



*Personal Systems Reference*  
*IBM ThinkPad Notebooks A, T, X, and G Series*  
*2000 to 2005 - withdrawn*

*May 2005 - Version 291*



# IBM® ThinkPad® A20m - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	CD-ROM	Communications	Bay	Preload	Avail
2628-11U	Celeron	500	64MB	12.1" SVGA	6GB <sup>8</sup>	24X-10X <sup>9</sup>	modem		98SE	May 00
2628-12U	Celeron	500	64MB	12.1" SVGA	6GB	24X-10X	modem		2000	May 00
2628-14U	Celeron	500	64MB	12.1" SVGA	6GB	24X-10X	Intel® eth/modem		98SE	May 00
2628-1TU	Celeron	500	64MB	12.1" SVGA	6GB	24X-10X	Intel eth/modem		2000	May 00
2628-21U	Pentium III	500	64MB	12.1" SVGA	6GB	24X-10X	modem		98SE	May 00
2628-22U	Pentium III	500	64MB	12.1" SVGA	6GB	24X-10X	modem		2000	May 00
2628-24U	Pentium III	500	64MB	12.1" SVGA	6GB	24X-10X	Intel eth/modem		98SE	May 00
2628-2TU	Pentium III	500	64MB	12.1" SVGA	6GB	24X-10X	Intel eth/modem		2000	May 00
2628-31U	Celeron	500	64MB	15.0" XGA	12G	24X-10X	modem		98SE	May 00
2628-32U	Celeron	500	64MB	15.0" XGA	12G	24X-10X	modem		2000	May 00
2628-35U	Celeron	500	64MB	15.0" XGA	12G	24X-10X	Intel eth/modem		98SE	May 00
2628-3TU	Celeron	500	64MB	15.0" XGA	12G	24X-10X	Intel eth/modem		2000	May 00
2628-41U	Pentium III	700	64MB	14.1" XGA	12G	24X-10X	modem		98SE	May 00
2628-42U	Pentium III	700	64MB	14.1" XGA	12G	24X-10X	modem		2000	May 00
2628-4SU	Pentium III	700	64MB	14.1" XGA	12G	24X-10X	Intel eth/modem		98SE	May 00
2628-4TU	Pentium III	700	64MB	14.1" XGA	12G	24X-10X	Intel eth/modem		2000	May 00
Processor	Intel® Mobile Celeron™ 500MHz <sup>1</sup> with 100MHz bus or Pentium® III 500MHz with 100MHz system bus or Pentium III 700MHz with SpeedStep™ technology and 100MHz system bus									
L2 cache	Celeron: 128KB / onboard (at processor speed) / ECC Pentium III: 256KB / onboard (at processor speed) / ECC									
Memory	64MB standard / 512MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 64MB in one socket / 1 socket available									
Diskette drive	3.5" 1.44MB / not removable									
CD-ROM	CD-ROM / 24X-10X speed / bootable / removable from Ultrabay™ 2000									
Ultrabay 2000	Modular bay for interchangeable devices / on all A and T Series, ThinkPad Dock									
Disk (removable)	6 or 12.0GB / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter									
Display	12.1" (307.3mm) SVGA (800x600) TFT color / Active Matrix 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix 15.0" (381mm) XGA (1024x768) TFT color / Active Matrix									
Graphics controller	12.1" models: ATI™ Rage™ Mobility M / AGP 2X / 4MB SDRAM / DDC2B 14.1 and 15" models: ATI Rage Mobility M1 / AGP 2X / 8MB SDRAM / DDC2B									
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200									
Keyboard	ThinkPad Button / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar									
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions									
UltraPort™ connect	None									
Dimensions <sup>3</sup>	12.1 and 14.1: Approximately 12.48 x 10.53 x 1.44-1.7"; 317 x 268 x 37.7-43.3mm 15" models: Approximately 12.95 x 10.53 x 1.5-1.76"; 329 x 268 x 38.1-44.7mm									
Approximate weight <sup>2</sup>	with CD drive and battery: 12.1" models: 6.3 lb (2.9 kg), 14.1" models: 6.6 lb (3.0 kg) 15.0" models: 6.9 lb (3.1 kg) / IBM ThinkPad UltraCarbon™ case									
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000									
Battery - life <sup>10</sup>	12.1" and 15.0" models: 3.5 hrs, 14.1" models: 3.7 hours									
Charge time <sup>10</sup> - on / off	2 to 3 hrs / 1.5 to 2.5 hrs									
Architecture	Intel 440BX AGPset / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)									
Port replicator	ThinkPad Port Replicator									
Docking Station	ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)									
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video									
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / 72 watt AC Adapter									
Other features										
Video in and out	None									
Communicatns Bay	Communications Bay with Mini PCI IIIB slot / customer accessible									
Modem	Some models: 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set									
Ethernet/modem	Some models: IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set									
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / int microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in									
Security	Power-on password / hard disk password / supervisor password / security keyhole									
Limited warranty <sup>12</sup>	1 year - carry-in or ThinkPad EasyServ™ <sup>19</sup> depot repair service via courier									
Service options	Service upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)									
Communication Bay										
- IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com	09N9774									
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem	08K3124									
Ultrabay 2000 interchangeable accessories										
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233									
- 6X-2X DVD Ultrabay 2000 Drive	05K9232									
- Zip 250MB Ultrabay 2000 Drive	00N8253									
- SuperDisk (LS-120) UltraBay 2000 Drive	05K9236									
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252									
- Ultrabay 2000 Li-Ion battery	02K6646									
- Travel Bezel for Ultrabay 2000	08K6070									
Wireless connectivity										
- IBM 802.11b Wireless LAN PC Card	09N9863									
- IBM 802.11b Wireless LAN Access Point	09N9865									
	- 64MB SO DIMM 100MHz NP SDRAM 20L0254									
	- 128MB SO DIMM 100MHz NP SDRAM 20L0255									
	- 256MB SO DIMM 100MHz NP SDRAM 33L3069									
	- 6.0GB HDD 05K9237									
	- 12.0GB HDD 05K9238									
	- 18.0GB HDD 05K9239									
	- 20.0GB HDD 27L3439									
	- Second HDD Adapter for Ultrabay 2000 08K6068									
	- Portable Drive Bay 2000 19K4480									
	- ThinkPad Port Replicator (A and T Ser) 02K8667									
	- ThinkPad Dock (A and T Series) 263110U									
	- ThinkPad A Series Battery (9-cell) 02K6640									
	- ThinkPad 72W AC Adapter 02K6699									
	- IBM 340MB Microdrive 00N8073									
	- ThinkPad Monitor Stand 2000 00N8222									
	- Asset ID RF Adapter 08K6064									
	- IBM Multi-Port USB Hub 00N8215									

## WINDOWS 98 PRELOAD<sup>14</sup>

- Microsoft® Windows® 98 Second Edition<sup>13</sup>
- ThinkPad Utilities
- ThinkPad Assistant™
- ConfigSafe®
- IBM Update Connector™<sup>15</sup>
- Access ThinkPad II
- PC-Doctor™
- Universal Manageability Services
- ✦ Lotus® SmartSuite® Millennium CD
- ✦ Software Selections CD-ROM
- ✦ Recovery CD-ROM (Windows 98 SE)
- ✦ Recovery CD-ROM (Windows 95)

## WINDOWS 2000 PRELOAD<sup>14</sup>

- Windows 2000 Professional<sup>13</sup>
- ThinkPad Utilities
- ThinkPad Assistant
- ConfigSafe®
- IBM Update Connector
- Access ThinkPad II
- PC-Doctor
- ✦ Lotus® SmartSuite® Millennium CD
- ✦ Software Selections CD-ROM
- ✦ Recovery CD-ROM (Windows 2000)
- ✦ Recovery CD-ROM (Windows NT)

The right bay (Ultrabay 2000) supports the following:

- standard CD-ROM
- optional DVD drive
- optional Zip drive
- optional second battery
- optional SuperDisk (LS-120) drive
- optional CD-RW
- optional HDD adapter; for second disk
- optional ThinkPad Proven™ solutions<sup>16</sup> (such as Travel Bezel)

Windows 98 model:  
- C: drive is FAT16 of 2GB  
- D: drive is FAT32 of remaining space

Windows 2000 models:  
- C: drive is FAT32 of entire drive

PC 99-compliant  
CIM and DMI 2.0 compliant  
Wired for Management 2.0  
Local and remote asset management via the IBM Universal Manageability solutions  
IBM PC Lifecycle Care provides proactive life cycle management and transition planning tools  
ENERGY STAR compliant  
Setup Guide, User's Reference, Windows manual  
Asset ID™ wireless RF technology via replacing HDD access door  
Personalized Web-based support  
International Warranty Service<sup>17</sup>  
IBM SystemXtra™<sup>20</sup>  
24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty

# IBM® ThinkPad® A20m (Summer 2000) - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	CD or DVD	Communica	Bay	Preload	Avail		
2628-1AU	Celeron	550	64MB	12.1" SVGA	6GB <sup>8</sup>	24X-10X <sup>9</sup> CD	modem		98SE	Jun 00		
2628-1CU	Celeron	550	64MB	12.1" SVGA	6GB	24X-10X CD	modem		2000	Jun 00		
2628-3AU	Celeron	550	64MB	15.0" XGA	12GB	24X-10X CD	modem		98SE	Jun 00		
2628-3CU	Celeron	550	64MB	15.0" XGA	12GB	24X-10X CD	modem		2000	Jun 00		
2628-4AU	Pentium III	600	64MB	14.1" XGA	12GB	6X-2.3X <sup>9</sup> DVD	modem		98SE	Jun 00		
2628-4CU	Pentium III	600	64MB	14.1" XGA	12GB	6X-2.3X DVD	modem		2000	Jun 00		
2628-1UU	Celeron	550	64MB	12.1" SVGA	6GB	24X-10X	Intel® eth/mod		98SE	Jun 00		
2628-1VU	Celeron	550	64MB	12.1" SVGA	6GB	24X-10X	Intel eth/mod		2000	Jun 00		
2628-3UU	Celeron	550	64MB	15.0" XGA	12G	24X-10X	Intel eth/mod		98SE	Jun 00		
2628-3VU	Celeron	550	64MB	15.0" XGA	12G	24X-10X	Intel eth/mod		2000	Jun 00		
2628-4UU	Pentium III	600	64MB	14.1" XGA	12G	6X-2.3X DVD	Intel eth/mod		98SE	Jun 00		
2628-4VU	Pentium III	600	64MB	14.1" XGA	12G	6X-2.3X DVD	Intel eth/mod		2000	Jun 00		
2628-4LU*	Pentium III	700	128M	14.1" XGA	12G	24X-10X	modem		Linux®	July 00		
2628-4XU	Pentium III	700	64MB	14.1" XGA	12G	24X-10X	3Com® eth/mod		98SE	July 00		
2628-4WU	Pentium III	700	64MB	14.1" XGA	12G	24X-10X	3Com eth/mod		2000	July 00		
2628-1XU	Celeron	500	64MB	12.1" SVGA	6GB	24X-10X CD	3Com eth/mod		98SE	Aug 00		
2628-2XU	Pentium III	500	64MB	12.1" SVGA	6GB	24X-10X CD	3Com eth/mod		98SE	Aug 00		
2628-3XU	Celeron	500	64MB	15.0" XGA	12GB	24X-10X CD	3Com eth/mod		98SE	Aug 00		
Processor	Intel® Mobile Celeron™ 550MHz <sup>1,2,4</sup> with 100MHz bus or Pentium® III 500MHz with 100MHz system bus or Pentium® III 600 or 700MHz with SpeedStep™ technology and 100MHz bus											
L2 cache	Celeron: 128KB / onboard (at processor speed) / ECC Pentium III: 256KB / onboard (at processor speed) / ECC											
Memory	64 or 128MB standard / 512MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available											
Diskette drive	3.5" 1.44MB / not removable											
CD or DVD-ROM	Bootable / removable from Ultrabay™ 2000											
Ultrabay 2000	Modular bay for interchangeable devices / on all A and T Series, ThinkPad Dock											
Disk (removable)	6 or 12.0GB <sup>8</sup> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter											
Display	12.1" (307.3mm) SVGA (800x600) TFT color / Active Matrix 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix 15.0" (381mm) XGA (1024x768) TFT color / Active Matrix											
Graphics controller	12.1" models: ATI™ Rage™ Mobility M / AGP 2X / 4MB SDRAM / DDC2B 14.1 and 15" models: ATI Rage Mobility M1 / AGP 2X / 8MB SDRAM / DDC2B											
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200											
Keyboard	ThinkPad Button / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar											
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions											
UltraPort™ connectr	None											
Dimensions <sup>3</sup>	12.1" and 14.1": Approximately 12.48 x 10.53 x 1.44-1.7"; 317 x 268 x 37.7-43.3mm 15" models: Approximately 12.95 x 10.53 x 1.5-1.76"; 329 x 268 x 38.1-44.7mm											
Approximate weight <sup>2</sup>	with CD drive and battery: 12.1" models: 6.3 lb (2.9 kg), 14.1" models: 6.6 lb (3.0 kg) 15.0" models: 6.9 lb (3.1 kg) / IBM ThinkPad UltraCarbon™ case											
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000											
Battery - life <sup>10</sup>	12.1" and 15.0" models: 3.5 hrs, 14.1" models: 3.7 hours											
Charge time <sup>10</sup> - on / off <sup>2</sup>	to 3 hrs / 1.5 to 2.5 hrs											
Architecture	Intel 440BX AGPset / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)											
Port replicator	ThinkPad Port Replicator											
Docking Station	ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)											
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video											
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)											
Other features	72 watt AC Adapter											
Video in and out	None											
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible											
Modem	Some models: 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set											
Ethernet/modem	Some models: IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel or 3Com ethernet chipset / Lucent modem chip set											
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / int microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in											
Security	Power-on password / hard disk password / supervisor password / security keyhole											
Limited warranty <sup>12</sup>	1 year - carry-in or ThinkPad EasyServ™ <sup>19</sup> depot repair service via courier											
Communication Bay												
- IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com	09N9774			-64MB SO DIMM 100MHz NP SDRAM			20L0254			Wired for Management 2.0		
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem	08K3124			-128MB SO DIMM 100MHz NP SDRAM			20L0255			Local and remote asset management via the IBM Universal Manageability solutions		
Ultrabay 2000 interchangeable accessories										IBM PC Lifecycle Care provides proactive life cycle management and transition planning tools		
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233			-6.0GB HDD			05K9237			ENERGY STAR compliant		
- 6X-2X DVD Ultrabay 2000 Drive	05K9232			-12.0GB HDD			05K9238			Setup Guide, User's Reference, Windows manual		
- Zip 250MB Ultrabay 2000 Drive	00N8253			-18.0GB HDD			05K9239			Asset ID™ wireless RF technology via replacing HDD access door		
- SuperDisk (LS-120) UltraBay 2000 Drive	05K9236			-20.0GB HDD			27L3439			Personalized Web-based support		
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252			- Second HDD Adapter for Ultrabay 2000			08K6068			International Warranty Service <sup>17</sup>		
- Ultrabay 2000 Li-Ion battery	02K6646			- Portable Drive Bay 2000			19K4480			IBM SystemXtra <sup>®20</sup>		
- Travel Bezel for Ultrabay 2000	08K6070			- ThinkPad Port Replicator (A and T Ser)			02K8667			24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty		
Wireless connectivity												
- IBM 802.11b Wireless LAN PC Card	09N9863			- ThinkPad Dock (A and T Series)			263110U					
- IBM 802.11b Wireless LAN Access Point	09N9865			- ThinkPad A Series Battery (9-cell)			02K6640					
				- ThinkPad 72W AC Adapter			02K6699					
				- IBM 340MB Microdrive			00N8073					
				- ThinkPad Monitor Stand 2000			00N8222					
				- Asset ID RF Adapter			08K6064					
				- IBM Multi-Port USB Hub			00N8215					

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 \* Linux preloaded model does not support most options and has other limitations<sup>25</sup>  
 Models withdrawn from marketing effective February 2001

No warranties are expressed or implied in this summary  
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# IBM® ThinkPad® A20p - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	DVD-ROM	Communica	Bay	Preload	Avail
2629-61U	Pentium III	700	128MB	15" SXGA+	18G <sup>5</sup>	6X-2X <sup>9</sup>	modem	98SE	May 00	
2629-62U	Pentium III	700	128MB	15" SXGA+	18G	6X-2X	modem	2000	May 00	
2629-6SU	Pentium III	700	128MB	15" SXGA+	18G	6X-2X	Intel <sup>®</sup> eth/modem	98SE	May 00	
2629-6TU	Pentium III	700	128MB	15" SXGA+	18G	6X-2X	Intel eth/modem	2000	May 00	
2629-6AU	Pentium III	750	128MB	15" SXGA+	20G	6X-2X	modem	98SE	Jun 00	
2629-6CU	Pentium III	750	128MB	15" SXGA+	20G	6X-2X	modem	2000	Jun 00	
2629-6UU	Pentium III	750	128MB	15" SXGA+	20G	6X-2X	Intel eth/modem	98SE	Jun 00	
2629-6VU	Pentium III	750	128MB	15" SXGA+	20G	6X-2X	Intel eth/modem	2000	Jun 00	
<b>Processor</b> Intel <sup>®</sup> Mobile Pentium <sup>®</sup> III 700 or 750MHz <sup>1</sup> with Intel SpeedStep <sup>™</sup> technology and 100MHz system bus <b>L2 cache</b> 256KB / onboard (at processor speed) / ECC <b>Memory</b> 128MB standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available <b>Diskette drive</b> 3.5" 1.44MB / not removable <b>DVD-ROM</b> DVD-ROM / 6X-2X <sup>9</sup> speed / bootable / removable from Ultrabay <sup>™</sup> 2000 <b>Ultrabay 2000</b> Modular bay for interchangeable devices / on all A and T Series, ThinkPad Dock <b>Disk (removable)</b> 18.0GB <sup>9</sup> / upgradeable / S.M.A.R.T. / supports 2nd disk in optional HDD adapter <b>Display</b> 15.0" (381mm) SXGA+ (1400x1050) TFT color / Active Matrix <b>Graphics controller</b> ATI Rage <sup>™</sup> Mobility 128 / AGP 2X / 16MB SDRAM / 128-bit path to memory <b>Graphics - external</b> Supports external digital monitor <sup>2</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions / DDC2B / external SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200 <b>Keyboard</b> ThinkPad Button / palm rest / TrackPoint <sup>®</sup> , Press-to-Select, Internet Scroll Bar <b>ThinkLight</b> Illuminates the keyboard to improve visibility in low-light conditions <b>UltraPort<sup>™</sup></b> UltraPort connector on top of display for options such as digital Ultraport Camera <b>Dimensions<sup>3</sup></b> Approximately 13.2 x 10.7 x 1.5-1.8"; 329mm x 268mm x 38.1-44.7mm <b>Approximate weight<sup>2</sup></b> with DVD drive and battery: 7.6 lb (3.45 kg) <b>Case material</b> Titanium Composite in the cover for enhanced strength <sup>4</sup> and a lightweight design <b>Battery - type</b> Lithium Ion 9-cell / intelligent / supports unique 2nd battery in Ultrabay 2000 <b>Battery - life<sup>10</sup></b> 4.3 hours <b>Charge time<sup>10</sup> - on / off</b> 2 to 3 hrs / 1.5 to 2.5 hrs <b>Architecture</b> Intel 440BX AGPset / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI <sup>®</sup> PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp) <b>Port replicator</b> ThinkPad Port Replicator <b>Docking Station</b> ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot) <b>PC Card Std slots</b> 2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video <b>Ports</b> USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) <b>Other features</b> 72 watt AC Adapter <b>Video in and out</b> S-video in and S-video out / two industry standard connectors / full MPEG-2 support / video out cable included (S-video to composite) <b>Communicatns Bay</b> Communications Bay with Mini PCI IIIb slot / customer accessible <b>Modem</b> Some models: 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent <sup>®</sup> chip set <b>Ethernet/modem</b> Some models: IBM 10/100 EtherJet <sup>™</sup> Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set <b>Audio support</b> PCI audio / SoundBlaster Pro <sup>™</sup> support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack <b>Security</b> Power-on password / hard disk password / supervisor password / security keyhole <b>Limited warranty<sup>12</sup></b> 3 year - carry-in or ThinkPad EasyServ <sup>™,19</sup> depot repair service via courier <b>Service options</b> Service. Upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										
<b>WINDOWS 98 PRELOAD<sup>14</sup></b> <ul style="list-style-type: none"> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> 98 Second Edition<sup>13</sup></li> <li>ThinkPad Utilities</li> <li>ThinkPad Assistant<sup>™</sup></li> <li>ConfigSafe<sup>®</sup></li> <li>IBM Update Connector<sup>™,15</sup></li> <li>Access ThinkPad II</li> <li>PC-Doctor<sup>™</sup></li> <li>Universal Manageability Services</li> <li>Mediamatics DVD Express</li> <li>MGI VideoWare III (video editing)</li> <li>Lotus<sup>®</sup> SmartSuite<sup>®</sup> Millennium CD</li> <li>Software Selections CD-ROM</li> <li>Recovery CD-ROM (Windows 98 SE)</li> <li>Recovery CD-ROM (Windows 95)</li> </ul>										
<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> <ul style="list-style-type: none"> <li>Windows 2000 Professional<sup>13</sup></li> <li>ThinkPad Utilities</li> <li>ThinkPad Assistant</li> <li>ConfigSafe<sup>®</sup></li> <li>IBM Update Connector</li> <li>Access ThinkPad II</li> <li>PC-Doctor</li> <li>Mediamatics DVD Express</li> <li>MGI VideoWare III (video editing)</li> <li>Lotus<sup>®</sup> SmartSuite<sup>®</sup> Millennium CD</li> <li>Software Selections CD-ROM</li> <li>Recovery CD-ROM (Windows 2000)</li> <li>Recovery CD-ROM (Windows NT)</li> </ul>										
The right bay (Ultrabay 2000) supports the following: <ul style="list-style-type: none"> <li>optional CD-ROM</li> <li>optional DVD drive</li> <li>optional Zip drive</li> <li>optional second battery</li> <li>optional SuperDisk (LS-120) drive</li> <li>optional CD-RW</li> <li>optional HDD adapter; for second disk</li> <li>optional travel bezel</li> <li>optional ThinkPad Proven<sup>™</sup> solutions<sup>16</sup></li> </ul>										
PC 99-compliant CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM PC Lifecycle Care provides proactive life cycle management and transition planning tools ENERGY STAR compliant Setup Guide, User's Reference, Windows manual Asset ID <sup>™</sup> wireless RF technology (via replacing HDD access door) IBM is planning to announce Bluetooth <sup>™</sup> wireless technology communications devices including a Bluetooth PC Card option and Bluetooth option for the ThinkPad UltraPort connector in the second half of 2000 Personalized Web-based support International Warranty Service <sup>17</sup> IBM SystemXtra <sup>®,20</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty										
<b>Communication Bay</b> - IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com 09N9774 - IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem 08K3124 <b>Ultrabay 2000 interchangeable accessories</b> - 24X-10X CD-ROM Ultrabay 2000 Drive 05K9233 - 6X-2X DVD Ultrabay 2000 Drive 05K9232 - SuperDisk (LS-120) Ultrabay 2000 Drive 05K9236 - 4X/4X/20X CD-Read/Write Ultrabay 2000 00N8252 - 250MB Zip Ultrabay 2000 Drive 00N8253 - Ultrabay 2000 Li-Ion battery 02K6646 - Travel Bezel for Ultrabay 2000 08K6070 <b>Wireless connectivity</b> - IBM 802.11b Wireless LAN PC Card 09N9863 - IBM 802.11b Wireless LAN Access Point 09N9865 - 64MB SO DIMM 100MHz NP SDRAM 20L0254 - 128MB SO DIMM 100MHz NP SDRAM 20L0255 - 256MB SO DIMM 100MHz NP SDRAM 33L3069 - IBM UltraPort Camera II 04P6135 - ThinkPad Port Replicator (A and T Ser) 02K8667 - ThinkPad Dock (A and T Series) 263110U - ThinkPad A Series Battery (9-cell) 02K6640 - ThinkPad 72W AC Adapter 02K6699 - Li-Ion Multiple Battery Charger 02K6643 - SmartCard Security Kit 33L5075 - Asset ID RF Adapter 08K6064 - ThinkPad Monitor Stand 2000 00N8222 <b>Interchangeable storage</b> - 6.0GB HDD 05K9237 - 12.0GB HDD 05K9238 - 18.0GB HDD 05K9239 - 20.0GB HDD 27L3439 - Second HDD Adapter for Ultrabay 2000 (to add a second disk, a Second HDD Adpr req) 08K6068 - Portable Drive Bay 2000 19K4480 - (accepts Ultrabay 2000 devices) - IBM 340MB Microdrive 00N8073										

