



# Think Express models of the IBM ThinkPad T43 notebook computers include a three-year warranty and Intel Graphics Media Accelerator 900

## Overview

Think Express models of the new ThinkPad® T43 notebook computers are ideal for frequent travelers who need high performance in a lightweight package. ThinkPad T43 notebook computers meet the needs of small and medium business.

The open bay models are available directly from IBM only and must be configured with additional hardware and software before purchase. An IBM HDD with preloaded software is required in order to use some of the features listed in this announcement.

## New data protection

New integrated fingerprint reader technology, on selected models, helps to prevent unauthorized access to your ThinkPad notebook and data.

- Fingerprint reader is integrated into the palm rest of the ThinkPad notebook computer.
- Combine the integrated fingerprint reader with IBM Password Manager and the Embedded Security Subsystem for strong security measures that are easy to follow.
- The fingerprint reader offers a more convenient solution — Authenticate at system startup and log into Microsoft™ Windows™ with a swipe of your finger.

## Exciting technology

- Intel™ Centrino mobile technology:
  - Intel Pentium™ M processor family
  - Intel PRO/Wireless family
  - Intel 915GM chipset family

These open bay systems do not contain an Intel PRO/Wireless<sup>9</sup> card.

- Intel Graphics Media Accelerator 900 graphics chipset
- UltraNav™ dual-pointing system, featuring TrackPoint® and customized touch pad for pointing flexibility
- Long battery operation: Up to 4.0 hours<sup>10</sup> on the six-cell system battery and up to 7.8 hours with optional batteries
- UltraConnect™ antenna for optimal frequency coverage and performance for improved wireless LAN connectivity worldwide; supports 2.4 GHz frequency band for 802.11b networks and for four sub-bands in 5 GHz frequency band to meet unique country spectrum requirements

## Features and options

- Integrated communications: Modem and 1 Gigabit Ethernet LAN connection standard
- Wireless LAN LED indicator
- Access Connections utility to help manage wired and wireless communications
- Microsoft Windows XP Professional with selected applications. Requires HDD with Windows XP Professional operating system and preloaded software applications.
- Ultrabay™ Slim for fast and easy hot- and warm-swapping of selected options
- Large selection of options from IBM, including memory expansion and additional HDDs
- 381-mm (15-in) TFT display with 1024 x 768 resolutions

## Planned availability date

March 1, 2005

## At a glance

Think Express models of the ThinkPad T43 notebooks feature:

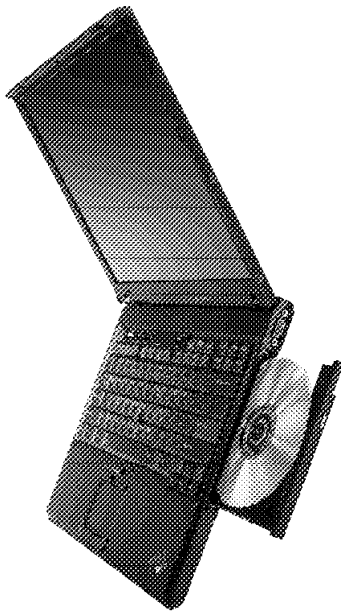
- Intel Pentium M processor 750 (1.8 GHz<sup>1</sup>, 2 MB L2 cache, 533 MHz front-side bus (FSB)) in these ThinkPad open bay T43 models
- Sleek profile and light weight
- PC2-4200 DDR2 SDRAM 533 MHz SO DIMM memory modules of various sizes are available for the T43 models, expandable to 2.0 GB<sup>2</sup>
- Rescue and Recovery™ requires an IBM HDD with preloaded software
- UltraNav dual-pointing system, featuring TrackPoint and customized touch pad
- ThinkPad HDD shock absorber
- Several sizes of HDDs<sup>3</sup> are available from IBM with various preloaded operating systems and software applications
- Several different types of optical drives<sup>4,5</sup> are available from IBM
- Standard integrated communications of V.90<sup>6</sup> modem (V.92<sup>7</sup>-designed) and 1 Gigabit Ethernet in all models
- Embedded Security Subsystem 2.0 and Trusted Computing Group (TCG)-compliant<sup>8</sup>
- Three-year limited warranty; one-year limited warranty on battery

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## Description

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Open bay models of the Think Express ThinkPad T43 notebook computers do not have an HDD, operating system or preloaded software, memory, Wi-Fi wireless card, optical drive, or battery in their configuration. Choose the items you want before purchase. Many of the features in the following text must have a configured system to function.

### ***New data protection***

New integrated fingerprint reader technology from ThinkVantage™ technologies, on selected models, helps protect access to your ThinkPad notebook and data.

- Because fingerprints are unique, using them along with other security measures can provide a more secure work environment
- When used with IBM Password Manager and the Embedded Security subsystem, pass your finger over the reader instead of typing passwords or combine the fingerprint reader with the use of passwords.
- Combine the integrated fingerprint reader with IBM Password Manager and the Embedded Security Subsystem 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 you can meet ongoing password requirements easily.

**Light and portable:** These notebooks are 31-mm (1.2-in) thin<sup>11</sup> with optimal travel weight starting at 2.4 kg (5.3 lb)<sup>12</sup> with travel bezel.

The titanium composite cover gives you added strength.

