

Preface

Conventions

The following conventions are used in this manual:



Warning

Indicates a potential for personal injury.



Caution

Indicates a potential loss of data or damage to equipment.



Important

Indicates information that is important to know for the proper completion of a procedure, choice of an option, or completing a task.

General information

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

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 (such as add-on cards, modems, or extra memory capabilities). These localized features are not covered in this generic service guide. In such cases, contact your regional offices or the responsible personnel/channel to provide you with further technical details.

When ordering FRU parts: 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 may not be noted in this printed service guide.

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.

Features

Platform

- Intel® Core™2 Duo processor (2.53GHz) or Intel® Core™2 Quad processor (2.0 GHz) with 1066 MHz FSB.
- Core Logic: Intel GM45 Northbridge, Intel ICH9ME Southbridge
- Wireless: Intel WiFi Link 5100

System Memory

- Dual-Channel DDR2 SDRAM support
- Up to 8GB of DDR2 800/1066 MHz memory, upgradeable using two SO-DIMM modules

Display and graphics

- 17.1" WXGA+ TFT LCD display panel
- VGA Memory:
 - NVidia N10E-GT 1 with 1024 MB memory
- Dual independent display support
- Supported screen resolution
 - 800 x 600, 1024 x 768, 1152 x 864, 1280 x 720, 1280 x 768, 1280 x 800, 1360 x 768, 1140 x 900
- 16.7 million colors
- MPEG-2/DVD hardware-assisted capability (acceleration)
- MPEG-2/DVD decoding (for selected models)
- WMV9 (VC-1) support (acceleration)
- WMV9 (VC-1) and H.264 (AVC) decoding (for selected models)
- HDMI™ (High-Definition Multimedia Interface) with HDCP (High-bandwidth Digital Content Protection) support

Storage subsystem

- Industry standard 2.5" 120–500GB or higher 9.5mm height hard disk drive
- Optical drive options:
 - Blu-ray Disc™/DVD-Super Multi double-layer drive
 - DVD-Super Multi double-layer drive
- 5-in-1 card reader, supporting Secure Digital™ (SD), MultiMediaCard (MMC), Memory Stick® (MS), Memory Stick PRO™ (MS PRO), xD-Picture Card™ (xD)

Input devices

- 103-key keyboard, 2.5 mm (minimum) key travel
- Twelve function keys, four cursor keys, two Windows® keys
- Touchpad pointing device
- Media keys on optional multimedia panel

Audio

- Two built-in stereo speakers
- High-definition audio support
- MS-Sound compatible
- Built-in microphone on webcam

Communication

- Integrated webcam
- WLAN: Intel® WiFi Link 5100 a/b/g/n
- WPAN: Bluetooth® 2.0+EDR (Enhanced Data Rate)
- LAN: 10/100/1000 Ethernet

I/O Ports and devices

- USB (three)
- External display (VGA) port
- eSATA port
- Ethernet (RJ45)
- Headphone/SPDIF Audio Out
- Microphone in
- DC in jack for AC adapter
- PCMCIA slot (Type II)
- ExpressCard™/54 slot
- Fingerprint reader (optional)
- 5-in-1 card reader (SD™, MMC, MS, MS PRO, xD)
- HDMI™ port with HDCP support

Security

- Kensington lock slot

Environment

- Temperature:
 - Operating: 32 °F to 90 °F (0 °C to 35 °C)
 - Non-operating: -4 °F to 140 °F (-20 °C to 60 °C)
- Humidity (non-condensing):
 - Operating: 10% to 90%
 - Non-operating: 5% to 95%

Dimension and Weight

- Dimension: 400 mm x 295 mm x 42.8 mm
- Weight: 4.20 kg.

Hardware specifications and configurations

CPU

Item	Specification
CPU type	Intel Core 2 Duo or Intel Core 2 Quad Mobile Processor
Core logic	Intel GM45 + ICH9M
CPU package	Socket-P, μ FCPGA
CPU core voltage	1.0375V to 1.3V

Controllers

Item	Controller
Core logic	Intel GM45 + ICH9ME
VGA	NVidia N10E-GT 1
LAN	Marvell 88E8057
USB 2.0	Intel ICH9ME
Super I/O controller	
Bluetooth	Foxconn BRM2046
Wireless 802.11	▪ Intel WiFi Link 5100
ExpressCard	Intel ICH9ME
Memory Card Reader	RTS5158
Audio Codec	Conexant CX2056-15Z Realtek ALC269X

BIOS

Item	Specification
BIOS vendor	Phoenix
BIOS Version	V1.01

Item	Specification
Supported protocols	<ul style="list-style-type: none"> ▪ ACPI 1.0b/2.0/3.0 compliance ▪ PCI 2.2 or later ▪ System/HDD Password Security Control ▪ INT 13H Extensions ▪ PnP BIOS 1.0a ▪ SMBIOS 2.4 or later ▪ BIOS Boot Specification ▪ Simple Boot Flag 1.0 ▪ Boot Block ▪ PCI Bus Power Management Interface Specification ▪ USB Specification 1.1/2.0 ▪ IEEE 1394 1.0 ▪ USB/1394 CD-ROM Boot Up support ▪ PC Card Standard 1995 (PCMCIA 3.0 Compliant Device) ▪ IrDA 1.0 ▪ Support HD audio ▪ Wi-Fi 2.0, PXE 2.1 ▪ Preboot Execution Environment (PXE) 2.1 ▪ Boot Integrity Service Application Program Interface (BIS) 1.0 ▪ PC2002/2005 compliant ▪ Intel Enhanced Speedstep Technology ▪ ASF 2.0 ▪ TPM v1.2 ▪ AHCI support ▪ iAMT 4.0 or later (for Intel platform)
BIOS password control	Manually set Supervisor and User passwords.

Memory

Item	Specification
Memory controller	Built-in
Memory size	0 MB (no on-board memory)
SO-DIMM socket number	2 sockets
Supports memory size per socket	2 GB per SO-DIMM 4 GB per SO-DIMM
Supports maximum memory size	8 GB
Supports SO-DIMM type	DDR 2 Synchronous DRAM
Supports SO-DIMM Speed	800/1066MHz
Supports SO-DIMM voltage	1.8V and 0.9V
Supports SO-DIMM package	200-pin SO-DIMM
Memory module combinations	You can install memory modules in any combination as long as they match the above specifications.

Hard Disk Drive

Item	Specification					
Vendor & Model Name	ST9120817AS MK1246GSX HTS542512K 9SA00 HT543212L9 A300 WD1200BEV S-22UST0 WD1200BEV T-22ZCT0	ST9160827AS MK1646GSX MK1652GSX HTS542516K 9SA00 HTS543216L9 A300 WD1600BEV T-22ZCT0	ST9250827AS MK2546GSX HTS542525K9S A00 HTS543225L9A 300 WD2500BEVS-2 2UST0 WD2500BEVT-2 2ZCT0	HTS543232 L9A300 WD3200BE VT-22ZCT0	ST9500325 AS WD5000BE VT-22ZAT0	ST9320421A S HTS723232L 9SA00 WD3200BEK T-22F3T0
Capacity (MB)	120000	160000	250000	320000	500000	320000
Bytes per sector	512	512	512	N/A	512	512
Data heads	3	3/4	4	N/A	2/4	2/4
Drive Format						
Disks	2	2	2	N/A	N/A	N/A
Spindle speed (RPM)	5400 RPM	5400 RPM	5400 RPM	5400 RPM	5400 RPM	7200 RPM
Performance Specifications						
Buffer size	8MB	8MB	8MB	8MB	8MB	16MB
Interface	SATA	SATA	SATA	SATA	SATA	SATA
Max. media transfer rate (disk-buffer, Mbytes/s)	540	540	540	850	3.0 GB/s (Max.) Buffer to Host	3.0 GB/s (Max.) Buffer to Host
DC Power Requirements						
Voltage tolerance	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%	5V(DC) +/- 5%

Optical drive

Item	Specification
Vendor & model name	TOSHIBA SUPER-MULTI DRIVE DL 8X TS-L633A LF PIONEER SUPER-MULTI DRIVE 8X DVR-TD08RS LF PANASONIC SUPER-MULTI DRIVE DL 8X UJ-870A LF HLDS SUPER-MULTI DRIVE TRAY DL 8X GSA-T50N LF SONY SUPER-MULTI DRIVE DL 8X AD-7560S LF PLDS SUPER-MULTI DRIVE DL 8X DS-8A2S LF TOSHIBA COMBO 24X TS-L463A SONY COMBO 24X CRX890S
Performance Specification	
Transfer rate (KB/sec)	Sustained: <ul style="list-style-type: none"> with CD: Max 3.6Mbytes/sec. with DVD: Max 10.08Mbytes/sec.
Buffer Memory	2MB
Interface	SATA
Applicable disc format	Applicable disc format CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW CD: CD-DA (Red Book) - Standard Audio CD & CD-TEXT CD-ROM (Yellow Book Mode1 & 2) - Standard Data CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge) CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video Video-CD (White Book) - MPEG1 Video CD-R (Orange Book Part) CD-RW & HSRW (Orange Book Part Volume1 & Volume 2 Super Audio CD (SACD) Hybrid type US & US+ RW DVD: DVD-ROM (Book 1.02), DVD-Dual DVD-Video (Book 1.1) DVD-R (Book 1.0, 3.9G) DVD-R (Book 2.0, 4.7G) - General & Authoring DVD+R (Version 1.0) DVD+RW DVD-RW (Non CPRM & CPRM) DVD [®] R Dual
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)

CHAPTER 1: System specifications

Item	Specification
Vendor & model name	SONY BD COMBO 12.7mm Tray DL 2X BC-5500S LF Panasonic BD COMBO 12.7mm Tray DL 2X UJ130A P08B1 PLDS BD COMBO 12.7mm Tray DL 2X DS-4E1S
Performance Specification	
Transfer rate (KB/sec)	Sustained: <ul style="list-style-type: none"> with CD: Max 3.6Mbytes/sec. with DVD: Max 10.8Mbytes/sec. with BD: Max 11Mbytes/sec.
Buffer Memory	<ul style="list-style-type: none"> for CD/DVD: 2MB for BD: 4.5MB
Interface	SATA
Applicable disc format	<p>Applicable disc format</p> <p>CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text</p> <p>DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW</p> <p>CD:</p> <p>CD-DA (Red Book) - Standard Audio CD & CD-TEXT</p> <p>CD-ROM (Yellow Book Mode1 & 2) - Standard Data</p> <p>CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session</p> <p>CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge)</p> <p>CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video</p> <p>Video-CD (White Book) - MPEG1 Video</p> <p>CD-R (Orange Book Part)</p> <p>CD-RW & HSRW (Orange Book Part Volume1 & Volume 2</p> <p>Super Audio CD (SACD) Hybrid type</p> <p>US & US+ RW</p> <p>DVD:</p> <p>DVD-ROM (Book 1.02), DVD-Dual</p> <p>DVD-Video (Book 1.1)</p> <p>DVD-R (Book 1.0, 3.9G)</p> <p>DVD-R (Book 2.0, 4.7G) - General & Authoring</p> <p>DVD+R (Version 1.0)</p> <p>DVD+RW</p> <p>DVD-RW (Non CPRM & CPRM)</p> <p>DVD+/-R Dual</p> <p>Blu-Ray:</p> <p>BD-R, BD-R DL, BD-RE, BD-RE DL</p>
Loading mechanism	<p>Load: Manual</p> <p>Release:</p> <p>(a) Electrical Release (Release Button)</p> <p>(b) Release by ATAPI command</p> <p>(c) Emergency Release</p>
Power Requirement	
Input Voltage	5 V +/- 5% (Operating)

