R)與 CAN SYSTEM 線束導通性~應有導通

OK 或 NG

OK >>更換 Car PC

NG >>修理線束或接頭



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.	DOC-00045109	REV.
----------	--------------	------

Issued Date	2008/08/11	Ax02
-------------	------------	------

Revised Date	2008/12/4
--------------	-----------

Doc. Title	<b>Pilot Service Manual</b>	Page	88 of 104
------------	-----------------------------	------	-----------

## 7. Generic Labeling Plan (Not ready)

### <Pilot Model ID>

Model ID	VT	Camera	Antenna
	N	Y	US
	N	N	US
	Y	Y	US
	Y	Y	EU
	Y	Y	JAPAN



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.	DOC-00045109	REV.
----------	--------------	------

Issued Date	2008/08/11	Ax02
-------------	------------	------

Revised Date	2008/12/4
--------------	-----------

Doc. Title	<b>Pilot Service Manual</b>	Page	89 of 104
------------	-----------------------------	------	-----------

## Agency label

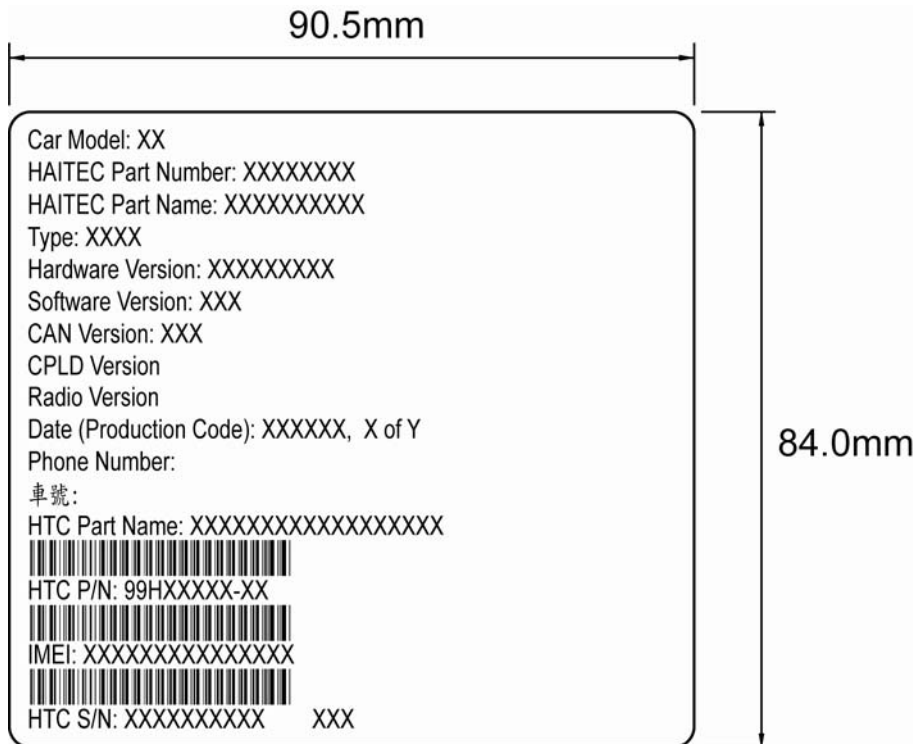
### 1.1 Agency label-N100

HTC P/N: 77H00614-00M

Size: 90.5 X 84.0mm

Barcode type: code128

Qty: 3pcs (1 on device, 1 on box, the other one attached in box)



Car model	
HAITEC Part Number	
HAITEC Part Name	
Type	
Hardware Version	DVT1, XE01
Software Version	0.57
CAN Version	0.14
CPLD Version	XE01 V0D
Radio Version	1.53.01.00
Date(Production Code)	2008/4/8, of
Phone Number	
車號	

**Phase in date: 2008/4/10**

Keep black field in BLANK, RD will write these data by hand.



宏達國際電子股份有限公司  
HTC Corporation

Doc. No. DOC-00045109 REV.

