

Acer TravelMate 3210Z Series

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>

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on TravelMate 3210Z service guide.

Date	Chapter	Updates

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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

Below is a brief summary of the computer's many features:

Platform and memory

- Intel® Centrino™ Mobile Technology, featuring:
 - ▶ Intel® Pentium® M Processor 740/750/760/770/780 (2 MB L2 cache, 1.73/1.86/2/2.13/2.26 GHz, 533 MHz FSB)
 - ▶ Intel® Pentium® M Processor 735/735A (2MB L2 cache, 1.70 GHz, 400 MHz FSB)
 - ▶ Intel® 915GM/PM Express chipset
 - ▶ Wireless solution: integrated Intel® PRO/Wireless 2200BG network connection (dual-band 802.11b/g) Wi-Fi® CERTIFIED™ solution, supporting Acer SignalUp wireless technology
- 256/512 MB of DDR2 400/533 MHz memory, upgradeable to 2 GB using two soDIMM modules (dual-channel support)

Display

- 14.1 WXGA color TFT LCD, 1280 x 800 resolution; 16:10 viewing ratio, supporting simultaneous multi-window viewing on dual displays via Acer GridVista™
- 16.7 million colors
- Intel® 915GM integrated 3D graphics, featuring Intel® Graphics Media Accelerator 900 and up to 128 MB of VRAM, supporting Microsoft® DirectX® 9.0 and dual independent display (UMA models)
- Intel® 915PM with ATI Mobility™ Radeon® X1300 256/512 MB HyperMemory™, supporting ATI PowerPlay™, Microsoft® DirectX® 9.0, PCI Express® and DualView™ (discrete models)
- MPEG-2/DVD hardware-assisted capability

Storage subsystem

- 40/60/80/100 GB ATA/100 hard disk drive
- Optical drive options:
 - ▶ DVD-Super Multi double layer
 - ▶ DVD-Dual double layer
 - ▶ DVD/CD-RW combo

Input devices

- Acer FineTouch™ keyboard
- 84/85-key keyboard
- Touchpad with 4-way integrated scroll button
- Four easy-launch buttons
- Two front-access LED-buttons: WLAN and Bluetooth®
- 12 function keys, four cursor keys, two Windows® keys, hotkey controls, embedded numeric keypad, international language support

Audio

- Audio system with two built-in speakers
- Built-in microphone
- Intel® AC'97 audio support
- Sound Blaster Pro™ and MS-Sound compatible

Communication

- Modem: 56K ITU V.92 modem with PTT approval; wake-on ring ready
- LAN: 10/100 Mbps Fast Ethernet; wake-on ring ready
- WLAN: integrated Intel® PRO/Wireless 2200BG network connection (dual-band 802.11b/g) Wi-Fi CERTIFIED™ solution supporting Acer SignalUp™ wireless technology
- WPAN: integrated Bluetooth®

Human-centric design and ergonomics

- Rugged, yet extremely portable design
- Stylish appearance
- Full-size keyboard with four programmable launch keys
- Ergonomically-centered touchpad pointing device
- Acer FineTouch keyboard with a 5-degree curve
- Internet 4-way scroll button

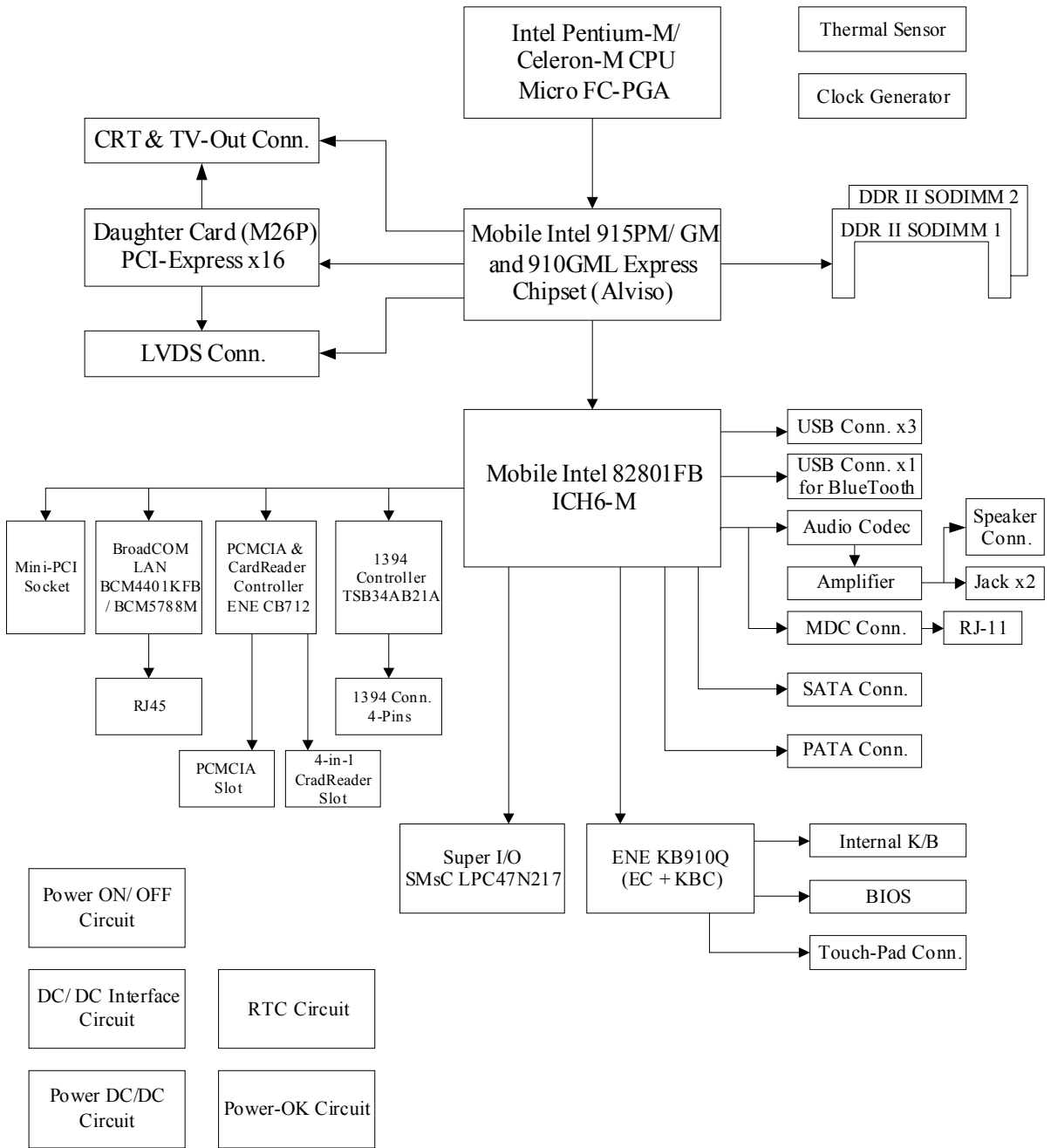
I/O Ports

- Three USB 2.0 ports
- PC Card slot (one Type II)
- External display (VGA) port
- Headphones/speaker/line-out port
- Microphone/line-in jack
- Ethernet (RJ-45) port
- Modem (RJ-11) port
- DC-in jack for AC adaptor

Environment

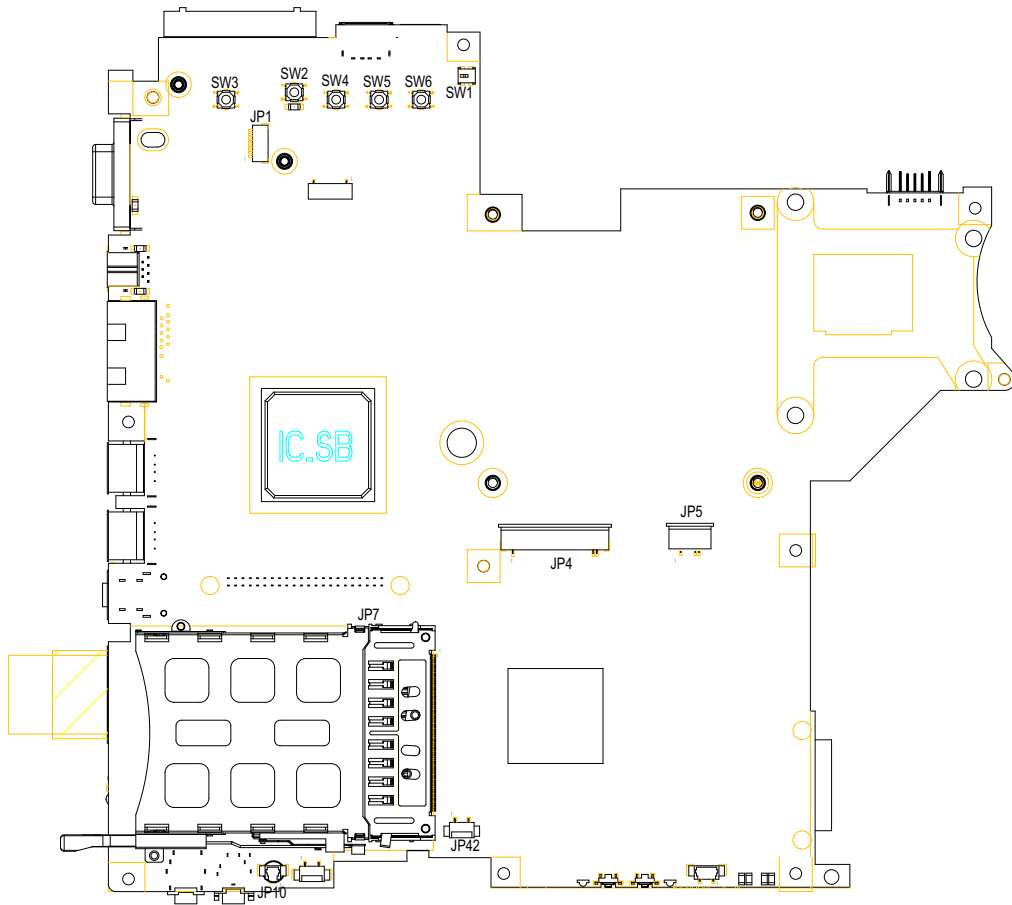
- Temperature:
 - ✦ Operating: 5° C to 35° C
 - ✦ Non-operating -20° C to 65° C
- Humidity (non-condensing):
 - ✦ Operating: 20% to 80%
 - ✦ Non-operating 20% to 80%

System Block Diagram



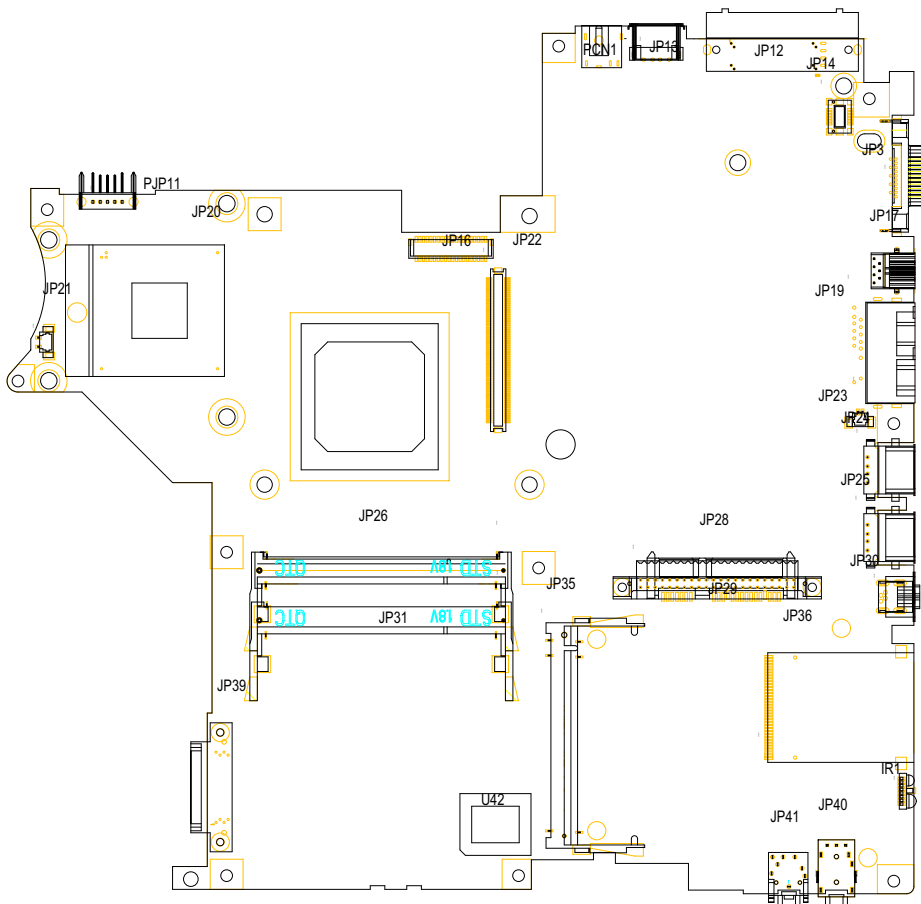
Board Layout

Top View



SW3	Power Switch	SW1	Lid Switch
JP1	Bluetooth Connector	JP5	Touchpad Connector
SW2	E-mail Switch	JP4	Keyboard Connector
SW4	Internet Browser Switch	JP42	Speaker Connector
SW5	Emanager Switch	JP7	PCMCIA Slot
SW6	User Programmable Switch	JP10	Microphone Connector

Bottom View



JP21	Fan Connector	JP24	USB Port
PJP11	Battery Connector	JP25	USB Port
JP20	CPU Socket	JP30	IEEE 1394 Port (No IEEE 1394 Port for this model)
JP16	LVDS Connector	JP36	Card Reader Connector(No Card Reader module for this model)
JP22	VGA Board Connector	IR	Infrared Receiver (No FIR function for this model)
PCN1	AC-IN	JP40	Headphone out/line-out Jack
JP13	USB Port	JP41	Mic-in Jack
JP12	Acer ezDock (No ezDock for this model)	JP28	HDD Connector
JP14	Modem Board Connector	JP35	Wireless LAN Card Connector
JP3	External Display Port	U42	BIOS
JP17	S-Video Port	JP26	DDR2 Socket
JP19	RJ11/RJ45	JP31	DDR2 Socket
JP23	Modem Cable Connector	JP39	ODD Connector

A TravelMate tour

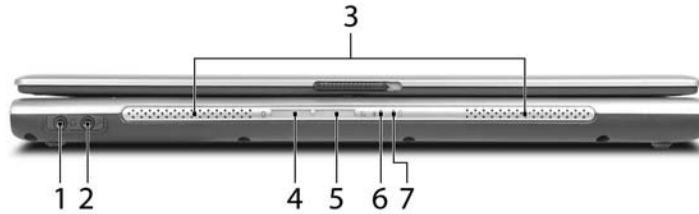
After knowing your computer features, let us show you around your new TravelMate computer.