LCD

Item	Specification
Vendor & model name	AUO/LPL
Screen Diagonal (mm)	17.1 inches

Item	Specification
Display resolution (pixels)	1440 x 900 WXGA+
Pixel Pitch	0.204 x 0.204
Pixel Arrangement	R.G.B. Vertical Stripe
Display Mode	Normally White
Typical White Luminance (NIT) also called Brightness	220
Luminance Uniformity	1.25 max.
Contrast Ratio	400 typical
Response Time msec	8
Nominal Input Voltage VDD	+3.3V
Viewing Angle (degree) Horizontal: Right/Left Vertical: Upper/Lower	45/45 15/35
Temperature Range(° C) Operating Storage (shipping)	0 to +50 -40 to +60

Inverter

Item	Specification
Vendor & model name	▪ Darfon

Video subsystem

Item	Specification
Chipset	NVidia N10E-GT 1
GPU Frequency	414 MHz

Item	Specification
Memory size	1024 MB
Features	<ul style="list-style-type: none"> ▪ Unified Shader Architecture ▪ Support Microsoft® DirectX® 10 Shader Model 4 ▪ Geometry Instancing 2.0 ▪ SGI OpenGL® 2.0 optimizations and support ▪ Adaptive PCI Express interface ▪ High efficiency integrated adaptable and programmable video processor (VP2) ▪ Integrated Bit Stream Processor (BSP) ▪ NVIDIA PureVideo/Pure Video HD technology ▪ Industry video codec standard hardware acceleration ▪ Advanced Spatial Temporal De-Interlacing ▪ Vibrant Color Temperature Correction ▪ LCD Overdrive ▪ High-Quality Real-Time video recording ▪ Best quality 10-bit display pipeline ▪ NVIDIA nView Multi Display Technology ▪ SmartDimmer Technology ▪ Integrated HDMI support ▪ Support for integrated HDCP ▪ NVIDIA Digital Vibrance Control Technology ▪ Integrate HDTV encoder ▪ Dual 400MHz RAMDACs

Keyboard

Item	Specification
Keyboard controller	Winbond 8763
Total number of keypads	103-key
Windows logo key	Yes
Internal & external keyboard work simultaneously	Plug USB keyboard to the USB port directly

Pointing device

Item	Specification
Type	<ul style="list-style-type: none"> ▪ Synaptics 372 Touchpad
Buttons	Left/Right
Scrolling	Scroll zone on right side of touchpad

Memory card reader

Item	Specification
Controller	OZ129 Rev. B3 PCI-based

Item	Specification
Cards supported	Support 5-in-1 card reader (MMC, MS, MS-pro, SD, and xD)
Compliance	<ul style="list-style-type: none"> Complies to SDIO Host Interface Specification Rev 1.0 Supports MMC, MMCplus, SD Memory, and SDIO cards SDIO Version 1.10 compliant with High-Speed Mode SD Host Interface Specification v1.0 SD Host Interface Specification v2.0 SD HC (High Capacity SD memory card) Supports SD memory card, with CPRM security Complies to MultiMediaCard™ Version 4.0 Supports Memory Stick™ and MS PRO media cards Supports xD-Picture™ card and SmartMedia™ cards

Cardbus

Item	Specification
Controller	O2Micro OZ27C10LN
Cards supported	Type II

ExpressCard

Item	Specification
Controller	ICH9ME
Supports card type	Type 54
Number of slots	One
Access location	Right panel

Audio

Item	Specification
Audio Controller	Conexant CX2056-15Z Realtek ALC269X
Audio onboard or optional	Built-in
Mono or Stereo	Stereo
Resolution	<ul style="list-style-type: none"> Ten DAC channels support 16/20/24-bit PCM format for 7.1 sound playback, plus 2 channels of independent stereo sound output (multiple streaming) through the front panel output Two stereo ADCs support 16/20/24-bit PCM format, one for stereo microphone, one for legacy mixer recording
Compatibility	<ul style="list-style-type: none"> HD Audio

Item	Specification
Sampling rate	<ul style="list-style-type: none"> ▪ All DACs supports 44.1/48/96/192 kHz sample rate ▪ All ADCs support 44.1/48/96 kHz sample rate ▪ Two independent 16/20/24-bit S/PDIF-OUT converters support 44.1/48/96/192 kHz sample rate, one for nominal digital audio, the other one for digital audio output to HDMI transmitter
Internal microphone	With optional webcam
Internal speaker/quantity	2 speakers (1.5 W per channel)
Features	<ul style="list-style-type: none"> ▪ 97 dB SNR DACs & 90 dB SNR ADCs ▪ Enable VoIP function ▪ Subwoofer support

Wired LAN

Item	Specification
LAN chipset	Marvell 88E8057
Supports LAN protocol	10/100/1000 Mbps
LAN connector type	RJ45
LAN connector location	Right side
Features	<ul style="list-style-type: none"> ▪ Integrated 10/10/1000 BASE-T transceiver ▪ PCI v2.2 compliant ▪ Wake on LAN support meeting ACPI requirements

Bluetooth

Item	Specification
Chipset	Foxconn BRM2046
Data throughput	2.1 Mbit/s
Protocol	Bluetooth 2.0
Interface	USB (board level)
Connector type	Wireless via Bluetooth protocols

Wireless LAN

Item	Specification
Chipset	<ul style="list-style-type: none"> ▪ Intel WiFi Link 5100
Data throughput	11~54 Mbps, up to 270 Mbps for Draft-N

Item	Specification
Protocol	<ul style="list-style-type: none"> ▪ IEEE 802.11a ▪ IEEE 802.11b ▪ IEEE 802.11g ▪ IEEE 802.11 Draft-N
Interface	PCI bus (mini PCI socket for wireless module)

USB

Item	Specification
Chipset	Intel ICH9ME
USB compliancy level	2.0
OHCI	USB 1.1 and USB 2.0 host controller
Number of USB ports	3
Location	<ul style="list-style-type: none"> ▪ Two on the left side ▪ One on the rear

Buttons/Indicators/Ports

Item	Specification
Buttons	<ul style="list-style-type: none"> ▪ Media control buttons and capacitive volume control on media panel ▪ Power button ▪ Windows Hotstart (select models only) ▪ Wireless on/off switch
Indicators	<ul style="list-style-type: none"> ▪ Wireless on/off ▪ Caps Lock ▪ Num Lock ▪ Hard drive activity ▪ Optical drive activity ▪ Power ▪ Battery charge
Ports	<ul style="list-style-type: none"> ▪ USB (three) ▪ External display (VGA) port ▪ Modem (RJ11) (optional) ▪ Ethernet (RJ45) ▪ IEEE1394 ▪ eSATA ▪ Headphone/SPDIF Audio Out ▪ Microphone in ▪ DC in jack for AC adapter ▪ ExpressCard™/54 slot ▪ Fingerprint reader (optional) ▪ 5-in-1 card reader (SD™, MMC, MS, MS PRO, xD) ▪ HDMI™ port with HDCP support (optional)

Fingerprint reader

Item	Specification
Model	UPEK TCS4E
Interface	8-bit parallel, SPI
Resolution	High-definition 192 × 4 pixel array
Technology	CMOS active capacitive pixel-sensing
Power	3.3V
Software	Gateway Fingerprint Solution

Camera

Item	Specification
Model	▪ Chicony CNF6141
Interface	USB 2.0
Resolution	1.3M pixels (1280 x 1024)
Signal to noise ratio	42 dB
Sensor	CMOS 1/4
Power	5 V
Built-in microphone	Yes
LED	On/Off
Software	Video Web Camera

Fans

CPU Temperature (degrees C)	Fan Speed (rpm)	Acoustic Level (dBA)
45-50	0-3000	29
55-66	0-3300	33
68-74	3300-3800	38
78-83	3800-4100	40
86-91	4100-4800	40

Throttling 50%: % is controlled by operating system. Temperature point is 95°C
OS shut down at 100°C; H/W shut down at 105°C

Battery

Item	Specification
Vendor	▪ Simplo
Battery Type	Li-ion
Pack capacity	7800mAH
Number of battery cell	9
Package configuration	▪ 3 cells in series, 3 series in parallel
Normal voltage	11.1V
Charge voltage	12.6V (max)

Power supply

Item	Specification
Vendor	▪ Delta ▪
Input rating	90V AC to 264V AC, 47Hz to 63Hz
Maximum input AC current	1.5A (max)
Output rating	19V DC, 4.74A to 6.32A, 120W

Power savings

ACPI mode	Power Management
Mech. Off (G3)	All devices in the notebook are turned off completely.
Soft Off (G2/S5)	OS initiated shutdown. All devices in the notebook are turned off completely.
Working (G0/S0)	Individual devices such as the CPU and hard disc may be power managed in this state.
Suspend to RAM (S3)	<ul style="list-style-type: none"> ▪ CPU set power down ▪ VGA suspend ▪ PCMCIA suspend ▪ Audio power down ▪ Hard drive power down ▪ Optical drive power down ▪ Super I/O low power mode
Save to Disk (S4)	Also called Hibernation mode. System saves all system states and data onto the disc prior to powering off the whole system.

Notebook product tour



Important

Case color may vary from that shown in the pictures.

Front View



Component	Icon	Description
Power indicator		<ul style="list-style-type: none"> LED on - Notebook is on. LED blinking - Notebook is in Sleep or Hybrid Sleep mode. LED off - Notebook is off.
Battery charge indicator		<ul style="list-style-type: none"> LED blue - Battery is fully charged. LED purple - Battery is charging. LED blinking red - Battery charge is very low. LED solid red - Battery is malfunctioning. <p>Important: This LED only lights up when your notebook is connected to AC power or the battery charge is very low.</p>
LCD panel release latch		Press to open the LCD panel.
Wireless network switch		<p>Turn the optional IEEE 802.11 wireless network radio and optional Bluetooth radio on or off. For more information, see “Wireless Ethernet Networking” in your online <i>User Guide</i>.</p> <p>Warning: Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. IEEE 802.11 and Bluetooth communication devices are examples of devices that provide wireless communication.</p>

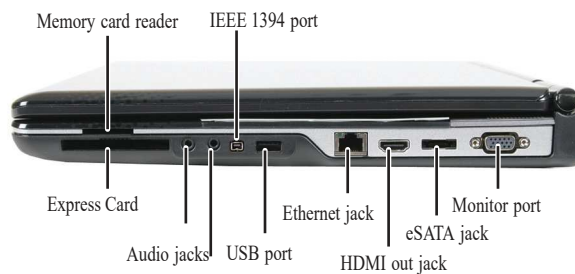
Left View




Component	Icon	Description
Kensington™ lock slot		Secure your notebook to an object by connecting a Kensington cable lock to this slot.
USB ports		Plug USB devices (such as a diskette drive, flash drive, printer, scanner, camera, keyboard, or mouse) into these ports.