Issued Date 2008/08/11

Revised Date 2008/12/4 Ax02

Doc. Title **Pilot Service Manual**

Page 90 of 104

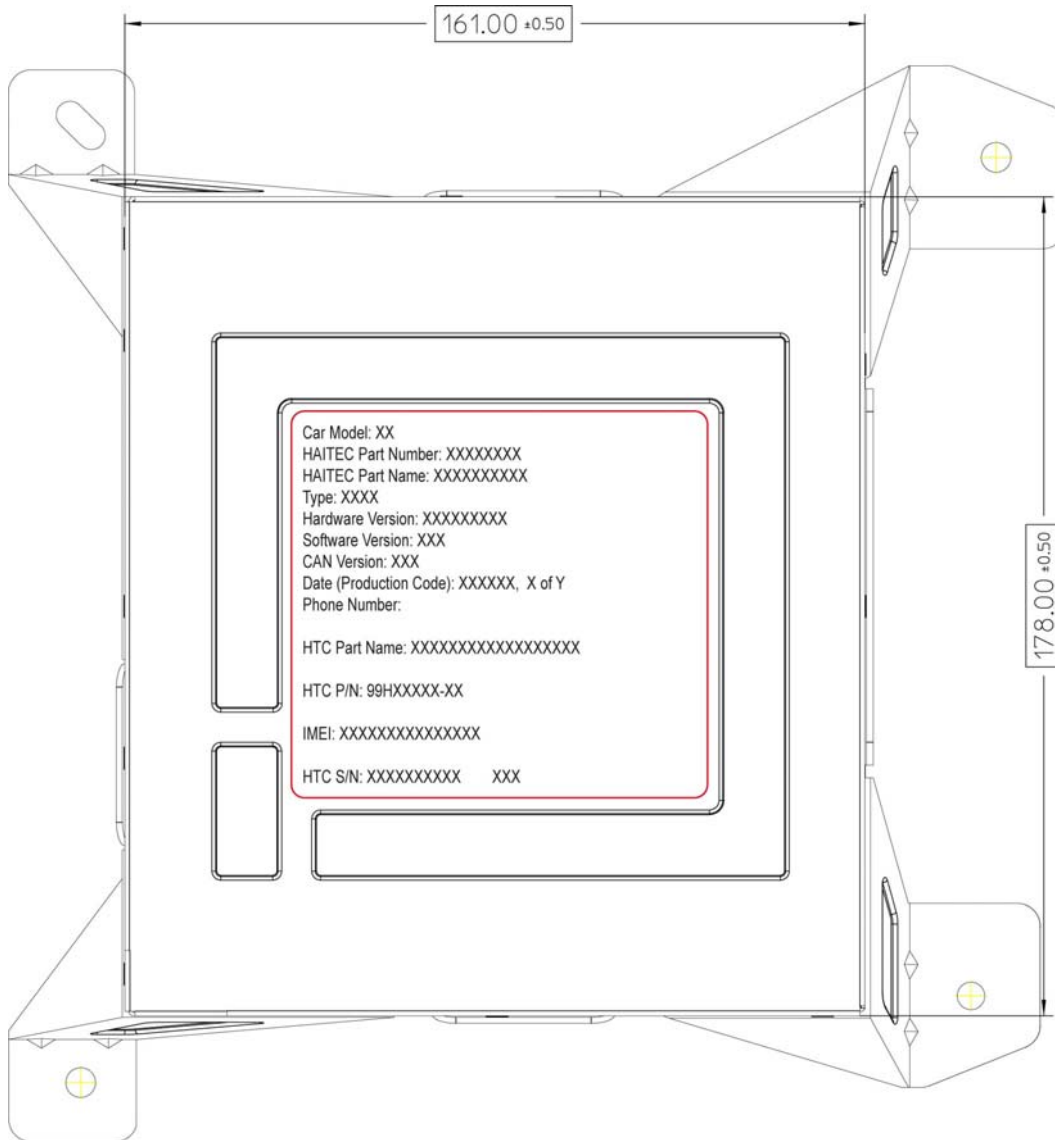
<b>HTC Part Name</b>	SAMPLE,GENERIC,CAR PC,UMTS/GPS/BT
<b>HTC P/N</b>	99HDL000-00

<b>Car model</b>	
<b>HAITEC Part Number</b>	
<b>HAITEC Part Name</b>	
<b>Type</b>	
<b>Hardware Version</b>	DVT1, XE01
<b>Software Version</b>	0.58
<b>CAN Version</b>	0.15
<b>CPLD Version</b>	XE01 V0D
<b>Radio Version</b>	1.53.01.00
<b>Date(Production Code)</b>	2008/4/25, of
<b>Phone Number</b>	
<b>車號</b>	
<b>HTC Part Name</b>	SAMPLE,GENERIC,CAR PC,UMTS/GPS/BT
<b>HTC P/N</b>	99HDL000-00

**Phase in date: 2008/4/18**

Keep black field in BLANK,  
RD will write these data by  
hand.

## 1.2 main label location





Use code128  
IMEI fomate: 123456/12/123456/1

Controlled by MFG->Device HW  
version ex: T01, T02, and T03...

3<sup>rd</sup> character: manufacture year  
4<sup>th</sup> & 5<sup>th</sup> character: manufacture week  
S/N example: HT810XXXXXXXX

**Unit label location explanation**

Water sensitive label  
HTC P/N: 77H00203-00M  
Size: 4.0X2.5mm

Tamper evident label  
HTC P/N: 77H00460-01M  
Size: D=3





宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

93 of 104

## Locations of LDI and Warranty labels

### SIM card indicate sticker

HTC P/N:

Size:



宏達國際電子股份有限公司  
HTC Corporation

Doc. No. DOC-00045109 REV.

