Acer Aspire 1510 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

Revision History

Please refer to the table below for the updates made on Aspire 1510 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 computer was designed with the user in mind. Here are just a few of its many features:

Performance

❏ AMD Athlon^{TM} 64 processor with 1MB L2 cache, supporting HyperTransport^{TM} technology

❏ nVIDIA® nForce^{TM} 3 chipset

❏ 2 memory slots supporting DDR SDRAM, upgradeable to 2GB

❏ High capacity, Enhanced-IDE hard disk

Display

❏ The 14.1" or 15.0" display panel provides a large viewing area for maximum efficiency and ease-of-use. The thin-film transistor (TFT) supports XGA (extended graphics array) or SXGA+ (super extended graphics array) resolution.

❏ 3D graphics support

❏ Supports simultaneous display between LCD and CRT display

❏ S-video for output to a television or display device that supports S-video input

❏ "Automatic LCD dim" feature that automatically selects the best setting for the display in order to conserve power

❏ Dual display capability

Multimedia

❏ Built-in optical drive (DVD/CD-RW combo, DVD Dual or DVD Super Multi)

❏ 15.0" TFT XGA (1024*768 resolution) or SXGA+ (1400*1050 resolution)panel

❏ Built-in stereo speakers

❏ Audio input and output jacks

Connectivity

❏ Integrated 10/100/1000 Mbps Ethernet connection

❏ Built-in 56Kbps fax/data modem

❏ Four universal serial bus (USB 2.0) ports

❏ One IEEE 1394 port

❏ 802.11g wireless LAN and Bluetooth (manufacturing optional)

Human-centric design

- ❏ All-in-one design (incorporating hard drive, optical drive and floppy disk drive)
- ❏ Rugged, yet extremely protable, construction
- ❏ Stylish appearance
- ❏ Full-size keyboard with four programmable launch keys
- ❏ Comfortable palm rest area with well-positioned touchpad

Expansion

- ❏ Upgradeable hard disk and memory modules
- ❏ PC card slot enables a range of add-on options

I/O Ports

- ❏ One type II or type III PC Card slot (PCMCIA or CardBus)
- ❏ One IEEE 1394 port
- ❏ One microphone-in jack
- ❏ One headphone-out jack
- ❏ One infrared port
- ❏ One DC-in jack
- ❏ One RJ-11 modem jack (V.90/V.92, 56K)
- ❏ One RJ-45 network jack (Ethernet 10/100Mbps)
- ❏ One S-video TV-out port
- ❏ One external display port
- ❏ One parallel port (ECP/EPP compliant)
- ❏ Four Universal Serial Bus (USB 2.0) ports

System Block Diagram

Board Layout

Top View


```
1.CN6:FAN1
2.CN9:VGA/B POWER
3.CN15:VGA/B AGP
4.CN16:EXTERNAL USB
5.CN17:LED/B
6.CN18:EXTERNAL USB
7.CN19:TV OUT
8.CN20:1394
9.CON3:LAN
10.CN21:POWER JACK
11.CN8:FDD
12.CN1:INTERNAL USB
13.CN11:TP/B
14.U8:CPU
15.CN12:K/B
16.CN13:FAN2
17.CN14:ODD
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18.CON2:MINI PCI
19.CN4:INTERNAL SPEAKER
20.CN7:HDD
21.U1:IR
22.CN3:RJ11
23.CN1:MIC
24.CN2:HP OUT
```

1	FAN1 Connector	13	Touchpad Board Connector
2	VGA Board Power Connector	14	CPU Socket
3	VGA Board Connector	15	Keyboard Connector
4	External USB Ports (*2)	16	FAN2 Connector
5	LED Board Connector	17	ODD Connector
6	External USB Ports (*2)	18	Mini-PCI Connector
7	TV-Out Port	19	Internal Speaker Connector
8	IEEE 1394 Port	20	HDD Connector
9	LAN Connector	21	FIR
10	Power Jack	22	RJ11(Modem Connector)
11	FDD Connector	23	Microphone-in Connector
12	Internal USB Port	24	Headphone-out Connector

Bottom View

1.CN23:PCMCIA   7.CN30:MODEM CABLE
2.CN24:CRT   8.CN22:BATTERY
3.CN25:LPT   9.SW1:RESET SWITCH
4.CN26:DDR DIMM
5.CN28:DDR DIMM
6.CN29:MDC

1	PCMCIA Connector Parallel Connector	6	MDC Board Connector
2	External Display Connector	7	MDC Board Connector
3	Parallel Connector	8	Battery Connector
4	Memory Socket1	9	Reset Switch
5	Memory Sockets		

Outlook View

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

Front View

#	Item	Description
1	Display	Large liquid crystal display (LCD) provides visual output.
2	Power button	Turns the computer on and off.
3	Launch keys	4 buttons that can be programmed to start frequently used applications.
4	InviLink™ button (manufacturing option)	Enables or disables wireless LAN feature.
5	Bluetooth™ button (manufacturing option)	Enables or disables Bluetooth functionality.
6	Touchpad	Touch sensitive pad that functions like a computer mouse.
7	Click buttons & 4-way scroll key	Right and left buttons that provide the same functions as the buttons on a computer mouse. The scroll key scrolls the contents of a window up and down, as well as right and left.
8	Speakers	Speakers that deliver stereo audio output.
9	Palm rest	Provides a comfortable platform for your hands when typing on the keyboard.
10	Keyboard	Full-size keyboard for inputting typed data.
11	Status indicators	7 light emitting diodes (LED) that show the status of the computer and its components.
12	Latch	Locks and releases the lid.

NOTE: The wireless communication and Bluetooth buttons work for models with 802.11g wireless LAN and Bluetooth only.

Left Panel

#	Item	Description
1	Ventilation slots	Enables the computer to stay cool, even after prolonged use.
2	Floppy activity indicator	LED (light emitting diode) that turns on and off when the floppy is activated.
3	Floppy disk drive / 4-in-1 card reader	Supports a standard 3.5" diskette or 4-in-1 card reader (manufacturing option).
4	Floppy disk eject button	Press the eject button to remove a diskette from the floppy disk drive.
5	Infrared port	Interfaces with infrared devices (e.g., infrared printer, IR-aware computer).
6	Modem jack	Connects the built-in fax/data modem to a phone line.
7	Microphone-in jack	Connects an external microphone for audio input.
8	Headphone jack	Connects headphones for audio output.

Right Panel

#	Item	Description
1	Optical drive	Depending on your model, the optical drive is one of the following: ❑ DVD/CD-RW combo drive for reading CDs and DVDs and writing to CD-RWs. ❑ DVD Dual drive for reading both DVD+/-RWs and writing to DVD+/-RWs. ❑ DVD Super Multi drive for reading DVD+/-RWs, DVD-RAM and writing to DVD+/-RWs, DVD-RAM.
2	Optical disc access indicator	LED (light emitting diode) that indicates when an optical disc is being read or wirtten.
3	Optical drive eject button	Press the eject button to remove a disc from the optical drive.
4	Optical drive emergency eject hole	Used to eject an optical disc when the computer is turned off.
5	PC card eject button	Press the eject button to remove a PC card from the PC card slot.
6	PC card slot	The slot supports a standard Type II or Type III PC card (PCMCIA or CardBus).

Rear Panel

#	Item	Description
1	DC-in jack	Connects the AC adapter.
2	Network jack	Connects the computer to an Ethernet 10/100-based network.
3	IEEE 1394 port	Connects IEEE 1394 devices.
4	S-video	Connects to a television or display device with S-video input.
5	USB ports	Four USB 2.0 ports for connecting USB devices.
6	External display port	Connects an external (VGA) display monitor.
7	Parallel port	Connects a parallel device, such as a printer.
8	Ventilation slots	Enable the computer to stay cool, even after prolonged use.
9	Kensington lock slot	For attaching a security connector.

Bottom Panel

#	Item	Description
1	Ventilation slots	Enables the computer to stay cool, even after prolonged use.
2	Reset Switch	Forces the computer to shut down in the event of system lockup. **NOTE:** Any unsaved data will be lost.
3	Battery pack release latch	Slide and hold the latch, and then pull the battery to remove it from the unit.
4	Battery pack	The computer's removable battery.
5	Hard disk bay	Removable cover provides access to the computer's hard drive.
6	Memory compartment	Removable cover provides access to the memory slots for upgrading the computer's memory.

Indicators

Your computer provides an array of six indicators located above the keyboard, in addition to two indicators positioned at the from of the palm rest area. These indicators show the status of the computer and its components.

The three indicators located above the keyboard provide the following status information:

Icon	Function	Description
🅰	Caps lock	Lights when Caps Lock is activated.
🔢	Num lock	Lights when Num Lock is activated.
◆	HDD	Lights when Hard Disk Drive is activated.

NOTE: The kekpad lock must be turned on to use the embedded numberic keypad.

The four indicators located at the front of the unit provide the following status information:

Icon	Function	Description
☼	Power mode	Steady green - power on Flashing orange - standby mode Orange - hibernation mode
🔋	Battery mode	Green - fully charged Flashing orange - being charged Orange - low on power
📶	Wireless LAN mode	Lights to inducate status of wireless LAN (optional) communication.
🅱	Bluetooth mode	Lights to inducate that Bluetooth (optional) is enabled.

Keyboard

The keyboard features full-size keys with an embedded keypad, separate cursor control keys, two Windows keys, and twelve function keys (hot keys).

Special keys

Lock keys

The computer features three lock keys, each with its own status indicator light.

Lock Key	Description
Caps Lock	When Caps Lock is on, all alphabetic characters are typed in uppercase. Toggle on and off by pressing the Caps Lock key on the left side of the keyboard.
Num lock	When Num Lock is on, the embedded numeric keyboard can be used. Toggle on and off by pressing the Fn + F11 keys simultaneously.
Scroll lock	When Scroll Lock is on, the screen toggles up or down one line at a time when the up and down cursor control keys are pressed. **Note:** Scroll Lock doesn't work in all applications. Toggle on and off by pressing the Fn + F12 keys simultaneously.

Embedded Keypad

The embedded keypad functions like a desktop numeric keypad. It is indicated by small blue numbers and on the applicable keys.

To use the the embedded numeric keys, toggle the Num Lock on by pressing the Fn + F11 keys simultaneously.

With the embedded keypad turned on, the following actions are possible:

Desired Access	Num Lock On	Num Lock On
Number keys on embedded keypad	Type numbers using embedded keypad in the normal way.	
Cursor-control keys on embedded keypad	Hold down the [SHIFT] key while using the cursor keys on the embedded keypad.	Hold Fn key while using cursor-control keys.
Main keyboard keys	Hold down the Fn key while typing letters using the embedded keypad keys. Simultaneously press the [SHIFT] key for for capital letters.	Type letters in the normal way.

Windows Keys

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

Key	Description
Windows logo key	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 functions: + Tab (Activates the next Taskbar button) + E (Opens the My Computer window) + F1 (opens Help and Support) + F (opens the Find: All Files dialog box) + M (minimizes all windows) [SHIFT] + + M (undoes the minimize all windows action) + R (opens the Run dialog box)

Key	Description
Application key	This key has the same effect as clicking the right mouse button; it opens the application's context menu.

Hotkeys

Using the Fn key with another key creates a hot key, providing a quick and convenient method for controlling various functions.

To use a hot key, first hold down the Fn key. Next, press the second key in combination. Finally, release both keys.

Hot Key	Function	Function
Fn + F1	Hot key help	Displays help on hot keys.
Fn + F2	Setup	Access the computer's configuration utility.
Fn + F3	Power management scheme toggle	Switches the power management scheme used by the computer (function available if supported by operating system).
Fn + F4	Sleep	Puts the computer in Sleep mode.
Fn + F5	Display toggle	Switches display output between the display screen, external monitor (if connected) and both the display screen and external monitor.
Fn + F6	Screen blank	Turns the display screen backlight off to save power. Press ant 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 + ↑	Volume up	Increases the speaker volume.
Fn + ↓	Volume down	Decreases the speaker volume.
Fn + →	Brightness up	Increases the screen brightness.
Fn + ←	Brightness down	Decreases the screen brightness

NOTE: When activating hotkeys, press and hold the **Fn** key before pressing the other key in the hotkey combination.

Euro key

Your computer supports the new Euro currency character. First, hold down the Alt Gr key, and then press the Euro key.

Keyboard Ergonomics

The wide palm rest area provides a comfortable platform for your hands when typing on the keyboard. The ergonomic design enables you to adopt a relaxed, yet very efficient, typing style.

Touchpad

The built-in touchpad is a PS/2-compatible pointing device that senses movement on its surface. This cursor responds to your finger movements on the touchpad. In addition, the two click buttons provide the same functionality as a computer mouse, while the scroll key enables easy up and down scrolling in documents and web pages.

The touchpad is located in the middle of the palm rest area, providing maximum comfort and efficiency.

Touchpad Basics

Use the touchpad as follows:
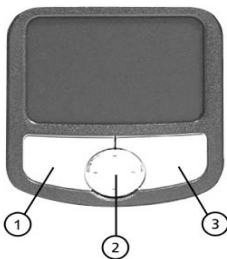
❑   Slide your finger over the surface of the touchpad to control the movement of the cursor. Tap the touchpad to perform selection and execution functions.

❑   Press the left (1) and right (3) buttons to perform selection and execution functions, just as you would use the buttons on a computer mouse.

❑   Use the scroll key (2) to scroll through long documents and web pages. Press the top of the key to scroll up, and the bottom to scroll down; left to scroll left, and right to scroll right.

Function	Left Button	Righ Button	4-Way Scroll Key	Tap
Execute	Click twice quickly			Tap twice quickly
Select	Click once			Tap once
Drag	Click and hold. Then slide your finger across the touchpad to drag the cursor over the selection.			Tap twice quickly. On the second tap, slide your finger across the touchpad to drag the cursor over the selection.
Access context menu		Click once		
Scroll			Click and hold the up/ down/ left/ right button	

NOTE: Keep your fingers, as well as the surface of the touchpad dry and clean. The touchpad is sensitive to your finger movements: the lighter your touch, the better the response. Tapping hard will not increase the touchpad's responsiveness.

Launch Keys

Located at the top of the keyboard are six buttons, in addition to the power button. These buttons are called launch keys. They are designated as key 1, key 2, key 3, key 4, key 5 and key 6 from right to left.

By default, key 1 is used to launch the email application and key 2 is used to launch the Internet browser. Keys 3 and 4 start the Launch Manager application. Key 5 and 6 are used to enable the Wireless LAN and Bluetooth features. The first four launch keys can be set by the user. To set the launch keys, run the Acer Launch Manger.

Launch key	Icon	Description
Email	✉	Launches your email application.
Web browser	🪐	Launches your Internet browser
P1		User-programmable
P2		User-programmable
InviLink	◯	Enables your 802.11b / 802.11a+g Wireless LAN (optional)
Bluetooth	✳	Enables your Bluetooth (optional)

Hardware Specifications and Configurations

Processor

Item	Specification
CPU type	AMD Athlon Transportable & DTR (desktop replacement)
	❑ 64-Bit CPU compatible with existing 32-Bit Code Base
	❑ Integrated Memory Controller Speed up to 200MHz
	❑ HyperTransport TM Technology to I/O Devices Speed up to 1600MT/s
CPU package	754-pin Lidless uPGA
CPU core voltage	1.5

BIOS

Item	Specification
BIOS vendor	Phoenix
BIOS Version	
BIOS ROM type	Flash ROM
BIOS ROM size	512KB
BIOS package	PLCC
Bupported protocols	ACPI 1.0b, APM 1.2, PC Card 95, AC97 2.1, EPP/IEEE 1284, ECP/IEEE 1284 1.7 & 1.9, PCI 2.2, PnP 1.0a, DMI 2.0, USB, DDC-2B, ODD bootable, Windows keyboard Microsoft Simple Boot Flag
BIOS password control	Set by setup manual

Second Level Cache

Item	Specification
Cache controller	Built-in CPU
Cache size	512KB(Transportable)/ 1MB(DTR)
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	Built-in AMD Processor(K8)
Onboard memory size	0MB
DIMM socket number	2 sockets (4 banks)
Supports memory size per socket	1024MB (1GB)
Supports maximum memory size	2048MB (2GB)
Supports DIMM type	DDR SDRM (Double Data Rate-Synchronous Dynamic Random Access Memory)
Supports DIMM Speed	266/333MHz
Supports DIMM voltage	2.5V
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
256 / 512 / 1024MB	0 MB	256 / 512 / 1024MB
256 / 512 / 1024MB	256MB	512 / 768 / 1280MB
256 / 512 / 1024MB	512MB	768 / 1024 / 1536MB
256 / 512 / 1024MB	1024MB	1280 / 1536 / 2048MB

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

LAN Interface

Item	Specification
Chipset	Broadcom 5788M embedded LAN controller and LAN PHYceive
Supports LAN protocol	10/100/1000 Mbps
LAN connector type	RJ45
LAN connector location	Rear side

.

