TravelMate 4050
Service Guide

Service guide files and updates are available
on the ACER/CSD web; for more information,
please refer to http://csd.acer.com.tw

Revision History

Please refer to the table below for the updates made on TravelMate 4050 service guide.

Date	Chapter	Updates

Copyright

Disclaimer

Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Features

This model is a project to accommodate Intel Centrino technology to provide end user better mobile experience with entry price. It is a 2 spindle with normal 4:3 for factor.

Performance

❑ Intel® Pentium® M processor 710/715/725/735/745/755/765 at 1.4 ~ 2.1 GHz, 2MB L2, 400 MHz FSB

❑ Intel® Pentium® M processor at 1.5/1.6/1.7 GHz, 1MB L2 cache, 400MHz FSB

❑ Intel® Celeron® M processor at 1.2/1.3/1.4/1.5 GHz, 512 L2 cache, 400MHz FSB

❑ Intel 855GME Chipset, ICH4-M

❑ 256/512MB of DDR 333 memory, upgradeable to 2GB using dual soDIMM moduels

❑ High-capacity, Enhanced-IDE hard disk

❑ Li-Ion main battery pack

❑ Wireless solution with integrated Intel® PRO/Wireless 2200BG network connection 802.11b/g Inprocomm 802.11 b/g, dual band Wi-Fi CERTIFIED™ solution; Acer SignalUp wireless technology support

Display

❑ 14.1" or 15.0" Thin-Film Transistor (TFT) displaying at 1024x768 XGA and 1400x1050 SXGA resolution

❑ Intel® 855GME integrated 3D AGP graphics featuring Intel® Extreme Graphics 2 technology and up to 64MB VRAM, supporting dual independent display

❑ 16.7 million colours

❑ Microsoft® DirectX® 9.0 support

❑ Simultaneous LCD and CRT display at 1024 x 768 pixel reslouation, 70Hz External resolution/ refresh rate:

  ❑ 800x600: 200/460/120/100/85/75/60 Hz

  ❑ 1024x768: 200/160/120/100/85/75/60 Hz

  ❑ 1280x1024:160/120/100/85/75/60 Hz

  ❑ 1400x1050: 60 Hz

  ❑ 1600x1200: 120/100/85/75/60 Hz

  ❑ 2048x1536: 75/60 Hz

❑ S-video/TV-out (NTSC/PAL) support

❑ MPEG-2/DVD hardware-assisted capability

Video

❏ VGA is integrated in Intel 855GME (Montara-GME) chipset

❏ Simultaneous display on LCD and CRT

❏ 3D Windows accelerator

❏ Supports 15/16/24/32 bbp True Color on LCD & Dual View

❏ Hardware expansion for high resolution LCD

❏ Support TV-out feature by extra TV-Encoder (optional)

Audio

❏ AC97 Codec with Realtek ALC250

❏ Built-in two stereo speakers

❏ No internal Microphone

Storage

❏ **ODD**

    ❏ Fixed Type

    ❏ Option for 12.7mm DVD Combo, DVD Dual and DVD Super Multi

    ❏ Located in front side

❏ **HDD**

    ❏ 9.5mm, 2.5" HDD Support

    ❏ 30/40/60/80GB ATA100 hard disc drive

    ❏ PCI Bus Master Enhanced IDE

    ❏ Ultra DMA 66/100 support

    ❏ Easy install with one protecting screw from right side

Connectivity

❏ Modem 56K ITU V.92 modem with PTT approval; Wake on-Ring ready

❏ 10/100 Mbps Fast Ethernet LAN; Wake-on-LAN ready

❏ Integrated Intel® PRO/Wireless 2200BG network connection 802.11b/g dual band Wi-Fi CERTIFIED™ solution, Inprocomm 802.11b/g

❏ Acer SignalUp wireless technology support

❏ Wireless PAN integrated Bluetooth®

Battery

❏ 4/8 cells Li-ion 18650 size (2150mAh) main battery pack with 31/63W Capacity

❏ Supports 2.5/5 hrs operation time (battery mark 2002, in XGA resolution)

❏ Approximated charging time 3~8 hrs (System On) or 2.5hr (System Off)

❏ Smart battery pack, SMbus

I/O Ports

❏ Three USB 2.0 ports

❏ IEEE 1394 port (Optional)

❏ Ethernet (RJ-45) port

❏ Modem (RJ-11) port

❏ S-Video/TV-Out port (NTSC/PAL) (Optional)

- ❑ Parallel port
- ❑ External display (VGA) port
- ❑ Microphone Jack
- ❑ Headphones/Speaker/Line-Out port
- ❑ Infrared (FIR) port
- ❑ PC Card Slot (one Type II)
- ❑ DC-In jack for AC adaptor

System Block Diagram

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Mainboard Placement

Top View

Item	Description	Item	Description
JP1	CRT CONN	JP17	ODD CONN
JP2	Parallel Port	JP18	SPK CONN
JP3	IEEE1394 CONN	JP19	TP/B CONN
JP4	TV-OUT CONN	JP20	MIC JACK
JP5	RJ11/RJ45 CONN	JP22	K/B CONN
JP6	USB CONN X 2	JP23	PHONE JACK
JP7	CPU FAN CONN	JP16	HDD CONN
JP8	USB CONN	SW1	LID SWITCH
JP9	POWER/B CONN	SW3	KILL SWITCH
JP10	LVDS CONN	U12	NB
JP11	MBC CONN	PCN1	AC JACK
JP12	CPU Socket	PJP9	BATT COMM
JP13	MINIPCI CONN	JP24	LED/B CONN
JP15	CraBus CONN		

Bottom View

Item	Description	Item	Description
JP25	SO-DIMM Socket	U45	SIO Controller
JP26	SO-DIMM Socket	U29	IEEE1394 Controller
U35	CarBus Controller	U37	EC

Outlook View

A general introduction of ports allow you to connect peripheral devices, as you would with a desktop PC.
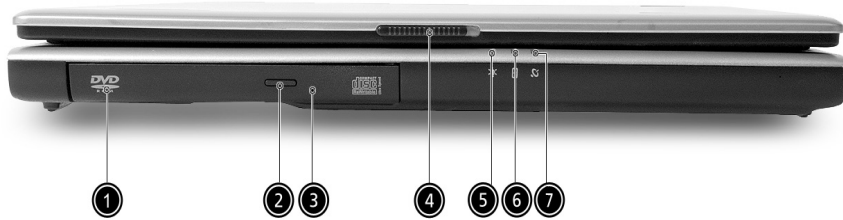
Front Open View

#	Item	Description
1	Display screen	Also called Liquid-Crystal Display (LCD), displays computer output.
2	Power button	Turns on the computer.
3	Launch keys	Two special keys for frequently used programs.
4	Keyboard	Inputs data into your computer.
5	Palmrest	Comfortable support area for your hands when you use the computer.
6	Click buttons (left and right)	The left and right buttons function like the left and right mouse buttons.
7	Touchpad	Touch-sensitive pointing device which functions like a computer mouse.
8	Status indicators	Llight-Emitting Diodes (LEDs) that turn on and off to show the status of the computer, its functions and components.

Front View

#	Item	Description
1	Optical drive	Internal optical drive; accepts CDs or DVDs depending on the optical drive type.
2	Optical drive eject button	Ejects the optical drive tray from the drive.
3	Emergency eject hole	Ejects the optical drive tray when the computer is turned off. See page 56 for more details.
4	Latch	Latch for opening and closing the computer.
5	Power indicator	Lights when the computer is on.
6	Battery indicator	Lights when the battery is being charged.
7	Wireless / Bluetooth® communications	Lights to indicate the status of Wireless LAN (optional) / BluetoothR (optional) communications. 1. Orange indicates that wireless LAN is enabled. 2. Blue indicates that Bluetooth® is enabled. 3. Purple indicates that wireless LAN & Bluetooth® are enabled.

Left View

#	Item	Description
1	One USB 2.0 port	Connects to Universal Serial Bus devices (e.g., USB mouse, USB camera).
2	Infrared port	Interfaces with infrared devices (e.g., infrared printer, IR-aware computer).
3	PC Card slot	Accepts one Type II 16-bit PC Card or 32-bit CardBus PC Card.
4	PC Card eject button	Ejects the PC Card from the slot.
5	Microphone/line-in jack	Accepts input from external microphones, or other audio line-in devices (e.g. audio CD player, stereo walkman and etc.)
6	Headphone/ Speaker/ Line-out jack	Connects to headphones or other line-out audio devices (speakers).
7	Wireless / Bluetooth Communication switch	Enables and disables Wireless / Bluetooth® communication devices. (optional)

Right View

#	Item	Description
1	Stereo speaker	Outputs sound
2	HDD	Houses the computer's hard disk
3	DC-in jack	Connects the AC adapter
4	Ventilation Slot	Enables the computer to stay cool, even afterprolonged use.

Rear View

#	Item	Description
1	Security keylock	Connects to a Kensington-compatible computer security lock
2	Parallel port	Connects to a parallel device (e.g., parallel printer)
3	External display port	Connects to a display device (e.g., external monitor, LCD projector) and displays up to16.7 million colors and up to 1600x1200 at 85 Hz and 2048x1536 at 75 Hz resolution.
4	Two USB 2.0 ports	Connects to Universal Serial Bus devices (e.g.,USB mouse, USB camera)
5	Modem port	Connects to a phone line
6	Ethernet port	Connects to an Ethernet 10/100-based network
7	S-video (manufacturingoption)	Connects to a television or display device with S-video input
8	IEEE 1394 port	Connects to IEEE 1394 devices

Bottom View
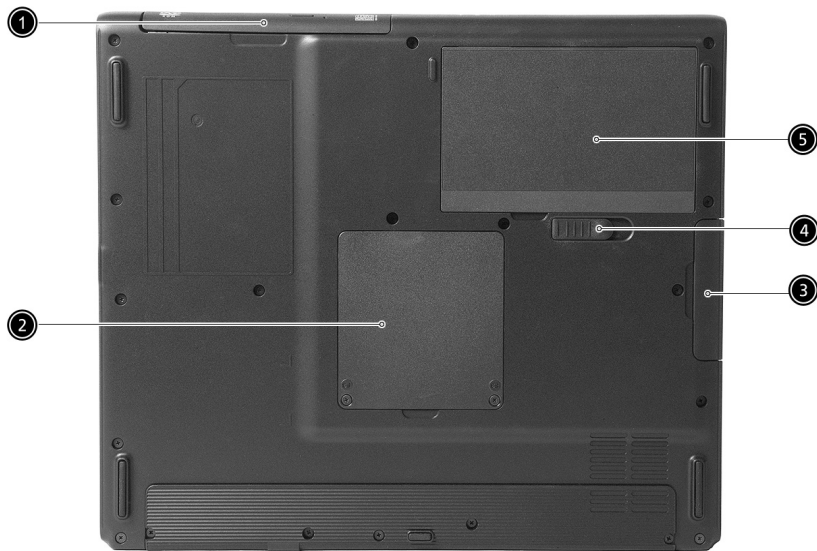
#	Item	Description
1	Optical drive	Internal optical drive; accepts CDs or DVDs depending on the optical drive type
2	Memory compartment	Houses the computer's main memory
3	Hard disk bay	Houses the computer's hard disk (secured by a screw)
4	Battery compartment release latch	Unlatches the battery to remove the battery compartment
5	Battery bay	Houses the computer's battery pack

Indicators

The computer has six easy-to-read status icons below the display screen.

The status LCD displays icons that show the status of the computer and its components.

Icon	Function	Description
	HDD	Lights when Hard Disk Drive is activated.
	ODD	Lights when Optical Disk Drive is activated.
	Scroll lock	Lights when Scroll Lock is activated.
	Caps lock	Lights when Caps Lock is activated.
	Pad lock (cursor)	Lights when Pad lock is activated.
	Num lock	Lights when Num Lock is activated.
	Power Indicator	Lights when the computer is on
	Battery	Lights green. Flashes when the battery is being charged or low capacity.
	Wireless Communications	Lights to indicate the status of Wireless LAN(optional) communications

Lock Keys

The keyboard has four lock keys which you can toggle on and off.

Lock Key	Description
Caps Lock	When Caps Lock is on, all alphabetic characters typed are in uppercase.
Pad lock (Fn-F10)	When Pad Lock is on, the embedded keypad is enabled. In this mode the keypad is cursor function.
Num lock (Fn-F11)	When Num Lock is on, the embedded keypad is in numeric mode. The keys function as a calculator (complete with the arithmetic operators +, -, *, and /). Use this mode when you need to do a lot of numeric data entry. A better solution would be to connect an external keypad.
Scroll lock (Fn-F12)	When Scroll Lock is on, the screen moves one line up or down when you press ⊞ and ⊡ respectively. Scroll Lock does not work with some applications.

Embedded Numeric Keypad

The embedded numeric keypad functions like a desktop numeric keypad. It is indicated by small characters located on the right hand side of the keycaps.

Desired Access	Num Lock On	Num Lock Off
Number keys on embedded keypad	Type numbers in a normal manner.	
Main keyboard keys	Hold <Fn> while typing letters on embedded keypad.	Type the letters in a normal manner.

Windows Keys

The keyboard has two keys that perform Windows-specific functions.

Key	Description
Windows logo key 	Start button. Combinations with this key perform special functions. Below are a few examples: + Tab (Activates next taskbar button) + E (Explores My Computer) + F (Finds Document) + M (Minimizes All) SHIFT + + M (Undoes Minimize All) + R (Displays the Run... dialog box)
Application key 	Opens a context menu (same as a right-click).

Hot Keys

The computer uses hotkey or key combinations to access most of the computer's controls like sreen brightness and volume output.

To activate hot keys, press and hold the **Fn** key before pressing the other key in the hot key combination.

