

Best blend of portability and essential features



## IBM ThinkPad R32 notebooks



**IBM ThinkPad R30**  
Top 5 Notebook PCs: Value  
PC World(US)  
January-July 2002

### Highlights

- **Speed through tasks with a Mobile Intel® Pentium® 4 Processor-M and ATI® Mobility graphics that don't require system memory.**
- **Recover your system quickly in the event of a software problem.**
- **Connect your way with up to three integrated communications choices and easy upgrades.**
- **Rely on worldwide IBM service and support available 24 x 7<sup>1</sup> in over 160 countries and 22 languages<sup>2</sup>.**

### Essentials to go

IBM ThinkPad® R32 notebooks pack ready-to-run essentials for frequently mobile users into a sleek, lightweight system that's simple and affordable. Their mobile Pentium 4 processors up to 2GHz<sup>3</sup> and easy-to-read 14.1" TFT displays provide robust functionality at travel weights as low as 5.6 lb<sup>4</sup>.

### Wireless your way

Standards-based Cisco Aironet® Wireless 802.11b technology built into select models easily integrates into your Cisco wireless network for fast, secure connections. It's Wi-Fi certified<sup>5</sup> and provides enhanced signal strength<sup>6</sup> from the dual antenna. Select models are equipped with a dual antenna for easy upgrades to future wireless technology<sup>7</sup>.

### The leader in secure wireless computing

The IBM Embedded Security Subsystem 2.0 on select models helps protect data and wired or wireless communications (requires IBM Client Security Software download and third-party digital certificate, not included). It complies with the Trusted Computing Platform Alliance (TCPA) standards recognized as the computer security benchmark by more than 180 companies. Plus, Rapid Restore™ PC (available for download)—a one-button recover and restore solution—further protects data by helping prevent loss due to software corruption.