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Models withdrawn from marketing effective February 2001

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# IBM® ThinkPad® A21e (2628) - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	CD	Comm Bay	Design	Modular bay	Preload	Avail	
2628-C1U	Celeron™	600	64MB	12.1" SVGA	10GB <sup>8</sup>	24X-10X <sup>9</sup> CD	modem	Three spindle	Ultrabay 2000	Windows 98 SE	Oct 00	
2628-CXU	Celeron	600	64MB	12.1" SVGA	10GB	24X-10X CD	3Com® eth/mod	Three spindle	Ultrabay 2000	Windows 98 SE	Oct 00	
2628-CSU	Celeron	600	64MB	12.1" SVGA	10GB	24X-10X CD	Intel® eth/mod	Three spindle	Ultrabay 2000	Windows 98SE	Nov 00	
2628-C2U	Celeron	600	64MB	12.1" SVGA	10GB	24X-10X CD	modem	Three spindle	Ultrabay 2000	Windows 2000	Oct 00	
2628-CYU	Celeron	600	64MB	12.1" SVGA	10GB	24X-10X CD	3Com eth/mod	Three spindle	Ultrabay 2000	Windows 2000	Oct 00	
2628-CTU	Celeron	600	64MB	12.1" SVGA	10GB	24X-10X CD	Intel eth/mod	Three spindle	Ultrabay 2000	Windows 2000	Nov 00	
2628-J1U	Celeron	600	64MB	15.0" XGA	10GB	24X-10X CD	modem	Three spindle	Ultrabay 2000	Windows 98 SE	Oct 00	
2628-JXU	Celeron	600	64MB	15.0" XGA	10GB	24X-10X CD	3Com eth/mod	Three spindle	Ultrabay 2000	Windows 98 SE	Oct 00	
2628-JSU	Celeron	600	64MB	15.0" XGA	10GB	24X-10X CD	Intel eth/mod	Three spindle	Ultrabay 2000	Windows 98 SE	Nov 00	
2628-J2U	Celeron	600	64MB	15.0" XGA	10GB	24X-10X CD	modem	Three spindle	Ultrabay 2000	Windows 2000	Oct 00	
2628-JWU	Celeron	600	64MB	15.0" XGA	10GB	24X-10X CD	3Com eth/mod	Three spindle	Ultrabay 2000	Windows 2000	Oct 00	
2628-JTU	Celeron	600	64MB	15.0" XGA	10GB	24X-10X CD	Intel eth/mod	Three spindle	Ultrabay 2000	Windows 2000	Nov 00	
2628-JAU	Celeron	700	64MB	15.0" XGA	20GB	24X-10X CD	modem	Three spindle	Ultrabay 2000	Windows 98 SE	Feb 01	
2628-JUU	Celeron	700	64MB	15.0" XGA	20GB	24X-10X CD	Intel eth/mod	Three spindle	Ultrabay 2000	Windows 98 SE	Feb 01	
2628-JCU	Celeron	700	64MB	15.0" XGA	20GB	24X-10X CD	modem	Three spindle	Ultrabay 2000	Windows 2000	Feb 01	
2628-JVU	Celeron	700	64MB	15.0" XGA	20GB	24X-10X CD	Intel eth/mod	Three spindle	Ultrabay 2000	Windows 2000	Feb 01	
Processor	<b>Intel® Mobile Celeron™ 600 or 700MHz<sup>1</sup> with 100MHz system bus</b>								<b>WINDOWS 98 PRELOAD<sup>14</sup></b>			
L2 cache	128KB / onboard (at processor speed) / ECC								- Microsoft® Windows® 98 Second Edition <sup>13</sup>			
Memory	<b>64MB</b> standard / 256MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available								• ThinkPad Utilities			
Diskette drive	<b>3.5" 1.44MB / not removable</b>								• ThinkPad Assistant™			
CD or DVD-ROM	Bootable / removable from Ultrabay™ 2000								• ConfigSafe®			
Ultrabay 2000	Modular bay for interchangeable devices								• IBM Update Connector™ <sup>15</sup>			
Disk (removable)	<b>10GB or 20GB</b> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter								• Access ThinkPad II			
Display	<b>12.1"</b> (307.3mm) <b>SVGA (800x600) TFT color</b> / Active Matrix								• PC-Doctor™			
	<b>15.0"</b> (381mm) <b>XGA (1024x768) TFT color</b> / Active Matrix								- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license			
Graphics controller	<b>ATI® Rage™ Mobility-M / PCI / 4MB</b> SDRAM / DDC2B								◇ Software Selections CD-ROM			
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200								◇ Recovery CD-ROM (Windows 98 SE)			
Keyboard	ThinkPad Button / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b>			
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions								- Windows 2000 Professional <sup>13</sup>			
UltraPort™ connectr	None								• ThinkPad Utilities			
Case material	<i>Color: black; Material: ABS plastic</i>								• ThinkPad Assistant			
Dimensions <sup>3</sup>	Cxx: approximately 12.7 x 10.7 x 1.47-1.73"; 317mm x 267.5mm x 36.7-43.3mm								• ConfigSafe®			
	Jxx: approximately 12.95 x 10.53 x 1.5-1.79"; 329mm x 268mm x 38.1-44.7mm								• IBM Update Connector			
Approximate weight <sup>2</sup>	with CD drive and battery: Cxx: 6.6 lb (3.0 kg) Jxx: 7.2 lb (3.3 kg)								• Access ThinkPad II			
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000								• PC-Doctor			
Battery - life <sup>10</sup>	3 hrs; JAU/JUU/JCU/JVU: 3.5 hrs								- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license			
Charge time <sup>10</sup> - on / off	2 to 3 hrs / 1.5 to 2.5 hrs								◇ Software Selections CD-ROM			
Architecture	<b>Intel 440MX</b> PCiset (82443MX) / combines Host Bridge and PIIX4 in single chip / TI <sup>6</sup>								◇ Recovery CD-ROM (Windows 2000)			
	PCI1410 for CardBus / PCI 2.1 / 32-bit / 33MHz (graphics, EIDE, CardBus, audio, USB) / PC97338 Super I/O / ISA (diskette, serial, parallel, ext exp)								◇ Recovery CD-ROM (Windows NT)			
Port replicator	Optional <b>ThinkPad Port Replicator</b>								The right bay (Ultrabay 2000) supports the following:			
Docking Station	<b>No support for ThinkPad Dock</b>								• standard or optional CD-ROM			
PC Card Std slots	1 Type I, 1 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video								• optional DVD drive			
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard/mouse / external DB-15 monitor / RJ-11 (modem) / RJ-45 (ethernet) / no infrared (4Mbps)								• optional Zip drive			
Other features	72 watt AC Adapter / no Asset ID™ wireless RF technology support								• optional second battery			
Video in and out	None								• optional SuperDisk (LS-120) drive			
Communicatns Bay	Communications Bay with <b>Mini PCI</b> IIIb slot / customer accessible								• optional CD-RW			
Modem	<i>Some models:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set								• optional HDD adapter; for second disk			
Ethernet/modem	<i>Some models:</i> IBM 10/100 Ethernet Mini PCI Adapter with 56K <sup>6</sup> Modem								• optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel)			
	3Com ethernet chipset / 3Com modem chip set											
	<i>Some models:</i> IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set											
Audio support	PCI audio / SoundBlaster Pro™ support / Intel 440MX AC97 audio support with CS4299 AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / no int microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack											
Security	Power-on password / hard disk password / supervisor password / security keyhole											
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service											
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											
Communication Bay					- 64MB SO DIMM 100MHz NP SDRAM 20L0254				PC 99-compliant			
- IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com	09N9774				- 128MB SO DIMM 100MHz NP SDRAM 20L0255				CIM and DMI 2.0 compliant			
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem	19K5887				- 10GB HDD 08K9510				Wired for Management 2.0			
Ultrabay 2000 interchangeable accessories					- 20GB HDD 27L3439				Local and remote asset management via the IBM Universal Manageability solutions			
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233				- 32GB HDD 08K9511				IBM PC Lifecycle Care <sup>21</sup> provides proactive life cycle management and transition planning tools			
- 8X-2X DVD Ultrabay 2000 Drive	27L3448				- Second HDD Adapter for Ultrabay 2000 08K6068				ENERGY STAR compliant			
- Zip 250MB Ultrabay 2000 Drive	00N8253				- Portable Drive Bay 2000 19K4480				Setup Guide, User's Reference, Windows manual			
- 2X SuperDisk (LS-120) UltraBay 2000	27L3451				(accepts all Ultrabay 2000 storage devices)				Personalized Web-based support			
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252				- ThinkPad Port Replicator 02K8667				International Warranty Service <sup>17</sup>			
- Ultrabay 2000 Li-Ion battery	02K6646				- Multiple Li-Ion/NiMH Battery Charger 02K6719				IBM SystemXtra <sup>20</sup>			
- Travel Bezel for Ultrabay 2000	08K6070				- ThinkPad A Series Battery (9-cell) 02K6640				24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty			
Wireless connectivity					- ThinkPad 72W AC Adapter 02K6699							
- IBM H Rate Wireless LAN PC Card 128	09N9904				- IBM 340MB Microdrive 00N8073							
- IBM Wireless LAN Access Point 500	09N9906				- ThinkPad Monitor Stand 2000 00N8222							
					- IBM Multi-Port USB Hub 00N8215							

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 © Announced February 6, 2001  
 Models withdrawn effective July 2001

No warranties are expressed or implied in this summary  
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# IBM® ThinkPad® A21e (2655) - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	CD	Communications	Bay Design	Modular bay	Preload	Avail
2655-21U	Celeron™	650	64MB	12.1" SVGA	20GB <sup>8</sup>	24X-10X <sup>9</sup> CD	modem	Two spindle	Ultrabay™ 2000	Windows® 98 SE	Mar 01
2655-71U	Celeron	650	64MB	12.1" SVGA	20GB	24X-10X CD	modem	Two spindle	Ultrabay 2000	Windows 2000	Mar 01
2655-23U	Celeron	650	64MB	12.1" SVGA	20GB	24X-10X CD	Intel® eth/mod	Two spindle	Ultrabay 2000	Windows 98 SE	Mar 01
2655-73U	Celeron	650	64MB	12.1" SVGA	20GB	24X-10X CD	Intel eth/mod	Two spindle	Ultrabay 2000	Windows 2000	Mar 01
2655-41U	Celeron	700	64MB	14.1" XGA	20GB	24X-10X CD	modem	Two spindle	Ultrabay 2000	Windows 98 SE	Mar 01
2655-91U	Celeron	700	64MB	14.1" XGA	20GB	24X-10X CD	modem	Two spindle	Ultrabay 2000	Windows 2000	Mar 01
2655-43U	Celeron	700	64MB	14.1" XGA	20GB	24X-10X CD	Intel eth/mod	Two spindle	Ultrabay 2000	Windows 98 SE	Mar 01
2655-93U	Celeron	700	64MB	14.1" XGA	20GB	24X-10X CD	Intel eth/mod	Two spindle	Ultrabay 2000	Windows 2000	Mar 01

Processor	<b>Intel® Mobile Celeron™ 650 or 700MHz<sup>1</sup> with 100MHz system bus</b>						<b>WINDOWS 98 PRELOAD<sup>14</sup></b>					
L2 cache	<b>128KB</b> / onboard (at processor speed) / ECC						- Microsoft® Windows® 98 Second Edition <sup>13</sup>					
Memory	<b>64MB</b> standard / 256MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available						• ThinkPad Utilities					
Diskette drive	None standard / optional USB Portable Diskette Drive or Ultrabay 2000 diskette drive						• ThinkPad Assistant™					
CD or DVD-ROM	Bootable / removable from Ultrabay™ 2000						• ConfigSafe®					
Ultrabay 2000	Modular bay for interchangeable devices / cold (system off) swap only						• IBM Update Connector™ <sup>15</sup>					
Disk (removable)	<b>20GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter						• Access ThinkPad II					
Display	<b>12.1"</b> (307.3mm) <b>SVGA (800x600) TFT color</b> / Active Matrix						• PC-Doctor™					
	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix						- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license					
Graphics controller	<b>ATI® Rage™ Mobility-M / PCI / 4MB</b> SDRAM / DDC2B						◇ Software Selections CD-ROM					
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200						◇ Recovery CD-ROM (Windows 98 SE)					
Keyboard	ThinkPad Button / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar						◇ Disk-to-Disk Recovery (in hidden Service Partition)					
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions						<b>WINDOWS 2000 PRELOAD<sup>14</sup></b>					
UltraPort™ connectr	None						- Windows 2000 Professional <sup>13</sup>					
Case material	<i>Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic</i>						• ThinkPad Utilities					
Dimensions <sup>3</sup>	Approximately 12.0 x 10.4 x 1.4"; 305mm x 254mm x 35.6mm						• ThinkPad Assistant					
Approximate weight <sup>2</sup>	with battery and optional travel bezel in Ultrabay 2000: 12.1" models: 5.7 lb (2.59 kg); 14.1" models: 5.8 lb (2.62 kg)						• ConfigSafe®					
Battery - type	NiMH 7-cell / intelligent / supports optional Li-Ion battery / does not support any battery in Ultrabay 2000						• IBM Update Connector					
Battery - life <sup>10</sup>	2.5 hrs (NiMH 7-cell) / 3.0 hrs with optional Li-Ion						• Access ThinkPad II					
Charge time <sup>10</sup> - on / off	3.2 to 6 hrs / 3.2 hrs						• PC-Doctor					
Architecture	<b>Intel 440MX</b> PCiSet (82443MX) / combines Host Bridge and PIIX4 in single chip / TI <sup>6</sup> PCI1410 for CardBus / PCI 2.1 / 32-bit / 33MHz (graphics, EIDE, CardBus, audio, USB) / PC97338 Super I/O / ISA (serial, parallel, external expansion)						- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license					
Port replicator	Optional <b>ThinkPad Port Replicator</b>						◇ Software Selections CD-ROM					
Docking Station	No support for ThinkPad Dock						◇ Recovery CD-ROM (Windows 2000)					
PC Card Std slots	1 Type I, 1 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video						◇ Recovery CD-ROM (Windows NT)					
Ports	One USB (Version 1.1) / one serial (9 pin) / parallel / external DB-15 monitor / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or infrared						◇ Disk-to-Disk Recovery (in hidden Service Partition)					
Other features	72 watt AC Adapter / no Asset ID™ wireless RF technology support											
Video in and out	None						The right bay (Ultrabay 2000) supports the following:					
Communicatns Bay	Communications Bay with Mini PCI IIIa slot / customer accessible						• standard or optional CD-ROM					
Modem	<i>Some models:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set						• optional DVD drive					
Ethernet/modem	<i>Some models:</i> IBM 10/100 EtherJet™ Mini PCI Adapter with 56K <sup>6</sup> Modem / Intel ethernet chipset / Lucent modem chip set						• optional Zip drive					
Audio support	PCI audio / SoundBlaster Pro™ support / Intel 440MX AC97 audio support with CS4299 AC97 codec / mono speaker / 1.5 watt / volume up, down, mute buttons above keyboard						• optional SuperDisk (LS-240) drive					
Audio jacks	Input jack (3.5 mm) / output jack (3.5 mm) / line in jack / no internal microphone						• optional CD-RW					
Security	Power-on password / hard disk password / supervisor password / security keyhole						• optional HDD adapter; for second disk					
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service						• optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel)					
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)						• no support for battery on the A21e 2655					
							• optional diskette					
<b>Options</b>							PC 99-compliant					
64MB SO DIMM 100MHz NP SDRAM	20L0254						PXE 2.0-compliant					
128MB SO DIMM 100MHz NP SDRAM	20L0255						Wired for Management (WfM) 2.0					
256MB SO DIMM 100MHz NP SDRAM	33L3069						Local and remote asset management via the IBM Universal Manageability solutions					
ThinkPad Removable Diskette Drive	08K9603						IBM PC Lifecycle Care <sup>21</sup> provides proactive life cycle management and transition planning tools					
SuperDisk (LS-240) UltraBay 2000 Drive	08K9616						ENERGY STAR compliant					
Zip 250MB Ultrabay 2000 Drive	00N8253						Setup Guide, User's Reference, Windows manual					
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233						Personalized Web-based support					
8X/4X/24X CD-RW Ultrabay 2000 Drive	08K9569						International Warranty Service <sup>17</sup>					
8X-2X DVD Ultrabay 2000 Drive	27L3448						IBM SystemXtra® <sup>20</sup>					
CD-RW/DVD Combo Ultrabay 2000 Drive	08K9572						24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty					
Travel Bezel for Ultrabay 2000	08K6070											
Second HDD Adapter for Ultrabay 2000	08K6068											
15GB HDD	08K9588											
30GB HDD	08K9593											
32GB HDD*	08K9511											
	* Supported in Ultrabay 2000 only. Requires HDD adapter 08K6068											

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Models withdrawn effective September 2001

No warranties are expressed or implied in this summary  
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# IBM® ThinkPad® A21m - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	CD or DVD	CommunicaBay	Preload	Avail	
2628-D1U	Pentium III	700	64MB	12.1" SVGA	10GB <sup>8</sup> 24X-10X <sup>9</sup> CD	modem	98SE	Sep 00		
2628-D2U	Pentium III	700	64MB	12.1" SVGA	10GB 24X-10X CD	modem	2000	Sep 00		
2628-DXU	Pentium III	700	64MB	12.1" SVGA	10GB 24X-10X CD	3Com <sup>®</sup> eth/mod	98SE	Sep 00		
2628-DWU	Pentium III	700	64MB	12.1" SVGA	10GB 24X-10X CD	3Com eth/mod	2000	Sep 00		
2628-E1U	Pentium III	700	64MB	14.1" XGA	10GB 8X-2X <sup>9</sup> DVD	modem	98SE	Sep 00		
2628-E2U	Pentium III	700	64MB	14.1" XGA	10GB 8X-2X DVD	modem	2000	Sep 00		
2628-EXU	Pentium III	700	64MB	14.1" XGA	10GB 8X-2X DVD	3Com <sup>®</sup> eth/mod	98SE	Sep 00		
2628-EWU	Pentium III	700	64MB	14.1" XGA	10GB 8X-2X DVD	3Com eth/mod	2000	Sep 00		
2628-F1U	Pentium III	750	64MB	15.0" XGA	20GB 24X-10X CD	modem	98SE	Sep 00		
2628-F2U	Pentium III	750	64MB	15.0" XGA	20GB 24X-10X CD	modem	2000	Sep 00		
2628-FXU	Pentium III	750	64MB	15.0" XGA	20GB 24X-10X CD	3Com eth/mod	98SE	Sep 00		
2628-FWU	Pentium III	750	64MB	15.0" XGA	20GB 24X-10X CD	3Com eth/mod	2000	Sep 00		
2628-G1U	Pentium III	800	64MB	14.1" XGA	20GB 8X-2X DVD	modem	98SE	Sep 00		
2628-G2U	Pentium III	800	64MB	14.1" XGA	20GB 8X-2X DVD	modem	2000	Sep 00		
2628-GSU	Pentium III	800	64MB	14.1" XGA	20GB 8X-2X DVD	Intel <sup>®</sup> eth/mod	98SE	Sep 00		
2628-GTU	Pentium III	800	64MB	14.1" XGA	20GB 8X-2X DVD	Intel eth/mod	2000	Sep 00		
2628-GXU	Pentium III	800	64MB	14.1" XGA	20GB 8X-2X DVD	3Com eth/mod	98SE	Sep 00		
2628-GWU	Pentium III	800	64MB	14.1" XGA	20GB 8X-2X DVD	3Com eth/mod	2000	Sep 00		
2628-GLU*	Pentium III	800	128M	14.1" XGA	20GB 8X-2X DVD	modem	Linux <sup>®</sup>	Oct 00		
Processor	<b>Intel<sup>®</sup> Pentium<sup>®</sup> III 700, 750, or 800MHz<sup>1,2,4</sup> with SpeedStep<sup>™</sup> technology and 100MHz system bus</b>									
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC									
Memory	<b>64 or 128MB</b> standard / 512MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available									
Diskette drive	3.5" 1.44MB / not removable									
CD or DVD-ROM	Bootable / removable from Ultrabay <sup>™</sup> 2000 (modular bay)									
Disk (removable)	<b>10 or 20GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter									
Display	<b>12.1"</b> (307.3mm) <b>SVGA (800x600) TFT color</b> / Active Matrix <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix <b>15.0"</b> (381mm) <b>XGA (1024x768) TFT color</b> / Active Matrix									
Graphics controller	<i>Dxx/Exx models:</i> <b>ATI<sup>®</sup> Rage<sup>™</sup> Mobility M / AGP 2X / 4MB SDRAM / DDC2B</b> <i>Fxx/Gxx models:</i> <b>ATI Rage Mobility M1 / AGP 2X / 8MB SDRAM / DDC2B</b>									
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200									
Keyboard	ThinkPad Button / palm rest / TrackPoint <sup>®</sup> , Press-to-Select, Internet Scroll Bar									
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions									
UltraPort <sup>™</sup> connectr	None									
Cover	IBM ThinkPad UltraCarbon <sup>™</sup> case									
Dimensions <sup>3</sup>	<i>Dxx/Exx/Gxx:</i> approximately 12.7 x 10.7 x 1.47-1.73"; 317 x 267.5 x 36.7-43.3mm <i>Fxx:</i> approximately 13.2 x 10.7 x 1.5-1.79"; 329 x 267.5 x 38.1-44.7mm									
Approximate weight <sup>2</sup>	with CD or DVD drive and battery: <i>Dxx:</i> 6.3 lb, <i>Exx:</i> 6.6 lb, <i>Fxx:</i> 7.0 lb, <i>Gxx:</i> 6.8 lb									
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000									
Battery - life <sup>10</sup>	3.5 hrs									
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIx4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI <sup>®</sup> PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)									
Port replicator	Optional <b>ThinkPad Port Replicator</b>									
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)									
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video									
Ports	USB: (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)									
Video in and out	<i>Fxx/Gxx:</i> S-Video out (no S-Video in)									
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible									
Modem	<i>Some models:</i> 56K <sup>®</sup> V.90 Mini PCI modem card / Lucent <sup>®</sup> chip set									
Ethernet/modem	<i>Some models:</i> IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com (3Com ethernet chipset / 3Com modem chip set) <i>Some models:</i> IBM 10/100 EtherJet <sup>™</sup> Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set									
Audio support	PCI audio / SoundBlaster Pro <sup>™</sup> support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / int microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in									
Security	Power-on password / hard disk password / supervisor password / security keyhole									
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ <sup>™,19</sup> onsite pickup and delivery courier service									
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)									
Communication Bay										
- IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com			09N9774		- 64MB SO DIMM 100MHz NP SDRAM		20L0254			
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem			19K5887		- 128MB SO DIMM 100MHz NP SDRAM		20L0255			
Ultrabay 2000 interchangeable accessories					- 256MB SO DIMM 100MHz NP SDRAM		33L3069			
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233				- 10GB HDD		08K9510			
- 8X-2X DVD Ultrabay 2000 Drive	27L3448				- 20GB HDD		27L3439			
- Zip 250MB Ultrabay 2000 Drive	00N8253				- 32GB HDD		08K9511			
- 2X SuperDisk (LS-120) UltraBay 2000	27L3451				- Second HDD Adapter for Ultrabay 2000		08K6068			
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252				- Portable Drive Bay 2000 (accepts all Ultrabay 2000 storage devices)		19K4480			
- Ultrabay 2000 Li-Ion battery	02K6646				- ThinkPad Port Replicator		02K8667			
- Travel Bezel for Ultrabay 2000	08K6070				- ThinkPad Dock		263110U			
Wireless connectivity					- ThinkPad A Series Battery (9-cell)		02K6640			
- IBM High Rate Wireless LAN PC Card	09N9863				- ThinkPad 72W AC Adapter		02K6699			
- IBM H Rate Wireless LAN Access Point	9085NA2				- IBM 340MB Microdrive		00N8073			
					- ThinkPad Monitor Stand 2000		00N8222			
					- Asset ID RF Adapter		08K6064			
					- IBM Multi-Port USB Hub		00N8215			