Modem Interface

Item	Specification
Chipset	International LU97 chipset (Agere Scorpio +CSP1037B)
Fax modem data baud rate (bps)	14.4K
Data modem data baud rate (bps)	56K
Supports modem protocol	V.90 / V.92 MDC
Modem connector type	RJ11
Modem connector location	Rear side

Floppy Disk Drive Interface

Item	Specification		
Vendor & model name	Panasonic JU-226A 243FC		
Performance Specifications			
Capacity(in bytes)	Normal Density(MFM)	High Density (MFM)	
Unformatted			
Per Disk	1,000,000	1,666,666	2,000,000
Per Surface	5000,000	833,333	1,000,000
Per Track	6,250	10,416	12,500
Formatted (16 Sectors/Track, 32 Sectors/Track)			
Per Disk	655,360		1,310,720
Per Track	4,096		8,192
Per Sector	256		256
Formatted (9 Sectors/Track, 18 Sectors/Track)			
Per Disk	737,280		1,474,560
Per Track	4,608		9,216
Per Sector	512		512
Formatted (15 Sectors/Track)			
Per Disk		1,228,800	
Per Track		7,680	

Floppy Disk Drive Interface

Item	Specification		
Per Sector		512	
Transfer Rate	250 kbits/s	500 kbits/s	500 kbits/s
Latency (avg.)	100 ms	83 ms	100 ms
Access Time			
Track to Track	3 ms	3 ms	3 ms
Settling Time	15 ms	15 ms	15 ms
Average	79 ms	79 ms	79 ms
Latency (avg.)	100 ms	83 ms	100 ms
Minimum turn around delay	18 ms	18 ms	18 ms
Motor Start Time	500 ms	500 ms	500 ms
Motor Rotation Select Delay	500 ms	500 ms	500 ms
Rotational Speed	300 min^{-1} {rpm}	360 min^{-1} {rpm}	300 min^{-1} {rpm}
Recording Density (most inside track)	8,717 bpi	14,527 bpi	17,434 bpi
Flux density	8,717 bpi	14,527 bpi	17,434 bpi
Track Density	135 tpi	135 tpi	135 tpi
Cylinders	80	76(80)	80
Tracks	160	154(160)	160
Read/Write Heads	2	2	2
Encoding Method	MFM	MFM	MFM
Distette Requirement	2DD	2HD	2HD
Power Supply			
Voltage	+5V±10 %		
Max. Ripple	100mVp-p		
Current Operating Standby	0.8A (Max.) / 0.26A (typ.) 0.003A (Max.) / 0.002A (typ.)		

Hard Disk Drive Interface

Item	Specification		
Vendor & Model Name	HGST 40GB (IC25N040ATMR04) CASCADE	TOSHIBA 40GB(MK4021GAS) NEPTUNE	TOSHIBA 60GB(MK6021GAS) NEPTUNE
Capacity (MB)	40000	40000	60000
Bytes per sector	512	512	512
Data heads	2	4	4
Drive Format			
Disks	1	2	2
Spindle speed (RPM)	4200RPM	4200RPM	4200RPM
Performance Specifications			
Buffer size	2048KB	2048KB	2048KB
Interface	ATA-5	ATA-5	ATA-5

Hard Disk Drive Interface

Item	Specification		
Max. media transfer rate (disk-buffer, Mbytes/s)	350	350	350
Data transfer rate (host~buffer, Mbytes/s)	100 MB/Sec. Ultra DMA mode-2	100 MB/Sec. Ultra DMA mode-2	100 MB/Sec. Ultra DMA mode-2
DC Power Requirements			
Voltage tolerance	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%

Combo Drive Interface

Item	Specification
Vendor & model name	DVD-RW COMBO MODULE 24X QSI SBW-242C
Performance	
Applicable DVD Formats (Read)	DVD-ROM, (DVD-5, DVD-9, DVD-10, DVD-18), Multi-Border DVD-R/DVD-RW, Multi-Session DVD+R, DVD+RW and DVD-RAM (optional)
Applicable CD Formats (Read)	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, Photo-CD, Enhanced CD, CD Plus, CD Extra, i-trax CD, CD-Text, CD-R and CD-RW
Applicable CD Formats (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
Disc Diameter	12cm and 8cm for Read/Write
Recordable Media Type	CD-R and CD-RW media
Writing Software Support	Roxia (EZCD Creator & Direct CD), Ahead (Nero & InCD), NTI (CD-Maker & File-CD), Veritas (Record Now & DLA), Easy System (Drag'm Drop CD), BHA (B's Recorder Gold & B's Clip), Sonic (DVD it!)
Disc Capacity	2048 bytes/block (Mode-1 and Mode-2 Form-1) 2324 bytes/block (Mode-2 Form-2) 2336 bytes/block (Mode-2)
Data Buffer	2MB
Rotational Speed	Read: DVD-5 (Single Layer): 4800 rpm (3.5X~8.3X CAV 2340 rpm (1.7X~4X), optional speed for player application DVD-9 (Dual Layer): 3500 rpm (2.3X~5.5X CAV) typical 2600 rpm (1.7X~4X), optional speed for player application
Transfer rate (KB/sec)	N/A
Data Buffer Capacity	2MB
Interface	IDE/ATAPI interface (compliant to ATA/ATAPI-5)
Loading mechanism	Drawer Type Manual Load
Power Requirement	
Input Voltage	DC+5 V +/- 5 %
Ripple	100 mVp-p Max, 1 KHz ~1MHz

DVD-Dual Interface

Item	Specification	
Vendor & model name	DVD DUAL MODULE 4X PIONEER DVR-K13RA	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	Sustained: Max 3.6Mbytes/sec	Sustained: Max 10.8Mbytes/sec
Data Buffer Capacity	128 KBytes	
Interface	IDE/ATAPI	
Applicable disc format	DVD: DVD-5, DVD-9, DVD-10, DVD-R (3.95G) 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-WO, CD-RW, Photo CD, Video CD, Enhanced Music CD, CD-TEXT	
Loading mechanism	Soft eject (with emergency eject hole)	
Power Requirement		
Input Voltage	+5 V +/- 5 %(operating) +5 V - 8 %(start-up)	

DVD-Super Multi Interface

Item	Specification	
Vendor & model name	DVD SUPER MULTI MODULE 4X KME UJ-820B	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	Sustained: Max 3.6Mbytes/sec	Sustained: Max 10.8Mbytes/sec
Data Buffer Capacity	128 KBytes	
Interface	IDE/ATAPI	
Applicable disc format	DVD: DVD-5, DVD-9, DVD-10, DVD-R (3.95G) 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-WO, CD-RW, Photo CD, Video CD, Enhanced Music CD, CD-TEXT	
Loading mechanism	Soft eject (with emergency eject hole)	
Power Requirement		
Input Voltage	+5 V +/- 5 %	

Audio Interface

Item	Specification
Audio Controller	Realtek ALC250 AC'97 Codec
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	Microsoft PC98/PC99, AC97 2.1
Mixed sound source	Microphone, CD, AUX
Voice channel	8/16-bit, mono/stereo
Sampling rate	44.1 kHz
Internal microphone	No
Internal speaker / Quantity	Yes
Supports PnP DMA channel	DMA channel 0 DMA channel 1

Audio Interface

Item	Specification
Supports PnP IRQ	IRQ9

Video Interface

Item	Specification	
Chip vendor	nVIDIA	
Chip name	NV18(GeForce4 448 Go),	NV36(GeForceFx 5700 Go)
Device ID	0x0348	0x168h
Core clock	325 MHz	200 MHz
Memory clock	300 MHz	200 MHz
Operating voltage	1.1V +/- 30 mV	1.2V
Memory interface	128-bit DDR, DDR2 and DDR3 SDRAM	N/A
Package	31 x31 mm, 70-pin exposed flip chip BGA (EFCBGA) package	
External display maximum resolution	2048*1536	
Simultaneous external display maximum resolution	1280*1024	
Features	1. AGP 3.0 support for 8X and 4X and AGP 2.0 support for 4X, 2X and 1X 2. Support DirexX features and highly optimized OpenGL support 3. Dual display supported 4. Flexible memory configuration 64MB 5. Integrated dual LVDS (Low Voltage Differential Signaling: a transmission method for sending digital information.) transmitter supporting LCD panels up to 2048x1536 at 60Hz 6. LCD/CRT/TV out display support 7. Fully compliant with PC2001 requirement	

Video Memory

Item	Specification
Fixed or upgradeable	Fixed
Video memory size	64MB

Parallel Port

Item	Specification
Parallel port controller	NS PC87391
Number of parallel port	1
Location	Rear side
Connector type	25-pin D-type connector, in female type
Parallel port function control	Always Enabled
Supports ECP/EPP/Bi-directional (PS/2 compatible)	Yes (set by BIOS setup)
Optional ECP DMA channel (in BIOS Setup)	DMA channel 1 and 3
Optional parallel port I/O address (in BIOS Setup)	378h

Parallel Port

Item	Specification
Optional parallel port IRQ (in BIOS Setup)	IRQ7

USB Port

Item	Specification
USB Compliancy Level	1.1/2.0
EHCI	USB 2.0
Number of USB port	4
Location	Rear side
Serial port function control	Always Enabled

PCMCIA Port

Item	Specification
PCMCIA controller	TI PCI4510
Supports card type	Type II/III
Number of slots	One
Access location	Right side
Supports ZV (Zoomed Video) port	No ZV support
Supports 32 bit CardBus	Yes (IRQ5)

System Board Major Chips

Item	Controller
System core logic	AMD Processor (K8)+nVIDIA CrushK8
Super I/O controller	NS PC87391
Audio controller	RealTek ALC250
Video controller	nVIDIA NV18 (GeForce4 448 Go)/ nVIDIA NV36 (GeForceFX 5700 Go)
Hard disk drive controller	built-in nVIDIA CrushK8
Keyboard controller	NS PC87591L
RTC	VIA VT8235
IEEE 1394	TI PCI4510

Keyboard

Item	Specification
Keyboard controller	NS PC87591L
Keyboard vendor & model name	Sunrex
Total number of keypads	85/86-key
Windows keys	Yes
Internal & external keyboard work simultaneously	Yes

Battery

Item	Specification
Vendor & model name	Simplo
Battery Type	Li-ion

Battery

Item	Specification
Pack capacity	4400mAH
Cell voltage	1.85 V/cell
Number of battery cell	8
Package configuration	4 cells in series, 2 series in parallel
Package voltage	Li-ion 14.8V

DCAC LCD inverter

Item	Specification		
Vendor & model name	Quanta 3HYA1 IV0008		
Input voltage (V)	8(min.)	-	20(max.)
Input current (mA)	-	-	520(max.)
Output voltage (Vrms, no load)	-	660(typ.)	-
Output voltage frequency (kHz)	55(min.)	56(typ.)	58(max.)
Output Current/Lamp	Iout(Min.)	3.0mA ± 0.5mA	Vadj=0V
	Iout(Max.)	6.0mA ± 0.5mA	Vadj=3.3V

NOTE: DC-AC inverter is used to generate very high AC voltage, the support to LCD CCFT backlight user, and is also responsible for the control of LCD brightness. Avoid touching the DC-AC inverter area while the system is turned on.

LCD

Item		
Vendor & model name	AU:B150PG01 LG LD150E02	AU:B150XG01
Screen Diagonal (mm)	381	381
Active Area (mm)	304.5x228.375	304.1x228.1
Display resolution (pixels)	1400x1050 SXGA+	1024x768 XGA
Pixel Pitch	0.297x0.297	0.297x0.297
Pixel Arrangement	R.G.B. Vertical Stripe	R.G.B. Vertical Stripe
Display Mode	Normally White	Normally White
Typical White Luminance (cd/m^2) also called Brightness	150 (5 point average)	180 (5 point average)
Luminance Uniformity	N/A	N/A
Contrast Ratio	250	300
Response Time (Optical Rise Time/Fall Time)	15/35 10/20	24/11 15/35
Nominal Input Voltage VDD	+3.3V Typ.	+3.3V Typ.
Typical Power Consumption (watt)	5.7/4.63	5.6/5.7
Weight	550g 540g	550g
Physical Size(mm)	317.3x242.0x6.0 317.3x241.5x6.0	317.3x242.0x6.0
Electrical Interface	2 channel LVDS	1 channel LVDS

LCD

Item		
Support Color	262K colors (RGB 6-bit data driver)	262K colors (RGB 6-bit data driver)
Viewing Angle (degree) Horizontal: Right/Left Vertial: Upper/Lower	40/40 45/45 10/30 for AU 15/35	40/40 10/30
Temperature Range(° C) Operating Storage (shipping)	0 to +50 -20 to +60	0 to +50 -20 to +60

AC Adapter

Item	Specification
Vendor & model name	Li-Shin 90W 0202C1990 (WPFC) 3P Lite-on 90W PA 1900-05QA (WPFC) 3P
Input Requirements	
Maximum input current (A, @90Vac, full load)	1.4A @ 100Vac 1.15A @ 180Vac
Nominal frequency (Hz)	47 - 63
Frequency variation range (Hz)	47 - 63
Nominal voltages (Vrms)	100 - 240
Inrush current	The maximum inrush current will be less than 150Ap-p when the adapter is connected to 115Vac(60Hz) and 230Vac(50Hz) respectively.
Efficiency	It should provide an efficiency of 83% minimum, when measured at maximum load under 115V(60Hz).
Output Ratings	
DC output voltage	+18.0V ~ 20.0V including the effects of line voltage variation, load current, ripple and noise
Noise + Ripple	400mVp-p (20MHz bandwidth) for resistor load
Output current	0 ~ 4.74A
Input rated voltage	100 / 240V
Input current	1.5A @ 90Vac, 1.15A @ 180Vac
Dynamic Output Characteristics	
Turn-on delay time	5 sec. (Max)
Hold up time	10ms min. (115 Vac, input full load)
Over Voltage Protection (OVP)	29 V
Short circuit protection	Output can be shorted without damage
Electrostatic discharge (ESD)	15kV (at air discharge) 8kV (at contact discharge)
Dielectric Withstand Voltage	
Primary to secondary	3000Vac (4242Vdc) 10mA for 1 second
Leakage current	100uA max (240Vac, 60Hz)
Regulatory Requirements	Internal filter meets; 1. FCC class B requirements. 2. VDE 243/1991 class B requirements. 3. CISPR 22 Class B requirements. 3. VCCI class II requirements.

Power Management

Power Saving Mode	Phenomenon
Standby Mode Waiting time specified by the System Standby value or the operating system elapses without any system activity. Or When the computer is about to enter Hibernation mode (e.g. during a battery-low condition), but the Hibernation file is invalid or not present.	The Sleep indicator lights up
Hibernation Mode When customized functions for power management are set to Hibernation and the corresponding action is taken.	All power shuts off
Display Standby Mode Keyboard, built-in touchpad, and an external PS/2 pointing device are idle for a specified period.	The display shuts off
Hard Disk Standby Mode Hard disk is idle within a specified period of time	Hard disk drive is in standby mode. (spindle turned-off)

Environmental Requirements

Item	Specification
Temperature	
Operating	0 ~ +35 ˚C
Non-operating	-20 ~ +60 ˚C (unpacked)
Non-operating	Non (storage package)
Humidity	
Operating	0% to 90% RH, non-condensing
Non-operating	20% to 90% RH, non-condensing (unpacked)
Non-operating	Non (storage package)
Vibration	
Operating (unpacked)	5 ~ 500Hz: 1.0Grms (random)
Non-operating (unpacked)	5 ~ 500Hz: 2.16Grms (random)
Non-operating (packed)	5 ~ 500Hz: 2.16Grms (random)

Mechanical Specification

Item	Specification
Dimensions	334mm (W) * 287mm (D) * 42mm (Front) / 49mm (Rear)
Weight	3.77 kg (8.3 lbs) for 15.0" LCD module
I/O Ports	One IEEE1394 port, One Microphone/line-in port, One Headphone/speaker/line-out port, One Infrared port, One PCMCIA (One Type II or One Type III) slot, Four USB port, One RJ-11 jack for modem, One RJ-45 jack for Ethernet, One S-video/TV-out port, One VGA (external monitor) port, One Parallel port (ECP/EPP compliant), One DC-in jack for AC adapter
Drive Bays	One
Material	Plastic
Indicators	Caps Lock, Num Lock, HDD activity, 4-in-1 card reader activity, Battery Charge, Power Mode LED, Wireless, Bluetooth, E-mail
Switch	Lid 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 ⌨F2 during POST (when "Press <F2> to enter Setup" message is prompted on the bottom of screen).