**Robust system manageability:** This notebook features support for IBM Director Agent and is designed to the PXE 2.1 manageability requirements for mobile systems.

**ImageUltra™ services:** Help reduce your IT costs and simplify client deployment and management.

For more information, visit

<http://www.ibm.com/pc/us/pc/um/migration>

All models of ThinkPad notebook systems are designed to meet the EPA ENERGY STAR<sup>13</sup> requirements for using less than 15 watts of power in sleep mode when enabled by the power-management software provided with the systems.

**Exciting technology:** The IBM 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 when a fall or similar event is predicted.

### ***Leadership design***

- Shock absorber to help prevent some HDD crashes when a system is placed on a hard surface while in use
- UltraConnect antenna to help optimize frequency coverage and performance for improved wireless LAN connectivity worldwide; the antenna supports a 2.4 GHz frequency band for 802.11b networks and for four sub-bands in the 5 GHz frequency band to meet unique country spectrum requirements
- Great graphics chipset for clear images
- Access Connections software to easily manage wired and wireless connections
- Disk-to-disk recovery of preloaded software
- 533 MHz FSB
- PC2-4200 double data rate (DDR) SDRAM 533 MHz SO DIMM memory modules
- IBM Embedded Security Subsystem 2.0 (TCG-compliant)
- Wi-Fi wireless

**Processor technology:** The new ThinkPad T43 notebook computer features the Intel Pentium M processor 750 and floating-point decimal for exceptional performance. Enhanced Intel SpeedStep technology has two performance modes:

- Maximum performance mode for top performance while connected to ac external power using the ac power adapter.
- Battery-optimized performance mode for balance between performance and battery life when operating on battery power. In this mode the MHz speed is reduced to conserve battery power.

### ***Excellent security and manageability***

- Designed to the PXE 2.1 manageability requirements for mobile systems
- Support for IBM Director Agent, a comprehensive set of superior, standards-based PC hardware manageability tools that work with and complement existing systems management products
- Compliant with the industry-standard Common Information Model
- Local and remote asset management, and early detection of HDD failure via IBM Director Agent
- Remote setup and low-level maintenance via Remote Deployment Manager
- Asset and data security via multiple passwords and locks

Rescue and Recovery, an enhanced support environment accessible via the blue Access IBM button, enables user self-help and self-recovery. You get:

- Improved features and performance of Rapid Restore™ Ultra
- Broader recovery and diagnostic tools when your primary operating system is failing:
  - Rescue and restore your files, folders, or backups using Rapid Restore
  - Restore the HDD to the same contents it held when the computer was manufactured
  - Communicate using the Internet and link to the IBM support site (Internet access required, not included)
  - Troubleshoot by using diagnostics

**Operating system:** User can choose HDD with operating system and preloaded applications that come with it.

**Communications:** Modem and 1 Gigabit Ethernet LAN connection are standard.

Wi-Fi wireless choices are available.

Wi-Fi wireless lets you connect to a LAN without wires or cables. To connect to the Internet, the Cisco AP1200 (or similar device) and an Internet connection are required. This product has been tested and certified to be interoperable by the Wireless Ethernet Compatibility Alliance and is authorized to carry the Wi-Fi logo.

#### TFT display

- 381.0-mm (15.0-in) TFT display with 1024 x 768 resolution

All displays are measured diagonally.

#### Video modes

*Intel Graphics Media Accelerator 900 graphics chipset with 1024 x 768 TFT display resolution*

Resolution	TFT LCD Color depth
640 x 480	256, 64K, 16M
800 x 600	256, 64K, 16M
1024 x 768	256, 64K, 16M
1280 x 1024	256(14), 64K(14), 16M(14)
1600 x 1200	256(14), 64K(14), 16M(14)
2048 x 1536	256(14), 64K(14), 16M(14)

Resolution	Color	External monitor Refresh rate (Hz)
640 x 480	256	60, 75, 85, 100, 120
640 x 480	64K	60, 75, 85, 100, 120
640 x 480	16M	60, 75, 85, 100, 120
800 x 600	256	60, 75, 85, 100, 120
800 x 600	64K	60, 75, 85, 100, 120
800 x 600	16M	60, 75, 85, 100, 120
1024 x 768	256	60, 70, 75, 85, 100, 120
1024 x 768	64K	60, 70, 75, 85, 100, 120
1024 x 768	16M	60, 70, 75, 85, 100, 120
1280 x 1024	256	60, 85, 100, 120
1280 x 1024	64K	60, 85, 100, 120
1280 x 1024	16M	60, 85, 100, 120
1600 x 1200	256	60, 75, 85, 100
1600 x 1200	64K	60, 75, 85, 100
1600 x 1200	16M	60, 75, 85, 100
2048 x 1536	256	60, 75
2048 x 1536	64K	60, 75
2048 x 1536	16M	60, 75

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

- UltraNav, which combines the advantages of the TrackPoint device, center-scrolling button, and a touch pad, is standard.
- With ThinkLight®, you can easily view your keyboard in low-light conditions.
- ThinkPad button for one-button access to critical information. You can choose from three different caps for the TrackPoint.
- The TrackPoint with enhanced features includes the Press-to-Select and Release-to-Select function.

Tap the TrackPoint to speed icon launches and help reduce keystrokes. The programmable center button enables fast scrolling of Web sites and documents or fast panning across wide spreadsheets. Switch to the innovative magnifying glass feature to enlarge screen views in any application.