## WINDOWS 98 PRELOAD<sup>14</sup>

- Microsoft<sup>®</sup> Windows<sup>®</sup> 98 Second Edition<sup>13</sup>
- ThinkPad Utilities
- ThinkPad Assistant<sup>™</sup>
- ConfigSafe<sup>®</sup>
- IBM Update Connector<sup>™,15</sup>
- Access ThinkPad II
- PC-Doctor<sup>™</sup>
- Lotus<sup>®</sup> SmartSuite<sup>®</sup> Millennium and Lotus Notes<sup>®</sup> Client 5.0 license
- ✦ Software Selections CD-ROM
- ✦ Recovery CD-ROM (Windows 98 SE)

## WINDOWS 2000 PRELOAD<sup>14</sup>

- Windows 2000 Professional<sup>13</sup>
- ThinkPad Utilities
- ThinkPad Assistant
- ConfigSafe<sup>®</sup>
- IBM Update Connector
- Access ThinkPad II
- PC-Doctor
- Lotus<sup>®</sup> SmartSuite<sup>®</sup> Millennium and Lotus Notes<sup>®</sup> Client 5.0 license
- ✦ Software Selections CD-ROM
- ✦ Recovery CD-ROM (Windows 2000)
- ✦ Recovery CD-ROM (Windows NT)

## LINUX PRELOAD<sup>14</sup>

- Caldera<sup>®</sup> OpenLinux<sup>™</sup> eDesktop 2.4
  - Access ThinkPad II
  - StarOffice
  - Netscape Communicator
  - ✦ OpenLinux eDesktop CD-ROM
  - ✦ Recovery CD-ROM
- The right bay (Ultrabay 2000) supports the following:
- standard or optional CD-ROM
  - standard or optional DVD drive
  - optional Zip drive
  - optional second battery
  - optional SuperDisk (LS-120) drive
  - optional CD-RW
  - optional HDD adapter; for second disk
  - optional ThinkPad Proven<sup>™</sup> solutions<sup>16</sup> (such as Travel Bezel)

All trademarks are the property of their respective owners  
 \* Linux preloaded model does not support most options and has other limitations<sup>25</sup>  
 Models withdrawn effective April 2001 or July 2001

No warranties are expressed or implied in this summary  
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Type-model	Processor	MHz	Mem	Screen	Disk	CD or DVD	Communications Bay	Preload	Available
2628-DSU	Pentium III	700	64MB	12.1" SVGA	10GB <sup>8</sup>	24X-10X <sup>9</sup> CD	Intel® ethernet/modem	Windows 98 SE	Nov 2000
2628-DTU	Pentium III	700	64MB	12.1" SVGA	10GB	24X-10X CD	Intel ethernet/modem	Windows 2000	Nov 2000
2628-ESU	Pentium III	700	64MB	14.1" XGA	10GB	8X-2X <sup>9</sup> DVD	Intel ethernet/modem	Windows 98 SE	Nov 2000
2628-ETU	Pentium III	700	64MB	14.1" XGA	10GB	8X-2X DVD	Intel ethernet/modem	Windows 2000	Nov 2000
2628-FSU	Pentium III	750	64MB	15.0" XGA	20GB	24X-10X CD	Intel ethernet/modem	Windows 98 SE	Nov 2000
2628-FTU	Pentium III	750	64MB	15.0" XGA	20GB	24X-10X CD	Intel ethernet/modem	Windows 2000	Nov 2000
2628-G6U	Pentium III	800	64MB	14.1" XGA	20GB	8X-2X DVD	modem	Windows 98 SE, Small Business	Mar 2001
2628-G8U	Pentium III	800	64MB	14.1" XGA	20GB	8X-2X DVD	Intel ethernet/modem	Windows 98 SE, Small Business	Mar 2001
2628-G7U	Pentium III	800	64MB	14.1" XGA	20GB	8X-2X DVD	modem	Windows 2000, Small Business	Mar 2001
2628-G9U	Pentium III	800	64MB	14.1" XGA	20GB	8X-2X DVD	Intel ethernet/modem	Windows 2000, Small Business	Mar 2001

Processor	<b>Intel® Pentium® III 700, 750, or 800MHz<sup>1</sup> with SpeedStep™ technology and 100MHz system bus</b>	<b>WINDOWS 98 PRELOAD<sup>14</sup></b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business (Word, Excel, Outlook, Publisher, Small Business Tools) preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™,™15 • Access ThinkPad II • PC-Doctor™ - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 98 SE)
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC	
Memory	<b>64MB</b> standard / 512MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available	
Diskette drive	3.5" 1.44MB / not removable	
CD or DVD-ROM	Bootable / removable from Ultrabay™ 2000 (modular bay)	
Disk (removable)	<b>10 or 20GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter	
Display	<b>12.1"</b> (307.3mm) <b>SVGA (800x600) TFT color</b> / Active Matrix <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix <b>15.0"</b> (381mm) <b>XGA (1024x768) TFT color</b> / Active Matrix	
Graphics controller	<i>Dxx/Exx models:</i> <b>ATI® Rage™ Mobility M / AGP 2X / 4MB SDRAM / DDC2B</b> <i>Fxx/Gxx models:</i> <b>ATI Rage Mobility M1 / AGP 2X / 8MB SDRAM / DDC2B</b>	
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200	
Keyboard	ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar	
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions	
UltraPort™ connect	None	
Cover	IBM ThinkPad UltraCarbon™ case	
Dimensions <sup>3</sup>	<i>Dxx/Exx/Gxx:</i> approximately 12.7 x 10.7 x 1.47-1.73"; 317 x 267.5 x 36.7-43.3mm <i>Fxx:</i> approximately 13.2 x 10.7 x 1.5-1.79"; 329 x 267.5 x 38.1-44.7mm	
Approximate weight <sup>2</sup>	with CD or DVD drive and battery: <i>Dxx:</i> 6.3 lb, <i>Exx/Gxx:</i> 6.6 lb, <i>Fxx:</i> 7.0 lb	
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000	
Battery - life <sup>10</sup>	3.5 to 3.7 hours	
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIx4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)	
Port replicator	Optional <b>ThinkPad Port Replicator</b>	
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)	
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video	
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)	
Video in and out	<i>Fxx/Gxx:</i> S-Video out (no S-Video in)	
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible	
Ethernet/modem	IBM 10/100 EtherJet™ Mini PCI Adapter with 56K <sup>6</sup> Modem / Intel ethernet chipset / Lucent® modem chip set	
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / int microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in	
Security	Power-on password / hard disk password / supervisor password / security keyhole	
Limited warranty* <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service	
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)	

The right bay (Ultrabay 2000) supports the following:

- standard or optional CD-ROM
- standard or optional DVD drive
- optional Zip drive
- optional second battery
- optional SuperDisk (LS-120) drive
- optional CD-RW
- optional HDD adapter; for second disk
- optional ThinkPad Proven™ solutions<sup>16</sup> (such as Travel Bezel)

Communication Bay		
- IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com	09N9774	- 64MB SO DIMM 100MHz NP SDRAM 20L0254
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem	19K5887	- 128MB SO DIMM 100MHz NP SDRAM 20L0255
Ultrabay 2000 interchangeable accessories		- 256MB SO DIMM 100MHz NP SDRAM 33L3069
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	- 10GB HDD 08K9510
- 8X-2X DVD Ultrabay 2000 Drive	27L3448	- 20GB HDD 27L3439
- Zip 250MB Ultrabay 2000 Drive	00N8253	- 32GB HDD 08K9511
- 2X SuperDisk (LS-120) UltraBay 2000	27L3451	- Second HDD Adapter for Ultrabay 2000 08K6068
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252	- Portable Drive Bay 2000 19K4480
- Ultrabay 2000 Li-Ion battery	02K6646	(accepts all Ultrabay 2000 storage devices)
- Travel Bezel for Ultrabay 2000	08K6070	- ThinkPad Port Replicator 02K8667
Wireless connectivity		- ThinkPad Dock 263110U
- IBM High Rate Wireless LAN PC Card	09N9863	- ThinkPad A Series Battery (9-cell) 02K6640
- IBM H Rate Wireless LAN Access Point	9085NA2	- ThinkPad 72W AC Adapter 02K6699
		- IBM 340MB Microdrive™ 00N8073
		- ThinkPad Monitor Stand 2000 00N8222
		- Asset ID RF Adapter 08K6064
		- IBM Multi-Port USB Hub 00N8215

72 watt AC Adapter  
PC 99-compliant  
CIM and DMI 2.0 compliant  
Wired for Management 2.0  
Local and remote asset management via the IBM Universal Manageability solutions  
IBM ImageUltra Services available  
IBM Rapid Restore PC available to protect software image and data  
Setup Guide, User's Reference, Windows manual  
Asset ID™ wireless RF technology via replacing HDD access door  
Personalized Web-based support  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
US models announced March 1, 2001  
US models withdrawn effective April 2001 or April 2002

No warranties are expressed or implied in this summary  
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# IBM® ThinkPad® A21p - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	DVD	Communication	Bay	Preload	Avail
2629-H1U	Pentium® III	850	128MB	15" UXGA	32GB <sup>8</sup> 8X-2X <sup>9</sup>		modem		98 SE	Sept 00
2629-HXU	Pentium III	850	128MB	15" UXGA	32GB 8X-2X		3Com <sup>®</sup> eth/modem		98 SE	Sept 00
2629-HSU	Pentium III	850	128MB	15" UXGA	32GB 8X-2X		Intel <sup>®</sup> eth/modem		98 SE	Nov 00
2629-H2U	Pentium III	850	128MB	15" UXGA	32GB 8X-2X		modem		2000	Sept 00
2629-HWU	Pentium III	850	128MB	15" UXGA	32GB 8X-2X		3Com eth/modem		2000	Sept 00
2629-HTU	Pentium III	850	128MB	15" UXGA	32GB 8X-2X		Intel eth/modem		2000	Nov 00
Processor	<b>Intel® Mobile Pentium® III 850MHz<sup>1</sup> with Intel SpeedStep™ technology and 100MHz system bus</b>									
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC									
Memory	<b>128MB</b> standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available									
Diskette drive	3.5" 1.44MB / not removable									
DVD-ROM	DVD-ROM / 8X-2X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000									
Ultrabay 2000	Modular bay for interchangeable devices									
Disk (removable)	<b>32GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports 2nd disk in optional HDD adapter									
Display	<b>15.0"</b> (381mm) <b>UXGA (1600x1200) TFT color</b> / Active Matrix									
Graphics controller	<b>ATI® Rage™ Mobility 128 / AGP 2X / 16MB</b> SGRAM / 128-bit path to memory									
Graphics - external	Supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions / DDC2B / external SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200									
Keyboard	<b>ThinkPad Button</b> / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar									
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions									
UltraPort™	UltraPort connector on top of display for options such as digital Ultraport Camera									
Case material	Titanium Composite in the cover for enhanced strength <sup>4</sup> and a lightweight design									
Dimensions <sup>3</sup>	Approximately 13.2 x 10.7 x 1.5-1.79"; 329mm x 267.5mm x 38.1-44.7mm									
Approximate weight <sup>2</sup>	with DVD drive and battery: 7.6 lb (3.45 kg)									
Battery - type	Lithium Ion 9-cell / intelligent / supports unique 2nd battery in Ultrabay 2000									
Battery - life <sup>10</sup>	4 hours									
Charge time <sup>10</sup> - on / off	2 to 3 hrs / 1.5 to 2.5 hrs									
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI <sup>®</sup> PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)									
Port replicator	Optional <b>ThinkPad Port Replicator</b>									
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)									
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video									
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)									
Other features	72 watt AC Adapter									
Video in and out	S-video in and S-video out / two industry standard connectors / full MPEG-2 support / video out cable included (S-video to composite)									
Communicatns Bay	Communications Bay with Mini PCI III slot / customer accessible									
Modem	<i>Some models:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent <sup>®</sup> chip set									
Ethernet/modem	<i>Some models:</i> IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem (3Com ethernet chipset / 3Com modem chip set)									
	<i>Some models:</i> IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set									
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack									
Security	Power-on password / hard disk password / supervisor password / security keyhole									
Limited warranty <sup>12</sup>	<b>3 years</b> - EasyServ™.19 onsite pickup and delivery courier service									
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)									
- UltraPort Array Microphone	09N4178	- 64MB SO DIMM 100MHz NP SDRAM	20L0254							
- UltraPort Compact Flash Reader	19K4510	- 128MB SO DIMM 100MHz NP SDRAM	20L0255							
- IBM IEEE 1394 CardBus Card	19K5679	- 256MB SO DIMM 100MHz NP SDRAM	33L3069							
- IBM 1GB Microdrive	07N5574	- IBM UltraPort Camera II	04P6135							
Communication Bay		- ThinkPad Port Replicator	02K8667							
- IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem by 3Com	09N9774	- ThinkPad Dock*	263110U							
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem	19K5887	- ThinkPad A Series Battery (9-cell)	02K6640							
Ultrabay 2000 interchangeable accessories		- ThinkPad 72W AC Adapter	02K6699							
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	- Multiple Li-Ion/MiMH Battery Charger	02K6719							
- 8X-2X DVD Ultrabay 2000 Drive	27L3448	- Li-Ion Multiple Battery Charger	02K6643							
- 2X SuperDisk (LS-120) Ultrabay 2000	27L3451	- SmartCard Security Kit	33L5075							
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252	- Asset ID RF Adapter	08K6064							
- 250MB Zip Ultrabay 2000 Drive	00N8253	- ThinkPad Monitor Stand 2000	00N8222							
- Ultrabay 2000 Li-Ion battery	02K6646	Interchangeable storage								
- Travel Bezel for Ultrabay 2000	08K6070	- 10.0GB HDD	08K9510							
Wireless connectivity		- 20.0GB HDD	27L3439							
- IBM High Rate Wireless LAN PC Card	09N9863	- 32.0GB HDD	08K9511							
- IBM H Rate Wireless LAN Access Point	9085NA2	- Second HDD Adapter for Ultrabay 2000 (to add a second disk, a Second HDD Adpr req)	08K6068							
- Bluetooth PC Card (available 4Q 2000)	09N9812	- Portable Drive Bay 2000*	19K4480							
		- IBM 340MB Microdrive	00N8073							
		* accepts Ultrabay 2000 storage devices								

## WINDOWS 98 PRELOAD<sup>14</sup>

- Microsoft® Windows® 98 Second Edition<sup>13</sup>
- ThinkPad Utilities
- ThinkPad Assistant™
- ConfigSafe®
- IBM Update Connector™.15
- Access ThinkPad II
- PC-Doctor™
- Mediamatics DVD Express
- MGI VideoWare III (video editing)
- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license
- ✦ Software Selections CD-ROM
- ✦ Recovery CD-ROM (Windows 98 SE)

## WINDOWS 2000 PRELOAD<sup>14</sup>

- Windows 2000 Professional<sup>13</sup>
- ThinkPad Utilities
- ThinkPad Assistant
- ConfigSafe®
- IBM Update Connector
- Access ThinkPad II
- PC-Doctor
- Mediamatics DVD Express
- MGI VideoWare III (video editing)
- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license
- ✦ Software Selections CD-ROM
- ✦ Recovery CD-ROM (Windows 2000)
- ✦ Recovery CD-ROM (Windows NT)

- The right bay (Ultrabay 2000) supports the following:
- standard or optional CD-ROM
  - standard or optional DVD drive
  - optional Zip drive
  - optional second battery
  - optional SuperDisk (LS-120) drive
  - optional CD-RW
  - optional HDD adapter; for second disk
  - optional travel bezel
  - optional ThinkPad Proven™ solutions<sup>16</sup>

- PC 99-compliant  
 CIM and DMI 2.0 compliant  
 Wired for Management 2.0  
 Local and remote asset management via the IBM Universal Manageability solutions  
 IBM PC Lifecycle Care<sup>21</sup> provides proactive life cycle management and transition planning tools  
 ENERGY STAR compliant  
 Setup Guide, User's Reference, Windows manual  
 Asset ID™ wireless RF technology (via replacing HDD access door)  
 Personalized Web-based support  
 International Warranty Service<sup>17</sup>  
 IBM SystemXtra<sup>20</sup>  
 24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty

All trademarks are the property of their respective owners  
 US models withdrawn from marketing effective May 2001

No warranties are expressed or implied in this summary  
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# IBM® ThinkPad® A22e - withdrawn

Type-model	Processor	MHz	Mem	Screen	Graphics	Disk	CD	Comm Bay	Design	Modular bay	Preload	Available
2655-25U	Celeron™	800	64MB	13.1" XGA	ATI®	15GB <sup>8</sup>	24X-10X <sup>9</sup>	Modem	Two spindle	Ultrabay™ 2000	Windows® 98 SE	Jun 2001
2655-75U	Celeron	800	64MB	13.1" XGA	ATI	15GB	24X-10X	Modem	Two spindle	Ultrabay 2000	Windows 2000	Jun 2001
2655-27U	Celeron	800	64MB	13.1" XGA	ATI	15GB	24X-10X	Intel® eth/mod	Two spindle	Ultrabay 2000	Windows 98 SE	Jun 2001
2655-77U	Celeron	800	64MB	13.1" XGA	ATI	15GB	24X-10X	Intel eth/mod	Two spindle	Ultrabay 2000	Windows 2000	Jun 2001
2655-45U	Pentium® III	850	64MB	13.1" XGA	S3®	30GB	24X-10X	Modem	Two spindle	Ultrabay 2000	Windows 98 SE	Jun 2001
2655-95U	Pentium III	850	64MB	13.1" XGA	S3	30GB	24X-10X	Modem	Two spindle	Ultrabay 2000	Windows 2000	Jun 2001
2655-47U	Pentium III	850	64MB	13.1" XGA	S3	30GB	24X-10X	Intel eth/mod	Two spindle	Ultrabay 2000	Windows 98 SE	Jun 2001
2655-97U	Pentium III	850	64MB	13.1" XGA	S3	30GB	24X-10X	Intel eth/mod	Two spindle	Ultrabay 2000	Windows 2000	Jun 2001

Processor	<b>Intel® Mobile Celeron™ 800 or 850MHz<sup>1</sup> with 100MHz Front Side Bus or Intel Mobile Pentium® III 850MHz with Speedstep™ Technology with 100MHz Front Side Bus</b>	<b>OPERATING SYSTEM PRELOAD<sup>14,27</sup></b> <b>Windows 98 models</b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> ✦ Disk-to-Disk Recovery (in hidden Service Partition) <b>Windows 2000 models</b> - Windows 2000 Professional ✦ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition)		
L2 cache	<i>Celeron:</i> <b>128KB</b> / onboard (at processor speed) / ECC <i>Pentium III:</i> <b>256KB</b> / onboard (at processor speed) / ECC			
Memory	<i>Celeron:</i> <b>64MB</b> standard / 256MB max <sup>7</sup> <i>Pentium III:</i> <b>64MB</b> standard / 512MB max <sup>7</sup> SDRAM / non-parity / 100MHz / PC100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available	<b>ADDITIONAL PRELOADED SOFTWARE</b> <b>Common to all models</b> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™.15 • Easy Keys Utility • Access ThinkPad II • PC-Doctor™ - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license		
Diskette drive	None standard / optional USB Portable Diskette Drive or Ultrabay 2000 diskette drive			
CD or DVD-ROM	Bootable / removable from Ultrabay™ 2000	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Ultrabay 2000	Modular bay for interchangeable devices / cold (system off) swap only			
Disk (removable)	<b>15GB<sup>8</sup> or 30GB</b> / 9.5mm / upgradeable / S.M.A.R.T. / 2nd disk support in Ultrabay	<b>Additional Preloaded Software</b> <b>Common to all models</b> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™.15 • Easy Keys Utility • Access ThinkPad II • PC-Doctor™ - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license		
Display	<b>13.1" (337.8mm) XGA (1024x768) TFT color / Active Matrix</b>			
Graphics controller	<i>2xx/7xx:</i> ATI® Rage™ Mobility-M / <b>PCI / 4MB</b> SDRAM / DDC2B <i>4xx/9xx:</i> S3 Savage™ IX8+ / <b>AGP 2X / 8MB</b> SGRAM / 64-bit path to memory	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200			
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions			
UltraPort™ connect	None	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Case material	<i>Color:</i> black; <i>Top:</i> ABS plastic; <i>Bottom:</i> glass-fiber reinforced plastic			
Dimensions <sup>3</sup>	Approximately 12.0 x 10.0 x 1.4"; 305mm x 254mm x 35mm	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Approximate weight <sup>2</sup>	with battery and CD-ROM: 5.7 lbs / 2.1 kgs			
Battery - type	NiMH 7-cell / 8.4V 4.5AH / intelligent / supports optional Li-Ion battery / no support for Ultrabay 2000 battery	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Battery - life <sup>10</sup>	3.0 hrs (Li-Ion 6-cell) / optional NiMH battery supported only on Celeron models			
Charge time <sup>10</sup> - on / off	3.2 to 6 hrs / 3.2 hrs	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
AC adapter	Universal 72 watt / 16VDC 4.5A			
Architecture	<b>Intel 440MX</b> PCIset (82443MX) / combines Host Bridge and PIIX4 in single chip / TI® PCI1410 for CardBus / PCI 2.1 / 32-bit / 33MHz (graphics, EIDE, CardBus, audio, USB) / PC97338 Super I/O / ISA (serial, parallel, external expansion)	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Port replicator	Optional <b>ThinkPad Port Replicator</b>			
Docking Station	No support for ThinkPad Dock	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
PC Card Std slots	1 Type I, Type II, or Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video			
Ports	One USB (Version 1.1) / one serial (9 pin) / parallel / external DB-15 monitor / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or infrared	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Video in and out	None			
Communicatns Bay	Communications Bay with Mini PCI IIIa slot / customer accessible	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Modem	<i>Some:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set			
Ethernet/modem	<i>Some:</i> Intel® PRO/100 SP Mobile Combo Adapter / Mini PCI ethernet with 56K modem / Intel 82550EY ethernet chipset / Lucent modem chipset	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Audio support	PCI audio / SoundBlaster Pro™ support / Intel 440MX AC97 audio support with CS4299 AC97 codec / mono speaker / 1.5 watt / volume up, down, mute buttons above keyboard			
Audio jacks	Microphone (3.5 mm) / speaker out (3.5 mm) / line in (3.5mm) / no int microphone	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Security	Power-on password / hard disk password / supervisor password / security keyhole			
Limited warranty* <sup>12</sup>	<b>1 year</b> - EasyServ™.19 onsite pickup and delivery courier service	<b>The right bay (Ultrabay 2000) supports the following:</b> • standard or optional CD-ROM • optional DVD drive • optional Zip drive • optional SuperDisk drive • optional CD-RW • optional HDD adapter; for second disk • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel) • no support for battery on the A22e 2655 • optional diskette		
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)			
64MB SO DIMM 100MHz NP SDRAM	20L0254	USB Portable Diskette Drive	05K9276	PC 99-compliant PXE 2.0-compliant Wired for Management (WfM) 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM PC Lifecycle Care <sup>21</sup> provides proactive life cycle management and transition planning tools Setup Guide, User's Reference, Windows manual Personalized Web-based support International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty
128MB SO DIMM 100MHz NP SDRAM	20L0255	ThinkPad NiMH Battery (2655)*	02K6742	
256MB SO DIMM 100MHz NP SDRAM	33L3069	* supported only on Celeron-based models		
ThinkPad Removable Diskette Drive	08K9603	ThinkPad Li-Ion Battery (2655), 6 cell	02K6743	
SuperDisk (LS-240) UltraBay 2000 Drive	08K9616	ThinkPad 72W AC Adapter	02K6699	
Zip 250MB Ultrabay 2000 Drive	00N8253	Multiple Li-Ion/NiMH Battery Charger	02K6719	
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	ThinkPad Port Replicator	02K8667	
8X/4X/24X CD-RW Ultrabay 2000 Drive	08K9569	ThinkPad Monitor Stand 2001	22P5265	
8X-2X DVD Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000	19K4480	
CD-RW/DVD Combo Ultrabay 2000 Drive	08K9572	IBM IEEE 1394 CardBus Card	19K5679	
Travel Bezel for Ultrabay 2000	08K6070	10/100 Enet/56K Mini PCI (3Com)	09N9774	
Second HDD Adapter for Ultrabay 2000	08K6068	Intel Pro/100 SP Mini PCI	06P3801	
15GB HDD	08K9588	ServicePac® 3yr IOR 9x5 NBD	30L9195	
30GB HDD	08K9593	ServicePac 3yr P&L P/U Depot	30L9192	
32GB HDD*	08K9511			