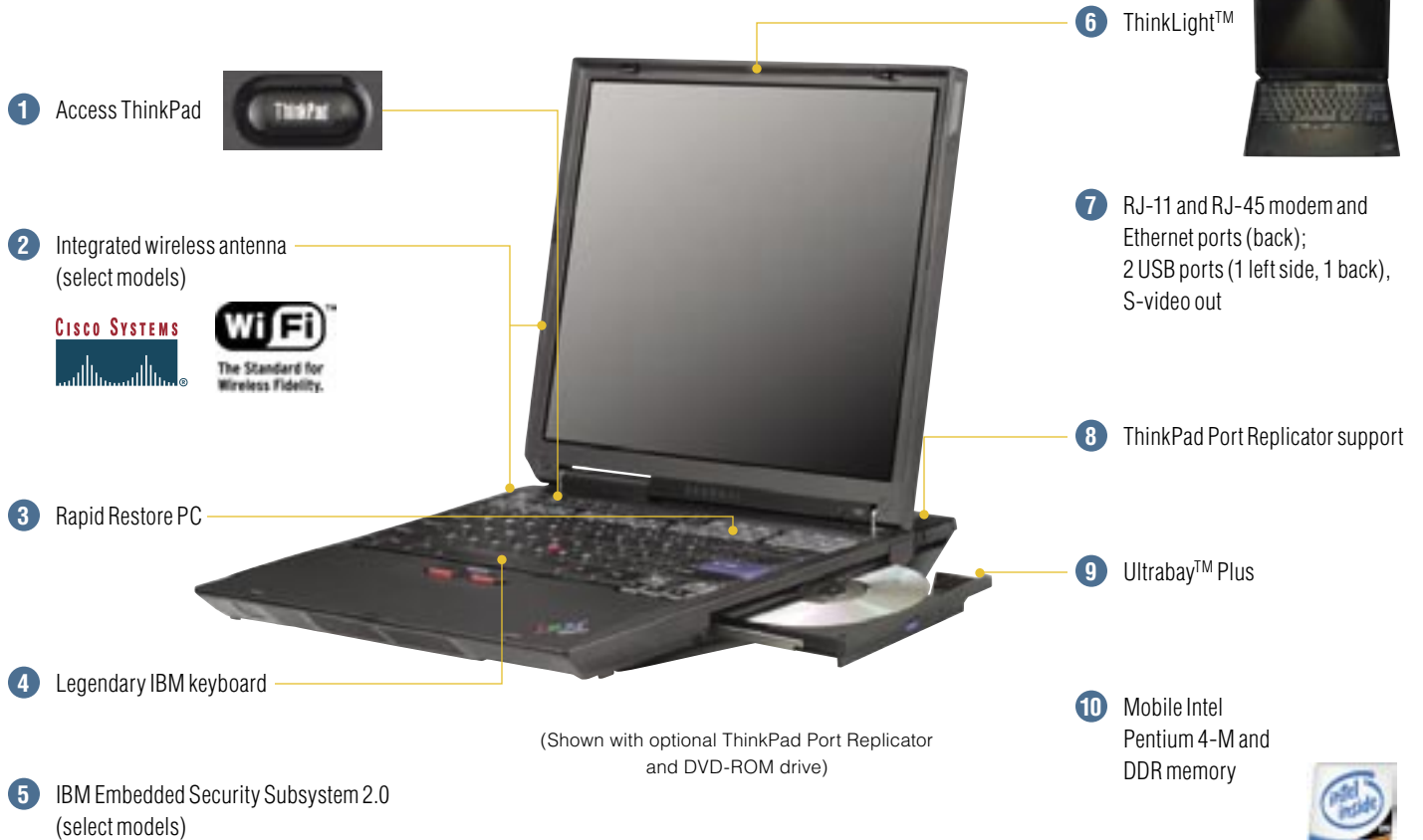
### There for you

Need help along the way? Just call. Along with IBM service and support, ThinkPad notebooks feature warranty<sup>8</sup> coverage up to three years. Your ThinkPad purchase includes international warranty service; personalized, Web-based support and e-mail updates<sup>9</sup>, and EasyServ™ for onsite pickup and delivery<sup>10</sup>.

Call 1 888 SHOP IBM or go to **ibm.com**

**to buy direct, locate an IBM reseller or for more information.**

## IBM ThinkPad R32 features



## The ThinkPad advantage

- 1 The ThinkPad Button launches **Access ThinkPad** to simplify access to online<sup>11</sup> and on-system resources, including Access Connections and the Access Support portal, featuring self-diagnosis and automated service solutions.
- 2 An **integrated wireless antenna** in the display<sup>12</sup> provides enhanced signal strength for select models with integrated Cisco 802.11b or standard wireless LAN and easy upgrades to future wireless technology.
- 3 **Rapid Restore PC** (available for download)—a one-button recover and restore solution—helps protect data and saves potential downtime by creating a mirror image of the hard disk drive and restoring it quickly should the main software image become corrupted.
- 4 **IBM keyboard** resists damage caused by spills<sup>13</sup> and features standard-size<sup>14</sup> keys, individual volume control and a TrackPoint® pointing device with Internet Scroll Bar for comfort and ease.
- 5 The **IBM Embedded Security Subsystem 2.0** on select models helps protect data and secure communications (requires Client Security Software download and third-party digital certificate, not included).
- 6 **ThinkLight** keyboard light, exclusive to IBM ThinkPad notebooks, lets you work in low-light conditions.
- 7 **RJ-11 and RJ-45 ports** eliminate the need for cable or card swapping to get connected with integrated modem or Ethernet. Standard expansion ports for multimedia include **2 USB ports** and **S-video out**.
- 8 **ThinkPad Port Replicator support**—common to ThinkPad X, T, R and A Series notebooks—provides easy cable management and quick access to office resources like a printer, external monitor or USB devices through the optional ThinkPad Port Replicator.
- 9 The **Ultrabay Plus** integrated modular bay now supports all optional Ultrabay 2000 devices, including a second battery.
- 10 **Mobile Intel Pentium 4 Processor-M** and up to **256MB Double Data Rate (DDR) memory** come standard (expandable to 1GB<sup>15</sup>) and provide enhanced power for easy multitasking.

