



# New IBM ThinkPad X41 TAA-compliant notebook model – Ultimate mobility in a versatile ultraportable

## Overview

The new ThinkPad® X41 notebook includes faster processors and a 307-mm (12.1-in) TFT display. Models are as light as 1.25 kg (2.8 lb)<sup>7</sup> and deliver a footprint as small as 268 x 211 mm (10.5 x 8.3 in).

**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 IBM Embedded Security Subsystem for strong security measures that are easy to follow.
- Fingerprint reader offers users a convenient solution — Authenticate at system startup and log on to Microsoft™ Windows™ with a swipe of your finger and a single password.

## Options

- Powered USB optical drives: Read and write CDs and DVDs without the need for a separate adapter.
- ThinkPad X4 UltraBase Dock: Cable management and expansion are made easy through a variety of Ultrabay™ Slim options.

## Feel the power

- Intel™ Centrino mobile technology:
  - Intel Pentium™ M processor family
  - Intel PRO/Wireless family
  - Intel 915GM chipset family
- Data security with IBM Embedded Security Subsystem 2.0, Trusted Computing Group (TCG)-compliant

- Intel Graphics Media Accelerator 900
- 400 MHz FSB and 2 MB cache
- 40 GB HDD<sup>8</sup>
- Standard 512 MB<sup>9,10</sup> PC2-4200 double data rate 2 (DDR2)<sup>11</sup> memory, expandable with SDRAM modules to a maximum of 1.536 GB<sup>12</sup>
- Brilliant 307-mm (12.1-in) XGA TFT display with 1024 x 768 resolution
- Eight-cell Li-Ion battery for up to 5.7 hours of battery operation

## Get connected

- Variety of network connections: 56K V.90<sup>13</sup> modem (V.92<sup>14</sup>-designed) and Gigabit Ethernet; Intel PRO/Wireless 2200BG network connection
- Extensive standard ports, including two USB 2.0 (one powered), external display, RJ-45, RJ-11, and infrared
- Secure Digital card slot for options that enable storage expansion, communications, and data transfer between PCs and peripherals
- Infrared port for wireless data transfer or synchronization with a compatible PDA or cell phone

## Take control

- ThinkLight®: Easy to see your keyboard in low-light conditions
- Access IBM: One-button access to online information (requires Internet access, not included)
- Management tools to help your system run smoothly
- Rescue and Recovery™
- Access Connections: Simplifies management of multiple connectivity environments
- IBM Active Protection system, a ThinkVantage™ technology, to help protect your HDD from some damage that could be caused by falls

## At a glance

The new Trade Act Agreement (TAA)-compliant ThinkPad X41 notebook offers great features and options, including:

- All-day battery life (up to 8.1<sup>1</sup> hours) with eight-cell system battery and an optional extended-life battery
- Enhanced port replication and expansion via the optional ThinkPad X4 UltraBase Dock
- Intel Pentium M Low Voltage (LV) processor 758 (1.5 GHz<sup>2</sup>, 2 MB L2 cache, 400 MHz front-side bus (FSB))
- Intel PRO/Wireless 2200BG network connection<sup>3</sup>
- Integrated UltraConnect™ antenna to help optimize worldwide frequency coverage and performance for improved wireless LAN connectivity on 802.11a, 802.11b, and 802.11g<sup>4</sup> networks<sup>5</sup>
- IBM Embedded Security Subsystem 2.0<sup>6</sup>
- IBM Rescue and Recovery
- Brilliant 308-mm (12.1-in) TFT display
- Microsoft™ Windows XP Professional
- Support Center: 800-IBM-SERV (426-7378)

## Planned availability

April 2005

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## Description

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### ThinkPad X41 TAA-compliant model features

**Warranty:** Three-year limited warranty for the system and one-year limited warranty for the battery<sup>15</sup>

**New data protection:** Selected models include integrated fingerprint reader technology to help protect access to your ThinkPad notebook and data.

- Because fingerprints are unique, using them along with other security measures can provide strong security.
- Fingerprint reader is built right into the palm rest area of the computer. When used with IBM Password Manager and the Embedded Security subsystem, pass your finger over the reader instead of typing multiple passwords or combine it with 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 users can meet ongoing password requirements easily.