Component	Icon	Description
Ventilation fan		Helps cool internal components. Warning: Do not work with the notebook resting on your lap. If the air vents are blocked, the notebook may become hot enough to harm your skin. Caution: Do not block or insert objects into these slots. If these slots are blocked, your notebook may overheat resulting in unexpected shutdown or permanent damage to the notebook. Caution: Provide adequate space around your notebook so air vents are not obstructed. Do not use the notebook on a bed, sofa, rug, or other similar surface.
DVD drive		Insert CDs, DVDs or BDs into this drive.

Right View





Component	Icon	Description
Memory card reader		Insert a memory card from a digital camera, MP3 player, PDA, or cellular telephone into the memory card reader. The memory card reader supports Memory Stick®, Memory Stick Pro®, Mini Secure Digital®, MultiMediaCard™, RS-MultiMediaCard™, Secure Digital™, and xD-Picture Card™ cards.
IEEE 1394 port (optional)		Plug an IEEE 1394 (also known as Firewire® or i.Link®) device (such as a digital camcorder or MP3 player) into this optional 4-pin IEEE 1394 port.
Express Card slot		Insert one Type 54 Express Card into this slot.
Audio jacks		Headphone jack—Plug amplified speakers or headphones into this jack. The built-in speakers are turned off when speakers or headphones are plugged into this jack. Microphone jack—Plug a microphone into this jack. The built-in microphone is turned off while an external microphone is connected.
USB port		Plug a USB device (such as a diskette drive, flash drive, printer, scanner, camera, keyboard, or mouse) into this port.
Ethernet jack		Plug an Ethernet network cable into this jack. Plug the other end of the cable into a cable modem, DSL modem, or an Ethernet network jack.
HDMI out jack (optional)	HDMI	Plug an HDMI device, such as a high definition television, into this optional jack.

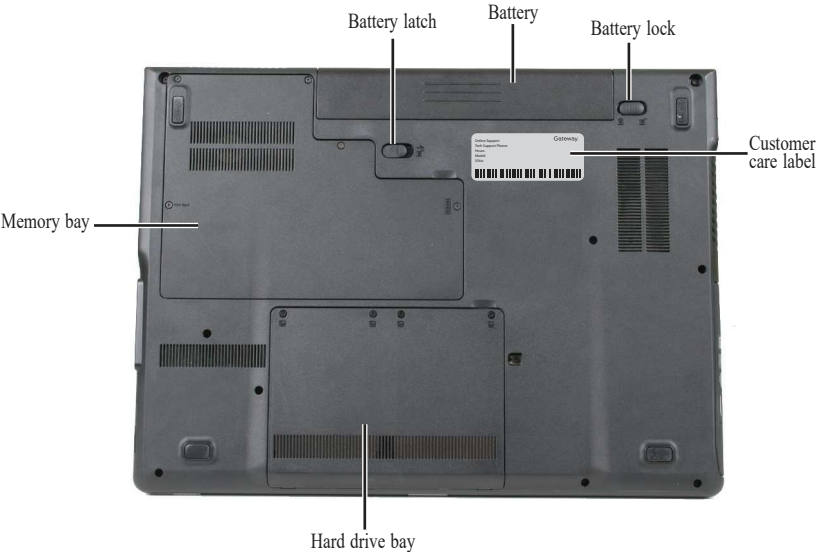
Component	Icon	Description
eSATA jack (optional)	eSATA	Connect an external SATA hard drive to this optional jack.
Monitor port		Plug an analog VGA monitor or projector into this port.





Rear View



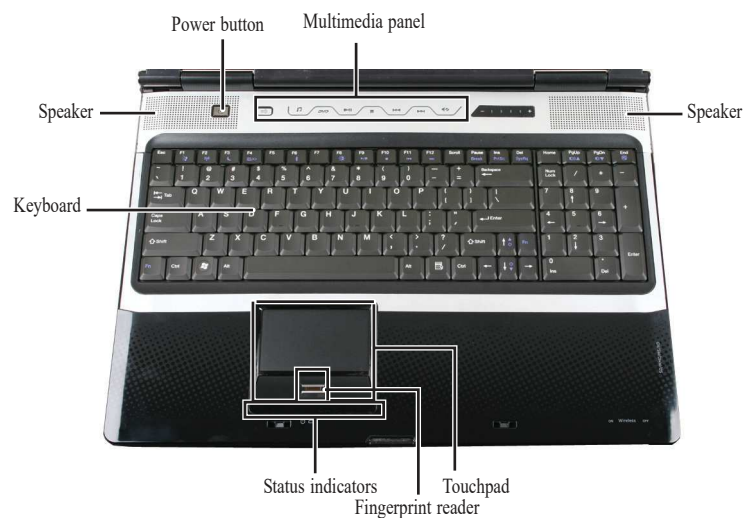
Component	Icon	Description
Ventilation fan		Helps cool internal components. Warning: Do not work with the notebook resting on your lap. If the air vents are blocked, the notebook may become hot enough to harm your skin. Caution: Do not block or insert objects into these slots. If these slots are blocked, your notebook may overheat resulting in unexpected shutdown or permanent damage to the notebook. Caution: Provide adequate space around your notebook so air vents are not obstructed. Do not use the notebook on a bed, sofa, rug, or other similar surface.
Power connector		Plug the AC adapter cable into this connector.
Modem jack (optional)		Plug a dial-up modem cable into this optional jack.


Bottom View



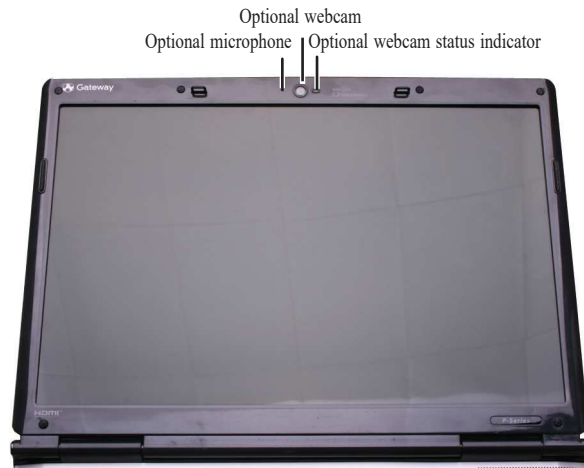
Component	Icon	Description
Memory bay		Memory modules are located in this bay.
Battery latch		Slide to release the battery.
Battery		Provides power when the notebook is not plugged into AC power.
Battery lock		Slide to unlock the battery.
Customer Care label		Includes the Customer Care contact information.
Hard drive bay		The hard drive(s) is (are) located in this bay.

Keyboard area



Component	Icon	Description
Keyboard		Provides all the features of a full-sized, computer keyboard.
Speakers		Provide audio output when headphones or amplified speakers are not plugged in.
Power button		Press to turn the power on or off. You can also configure the power button for Sleep/Resume mode.
Multimedia panel (optional)		Use to control playback of CDs and DVDs. The panel includes a capacitive (touch) volume control.
Touchpad		Provides all the functionality of a mouse.
Fingerprint reader (optional)		Provides enhanced security.
Status indicators		Inform you when a drive is in use or when a button has been pressed that affects how the keyboard is used.

LCD panel



Component	Icon	Description
Microphone (optional)		Use to talk through when making Voice over Internet Protocol (VoIP) calls. Important: The optional microphone is only available when purchased with the optional webcam.
Webcam (optional)		Use to let others see who they are communicating with when making VoIP calls.
Webcam status indicator (optional)		Turns on when the webcam is turned on.

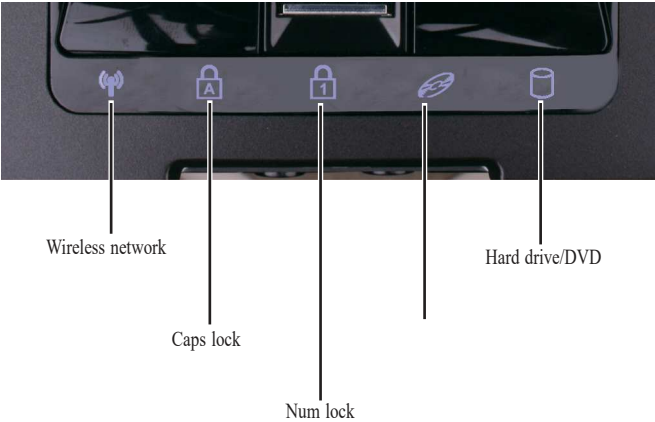
Using the status indicators



Important

If none of the indicators are on, you may need to press FN+F1 to toggle the status indicators on.

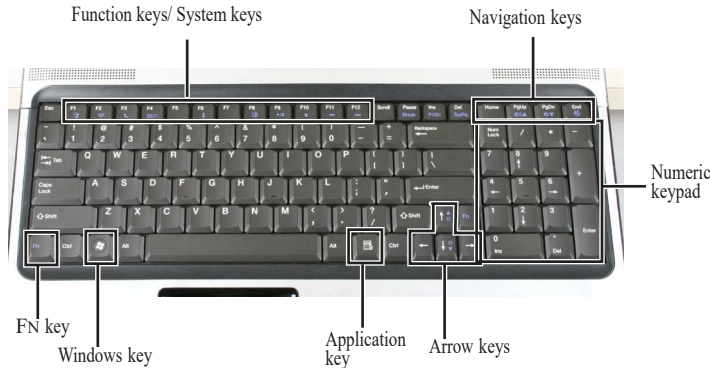
Status indicators inform you when a drive is being used or when a button has been pressed that affects how the keyboard is used. The status indicators are located below the touchpad.



Indicator	Icon	Description
Wireless network		<ul style="list-style-type: none">▪ LED on - Optional wireless IEEE 802.11 radio is turned on.▪ LED off - Optional wireless IEEE 802.11 radio is turned off.
Caps lock		<ul style="list-style-type: none">▪ LED on - Caps lock is turned on.▪ LED off - Caps lock is turned off.
Num lock		<ul style="list-style-type: none">▪ LED on - Numeric keypad is turned on.▪ LED off - Numeric keypad is turned off.
Hard drive/DVD		<ul style="list-style-type: none">▪ LED blinking - Hard drive/DVD drive is being accessed.▪ LED off - Hard drive/DVD drive is not being accessed.