## IBM ThinkPad R32 specifications

<b>Machine type</b> (model number)	2659-N4U 2658-N4U	2659-N3U 2658-N3U	2659-N5U 2658-N5U	2659-J3U 2658-J3U	2658 (KJU, KHU, K4U)
<b>Processor/Level 2 cache</b> <sup>16</sup>	<b>NEW!</b> Mobile Intel® Pentium® 4 Processor-M 2GHz/512KB	<b>NEW!</b> Mobile Intel Pentium 4 Processor-M 2GHz/512KB	<b>NEW!</b> Mobile Intel Pentium 4 Processor-M 2GHz/512KB	<b>NEW!</b> Mobile Intel Pentium 4 Processor-M 1.8GHz/512KB	<b>NEW!</b> Mobile Intel Pentium 4 Processor-M 1.7GHz/512KB
<b>Display/resolution</b>	14.1" TFT XGA/ 1024x768	14.1" TFT XGA/ 1024x768	14.1" TFT XGA/ 1024x768	14.1" TFT XGA/ 1024x768	14.1" TFT XGA/ 1024x768
<b>Hard disk drive</b>	30GB <sup>15</sup>	30GB	30GB	20GB	KJU: 40GB KHU: 30GB K4U: 20GB
<b>Memory</b> (std/max <sup>17</sup> )	256MB/1GB PC2100 DDR SDRAM	256MB/1GB PC2100 DDR SDRAM	256MB/1GB PC2100 DDR SDRAM	256MB/1GB PC2100 DDR SDRAM	128MB/1GB PC2100 DDR SDRAM
<b>Optical drive</b>	8X Max <sup>18</sup> DVD-ROM	8X Max DVD-ROM	8X Max DVD-ROM	8X Max DVD-ROM	K4U: CD-ROM KJU, KHU: CD-RW/ DVD-ROM Combo
<b>Video graphics</b>	ATI Mobility RADEON™ 7000 16MB	ATI Mobility RADEON 7000 16MB	ATI Mobility RADEON 7000 16MB	ATI Mobility RADEON 7000 16MB	ATI Mobility RADEON 7000 16MB
<b>Communications</b>	Wi-Fi wireless, 56K <sup>19</sup> modem, 10/100 Ethernet	56K modem, 10/100 Ethernet (Wi-Fi wireless upgradable <sup>6</sup> with built-in antenna)	Cisco 802.11b wireless, 56K modem, 10/100 Ethernet	56K modem, 10/100 Ethernet (Wi-Fi wireless upgradable with built-in antenna)	KHU: Wi-Fi wireless, 56K modem, 10/100 Ethernet; KJU, K4U: 56K modem, 10/100 Ethernet
<b>Li-Ion battery life</b> <sup>20</sup>	3.2hr	3.3hr	3.2hr	3.3hr	KJU, K4U: 3.3hr KHU: 3.2hr
<b>Ports</b>	2 USB; parallel; S-video out; Infrared; Port Replicator; external display; AC adapter; RJ-11, RJ-45; audio: headphone/line-out, external microphone/line-in; KJU and KHU models only: IEEE 1394				
<b>Slots</b>	1 Type II or 1 Type III PC Card	1 Type II or 1 Type III PC Card	1 Type II or 1 Type III PC Card	1 Type II or 1 Type III PC Card	1 Type II or 1 Type III PC Card
<b>IBM Embedded Security Subsystem 2.0</b>	yes	yes	yes	no	KHU: yes KJU, K4U: no
<b>Keyboard</b>	ergonomic keyboard with palm rest, TrackPoint pointing device with "Press-to-Select" and Internet Scroll Bar				
<b>Dimensions</b> <sup>21</sup>	12x10x1.5"	12x10x1.5"	12x10x1.5"	12x10x1.5"	12x10x1.5"
<b>Travel weight<sup>4</sup>/weight with optical drive</b>	5.6 lb/6 lb	5.6 lb/6 lb	5.6 lb/6 lb	5.6 lb/6 lb	KJU, KHU: 5.6 lb/6.2 lb K4U: 5.6 lb/6 lb
<b>Port Replicator support</b>	yes	yes	yes	yes	yes
<b>Limited warranty</b> <sup>8</sup>	2659: 3 years/ 1 year battery 2658: 1 year/ 1 year battery	2659: 3 years/ 1 year battery 2658: 1 year/ 1 year battery	2659: 3 years/ 1 year battery 2658: 1 year/ 1 year battery	2659: 3 years/ 1 year battery 2658: 1 year/ 1 year battery	1 year/ 1 year battery

## IBM ThinkPad R32 software

<b>Preloaded operating system</b> <sup>22</sup>	Microsoft® Windows® XP Professional: 2659 (N5U, N4U, N3U, J3U), 2658 (N5U, N4U, N3U, KJU, KHU, J3U); Microsoft Windows XP Home: 2658 (K4U)	
<b>Supported operating systems</b> <sup>23</sup>	Windows XP Professional, Windows XP Home Edition, Windows 2000 Professional, Windows 98 Gold, Windows 98 Second Edition, Windows NT® 4.0 SP6a	
<b>Included software</b> <sup>24</sup> (preloaded)	<ul style="list-style-type: none"> <li>Access ThinkPad</li> <li>–Access Connections</li> <li>–Access Help</li> <li>–Access Support</li> <li>Adobe Acrobat Reader</li> <li>ConfigSafe (Windows 2000 models only)</li> <li>IBM RecordNow and DLA by Veritas (select models)</li> </ul>	<ul style="list-style-type: none"> <li>InterVideo WinDVD</li> <li>Microsoft Office XP Small Business Edition<sup>25</sup> (select models)</li> <li>Norton AntiVirus (OEM Edition)</li> <li>PC-Doctor</li> <li>ThinkPad Utilities</li> <li>Update Connector™<sup>26</sup></li> </ul>
(downloadable)	<ul style="list-style-type: none"> <li>Client Security Software (Embedded Security Subsystem models only)</li> </ul>	<ul style="list-style-type: none"> <li>IBM Director Agent</li> <li>IBM Rapid Restore PC</li> <li>Software Delivery Assistant</li> <li>System Migration Assistant</li> </ul>
(license—CD not included)	<ul style="list-style-type: none"> <li>Lotus® SmartSuite® Millennium</li> </ul>	<ul style="list-style-type: none"> <li>Lotus Notes® Stand-alone Client</li> </ul>