Issued Date 2008/08/11

Revised Date 2008/12/4 Ax02

Doc. Title **Pilot Service Manual** Page 94 of 104

## 8. Generic Spare Part List and Photos

### 8.1 SPL for Repair

Item	P/N	Description	Qty	Substitute
1	51H00418-00M	PCBA-MAIN BOARD	1	
2	51H00412-00M	PCBA,GPS DB	1	
3	51H00413-00M	PCBA,UMTS DB	1	
4	72H02544-00M	Screw,M3,FH(110)M3-0.5x4 Ni-Ny	20	
5	72H02546-00M	Screw,M5PHM5-0.8x6 NI-NY, car bracket	7	
6	72H02545-00M	Screw,M3,internal,BHM3-0.5x6-Ny	23	
7	72H02547-00M	Screw,M3 ,IO conn.,tapping,PHM3-20x6 TP-P-1	4	
8	74H01193-00M	Heat Sink Assy, Thermal Module	1	
9	73H00289-00M	FFC,HAMBURG,A-0.5-40pin*75-4*4(6*6)-0.3*0.3-20706,UMTS	1	
10	73H00288-00M	FFC,HAMBURG,B-0.5-40pin*65-4*4(6*6)-0.3*0.3-20706,Bt_WiFi	1	
11	73H00287-00M	FFC,HAMBURG,A-0.5-30pin*70-4*4(6*6)-0.3*0.3-20706,GPS	1	
12	74H01174-00P	Holder Pre-Assy, AMPHENOL, Fakra, cable Assy	1	
13	51H00420-01M	PCBA,BT DB	1	
14	72H02516-00M	Cover, CHERNG YIH,SD Card	1	
15	76H02586-00M	Sponge, SIM cover,Top,SRS40P	1	
16	72H02515-00M	Cover, CHERNG YIH, Top, sheet metal	1	
17	72H02529-00M	Cover, Bot, Sheet Metal, CHERNG YIH	1	
18	76H03058-00M	Rubber, with 0.1t adhesive	1	
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				



宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

95 of 104

**NOTE:**

THE PHOTO OF SPL IS GENERIC AND ONLY FOR REFERENCE, THE COLOR AND APPEARANCE MAY BE DIFFERENT FROM THE SHIPPED PARTS, IF YOU WANT TO APPLY THOSE PARTS, PLEASE CONTACT YOUR SERVICE ACCOUNT MANAGER FOR MORE INFORMATION.

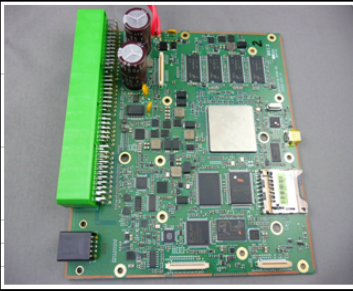
AS FOR PICTURE, PLEASE REFER TO THE TABLE AS BELOW.

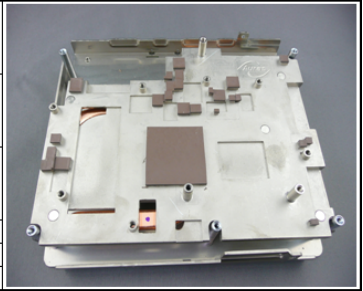
FOR REFURBISHMENT PARTS, THE TABLE IS FOR YOUR REFERENCE. YOU CAN DO THE REFURBISHMENT ONLY WHEN YOUR SERVICE MODEL IS ALLOWED TO DO IT.


**PICTURES OF SPL**

**Picture for SPL 80H Kernel and Accessories**

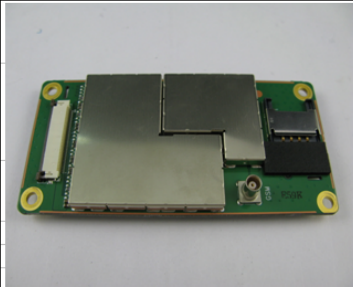
(Part no on picture is for Generic version only, please check SPL for detail per customer)

Part No.	51H00418-00M	
Description	PCBA-MAIN BOARD	
Q'ty	1	
Repair Code	M101	
Refurbishment	No	
Return to HTC	Yes/No	

Part No.	74H01193-00M	
Description	Heat Sink Assy, Thermal Module	
Q'ty	1	
Repair Code		
Refurbishment	Yes/No	
Return to HTC	Yes/No	

Part No.	51H00412-00M	
Description	PCBA,GPS DB	
Q'ty	1	
Repair Code		
Refurbishment	No	
Return to HTC	Yes/No	


Part No.	73H00289-00M	
Description	FFC,HAMBURG,A-0.5-40pin*75-4*4(6*6)-0.3*0.3-20706,UMTS	
Q'ty	1	
Repair Code		
Refurbishment	No	
Return to HTC	Yes/No	

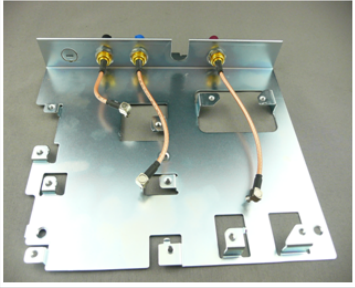
Part No.	51H00413-00M	
Description	PCBA,UMTS DB	
Q'ty	1	
Repair Code		
Refurbishment	No	
Return to HTC	Yes/No	

