

# New ThinkPad T500/W500 series models with Microsoft Windows Vista operating system and Intel Core 2 Duo processor technology

Description ..... 2  
Warranty information ..... 6  
Reference information ..... 6



---

## At a glance

---

The new ThinkPad T500/W500 series notebooks are the ideal solution for professionals who need high performance and portability in a lightweight package.

ThinkPad T500/W500 series models feature:

- Intel Core 2 Duo processors
- Intel GM45 Express chipset
- Global wireless WAN (WWAN) technologies
- Wireless LAN (WLAN) connectivity
- 64 GB solid state drive (SSD)
- Switchable graphics
- PC3-8500 double data rate 3 (DDR3) SDRAM 1067 MHz SODIMM memory
- DisplayPort
- Integrated camera
- Intel Active Management Technology (AMT) 4.0

---

## Overview

---

The ThinkPad® T500/W500 series of notebook computers are the ultimate business tool for professionals who are on the move and who need to stay productive wherever they are.

### What's new

- Intel® Centrino 2 with vPro technology
- Intel Core 2 Duo P8400, P8600, P9500, T9400, and T9600 64-bit processors
- Global wireless WAN (WWAN) technologies
  - WWAN-ready models with improved performance — includes antenna and SIM card reader
  - WWAN connectivity
    - Vodafone HSPA wireless broadband access<sup>1</sup>
- WLAN connectivity
  - Intel WiFi Link 5100 AGN (1x2)<sup>2</sup>
  - Intel WiFi Link 5300 AGN (3x3)
  - ThinkPad 11b/g Wireless LAN Mini PCI Express Adapter III<sup>3</sup>

- 64 GB solid state drive (SSD) — Fast, reliable, lightweight, energy efficient storage
- Switchable graphics
  - ATI Mobility Radeon HD 3650 w/ 256 MB
  - ATI Mobility FireGL V5700 w/ 512 MB

Capability to switch between integrated and discrete graphics for better power management. Maximize battery life with Intel Core 2 Duo 25-watt processors and the Power Management utility with Enhanced Battery Stretch to further extend battery life, or optimize performance with Intel Core 2 Duo 35-watt processors.

**Note:** Memory may be limited to 2.5 GB on models with a 32-bit operating system, depending on configuration and applications, for selected switchable graphics models.

- Integrated graphics — Intel Graphics Media Accelerator 4500MHD
- EPEAT Silver certification — Environmentally responsible offering; low energy consumption and environment friendly
- PC3-8500 double data rate 3 (DDR3) SDRAM 1067 MHz SODIMM high-speed memory — One of the least expensive ways to boost system performance
- DisplayPort — Makes digital display connections easier, more readily available, and with higher performance
- Integrated camera — Can support modular or configurable camera with 1.3 megapixel image sensor
- GREENGUARD indoor air quality certified
- Green PC manager — Sets and manages ThinkPad power policy
- Intel Turbo memory — 2 GB card boosts hard drive performance
- Intel Active Management Technology 4.0 — A hardware-based technology that facilitates remote out-of-band management of PCs through a small secondary processor located on the system board. It enables network administrators to check for suspicious virus- and worm-like traffic received or transmitted by the remote system. Administrators can also restart a corrupted (or missing) operating system and rebuild a corrupted hard drive over the network.

Using Intel AMT, IT managers can remotely discover, repair, and protect wireless notebooks. Intel AMT features include enhanced asset management, remote system diagnostics, network protection, and security — all independent of the operating system's functional state — resulting in reduced on-site support costs.

- 320 GB 5400 rpm Serial ATA hard drive

Certain product family features are limited to selected models that may not be available in all countries. Some combinations of features are not supported.

### Planned availability

August 2008

---

## Description

---

The new ThinkPad T500/W500 series of notebook computers features uncompromised performance and cutting edge technology. Lenovo™ combines thoughtful engineering with bold design, delivering systems that help lower your total cost of ownership.

The T500/W500 series notebook computer weighs less than 2.67 kg (5.9 lb) and is a highly energy-efficient, environmentally responsible offering.