**Memory:** PC2-4200 DDR2 SDRAM 533 MHz SO DIMM memory modules are required in the ThinkPad T43 models, expandable to 2 GB. These systems can be configured for up to 2 GB of addressable memory. Memory options up to 1 GB DDR2 SDRAM 533 SO DIMMs each can be added in the two slots for memory expansion.

PC2-4200 DDR2 SDRAM 533 MHz SO DIMM memory is recommended for memory expansion.

**PC card:** One Type II PC card slot and one ExpressCard/54 slot.

**Storage:** Various customer-removable HDDs are available from IBM. Examples are capacities of 40 GB HS (5400 rpm), 60 GB HS (5400 rpm), or 80 GB (5400 rpm).

An optional second HDD in the UltraBay Slim expands storage. The second HDD option, requiring an adapter, can be used with all ThinkPad T43 models.

**Drives:** Different types of optical drives are available from IBM. Examples are 24x-24x-24x-8x maximum CD-RW/DVD drive, Multi-Burner DVD Recordable, 4x max drive, or 24x-8x DVD.

**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. The system supports Microsoft DirectSound applications.

**Video:** Digital visual interface for digital displays is supported through the optional ThinkPad Dock II, ThinkPad Mini-Dock, or ThinkPad Port Replicator II.

**Infrared (IR):** The system has one fast IR transceiver (up to 4 Mbps) for wireless file and data transfer and printing. The ThinkPad T43 and T43p notebook complies with the Infrared Data Association (IrDA) IR data link specification V1.1.

**Other features:** Included ports:

- Enhanced parallel
- External display
- Built-in RJ-11 and RJ-45 connectors for telephony and LAN connections
- IR

- Microphone
- Headphone
- Two USB 2.0 ports
- S-Video out (TV out)

A PS/2® or serial port are not included, but both can be obtained through the optional ThinkPad Port Replicator II, ThinkPad Dock II, or ThinkPad Mini-Dock.

The USB 2.0 ports, which connect external drives and other devices, are supported with Windows XP Professional.

The 240-pin connector supports these optional docking solutions:

- ThinkPad Port Replicator II for simple port replication and cable management
- ThinkPad Mini-Dock for port replication, additional USB capability, and security
- ThinkPad Dock II for a more advanced docking solution

**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 it is installed in the computer.

#### *Li-Ion battery pack*

- A Li-Ion battery pack with six cells is shipped with the system.
- The optional ThinkPad Ultrabay Slim Li-Polymer battery with three cells fits into the Ultrabay Slim.
- An optional ThinkPad T40 Series High Capacity Li-Ion battery with nine cells is available for even longer battery hours of operation. 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.
- 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. This feature is not available on systems running the OS/2® operating system.

Approximate operation and charging hours:

- Power off/suspend charging<sup>15</sup>: 3.6 hr (6-cells), 4.5 hr (9-cell)
- Charging during operation<sup>15</sup>: 3.6 to 6.0 hr (6-cell), 4.5 hr to 6.0 hr (9-cell)
- Battery operation:
  - Six-cell battery: Up to 4.0 hr
  - Six-cell plus optional bay battery: Up to 5.8 hr
  - Optional nine-cell battery: Up to 6 hr
  - Optional nine-cell plus bay battery: Up to 7.8 hr

## **Software**

**Non-IBM software:** The non-IBM software programs listed in this section may be licensed to you under the non-IBM manufacturer's, supplier's, or publisher's terms and conditions. The non-IBM 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. IBM 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.

### ***IBM software available for download from the Web***

- IBM Client Security software

<http://www.pc.ibm.com/us/security/secdownload.html>

**Note:** Models with IBM Embedded Security Subsystem

- IBM Director Agent

[http://www.pc.ibm.com/us/eserver/xseries/systems\\_management/dwnl.html](http://www.pc.ibm.com/us/eserver/xseries/systems_management/dwnl.html)

- Remote Deployment Manager

[http://www.pc.ibm.com/us/eserver/xseries/systems\\_management/dwnl.html](http://www.pc.ibm.com/us/eserver/xseries/systems_management/dwnl.html)

If you select an IBM HDD with the Windows XP Professional operating system and the preloaded software that comes with it, then the operating system and software would be the same or similar to the following list of items.

### ***Software that may be included or preloaded on the system***

#### **Standard preload systems**

#### **U.S. English machines Software #1 (Windows XP Professional)**

- Windows XP Professional
- InterVideo WinDVD Player — only for systems with DVD drive or DVD/CD-RW
- InterVideo WinDVD Creator — only for systems with DVD-RW/CD-RW drive
- IBM Access IBM
- PC-Doctor diagnostics
- IBM Record Now and IBM Drive Letter Access by Sonic — only for systems with DVD/CD-RW or DVD-RW/CD-RW drive
- IBM Access Connections
- Adobe Acrobat Reader
- Rescue and Recovery
- Norton AntiVirus 2005 (OEM Version) with 90 days of virus definition updates
- IBM Client Security Software
- IBM fingerprint software

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## Warranty information

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For a copy of applicable product warranties, write to:

Warranty Information  
P.O. Box 12195  
Research Triangle Park, NC 27709  
Attn: Dept JDJA/B203

IBM 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 IBM machines with on-site labor, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. For IBM machines with EasyServ service, IBM will attempt to diagnose and resolve the problem remotely before sending a courier.