Hot Key	Icon	Function	Description
Fn-Esc	$\mathsf{Z^z}$	Sleep	Puts the computer in Sleep mode.
Fn-F5	CRT/LCD	Display toggle	Switches display output between the display screen, external monitor (if connected) and both the display screen and external monitor.
Fn-End		Speaker toggle	Turns the speakers on and off.
Fn-PgUp		Volume up	Increases the speaker volume.
Fn-PgDn		Volume down	Decreases the speaker volume.
Fn-⬆	☼▲	Brightness up	Increases the screen brightness.
Fn-⬇	☼▼	Brightness down	Decreases the screen brightness

The Euro Symbol

If your keyboard layout is set to United States-International or United Kingdom or if you have a keyboard with a European layout, you can type the Euro symbol on your keyboard.

NOTE: For US keyboard users: The keyboard layout is set when you first set up Windows. For the Euro symbol to work, the keyboard layout has to be set to United States-International.

To verify the keyboard type in Windows 2000 and Windows Millennium Edition, follow the steps below:

1.   Click on **Start, Settings, Control Panel**.

2.   Double-click on **Keyboard**.

3.   Click on the **Language** tab.

4.   Verify that keyboard layout used for "En English (United States)" is set to United States-International. If not, select and click on **Properties**; then select **United States-International** and click on **OK**.

5.   Click on **OK**.

To verify the keyboard type in Windows XP, follow the steps below:

1.   Click on **Start**, **Control Panel**.

2.   Double-click on **Regional and Language Options**.

3.   Click on the **Language** tab and click on **Details**.

4.   Verify that the keyboard layout used for "En English (United States)" is set to United States-International. If not, select and click on **ADD**; then select **United States-International** and click on **OK**.

5.   Click on **OK**.

To type the Euro symbol:

1.   Locate the Euro symbol on your keyboard.

2.   Open a text editor or word processor.

3.   Hold **Alt Gr** and press the Euro symbol.

NOTE: Some fonts and software do not support the Euro symbol. Please refer to www.microsoft.com/typography/faq/faq12.htm for more information.

Launch Keys

Located at the top of keyboard are three buttons. The left-most button is the power button. To the right of the power button are the two launch keys. They are designated as the programmable buttons (P1 and P2).

Launch Key	Default application
e	Acer eManager application (User-programmable)
P	User-programmable

Touchpad

The built-in touchpad is a pointing device that senses movement on its surface. This means the cursor responds as you move your finger on the surface of the touchpad. The central location on the palmrest provides optimum comfort and support.

Touchpad Basics

The following items teach you how to use the touchpad:

❑   Move your finger across the touchpad to move the cursor.

❑   Press the left and right buttons located on the edge of the touchpad to do selection and execution functions. These two buttons are similar to the left and right buttons on a mouse. Tapping on the touchpad produces similar results.

Function	Left Button	Right Button	Tap
Execute	Click twice quickly		Tap twice (at the same speed as double-clicking the mouse button)
Select	Click once		Tap once
Drag	Click and hold, then use finger to drag the cursor on the touchpad		Tap twice (at the same speed as double-clicking a mouse button) then hold finger to the touchpad on the second tap to drag the cursor
Access context menu		Click once	

NOTE: Keep your fingers dry and clean when using the touchpad. Also keep the touchpad dry and clean. The touchpad is sensitive to finger movements. Hence, the lighter the touch, the better the response. Tapping harder will not increase the touchpad's responsiveness.

Hardware Specifications and Configurations

Processor

Item	Specification
CPU type	Intel® Pentium® M Processor at 1.4~2.1 GHz
	Intel® Celeron® M Processor at 1.2~1.5 GHz
CPU package	µ FCBGA package
CPU core voltage	Intel® Pentium® M Processor supports automatic selection of power supply voltage
CPU I/O voltage	1.05V

BIOS

Item	Specification
BIOS vendor	Insyde
BIOS Version	Insyde MobilePRO BIOS 4.0
BIOS ROM type	Flash ROM
BIOS ROM size	512KB
BIOS package	32 lead of PLCC
Bupported protocols	ACPI 1.0b,PC Card 95, SM BIOS 2.3, EPP/IEEE 1284, ECP/IEEE 1284 1.7 & 1.9, PCI 2.2, PnP 1.0a, DMI 2.0, USB, VGA BIOS, CD-ROM bootable
BIOS password control	Set by setup manual

Second Level Cache

Item	Specification
Cache controller	Built-in CPU
Cache size	Intel® Pentium® M Processor 1M/2M
	Intel® Celeron® M Processor 512K
1st level cache control	Always enabled
2nd level cache control	Always enabled
Cache scheme control	Fixed in write-through

System Memory

Item	Specification
Memory controller	Intel 855GME
Memory size	128MB/256MB/512MB/1024MB(1GB)
DIMM slot number	2 slots
Supports memory size per socket	1GB
Supports maximum memory size	2GB (by two 1024MB SO-DIMM module)
Supports DIMM type	DDR Synchronous DRAM
Supports DIMM Speed	333 MHz
Supports DIMM voltage	2.5V
Supports DIMM package	200-pin SO-DIMM
Memory module combinations	You can install memory modules in any combinations as long as they match the above specifications.

Memory Combinations

Slot 1	Slot 2	Total Memory
0MB	128MB	128MB
0MB	256MB	256MB
0MB	512MB	512MB
0MB	1024MB	1024MB
128MB	0MB	128MB
128MB	128MB	256MB
128MB	256MB	384MB
128MB	512MB	640MB
128MB	1024MB	1152MB
256MB	0MB	256MB
256MB	128MB	384MB
256MB	256MB	512MB
256MB	512MB	768MB
256MB	1024MB	1280MB
512MB	0MB	512MB
512MB	128MB	640MB
512MB	256MB	768MB
512MB	512MB	1024MB
512MB	1024MB	1536MB
1024MB	0MB	1024MB
1024MB	128MB	1152MB
1024MB	256MB	1280MB
1024MB	512MB	1536MB
1024MB	1024MB	2048MB(2G)

NOTE: Above table lists some system memory configurations. You may combine DIMMs with various capacities to form other combinations.

.

LAN Interface

Item	Specification
Supports LAN protocol	10/100 Mbps
LAN connector type	RJ45
LAN connector location	Rear Side

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Modem/Bluethooth Interface

Item	Specification
Data modem data baud rate (bps)	56K
Supports modem/bluetooth protocol	V.90/V.92 WWDAA
Modem connector type	RJ11
Modem connector location	Rear Side

Hard Disc Drive Interface

Item	Specification		
Functionality			
Model Name	Toshiba MK3025GAS	Hitachi HTS424030M9AT00	Seagate 2.75"W. 37"H ST94019A
Capacity (MB)	30000	30000	40000
Bytes per sector	512	512	512
Data heads	2	2	3
Data Disks	1	1	2
Spindle speed (RPM)	4200 RPM	4200 RPM	4200 RPM
Performance Specifications			
Buffer size	2MB	2MB	2048KB
Interface	ATA-5	ATA-6	ATA-5
Media transfer rate (disk-buffer, Mbytes/s, max)	154.3~298.0Mbits/sec	370Mbits/sec	386Mbits/sec
Interface transfer rate (host~buffer, Mbytes/s,max)	100Mbytes/sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5
DC Power Requirements			
Voltage tolerance	5V(DC) +/-5%	5V(DC) +/- 5%	5V(DC) +/- 5%

Combo Drive Interface

Item	Specification	
Vendor & model name	**QSI SBW-242C** HLDS GCC-4243N	
Diameter	12cm and 8cm	
	CD-ROM	**DVD-ROM**
Capacity	650<MB Model1, 12cm disk	4.7GB Model1, 12cm disk
	CD-ROM	**DVD-ROM**
Transfer rate (KB/sec)	3.6 MB/s max (read)	11.08 MB/s max(read)
	Write Speed : 3.6 MB/s (typical)	
Access Time	**CD-ROM**	**DVD-ROM**
	150 ms(typical)	150 ms(typical)
Voltage	DC+5V +/-5%	
Applicable disc format	DVD: DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18),DVD-R, DVD-RW, DVD+R,DVD+RW,DVD-RAM(optional),CD-DA, CD-ROM/XA, CD-i, Karaoke CD, Video CD, Multi-session Photo CD, Enhanced CD, i-trax CD, CD extra, CD Plus, CD-Text, CD-R and CD-RW Discs	
Speed	8X DVD Disc Reading Speed 24X CD-R Disc Writing Speed 24X CD-RW Disc Writing Speed 24X CD-ROM Reading Speed	
Interface	IDE/ATAPI interface (comliant to ATA /ATAPI-5)	
Dimnsion	128.0x12.7x129.0	
Weight	Aluminum : 190 gm Metal : 235 gm	

Combo Drive Interface

Item	Specification
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release
Power Requirement	
Input Voltage	+5 V +/- 5 % (Operating) +/- 8 % (Start up)
Input Voltage	+5 V +/- 0.25V

DVD-ROM Interface

Item	Specification	
Vendor & model name	QSI SDW-082S	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	(Mode1) 4X-5.7X PCAV 600-855KByte/s 10.3X-24X CAV 1552-3600KByte/s (Mode2) 4X-5.7X PACV 684.4-975.3KBytes/s 10.3X-24X CAV 1769-4104KByte/s	3.3X-8X CAV 4463-10820KByte/s
Data Buffer Capacity	192 KBytes	
Interface	IDE/ATAPI	
Applicable disc format	DVD: DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18),DVD-R (read, single border), DVD-RW(read) DVD-RAM (read, Version2.1), DVD-RAM (read, Version 1.0) CD: CD-Audio, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, CD-I, CD-I Bridge (Photo-CD, Video-CD) Multisession CD (Photo-CD, CD-EXTRA, CD-R, CD-RW), CD-R (read), CD-RW (read)	
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release	
Power Requirement		
Input Voltage	+5 V +/- 5 % (Operating) +/- 8 % (Start up)	
Input Voltage	+5 V +/- 0.25V	

DVD Dual Interface

Item	Specification	
Vendor & model name	QSI SDW-082S **Lite-On SOSW-852S**	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	(Mode1) 4X-5.7X PCAV 600-855KByte/s 10.3X-24X CAV 1552-3600KByte/s (Mode2) 4X-5.7X PACV 684.4-975.3KBytes/s 10.3X-24X CAV 1769-4104KByte/s	3.3X-8X CAV 4463-10820KByte/s
Data Buffer Capacity	192 KBytes	
Interface	IDE/ATAPI	
Applicable disc format	**Read :** DVD: DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18),DVD-Video, DVD-Audio,DVD-R,DVD-R 3.95GB, DVD-R Multi-Border,DVD-RW,DVD+R, DVD+R DL,DVD+R Multi-Session,DVD+RW CD-DA,CD-ROM Mode-1,CD-ROM/XA Mode-2 Form-1 and Mode-2 Form-2,CD-i, Video-CD, CD-Text **Write:** DVD: DVD Date & Video CD:CD-DA, CD-ROM Mode-1, CD-ROM/XA Mode-2 Form-1 and Mode-2 Form-2,CD-i,Video -CD, CD-Text **Recordable Media Type:** DVD+R/DVD-RW/DVD+R DL/DVD-R/DVD-RW and DVD-R/CD-RW media	
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release	
Power Requirement		
Input Voltage	+5 V +/- 5 % (Operating) +/- 8 % (Start up)	
Input Voltage	+5 V +/- 0.25V	

Audio Interface

Item	Specification
Audio Controller	Realtek ALC250
Audio onboard or optional	Built-in
Mono or Stereo	Stereo
Resolution	20 bit stereo Digital to Analog converter 18 bit stereo Analog to Ditial converter
Compatibility	AC97 2.2 & WHQL spec.
Mixed sound source	CD
Sampling rate	48 KHz
Internal microphone	No
Internal speaker / Quantity	Yes / 2

Video Interface

Item	Specification
Video vendor	UMA (855GME)
Support bbp	15/16/24/32 bbp True Color on LCD& dual view
Chip voltage	Core/1.35V
Supports ZV (Zoomed Video) port	No

Parallel Port

Item	Specification
Parallel port controller	LPC47N217
Number of parallel port	One
Location	Rear side
Connector type	25-pin D-type connector, in female type
Parallel port function control	Enable/Disable/Auto (BIOS or operating system chooses configuration) by BIOS setup **Note:** Depending on your operating system, disabling an unused device may help free systen resources for other devices.
Supports ECP/EPP/Bi-directional (PS/2 compatible)	Yes (set by BIOS setup) **Note:** When Mode is selected as EPP mode, "3BCh" will not be available.
Optional ECP DMA channel (in BIOS setup)	DMA channel 1
Optional parallel port I/O address (in BIOS setup)	378h, 278h
Optional parallel port IRQ (in BIOS setup)	IRQ7, IRQ5

USB Port

Item	Specification
USB compliancy level	2.0
OHCI	USB 2.0
Number of USB port	3
Location	Two on rear and one on left
Serial port function control	Enable/Disable by BIOS setup

PCMCIA Port

Item	Specification
PCMCIA controller	ICH4-M
Supports card type	Type II
Number of slots	One type-II
Access location	Left panel
Supports ZV (Zoomed Video) port	No ZV support
Supports 32 bit CardBus	Yes

System Board Major Chips

Item	Controller
System core logic	855GHE/ICH4-M
Super I/O controller	LPC47N217
Audio controller	ALC250
Video controller	UMA
Hard disk drive controller	ICH4-M
Keyboard controller	KB910

Keyboard

Item	Specification
Keyboard controller	KB910
Keyboard vendor & model name	Standard keyboard w/o launch button embeded
Total number of keypads	85/US, 86/UK keys with 101/102 key emulation
Windows logo key	Yes
Internal & external keyboard work simultaneously	Yes

Battery

Item	Specification
Vendor & model name	Sony/Sanyo 4-cell of 18650 Li-ion battery pack, (2200mAh cell) 8-cell of 18650 Li-ion battery pack, (2200mAh cell)
Battery Type	Li-ion
Pack capacity	31Wh / 63Wh
Cell voltage	3.7V/cell
Number of battery cell	8
Package voltag	14.8V