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
US models announced June 2001  
US models withdrawn from marketing effective November 2001

No warranties are expressed or implied in this summary  
(A22E) © IBM Corp. November 2001

Type-model	Processor	MHz	Mem	Screen	Disk	Optical	Spindles	Modular Bay	Comm Bay	Preload	Available
2628-PTU	Pentium III	800	64MB	15.0" XGA	10GB <sup>8</sup>	CD	3 spindle	Ultrabay 2000	Intel® eth/mod	Windows® 2000	Apr 2001
2628-PSU	Pentium III	800	64MB	15.0" XGA	10GB	CD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 98 SE	Apr 2001
2628-P2U	Pentium III	800	64MB	15.0" XGA	10GB	CD	3 spindle	Ultrabay 2000	modem	Windows 2000	Apr 2001
2628-P1U	Pentium III	800	64MB	15.0" XGA	10GB	CD	3 spindle	Ultrabay 2000	modem	Windows 98 SE	Apr 2001
2628-QTU	Pentium III	800	64MB	12.1" SVGA	20GB	CD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 2000	Apr 2001
2628-QSU	Pentium III	800	64MB	12.1" SVGA	20GB	CD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 98 SE	Apr 2001
2628-Q2U	Pentium III	800	64MB	12.1" SVGA	20GB	CD	3 spindle	Ultrabay 2000	modem	Windows 2000	Apr 2001
2628-Q1U	Pentium III	800	64MB	12.1" SVGA	20GB	CD	3 spindle	Ultrabay 2000	modem	Windows 98 SE	Apr 2001
2628-RTU	Pentium III	850	64MB	15.0" XGA	20GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 2000	Apr 2001
2628-RSU	Pentium III	850	64MB	15.0" XGA	20GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 98 SE	Apr 2001
2628-R2U	Pentium III	850	64MB	15.0" XGA	20GB	DVD	3 spindle	Ultrabay 2000	modem	Windows 2000	Apr 2001
2628-R1U	Pentium III	850	64MB	15.0" XGA	20GB	DVD	3 spindle	Ultrabay 2000	modem	Windows 98 SE	Apr 2001
2628-STU	Pentium III	900	64MB	15.0" SXGA+	20GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 2000	Apr 2001
2628-SSU	Pentium III	900	64MB	15.0" SXGA+	20GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 98 SE	Apr 2001
2628-S2U	Pentium III	900	64MB	15.0" SXGA+	20GB	DVD	3 spindle	Ultrabay 2000	modem	Windows 2000	Apr 2001
2628-S1U	Pentium III	900	64MB	15.0" SXGA+	20GB	DVD	3 spindle	Ultrabay 2000	modem	Windows 98 SE	Apr 2001
2628-TTU	Pentium III	1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 2000	Apr 2001
2628-TSU	Pentium III	1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	Windows 98 SE	Apr 2001
2628-T2U	Pentium III	1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	modem	Windows 2000	Apr 2001
2628-T1U	Pentium III	1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	modem	Windows 98 SE	Apr 2001
2628-TWU	Pentium III	1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	3Com®eth/mod	Windows 2000	Apr 2001
2628-TXU	Pentium III	1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	3Com eth/mod	Windows 98 SE	Apr 2001
Processor	<b>Intel® Pentium® III 800, 850, 900MHz<sup>1</sup> or 1.0GHz<sup>1</sup> with SpeedStep™ technology and 100MHz system bus</b>									<b>WINDOWS 98 PRELOAD<sup>14, 27</sup></b> - Microsoft® Windows 98 Second Edition <sup>13</sup> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™ <sup>15</sup> • Access ThinkPad II • PC-Doctor™ - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license ✧ Disk-to-Disk Recovery (in hidden Service Partition)  <b>WINDOWS 2000 PRELOAD<sup>14, 27</sup></b> - Windows 2000 Professional <sup>13</sup> • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe® • IBM Update Connector • Easy Keys Utility • Access ThinkPad II • PC-Doctor - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license ✧ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition)  The right bay (Ultrabay 2000) supports: • standard or optional CD-ROM • standard or optional DVD drive • optional SuperDisk (LS-120) drive • optional Zip drive • optional CD-RW • optional CD-RW/DVD Combo • optional HDD adapter; for second disk • optional second battery • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel)  72 watt AC Adapter PC 99-compliant CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM ImageUltra Services available IBM Rapid Restore PC available to protect software image and data Setup Guide, User's Reference, Windows manual Asset ID™ wireless RF technology via replacing HDD access door Personalized Web-based support International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty	
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC										
Memory	<b>64MB</b> or <b>128MB</b> standard / 512MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available										
Diskette drive	3.5" 1.44MB / not removable										
CD	Some: CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000										
DVD-ROM	Some: DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000										
Disk (removable)	<b>10, 20 or 30GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter										
Display	<b>12.1"</b> (307.3mm) <b>SVGA (800x600) TFT color</b> / Active Matrix <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix <b>15.0"</b> (381mm) <b>XGA (1024x768) or SXGA+ (1400x1050) TFT color</b> / Active Matrix										
Graphics controller	Pxx/Qxx/Rxx: ATI® Rage™ Mobility M / AGP 2X / 4MB SDRAM Sxx/Txx: ATI Rage Mobility M3 / AGP 2X / 8MB SDRAM										
Graphics - external	External SVGA to 1280x1024x16.7M colors at 75Hz at 75Hz and up to 1600x1200										
Keyboard	Pitch: 19mm / stroke: 2.7mm / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar										
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions										
UltraPort™ connectr	None										
Dimensions <sup>3</sup>	Sxx/Pxx/Rxx: 13.0 x 10.5 x 1.5-1.8"; Qxx/Txx: 12.5 x 10.5 x 1.5-1.8"										
Approximate weight <sup>2</sup>	w/ bat. and weight saver bezel only: Qxx/Rxx: 6.3 lb, Sxx: 6.6 lb, Pxx/Txx: 6.4 lb										
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000										
Battery - life <sup>10</sup>	Sxx: 3.0 hours; Pxx/Qxx/Rxx/Txx: 3.5 hours										
Architecture	<b>Intel 440BX AGPset</b> / Intel PIII4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)										
Port replicator	Optional <b>ThinkPad Port Replicator</b>										
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)										
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video										
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)										
Video in and out	Sxx/Txx: S-Video out (no S-Video in)										
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible										
Modem	Some: 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set										
Ethernet/modem	Some: IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem (3Com® ethernet chipset / 3Com modem chip set) Some: Intel® PRO/100 SP Mobile Combo Adapter / Mini PCI ethernet with 56K modem / Intel 82550EY ethernet chipset / Lucent modem chipset										
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / input jack (3.5 mm) / output jack (3.5 mm) / line in										
Security	Power-on password / hard disk password / supervisor password / security keyhole										
Limited warranty* <sup>12</sup>	<b>1 year - EasyServ™<sup>19</sup> onsite pickup and delivery courier service</b>										
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										
64MB SO DIMM 100MHz NP SDRAM	20L0254			ThinkPad A Series Battery			02K6640				
128MB SO DIMM 100MHz NP SDRAM	20L0255			Ultrabay 2000 Li-Ion battery			02K6646				
256MB SO DIMM 100MHz NP SDRAM	33L3069			ThinkPad 72W AC Adapter			02K6699				
2X SuperDisk (LS-120) UltraBay 2000	27L3451			Multiple Li-Ion/NiMH Battery Charger			02K6719				
Zip 250MB Ultrabay 2000 Drive	00N8253			ThinkPad Port Replicator			02K8667				
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233			ThinkPad Dock			263120U				
8X/4X/24X CD-RW Ultrabay 2000	08K9569			ThinkPad Monitor Stand 2001			22P5265				
8X-2X DVD Ultrabay 2000 Drive	27L3448			Portable Drive Bay 2000			19K4480				
CD-RW/DVD Combo Ultrabay 2000	08K9572			RCA video conversion cable			27L0530				
Travel Bezel for Ultrabay 2000	08K6070			IBM IEEE 1394 CardBus Card			19K5679				
Second HDD Adapter for Ultrabay 2000	08K6068			10/100 Enet/56K Mini PCI (3Com)			09N9774				
10GB HDD	08K9510			Intel Pro/100 SP Mini PCI			06P3801				
20GB HDD	27L3439			ServicePac 3yr IOR 9x5 NBD			30L9195				
32GB HDD	08K9511			ServicePac 3yr P&L P/U Depot			30L9192				

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
US models withdrawn effective July 2001 or November 2001 or April 2002

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Type-model	Processor MHz	Mem	Screen	Disk	Optical	Spindles	Modular Bay	Comm Bay	Wireless	Preload	Available
2628-VTU	Pentium III 900	64MB	14.1" XGA	10GB <sup>8</sup>	CD	3 spindle	Ultrabay 2000	Intel® eth/mod	802.11b	Windows® 2000	May 2001
2628-VSU	Pentium III 900	64MB	14.1" XGA	10GB	CD	3 spindle	Ultrabay 2000	Intel eth/mod	802.11b	Windows 98 SE	May 2001
2628-WTU	Pentium III 1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	802.11b	Windows 2000	May 2001
2628-WSU	Pentium III 1GHz	128MB	14.1" XGA	30GB	DVD	3 spindle	Ultrabay 2000	Intel eth/mod	802.11b	Windows 98 SE	May 2001

Processor	<b>Intel® Pentium® III 900MHz<sup>1</sup> or 1.0GHz<sup>1</sup> with SpeedStep™ technology and 100MHz Front Side Bus</b>	<b>OPERATING SYSTEM PRELOAD<sup>14,27</sup></b> <b>Windows 98 models</b> - Microsoft® Windows® 98 Second Edition <sup>15</sup> ✧ Disk-to-Disk Recovery (in hidden Service Partition) <b>Windows 2000 models</b> - Windows 2000 Professional <sup>13</sup> ✧ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition)  <b>Common to most models</b> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™ <sup>15</sup> • Easy Keys Utility • Access ThinkPad II • PC-Doctor™ • Mediamatics™ DVD (DVD models) - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC	
Memory	<b>64MB</b> or <b>128MB</b> standard / 512MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available	
Diskette drive	3.5" 1.44MB / not removable	
CD	<i>Some:</i> CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000	
DVD-ROM	<i>Some:</i> DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000	
Disk (removable)	<b>10 or 30GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter	
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix	
Graphics controller	ATI® Rage™ Mobility M1 / AGP 2X / 8MB SDRAM	
Graphics - external	External SVGA to 1280x1024x16.7M colors at 75Hz and up to 1600x1200	
Keyboard	ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm	
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions	
UltraPort™ connectr	None	
Dimensions <sup>3</sup>	12.5 x 10.5 x 1.5-1.8"	
Approximate weight <sup>2</sup>	With battery and weight saver bezel only: 6.4 lb	
Battery - type	Li-Ion 6-cell / 10.8V 3.2AH / intelligent / supports unique 2nd battery in Ultrabay 2000	
Battery - life <sup>10</sup>	3.0 hours	
AC adapter	Universal 72 watt / 16VDC 4.5A	
Architecture	<b>Intel 440BX AGPset</b> / Intel PIII4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)	
Port replicator	Optional <b>ThinkPad Port Replicator</b>	
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)	
PC Card Std slots	1 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video (supported on 98 preloads only)	
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / DB-15 external analog monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)	
Video in and out	S-Video out (no S-Video in)	
Wireless	<b>Integrated 802.11b network interface with antenna in cover</b> / implemented with PC card in non accessible PC Card slot	
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible	
Ethernet/modem	Intel® PRO/100 SP Mobile Combo Adapter / Mini PCI ethernet with 56K modem / Intel 82550EY ethernet chipset / Lucent® modem chipset	
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / input jack (3.5 mm) / output jack (3.5 mm) / line in (3.5mm)	
Security	Power-on password / hard disk password / supervisor password / security keyhole	
Limited warranty* <sup>12</sup>	<b>1 year</b> -EasyServ™ <sup>19</sup> onsite pickup and delivery courier service	
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)	

Options			
64MB SO DIMM 100MHz NP SDRAM	20L0254	ThinkPad A Series Battery	02K6640
128MB SO DIMM 100MHz NP SDRAM	20L0255	Ultrabay 2000 Li-Ion battery	02K6646
256MB SO DIMM 100MHz NP SDRAM	33L3069	ThinkPad 72W AC Adapter	02K6699
SuperDisk (LS-240) UltraBay 2000 Drive	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U
8X/4X/24X CD-RW Ultrabay 2000 Drive	08K9569	ThinkPad Monitor Stand 2001	22P5265
8X-2X DVD Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000	19K4480
CD-RW/DVD Combo Ultrabay 2000 Drive	08K9572	Wireless LAN Access Point	09N9906
Travel Bezel for Ultrabay 2000	08K6070	IBM IEEE 1394 CardBus Card	19K5679
Second HDD Adapter for Ultrabay 2000	08K6068	ServicePac 3yr IOR 9x5 NBD	30L9195
15GB HDD	08K9588	ServicePac 3yr P&L P/U Depot	30L9192
30GB HDD	08K9593		
32GB HDD	08K9511		

PC 99-compliant  
CIM and DMI 2.0 compliant  
Wired for Management 2.0  
Local and remote asset management via the IBM Universal Manageability solutions  
IBM ImageUltra Services available  
IBM Rapid Restore PC available to protect software image and data  
Setup Guide, User's Reference, Windows manual  
Asset ID™ wireless RF technology via replacing HDD access door  
Personalized Web-based support  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
US models announced May 15, 2001  
US models withdrawn effective April 2002

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(A22MS) © IBM Corp. April 2002

Type-model	Processor	MHz	Mem	Screen	Disk	Optical	Spindles	Modular Bay	Comm Bay	Wireless	Preload	Available
2628-QUU	Pentium III	800	64MB	12.1" SVGA	20G <sup>8</sup>	CD	3 spindle	Ultrabay 2000	modem		Windows® 98 SE	SB Apr 2001
2628-QVU	Pentium III	800	64MB	12.1" SVGA	20G	CD	3 spindle	Ultrabay 2000	modem		Windows 2000	SB Apr 2001
2628-T7U	Pentium III	1GHz	128M	14.1" XGA	30G	DVD	3 spindle	Ultrabay 2000	modem		Windows 98 SE	SB Apr 2001
2628-T8U	Pentium III	1GHz	128M	14.1" XGA	30G	DVD	3 spindle	Ultrabay 2000	modem		Windows 2000	SB Apr 2001
2628-TUU	Pentium III	1GHz	128M	14.1" XGA	30G	DVD	3 spindle	Ultrabay 2000	Intel® eth/mod		Windows 98 SE	SB Apr 2001
2628-TVU	Pentium III	1GHz	128M	14.1" XGA	30G	DVD	3 spindle	Ultrabay 2000	Intel eth/mod		Windows 2000	SB Apr 2001
2628-QRU	Pentium III	800	64MB	12.1" SVGA	20G	CD	3 spindle	Ultrabay 2000	Intel eth/mod		Windows 2000	XP Aug2001
2628-VRU	Pentium III	900	64MB	14.1" XGA	10G	CD	3 spindle	Ultrabay 2000	Intel eth/mod	802.11b	Windows 2000	XP Aug2001
2628-TRU	Pentium III	1GHz	128M	14.1" XGA	30G	DVD	3 spindle	Ultrabay 2000	Intel eth/mod		Windows 2000	XP Aug2001

Positioning Processor	<i>Desktop alternatives covering a range of performance and functionalities</i> <b>Intel® Pentium® III 800MHz<sup>1</sup>, 900MHz, or 1GHz<sup>2</sup> with SpeedStep™ technology and 100MHz front side bus</b>										<b>OPERATING SYSTEM PRELOAD<sup>14</sup></b> <b>Windows 98 models</b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> ♦ Disk-to-Disk Recovery (in hiddenService Partition) <b>Windows 2000 models</b> - Windows 2000 Professional <sup>13</sup> ♦ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition) <b>ADDITIONAL PRELOADED SOFTWARE</b> <b>Office 2000 SB models (SB)</b> - Microsoft Office 2000 Small Business (Word, Excel, Outlook, Publisher, Small Business Tools) ♦ Office 2000 Small Business CD <b>Office XP SB models (XP)</b> - Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools) ♦ Office XP Small Business CD <b>Common to all models</b> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™.15 • Easy Keys Utility • Access ThinkPad II • PC-Doctor™ • Mediamatics™ DVD (DVD models) - License for Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC										
Memory	<b>64MB</b> or <b>128MB</b> standard / 512MB max <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / two 144-pin SO-DIMM sockets / std memory in one socket / one socket available										
Diskette drive	3.5" 1.44MB / not removable										
CD	Some: CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000										
DVD-ROM	Some: DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000										
Disk (removable)	<b>10, 20 or 30GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports 2nd disk in opt HDD adapter										
Display	Qxx: <b>12.1"</b> (307.3mm) <b>SVGA (800x600) TFT color</b> / Active Matrix Txx/Vxx: <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix										
Graphics controller	Qxx: ATI® Rage™ Mobility M / AGP 2X / 4MB SDRAM Txx/Vxx: ATI Rage Mobility M3 / AGP 2X / 8MB SDRAM										
Graphics - external	External SVGA to 1280x1024x16.7M colors at 75Hz and up to 1600x1200										
Keyboard	Pitch: 19mm / stroke: 2.7mm / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar										
ThinkLight	Illuminates the keyboard to improve visibility in low-light conditions										
UltraPort™ connectr	None										
Dimensions <sup>3</sup>	12.5 x 10.5 x 1.5-1.8"										
Approximate weight <sup>2</sup>	with battery and weight saver bezel only: Qxx: 6.3 lb Txx: 6.4 lb										
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000										
Battery - life <sup>10</sup>	3.5 Hours										
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)										
Port replicator	Optional <b>ThinkPad Port Replicator</b>										
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)										
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video										
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)										
Video in and out	Txx: S-Video out (no S-Video in) Vxx: <b>Integrated 802.11b network interface with antenna in cover</b> / implemented with PC card in non accessible PC Card slot										
Wireless											
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible										
Modem	Some: 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set										
Ethernet/modem	Some: IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem (3Com® ethernet chipset / 3Com modem chip set)										
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / input jack (3.5 mm) / output jack (3.5 mm) / line in										
Security	Power-on password / hard disk password / supervisor password / security keyhole										
Limited warranty* <sup>12</sup>	<b>1 year</b> -EasyServ™.19 onsite pickup and delivery courier service										
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										

Options	Part Number	Description	Part Number
64MB SO DIMM 100MHz NP SDRAM	20L0254	ThinkPad A Series Li-Ion Battery	02K6640
128MB SO DIMM 100MHz NP SDRAM	20L0255	Ultrabay 2000 Li-Ion battery	02K6646
256MB SO DIMM 100MHz NP SDRAM	33L3069	ThinkPad 72W AC Adapter	02K6699
SuperDisk (LS-240) UltraBay 2000 Drive	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U
8X/4X/24X CD-RW Ultrabay 2000 Drive	08K9569	ThinkPad Monitor Stand 2001	22P5265
8X-2X DVD Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000	19K4480
CD-RW/DVD Combo Ultrabay 2000 Drive	08K9572	Wireless LAN Access Point	09N9906
Travel Bezel for Ultrabay 2000	08K6070	IBM IEEE 1394 CardBus Card	19K5679
Second HDD Adapter for Ultrabay 2000	08K6068	ServicePac 3yr IOR 9x5 NBD	30L9195
15GB HDD	08K9588	ServicePac 3yr P&L P/U Depot	30L9192
30GB HDD	08K9593		
32GB HDD	08K9511		
48GB HDD (5400 rpm)	08K9600		

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
US models announced July 31, 2001  
US models withdrawn effective July 2001 or April 2002

No warranties are expressed or implied in this summary  
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Type-model	Processor	MHz	Memory	Screen	Disk	Optical	Spindles	Modular Bay	Comm Bay	Preload	Available
2629-U1U	Pentium III	1GHz <sup>1</sup>	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Modem	Windows® 98 SE	Apr 2001
2629-U2U	Pentium III	1GHz	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Modem	Windows 2000	Apr 2001
2629-UUU	Pentium III	1GHz	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Intel® eth/mod	Windows 98 SE, SB	Apr 2001
2629-UVU	Pentium III	1GHz	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Modem	Windows 2000, SB	Apr 2001
2629-USU	Pentium III	1GHz	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Inteleth/mod	Windows 98 SE	Apr 2001
2629-UTU	Pentium III	1GHz	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Inteleth/mod	Windows 2000	Apr 2001
2629-URU	Pentium III	1GHz	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Inteleth/mod	Windows 2000, XP	Jul 2001
2629-Y1U	Pentium III	900	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Modem	Windows 98 SE	May 2001
2629-Y2U	Pentium III	900	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Modem	Windows 2000	May 2001
2629-YUU	Pentium III	900	128MB	15.0" UXGA	32GB	DVD	3 spindle	Ultrabay 2000	Inteleth/mod	Windows 98 SE	May 2001
2629-YVU	Pentium III	900	128MB	15.0" UXGA	32GB	DVD	3 spindle	Ultrabay 2000	Inteleth/mod	Windows 2000	May 2001
2629-YSU	Pentium III	900	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Inteleth/mod	Windows 98 SE	May 2001
2629-YTU	Pentium III	900	128MB	15.0" UXGA	32GB	CD-RW	3 spindle	Ultrabay 2000	Inteleth/mod	Windows 2000	May 2001