Front View



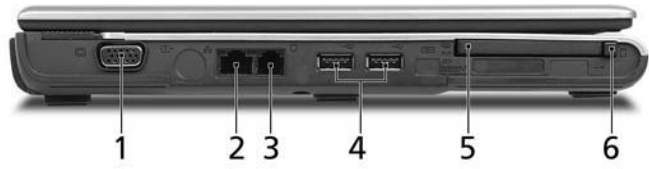
#	Icon	Item	Description
1		Display screen	Also called LCD (liquid-crystal display), displays computer output.
2		Power button	Turns the computer on and off.
3		Launch keys	Buttons for launching frequently used programs. See "Launch keys" section for more details.
4		Microphone	Internal microphone for sound recording.
5		Status indicators	Light-Emitting Diodes (LEDs) that turn on and off to show the status of the computer's functions and components.
6		Palmrest	Comfortable support area for our hands when you use the computer.
7		Click buttons (left, center and right)	The left and right buttons function like the left and right mouse buttons; the center button serves as a 4-way scroll button.
8		Touchpad	Touch-sensitive pointing device which functions like a computer mouse.
9		Keyboard	For entering data into your computer.

Closed Front View



#	Icon	Item	Description
1		headphones/speaker/line-out jack with S/PDIF support	Connects to audio line-out devices (e.g., speakers, headphones).
2		Microphone/line-in jack	Accepts inputs from external microphone.
3		Speakers	Left and right speakers deliver stereo audio output.
4		Bluetooth® communication button/indicator	Press to enable/disable Bluetooth function. Lights to indicate the status of Bluetooth communications (optional).
5		Wireless communication button/indicator	Press to enable/disable Wireless function. Lights to indicate the status of wireless LAN communications (optional).
6		Power indicator	Lights when the computer is on.
7		Battery indicator	Lights when the battery is being charged


Left View



#	Icon	Item	Description
1		External display port	Connects a display device (e.g., external monitor, LCD projector).
2		Network jack	Connects to an Ethernet 10/100/1000-based network.
3		Modem jack	Connects to a phone line.
4		Two USB 2.0 ports	Connects to USB 2.0 devices (e.g., USB mouse, USB camera).
5		PC Card slot	Connects to one Type II PC Card.
6		PC Card slot eject button	Ejects the PC Card from the slot.



Right View



#	Icon	Item	Description
1		Optical drive	Internal optical drive; accepts CDs or DVDs depending on the optical drive type.
2		LED indicator	Lights up when the optical drive is active.
3		Optical drive eject button	Ejects the optical drive tray from the drive.
4		Emergency eject hole	Ejects the optical drive tray when the computer is turned off.
5		Ventilation slots	Enable the computer to stay cool, even after prolonged use.
6		Security Keylock	Connects to a Kensington-compatible computer security lock.

Rear Panel



#	Icon	Item	Description
1		Battery bay	Houses the computer's battery pack.
2		Power jack	Connects to an AC adaptor.
3			Connect to USB 2.0 devices (e.g., USB mouse, USB camera).

Bottom Panel



#	Item	Description
1	Battery bay	Houses the computer's battery pack.
2	Battery lock	Locks the battery in place.
3	Cooling fan	Helps keep the computer cool. Note: Do not cover or obstruct the opening of the fan.
4	Memory compartment	Houses the computer's main memory.
5	Hard disk bay	Houses the computer's hard disk (secured by two screws).
6	Battery release latch	Releases the battery for removal.

Indicators

The computer has three easy-to-read status indicators on the upper-left above the keyboard, and four on the front panel.



The power, battery and wireless communication status indicators are visible even when the LCD display is closed.

Icon	Function	Description
	Cap lock	Lights when Cap Lock is activated
	Num lock	Lights when Num Lock is activated.
	Media Activity	Indicates when the hard disc or optical drive is active.
	Bluetooth	Indicates the status of Bluetooth communication.
	Wireless LAN	Indicates the status of wireless LAN communication.
	Power	Lights up when the computer is on.
	Battery	Lights up when the battery is being charged.

NOTE: 1. **Charging:** The light shows amber when the battery is charging. 2. **Fully charged:** The light shows green when in AC mode.

Easy-launch Keys

Located above the keyboard are four buttons. These buttons are called easy-launch buttons. They are mail, Web browser, Empowering Key < *e* > and one user-programmable button.

Press < *e* > to run the Acer Empowering Technology. The mail and web browser buttons are pre-set to email and Internet programs, but can be reset by users. To set the Web Browser, mail and programmable buttons, run the Acer Launch Manager.



Launch key	Default application
Mail	Email application (user-programmable)
Web browser	Internet browser (user-programmable)
<i>e</i>	Acer eManager (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 across the surface of the touchpad. The central location on the palmrest provides optimum comfort and support.



Touchpad Basics

The following teaches you how to use the touchpad:



- ❑ Move your finger across the touchpad (2) to move the cursor.
- ❑ Press the left (1) and right (4) buttons located beneath the touchpad to perform selection and execution functions. These two buttons are similar to the left and right buttons on a mouse. Tapping on the touchpad is the same as clicking the left button.
- ❑ Use the 4-way scroll (3) button to scroll up or down and move left or right a page. This button mimics your cursor pressing on the right scroll bar of Windows applications.

Function	Left Button (1)	Right Button (4)	Main touchpad (2)	Center button (3)
Execute	Click twice quickly		Tap twice (at the same speed as double-clicking the mouse button)	
Select	Click once		Tap once	

Function	Left Button (1)	Right Button (4)	Main touchpad (2)	Center button (3)
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		
Scroll				Click and hold to move up/down/left/right.

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 too hard will not increase the touchpad's responsiveness.

Using the Keyboard

The keyboard has full-sized keys and an embedded keypad, separate cursor keys, two Windows keys and twelve function keys.

Lock Keys and embedded numeric keypad

The keyboard has three 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.
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 the up or down arrow keys respectively. Scroll Lock does not work with some applications.

The embedded numeric keypad functions like a desktop numeric keypad. It is indicated by small characters located on the upper right corner of the keycaps. To simplify the keyboard legend, cursor-control key symbols are not printed on the keys.

Desired Access	Num Lock On	Num Lock Off
Number keys on embedded keypad	Type numbers in a normal manner.	
Cursor-control keys on embedded keypad	Hold <Shift> while using cursor-control keys.	Hold <Fn> while using cursor-control keys.
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	Icon	Description
Windows key 		<p>Pressed alone, this key has the same effect as clicking on the Windows Start button; it launches the Start menu. It can also be used with other keys to provide a variety of function:</p> <ul style="list-style-type: none"> + <Tab> Activates next taskbar button. + <E> Opens the My Computer window + <F1> Opens Help and Support. + <F> Opens the Find: All Files dialog box. + <R> Opens the Run dialog box. + <M> Minimizes all windows. <p><Shift>+  + <M> Undoes the minimize all windows action.</p>
Application key		<p>This key has the same effect as clicking the right mouse button; it opens the application's context menu.</p>







Hot Keys

The computer employs hotkeys or key combinations to access most of the computer's controls like screen brightness, volume output and the BIOS utility.

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



Hot Key	Icon	Function	Description
Fn-F1	?	Hot key help	Displays help on hot keys.
Fn-F2		Acer eSetting	Launches the Acer eSettings in Acer eManager.
Fn-F3		Acer ePowerManagement	Launches the Acer ePowerManagement in Acer eManager.
Fn-F4	Z ^z	Sleep	Puts the computer in Sleep mode.
Fn-F5		Display toggle	Switches display output between the display screen, external monitor (if connected) and both.
Fn-F6		Screen blank	Turns the display screen backlight off to save power. Press any key to return.
Fn-F7		Touchpad toggle	Turns the internal touchpad on and off.
Fn-F8		Speaker toggle	Turns the speakers on and off.
Fn-F9		Volume up	Increases the speaker volume.

Hot Key	Icon	Function	Description
Fn- 		Volume down	Decreases the speaker volume.
Fn- 		Brightness up	Increases the screen brightness.
Fn- 		Brightness down	Decreases the screen brightness

Special Key

You can locate the Euro symbol and US dollar sign at the upper-center and/or bottom-right of your keyboard. To type:



The Euro symbol

1. Open a text editor or word processor.
2. Either directly press the <€> symbol at the bottom-right of the keyboard, or hold <Alt Gr> and then press the<5> symbol at the upper-center of the keyboard.

The US dollar sign

1. Open a text editor or word processor.
2. Either directly press the <\$> key at the bottom-right of the keyboard, or hold <Shift> and then press the <4> key at the upper-center of the keyboard.

NOTE: This function varies by the operating system version.

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

Hardware Specifications and Configurations

Processor

Item	Specification
CPU type	Intel® Pentium® M Processor 740/750/760/770/780 (2 MB L2 cache, 1.73/1.86/2/2.13/2.26 GHz, 533 MHz FSB) Intel® Pentium® M Processor 735/735A (2MB L2 cache, 1.70 GHz, 400 MHz FSB)
Core logic	Intel® 915GM/PM+Intel ICH6-M (Mobile Intel 82801FB)
CPU package	Intel socketable 478pin Micro-BGA
CPU core voltage	1.308V (highest frequency mode) to 0.956V (low frequency mode) 0.748V (deeper sleep mode)

BIOS

Item	Specification
BIOS vendor	Insyde
BIOS Version	v1.10
BIOS ROM type	Flash Memory
BIOS ROM size	512KB
BIOS package	32-pin PLCC
Supported protocols	ACPI 2.0, PC 2001 ready, SM BIOS 2.3, IEEE1284-ECP/EPP, PCI 2.2, PnP 1.0a, DMI 2.0, PS/2 keyboard and mouse, USB 2.0, VGA BIOS, CD-ROM bootable, IEEE 1394, SMB (system management bus), WFM 2.0 ready
BIOS password control	Set by setup manual

Second Level Cache

Item	Specification
Cache controller	Built-in CPU
Cache size	2MB
1st level cache control	Always enabled
2st level cache control	Always enabled
Cache scheme control	Fixed in write-back

System Memory

Item	Specification
Memory controller	Intel® 915GM/PM
Memory size	0MB (no on-board memory)
DIMM socket number	2 sockets
Supports memory size per socket	1024MB
Supports maximum memory size	2G (by two 1024MB SO-DIMM module)
Supports DIMM type	DDR2
Supports DIMM Speed	400 MHz/533 MHz
Supports DIMM voltage	2.5V and 1.25V
Supports DIMM package	200-pin soDIMM
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	128MB	256MB
128MB	256MB	384MB
128MB	512MB	640MB
1284MB	1024MB	1152MB
256MB	128MB	384MB
256MB	256MB	512MB
256MB	512MB	768MB
256MB	1024MB	1280MB
512MB	128MB	640MB
512MB	256MB	768MB
512MB	512MB	1024MB
512MB	1024MB	1536MB
1024MB	0MB	1024MB
1024MB	128MB	1125MB
1024MB	256MB	1280MB
1024MB	512MB	1536MB
1024MB	1024MB	2048MB

NOTE: Above table lists some system memory configurations. You may combine DIMMs with various capacities to form other combinations. On above table, the configuration of slot 1 and slot 2 could be reversed.

LAN Interface

Item	Specification
Chipset	BCM4401KFB
Supports LAN protocol	10/100Mbps
LAN connector type	RJ45
LAN connector location	Left side
Features	Integrated 10/100 BASE-T transceiver Wake on LAN support compliant with ACPI 2.0 PCI v2.3

IR Interface (No IR Interface for this model)

Item	Specification
Part name	VISHAY TFU6102F
Package	8-pin SMT type
Performance	4Mbit/s
Compliant	IrDA 1.1

Modem Interface

Item	Specification
Data modem data baud rate (bps)	56K

Modem Interface

Item	Specification
Supports modem protocol	V.92
Modem connector type	RJ11
Modem connector location	Left side

Bluetooth Interface

Item	Specification
Chipset/Vendor for Wireless LAN Card	built-in Mobile Intel® 82801FB (ICH6-M)/WNC
Data throughput	723 bps (full speed data rate)
Protocol	Bluetooth 1.1 (Upgradeable to Bluetooth 1.2 when SIG specification is ratified).
Interface	USB 1.1
Connector type	Mini-USB

Wireless Module 802.11b/g (optional device)

Item	Specification
Chipset	built-in Mobile Intel® 82801FB (ICH6-M)
Data throughput	11~54 Mbps
Protocol	802.11b+g
Interface	Mini-PCI type II

Hard Disk Drive Interface

Item	Specification			
Vendor & Model Name	SEAGATE ST94019A Toshiba Pluto MK4025GAS	SEAGATE N2 ST960821A Toshiba Pluto MK6025GAS	SEAGATE N2 ST9808210A Toshiba Pluto MK8025GAS	SEAGATE ST9100822A TOSHIBA PLUTO MK1031GAS
Capacity (MB)	40000	60000	80000	100000
Bytes per sector	512	512	512	512
Data heads	2/2	3/4	4/4	4/4
Drive Format				
Disks	1/1	2/2	2/2	2/2
Spindle speed (RPM)	4200/4200 RPM	4200/4200 RPM	4200/4200 RPM	4200/4200 RPM
Performance Specifications				
Buffer size	2MB/8192KB	8192KB	8192KB	8192KB
Interface	ATA/ATAPI-6; ATA-6	ATA/ATAPI-6; ATA-6	ATA/ATA-6; ATA-6	ATA/ATA-6; ATA-6
Max. media transfer rate (disk-buffer, Mbytes/s)	372	350	350	373
Data transfer rate (host~buffer, Mbytes/s)	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5
DC Power Requirements				

Hard Disk Drive Interface

Item	Specification			
Voltage tolerance	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%

Combo Drive Interface

Item	Specification
Vendor & model name	Philips SCB5265+UJDA770
Performance Specification	With CD Diskette With DVD Diskette
Transfer rate (KB/sec)	Sustained: Max 3.6Mbytes/sec Sustained: Max 10.8Mbytes/sec
Buffer Memory	2MB
Interface	Enhanced IDE(ATAPI) compatible
Applicable disc format	Read: DVD: DVD-ROM, (DVD-5, DVD-9, DVD-10, DVD-18), DVD-Video, DVD-R (3.95 and 4.7G), DVD-RW, DVD+R, DVD+RW, Multi-Border DVD-R/DVD-RW, Multi-Session DVD+R, DVD+RW and DVD-RAM (optional) CD: CD-DA, CD-ROM Mode-1, CD-ROM/XA Mode-2 Form-1 and Mode-2 Form-2, CD-i Ready, Video-CD (MPEG-1), Karaoke CD, Super Video CD, Photo-CD, Enhanced CD, CD Plus, CD Extra, i-trax CD, CD-Text, CD-R, CD-RW Write: CD-DA, CD-ROM Mode-1, CD-ROM/XA Mode-2 Form-1 and Mode-2 Form-2, CD-i, Video-CD, CD-Text
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)

DVD-Dual Interface

Item	Specification
Vendor & model name	DVD Dual Pioneer DVR-K15RA DVD Dual Pioneer DVR-K05RA LiteOn SOSW-833S Panasonic UJ-845
Performance Specification	With CD Diskette With DVD Diskette
Transfer rate (KB/sec)	Sustained: Max 3.6Mbytes/sec Sustained: Max 10.8Mbytes/sec
Buffer Memory	2MBytes
Interface	Enhanced IDE(ATAPI) compatible
Applicable disc format for LiteOn SOSW-833S	Read: DVD: DVD single/dual layer (PTP, OTP), DVD-R (3.9G/4.7G), DVD-R multi-borders, DVD-R Double Layer, DVD+R, DVD+R multi-sessions, DVD+R Double Layer, DVD-RW, and DVD+RW discs with diameter of 8 or 12cm CD: CD-DA, CD-ROM, CD-ROM/XA, Photo-CD, Multi-session, Karaoke-CD, Video-CD, CD-I FMV, CD Extra, CD Plus, CD-R, and CD-RW discs of 8 or 12 cm diameter