**ImageUltra™ services:** Selected ThinkPad notebooks are enabled for ImageUltra.

For more information, visit

<http://www.pc.ibm.com/us/think/thinkvantagetech/imageultra.html>

### ThinkPad X41 features

**ENERGY STAR:** All models of ThinkPad notebook systems are designed to meet the ENERGY STAR<sup>16</sup> requirements for using less than 15 watts of power in sleep mode when enabled by the power management software provided with the systems.

**Standard battery shipped with the system:** Approximate Li-Ion battery operation and charging hours are:

- Standard battery life: Up to 5.7 hr
- Power off/suspend charge: 4.3 hr
- Operational charge:
  - Minimum: 4.3 hr
  - Typical: 5.0 hr
  - Maximum: 12.0 hr

**Processor technology:** Intel Pentium M LV processor 758 featuring Intel SpeedStep technology for maximum and battery-optimized performance

### Excellent security and manageability

- Designed to the PXE 2.1 requirement for mobile systems
- Support for IBM Director Agent, a comprehensive set of standards-based PC hardware manageability tools that works with and complements existing systems management products
- Industry-standard Common Information Model-compliant
- 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
- Data security via multiple passwords with the IBM Embedded Security Subsystem 2.0 (TCG-compliant) (requires software download)

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
- Broad recovery and diagnostic tools available even 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.
  - Configure your system settings and passwords.
  - Communicate using the Internet and link to the IBM support site (requires Internet access; not included).
  - Troubleshoot by using diagnostics.

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 read/write head when a fall or similar event is predicted.

**LCD TFT display:** The new ThinkPad X41 models include a 307-mm (12.1-in) XGA TFT display with 1024 x 768 resolution.

### Video modes

#### Intel Graphics Media Accelerator 900 (UMA 64 MB max)

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(17),	64K(17), 16M(17)
1600 x 1200	256(17),	64K(17), 16M(17)
2048 x 1536	256(17)(18),	64K(17)(18), 16M(17)(18)

  

Resolution	Color	External monitor(19)	
		Color	Refresh rate (Hz)
640 x 480	256	60, 70, 72, 75, 85, 100, 120	
640 x 480	64K	60, 70, 72, 75, 85, 100, 120	
640 x 480	16M	60, 70, 72, 75, 85, 100, 120	
800 x 600	256	56, 60, 70, 72, 75, 85, 100, 120	
800 x 600	64K	56, 60, 70, 72, 75, 85, 100, 120	
800 x 600	16M	56, 60, 70, 72, 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, 70, 72, 75, 85, 100, 120	
1280 x 1024	64K	60, 70, 72, 75, 85, 100, 120	
1280 x 1024	16M	60, 70, 72, 75, 85, 100, 120	
1600 x 1200	256	60, 70, 72, 75, 85, 100	
1600 x 1200	64K	60, 70, 72, 75, 85, 100	
1600 x 1200	16M	60, 70, 72, 75, 85, 100	
2048 x 1536	256	60(18), 75(18)	
2048 x 1536	64K	60(18), 75(18)	
2048 x 1536	16M	60(18), 75(18)	

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

You can use any of three new key combinations to easily manage your ThinkPad system:

- Fn + F5 for wireless radio control
- Fn + F7 for Presentation Director to toggle through different displays and adjust resolutions
- Fn + F9 for Easy Eject to seamlessly remove add-on peripherals such as a memory key

Each of these quick key combinations launches a menu that assists you in using ThinkPad innovations.

The TrackPoint with enhanced features incorporates the Press-to-Select and Release-to-Select function.

Just tap the TrackPoint to speed icon launches and help reduce keystrokes. The programmable center button enables fast scrolling of Web sites (requires Internet access; not included) and documents or fast panning across wide spreadsheets. Switch to the innovative magnifying glass feature to enlarge screen views in any application.

**Memory:** The basic system has 512 MB of standard memory and can be configured for up to 1.536 GB of addressable memory.

**Card slots:** The PC card slot accommodates either one Type I or one Type II card. The Secure Digital card slot enables flexible communications and storage expansion.

#### **Other features and ports**

- External display port
- Integrated 56K V.90 modem (V.92-designed)
- Integrated UltraConnect Wi-Fi wireless antenna
- Intel PRO/Wireless 2200BG network connection
- Infrared
- Integrated microphone
- Microphone/line-in
- Headphone/line-out
- Secure Digital card slot
- Two USB 2.0 (one IBM powered USB 2.0)
- RJ-11 and RJ-45

#### **ThinkPad X41 options**

**Optional all-day computing:** When an eight-cell system battery (standard on some systems, and optional on the rest) is used with an optional extended-life (or bay) battery, the battery life can be significantly increased up to 10 hours. The optional extended-life battery can be quickly attached to the system via the docking connector.

