

TECRA A10-S3501 Detailed Product Specification¹

Model Name	Description	Part Number	UPC
A10-S3501	Genuine Windows Vista [®] Business SP1, Intel [®] Core [™] 2 Duo Processor T9400, 4GB DDR2, 200GB 7200rpm SATA, DVD-SuperMulti, 15.4" widescreen WSXGA+, NVIDIA [®] Quadro [®] NVS 150M, Intel [®] WiFi [®] Link 5100AGN, Webcam, 3 year standard limited warranty	PTSB3U-01200X	883974166558

Operating System ^{C1} 2

- Genuine Windows Vista[®] Business (32/64-bit version), SP1
 - Downgrade media for Genuine Windows[®] XP Professional

Processor and Chipset ³

Intel[®] Centrino[®] 2 processor technology featuring:

- Processor
 - Intel[®] Core[™] 2 Duo Processor T9400
 - 2.53GHz, 6MB L2, 1066MHz FSB
- Chipset
 - Mobile Intel[®] PM45 Express Chipset
- Integrated Wi-Fi[®] compliant wireless LAN
 - Intel[®] WiFi Link 5100AGN (802.11a/g/n)⁴
- Wired LAN
 - Intel[®] 82567LM Gigabit Network Connection (with AMT 4.0)

Memory⁵

- Configured with 4GB (2GBx2) PC2-6400 DDR2 SDRAM
- 2 memory slots
- 4GB (Max), with 2GB PC2-6400 DDR2 memory modules

Hard Disk Drive⁶

- 200GB (7200 RPM) Serial ATA hard disk drive; 9.5mm height

Fixed Optical Disk Drive⁷

- 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, 6x), DVD-RW (6x), DVD+R (Single Layer, 2x), DVD+R (Double Layer, 6x), DVD+RW (6x), DVD-RAM (5x)

Display⁸

- 15.4" diagonal widescreen TFT LCD display at 1680x1050 native resolution (WSXGA+)

Graphics⁹

- NVIDIA[®] Quadro NVS 150M with TurboCache[™] and 256MB of dedicated graphics memory

Sound

- Built-in stereo speakers
- Sound volume control dial
- Built-in microphone

Input Devices

- 86 key US keyboard
- Toshiba Accupoint[®] II and TouchPad[™] dual pointing device
- TouchPad[™] Enable/Disable
- Control Buttons:
 - Toshiba Assist button to launch Toshiba Assist control panel
 - Windows Mobility Center button

Communications

- Modem¹⁰
- Integrated Webcam
- Intel[®] 82567LM 10/100/1000 Ethernet
- Integrated Wi-Fi[®] compliant wireless:
 - Intel[®] WiFi Link 5100AGN (1x2)¹¹
- Integrated Bluetooth[®] version 2.1 plus Enhanced Data Rate (EDR)

Expandability

- One PCMCIA – Type II Card Slot
- Bridge Media Adapter
 - Secure Digital, SDHC, Memory Stick[™], Memory Stick PRO[™], Multi Media Card, xD card [shared slots]

Ports

- Video
 - RGB (monitor) output port
- Audio
 - Microphone input port
 - Headphone output port
- Data
 - i.LINK[™] IEEE-1394
 - Modem¹²
 - Ethernet-RJ45
 - USB v2.0 – 4 ports
 - 3 x USB v2.0
 - 1 x eSATA/USB combo port with sleep and charge¹³
 - Serial port
 - Docking connector
- Supported on Toshiba Express Port Replicator
 - DVI-D output port
 - USB v2.0 – 4 ports
 - 10/100/1000 Ethernet port
 - AC adapter and security lock supported
- Security
 - SmartCard Reader
 - Bluetooth key Logon
 - Fingerprint reader
 - Reinforced Security Cable Lock Slot

Physical Description

- Dimensions (WxDxH Front/H Rear): 14.2" x 10.4" x 1.46" /1.54" with feet
- Weight: Starting at 6.2 lbs depending upon configuration¹⁴
- LCD Cover Color: Titanium Silver

Power

- 75W (15V x 5A) Auto sensing 100-240V/50-60Hz AC Adapter.
- Dimensions (WxDxH): 5.00" x 2.01" x 1.38"
- Weight: starting at 0.78 lbs

Battery¹⁵

- 5100mAh Lithium Ion battery pack
- Dimensions (WxDxH): 8.15" x 1.77" x 0.79"
- Weight: starting at 0.74 lbs
- Battery Life (measured by MobileMark[™])¹⁶
 - Included 6-cell battery: 3 hours, 10 minutes

