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Acer Aspire 1300 Series

Service Guide

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Please refer to the table below for the updates made on Aspire 1300 service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

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

Preface

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

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

Chapter 1	System Specifications	9
	Features	9
	System Block Diagram	11
	Board Layout	12
	Top View	12
	Bottom View	14
	Outlook View	15
	Front View	15
	Left Panel	17
	Right Panel	18
	Rear Panel	19
	Bottom Panel	20
	Indicators	21
	Keyboard	22
	Special keys	22
	Touchpad	25
	Touchpad Basics	25
	Launch Keys	27
	Hardware Specifications and Configurations	28
Chapter 2	System Utilities	37
	BIOS Setup Utility	37
	Navigating the BIOS Setup Utility	37
	Startup	38
	Exit	39
	BIOS Flash Utility	40
	System Diagnostic Diskette	40
Chapter 3	Machine Disassembly and Replacement	41
	General Information	42
	Before You Begin	42
	Disassembly Procedure Flowchart	43
	Removing the Memory/HDD Module	46
	Removing the Keyboard/LCD Module	47
	Disassembling the Main Unit	48
	Disassembling the LCD Module-14.1 Inch	51
	Disassembling the LCD Module-15.1 Inch	52
	Disassembling the External Modules	53
	Disassembling the HDD Module	53
	Disassembling the Floppy Disk Drive Module	53
	Disassembling the Optical Drive Module	53
Chapter 4	Troubleshooting	55
	System Check Procedures	56
	External Diskette Drive Check	56
	External CD-ROM Drive Check	56
	Keyboard or Auxiliary Input Device Check	57
	Memory Check	57
	Power System Check	57
	Touchpad Check	58
	Power-On Self-Test (POST) Error Message	59
	Index of Error Messages	60
	Index of Symptom-to-FRU Error Message	62
	Intermittent Problems	66

Table of Contents

Undetermined Problems	67
Chapter 5 Jumper and Connector Locations	69
Top View	69
Bottom View	70
Chapter 6 FRU (Field Replaceable Unit) List	71
Aspire 1300	82
Appendix A Model Definition and Configuration	82
Main Features	83
Appendix B Test Compatible Components	85
Microsoft Windows XP (Home) Environment Test	86
Appendix C Online Support Information	89
Index	91

System Specifications

Features

This computer was designed with the user in mind. Here are just a few of its many features:

Performance

- Mobile AMD Athlon XP1400+/XP1800+, or higher processor
- VIA ProSavage KN133 (Twister K)+VT8362 & VT8231 chipset
- 2 memory slots supporting 133MHz SDRAM (PC-133), upgradeable to 1GB
- 20GB or higher capacity Enhanced-IDE hard disk
- Microsoft Windows XP operating system

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) liquid crystal display (LCD) supports extended graphics array (XGA) resolution, enabling 16.7 million colors at 1024X768
- Aspire 1300 series notebook computer features an accelerated graphics port (AGP) video system integrated in the VIA S3 Savage 4 KN 133 (Twister K) chipset. This provides a robust solution and enables high quality video output.
- Simultaneous LCD, external monitor or projector display

Multimedia

- Build-in optical drive (CD-ROM, DVD-ROM, or DVD/CD-RW combo drive)
- 14.1" or 15.0" XGA TFT LCD panel
- Built-in stereo speakers
- Audio input and output jacks

Connectivity

- Built-in 10/100 Mbps Ethernet connection
- Built-in 56Kbps fax/data modem
- 2 Universal Serial Bus (USB) ports

Human-centric design and ergonomics

- All-in-one design (incorporating hard drive, optical drive and floppy disk drive)
- Rugged, yet extremely portable, construction
- Stylish appearance
- Full-size keyboard with 4 programmable launch keys
- Comfortable palm rest area with well-positioned touchpad