**Optional docking solutions:** The 160-pin connector supports the ThinkPad X4 UltraBase Dock. The UltraBase, easy to carry and pack at 0.58 kg (1.3 lb), attaches in a snap to provide:

- Easy cable management and expansion
- One Ultrabay slot supporting the latest Ultrabay Slim options, including a second battery
- Standard ports including RJ-11, RJ-45, serial, parallel, external display, power, three-port USB 2.0 hub, and PS/2® keyboard/mouse; PS/2 keyboard can be attached through optional PS/2 keyboard/mouse connector
- Two stereo speakers for excellent sound
- Keylock to securely attach the system unit to the X4 UltraBase Dock
- Slot for optional security cable lock

**Ultrabay Slim options:** Select from an expanding range of Ultrabay Slim devices including a CD-RW/DVD combo Ultrabay Slim drive, an ultralight DVD-Recordable drive, or an Ultrabay Slim bay battery. These options require the ThinkPad X4 UltraBase Dock.

**IBM USB memory key:** Carry presentations of up to 256 MB on your keychain and access from any USB-equipped system.

#### **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 that may be downloaded from the Web (requires Internet access; not included)**

- IBM Client Security Software<sup>20</sup>  
<http://www.pc.ibm.com/us/security/secdownload.html>
- 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)

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

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

- Microsoft Windows XP Professional
- Access IBM
- IBM Access Connections
- PC-Doctor diagnostics
- IBM Rescue and Recovery
- Adobe Acrobat Reader
- Norton AntiVirus 2005 (OEM edition) with 90 days of virus definition updates
- IBM Record Now (only on models with DVD/CD-RW)
- IBM Drive Letter Access (only on models with DVD/CD-RW)
- InterVideo WinDVD (only on models with DVD or DVD/CD-RW)
- InterVideo WinDVD Creator (only on models with DVD-R)

**Note:** Lotus SmartSuite® and Lotus® Notes® licenses are included in the user's reference.

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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 UF2A/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> 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. Recharge time also varies depending on system mode. Charging times vary depending on operating conditions. Battery may not charge fully during heavy loading.
- <sup>2</sup> With Intel SpeedStep, processor speed may be reduced to conserve battery power.
- <sup>3</sup> Wi-Fi wireless upgradable models may be wireless-enabled with the addition of an optional wireless LAN mini-PCI card. These systems are designed to operate only with wireless LAN mini-PCI options sold by IBM.
- <sup>4</sup> 11a, 11b, and 11g wireless are based on IEEE 802.11a, 802.11b, and 802.11g. An adapter with 11b/g 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>5</sup> Requires compatible mini-PCI wireless-enabled options, sold separately.
- <sup>6</sup> Requires download of client security software from the Web.
- <sup>7</sup> Includes battery; weight may vary depending on vendor components, manufacturing process, or options.
- <sup>8</sup> GB equals one billion bytes when referring to HDD. Accessible capacity is less. Up to 4 GB is used in service partition.
- <sup>9</sup> If 256 MB base memory is installed, the system recognizes up to 1.28 GB of addressable memory. If 512 MB base memory is installed, the system recognizes up to 1.536 GB of addressable memory.

- <sup>10</sup> For PCs without a separate video card, memory supports both system and video. Accessible system memory is up to 64 MB less than the amount stated, depending on video mode.
- <sup>11</sup> Memory operates at 400 MHz, equivalent to up to 4200 MB per second. Data transfer for speeds vary and are often less than the maximum.
- <sup>12</sup> Maximum memory capacity may require the replacement of standard component with largest supported component available.
- <sup>13</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>14</sup> 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 V.92 support device driver when available. Check with your telephone and Internet service providers for availability.
- <sup>15</sup> Refer to the IBM Statement of Limited Warranty for terms governing IBM support obligations. For a copy, contact your authorized IBM Business Partner or IBM customer representative.
- <sup>16</sup> As an ENERGY STAR partner, IBM has determined that all models of this product meet the ENERGY STAR guidelines for energy efficiency.
- <sup>17</sup> Supported in panning mode.
- <sup>18</sup> This video mode is not supported on Windows NT™ V4. It is supported only on Windows 2000, XP Home, and XP Professional.
- <sup>19</sup> Supported at external monitor only. When the LCD and external monitor are used at the same time, the refresh rate may be lower.
- <sup>20</sup> Models with Embedded Security Subsystem 2.0 only.