LCD : 14.0" /15.0"

Item	Specification		
14.0"			
Vendor & model name	Toppoly TD141TGCD2	AU B141XG10	CMO N141XB-L01 N141XB-L01
Mechanical Specifications			
LCD display area (diagonal, inch)	14.1"	14.1"	14.1""
Display technology	TFT	TFT	TFT
Resolution	XGA (1024* 768)	XGA (1024* 768)	XGA (1024* 768)
Supports colors	262K	262K	262K
Dot Pitch	0.093 x 0.279 mm	0.279mm	N/A
Optical Specification			
Contrast ratio	300:1	300:1	450:1
Response time (msec)	N/A	25ms	35ms
Limiunance, white, 5P (cd/m^2)	150	185	160
Viewing Angle	L/R:40°/40°, U/D:15°/35°	L/R:45°/45°, U/D:15°/35°	L/R:45°/45°, U/D:15°/35°

LCD : 14.0" /15.0"

Item	Specification	
15.0"		
Vendor & model name	AU B150XG02 V2 HW:2	Samsung LTN150XB-L03-C00
Mechanical Specifications		
LCD display area (diagonal, inch)	15"	15"
Display technology	TFT	TFT
Resolution	1024 x 768	1024 x 768
Supports colors	262K	262K
Dot Pitch	0.297mm	0.297mm
Optical Specification		
Contrast ratio	300:1	450 : 1
Response time (msec)	25ms	16ms
Limuinance, white, 5P (cd/m^2)	200	270
Viewing Angle	L/R:40°/40°, U/D:10°/33°	H/V: 120° / 120°

AC Adapter

Item	Specification
Vendor & model name	LITEON 65W, 3 PIN, PA-1650-02CR
Input Requirements	
Input Voltage(Maximum)	137 (low range) 265 (high range)
Nominal frequency (Hz)	47 - 63
Output Ratings (CV mode)	
Noise + Ripple	380mvp-pmax (20MHz bandwidth) for resistor load as output voltage is 18.5V
Output Ratings (CC mode)	
DC output voltage	18.0 ~ 19.2
Constant output	3.3A
Dynamic Output Characteristics	
Start-up time	3 sec. (@115 Vac and 230Vac full load)
Hold up time	5ms min. (@115 Vac input, full load)
Over Voltage Protection (OVP)	29V
Short circuit protection	Output can be shorted without damage, and auto recovery

AC Adapter

Item	Specification
Vendor & model name	DELTA ADP-65DB BG A 65W 3P
Input Characteristics	
Input Rated Voltage	100V/240V
Input Voltage Range	90VAC to 270VAC
Input Frequency Range	47Hz to 63Hz
Input Voltage Harmonic Distortion	larger than or equal to 8%

AC Adapter

Item	Specification
Input Current (100Vac, 240Vac / 3.5A loag)	larger than or equal to 1.5A
Output Characteristics	
Output Rated Voltage	20V
Output Current	0A to 3.5A
Output Voltage Setting	19.5V to 21V
Output Voltage Ripple and Noise(90Vac/70W load; 264Vac/ 70W load)	larger than or equal to 300mVp-p
Dynamic Load Change	19.5~21V
Protection Characteristics	
Over Voltage Protection	25V

Power Management

ACPI Mode	Power Management
Mech. Off (G3)	All devices in the system are turned off completely.
Soft Off (G2/S5)	OS initiated shutdown. All devices in the system are turned off completely.
Working (G0/S0)	Individual devices such as the CPU and hard disk may be power managed in this state.
Sleeping State (S3)	CPU Power Down VGA Power Down PCMCIA Suspend Audio Power Down Hard Disk Power Down Super I/O Power Down
Sleeping State (S4)	Also called Hibernate state. System saves all system states and data onto the disk prior to power off the whole system.

Environmental Requirements

Item	Specification
Temperature	
Operating	+5 ~ +35°C
Non-operating	-20 ~ +65°C
Non-operating	-20 ~ +65°C (storage package)
Humidity	
Operating	20% to 80% RH
Non-operating	20% to 80% RH

Mechanical Specification

Item	Specification
Dimensions	336.40(W) x 281.5(D) x 32 (H) mm (with ID) bump-out 2.9mm at RAM door and battery area
Weight	2.79kg (6.15lbs) with 14.1" LCD+DVD-ROM+8-cell Battery 2.48kg (6.26lbs) with 15" LCD+DVD-ROM+8-cell Battery 2.61kg (5.75lbs) with 14.1" LCD+DVD-ROM+4-cell Battery 2.66kg (5.86lbs) with 15" LCD+DVD-ROM+4-cell Battery

Mechanical Specification

Item	Specification
I/O Ports	One type II CardBus slots, one RJ-11 modem jack, one RJ-45 network jack, one DC-in jack for AC adapter, one ECP/EPP-compliant parallel port, one external monitor port, one headphone/speaker/line-out jack (3.5mm mini jack), one microphone/line-in jack (3.5mm mini jack), three Universal Serial Bus (USB) ports, one IEEE 1394 port, one S-video port
Material	Cover material: ABS
Indicators	Power, Battery charge, HDD, ODD, Wireless/Bluetooth communication, Caps lock, Pad lock, Num lock and Scroll lock indicators
Switch	Power switch Lid switch User define switch 1, 2 Wireless ON/OFF switch

System Utilities

BIOS Setup Utility

The BIOS Setup Utility is a hardware configuration program built into your computer's BIOS (Basic Input/Output System).

Your computer is already properly configured and optimized, and you do not need to run this utility. However, if you encounter configuration problems, you may need to run Setup. Please also refer to Chapter 4 Troubleshooting when problem arises.

To activate the BIOS Utility, press m during POST (when "Press <F2> to enter Setup" message is prompted on the bottom of screen).

Item	Description
Main	Allows the user to specify standard IBM PC AT system parameters
Advanced	Provides advanced settings of the system
Security	Provides security settings of the system.
Boot	Allows the user to specify the boot options.
Exit	Allows the user to save CMOS setting and exit Setup.

Navigating the BIOS Utility

There are five menu options: Information, Main, Advanced, Security, Boot and Exit.

Follow these instructions:

Hot Key	Description
Fn+Esc	Sleep Button in ACPI mode
Fn+F5	Display toggle (LCD>CRT>Simulataneous)
Fn+End	Speaker On/Off
Fn+F10	Pad Lock
Fn+F11	Num Lock
Fn+F12	Scroll Lock
Fn+PgUp	Volume Up
Fn+PaDn	Volume Down
Fn+w	Brightness Up
Fn+y	Brightness Down

NOTE: You can change the value of a parameter if it is enclosed in square brackets. Navigation keys for a particular menu are shown on the bottom of the screen. Help for parameters are found in the Item Specific Help part of the screen. Read this carefully when making changes to parameter values.

Main

This menu provides you the information of the system.

```
Insyde Software SCU                          May 20, 2003    5:40:09   A
  Main        Advanced         Security         Boot              Exit


    ----Devices----------------------------------    -----System----------------------
    Product Name = TravelMate 4050                   CPU = Intel® Pentium ® 4
    Manufacture Name = Acer                          CPU speed = 1.4 GHz
    System BIOS Version = V1.00
    VGA BIOS Version = 3104


    HDD Model Name = HITACHI_DK23EA-40-(PM)
    HDD Serial Number = 8D4648                       ----Memory------------------------
    ATAPI = UJDA740 DVD/CDROM-(SM)                   Base Memory = 640 KB
                                                     Extended Memory = 127MB

    Serial Number = ( 32 bytes)                      VGA Memory = 16MB

    Asset Tag Number = (32 bytes)

    UUID = (16 bytes)



    Setup system date, time. Enable boot logo and get system information.
```

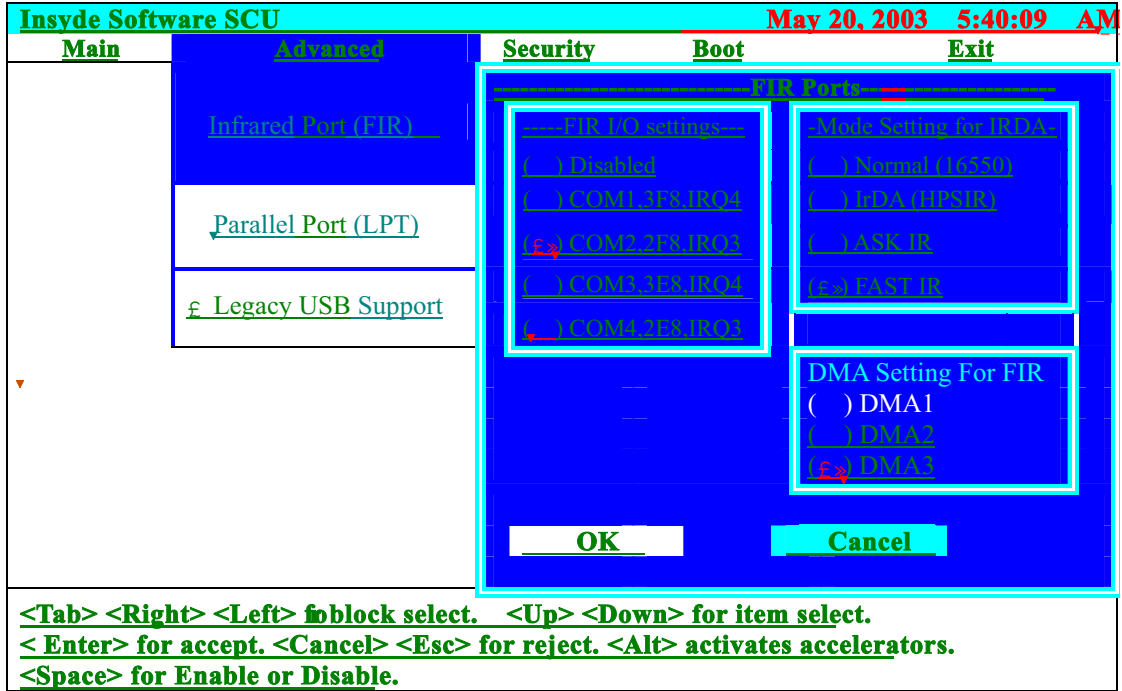| Parameter	Description
Device	
Product Name	A product name string will be stored in the secured data area. The product name is an alphnumeric string of 16 bytes in length checksum.
Manufacture Name	A manufacture name string will be stored in the secured data area. It is defined as "Acer" stored 16 bytes in total length with checksum.
System BIOS Version	This field reports the BIOS version of system.
VGA BIOS Version	This field reports the VGA version of the system.
HDD Model Name	This item will show the size of HDD installed on Primary IDE master. The hard disk size is automatically detected by the system. If there is no hard disk present or unknown type, °ßNone°® should be shown on this field.
HDD Serial Number	This item allows the serial number of the Hard Disk. If there is no hard disk present or unknown type,"None" should be shown on this field.
ATAPI	This item will show the model name of DVD/CD-ROM drive installed on system. The DVD/CD-ROM model name is automatically detected by the system. If there is no DVD/CD-ROM model present or unknown type, "None" should be shown on this field.
Serial Number	This item will show the Serial number of system.
Asset Tag Number	This item will show the Asset Tag number of the system.
UUID	This number only valid when there is an internal LAN device presents, otherwise, zero will be display in this field.
System	
CPU	This field will show you the system's CPU type.
CPU Speed	This item will show the CPU speed.

Parameter	Description
Memory	
Base Memory	This field reports the memory size of system base memory. The size is fixed to 640KB.
Extended Memory	This field reports the memory size of the extended memory in the system. Extended Memory size = Total memory size - 127 MB
VGA Memory	VGA Memory size = 16MB

Main   **Advanced**   **Security**   **Boot**   **Exit**

  Date and Time
  Quiet Boot
  LCD Auto DIM
  Network Boot
v**F12 Boot Menu**
  D2D Recovery

Enable or disable the F12 key for Boot Menu during POST
<Space> for select

Parameter	Description
Time and System Date	The hours are displayed with 24 hour format. The values set in these two fields take effect immediately
Quiet Boot	Enabled>Customer Logo is displayed, and Summary Screen is disabled Disabled>Customer Logo is not displayed, and Summary Screen is enabled
LCD Auto Dim	Enabled>LCD brightness will automatically lower to save more power when AC is not present. Disabled>LCD brightness will NOT automatically lower to save more powerwhen AC is not present
Network Boot	
F12 Boot Menu	Enabled>During user's quite boot, the OEM POST screen will have "Press <F12>Change Boot Device" Disabled>During user's quite boot, the OEM POST screen will not have "Press <F12>Change Boot Device"
D2D Recovery	Enables, disables D2D Recovery function. The function allows the user to create a hidden partition on hard disc drive to store operation system and restore the system to factory defaults.

Advanced

The Advanced screen contains parameters involving your hardware devices. It also provides advanced settings of the system.

Insyde Software SCU			May 20, 2003 5:40:09 AM
Main	**Advanced**	**Security** **Boot**	**Exit**

```
-------------------------------------FIR Ports-------------------------------------

   Infrared Port (FIR)        -----FIR I/O settings---      -Mode Setting for IRDA-
                              (    ) Disabled               (    ) Normal (16550)
                              (    ) COM1,3F8,IRQ4          (    ) IrDA (HPSIR)
   Parallel Port (LPT)        (£») COM2,2F8,IRQ3           (    ) ASK IR
                              (    ) COM3,3E8,IRQ4          (£») FAST IR
   £  Legacy USB Support      (    ) COM4,2E8,IRQ3

                                                           DMA Setting For FIR
▼                                                          (    ) DMA1
                                                           (    ) DMA2
                                                           (£») DMA3


                                 OK                          Cancel
```

```
<Tab> <Right> <Left> foblock select.    <Up> <Down> for item select.
< Enter> for accept. <Cancel> <Esc> for reject. <Alt> activates accelerators.
<Space> for Enable or Disable.
```

The table below describes the parameters in the screen. Settings in **boldface** are the default and suggested parameter settings.

