

Tecra A8-S8513 Detailed Product Specification¹

Model Name	Description	Part Number	UPC
A8-S8513	Genuine Windows® XP Professional, Intel® Core™ 2 Duo Processor T5600 , 1024MB DDR2, 100GB 5400rpm (S-ATA), DVD-SuperMulti Drive, 15.4" WXGA w/ TruBrite™, Intel® Graphics Media Accelerator 950, Intel® PRO/Wireless 3945ABG (802.11a/b/g), Bluetooth v2.0 + EDR, 1Gbps LAN, 1-year standard limited warranty	PTA83U-0EQ021	032017773790

Section 1.01 Operating System²[CPU_64](#)

- Genuine Windows® XP Professional
- Windows Vista™ Premium Ready³

Section 1.02 Processor and Chipset⁶

Intel® Centrino® Duo Mobile Technology featuring:

- Processor:
 - Intel® Core™ 2 Duo Processor T5600
 - 1.83GHz, 2MB L2, 667MHz FSB with 64-bit [CPU_64](#)
- Chipset
 - Mobile Intel® 945GM Express Chipset
- Integrated Wi-Fi® compliant wireless LAN
 - Intel® PRO/Wireless 3945ABG (802.11a/b/g)

Section 1.03 Memory⁷

- Configured with 1024MB PC4200 DDR2 SDRAM (both memory slots occupied)
- 1024MB (Min)/4096MB (Max), with 256MB, 512MB, 1024MB or 2048MB PC4200 or PC5300 DDR2 memory modules.

Section 1.04 Hard Disk Drive⁸

- 100GB (5400 RPM) Serial-ATA (SATA) hard disk drive; 9.5mm height

Section 1.05 Fixed Optical Disk Drive⁹

- DVD SuperMulti (+/-R double layer) drive supporting 11 formats
 - Maximum speed and compatibility: CD-ROM (24x), CD-R (24x), CD-RW (10x), DVD-ROM (8x), DVD-R (Single Layer, (8x)), DVD-R (Double Layer, (2x)), DVD-RW (4x), DVD+R (Single Layer, (2x)), DVD+R (Double Layer, (2.4x)), DVD+RW (4x), DVD-RAM (5x)

Section 1.06 Display¹⁰

- 15.4" diagonal widescreen TruBrite™ TFT active-matrix LCD display at 1280x800 native resolution (WXGA)

Section 1.07 Graphics¹¹

- Intel® Graphics Media Accelerator 950 with 8MB-128M dynamically allocated shared graphics memory

Section 1.08 Sound

- Built-in stereo speakers
- Sound Volume Control Dial

Section 1.09 Input Devices

- Keyboard
 - 85 key US keyboard
 - Hot Key Functions (Fn)
 - Windows Key Function
 - Application Key Function

- Toshiba Accupoint® and TouchPad™ dual pointing device
- TouchPad™ Enable/Disable
- Control Buttons:
 - Toshiba Assist button to launch Toshiba Assist control panel
 - Presentation button to quickly connect to projectors

Section 1.10 Communications

- Toshiba V.92 software modem¹³
- Intel® PRO/1000 Network Connection - 10/100/1000 Base-TX Ethernet
- Integrated Wireless-LAN:¹⁴
 - Intel® PRO/Wireless Network Connection 3945ABG (802.11a/b/g)
- Bluetooth® version 2.0 plus Enhanced Data Rate (EDR) with Toshiba Bluetooth driver software

Section 1.11 Expandability

- 2 main memory slots. Both slots may be occupied.
- One PCMCIA – Type II/Type I Card Slot
- Secure Digital slot (supports SDIO)

Section 1.12 Ports

- Video
 - RGB (monitor) output port
- Audio
 - Microphone input port
 - Headphone output port
- Data
 - i.LINK™ IEEE-1394
 - USB v2.0 – 3 ports
 - RJ-45 LAN port
 - RJ-11 modem port
 - 240-pin docking connector
 - Supported on optional Advanced Port Replicator III/III+:
 - RGB monitor port
 - Audio line-in and line-out
 - Parallel port
 - Serial port
 - PS/2 port
 - i.LINK™ (certain models only)
 - USB v2.0