Press ⌨F2 to enter setup. Press <F12> during POST to enter multi-boot menu. In this menu, user can change boot device without entering BIOS SETUP Utility.

PhoenixBIOS Setup Utility					
Info.	Main	Advanced	Security	Boot	Exit

CPU Type:	AMD Athlon(tm) 64	
CPU Speed:	2200 MHz	
Floppy Drive:	None	
HDD Model Name:	IC25N060ATMR04-0	
HDD Serial Number:	MRG328K3HLT8HH	
ATAPI Device:	MATSHITADVD-RAM UJ-820S	
System BIOS Ver:	S3A24	
VGA BIOS Ver:	nVidia 04.36.20.33,11	
KBC Ver:	1A32	
Serial Number:	xxxxxxxxxxxxxxxxxxxxx	22 Byte
Asset Tag Number:	N/A	32 Byte
Product Name:	Aspire 1510	16 Byte
Manufacturer Name:	Acer	16 Byte
UUID:	xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx	16 Byte

F1 Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit

Navigating the BIOS Utility

There are six menu options: Info., Main, Advanced, 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].

❑ While 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.

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.

This menu provides you the information of the system.

Information

PhoenixBIOS Setup Utility

Info.	Main	Advanced	Security	Boot	Exit

CPU Type: AMD Athlon(tm) 64
CPU Speed: 2200 MHz
Floppy Drive: None

HDD Model Name: IC25N060ATMR04-0
HDD Serial Number: MRG328K3HLT8HH
ATAPI Device: MATSHITADVD-RAM UJ-820S
System BIOS Ver: S3A24
VGA BIOS Ver: nVidia 04.36.20.33,11
KBC Ver: 1A32
Serial Number: xxxxxxxxxxxxxxxxxxxxxx   22 Byte
Asset Tag Number: N/A   32 Byte
Product Name: Aspire 1510   16 Byte
Manufacturer Name: Acer   16 Byte
UUID: xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx   16 Byte

| F1 | Help | ↑↓ | Select Item | F5/F6 | Change Values | F9 | Setup Defaults |
| Esc | Exit | ←→ | Select Menu | Enter | Select ▶ Sub-Menu | F10 | Save and Exit |

Parameter	Description
CPU Type	Displays the CPU type information.
CPU Speed	Displays the CPU speed.
Diskette A	Displays the floppy drive type informaiton.
HDD1 Model Name	IDE device model name information will be retrieved automatically during system boot.
HDD1 Serial Number	IDE device serial number information will be retrieved automatically during system boot.
ATAPI Device	ATAPI device model name information will be retrieved automatically during system boot.
System BIOS Ver	Displays the system BIOS version.
VGA BIOS Ver	Displays the VGA BIOS version.
KBC Ver	Displays the keyboard controller firmware version.
Serial Num	Displays the system serial number.
Asset Tag Number	N/A
Product Name	Displays the product name.
Manufacture Name	Displays the Acer company.
UUID Number	Displays the UUID (Universal Unique IDentifier) string = 32 bytes.

Main

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.

PhoenixBIOS Setup Utility					
Information	Main	Advanced	Security	Boot	Exit

			Item Specific Help
System Time:	[18:48:04]		
System Date:	[04/05/2043]		<Tab>, <Shift-Tab>, or <Enter> selects field.
System Memory:	640 KB	Shows system memory size	
Extended Memory:	522752 KB	Shows extended memory size	
Video Memory	64MB	VGA memory size	
Quiet Boot:	[Enabled]		
Power on display:	[Auto]		
LCD Auto Dim:	[Enabled]		
Network Boot:	[Enabled]		
F12 Boot Menu:	[Disabled]		

F1 Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit

NOTE: The screen above is for 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
System Time	Sets the system time.	Format: HH:MM:SS (hour:minute:second) System Time
System Date	Sets the system date.	Format: MM/DD/YYYY (month/day/year) System Date
System Memory	This field reports the memory size of the system. The user can not change the memory setting. This is display-only field. Memory size is fixed to 640 KB	
Extended Memory	This field reports the memory size of the extended memory in the system. The user can not change the memory setting. This is display-only field. Extended Memory size=Total memory size -1MB	
Video Memory	The total amounts of memory for VGA. The user can not change the memory setting. This is display-only field.	
Quiet Boot	Determines if Logo will be displayed or not; shows diagnostic screen is disabled or enabled. Enabled: Logo is displayed, and diagnostic screen is disabled. Disabled: Logo is not displayed, and diagnostic screen is enabled.	Option: **Enabled** or Disabled
Power on display	Selects display device. 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.	Option: **Enabled** or Disabled
F12 Boot Menu	Selects the F12 boot menu function.	Option: **Enabled** or Disabled
Legacy USB Support	Selects legacy USB support.	Option: **Enabled** or Disabled

NOTE: The sub-items under each device will not be shown if the device control is set to disable or auto. This is because the user is not allowed to control the settings in these cases.

Advanced

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

PhoenixBIOS Setup Utility					
Information	Main	Advanced	Security	Boot	Exit

```
  Infrared Port(FIR):         [Enabled]                       Item Specific Help
    Base I/O address:         [2F8]
    Interrupt:                [IRQ 3]
    DMA channel               [DMA1]                    Configure Infrared Port
                                                        using options:

  Parallel port:              [Enabled]                 [Disable]
    Mode:                     [ECP]                        No configuration
    Base I/O address:         [378]
    Interrupt:                [IRQ 7]                   [Enabled]
    DMA channel               [DMA3]                       User configuration

                                                        [Auto]
                                                           BIOS or OS chooses
                                                           configuration

                                                        (OS Controlled)
                                                           Displayed when controlled
                                                           by OS
```

F1 Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults
Esc Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit

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

Parameter	Description	Options
Infrared Port	Selects serial port address and IRQ.	**Disabled**/Enabled/Auto
Parallel Port	Selects parallel port address and IRQ.	**Enabled**/Disabled/Auto
Mode	Allows user to specify the operating mode of parallel port. **Note:** Shows up if Parallel Port is set to Auto or Enabled.	**ECP**, EPP, Bi-directional, or Output only
Base I/O address	Allows the user to choose the resource if the 'Parallel Port' is set to 'Enable'. **Note:** Shows up if Parallel Port is set to Enabled.	**378h**/278h
Interrupt	Sets the interrupt request of the parallel port.	**IRQ7**/IRQ5

Parameter	Description	Options
DMA channel	Sets a DMA channel for the printer to operate in ECP mode. **Note:** Shows up if Mode is set to ECP.	**DMA3**/DMA1

Security

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

PhoenixBIOS Setup Utility					
Information	Main	Advanced	Security	Boot	Exit

		Item Specific Help
Supervisor Password Is:	Clear	
User Password Is:	Clear	
HDD Password Is:	Clear	Supervisor Password
HDD Master ID:	47873370	controls accesses of the
		whole setup utility.
Set Supervisor Password	[Enter]	It can be used to
Set User Passord	[Enter]	boot up when Password
Set HDD Password	[Enter]	on boot is enabled.
Password on Boot	[Disabled]	

F1	Help	↑↓	Select Item	F5/F6	Change Values	F9	Setup Defaults
Esc	Exit	←→	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

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

Parameter	Description	Option
Supervisor Password is	Shows the setting of the Supervisor password.	**Clear** or Set
User Password is	Shows the setting of the uer password.	**Clear** or Set
Primary Harddisk Security	Shows the setting of the Primary Harddisk Security.	**Clear** or Set
Set Supervisor Password	Press Enter to set the supervisor password. When set, this password protects the BIOS Setup Utility from unauthorized access.	
Set User Password	Press Enter to set the user password. When set, this password protects the BIOS Setup Utility from unauthorized access.	
Set HDD Password	This feature is available to user when Supervisor password is set. Password can be written on HDD only when Supervisor password or user password is set and password on HDD is set to enabled. Supervisor Password is written to HDD only when Supervisor password is being set. User password is written to HDD when both passwords are set. When both Supervisor and user password are present, both passwords can unlock the HDD.	
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.	**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.

Setting a Password

Follow these steps as you set the user or the supervisor password:

1. Use the ⬆ and ⬇ keys to highlight the Set Supervisor Password parameter and press the ENTER key. The Set Supervisor Password box appears:

```
        Set Supervisor Password

   Enter New Password      [            ]

   Confirm New Password    [            ]
```

2. Type a password in the "Enter New Password" field. The password length can not exceeds 8 alphanumeric characters (A-Z, a-z, 0-9, not case sensitive). Retype the password in the "Confirm New Password" field.

IMPORTANT: Be very careful when typing your password because the characters do not appear on the screen.

3. Press ENTER .
   After setting the password, the computer sets the User Password parameter to "Set".
4. If desired, you can opt to enable the Password on boot parameter.

5. When you are done, press F10 to save the changes and exit the BIOS Setup Utility.

Removing a Password

Follow these steps:

1. Use the ↑ and ↓ keys to highlight the Set Supervisor Password parameter and press the ENTER key. The Set Password box appears:

```
Set Supervisor Password

Enter current password    [              ]

Enter New Password        [              ]

Confirm New Password      [              ]
```

2. Type the current password in the Enter Current Password field and press ENTER.

3. Press ENTER twice **without** typing anything in the Enter New Password and Confirm New Password fields. The computer then sets the Supervisor Password parameter to "Clear".

4. When you have changed the settings, press F10 to save the changes and exit the BIOS Setup Utility.

Changing a Password

1. Use the ↑ and ↓ keys to highlight the Set Supervisor Password parameter and press the ENTER key. The Set Password box appears:

```
Set Supervisor Password

Enter current password    [              ]

Enter New Password        [              ]

Confirm New Password      [              ]
```

2. Type the current password in the Enter Current Password field and press ENTER.

3. Type a password in the Enter New Password field. Retype the password in the Confirm New Password field.

4. Press ENTER. After setting the password, the computer sets the User Password parameter to "Set".

5. If desired, you can enable the Password on boot parameter.

6. When you are done, press F10 to save the changes and exit the BIOS Setup Utility.

If the verification is OK, the screen will display as following.

```
Setup Notice

Changes have been saved.

[ continue]
```

The password setting is complete after the user presses F10.

If the current password entered does not match the actual current password, the screen will show you the Setup Warning.

```
┌─────────────────────────────────────────┐
│              Setup Warning               │
│                                          │
│             Invalid password             │
│                                          │
│            Re-enter Password             │
│                                          │
│               [ continue]                │
└─────────────────────────────────────────┘
```

If the new password and confirm new password strings do not match, the screen will display the following message.

```
┌─────────────────────────────────────────┐
│              Setup Warning               │
│                                          │
│          Password do not match           │
│                                          │
│            Re-enter Password             │
└─────────────────────────────────────────┘
```

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/DVD-ROM in module bay.

PhoenixBIOS Setup Utility					
Information	Main	Advanced	Security	Boot	Exit

	Item Specific Help
CD-ROM Drive +Hard Drive Removable Devices Network Boot	+ and - indicate device categories. Use <Enter> to expand/collapses. Boot order is top-down using only the top device in each category. Use <F6> and <F5> to move highlighted item up and down.

F1	Help	↑↓ Select Item	F5/F6	Change Values	F9	Setup Defaults
Esc	Exit	←→ Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

Exit

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

PhoenixBIOS Setup Utility						
Info.	Main	Advanced	Security	Boot	Exit	

		Item Specific Help
Exit Saving Changes	[Enter]	
Exit Discarding Changes	[Enter]	Exit System Setup and save your changes to CMOS.
Load Setup Defaults	[Enter]	
Discard Changes	[Enter]	
Save Changes	[Enter]	

F1	Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults
Esc	Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit

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.
Save Changes	Save Setup Data to CMOS.

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, DPMI) 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.

Fellow 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 screwdriver

❑ flat head screwdriver

❑ Philiips screwdriver

❑ nut screwdriver

❑ 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.
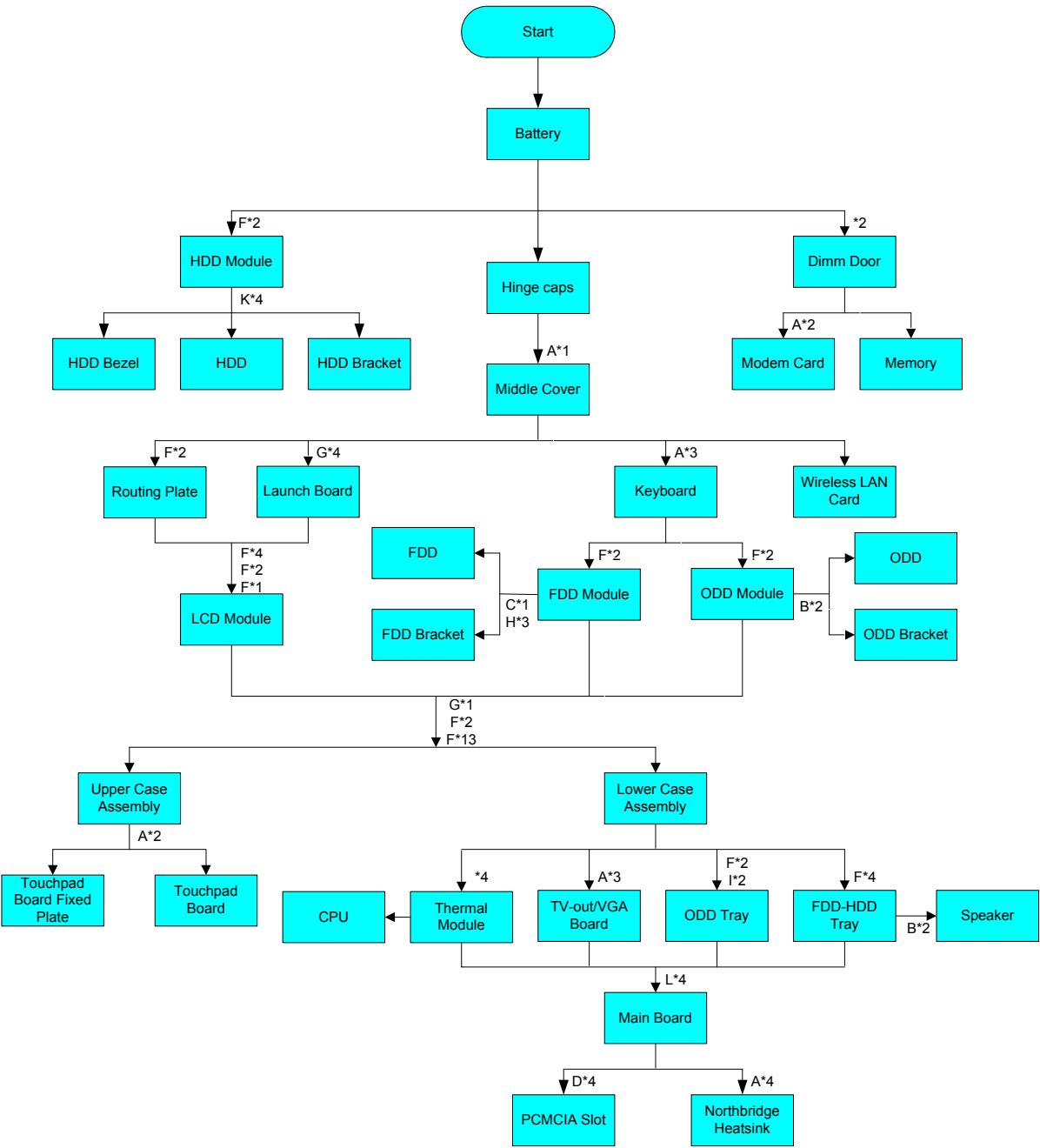
General Information
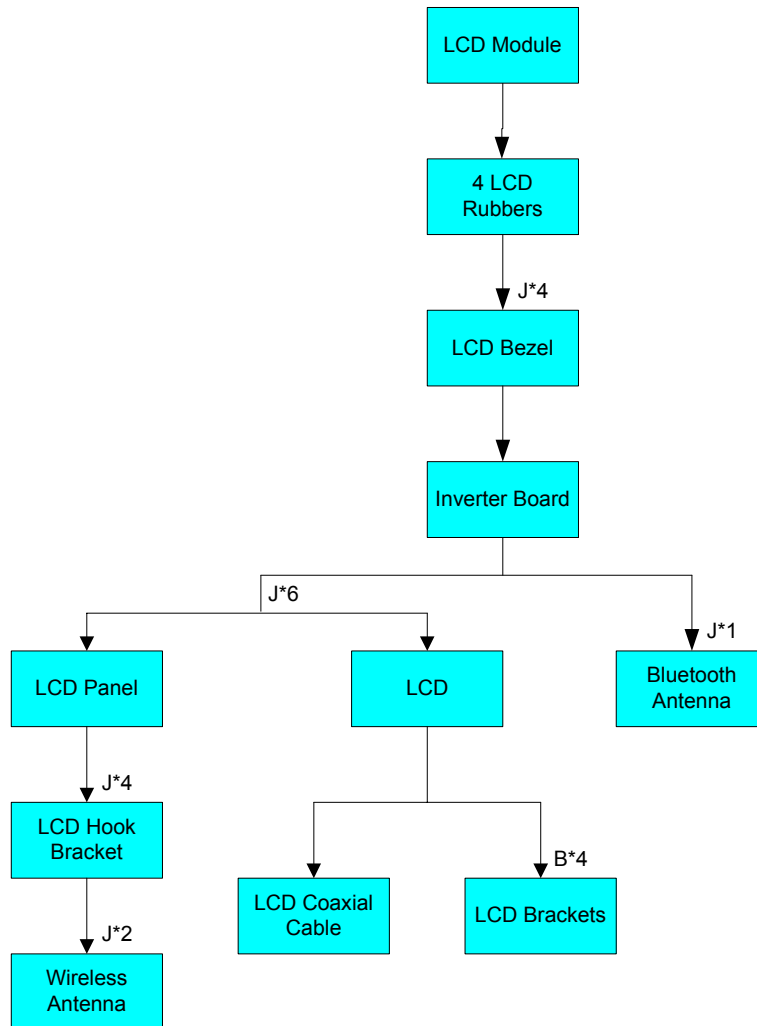
Before You Begin