DVD-Dual Interface

Item	Specification
Applicable disc format for Panasonic UJ-845	<p>Read:</p> <p>DVD: DVD-5, 9,10,18, DVD-R (3.95G/4.7G), DVD-RW, DVD_RAM (4.7G), DVD+R, DVD+RW</p> <p>CD: CD-Audio, CD-ROM (mode1 and mode 2), CD-ROM XA (mode 2, form 1 and form 2), CD-I (mode 2, form 1 and form 2), CD-I Ready, CD-I Bridge, CD-R, CD-RW, Photo CD, Video CD, Enhanced Music CD, CD-TEXT</p> <p>Write:</p> <p>DVD: DVD-RAM, DVD-R4.7GB, DVD-RW, DVD+R, DVD+RW</p> <p>CD: CD-R, CD-RW (disc at once, sessionat once, track at once, fixed/variable packet writing, multi-session)</p>
Applicable disc format for Pioneer DVR-K15RA	<p>KODAK Photo CD Single and Multi-session</p> <p>CD Extra (CD PLUS)</p> <p>Video CD</p> <p>CD text data (Read / Write)</p> <p>CD-R discs (Read / Write)</p> <p>CD-RW discs (Read / Write)</p> <p>DVD-ROM</p> <p>DVD-R Ver.2.00 for General (Read / Write)</p> <p>DVD-R-DL (Read/Write)</p> <p>DVD-RW Ver.1.0 & 1.1 & 1.2 (Read / Write)</p> <p>DVD+R Ver.1.0 & 1.11& 1.2 (Read/Write)</p> <p>DVD+R -DL Ver1.0 (Read / Write)</p> <p>DVD+RW Ver.1.1 & 1.2 (Read/Write)</p> <p>DVD-RAM (Ver.2.0 & 2.1) (Read only)</p>
Applicable disc format for Pioneer DVR-K05RA	<p>KODAK Photo CD Single and Multi-session</p> <p>CD Extra (CD PLUS)</p> <p>Video CD</p> <p>CD text data (Read / Write)</p> <p>CD-R discs (Read / Write)</p> <p>CD-RW discs (Read / Write)</p> <p>DVD-ROM</p> <p>DVD-R Ver.2.00 for General (Read / Write)</p> <p>DVD-RW Ver.1.0 & 1.1 & 1.2 (Read / Write)</p> <p>DVD+R Ver.1.0 & 1.11& 1.2 (Read/Write)</p> <p>DVD+R -DL Ver1.0 (Read / Write)</p> <p>DVD+RW Ver.1.1 & 1.2 (Read/Write)</p> <p>DVD-RAM (Ver.2.0 & 2.1) (Read only)</p>
Loading mechanism	<p>Load: Manual (SOSW-833S/DVR-K15)</p> <p>Auto (UJ-845/DVR-K05)</p> <p>Release: (a) Electrical Release (Release Button)</p> <p>(b) Release by ATAPI command</p> <p>(c) Emergency Release (Except for UJ-845/DVR-K05)</p>
Power Requirement	
Input Voltage	5 V +/- 5 % (Operating)

Audio Interface

Item	Specification
Audio Controller	ALC250
Audio onboard or optional	Built-in
Mono or Stereo	Stereo
Resolution	18 bit stereo digital to analog converter 18 bit stereo analog to digital converter
Compatibility	AC97

Audio Interface

Item	Specification
Mixed sound source	Line-in, CD
Voice channel	8/16-bit, mono/stereo
Sampling rate	44,1 KHz (48K byte for AC97 interface)
Internal microphone	Yes
Internal speaker / Quantity	Yes/2

Video Interface

Item	Specification
Chipset	ATI Mobility Radeon® X1300 (for discrete models)
Package	MBGA 708 pin
Interface	PCIE x16
Supports ZV (Zoomed Video) port	Yes

Video Memory

Item	Specification
Chipset	ATI Mobility RADEON® X1300 (for discrete models)
Memory size	64MB/128MB
Interface	DDR

USB Port

Item	Specification
Chipset	built-in Mobile Intel® 82801FB (ICH6-M)
USB Compliancy Level	2.0
OHCI	USB 1.1 and USB 2.0 Host controller
Number of USB port	3
Location	two on the left side; one on the rear side
Serial port function control	Enable/Disable by BIOS Setup

IEEE 1394 Port (No IEEE Port for this model)

Item	Specification
Chipset	TSB34AB21A
Number of IEEE 1394 port	1
Location	Left side
Connector type	IEEE 1394

PCMCIA Port

Item	Specification
PCMCIA controller	ENE CB712
Supports card type	Type-II
Number of slots	One type-II
Access location	Left panel

PCMCIA Port

Item	Specification
Supports ZV (Zoomed Video) port	No ZV support
Supports 32 bit CardBus	Yes

System Board Major Chips

Item	Controller
Core logic	Intel® 915GM/PM+Intel® ICH6-M (Mobile Intel 82801FB)
VGA	ATI Mobility RADEON® X1300(for discrete models)
LAN	BroadCom BCM4401
IEEE 1394	TSB34AB21A
USB 2.0	built-in Intel® ICH6-M (Mobile Intel 82801FB)
Super I/O controller	SMsC LPC 47N217
Bluetooth	built-in Intel® ICH6-M (Mobile Intel 82801FB)
Wireless 802.11 b+g	built-in Intel® ICH6-M (Mobile Intel 82801FB)
PCMCIA	ENE CB712
Audio	ALC250
5-in-1 card reader	ENE CB712

Keyboard

Item	Specification
Keyboard controller	KB 910Q
Total number of keypads	84-/85-key
Windows logo key	Yes
Internal & external keyboard work simultaneously	1. Plug USB keyboard to the USB port directly: Yes 2. Use port replicator then plug a USB/PS 2 keyboard to the USB port/PS 2 port on the port replicator: Yes

Battery

Item	Specification
Vendor & model name	BATTERY LI-ION 6 CELLS-SANYO 2000mAH UR18650F BATTERY LI-ION 6 CELLS-SONY 2000mAH US18650G4 BATTERY LI-ION 6 CELLS-SANYO 2400mAH UR18650F BATTERY LI-ION 6 CELLS-SONY 2400mAH US18650G7 BATTERY LI-ION 9 CELLS-SANYO 2400mAH UR18650F
Battery Type	Li-ion
Pack capacity	4800mAh 6cell and 7200mAh 9cell for TravelMate 3210 4000mAh 6cell for TravelMate 2400
Number of battery cell	53.3W 6cell and 79.9W 9cell for TravelMate 3210 44.6W 6cell for TravelMate 2400

Battery

Item	Specification
Package configuration	3 cells in series, 2 series in parallel for 6-cell battery 2 cells in series, 3 series in parallel for 9-cell battery
Normal voltage	11.1V
Charge voltage	12.6±0.1v

LCD 14.1 inch

Item	Specification		
Vendor & model name	QDI: QD14TL01 (Glare) Surface treatment: glare+hard coating 3H	QDI QD14TL01	CMO N14111-L03 CMO N14111-L02 (non-glare)
Screen Diagonal (mm)	14.1 inches	14.1 inches	14.1 inches
Active Area (mm)	303.7x189.8	303.7x189.8	303.3x189.6
Display resolution (pixels)	1280x800 WXGA	1280x800 WXGA	1280x800 WXGA
Pixel Pitch	0.2373x0.2373	0.2373x0.2373	0.2373x0.2373
Pixel Arrangement	R.G.B. Vertical Stripe	R.G.B. Vertical Stripe	R.G.B. Vertical Stripe
Display Mode	Normally White	Normally White	Normally White
Typical White Luminance (cd/m ²) also called Brightness	185	185	185
Luminance Uniformity	1.25 (5 points)	1.25 (5 points)	N/A
Contrast Ratio	300	300	400
Response Time (Optical Rise Time/Fall Time)msec	10/15	10/15	5/11
Nominal Input Voltage VDD	+3.3V Typ.	+3.3V	+3.3V
Typical Power Consumption (watt)	N/A	N/A	N/A
Weight	440g	440g	425g
Physical Size(mm)	320x206x5.5	320x206x5.5	320x206x5.5
Electrical Interface	1 channel LVDS	1 channel LVDS	1 channel LVDS
Support Color	262K colors (RGB 6-bit data driver)	262,144	262,144
Viewing Angle (degree) Horizontal: Right/Left Vertical: Upper/Lower	45/45 20/35	45/45 20/35	45/45 20/45
Temperature Range(° C) Operating Storage (shipping)	0 to +40 (with high humidity more than 90%RH) -25 to +60	0 to +40 (with high humidity more than 90%RH) -25 to +60	0 to +40 (with high humidity more than 90%RH) -20 to +60

LCD Inverter

Item	Specification
Vendor & model name	Delta DAC-07B037 B YEC YNV-C01 SumidaTWS-442-125

LCD Inverter

Item	Specification
Brightness conditions	Vadj=3.3V
Input voltage (V)	9~21
Input current (mA)	350 (max)
Output voltage (V, rms)	1600 (starting voltage)
Output current (mA, rms)	6.2~6.8 (DAC=0)
Output voltage frequency (k Hz)	45~65K Hz

AC Adaptor

Item	Specification
Input rating	90V AC to 264V AC, 47Hz to 63Hz
Maximum input AC current	1.7A
Inrush current	240A@115VAC 240A@230VAC
Efficiency	83% min. @115VAC input full load

System 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 disc may be power managed in this state.
Suspend to RAM (S3)	CPU set power down VGA Suspend PCMCIA Suspend Audio Power Down Hard Disk Power Down CD-ROM Power Down Super I/O Low Power mode
Save to Disk (S4)	Also called Hibernate state. System saves all system states and data onto the disc prior to power off the whole system.

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 **F2** during POST (when "Press <F2> to enter Setup" message is prompted on the bottom of screen).

Press **F2** to enter setup. The default parameter of F12 Boot Menu is set to "disabled". If you want to change boot device without entering BIOS Setup Utility, please set the parameter to "enabled".

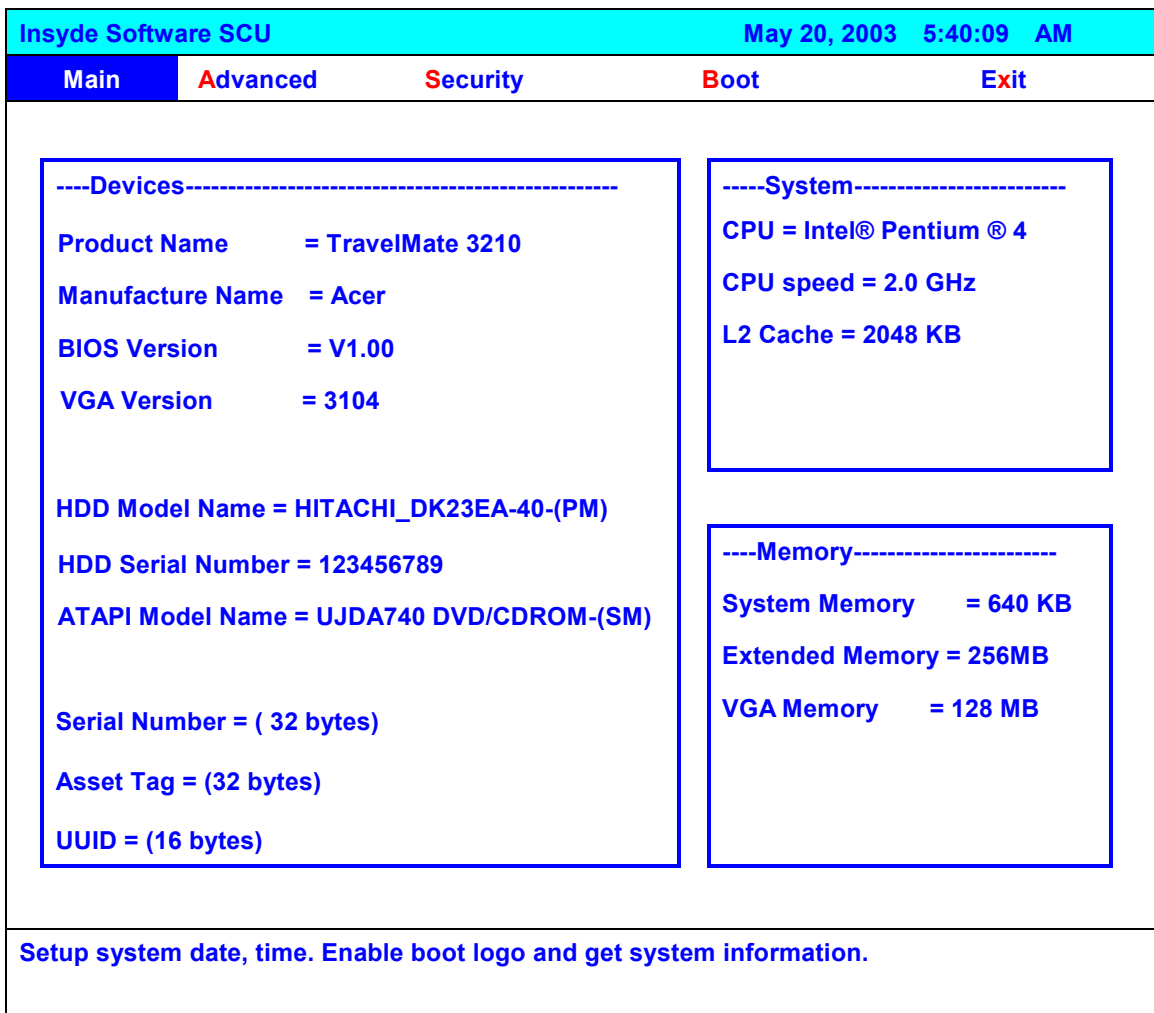
Press <F12> during POST to enter multi-boot menu. In this menu, user can change boot device without entering BIOS SETUP Utility.

Navigating the BIOS Utility

There are six menu options: Info., Main, System Devices, Security, Boot, and Exit.

Follow these instructions:

- To choose a menu, use the cursor left/right keys (← →).
- To choose a parameter, use the cursor up/down keys (↑ ↓).
- To change the value of a parameter, press F5 or F6.
- A plus sign (+) indicates the item has sub-items. Press ENTER to expand this item.
- Press ESC while you are in any of the menu options to go to the Exit menu.
- In any menu, you can load default settings by pressing F9. You can also press F10 to save any changes made and exit the BIOS Setup Utility.