Part No.	73H00288-00M	
Description	FFC,HAMBURG,B-0.5-40pin*65-4*4(6*6)-0.3*0.3-20706,Bt,WiFi	
Q'ty	1	
Repair Code		
Refurbishment	No	
Return to HTC	Yes/No	

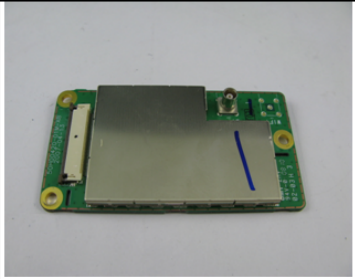
Part No.	72H02544-00M	
Description	Screw,M3,FH(110)M3-0.5x4 Ni-Ny	
Q'ty	20	
Repair Code		
Refurbishment	No	
Return to HTC	Yes/No	

Part No.	73H00287-00M	
Description	FFC,HAMBURG,A-0.5-30pin*70-4*4(6*6)-0.3*0.3-20706,GPS	
Q'ty	1	
Repair Code		
Refurbishment	No	
Return to HTC	Yes/No	

Part No.	72H02546-00M	
Description	Screw, M5PHM5-0.8x6 NI-NY, car bracket	
Q'ty	7	
Repair Code		
Return to HTC	Yes/No	

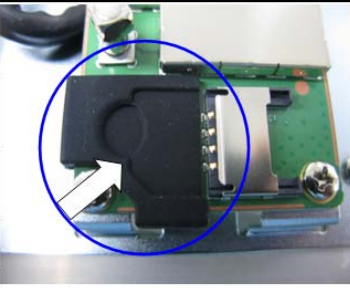
Part No.	74H01174-00P	
Description	Holder Pre-Assy, AMPHENOL, Fakra, cable Assy	
Q'ty	1	
Repair Code		
Return to HTC	Yes/No	

Part No.	72H02545-00M	
Description	Screw, M3, internal, BH M3-0.5x6-Ny	
Q'ty	23	
Repair Code		
Return to HTC	Yes/No	

Part No.	51H00420-01M	
Description	PCBA, BT DB	
Q'ty	1	
Repair Code		
Return to HTC	Yes/No	

Part No.	72H02547-00M	
Description	Screw, M3, IO conn., tapping, PHM3-20x6 TP-P-1	
Q'ty	4	
Repair Code		
Return to HTC	Yes/No	

Part No.	72H02516-00M	
Description	Cover, CHERNG YIH, SD Card	
Q'ty	1	
Repair Code		
Return to HTC	Yes/No	

Part No.	76H03058-00M	
Description	Rubber, with 0.1t adhesive	
Q'ty	1	
Repair Code		
Return to HTC	Yes/No	

Part No.	76H02586-00M	
Description	Sponge, SIM cover, Top, SRS40P	
Q'ty	1	
Repair Code		
Return to HTC	Yes/No	

Part No.	72H02529-00M	
Description	Cover, Bot, Sheet Metal, CHERNG YIH	
Q'ty	1	
Repair Code		
Return to HTC	Yes/No	

Part No.	72H02515-00M	
Description	Cover, CHERNG YIH, Top, sheet metal	
Q'ty	1	
Repair Code		
Return to HTC	Yes/No	

Doc. Title	<b>Pilot Service Manual</b>	Page	98 of 104
------------	-----------------------------	------	-----------

## 8.2 Board Level 2.5 Repairs

### ■ 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 the components damaged**
- Step 2 Use Heater Gun (HAKO850B, set the temperature between 350°C, Air Speed 3~5) to remove the components.
- Step 3 Wait till the temperature cool down before removing the solder-proof tape to avoid other components being removed
- Step 4 After the damaged or defective components have been replaced; clear the surroundings for solder and flux residues.

#### Notice:

- A. Checking the polarity of, and the position can't be shifted.
- B. Checking the polarity of, and it can't be reversed.
- C. All the parts of the PCB should be checked if it is missing or not.
- D. The OP must to wear antistatic wrist band .Don't put boards together and avoid hitting them.
- E. When you solder and repair that the soldering iron, temperature must be setup 415°C . (The temperature range is 415°C±5°C), and the solder wire's diameter is 0.4/0.5/0.6mm (SAC 305 (1.1%))
- F. Please be noticed to follow below steps for main board repair which is equipped with **Golden**

#### **Capacitor:**

1. When replacing level 2.5 components located around the golden capacitor:
  - I. The temperature of the hot air blower must be under 400°C
  - II. When apply the hot air to the part / component, the heating time must be under 20 seconds (including the time of removing and soldering)
  - III. The temperature of the soldering iron must be under 350°C
  - IV. When apply the solder tip to the part / component, the heating time must be under 5 seconds
  - V. The solder tip must not contact with the golden capacitor
2. For BGA replacement: The golden capacitor must be removed before perform pre-heating, heating, soldering and de-soldering process, and then it must be replaced with a new one (please refer to 1.c. and 1.d. steps)
3. For main board which failed to pass the function test, the golden capacitor must be replaced with a new one and must follow below soldering criteria: The temperature of the soldering iron must be under 350°C When apply the solder tip to the part / component, the heating time must be under 5 seconds The solder tip must not have a contact with the body of golden capacitor