### System features

**Processor technology:** The new ThinkPad T500/W500 series of notebook computers features:

A set of 25-watt Core 2 Duo processors optimized for power

- P8400 (2.26 GHz processor with 3 MB of L2 cache)
- P8600 (2.40 GHz processor with 3 MB of L2 cache)

- P9500 (2.53 GHz processor with 6 MB of L2 cache)

A set of 35-watt Core 2 Duo processors optimized for performance

- T9400 (2.53 GHz processor with 6 MB of L2 cache)
- T9600 (2.80 GHz processor with 6 MB of L2 cache)

**Note:** All processors have 1067 MHz front-side bus (FSB) speed

The new 25-watt processors deliver improved performance/watt, run quieter, and have lower power consumption for greater battery life.

## HDD

- 80, 160, 250, or 320 GB<sup>4</sup> / (5400 rpm)
- 100 or 160 GB / (7200 rpm)
- 200 GB / (7200 rpm) with full-disk encryption (FDE)

An optional second HDD in the ThinkPad Advanced Dock expands storage. The second HDD option, requiring an adapter, can be used with all ThinkPad T500/W500 models.

**Memory:** Lenovo notebooks have a new 64-bit architecture. Memory can be expanded to 3 or 4 GB<sup>5</sup> of addressable memory, depending on whether the operating system is 32- or 64-bit. Notebooks with a Windows Vista® 32-bit or previous Windows® 32-bit operating system can support up to 3 GB of addressable memory. Notebooks with a Windows Vista 64-bit operating system can support up to 4 GB of addressable memory.

Recommended for memory expansion are 512 MB, 1 GB, and 2 GB PC3-8500 DDR3 SDRAM 1067 MHz SODIMM.

- 64 GB solid state drive (SSD)
  - Fast, reliable, lightweight, and energy-efficient
  - Faster data rates and boot-up times than a 7200 rpm mobile hard drive
  - Very low failure rates
  - Able to withstand harsher environmental and vibration conditions than a mobile HDD
  - Consumes less battery power than a mobile HDD
  - Significantly lighter than a mobile HDD

**Thin, light, and sturdy:** The ThinkPad T500/W500 series notebooks are approximately 29.7 to 33.5-mm (1.2- to 1.3-in) thin<sup>6</sup> with optimal travel weight starting at 2.67-kg (5.9-lb)<sup>7</sup>. Titanium and magnesium composite covers provide added strength.

## Opticals

- 24x-24x-24x-8x maximum CD-RW/DVD-ROM<sup>8</sup> Combo drive<sup>9</sup>
- 8x maximum DVD Recordable drive

## 391.1-mm (15.4-in) TFT LCD displays

- WXGA (1280 x 800)
- WSXGA+ (1680 x 1050)
- WUXGA (1920 x 1200)

**Switchable graphics:** A hardware/software feature that allows the user to maximize battery life or performance by switching between integrated and discrete graphics. Powered by ATI's switchable platform, the system detects ac/dc power and switches automatically between integrated and discrete graphics. Enhanced Battery Stretch also switches automatically to

improve battery life. The choice of using integrated or discrete graphics can also be user or hot-key initiated. When the system is on battery (dc), graphics switches to Intel Integrated 4500MHD. When plugged-in or docked (ac), graphics will be discrete.

**DisplayPort:** The next generation display interface technology that combines HD video and audio into a single digital connector-interface used for a broad range of applications. Benefits include making digital display connections easier, more readily available, and with higher performance.

#### **Integrated camera**

- 1.3 megapixel image sensor enhances instant messaging, video conferencing, and VoIP
- Supports USB 2.0 standards

#### **Media slot combinations**

- ExpressCard slot + smart card reader
- ExpressCard slot + PC card slot

**Unique data protection:** Select models include integrated fingerprint reader technology, from ThinkVantage™ Technologies, to help protect unauthorized access to your ThinkPad notebook and data.

- Fingerprint reader is integrated into the palm rest and offers users a convenient solution — Authenticate at system startup and log on to Windows with a swipe of your finger.
- Combine the integrated fingerprint reader technology with Password Manager and the ThinkVantage Client Security Solution for strong security measures that are easy to follow. Security software is preloaded for an integrated solution out of the box.
- Administrators can implement strong security policies and users can meet ongoing password requirements easily.

Active Protection System™, a ThinkVantage technology, helps protect your HDD from some damage that could be caused by shock. A system board-mounted sensor continuously monitors your ThinkPad notebook for sudden movement and temporarily parks the HDD read/write head when a fall or similar event is predicted.