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

### ***Accessibility by people with disabilities***

The following features support use by people with disabilities:

- Controls and latches operable with one hand and minimal dexterity
- Keys discernible by touch without activating them
- Ports and connectors for connection of industry-standard devices

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## Reference information

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- <sup>1</sup> Power management reduces processor speed when in battery mode.
- <sup>2</sup> Maximum capacity: May require the replacement of standard component with largest supported component available.
- <sup>3</sup> GB equals one billion bytes when referring to HDD. Accessible capacity is less. Up to 4 GB is used in the service partition.
- <sup>4</sup> Variable read rate. Actual playback speed varies and is often less than the maximum possible.
- <sup>5</sup> For combination drives, maximum speeds are given in the following order: CD-W, CD-RW, CD-R, and DVD-R.
- <sup>6</sup> 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.
- <sup>7</sup> 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 a V.92 support device driver when available. Check with your telephone and Internet service providers for availability.
- <sup>8</sup> Requires download of Client Security software from the Web.
- <sup>9</sup> 11a, 11b, and 11g wireless are based on IEEE 802.11a, 802.11b, and 802.11g. An adapter with 11 a/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.
- <sup>10</sup> These model numbers achieved the Ziff Davis Media Inc.'s Business Winstone 2002 BatteryMark V1.0, Battery Rundown Time of at least the time shown. This test was performed without independent verification by the VeriTest testing division of Lionbridge Technologies, Inc. (VeriTest) nor Ziff Davis Media Inc.; neither Ziff Davis Media Inc., nor VeriTest makes any representations or warranties as to these test results. For a description of the environment under which the test was performed, visit

<http://www.ibm.com/pc/ww/thinkpad/batterylife>

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

- <sup>11</sup> Thickness may vary at certain points on the system.
- <sup>12</sup> 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 Plus.
- <sup>13</sup> As an ENERGY STAR partner, IBM has determined that all models of this product meet the ENERGY STAR guidelines for energy efficiency.
- <sup>14</sup> Supported in panning mode.
- <sup>15</sup> Recharge time varies.

### ***Trademarks***

UltraNav, UltraConnect, Ultrabay, Rescue and Recovery, ThinkVantage, ImageUltra, and Rapid Restore are trademarks of International Business Machines Corporation in the United States or other countries or both.

ThinkPad, TrackPoint, ThinkLight, PS/2, OS/2, eServer, and xSeries are registered trademarks of International Business Machines Corporation in the United States or other countries or both.

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Microsoft and Windows are trademarks of Microsoft Corporation.

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## IBM US Announcement Supplemental Information

January 19, 2005

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### Optional features

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The ThinkPad® T43 notebooks are compatible with peripherals and software products that run on other IBM systems.

For the latest information on options available for the ThinkPad T43 models and other ThinkPad notebooks, visit

<http://www.pc.ibm.com/options>

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### Publications

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ThinkPad data sheets and other publications are now available on the Web. Many can be downloaded or printed free of charge.

To view or print marketing publications or data sheets on ThinkPad notebooks, visit

<http://www.ibm.com/thinkpad>

- Under the ThinkPad Overview bar or in the left menu click Literature.
- Scroll down to the Data sheets bar and then to the ThinkPad notebook you want information about.
- Click PDF (to the right of the product).
- Click Print.

To view, download, or print ThinkPad publications, visit

<http://www.pc.ibm.com/support>

- Click Online publications.
- Under For any product, choose the product or family.
- Click the publication you want to see.
- Scroll to the file link under the File details bar and click on the link to view the publication.
- Click Print.

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### Services

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#### *Integrated Technology Services*

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure for e-business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

<http://www.ibm.com/services/>

For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

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### Technical information

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#### *Physical specifications*

**Note:** Actual specifications and weights may vary based on features, vendor components, or manufacturing processes. All weights and dimensions are approximate.

381.0-mm (15.0-in) TFT display:

- Width: 329 mm (13.0 in)
- Depth: 268 mm (10.6 in)
- Height: 31 to 36 mm (1.2 to 1.4 in)
- Weight:
  - Travel: 2.4 kg (5.3 lb) with travel bezel
  - Configured system: 2.57 kg (5.7 lb)

#### *Accessories*

- Li-Ion battery pack: 325 g (0.72 lb)
- AC adapter (two-pin or three-pin): 360 g (0.795 lb)
- Power cord for ac adapter: 90 g (0.19 lb)

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### **Electrical specifications**

- Universal ac adapter (72 W):
  - Input: 100/240 V ac, 1.4/0.70 A, 50/60 Hz
  - Output: 16 V dc, 4.5 A
- Li-Ion battery packs:
  - Six-cell/pack: 10.8 V, 4.4 Ah
  - Nine-cell/pack: 10.8 V, 6.6 Ah

**Heat dissipation:** 246 Btu/hr maximum

**Heat emissions:** 72 watts maximum

**Air temperature for shipping and storage:** -20° to 60°C (-4° to 140°F)

**Acoustic noise level:** Category 3D (office environment)

- Low cooling fan speed:
  - Sound power level: 3.7 bels (idling), 4.0 bels (HDD seeking)
  - Sound pressure level at the operator position: 31 dB (idling), 34 dB (HDD seeking)
- Middle cooling fan speed:
  - Sound power level: 3.9 bels (idling), 4.0 bels (HDD seeking)
  - Sound pressure level at the operator position: 33 dB (idling), 34 dB (HDD seeking)
- High cooling fan speed:
  - Sound power level: 4.0 bels (idling), 4.1 bels (HDD seeking)
  - Sound pressure level at the operator position: 36 dB (idling), 37 dB (HDD seeking)