Section 1.13 Physical Description for this Product Series

- Dimensions (WxDxH Front/H Rear): 14.5" (368.0mm) x 10.6" (268.0mm) x 1.18" (29.8mm)[F]/1.45" (36.9mm)[R] without feet
- Weight: Starting at 6.4 lbs (2.9 kg) depending upon configuration¹⁵
- Chassis Description
 - Case material: Polycarbonate ABS
 - LCD Cover Color: Titanium Silver
- Physical Security
 - Slot for cable lock;
 - Items protected by a screw: Memory, HDD
 - Fingerprint reader
- Software Security

- Passwords: User power-on password, supervisor password
- Hotkey locks: Screen Blank

Section 1.14 Power Supply

- 60W (15V x 4A) Auto sensing external AC Adapter, 100-240V / 50-60Hz frequency (Universal) input.
- Dimensions (WxDxH): 1.95" (49.5mm) x 4.51" (114.5mm) x 1.14" (29.0mm)
- Weight: starting at 0.58 lbs (262 g)

Section 1.15 Battery¹⁶

- 6-cell (4400mAh) rechargeable, removable Lithium Ion (Li-Ion) battery pack
- Dimensions (WxDxH): 5.12" (129.9mm) x 0.81" (20.6mm) x 2.84" (72.1mm)
- Weight: starting at 0.75 lbs (340 g)
- Battery Life (measured by MobileMark™)¹⁷
 - Included 6-cell battery: 3 hours, 17 minutes

Section 1.16 Toshiba EasyGuard™¹⁸

- Protect & Fix
 - Shock Absorbing Design¹⁹
 - HDD Shock Absorber
 - LCD Panel Shock Absorber
 - LCD Inverter Shock Absorber
 - Chassis Shock Protector
 - Hard Disk Drive Protection
 - 3D Accelerometer
 - HDD Dome Shock Protector
 - HDD Shock Absorber
 - Spill-Resistant Keyboard²⁰
 - TOSHIBA PC Diagnostic Tool
 - Key Component Access
- Secure
 - Multiple-Level Password Utilities
 - Fingerprint Reader (includes software for password and identity management)
 - UPEK Protector Suite™ QL,
 - Infineon TPM Software Professional Package 2.0
 - Trusted Platform Module (TPM v1.2)
 - TOSHIBA Secure Digital Token Utility
 - Reinforced Security Cable Lock Slot
 - Execute Disable Bit
 - Optional Services and Accessories (additional purchase required)
 - HDLock™ for Toshiba Notebooks
 - CompuTrace®
- Connect
 - Diversity Antenna
 - TOSHIBA ConfigFree®
 - TOSHIBA Bluetooth® Stack
- Optimize
 - Presentation Button
 - TOSHIBA Zooming Utility
 - LCD Rotation Utility
 - One-touch Resolution Change
 - TOSHIBA Power Saver Utility
 - TOSHIBA Optical Disc Drive Power On/Off Utility
 - Wireless On/Off Switch
 - TOSHIBA Fn-esse® Shortcut Utility
 - TOSHIBA Mouse Utility
 - FN Shortcut Keys

Section 1.17 BIOS

- ACPI, PNP, VESA, DPMS, DDC, SM BIOS v2.4, PCI BIOS v2.1 support

Section 1.18 Software²¹ CPU_64

- Toshiba Software and Utilities
 - TOSHIBA ConfigFree®
 - TOSHIBA Custom Utilities
 - TOSHIBA Game Console
 - Electronic User's Guide
 - Toshiba Bluetooth driver software
- Third-party Software
 - Microsoft Office® OneNote® 2003
 - Microsoft Works® Version 8.5
 - Sun® Java™ 2 Runtime Environment
 - Adobe® Acrobat® Reader
 - WinDVD for Toshiba
 - Sonic Solutions® Drive Letter Access™ (DLA)
 - Microsoft® Windows Media Player version 10
 - Yahoo! Music Engine
 - Ulead® DVD MovieFactory® for TOSHIBA
- Trial Software
 - Microsoft Office Trial Small Business Edition (60-day trial)
 - McAfee® Internet Security Suite (30-day trial)
 - AOL® Internet Service (6-month trial)²²