宏達國際電子股份有限公司  
HTC Corporation

Doc. No.	DOC-00045109	REV.
Issued Date	2008/08/11	Ax02
Revised Date	2008/12/4	

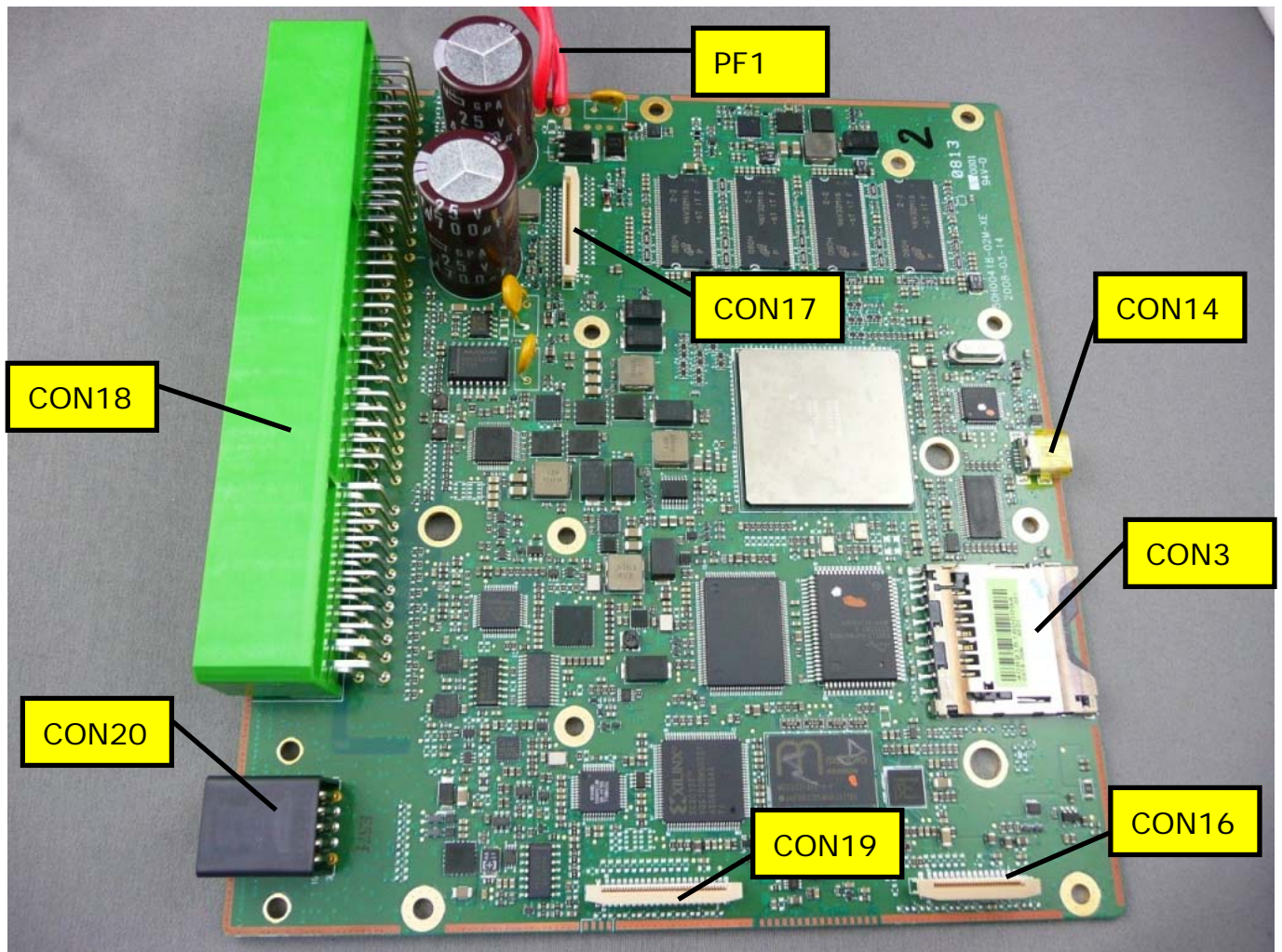
Doc. Title	<b>Pilot Service Manual</b>	Page	99 of 104
------------	-----------------------------	------	-----------