	Description	Option
FIR I/O Settings	Sets the base I/O address and IRQ for Infrared port.	**Disabled**, COM1, 3F8, IRQ4/ COM2, 2F8, IRQ3/ COM3, 3E8, IRQ4/ COM4, 2E8, IRQ3
DMA Setting for Fast IR	Sets a DMA channel for the printer to operate in ECP mode. This parameter is enabled only if Mode is set to ECP.	DMA1, DMA2, **DMA3**,
Mode Setting	NA	Normal (16550), IrDA (HPSIR), ASK IR, **FAST IR**

LPT Port

Configure the system's parallel port using options: **Disabled** and Enabled.

The table below describes the parameters in the screen. Settings in **boldface** are the default and suggested parameter settings.

	Description	Option
Port Definition	Sets the mode for the parallel port. Standard AT: Normal mode (AT compatible) Bi-directional: Bi-directional mod (PS/2 compatible) Enhanced Parallel (EPP): EPP mode Extended Capabilities (ECP): ECP mode (requires DMA channel)	Standard AT (Centronics), **Bidirectional (PS-2)**, Enhanced Parallel (EPP), Extended Capabilities
Port Address	Sets the base I/O address for the parallel port. When Mode is selected as EPP mode, "3BC" will not be available.	None/ **LPT1, 378, IRQ7**/ LPT2, 278, IRQ5/ LPT3, 3BC, IRQ7
Mode Setting	If ECP mode has been selected, then DMA default is DMA1.	**DMA1**, DAM3

Legacy USB Support

Disabled: Disable support for Legacy Universal Serial Bus.

Enabled: Enable support for Legacy Universal Serial Bus.

Infrared Port (FIR)

Parallel Port (LPT)

£ Legacy USB support

Legacy USB keyboard, Floppy Drive, USB Mouse Support
<Space> for Enable or Disable

Security

The Security screen contains parameters that help safeguard and protect your computer from unauthorized use.

The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Parameter	Description	Option
Set User Password	Press Enter to set the user password. When set, this password protects the BIOS Setup Utility from unauthorized access.	Length -- No more than 8 characters Characters -- 0-9, A-Z (not case sensitive)
Set Supervisor Password	Press Enter to set the administrator password. When set, this password protects the BIOS Setup Utility from unauthorized access.	
Password on Boot	Defines whether a password is required or not while the events defined in this group happened. The following sub-options are all requires the Supervisor password for changes and should be grayed out if the user password was used to enter setup. Allows the user to specify whether or not a password is required to boot.	Check Uncheck

NOTE: When you are prompted to enter a password, you have three tries before the system halts. Don't forget your password. If you forget your password, you may have to return your notebook computer to your dealer to reset it.

Boot

This menu allows the user to decide the order of boot devices to load the operating system. Bootable devices includes the diskette drive in module bay, the onboard hard disk drive and the CD-ROM in module bay.

Exit

The Exit screen contains parameters that help safeguard and protect your computer from unauthorized use.

The table below describes the parameters in this screen.

Parameter	Description
Exit Saving Changes	Allows the user to save changes to CMOS and reboot the system.
Exit Discarding Changes	Allows the user Discards changes made and exits System Setup.
Load Setup Default	Loads default settings for all parameters (same as t).
Discard Changes	Allows the user to discard previous changes in CMOS Setup.

BIOS Flash Utility

The BIOS flash memory update is required for the following conditions:

❑   New versions of system programs

❑   New features or options

❑   Restore a BIOS when it becomes corrupted.

Use the Flash utility to update the system BIOS flash ROM.

NOTE: If you do not have a crisis recovery diskette at hand, then you should create a **Crisis Recovery Diskette** before you use the Flash utility.

NOTE: Do not install memory-related drivers (XMS, EMS, DPMI) when you use the Flash utilities.

NOTE: Please use the AC adaptor power supply when you run the Flash utility. If the battery pack does not contain enough power to finish BIOS flash, you may not boot the system because the BIOS is not completely loaded.

Fellow the steps below to run the Flash.

1.   Prepare a bootable diskette.

2.   Copy the Flash utilities to the bootable diskette.

3.   Then boot the system from the bootable diskette. The Flash utility has auto-execution function.

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

To disassemble the computer, you need the following tools:

❑   Wrist grounding strap and conductive mat for preventing electrostatic discharge

❑   Plastic flat head screw driver

❑   Plastic tweezers

❑   Philips screw driver

❑   Any plastic tool can take off the middle cover

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components. When you remove the stripe cover, please be careful not to scrape the cover.

General Information

Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.

2. Unplug the AC adapter and all power and signal cables from the system.

3. Remove the battery pack.

NOTE: TravelMate 290 series product uses mylar or tape to fasten the FFC/FPC/connectors/cable, you may need to tear the tape or mylar before you disconnect different FFC/FPC/connectors.

Removing the Battery Pack

1. Slide the battery latch.

2. Then remove the battery.
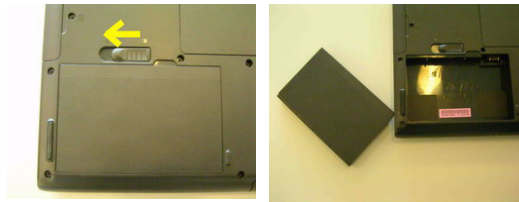
Removing HDD Module, ODD and Memory Module

Removing the HDD Module

1. Remove the one screw.
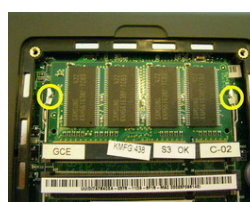2. Pull the entire HDD out fromm the sytem.
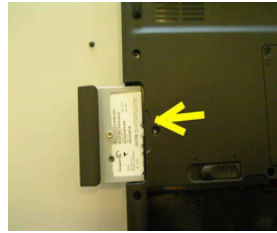
Removing the ODD Module

1. Remove the one screw to release the ODD.
2. Pull the entire ODD out from the system.

Removing the Memory

1. Remove the two screws that secure the DIMM cover.
2. Remove the DIMM cover.
3. Pop out the memory then remove it.
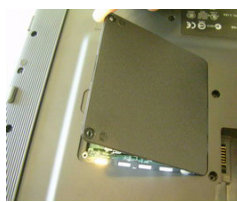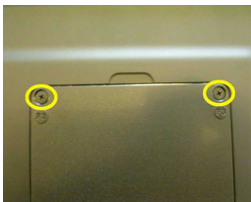
Removing the Keyboard/LCD Module

Removing the Keyboard

1. Use a plastic flat head screw driver or any plastic tool to detach the middle cover carefully.
2. Then remove the middle cover from the main unit.

3. Remove the two screws holding the keyboard.
4. Turn the keyboard over as the picture shows.
5. Disconnect the keyboard cable then remove the keyboard.

Removing the Power Switch Board, Thermal and MDC

1. Remove the one screw to release the power switch board.
2. Detach the power switch board from the system.
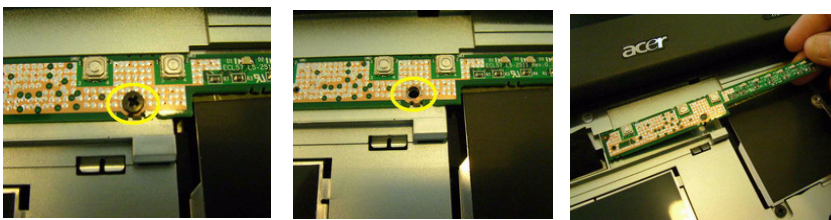
3. Remove the one screw to release the thermal door.
4. Detach the thermal door out from the system.
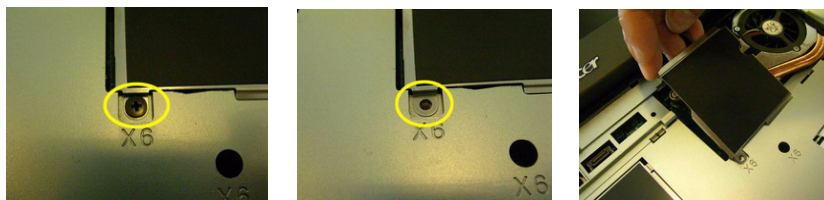
5. Remove the two screws to release the wireless door.
6. Detach the wirless door.
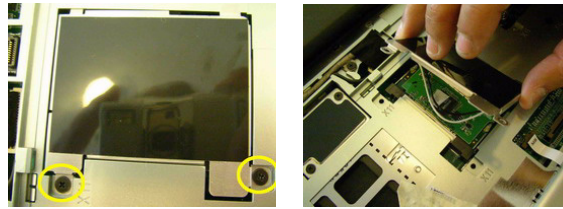
7. Remove the two screws to release the MDC.
8. Detach the MDC away from the system.

Removing the LCD module

1. Remove one screw as the picture shows.
2. Then disconnect the LCD coaxial cable.
3. Disconnect the antenna.

4. Remove the two screws located at rear side to release the panel.
5. Remove the two screws located on the bottom.

Disassembling the Main Unit

1. Disconnect the wire cable from the mainboard .

2. Be caution of the cable to release from the tab before you to conduct the panel disassemble.
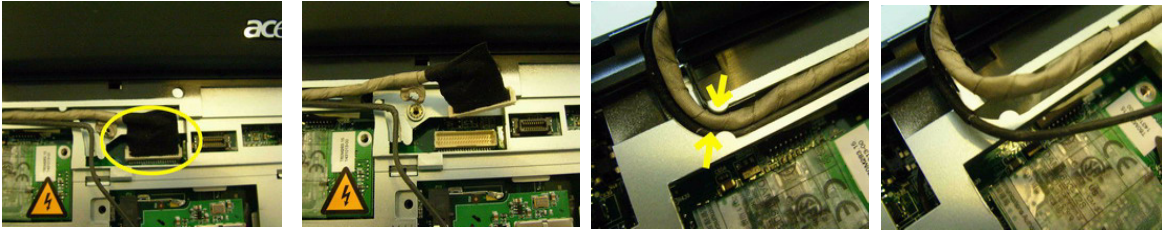
3. Detach the entire panel out from the system.
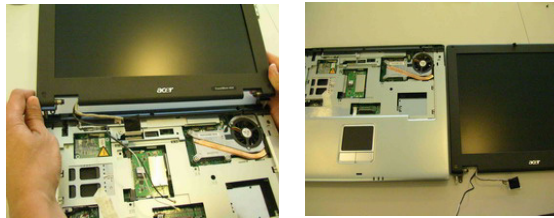
4. Remove the four screws to release the thermal.

5. Detach the thermal board and disconnect the thermal cable from the mainboard.
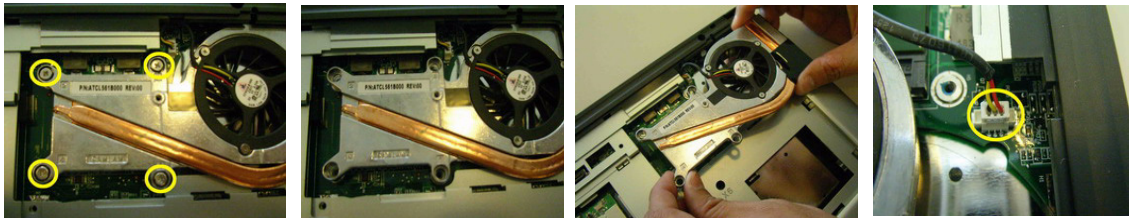
6. With a flat screwdriver to release the CPU with anti-clockwise direction.

7. Detach the CPU from the socket.
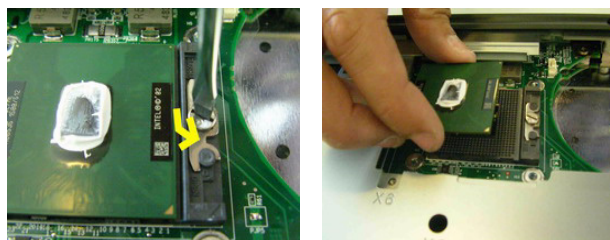
8. Push outward both side latches to release the wireless board and take it away.

9. Take the MDC board out from the mainboard with plastic flat screwdrive tool.

10. Disconnect the MDC cable from the MDC board.
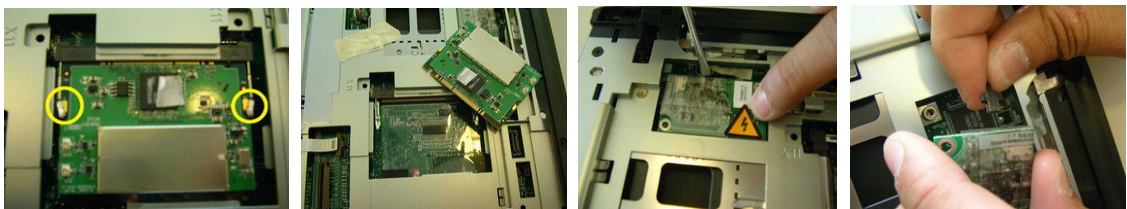
1. Remove the four screws to detach the panel cover from panel moudle.
2. Detach the cover from the panel.

3. Remove the two screws on both sides that fasten the LCD bracket.
4. Disconnect the backlight cable and wireless cable from the invertor board.
5. Detach the LCD panel.