Toshiba EasyGuard[®] 17

- Protect & Fix
 - Toshiba PC Health Monitor
 - Shock Absorbing Design¹⁸
 - HDD Shock Absorber
 - Hard Disk Drive Protection
 - HDD Dome Shock Protector
 - HDD Shock Absorber
 - Spill-Resistant Keyboard¹⁹
 - TOSHIBA PC Diagnostic Tool
 - Key Component Access
- Secure
 - Multiple-Level Password Utilities

TOSHIBA

- o Fingerprint Reader (includes software for password and identity management)
- o AuthenTec EntréPad® TrueSuite®
- o Infineon TPM Software Professional Package
- o Trusted Platform Module v1.2
- o TOSHIBA Secure Digital Token Utility
- o Reinforced Security Cable Lock Slot
- o Execute Disable Bit
- Connect
 - o Diversity Antenna
 - o TOSHIBA ConfigFree®
 - o Voice-over-IP Ready Design
 - o TOSHIBA Bluetooth® Stack
- Optimize
 - o Windows Mobility Center Button
 - o TOSHIBA Zooming Utility
 - o LCD Rotation Utility
 - o One-touch Resolution Change
 - o Wireless On/Off Switch
 - o FN Shortcut Keys
- BIOSAPM, ACPI, PNP, VESA, DPMS, DDC, SM BIOS, PCI BIOS support
- Computrace® (BIOS enabled)

Software ^{C1 20}

- Toshiba Software and Utilities
 - o TOSHIBA Value Added Package
 - o Electronic User's Guide
 - o TOSHIBA ConfigFree®
 - o TOSHIBA DVD Player
 - o TOSHIBA Speech System
- Third-party Software
 - o Sun® Java™ Runtime Environment
 - o Adobe® Acrobat® Reader
 - o Google™ Desktop
 - o Google™ Toolbar
 - o Google™ Picasa™
- Trial Software
 - o Microsoft Office Ready with Microsoft Office Professional 2007 60-day Trial Edition
 - o Norton Internet Security™ 2008

Environmental Specifications

	Operating	Non-operating
Temperature ²¹	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	10G	60G
Vibration	0.5G, 0.25G w/ODD	1.0G

- Energy Star 4.0 Compliant
- This product is RoHS²² Compliant
- EPEAT™ Silver

TECRA / PORTEGE / LIBRETTO – 3 YEAR STANDARD LIMITED WARRANTY²³

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 PC. 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. Must be purchased within the first 6 months of notebook purchase.

Part Number	Description
WSN-PTQQ4V	4th Year Extended Service Plan

SystemGuard Accidental Damage Service w/ ServiceExpress²⁴

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 with 4 Year plan. Must be purchased within the first 30 days of notebook purchase.

Part Number	Description
WSN-PQGP3V	1st/2nd/3rd Year
WSN-PTGP4V	1st/2nd/3rd/4th Year + Extended Service Plan

SystemGuard Accidental Damage Service + On-Site Repair²⁵

Combines SystemGuard and On-Site Repair coverage. Extended Service Plan included with 4 Year plan. Must be purchased within the first 30 days of notebook purchase.

Part Number	Description
WSN-PQGN3V	1st/2nd/3rd Year
WSN-PTGN4V	1st/2nd/3rd/4th 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 with 4 Year plan. Must be purchased within the first 30 days of notebook purchase.

Part Number	Description
WSN-PQQP3V	1st/2nd/3rd Year
WSN-PTQP4V	1st/2nd/3rd/4th 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 with 4 Year plan. Must be purchased within the first 6 months of notebook purchase.

Part Number	Description
WSN-PQQN3V	1st/2nd/3rd Year
WSN-PTQN4V	1st/2nd/3rd/4th Year + Extended Service Plan

Accessories

For additional and most updated accessories, please visit

www.accessories.toshiba.com

Memory Upgrade

Part Number	Description
PA3669U-1M2G	Toshiba 2GB DDR2-800 Memory Module
PA3670U-1M4G	Toshiba 4GB DDR2-800 Memory Module

Power

Part Number	Description
PA3283U-5ACA	Toshiba 75W Global AC Adapter
PA3588U-1BR5	Toshiba Primary Li Ion Battery Pack (6 cell)
PA3509U-1BRM	Toshiba Primary Extended Capacity Li Ion Battery Pack (9 cell)
PA3357U-3BRL	Toshiba Primary High Capacity Li Ion Battery Pack (12 cell)
PA3091U-2CHG	Toshiba Battery Charger w/Integrated AC Adapter