Insyde Software SCU May 20, 2003 5:40:09 AM

Main **Advanced** Security Boot Exit

---Devices-----

Product Name = TravelMate 3210

Manufacture Name = Acer

BIOS Version = V1.00

VGA Version = 3104

HDD Model Name = HITACHI_DK23EA-40-(PM)

HDD Serial Number = 123456789

ATAPI Model Name = UJDA740 DVD/CDROM-(SM)

Serial Number = (32 bytes)

Asset Tag = (32 bytes)

UUID = (16 bytes)

---System-----

CPU = Intel® Pentium® 4

CPU speed = 2.0 GHz

L2 Cache = 2048 KB

---Memory-----

System Memory = 640 KB

Extended Memory = 256MB

VGA Memory = 128 MB

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

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. **Please note that system information vary in models.**

Main

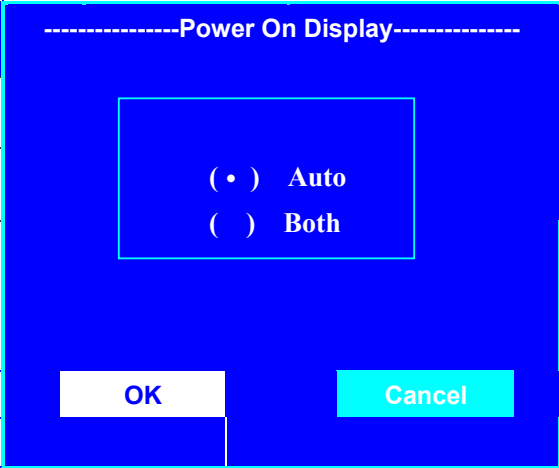
Insyde Software SCU		May 20, 2005 5:40:09 AM				
Main	Advanced	Security	Boot	Exit		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: 1px solid blue; padding: 5px; vertical-align: top;"> <pre> -----Devices----- Product Name = TravelMate 3210 Manufacturer Name = Acer BIOS Version = V1.00 VGA Version = 3104 HDD Model Name = HITACHI_DK23EA-40-(PM) HDD Serial Number = 123456789 ATAPI Model Name = UJDA740 DVD/CDROM-(SM) Serial Number = (32 bytes) Asset Tag = (32 bytes) UUID = (16 bytes) </pre> </td> <td style="width: 50%; border: 1px solid blue; padding: 5px; vertical-align: top;"> <pre> -----System----- CPU = Intel® Pentium® 4 CPU speed = 2.0 GHz L2 Cache = 2048 KB -----Memory----- System Memory = 640 KB Extended Memory = 256MB VGA Memory = 128 MB </pre> </td> </tr> </table>					<pre> -----Devices----- Product Name = TravelMate 3210 Manufacturer Name = Acer BIOS Version = V1.00 VGA Version = 3104 HDD Model Name = HITACHI_DK23EA-40-(PM) HDD Serial Number = 123456789 ATAPI Model Name = UJDA740 DVD/CDROM-(SM) Serial Number = (32 bytes) Asset Tag = (32 bytes) UUID = (16 bytes) </pre>	<pre> -----System----- CPU = Intel® Pentium® 4 CPU speed = 2.0 GHz L2 Cache = 2048 KB -----Memory----- System Memory = 640 KB Extended Memory = 256MB VGA Memory = 128 MB </pre>
<pre> -----Devices----- Product Name = TravelMate 3210 Manufacturer Name = Acer BIOS Version = V1.00 VGA Version = 3104 HDD Model Name = HITACHI_DK23EA-40-(PM) HDD Serial Number = 123456789 ATAPI Model Name = UJDA740 DVD/CDROM-(SM) Serial Number = (32 bytes) Asset Tag = (32 bytes) UUID = (16 bytes) </pre>	<pre> -----System----- CPU = Intel® Pentium® 4 CPU speed = 2.0 GHz L2 Cache = 2048 KB -----Memory----- System Memory = 640 KB Extended Memory = 256MB VGA Memory = 128 MB </pre>					
<p style="color: blue; text-align: center;">Setup system date, time. Enable boot logo and get system information.</p>						

NOTE: The system information is subject to different models.

Parameter	Description
Product Name	This field displays the product name of the system.
Manufacturer Name	This field displays the manufacturer name of the system
BIOS Version	This field displays the BIOS version of the system.
VGA Version	This field shows the VGA firmware version of the system.
HDD Model Name	This field shows the model name of HDD installed on primary IDE master.
HDD Serial Number	This field displays the serial number of HDD installed on primary IDE master.
ATAPI Mode Name	This field displays the model name of devices installed on secondary IDE master. The hard disk drive or optical drive model name is automatically detected by the system.
Serial Number	This field displays the serial number of this unit.
Asset Tag	This field displays the asset tag of this unit.
UUID	This will be visible only when an internal LAN device is presenting. UUID=32bytes
CPU	This field shows the brand name of the system CPU.
CPU speed	

Parameter	Description
L2 Cache	This field displays CPU L2 cache size. It varies in CPU type.
System Memory	This field reports the memory size of system base memory. The size is fixed to 640 KB.
Extended Memory	This field reports the memory size of the extended memory in the system. Extended memory size = Total memory size - 2MB
VGA Memory	<p>VGA Memory size:</p> <p>Discrete = 64 or 128MB (depends on actual VRAM size)</p> <p>TurboCache = 32MB (actual TurboCache VRAM size)</p> <p>Intel(R) 915 DVMT: you can select the following options:</p> <ol style="list-style-type: none"> 64MB (8MB pre-allocated + 56MB DVMT) 128MB (8MB pre-allocated + 128MB DVMT)-Default value Max DVMT (160MB on 256MB system memory, 224MB on 512 and above system memory).

The Main screen displays a summary of your computer hardware information, and also includes basic setup parameters. It allows the user to specify standard IBM PC AT system parameters.

Insyde Software SCU		May 20, 2005 5:40:09 AM		
Main	Advanced	Security	Boot	Exit
Date and Time				
Power On Display				
√ Quiet Boot				
√ LCD Auto DIM				
√ Network Boot				
_ F12 Boot Menu				
√ D2D Recovery				
Press <Tab> key to select a control. <OK> button or <Enter> key accept entries. <Cancel> button or <Esc> key reject entries. Use cursor, spacebar, and numeric keys to change values. <Alt> key activates accelerators.				

NOTE: The screen above is for your reference only. Actual values may differ.

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

Parameter	Description	Format/Option
Date and Time	The hours are displayed with 12 hour format. The values set in these two fields take effect immediately.	
Quiet Boot	Determines if the system will display customer logo and summary screen or not. Enable: Customer logo is displayed, and summary screen is disabled. Disabled: Customer logo is not displayed, and summary screen is enabled.	Option: Enabled or Disabled
Power on display	Auto: During power process, the system will detect if any display device is connected on external video port. If any external display device is connected, the power on display will be in CRT (or projector) only mode. Otherwise it will be in LCD only mode. Both: Simultaneously enable both the integrated LCD screen and the system's external video port (for an external CRT or projector).	Option: Auto or Both
LCD Auto Dim	Determines if the system will automatically dim the LCD brightness in order to save power when AC is not present. The system will support an automatic dimming of the LCD backlight when the AC power is NOT available (running on battery power).	Option: Enabled or Disabled
Network Boot	Enables, disables the system boot from LAN (remote server).	Option: Enabled or Disabled
F12 Boot Menu	Enables, disables Boot Menu during POST.	Option: Disabled or Enabled
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.	Option: Enabled or Disabled

NOTE: You can also enable Acer disc-to-disc system recovery via Alt+F10 during POST.

Advanced

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

Insyde Software SCU May 20, 2005 5:40:09 AM

Main **Advanced** Security Boot Exit

Infrared Port (FIR)

Max. Graphics Memory

∨ Legacy USB Support

-----Infrared Port(FIR)-----

-----FIR I/O settings---

Disabled

Enabled

-Mode Setting for IRDA-

Normal (16550)

IrDA (HPSIR)

ASK IR

FAST IR

DMA Setting For FIR

DMA1

DMA2

DMA3

OK Cancel

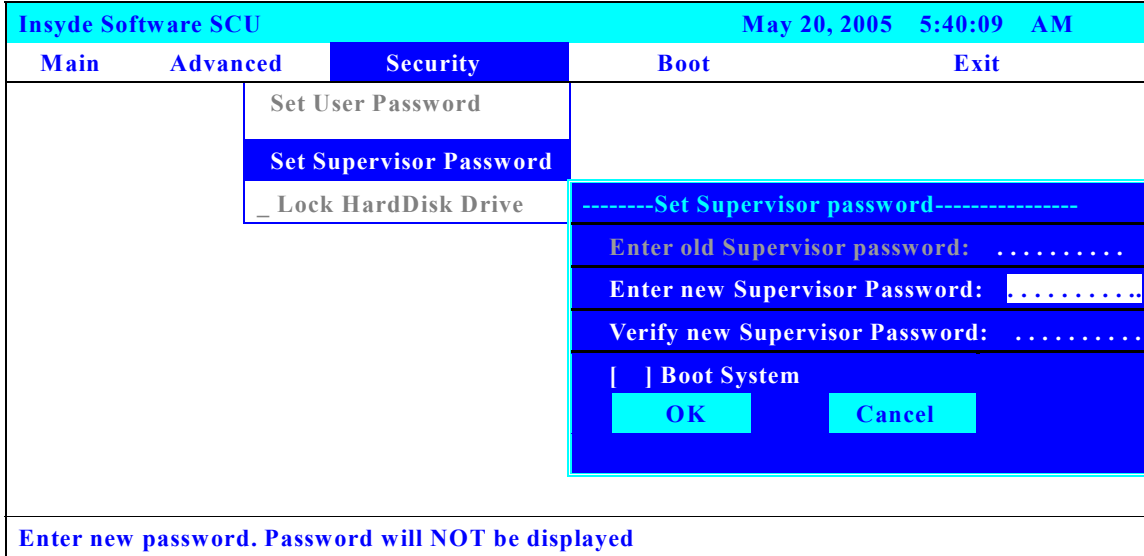
<Tab> <Right> <Left> for block select. <Up> <Down> for item select.
 <Enter> for accept. <Cancel> <Esc> for reject. <Alt> activates accelerators.
 <Space> for Enable or Disable.

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

Parameter	Description	Options
Infrared Port	Enables or disables the infrared port.	Disabled /Enabled
Max Graphics Memory	This option is only available on Intel (R) 915 UMA system.	64MB/ 128MB /DVMT
Legacy USB support	This feature allows you to USB keyboard entering BIOS Setup. This feature also allows you to use a USB keyboard in DOS without additional driver. USB floppy boot and Crisis Recovery from USB floppy is also supported.	Enabled /Disabled

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.

Set Supervisor/User Password

If password on boot is required, the password must be set otherwise it cannot be enabled.

The formats of the password are as follows:

Length 10 characters

Characters Alphanumeric keys only. The shift status i.e. Ctrl, Shift, Alt and Capital are ignored.

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.	
Set Supervisor Password	Press Enter to set the administrator password. When set, this password protects the BIOS Setup Utility from unauthorized access.	
Lock HardDisk Drive	Allows the user to specify whether or not a password is required to access hard disk drive.	Disabled or Enabled

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 distette drive in module bay, the onboard hard disk drive and the CD-ROM in module bay.

Insyde Software SCU		May 20, 2005 5:40:09	
Main	Advanced	Security	Boot
		Boot Device	
<div style="border: 1px solid black; padding: 10px; text-align: center;"><p>---- Boot Device ----</p><p>Hard Drive</p><p>CD-ROM/DVD Drive</p><p>Floppy Device</p><p>Network Boot</p></div>			
<p>Press <Tab> key to select a control. <OK> button or <Enter> key accept entries. <Cancel> button or <ESC> key reject entries. Use spacebar and number keys to change value <Alt> key activates accelerators.</p>			

Exit

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

Insyde Software SCU				Nov 26, 2005 5:40:09	
Main	Advanced	Security	Boot	Exit	
				Exit Saving Changes	
				Exit Discarding Changes	
				Load Setup Defaults	
				Discard Changes	
<div style="border: 2px solid cyan; padding: 10px; text-align: center;"> <p>-----Exit Saving Changes-----</p> <p>Press <OK> to save the current Setup parameters to CMOS RAM.</p> <p>The system will reboot!!!</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px 15px; background-color: white;">OK</div> <div style="border: 1px solid black; padding: 5px 15px; background-color: cyan;">Cancel</div> </div> </div>					
<p><Tab> <Right> <Left> for block select. <Up> <Down> for item select. <Enter> for accept. <Cancel> <Esc> for reject. <Alt> activates accelerators. <Space> for Enable or Disable.</p>					

The table below describes the parameters in this screen.

Parameter	Description
Exit Saving Changes	Exit System Setup and save your changes to CMOS.
Exit Discarding Changes	Exit utility without saving setup data to CMOS.
Load Setup Default	Load default values for all SETUP item.
Discard Changes	Load previous values from CMOS for all SETUP items.

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 Phlash 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 Phlash utility.

NOTE: Do not install memory-related drivers (XMS, EMS, DPMS) when you use the Phlash.

NOTE: Please use the AC adaptor power supply when you run the Phlash 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.

Follow the steps below to run the Phlash.

1. Prepare a bootable diskette.
2. Copy the Phlash utilities to the bootable diskette.
3. Then boot the system from the bootable diskette. The Phlash 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
- Small Philips screw driver
- Philips screwdriver
- Plastic flat head screw driver
- Tweezers