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.

```
                              Start
                                │
                                ▼
                             Battery
        ┌───────────────────────┼───────────────────────┐
     F*2│                       │                     *2 │
        ▼                       ▼                        ▼
    HDD Module              Hinge caps              Dimm Door
        │ K*4                    │ A*1              A*2 │
   ┌────┼────┐                   ▼                 ┌────┼────┐
   ▼    ▼    ▼              Middle Cover           ▼         ▼
 HDD   HDD   HDD                 │            Modem Card   Memory
 Bezel       Bracket             │
        ┌────────┬───────────────┼─────────────────┐
     F*2│     G*4│            A*3 │                 │
        ▼        ▼                ▼                 ▼
   Routing    Launch          Keyboard        Wireless LAN
   Plate      Board              │                 Card
        │        │        ┌──────┴──────┐
    F*4 │        │     F*2 │             │ F*2
    F*2 │        │         ▼             ▼
    F*1 │        │      FDD Module    ODD Module ──── ODD
        ▼        ▼         │             │  B*2
    LCD Module            C*1            └──── ODD Bracket
        │             FDD H*3  FDD Bracket
        │
     G*1│
     F*2│
    F*13│
   ┌────┴───────────────────────────────┐
   ▼                                     ▼
Upper Case                          Lower Case
Assembly                            Assembly
   │ A*2
┌──┴──┐           ┌────────┬────────┬────────┐
▼     ▼        *4 │     A*3│    F*2 │     F*4 │
Touchpad Touchpad   ▼         ▼   I*2 ▼        ▼
Board    Board   Thermal   TV-out/  ODD Tray  FDD-HDD ── Speaker
Fixed            Module    VGA                 Tray  B*2
Plate      CPU ◄─          Board
                              │ L*4
                              ▼
                          Main Board
                         D*4 │    A*4
                         ┌───┴───┐
                         ▼       ▼
                    PCMCIA Slot  Northbridge
                                 Heatsink
```

LCD Module

↓

4 LCD Rubbers

↓ J*4

LCD Bezel

↓

Inverter Board

J*6 ────────────────── J*1

LCD Panel   LCD   Bluetooth Antenna

↓ J*4

LCD Hook Bracket

↓ J*2

Wireless Antenna

LCD → LCD Coaxial Cable   LCD Brackets (B*4)

Screw List

Item	Description
A	SCREW M2.5*4L-BZN-NYLOK
B	SCREW M2*3L-NI-NYLOK
C	SCREW M2.0*2.0-BZN
D	SCREW M2*4L NI-NYLOK
E	SCREW M2*7L-NI-NYLOK
F	SCREW M2.5*7L-BNI-NYLOK
G	SCREW M2.5*3L-BNI-NYLOK
H	SCREW M2.5*3L-NI-NYLOK
I	SCREW M2.5*5L-NI-NYLOK
J	SCREW M2.5*6L-NI-NYLOK
K	SCREW M3*2.8L-NI-NYLOK
L	SCREW NUT-I/O

Removing the Battery Pack

1. Slide the battery latch.
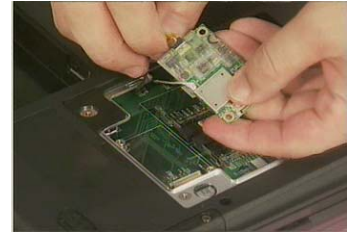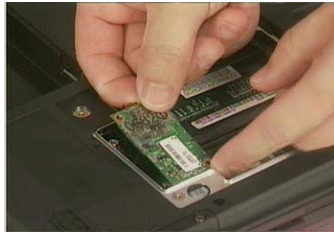2. Then remove the battery pack.

Removing the Memory/MDC (Modem/Bluetooth)/HDD Module

1. Remove the two screws holding the DIMM door.
2. Remove the DIMM door.
3. Pop out the memory then take out the memory.

4. Remove the two screws that secure the MDC(modem or modem/Bluetooth combo) board.
5. Remove the MDC board then disconnect the MDC cable and Bluetooth atenna.
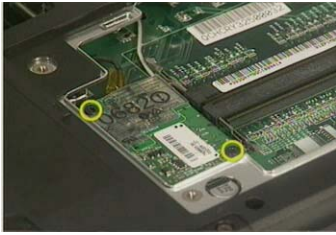
6. Remove the two screws holding the HDD bezel(cover).
7. Then pull out the HDD module from the notebook computer.

Removing the Keyboard/ODD Module/FDD Module

1. Remove the right hinge cap.
2. Then remove the left hinge cap.
3. Remove one screw holding the middle cover.

4. Use a flat screwdriver to remove the middle cover carefully.
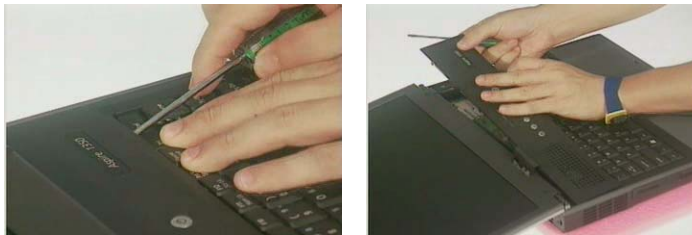
5. Remove the three screws that hold the keyboard. Then turn over the keyboard.
6. Disconnect the keyboard connector then remove the keyboard.

7. Remove the two screws that secure the ODD module.
8. Then take out the ODD module.

9. Remove the two screws that secure the FDD module.

10. Disconnect the FDD cable.

11. Then take out the ODD module.
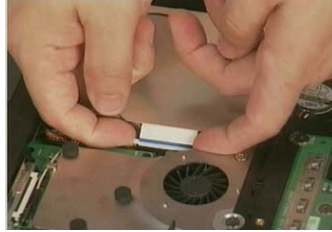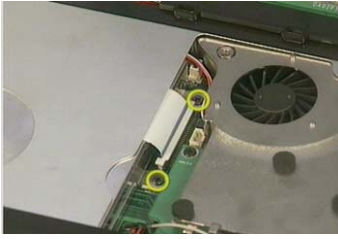
Disassembling the Main Unit

1.   Remove the four screws that secure the launch board.

2.   Then take the launch board off the main unit.

3.   Disconnect the lid switch cable.
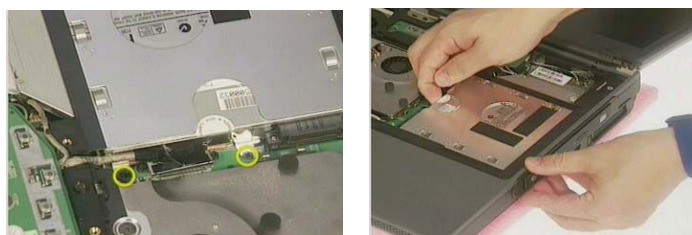
.
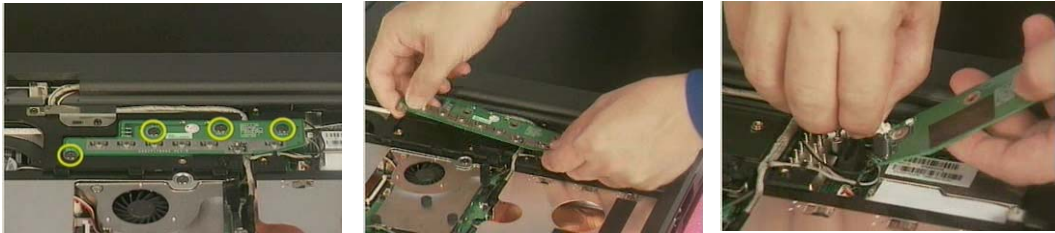
4.   Disconnect the wireless LAN antenna.

5.   Pop out the wireless LAN card.
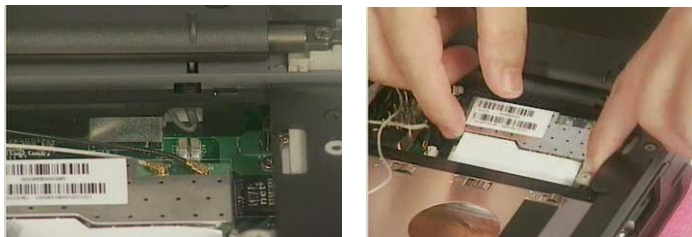
6.   Disconnect the inverter cable from the main unit.

7.   Remove the two screws that secure the LCD coaxial cable.

8.   Then disconnect the LCD coaxial cable.
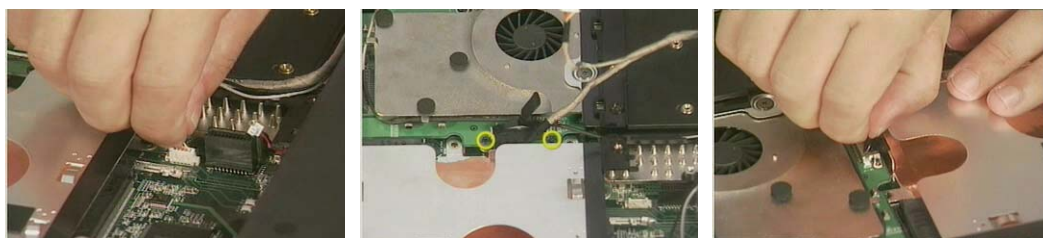
9.   Remove the two screws holding the rounting(routing) plate.

10. Then remove the rounting(routing) plate.

.

11. Pull out the Blustooth antenna carefully.

12. Take out the Bluetooth antenna as picture shows.
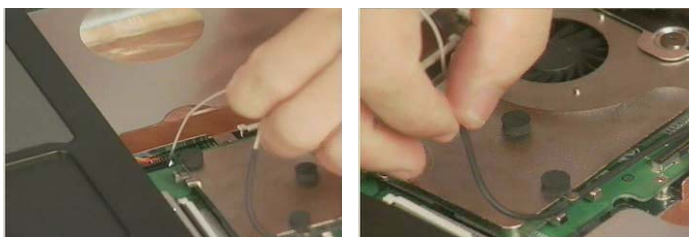
13. Remove one screw that secures the ground cable.

.
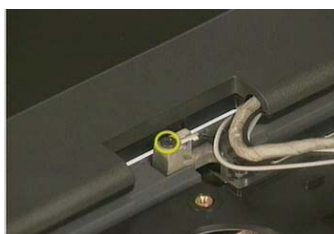
14. Remove the two screws that secure the LCD module on one side.

15. Then remove another two screws one another side.

16. Detach the entire LCD module.

17. Remove one screw as picture shows in order to detach upper case assembly.

18. Then remove the thirteen screws on the bottom panel.
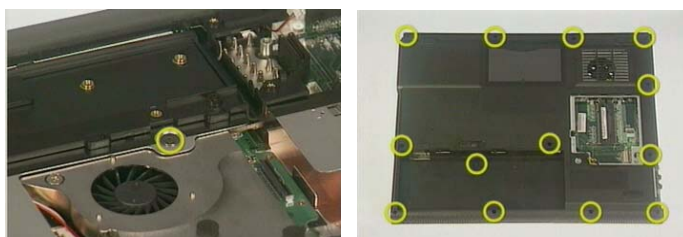
19. Remove one screw on the rear on one side.

20. Then remove another screw on another side.

21. Detach the upper case assembly carefully.
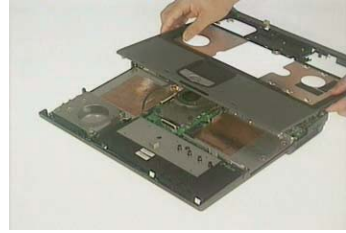
22. Disconnect the touchpad board cable(black) from the main board.

23. Disconnect the touchpad board cable(black) from the touchpad board(scroll board).

24. Disconnect the touchpad cable(white) from the the touchpad board(scroll board).
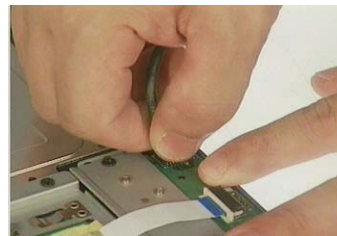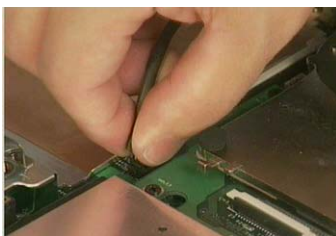
25. Remove the two screws that secure the touchpad board(scroll board).

26. Then take out the touchpad board(scroll board).
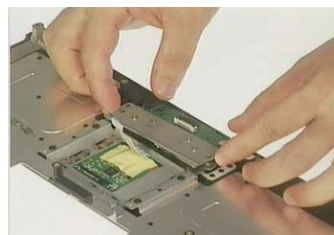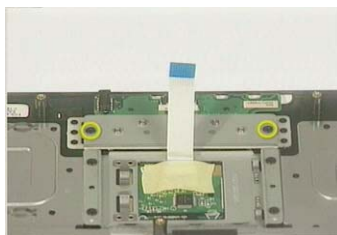
27. Remove the four screws that secure the thermal module according to order.

28. Then remove the thermal module as picture shows.

29. Disconnect the two fan cables then take out the thermal module.
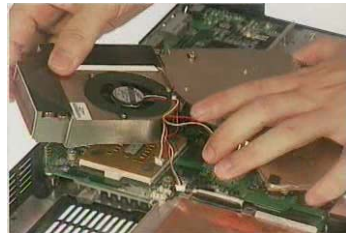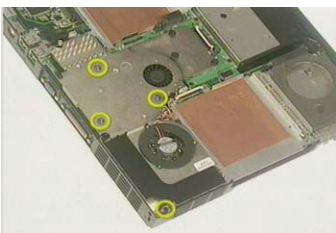
30. Remove the four screws holding the ODD tray.

31. Then remove the ODD tray.
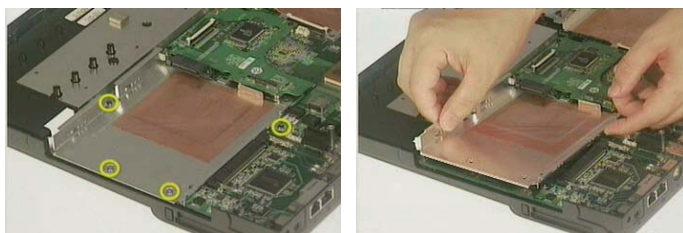
32. Remove the four screws holding the FDD-HDD tray.