### 51H00418-00M PCBA-MAIN BOARD

Location	P/N	Description	Remark
PF1	73H00295-00P	Cable,Fuse Holder,HTB-32M,BUSSMANN,Pilot	1
CON3	75H00366-00M	Connector SDIO,9pin,FPS009-26C29022-0,YAMAICHI	1
CON14	75H00379-00M	Connector I/O,Mini USB AB,5P,0.8Pitch,1A,30V,67803-8040,MOLEX	1
CON18	75H00790-00M	Connector I/O,76Pin,3Pitch,4A,300V,MX5-76P-L-01-G,JAЕ,Pilot	1
CON17	75H00796-00M	Connector FPC,20mohm,40Pin,0.5Pitch,0.5A,50V,gild,Vertical,SMT,ZIF,MOL EX	1
CON19	75H00796-00M	Connector FPC,20mohm,40Pin,0.5Pitch,0.5A,50V,gild,Vertical,SMT,ZIF,MOL EX	1
CON16	75H00797-00M	Connector FPC,20mohm,30Pin,0.5Pitch,0.5A,50V,gild,Vertical,SMT,ZIF,5255 9-3052,MOLEX	1
CON20	75H00802-00P	Connector I/O,10P,2.5Pitch,2.5A,250V,S10B-J21DK-GGXR,JST	1
	77H30010-41M	Blank Label,20*6mm,MING JYE,green	1



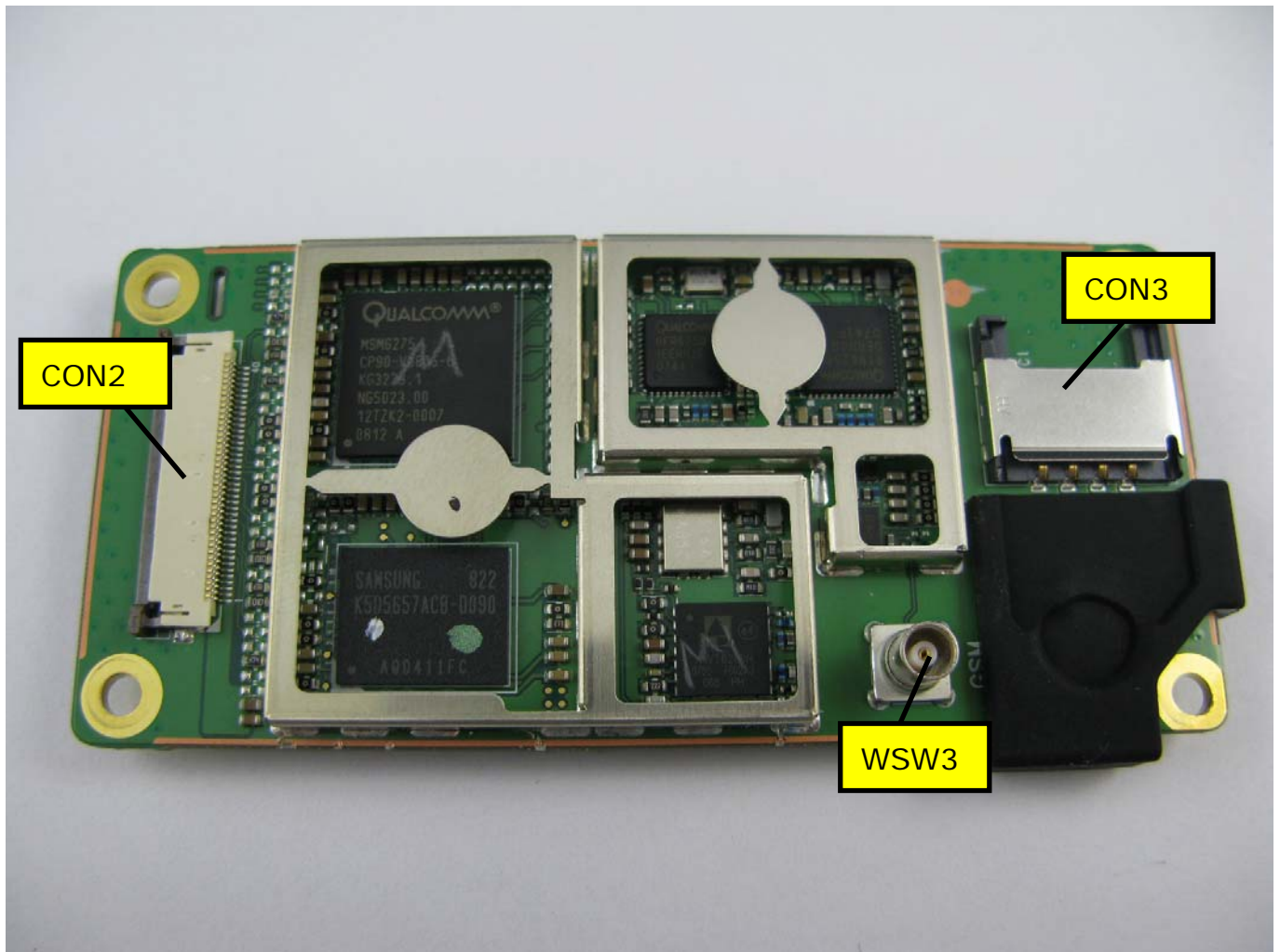
➤ Photo and Component Location



### 51H00413-00M UMTS BOARD

Location	P/N	Description	Remark
CON3	75H00748-00P	Connector SIM Card, 8Pin,2.54Pitch,1A,500V,50mohm, 4320822-SINR02, HAMBURG	1
CON2	75H00791-00M	Connector FPC,20mohm,40Pin,0.5Pitch,0.5A,50V,gild,Right Angle,SMT, ZIF, Top Contact Style,54104-4031,MOLEX	1
WSW3	75H00799-00P	Connector RF,2P,2.5Pitch,73366-0000,MOLEX,MCX,Vertical	1
	77H30010-41M	Blank Label,20*6mm,MING JYE	1