Using the keyboard

Your notebook features a full-size keyboard that functions the same as a desktop computer keyboard. Many of the keys have been assigned alternate functions, including shortcut keys for Windows and function keys for specific system operations.











Key types








The keyboard has several different types of keys. Some keys perform specific actions when pressed alone and other actions when pressed in combination with another key.

Key type	Icon	Description
Function keys		Press these keys labeled F1 to F12 to perform actions in programs. For example, pressing F1 may open help. Each program uses different function keys for different purposes. See the program documentation to find out more about the function key actions.
System keys		Press these colored keys in combination with the FN key to perform specific actions.
Navigation keys		Press these keys to move the cursor to the beginning of a line, to the end of a line, up the page, down the page, to the beginning of a document, or to the end of a document.
Numeric keypad		Use these keys to type numbers.
FN key		Press the FN key in combination with a colored system key to perform a specific action.
Windows key		Press this key to open the Windows Start menu. This key can also be used in combination with other keys to open utilities like F (Search utility), R (Run utility), and E (Computer window).
Application key		Press this key for quick access to shortcut menus and help assistants in Windows.
Arrow keys		Press these keys to move the cursor up, down, right, or left.

System key combinations

When you press the FN key and a system key at the same time, your notebook performs the action identified by the text or icon on the key.

Press and hold FN, then press this system key...	To...
	Toggle the status indicators on or off.
	<p>Turn the optional IEEE 802.11 wireless network radio on or off. For more information, see “Wireless Ethernet Networking” in your online <i>User Guide</i>.</p> <p>Warning: Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. IEEE 802.11 communication devices are examples of devices that provide wireless communication.</p> <p>Important: The wireless network switch must be in the ON position for this button to work.</p>
	Enter Sleep mode or Hybrid Sleep mode. Press the power button to leave Sleep mode.
	<p>Toggle the notebook display in the following order:</p> <ul style="list-style-type: none"> ▪ The LCD ▪ An external monitor or projector (a monitor or projector must be plugged into the monitor port or HDMI port on your notebook) ▪ Both displays at the same time
	<p>Turn the optional Bluetooth radio on or off.</p> <p>Warning: Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. Bluetooth communication devices are examples of devices that provide wireless communication.</p> <p>Important: The wireless network switch must be in the ON position for this button to work.</p>
	<p>Increase the LCD panel brightness above the normal brightest setting. Use this feature in bright lighting situations, such as outside in bright sunlight. Press a second time to decrease the brightness below the normal lowest brightness setting. Use this feature in dim lighting situations. Press a third time to return the display to the normal brightness setting.</p> <p>Important: Using this feature will affect battery performance.</p>
	Play or pause the CD or DVD.
	Stop playing the CD or DVD.

Press and hold FN, then press this system key...	To...
	Skip back one CD track or DVD chapter.
	Skip ahead one CD track or DVD chapter.
	Increase the brightness of the display.
	Decrease the brightness of the display.
	Increase volume.
	Decrease volume.
	Mute the sound. Press the key combination again to restore the sound.

Using the fingerprint reader

Your notebook may include a fingerprint reader that provides enhanced security and convenience. The fingerprint reader is located between the left and right touchpad buttons.



CHAPTER 4

Troubleshooting

- Diagnosing problems
- System test procedures
- Power-On Self-Test (POST) error message
- Index of error messages
- Phoenix BIOS beep codes
- Symptom-to-FRU error messages
- Intermittent problems
- Undetermined problems

Diagnosing problems

Use the following procedure as a guide for diagnosing notebook problems.



Important

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

- 1 Obtain the failing symptoms in as much detail as possible.
- 2 Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
- 3 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.)	“Testing the power system” on page 141
POST does not complete. No beep or error codes are indicated.	<ul style="list-style-type: none"> ▪ “Power-On Self-Test (POST) error message” on page 143 ▪ “Undetermined problems” on page 155
POST detects an error and displayed messages on screen.	“Index of error messages” on page 144
Other symptoms (LCD display problems or others).	“Power-On Self-Test (POST) error message” on page 143
Symptoms cannot be re-created (intermittent problems).	<ul style="list-style-type: none"> ▪ Use the customer-reported symptoms and go to “Power-On Self-Test (POST) error message” on page 143 ▪ “Intermittent problems” on page 155 ▪ “Undetermined problems” on page 155

System test procedures

Testing the optical drive

Use the following procedure to isolate a problem in an optical drive controller, driver, or drive.



Important

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.

- To test the optical drive:
 - 1 Boot from the diagnostics diskette and start the diagnostics program.
 - 2 Run the CD-ROM Test and see if the test completes successfully.
 - 3 Follow the instructions in the message window.
 - If an error occurs, reconnect the connector on the system board.
 - If the error still remains:
 - 4 Reconnect the external optical drive to a USB jack.
 - 5 Replace the external optical drive.

- 6 Replace the system board.



Testing the keyboard or auxiliary input device

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 is connected correctly, run the Keyboard Test.



Important

Disconnect any external keyboards before testing the built-in keyboard.

If the tests detect a keyboard problem, do the following one at a time.

- ▶ To correct the problem:

- 1 Reconnect the keyboard cable to the system board.
- 2 Replace the keyboard.
- 3 Replace the system board.



Important

Do not replace a non-defective FRU.

The following auxiliary input devices are supported by this notebook:

- Numeric keypad
- External keyboard

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

Testing the memory

Memory errors can stop your programs, show error messages on the screen, or hang the system.

- ▶ To test the memory:

- 1 Boot from the diagnostics diskette and start the diagnostics program.
- 2 Run the Memory Test and see if the test completes successfully.
- 3 Press F2 in the test items.
- 4 Follow the instructions in the message window.



Important

Make sure that each memory card is fully installed into the connector. A loose connection can cause an error.



Testing the power system

- ▶ To test for a power problem:

- Turn on the notebook using each of the following power sources:
 - Remove the battery pack, connect the power adapter, then make sure that the notebook turns on using AC power.
 - Disconnect the power adapter, install a charged battery pack, then make sure that power is supplied by the battery pack.

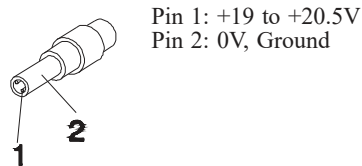


If you suspect a power problem, complete the appropriate power supply check:

- “Check the power adapter” on page 142
- “Check the battery pack” on page 142

Check the power adapter

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



- If the voltage is not correct, replace the power adapter.
- If the voltage is within the range, do the following:
 - Replace the system board.
 - If the problem is not corrected, see “Undetermined problems” on page 155.
 - If the voltage is not correct, go to [Step 4](#).
 - If the power-on indicator does not light up, check the power adapter’s power cord for correct continuity and installation.
 - If the operational charge does not work, see “Check the battery pack” on page 142.



Important

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

Check the battery pack

- ▶ To check the battery pack using software:
 - 1 Open Power Management in the Windows Control Panel.
 - 2 In Power Meter, make sure that the parameters shown for Current Power Source and Total Battery Power Remaining are correct.
 - 3 Repeat the steps 1 and 2, for both battery and adapter. This helps you identify first the problem is on recharging or discharging.
- ▶ To check the battery pack using hardware:
 - 1 Turn off the notebook.
 - 2 Remove the battery pack and measure the voltage between battery terminals 1 (+) and 6 (ground).
 - 3 If the voltage is still less than 7.5 Vdc after recharging, replace the battery.



Important

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 notebook.

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.

Testing the touchpad

If the touchpad doesn't work, do the following actions one at a time to correct the problem.

- To test the touchpad:
 - 1 Reconnect the touchpad cables.
 - 2 Replace the touchpad.
 - 3 Replace the system board.



Important

Do not replace a non-defective FRU.

After you use the touchpad, the pointer may drift 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.



Important

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

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

If the symptom is not listed, see [“Undetermined problems” on page 155](#).

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



Important

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



Important

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

Index of error messages

Error codes

Error Codes	Error Messages
006	Equipment Configuration Error Causes: 1. CPU BIOS Update Code Mismatch 2. IDE Primary Channel Master Drive Error (The causes are shown before “Equipment Configuration Error”)
010	Memory Error at xxxx:xxxx:xxxxh (R:xxxxh, W:xxxxh)
070	Real Time Clock Error
071	CMOS Battery Bad
072	CMOS Checksum Error
110	System is disabled. An incorrect password was entered.
<No error code>	Battery is critically low. In this situation BIOS issues four short beeps, then shuts the system down. No message is displayed.
<No error code>	Temperature is critically high. In this situation BIOS shuts the system down. No message is displayed.

Error messages

Error Messages	FRU/Action Sequence
Failure Fixed Disk	<ul style="list-style-type: none"> Reconnect the hard disk drive connector. Run “Load Setup Defaults” using the BIOS Setup Utility, then reboot the notebook. Test or replace the hard disk drive. Test or replace the system board.
Stuck Key	See “Testing the keyboard or auxiliary input device” on page 141.
Keyboard error	See “Testing the keyboard or auxiliary input device” on page 141.
Keyboard Controller Failed	See “Testing the keyboard or auxiliary input device” on page 141.
Keyboard locked - Unlock key switch	Unlock the external keyboard.
Monitor type does not match CMOS - Run Setup	Run “Load Setup Defaults” using the BIOS Setup Utility, then reboot the notebook.
Shadow RAM Failed at offset: nnnn	<ul style="list-style-type: none"> Test or replace the BIOS ROM. Test or replace the system board.
System RAM Failed at offset: nnnn	<ul style="list-style-type: none"> Test or replace the SO-DIMM. Test or replace the system board.
Extended RAM Failed at offset: nnnn	<ul style="list-style-type: none"> Test or replace the SO-DIMM. Test or replace the system board.