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

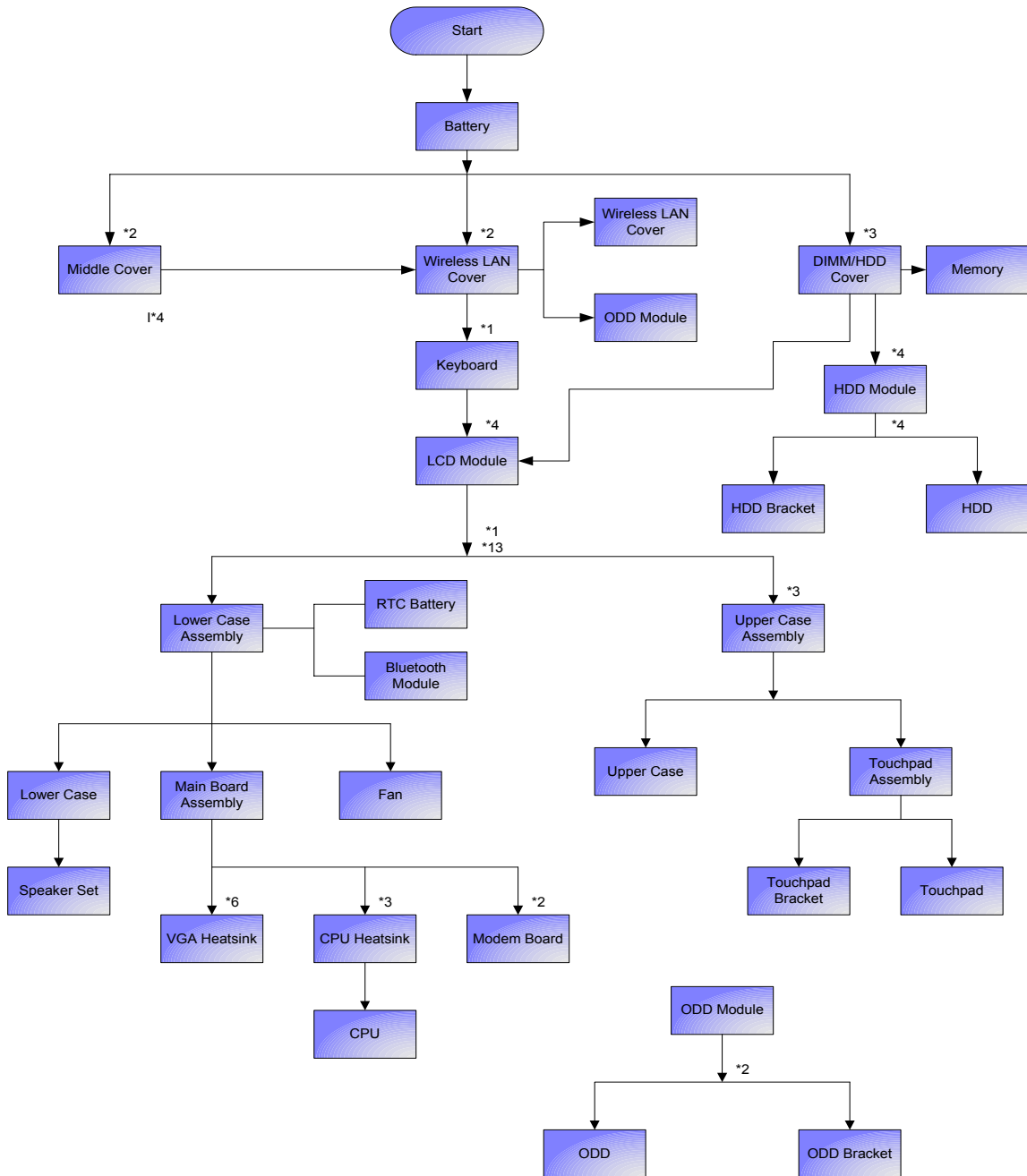
Before You Begin

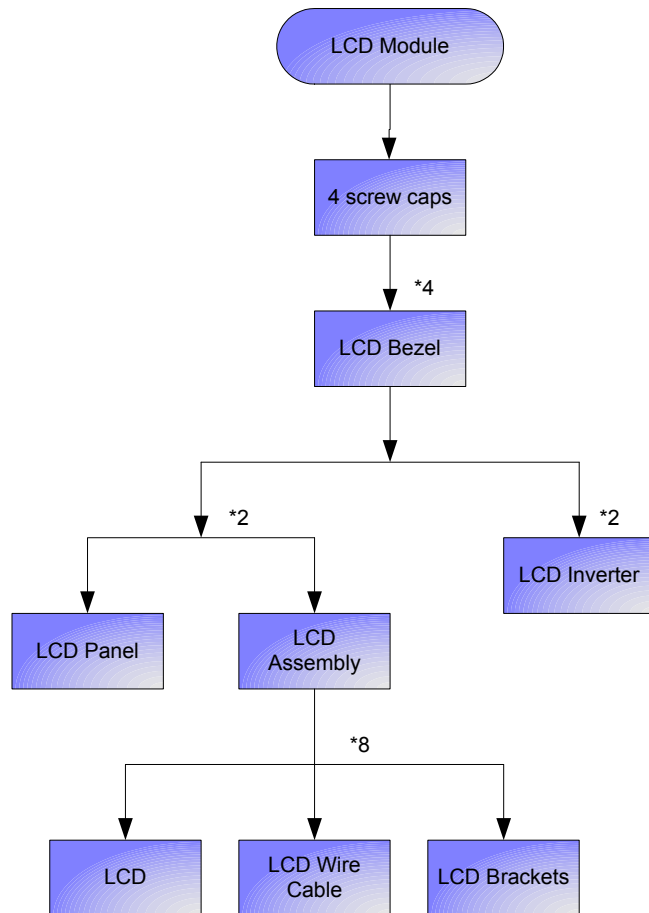
Before proceeding with the disassembly procedure, make sure that you do the following:

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.

Disassembly Procedure Flowchart

The flowchart on the succeeding page gives you a graphic representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing. For example, if you want to remove the system board, you must first remove the keyboard, then disassemble the inside assembly frame in that order.





Screw List

Item	Description
A	SCW HEX NYL I#R-40/O#4-40 L5.5
B	SCREW MACH WAFER M2*L4 NI
C	CPU SCREW M2.5*6.5 (2.7KG)
D	CPU SCREW M2.5*6.5 (4.5KG)
E	SCRW WH MS+CBZ M2.5+L4 BLACK
F	SCREW M2.5-6
G	SCREW M2*3 NYLON 1JMCPC-420325
H	SCREW M2.5X6
I	SCREW M2-3
J	SCRW M2.5*L3(NON NYLOK)
K	SCREW M2.5-5
L	SCREW M3x4(86.9A524.4R0)
M	SCREW WAFER NYLOK NI 2ML3
N	SCREW NI M2*6L

Removing the Battery Pack

1. Unlock the battery lock.
2. Slide the battery latch then remove the battery.



Removing the Wireless LAN Card/the HDD Module/the Memory/the CPU/ the ODD Module and the LCD Module

Removing the Wireless LAN Card and the HDD Module

1. Remove the two screws fastening the PCI door.
2. Detach the PCI door.



3. Disconnect the wireless antennae.
4. Pop out the wireless LAN card then remove it.



5. Remove the two screws fastening the HDD cover.
6. Remove HDD cover carefully.
7. Pull the HDD module backwards to disconnect the HDD module then remove it from the main unit.



Removing the Memory and the CPU

1. Remove the two screws fastening DIMM cover.
2. Then detach the DIMM cover.
3. Pop out the memory then remove it from the DIMM socket.



4. Remove the two screws fastening the thermal door.
5. Detach the thermal door from the main unit.



6. Remove the four screws holding the thermal module. (Follow the order indicated by the numbers: 4, 3, 2 then 1. Please reverse the order when you assemble the system).
7. Disconnect the fan cable as shown.
8. Take out the thermal module from the main unit carefully.



9. Use a flat headed screwdriver to release the CPU lock.
10. Then remove the CPU from the CPU socket carefully.



Removing the ODD Module and the LCD module

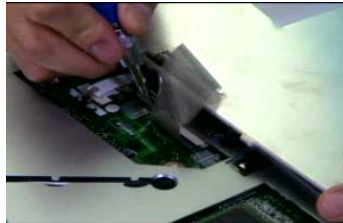
1. Remove the screws fastening the ODD module as shown.
2. Use a flat headed screwdriver to push the ODD module outwards then remove it.



3. Open the LCD module as shown and detach the middle cover carefully.
4. Remove the two screws fastening the keyboard.



5. Turn over the keyboard as shown.
6. Disconnect the keyboard cable then remove the keyboard.



7. Tear off the mylar festening the wireless antenna set.
8. Pull out the wireless antenna from the main unit carefully.
9. Disconnect the LCD cable from the main board.



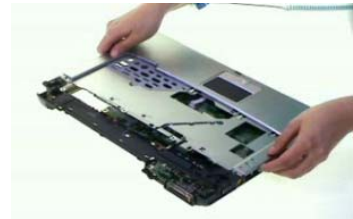
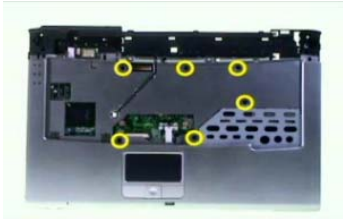
10. Remove two screws holding the LCD module.
11. Remove another two screws fastening the LCD module on the bottom.
12. Then detach the LCD module from the main unit carefully.



Disassembling the Main Unit

Separate the Main Unit Into the Upper and the Lower Case Assembly

1. To separate the upper and the lower case assembly, remove six screws as shown.
2. Turn over the main unit, remove 9 screws on the other side.
3. Separate the main unit into the upper case assembly and the lower case assembly.

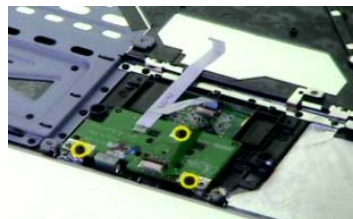
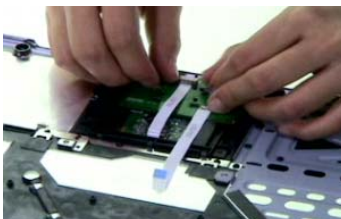


Disassembling the Upper Case Assembly

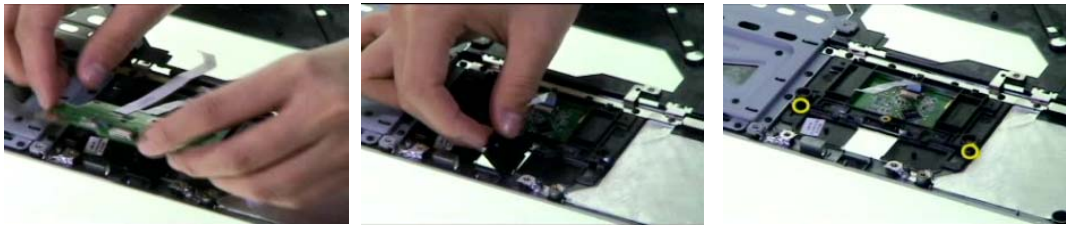
1. Disconnect the touchpad FFC from the main board.
2. Disconnect the bluetooth cable.
3. Detach the bluetooth module from the upper case.



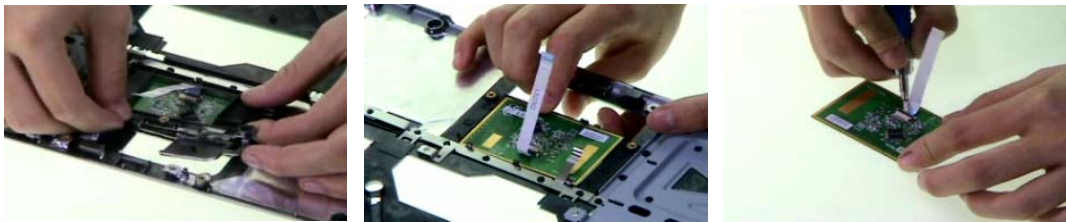
4. Disconnect the bluetooth cable from the bluetooth card.
5. Disconnect the touchpad to touchpad board FFC.
6. Remove the three screws fastening the touchpad board.



7. Detach the touchpad board.
8. Remove the four-way button from the upper case.
9. Remove the two screws fastening the touchpad support to the upper case.

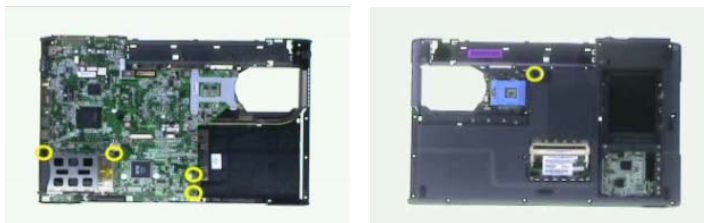


10. Detach the touchpad support from the upper case carefully.
11. Detach the touchpad from the upper case.
12. Disconnect the FFC from the touchpad.



Disassembling the Lower Case Assembly

1. Remove four screws fastening the main board to the lower case.
2. Turn over the lower case assembly, then remove one screw on the other side as shown.

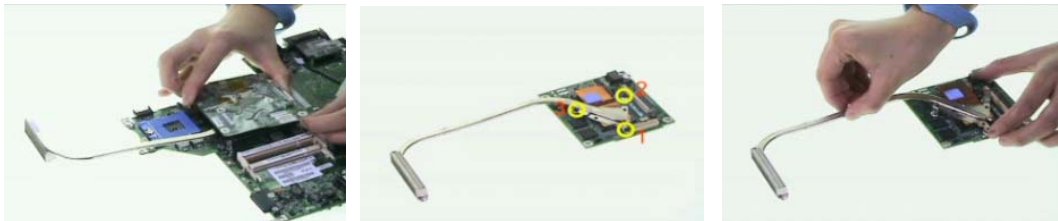


3. Disconnect the speaker cable.
4. Detach the main board assembly from the lower case carefully.
5. Remove the three screws fastening the VGA board.



6. Disconnect the VGA board assembly from the main board.
7. Remove the three screws fastening the VGA thermal to the VGA board. Detach the main board assembly from the lower case carefully. (Follow the order indicated by the numbers: 3, 2 then 1. Please reverse the order when you assemble the system).

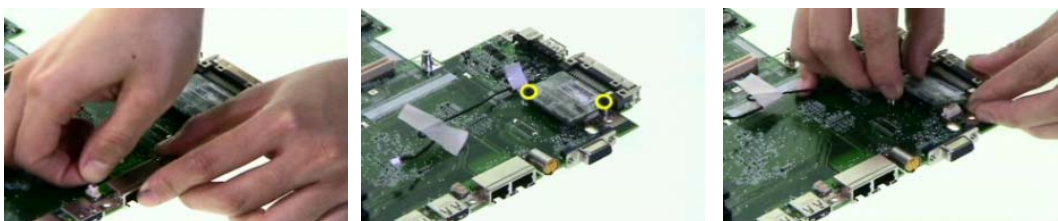
8. Detach the VGA thermal from the VGA board.



9. Disconnect the modem cable from the main board.

10. Remove the two screws fastening the modem board as shown.

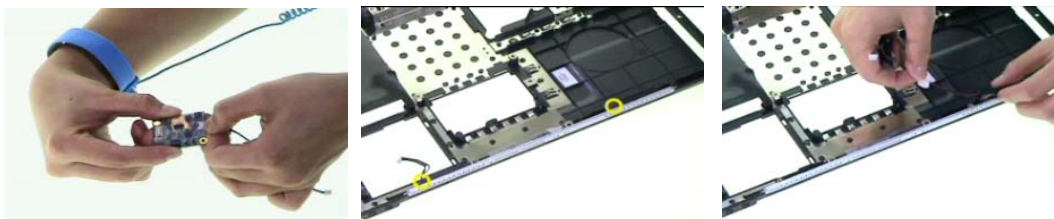
11. Disconnect the modem board from the main board.



12. Disconnect the modem cable from the modem board.

13. Remove the two screws holding the speaker set to the lower case.

14. Take out the speaker set from the lower case. This completes the main unit disassembly.

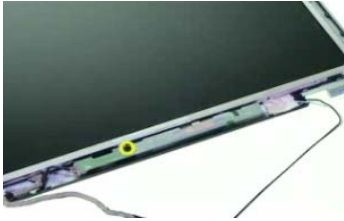


Disassembling the LCD Module

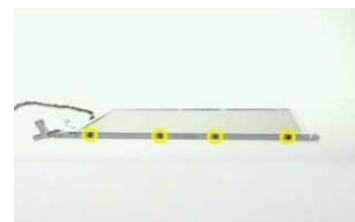
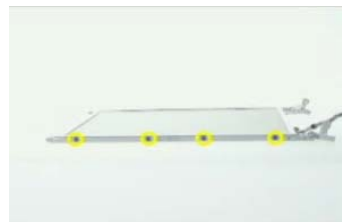
1. Remove the four screw caps as shown.
2. Remove the four screws holding the LCD bezel.
3. Then detach the LCD bezel from the LCD module.



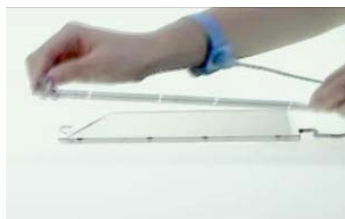
4. Remove the screw fastening the LCD inverter.
5. Disconnect the LCD cable and disconnect the inverter cable, then remove the inverter.
6. Remove the two screws fastening the LCD assembly to the LCD panel.



7. Take out the LCD assembly from the LCD panel.
8. Remove the four screws fastening the LCD left bracket then remove it.
9. Remove the four screws fastening the LCD right bracket.