6. Remove the four screws on each side to release the panel bracket.
7. Disconnect the coaxial cable.

8. Remove one screw.
9. Detach the invertor board from the position.
10. Remove the two screws to release the anntenna.
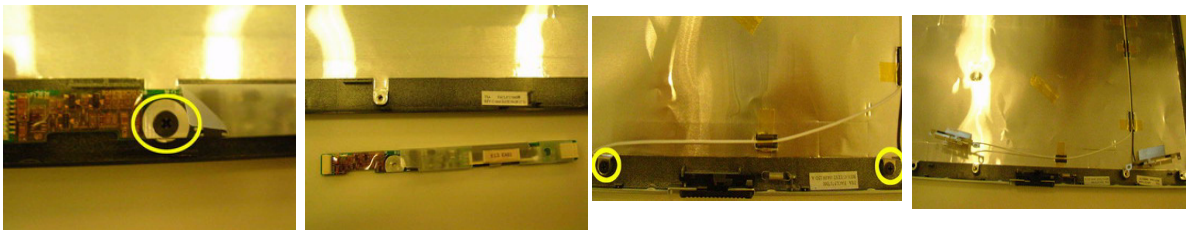
11. Remove the 10 screws to release the lower case.
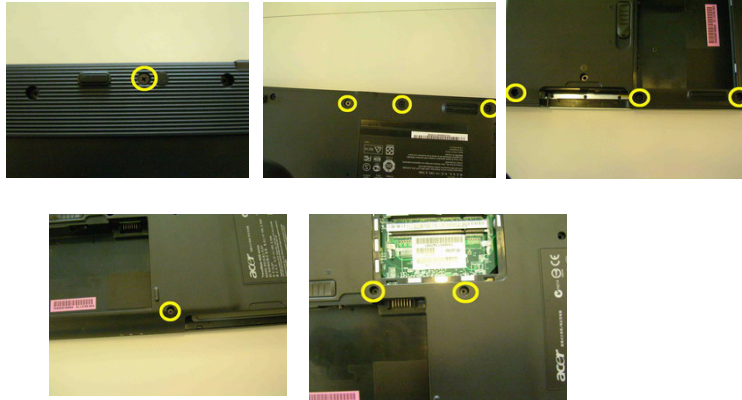
12. Remove the 3 screws located at the upper case.
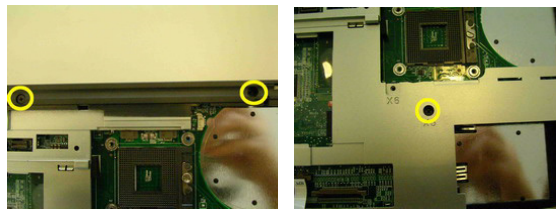
13. Disconnect the touchpad FPC from the mainboard.

14. Disconnect the speaker cable.
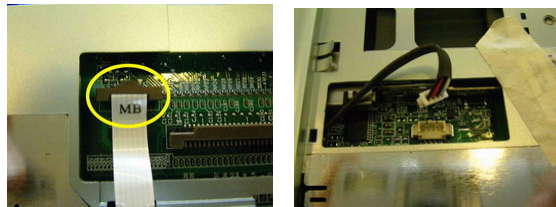
15. Then detach the upper case assembly.

16. Remove the two screws to release the touchpad support bracket .

17. Disconnect the touchpad FPC.

18. Push toward left direction and take the touchpad support bracket.

19. Detach the touchpad out from the upper case .
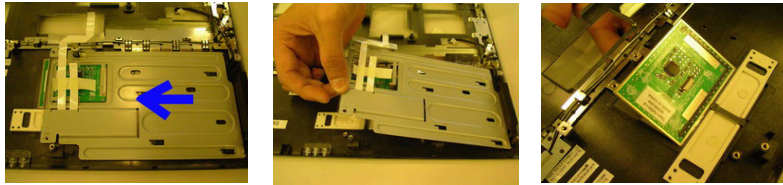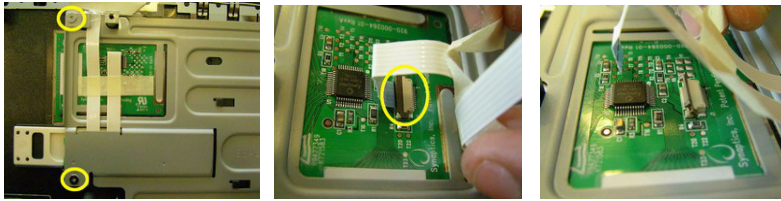
20. Remove the one screw to release the mainboard.

21. Disconnect the LED cable.

22. Detach the mainboard out from the chassis.
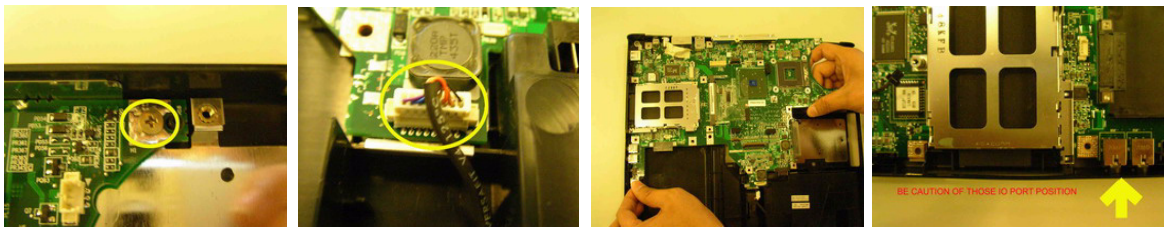
23. Detach the LED board.

24. Remove the four screws to release the PCMCIA slot from MB.

25. Detach the PCMCIA from the mainboard.
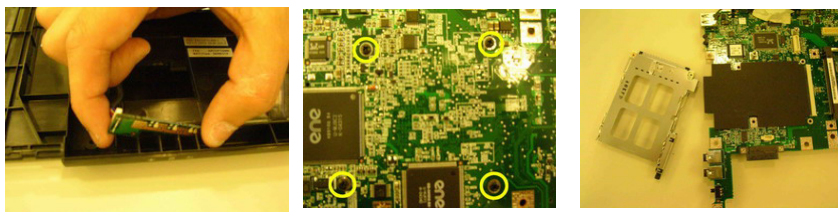
26. Remove the three screws to release the fan.

27. Detach the fan from the thermal module.

28. Remove the two screws fastening the speakers.

29. Detach the speakers on each side.

Disassembling the HDD Module

1. Remove the two screws holding the HDD bracket on one side.

2. Detach the HDD unit from the bracket.

3. Detach the ESD plate from the HDD unit.
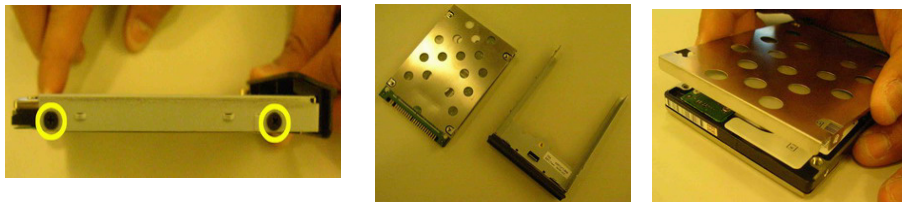
4. Remove the 3 screws to release the ODD module

5. Detach the ODD bracket.

6. Detach the ODD cover.

Troubleshooting

System Check Procedures

External Diskette Drive Check

Do the following steps to isolate the problem to a controller, driver, or diskette. A write-enabled, diagnostic diskette is required.

NOTE: Make sure that the diskette does not have more than one label attached to it. Multiple labels can cause damage to the drive or cause the drive to fail.

Do the following to select the test device.

1. The FDD heads can become dirty over time, affecting their performance. Use an FDD cleaning kit to clean the heads. If the FDD still does not function properly after cleaning, go to next step.

2. Boot from diagnostic program.

3. If an error occurs with the internal diskette drive, reconnect the diskette connector on the main board.

If the error still remains:

1. Reconnect the external diskette drive module.

2. Replace the external diskette drive module.

3. Replace the main board.

External CD-ROM/DVD-ROM Drive Check

Do the following to isolate the problem to a controller, drive, or CD-ROM/DVD-ROM. Make sure that the CD-ROM does not have any label attached to it. The label can cause damage to the drive or can cause the drive to fail.

Do the following to select the test device:

1. Insert an audio CD into the CD/DVD drive. If the CD/DVD drive can read the data from the audio CD. The drive does not have problem, then go to next step. If the CD/DVD LED on the front panel does not emit light as it read the data from the audio CD, then go to next step. However, if the CD/DVD drive can not read data from the audio CD, you may need to clean the CD/DVD drive with a CD/DVD drive cleaning disk.

2. Make sure that the appropriate driver has been installed on the computer for the CD/DVD drive.

3. Boot from the diagnostics diskette and start the diagnostics program

4. See if CD-ROM Test is passed when the program runs to CD-ROM/DVD-ROM Test.

5. Follow the instructions in the message window.

If an error occurs, reconnect the connector on the main board. If the error still remains:

1. Reconnect the CD-ROM/DVD-ROM module.

2. Replace the CD-ROM/DVD-ROM module.

3. Replace the main board.

Keyboard or Auxiliary Input Device Check

Remove the external keyboard if the internal keyboard is to be tested.

If the internal keyboard does not work or an unexpected character appears, make sure that the flexible cable extending from the keyboard is correctly seated in the connector on the main board.

If the keyboard cable connection is correct, run the Keyboard Test.

If the tests detect a keyboard problem, do the following one at a time to correct the problem. Do not replace a non-defective FRU:

1. Reconnect the keyboard cables.

2. Replace the keyboard.

3. Replace the main board.

The following auxiliary input devices are supported by this computer:

❏   Embedded Numeric Keypad

❏   External keyboard

If any of these devices do not work, reconnect the cable connector and repeat the failing operation.

Memory Check

Memory errors might stop system operations, show error messages on the screen, or hang the system. Currently, we do not provide memory test program. However, if you need to check memory but have no testing program or diagonositc utility at hand, please go to http://www.passmark.com to download the shareware "BurnIn Test V.3.0". You may test the memory with this program under Window XP environment.

NOTE: Make sure that the DIMM is fully installed into the connector. A loose connection can cause an error.

Power System Check

To verify the symptom of the problem, power on the computer using each of the following power sources:

1. Remove the battery pack.

2. Connect the power adapter and check that power is supplied.

3. Disconnect the power adapter and install the charged battery pack; then check that power is supplied by the battery pack.

Check the Power Adapter

Unplug the power adapter cable from the computer and measure the output voltage at the plug of the power adapter cable. See the following figure

Pin 1: 19V
Pin 2: 0V, Ground
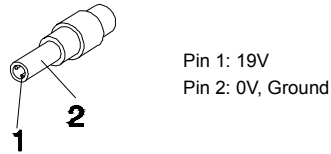
1. If the voltage is not correct, replace the power adapter.

2. If the voltage is within the range, do the following:

   ❑ Replace the main board.

   ❑ If the problem is not corrected, see "Undetermined Problems" on page 62.

   ❑ If the voltage is not correct, go to the next step.

NOTE: An audible noise from the power adapter does not always indicate a defect.

3. If the DC-IN indicator does not light up, check the power cord of the power adapter for correct continuity and installation.

4. If the operational charge does not work, see "Check the Power Adapter" on page 54.

Check the Battery Pack

To check the battery pack, do the following:

From Software:

1. Check out the Power Options in control Panel

2. In Power Meter, confirm that if the parameters shown in the screen for Current Power Source and Total Battery Power Remaining are correct.

3. Repeat the steps 1 and 2, for both battery and adapter.

4. This helps you identify first the problem is on recharging or discharging.

From Hardware:

1. Power off the computer.

2. Remove the battery pack and measure the voltage between battery terminals 1(+) and 6(ground).

3. If the voltage is still less than 7.5 Vdc after recharging, replace the battery.

4. If the voltage is within the normal range, run the diagnostic program.

To check the battery charge operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer.

If the battery status indicator does not light up, remove the battery pack and let it return to room temperature. Re-install the battery pack.

If the charge indicator still does not emit, replace the battery pack. If the charge indicator still does not light up, replace the DC/DC charger board.

Touchpad Check

If the touchpad doesn't work, do the following actions one at a time to correct the problem. Do not replace a non-defective FRU:

1. After rebooting, run Touch pad/PS2 Mode Driver.

2. Run utility with the PS/2 mouse function and check if the mouse is working.

3. If the PS/2 mouse does not work, then check if the main board to switch board FPC is connected well.

4. If the main board to switch board FPC is connected well, then check if the touch pad FPC connects to the main board properly.

5. If there is still an error after you have connected the touch pad FPC to the main board properly, then replace the touch pad or touch pad FPC. The touch pad or touch pad FPC may be damaged.

6. Replace switch board.

7. If the touch pad still does not work, then replace the FPC on Track Pad PCB.

After you use the touchpad, the pointer drifts on the screen for a short time. This self-acting pointer movement can occur when a slight, steady pressure is applied to the touchpad pointer. This symptom is not a hardware problem. No service actions are necessary if the pointer movement stops in a short period of time.

Display Check

1. Connect an external display to the computer's external monitor port, the boot the computer. The computer can automatically detect the external display. Press Fn+ 🔲 to switch to the external display.

2. If the external display works fine, the internal LCD may be damaged. Then perform the following steps:

   Make sure the DDRRAM module is seated properly. Then run the diplay test again. If the problem still exists, go to next step.

   Replace the inverter board, then run the display test program again. If the problem still occurs, go on next step.

   Replace the LCD module with a new one then run the display test again. If the probelm still happens, continue next step.

   Replace LCD/FL cable with a new one then execute the display diagnostic again. If the problem

still occurs, continue next step.

Replace the CPU with another of the same specifications. If the problems still occurs, go to next step.

The main board may be damaged. Replace main board.

3. If the external monitor has the same problem as the internal monitor, the main board may be damaged. Please insert the diagnostic disk and run the display test program and go through the sub-steps under step 2.

Sound Check

To determine if the computer's built-in speakers are functioning properly, perform the following steps. Before you start the steps below, adjust the speaker volume to an appropriate level.

