Detailed specifications - ThinkPad T420

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Communications	Operating environment	Storage
Expansion	Security	Video

Architecture

Audio

- High Definition (HD) Audio
- Conexant 20672 codec / stereo speakers
- Volume up, down, mute buttons
- Dual array mic
- Mic mute button
- Combo audio/mic jack

Keyboard

- Embedded numeric keypad and integrated UltraNav dual-pointing system with wide touch pad below keyboard, Tap Zones, scrolling regions label, multi-touch; and TrackPoint and customized touch pad for the ultimate in pointing flexibility.
- ThinkVantage button, individual speaker volume up, down, and mute buttons, mic mute button
- The keyboard has a Fn key which is a special key and is located in the lower left corner. The Fn key allows the user to instantly activate the following operational features by pressing the Fn key and a designated function key:
  - Standby/Suspend/Hibernation
  - Switching between Display device
  - Multimedia
- Fingerprint reader is integrated into the palm rest of the ThinkPad notebook computer to prevent unauthorized access to your notebook and data
- Spill-resistant
- ThinkLight keyboard light to illuminates the keyboard to improve visibility in low-light conditions

Memory

- PC3-10600 Non-Parity (NP) Double Data Rate Three (DDR3) Technology
- Two SO-DIMM Slots
  - The use of 1333 MHz SO DIMM memory is recommended for this system.
- 1 GB, 2GB, or 4GB memory
- Supports up to 8GB maximum memory
- 2GB, 4GB Intel Turbo Memory (selected models)
Note: Only 64-bit operating systems support more than 3GB of system memory (RAM).

Mouse

- All systems come with the UltraNav dual-pointing system, featuring TrackPoint and customized touch pad for the ultimate in pointing flexibility is a part of the keyboard. The TrackPoint features Press-to-Select, Internet scroll, and magnifying glass for accurate and convenient control.

Processor

- Premiere performance and ultraportability; two spindles
- Available processors are:
  - Intel® Core™ i3 processor i3-2310M with dual-core
    - DDR3 memory controller (up to 1333MHz), Intel Turbo Boost, Hyper-Threading technology; 3MB cache
  - Intel® Core™ i5 processor i5-2410M with dual-core
    - DDR3 memory controller (up to 1333MHz), Intel Turbo Boost, Hyper-Threading technology; 3MB cache
  - Intel® Core™ i5 processor i5-2520M with dual-core
    - DDR3 memory controller (up to 1333MHz), Intel Turbo Boost, Hyper-Threading technology; 3MB cache
  - Intel® Core™ i5 processor i5-2540M with dual-core
    - DDR3 memory controller (up to 1333MHz), Intel Turbo Boost, Hyper-Threading technology; 3MB cache
  - Intel® Core™ i7 processor i7-2620M with dual-core
    - DDR3 memory controller (up to 1333MHz), Intel Turbo Boost, Hyper-Threading technology; 4MB cache

Communications

Network

- 802.11abgn wireless PCIe Half Mini Card on selected models.

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- Intel Centrino® Wireless-N 1000
- Intel Centrino® Advanced-N 6205
- Wireless WAN upgradable on selected models.
- Wireless WWAN Minicard for AT&T on selected models
- Qualcomm® GobiÂ 3000 chipset, PCIe Mini Card
- Bluetooth with Enhanced Data Rate (BDC-2.1)

Expansion

Bays

- One 34-mm ExpressCard slot or 5-in-1 Media Card Reader slot

External ports

- Four USB ports version 2.0
- One eSATA/USB combo port
- Additional connector supports the optional Port Replicator, advanced dock, and advanced mini-dock.
- Audio ports
  - External stereo speakers or headphone
  - Dual array microphone
  - Combo audio/mic jack
- External monitor (VGA DB-15, DisplayPort)
- Modem RJ-11
- Ethernet RJ-45 connectors for LAN connection
- IEEE 1394 FireWire 400

Operating environment

Physical specifications

For systems with a 335.5-mm (14.1-in) TFT display:

System:

- Width: 340.5 mm (13.4 in)
- Depth: 233 mm (9.2 in)
- Height: 30.1 to 30.5 mm (1.1 to 1.2 in)
- Configured system weight: Starting at 2.24 kg (4.9 lb)

Environment:

- Maximum altitude without pressurization: 3048 m (10,000 ft)
- Temperature
  - At altitudes up to 2438 m (8000 ft)
    - Operating w/o any in drive: 5.0°C to 35.0°C (41°F to 95°F)
    - Operating w/ any in drive: 10.0°C to 35.0°C (50°F to 95°F)
    - Non-operating: 5.0°C to 43.0°C (41°F to 109°F)
  - At altitudes above 2438 m (8000 ft)
    - Maximum temperature when operating under the unpressurized condition: 41°C (88°F)
- Relative humidity:
  - Operating: 8% to 95%

  Non-operating: 5% to 95%

  Note: When you charge the battery pack, its temperature must be at least 10°C (50°F).