33. Then remove the FDD-HDD tray.
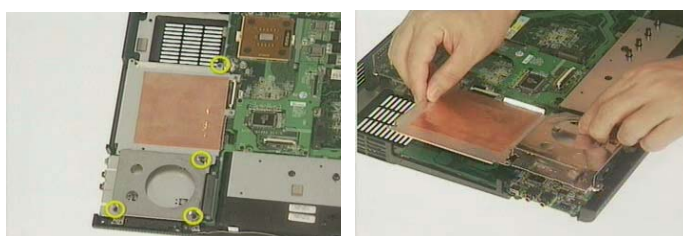
34. Disconnect the speaker cable from the main board.

35. Remove the two screws that secure the right and left speakers.

36. Then take out the speakers.
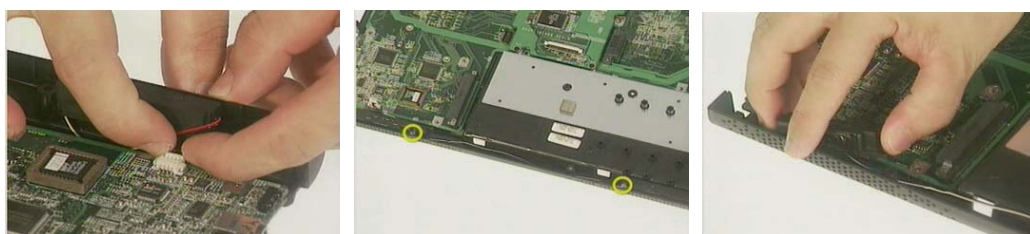
37. Remove the four hexagon screws on the rear as picture shows.

38. Then take out the main board.
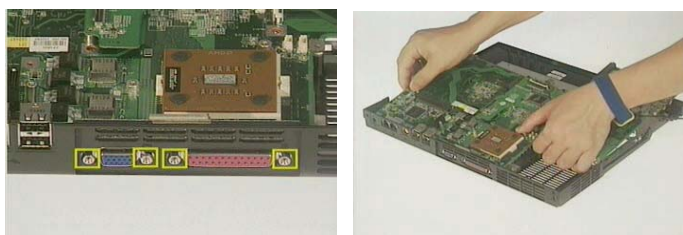
39. Remove the four screws holding the Northbridge heat sink on the main board back.

40. Then take off the Northbridge heat sink.
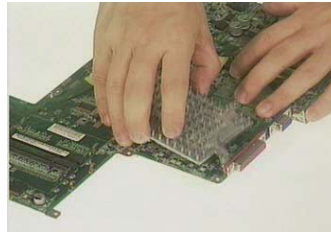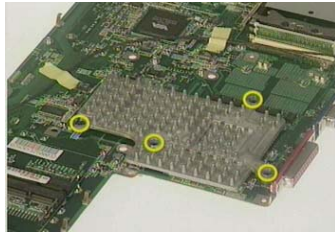
41. Remove the four screws that secure the PCMCIA slot.

42. Then detach the PCMCIA slot from the main board.
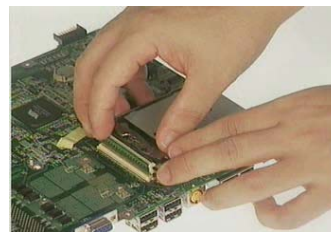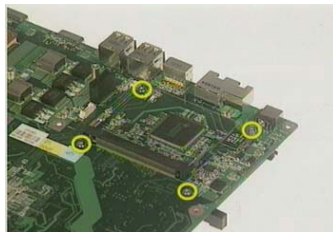
43. Remove the three screws that secure the VGA/TV-out board.

44. Then remove the VGA/TV-out board.
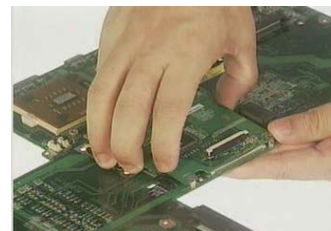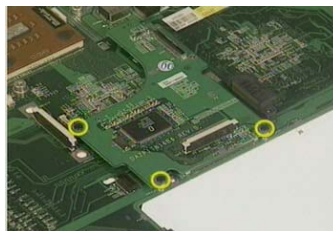
45. Unlock the CPU with a flat screwdriver.

46. Then remove the CPU from the CPU socket.
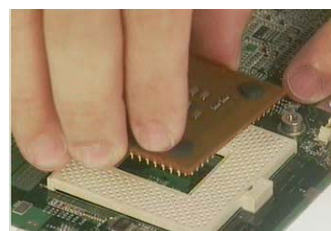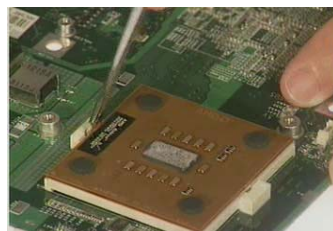
Disassembling the LCD Module

1. Remove the two LCD cover rubbers and two LCD cushion rubbers.

2. Then remove the four screws holding the LCD bezel.

3. Detach the LCD bezel carefully.

.
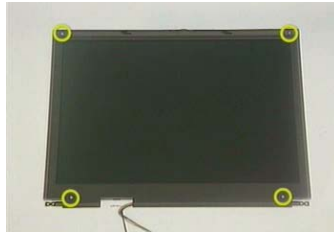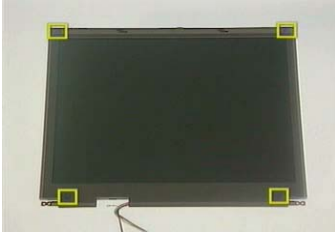
4. Tear off the tape that fastens the LCD inverter cable and the high voltage cable.

5. Disconnect the inverter cable.

6. Then disconnect the high voltage cable.
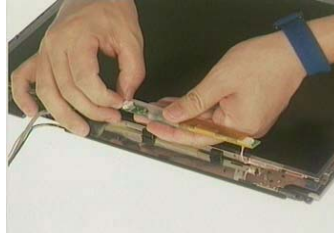
7. Remove one screw that secures the Bluetooth antenna.

8. Then remove the Bluetooth antenna.

9. Remove the three screws on one side.
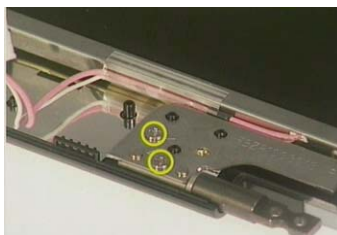
10. Remove another three screws on another side.
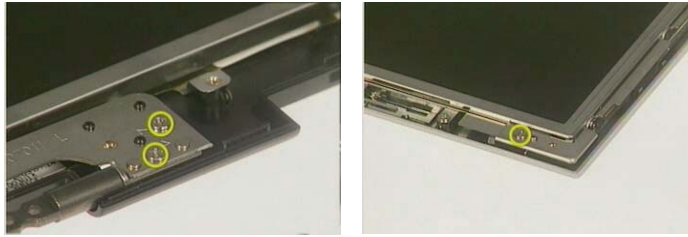
11. Remove the entire LCD from the LCD panel.

12. Remove the four screws that secure the LCD hook bracket.

13. Remove the LCD hook bracket.
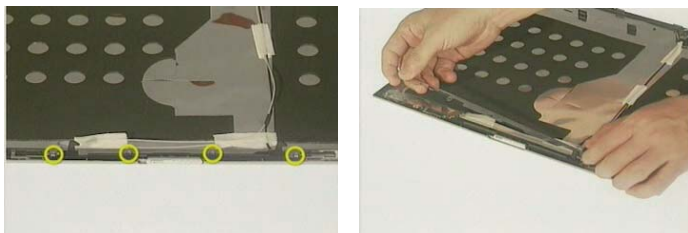
14. Remove one screw that secures the left aux wireless LAN antenna.

15. Remove one screw that secures the right main wireless LAN antenna.

16. Remove the wireless LAN antennas.
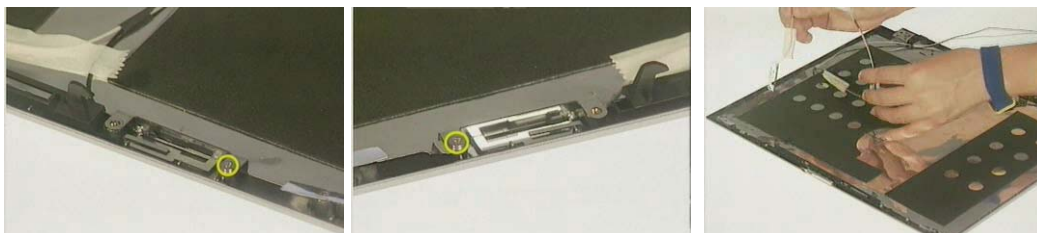
17. Remove the two screws holding the right LCD bracket.

18. Remove the right LCD bracket.
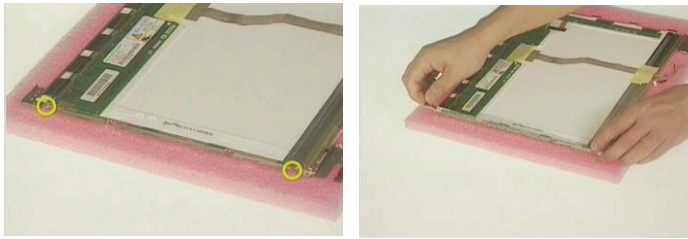
19. Remove another two screws holding the left LCD bracket.

20. Remove the left LCD bracket.
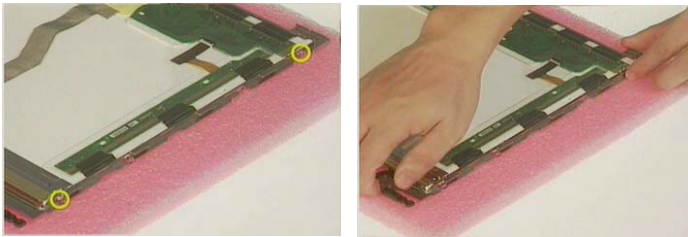
21. Tear off the tape that fastens the LCD coaxial cable as picture shows.

22. Disconnect the LCD coaxial cable.

Disassembling the External Modules

Disassembling the HDD Module

1. Remove the two screws holding the HDD bracket.
2. Remove another two screws that fasten the HDD bracket.
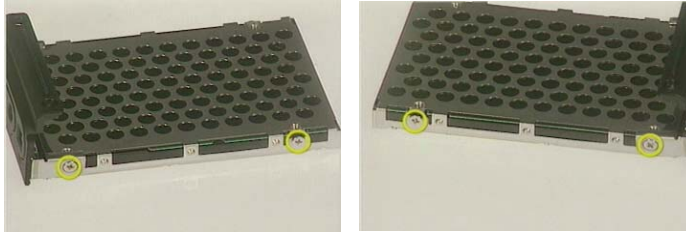
3. Remove the HDD bezel(cover).
4. Then remove the HDD bracket as picture shows.
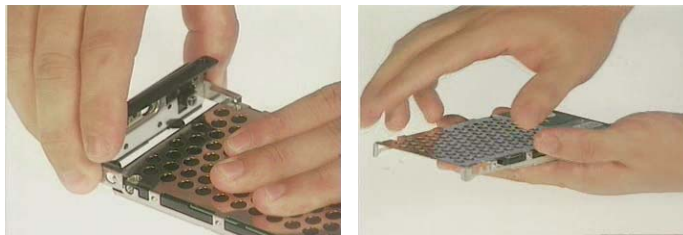
Disassembling the Floppy Disk Drive Module

1. Remove the two screws holding the right FDD bracket.
2. Remove one screw hloding the left FDD bracket.
3. Remove one screw hloding the rear FDD bracket as picture shows.

4. Remove the FDD bracket. Then disconnect the FDD cable.
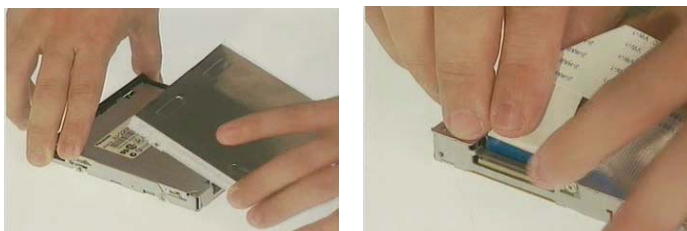
Disassembling the Optical Drive Module

1. Remove the two screws that secure the ODD bracket.
2. Then remove the ODD bracket.
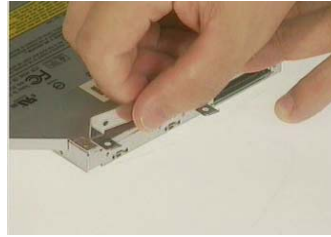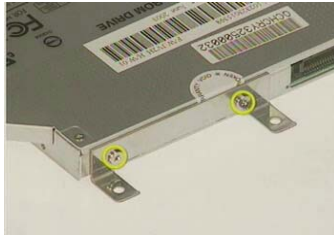
Troubleshooting

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 fellow 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 63
POST does not complete. No beep or error codes are indicated.	"Power-On Self-Test (POST) Error Message" on page 63 "Undetermined Problems" on page 71
POST detects an error and displayed messages on screen.	"Error Message List" on page 65
The diagnostic test detected an error and displayed a FRU code.	"System Diagnostic Diskette" on page 39
Other symptoms (i.e. LCD display problems or others).	"Power-On Self-Test (POST) Error Message" on page 63
Symptoms cannot be re-created (intermittent problems).	Use the customer-reported symptoms and go to "Power-On Self-Test (POST) Error Message" on page 63 "Intermittent Problems" on page 70 "Undetermined Problems" on page 71

System Check Procedures

External Diskette Drive Check

Do the following 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. Boot from the diagnostics diskette and start the diagnostics program.
2. See if FDD Test is passed as the program runs to FDD Test.
3. Follow the instructions in the message window.

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 62

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 61
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 batter Main baord.
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 61 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 61 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

POST Code

Code	Beeps	POST Routine Description
02h		Verify Real Mode
03h		Disable Non-Maskable Interrupt (NMI)
04h		Get CPU type
06h		Initialize system hardware
08h		Initialize chipset with initial POST values
09h		Set IN POST flag
0Ah		Initialize CPU registers
0Bh		Enable CPU cache
0Ch		Initialize caches to initial POST values
0Eh		Initialize I/O component
0Fh		Initialize the local bus IDE
10h		Initialize Power Management
11h		Load alternate registers with initial POST values
12h		Restore CPU control word during warm boot
13h		Initialize PCI Bus Mastering devices
14h		Initialize keyboard controller
16h	1-2-2-3	BIOS ROM checksum
17h		Initialize cache before memory autosize
18h		8254 timer initialization
1Ah		8237 DMA controller initialization
1Ch		Reset Programmable Interrupt Controller
20h	1-3-1-1	Test DRAM refresh
22h	1-3-1-3	Test 8742 Keyboard Controller
24h		Set ES segment register to 4 GB
26h		Enable A20 line
28h		Autosize DRAM
29h		Initialize POST Memory Manager
2Ah		Clear 215 KB base RAM
2Ch	1-3-4-1	RAM failure on address line xxxx
2Eh	1-3-4-3	RAM failure on data bits xxxx of low byte of memory bus
2Fh		Enable cache before system BIOS shadow
30h	1-4-1-1	RAM failure on data bits xxxx of high byte of memory bus
32h		Test CPU bus-clock frequency
33h		Initialize Phoenix Dispatch Manager
36h		Warm start shut down
38h		Shadow system BIOS ROM
3Ah		Autosize cache
3Ch		Advanced configuration of chipset registers
3Dh		Load alternate registers with CMOS values
42h		Initialize interrupt vectors
45h		POST device initialization