1. Try different audio sources. For example, employ audio CD and ditital music file to determine whether the fault is in the speaker system or not. If not all sources have sound problem, the problem is in the source devices. If all have the same problem, continue next step.

2. Connect a set of earphone or external speakers. If these devices work fine, go to next step. If not, then the main board may be defective or damaged. Replace the main board.

3. Follow the disassembling steps in Chapter 3. Esure the speaker cable is firmly connected to the main board. If the speaker is still a malfunction, go on next step.

4. If the speakers do not sound properly, the speakers may be defective or damaged. Replace the speakers. If the problem still occurs, then replace the main board.

Insyde MobilePro BIOS POST Beep Code and POST Messages

The POST error message index lists the error message and their possible causes. The most likely cause is listed first.

NOTE: Perform the FRU replacement or actions in the sequence shown in FRU/Action column, if the FRU replacement does not solve the problem, put the original part back in the computer. Do not replace a non-defective FRU.

This index can also help you determine the next possible FRU to be replaced when servicing a computer.

If the symptom is not listed, see "Undetermined Problems" on page 62.

The following lists the error messages that the BIOS displays on the screen and the error symptoms classified by function.

NOTE: Most of the error messages occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured.

NOTE: If the system fails after you make changes in the BIOS Setup Utility menus, reset the computer, enter Setup and install Setup defaults or correct the error.

Beep Code	Message	Description
short, short, short; short, short, long	"FAULTY DMA PAGE REGISTERS"	DMA page registers do not function properly.
short, short, short; short, long, short	"FAULTY REFRESH CIRCUIT"	RAM refresh circuit does not function properly.
short, short, short; short, long, long	"ROM CHECKSUM INCORRECT"	BIOS ROM checksum failed.
short, short, short; long, short, short	"CMOS RAM TEST FAILED"	CMOS RAM test failed.
short, short, short; long, short, long	"DMA CONTROLLER FAULTY"	DMA controller does not work properly.
short, short, short; long, long short	"INTERRUPT CONTROLLER FAILED"	The interrupt controller does not work properly.
short, short, short; long, long, long	N/A	Keyboard controller failed to respond with the self-test command.
short, short, long; short, short, short	N/A	No video device found.
short, short, long; short, short, long	N/A	No RAM installed.
N/A	"KEYBOARD CONTROLLER FAILURE"	Keyboard controller failed during system inquiry about connected devices.
N/A	"KEYBOARD FAILURE"	The keyboard fails to respond or no keyboard is connected.
N/A	"CMOS FAILURE - RUN SCU"	CMOS data error, probably due to battery power loss.
N/A	"CMOS CHECKSUM INVALID - RUN SCU"	CMOS checksum error.
N/A	"RAM ERROR AT LOCATION *xxxxxx*: WROTE: *xxxx* READ: *xxxx*"	The RAM failed during memory test at the indicated location.

Beep Code	Message	Description
N/A	"PARITY ERROR AT UNKNOWN LOCATION"	Parity error during memory test at unknown location.
N/A	"PARITY ERROR AT LOCATION XXXXXX"	Parity error during memory test at the indicated location.
N/A	"NO INTERRUPTS FROM TIMER 0"	Timer 0 of the clock timer controller does not generate system interrupts correctly.
N/A	"UNEXPECTED AMOUNT OF MEMORY - RUN SCU"	The system memory size does not match with the CMOS record.
N/A	"CLOCK NOT TICKING CORRECTLY"	The system clock does not working correctly.
N/A	"TIME/DATA CORRUPT - RUN SCU"	The time/date information in CMOS is invalid.
N/A	"MACHINE IS LOCKED - TURN KEY"	The keyboard operation is locked.
N/A	"BOOT SECTOR 0 HAS CHANGED"	The boot sector of the hard disk has been changed, probably because of a virus attack.
N/A	Suspend-to-Disk partition MISSING!"	No Suspend-to-Disk partition found.
N/A	"Hard Disk ERROR!"	Access to the Suspend-to-Disk partition failed.
N/A	"Suspend-to-Disk partition signature NOT FOUND!"	No Suspend-to-Disk partition signature found.
N/A	"Suspend-to-Disk partition size TOO SMALL!"	The capacity of the Suspend-to-Disk partition is not enough.
N/A	"MEMORY SIZE HAS CHANGED -- REBOOTING"	The memory size has changed after previous Suspend-to-Disk operation.

Index of Symptom-to-FRU Error Message

LCD-Related Symptoms

Symptom / Error	Action in Sequence
LCD backlight doesn't work LCD is too dark LCD brightness cannot be adjusted LCD contrast cannot be adjusted	Enter BIOS Utility to execute "Load Setup Defaults" on Exit screen, then reboot system. Reconnect the LCD connectors. Keyboard (if contrast and brightness function key doesn't work). LCD cable LCD inverter LCD Main board
Unreadable LCD screen Missing pels in characters Abnormal screen Wrong color displayed	Reconnect the LCD connector LCD cable LCD inverter LCD Main board
LCD has extra horizontal or vertical lines displayed.	LCD inverter LCD cable LCD Main board

Indicator-Related Symptoms

Symptom / Error	Action in Sequence
Indicator incorrectly remains off or on, but system runs correctly	Reconnect the inverter board Inverter board Main board

Power-Related Symptoms

Symptom / Error	Action in Sequence
Power shuts down during operation	Power source (battery pack and power adapter). See "Power System Check" on page 53. Battery pack Power adapter Hard drive & battery connection board Main board
The system doesn't power-on.	Power source (battery pack and power adapter). See "Power System Check" on page 53". Battery pack Power adapter Hard drive & battery connection board Main board
The system doesn't power-off.	Power source (battery pack and power adapter). See "Power System Check" on page 53. Hold and press the power switch for more than 4 seconds. Main board
Battery can't be charged	See "Check the Power Adapter" on page 54. Battery pack Main board

PCMCIA-Related Symptoms

Symptom / Error	Action in Sequence
System cannot detect the PC Card (PCMCIA)	PCMCIA slot assembly Main board
PCMCIA slot pin is damaged.	PCMCIA slot assembly

Memory-Related Symptoms

Symptom / Error	Action in Sequence
Memory count (size) appears different from actual size.	DIMM Main board

Speaker-Related Symptoms

Symptom / Error	Action in Sequence
In Windows, multimedia programs, no sound comes from the computer.	See "Sound Check" on page 56 Audio driver Speaker Main board
Internal speakers make noise or emit no sound.	See "Sound Check" on page 56 Speaker Main board

Power Management-Related Symptoms

Symptom / Error	Action in Sequence
The system will not enter hibernation	Keyboard (if control is from the keyboard) Hard disk drive Main board
The system doesn't enter hibernation mode and four short beeps every minute.	Press Fn+F4 and see if the computer enters hibernation mode. Touchpad Keyboard Hard disk connection board Hard disk drive Main board
The system doesn't enter standby mode after closing the LCD	LCD cover switch Main board
The system doesn't resume from hibernation mode.	Hard disk connection board Hard disk drive Main board
The system doesn't resume from standby mode after opening the LCD.	LCD cover switch Main board
Battery fuel gauge in Windows doesn't go higher than 90%.	Remove battery pack and let it cool for 2 hours. Refresh battery (continue use battery until power off, then charge battery). Battery pack Main board
System hangs intermittently.	Reconnect hard disk drives. Hard disk drive connector Main board

Peripheral-Related Symptoms

Symptom / Error	Action in Sequence
System configuration does not match the installed devices.	Enter BIOS Setup Utility to execute "Load Setup defaults", then reboot system. Reconnect hard disk/CD-ROM/diskette drives.
External display does not work correctly.	See if there is an error beep. If there is an erro beep, then change main board. Power off. Then check if RAM CPU BIOS are well-connected. Press Fn+F5 three times slowly LCD FPC LCD inverter LCD
USB does not work correctly	USB device cable is firmly connected into the USB ports. Test one USB port each time. USB socket is firmly secured to the main board. Main board
Print problems.	Ensure the "Parallel Port" in the "System Devices" of BIOS Setup Utility is set to Enabled. Onboard Devices Configuration Run parallel port test Printer driver Printer cable Printer Main board

Keyboard/Touchpad-Related Symptoms

Symptom / Error	Action in Sequence
Keyboard (one or more keys) does not work.	Reconnect the keyboard cable. Keyboard Main board
Touchpad does not work.	Reconnect touch pad cable. Modem port is secured to the main board Touch pad FPC Audio/Touch pad board Main board

Modem-Related Symptoms

Symptom / Error	Action in Sequence
Internal modem does not work correctly.	Ensure the telephone cable is firmly plugged into the telephone wall socket and the modem port of the computer. Modem phone port is secured to the main board. modem combo board Main board

NOTE: If you cannot find a symptom or an error in this list and the problem remains, see "Undetermined Problems" on page 62.

Undetermined Problems

The diagnostic problems does not identify which adapter or device failed, which installed devices are incorrect, whether a short circuit is suspected, or whether the system is inoperative.

Follow these procedures to isolate the failing FRU (do not isolate non-defective FRU).

NOTE: Verify that all attached devices are supported by the computer.

NOTE: Verify that the power supply being used at the time of the failure is operating correctly. (See "Power System Check" on page 53):

1. Power-off the computer.

2. Visually check them for damage. If any problems are found, replace the FRU.

3. Remove or disconnect all of the following devices:

    ❏ Non-Acer devices

    ❏ Printer, mouse, and other external devices

    ❏ Battery pack

    ❏ Hard disk drive

    ❏ DIMM

    ❏ CD-ROM/Diskette drive Module

    ❏ PC Cards

4. Power-on the computer.

5. Determine if the problem has changed.

6. If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.

7. If the problem remains, replace the following FRU one at a time. Do not replace a non-defective FRU:

    ❏ Main board

    ❏ LCD assembly

Jumper and Connector Locations

Top View

Item	Description	Item	Description
JP1	CRT CONN	JP17	ODD CONN
JP2	Parallel Port	JP18	SPK CONN
JP3	IEEE1394 CONN	JP19	TP/B CONN
JP4	TV-OUT CONN	JP20	MIC JACK
JP5	RJ11/RJ45 CONN	JP22	K/B CONN
JP6	USB CONN X 2	JP23	PHONE JACK
JP7	CPU FAN CONN	JP16	HDD CONN
JP8	USB CONN	SW1	LID SWITCH
JP9	POWER/B CONN	SW3	KILL SWITCH
JP10	LVDS CONN	U12	NB
JP11	MBC CONN	PCN1	AC JACK
JP12	CPU Socket	PJP9	BATT COMM
JP13	MINIPCI CONN	JP24	LED/B CONN
JP15	CraBus CONN		

Bottom View

Item	Description	Item	Description
JP25	SO-DIMM Socket	U45	SIO Controller
JP26	SO-DIMM Socket	U29	IEEE1394 Controller
U35	CarBus Controller	U37	EC

SW1 Settings (Lid switch)

No.	Setting
Function 1	NONE
Function 2	LCD BACKLIGHT OFF
Function 3	STAND BY
Function 4	HIBERNATE

SW3 Settings(Kill Switch)

No.	Setting
On	Wireless On Bluetooth On
Off	Wireless Off Bluetooth Off

FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of TravelMate 4050 series product. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