Accessories:

- Please click here to find more accessories for your Lenovo system.
- Look for the "Option Compatibility Matrix". Some of the links for the product in the Excel file are clickable and you will find more details on the website.

Note: All weight and dimensions are approximate.

Power

AC Adapter

- AC adapter: This ac-to-dc converter supplies the necessary power to the computer. The ac adapter also charges the battery pack when it is installed in the computer

- AC adapter: This dc-to-dc converter supplies the necessary power to the computer. The dc adapter also charges the battery pack when it is installed in the computer.
- Universal AC adapter: 90 W, 2-pin / 3-pin (Click here for more information)
- Universal AC adapter: 65 W 2-pin/3-pin (Click here for more information)
- Battery (Click here for more information)

Battery

- 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.
- You can determine how much battery power remains by using the Fuel-Gauge ThinkPad utility program. This displays the percent charge remaining, whether one or two batteries are in the system.
- A 6- or 9-cell Li-Ion battery pack is shipped with the system.
- Supports optional Slice battery as second battery at bottom.
- Battery life:
  - 6-cell: up to 3.5 hours
  - 9-cell: up to 5.8 hours
  - 9-cell Slice battery: up to 5.8 hours

Notes:

- Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning and other customer preferences.

Security

System

- Power-on password
- Hard disk password
- Supervisor password
- Security keyhole
- Security chip
- Fingerprint reader on selected models, offers users a convenient solution, authenticate at system startup and log on to Windows with a swipe of your finger.

Password

- A Power-on password (POP) protects the system from unauthorized use. If a POP is set, the password prompt appears:
  - Each time the system is turned on
- When the system is returned to normal operation from suspend mode
- A Supervisor Password provides a higher level of security than the POP. The Supervisor Password protects the system functions from being used by unauthorized users,and protects the hardware configuration from unauthorized modification. The Supervisor Password prompt appears:
  - When the BIOS setup screen is accessed.
- A Hard Drive Password (HDP) protects hard drive data from unauthorized users. Once HDP is set, data on the hard drive cannot be accessed without the correct HDP. Because the HDP is stored in the hard drive, the data remains protected even if the hard drive is removed to another system. The HDP password prompt appears:
  - Each time the system is turned on.

Software

Operating system

- Windows 7 Home Premium (64-bit)
- Windows 7 Professional (32-bit)
- Windows 7 Professional (64-bit)

Notes:

- Previous versions of these operating systems are not supported.
- Operating systems other than those preinstalled on the systems may not provide full-feature functionality

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Storage

Optical drive

- Ultrabay enhanced DVD/CD-RW combo drive

Floppy drive

- Only available using USB, UltraBay Slim Media, or Docking solution

Hard drive features

- 250 GB, 5,400 rpm, 7mm high, SATA hard disk drive
- 250 GB, 5,400 rpm, 9.5mm high, SATA hard disk drive
- 320 GB, 5,400 rpm, 7mm high, SATA hard disk drive
- 320 GB, 5,400 rpm, 9.5mm high, SATA hard disk drive
- 160 GB, 7200 rpm, 7mm high, SATA hard disk drive
- 160 GB, 7200 rpm, 9.5mm high, SATA hard disk drive

- 250 GB, 7200 rpm, 7mm high, SATA hard disk drive
- 320 GB, 7200 rpm, 9.5mm high, SATA hard disk drive
- 320 GB, 7200 rpm, 7mm high, SATA hard disk drive
- 500 GB, 7200 rpm, 9.5mm high, SATA hard disk drive
- Supports one additional hard drive which can be used concurrently to offer expanded storage in the Ultrabay Slim Media Bay.
- Although you can upgrade the hard drive, it is not designed to be removed and reinserted on a regular basis. Repeated and frequent removal, for purposes other than to upgrade for greater capacity, can cause damage to the system. The Ultrabay Slim hard drive adapter is designed to provide this flexibility with a second hard drive in the Ultrabay Slim.
- The Hard Drive Active Protection system protects your hard drive when the shock sensor inside your ThinkPad computer detects a situation that could potentially damage the hard drive.

Note: Supported hard disk drives depend on the model.

Solid state drive features

- Standard 80GB, 128GB, 160GB solid state drive sizes.
- Fast, reliable, lightweight, and energy-efficient.
- Faster data rates and boot-up times than a 7200 rpm mobile hard disk drive (HDD).
- 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.

Video

Display

- 14.0-inch HD (1366 x 768) LED backlight Anti-Glare Display
- 14.0-inch HD+ (1600 x 900) LED backlight Anti-Glare Display

Notes:
- Support for a external monitor is through VGA DB-15 connector
- Support for digital monitor via DisplayPort (supports single-link DVI-D via cable 45J7915)
- Maximum external resolution: 2560x1600 (DisplayPort)@60Hz; 2048x1536 (VGA)@75Hz; 1920x1200@60Hz (single-link DVI-D via cable 45J7915)
- All displays are measured diagonally.

Graphic Controller

Video chipsets:
- Intel HD Graphics 3000
- NVIDIA NVS 4200M

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