Code	Beeps	POST Routine Description
46h	2-1-2-3	Check ROM copyright notice
48h		Check video configuration against CMOS
49h		Initialize PCI bus and devices
4Ah		Initialize all video adapters in system
4Bh		QuietBoot start (optional)
4Ch		Shadow video BIOS ROM
4Eh		Display BIOS copyright notice
50h		Display CPU type and speed
51h		Initialize EISA board
52h		Test keyboard
54h		Set key click if enabled
58h	2-2-3-1	Test for unexpected interrupts
59h		Initialize POST display service
5Ah		Display prompt "Press F2 to enter SETUP"
5Bh		Disable CPU cache
5Ch		Test RAM between 512 and 640 KB
60h		Test extended memory
62h		Test extended memory address lines
64h		Jump to User Patch1
66h		Configure advanced cache registers
67h		Initialize Multi Processor APIC
68h		Enable external and CPU caches
69h		Setup System Management Mode (SMM) area
6Ah		Display external L2 cache size
6Bh		Load custom defaults (optional)
6Ch		Display shadow-area message
6Eh		Display possible high address for UMB recovery
70h		Display error messages
72h		Check for configuration errors
76h		Check for keyboard errors
7Ch		Set up hardware interrupt vectors
7Eh		Initialize coprocessor if present
80h		Disable onboard Super I/O ports and IRQs
81h		Late POST device initialization
82h		Detect and install external RS232 ports
83h		Configure non-MCD IDE controllers
84h		Detect and install external parallel ports
85h		Initialize PC-compatible PnP ISA devices
86h		Re-initialize onboard I/O ports
87h		Configure Motherboard Configurable Devices (optional)
88h		Initialize BIOS Area
89h		Enable Non-Maskable Interrupts (NMIs)
8Ah		Initialize Extended BIOS Data Area
8Bh		Test and initialize PS/2 mouse

Code	Beeps	POST Routine Description
8Ch		Initialize floppy controller
8Fh		Determine number of ATA drives (optional)
90h		Initialize hard-disk controllers
91h		Initialize local-bus hard-disk controllers
92h		Jump to UserPatch2
93h		Build MPTABLE for multi-processor boards
95h		Install CD ROM for boot
96h		Clear huge ES segment register
97h		Fixup Multi Processor table
98h	1-2	Search for option ROMs. One long, two short beeps on checksum failure.
99h		Check for SMART drive (optional)
9Ah		Shadow option ROMs
9Ch		Set up Power Management
9Dh		Initialize security engine (optional)
9Eh		Enable hardware interrupts
9Fh		Determine number of ATA and SCSI drives
A0h		Set time of day
A2h		Check key lock
A4h		Initialize Typematic rate
A8h		Erase F2 prompt
AAh		Scan for F2 key stroke
ACh		Enter SETUP
AEh		Clear Boot flag
B0h		Check for errors
B2h		POST done- prepare to boot operating system
B4h	1	One short beep before boot
B5h		Terminate QuietBoot (optional)
B6h		Check password (optional)
B9h		Prepare Boot
BAh		Initialize DMI parameters
BBh		Initialize PnP Option ROMs
BCh		Clear parity checkers
BDh		Display MultiBoot menu
BEh		Clear screen (optional)
BFh		Check virus and backup reminders
C0h		Try to boot with INT 19
C1h		Initialize POST Error Manager (PEM)
C2h		Initialize error logging
C3h		Initialize error display function
C4h		Initialize system error handler
C5h		PnPnd dual CMOS (optional)
C6h		Initialize notebook docking (optional)
C7h		Initialize notebook docking late
C8h		Force check (optional)
C9h		Extended checksum (optional)

Code	Beeps	POST Routine Description
D2h		Unknown interrupt

Code	Beeps	For Boot Block in Flash ROM
E0h		Initialize the chipset
E1h		Initialize the bridge
E2h		Initialize the CPU
E3h		Initialize the system timer
E4h		Initialize system I/O
E5h		Check force recovery boot
E6h		Checksum BIOS ROM
E7h		Go to BIOS
E8h		Set Huge Segment
E9h		Initialize Multi Processor
EAh		Initialize OEM special code
EBh		Initialize PIC and DMA
ECh		Initialize Memory type
EDh		Initialize Memory size
EEh		Shadow Boot Block
EFh		System memory test
F0h		Initialize interrupt vectors
F1h		Initialize Run Time Clock
F2h		Initialize video
F3h		Initialize System Management Mode
F4h	1	Output one beep before boot
F5h		Boot to Mini DOS
F6h		Clear Huge Segment
F7h		Boot to Full DOS

Index of Symptom-to-FRU Error Message

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 61.
	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 61.
	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 62. 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 80.

Phlash 16 Error Messages

Error Code	Error Message
-1 or // FF	Memory allocation for Backup file buffer failed.
-2 or // FE	BIOS.BAK already exits (rename or delete it).
-3 or // FD	File Create failed on BIOS.BAK
-4 or // FC	File Write failed on BIOS.BAK.
-5 or // FB	File Close failed on BIOS.BAK.
-6 or // FA	BIOS backup not supported in BIOS ROM file.
-7 or // F9	File Open failed on BIOS ROM file.
-8 or // F8	File Read failed on BIOS ROM file.
-9 or // F7	File Close failed on BIOS ROM file.
-10 or // F6	Failed to locate singature bytes in BIOS ROM file.
-11 or // F5	Unsupported BIOS ROM file version.
-12 or // F4	V0.10 must fit ROM size and address within 1MB
-13 or // F3	V2.00 must have block descriptor table and image buffer.
-14 or // F2	Device table has too many entries.
-15 or // F1	Device table has unsupported flash type.
-16 or // F0	Combined SAVE or RESTORE attributes in BIOS file.
-17 or // EF	SAVE block without matching RESTORE block in BIOS
-18 or // EE	V0.10 must have JMP table for platform procs.
-19 or // ED	V2.00 must have OFFSET table for platform procs.
-20 or // EC	BIOS file found errors in command line parameters.
-21 or // EB	Part ID not found in table of supported parts.
-22 or // EA	Allocation for BIOS ROM image failed.
-23 or // E9	Open failed on BIOS ROM file.
-24 or // E8	Read failed on BIOS ROM file.
-25 or // E7	Copy to REAL to EXTENDED memory buffer failed.
-26 or // E6	File Close failed on BIOS.WPH.
-27 or // E5	Cannot flash if Memory Managers (e.g. EMM 386) present.
-28 or // E4	Attempt to read flash memory ID failed.
-29 or // E3	BIOS ROM file failed to return flash memory ID.
-30 or // E2	Could not find BCP SYS block in BIOS.WPH file image.
-31 or // E1	File has different BIOS part number.
-32 or // E0	File contains same version of BIOS ROM image.
-33 or // DF	Data written to flash does not match BIOS ROM image.
-34 or // DE	Write to flash memory failed.
-35 or // DD	Erase flash memory block failed.
-36 or // DC	VPP is not at expected level.
-37 or // DB	Erase sequence failed.
-38 or // DA	New DMI string is too large.
-39 or // D9	Specified BIOS ROM file is not for this system.
-40 or // D8	Allocation for DMI OEM string failed.
-41 or // D7	No space for specified DMI OEM string in BIOS ROM.
-42 or // D6	DMI OEM strings require BCP DMI 0.1+.
-43 or // D5	Could not find BCP DMI block in BIOS ROM file image.

WinPhlash Error Messages

Error Code	Error Message
-100	BCPSYS block signature was not found.
-101	BCPDMI block signature was not found.
-103	Platform Signature was not found in the interface.
-104	BIOS image checksum verification failed.
-105	Flash device size doesn't match BIOS image size.
-106	New BIOS image size doesn't match current system BIOS size.
-107	New DMI string size doesn't match current system DMI string size.
-108	Flash device part number(s) doesn't match part number(s) specified in the interface descriptor.
-109	The current system BIOS is the same version as (or newer than) the version you are trying to flash, so the BIOS will not be changed.
-110	The new BIOS image is hte same as the current system BIOS, so the BIOS will not be changed.
-111	Part ID of System BIOS and new Image File of the System Platform may be different from the image file.
-120	New BIOS part number doesn't match system BIOS part number.
-121	Driver initialization failed.
-122	Driver failed to provide access to the BIOS memory.
-130	Driver failed to allocate memory.
-131	Different format of block descriptor was found or block descriptor was damaged
-132	Invalid block attributes.
-133	Improper save/restore order detected in the block descriptor table.
-134	Different format of block descriptor was found or block size is invalid.
-135	Different format of block descriptor was found or block offset is invalid.
-136	Invalid/Different format of block descriptor was found.
-140	Invalid block umber was specified
-141	Failed to locate resource in the executable or DLL.
-142	Required device or platform function is not present.
-143	Driver failed to allocate descriptor.
-144	BIOS is not flashable.
-145	Block programming function failed.
-146	Block erase function failed.
-147	VPP is not at expected level.
-148	Erase sequence failed.
-149	BIOS image verification failed.
-150	BIOS interface function failed.
-151	The current device is not supported in the interface.
-160	Device Descriptor signature not found in the interface.
-161	Part Table Signature not found in the interface.
-162	Invalid Part Count found in the interface.
-163	Invalid Part Descriptor size found in the interface.
-164	Invalid Text Descriptor size found in the interface.
-165	Duplicate device support found in the interface.

Error Code	Error Message
-166	Failed to unlock the flash.
-167	Cannot find file BIS MOD.
-168	The specified MOD file is larger than the size of MOD in the ROM.
-169	Unable to open MOD file.
-170	Failure in reading the MOD file.
-171	There is no CPU match.
-172	Cannot find file RomExec Module.
-173	Error in merging CPU hash data.
-174	Error opening HSH file.
-175	Error reading HSH file.
-176	Cannot open CPU file.
-177	Size of the CPU file is not 2049 bytes.
-178	Cannot find MOD from image file.
-179	Cannot find file ROM MOD.
-180	Cannot find system MOD.
-181	The input file cannot be found. Valid file name must be specified to continue.
-182	Error! Backup file is not specified. Please specify backup file name to save current system BIOS.
-183	The backup BIOS file has the same name as the BIOS file. The two file names must be different.
-184	Disk write protected error.
-185	There is not enough disk space to save the backup BIOS file.
-186	There is no NIC on board!
-187	Cannot find NIC driver MOD in image file.
-188	There is no *LOM file on disk!
-189	There is no driver MOD to match the NIC on board!
-190	Cannot open NIC driver file.

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 61):

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

Build NAPP Master Hard Disc Drive

CD to Disk Recovery

1. Prepare NAPP CD, Recovery CD and System CD.

2. Put NAPP CD into the optical drive. Then boot up the system.

3. The system will ask you if you want to build NAPP Master HDD. Please press any key to continue.

```
        ===============================================
                  The HDD Must bigger then 20GB.

        ===============================================
Do you want to build NAPP Master HDD?
press any key to continue or Crtl-C to exit
_
```

4. NAPP CD will start to preload the system, please click [Y].

```
    Acer NAPP Preload Selector for Acer System Version 1.4.0.1
                    Copyright 2003 Acer Inc.

        ===========================================

This will preload your system. Are you sure?[Y,N]?
```

5. Select CD to Disk Revocery.

```
                    Method Selector
        ============================
        1.  Disk To Disk Recovery
        2.  CD to Disk Recovery
        X.  Quit

Please select your Choose...[1,2,x]?
```

6. Put the Recovery CD to the optical drive. This step is to create image files to the system, you do not have to put the Recovery CD to the optical drive in order. Place one Recovery CD to the drive at one time till you finish all Recovery CDs.

```
Please Insert Any Recovery CD

Please Press Any Key to Continue.
Press any key to continue...
_
```

After you place the Recovery CD to the optical drive, you will see the display below.

```
Please Wait for COPYING .........
X:\images \70E40I01.HDD
```

7. Then insert the System CD to the optical drive.

```
Please Insert the System CD

Please Press Any Key to Continue.
Press any key to continue...
_
```

8. You will see the screen displaying "PASS" when the system has buit NAPP Master hard disc drive.

Disk to Disk Recovery

1. Prepare NAPP CD, Recovery CD and System CD.

2. Put NAPP CD into the optical drive. Then boot up the system.

3. The system will ask you if you want to build NAPP Master HDD. Please press any key to continue.

4. NAPP CD will start to preload the system, please click [Y].

```
Acer NAPP Preload Selector for Acer System Version 1.4.0.1
                  Copyright 2003 Acer Inc.

      ============================================

This will preload your system. Are you sure?[Y,N]?
```
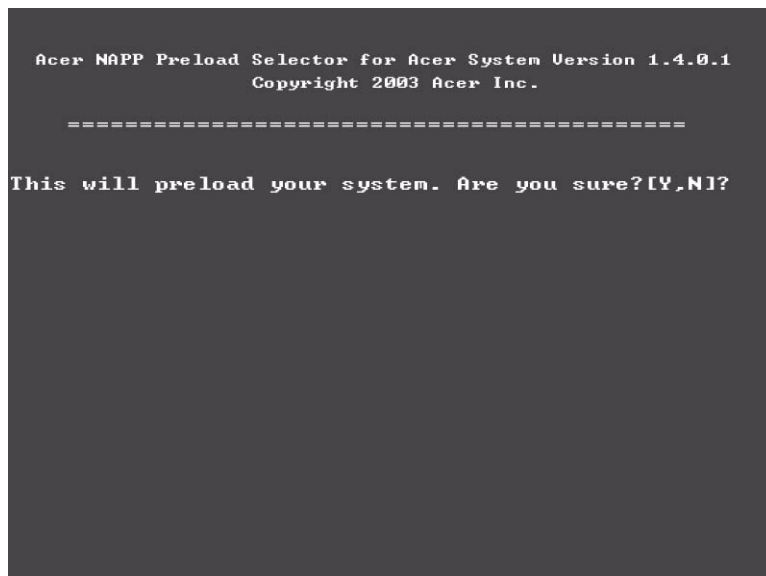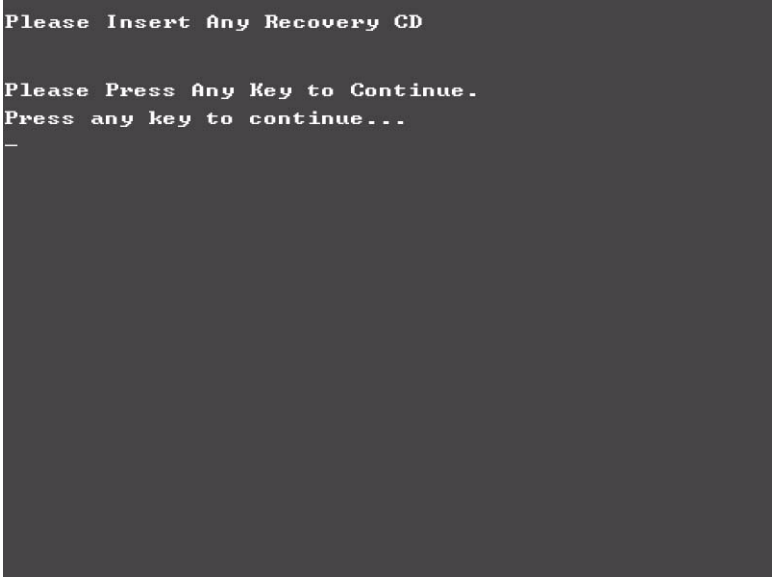
5. Select Disk to Disk Recovery. Then choose Single Language or Multi-Languages Recovery.
NOTE: For Multi-Languages Recovery, not more than five languages could be loaded to the system.

```
                      Method Selector
        ==============================
        1. Single Language Recovery
        2. Multi-Languages Recovery
        X. Quit

Please select your Choose...[1,2,x]?
```

6. Put the Recovery CD to the optical drive. This step is to create image files to the system, you do not have to put the Recovery CD to the optical drive in order. Place one Recovery CD to the drive at one time till you finish all Recovery CDs.

```
Please Insert Any Recovery CD


Please Press Any Key to Continue.
Press any key to continue...
_
```

After you place the Recovery CD to the optical drive, you will see the display below.

```
Please Wait for COPYING .........
X:\images \70E40I01.HDD
```

7. Then insert the System CD to the optical drive.

```
Please Insert the System CD

Please Press Any Key to Continue.
Press any key to continue...
_
```

8. You will see the screen displaying "PASS" when the system has buit NAPP Master hard disc drive.

```
PPPPPPPPP         A              SSSSSSSSSS    SSSSSSSSSS
PP       PP      A A             SS            SS
PP       PP     A   A            SS            SS
PP       PP    AA   AA           SS            SS
PPPPPPPPP     AA     AA          SSSSSSSSSS    SSSSSSSSSS
PP           AA       AA                   SS            SS
PP          AAAAAAAAAAAAA                  SS            SS
PP         AA           AA                 SS            SS
PP        AA             AA                SS            SS
PP                             SSSSSSSSSS    SSSSSSSSSS


     ****  PLEASE REMOUE YOUR CD!!!!!  ****

press any key to exit!!
_
```

Jumper and Connector Locations

Top View


```
 1.CN6:FAN1
 2.CN9:VGA/B POWER
 3.CN15:VGA/B AGP
 4.CN16:EXTERNAL USB
 5.CN17:LED/B
 6.CN18:EXTERNAL USB
 7.CN19:TV OUT
 8.CN20:1394
 9.CON3:LAN
10.CN21:POWER JACK
11.CN8:FDD
12.CN1:INTERNAL USB
13.CN11:TP/B
14.U8:CPU
15.CN12:K/B
16.CN13:FAN2
17.CN14:ODD
```

```
18.CON2:MINI PCI
19.CN4:INTERNAL SPEAKER
20.CN7:HDD
21.U1:IR
22.CN3:RJ11
23.CN1:MIC
24.CN2:HP OUT
```

1	FAN1 Connector	13	Touchpad Board Connector
2	VGA Board Power Connector	14	CPU Socket
3	VGA Board Connector	15	Keyboard Connector
4	External USB Ports (*2)	16	FAN2 Connector
5	LED Board Connector	17	ODD Connector
6	External USB Ports (*2)	18	Mini-PCI Connector
7	TV-Out Port	19	Internal Speaker Connector
8	IEEE 1394 Port	20	HDD Connector
9	LAN Connector	21	FIR
10	Power Jack	22	RJ11(Modem Connector)
11	FDD Connector	23	Microphone-in Connector
12	Internal USB Port	24	Headphone-out Connector

Bottom View

1. CN23:PCMCIA
2. CN24:CRT
3. CN25:LPT
4. CN26:DDR DIMM
5. CN28:DDR DIMM
6. CN29:MDC

7. CN30:MODEM CABLE
8. CN22:BATTERY
9. SW1:RESET SWITCH

1	PCMCIA Connector Parallel Connector	6	MDC Board Connector
2	External Display Connector	7	MDC Board Connector
3	Parallel Connector	8	Battery Connector
4	Memory Socket1	9	Reset Switch
5	Memory Sockets		

FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Aspire 1510. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization). Please also note that there are some common parts for Aspire 1350, for Aspire 1510 and Aspire 1350 share the same hoursing.