Error Messages	FRU/Action Sequence
System battery is dead - Replace and run Setup	Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system.
System CMOS checksum bad - Default configuration used	Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system.
System timer error	<ul style="list-style-type: none"> Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system. Test or replace the system board.
Real time clock error	<ul style="list-style-type: none"> Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system. Test or replace the system board.
Previous boot incomplete - Default configuration used	<ul style="list-style-type: none"> Run "Load Setup Defaults" using the BIOS Setup Utility, then reboot the notebook. Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system. Test or replace the system board.
Memory size found by POST differed from CMOS	<ul style="list-style-type: none"> Run "Load Setup Defaults" using the BIOS Setup Utility, then reboot the notebook. Test or replace the SO-DIMM. Test or replace the system board.
Diskette drive A error	<ul style="list-style-type: none"> Make sure that the drive is defined with the proper diskette type in the BIOS Setup Utility.
Incorrect Drive A type - run SETUP	Make sure that the drive is defined with the proper diskette type in the BIOS Setup Utility
System cache error - Cache disabled	Test or replace the system board.
CPU ID:	Test or replace the system board.
DMA Test Failed	<ul style="list-style-type: none"> Test or replace the SO-DIMM. Test or replace the system board.
Software NMI Failed	<ul style="list-style-type: none"> Test or replace the SO-DIMM. Test or replace the system board.
Fail-Safe Timer NMI Failed	<ul style="list-style-type: none"> Test or replace the SO-DIMM. Test or replace the system board.
Device Address Conflict	<ul style="list-style-type: none"> Run "Load Setup Defaults" using the BIOS Setup Utility, then reboot the notebook. Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system. Test or replace the system board.
Allocation Error for device	<ul style="list-style-type: none"> Run "Load Setup Defaults" using the BIOS Setup Utility, then reboot the notebook. Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system. Test or replace the system board.
Failing Bits: nnnn	<ul style="list-style-type: none"> Test or replace the SO-DIMM. Test or replace the BIOS ROM. Test or replace the system board.
Fixed Disk n	None

Error Messages	FRU/Action Sequence
Invalid System Configuration Data	<ul style="list-style-type: none"> ▪ Test or replace the BIOS ROM. ▪ Test or replace the system board.
I/O device IRQ conflict	<ul style="list-style-type: none"> ▪ Run “Load Setup Defaults” using the BIOS Setup Utility, then reboot the notebook. ▪ Test or replace the CMOS battery, run the BIOS Setup Utility to reconfigure system time, then reboot the system. ▪ Test or replace the system board.
Operating system not found	<ul style="list-style-type: none"> ▪ Run the BIOS Setup Utility and see if fixed disk and drive A: are properly identified. ▪ Test or replace the diskette drive ▪ Test or replace the hard disk drive ▪ Test or replace the system board

No-beep error messages

No-beep Error Messages	FRU/Action in Sequence
No beep, power-on indicator turns off and LCD is blank.	<ul style="list-style-type: none"> ▪ Test the power source (battery pack and power adapter). See “Testing the power system” on page 141. ▪ Make sure that every connector is connected tightly and correctly. ▪ Reconnect the SO-DIMM. ▪ Test or replace the LED board. ▪ Test or replace the system board.
No beep, power-on indicator turns on and LCD is blank.	<ul style="list-style-type: none"> ▪ Test the power source (battery pack and power adapter). See “Testing the power system” on page 141. ▪ Reconnect the LCD connector ▪ Check the hard disk drive. ▪ Check the LCD inverter ID. ▪ Check the LCD cable. ▪ Test or replace the LCD inverter. ▪ Test or replace the LCD. ▪ Test or replace the system board.
No beep, power-on indicator turns on and LCD is blank. But you can see POST on an external CRT.	<ul style="list-style-type: none"> ▪ Reconnect the LCD connectors. ▪ Check the LCD inverter ID. ▪ Check the LCD cable. ▪ Test or replace the LCD inverter. ▪ Test or replace the LCD. ▪ Test or replace the system board.
No beep, power-on indicator turns on and a blinking cursor shown on LCD during POST.	<ul style="list-style-type: none"> ▪ Make sure that every connector is connected tightly and correctly. ▪ Test or replace the system board.
No beep during POST but system runs correctly.	<ul style="list-style-type: none"> ▪ Test or replace the speaker. ▪ Test or replace the system board.

Phoenix BIOS beep codes

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

CHAPTER 4: Troubleshooting

Code	Beeps	POST Routine Description
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
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

Code	Beeps	POST Routine Description
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
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

CHAPTER 4: Troubleshooting

Code	Beeps	POST Routine Description
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
A Eh		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)

Code	Beeps	POST Routine Description
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)
D2h		Unknown interrupt

Code	Beeps	
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

Code	Beeps	
F4h	1	Output one beep before boot
F5h		Boot to Mini DOS
F6h		Clear Huge Segment
F7h		Boot to Full DOS

Symptom-to-FRU error messages

LCD

Symptom / Error	Action in Sequence
<ul style="list-style-type: none"> ▪ The LCD backlight doesn't work. ▪ The LCD is too dark. ▪ The LCD brightness cannot be adjusted. ▪ The LCD contrast cannot be adjusted. 	<ul style="list-style-type: none"> ▪ Run “Load Setup Defaults” using the BIOS Setup Utility, then reboot the notebook. ▪ Reconnect the LCD connectors. ▪ Test or replace the keyboard (if contrast and brightness function key doesn't work). ▪ Check the LCD inverter ID. ▪ Test or replace the LCD cable. ▪ Test or replace the LCD inverter. ▪ Test or replace the LCD. ▪ Test or replace the system board.
<ul style="list-style-type: none"> ▪ The LCD screen is unreadable. ▪ Missing pels in characters. ▪ The screen appears abnormal. ▪ The wrong color is displayed. 	<ul style="list-style-type: none"> ▪ Reconnect the LCD connector. ▪ Check the LCD inverter ID. ▪ Test or replace the LCD cable. ▪ Test or replace the LCD inverter. ▪ Test or replace the LCD. ▪ Test or replace the system board.
The LCD is displaying extra horizontal or vertical lines.	<ul style="list-style-type: none"> ▪ Check the LCD inverter ID. ▪ Test or replace the LCD cable. ▪ Test or replace the LCD inverter. ▪ Test or replace the LCD. ▪ Test or replace the system board.

Power

Symptom / Error	Action in Sequence
The notebook shuts down during operation.	<ul style="list-style-type: none"> ▪ Test the power source (battery pack and power adapter). See “Testing the power system” on page 141. ▪ Test or replace the battery pack. ▪ Test or replace the power adapter. ▪ Test or replace the system board.
The notebook doesn't turn on.	<ul style="list-style-type: none"> ▪ Test the power source (battery pack and power adapter). See “Testing the power system” on page 141. ▪ Test or replace the battery pack. ▪ Test or replace the power adapter. ▪ Test or replace the system board.

Symptom / Error	Action in Sequence
The notebook doesn't turn off.	<ul style="list-style-type: none"> ▪ Test the power source (battery pack and power adapter). See “Testing the power system” on page 141. ▪ Press and hold the power button for more than four seconds. ▪ Test or replace the system board.
The battery can't be charged.	<ul style="list-style-type: none"> ▪ Test the battery pack. See “Check the battery pack” on page 142. ▪ Test or replace the battery pack. ▪ Test or replace the system board.

ExpressCard

Symptom / Error	Action in Sequence
The notebook cannot detect the ExpressCard.	<ul style="list-style-type: none"> ▪ Test or replace the system board.
ExpressCard slot pin is damaged.	<ul style="list-style-type: none"> ▪ Test or replace the system board.

Memory

Symptom / Error	Action in Sequence
Memory count (size) appears different from actual size.	<ul style="list-style-type: none"> ▪ Run “Load Setup Defaults” using the BIOS Setup Utility, then reboot the notebook. ▪ Test or replace the SO-DIMM. ▪ Test or replace the system board.

Sound

Symptom / Error	Action in Sequence
No sound comes from the notebook when running Windows multimedia programs.	<ul style="list-style-type: none"> ▪ Reinstall the audio driver. ▪ Test or replace the speakers. ▪ Test or replace the system board.
The internal speakers make noise or emit no sound.	<ul style="list-style-type: none"> ▪ Test or replace the speakers. ▪ Test or replace the system board.

Power management

Symptom / Error	Action in Sequence
The notebook will not hibernate.	<ul style="list-style-type: none"> ▪ Test or replace the keyboard (if control is from the keyboard). ▪ Test or replace the hard disk drive. ▪ Test or replace the system board.
The system doesn't hibernate and emits four short beeps every minute.	<ul style="list-style-type: none"> ▪ Press Fn+O and see if the notebook enters hibernation mode. ▪ Test or replace the touchpad. ▪ Test or replace the keyboard. ▪ Check the hard disk connection to the system board. ▪ Test or replace the hard disk drive. ▪ Test or replace the system board.

Symptom / Error	Action in Sequence
The notebook doesn't enter standby mode after closing the LCD.	<ul style="list-style-type: none"> Make sure that the magnet is in the magnet holder. For more information, see “Replacing the LCD panel” on page 94. Test or replace the system board.
The system doesn't resume from hibernation mode.	<ul style="list-style-type: none"> Check the hard disk connection to the system board. Test or replace the hard disk drive. Test or replace the system board.
The system doesn't resume from standby mode after opening the LCD.	<ul style="list-style-type: none"> Make sure that the magnet is in the magnet holder. For more information, see “Replacing the LCD panel” on page 94. Test or replace the system board.
The battery fuel gauge in Windows doesn't go higher than 90%.	<ul style="list-style-type: none"> Remove the battery pack and let it cool for two hours. Refresh the battery (use only battery power until the notebook turns off, then charge the battery). Test or replace the battery pack. Test or replace the system board.
The system hangs intermittently.	<ul style="list-style-type: none"> Reconnect the hard disk drive and optical drive. Check the hard disk connection to the system board. Test or replace the system board.

Devices

Symptom / Error	Action in Sequence
System configuration does not match the installed devices.	<ul style="list-style-type: none"> Run “Load Setup Defaults” using the BIOS Setup Utility, then reboot the notebook. Reconnect the hard disk drive and optical drive.
The external display does not work correctly.	<ul style="list-style-type: none"> Press Fn+F4 repeatedly to switch between LCD, external display, and both displays. Test or replace the system board.
USB does not work correctly.	<ul style="list-style-type: none"> Test or replace the USB board. Test or replace the system board.
Printer problems.	<ul style="list-style-type: none"> Run the printer self-test. Reinstall the printer driver. Test or replace the printer cable. Test or replace the printer. Test or replace the system board.

Keyboard and touchpad

Symptom / Error	Action in Sequence
The keyboard (one or more keys) does not work.	<ul style="list-style-type: none"> ▪ Reconnect the keyboard cable. ▪ Test or replace the keyboard. ▪ Test or replace the system board.
The touchpad does not work.	<ul style="list-style-type: none"> ▪ Reconnect the touchpad cable. ▪ Test or replace the touchpad board. ▪ Test or replace the system board.



Important

If you cannot find a symptom or an error in this list and the problem remains, see [“Undetermined problems” on page 155](#).

Intermittent problems

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

► To analyze an intermittent problem:

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

Undetermined problems

If the diagnostic test may not identify which adapter or device failed, which installed devices are incorrect, whether a short circuit is suspected, or whether the system is inoperative. Use these procedures to isolate the failing FRU (do not isolate a non-defective FRU).



Important

Verify that all attached devices are supported by the notebook.



Important

Verify that the power supply being used at the time of the failure is operating correctly. (See [“Testing the power system” on page 141](#).)