Positioning Processor	<i>Desktop alternatives covering a range of performance and functionalities</i> <b>Intel® Mobile Pentium® III 900MHz<sup>1</sup> or 1GHz with Intel SpeedStep™ technology and 100MHz Front Side Bus</b>	
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC	
Memory	<b>128MB</b> standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available	
Diskette drive	3.5" 1.44MB / not removable	
CD-RW	<i>Some:</i> CD-RW / 8X-4X-24X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000	
DVD-ROM	<i>Some:</i> DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000	
Ultrabay 2000	Modular bay for interchangeable devices	
Disk (removable)	<b>32GB<sup>8</sup></b> / 5400 rpm / upgradeable / S.M.A.R.T. / supports 2nd disk with HDD adapter	
Display	<b>15.0"</b> (381mm) <b>UXGA (1600x1200) TFT color</b> / Active Matrix	
Graphics controller	<b>ATI® Rage™ Mobility 128 / AGP 2X / 16MB</b> SGRAM / 128-bit path to memory	
Graphics - external	Supports external digital monitor <sup>8</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions / DDC2B / 1600x1200x16.7M colors at 75Hz	
Keyboard	85-key keyboard / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm	
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions	
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera	
Case material	Titanium Composite in the cover for enhanced strength <sup>4</sup> and a lightweight design	
Dimensions <sup>3</sup>	Approximately 13.2 x 10.7 x 1.5-1.8"	
Approximate weight <sup>2</sup>	with battery and weight saver bezel only: 7.2 lb with battery and CD-RW: 7.7 lb	
Battery - type	Lithium Ion 9-cell / intelligent / supports unique 2nd battery in Ultrabay 2000	
Battery - life <sup>10</sup>	4 hours	
AC adapter	Universal 72 watt / 16VDC 4.5A	
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, external expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, external expansion)	
Port replicator	Optional <b>ThinkPad Port Replicator</b>	
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)	
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video	
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)	
Video in and out	S-video in and S-video out / two industry standard connectors / full MPEG-2 support / video out cable included (S-video to composite)	
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible	
Modem	<i>Some:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set	
Ethernet/modem	<i>Some:</i> Intel® PRO/100 SP Mobile Combo Adapter / Mini PCI ethernet with 56K modem / Intel 82550EY ethernet chipset / Lucent modem chipset	
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / .5 watt / volume up, down, mute buttons / input jack (3.5 mm) / output jack (3.5 mm) / line in jack	
Security	Power-on password / hard disk password / supervisor password / security keyhole	
Limited warranty* <sup>12</sup>	<b>3 years</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service	
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)	

<b>OPERATING SYSTEM PRELOAD<sup>14, 27</sup></b>
<b>Windows 98 models</b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> ✦ Disk-to-Disk Recovery (in hidden Service Partition)
<b>Windows 2000 models</b> - Windows 2000 Professional ✦ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition)
<b>ADDITIONAL PRELOADED SOFTWARE</b>
<b>Office 2000 SB models (SB)</b> - Microsoft Office 2000 Small Business ✦ Office 2000 Small Business CD
<b>Office XP SB models (XP)</b> - Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools) ✦ Office XP Small Business CD
<b>Common to all models</b> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™ <sup>15</sup> • Easy Keys Utility • Access ThinkPad II • PC-Doctor™ • Mediamatics™ DVD (DVD models) - License for Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0
The right bay (Ultrabay 2000) supports: • standard or optional CD-RW • standard or optional DVD drive • optional SuperDisk drive • optional Zip drive • optional CD-ROM • optional CD-RW/DVD Combo • optional HDD adapter • optional second battery • optional ThinkPad Proven™ solutions <sup>16</sup> (such as Travel Bezel)
PC 99-compliant CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM ImageUltra Services available IBM Rapid Restore PC available to protect software image and data Setup Guide, User's Reference, Windows manual Asset ID™ wireless RF technology (via replacing HDD access door) Personalized Web-based support International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty

64MB SO DIMM 100MHz NP SDRAM	20L0254	ThinkPad A Series Li-Ion Battery	02K6640
128MB SO DIMM 100MHz NP SDRAM	20L0255	Ultrabay 2000 Li-Ion battery	02K6646
256MB SO DIMM 100MHz NP SDRAM	33L3069	ThinkPad 72W AC Adapter	02K6699
SuperDisk (LS-240) UltraBay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U
8X/4X/24X CD-RW Ultrabay 2000	08K9569	ThinkPad Monitor Stand 2001	22P5265
8X-2X DVD Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000	19K4480
CD-RW/DVD Combo Ultrabay 2000	08K9572	UltraPort Camera	04P6135
Travel Bezel for Ultrabay 2000	08K6070	UltraPort Digital Array Microphone	09N4178
Second HDD Adapter for Ultrabay 2000	08K6068	IBM IEEE 1394 CardBus Card	19K5679
15GB HDD	08K9588	10/100 Enet/56K Mini PCI (3Com)	09N9774
30GB HDD	08K9593	Intel Pro/100 SP Mini PCI	06P3801
32GB HDD	08K9511	ServicePac® 3yr IOR 9x5 NBD	30L9195
48GB HDD (5400 rpm)	08K9600		

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
US models withdrawn effective July 2001 or November 2001 or April 2002

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Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Mini PCI Comm Bay	CDC ethernet	CDC Modem	Preload	Workhorse (W) or Global (G) model	Avail date	
2652-1BU	Pentium® III-M	933MHz	128MB	14.1" XGA	20GB	CD-ROM	Open	10/100	Modem	Windows® 98 SE	No	Oct 2001	
2652-1AU	Pentium III-M	933MHz	128MB	14.1" XGA	20GB	CD-ROM	Open	None	Modem	Windows 98 SE	No	Oct 2001	
2652-3BU	Pentium III-M	1.0GHz	128MB	15" SXGA+	30GB	DVD-ROM	Open	10/100	Modem	Windows 98 SE	No	Oct 2001	
2652-3CU	Pentium III-M	1.0GHz	128MB	15" SXGA+	30GB	DVD-ROM	802.11b/mod	10/100		Windows 98 SE	No	Oct 2001	
2652-4BU	Pentium III-M	1.13GHz	128MB	15" XGA	30GB	DVD-ROM	Open	10/100	Modem	Windows 98 SE	W G	Oct 2001	
2652-4CU	Pentium III-M	1.13GHz	128MB	15" XGA	30GB	DVD-ROM	802.11b/mod	10/100		Windows 98 SE	W	Oct 2001	
2652-4QU**	Pentium III-M	1.13GHz	256MB	15" XGA	30GB	DVD-ROM	Open	10/100	Modem	Windows 98 SE	W G	Dec2001	
Positioning Processor	High-performance desktop alternatives with exceptional versatility; three spindle Mobile Intel® Pentium® III Processor-M 933MHz <sup>1</sup> , 1.0GHz, or 1.13GHz <sup>2</sup> with enhanced Intel SpeedStep™ technology and 133MHz front side bus										<b>SOFTWARE<sup>14</sup></b>		
L2 cache	512KB / on die (at processor speed) / ECC										Windows 98 models		
Memory	128MB or 256MB std / 1GB max <sup>7</sup> / SDRAM / non-parity / 133MHz / PC 133 / 3.3v / two 144-pin SO-DIMM sockets / std memory in one socket / 1 socket available										- Microsoft® Windows® 98 Second Edition ✦ Disk-to-Disk Recovery (in hidden Service Partition)		
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive										<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>		
CD-ROM	Some: CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay Plus										<b>Preloaded</b>		
DVD-ROM	Some: DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay Plus										• Access ThinkPad		
Modular bays	Two modular bays for interchangeable devices / Ultrabay 2000 (left side) and Ultrabay Plus (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)										• ConfigSafe®		
Disk (removable)	20 or 30GB <sup>9</sup> / upgradeable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay										• Mediamatics™ DVD (DVD models)		
Display	14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 200:1 contrast										• PC-Doctor™		
Graphics controller	ATI® Mobility Radeon™ 7000 / AGP 4X / 16MB DDR-SDRAM 188MHz										• ThinkPad Utilities		
Graphics - external	Supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions / DDC2B / 1600x1200x16.7M colors at 85Hz										• IBM Update Connector™ <sup>15</sup>		
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm										<b>Downloadable</b>		
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions										• IBM Rapid Restore PC		
UltraPort™	None										• IBM Data Transfer		
Case material	Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic										• Universal Manageability Services™		
Dimensions <sup>3</sup>	Approximately 13 x 10.7 x 1.8"; 330mm x 272mm x 45.8mm										<b>License</b>		
Approximate weight <sup>2</sup>	With battery and optical drive: 1xx: 7.2 lb (2.27kg) Others: 7.4 lb (3.36kg)										- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0		
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000 (left)										Ultrabay Plus integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series		
Battery - life <sup>10</sup>	3.2 hours / universal 72 watt AC adapter												
Architecture	Intel 830MP chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / Intel 82802AB Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C476II CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)												
Port replicator	Optional ThinkPad Port Replicator												
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video												
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / some: RJ-45 (ethernet) / no keyboard or mouse												
Video in and out	S-video out / industry standard connector / no cable ships standard												
Mini PCI	One Mini PCI IIIb slot (Communications Bay) / customer upgradeable												
CDC	Two Communications Daughter Card (CDC) sockets / customer upgradeable												
Modem	Some: 56K <sup>9</sup> V.90 (V.92-capable <sup>29</sup> ) CDC modem card / Lucent® chip set												
802.11b/modem	Some: Mini PCI 802.11b wireless, Intersil® Prism 2.5 chipset, diversity antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 <sup>29</sup> modem combo, Lucent® chipset Some: 10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset												
Ethernet	Optional PC Card												
Bluetooth™	Optional PC Card												
IEEE 1394	Optional PC Card												
Audio support	SoundBlaster Pro™-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack												
Security	Power-on password / hard disk password / supervisor password / security keyhole /												
Limited warranty* <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
64 MB SO DIMM	133MHz NP SDRAM	19K4650	ThinkPad A30 Series Li-Ion Battery					02K6878					
128 MB SO DIMM	133MHz NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery					02K6646					
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad 72W AC Adapter					02K6699					
512 MB SO DIMM	133MHz NP SDRAM	19K4656	Multiple Li-Ion/NiMH Battery Charger					02K6719					
USB Portable Diskette Drive		05K9276	ThinkPad Port Replicator					02K8667					
ThinkPad Removable Diskette Drive		08K9603	ThinkPad Dock					263120U	ServicePac® <sup>22</sup> 1yr IOR 9x5 NBD 30L9188				
SuperDisk (LS-240) UltraBay 2000		08K9616	ThinkPad Monitor Stand 2001					22P5265	ServicePac 2yr IOR 9x5 NBD 30L9189				
Zip 250MB Ultrabay 2000 Drive		00N8253	Portable Drive Bay 2000					19K4480	ServicePac 3yr IOR 9x5 NBD 30L9195				
24X-10X CD-ROM Ultrabay 2000 Drive		05K9233	Bluetooth PC Card II from IBM					19K5796	ServicePac 2yr P&L P/U Depot 30L9191				
8X/4X/24X Max CD-RW Ultrabay 2000		08K9569	IBM IEEE 1394 CardBus Card					19K5679	ServicePac 3yr P&L P/U Depot 30L9192				
8X-3X DVD Ultrabay 2000 Drive		27L3448	10/100 EtherJet CardBus Adapter					08L3147					
CD-RW/DVD Combo Ultrabay 2000		08K9572	10/100 Enet/56K Mini PCI (3Com)					09N9774					
Travel Bezel for Ultrabay 2000		08K6070	Intel Pro/100 SP Mini PCI					06P3801					
Second HDD Adapter for Ultrabay 2000		08K6068	IBM High Rate Wireless PC Card 128					09N9904					
IBM ThinkPad Ultrabay Plus Carrier		22P5737	15GB HDD					08K9588					
IBM ThinkPad Ultrabay Plus c500 Cradle		22P5738	30GB HDD					08K9593					
ThinkPad Ultrabay Plus Numeric Keypad		22P7330	48GB HDD (5400 rpm)					08K9600					

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227

\*\* Special ordering only

US models announced October 9 or November 27, 2001

US models withdrawn effective April 2002

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Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Mini PCI Comm Bay	CDC Modem	CDC ethernet	Preload	Small Bus software	Workhorse or Global model	Avail date
2652-13U	Pentium® III-M	933MHz	128MB	14.1" XGA	20GB <sup>8</sup> CD-ROM	Open	Mod	10/100	Windows® XP Pro	No	No	Nov2001	
2652-14U	Pentium III-M	933MHz	128MB	14.1" XGA	20GB CD-ROM	Open	Mod	10/100	Windows2000	No	No	Oct 2001	
2652-11U	Pentium III-M	933MHz	128MB	14.1" XGA	20GB CD-ROM	Open	Mod	10/100	Windows2000	XP Off SB <sup>28</sup>	No	Oct 2001	
2652-4TU	Pentium III-M	1.13GHz	128MB	15" XGA	30GB DVD	Open	Mod	10/100	Windows2000	XP Off SB	No	Oct 2001	
2652-34U	Pentium III-M	1.0GHz	128MB	15" SXGA+	30GB DVD	Open	Mod	10/100	Windows2000		No	Oct 2001	
2652-36U	Pentium III-M	1.0GHz	128MB	15" SXGA+	30GB DVD	Wi-Fi <sup>32</sup> /mod		10/100	Windows2000		No	Oct 2001	
2652-44U	Pentium III-M	1.13GHz	128MB	15" XGA	30GB DVD	Open	Mod	10/100	Windows2000		W G	Oct 2001	
2652-46U	Pentium III-M	1.13GHz	128MB	15" XGA	30GB DVD	Wi-Fi/mod		10/100	Windows2000		W	Oct 2001	
2652-33U	Pentium III-M	1.0GHz	128MB	15" SXGA+	30GB DVD	Open	Mod	10/100	Windows XP Pro		No	Nov2001	
2652-35U	Pentium III-M	1.0GHz	128MB	15" SXGA+	30GB DVD	Wi-Fi/mod		10/100	Windows XP Pro		No	Nov2001	
2652-43U	Pentium III-M	1.13GHz	128MB	15" XGA	30GB DVD	Open	Mod	10/100	Windows XP Pro		W	Nov2001	
2652-45U	Pentium III-M	1.13GHz	128MB	15" XGA	30GB DVD	Wi-Fi/mod		10/100	Windows XP Pro		W	Nov2001	
2652-4PU**	Pentium III-M	1.13GHz	256MB	15" XGA	30GB DVD	Open	Mod	10/100	Windows2000		W G	Dec2001	
Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>										<b>SOFTWARE<sup>14</sup></b>		
L2 cache	<b>Mobile Intel® Pentium® III Processor-M 933MHz, 1.0GHz, or 1.13GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus										<b>Windows XP Pro models</b>		
Memory	<b>512KB</b> / on die (at processor speed) / ECC										- Microsoft® Windows® XP Professional		
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive										- Access Connections		
CD-ROM	<i>Some: CD-ROM / 24X-10X<sup>9</sup> speed / bootable / removable from Ultrabay Plus</i>										- Access Help		
DVD-ROM	<i>Some: DVD-ROM / 8X-2.3X<sup>9</sup> speed / bootable / removable from Ultrabay Plus</i>										• ConfigSafe®		
Modular bays	<b>Two modular bays</b> for interchangeable devices / <b>Ultrabay 2000</b> (left side) and <b>Ultrabay Plus</b> (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)										• Mediamatics™ DVD		
Disk (removable)	<b>20 or 30GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay										• PC-Doctor™		
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 200:1 contrast										• ThinkPad Utilities		
Graphics controller	<b>ATI® Mobility Radeon™ 7000 / AGP 4X / 16MB DDR-SDRAM 188MHz</b>										<b>Downloadable</b>		
Graphics - external	Supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions / DDC2B / 1600x1200x16.7M colors at 85Hz										• IBM Rapid Restore™ PC		
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm										• IBM Data Transfer		
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions										• Universal Manageability Services™		
UltraPort™	None										• IBM Update Connector™ <sup>15</sup>		
Case material	<i>Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic</i>										<b>License</b>		
Dimensions <sup>3</sup>	Approximately 13 x 10.7 x 1.8": 330mm x 272mm x 45.8mm										- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0		
Approximate weight <sup>2</sup>	with battery and optical drive: 1xx: 7.2 lb (3.27kg); Others: 7.4 lb (3.36kg)										<b>Office XP Small Business models</b>		
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000 (left)										- Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)		
Battery - life <sup>10</sup>	3.2 hours / universal 72 watt AC adapter										- Office XP Small Business CD		
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / Intel 82802AB Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C476II CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)										<b>Ultrabay Plus</b> integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series		
Port replicator	Optional <b>ThinkPad Port Replicator</b>										PC 2001-compliant ACPI 1.0b and 2.0 support		
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)										CIM and DMI 2.0 compliant		
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video										Wired for Management 2.0		
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse										Local and remote asset management via the IBM Universal Manageability solutions		
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard										IBM ImageUltra Services available		
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable										IBM Rapid Restore PC available to protect software image and data		
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible										Setup Guide, Service and Troubleshooting Guide, Windows manual		
Modem	<i>Some: 56K<sup>6</sup> V.90 (V.92-capable<sup>29</sup>) CDC modem card / Lucent® chip set</i>										Personalized Web-based support		
Wi-Fi <sup>32</sup> /modem	<i>Some: Mini PCI Wi-Fi<sup>32</sup> wireless<sup>4</sup>, Intersil® Prism 2.5 chipset, diversity antennas in display cover, Wi-Fi-certified / 56K<sup>6</sup> V.90<sup>29</sup> modem combo, Lucent® chipset</i>										International Warranty Service <sup>17</sup>		
Ethernet	10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset										24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty		
Audio support	SoundBlaster Pro™-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack										15GB HDD 08K9588		
Security	Power-on password / hard disk password / supervisor password / security keyhole /										40GB HDD 08K9687		
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service										48GB HDD (5400 rpm) 08K9600		
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
64 MB SO DIMM	133MHz NP SDRAM	19K4650	ThinkPad A30 Series Li-Ion Battery				02K6878						
128 MB SO DIMM	133MHz NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery				02K6646						
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad 72W AC Adapter				02K6699						
512 MB SO DIMM	133MHz NP SDRAM	19K4656	Multiple Li-Ion/NiMH Battery Charger				02K6719						
ThinkPad Removable Diskette Drive		08K9603	ThinkPad Port Replicator				02K8667						
SuperDisk (LS-240) UltraBay 2000		08K9616	ThinkPad Dock				263120U						
Zip 250MB Ultrabay 2000 Drive		00N8253	Portable Drive Bay 2000				19K4480						
8X/4X/24X Max CD-RW Ultrabay 2000		08K9569	10/100 EtherJet™ CardBus Adapter				08L3147						
8X-3X DVD Ultrabay 2000 Drive		27L3448	10/100 Enet/56K Mini PCI (3Com)				09N9774						
CD-RW/DVD Combo Ultrabay 2000		08K9572	ServicePac®.22 1yr IOR 9x5 NBD				30L9188						
Travel Bezel for Ultrabay 2000		08K6070	ServicePac 2yr IOR 9x5 NBD				30L9189						
Second HDD Adapter for Ultrabay 2000		08K6068	ServicePac 3yr IOR 9x5 NBD				30L9195						
IBM ThinkPad Ultrabay Plus Carrier		22P5737	ServicePac 2yr P&L P/U Depot				30L9191						
IBM ThinkPad Ultrabay Plus c500 Cradle		22P5738	ServicePac 3yr P&L P/U Depot				30L9192						
ThinkPad Ultrabay Plus Numeric Keypad		22P7330											

See footnotes for important warranty information; \*\* Special ordering only  
US models announced October 9 or November 27, 2001; US models withdrawn effective August 2002



Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Ultrabay diskette	Mini PCI wireless/modem	CDC ethernet	Preload	Limited warranty	Avail date
2652-1UU	Pentium® III-M	1.0GHz	128MB	14.1" XGA	20GB <sup>8</sup>	CD-ROM	Diskette	Wi-Fi <sup>32</sup> /modem	10/100	Windows® XP Pro	1 yr	Apr 2002
2653-1UU	Pentium III-M	1.0GHz	128MB	14.1" XGA	20GB	CD-ROM	Diskette	Wi-Fi/modem	10/100	Windows XP Pro	3 yr	Apr 2002

These educational models of the ThinkPad A30 notebook must be sold only to qualified education customers. Qualified institution/customer is a public or private K-12 (or higher) accredited school organized and operated exclusively for educational purposes for use by Qualified Students and/or Qualified Teachers.

This model for education is for sale direct from IBM or through an Authorized Education Reseller. The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i> <b>Mobile Intel® Pentium® III Processor-M 1.0GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus						<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional ↳ Disk-to-Disk Recovery (in hidden Service Partition)					
L2 cache	<b>512KB</b> / on die (at processor speed) / ECC						<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b> <b>Preloaded</b> • Access ThinkPad - Access Connections - Access Support - Access Help • ConfigSafe® • Mediamatics™ DVD • PC-Doctor™ • IBM Update Connector™ <sup>15</sup> • ThinkPad Utilities <b>Downloadable</b> • IBM Rapid Restore™ PC • IBM Data Transfer • IBM Director Agent <b>License</b> - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0					
Memory	<b>128MB</b> std / 1GB max <sup>7</sup> / SDRAM / non-parity / 133MHz / PC133-compliant / 3.3v / two 144-pin SO-DIMM sockets / std memory in one socket / one socket available											
Diskette drive	3.5" 1.44MB / removable from Ultrabay™ 2000 (but travel bezel in bay at ship)											
CD-ROM	CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay Plus											
Modular bays	<b>Two modular bays</b> for interchangeable devices / <b>Ultrabay 2000</b> (left side with travel bezel or diskette) and <b>Ultrabay Plus</b> (right side with CD-ROM)											
Disk (removable)	<b>20GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay											
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 200:1 contrast											
Graphics controller	<b>ATI® Mobility Radeon™ 7000 / AGP 4X / 16MB</b> DDR-SDRAM 188MHz											
Graphics - external	Supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions / DDC2B / 1600x1200x16.7M colors at 85Hz											
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
UltraPort™	None											
Case material	<i>Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic</i>											
Dimensions <sup>3</sup>	Approximately 13 x 10.7 x 1.8"; 330mm x 272mm x 45.8mm											
Approximate weight <sup>2</sup>	with battery and optical drive: 7.4 lb (3.36kg)											
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000 (left)											
Battery - life <sup>10</sup>	3.2 hours / universal 72 watt AC adapter											
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / Intel 82802AB Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C476II CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)											
Port replicator	Optional <b>ThinkPad Port Replicator</b>											
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)											
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video											
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse											
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable											
Wi-Fi <sup>32</sup> /modem	Mini PCI Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset											
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible											
Ethernet	10/100 ethernet on CDC / Intel82562ET chipset (physical layer)											
Open	One Communications Daughter Card (CDC) socket open											
Audio support	SoundBlaster Pro™-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack											
Security	Power-on password / hard disk password / supervisor password / security keyhole /											
Limited warranty <sup>*,12</sup>	2652: <b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service 2653: <b>3 years</b> /1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service											
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											
64 MB SO DIMM	133MHz NP SDRAM	19K4650	ThinkPad A30 Series Li-Ion Battery	02K6878								
128 MB SO DIMM	133MHz NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery	02K6646								
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad 72W AC Adapter	02K6699								
512 MB SO DIMM	133MHz NP SDRAM	19K4656	Multiple Li-Ion/NiMH Battery Charger	02K6719								
ThinkPad Removable Diskette Drive		08K9603	ThinkPad Port Replicator	02K8667								
SuperDisk (LS-240) UltraBay 2000		08K9616	ThinkPad Dock	263120U								
Zip 250MB Ultrabay 2000 Drive		00N8253	Portable Drive Bay 2000	19K4480								
8X/4X/24X Max CD-RW Ultrabay 2000		22P9101	10/100 EtherJet™ CardBus Adapter	08L3147								
Ultralight 8X Max DVD Ultrabay 2000		22P9102	10/100 Enet /56K Mini PCI (3Com)	09N9774								
DVD/CD-RW Combo II Ultrabay 2000		08K9701	2652: ServicePac <sup>22</sup> 1yr IOR 9x5 NBD	30L9188								
Travel Bezel for Ultrabay 2000		08K6070	2652: ServicePac 2yr IOR 9x5 NBD	30L9189								
Second HDD Adapter for Ultrabay 2000		08K6068	2652: ServicePac 3yr IOR 9x5 NBD	30L9195								
IBM ThinkPad Ultrabay Plus Carrier		22P5737	2652: ServicePac 2yr P&L P/U Depot	30L9191								
IBM ThinkPad Ultrabay Plus c500 Cradle		22P5738	2652: ServicePac 3yr P&L P/U Depot	30L9192								
ThinkPad Ultrabay Plus Numeric Keypad		22P7330	2653: ServicePac 2yr IOR 9x5 NBD	30L9190								
20GB Hard Disk Drive		08K9686	2653: ServicePac 3yr IOR 9x5 NBD	30L9197								
40GB Hard Disk Drive		08K9687										
60GB HS Hard Disk 9.5mm (5400 rpm)		08K9688										
						PC 2001-compliant ACPI 1.0b and 2.0 support CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM ImageUltra Services available IBM Rapid Restore PC available to protect software image and data Setup Guide, Service and Troubleshooting Guide, Windows manual Personalized Web-based support <sup>31</sup> International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>						