Section 1.19 Environmental Specifications

	Operating	Non-operating
Temperature ²⁴	5° to 35° C (41° to 95° F)	-20° to 65° C (-4° to 149° F)
Thermal Gradient	15° C per hour (max)	20° C per hour (max)
Relative Humidity (non-condensing)	20% to 80%	10% to 90%
Altitude (relative to sea level)	-60 to 3,000 meters	-60 to 10,000 meters
Shock	7G, 1.5G w/CD-ROM	60G
Vibration	0.2G, 0.25G w/CD-ROM	1.0G

- Energy Star Compliant
- This product is RoHS²⁵ compatible

TECRA / PORTEGE / SATELLITE / LIBRETTO – 1 YEAR STANDARD LIMITED WARRANTY²⁶

Service Upgrades and Extensions

Toshiba offers many different enhanced services such as SystemGuard®, On-Site Repair, and ServiceExpress to provide additional support to your notebook computer. For a full description and complete list of programs and program terms and conditions, please visit www.pcsupport.toshiba.com.

Recommended Services

Extended Service Plan

Provides an extended service plan for up to 4 total years from the original notebook purchase date.

Part Number	Description
WSN-PEQQ2V	2nd Year Extended Service Plan
WSN-PEQQ3V	2nd/3rd Year Extended Service Plan
WSN-PEQQ4V	2nd/3rd/4th Year Extended Service Plan

SystemGuard Accidental Damage Service w/ ServiceExpress²⁷

Provides advanced protection from damage caused from handling. Select your express repair service with either Depot Express or Carry-In Express and go to the front of the line. Extended Service Plan included except with 1 Year plan. SystemGuard coverage must be purchased within the first 30 days of notebook purchase.

Part Number	Description
WSN-PSGP1V	1st Year
WSN-PEGP2V	1st/2nd Year + Extended Service Plan
WSN-PEGP3V	1st/2nd/3rd Year + Extended Service Plan

SystemGuard Accidental Damage Service + On-Site Repair²⁸

Combines SystemGuard and Business On-Site Repair coverage. Extended Service Plan included except with 1 Year plan. SystemGuard coverage must be purchased within the first 30 days of notebook purchase.

Part Number	Description
WSN-PSGN1V	1st Year
WSN-PEGN2V	1st/2nd Year + Extended Service Plan
WSN-PEGN3V	1st/2nd/3rd Year + Extended Service Plan

ServiceExpress

Select your express repair service with either Depot Express or Carry-In Express. Depot Express: Your notebook will be repaired and returned via overnight shipment (excluding weekends and holidays). Carry-In Express: Take your notebook into a Premier ASP and go to the front of the line for expedited repair service. Extended Service Plan included except with 1 Year plan.

Part Number	Description
WSN-PSQP1V	1st Year
WSN-PEQP2V	1st/2nd Year + Extended Service Plan
WSN-PEQP3V	1st/2nd/3rd Year + Extended Service Plan

On-Site Repair Service

On-site service will be provided at the customer's home or business location (excluding weekends and holidays) to perform the necessary hardware repairs. Extended Service Plan included except with 1 Year plan.

Part Number	Description
WSN-PSQN1V	1st Year
WSN-PEQN2V	1st/2nd Year + Extended Service Plan
WSN-PEQN3V	1st/2nd/3rd Year + Extended Service Plan

Article II. Accessories

Memory:

PA3412U-2M51	Toshiba 512MB DDR2-533 Memory Module, RoHS
PA3411U-2M1G	Toshiba 1GB DDR2-533 Memory Module, RoHS

Power:

PA3283U-5ACA	Toshiba 75W Global AC Adapter, CA EE
PA3285U-3BRS	Toshiba Primary Li Ion Battery Pack (6 Cell)
PA3091U-2CHG	Toshiba Battery Charger w/Integrated AC Adapter, RoHS

Expansion:

PA3474U-1PRP	Toshiba Advanced Port Replicator III Plus w/90W AC Adapter, RoHS
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Security & Protection:

PA1370U-1ETC	Toshiba Keyboard Protector (Tecra/Satellite/Qosmio)
PA410U	Targus DEFCON CL Notebook Cable Lock

Storage:

PA13109U-3FDD	Toshiba USB Floppy Disk Drive, RoHS
PA1411U-1M1G	Toshiba 1GB USB2.0 Hi-Speed Flash Drive
PA1412U-1M2G	Toshiba 2GB USB2.0 Hi-Speed Flash Drive

Wireless/Bluetooth

PA1380U-1NMS	Toshiba Wireless Travel Mouse with Bluetooth Technology
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Article III. Subject to Change

While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice. For the most up-to-date product information about your computer, or to stay current with the various computer software or hardware options, visit Toshiba's Web site at <http://www.pcsupport.toshiba.com>

Article IV. Return Policy

Notwithstanding anything to the contrary in any third party License Agreement or product documentation supplied with your computer, Toshiba America Information Systems, Inc. ("TAIS") does not accept the return of component parts, or bundled software, that have been removed from the computer system. Pro-rata refunds on individual computer components or bundled software, including the operating system, will not be granted. If you wish to return a complete computer system, contact the TAIS dealer where you purchased the product, and comply with the dealer's standard return policies and procedures.

Toshiba America Information Systems, Incorporated ("TAIS")

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ToshibaDirect website: <http://www.toshibadirect.com>

TAIS website for resellers: <http://sell.toshiba.com>

TAIS computer Support website: <http://pcsupport.toshiba.com>

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CPU 64-bit computing:

64-bit processors are designed to take advantage of 32 and 64 bit computing.

64-bit computing requires that the following hardware and software requirements are met:

- 64-bit Operating System
- 64-bit CPU, Chipset and BIOS (Basic Input/Output System)
- 64-bit Device Drivers
- 64-bit Applications

Certain device drivers and/or applications may not be compatible with a 64-bit CPU and therefore may not function properly. A 32-bit version of the operating system is preinstalled on your computer unless explicitly stated that the operating system is 64-bit. See "Detailed Specs" for more information.

¹ **Product Series Legal Footnote.** The product specifications and configuration information are designed for a product Series. Your particular model may not have all the features and specifications listed or illustrated. For more detailed information about the features and specifications on your particular model, please visit Toshiba's Web site at pcsupport.toshiba.com.

Product Offering Legal Footnote. Toshiba America Information Systems, Inc. reserves the right to modify or withdraw this offer at anytime without notice.

² **Operating System.** Certain Microsoft® software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software product(s) or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

Offers. Offer terms, duration and product availability all subject to change without notice

³ **Windows® Vista™.** Not all Windows Vista features are available for use on all Windows Vista Capable computers. All Windows Vista Capable computers will run the core experiences of Windows Vista, such as innovations in organizing and finding information, security, and reliability. Some features available in premium editions of Windows Vista -- like the new Windows Aero™ user interface -- require advanced or additional hardware. Check www.windowsvista.com/getready for details.

⁶ **Processor (Central Processing Unit).**

CPU performance in your computer product may vary from specifications under the following conditions:

1. use of certain external peripheral products
2. use of battery power instead of AC power
3. use of certain multimedia, computer generated graphics or video applications
4. use of standard telephone lines or low speed network connections
5. use of complex modeling software, such as high end computer aided design applications
6. use of several applications or functionalities simultaneously
7. use of computer in areas with low air pressure (high altitude >1,000 meters or >3,280 feet above sea level)
8. use of computer at temperatures outside the range of 5°C to 30°C (41°F to 86° F) or >25°C (77°F) at high altitude (all temperature references are approximate and may vary depending on the specific computer model – please visit the Toshiba website at www.pcsupport.toshiba.com for details).

CPU performance may also vary from specifications due to design configuration.

Under some conditions, your computer product may automatically shut-down. This is a normal protective feature designed to reduce the risk of lost data or damage to the product when used outside recommended conditions. To avoid risk of lost data, always make back-up copies of data by periodically storing it on an external storage medium. Use your computer product only under recommended conditions. Read additional restrictions under "Environmental Conditions" in your product "Detailed Specs." Contact Toshiba Technical Service and Support for more information.