► To isolate a failing FRU:

- 1 Turn off the notebook.
- 2 Visually check FRU parts for damage. If you identify any damage, 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(s)
 - SO-DIMM
 - Optical drive
 - Type 54 ExpressCards
- 4 Turn on the notebook.
 - 5 Determine if the problem has changed.
 - If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.
 - If the problem does recur, replace the following FRUs one at a time:
 - System board
 - LCD assembly
-



Important

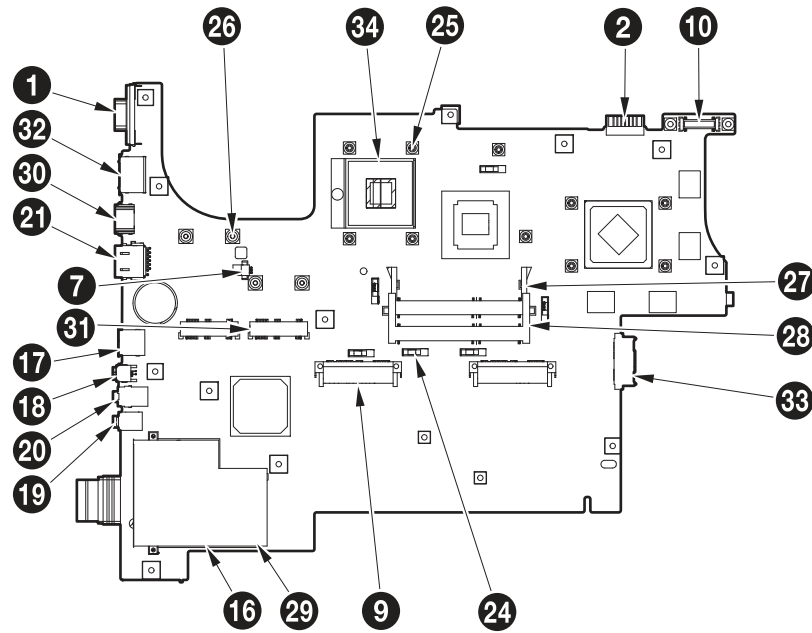
Do not replace a non-defective FRU.

CHAPTER 5

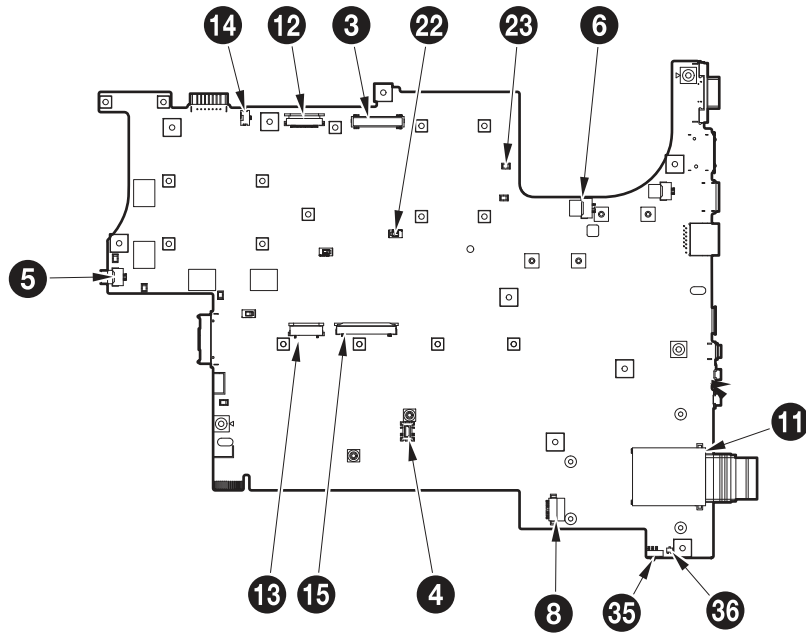
Connector locations

- System board top connectors
- System board bottom connectors

System board top connectors



System board bottom connectors



CHAPTER 5: Connector locations

NO	ACER_PN	VENDOR	VENDOR_PN	PIN	PITCH	Q'TY	R/S	SMT/DIP
1	20.20392.015	SUYIN	070546FR015S221ZR	15	1.145	1	Right Angle	DIP
2	20.80905.007	SUYIN	200275MR007G145ZL	7	2	1	Right Angle	DIP
3	20.F0043.050	ACES	87216-5004-02-06	50	1	1	Straight	SMT
4	20.F0582.012	AMP	1-179397-2	12	0.8	1	Straight	SMT
5	20.F0693.003	MOLEX	53780-0370	3	1.25	2	Right Angle	SMT
6	20.F0693.004	MOLEX	53780-0470	4	1.25	1	Right Angle	SMT
7	20.F0735.003	ACES	85214-030N	3	1.25	1	Right Angle	SMT
8	20.F0735.008	ACES	85204-0800N	8	1.25	1	Right Angle	SMT
9	20.F0796.022	AMP	1770871-3	22	1.27	2	Right Angle	SMT
10	20.F1122.040	ACES	88021-4001N	40	0.8	1	Right Angle	SMT
11	20.I0080.001	TAISOL	144-3000000900	36	0.8	1	Right Angle	SMT
12	20.K0116.028	52435-2871	MOLEX	28	0.5	1	Right Angle	SMT
13	20.K0228.025	ACES	87151-2507G	25	0.5	1	Right Angle	SMT
14	20.K0231.004	JST	04FLH-SM1-GB-TB(LF)(SN)	4	0.5	1	Right Angle	SMT
15	20.K0288.026	ACES	88502-2641	26	1	1	Right Angle	SMT
16	21.H0152.001	JAE	PX10AFR00NH	TBD	TBD	1	Right Angle	SMT
17	22.10218.T51	TYCO	1775562-1	4	TBD	1	Right Angle	DIP
18	22.10218.U71	SUYIN	020115FR004S536ZR	4	0.8	1	Right Angle	DIP
19	22.10263.131	SINGATRON	2SJ-R351-010	6	TBD	1	Right Angle	DIP
20	22.10270.031	SINGATRON	2SJ-A373-E01	8	TBD	1	Right Angle	DIP
21	22.10277.071	FOXCONN	JM36111-R2185-7F	8	1.02	1	Straight	SMT
22	34.41V01.001	EMI STOP	SQ-37G	TBD	TBD	3	Straight	SMT
23	34.49U01.001	EMI	SU-15S	TBD	TBD	6	Straight	SMT
24	34.4B312.002	EMI STOP	S8-130RG	TBD	TBD	6	Straight	SMT
25	34.4C408.001	TBD	TBD	TBD	TBD	12		
26	34.4G521.001	TBD	TBD	TBD	TBD	4		
27	62.10017.F81	FOXCONN	AS0A626-U2RN-7F	204	0.6	1	Right Angle	SMT
28	62.10017.F91	FOXCONN	AS0A626-UARN-7F	204	0.6	1	Right Angle	SMT
29	62.10024.911	JAE	PX10ABRB00-R1000	26	1	1	Right Angle	SMT
30	62.10027.661	MOLEX	474080001	19	0.5	1	Right Angle	SMT
31	62.10043.391	FOXCONN	AS0B226-S92N-7F	52	0.8	2	Right Angle	SMT
32	62.10065.111	MOLEX	47391-0000	7	1.27	1	Right Angle	DIP
33	62.10065.351	FOXCONN	LN21131-D409-9F	P6-S7	1.27-1	1	Right Angle	SMT
34	62.10079.001	TYCO	1674770-6	479	1.27	1	Straight	SMT
35	62.40018.211	T-MEC	NSS506-212F-AABG1T-A	3	2	1	Right Angle	SMT
36	75.03212.060	TBD	TBD	TBD	TBD	1		
37			TBD	TBD	TBD	9		

CHAPTER 6

FRU (Field-Replaceable Unit) list

- [Introduction](#)
- [Exploded diagram](#)
- [FRU list](#)

Introduction

This chapter gives you the FRU (field-replaceable-unit) listing in global configurations of iPower GX. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

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

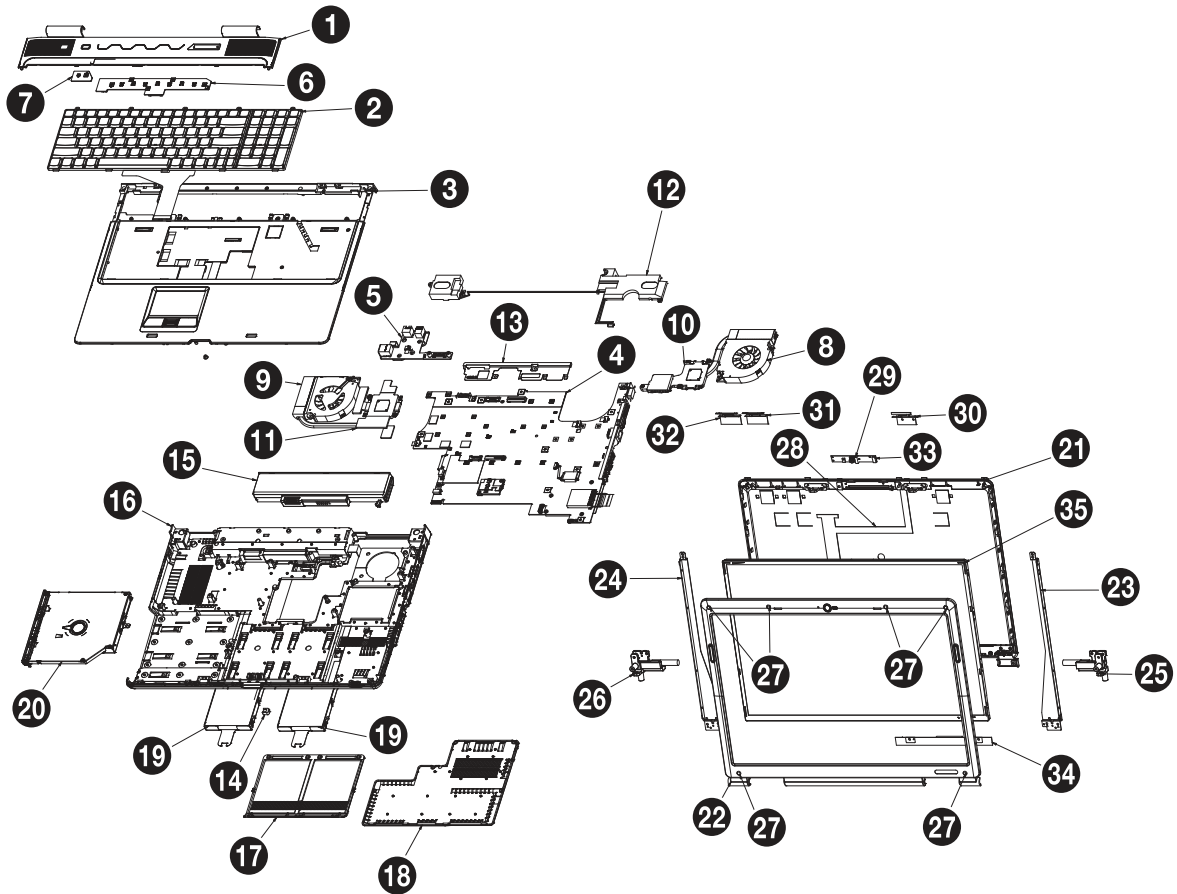


Important






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

Notebook chassis










FRU list

Category	Part Name	OEM Part No.
ADAPTER		
	ADAPTER 120W 3PIN DELTA ADP-120ZB BBW	AP.12001.007
BATTERY		
	BATTERY PACK SDI LI+ 9CELL 2.6AH SMP	BT.00907.008
	BATTERY PACK LG LI+ 9CELL 2.6AH SMP	BT.00907.009
	BATTERY PACK PANA LI+ 9CELL 2.6AH SMP	BT.00907.010
BOARDS		
	I/O BOARD	55.WEJ01.001
	MEDIA HIGH-END BOARD	55.B0101.003
	TOUCH PAD BUTTON BOARD	55.BAU01.001