10. Then remove the LCD right bracket.
11. Tear off the mylar and disconnect the LCD cable from the LCD then remove the cable.



Disassembling the External Modules

Disassembling the HDD Module

1. Remove the two screws holding the HDD bracket on one side.
2. Remove another two screws holding the HDD bracket on the other side.
3. Then take the hard disc drive out of the HDD bracket.



Disassembling the ODD Module

1. Remove the two screws fastening the ODD bracket.
2. Remove the ODD bracket from the optical disc drive module.



Troubleshooting

Use the following procedure as a guide for computer problems.

NOTE: The diagnostic tests are intended to test this model. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

1. Duplicate symptom and obtain the failing symptoms in as much detail as possible.
2. Distinguish symptom. Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
3. Disassemble and assemble the unit without any power sources.
4. If any problem occurs, you can perform visual inspection before you follow this chapter's instructions. You can check the following:
 - power cords are properly connected and secured;
 - there are no obvious shorts or opens;
 - there are no obviously burned or heated components;
 - all components appear normal.
5. Use the following table with the verified symptom to determine which page to go to.

Symptoms (Verified)	Go To
Power failure. (The power indicator does not go on or stay on.)	"Power System Check" on page 59.
POST does not complete. No beep or error codes are indicated.	"Power-On Self-Test (POST) Error Message" on page 61 "Undetermined Problems" on page 71
POST detects an error and displayed messages on screen.	"Error Message List" on page 62
Other symptoms (i.e. LCD display problems or others).	"Power-On Self-Test (POST) Error Message" on page 61
Symptoms cannot be re-created (intermittent problems).	Use the customer-reported symptoms and go to "Power-On Self-Test (POST) Error Message" on page 61 "Intermittent Problems" on page 70 "Undetermined Problems" on page 71

System Check Procedures

External Diskette Drive Check

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

If the error still remains:

1. Reconnect the external diskette drive/DVD-ROM module.
2. Replace the external diskette drive/CD-ROM module.
3. Replace the main board.

External CD-ROM Drive Check

Do the following to isolate the problem to a controller, drive, or CD-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. Boot from the diagnostics diskette and start the diagnostics program.
2. See if CD-ROM Test is passed when the program runs to CD-ROM Test.
3. Follow the instructions in the message window.

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

1. Reconnect the external diskette drive/CD-ROM module.
2. Replace the external diskette drive/CD-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 system 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:

- 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.

1. Boot from the diagnostics diskette and start the doagmpstotics program (please refer to main board).
2. Go to the diagnostic memory in the test items.
3. Press F2 in the test items.
4. Follow the instructions in the message window.

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.

If you suspect a power problem, see the appropriate power supply check in the following list:

- “Check the Battery Pack” on page 60

Check the Battery Pack

To check the battery pack, do the following:

From Software:

1. Check out the Power Management 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). See the following figure
3. If the voltage is still less than 7.5 Vdc after recharging, replace the battery.

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 light up, 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 Tracking Pad PS2 Mode Driver. For example, run Syn touch driver.
2. Run utility with the PS/2 mouse function and check if the mouse is working.
3. If the the PS/2 mouse does not work, then check if the main board to switch board FPC is connected O.K.
4. If the main board to switch board FPC is connected well, then check if the FCC on touch pad PCB connects properly.
5. If the FFC on touch pad PCB connects properly, then check if LS851 JP1 Pin6=5V are pulese. If yes, then replace switch board. If no, then go to next step.
6. Replace touch pad PCB.
7. If the touch pad still does not work, then replace 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.

Power-On Self-Test (POST) Error Message

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 71.

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.

Index of Error Messages

Error Message List

Error Messages	FRU/Action in Sequence
Struck Key	See "Keyboard or Auxiliary Input Device Check" on page 58
System CMOS checksum bad - Default configuration used	RTC battery Run BIOS Setup Utility to reconfigure system, then reboot system.
Real time clock error	RTC battery Run BIOS Setup Utility to reconfigure system time, then reboot system. Main board
Previous boot incomplete - Default configuration used	"Load Default Settings" in BIOS Setup Utility. RTC battery Main board
Invalid System Configuration Data	"Load Default Settings" in BIOS Setup Utility. Main board
Operating system not found	Enter Setup and see if fixed disk and drive A are properly identified. Dikette drive Hard disk drive Main board

Error Message List

No beep Error Messages	FRU/Action in Sequence
Power-on indicator turns off and LCD is blank.	Power source (battery pack and power adapter.) See "Power System Check" on page 59 Ensure every connector is connected tightly and correctly. Reconnect the DIMM. Main board.
Power-on indicator turns on and LCD is blank.	Power source (battery pack and power adapter.) See "Power System Check" on page 59 Reconnect the LCD connector Hard disk drive LCD cable LCD inverter LCD Main board
Power-on indicator turns on and LCD is blank. But you can see POST on an external CRT.	Reconnect the LCD connectors. LCD cable LCD inverter LCD Main board
Power-on indicator turns on and a blinking cursor shown on LCD during POST.	Ensure every connector is connected tightly and correctly. 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 71.

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.
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.

Beep Code	Message	Description
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	First, plug a monitor to CRT port. Next, enter BIOS utility to running "Load Default Settings" then reboot the system. Reconnect the LCD connectors. Keyboard (if the brightness function key doesn't work). LCD cable LCD inverter LCD Main board
LCD is too dark LCD brightness cannot be adjusted	Enter BIOS Utility to execute "Load Setup Default Settings", then reboot system. Reconnect the LCD connectors. Keyboard (if the 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 LCD has extra horizontal or vertical lines displayed.	Reconnect the LCD cable LCD cable LCD Main board

Indicator-Related Symptoms

Symptom / Error	Action in Sequence
Indicator incorrectly remains off or on, but system runs correctly	Main board
HDD/CD-ROM active indicators cannot work	HDD/CD-ROM drive Device driver 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 59. Battery pack AC adapter See if the thermal module is overheat (Heat sink or fan). Main board
The system cannot power-on.	Power source (battery pack and power adapter). See "Power System Check" on page 59. Battery pack Power adapter CPU Main board
The system cannot power-off.	In Windows XP operating system, hold and press the power switch for more than 4 seconds. If the system can power off, then the main board is OK. Verify OS in the HDD. Main board

Power-Related Symptoms

Symptom / Error	Action in Sequence
Battery can't be charged or discharged	See "Check the Battery Pack" on page 60. Battery pack Main board
System hang during POST	ODD/HDD/FDD/RAM module 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
PC Card cannot be inserted or ejected	Check if the PCMCIA slot is blocked Main board

Memory-Related Symptoms

Symptom / Error	Action in Sequence
Memory count (size) appears different from actual size.	Enter BIOS Setup Utility to execute "Load Default Settings" then reboot system. RAM module Main board Check BIOS revision
System can power on, but you hear two long beeps: "B--, B--" and the LCD is blank.	Reinsert DIMM DIMM Main board

Speaker-Related Symptoms

Symptom / Error	Action in Sequence
In Windows, multimedia programs, no sound comes from the computer.	OS volume control Audio driver Speaker Main board
Internal speakers make noise or emit no sound.	Speaker Main board
Microphone cannot work	Audio driver Volume control in Windows XP Main board

Power Management-Related Symptoms

Symptom / Error	Action in Sequence
The system will not enter hibernation mode	Power option in Windows XP Hard disk drive Main board
The system doesn't enter standby mode after closing the lid of the portable computer.	Driver of Power Option Properties Lid close switch in upper case Main board

Power Management-Related Symptoms

Symptom / Error	Action in Sequence
The system doesn't resume from hibernation/standby mode.	Connect AC adapter then check if the system resumes from Standby/Hibernation mode. Check if the battery is low. Hard disk drive Main board
The system doesn't resume from standby mode after opening the lid of the portable computer.	LCD cover switch Main board
Battery fuel gauge in Windows doesn't go higher than 90%.	Refresh battery (continue use battery until power off, then charge battery). Battery pack Main board
System hangs intermittently.	Reconnect hard disk/CD-ROM drives. 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 drives/FDD or other peripherals. Main board
External display does not work correctly.	Press Fn+F5, LCD/CRT/Both display switching Keyboard Main board
USB does not work correctly	Main board
Print problems.	Enter BIOS Setup Utility to execute "Load Default Settings" then reboot the system. Run printer self-test. Printer driver Printer cable Printer Main board
Parallel port device problems	Enter BIOS Setup Utility to execute "Load Default Settings" then reboot the system. Device driver Device cable Device 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 touchpad cable. Touchpad board Main board

Modem/LAN-Related Symptoms

Symptom / Error	Action in Sequence
Internal modem does not work correctly.	Phone cable Driver Reconnect the Internal modem cable to the main board tightly. Main board
Internal LAN does not work correctly	Lan cable Driver Main board

NOTE: If you cannot find a symptom or an error in this list and the problem remains, see “Undetermined Problems” on page 71.

Intermittent Problems

Intermittent system hang problems can be caused by a variety of reasons that have nothing to do with a hardware defect, such as: cosmic radiation, electrostatic discharge, or software errors. FRU replacement should be considered only when a recurring problem exists.

When analyzing an intermittent problem, do the following:

1. Run the diagnostic test for the system board in loop mode at least 10 times.
2. If no error is detected, do not replace any FRU.
3. If any error is detected, replace the FRU. Rerun the test to verify that there are no more errors.

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).

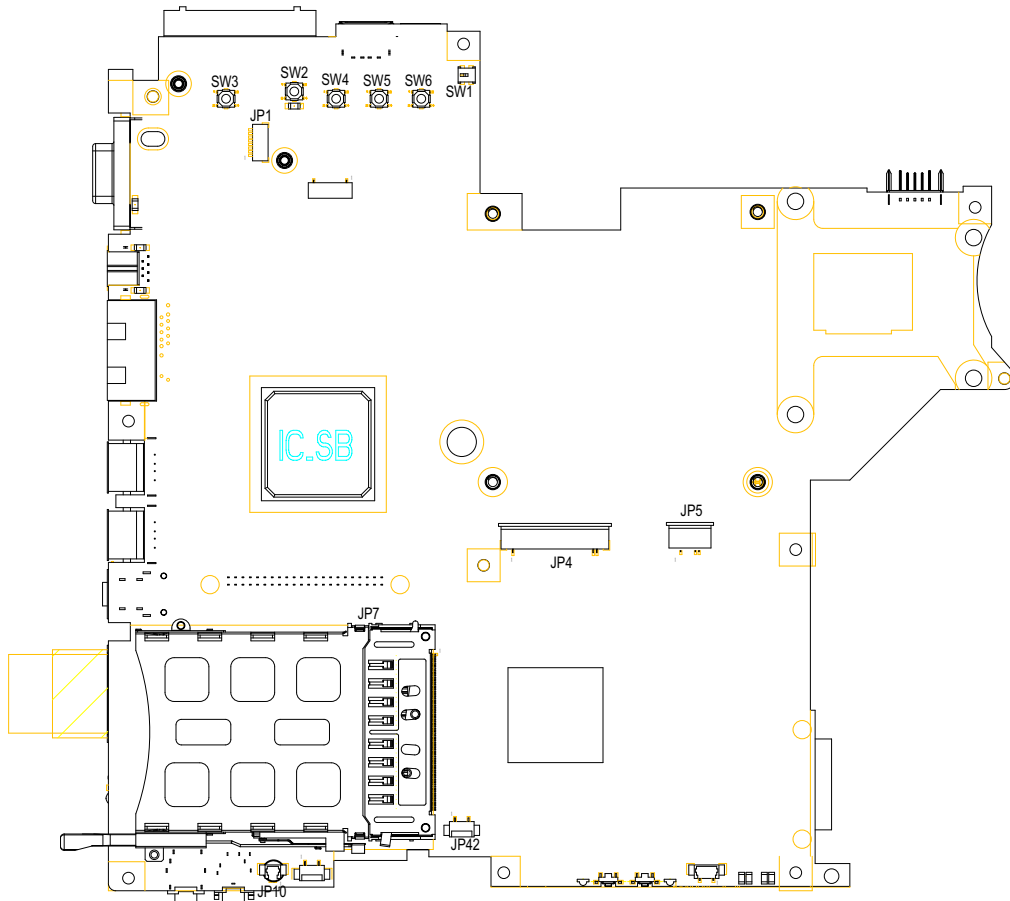
NOTE: Verify that all attached devices are supported by the computer.

NOTE: Verify that the power supply being used at the time of the failure is operating correctly. (See “Power System Check” on page 59):

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
 - 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:
 - System board
 - LCD assembly

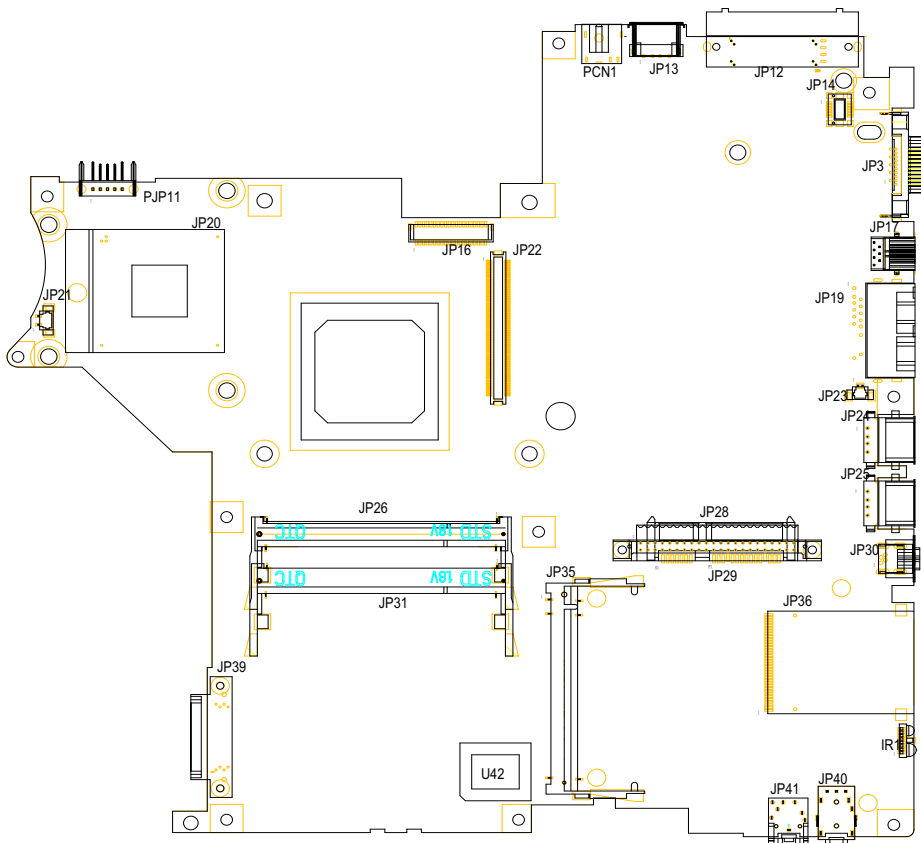
Jumper and Connector Locations

Top View



SW3	Power Switch	SW1	Lid Switch
JP1	Bluetooth Connector	JP5	Touchpad Connector
SW2	E-mail Switch	JP4	Keyboard Connector
SW4	Internet Browser Switch	JP42	Speaker Connector
SW5	Emanager Switch	JP7	PCMCIA Slot
SW6	User Programmable Switch	JP10	Microphone Connector