Exploded Diagram

008 2PCS

2PCS 008

006

001

005

011 4PCS

008

002

003

008

007

4PCS 011

010

004
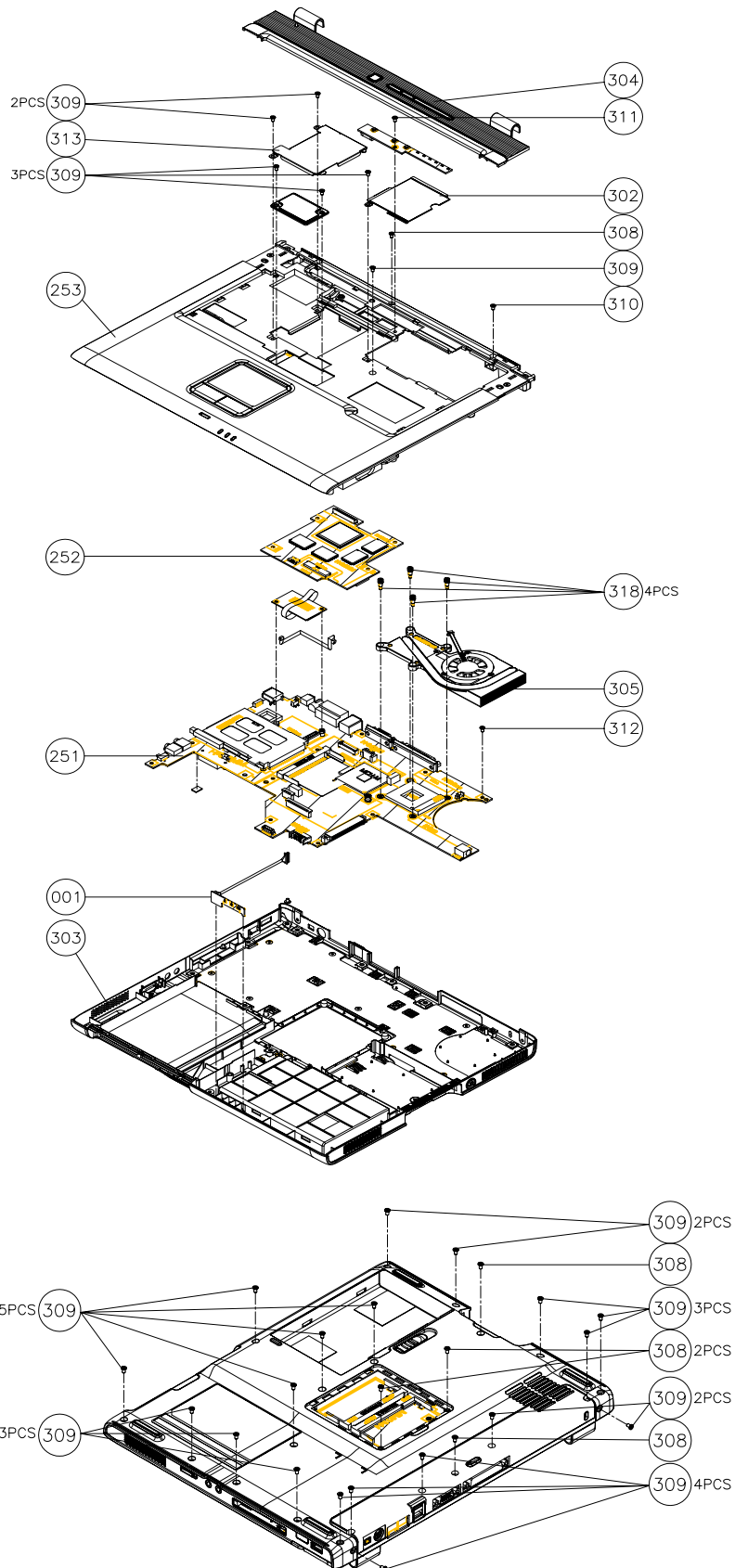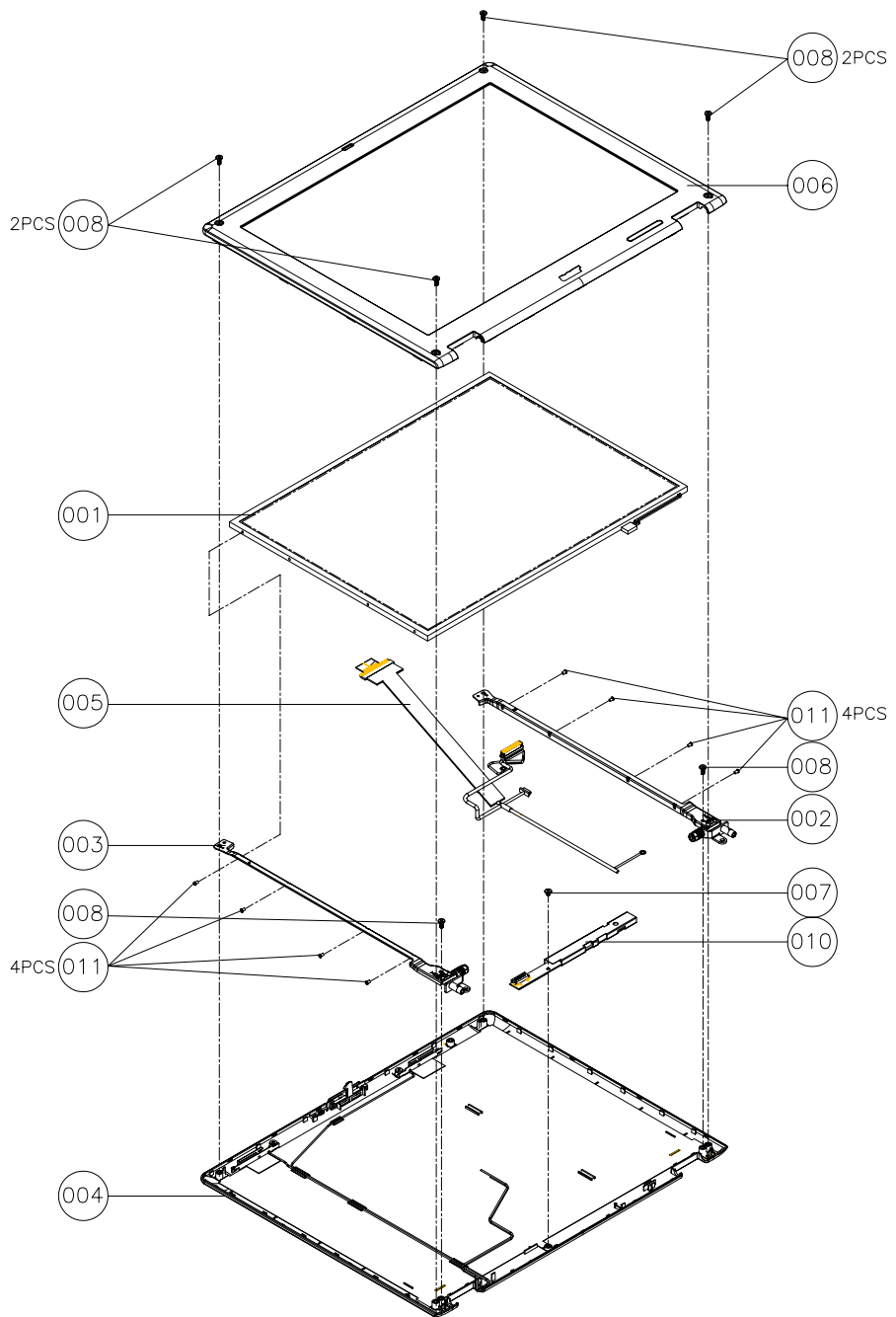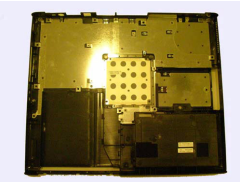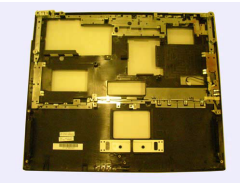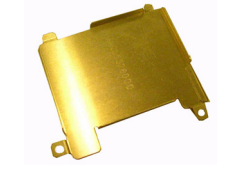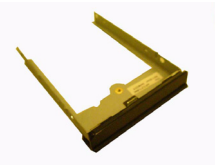
Parts

Picture	Partname	Description	Part Number
	ADAPTER		
	ADAPTER - LITEON 65W, 3 PIN, PA-1650-02CA	ADAPTER - LITEON 65W 3 PIN, PA-1650-02CR	AP.06503.006
	ADAPTER - DELTA 65W, 3 PIN, ADP-65DB	ADAPTER - DELTA 65W ,3 PIN, ADP-65DB	AP.06501.005
	BATTERY		
	BATTERY SONY LI-ION 8 CELLS 4300mAH, US18650G5	BATTERY SONY LI-ION 8 CELLS 4300mAH , US18650G5	BT.00804.004
	BATTERY SANYO LI-ION 8 CELLS 4300mAH, UR18650F	BATTERY SANYO LI-ION 8 CELLS 4300mAH, UR18650F	BT.00803.005
	BOARDS		
	MDC CARD, AMBIT, T60M283 W/CISPR	MDC CARD, AMBIT, T60M283.15 W/ CISPR	54.T70V5.001
	MDC+ BLUETOOTH COMBO CARD, AMBIT, TM60M665.00	MDC+ BLUETOOTH COMBO CARD, AMBIT, TM60M665.00	54.T70V5.002
	MINI PCI WIRELESS BOARD 802.11b+g INTEL WM3B2200/CH11	MINI PCI WIRELESS BOARD 802.11b+g INTEL WM3B2200/CH11	KI.CAX01.008
	LAUNCH BOARD	LAUNCH BOARD	55.T70V5.001
	LED BOARD W/CABLE	LED BOARD W/CABLE	55.T70V5.002

Picture	Partname	Description	Part Number
CABLES			
	POWER CORD US (3Pin)	POWER CORD US (3Pin)	27.T35V5.001
	POWER CORD EC (3Pin)	POWER CORD EC (3Pin)	27.T35V5.002
	POWER CORD AUS (3Pin)	POWER CORD AUS (3Pin)	27.T35V5.003
	POWER CORD UK (3Pin)	POWER CORD UK (3Pin)	27.T35V5.004
	POWER CORD SWISS (3Pin)	POWER CORD SWISS (3Pin)	27.T35V5.005
	POWER CORD CHINA (3Pin)	POWER CORD CHINA (3Pin)	27.T35V5.006
	POWER CORD ITALIAN (3Pin)	POWER CORD ITALIAN (3Pin)	27.T35V5.007
	POWER CORD DEMARK (3Pin)	POWER CORD DEMARK (3Pin)	27.T35V5.008
	POWER CORD AF (3 PIN)	POWER CORD AF (3 PIN)	27.T35V5.010
CASE/COVER/BRACKET ASSEMBLY			
	MIDDLE COVER W/ BUTTON	MIDDLE COVER W/BUTTON	42.T70V5.001
	LOWER CASE W/DIMM COVER FOR 1394, TV OUT	LOWER CASE W/DIMM COVER FOR 1394, TV OUT	60.T70V5.001
	UPPER CASE W/ SPEAKERS	UPPER CASE W/SPEAKERS	60.T70V5.003
	TOUCHPAD SUPPORT BRACKET	TOUCHPAD SUPPORT BRACKET	60.T70V5.004
	WIRELESS CARD COVER	WIRELESS CARD COVER	33.T70V5.001
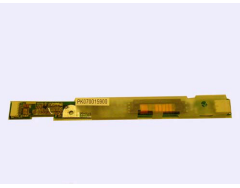
Picture	Partname	Description	Part Number
	THERMAL COVER	THERMAL COVER	33.T70V5.002
	MDC COVER	MDC COVER	33.T70V5.003
	MDC+BLUETOOTH COMBO COVER PLATE W/ ANTENNA	MDC+BLUETOOTH COMBO COVER PLATE W/ANTENNA	33.T70V5.004
COMMUNICATION MODULE			
	ANTENNA SET	ANTENNA SET	50.T70V5.001
CPU/PROCESSOR			
NA	INTEL PENTIUM M BANIAS 1.5GHZ 1M 1.48V UFCPGA2 SL6F9 B-1STEPPING	INTEL BANIAS 1.5G 1M 1.48V UFCPGA2	KC.BS001.15G
	INTEL PENTIUM M BANIAS 1.6GHZ 1M 1.48V UFCPGA2 SL6FA B-1STEPPING	INTEL BANIAS 1.6G 1M 1.48V UFCPGA2	KC.BS001.16G
	INTEL PENTIUM M BANIAS 1.7GHZ 1M 1.48V UFCPGA2 SL6N5 B-1STEPPING	INTEL BANIAS 1.7G 1M 1.48V UFCPGA2	KC.BS001.17G
	INTEL PENTIUM M 1.4G 2M 400FSB uFCPGA2 SL7V5 B-1 STEPPING	INTEL PENTIUM M 1.4G 2M 400FSB uFCPGA2	KC.N0001.710
	INTEL PENTIUM M DOTHAN 1.5GHZ 2M UFCBGA SL7GL B-1 STEPPING	INTEL DOTHAN 715 (1.5GHZ/2M/ FSB400)	KC.N0001.715
	INTEL PENTIUM M 1.6G 2M 400FSB uFCPGA2 SL7EG B-1 STEPPING	INTEL DOTHAN 725 (1.6GHZ/2M/ FSB400)	KC.N0001.725
	INTEL PENTIUM M 1.7G 2M 400FSB uFCPGA2 SL7EP B-1 STEPPING	INTEL DOTHAN 735 (1.7GHZ/2M/ FSB400)	KC.N0001.735
	INTEL PENTIUM M 1.8G 2M 400FSB uFCPGA2 SL7EN B-1 STEPPING	INTEL DOTHAN 745 (1.8GHZ/2M/ FSB400)	KC.N0001.745
	INTEL PENTIUM M 2.0G 2M 400FSB uFCPGA2 SL7EM B-1 STEPPING	INTEL DOTHAN 755 (2.0GHZ/2M/ FSB400)	KC.N0001.755

Picture	Partname	Description	Part Number
COMBO DRIVE			
	DVD/CDRW COMBO MODULE 24X QSI SBW-242C	DVD/CDRW COMBO MODULE 24X QSI SBW-242C	6M.T70V5.001
	DVD/CDRW COMBO MODULE 24X HLDS GCC-4243N	DVD/CDRW COMBO MODULE 24X HLDS GCC-4243N	6M.T70V5.002
	DVD DUAL MODULE QSI SDW-082	DVD DUAL MODULE QSI SDW-082	6M.T70V5.003
	DVD DUAL MODULE LITE-ON SOSW-852S	DVD DUAL MODULE LITE-ON SOSW-852S	6M.T70V5.004
	SUPER MULTI HLDS GSA-4080N	SUPER MULTI HLDS GSA-4080N	6M.T70V5.005
	DVD/CDRW COMBO DRIVE 24X QSI SBW-242C	DVD/CDRW COMBO DRIVE 24X QSI SBW-242C	KO.02407.014 -> KO.02407.021
	DVD/CDRW COMBO DRIVE 24X HLDS GCC-4243N	DVD/CDRW COMBO DRIVE 24X HLDS GCC-4243N	KO.02407.021 - > KO.02405.005
	DVD DUAL DRIVE QSI SDW-082	DVD DUAL DRIVE QSI SDW-082	KU.00803.002
	DVD DUAL DRIVE LITE-ON SOSW-852S	DVD DUAL DRIVE LITE-ON SOSW-852S	KU.00804.009
	SUPER MULTI HLDS GSA-4080N	SUPER MULTI HLDS GSA-4080N	KU.0080D.004
CASE/COVER/BRACKET ASSEMBLY			
	DVD/CDRW COMBO BEZEL	DVD/CDRW COMBO BEZEL	42.T70V5.002
	DVD DUAL BEZEL QSI	DVD DUAL BEZEL QSI	42.T70V5.004
	SUPER MULTI BEZEL	SUPER MULTI BEZEL	42.T70V5.006
	OPTICAL DEVICE BRACKET	OPTICAL DEVICE BRACKET	33.T70V5.005
	HDD ESD PLATE ASSY	HDD ESD PLATE ASSY	33.T70V5.006
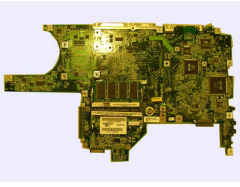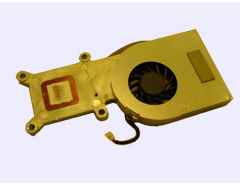
Picture	Partname	Description	Part Number
	HDD CARRIER SUB ASSY	HDD CARRIER SUB ASSY	60.T70V5.005
KEYBOARD			