Category	Part Name	OEM Part No.
	POWER BUTTON BOARD	55.BAU01.002
	TOUCHPAD SYNAPTICS TM00372-031	56.B0101.001
	TOUCHPAD SYNAPTICS TM00372-031	56.B0101.001
	BLUETOOTH BOARD FOXCONN BCM2046 V2.1 T60H928.31	54.W2301.005
	BLUETOOTH BOARD FOXCONN BCM2046 V2.1 T60H928.31	54.W2301.005
	CAPACITIVE BUTTON BOARD SYNAPTICS TM-01001-003	55.B0101.004
	CAPACITIVE BUTTON BOARD SYNAPTICS TM-01001-003	55.B0101.004
	WIRELESS LAN BOARD 512AN_MMWG SHIRLEY PEAK 5100 MM#895361	KI.SPM01.003
	WIRELESS LAN BOARD 512AG MMWG SHIRLEY PEAK 5100 (CENTRINO 2 WITH VPRO)	KI.SPM01.010
	WIRELESS LAN BOARD 512AG MMWG SHIRLEY PEAK 5100 (CENTRINO 2 WITH VPRO)	KI.SPM01.010
CABLES		
	POWER CORD 10A 125V 3PIN US BK	27.01518.641
	POWER CORD 10A 125V US	27.T30V1.001
	POWER CORD 10A 250V SWISS	27.01518.581
	POWER CORD 10A 250V 3PIN SWISS BK	27.01518.691
	POWER CORD 10A 250V ARGENTINE	27.01518.0U1






CHAPTER 6: FRU (Field-Replaceable Unit) list

Category	Part Name	OEM Part No.
	POWER CORD 7A 250V 2PIN KOREAN	27.01518.531
	POWER CORD 3A 250V 3PIN UK	27.01518.541
	POWER CORD 5A 250V 3PIN UK BK	27.03118.001
	POWER CORD 7A 125V 2PIN JAPAN	27.01518.551
	POWER CORD 10A 3PIN BK DENMARK	27.01518.561
	POWER CORD 10A 250V 3PIN DENMARK BK	27.01518.671
	POWER CORD 10A 250V 3PIN BK SOUTH AFRICA	27.01518.571
	POWER CORD 16A 250V SOUTH AFRICA BK	27.01518.681
	POWER CORD 10A 250V 3PIN CHINA	27.01518.591
	POWER CORD 10A 250V 3PIN CHINA BK	27.01518.701
	POWER CORD 250V 3PIN EUR BK	27.T30V1.004
	POWER CORD 16A 250V 3PIN EUR BK	27.01518.731
	POWER CORD 10A 250V 3PIN ITALY	27.01518.611
	POWER CORD 10A 250V 3PIN ITALY BK	27.01518.711
	POWER CORD 2.5A 250V AUSTRALIA	27.01518.621
	POWER CORD 2.5A 250V SOUTH AFRICA BK (INDIA)	27.01518.631
	POWER CORD 10A 250V SOUTH AFRICA BK (INDIA)	27.01518.721
	POWER CORD 7A 125V 2PIN JAPAN BK	27.01518.661
	POWER CORD 250V 10A 3PIN ISRAEL	27.01518.761
	POWER CORD 2.5A 125V USA	27.01518.781
	POWER CORD 2.5A 125V 1.8M BLACK TAIWANESE	27.01518.A11
	POWER CORD 10A 250V 1.8M BRAZIL BLK	27.01518.A41
	POWER CORD ACA / ACNZ	27.03218.021
	POWER CORD 7.5A 250V 3P AUSTRALIA BK	27.03218.051
	POWER CORD 7A 125V 2PIN JAPAN	27.03518.161
	POWER BUTTON BOARD CABLE	50.W2301.001

Category	Part Name	OEM Part No.
	BLUETOOTH CABLE 8PIN 50MM	50.W2301.017
	CABLE VOLUME BAR TO MULTIMEDIA BOARD 6PIN 70MM	50.W2301.016
	CABLE CONNECTED MEDIA BOARD TO MB 28PIN 30MM	50.W2301.003
	TOUCHPAD CABLE 12PIN 120MM	50.W2301.004
	TOUCHPAD BUTTON BOARD CABLE 25PIN 140MM	50.W2301.005
CASE/COVER/BRACKET ASSEMBLY		
	VOLUME PLATE	42.B0101.007


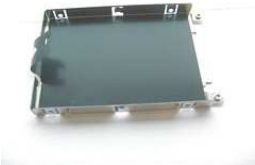
CHAPTER 6: FRU (Field-Replaceable Unit) list

Category	Part Name	OEM Part No.
	SD CARD DUMMY	42.B0101.002
	E-CARD DUMMY	42.B0101.003
	MIDDLE COVER	42.B0101.001
	LOWER CASE	60.B0101.001
	HDD COVER	60.W2301.002
	CPU COVER	60.W2301.001


Category	Part Name	OEM Part No.
	UPPER CASE PLAINING+UV W/O FINGER PRINT HOLE	60.B0301.001
	TOUCHPAD BRACKET	60.W2301.006
	EMI SHIELDING BRACKET	33.B0101.001
	OPTICAL BRACKET	33.W2301.001
	BLU RAY COMBO BEZEL	42.B0101.004
	DVD-RW SUPER-MULTI BEZEL	60.W4301.001
	DVD-RW SUPER-MULTI LABEL FLASH BEZEL	60.W4301.002
OPTICAL DRIVE		

CHAPTER 6: FRU (Field-Replaceable Unit) list

Category	Part Name	OEM Part No.
	BLU-RAY COMBO MODULE 2X SATA	6M.BAU01.001
	BLU-RAY COMBO MODULE 4X SATA	6M.BAU01.002
	DVD-RW SUPER-MULTI MODULE 8X SATA	6M.BAU01.003
	ODD SONY BD COMBO 12.7MM TRAY DL 2X BC-5500S LF W/O BEZEL SATA	KO.0020E.002
	ODD HLDS BD COMBO 12.7MM TRAY DL 2X CT10N LF W/O BEZEL SATA	KO.0020D.001
	ODD PIONEER BD COMBO 12.7MM TRAY DL 2X BDC-TD01RS LF W/O BEZEL SATA	KO.00205.001
	ODD PIONEER BD COMBO 12.7MM TRAY DL 2X BDC-TD01RS LF W/O BEZEL FW1.02 SATA	KO.00205.002
	ODD PIONEER BD COMBO 12.7 SATA DL 4X BDC-TD01RS LF W/O BEZEL SATA	KO.00405.002
	ODD HLDS SUPER-MULTI DRIVE 12.7MM TRAY DL 8X GT10N LF W/O BEZEL SATA	KU.0080D.039
	ODD HLDS SUPER-MULTI DRIVE 12.7MM TRAY DL 8X GT10N LF W/O BEZEL FW:1.01 SATA	KU.0080D.044
	ODD SONY SUPER-MULTI DRIVE 12.7MM TRAY DL 8X AD-7580S LF W/O BEZEL SATA	KU.0080E.017
	DVD-RW SUPER-MULTI MODULE 8X SATA LABEL FLASH	6M.BAU01.004
	ODD TSST SUPER-MULTI DRIVE 12.7MM 8X TS-L633P LF SATA LABEL FLASH W/O BEZEL	KU.00801.027
CPU/PROCESSOR	ODD HLDS SUPER-MULTI DRIVE 12.7MM TRAY 8X GSA-T50F LF SATA LABEL FLASH W/O BEZEL	KU.0080D.037
	ODD SONY SUPER-MULTI DRIVE 12.7MM TRAY 8X AD-7583S LF LABEL FLASH W/O BEZEL SATA	KU.0080E.018
	CPU INTEL CORE2DUAL P8700 2.53G 3M 1066 25W R-0	KC.87R01.DPP
	CPU INTEL CORE2DUAL T5800 PGA 2.0G 2M 800 MV	KC.58001.DTP
	CPU INTEL CORE2DUAL P8400 PGA 2.26G 3M 1066 25W	KC.84001.DPP
	CPU INTEL CORE2DUAL P8600 PGA 2.4G 1066 25W 3M	KC.86001.DPP
	CPU INTEL CORE2DUAL T9400 2.53G 6M 1066 35W	KC.94001.DTP
	CPU INTEL CORE2DUAL T9600 PGA 2.8G 6M 1066 35W	KC.96001.DTP

Category	Part Name	OEM Part No.
	CPU INTEL CORE2DUAL P7450 2.13G 3M 1066 TJ NOVT	KC.74501.DPP
	CPU INTEL CORE2DUAL PENRYN P8400 2.26G 3M 1066 25W R-0	KC.84R01.DPP
	CPU INTEL CORE2DUAL P9500 PGA 2.53G 6M 1066 25W	KC.95001.DPP
	CPU INTEL CORE2DUAL T5900 PGA 2.2G 2M 800 MV	KC.59001.DTP
	CPU INTEL CORE2DUAL T6400 2.0G 3M 800 35W R-0	KC.64001.DTP
	CPU INTEL CORE2DUAL T6600 2.2G 2M 800 35W R-0	KC.66001.DTP
	CPU INTEL CORE2DUAL PENRYN T9550 2.66G 6M 1066 35W E-0	KC.95501.DTP
	CPU INTEL CORE2DUAL P8600 2.4G 3M 1066 25W R-0	KC.86R01.DPP
	CPU INTEL CORE2DUAL P7550 PGA 2.26G 3M 1066 R-0	KC.75501.DPP
	CPU INTEL CORE2DUAL P8800 PGA 2.66G 3M 1066 25W R-0	KC.88R01.DPP
	CPU INTEL CORE2DUAL T6500 PGA 2.1G 2M 800 R-0	KC.65001.DTP
	CPU INTEL CORE2DUAL Q9000 PGA 2.0G 6M 1066 45W	KC.90001.QQP
	CPU INTEL CORE2QUAD Q9100 PGA 2.26G 12M 1066 45W	KC.91001.QQP
FAN		
	CPU FAN	23.W2301.001
		