#### Photo and Component Location

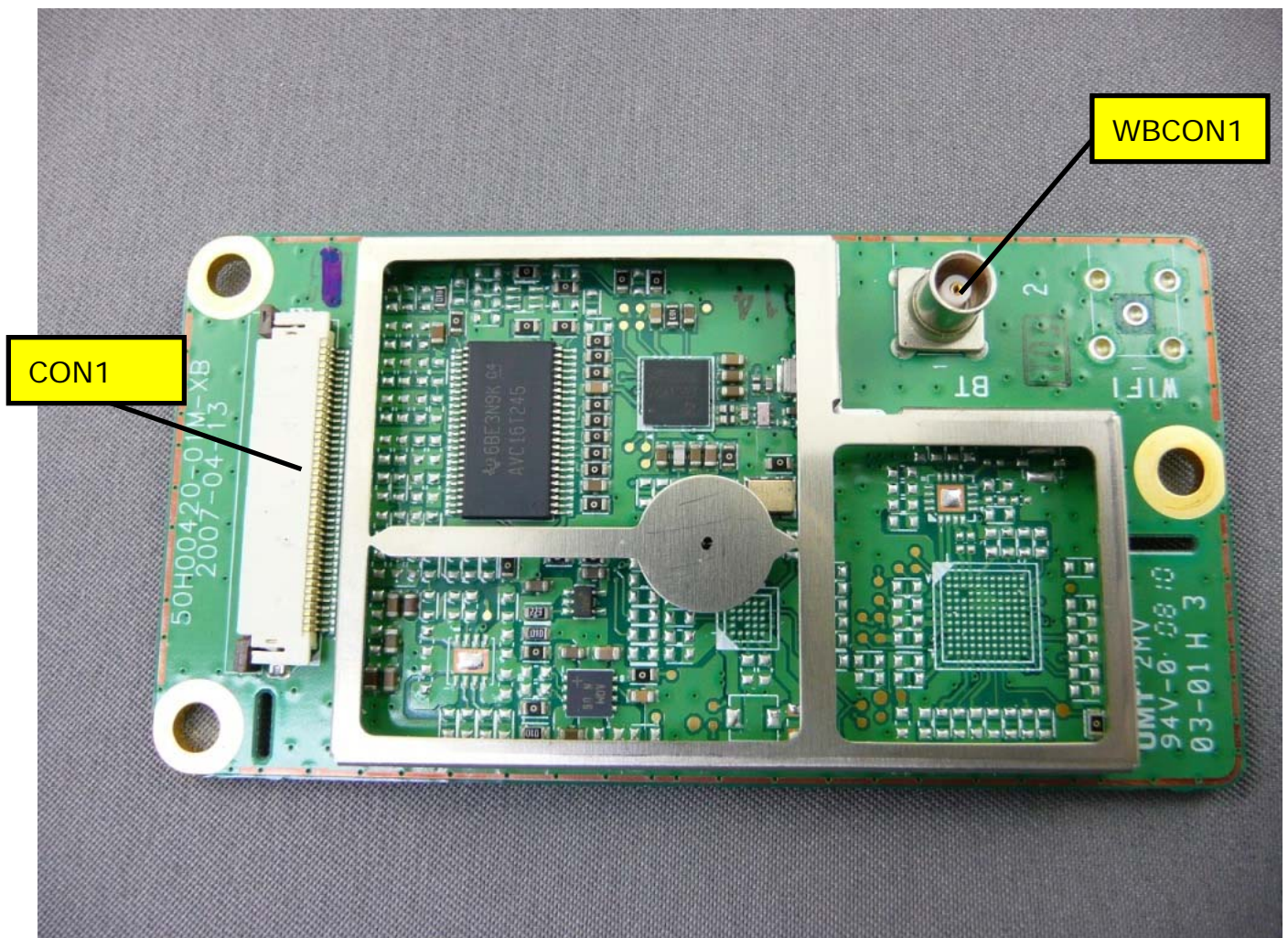




**51H00420-01M BT BOARD**

Location	P/N	Description	Remark
CON1	75H00791-00M	Connector FPC,20mohm,40Pin,0.5Pitch,0.5A,50V,gild,Right Angle,SMT, ZIF, Top Contact Style,54104-4031,MOLEX	1
WBCON1	75H00799-00P	Connector RF,2P,2.5Pitch,73366-0000,MOLEX,MCX,Vertical	1
	77H30010-41M	Blank Label,20*6mm,MING JYE	1