**Note:** All measurements are made in accordance with ISO 7779 and reported in conformance with ISO 9296.

**Operating environment:** ThinkPad computers are designed, built, and tested for high quality and reliability. When used properly in standard business environments, a ThinkPad system should be a reliable computing asset for many years. Harsh environments and abuse can damage ThinkPads since they are not intended to withstand extreme temperatures, dust, shock, or other severe physical environments. ThinkPad systems should not be used in unsuitable environments. For example, a ThinkPad system should not be used in non-stationary environments, such as in-vehicle installations, without additional casing or shock dissipation. IBM warrants that the ThinkPad notebook will conform to its Official Published Specifications when used in a suitable physical operating environment.

### **Air temperature**

- 0 to 8,000 ft:
  - Operating:
    - Without diskette: 5° to 35°C (41° to 95°F)
    - With diskette inside unit: 10° to 35°C (50° to 95°F)
  - System off: 5° to 43°C (41° to 110°F)
  - Storage/shipment: -20° to 60°C (-4° to 140°F)
  - Wet bulb (maximum): 29.4°C (85°F)
- 8,000 to 10,000 ft:
  - Operating:
    - Without diskette: 5° to 31.3°C (41° to 88°F)
    - With diskette inside unit: 10° to 31.3°C (50° to 88°F)

- System off: 5° to 43°C (41° to 110°F)
- Storage/shipment: -20° to 60°C (-4° to 140°F)
- Wet bulb (maximum): 25.7°C (78°F)

**Note:** The maximum temperature when the system is on is linearly decreased from 8,000 to 10,000 ft.

### **Relative humidity**

- Operating:
  - 8% to 95% (without diskette)
  - 8% to 80% (with diskette inside unit)
- Storage/shipment: 5% to 95%

**Altitude:** 10,000 ft maximum (3,048 m)

### **Agency approvals**

- System unit approvals:
  - FCC Part 15 Class-B (Doc)
  - VCCI Class 2
  - UL-60950
  - C-UL
  - CCC (for China)
  - BSMI (for Taiwan)
  - SMA 3548 (Australia and New Zealand)
  - MPR-II (Sweden)
  - CE Mark
  - CB Report
  - NOM (Mexico)
  - MIC (Korea)

**Software requirements:** The following operating systems support the ThinkPad T43 computer:

- Microsoft™ Windows™ 2000 Professional (SPO, SP1, SP2, SP3, SP4) with USB 2.0 support
- Windows XP Professional (no service pack, SP1, SP1a, SP2) with USB 2.0 support
- Windows XP Home (no service pack, SP1, SP1a, SP2) with USB 2.0 support

For information about support for these operating systems, visit

<http://www.pc.ibm.com/support>

**Note:** Previous versions of these operating systems are not supported.

For a listing of completed Linux™ certifications, refer to

<http://www-306.ibm.com/pc/support/site.wss/MIGR-48NT8D.html>

Operating systems other than those preinstalled on the system may not perform all functions at an optimal level. To view considerations or Service Hints and Tips by operating system, visit

<http://www.pc.ibm.com/support>

- In the middle of the page, in the Quick path to a product field, enter your system's four-digit machine type and model number, such as 2379-123.
- On the left side of the page, click Hints and Tips.
- In middle of the page, select a category such as Windows 2000 to view the list of considerations or hints and tips for your machine type.

### **Compatibility and supported products**

Contact your IBM representative for a list of supported features and options.

**PC card:** The ThinkPad T43 computers conform to the PC Card Standard 95, which encompasses both the former 16-bit Release 2.1 card standard and the new 32-bit CardBus card. Other PC card adapters that comply with the PC Card Standard may also function, but have not been tested by IBM.

### **Vendor software compatibility**

IBM tests a large number of commonly used and available applications for compatibility with its ThinkPad systems, using supporting operating systems and configurations. In general, you can expect that most vendor applications designed to run on supported operating systems and Intel™-compatible system architectures should be compatible with a ThinkPad system. Some configurations, however, may not be compatible.

IBM does not warrant or support vendor software products, nor guarantee compatibility of those products with IBM systems. Refer to the applicable warranty and license terms provided by the respective vendors.

ThinkPad T43 systems contain BIOS in flash ROM, and a GUI to set up the system and power management features for Windows users. BIOS provides the hardware instructions and interfaces that support the standard features of the ThinkPad T42 computer and to maintain compatibility with many software programs currently operating under Windows 2000, and Windows XP Professional.