See footnotes for important warranty information  
US models announced April 30, 2002  
US models withdrawn effective October 2002

Type-model	Processor	GHz	Memory	Screen	Disk	Ultrabay optical	Mini PCI Comm Bay	CDC ethernet	CDC Bluetooth	Security Chip	Preload software	Small business Workhorse model	Avail date
2653-6TU	Pentium® III-M	1.2	128MB	15" UXGA	48GB <sup>5</sup> Combo	11b Wi-Fi <sup>32</sup> /mod		10/100		Yes	XP Pro	Office XP SB <sup>28</sup>	No Nov 2001
2653-63U	Pentium III-M	1.2	128MB	15" UXGA	48GB Combo	Modem		10/100		Yes	XP Pro		No Nov 2001
2653-65U	Pentium III-M	1.2	128MB	15" UXGA	48GB Combo	11b Wi-Fi/mod		10/100		Yes	XP Pro		No Nov 2001
2653-64U	Pentium III-M	1.2	128MB	15" UXGA	48GB Combo	Modem		10/100		Yes	Windows® 2000		No Oct 2001
2653-66U	Pentium III-M	1.2	128MB	15" UXGA	48GB Combo	11b Wi-Fi/mod		10/100	Yes	Yes	Windows 2000		No Oct 2001
Positioning Processor	High-performance desktop alternatives with exceptional versatility; three spindle Mobile Intel® Pentium® III Processor-M 1.2GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus												
L2 cache	512KB / on die (at processor speed) / ECC												
Memory	128MB standard / 1GB maximum <sup>7</sup> / SDRAM / non-parity / 133MHz / PC 133 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available												
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive												
CD-RW/DVD-ROM	Combo drive / CD-RW/DVD-ROM / removable from Ultrabay Plus (right side)												
Modular bays	Two modular bays for interchangeable devices / Ultrabay 2000 (left side) and Ultrabay Plus (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)												
Disk (removable)	48GB <sup>8</sup> / high-speed 5400 rpm / upgradable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay												
Display	15.0" (381mm) UXGA-IPS (1600x1200) TFT color / Active Matrix / 400:1 contrast / FlexView display with wide viewing angle and high density using in plane switching (IPS) technology												
Graphics controller	ATI® Mobility RADEON™ 7000 / AGP 4X / 32MB DDR-SDRAM 188MHz												
Graphics - external	Supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions / DDC2B / 1600x1200x16.7M colors at 85Hz												
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera												
Case material	Color: Black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic												
Dimensions <sup>3</sup>	Approximately 13 x 10.7 x 1.8"; 330mm x 272mm x 45.8mm												
Approximate weight <sup>2</sup>	with battery and optical drive: 7.6 lb (3.45kg)												
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000 (left)												
Battery - life <sup>10</sup>	2.5 hours / universal 72 watt AC adapter												
Architecture	Intel® 830MP chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AB Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)												
Port replicator	Optional ThinkPad Port Replicator												
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1												
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / IEEE 1394 / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard/mouse												
Video in and out	S-video in and S-video out ports / two industry standard connectors / video out cable included (S-video to composite)												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable												
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible												
Modem	Some: 56K <sup>6</sup> V.90 (V.92-capable <sup>29</sup> ) Mini PCI modem card / Lucent® chip set												
11b Wi-Fi <sup>32</sup> /modem	Some: Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, diversity antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 <sup>29</sup> modem combo, Lucent® chipset												
Ethernet	Some: 10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset												
Bluetooth™	Some: Bluetooth wireless technology / on CDC / power button on display												
IEEE 1394	IEEE 1394 port												
Audio support	SoundBlaster Pro™-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / input jack (3.5 mm) / output jack (3.5 mm) / line in jack												
Security	Power-on password / hard disk password / supervisor password / security keyhole /												
Security chip	IBM Embedded Security Subsystem <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>18</sup>												
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
64 MB SO DIMM	133MHz NP SDRAM	19K4650	ThinkPad A30 Series Li-Ion Battery								02K6878		
128 MB SO DIMM	133MHz NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery								02K6646		
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad 72W AC Adapter								02K6699		
512 MB SO DIMM	133MHz NP SDRAM	19K4656	Multiple Li-Ion/NiMH Battery Charger								02K6719		
ThinkPad Removable Diskette Drive		08K9603	ThinkPad Port Replicator								02K8667		
SuperDisk (LS-240) UltraBay 2000		08K9616	ThinkPad Dock								263120U		
Zip 250MB Ultrabay 2000 Drive		00N8253	ThinkPad Monitor Stand 2001								22P5265		
24X-10X CD-ROM Ultrabay 2000 Drive		05K9233	Portable Drive Bay 2000								19K4480		
8X/4X/24X Max CD-RW Ultrabay 2000		08K9569	UltraPort Camera II								04P6135		
8X-3X DVD Ultrabay 2000 Drive		27L3448	UltraPort Digital Array Microphone								09N4178		
CD-RW/DVD Combo Ultrabay 2000		08K9572	UltraPort Compact Flash Reader								19K4510		
Travel Bezel for Ultrabay 2000		08K6070	IBM USB 32MB Memory Key								22P5296		
Second HDD Adapter for Ultrabay 2000		08K6068	IBM IEEE 1394 CardBus Card								19K5679		
IBM ThinkPad Ultrabay Plus Carrier		22P5737	10/100 EtherJet™ CardBus Adapter								08L3147		
ThinkPad Ultrabay Plus Numeric Keypad		22P7330	15GB HDD								08K9588		
ServicePac <sup>22</sup> 2yr IOR 9x5 NBD		30L9190	40GB HS Hard Disk 9.5mm (5400 rpm)								08K9816		
ServicePac 3yr IOR 9x5 NBD		30L9197	48GB HS Hard Disk 12.5mm (5400 rpm)								08K9600		

**SOFTWARE<sup>14</sup>**

**Windows XP Pro models**

- Microsoft® Windows® XP Professional
- ◆ Disk-to-Disk Recovery (in hidden Service Partition)

**Windows 2000 models**

- Microsoft Windows 2000 Professional<sup>13</sup>
- ◆ Disk-to-Disk Recovery (in hidden Service Partition)

**INCLUDED SOFTWARE<sup>14</sup> (all)**

**Preloaded**

- Access ThinkPad
- Access Connections
- Access Help
- ConfigSafe®
- Mediamatics™ DVD
- MGI Video Wave IV
- PC-Doctor™
- ThinkPad Utilities
- IBM Update Connector™<sup>15</sup>
- Veritas RecordNOW

**Downloadable**

- IBM Rapid Restore™ PC
- IBM Data Transfer
- Universal Manageability Services™
- Client Security Software (for security chip)

**License**

- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0

**Office XP Small Business models only**

- Microsoft Office XP Small Business<sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)
- ◆ Office XP Small Business CD

**Ultrabay Plus integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series**

**PC 2001-compliant**

- ACPI 1.0b and 2.0 support
- CIM and DMI 2.0 compliant
- Wired for Management 2.0
- Local and remote asset management via the IBM Universal Manageability solutions
- IBM ImageUltra™ Services available
- IBM Rapid Restore PC available to protect software image and data
- Setup Guide, Service and Troubleshooting Guide, Windows manual
- International Warranty Service<sup>17</sup>
- 24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup>

See footnotes for important warranty information  
US models announced October 9, 2001  
US models withdrawn effective July 2003

Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Mini PCI	CDC Ethernet	CDC Modem	Security Chip	Preload	Workhorse or Global model	Avail date
2652-D3U	Pentium® 4-M	1.6GHz	256MB	15" SXGA+	40GB <sup>8</sup> DVD/CD-RW	Open		10/100	Modem		Windows® XP Pro	No	Mar 2002
2652-D4U	Pentium 4-M	1.6GHz	256MB	15" SXGA+	40GB DVD/CD-RW	Open		10/100	Modem		Windows 2000	No	Mar 2002
2652-D5U	Pentium 4-M	1.6GHz	256MB	15" SXGA+	40GB DVD/CD-RW	Wi-Fi <sup>32</sup> /mod		10/100	Open	Yes	Windows XP Pro	No	Mar 2002
2652-D6U	Pentium 4-M	1.6GHz	256MB	15" SXGA+	40GB DVD/CD-RW	Wi-Fi/mod		10/100	Open	Yes	Windows 2000	No	Mar 2002
Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>												
L2 cache	<b>Mobile Intel® Pentium® 4 Processor-M 1.6GHz</b> with enhanced Intel SpeedStep™ technology <sup>21</sup> and 400MHz frontside bus												
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>256MB</b> std / 1GB max <sup>7</sup> / <b>PC2100 266MHz<sup>30</sup> DDR-SDRAM</b> / non-parity / 2.5v / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available												
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive												
DVD-ROM/CD-RW	Combo / 8X/8X/24X/8X <sup>21</sup> speed / bootable / removable from Ultrabay Plus												
Modular bays	<b>Two modular bays</b> for interchangeable devices / <b>Ultrabay 2000</b> (left side) and <b>Ultrabay Plus</b> (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)												
Disk (removable)	<b>40GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay												
Display	<b>15.0"</b> (381mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix / 200:1 contrast												
Graphics controller	<b>ATI® Mobility™ Radeon™ 7500 / AGP 4X / 32MB</b> DDR-SDRAM 166MHz												
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions												
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
UltraPort™	None												
Case material	<i>Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic</i>												
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8"; 329mm x 272.5mm x 45.8mm												
Approximate weight <sup>2</sup>	with battery and optical drive: 7.6 lb (3.45kg)												
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000												
Battery - life <sup>10</sup>	2.3 hours / universal 72 watt AC adapter (16Vdc 4.5A)												
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)												
Port replicator	Optional <b>ThinkPad Port Replicator</b>												
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video												
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse												
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard												
IEEE 1394	None												
Mini PCI	One Mini PCI IIIb slot (Communications Bay) / customer upgradeable												
Wi-Fi <sup>32</sup> /modem	<i>Some: Mini PCI Wi-Fi<sup>32</sup> wireless<sup>4</sup>, Intersil® Prism 2.5 chipset, dual antennas in display cover / 56K<sup>6</sup> V.90 (V.92-designed<sup>29</sup>)modem combo, Lucent® chipset</i>												
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible												
Modem	<i>Some: 56K<sup>6</sup> V.90 (V.92-designed<sup>29</sup>) CDC modem card / Lucent® chip set</i>												
Ethernet	10/100 ethernet on CDC / Intel 82562ET chipset (physical layer)												
Bluetooth™	None												
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack												
Security	Power-on password / hard disk password / supervisor password / security keyhole /												
Security chip	<i>Some: IBM Embedded Security Subsystem<sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security<sup>16</sup></i>												
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM ThinkPad Ultrabay Plus Carrier	22P5737	PC 2001-compliant									
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	IBM ThinkPad Ultrabay Plus c500 Cradle	22P5738	ACPI 1.0b and 2.0 support									
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Ultrabay Plus Numeric Keypd	22P7330	CIM and DMI 2.0-compliant									
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad Port Replicator	02K8667	IBM ImageUltra Services available									
20GB Hard Disk Drive	08K9686	ThinkPad Dock	263120U	IBM Rapid Restore PC available to protect software image and data									
40GB Hard Disk Drive	08K9687	IBM USB Sleek Mouse	33L3244	Setup Guide, Service and Troubleshooting Guide, Windows manual									
60GB HS Hard Disk Drive (5400 rpm)	08K9688	IBM USB Numeric Keypad	33L3225	Personalized Web-based support <sup>31</sup>									
ThinkPad Removable Diskette Drive	08K9603	IBM USB 32MB Memory Key	22P5296	Proactive e-mail updates <sup>31</sup>									
SuperDisk (LS-240) UltraBay 2000	08K9616	Portable Drive Bay 2000	19K4480	International Warranty Service <sup>17</sup>									
Zip 250MB Ultrabay 2000 Drive	00N8253	10/100 EtherJet™ CardBus Adapter	08L3147	24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty									
8X/4X/24X Max CD-RW Ultrabay 2000	22P9101	10/100 Enet/56K Mini PCI (3Com)	09N9774										
Ultralight 8X Max DVD Ultrabay 2000	22P9102	ServicePac®.22 1yr IOR 9x5 NBD	30L9188										
DVD/CD-RW Combo II Ultrabay 2000	08K9701	ServicePac 2yr IOR 9x5 NBD	30L9189										
Travel Bezel for Ultrabay 2000	08K6070	ServicePac 3yr IOR 9x5 NBD	30L9195										
ThinkPad A30 Series Li-Ion Battery	02K6878	ServicePac 2yr P&L P/U Depot	30L9191										
Ultrabay 2000 Li-Ion battery	02K6646	ServicePac 3yr P&L P/U Depot	30L9192										
ThinkPad 72W AC Adapter	02K6699	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>											
Multiple Li-Ion/NiMH Battery Charger	02K6719												

See footnotes for important warranty information  
US models announced March 5, 2002  
US models withdrawn effective July 2002

Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Mini PCI wireless/modem	CDC ethernet	CDC Security modem chip	Preload	Small business	Workhorse or Global model	Avail date
2652-C3U	Pentium® 4-M	1.6GHz	256MB	15" XGA	30GB <sup>8</sup>	CD-RW	Open	10/100	Modem	XP Pro		W G	Apr 2002
2652-C4U	Pentium 4-M	1.6GHz	256MB	15" XGA	30GB	CD-RW	Open	10/100	Modem	2000		W G	Apr 2002
2652-C5U	Pentium 4-M	1.6GHz	256MB	15" XGA	30GB	CD-RW	11b Wi-Fi <sup>32</sup> /mod	10/100	Open	XP Pro		W G	Apr 2002
2652-C6U	Pentium 4-M	1.6GHz	256MB	15" XGA	30GB	CD-RW	11b Wi-Fi/mod	10/100	Open	2000		W G	Apr 2002
2652-CTU	Pentium 4-M	1.6GHz	256MB	15" XGA	30GB	CD-RW	Open	10/100	Modem	2000	XP Office <sup>28</sup>	W	Apr 2002
Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>												
L2 cache	<b>Mobile Intel® Pentium® 4 Processor-M 1.6GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus												
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>256MB</b> std / 1GB max <sup>7</sup> / <b>PC2100 266MHz<sup>30</sup> DDR-SDRAM</b> / non-parity / 2.5v / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available												
Diskette drive CD-RW	None standard / use optional Ultrabay™-based or USB-based diskette drive CD-RW / 8X/4X/24X <sup>9</sup> speed / bootable / removable from Ultrabay Plus												
Modular bays (both 12.7mm)	<b>Two modular bays</b> for interchangeable devices / <b>Ultrabay 2000</b> (left side) and <b>Ultrabay Plus</b> (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)												
Disk (removable)	<b>30GB<sup>8</sup></b> / upgradable / S.M.A.R.T. / 12.5mm bay / supports two additional disks with optional HDD adapter in each modular bay												
Display	<b>15.0"</b> (381mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 200:1 contrast												
Graphics controller	<b>ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16MB</b> DDR-SDRAM 166MHz												
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions												
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
UltraPort™	None												
Case material	<b>Color: Black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic</b>												
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8-1.9"; 329mm x 272.5mm x 44.6-46.8mm												
Approximate weight <sup>2</sup>	with battery and optical drive: 7.5 lb (3.45kg)												
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000												
Battery - life <sup>10</sup>	2.5 hours / universal 72 watt AC adapter (16Vdc 4.5A)												
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoch <sup>®</sup> R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)												
Port replicator	Optional <b>ThinkPad Port Replicator</b>												
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door												
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse												
Video out IEEE 1394	S-video out port (TV out) / industry standard connector / no cable ships standard												
Mini PCI	None												
11b Wi-Fi <sup>32</sup> /mod	One Mini PCI IIIb slot (Communications Bay) / customer upgradable <i>Some:</i> Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi certified / 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset												
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible												
Modem	<i>Some:</i> 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) CDC modem card / Lucent® chip set												
Ethernet	10/100 ethernet on CDC / Intel 82562ET chipset (physical layer)												
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack												
Security	Power-on password / hard disk password / supervisor password / security keyhole /												
Security chip	<i>Some:</i> <b>IBM Embedded Security Subsystem<sup>33</sup></b> / hardware key storage / mult-factor authentication / local file encryption / enhances VPN security <sup>16</sup>												
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM ThinkPad Ultrabay Plus Carrier	22P5737										
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	IBM ThinkPad Ultrabay Plus c500 Cradle	22P5738										
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Ultrabay Plus Numeric Keypd	22P7330										
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad Port Replicator	02K8667										
20GB Hard Disk 9.5mm (4200 rpm)	08K9686	ThinkPad Dock	263120U										
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	Optical 3-Button Travel Wheel Mouse	31P7410										
IBM 256MB USB 2.0 Memory Key	22P9025	IBM USB Numeric Keypad	33L3225										
ThinkPad Removable Diskette Drive	08K9603	IBM USB 32MB Memory Key	22P5296										
SuperDisk (LS-240) UltraBay 2000	08K9616	Portable Drive Bay 2000	19K4480										
Zip 250MB Ultrabay 2000 Drive	00N8253	10/100 EtherJet™ CardBus Adapter	08L3147										
Ultralight 8X Max DVD Ultrabay 2000	22P9102	ServicePac <sup>®</sup> . 22 1yr IOR 9x5 NBD	30L9188										
DVD/CD-RW Combo III Ultrabay 2000	22P6980	ServicePac 2yr IOR 9x5 NBD	30L9189										
Travel Bezel for Ultrabay 2000	08K6070	ServicePac 3yr IOR 9x5 NBD	30L9195										
ThinkPad A30 Series Li-Ion Battery	02K6878	ServicePac 2yr P&L P/U Depot	30L9191										
Ultrabay 2000 Li-Ion battery	02K6646	ServicePac 3yr P&L P/U Depot	30L9192										
ThinkPad 72W AC Adapter	02K6699	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>											
Multiple Li-Ion/NiMH Battery Charger	02K6719												
<p>PC 2001-compliant ACPI 1.0b and 2.0 support CIM and DMI 2.0-compliant IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data Setup Guide, Service and Troubleshooting Guide, Windows manual International Warranty Service<sup>17</sup> 24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup></p>													

See footnotes for important warranty information  
US models announced April 23, 2002  
US models withdrawn effective August 2003

# IBM® ThinkPad® A31 (June 2002) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Mini PCI wireless/modem	CDC ethernet	CDC Security modem chip	Preload	Small business	Workhorse or Global model	Avail date
2652-J4U	Pentium® 4-M	1.6GHz	128MB	14.1" XGA	20GB <sup>8</sup>	CD-ROM	Open	10/100	Modem	2000		No	Jun 2002
2652-J6U	Pentium 4-M	1.6GHz	128MB	14.1" XGA	20GB	CD-ROM	11b Wi-Fi <sup>32</sup> /mod	10/100	Open	2000		No	Jun 2002
2652-M4U	Pentium 4-M	1.8GHz	256MB	15" SXGA+	40GB	Combo	Open	10/100	Modem	2000		No	Jun 2002
2652-M6U	Pentium 4-M	1.8GHz	256MB	15" SXGA+	40GB	Combo	11b Wi-Fi/mod	10/100	Open	Yes	2000	No	Jun 2002
2652-J3U	Pentium 4-M	1.6GHz	128MB	14.1" XGA	20GB	CD-ROM	Open	10/100	Modem	XP Pro		No	Jun 2002
2652-J5U	Pentium 4-M	1.6GHz	128MB	14.1" XGA	20GB	CD-ROM	11b Wi-Fi/mod	10/100	Open	XP Pro		No	Jun 2002
2652-JBU	Pentium 4-M	1.8GHz	128MB	14.1" XGA	20GB	CD-ROM	Open	10/100	Modem	XP Pro		No	Mar 2003
2652-JCU	Pentium 4-M	1.8GHz	128MB	14.1" XGA	20GB	CD-ROM	11b Wi-Fi/mod	10/100	Open	XP Pro		No	Mar 2003
2652-M3U	Pentium 4-M	1.8GHz	256MB	15" SXGA+	40GB	Combo	Open	10/100	Modem	XP Pro		No	Jun 2002
2652-M5U	Pentium 4-M	1.8GHz	256MB	15" SXGA+	40GB	Combo	11b Wi-Fi/mod	10/100	Open	Yes	XP Pro	No	Jun 2002
2652-JEU	Pentium 4-M	1.6GHz	128MB	14.1" XGA	20GB	CD-ROM	Open	10/100	Modem	XP Home		No	Jun 2002
2652-JFU	Pentium 4-M	1.6GHz	128MB	14.1" XGA	20GB	CD-ROM	11b Wi-Fi/mod	10/100	Open	XP Home		No	Jun 2002
2652-JTU	Pentium 4-M	1.6GHz	128MB	14.1" XGA	20GB	CD-ROM	Open	10/100	Modem	2000	XP Office <sup>28</sup>	No	Jun 2002
Positioning Processor	High-performance desktop alternatives with exceptional versatility; three spindle Mobile Intel® Pentium® 4 Processor-M 1.6 or 1.8GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus										<b>SOFTWARE<sup>14</sup></b>		
L2 cache	512KB / on die (at processor speed) / ECC										<b>Windows 2000 models</b>		
Memory	128 or 256MB std / 1GB max <sup>7</sup> / PC2100 DDR-SDRAM / non-parity / 266MHz <sup>30</sup> / 2.5v / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available										- Microsoft® Windows® 2000 Professional <sup>20</sup>		
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive										• ConfigSafe®		
CD-ROM	Some: CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay Plus										◇ Disk-to-Disk Recovery (in hidden Service Partition)		
DVD-ROM/CD-RW	Some: Combo / 8X/8X/24X/8X <sup>21</sup> speed / bootable / removable from Ultrabay Plus										<b>Windows XP Pro models</b>		
Modular bays (both 12.7mm)	Two modular bays for interchangeable devices / <b>Ultrabay 2000</b> (left side) and <b>Ultrabay Plus</b> (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)										- Microsoft Windows XP Professional <sup>20</sup>		
Disk (removable)	20 or 40GB <sup>8</sup> / upgradable / S.M.A.R.T. / 12.5mm bay / supports two additional disks with optional HDD adapter in each modular bay										◇ Disk-to-Disk Recovery (in hidden Service Partition)		
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 200:1 contrast Some: 15.0" (381mm) SXGA+ (1400x1050) TFT color / Active Matrix / 400:1 cont / FlexView display with wide viewing angle and high density (IPS technology)										<b>Windows XP Home models</b>		
Graphics controller	ATI® Mobility™ RADEON™ 7500 / AGP 4X / DDR-SDRAM 166MHz / Jxx: 16MB, Mxx: 32MB										- Microsoft Windows XP Home Edition <sup>20</sup>		
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions										◇ Disk-to-Disk Recovery (in hidden Service Partition)		
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm										<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>		
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™										<b>Preloaded</b>		
Case material	Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic										• Access ThinkPad		
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8-1.9"; 329mm x 272.5mm x 44.6-46.8mm										- Access Connections		
Approximate weight <sup>2</sup>	with battery and optical drive: Jxx: 7.2 lb (3.27kg); Mxx: 7.6 lb (3.45kg)										• Adobe Acrobat Reader		
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000										• PC-Doctor™		
Battery - life <sup>10</sup>	Mxx: 2.3 hr; Jxx: 2.5 hr; All: universal 72 watt AC adapter (16Vdc 4.5A)										• ThinkPad Utilities		
Architecture	Intel 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)										• IBM Update Connector™ <sup>15</sup>		
Docking Station	Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)										• IBM Veritas® RecordNOW and DLA (combo models)		
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door										<b>Downloadable</b>		
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse										• IBM Rapid Restore™ PC		
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard										• IBM Data Transfer		
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable										• IBM Director Agent		
11b Wi-Fi <sup>32</sup> /mod	Some: Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi certified / 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset										• Client Security Software (security chip models)		
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible										<b>License</b> (CD not included)		
Modem	Some: 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) CDC modem card / Agere® chipset										- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		
Ethernet	10/100 ethernet on CDC / Intel82562ET chipset (physical layer) / PXE / Wake on LAN®										<b>Office XP Small Business model only</b> (2652-JTU)		
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack										- Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)		
Security	Power-on password / hard disk password / supervisor password / security keyhole / Some: <b>IBM Embedded Security Subsystem</b> <sup>33</sup> / hardware key storage / mult-factor authentication / local file encryption / enhances VPN security <sup>16</sup>										◇ Office XP Small Business CD		
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> available												
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad Port Replicator	02K8667										
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad Port Replicator II	74P6733										
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Mini Dock	287810U										
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad Dock	263120U										
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Dock II	287710U										
IBM 256MB USB 2.0 Memory Key	22P9025	Optical 3-Button Travel Wheel Mouse	31P7410										
ThinkPad Removable Diskette Drive	08K9603	IBM 128MB USB 2.0 Memory Key	22P8998										
Ultralight 8X Max DVD Ultrabay 2000	22P9102	ServicePac® <sup>22</sup> 1yr IOR 9x5 NBD	30L9188										
DVD/CD-RW Combo IV Ultrabay 2000	22P6991	ServicePac 2yr IOR 9x5 NBD	30L9189										
Travel Bezel for Ultrabay 2000	08K6070	ServicePac 3yr IOR 9x5 NBD	30L9195										
ThinkPad A30 Series Li-Ion Battery	02K6878	ServicePac 2yr P&L P/U Depot	30L9191										
Ultrabay 2000 Li-Ion battery	02K6646	ServicePac 3yr P&L P/U Depot	30L9192										
ThinkPad 72W AC Adapter	02K6699	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>											
												PC 2001-compliant	
												ACPI 1.0b and 2.0 support	
												CIM and DMI 2.0-compliant	
												IBM Rapid Restore PC available to protect software image and data	
												Setup Guide, Service and Troubleshooting Guide, Windows manual	
												International Warranty Service <sup>17</sup>	
												24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>	