**UltraConnect II antenna:** To help optimize frequency coverage and performance for improved WLAN connectivity around the world (when used with compatible options)

**Rescue and Recovery™:** An enhanced support environment accessible through the Access program using the blue button on the keyboard, enables user self-help and self-recovery. Recover from system crashes quickly. Broad recovery and diagnostic tools are available even when your primary operating system is failing. You can:

- Rescue and recover your files, folders, or backups.
- Configure your system settings and passwords.
- Communicate using the Internet and link to the Lenovo support site (with Internet access required, not included).
- Troubleshoot by using diagnostics.

**Keyboard with TrackPoint® and enhanced features:** The keyboard has the familiar layout of a ThinkPad notebook with function keys that allow you to quickly access system functions such as power management control.

- UltraNav combines the advantages of the TrackPoint device, center-scrolling button, and a touchpad.
- ThinkLight® provides ease to view your keyboard in low-light conditions.
- ThinkPad button provides one-button access to critical information.

**Audio:** Full-duplex audio on the system board and the integrated microphone allow voice annotation and audio. The system is equipped with audio in/out jacks for stereo speakers, headphone, or external microphone.

**Video:** Digital Visual Interface (DVI) for digital displays is supported through the optional ThinkPad Advanced Dock or ThinkPad Advanced Mini Dock.

**Other features:** ThinkPad T500/W500 series systems include:

- Bluetooth wireless technology
- 56K V.90<sup>10</sup> modem (V.92<sup>11</sup>-designed) and Gigabit Ethernet connectivity
- Docking — Port Replicator
- Built-in RJ-11 and RJ-45
- VGA out
- IEEE 1394a
- Microphone jack
- Headphone jack
- Three USB 2.0 ports
- Media card reader
- Mini-PCIe slots
- SIM socket

A PS/2® or serial port is not included, but both can be obtained through the optional ThinkPad Advanced Dock or ThinkPad Advanced Mini Dock.

A 168-pin connector supports the following optional docking solutions:

- ThinkPad Advanced Mini Dock for port replication, additional USB capability, and security
- ThinkPad Advanced Dock for a more advanced docking solution

USB 2.0 ports, which connect external drives and other devices, are supported with the Windows Vista operating system.

### **Security and manageability**

- Lenovo systems include a fully integrated recovery environment that works even when the Windows Vista operating system is not working.
- Lenovo systems manage everything that changes when your location changes, not just your Internet connection.
- Asset and data security protection is maintained through multiple passwords and locks.

**AC adapter** The ac adapter is an ac-to-dc converter that supplies the necessary power to the computer. The ac adapter also charges the battery pack when installed in the computer.

### **Li-Ion battery pack**

- A six- or nine-cell Li-Ion battery pack is shipped with the system.
- An optional nine-cell battery for longer battery operation is available.
- A different optional Li-Ion battery pack, the Ultrabay™ Slim Li-Polymer battery, fits into the Ultrabay Slim so that two batteries can be installed to increase battery operating time.
- The battery pack is an internal power source to the computer when the ac adapter is not available. The battery pack is rechargeable and is charged using the ac adapter with the system.

**Energy Star 4.0 certified:** As an ENERGY STAR partner, Lenovo has determined that all ThinkPad notebook systems capable of running Windows 32- and 64-bit operating systems,

except those with Intel Celeron® processors, are designed to meet the EPA ENERGY STAR 4.0 guidelines for energy efficiency.

**Ultrabay Slim:** Serial ATA drives for fast and easy hot- and warm-swapping of selected options available through ThinkPad Advanced Dock.

## Software

---

**Non-Lenovo software:** The non-Lenovo software programs listed in this section may be licensed to you under the non-Lenovo manufacturer's, supplier's, or publisher's terms and conditions. The non-Lenovo manufacturers, suppliers, or publishers are responsible for providing any service or support associated with these programs. The descriptions of these programs were obtained from information made available by these companies to the general public. Lenovo does not warrant these products. Some software may differ from its separately available version (if available), and may not include user manuals or all program function.