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 Base

15	ET2S SCREW MM2.0*3.0 SPRAE PART	
14	ZPI SCREW M2.5*5L-NI-NYLOK S/P	
13	ZPI SCREW M2.5*7L-BNI-NYLOK S/P	
12	ZPI RUBBER FOOT S/P	
11	ZPI 2X DVD-RW MODULE S/P (TEAC,PIONEER)	
11	ZPI 24X COMBO MODULE S/P (QSI,LITE-ON,TEAC)	
11	ZPI 8X DVDROM MODULE S/P (QSI,LITE-ON)	
11	ZPI 24X CDROM MODULEMODULE S/P (QSI,TEAC)	
10	ZPI COMBO TRAY S/P	
9	ZPI BATTERY S/P-PANASONIC LI-ION S/P	
9	ZPI BATTERY S/P-SANYO LI-ION S/P	
8	ZPI SPEAKER S/P	
7	ZPI RAM DOOR ASSY S/P	
6	ZPI HDD MODULE	
5	ZPI FDD TRAY S/P	
4	ZPI WEIGHT SAVER S/P	
4	ZPI CARD READER MODULE S/P	
4	ZPI FDD MODULE S/P-MITSUMI	
4	ZPI FDD MODULE S/P-PANASONIC	
3	ZPI HEATSINK ASSY S/P	
2	ZPI M/B S/P	
1	ZPI BASE ASSY S/P	
ITEM	DESCRIPTION	REMARK

LCD 14.1″ / 15.0″

12	ET2S SCREW MM2.0*3.0 SPARE PART	
11	ZPI SCREW M2.5*6L-NI-NYLOK S/P	
10	ZPI LCD CUSHION RUBBER S/P	
9	ZPI LCD CABLE KIT S/P	
8	ZPI BLUETOOTH ANTENNA S/P	
7	ZPI LCD INVERTER ASSY S/P	
6	ZPI LCD COVER RUBBER S/P	
5	ZPI LCD COVER ASSY(W/ WIRELESS)-S/P	
5	ZPI LCD COVER ASSY(W/O WIRELESS)-S/P	
4	ZPI 15" LCD BEZEL S/P	
4	ZPI 14" LCD BEZEL S/P	
3	ZPI 15" LCD BRACKET-R S/P	
3	ZPI 14" LCD BRACKET-R S/P	
2	ZPI 15" LCD BRACKET-L S/P	
2	ZPI 14" LCD BRACKET-L S/P	
1	ZPI 15" LCD PANEL S/P-QDI	
1	ZPI 14" LCD PANEL S/P-AU	
ITEM	DESCRIPTION	REMARK

Main Board

11	ZP1 SCREW M2.5*4L	
10	ZP1 SCREW M2*7L-NI-NYLOK S/P	
9	ZP1 SCREW M2*4L BZN-NYLOK S/P	
8	ZP1 MODEM CABLE S/P	
7	ZP1 CPU ASSSY S/P-ATHLON XP-MK7) 2000+,2200+,2400+,2500+,2600+,2800+	
6	ZP1 PCMCIA SLOT S/P	
5	ZP1 WLAN 802.11 A+G S/P	
5	ZP1 WLAN 802.11B S/P	
4	ZP1 N/B SINK S/P	
3	ZP1 MDC ASSY S/P	
2	ZP1 VGA BOARD-128M S/P	
2	ZP1 VGA BOARD-64M S/P	
2	ZP1 TV-OUT BOARD S/P	
1	ZP1 MB S/P	
ITEM	DESCRIPTION	REMARK

Module

19	ET2S SCREW MM2.5*4 SPARE PART	
18	MR TOP COVER	
17	ZP1 CARD READER BEZEL S/P	
16	ZP1 CARD READER CABLE S/P	
15	ZP1 CARD READER PCB S/P	
14	ZP1 SCREW M3*2.8L-NI-NYLOK S/P	
13	ZP1 HDD FIXED PLATE S/P	
12	ZP1 HDD BEZEL S/P	
11	HDD	
10	ET2S SCREW MM2.0*3.0 SPARE PART	
9	ZP1 ODD BRACKET S/P	
8	ZP1 CDROM,DVDROM,COMBO,DVD-RW BEZEL ASSY S/P	
7	ZP1 CDROM,DVDROM,COMBO,DVD-RW S/P	
6	ZP1 SCREW M2.0*2.0-BZN S/P	
5	ZP1 SCREW M2.5*3L-NI-NYLOK S/P	
4	ZP1 FDD BEZEL S/P (PANASONIC,MITSUMI)	
3	ZP1 FDD BRACKET S/P (PANASONIC,MITSUMI)	
2	FDD FFC CABLE S/P (PANASONIC,MITSUMI)	
1	FDD S/P (PANASONIC,MITSUMI)	
ITEM	DESCRIPTION	REMARK

Top

ITEM	DESCRIPTION	REMARK
14	SCREW M2.5*3L-BNI-NYLOK S/P	
13	ZP1 TOUCH PAD MODULE S/P	
12	ET2S SCREW MM2.5*4 S/P	
11	ZP1 TOUCH PAD CABLE S/P	
10	ZP1 TOUCHPAD BOARD FIXED PLATE S/P	
9	ZP1 TOUCH PAD FFC CABLE S/P	
8	ZP1 TOUCHPAD BOARD S/P	
7	ZP1 ROUNTING PLATE S/P	
6	ZP1 HINGE COVER KIT-L S/P	
5	ZP1 HINGE COVER KIT-R S/P	
4	ZP1 LED BOARD ASSY S/P	
3	ZP1 K/B S/P	
2	ZP1 KB COVER ASSY S/P	
1	ZP1 TOP ASSY S/P	
ITEM	DESCRIPTION	REMARK

NOTE: Some part numbers appear on the exploded diagram are vendor's part number. Please refer to the FRU list for Acer part number.

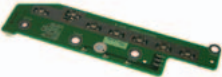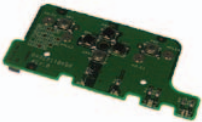| Picture		Partname And Description	Part Number
CPU/Processor			
		AMD Athlon XP-M, Thoroughbred 2000+ 72W/ 256K L2/ FSB 200/266M	KC.A2002.72T
		AMD Athlon XP-M, Thoroughbred 2200+ 72W/ 256K L2/ FSB 200/266M	KC.A2202.72T
		AMD Athlon XP-M, Barton 2400+ 72W/ 512K L2/ FSB 266M	KC.A2402.72B
		AMD Athlon XP-M, Barton 2500+ 72W/ 512K L2/ FSB 266M	KC.A2502.72B
		AMD Athlon XP-M, Barton 2600+ 72W/ 512K L2/ FSB 266M	KC.A2602.72B
		AMD Athlon XP-M, Barton 2800+ 72W/ 512K L2/ FSB 266M	KC.A2802.72B
Memory			
		INFINEON 128MB DDR333 HYS64D16000GDL-6-B	KN.12802.006
		NANYA 128MB DDR333 NT128D64SH4BBGM-6K	KN.12803.008
		INFINEON 256MB DDR333 HYS64D32020GDL-6-B	KN.25602.009
		NANYA 256MB DDR333 NT256D64SH8BAGM-6K	KN.25603.009
		ELPIDA 256MB DDR333 EBD26UC6AKSA-6B	KN.25609.002
		INFINEON 512MB DDR333 HYS64D64020GBDL-6-B	KN.51202.007
		NANYA 512MB DDR333 NT512D64S8HBAFM-6K	KN.51203.005
LCD			
		ASSY LCD MODULE 14.1" QDI QDI141LH12	6M.A10V7.011
		ASSY LCD MODULE 14.1" QDI QDI141LH12 FOR WIRELESS	6M.A10V7.021
		ASSY LCD MODULE 14.1" AU B141XG05	6M.A10V7.012
		ASSY LCD MODULE 14.1" AU B141XG05 FOR WIRELESS	6M.A10V7.022
		ASSY LCD MODULE 15.0" QDI QDI150XL06-01	6M.A10V7.013
		ASSY LCD MODULE 15.0" QDI QDI150XL06-01 FOR WIRELESS	6M.A10V7.023
		ASSY LCD MODULE 15.0" AU B150XG01 V2	6M.A10V7.014
		ASSY LCD MODULE 15.0" AU B150XG01 V2 FOR WIRELESS	6M.A10V7.024
		ASSY LCD MODULE 15.0" CPT CLAA150XH01-S	6M.A10V7.015
		ASSY LCD MODULE 15.0" CPT CLAA150XH01-S FOR WIRELESS	6M.A10V7.025
		ASSY LCD MODULE 15 IN. XGA QDI QDI150XL06-01	6M.A17V7.011
		ASSY LCD MODULE 15 IN. XGA AU B150XG01 V2	6M.A17V7.012
		ASSY LCD MODULE 15 IN. XGA QDI QDI150XL06-01 W/WIRELESS	6M.A17V7.021
		ASSY LCD MODULE 15 IN. XGA AU B150XG01 V2 W/WIRELESS	6M.A17V7.022
		LCD 14.1" XGA QDI QD141X1LH03	LK.14109.003
		LCD 14.1" XGA AU B141XG05	LK.14105.006
		LCD 15.0" XGA QDI QDI150XL06-01	LK.15009.002
		LCD 15.0" XGA AU B150XG01 V2	LK.15005.001
		LCD 15.0" XGA CPT CLAA150XH01-S	LK.1500A.002
		LCD INVERTER BOARD	19.A10V7.001
		LCD BRACKET R 14.1"	33.A10V7.008
		LCD BRACKET R 15"	33.A10V7.010

Picture		Partname And Description	Part Number
		LCD BRACKET L 14.1"	33.A10V7.009
		LCD BRACKET L 15"	33.A10V7.011
		LCD PANEL WITH LOGO W/O ANTENNA	60.A10V7.005
		LCD PANEL WITH LOGO W/ ANTENNA	60.A17V7.003
		LCD BEZEL - 14.1"	60.A10V7.003
		LCD BEZEL - 15"	60.A10V7.004
		LCD COAXIAL CABLE	50.A10V7.006
		LCD 15 IN. XGA COAXIAL CABLE	50.A17V7.004
FDD/Floppy Disk Drive			
		FDD MODULE, PANASONIC JU-226A273FC	6M.A10V7.010
		FDD DRIVE PANASONIC JU-226A273FC	KF.22602.002
		FDD FPC CABLE FOR PANASONIC	50.A10V7.005
		FDD BEZEL FOR PANASONIC	42.A10V7.014
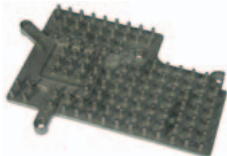
Picture		Partname And Description	Part Number
		FDD BRACKET FOR PANASONIC	33.A10V7.006
HDD/ Hard Disk Drive			
		HDD 2.5" 20G HGST MORAGA IC25N020ATMR04-0 4200 RPM	KH.02007002
		HDD 2.5" 30G HGST MORAGA IC25N030ATMR04-0 4200 RPM	KH.03007002
		HDD 2.5" 40G HGST MORAGA IC25N040ATMR04-0 4200 RPM	KH.04007002
		HDD 2.5" 60G HGST MORAGA IC25N060ATMR04-0 4200 PRM	KH.06007002
		HDD 2.5" 60G HGST MORAGA IC25N060ATMR05-0 5400 PRM	KH.06007.003
		HDD 2.5" 20G TOSHIBA MK2023GAS 4200 RPM	KH.02004.001
		HDD 2.5" 30G TOSHIBA MK3021GAS(CZE) 4200 RPM	KH.33004.001
		HDD 2.5" 40G TOSHIBA MK4021GAS(CZE) 4200 RPM	KH.34004.001
		HDD 2.5" 60G TOSHIBA MK6021GAS(CZE) 4200 RPM	KH.36004.001
		HDD 2.5" 60G TOSHIBA MK6022GAX 5400 RPM	KH.06004.001
		HDD 2.5" 30G FUJITSU 4200 RPM V-40 F/W:009A	KH.03006.002
		HDD BEZEL	42.A10V7.015
		HDD BRACKET	33.A10V7.007
Optical Drive/Combo Drive			
		CD-ROM MODULE 24X QSI SCR-242EA5E	6M.A10V7.001
		DVD-ROM MODULE 8X QSI SDR-083E05E	6M.A10V7.003
		DVD/CDRW COMBO MODULE 24X QSI SBW-242E05E	6M.A10V7.005
		DVD/CDRW COMBO MODULE 24X LITE-ON LSC-24082K	6M.A10V7.006
		DVD/CDRW COMBO MODULE 24X TEAC DW-224E-92	6M.A10V7.007
		DVD-RW MODULE TEAC DV-W22E-195	6M.A10V7.008
		DVD-RW MODULE PIONEER DVR-K11	6M.A10V7.009
		DVD-RW COMBO MODULE 24X QSI SBW-242C	6M.A17V7.001
		DVD-RW COMBO MODULE 24X KME UJDA750	6M.A17V7.002
		DVD DUAL MODULE 4X PIONEER DVR-K13RA	6M.A17V7.003
		DVD SUPER MULTI MODULE 4X KME UJ-820B F/W:1.0	6M.A17V7.004

Picture		Partname And Description	Part Number
		CD-ROM DRIVE 24X QSI SCR-242EA5E	KD.24X02.002
		DVD-ROM DRIVE 8X QSI SDR-083E05E	KV.08X02.003
		DVD/CDRW COMBO DRIVE 24X QSI SBW-242E05E	KO.24X07.003
		DVD/CDRW COMBO DRIVE 24X LITE-ON LSC-24082K	KO.24X09.001
		DVD/CDRW COMBO DRIVE 24X TEAC DW-224E-92	KO.24X06.001
		DVD/CDRW COMBO DRIVE 24X QSI SBW-242C F/W : ?	KO.02407.014
		DVD/CDRW COMBO DRIVE 24X KME UJDA750 F/W : ?	TBD
		DVD-RW DRIVE TEAC DV-W22E-195	KW.02X0D.002
		DVD-RW DRIVE PIONEER DVR-K11	KW.02X05.001
		DVD DUAL DRIVE 4X PIONEER DVR-K13RA F/W : ?	TBD
		DVD SUPER MULTI DRIVE 4X KME UJ-820B F/W:1.0	TBD
		CD-ROM BEZEL FOR QSI	42.A10V7.005
		DVD-ROM BEZEL FOR QSI	42.A10V7.007
		DVD/CDRW BEZEL FOR QSI	42.A10V7.009
		DVD/CDRW BEZEL FOR LITE-ON	42.A10V7.010
		DVD/CDRW BEZEL FOR TEAC	42.A10V7.011
		DVD-RW BEZEL FOR TEAC	42.A10V7.012
		DVD-RW BEZEL FOR PIONEER	42.A10V7.013
		DVD/CDRW BEZEL FOR PANASONIC	42.A17V7.002
		DVD DUAL BEZEL FOR PIONEER	42.A17V7.003
		DVD DUAL BEZEL FOR KME	42.A17V7.004
		OPTICAL DEVICE BRACKET	33.A10V7.005
Cables			
		POWER CORD US (3 PIN)	27.A03V7.001
		POWER CORD EU (3 PIN)	27.A03V7.002
		POWER CORD PRC (3 PIN)	27.A03V7.003
		POWER CORD UK (3 PIN)	27.A03V7.004
		POWER CORD ITALIAN (3 PIN)	27.A03V7.005
		POWER CORD DANISH (3 PIN)	27.A03V7.006
		POWER CORD AU (3 PIN)	27.A03V7.008
		TOUCHPAD BOARD CABLE	50.A17V7.001
		MODEM CABLE	50.A17V7.002
		FFC- TOUCHPAD CABLE	50.A10V7.003
Antenna			
		BLUETOOTH ANTENNA	50.A10V7.004
		ANTENNA Y CABLE-LCD	50.A17V7.003
Boards			