See footnotes for important warranty information  
US models announced March 12, 2003; previous models on June 4, 2002  
US models withdrawn effective April or October 2003

Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Mini PCI wireless/modem	CDC ethernet	CDC modem	Security chip	Preload	Small business	Workhorse or Global model	Avail date
2652-P3U	Pentium® 4-M	1.9GHz	256MB	15" XGA	30GB <sup>8</sup>	DVD Open		10/100	Modem		XP Pro		W G	Sep 2002
2652-P4U	Pentium 4-M	1.9GHz	256MB	15" XGA	30GB	DVD Open		10/100	Modem		2000			Sep 2002
2652-P5U	Pentium 4-M	1.9GHz	256MB	15" XGA	30GB	DVD	11b Wi-Fi <sup>32</sup> /mod	10/100	Open	Yes	XP Pro		W G	Sep 2002
2652-P6U	Pentium 4-M	1.9GHz	256MB	15" XGA	30GB	DVD	11b Wi-Fi/mod	10/100	Open	Yes	2000			Sep 2002
2652-PTU	Pentium 4-M	1.9GHz	256MB	15" XGA	30GB	DVD Open		10/100	Modem		2000	Office XP SB <sup>28</sup>		Sep 2002

Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>										<b>SOFTWARE<sup>14</sup></b>			
L2 cache	Mobile Intel® Pentium® 4 Processor-M 1.9GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus										<b>Windows 2000 models</b>			
Memory	512KB / on die (at processor speed) / ECC										- Microsoft® Windows® 2000 Professional <sup>20</sup>			
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive										• ConfigSafe®			
DVD-ROM	DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay Plus										✦ Disk-to-Disk Recovery (in hidden Service Partition)			
Modular bays (both 12.7mm)	Two modular bays for interchangeable devices / Ultrabay 2000 (left side) and Ultrabay Plus (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)										<b>Windows XP Pro models</b>			
Disk (removable)	30GB <sup>8</sup> / upgradable / S.M.A.R.T. / 12.5mm bay / supports two additional disks with optional HDD adapter in each modular bay										- Microsoft Windows XP Professional <sup>20</sup>			
Display	15.0" (381mm) XGA (1024x768) TFT color / Active Matrix / 200:1 contrast										✦ Disk-to-Disk Recovery (in hidden Service Partition)			
Graphics controller	ATI® Mobility™ RADEON™ 7500 / AGP 4X / DDR-SDRAM 166MHz / 16MB										<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>			
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions										<b>Preloaded</b>			
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm										• Access ThinkPad			
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™										- Access Connections			
Case material	Color: Black; Top: ABS plastic; Bottom: Glass-fiber reinforced plastic										- Access Support			
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8"; 329mm x 272.5mm x 45.8mm										- Access Help			
Approximate weight <sup>2</sup>	With battery and optical drive: 7.5 lb (3.4kg)										• Adobe Acrobat Reader			
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000										• PC-Doctor™			
Battery - life <sup>10</sup>	2.5 hr; All: universal 72 watt AC adapter (16Vdc 4.5A)										• ThinkPad Utilities			
Architecture	Intel 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)										• IBM Update Connector™ <sup>15</sup>			
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)										• IBM Veritas® RecordNOW and DLA (combo models)			
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door										<b>Downloadable</b>			
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard/mouse										• IBM Rapid Restore™ PC			
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard										• Software Delivery Assistant			
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable										• System Migration Assistant			
11b Wi-Fi <sup>32</sup> /mod	Some: Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi certified / 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset										• IBM Director Agent			
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible										• Client Security Software (security chip models)			
Modem	Some: 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) CDC modem card / Agere® chipset										<b>License (CD not included)</b>			
Ethernet	10/100 ethernet on CDC / Intel 82562ET chipset (physical layer)										- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack										<b>Office XP Small Business model only (2652-PTU)</b>			
Security	Power-on password / hard disk password / supervisor password / security keyhole / Some: IBM Embedded Security Subsystem <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCPA-compliant										- Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)			
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service										✦ Office XP Small Business CD			
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)													

128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad A30 Series Li-Ion Battery	02K6878	<b>Ultrabay Plus</b> integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo II drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series  PC 2001-compliant ACPI 1.0b and 2.0 support CIM and DMI 2.0-compliant IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data Setup Guide, Service and Troubleshooting Guide, Windows manual International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Ultrabay 2000 Li-Ion battery	02K6646	
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Multiple Li-Ion/NiMH Battery Charger	02K6719	
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad 72W AC Adapter	02K6699	
20GB Hard Disk Drive	08K9686	ThinkPad Ultrabay Plus Carrier	22P5737	
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Ultrabay Plus Numeric Keypd	22P7330	
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Port Replicator	02K8667	
IBM USB Portable Diskette Drive	05K9276	ThinkPad Dock	263120U	
ThinkPad Removable Diskette Drive	08K9603	IBM Optical Travel Wheel Mouse (black)	31P7410	
SuperDisk (LS-240) UltraBay 2000	08K9616	IBM 1 GB Microdrive	07N5574	
Zip 250MB Ultrabay 2000 Drive	00N8253	ServicePac <sup>22</sup> 1yr IOR 9x5 NBD	30L9188	
Ultralight 8X <sup>9</sup> Max DVD Ultrabay 2000	22P9102	ServicePac 2yr IOR 9x5 NBD	30L9189	
DVD/CD-RW Combo III Ultrabay 2000	22P6980	ServicePac 3yr IOR 9x5 NBD	30L9195	
Travel Bezel for Ultrabay 2000	08K6070	ServicePac 4yr IOR 9x5 NBD	69P9194	
Portable Drive Bay 2000	19K4480	ServicePac 5yr IOR 9x5 NBD	69P9196	
IBM 128MB USB 2.0 Memory Key	22P8998	ServicePac 2yr P&L P/U Depot	30L9191	
IBM Portable USB 2.0 CD-RW Drive	22P5297	ServicePac 3yr P&L P/U Depot	30L9192	
ThinkPad USB 2.0 CardBus Adapter	33L3245	ServicePac 4yr P&L P/U Depot	69P9195	
IBM MicroPortable Data/Video Projector	0037A02	ServicePac 5yr P&L P/U Depot	69P9197	
IBM High Rate Wireless LAN PC Card 128	09N9904	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>		

See footnotes for important warranty information  
US models announced August 27, 2002  
US models withdrawn effective October 2003

Type-model	Processor	Speed	Memory	Screen	Graphics memory	Disk	Ultrabay optical	Mini PCI wireless/modem	CDC ethernet	CDC Security modem chip	Workhorse or Avail Global model	date
2652-P8U	Pentium® 4-M	2.0GHz	128MB	14.1" XGA	16MB	20GB <sup>8</sup>	CD	Open	10/100	Modem	XP Pro	Jan 2003
2652-P9U	Pentium 4-M	2.0GHz	128MB	14.1" XGA	16MB	20GB	CD	11b Wi-Fi <sup>32</sup> /modem	10/100	Modem	XP Pro	Jan 2003
2652-PBU	Pentium 4-M	2.0GHz	256MB	15.0" XGA	16MB	40GB	Combo	Open	10/100	Open	XP Pro	Jan 2003
2652-PCU	Pentium 4-M	2.0GHz	256MB	15.0" XGA	16MB	40GB	Combo	11b Wi-Fi/modem	10/100	Open	XP Pro	Jan 2003
2652-Q3U	Pentium 4-M	2.0GHz	256MB	15.0" SXGA+	32MB	40GB	Combo	Open	10/100	Open	XP Pro	Jan 2003
2652-Q5U	Pentium 4-M	2.0GHz	256MB	15.0" SXGA+	32MB	40GB	Combo	11b Wi-Fi/modem	10/100	Open	XP Pro	Jan 2003
2652-PEU	Pentium 4-M	2.0GHz	128MB	14.1" XGA	16MB	20GB	CD	Open	10/100	Open	XP Home	Jan 2003
Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ◇ Disk-to-Disk Recovery (in hidden Service Partition) <b>Windows XP Home models</b> - Microsoft Windows XP Home Edition <sup>20</sup> • ConfigSafe® ◇ Disk-to-Disk Recovery (in hidden Service Partition) <b>INCLUDED SOFTWARE<sup>14</sup> (all)</b> <b>Preloaded</b> • Access ThinkPad - Access Connections - Access Support - Access Help • Adobe Acrobat Reader • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup> • IBM Veritas® RecordNow and DLA (combo models) <b>Downloadable</b> • IBM Rapid Restore™ PC • Software Delivery Assistant • System Migration Assistant • IBM Director Agent • Client Security Software (security chip models) <b>License (CD not included)</b> - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
L2 cache	Mobile Intel® Pentium® 4 Processor-M 2.0GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											
Memory	512KB / on die (at processor speed) / ECC 128 or 256MB std / 1GB max <sup>7</sup> / PC2100 DDR-SDRAM / non-parity / 266MHz <sup>30</sup> / 2.5v / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available											
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive											
CD-ROM	<i>Some:</i> CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay Plus											
Combo	<i>Some:</i> Combo / 16X/8X/24X/8X <sup>21</sup> speed / bootable / removable from Ultrabay Plus											
Modular bays (both 12.7mm)	Two modular bays for interchangeable devices / <b>Ultrabay 2000</b> (left side) and <b>Ultrabay Plus</b> (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)											
Disk (removable)	<b>20</b> or <b>40GB<sup>8</sup></b> , 4200 rpm, 9.5mm / upgradable / S.M.A.R.T. / 12.5mm bay / supports two additional disks with optional HDD adapter in each modular bay											
Display	<i>Some:</i> <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 200:1 contrast <i>Some:</i> <b>15.0"</b> (381mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 200:1 contrast <i>Some:</i> <b>15.0"</b> (381mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix / 400:1 cont / FlexView display with wide viewing angle and high density (IPS technology)											
Graphics controller	<b>ATI® Mobility™ RADEON™ 7500 / AGP 4X / DDR-SDRAM 166MHz / 16 or 32MB</b>											
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions											
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint™, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™											
Case material	<i>Color:</i> Black; <i>Top:</i> ABS plastic; <i>Bottom:</i> Glass-fiber reinforced plastic											
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8"; 329mm x 272.5mm x 45.8mm											
Approximate weight <sup>2</sup>	with battery and optical drive: 7.5 lb (3.4kg)											
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000											
Battery - life <sup>10</sup>	<i>PCU/Q3U/Q5U:</i> 2.3 hr; <i>Others:</i> 2.5 hr; <i>All:</i> universal 72 watt AC adapter (16Vdc 4.5A)											
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)											
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)											
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door											
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard/mouse											
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											
11b Wi-Fi <sup>32</sup> /mod	<i>Some:</i> 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intersil® Prism 2.5 chipset, UltraConnect™ antenna built in both sides of display, Wi-Fi certified / 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset											
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible											
Modem	<i>Some:</i> 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) CDC modem card / Agere® chipset											
Ethernet	10/100 ethernet on CDC / Intel 82562ET chipset (physical layer)											
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack											
Security	Power-on password / hard disk password / supervisor password / security keyhole / <i>Some:</i> <b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCFPA-compliant											
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service											
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad A30 Series Li-Ion Battery	02K6878	ServicePac 4yr IOR 9x5 NBD	30L9195							
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Ultrabay 2000 Li-Ion battery	02K6646	ServicePac 2yr IOR 9x5 NBD	30L9188							
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Multiple Li-Ion/NiMH Battery Charger	02K6719	ServicePac 3yr IOR 9x5 NBD	30L9189							
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad 72W AC Adapter	02K6699	ServicePac 4yr IOR 9x5 NBD	30L9195							
20GB Hard Disk Drive	08K9686	ThinkPad Ultrabay Plus Carrier	22P5737	ServicePac 5yr IOR 9x5 NBD	69P9194							
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Ultrabay Plus Numeric Keypd	22P7330	ServicePac 2yr P&L P/U Depot	69P9196							
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Port Replicator	02K8667	ServicePac 3yr P&L P/U Depot	30L9191							
IBM USB Portable Diskette Drive	05K9276	ThinkPad Port Replicator II	74P6733	ServicePac 4yr P&L P/U Depot	69P9195							
ThinkPad Removable Diskette Drive	08K9603	ThinkPad Mini Dock	287810U	ServicePac 3yr P&L P/U Depot	30L9192							
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad Dock	263120U	ServicePac 4yr P&L P/U Depot	69P9197							
Ultralight 8X <sup>8</sup> Max DVD Ultrabay 2000	22P9102	IBM Optical Travel Wheel Mouse (black)	31P7410	ServicePac 5yr P&L P/U Depot	69P9195							
DVD/CD-RW Combo IV Ultrabay 2000	22P6991	Portable Drive Bay 2000	19K4480	ServicePac 2yr P&L P/U Depot	69P9197							
Travel Bezel for Ultrabay 2000	08K6070	IBM 128MB USB 2.0 Memory Key	22P8998	Other ServicePac options at								
IBM High Rate Wireless LAN PC Card 128	09N9904	IBM Portable USB 2.0 CD-RW Drive	22P5297	<b>ibm.com/services/its/us/source/wamomxeu.pdf</b>								
IBM 1GB Microdrive	07N5574	ThinkPad USB 2.0 CardBus Adapter	33L3245									
Bluetooth PC Card II from IBM	19K5796	Other options at	<b>ibm.com/us/pc/accessories</b>									

See footnotes for important warranty information  
US models announced January 28, 2003  
US models withdrawn effective October 2003 or January 2004

Type-model	Processor	Speed	Memory	Screen	Disk	Ultrabay optical	Ultrabay diskette	Mini PCI wireless/modem	CDC ethernet	Preload	Limited warranty	Avail date
2652-AUU	Pentium® 4-M	1.6GHz	256MB	14.1" XGA	30GB <sup>8</sup>	CD-RW	Diskette	Wi-Fi <sup>32</sup> /modem	10/100	Windows® XP Pro	1 yr	Apr 2002
2653-AUU	Pentium 4-M	1.6GHz	256MB	14.1" XGA	30GB	CD-RW	Diskette	Wi-Fi/modem	10/100	Windows XP Pro	3 yr	Apr 2002

These educational models of the ThinkPad A31 notebook must be sold only to qualified education customers. Qualified institution/customer is a public or private K-12 (or higher) accredited school organized and operated exclusively for educational purposes for use by Qualified Students and/or Qualified Teachers.

This model for education is for sale direct from IBM or through an Authorized Education Reseller. The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle Mobile Intel® Pentium® 4 Processor-M 1.6GHz with enhanced Intel SpeedStep™ technology<sup>1</sup> and 400MHz frontside bus</i>										<p><b>SOFTWARE<sup>14</sup></b></p> <p><b>Windows XP Pro models</b></p> <ul style="list-style-type: none"> <li>- Microsoft® Windows® XP Professional<sup>20</sup></li> <li>◇ Disk-to-Disk Recovery (in hidden Service Partition)</li> </ul> <p><b>INCLUDED SOFTWARE<sup>14</sup> (all)</b></p> <p><b>Preloaded</b></p> <ul style="list-style-type: none"> <li>• Access ThinkPad</li> <li>- Access Connections</li> <li>- Access Support</li> <li>- Access Help</li> <li>• Adobe® Acrobat Reader</li> <li>• PC-Doctor™</li> <li>• ThinkPad Utilities</li> <li>• IBM Update Connector™<sup>15</sup></li> <li>• IBM RecordNOW by Veritas®</li> </ul> <p><b>Downloadable</b></p> <ul style="list-style-type: none"> <li>• IBM Rapid Restore™ PC</li> <li>• IBM Data Transfer</li> <li>• IBM Director Agent</li> </ul> <p><b>License (CD not included)</b></p> <ul style="list-style-type: none"> <li>- Lotus® SmartSuite® Millennium and Lotus Notes® Stand Alone Client</li> </ul>
L2 cache	<b>512KB</b> / on die (at processor speed) / ECC										
Memory	<b>256MB</b> std / 1GB max <sup>7</sup> / <b>PC2100 266MHz<sup>30</sup> DDR-SDRAM</b> / non-parity / 2.5v / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available										
Diskette drive	3.5" 1.44MB / removable from left Ultrabay 2000 (but travel bezel in bay at ship)										
CD-RW	CD-RW / 8X/4X/24X Max <sup>9</sup> speed / bootable / removable from Ultrabay Plus										
Modular bays	<b>Two modular bays</b> for interchangeable devices / <b>Ultrabay 2000</b> (left side with travel bezel or diskette) and <b>Ultrabay Plus</b> (right side with CD-RW)										
Disk (removable)	<b>30GB<sup>8</sup></b> / upgradeable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay										
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 200:1 contrast										
Graphics controller	<b>ATI® Mobility™ Radeon™ 7500 / AGP 4X / 16MB</b> DDR-SDRAM 166MHz										
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions										
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm										
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™										
Case material	<i>Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic</i>										
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8-1.9"; 329mm x 272.5mm x 44.6-46.8mm										
Approximate weight <sup>2</sup>	with battery and optical drive: 7.5 lb (3.32kg)										
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000										
Battery - life <sup>10</sup>	2.3 hours / universal 72 watt AC adapter (16Vdc 4.5A)										
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C552 CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)										
Port replicator	Optional <b>ThinkPad Port Replicator</b>										
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)										
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video										
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse										
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard										
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable										
Wi-Fi <sup>32</sup> /modem	Mini PCI Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset										
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible										
Ethernet	10/100 ethernet on CDC / Intel82562ET chipset (physical layer)										
Open	One Communications Daughter Card (CDC) socket open										
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack										
Security	Power-on password / hard disk password / supervisor password / security keyhole /										
Limited warranty <sup>12</sup>	2652: <b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service										
Service options	2653: <b>3 years</b> /1 year battery - EasyServ onsite pickup and delivery courier service										
	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										

128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM ThinkPad Ultrabay Plus Carrier	22P5737	<p>PC 2001-compliant</p> <p>ACPI 1.0b and 2.0 support</p> <p>CIM and DMI 2.0-compliant</p> <p>IBM ImageUltra Services available</p> <p>IBM Rapid Restore PC available to protect software image and data</p> <p>Setup Guide, Service and Troubleshooting Guide, Windows manual</p> <p>Personalized Web-based support<sup>31</sup></p> <p>Proactive e-mail updates<sup>31</sup></p> <p>International Warranty Service<sup>17</sup></p> <p>24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup></p>
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	IBM ThinkPad Ultrabay Plus c500 Cradle	22P5738	
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Ultrabay Plus Numeric Keypad	22P7330	
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad Port Replicator	02K8667	
20GB Hard Disk 9.5mm (4200 rpm)	08K9686	ThinkPad Dock	263120U	
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	IBM USB Sleek Mouse	33L3244	
60GB HS Hard Disk 12.5mm (5400 rpm)	08K9688	IBM USB Numeric Keypad	33L3225	
ThinkPad Removable Diskette Drive	08K9603	IBM USB 32MB Memory Key	22P5296	
SuperDisk (LS-240) UltraBay 2000	08K9616	Portable Drive Bay 2000	19K4480	
Zip 250MB Ultrabay 2000 Drive	00N8253	10/100 EtherJet™ CardBus Adapter	08L3147	
Ultralight 8X Max DVD Ultrabay 2000	22P9102	2652: ServicePac <sup>22</sup> 1yr IOR 9x5 NBD	30L9188	
DVD/CD-RW Combo III Ultrabay 2000	22P6980	2652: ServicePac 2yr IOR 9x5 NBD	30L9189	
Travel Bezel for Ultrabay 2000	08K6070	2652: ServicePac 3yr IOR 9x5 NBD	30L9195	
ThinkPad A30 Series Li-Ion Battery	02K6878	2652: ServicePac 2yr P&L P/U Depot	30L9191	
Ultrabay 2000 Li-Ion battery	02K6646	2652: ServicePac 3yr P&L P/U Depot	30L9192	
ThinkPad 72W AC Adapter	02K6699	2653: ServicePac 2yr IOR 9x5 NBD	30L9190	
Multiple Li-Ion/NiMH Battery Charger	02K6719	2653: ServicePac 3yr IOR 9x5 NBD	30L9197	
		Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>		

See footnotes for important warranty information  
US models announced April 30, 2002  
US models withdrawn effective January 2003



Type-model	Processor	Speed	Memory	Screen	Disk GB <sup>8</sup>	Ultrabay optical	Ultrabay diskette	Mini PCI wireless/modem	CDC ethernet	CDC modem	CDC Security chip	Limited Warranty	Avail date
2652-JUU	Pentium® 4-M	1.6GHz	128MB	14.1" XGA	20G	CD-ROM	Diskette	11b Wi-Fi <sup>32</sup> /mod	10/100	Open	No	XP Pro 1 year	Jun 2002
2653-JUU	Pentium 4-M	1.6GHz	128MB	14.1" XGA	20G	CD-ROM	Diskette	11b Wi-Fi/modem	10/100	Open	No	XP Pro 3 year	Jun 2002
2653-J9U	Pentium 4-M	1.8GHz	128MB	14.1" XGA	20G	CD-ROM	Diskette	11b Wi-Fi/modem	10/100	Open	No	XP Pro 3 year	Mar 2003
2653-Q5U	Pentium 4-M	2.0GHz	256MB	15.0" SXGA+	40G	Combo	Diskette	11b Wi-Fi/modem	10/100	Open	Yes	XP Pro 3 year	Jan 2003

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This model for education is for sale direct from IBM or through an Authorized Education Reseller.