**Limitations:** For a list of tips about running various versions of operating systems, visit the IBM electronic support site at

<http://www.pc.ibm.com/support>

### **General**

- Using Wi-Fi wireless and optional Bluetooth products together may impact the performance of both.
- IBM 11a/b/g wireless mini-PCI adapter (IBM 11a/b/g), IBM Dual-Band Wi-Fi wireless mini-PCI adapter (IBM 11a/b), IBM 11b/g wireless mini-PCI adapter (IBM 11b/g), Intel PRO/Wireless 2100, and Intel PRO/Wireless 2200 wireless adapters support ad hoc wireless connection mode for 2.4 GHz 802.11b connections. IBM 11a/b/g, IBM 11b/g, and Intel PRO/Wireless 2200 wireless adapters support ad hoc wireless connections for 2.4 GHz 802.11g connections at 802.11b data rates (up to 11 Mbps) as defined in the IEEE 802.11g standard. Ad hoc wireless connection mode is not supported for 5 GHz connections (802.11a) on IBM 11a/b/g or IBM 11a/b wireless adapters.
- Do not use the RJ-11, RJ-45, or VGA port of the ThinkPad T42 notebook when it is docked on the ThinkPad Dock II, ThinkPad Mini-Dock, or Port Replicator II.
- In systems with an IBM Dual-Band Wi-Fi Wireless Mini-PCI Adapter purchased in Japan, the wireless LAN feature cannot be used in countries and regions other than Japan.
- Selected systems are wireless upgradable with wireless LAN mini-PCI options sold by IBM. Systems are not wireless upgradable in all countries.
- Systems with the wireless LAN product permit legal operation worldwide in regions in which it is approved. This product has been tested and certified to be interoperable by the Wireless Ethernet Compatibility Alliance and is authorized to carry the Wi-Fi(tm) brand.

- Using Wi-Fi wireless and optional Bluetooth products together may affect the performance of both.
- Support for a DVI monitor is through the ThinkPad Docking options and is limited to a resolution of 1280 x 1024, 60 Hz mode.
- Active Protection system does not support a second HDD bay.
- Active Protection system is automatically disabled while the computer is:
  - Loading the operating system
  - In standby or hibernation mode
  - Resuming from normal operation after being in standby or hibernation
  - Being shut down

### **Windows 2000**

- Screen expansion for DVD playback is not supported.
- DVD playback is not supported in 1400 x 1050, 32-bit mode.

### **Planning information**

**Cable orders:** All required cables are included in the shipment group.

**Installability:** ThinkPad notebook systems require approximately 20 minutes for installation. Installation includes unpacking, setting up, and powering on the system. Additional time is required to install optional memory and other features.

### **Packaging**

#### **Shipment group**

- System unit with the appropriate processor, display and customer selected items, such as:
- Memory
- Optical drive
- Wi-Fi wireless card
- Appropriate preloaded software
- Rechargeable battery pack (Li-Ion)

Standard items include:

- Modem and Ethernet
- IBM Embedded Security Subsystem 2.0
- fingerprint reader in selected models
- System unit with U.S. English keyboard
- AC adapter
- Power cord
- TrackPoint® caps
- ThinkPad T Series Service and Troubleshooting Guide
- ThinkPad T Series Setup Guide
- License agreement and supporting documentation
- Lotus SmartSuite® Millennium license of use
- Lotus Notes® stand-alone client license of use



- Envelope Group BM (miscellaneous envelope): Insurance brochure

### ***Security, auditability, and control***

**Passwords:** These password protection mechanisms are available:

- Power-on passwords to help protect the system from unauthorized use
- Supervisor password for use by a system administrator
- HDD password to help protect data on the removable HDD

In addition, an optional locking device in the IBM security slot provides physical security.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

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## **Terms and conditions**

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**IBM Global Financing:** Yes

To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or IBM.

In the United States, call 800-IBM-SERV (426-7378), or write to:

Warranty Information  
P.O. Box 12195  
Research Triangle Park, NC 27709  
Attn: Dept JDJA/B203

### ***Warranty period***

- System hardware — Three years on parts and labor
- System battery — One year

Optional IBM features initially installed in an IBM system carry the same warranty period as the system. If installed after the initial system installation, they carry the balance of the system warranty or the optional feature warranty, whichever is greater.

**Warranty service:** If required, IBM provides repair or exchange service depending on the type of warranty service specified below for the machine. An IBM technician will attempt to resolve your problem over the telephone. You must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations, additional charges may apply outside IBM's normal service area, contact your local IBM representative or your reseller for country and location specific information.

Customer replaceable unit (CRU) (for example, keyboard, mouse, speaker, memory, or HDD) service and courier or depot service (ThinkPad EasyServ) for other selected parts.

**CRU service:** IBM provides replacement CRUs to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request. CRUs are designated as being either a Tier 1 or a Tier 2 CRU. Installation of Tier 1 CRUs is your responsibility. If IBM installs a Tier 1 CRU, at your request, you will be charged

for the installation. You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge under the type of warranty service specified below.

Based upon availability, CRUs will be shipped for next-business-day (NBD) delivery. IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required:

- Return instructions and a container are shipped with the replacement CRU.
- You may be charged for the replacement CRU if IBM does not receive the defective CRU within 30 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRUs:

- Battery
- HDD
- Optical drive
- Ultrabay™ device
- Optional memory
- AC adapter and power cord
- Phone line cord
- TrackPoint cap

**Courier or depot service:** You will disconnect the failing machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your machine to a designated service center. A courier will pick up your machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the machine to your location. You are responsible for its installation and verification.

This type of service is called ThinkPad EasyServ in the U.S. and Canada.