Expansion

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

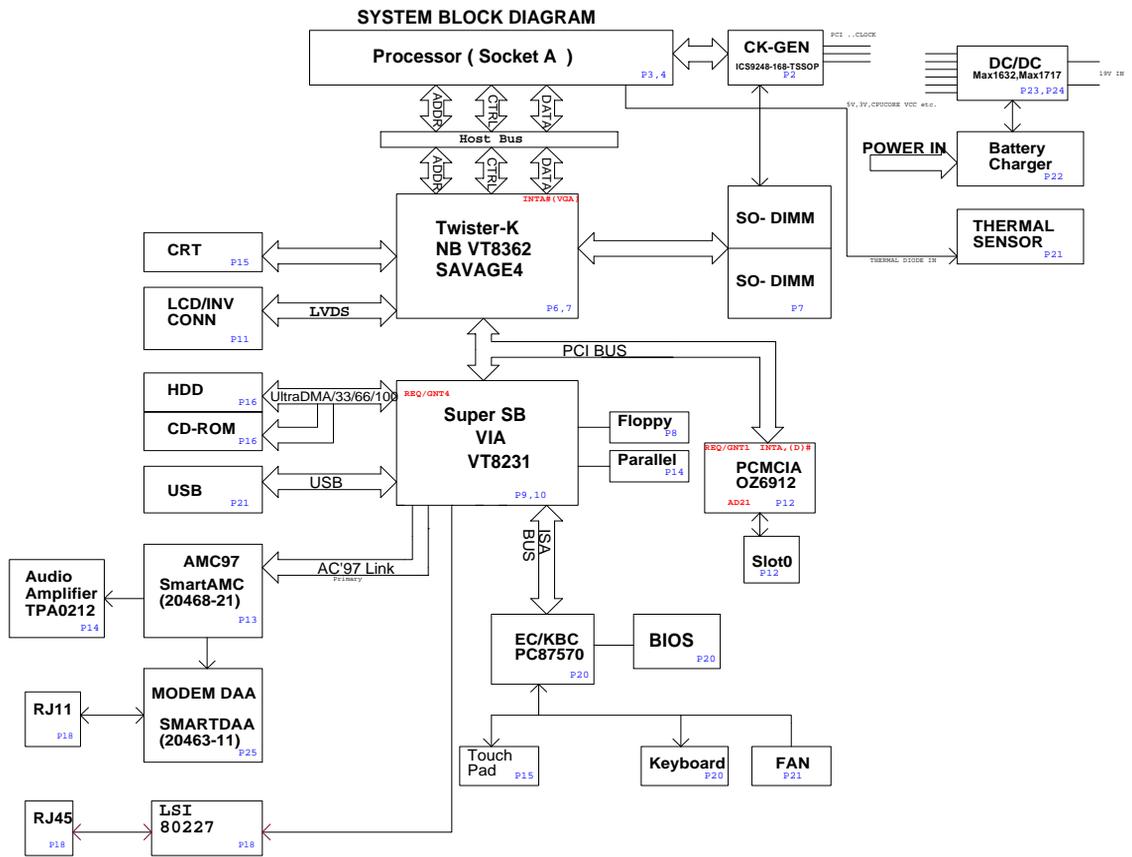
Keyboard and Pointing Device

- 87-(US)/88(Europe)-key Windows keyboard
- Ergonomically-centered touchpad pointing device

I/O Ports

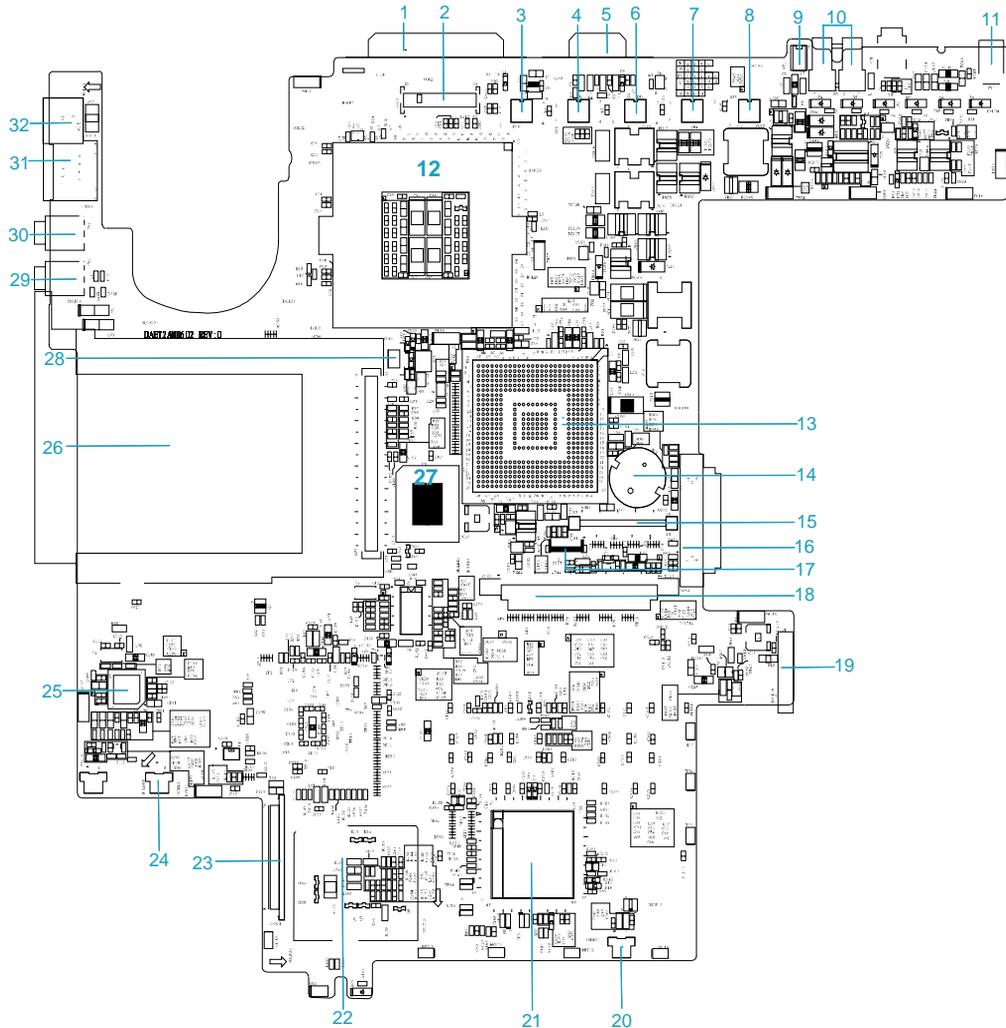
- One PCMCIA slot (type II or type III)
- One RJ-11 modem jack (V.90, 56K)
- One RJ-45 network jack (Ethernet 10/100) mbs
- One DC-in jack
- One parallel port (ECP/EPP compliant)
- One VGA (external monitor) port
- One headphone-out jack (3.5mm minijack)
- One microphone-in jack (3.5mm minijack)
- Two Universal Serial Bus (USB) ports

System Block Diagram



Board Layout

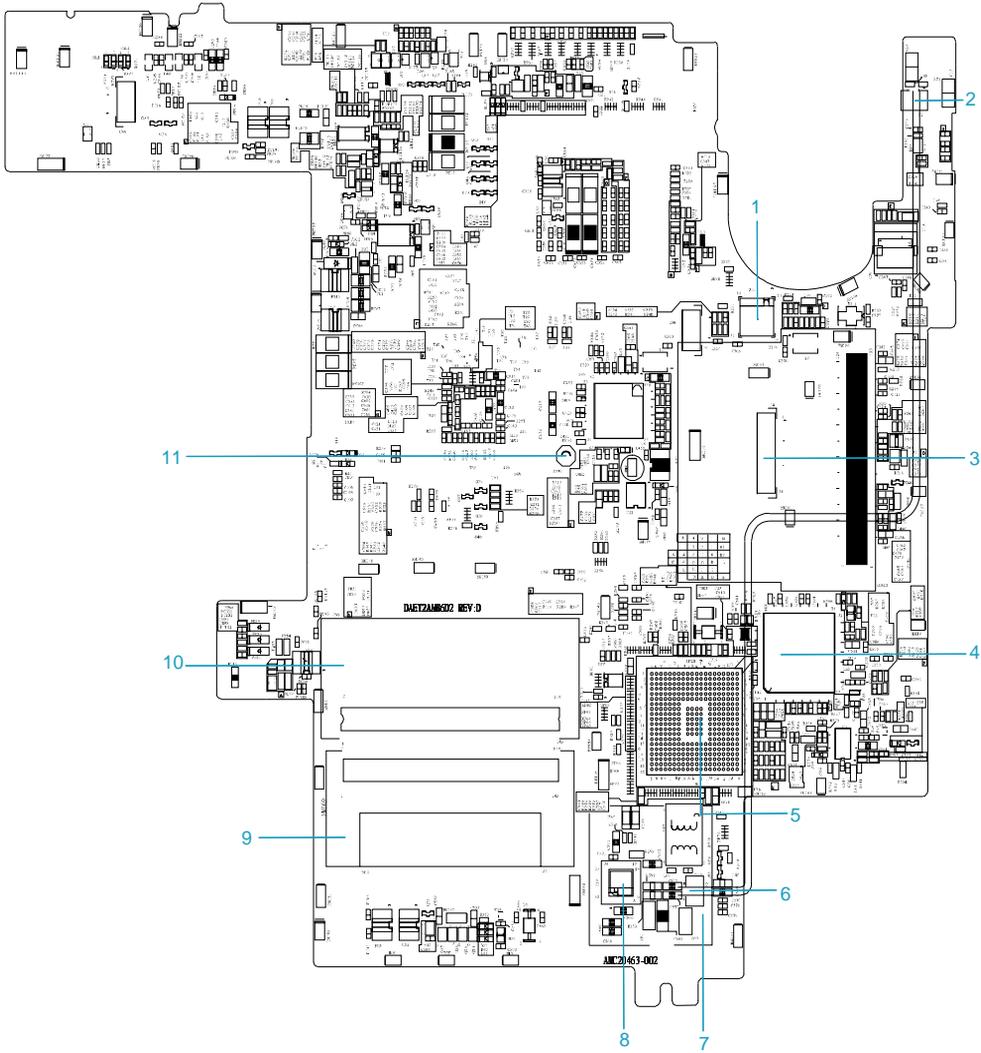
Top View



- | | | | |
|----|--------------------------------|----|----------------------------------|
| 1 | Parallel Port | 17 | Touchpad FFC Connector |
| 2 | LCD Cable Connector | 18 | HDD Connector |
| 3 | Power On Switch | 19 | Battery Connector |
| 4 | E-mail launch button | 20 | Right Speaker Connector |
| 5 | VGA Port | 21 | EC/KBC 87570 |
| 6 | Internet launch button | 22 | On Board Modem module |
| 7 | Launch Manager (User Define 1) | 23 | FDD FFC Connector |
| 8 | Launch Manager (User Define 2) | 24 | Left Speaker Connector |
| 9 | Lid closeSwitch | 25 | Audio Decode SmartAMC (20468-21) |
| 10 | USB Portx2 | 26 | Carbus Socket |
| 11 | Adapter Connector | 27 | BIOS Socket |
| 12 | CPU Socket | 28 | FAN connector |

13	North Bridge VT8362	29	Headphone Jack
14	RTC Battery Socket	30	Microphone-in Jack
15	Keyboard FFC connector	31	LAN Connector
16	CD/DVD-ROM Module Connector	32	Modem Connector

Bottom View



- | | | | |
|---|-----------------------|----|-----------------------|
| 1 | LAN PHY LSI-80227 | 7 | On Board Modem Module |
| 2 | Modem Cable Connector | 8 | Modem DAA SMARTDAA |
| 3 | Debug Port Connector | 9 | DIMM Socket 2 |
| 4 | PCMCIA OZ6912 | 10 | DIMM Socket 1 |
| 5 | South Bridge VT8231 | 11 | System-off Switch |
| 6 | Modem Cable Connector | | |

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	Launch keys	4 buttons that can be programmed to start frequently used applications.
3	Power button	Turns the computer on and off.
4	Touchpad	Touch sensitive pad that functions like a computer mouse.
5	Click buttons & 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.
6	Speakers	Left and right speakers deliver stereo audio output.

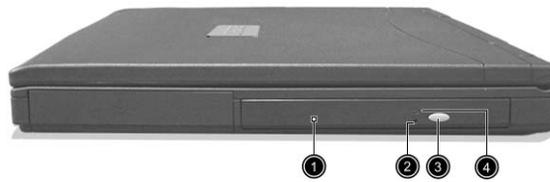
7	Palm rest	Provides a comfortable platform for your hands when typing on the keyboard.
8	Keyboard	Full-size keyboard for inputting typed data.
9	Status indicators	Light emitting diodes (LED) that show the status of the computer and its componenets.
10	Latch	Locks and releases the lid.

Left Panel



#	Item	Description
1	Modem jack	Connects the built-in fax/data modem to a phone line.
2	Network jack	Connects the computer to an Ethernet 10/100-based network.
3	Microphone-in jack	Connects an external microphone for audio input.
4	Headphone jack	Connects headphones for audio output.
5	PC card eject button	Press the eject button to remove a PC card for the PC card slot.
6	PC card slot	The slot supports a standard Type II or Type III PC card (PCMCIA or CardBus). Note: The connecting pins locate only on the lower slot. Please pay attention to this as you insert the PC Card.
7	Floppy disk drive	Supports a standard 3.5" diskette.
8	Floppy disk eject button	Press the eject button to remove a diskette from the floppy disk drive.

Right Panel



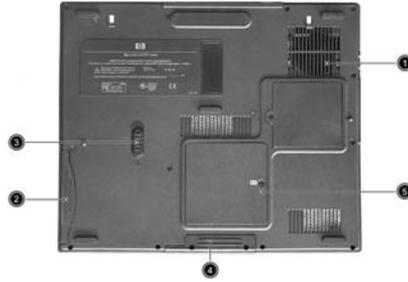
#	Item	Description
1	Optical drive	Depending on your model, the optical drive is one of the following: CD-ROM drive for reading CDs. DVD-ROM drive for reading CDs and DVDs. DVD/CD-RW combo drive for reading CDs and DVDs, and writing to CD-Rs and CD-RWs.
2	Optical drive emergency eject hole	Used to eject an optical disc when the computer is turned off.
3	Optical drive eject button	Press the eject button to remove a disc from the optical drive.
4	Optical disc read indicator	Light emitting diode (LED) that indicates when an optical disc is being read.

Rear Panel



#	Item	Description
1	Kensington lock slot	For attaching a security connector.
2	DC-in jack	Connects the AC adapter.
3	USB ports	2 ports for connecting USB devices.
4	External display port	Connects an external (VGA) display monitor.
5	Parallel port	Connects a parallel device, such as a printer.
6	Ventilation slots	Enable the computer to stay cool. even after prolonged use.

Bottom Panel



#	Item	Description
1	Ventilation slots	Enables the computer to stay cool, even after prolonged use.
2	Battery	The computer's removable battery.
3	Battery release latch	Slide and hold the latch, and then pull the battery to remove it from the unit.
4	Hard disk bay	Removable cover provides access to the computer's hard drive.
5	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 front of the palm rest area. These indicators show the status of the computer and its components.



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

#	Description
1	Caps Lock active
2	Num Lock active (Note: the keypad lock must be turned on to use the embedded numeric keypad.)
3	Scroll Lock active
4	Floppy disk drive activity
5	Hard disk drive activity
6	Optical drive activity

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

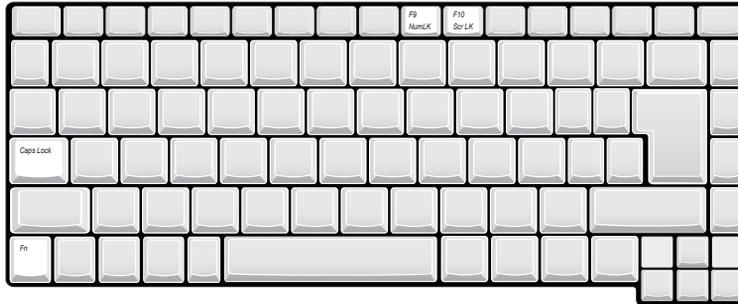
#		
1	Battery charge: Green Amber Red Off	the AC adapter is connected and the battery is fully charged. the AC adapter is connected and the battery is charging. the AC adapter is connected and the battery has a fault. the AC adapter is not connected, or the battery is not installed.
2	Power mode: Steady green Flashing green Off	the computer is on (even if the display is turned off). the computer is in standby mode. the computer is turned off, or in hibernation mode.

Keyboard

Special keys

Lock keys

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



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+  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 +  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 + t 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 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] + Windows logo key + M (undoes the minimize all windows action) + R (opens the Run dialog box)
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
Fn +	Decreases the display panel brightness.
Fn +	Increases the display panel brightness.
Fn +	Toggles the display setting between (1) the computer's LCD panel, (2) an external display device connected to the external display port, and (3) simultaneous display on the computer's LCD panel and an external display device.
Fn +	Toggles Num Lock on and off. (Please see "Special keys".)
Fn +	Toggles the keyboard's Scroll Lock on and off. (Please see "Special keys".)
Fn +	Toggle the sound on and off. (Mute.)
Fn +	Increases the sound volume. (Doesn't work for an external keyboard.)
Fn +	Decreases the sound volume. (Doesn't work for an external keyboard.)

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

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

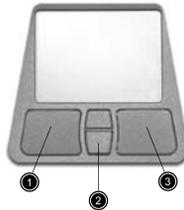
The built-in touchpad is a PS/2-compatible pointing device that senses movement on its surface. This cursor responds to your finger movements on the touchpad. In addition, the two click buttons provide the same functionality as a computer mouse, while the scroll key enables easy up and down scrolling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

Function	Left Button	Righ Button	Tap
Execute	Click twice quickly		Tap twice (at the same speed as double-clicking the mouse button)
Select	Click once		Tap once
Drag	Click and hold. Then 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	

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 the touch, the better the response. Tapping hard will not increase the touchpad's responsiveness.

Launch Keys

Located at the top of the keyboard are four buttons. These buttons are called launch keys. They are designated as key 1, key 2, key 3 and key 4. 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. All four launch keys can be set by the user.

To see the launch keys, run the Acer Launch Manger.



#	Description
Email	Launches your email application.
Web browser	Launches your Internet browser
P1	User-programmable
P2	User-programmable

Hardware Specifications and Configurations

Processor

Item	Specification
CPU type	AMD Athlon XP 1400+ (1.2G) / 1600+ (1.4G) / 1800+ (1.5G) 35W
CPU package	OPGA
CPU core voltage	1.2V/1.45V

BIOS

Item	Specification
BIOS vendor	Acer
BIOS Version	1.0
BIOS ROM type	Flash ROM
BIOS ROM size	512KB
BIOS package	TSOP
Supported protocols	ACPI 1.0b, APM 1.2, PC Card 95, SM BIOS 2.3, EPP/IEEE 1284, ECP/IEEE 1284 1.7 & 1.9, PCI 2.2, PnP 1.0a, DMI 2.0, USB, VESA VGA BIOS, DDC-2B, CD-ROM 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	256KB
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	VIA VT8362
Onboard memory size	0MB
DIMM socket number	2 sockets (4 banks)
Supports memory size per socket	512MB
Supports maximum memory size	1024MB
Supports DIMM type	Synchronous DRAM
Supports DIMM Speed	133 MHz
Supports DIMM voltage	3.3V
Supports DIMM package	144-pin soDIMM
Memory module combinations	You can install memory modules in any combinations as long as they match the above specifications.

Memory Combinations

Slot 1	Slot 2	Total Memory
0MB	64MB	64 MB
64MB	0MB	64 MB
0MB	128MB	128 MB
64MB	64MB	128 MB
128MB	0MB	128 MB
64MB	128MB	192MB
128MB	64MB	192MB
128MB	128MB	256MB
256MB	64MB	320MB
64MB	256MB	320MB
256MB	128MB	384MB
128MB	256MB	384MB
256MB	256MB	512MB
512MB	512MB	1024MB
512MB	0MB	512MB
0MB	512MB	512MB

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

LAN Interface

Item	Specification
Chipset	VIA Chipset internal +LSI 80227
Supports LAN protocol	10/100 Mbps
LAN connector type	RJ45
LAN connector location	Left side

Modem Interface

Item	Specification
Chipset	CONEXANT soft modem (on board) 20463-11
Fax modem data baud rate (bps)	14.4K
Data modem data baud rate (bps)	56K
Supports modem protocol	V.90 MDC
Modem connector type	RJ11
Modem connector location	Left side

Floppy Disk Drive Interface

Item	Specification		
Vendor & model name	Panasonic JU-226A 243FC		
Floppy Disk Specifications			
Media recognition	2DD (720KB)	2HD (1.2MB, 3-mode)	2HD (1.44MB)
Sectors/track	9	15	18
Tracks	80	80	80
Rotational speed (RPM)	300	360	300
Read/write heads	2		
Encoding method	MFM/FM		

Item	Specification
Power Requirement	
Input Voltage (V)	+5V +/- 10%

Hard Disk Drive Interface

Item	Specification	
Vendor & Model Name	TOSHIBA 20G(MK2018GAP), TITAN	IBM 20G(IC25N020ATCS04-0), 07N8325, CASCADE
Capacity (MB)	20000	20000
Bytes per sector	512	512
Data heads	3	3
Drive Format		
Disks	2	2
Spindle speed (RPM)	4200 RPM	4200 RPM
Performance Specifications		
Buffer size	2048KB	2048KB
Interface	ATA-5	ATA-5
Max. media transfer rate (disk-buffer, Mbytes/s)	216	216
Data transfer rate (host-buffer, Mbytes/s)	100 MB/Sec. Ultra DMA mode-5	100 MB/Sec. Ultra DMA mode-5
DC Power Requirements		
Voltage tolerance	5V(DC) +/- 5%	5V(DC) +/- 5%

DVD-ROM Interface

Item	Specification	
Vendor & model name	DVD-ROM 8X QSI SDR-083	
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 %	