*“Overall, the [IBM ThinkPad] R31 has good construction, components, and performance, giving users the quality that usually comes from the IBM ThinkPad line.”*

—Smart Computing, June 2002

# Customize your ThinkPad notebook.

## ■ IBM ImageUltra Offerings

Engage ImageUltra Services and let IBM handle the process of custom software image creation for your large enterprise. Or leverage the tools used in ImageUltra Services and handle image software creation yourself with the IBM ImageUltra Builder for IBM Clients V1.0. Visit **ibm.com/pc/services** for more information.

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## ■ Financing options

Implement IBM Global Services projects with the help of IBM Global Financing. Flexible payment plans let you distribute costs and match payments to service. Visit **ibm.com/financing** for more information.

## ThinkPad Port Replicator

02K8667



Enjoy simple cable management for quick access to office resources like printers, external monitors and USB devices. Or use an IBM USB Serial Parallel Adapter for easy connectivity to many printers and handhelds.

## ThinkPad 72W AC Adapter

02K6699



Keep three ThinkPad AC adapters for the ultimate in convenience: one for the office, one for your bag and one to leave at home. Or, to keep the power flowing when and where you need it, take along an extra, fully charged ThinkPad R Series Li-Ion Battery.

**NEW!**

## IBM iLM300 MicroPortable Data/Video Projector

0037-A03



Travel light with one of the world's lightest projectors weighing only 3 lb with striking XGA (1024x768) resolution and a bright 1100 lumens. Just plug in your ThinkPad notebook and project, thanks to instant-recognition technology. Or, choose the IBM iLV200 ValueBased Data/Video Projector or IBM iLC200 Conference Room Data/Video Projector.

## IBM 128MB USB 2.0 Memory Key

22P8998



Carry up to 88 diskettes worth of data in this thumb-sized device. It features a write-protection switch to prevent accidental overwrites and security software creates a secure partition to protect certain files. Plus, you can boot to it<sup>28</sup>, rather than to a boot diskette, for diagnostic or repair utilities.

### IBM High Rate Wireless LAN Access Point 500

09N9906



Add this wireless bridge between your existing wired Ethernet infrastructure and wireless-enabled clients. Also available: IBM High Rate Wireless LAN PC Card 128, IBM High Rate Wireless LAN Gateway, **NEW!** Cisco Aironet Wireless 802.11b Mini PCI Card and the **NEW!** IBM High Rate Wireless LAN Mini-PCI Adapter<sup>29</sup>.

### IBM Portable USB 2.0 Hard Drive with Rapid Restore

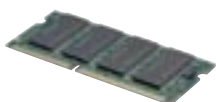
09N4211



Take the ultimate recover and restore solution on the road. This unique hard disk drive comes preloaded with IBM Rapid Restore software to enable a complete image backup of up to 30GB of user data with file compression (20GB standard capacity). Use with the optional ThinkPad USB 2.0 CardBus Adapter in the PC Card slot for fast data transfer—up to 40 times faster than USB 1.1<sup>30</sup>.

### IBM 256MB PC2100 CL2.5 DDR SDRAM SODIMM

10K0030



Boost performance without breaking the bank—Double Data Rate SDRAM enables up to twice the performance of traditional SDRAM memory<sup>31</sup>. Modules available in 128MB, 256MB or 512MB.

### ThinkPad Ultrabay Plus Numeric Keypad

22P7330



Shown with optional ThinkPad Ultrabay Plus Device Carrier

Reach for a number and find it with the ThinkPad Ultrabay Plus Numeric Keypad. It fits neatly into your optional ThinkPad Ultrabay Plus Device Carrier to create an intuitive keyboard extension. Or, use the ThinkPad Ultrabay Plus Cradle for the WorkPad<sup>®</sup> c500 Series.

The IBM options shown here are just a sample of the wide range of accessories and upgrades designed to work with your ThinkPad notebook.