⁷ **Memory (Main System).** Part of the main system memory may be used by the graphics system for graphics performance and therefore reduce the amount of main system memory available for other computing activities. The amount of main system memory allocated to support graphics may vary depending on the graphics system, applications utilized, system memory size and other factors. For computers configured with 4 GB of system memory, the full system memory space for computing activities will be considerably less and will vary by model and system configuration.

⁸ **Hard Disk Drive (HDD) Capacity.**

1 Gigabyte (GB) means $10^9 = 1,000,000,000$ bytes using powers of 10. The computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = $2^{30} = 1,073,741,824$ bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the product includes one or more pre-installed operating systems, such as Microsoft Operating System and/or pre-installed software applications, or media content. Actual formatted capacity may vary.

⁹ **Optical Drive.** Due to manufacturing and quality variations in third party optical media (e.g., CD or DVD) or optical media players/recorders, in certain cases, your Toshiba optical drive may not record on certain optical media that bear the applicable logo, or playback optical media recorded by other computers or optical media recorders. Additionally, certain optical media recorded on your optical drive may not playback or operate properly on other computers or optical media players. These problems are not due to any defect in your Toshiba computer or optical drive. Please refer to your computer product specification for listing of specific format compatibilities.

Recording or viewing of certain optical media may be limited or prevented in accordance with applicable copy protection standards.

¹⁰ **Display.** Small bright dots may appear on your screen display when you turn on your computer. Your display contains an extremely large number of thin-film transistors (TFT) and is manufactured using high-precision technology. Any small bright dots that may appear on your display are an intrinsic characteristic of the TFT manufacturing technology. Over a period of time, and depending on the usage of the computer, the brightness of the screen will deteriorate. This is also an intrinsic characteristic of the screen technology. When the computer is operated on battery power, the screen will dim and you may not be able to increase the brightness of the screen while on battery power.

¹¹ **Graphics (Graphics Processing Unit).**

GPU performance may vary depending on product model, design configuration, applications, power management settings and features utilized. GPU performance is only optimized when operating in AC power mode and may decrease considerably when operating in battery power mode.

¹³ **Modem Speed.** Due to FCC limitations, speeds of 53 kbps are the maximum permissible transmission rates during download. Actual data transmission speeds will vary depending on line conditions.

¹⁴ **Wireless.** Wireless connectivity and some features may require you to purchase additional software, external hardware or services. Availability of public wireless LAN access points may be limited. The transmission speed over the wireless LAN and the distance over which wireless LAN can reach may vary depending on surrounding electromagnetic environment, obstacles, access point design and configuration, and client design and software/hardware configurations. The actual transmission speed will be lower than the theoretical maximum speed. To use the Atheros SuperAG™ or SuperG™ wireless function, if available, your client and access point must support the corresponding feature. Performance of these functions may vary depending on the format of data transmitted.

¹⁵ **Weight.** Weight may vary depending on product configuration, vendor components, manufacturing variability and options selected.

¹⁶ **Battery Life.** Battery life may vary considerably from specifications depending on product model, configuration, applications, power management settings and features utilized, as well as the natural performance variations produced by the design of individual components. Published battery life numbers are achieved on select models and configurations tested by Toshiba at the time of publication. See "Detailed Specs" for specific battery measurement test. Recharge time varies depending on usage. Battery may not charge while computer is consuming full power. After a period of time, the battery will lose its ability to perform at maximum capacity and will need to be replaced. This is normal for all batteries. To purchase a new battery pack, see the accessories information that shipped with your computer or visit the Toshiba web site at www.accessories.toshiba.com.

¹⁷ **Battery Life - MobileMark™.** Measured by MobileMark. MobileMark is a trademark of the Business Applications Performance Corporation.

¹⁸ **EasyGuard.** Toshiba EasyGuard™ technology comprises a number of features some of which may or may not be available on a particular Toshiba notebook depending on the model selected. See www.easyguard.toshiba.com for detailed information.