Picture	Partname	Description	Part Number
	KEYBOARD ZIPPY ARABIC		KB.T350C.018
	KEYBOARD BELGIUM		KB.T350C.009
	KEYBOARD BRAZILIAN PORTUGUESE		KB.T350C.019
	KEYBOARD CANADIAN FRENCH		KB.T350C.020
	KEYBOARD CHINESE		KB.T350C.001
	KEYBOARD CZECH		KB.T350C.012
	KEYBOARD DANISH		KB.T350C.017
	KEYBOARD FRENCH		KB.T350C.007
	KEYBOARD GERMAN		KB.T350C.004
	KEYBOARD HUNGAIAN		KB.T350C.013
	KEYBOARD ZIPPY ITALIAN		KB.T350C.006
	KEYBOARD NORWAY		KB.T350C.016
	KEYBOARD PORTUGUESE		KB.T350C.011
	KEYBOARD RUSSIAN		KB.T350C.014
	KEYBOARD SPANISH		KB.T350C.010
	KEYBOARD SWEDEN		KB.T350C.015
	KEYBOARD SWISS/G		KB.T350C.008
	KEYBOARD THAI		KB.T350C.003
	KEYBOARD TURKISH		KB.T350C.022
	KEYBOARD UK		KB.T350C.005
	KEYBOARD US INTERNATIONAL		KB.T350C.002
	KEYBOARD GREEK		KB.T350C.021

Picture	Partname	Description	Part Number
	LCD		
	ASSY LCD MODULE 14.1 IN. XGA AU (B141XG0) W/ WIRELESS	ASSY LCD MODULE 14.1 IN. XGA AU (B141XG0) W/WIRELESS	6M.T70V5.011
	ASSY LCD MODULE 14.1 IN. XGA CMO (B141NB-L01) W/WIRELESS	ASSY LCD MODULE 14.1 IN. XGA CMO (B141NB-L01) W/WIRELESS	6M.T70V5.012
	ASSY LCD MODULE 14 IN. XGA TOPPOLY (TD141TGCD2) W/ WIRELESS	ASSY LCD MODULE 14 IN. XGA TOPPOLY (TD141TGCD2) W/ WIRELESS	6M.T70V5.013
	ASSY LCD MODULE 15 IN. AU (B150XG02-V2 HW:2) W/WIRELESS	ASSY LCD MODULE 15 IN. AU (B150XG02-V2 HW:2) W/WIRELESS	6M.T70V5.014
	ASSY LCD MODULE 15 IN. LG (LP150X08-A3) W/ WIRELESS	ASSY LCD MODULE 15 IN. LG (LP150X08-A3) W/WIRELESS	6M.T70V5.015
	ASSY LCD MODULE 15 IN. CMO (N150X3-L07) W/ WIRELESS	ASSY LCD MODULE 15 IN. CMO (N150X3-L07) W/WIRELESS	6M.T70V5.016
	ASSY LCD MODULE 15 IN. SAMSUNG (LTN150XB-L03-C00) W/WIRELESS	ASSY LCD MODULE 15 IN. SAMSUNG (LTN150XB-L03-C00) W/ WIRELESS	6M.T70V5.017
	ASSY LCD MODULE 15 IN. SXGA AU (B150PG03) W/ WIRELESS	ASSY LCD MODULE 15 IN. SXGA AU (B150PG03) W/WIRELESS	6M.T70V5.018
	ASSY LCD MODULE 15 IN. SXGA SAMSUNG(LTN150P4-L03) W/WIRELESS	ASSY LCD MODULE 15 IN. SXGA SAMSUNG(LTN150P4-L03) W/ WIRELESS	6M.T70V5.019
	LCD 14.1 IN. XGA AU (B141XG0)	LCD 14.1 IN. XGA AU (B141XG0)	LK.14105.012
	LCD 14.1 IN. XGA CMO (B141NB-L01)	LCD 14.1 IN. XGA CMO (B141NB-L01)	LK.1410D.003
	LCD 14 IN. XGA TOPPOLY TOPPOLY (TD141TGCD2)	LCD 14 IN. XGA TOPPOLY TOPPOLY (TD141TGCD2)	LK.14101.103
	LCD 15 IN. XGA AU (B150XG02-V2 HW:2)	LCD 15 IN. XGA AU (B150XG02-V2 HW:2)	LK.15005.007
	LCD 15 IN. XGA LG (LP150X08-A3)	LCD 15 IN. XGA LG (LP150X08-A3)	LK.15008.007
	LCD 15 IN. XGA CMO (N150X3-L07)	LCD 15 IN. XGA CMO (N150X3-L07)	LK.1500D.006
	LCD 15 IN. XGA SAMSUNG (LTN150XB-L03-C00)	LCD 15 IN. XGA SAMSUNG (LTN150XB-L03-C00)	LK.15006.005

Picture	Partname	Description	Part Number
INVERTOR BOARD			
	LCD INVERTER	LCD INVERTER	19.T70V5.001
CASE/COVER/BRACKET ASSEMBLY			
	LCD PANEL WITH LOGO & ANTENNA	LCD PANEL WITH LOGO & ANTENNA	60.T70V5.006
	LCD BEZEL - 14 IN.	LCD BEZEL - 14 IN.	60.T70V5.007
	LCD BEZEL -15 IN.	LCD BEZEL -15 IN.	60.T70V5.008
	LCD BRACKET L 14 IN.	LCD BRACKET L 14 IN.	33.T70V5.007
	LCD BRACKET L 15 IN.	LCD BRACKET L 15 IN.	33.T70V5.009
	LCD BRACKET R 14 IN.	LCD BRACKET R 14 IN.	33.T70V5.008

Picture	Partname	Description	Part Number
	LCD BRACKET R 15 IN.	LCD BRACKET R 15 IN.	33.T70V5.010
	PCMCIA SLOT	PCMCIA SLOT	LB.T7002.001
LCD CABLE			
	LCD WIRE CABLE - 14 IN.	LCD WIRE CABLE - 14 IN.	50.T70V5.002
	LCD WIRE CABLE - 15 IN. XGA	LCD WIRE CABLE - 15 IN. XGA	50.T70V5.003
MISCELLANEOUS			
	LCD RUBBER	LCD RUBBER	47.T70V5.001
	LCD SCREW PAD	LCD SCREW PAD	47.T70V5.002
MAINBOARD			
	MAINBOARD W/ PCMCIA SLOT, W/1394 & TV OUT	MAINBOARD W/ PCMCIA SLOT, W/ 1394 & TV OUT	LB.T7002.001

Picture	Partname	Description	Part Number
	MAINBOARD W/ PCMCIA SLOT, W/O 1394 & TV OUT	MAINBOARD W/ PCMCIA SLOT, W/O 1394 & TV OUT	LB.T7002.001
HEATSINK			
	THERMAL MODULE	THERMAL MODULE	60.T70V5.009
POINTING DEVICE			
	TOUCHPAD (SYNAPTICS TM41PDA357)	TOUCHPAD (SYNAPTICS TM41PDA357)	56.T35V5.001
SPEAKER			
	SPEAKER R & L	SPEAKER R & L	6K.T35V5.001

Model Definition and Configuration

TravelMate4050 G1&G2

Model Number	CPU	LCD	Memory	HDD	Optical	Bluetooth	Wireless LAN	Battery
4050L	PM 710 (1.4GHz/2M)	15.0" XGA	DDR333 1x256MB	40GB	24x Combo	N	802.11b/g-Swallow	Li-Ion-Swallow 8cell
4051L	PM 715 (1.5GHz/2M)	15.0" XGA	DDR333 1x256MB	60GB	24x Combo	N	802.11b/g-Swallow	Li-Ion-Swallow 8cell
4052L	PM 1.6GHz/ 1M	15.0" XGA	DDR333 1x256MB	40GB	8x DVD-Dual	Modem+BT-Swallow	802.11b/g-Swallow	Li-Ion-Swallow 8cell
	PM 725 (1.6GHz/2M)	15.0" XGA	DDR333 1x256MB	40GB	24x Combo	N	802.11b/g-Swallow	Li-Ion-Swallow 8cell
4053L	PM 735 (1.7GHz/2M)	15.0" XGA	DDR333 1x256MB	60GB	24x Combo	N	802.11b/g-Swallow	Li-Ion-Swallow 8cell

Test Compatible Components

This computer's compatibility is tested and verified by Acer's internal testing department. All of its system functions are tested under Windows XP Home and Windows XP Professional environment.

Refer to the following lists for components, adapter cards, and peripherals which have passed these tests.

Regarding configuration, combination and test procedures, please refer to the TravelMate 4050 G1&G2 Compatibility Test. Report released by the Acer Mobile System Testing Department.

Microsoft Windows XP / Professional Environment Test

	Model	Vendor	Description
CPU	Pentium M	Intel	RH80535GC0211M
			RH80535GC0251M
			RH80535GC0291M
			TBD
	Dothan	Intel	Pentium M 710 1.4G
			IC RH80536GC0212M B1
			IC RH80536GC0292M B1
			IC RH80536GC0292M B1
			IC RH80536GC0332M B1
			IC RH80536GC0412M B1
			TBD
	Celeron-M	Intel	IC RH80535NC009512 B1
			IC RH80535NC013512 B1
			IC RH80535NC017512 B1
			IC RH80535NC021512 B1
			IC RH80536NC0131M B1
			IC RH80536NC0171M B1
			TBD
LCD	14.1" XGA (TFT)	Toppoly	TD141TGCD2
		AU	B141XG10
		CMO	N141XB-L01
	15" XGA (TFT)	AU	B150XG02 V2 HW:2
		Samsung	LTN150XB-L03-C00
		CMO	N150X3-L07
		LG	LP150X08-A3
	15" SXGA (TFT)	AU	B150PG03
		Samsung	LTN150P4-L03
HDD	30GB(4200rpm)	Hitachi(IBM)	HTS424030M9AT00
		Toshiba	MK3025GAS
	40GB(4200rpm)	Hitachi	Moraga+ HTS424040M9AT00 13G1132
		Toshiba	2.75"W .37"H MK4025GAS
		Seagate	2.75"W .37"H ST94019A
	60GB(4200rpm)	Toshiba	2.75" .37"H MK6025GAS
		Hitachi	37"H IC25N060ATMR04-0
		Seagate	N2
	80GB(4200rpm)	Hitachi	Moraga IC25N080ATMR04-0 08K635
		Toshiba	MK8025GAS
		Seagate	N2

	Model	Vendor	Description
ODD	Combo drive 12.7mm	QSI	SBW-242C
		HLDS	GCC-4243N
	DVD-Dual	QSI	SDW-082
		Lite-On	SOSW-852S
	DVD-Super Multi	HLDS	GSA-4080N
Memory	256MB DDRI333	Nanya	NT256D64SH8BAGM-6K
		Infineon	HYS64D32020GDL-6-C 32x64 (.11u/B)
		Micron	MT8VDDT3264HDG-335C3
		Samsung	M470L3224FT0-CB3
	512MB DDRI333	Unifosa	U30512AAUIQ652AW20
		Infineon	HYS64D64020GBDL-6-C (.11u/B)
		Samsung	M470L6524BT0-CB3
	1GB DDRI333	Elpida	EBD11UD8ADDA-6B
Core Logic	North Bridge	Intel	RG82855GME A2 UFCBGA732 MTR-GME
	South Bridge	Intel	FW82801DBM B1 BGA-421 ICH4-M
	Audio Chip	RealTek	ALC250-VD
	Super I/O Controller	SMC	LPC47N217
	K/B Controller	ENE	KB910Q B4
	1394 Controller	VIA	VT6301S
	Track Pad	Synaptics	TM41PUD-311-2
	MDC	Ambit	T60M283.15
	MDC/Blue Tooth	Ambit	T60M665
	CIK Gen	Cypress	CY28346ZCT-2
	LAN Chip	RealTek	RTL8100CL
	PCMCIA	ENE	ENE, CB1410 B0
Battery	4 Cell	Sony	BATT US18650G5 LI-ION 2.15 SY ZLH MB
	8 Cell	Sony	BATT US18650G5 LI-ION 4.3 SY ZLH MB
		Sanyo	BATT UR18650F LI-ION 4.3 SA ZLH BQ
Adapter	65W 3 pin	LiteOn	PA-1650-02CR 65W 3P
		Delta	DELTA ADP-65DB BG A 65W 3P
W/Lan	Mini-PCI WLAN/802.11a+b+g	Intel	WM3B2915(US SKU)
	Mini-PCI WLAN/802.11b+g	Intel	WM3B2200/CH11
	Inprocomm	Foxconn	T60N871.00
Inverter	Inverter	Sumida	TWS-442-125
		Delta	DAC-07B037
		YEC	YNV-C01
Keyboard	K/B	SUNREX(JME)	KB SUNREX INT'E ZLH K021102I6UI ABO
		Lite-On	KB SK-12906-XUA LITE-ON INT'E ZLH ABO
Antenna	Bluetooth Antenna		WA00017(BT) HANNSTAR

Online Support Information

This section describes online technical support services available to help you repair your Acer Systems.

If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers you convenient and valuable support resources whenever you need them.

In the Technical Information section you can download information on all of Acer's Notebook, Desktop and Server models including:

- ❑ Service guides for all models
- ❑ User's manuals
- ❑ Training materials
- ❑ Bios updates
- ❑ Software utilities
- ❑ Spare parts lists
- ❑ TABs (Technical Announcement Bulletin)

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

Also contained on this website are:

- ❑ Detailed information on Acer's International Traveler's Warranty (ITW)
- ❑ An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all your technical queries.

We are always looking for ways to optimize and improve our services, so if you have any suggestions or comments, please do not hesitate to communicate these to us.