Expansion

Part Number	Description
PA3508U-1PRP	Toshiba Express Port Replicator w/90W AC Adapter
PA3579U-1ETC	Toshiba Universal Notebook/Projector Stand

TOSHIBA

PA3555U-1ETC Toshiba USB Data Transfer Cable

Security & Protection

Part Number Description

PA3567U-1ETC Toshiba Keyboard Protector

Storage

Part Number Description

PA3556U-1M2G Toshiba 2GB USB Hi-Speed Flash Drive, ReadyBoost

PA3556U-1M4G Toshiba 4GB USB Hi-Speed Flash Drive, ReadyBoost

PA3556U-1M8G Toshiba 8GB USB Hi-Speed Flash Drive, ReadyBoost

HDDR160E03X Toshiba External USB Hard Drive, 160GB

HDDR250E03X Toshiba External USB Hard Drive, 250GB

HDDR320E03X Toshiba External USB Hard Drive, 320GB

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>

Return Policy

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

9740 Irvine Boulevard

Irvine CA 92618

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

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

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

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^{C1} 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.

Also see **64-Bit Computing** Legal Footnote, if applicable.

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 Processor (Central Processing Unit).

Also see **64-Bit Computing** Legal Footnote, if applicable

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.

⁴ **Wireless-N.** The wireless adapter is based on a draft release version of the IEEE 802.11n specification, and may not be compatible with, or support all features (e.g., security) of, certain Wi-Fi® equipment.

⁵ **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 PC's 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.

⁶ **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.

⁷ **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 PCs or optical media recorders. Additionally, certain optical media recorded on your optical drive may not playback or operate properly on other PCs or optical media players. These problems are not due to any defect in your Toshiba PC or optical drive. Please refer to your PC's 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.

⁸ **Display.** Small bright dots may appear on your screen display when you turn on your PC. 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 with dim and you may not be able to increase the brightness of the screen while on battery power.

⁹ **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.

¹⁰ **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.

¹¹ **Wireless-N.** The wireless adapter is based on a draft release version of the IEEE 802.11n specification, and may not be compatible with, or support all features (e.g., security) of, certain Wi-Fi® equipment.

¹² **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.

¹³ **USB Sleep & Charge.** The "USB Sleep & Charge function" may not work with certain external devices even if they are compliant with the USB specification. In those cases, turn the power of the computer ON to charge the device.

¹⁴ **Weight.** Weight may vary depending on product configuration, vendor components, manufacturing variability and options selected.

¹⁵ **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.

Battery life will be less than when using similar applications in the Windows Operating System

¹⁶ **Battery Life - MobileMark™.** Measured by MobileMark. MobileMark is a trademark of the Business Applications Performance Corporation.

¹⁷ **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.

¹⁸ **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.

¹⁹ **Spill-Resistant Keyboard.** Under Toshiba testing conditions, the spill-resistant keyboard delayed the time for a water spill to reach the PC'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.

²⁰ **Software.** Some software may differ from its retail version (if available), and may not include user manuals or all program functionality.

Certain Microsoft® software products (including Microsoft Office Small Business Accounting if applicable) 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

products or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

Internet access is required to enable certain functionality of certain Microsoft products(including Microsoft Office Small Business Accounting 2006) which may be included with this computer.

The Microsoft Office 2007 60-Day Trial software (if applicable) is intended for evaluation purposes only. You must activate the software before you can use it. Product activation procedures will be detailed during initial launch of the software; activation requires Internet access. This software has an expiration date of 60 days from date of first use, at which time the software will operate under reduced-functionality mode, limiting end-user options and operations. The Microsoft Office 2007 60-Day Trial software is distributed without charge to the End User Customer but if the End User wants to continue to use such product after the trial period, then the End User Customer will have to pay a fee for the perpetual version of such Office Product.

²¹ **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.

²² **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.

²³ **Warranty:** The terms and conditions of Toshiba's standard limited warranty are available at www.warranty.toshiba.com.

²⁴ **Service Plans:** The terms and conditions of service upgrade and extension plans offered by Toshiba are available at www.pcsupport.toshiba.com.

²⁵ **Service Plans:** The terms and conditions of service upgrade and extension plans offered by Toshiba are available at www.pcsupport.toshiba.com.