For compatibility information and a complete list of options, visit **ibm.com/pc/options** (U.S.) or **ibm.com/pc/ca/options** (Canada).



### The Targus DEFCON PC Card Fingerprint Reader

**Reader** makes biometric authentication portable to provide another layer of security for system and network data wherever you are. For added protection, the IBM Embedded Security Subsystem 2.0 encrypts and stores the fingerprint image.



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#### Warranty Information:

For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC, 27709, Attn: Dept JDJA/B203. IBM makes no representation or warranty regarding third party products or services.

- <sup>1</sup> Response times may vary. May exclude some holidays.
- <sup>2</sup> International Warranty Service is available in any country in which this product is sold and serviced. Service delivery methods and parts availability vary by country, may be different from that in the country of purchase, and are subject to change without notice. Fees and restrictions may apply in some countries.
- <sup>3</sup> Mobile Intel Pentium Processors feature Intel SpeedStep® Technology. With SpeedStep, processor speed may be reduced to conserve battery power.
- <sup>4</sup> Includes battery and optional travel bezel, instead of standard optical drive in Ultrabay or Ultrabay Plus; weight may vary due to vendor components, manufacturing process and options.
- <sup>5</sup> Based on IEEE 802.11b. This wireless LAN product has been designed to permit legal operation worldwide in regions in which it is approved. Operation on channels 12-14 is not permitted in all regulatory regions of the world. Consequently, the wireless LAN feature is limited to operate on channels 1-11 and will not support channels 12, 13, and 14. This product has been tested and certified interoperable by the Wireless Ethernet Compatibility Alliance and is authorized to carry the Wi-Fi logo.
- <sup>6</sup> Requires compatible wireless-enabled peripherals, not included.
- <sup>7</sup> Can be wireless enabled through addition of optional wireless LAN card from IBM.
- <sup>8</sup> Telephone support may be subject to additional charges. For onsite labor, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. Battery covered by a separate one-year limited warranty.
- <sup>9</sup> Profiling at **ibm.com**/support required.
- <sup>10</sup> The customer may be asked certain diagnostic questions before a courier is sent. Your ThinkPad purchase includes this depot repair service, available in the U.S. during the warranty period.
- <sup>11</sup> Requires separate Internet access account.
- <sup>12</sup> For ThinkPad R Series, dual antenna is located in the side and base of display.
- <sup>13</sup> Not designed for prolonged contact with liquid.
- <sup>14</sup> As defined by ISO/IEC 15412.
- <sup>15</sup> GB equals 1,000,000,000 bytes when referring to storage capacity. Accessible capacity is less.
- <sup>16</sup> At processor speed.
- <sup>17</sup> Maximum memory and hard drive capacity may require the replacement of standard component with largest supported component available.
- <sup>18</sup> CD and DVD drives list maximum rates; rates are variable and are often less than the maximum possible.
- <sup>19</sup> Public network download speeds are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum

possible. V.92 functions and speeds require 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>20</sup> These model numbers achieved eTesting Labs, Inc.'s BatteryMark™ 4.0.1 Battery Rundown Time of the times shown. This test was performed without independent verification by eTesting Labs, Inc.; eTesting Labs, Inc. makes no representations or warranties as to these test results. BatteryMark is a trademark of Ziff Davis Publishing Holdings Inc., an affiliate of eTesting Labs Inc., in the U.S. and other countries. A description of the environment under which the test was performed is available at **ibm.com**/pc/www/thinkpad/batterylife.html.
- <sup>21</sup> Thinness may vary at certain points on the system.
- <sup>22</sup> Delivered with Microsoft Windows XP or Windows 2000 preloaded and a Recovery Partition on the hard disk drive.
- <sup>23</sup> Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to **ibm.com**/pc/support and enter your machine type and model number for more information.
- <sup>24</sup> Some software may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.
- <sup>25</sup> Certain Microsoft software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product or upon certain reinstallations for the software product(s) or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).
- <sup>26</sup> Update Connector is available at no charge to registered ThinkPad customers during the limited warranty period. Line charges may apply.
- <sup>27</sup> These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family or household purposes. Not all machine types and models are covered. Subject to IBM ServicePac Maintenance Service Agreement. The customer may be asked certain diagnostic questions before a technician is sent.
- <sup>28</sup> Requires Boot-to-USB support on system BIOS.
- <sup>29</sup> Only for select ThinkPad R and T series models with the integrated dual antenna.
- <sup>30</sup> Data transfer rates depend on many factors and are often less than the maximum possible. USB device must also support USB 2.0.
- <sup>31</sup> Actual rates vary and are often less than the maximum possible.



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