### ***Trademarks***

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# IBM US Announcement Supplemental Information

April 5, 2005

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## Compatibility

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The ThinkPad® X41 notebook is compatible with peripherals and software products that run on other IBM systems.

For the latest information on options available for the ThinkPad X40 models and other ThinkPad notebooks, visit

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

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## Publications

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To download and print ThinkPad data sheets and other publications, visit

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

- Under the ThinkPad Overview bar or on the left side of the page, click Literature.
- Scroll down to the Data Sheets and then to the ThinkPad notebook that you are interested in.
- Click PDF to the right of the product to view the data sheet.

To view, download, or print ThinkPad publications, visit

<http://www-3.ibm.com/pc/support/site.wss/>

- Under Browse click Notebooks and PC Companions.
- On the left side of the page click Online Publications.
- Under For your product, choose the product or family you want publications about.
- A list of available publications appears at the bottom of the page. Click the one you want to see.
- Under File Details scroll to the file link and click the link to view the publication.

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The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided, as well as payment options via credit card. Furthermore, a large number of publications are available

online in various file formats, which can currently be downloaded free of charge.

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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 more 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*

- Width: 268 mm (10.5 in)
- Depth: 236.8 mm (9.32 in)
- Height:
  - Minimum: 20.6 mm (0.81 in)
  - Maximum: 26.9 mm (1.06 in)
- Weight: 1.51 kg (3.3 lb)

**Note:** Weight range is approximate.

### *Accessories*

- Li-Ion eight-cell battery pack: 405 g (0.89 lb)
- AC adapter (two-pin or three-pin): 240 g (0.53 lb)
- Power cord for ac adapter: 90 g (0.19 lb)

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

### *Electrical specifications*

- Universal ac adapter (56 W):
  - Input: 100/240 V ac, 1.2/0.7 A, 50/60 Hz
  - Output: 16 V dc, 3.5 A
- Li-Ion battery pack: 14.4 V, 4.5 Ah

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**Heat dissipation:** 191 Btu/hr maximum

**Heat emissions:** 56 watts maximum

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

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

- Sound pressure level (operator position): 41 dB (operating)
- Sound power level: 4.4 bels (operating), 3.4 bels (idling)

**Note:** The noise emission level stated is the declared (upper limit) sound power level, in bels, for a random sample of machines, typically configured, and operating in idle mode, for example, powered on, but no DASD read/write or other I/O activity. All measurements are made in accordance with ANSI S13.30, 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. However, 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 will conform to its Official Published Specifications when used in a suitable physical operating environment.

For information on rugged computers available from IBM, contact your IBM industry specialist.

#### *Air temperature*

- 0 to 8,000 ft:
  - Operating:
    - 5° to 35°C (41° to 95°F) without diskette
    - 10° to 35°C (50° to 95°F) with diskette inside unit
  - 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:
    - 5° to 31.3°C (41° to 88°F) without diskette
    - 10° to 31.3°C (50° to 88°F) with diskette inside unit
  - 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 ft to 10,000 ft.

#### *Relative humidity*

- Operating:
  - 8% to 90% 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

- FCC Class-B certified to comply with FCC Rules, Part 15
- VCCI Class 2
- CB Report
- UL-1950
- C-UL
- EC DOC/S-DOC
- CCIB/CCEE (for China)
- BSMI (for Taiwan)
- MIC (for Korea)
- SMA 3548(Australia and New Zealand)
- CE Mark
- ENERGY STAR

The ThinkPad X41 computer supports the following operating systems:

- Microsoft™ Windows™ 2000 (no service pack, SP1, SP2, SP3, SP4)
- Microsoft Windows XP Professional (no service pack, SP1, SP1a, SP2)
- Microsoft Windows XP Home (no service pack, SP1, SP1a, SP2)

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

For a listing of completed Linux™ certifications, visit

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

Software support drivers will not be available at the time of product launch. Contact your local IBM representative for more information about driver availability.