Call IBM at 800-IBM-SERV (426-7378) to assist with problem isolation for hardware to determine if warranty service is required. Telephone support may be subject to additional charges, even during the limited warranty period. If a hardware problem is identified, the HelpCenter® will either initiate the shipment of a CRU or arrange for a courier to pick up the system for overnight delivery (where available) to the repair location. Most repairs should be made within 48 hours after the system is received at the repair location (actual repair time may vary). Keep the original shipping carton for shipping to the repair location. If the original shipping carton is not available, the courier will deliver a shipping carton and return to pick up the system for delivery to the repair location.

**International Warranty Service (IWS):** IWS is available during the warranty period to customers who travel or relocate to countries where their computer is sold and serviced by IBM or IBM resellers authorized to perform warranty service. Eligible IBM computers are identified by their four-digit machine type.

You can obtain IWS through the method of service, such as CRU, depot, carry-in, or on-site, provided in the servicing country. Service methods and procedures vary by country, and some service or parts may not be available in all countries. Service centers in certain countries may not be able to service all models of a particular machine type. In addition, some countries may have fees and restrictions that apply at the time of service.

To determine the eligibility of your computer and to view a list of countries where service is available, visit

For more information on IWS, refer to Services Announcement 601-034, dated September 25, 2001.

**Note:** Due to the earth's magnetic field, CRT monitors are manufactured to work in northern, southern and equatorial regions of the earth and may not produce a satisfactory image when moved between them. Any required adjustment (if possible) is not covered under IWS and may be subject to a chargeable action. The magnetic field does not affect flat panel LCD monitors and ThinkPad LCD displays.

**Licensing:** Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the system.

### **Maintenance Services — ServiceElect and ServiceSuite™**

ServiceElect and ServiceSuite provide hardware warranty service upgrades, maintenance, and selected annuity support services in one agreement.

**Warranty service upgrade:** During the warranty period, warranty service upgrade provides an enhanced level of on-site service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of on-site service acquired by the customer. Service levels are response time objectives and are not guaranteed.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. CRUs will be provided as part of the machine's standard warranty CRU service.

**On-site service:** IOR, 9 hours per day, Monday through Friday excluding holidays, NBD response (W95). IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose. Some repairs may require sending the ThinkPad to a service center for repair.

**Maintenance service:** If required, IBM provides repair or exchange service depending on the type of maintenance service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed.

**CRU service:** If your problem can be resolved with a CRU (keyboard, mouse, speaker, memory, or HDD), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required:

- Return instructions and a container are shipped with the replacement CRU.
- You may be charged for the replacement CRU if IBM does not receive the defective CRU within 30 days of your receipt of the replacement.

**Courier or depot service (ThinkPad EasyServ):** You will disconnect the failing machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your machine to a designated service center. A courier will pick up your machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the machine to your location. You are responsible for its installation and verification (EZA).

**On-site service:** IBM on-site repair (IOR), 9 hours per day, Monday through Friday excluding holidays, NBD response (E95). IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose. Some repairs may require sending the ThinkPad to a service center for repair.

### **Maintenance service (ICA)**

Maintenance services are available for existing ICA legacy contracts. The preferred go-to-market offerings are ServiceElect. However, ICA legacy contracts will still be available for current customers until they are withdrawn.

**Alternative service (Warranty service upgrades):** During the warranty period, warranty service upgrade provides an enhanced level of on-site service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of on-site service acquired by the customer. Service levels are response time objectives and are not guaranteed.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM Web site. You must follow the problem determination and resolution procedures that IBM specifies. Scheduling of service will depend upon the time of your call and is subject to parts availability. CRUs will be provided as part of the machine's standard warranty CRU service.

**On-site service:** IOR, 9 hours per day, Monday through Friday excluding holidays, NBD response (IW8). IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well-lit, and suitable for the purpose. Some repairs may require sending the ThinkPad to a service center for repair.

**Maintenance service:** If required, IBM provides repair or exchange service depending on the type of maintenance service specified below for the machine. An IBM technician will attempt to resolve your problem over the telephone. You must follow IBM's problem determination and resolution procedures. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are response time objectives and are not guaranteed.

**CRU service:** If your problem can be resolved with a CRU (keyboard, mouse, speaker, memory, or HDD), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required:

- Return instructions and a container are shipped with the replacement CRU.
- You may be charged for the replacement CRU if IBM does not receive the defective CRU within 30 days of your receipt of the replacement.

**Courier or depot service (ThinkPad EasyServ):** You will disconnect the failing machine for collection arranged by IBM. IBM will provide you with a shipping container for you to return your machine to a designated service center. A courier will pick up your machine and deliver it to the designated service center. Following its repair or exchange, IBM will arrange the return delivery of the machine to your location. You are responsible for its installation and verification (IZA).

**On-site service:** IOR, 9 hours per day, Monday through Friday excluding holidays, NBD response (I08). IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit and suitable for the purpose. Some repairs may require sending the ThinkPad to a service center for repair.

**Packaged offerings:** IBM packaged offerings provide "value packaged" maintenance services for ThinkPad customers. These offerings must be purchased during the product warranty period and are offered for a fixed term (duration). They are not refundable or transferable and may not be prorated.

- EasyServ Plus provides CRU service and ThinkPad EasyServ repair service in yearly increments after the warranty period has expired, up to a total of three years. Refer to the **Prices** section for offering increments and charges.
- On-site Plus provides CRU service and on-site service 9 hours a day, Monday through Friday excluding holidays, NBD response. This offering include on-site service during the warranty period and for a fixed term after the warranty period has expired. Some repairs may require the use of ThinkPad EasyServ. Refer to the **Prices** section for offering increments and charges.