Standard preload for systems with Microsoft® Windows Vista Business, Vista Ultimate, Vista Home Premium, and Vista Home Basic operating systems:

- ThinkVantage Productivity Center
- ThinkVantage Access Connections
- ThinkVantage Rescue and Recovery
- ThinkVantage Client Security Solution
- ThinkVantage System Update
- PC-Doctor diagnostics
- Adobe Acrobat Reader
- Norton Internet Security 2008 (OEM edition) with 90 days of virus definition updates
- Sun JRE
- Creator Business Edition (Combo models only)
- InterVideo WinDVD (Combo and DVD Recordable models only)
- Creator Business Edition and MYDVD (DVD Recordable models only)
- ThinkVantage fingerprint software (only on models with fingerprint reader)
- Microsoft Office Ready 2007<sup>12</sup> (trial version)(not Japan)
- Microsoft Office Personal 2007 (Japan only — model specific)
- Microsoft Office Personal 2007 + PowerPoint 2007 (Japan only — model specific)
- Microsoft Office Professional 2007 (Japan only — model specific)

---

## Warranty information

---

For a copy of applicable product warranties, contact your authorized Lenovo reseller or Lenovo representative. Lenovo makes no representation or warranty regarding third-party products or services.

Telephone support may be subject to additional charges, even during the limited warranty period. For Lenovo machines with on-site labor, Lenovo will attempt to diagnose and resolve the problem remotely before sending a technician. For Lenovo machines with courier or depot service, Lenovo will attempt to diagnose and resolve the problem remotely before sending a courier.

All offers are subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time without notice. Lenovo is not responsible for photographic or typographic errors.

---

## Reference information

---

1

Vodafone HSPA wireless broadband access.

Lenovo customers must contact their service provider after purchase to activate service. WWAN requires a separate service contract with the service provider, and monthly or daily service charges and airtime charges will apply. Roaming charges may also apply. Some service providers may have 30-day free trial offers for Lenovo customers.

The wireless service provider, not Lenovo, is solely responsible for service. Service is not available in all areas; the purchaser is responsible for verifying that service is available for the intended location before purchasing a computer equipped with a WWAN card. For information on network details, coverage limitations, and maps, visit your service providers Web site.

Global Positioning System is available on the WWAN cards sold by Lenovo. Satellite-based GPS is available without activation and works with most popular GPS-enabled applications.

Vodafone adapter requires SIM card to use GPS function

2

The Intel WiFi Link 5100 (1x2) and WiFi Link 5300 (3x3) follow 802.11 a, b, g and draft n specifications. The Wi-Fi Alliance is certifying products based on 802.11n Draft 2.0 standard. The Intel 5300 Series Wireless Card is capable of supporting transfer rates of up to 450 Mbps. The maximum speed depends on the access point device and the number of integrated antenna used for connection.

3

This adapter is based on 802.11a, 802.11b, and 802.11g. An adapter with 11a/b or 11a/b/g can communicate on any of these formats; the actual connection is based on the access point to which it connects.

4

GB equals one billion bytes when referring to HDD; accessible capacity is less. Up to 4 GB is used in the service partition.

5

Maximum capacity; may require the replacement of standard component with largest supported component available.

6

Thickness may vary at certain points on the system.

7

Actual weight may vary depending on vendor components, manufacturing process, or options. Weight includes battery and optional travel bezel instead of the standard optical drive in the Ultrabay Slim.

8

Maximum CD and DVD rates; rates are variable and are often less than the maximum.

9

For combination drives, maximum speeds are given in the following order: CD-W, CD-RW, CD-R, and DVD-R.

10

The V.90 modem can receive data at up to 56 Kbps from a compatible service provider and transmit data at up to 31.2 Kbps. Public networks currently limit maximum download speeds to about 53 Kbps. Actual speeds depend on many factors and are often less than the maximum possible.

11

Public network download speeds are limited to 53 Kbps. Upload speeds are limited to 48 Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require a compatible phone line and server equipment, and download of the V.92 support device driver when available. Check with your telephone and Internet service providers for availability.

12

Certain Microsoft software products 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).

## Trademarks

PS/2 is a registered trademark of International Business Machines Corporation in the United States or other countries or both.

Intel and Celeron are registered trademarks of Intel Corporation.

Windows Vista, Windows, and Microsoft are registered trademarks of Microsoft Corporation.

Lenovo, ThinkVantage, Active Protection System, Rescue and Recovery, and Ultrabay are trademarks of Lenovo in the United States, other countries, or both

ThinkPad, TrackPoint, ThinkLight, and ThinkPad are registered trademarks of Lenovo in the United States, other countries, or both

Other company, product, and service names may be trademarks or service marks of others.

---

This announcement is provided for your information only. For additional information visit the Lenovo worldwide page at:  
<http://www.lenovo.com/planetwide/select/selector.html>