HARD DISK DRIVE AND ACCESSORIES		
	HDD BRACKET	60.W2301.011
		



CHAPTER 6: FRU (Field-Replaceable Unit) list

Category	Part Name	OEM Part No.
	HDD 160GB 5400RPM SATA TOSHIBA LIBRA-BS MK1655GSX F/W:FG0101J 5.4	KH.16004.006
	HDD 160GB 5400RPM SATA HGST PANTHER-B PANTHER-B HTS545016B9A300 F/W:C60F	KH.16007.024
	HDD 160GB 5400RPM 2.5" SATA WD WD1600BEVT-22ZCT0 FW:11.01A11	KH.16008.022
	HDD MODULE 250G 5400RPM SATA	
	HDD BRACKET	60.W2301.011
	HDD 2.5" 5400RPM 250GB SEAGATE ST9250315AS WYATT SATA LF F/W:0001SDM1	KH.25001.016
	HDD 250GB 5400RPM SATA TOSHIBA MK2552GSX LF F/W:LV010J	KH.25004.002
	HDD 250GB 5400RPM SATA TOSHIBA LIBRA-BS MK2555GSX F/W:FG000J 5.4K	KH.25004.003
	HDD 250GB 5400RPM SATA HGST HTS543225L9A300 LF F/W:C40C	KH.25007.013
	HDD 250GB 5400RPM SATA HGST HTS545025B9A300 PANTHER-B LF	KH.25007.015
	HDD 250GB 5400RPM SATA WD WD2500BEVS-22UST0 ML125 F/W:01.01A01	KH.25008.018
	HDD 250GB 5400RPM SATA WD WD2500BEVT-22ZCT0 F/W:11.01A11	KH.25008.021
	HDD 320GB 5400RPM SATA SEAGATE WYATT ST9320325AS FW:0001SDM1	KH.32001.017
	HDD 320GB 5400RPM SATA TOSHIBA MK3252GSX F/W:LV010J	KH.32004.001
	HDD 320GB 5400RPM SATA TOSHIBA MK3255GSX LIBRA LF F/W:FG010J	KH.32004.002
	HDD 320GB 5400RPM SATA HGST HTS543232L9A300 F/W:C30C	KH.32007.004
	HDD 320GB 5400RPM SATA HGST HTS545032B9A300 PANTHER B LF	KH.32007.007
	HDD 320GB 5400RPM SATA WD WD3200BEVT-22ZCT0 ML125 F/W:01.01A01	KH.32008.013
	HDD 500GB 5400RPM WD SATA WD5000BEVT-22ZAT0 F/W:01.01A01	KH.50008.013
	HDD 500GB 5400RPM SEAGATE ST9500325AS SATA LF F/W:0001SDM1	KH.50001.011
	HDD 2.5" 5400RPM 500GB TOSHIBA MK5055GSX LIBRA SATA LF F/W:FG001J	KH.50004.001
	HDD 500GB 5400RPM HGST SATA HTS545050B9A300 PANTHER B LF	KH.50007.009

Category	Part Name	OEM Part No.
	HDD 160GB 7200RPM SATA HGST HTS723216L9A360 F/W:C30F	KH.16007.022
	HDD 200GB 7200RPM SATA SEAGATE SATA ST9200420AS FW:3.AAA 7	KH.20001.011
	HDD 250G 7200RPM SATA SEAGATE ST9250421AS LF F/W:0303	KH.25001.014
	HDD 250GB 7200RPM SATA HGST HTS723225L9A360 F/W:C30F	KH.25007.014
	HDD 320GB 7200RPM SATA HGST HTS723232L9SA00 F/W:C30F	KH.32007.005
	HDD 320GB 7200RPM SATA WD WD3200BEKT-22F3T0 FW:11.01A11 LF	KH.32008.015
	HDD 320GB 7200RPM SATA SEAGATE ST9320421AS LF F/W:0303	KH.32001.010
	HDD 500GB 7200RPM SATA SEAGATE HOLIDAY ST9500420AS F/W:0002SDM1	KH.50001.013
	HDD 320GB 5400RPM SATA SEAGATE WYATT ST9320325AS FW:0001SDM1	KH.32001.017
	HDD 320GB 5400RPM SATA TOSHIBA MK3252GSX F/W:LV010J	KH.32004.001
	HDD 320GB 5400RPM SATA TOSHIBA MK3255GSX LIBRA LF F/W:FG010J	KH.32004.002
	HDD 320GB 5400RPM SATA HGST HTS543232L9A300 F/W:C30C	KH.32007.004
	HDD 320GB 5400RPM SATA HGST HTS545032B9A300 PANTHER B LF	KH.32007.007
	HDD 320GB 5400RPM SATA WD WD3200BEVT-22ZCT0 ML125 F/W:01.01A01	KH.32008.013
HEATSINK		
	CPU HEATSINK	60.W2301.008









CHAPTER 6: FRU (Field-Replaceable Unit) list

Category	Part Name	OEM Part No.
	VGA HEATSINK W/FAN	60.WEJ01.002
KEYBOARD		
	KEYBOARD 17KB-GW1P 105KS BLACK SWISS/G	KB.I1700.090
	KEYBOARD 17KB-GW1P 105KS BLACK POLISH	KB.I1700.097
	KEYBOARD 17KB-GW1P 105KS BLACK PORTUGUESE	KB.I1700.096
	KEYBOARD 17KB-GW1P 104KS BLACK ARABIC/ENGLISH	KB.I1700.114
	KEYBOARD 17KB-GW1P 104KS BLACK ARABIC/ENGLISH	KB.I1700.109
	KEYBOARD 17KB-GW1P 105KS BLACK DANISH	KB.I1700.108
	KEYBOARD 17KB-GW1P 105KS BLACK ITALIAN	KB.I1700.100
	KEYBOARD 17KB-GW1P 105KS BLACK FRENCH	KB.I1700.105
	KEYBOARD 17KB-GW1P 105KS BLACK GERMAN	KB.I1700.104
	KEYBOARD 17KB-GW1P 104KS BLACK GREEK	KB.I1700.103
	KEYBOARD 17KB-GW1P 105KS BLACK NORWEGIAN	KB.I1700.098
	KEYBOARD 17KB-GW1P 105KS BLACK HUNGARIAN	KB.I1700.102
	KEYBOARD 17KB-GW1P 104KS BLACK RUSSIAN	KB.I1700.095
	KEYBOARD 17KB-GW1P 105KS BLACK SPANISH	KB.I1700.092
	KEYBOARD 17KB-GW1P 105KS BLACK TURKISH	KB.I1700.088
	KEYBOARD 17KB-GW1P 105KS BLACK UK	KB.I1700.087
	KEYBOARD 17KB-GW1P 105KS BLACK SWEDISH	KB.I1700.091
	KEYBOARD 17KB-GW1P 105KS BLACK BELGIUM	KB.I1700.113
LCD AND ACCESSORIES		


Category	Part Name	OEM Part No.
	LCD MODULE 17.1" WXGA+ GLARE W/1.3M CAMERA & ANTENNA*2	6M.BAU01.005
	LCD 17.1" WXGA+ AU B170PW06 V2 GLARE LF 200NIT 8MS	LK.17105.009
	LCD SAMSUNG 17.1" WXGA+ GLARE LTN170BT07-G01 LF 220NIT 8MS 500:1	LK.17106.004
	LCD 17" WXGA+ LG LP171WP4-TLR1 GLARE LF 220NIT 8MS	LK.17108.011
	INVERTER BOARD 17" DARFON VK.21189.801	19.TK901.001
	INVERTER BOARD 17" YEC YNV-W10	19.TK901.004
	WIRELESS ANTENNA MAIN WHITE	50.W2301.008
	WIRELESS ANTENNA AUX WHITE	50.W2301.009
	LCD BRACKET RIGHT	33.W2301.002
	LCD BRACKET LEFT	33.W2301.003

CHAPTER 6: FRU (Field-Replaceable Unit) list

Category	Part Name	OEM Part No.
	LCD HINGE PACK RIGHT	33.W2301.004
	LCD HINGE PACK LEFT	33.W2301.005
	LCD/CAMERA CABLE	50.B0101.002
	CAMERA 1.3M CHICONY CNF614121004591L	57.W2301.001
	LCD COVER 17" IMR BLACK W/HINGE CAP	60.BAU01.001
	HINGE CAP RIGHT	60.B0101.005
	HINGE CAP LEFT	60.B0101.006

Category	Part Name	OEM Part No.
	LCD BEZEL 17" W/CAMERA HOLE	60.B0101.003

MAINBOARD AND ACCESSORIES


	MAINBOARD GODZILLA/BLACKHILL-N10 DISCRETE PM45 ICH9ME VRAM-HYNIX1GB W/MODEM&MODEM CABLE W/O 1394&CPU&DIMM	MB.BAT01.001

BOARDS	MODEM BOARD LITEON CONEXANT -UNIZION 1.5_3.3V AUS B85247600G	FX.22500.021
CABLES	MODEM CABLE	50.W2301.006

DIMM MEMORY

	SODIMM 1GB DDRIII 1066MHZ ELPIDA EBJ11UE6BAU0-AE-E LF 64*16 0.07UM	KN.1GB09.009
	SODIMM 1GB DDRIII 1066MHZ SAMSUNG M471B2874DZ1-CF8	KN.1GB0B.019
	SODIMM 1GB DDRIII 1066MHZ HYNIX HMT112S6AFP6C-G7N0	KN.1GB0G.019
	SODIMM 2GB DDRIII 1066MHZ ELPIDA EBJ21UE8BAU0-AE-E	KN.2GB09.002
	SODIMM 2GB DDRIII 1066MHZ SAMSUNG M471B5673DZ1-CF8	KN.2GB0B.005
	SODIMM 2GB DDRIII 1066MHZ SAMSUNG M471B5673EH1-CF8	KN.2GB0B.012
	SODIMM 2GB DDRIII 1066MHZ HYNIX HMT125S6AFP8C-G7N0	KN.2GB0G.009

MISCELLANEOUS

	LCD SCREW RUBBER	47.W2301.002

CHAPTER 6: FRU (Field-Replaceable Unit) list


Category	Part Name	OEM Part No.
	ODD SCREW RUBBER	47.W2301.003



	HINGE SCREW RUBBER	47.W2301.001
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SCREWS

	SCREW	34.00015.081
	SCREW	86.W2301.001
	SCREW	86.00D47.630
	SCREW	86.00E34.738
	SCREW	86.W2301.002
	SCREW	86.W2301.003
	SCREW	86.W2301.004
	SCREW	86.W2301.005
	SCREW	86.W2301.006
	SCREW	86.W4301.001
	SCREW	86.W2301.007
	SPEAKER	23.W2301.003