### **Non-IBM parts support**

**Warranty service:** IBM is now shipping machines with selected non-IBM parts that contain an IBM field replaceable unit (FRU) part number label. These parts are to be serviced during the IBM warranty period. IBM is covering the service on these selected non-IBM parts as an accommodation to customers, and normal warranty service procedures for the IBM machine apply.

**Warranty service upgrades and maintenance services:** Under certain conditions, IBM Integrated Technology Services repairs selected non-IBM parts at no additional charge for machines that are covered under a warranty service upgrade or maintenance services.

IBM Service provides hardware problem determination on non-IBM parts (adapter cards, PCMCIA cards, disk drives, memory, and so forth) installed within IBM systems covered under the IBM warranty service upgrade or maintenance services and provide the labor to replace the failing parts at no additional charge. If IBM has technical service agreements with the manufacturers of the failing part, or if the failing part is an accommodations part (a part with an IBM FRU label), IBM may also source and replace the failing parts at no additional charge. For all other non-IBM parts, customers are responsible for sourcing the parts. Installation labor is provided at no additional charge, if the machine is covered under a warranty service upgrade or maintenance services.

**IBM hourly service rate classification:** One

**International service for ThinkPads:** International Service for ThinkPads is a hardware repair service for customers who have purchased an IBM warranty service upgrade, maintenance services, or package offerings. This service is provided at no additional charge. International service is available wherever IBM sells and services ThinkPad products. Customers are required to register for this service.

For more information, refer to Services Announcement 698-019, dated March 24, 1998. To register, call one of the following offices:

- United States: 800-497-7426 or 248-740-1215
- Scotland: 44-1475-893638
- Japan: 81-462-73-7598
- Australia: 61-2-9354-4171

### **ServicePac® offerings**

**Warranty and maintenance options:** The announced products may be eligible for ServicePacs for warranty and maintenance options, convenient prepackaged offerings for warranty service upgrades and maintenance services.

**Installation services:** The announced products may be eligible for ServicePacs for installation services, convenient prepackaged offerings for installation services. Refer to the **Prices** section for information on the availability of ServicePac offerings.

For additional ServicePac information, visit

<http://www-1.ibm.com/services/its/us/servicepac.html>

**Field-installable features:** Yes

**Model conversions:** No

**Machine installation:** Customer setup. Customers are responsible for installation according to the instructions IBM provides with the machine.

**Graduated program license charges apply:** No. This product does not contain licensed internal code or licensed machine code.

## Prices

### Mobile products

Models include the Intel Pentium™ M processor 750 and Intel 915GM chipset. All models are open bay systems.

#### U.S. Open Bay models

The following models are available directly from IBM only and must be configured with additional hardware and software prior to purchase.

Description	Order number	Machine type/model
Intel Pentium M Processor 750, Intel Graphics Media Accelerator 900 graphics chipset, modem, 1 Gb Ethernet, ThinkPad UltraNav™, IBM Embedded Security Subsystem 2.0, 15.0-in TFT 1024 x 768	1876EEU	1876-EEU
Intel Pentium M Processor 750, fingerprint reader, Intel Graphics Media Accelerator 900 graphics chipset, modem, 1 Gb Ethernet, ThinkPad UltraNav, IBM Embedded Security Subsystem 2.0, 15.0-in TFT 1024 x 768	1876EFU	1876-EFU

### ServicePac for warranty and maintenance

Description	Part number
2-year IOR 9 x 5 NBD	30L9190
3-year IOR 9 x 5 NBD	30L9197
4-year IOR 9 x 5 NBD	69P9198
5-year IOR 9 x 5 NBD	69P9200
4-year P&L P/U Depot	69P9199
5-year P&L P/U Depot	69P9201

### ServicePac for post warranty/warranty service upgrade service

Description	Part number
1-year IOR 9 x 5 NBD	69P9381
1-year P&L P/U Depot	69P9380
2-year IOR 9 X 5 NBD	96P2075
2-year P&L P/U Depot	96P2074

### ServicePac for installation services

Description	Part number
Basic Installs 1 to 25 units	21P2001

For ServicePac prices, visit

<http://www-1.ibm.com/services/its/us/spwmain.html>

## Maintenance service charges (Legacy)

### Alternative service (Warranty service upgrades)

On-site upgrade  
9 x 5  
for ThinkPads with  
a 3-year warranty

\$147

### Maintenance service

EasyServ  
1-year  
courier depot

\$315

IOR  
9 x 5

\$378

For ServiceElect (ESA) maintenance service charges, contact IBM Global Services at 888-IBM-4343 (426-4343).

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<http://www.ibm.com/financing>

IBM Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Rates are based on a customer's credit rating, financing terms, offering type, equipment type, and options, and may vary by country. Other restrictions may apply. Rates and offerings are subject to change, extension, or withdrawal without notice.

Financing solutions from IBM Global Financing can help you stretch your budget and affordably acquire the new product. But beyond the initial acquisition, our end-to-end approach to IT management can also help keep your technologies current, reduce costs, minimize risk, and preserve your ability to make flexible equipment decisions throughout the entire technology life cycle.

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