Operating systems other than those preinstalled on the systems may not provide full-feature function. To view considerations or Service Hints and Tips by operating system, visit

<http://www-3.ibm.com/pc/support/site.wss/>

- In the middle of the screen, in the Quick path to a product field, enter your system's four-digit machine type and model number, such as 2525-KZU.
- On the left side of the page, click Hints and Tips.
- In the middle of the page, select a category, such as Windows XP, to see the list of considerations or hints for your machine type.

#### **Limitations**

- IBM 11a/b/g Wireless Mini-PCI Adapter (IBM 11a/b/g), IBM 11b/g Wireless Mini-PCI Adapter (IBMb/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 wireless adapters.

- Wi-Fi wireless upgradable systems are designed to operate only with wireless LAN mini-PCI options sold by IBM. Systems are not wireless upgradable in all countries.
- Passphrase is not supported with Windows NT™.

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

<http://www-3.ibm.com/pc/support/site.wss/>

### **Planning information**

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

**Installability:** ThinkPad X41 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 optional features.

### **Packaging**

- 40 GB HDD
- Intel Pentium™ M LV processor 758
- 12.1-inch (307-mm) 1024 x 768 XGA TFT display
- 512 MB memory
- Modem
- Intel PRO/Wireless 2200BG network connection
- Windows XP Professional Preload #1

### **Shipment group**

- System unit with keyboard
- AC adapter
- Rechargeable battery pack (Li-Ion)
- Power cord
- TrackPoint® caps
- Modem cable
- Service and Trouble Shooting Guide
- Setup Guide
- License agreement and supporting documentation

Envelope Group BM (Miscellaneous Envelope): Insurance brochure

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

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

**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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This product is available for purchase under the terms of the IBM Customer Agreement (ICA).

Each IBM machine is manufactured from parts that may be new or used. In some cases, a machine may not be new and may have been previously installed.

Regardless, appropriate IBM warranty terms apply.

**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 UF2A/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) (keyboard, mouse, speaker, memory, HDD, and other easily replaceable parts) 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, and 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.

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

<http://www-3.ibm.com/pc/support/site.wss/warranty/warranty.vm>

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 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.

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. If applicable, parts that are considered CRUs will be provided as part of the machine's standard warranty CRU service.

**On-site service:** IBM on-site repair (IOR), 9 hours per day, Monday through Friday excluding holidays, next-business day (NBD) response. 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. On-site service is not available in all countries, and some countries have kilometer or mileage limitations from an IBM service center. In those locations where on-site service is not available, the normal in-country service delivery is used. 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 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, and 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.

**On-site service:** IOR, 9 hours per day, Monday through Friday excluding holidays, NBD response. 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.

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. If applicable, parts that are considered 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. 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 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, and 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.

**On-site service:** IOR, 9 hours per day, Monday through Friday excluding holidays, NBD response. 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 charges:** No. This product does not contain licensed internal code or licensed machine code.

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**Prices**

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**Mobile Products**

**Note:** This model has a 12.1-in (307-mm) 1024 x 768 TFT display, Secure Digital slot, modem, Gigabit Ethernet, and IBM Embedded Security Subsystem 2.0. It includes the Intel Pentium M LV processor 758 and Intel 915GM chipset. This model includes Intel Centrino mobile technology.

**Note:** Preloads are described in the **Description** section.

Description	Part number	Machine type/model	IBM list price <sup>21</sup>
<b>Software #1 (Windows XP Professional)</b>			
Intel Pentium M LV processor 758, 40 GB, 512 MB, 8-cell Li-Ion battery, Intel PRO/Wireless 2200BG, fingerprint reader	25255ZU	2525-5ZU	\$2,399

<sup>21</sup> IBM price; does not include tax or shipping and is subject to change without notice. Reseller prices may vary.

**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 parts and labor pickup (P&L P/U) Depot	69P9199
5-year P&L P/U Depot	69P9201

**Maintenance (MA) 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/spwarmain.html>

## **Maintenance service (Legacy) charges**

### **Alternative service (warranty service upgrades)**

**IOR  
9 x 5  
for ThinkPads with  
a 3-year warranty**

\$147

### **Maintenance services**

<b>EasyServ 1-year courier depot</b>	<b>1-year IOR 9 x 5</b>
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\$315

\$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>

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