Picture		Partname And Description	Part Number
		MAINBOARD W/KN400 CHIPSET, PCMCIA SLOT, W/O CPU, MEMORY	MB.A1006.001
		MAINBOARD W/PCMCIA SLOT W/O CPU MEMORY	TBD
		MODEM CARD , AMBIT T60M283.15	54.A10V7.001
		MODEM/ BLUETOOTH COMBO CARD, AMBIT MRS-T60M665.00	54.T23V7.002
		WIRELESS LAN CARD 802.11g WNC RM8	54.A17V7.001
		LAUNCH BOARD	55.A10V7.001
		TOUCHPAD BOARD	55.A10V7.002
		TV-OUT BOARD	55.A10V7.003
		VGA BOARD 64M	55.A10V7.004
		VGA BOARD 128M	55.A10V7.005
		TOUCHPAD	56.A10V7.001
		nVIDIA 448 NV-18M 64MB AGP CARD	55.A17V7.001
		nVIDIA 5700 NV-36M 64MB AGP CARD	55.A17V7.002
PCMCIA slot/PC card slot			
		PCMCIA SLOT	22.A10V1.001
Adapter			

Picture		Partname And Description	Part Number
		ADAPTER LSE 135W 3 PIN ADP-135DBB W/LED	TBD
		ADAPTER DELTA 135W 3 PIN 0317A19135 W/LED	TBD
Battery			
		BATTERY SANYO LI-ION 8CELL,SANYO, 4UR18650F-2-QC-24	BT.A1003.002
		BATTERY SIMPLO LI-ION 8CELL, PANASONIC,916-2540	BT.A1007.001
Case/Cover/Bracket Assembly			
		MIDDLE COVER W/ NAME PLATE	42.A17V7.001
		DIMM DOOR	42.A10V7.002
		LOWER CASE W/ SPEAKER	60.A17V7.001
		UPPER CASE W/ TOUCHPAD, FPC	60.A17V7.002
		HINGE COVER R	42.A10V7.003
		HINGE COVER L	42.A10V7.004
		ROUNTING PLATE	33.A10V7.001

Picture		Partname And Description	Part Number
		OPTICAL TRAY	33.A10V7.002
		FDD-HDD TRAY	33.A17V7.001
		TOUCHPAD BOARD FIXED PLATE	33.A10V7.004
		WEIGHT SAVER	LC.A10V7.002
READER			
		4-IN-1 CARD READER MODULE	TBD
		4 IN 1 CARD READER BOARD	55.A17V7.003
		4 IN 1 CARD READER CABLE	50.A17V7.005
		4 IN 1 CARD READER BEZEL	42.A17V7.005
		5 IN 1 CARD READER COVER PLATE	33.A17V7.003
Speaker			
		SPEAKER	23.A10V7.001
Keyboard			
		KEYBOARD JME US INTERNATIONAL	KB.A1005.001
		KEYBOARD JME UK	KB.A1005.002
		KEYBOARD JME GERMAN	KB.A1005.003
		KEYBOARD JME ITALIAN	KB.A1005.004
		KEYBOARD JME FRENCH	KB.A1005.005
		KEYBOARD JME SWISS/G	KB.A1005.006
		KEYBOARD JME SPANISH	KB.A1005.007
		KEYBOARD JME PORTUGUESE	KB.A1005.008
		KEYBOARD JME ARABIC	KB.A1005.009
		KEYBOARD JME BELGIUM	KB.A1005.010
		KEYBOARD JME SWEDEN	KB.A1005.011
		KEYBOARD JME CZECH	KB.A1005.012
		KEYBOARD JME HUNGAIAN	KB.A1005.013
		KEYBOARD JME NORWAY	KB.A1005.014
		KEYBOARD JME DANISH	KB.A1005.015
		KEYBOARD JME TURKISH	KB.A1005.016
		KEYBOARD JME CANADIAN FRENCH	KB.A1005.017
		KEYBOARD JME BRAZILIAN PROTUGESE	KB.A1005.018
		KEYBOARD JME RUSSIAN	KB.A1005.019
		KEYBOARD JME TRADITIONAL CHINESE	KB.A1005.020
		KEYBOARD JME THAI	KB.A1005.021
Heatsink			

Picture		Partname And Description	Part Number
		THERMAL MODULE	60.A17V7.004
		N-B HEAT SINK	33.A17V7.002
Rubber			
		LCD COVER RUBBER	47.A10V7.001
		LCD CUSHION RUBBER	47.A10V7.002
		BASE RUBBER FOOT	47.A10V7.003
Screws			
		SCREW K2*5-BNI	86.T25V7.019
		SCREW NUT-I/O	86.A03V7.001
		SCREW M2.5*4L-BZN-NYLOK	86.A03V7.006
		SCREW BI1.7*2.5TA-BNIH	86.A03V7.008
		SCREW M2*3L-NI-NYLOK	86.A03V7.012
		SCREW M1.7*5	86.A10V7.001
		SCREW M1.6*3.0-NI	86.A10V7.002
		SCREW M2.0*2.0-BZN	86.A10V7.003
		SCREW M2*4L NI-NYLOK	86.A10V7.004
		SCREW M2*7L-NI-NYLOK	86.A10V7.005
		SCREW M2.5*7L-BNI-NYLOK	86.A10V7.006
		SCREW M2.5*3L-BNI-NYLOK	86.A10V7.007
		SCREW M2.5*3L-NI-NYLOK	86.A10V7.008
		SCREW M2*4L BZN-NYLOK	86.A10V7.009
		SCREW M2.5*5L-NI-NYLOK	86.A10V7.010
		SCREW M2.5*6L-NI-NYLOK	86.A10V7.011
		SCREW M3*2.8L-NI-NYLOK	86.A10V7.012
		SCREW M2.5*H3.0*D4.2	86.A10V7.013

Model Definition and Configuration

Aspire 1510 series

Model Number	CPU	LCD	ODD	Card Reader	Memory	HDD	VGA	Wireless LAN
1511 LC with FDD Dummy	Athlon 64 3000+ 82W	15.0" XGA	24x Combo	N/A	DDR333 2x256MB	40GB	NV-18M (64MB)	N/A
1511 LMi	Athlon 64 3000+ 82W	15.0" XGA	4x DVD-Dual	4-in-1	DDR333 2x256MB	60GB	NV-36M (64MB)	11g
1513LMi	Athlon 64 3400+ 82W	15.0" XGA	4x DVD-Dual	4-in-1	DDR333 2x256MB	60GB	NV-36M (64MB)	11g

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 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 Aspire 1510 Compatibility Test Report released by the Acer Mobile System Testing Department.

Microsoft® Windows® XP (Home) Environment Test

Item	Specifications
Display (CRT Monitor)	ViewSonic PF775
	ViewSonic PF775
	Silicon Graphics 21"
	Dell Trinitron 21
	ViewSonic GS790
	ViewSonic GS773
	DELL \2000FP
Display (LCD Monitor)	LCD Acer AL722
	LCD akia KX1
	LCD Acer AL1512
	LCD Acer AL 1531
	LCD Acer AL 1712
	LCD Acer AL 1731
	LCD Acer AL 1912
	LCD Acer AL 1931
	LCD Acer AL506
	LCD Acer AL511
	LCD Acer AL1511
	LCD Acer AL 1513
	LCD Acer AL 1515
	LCD Acer AL 1521
	LCD Acer AL 533
	LCD Fujitsu SIEMENS B15-1
	LCD PHILIPS 150X
	LCD SAMSUNG 152T
	LCD View Sonic VX500+
	LCD Acer AL 712
	LCD Acer AL 715
	LCD Acer AL 1711
	LCD Acer AL 1713
	LCD Acer AL 1714
	LCD Acer AL 1715
	LCD Acer AL 1721
	LCD Acer AL 732
	LCD Acer AL 1751W
	LCD Belne 10 17 30
	LCD Fujitsu SIEMENS B17-1
	LCD PHILIPS 170B4
	LCD SAMSUNG 172T
	LCD View Sonic VP171s
	LCD Acer AL 1911
	LCD Belne 10 19 10
	LCD Fujitsu SIEMENS C19-1
	LCD AL 2021

Item	Specifications
Display (Projector)	ACER 7755C Panasonic PT-L757U Panasonic PT-L556EA ACER PD310 ACER PD321 ACER PD520 ACER PD721 ACER PD110Z ACER PL111 ACER PD112
PC Card	
Modem Card	3Com Megahertz 56K Global Modem PC Card 3Com Megahertz 56 K Global GSM&Cellular Mode PC Card Gold Card Glabal 56K+Fax Billionton 56K Modem (FM56C-BF) Xircom Credit Card Modem 56
LAN Card	3Com EtherLink III Linksys Ethernet 10/100 Integrated PC Card 3Com Megahertz 10Mbps Lan PC Card 3Com Megahertz 10/100 Lan CardBus Xircom CardBus Ethernet II 10/100 (CBE2-100) Xircom RealPort2 CardBus Ethernet 10/100 Dell Fast Ethernet 10/100 Base TX-by 3 Com BUFFALO Tough conect Network Billionton 10/100 Base-TX 32bit Fast Ethernet
SCSI	Adaptec SlimSCSI APA-1460D Card Adaptec SlimSCSI 1480A CardBus UltraSCSI Card
LAN+Modem Card	Xircom RealPort CardBus Ethernet 10/100+Modem 56 Xircom CardBus Ethernet 10/100+Modem 56
ATA Card	PCMCIA IDE/ATAPI Controller(FLASH/32MB)
Microdrive	IBM 1GMB Microdrive
Click	IOMEGA Clik! PC CARD DRIVE
1394 CardBus Card	VST FireWire 1394 CardBus Card UPMOST DV Magician
Wireless LAN Card	Delink Airpro DWL-A650 Linksys Instant wireless B notebook adapter
CARD Reader	Apapter PCMCIA 4 in 1 SONY Memory Stick Card Reader \MSAC-PC2 PQI CF CARD Reader PNY PCMCIA 4 in 1
MMC Card	Apacer 32MB SanDisk 64MB PQI 64MB
MS Card	Apacer 128MB SONY Memory Stick 128MB \MSA-128A SONY Memory Stick 256MB
SD Card	Toshiba 128MB Sundisk 128MB Toshiba 256MB

Item	Specifications
SM Card	Transcend 128MB
	SanDisk 128MB
CF Card	SanDisk 128MB
	Transcend 512MB
Modem Adapters	
Modem	Xircom Winglobal Carbus Modem 56K
I/O Peripheral	
I/O - Parallel (Printer)	HP Laser Jet 2100
	HP Desk Jet 840C
	HP Desk Jet 930C
	HP Laser Jet 5M
I/O - Parallel (Zip)	IOMega ZIP 100 (LPT Port)
I/O - Parallel (Cable)	LL5 cable
I/O - 1394 (HDD)	IEEE 1394 (Fire Wire)/USB 1.1 Combo Hard Drive
I/O - 1394 (CCD)	StealthFire tm
I/O - 1394 (HUB)	Aten 1394 HUB /FH-600
I/O - 1394 (Cable)	1394 4 to 4 Cable
I/O - 1394 (MO)	FUJITSU LIMITED MDF3130EE
I/O - USB 2.0 (HUB)	Adaptec\4Port (XHUB4)For DELL
	UNION STAR
I/O - USB 2.0 (HDD)	USB HDD: MAN TEC2.5
	USB HDD: LACIE For DELL
I/O - USB 2.0 (CD-ROM)	LACIE (16*10*40) For DELL
	YAMAHA CD/RW-70
I/O - USB 2.0 (DVD/CD-RW)	Pioneer DVR-104
	Ricoh MP5125A
I/O - USB 2.0 (Cable)	Mini-LinQ USB 2.0 File transfer Cable
I/O - USB 2.0 (Printer)	HP 3425 Printer
I/O - USB 2.0 (Handy Drive)	Apacer USB Drive 256MB
	SanDisk USB Drive 256MB
	BenQ USB Drive 256MB
I/O - USB (Keyboard)	Microsoft Internet Keyboard Pro
	SILITEK K/B SK-6000
	NMB K/B
	ZIPPY USB K/B WK-610
I/O - USB (Keypad)	LUNARIS TK-LU2BSV
I/O - USB (Wireless Keyboard& Mouse)	ACER Keyboard+Mouse+Receiver
	Logitech Keyboard Mouse+Receiver
I/O - USB (Mouse)	Acer USB Mouse MP0930
	Microsoft Wireless Optical USB Mouse \MIC:P-LPD1-02-0047
	Microsoft Optical Mouse USB & PS/2 Compatible
	Microsoft Optical USB Mouse \ITE 78CJ
	Logitech Cordless TrackMan Wheel Mouse T-RA18
	Logitech MouseMan Dual Optical M-BP82
	Logitech Wheel Mouse M-BJ58
	Logitech Wheel Mouse M-BE58
	Logitech iFEEL Mouse M-UN58a
	TARGUS Wheel Mouse
I/O - USB (Camera)	Petaex optixo 330

Item	Specifications
I/O - USB (CCD)	Intel YC72 Dlink DSC 350 USB CCD Dlink WebCam DSB-C300 Logitech QuickCam Home Creative WebCam
I/O - USB (HDD)	HD 530 Tested to comply with FCC Standards
I/O - USB (CD-ROM)	IOMega ZIP CD650
I/O - USB (Printer)	HP DeskJet 930C HD DeskJet 840C
I/O - USB (FDD)	Teac USB FDD Acer Y-E Data USB FDD MIC USB FDD YD-8U10 Logitec USB FDD
I/O - USB (Handy Drive)	USB DRIVE 128MB Apacer HandyDrive 256MB
I/O - USB (LAN)	BUFFALO USB-10/100Methernet Billionton USB-10/100 FastEthernet USB-100B
I/O - USB (Modem)	USB Cmmunicator JATON K56/V.90 Fax/Modem
I/O - USB (Zip)	IOMEGA USB ZIP 250 IOMEGA USB ZIP 100
I/O - USB (Scanner)	HP ScanJet 5300c HP ScanJet 5200c
I/O - USB (Speaker)	Philips USB Speaker dss330 Philips USB Speaker (DIGITAL Speaker System)
I/O - USB (Hub)	PCI_ USB HUB\UH-400 USB HUB NET \UH-124
I/O - USB (to serial adapter)	USB to serial Adapter UB-75
I/O - USB (Gamepad)	Microsoft Sidewider Precision Pro Logitech WingMan FORMULA FORCE Logitech WingMan GAMEPAD EXTREME
I/O - USB (Card Reader)	CARRY 6 in 1 card reader Pro Compact Flash Card Reader Iwill 6 in one Card Reader
GB LAN Hub	3COM SUPER STACK II \3C16611 24port
LAN Hub	Accton ChefaHub Power-3016P Accton CheetahSwitch Workgroup-3008A Cnet 8 Port Switch NETVIN 5-Port Switch
S-VIDEO	SONY Trinitron 14"\PVM-14M4U DELL \2000FP
Audio Jacks (speaker)	JS-100 Jazz 3D Speaker SANYO AMPUFIED Speaker System AIWA STEREO SANYO 3D Speaker/OTTO-301
Audio Jacks (earphone)	AIWA HP-X121 Earphone PHILIPS Earphone Labtec Verse 504

Item	Specifications
Audio Jacks (microphone)	Labtec Verse 504 Alwa Mini Microphone No Brand

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.