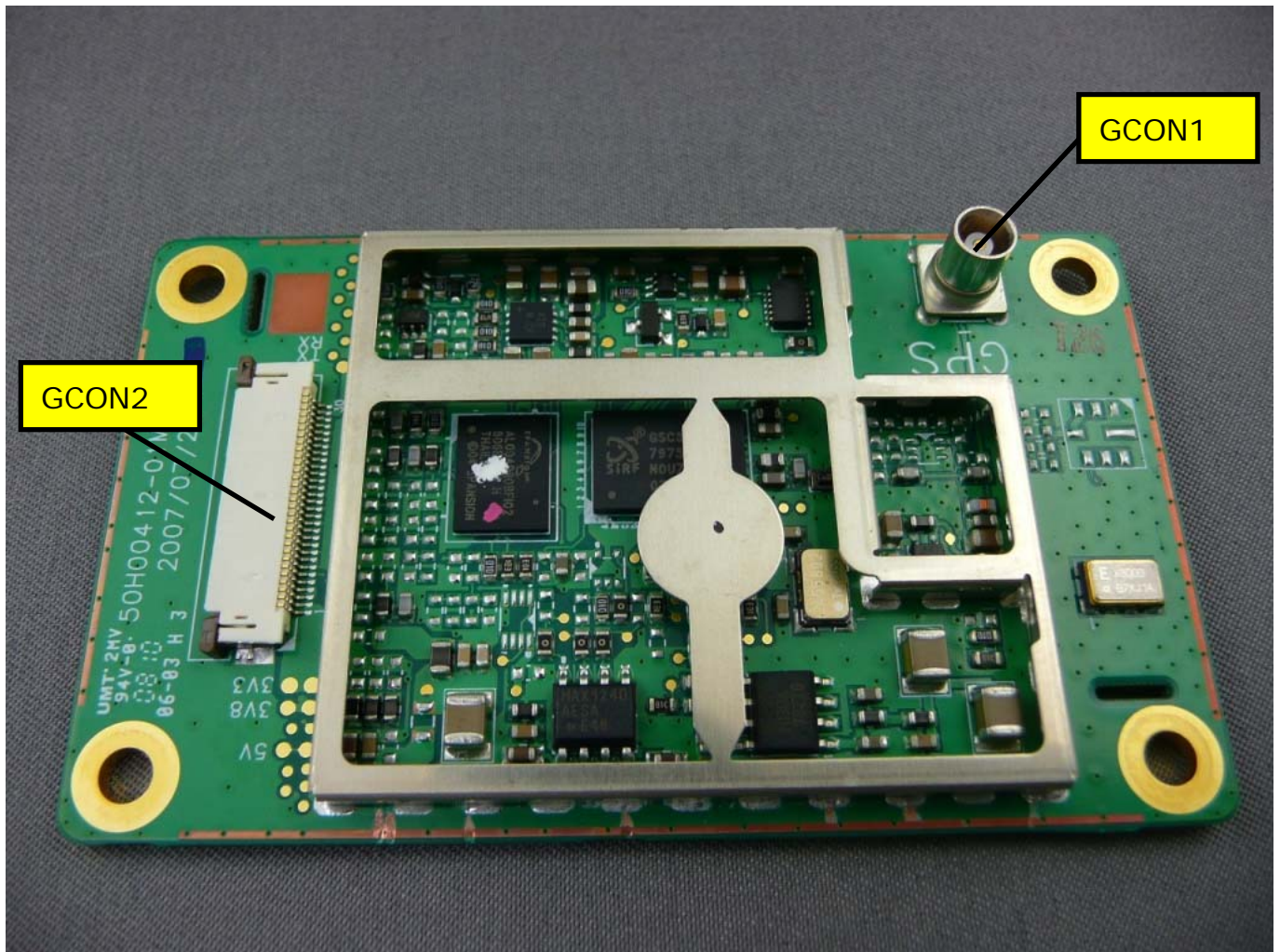
**PHOTO AND COMPONENT LOCATION**



### 51H00412-00M GPS BOARD

Location	P/N	Description	Remark
GCON2	75H00792-00M	Connector FPC,20mohm,30Pin,0.5Pitch,0.5A,50V,gild,Right Angle,SMT, ZIF,Top Contact Style,MOLEX	1
GCON1	75H00799-00P	Connector RF,2P,2.5Pitch,73366-0000,MOLEX,MCX,Vertical	1
	77H30010-41M	Blank Label,20*6mm,MING JYE	1

Photo and Component Location





宏達國際電子股份有限公司  
HTC Corporation

Doc. No.

DOC-00045109

REV.

Issued Date

2008/08/11

Revised Date

2008/12/4

Ax02

Doc. Title

**Pilot Service Manual**

Page

104 of 104

## 9. RF Specification(Not ready)

### 9.1 Module

Note: