

# **Aspire 5520/5220 Series Service Guide**

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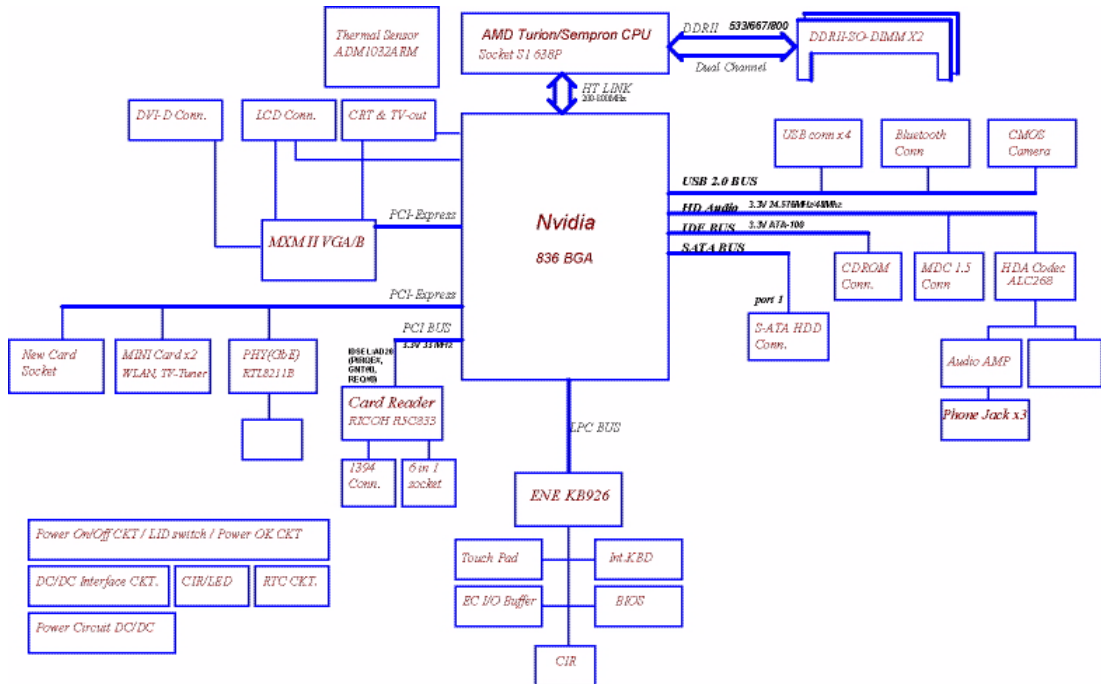
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# System Block Diagram

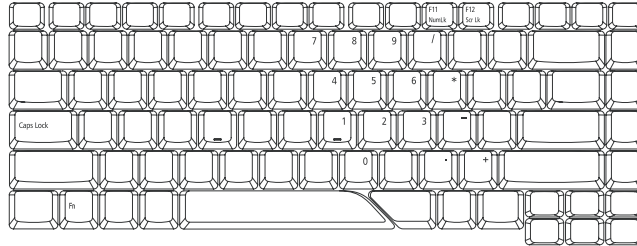


# Using the Keyboard

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

## Lock Keys and embedded numeric keypad

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



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

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

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

## Windows Keys

The keyboard has one key that performs Windows-specific functions.

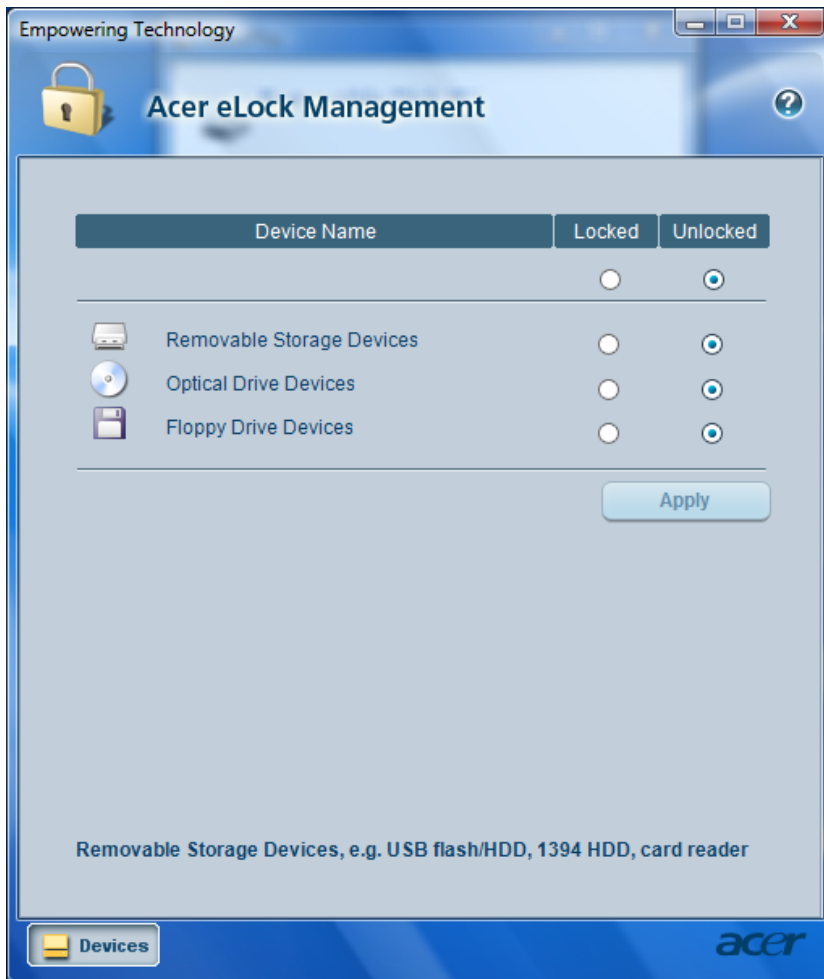
## Acer eLock Management

Acer eLock Management is a security utility that allows you to lock your removable data, optical and floppy drives to ensure that data cannot be stolen while your notebook is unattended.

- q Removable data devices - includes USB disk drives, USB pen drives, USB flash drives, USB MP3 drives, USB memory card readers, IEEE 1394 disk drives and any other removable disk drives that can be mounted as a file system when plugged into the system.
- q Optical drive devices - includes any kind of CD-ROM or DVD-ROM drives.
- q Floppy disk drives - 3.5-inch disks only.
- q Interfaces - includes serial ports, parallel port, infrared (IR), and Bluetooth.

To activate Acer eLock Management, a password must be set first. Once set, you can apply locks to any of the devices. Lock(s) will immediately be set without any reboot necessary, and will remain locked after rebooting, until unlocked.

**NOTE:** If you lose your password, there is no method to reset it except by reformatting your notebook or taking your notebook to an Acer Customer Service Center. Be sure to remember or write down your password.



## DVD-Dual Interface

Item	Specification	
Vendor & model name	HLDS COMBO 12.7mm Tray 24X GCC-T10N SONY COMBO 12.7mm Tray 24X CRX880A LF PIONEER Super-Multi Drive 12.7mm Tray DVR-K17RS PANASONIC Super-Multi Drive 12.7mm Tray DL 8X UJ-850 PHILIPS Super-Multi Drive 12.7mm Tray DL 8X DS-8A1P HLDS Super-Multi Drive 12.7mm Tray LabelFlash 8X GSA-T20N SONY Super-Multi Drive 12.7mm Tray DL 8X AD-7530A TOSHIBA HD-DVD Drive 12.7mm Tray TS-L802A	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	Sustained: Max 3.6Mbytes/sec	Sustained: Max 10.8Mbytes/sec
Buffer Memory	2MB	
Interface	Enhanced IDE(ATAPI) compatible	
Applicable disc format	Support disc formats 1. Reads data in each CD-ROM, CD-ROM XA, CD-1, Video CD, CD-Extra and CD-Text 2. Reads data in Photo CD (single and Multi-session) 3. Reads standard CD-DA 4. Reads and writes CD-R discs 5. Reads and writes CD-RW discs 6. Reads and writes in each DVD+R/RW (Ver. 1.1) 7. Reads data in each DVD-ROM and DVD-R (Ver. 2.0 for Authoring) 8. Reads and writes in each DVD-R (Ver. 2.0 for general), DVD-RW and DVD+R/RW (Ver1.1)	
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release	
Power Requirement		
Input Voltage	5 V +/- 5 % (Operating)	

## Audio Interface

Item	Specification
Audio Controller	Realtek ALC268
Audio onboard or optional	Built-in
Mono or Stereo	Stereo
Resolution	18 bit stereo full duplex
Compatibility	HD audio Interface; S/PDIF output for PCM or AC-3 content
Sampling rate	1Hz resolution VSR (Variable Sampling Rate)
Internal microphone	Yes
Internal speaker / Quantity	Yes/2 (2W speakers)
Supports PnP DMA channel	DMA channel 0 DMA channel 1
Supports PnP IRQ	IRQ10, IRQ11
Subwoofer	Yes (2W) (Optional)

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## Advanced

The Advanced screen displays advanced settings of the BIOS utility.

PhoenixBIOS Setup Utility			
Information	Main	Advanced	Memory Security Boot Power Exit
<ul style="list-style-type: none"> <li>▶ USB Self-Healing</li> <li>  PCI Hot-Plug Resources :      [Enabled]</li> <li>  I/O :                            [256]</li> <li>  Memory :                        [2M]</li> <li>  Pre-fetchable Memory:        [2M]</li> <li>  Watchdog Timer :              [Disabled]</li> <li>▶ Integrated Devices</li> </ul>		<p>Item Specific Help</p> <p>Use this feature to tune USB timing event for USB devices</p>	
<p>F1 Help            ↑↓ Select Item            F5/F6 Change Values            F9 Setup Defaults</p> <p>Esc Exit           ←→ Select Menu            Enter Select ▶ Sub-Menu        F10 Save and Exit</p>			

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

Parameter	Description	Option
USB Self-Healing	This sub menu displays all USB self-healing options and settings. See the following page for a description of each setting.	
PCI Hot-Plug Resources	Enables, disables support for hot plug devices.	<b>Enabled</b> or Disabled
I/O	Sets the number of I/O bytes assigned to each hot-plug slot.	<b>256</b> , 512, 1024, 2048, 4096 or None
Memory	Sets the amount of memory assigned to each hot-plug slot.	1M, <b>2M</b> , 4M, 8M, 16M, 32M, 64M or None
Pre-fetchable Memory	Sets the amount of pre-fetchable memory assigned to each hot-plug slot.	1M, <b>2M</b> , 4M, 8M, 16M, 32M, 64M or None
Watchdog Timer	Enables, disables the watchdog timer function.	<b>Disabled</b> or Enabled
Integrated Devices	This sub menu displays all options and settings for integrated devices.	See the following page for a description of each setting.

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

Parameter	Description	Option
C State Configuration	Enables, disables C2/C3 CPU power states. Auto enables C2 and C3 if a single core is detected and disables C2+C3 if a dual core is detected.	<b>Auto</b> , Disabled, C2, C3, or C2 + C3
C1E Configuration	Enables, disables the C1E power state, which applies when a dual core is present. Auto enables C1E only if a dual core is detected.	<b>Auto</b> or Disabled
CPU Throttle	Enables, disables the CPU throttle, to increase CPU speed and performance.	<b>Disabled</b> or Enabled
CPU Spread Spectrum	Enables, disables the CPU Spread Spectrum function which allows the user to reduce the EMI of the front side bus (FSB).	<b>Disabled</b> , 0.50% H.Kiss Up, 0.50% H.Kiss Down, 0.75% H.Kiss Up, or 0.75% H.Kiss Up.
iGPU Spread Spectrum	Enables, disable the iGPU Spread Spectrum function.	<b>Disabled</b> , 1.00% Triangular Center, 2.00% Triangular Center, or 3.00% Triangular Center
PCIe Spread Spectrum	Enables, disables the PCIe Spread Spectrum function.	<b>Disabled</b> or Triangular Down
SATA Spread Spectrum	Enables, disables the SATA Spread Spectrum function.	<b>Disabled</b> or Triangular Down
PState Configuration	Enables, disables ACPI Pstate support.	<b>Enabled</b> or Disabled
USB CSC Resume	Enables, disables USB CSC resume.	<b>Disabled</b> or Enabled
DIPM	Enables, disables device initiated power management on the hard disk.	<b>Disabled</b> or Enabled
HIPM	Enables, disables host initiated power management on the hard disk.	<b>Enabled</b> or Disabled
PCI Clocks	Enables the PCI clock for all devices. Auto enables the PCI clock for only connected devices.	<b>Enabled</b> or Auto
Fake Battery Subsystem	Enables, disables the Fake Battery Subsystem feature	<b>Disabled</b> or Enabled
AltVid	Enables, disables the Altvid function, to reduce processor voltage to the minimal operation level.	<b>Disabled</b> or Enabled
ASPM (L0s/L1)	Enables, disables the Active State Power Management (ASPM) states (L0s/L1)	<b>Enabled</b> or Disabled
Power Saver	This sub menu displays all power saving options and settings.	See the following page for a description of each setting.

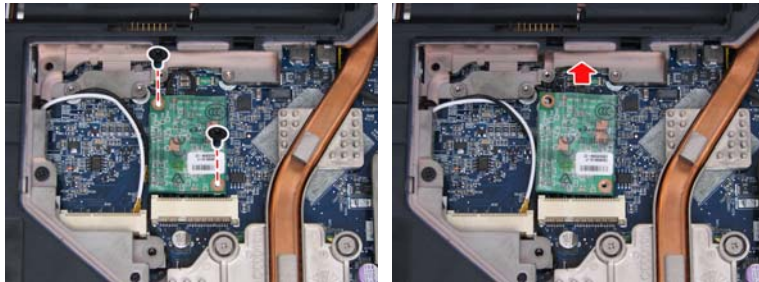
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## Removing the Wireless LAN Card/Modem Card and TV Tuner Card

1. Disconnect the three antennae from the wireless LAN card.
2. Remove the two screws fastening the wireless LAN card.
3. Then take out the wireless LAN card from the main unit.



4. Remove the screw fastening the modem card and detach the modem card from the main board.
5. Disconnect the RJ-11 cable and remove the modem card.

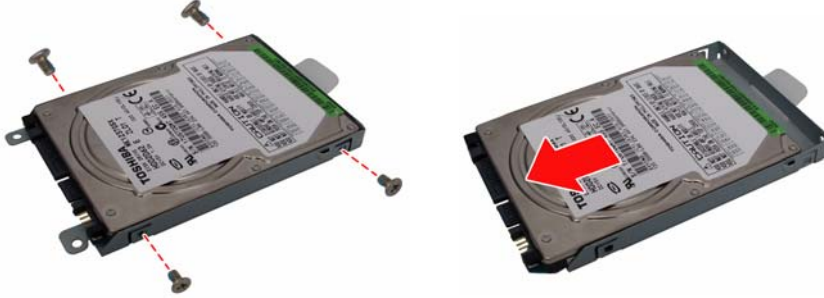


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## Disassembling the External Modules

### Disassembling the HDD Module

1. Remove the four screws holding the HDD (hard disk drive) case; two on each side.
2. Carefully slide out the hard disk drive from the HDD case.



### Disassembling the ODD Module

1. Remove the three screws holding the optical bracket.
2. Then remove the optical bracket from the optical disk drive.

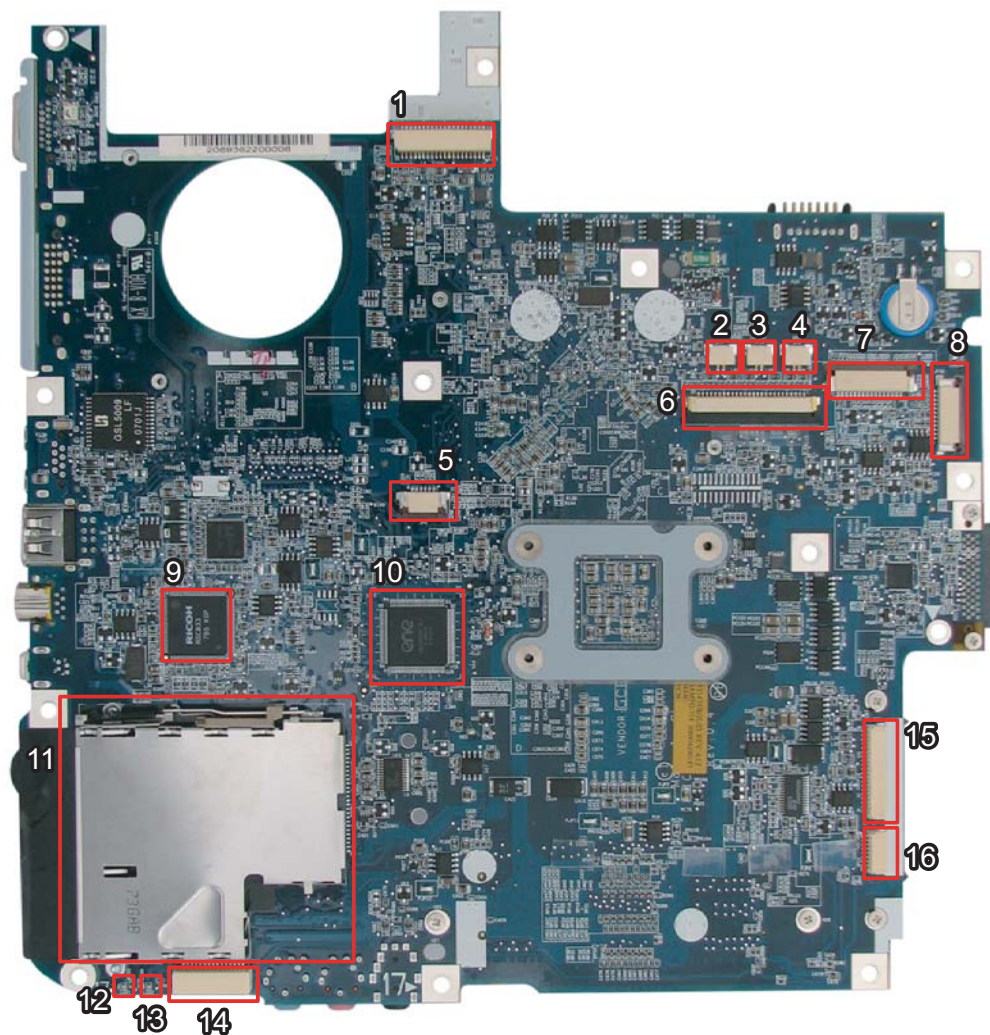


## Error Message List

No beep Error Messages	FRU/Action in Sequence
No beep, power-on indicator turns off and LCD is blank.	Power source (battery pack and power adapter). See "Power System Check" on page 88.. Ensure every connector is connected tightly and correctly. Reconnect the DIMM. LED board. System board.
No beep, power-on indicator turns on and LCD is blank.	Power source (battery pack and power adapter). See "Power System Check" on page 88.. Reconnect the LCD connector Hard disk drive LCD inverter ID LCD cable LCD Inverter LCD System board
No beep, power-on indicator turns on and LCD is blank. But you can see POST on an external CRT.	Reconnect the LCD connectors. LCD inverter ID LCD cable LCD inverter LCD System board
No beep, power-on indicator turns on and a blinking cursor shown on LCD during POST.	Ensure every connector is connected tightly and correctly. System board
No beep during POST but system runs correctly.	Speaker System board

# Jumper and Connector Locations

Top View



1	JP1	LVDS Connector	9	U14	
2	JP3	Speaker (Left) Connector	10	U15	
3	JP34	Speaker (Right) Connector	11	JP9	PCI Express Card Socket
4	JP4	Microphone Connector	12	LED1	Power/Suspend LED
5	JP6	Touchpad Connector	13	LED2	Battery Charge/Discharge LED
6	JP5	Keyboard Connector	14	JP13	Mainboard to Audio Board Connector
7	JP2	Button Board Connector	15	JP11	Mainboard to USB & TV Board Connector
8	JP36	LED Board Connector	16	JP12	Bluetooth Module Connector

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