¹⁹ **Shock Protection.** Toshiba's shock absorption technology provides higher impact protection for your system as compared to Toshiba systems without similar shock protection features based on Toshiba's drop tests. Toshiba's standard limited warranty terms and limitations apply. Visit www.warranty.toshiba.com for details.

²⁰ **Spill-Resistant Keyboard.** Under Toshiba testing conditions, the spill-resistant keyboard delayed the time for a water spill to reach the computer's main board to allow more time to properly close down the machine. Toshiba's standard limited warranty terms and limitations apply. Visit www.warranty.toshiba.com for details.

²¹ **Software.** Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

Certain Microsoft® software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software product(s) or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

²² **AOL® Internet Service.** Availability may be limited, especially during peak times. TO AVOID BEING CHARGED A MONTHLY MEMBERSHIP FEE, SIMPLY CANCEL BEFORE THE SIX-MONTH PROMOTIONAL PERIOD ENDS. Premium services carry surcharges and communication surcharges may apply, including AK, even during promotional period. Members may incur telephone charges on their phone bill, depending on their location and calling plan, even during promotional period. Available to new AOL members in the United States, age 18 or older; a major credit card or checking account is required.

²⁴ **Temperature (Environmental) Conditions.** All temperature references are approximate and the performance of your computer may vary from specifications even when operating within the recommended temperature range.

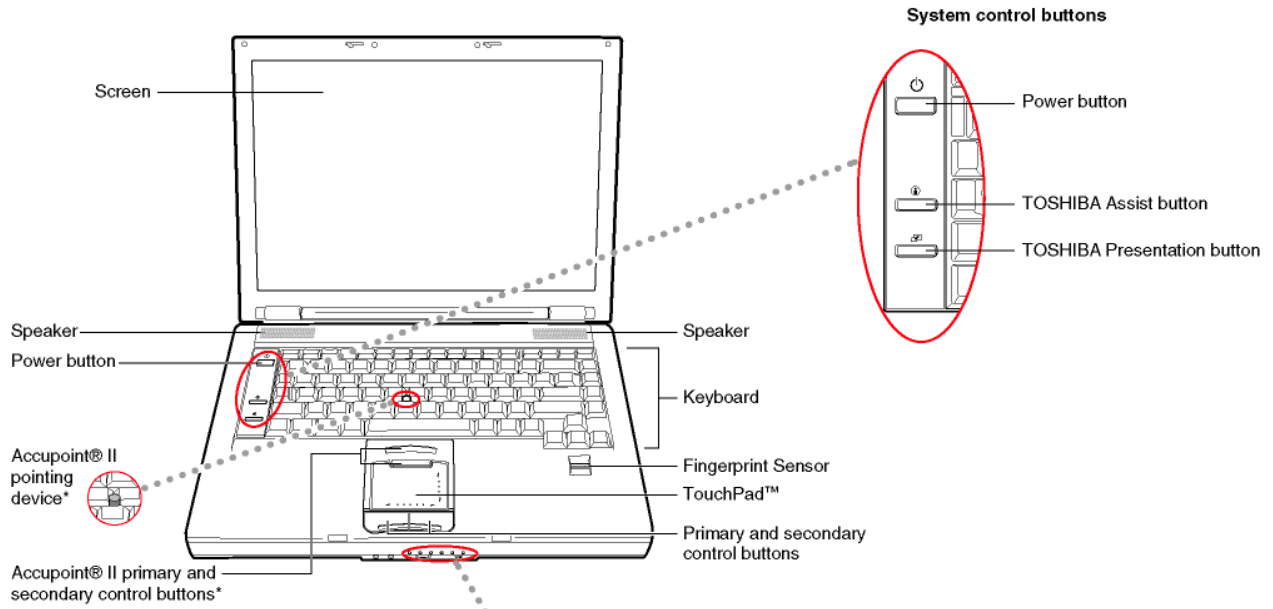
²⁵ **RoHS.** This notebook is compatible with European Union Directive 2002/95/EC, Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS), which restricts use of lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE. Toshiba requires its notebook component suppliers to meet RoHS requirements and verifies its suppliers' commitment to meeting RoHS requirements by conducting component sampling inspections during the product design approval process.