Bottom View



JP21	Fan Connector	JP24	USB Port
PJP11	Battery Connector	JP25	USB Port
JP20	CPU Socket	JP30	IEEE 1394 Port (No IEEE 1394 Port for this model)
JP16	LVDS Connector	JP36	Card Reader Connector(No Card Reader module for this model)
JP22	VGA Board Connector	IR	Infrared Receiver (No FIR function for this model)
PCN1	AC-IN	JP40	Headphone out/line-out Jack (support SPDIF)
JP13	USB Port	JP41	Mic-in Jack
JP12	Acer ezDock (No ezDock for this model)	JP28	HDD Connector
JP14	Modem Board Connector	JP35	Wireless LAN Card Connector
JP3	External Display Port	U42	BIOS
JP17	S-Video Port	JP26	DDR2 Socket
JP19	RJ11/RJ45	JP31	DDR2 Socket
JP23	Modem Cable Connector	JP39	ODD Connector

FRU (Field Replaceable Unit) List

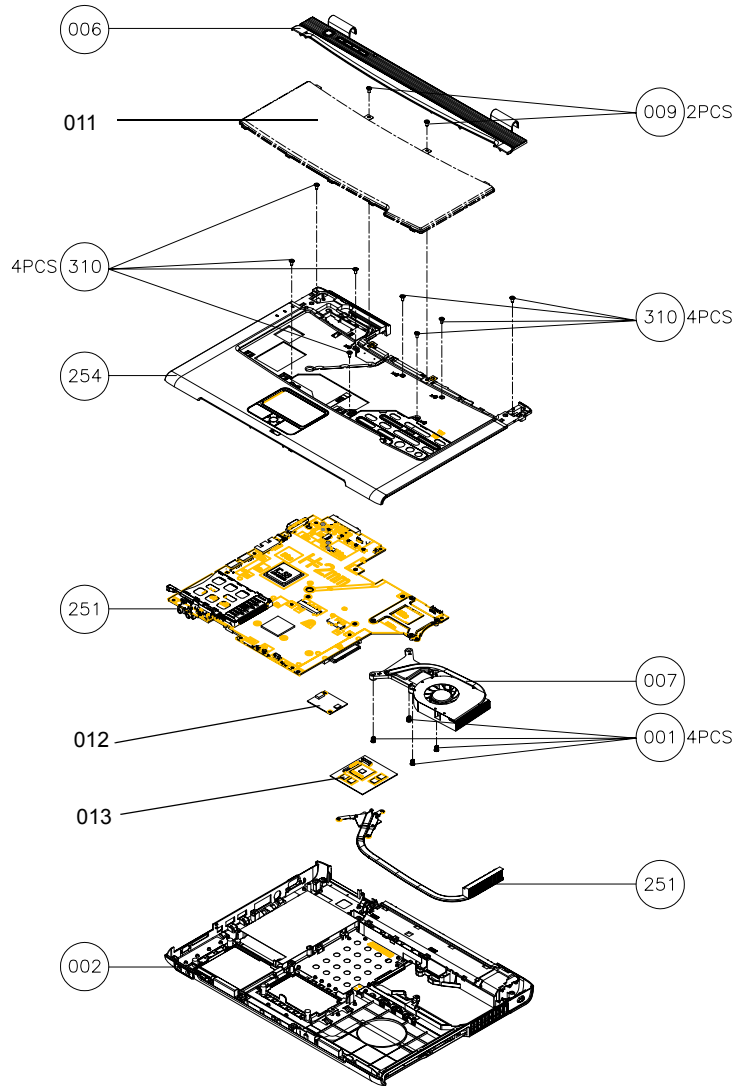
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of TravelMate 3210Z series products. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

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.

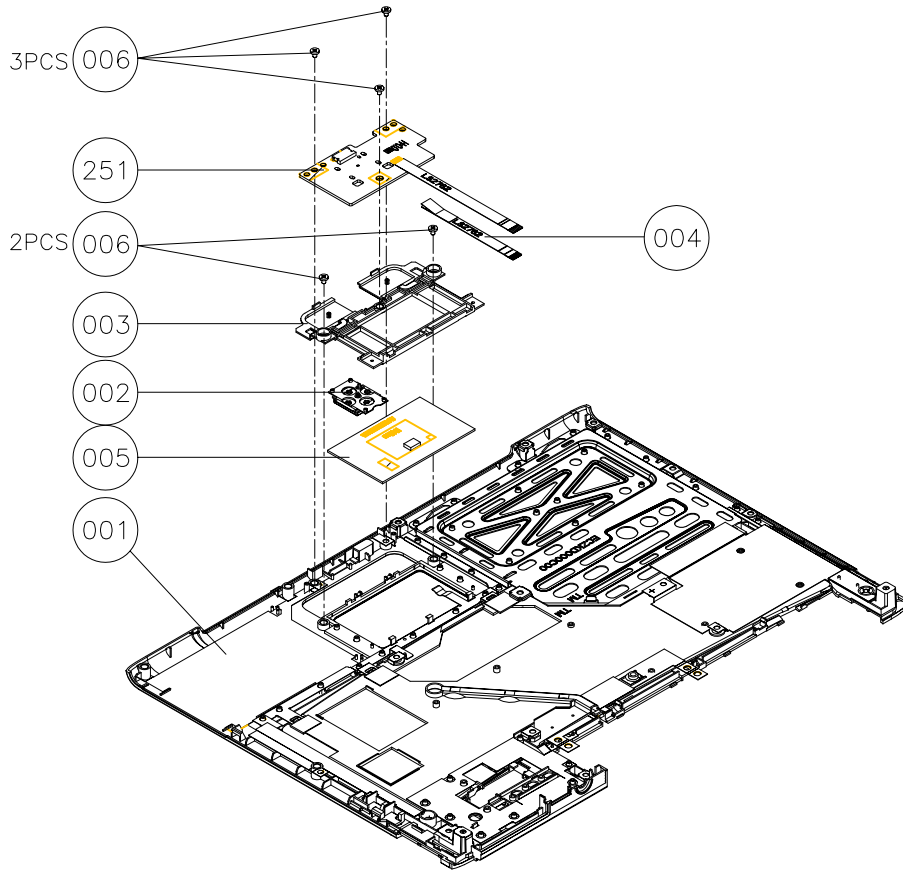
NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

Exploded Diagram

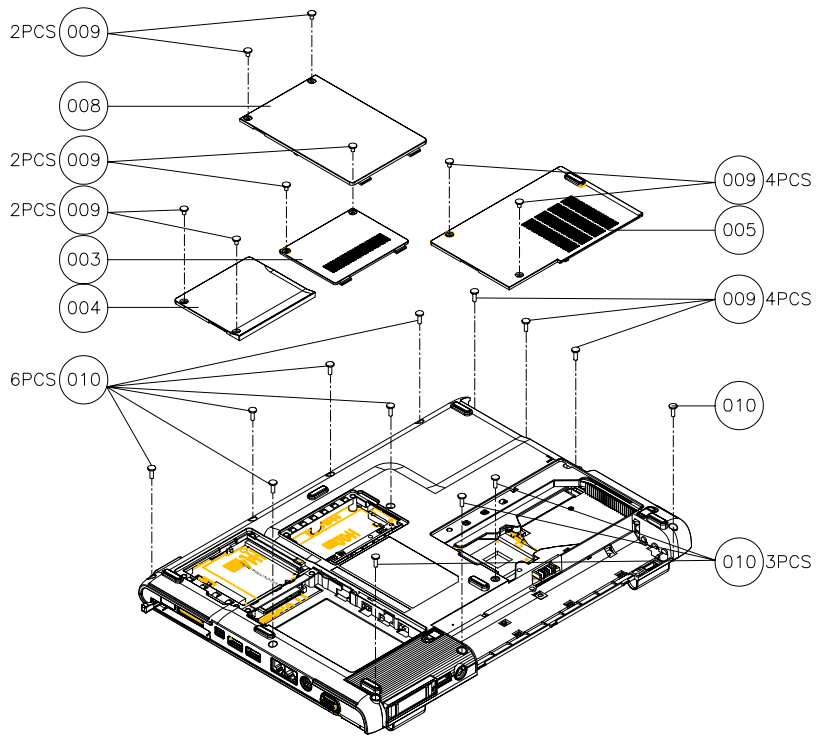
The System



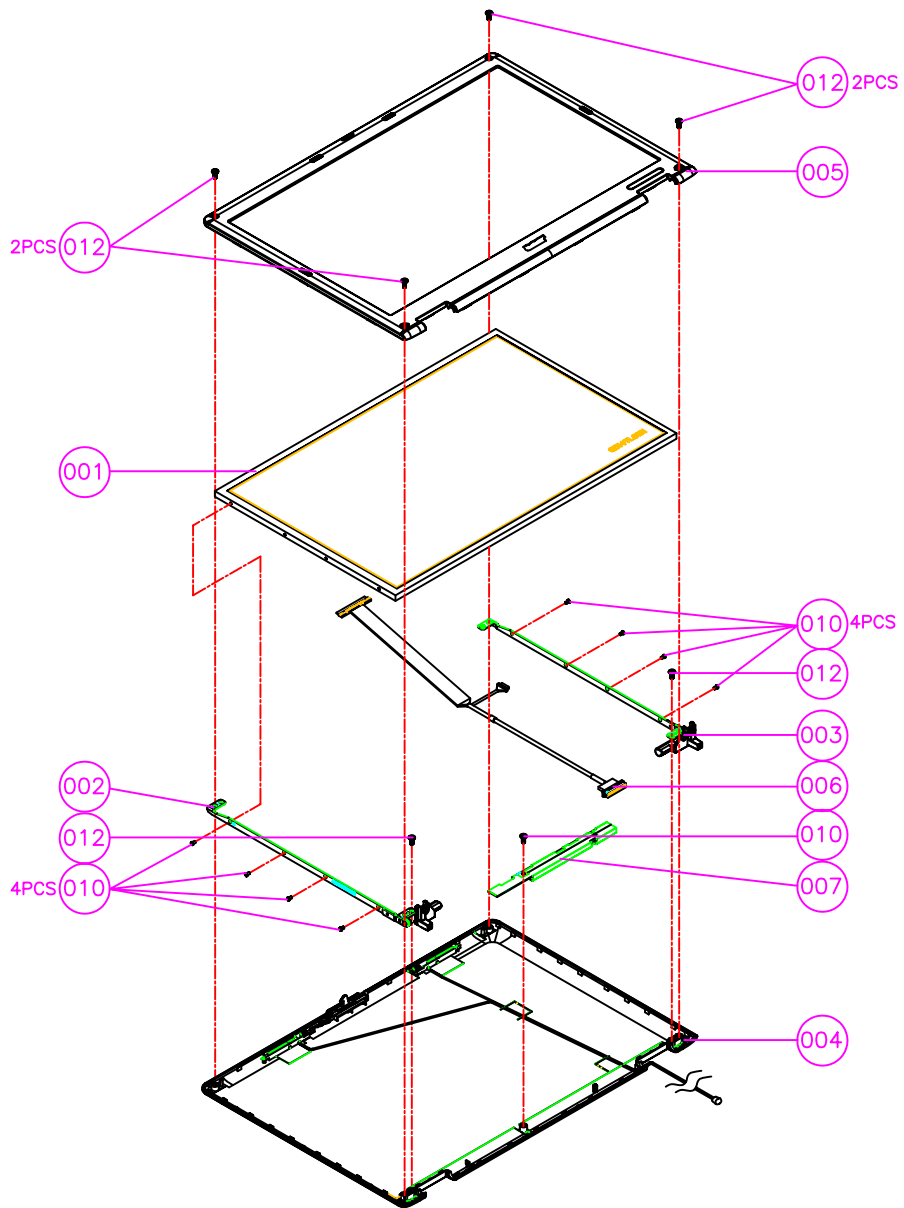
Upper Case Assembly



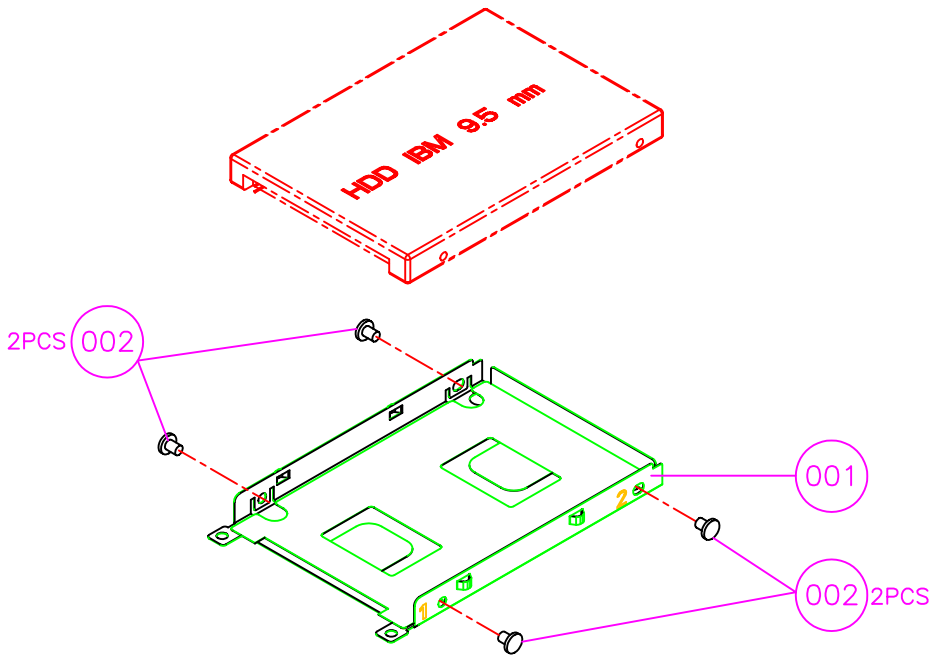
Lower Case Assembly



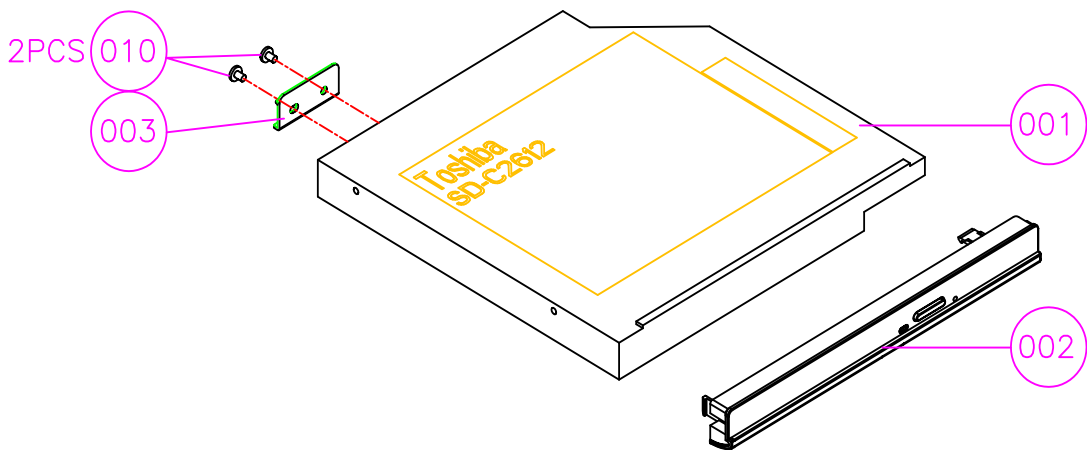
LCD Module








HDD Module



ODD Module



TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
Adapter			
	NS (Not Show)	ADAPTER 3 PIN 65W DELTA SADP-65KB BEF 19V 3PIN	AP.06501.006
		ADAPTER 3 PIN 65W LITEON PA-1650-02CO 65W 3 PIN	AP.06503.007
		ADAPTER 3 PIN 65W HIPRO HP-OK066B13CP 3P 65W	AP.0650A.004
Battery			
	NS	BATTERY LI-ION 6 CELLS-SANYO 2000mAH UR18650F	BT.00603.001
		BATTERY LI-ION 6 CELLS-SONY 2000mAH US18650G4	BT.00604.004
		BATTERY LI-ION 6 CELLS-SANYO 2400mAH UR18650F	BT.00604.001
		BATTERY LI-ION 6 CELLS-SONY 2400mAH US18650G7	BT.00604.001
	NS	BATTERY LI-ION 9 CELLS-SANYO 2400mAH UR18650F	BT.00903.002
Board			
	The System-012	MODEM BOARD FOXCONN T60M845.01	54.A70V5.001
	NS	BLUETOOTH CARD WNC 91.BU513.002	54.A70V5.002
	NS	MINI PCI WIRELESS BOARD 802.11 b+g INTEL WM3B2200/CH11	KI.CAX01.008
	Upper Case Assembly-251	T/P BOARD W/FFC CABLE	55.A70V5.001

TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	The System-013	VGA BOARD M26P 64MB	55.A70V5.002
Cable			
	Upper Case Assembly-004	FFC CABLE - T/P TO T/P BOARD	50.A70V5.001
	NS	BLUETOOTH CABLE	50.A70V5.002
	NS	MODEM CABLE	50.A70V5.003
	NS	POWER CORD-AUS	27.A70V5.001
	NS	POWER CORD-CHINA	27.A70V5.002
	NS	POWER CORD-DENMARK	27.A70V5.003
	NS	POWER CORD-EC	27.A70V5.004
	NS	POWER CORD-INDIA	27.A70V5.005
	NS	POWER CORD-ISREL	27.A70V5.006
	NS	POWER CORD-ITALIAN	27.A70V5.007
	NS	POWER CORD-JP	27.A70V5.008
	NS	POWER CORD-KOREA	27.A70V5.009
	NS	POWER CORD-SOUTH AFRICA	27.A70V5.010
	NS	POWER CORD-SWISS	27.A70V5.011
	NS	POWER CORDTWN	27.A70V5.012
	NS	POWER CORD-UK	27.A70V5.013
CABLE	NS	POWER CORD-US	27.A70V5.014
Case/Cover/Bracket Assembly			
	The System-006	MIDDLE COVER - TM	42.TAAV5.001

TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	The System-254; Upper Case Assembly-001	UPPER CASE-TM	60.TAAV5.001
	The System-002	LOWER CASE- UMA	60.A70V5.002
	NS	LOWER CASE- NON UMA	60.A70V5.003
	Upper Case Assembly-002	4 - WAY BUTTON	42.A70V5.002
	Upper Case Assembly-003	TP SUPPORT	33.A70V5.001
	Lower Case Assembly-003	DIMM COVER	42.A70V5.003
	Lower Case Assembly-004	PCI DOOR	42.A70V5.005
	Lower Case Assembly-005	THERMAL DOOR	42.A70V5.006
Communication Module			
	NS	ANTENNA ASSY	50.A70V5.004
CPU/Procussor			
	NS	CELERON M 350 (1.3G 1M) C0	KC.NC001.350
	NS	CELERON M 360 (1.4G 1M) C0	KC.NC001.360
	NS	CELERON M 370 (1.5G 1M) C0	KC.NC001.370




TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	NS	INTEL PENTIUM M DOTHAN 1.6GHZ 2M UFCBGA SL7EG B-1 STEPPING	KC.N0001.725
	NS	INTEL PENTIUM M 1.6G 2M 533FSB uFCPGA2 SL86G C-1 STEPPING	KC.N0001.730
	NS	INTEL PENTIUM M 1.73G 2M 533FSB uFCPGA2 SL7SA C-1 STEPPING	KC.N0001.740
	NS	INTEL PENTIUM M 1.87G 2M 533FSB uFCPGA2 SL7S9 C-1 STEPPING	KC.N0001.750
	NS	INTEL PENTIUM M 2.0G 2M 533FSB uFCPGA2 SL7SM C-1 STEPPING	KC.N0001.760
Combo Drive			
	ODD Module	DVD/CDRW COMBO MODULE 24X PHILIPS SCB5265	6M.A70V5.001
	ODD Module-001	DVD/CDRW COMBO DRIVE 24X PHILIPS SCB5265	KO.02403.007
	ODD Module-002	DVD/CDRW COMBO BEZEL	42.A70V5.007
	ODD Module-003	ODD BRACKET	33.A70V5.002
	ODD Module	DVD/CDRW COMBO 24X MODULE PANASONIC UJDA-770	6M.A70V5.002
	ODD Module-001	DVD/CDRW COMBO 24X DRIVE PANASONIC UJDA-770	KO.02406.013
	ODD Module-002	DVD/CDRW COMBO BEZEL	42.A70V5.007
	ODD Module-003	ODD BRACKET	33.A70V5.002
DVD RW Drive			
	ODD Module	DVD DUAL MODULE 8X LITE-ON SOSW-833S (DL) TRAY IN	6M.A70V5.004
	ODD Module-001	DVD DUAL 8X DRIVE LITE-ON SOSW-833S (DL)	KU.00804.012
	ODD Module-002	DVD DUAL BEZEL - TRAY IN	42.A70V5.008
	ODD Module-003	ODD BRACKET	33.A70V5.002








TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	ODD Module	DVD DUAL MODULE 8X HLDS GWA-4082N (DL)	6M.A70V5.007
	ODD Module-001	DVD DUAL 8X DRIVE HLDS GWA-4082N (DL)	KU.0080D.016
	ODD Module-002	DVD DUAL BEZEL - TRAY IN	42.A70V5.008
	ODD Module-003	ODD BRACKET	33.A70V5.002
	ODD Module	SUPER MULTI MODULE 8X PANASONIC UJ-840BAA (DL)	6M.A70V5.008
	ODD Module-001	SUPER MULTI 8X DRIVE PANASONIC UJ-840BAA	KU.00807.011
	ODD Module-002	SUPER MULIT BEZEL	42.A70V5.010
	ODD Module-003	ODD BRACKET	33.A70V5.002
HDD Module			
	HDD Module	HDD 40G 4200PRM SEAGATE ST94019A	KH.04001.010
	HDD Module	HDD 40G 2.5 IN. 4200RPM TOSHIBA PLUTO MK4025GAS	KH.04004.002
	HDD Module	HGST 40G 2.5" 4200 MORAGA+ HTS424040M9AT00 13G1132 FW:A71A	KH.04007.012
	HDD Module	HDD 60GB 2.5 IN. 4200RPM SEAGATE N2 ST960821A F/W: 3.01	KH.06001.002
	HDD Module	HDD 60G 2.5IN. 4200RPM TOSHIBA PLUTO MK6025GAS 2M F/W KA200A	KH.06004.003
	HDD Module	HDD 60GB 2.5IN. 4200RPM MORAGA 60G IC25N060ATMR04-0 08K0634 F/S:AD4A	KH.06007.006
	HDD Module	HDD 80GB 2.5 IN. 4200RPM SEAGATE N2 ST9808210A F/W: 3.01	KH.08001.012
	HDD Module	HDD 80GB 2.5IN. 4200RPM TOSHIBA PLUTO MK8025GAS	KH.08004.001
	HDD Module	HDD 80GB 2.5IN. 4200RPM HGST MORAGA IC25N080ATMR04-0	KH.08007.007
	HDD Module	HDD 100G 4200PRM SEAGATE ST9100822A F/W:3.01	KH.10001.001
	HDD Module	HDD 100GB 2.5IN. 4200RPM TOSHIBA PLUTO MK1031GAS F/W AA20	KH.10004.001
	HDD Module-001	HDD BRACKET	33.A70V5.003







TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	Lower Case Assembly-008	HDD DOOR	42.A70V5.011
Keyboard			
	The System-011	KEYBOARD DARFON CHINESE	KB.T5902.001
		KEYBOARD DARFON US INTERNATIONAL	KB.T5902.002
		KEYBOARD DARFON THAI	KB.T5902.003
		KEYBOARD DARFON GERMAN	KB.T5902.004
		KEYBOARD DARFON UK	KB.T5902.005
		KEYBOARD DARFON ITALIAN	KB.T5902.006
		KEYBOARD DARFON FRENCH	KB.T5902.007
		KEYBOARD DARFON SWISS/G	KB.T5902.008
		KEYBOARD DARFON BELGIUM	KB.T5902.009
		KEYBOARD DARFON SPANISH	KB.T5902.010
		KEYBOARD PORTUGUESE	KB.T5902.011
		KEYBOARD CZECH	KB.T5902.012
		KEYBOARD HUNGARIAN	KB.T5902.013
		KEYBOARD RUSSIAN	KB.T5902.014
		KEYBOARD SWEDEN	KB.T5902.015
		KEYBOARD NORWEGIAN	KB.T5902.016
		KEYBOARD DANISH	KB.T5902.017
		KEYBOARD ARABIC	KB.T5902.018
		KEYBOARD BRAZILIAN PORTUGUESE	KB.T5902.019
		KEYBOARD CANADIAN FRENCH	KB.T5902.020
		KEYBOARD GREEK	KB.T5902.021
		KEYBOARD TURKISH	KB.T5902.022
		KEYBOARD HEBREW	KB.T5902.023
		KEYBOARD SLOVENIA/CROATIA)	KB.T5902.024
LCD Module			
	LCD Module	ASSY LCD MODULE 14 .1 WXGA NON GLARE QDI (N141V2 QD14TL01 REV 01) W/ ANT - TM	6M.TAAV5.003
	LCD Module-001	LCD 14 .1 WXGA NON GLARE QDI N141V2 QD14TL01 REV 01	LK.14109.004
	LCD Module-007	LCD INVERTER	19.A70V5.001

TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	LCD Module-006	LCD WIRE CABLE	50.A70V5.005
	LCD Module-004	LCD PANEL WITH LOGO W/ANTENNA - TM	60.TAAV5.002
	LCD Module-005	LCD BEZEL	60.A70V5.006
	LCD Module-002, 003	LCD BRACKET SET	6K.A70V5.001
	LCD Module	ASSY LCD MODULE 14.1 WXGA NON GLARE CMO (N141I 1-L03) W/ANT-TM	6M.TAAV5.004
	LCD Module-001	LCD 14.1 WXGA NON GLARE CMO (N141I 1-L02)	LK.1410D.004
	LCD Module-007	LCD INVERTER	19.A70V5.001
	LCD Module-006	LCD WIRE CABLE	50.A70V5.005

TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	LCD Module-004	LCD PANEL WITH LOGO W/ANTENNA - TM	60.TAAV5.002
	LCD Module-005	LCD BEZEL	60.A70V5.006
	LCD Module-002, 003	LCD BRACKET SET	6K.A70V5.001
	LCD Module	ASSY LCD MODULE 14 .1 WXGA NON GLARE QDI (N141V2 QD14TL01 REV 01) W/O ANT - TM	6M.TAAV5.007
	LCD Module-001	LCD 14 .1 WXGA NON GLARE QDI N141V2 QD14TL01 REV 01	LK.14109.004
	LCD Module-007	LCD INVERTER	19.A70V5.001
	LCD Module-006	LCD WIRE CABLE	50.A70V5.005
	LCD Module-004	LCD PANEL WITH LOGO W/O ANTENNA - TM	60.TAAV5.003






TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	LCD Module-005	LCD BEZEL	60.A70V5.006
	LCD Module-002, 003	LCD BRACKET SET	6K.A70V5.001
	LCD Module	ASSY LCD MODULE 14.1 WXGA NON GLARE CMO (N141I 1-L03) W/O ANT-TM	6M.TAAV5.008
	LCD Module-001	LCD 14.1 WXGA NON GLARE CMO (N141I 1-L02)	LK.1410D.004
	LCD Module-007	LCD INVERTER	19.A70V5.001
	LCD Module-006	LCD WIRE CABLE	50.A70V5.005
	LCD Module-004	LCD PANEL WITH LOGO W/O ANTENNA - TM	60.TAAV5.003
	LCD Module-005	LCD BEZEL	60.A70V5.006

TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	LCD Module-002, 003	LCD BRACKET SET	6K.A70V5.001
Mainboard			
	The System-251	MAINBOARD 915PM FOR VGA GLAN W/ READER PCMCIA SLOT W/O CPU MEMORY	LB.TAA02.002
		MAINBOARD 915GM UMA GLAN W/ READER PCMCIA SLOT W/O CPU MEMORY	LB.TAA02.001
		MAINBOARD 910GML UMA GLAN W/ PCMCIA SLOT W/O READER CPU MEMORY	LB.TA902.001
	NS	PCMCIA SLOT	22.A70V5.001
Memory			
	NS	MEMORY IFX 256MB/ 533MHZ, HYS64T32000HDL-3.7-A	KN.25602.023
		MEMORY DDRII533 256MB NANYA NT256T64UH4A0FN-37B	KN.25603.020
		MEMORY SAMSUNG 512MB/ 533MHZ, M470T3354BG0-CD5	KN.2560B.011
		MEMORY DDRII 533 256MB HYNIX HYMP532S64P6-C4	KN.2560G.006
		MEMORY IFX 512MB/ 533MHZ, HYS64T64020HDL-3.7-A	KN.51202.021
Heatsink			
	The System-007	CPU THERMAL	60.A70V5.007
	The System-251	VGA THERMAL	60.A70V5.008
Pointing Device			

TravelMate 2400/3210/3220 FRU List

Picture	No.	Part Name and Description	Part Number
	Upper Case Assembly-005	TOUCHPAD	56.A70V5.001
Speaker			
	NS	SPEAKER SET (R&L)	23.A70V5.002
Miscellaneous			
	NS	LCD RUBBER PAD	47.A70V5.001
	NS	LCD SCREW PAD	47.A70V5.002
	NS	LCD RUBBER	47.A70V5.003
	NS	NAME PLATE - TM3210Z	TBD
	NS	RUBBER FOOT - ONE PIN	47.A70V5.004
	NS	RUBBER FOOT - TWO PINS	47.A70V5.005
SCREW			
SCREW	NS	SCREW M2*3(NL)	86.A70V5.001
SCREW	NS	SCREW M2*4	86.A70V5.002
SCREW	NS	SCREW M2*6	86.A70V5.003
SCREW	NS	SCREW M2*6(p Ni)	86.A70V5.004
SCREW	NS	SCREW M2.5*4(NL)	86.A70V5.005
SCREW	NS	SCREW M2.5*6(NL)	86.A70V5.006
SCREW	NS	SCREW M2.5*8(NL)	86.A70V5.007
SCREW	NS	SCREW M3*4 (NL)	86.A70V5.008
SCREW	NS	SCREW THERMAL SCREW ASSY	86.A70V5.009

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