²⁶ **Warranty:** The terms and conditions of Toshiba's standard limited warranty are available at www.warranty.toshiba.com.

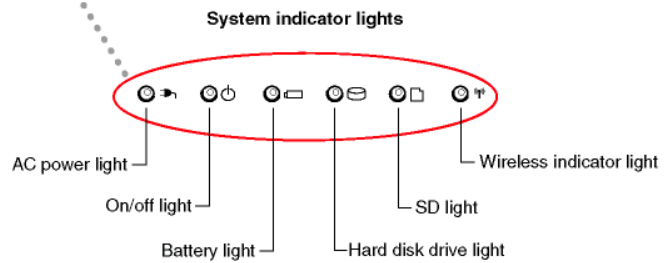
²⁷ **Service Plans:** The terms and conditions of service upgrade and extension plans offered by Toshiba are available at www.pcsupport.toshiba.com.

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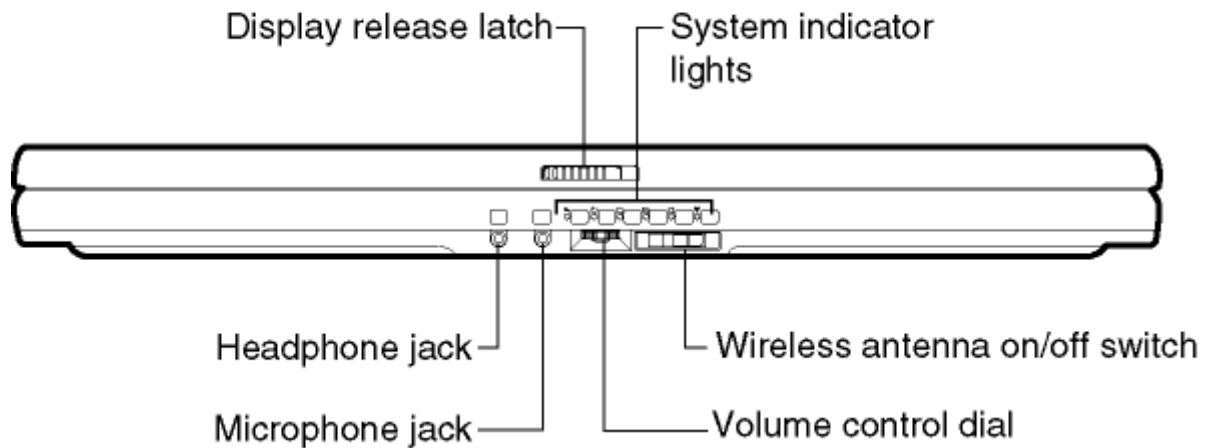
Front with display open



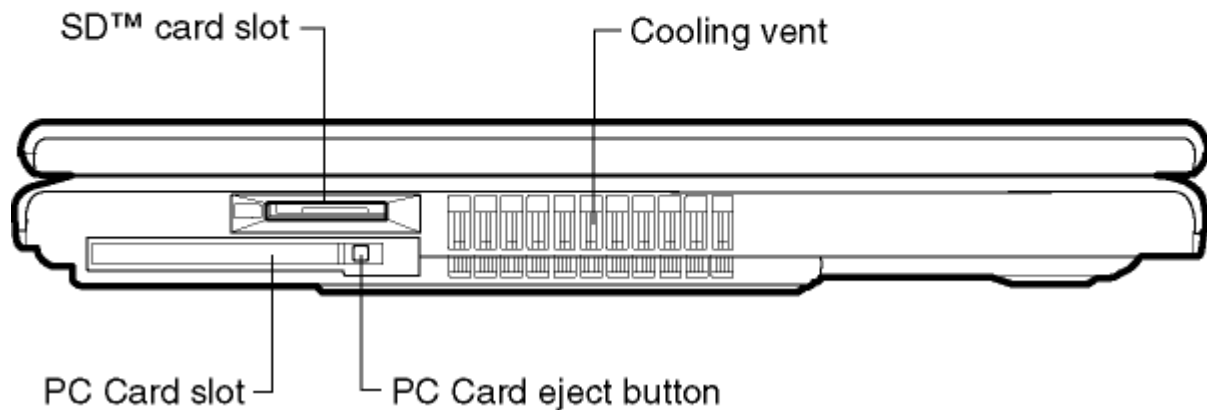
*Available on certain models.



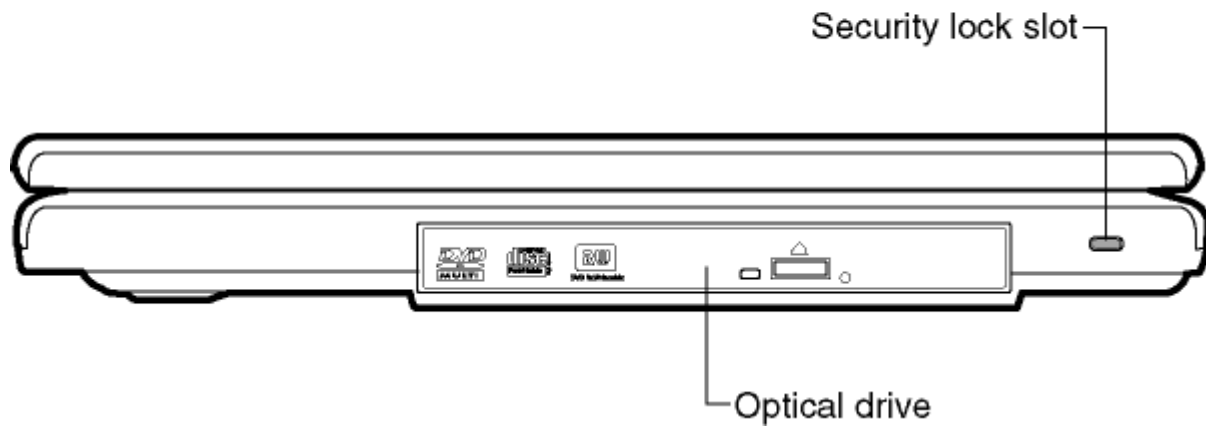
Front with display closed



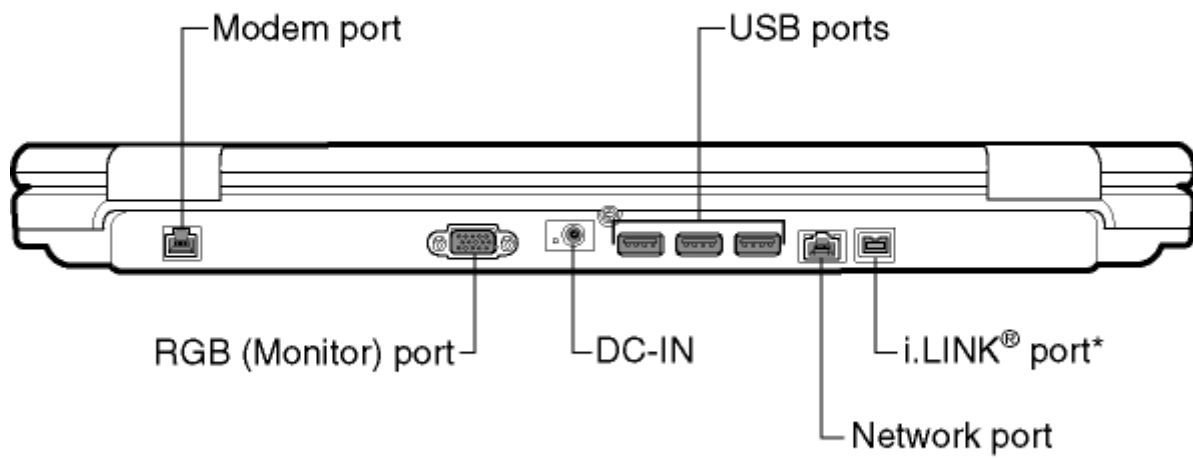
Left side



Right side



Back



*Available on certain models.

Underside