The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i> <b>Mobile Intel® Pentium® 4 Processor-M 1.6, 1.8 or 2.0GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus										<b>SOFTWARE<sup>14</sup></b>		
L2 cache	<b>512KB</b> / on die (at processor speed) / ECC										<b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ◇ Disk-to-Disk Recovery (in hidden Service Partition)		
Memory	<b>128 or 256MB</b> std / 1GB max <sup>7</sup> / <b>PC2100 DDR-SDRAM</b> / non-parity / 266MHz <sup>30</sup> / 2.5v / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available										<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b> <b>Preloaded</b> • Access ThinkPad - Access Connections - Access Support - Access Help • Adobe Acrobat Reader • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup>		
Diskette drive	3.5" 1.44MB / removable from left Ultrabay 2000 (but travel bezel in bay at ship)										<b>Downloadable</b> • IBM Rapid Restore™ PC • IBM Data Transfer • IBM Director Agent • Client Security Software (security chip model)		
CD-ROM	<i>Some:</i> CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay Plus										<b>License (CD not included)</b> - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		
Combo	<i>Some:</i> Combo / 16X/8X/24X/8X <sup>21</sup> speed / bootable / removable from Ultrabay Plus												
Modular bays (both 12.7mm)	<b>Two modular bays</b> for interchangeable devices / <b>Ultrabay 2000</b> (left side) and <b>Ultrabay Plus</b> (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)												
Disk (removable)	<b>20 or 40GB<sup>8</sup></b> , 4200 rpm, 9.5mm / upgradable / S.M.A.R.T. / 12.5mm bay / supports two additional disks with optional HDD adapter in each modular bay												
Display	<i>Some:</i> <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 16MB memory <i>Some:</i> <b>15.0"</b> (381mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix / 32MB memory / FlexView display with wide viewing angle and high density using in plane switching (IPS) technology												
Graphics controller	<b>ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16 or 32MB DDR-SDRAM</b> 166MHz												
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions												
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™												
Case material	<i>Color:</i> black; <i>Top:</i> ABS plastic; <i>Bottom:</i> glass-fiber reinforced plastic												
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8-1.9"; 329mm x 272.5mm x 44.6-46.8mm												
Approximate weight <sup>2</sup>	with battery and optical drive: <i>JUU:</i> 7.3 lb (3.32kg); <i>Q5U:</i> 7.5 lb (3.4kg)												
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000												
Battery - life <sup>10</sup>	2.3 hr / universal 72 watt AC adapter (16Vdc 4.5A)												
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801 CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)										PC 2001-compliant ACPI 1.0b and 2.0 support CIM and DMI 2.0-compliant IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data Setup Guide, Service and Troubleshooting Guide, Windows manual International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>		
Docking Station	Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door												
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse												
Video out	S-video out port (TV out) / industry standard connector / no cable ships standard												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable												
11b Wi-Fi <sup>32</sup> /mod	<i>All:</i> 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intersil® Prism 2.5 chipset, UltraConnect™ antenna built in both sides of display, Wi-Fi certified / 56K <sup>29</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset										2562: ServicePac <sup>22</sup> 1yr IOR 9x5 NBD 30L9188 2652: ServicePac 2yr IOR 9x5 NBD 30L9189 2652: ServicePac 3yr IOR 9x5 NBD 30L9195 2652: ServicePac 4yr IOR 9x5 NBD 69P9194 2652: ServicePac 5yr IOR 9x5 NBD 69P9196 2652: ServicePac 2yr P&L P/U Depot 30L9191 2652: ServicePac 3yr P&L P/U Depot 30L9192 2652: ServicePac 4yr P&L P/U Depot 69P9195 2652: ServicePac 5yr P&L P/U Depot 69P9197 2653: ServicePac 2yr IOR 9x5 NBD 30L9190 2653: ServicePac 3yr IOR 9x5 NBD 30L9197 2653: ServicePac 4yr IOR 9x5 NBD 69P9198 2653: ServicePac 5yr IOR 9x5 NBD 69P9200 2653: ServicePac 5yr P&L P/U Depot 69P9201		
CDC Ethernet	Two Communications Daughter Card (CDC) sockets / customer accessible 10/100 ethernet on CDC / Intel 82562ET chipset (physical layer) / PXE / Wake on LAN®												
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack												
Security	Power-on password / hard disk password / supervisor password / security keyhole <i>Some:</i> <b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant												
Limited warranty <sup>12</sup>	2652: <b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service 2653: <b>3 years</b> /1 year battery - EasyServ onsite pickup and delivery courier service												
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad A30 Series Li-Ion Battery	02K6878										
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Ultrabay 2000 Li-Ion battery	02K6646										
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Multiple Li-Ion/NiMH Battery Charger	02K6719										
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad 72W AC Adapter	02K6699										
20GB Hard Disk Drive	08K9686	ThinkPad Ultrabay Plus Carrier	22P5737										
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Ultrabay Plus Numeric Keypd	22P7330										
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Port Replicator	02K8667										
IBM USB Portable Diskette Drive	05K9276	ThinkPad Port Replicator II	74P6733										
ThinkPad Removable Diskette Drive	08K9603	ThinkPad Mini Dock	287810U										
ThinkPad Multi-Burner Ultrabay 2000 Drive	22P7015	ThinkPad Dock II	287710U										
Ultralight 8X <sup>9</sup> Max DVD Ultrabay 2000	22P9102	IBM Optical Travel Wheel Mouse (black)	31P7410										
DVD/CD-RW Combo IV Ultrabay 2000	22P6991	Portable Drive Bay 2000	19K4480										
Travel Bezel for Ultrabay 2000	08K6070	IBM Portable USB 2.0 CD-RW Drive	22P5297										
IBM High Rate Wireless LAN PC Card 128	09N9904	ThinkPad USB 2.0 CardBus Adapter	33L3245										
Bluetooth PC Card II from IBM	19K5796	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>											

See footnotes for important warranty information

US models announced on June 18, 2002, January 28, 2003, or March 12, 2003

US models withdrawn effective April or October 2003

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Type-model	Processor	GHz	Memory	Screen	Disk	Ultrabay optical	Mini PCI	CDC Ethernet	CDC Mod/Blu	Security Chip	Preload	Small bus software	Workhorse or Global model	Avail date
2653-H3U	Pentium® 4-M	1.7	256MB	15" UXGA	60GB <sup>8</sup> DVD/CD-RW	Open		10/100	Modem	Yes	XP Pro		No Mar 2002	
2653-H4U	Pentium 4-M	1.7	256MB	15" UXGA	60GB DVD/CD-RW	Open		10/100	Modem	Yes	Windows® 2000		No Mar 2002	
2653-H5U	Pentium 4-M	1.7	256MB	15" UXGA	60GB DVD/CD-RW	Wi-Fi <sup>32</sup> /mod		10/100	Bluetooth	Yes	XP Pro		No Mar 2002	
2653-H6U	Pentium 4-M	1.7	256MB	15" UXGA	60GB DVD/CD-RW	Wi-Fi/mod		10/100	Bluetooth	Yes	Windows 2000		No Mar 2002	
2653-HTU	Pentium 4-M	1.7	256MB	15" UXGA	60GB DVD/CD-RW	Wi-Fi/mod		10/100	Bluetooth	Yes	XP Pro Office XP SB <sup>28</sup>		No Mar 2002	
Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>											<p><b>SOFTWARE<sup>14</sup></b></p> <p><b>Windows XP Pro models</b></p> <ul style="list-style-type: none"> <li>- Microsoft® Windows® XP Professional</li> <li>✦ Disk-to-Disk Recovery (in hidden Service Partition)</li> </ul> <p><b>Windows 2000 models</b></p> <ul style="list-style-type: none"> <li>- Microsoft Windows 2000 Professional<sup>13</sup></li> <li>• ConfigSafe®</li> <li>✦ Disk-to-Disk Recovery (in hidden Service Partition)</li> </ul> <p><b>INCLUDED SOFTWARE<sup>14</sup> (all)</b></p> <p><b>Preloaded</b></p> <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>• InterVideo™ Win DVD</li> <li>• MGI VideoWave 4</li> <li>• PC-Doctor™</li> <li>• ThinkPad Utilities</li> <li>• IBM Update Connector™<sup>15</sup></li> <li>• Veritas RecordNOW</li> </ul> <p><b>Downloadable</b></p> <ul style="list-style-type: none"> <li>• IBM Rapid Restore™ PC</li> <li>• IBM Data Transfer</li> <li>• Client Security Software (models with security chip)</li> <li>• IBM Director Agent</li> </ul> <p><b>License</b></p> <ul style="list-style-type: none"> <li>- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0</li> </ul> <p><b>Office XP Small Business models only</b></p> <ul style="list-style-type: none"> <li>- Microsoft Office XP Small Business<sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)</li> <li>✦ Office XP Small Business CD</li> </ul> <p><b>Ultrabay Plus integrated modular bay</b> supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series</p>		
L2 cache	Mobile Intel® Pentium® 4 Processor-M 1.7GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus													
Memory	512KB / on die (at processor speed) / ECC 256MB std / 1GB max <sup>7</sup> / PC2100 266MHz <sup>30</sup> DDR-SDRAM / non-parity / 2.5v / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available													
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive													
DVD-ROM/CD-RW	Combo / 8X/8X/24X/8X <sup>21</sup> speed / bootable / removable from Ultrabay Plus													
Modular bays	Two modular bays for interchangeable devices / Ultrabay 2000 (left side) and Ultrabay Plus (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)													
Disk (removable)	60GB <sup>8</sup> / high-speed 5400 rpm / upgradeable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay													
Display	15.0" (381mm) UXGA-IPS (1600x1200) TFT color / Active Matrix / 400:1 contrast / FlexView display with wide viewing angle and high density using in plane switching (IPS) technology													
Graphics controller	ATI® Mobility™ FireGL™ 7800 / AGP 4X / 64MB DDR-SDRAM 183MHz / supports OpenGL technology for 3D applications													
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions													
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm													
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions													
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera													
Case material	Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic													
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8"; 329mm x 272.5mm x 45.8mm													
Approximate weight <sup>2</sup>	with battery and optical drive: 7.7 lb (3.49kg)													
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000													
Battery - life <sup>10</sup>	2.0 hours / universal 72 watt AC adapter (16Vdc 4.5A)													
Architecture	Intel 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)													
Port replicator	Optional ThinkPad Port Replicator													
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)													
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video													
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / IEEE 1394 / no keyboard/mouse													
Video in and out	S-video in and out ports / industry standard connectors / cable ships standard													
IEEE 1394	IEEE 1394 FireWire port													
Mini PCI	One Mini PCI IIIb slot (Communications Bay) / customer upgradeable													
Wi-Fi <sup>32</sup> /modem	Some: Mini PCI Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset													
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible													
Modem	Some: 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) CDC modem card / Lucent® chip set													
Ethernet	10/100 ethernet on CDC / Intel 82562ET chipset (physical layer)													
Bluetooth™	Some: Bluetooth wireless technology / on CDC / power button on display													
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack													
Security	Power-on password / hard disk password / supervisor password / security keyhole /													
Security chip	IBM Embedded Security Subsystem <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup>													
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service													
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)													
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	Ultrabay 2000 Li-Ion battery	02K6646	PC 2001-compliant										
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Multiple Li-Ion/NiMH Battery Charger	02K6719	ACPI 1.0b and 2.0 support										
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad 72W AC Adapter	02K6699	CIM and DMI 2.0-compliant										
Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad Ultrabay Plus Carrier	22P5737	IBM ImageUltra Services available										
20GB Hard Disk Drive	08K9686	ThinkPad Ultrabay Plus c500 Cradle	22P5738	IBM Rapid Restore PC available to										
40GB Hard Disk Drive	08K9687	ThinkPad Ultrabay Plus Numeric Keypd	22P7330	protect software image and data										
60GB HS Hard Disk Drive (5400 rpm)	08K9688	ThinkPad Port Replicator	02K8667	Setup Guide, Service and Trouble-										
IBM USB Portable Diskette Drive	05K9276	ThinkPad Dock	263120U	shooting Guide, Windows manual										
ThinkPad Removable Diskette Drive	08K9603	IBM USB Keyboard w/ USB Ports	10K3849	Personalized Web-based support										
SuperDisk (LS-240) UltraBay 2000	08K9616	IBM USB Sleek Mouse	33L3244	International Warranty Service <sup>17</sup>										
Zip 250MB Ultrabay 2000 Drive	00N8253	IBM USB 32MB Memory Key	22P5296	24 hour x 7 day <sup>18</sup> toll-free hardware										
8X/4X/24X Max CD-RW Ultrabay 2000	22P9101	Portable Drive Bay 2000	19K4480	support during the warranty										
Ultralight 8X Max DVD Ultrabay 2000	22P9102	10/100 Enet/56K Mini PCI (3Com)	09N9774											
DVD/CD-RW Combo II Ultrabay 2000	08K9701	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190											
Travel Bezel for Ultrabay 2000	08K6070	ServicePac 3yr IOR 9x5 NBD	30L9197											
ThinkPad A30 Series Li-Ion Battery	02K6878	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>												

See footnotes for important warranty information  
US models announced March 5, 2002  
US models withdrawn effective July 2002

Type-model	Processor	GHz	Memory	Screen	Disk	Ultrabay optical	Mini PCI	CDC Ethernet	CDC Mod/Blu	Security Chip	Preload	Small bus software	Workhorse or Global model	Avail date	
2653-N3U	Pentium® 4-M	1.8	256MB	15" UXGA	60GB <sup>8</sup> DVD/CD-RW	Open		10/100	Modem	Yes	XP Pro		No Jun 2002		
2653-N4U	Pentium 4-M	1.8	256MB	15" UXGA	60GB DVD/CD-RW	Open		10/100	Modem	Yes	Windows® 2000		No Jun 2002		
2653-N5U	Pentium 4-M	1.8	256MB	15" UXGA	60GB DVD/CD-RW	Wi-Fi <sup>32</sup> /mod		10/100	Bluetooth	Yes	XP Pro		No Jun 2002		
2653-N6U	Pentium 4-M	1.8	256MB	15" UXGA	60GB DVD/CD-RW	Wi-Fi/mod		10/100	Bluetooth	Yes	Windows 2000		No Jun 2002		
2653-NTU	Pentium 4-M	1.8	256MB	15" UXGA	60GB DVD/CD-RW	Wi-Fi/mod		10/100	Bluetooth	Yes	XP Pro Office XP SB <sup>28</sup>		No Jun 2002		
Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>											<b>SOFTWARE<sup>14</sup></b>			
L2 cache	Mobile Intel® Pentium® 4 Processor-M 1.8GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											<b>Windows XP Pro models</b>			
Memory	512KB / on die (at processor speed) / ECC											- Microsoft® Windows® XP Professional			
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive											✦ Disk-to-Disk Recovery (in hidden Service Partition)			
DVD-ROM/CD-RW	Combo / 8X/8X/24X/8X <sup>21</sup> speed / bootable / removable from Ultrabay Plus											<b>Windows 2000 models</b>			
Modular bays	Two modular bays for interchangeable devices / Ultrabay 2000 (left side) and Ultrabay Plus (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)											- Microsoft Windows 2000 Professional <sup>13</sup>			
Disk (removable)	60GB <sup>8</sup> / high-speed 5400 rpm / upgradeable / S.M.A.R.T. / supports two additional disks with optional HDD adapter in each modular bay											• ConfigSafe®			
Display	15.0" (381mm) UXGA-IPS (1600x1200) TFT color / Active Matrix / 400:1 contrast / FlexView display with wide viewing angle and high density using in plane switching (IPS) technology											✦ Disk-to-Disk Recovery (in hidden Service Partition)			
Graphics controller	ATI® Mobility™ FireGL™ 7800 / AGP 4X / 64MB DDR-SDRAM 183MHz / supports OpenGL technology for 3D applications											<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>			
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions											<b>Preloaded</b>			
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm											• Access ThinkPad			
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											- Access Connections			
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera											- Access Help			
Case material	Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic											- Access Support			
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8"; 329mm x 272.5mm x 45.8mm											• Adobe Acrobat Reader			
Approximate weight <sup>2</sup>	with battery and optical drive: 7.7 lb (3.49kg)											• InterVideo™ Win DVD			
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000											• MGI VideoWave 4			
Battery - life <sup>10</sup>	2.0 hours / universal 72 watt AC adapter (16Vdc 4.5A)											• PC-Doctor™			
Architecture	Intel® 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)											• ThinkPad Utilities			
Port replicator	Optional ThinkPad Port Replicator											• IBM Update Connector™.15			
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)											• Veritas RecordNOW and DLA			
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video											<b>Downloadable</b>			
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / IEEE 1394 / no keyboard/mouse											• IBM Rapid Restore™ PC			
Video in and out	S-video in and out ports / industry standard connectors / cable ships standard											• IBM Data Transfer			
IEEE 1394	IEEE 1394 FireWire port											• IBM Director Agent			
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable											• Client Security Software (security chip models)			
Wi-Fi <sup>32</sup> /modem	Some: Mini PCI Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset											<b>License</b> (CD not included)			
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible											- Lotus® SmartSuite® Millennium and Lotus Notes® Standalone Client			
Modem	Some: 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) CDC modem card / Lucent® chip set											<b>Office XP Small Business models only</b> (Model NTU)			
Ethernet	10/100 ethernet on CDC / Intel 82562ET chipset (physical layer)											- Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)			
Bluetooth™	Some: Bluetooth wireless technology / on CDC / power button on display											✦ Office XP Small Business CD			
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack											<b>Certified software</b>			
Security	Power-on password / hard disk password / supervisor password / security keyhole / IBM Embedded Security Subsystem <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup>											- Visit <a href="http://ibm.com/pc/thinkpad/cert.html">ibm.com/pc/thinkpad/cert.html</a> for a complete list of applications certified to run on the ThinkPad A31p			
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™.19 onsite pickup and delivery courier service											<b>Supported operating systems<sup>35</sup></b>			
Service options	Service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											- Microsoft Windows XP Professional			
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	Ultrabay 2000 Li-Ion battery	02K6646	256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Multiple Li-Ion/NiMH Battery Charger	02K6719	512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad 72W AC Adapter	02K6699	Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad Ultrabay Plus Carrier	22P5737
20GB Hard Disk Drive	08K9686	ThinkPad Ultrabay Plus c500 Cradle	22P5738	40GB Hard Disk Drive	08K9687	ThinkPad Ultrabay Plus Numeric Keypd	22P7330	60GB HS Hard Disk 9.5mm (5400 rpm)	08K9688	ThinkPad Port Replicator	02K8667	IBM USB Portable Diskette Drive	05K9276	ThinkPad Dock	263120U
ThinkPad Removable Diskette Drive	08K9603	IBM USB Keyboard w/ USB Ports	10K3849	IBM USB Sleek Mouse	33L3244	IBM USB Sleek Mouse	33L3244	SuperDisk (LS-240) UltraBay 2000	08K9616	IBM 128MB USB 2.0 Memory Key	22P8998	Zip 250MB Ultrabay 2000 Drive	00N8253	Portable Drive Bay 2000	19K4480
8X/4X/24X Max CD-RW Ultrabay 2000	22P9101	10/100 Enet /56K Mini PCI (3Com)	09N9774	Ultralight 8X Max DVD Ultrabay 2000	22P9102	ServicePac®.22 2yr IOR 9x5 NBD	30L9190	DVD/CD-RW Combo II Ultrabay 2000	08K9701	ServicePac 3yr IOR 9x5 NBD	30L9197	Travel Bezel for Ultrabay 2000	08K6070	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>	
ThinkPad A30 Series Li-Ion Battery	02K6878														

See footnotes for important warranty information  
US models announced June 4, 2002  
US models withdrawn effective October 2002

Type-model	Processor	GHz	Memory	Screen	Disk	Ultrabay optical	Mini PCI	CDC ethernet	CDC mod/Blue chip	Security	Preload	Small bus software	Workhorse or Global model	Avail date	
2653-R3U	Pentium® 4-M	2.0	256MB	15" UXGA	60 or 80GB*	Combo	Open	10/100	Modem	Yes	XP Pro		No	Sep 2002	
2653-R4U	Pentium 4-M	2.0	256MB	15" UXGA	60 or 80GB*	Combo	Open	10/100	Modem	Yes	Windows® 2000		No	Sep 2002	
2653-R5U	Pentium 4-M	2.0	256MB	15" UXGA	60 or 80GB*	Combo	11b Wi-Fi <sup>32</sup> /mod	10/100	Bluetooth	Yes	XP Pro		No	Sep 2002	
2653-R6U	Pentium 4-M	2.0	256MB	15" UXGA	60 or 80GB*	Combo	11b Wi-Fi/mod	10/100	Bluetooth	Yes	Windows 2000		No	Sep 2002	
2653-R8U	Pentium® 4-M	2.0	256MB	15" UXGA	40GB	Combo	Open	10/100	Modem	Yes	XP Pro		No	Mar 2003	
2653-RBU	Pentium 4-M	2.0	256MB	15" UXGA	40GB	Combo	Open	10/100	Modem	Yes	Windows® 2000		No	Mar 2003	
2653-R9U	Pentium 4-M	2.0	256MB	15" UXGA	40GB	Combo	11b Wi-Fi <sup>32</sup> /mod	10/100	Bluetooth	Yes	XP Pro		No	Mar 2003	
2653-RCU	Pentium 4-M	2.0	256MB	15" UXGA	40GB	Combo	11b Wi-Fi/mod	10/100	Bluetooth	Yes	Windows 2000		No	Mar 2003	
2653-RTU	Pentium 4-M	2.0	256MB	15" UXGA	60 or 80GB*	Combo	11b Wi-Fi/mod	10/100	Bluetooth	Yes	XP Pro	Office XP SB <sup>28</sup>	No	Sep 2002	
Positioning Processor	<i>High-performance desktop alternatives with exceptional versatility; three spindle</i>											<b>SOFTWARE<sup>14</sup></b>			
L2 cache	<b>Mobile Intel® Pentium® 4 Processor-M 2.0GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus											<b>Windows XP Pro models</b>			
Memory	<b>512KB</b> / on die (at processor speed) / ECC											- Microsoft® Windows® XP Professional			
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive											◇ Disk-to-Disk Recovery (in hidden Service Partition)			
Combo	DVD-ROM/CD-RW / 8X/16X/10X/24X <sup>21</sup> speed / removable from Ultrabay Plus											<b>Windows 2000 models</b>			
Modular bays (both 12.7mm)	<b>Two modular bays</b> for interchangeable devices / <b>Ultrabay 2000</b> (left side) and <b>Ultrabay Plus</b> (right side) / Ultrabay 2000 left bay empty at ship (uses Travel Bezel)											- Microsoft Windows 2000 Professional <sup>13</sup>			
Disk (removable)	<b>40GB<sup>8</sup></b> (9.5mm, 5400 rpm), <b>60GB</b> (12.5mm, 5400rpm), or <b>80GB</b> (9.5mm, 4200rpm) / upgradable and removable / 12.5mm bay / supports two additional disks with optional HDD adapter in each modular bay											• ConfigSafe®			
Display	<b>15.0"</b> (381mm) <b>UXGA-IPS (1600x1200) TFT color</b> / Active Matrix / 400:1 contrast / FlexView display with wide viewing angle and high density using IPS technology											◇ Disk-to-Disk Recovery (in hidden Service Partition)			
Graphics controller	<b>ATI® Mobility™ FireGL™ 7800 / AGP 4X / 64MB</b> DDR-SDRAM 183MHz / supports OpenGL technology for 3D applications											<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>			
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions											<b>Preloaded</b>			
Keyboard	87-key / Web navigation keys (6 total, 3 customizable) / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm											• Access ThinkPad			
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											- Access Connections			
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera											- Access Help			
Case material	<i>Color: black; Top: ABS plastic; Bottom: glass-fiber reinforced plastic</i>											- Access Support			
Dimensions <sup>3</sup>	Approximately 13.0 x 10.7 x 1.8"; 329mm x 272.5mm x 45.8mm											• Adobe Acrobat Reader			
Approximate weight <sup>2</sup>	with battery and optical drive: 7.7 lb (3.49kg)											• InterVideo™ Win DVD			
Battery - type	Lithium Ion 6-cell 10.8V 4.0Ah / intelligent / supports 2nd battery in Ultrabay 2000											• MGI VideoWave 4			
Battery - life <sup>10</sup>	2.0 hours / universal 72 watt AC adapter (16Vdc 4.5A)											• PC-Doctor™			
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C552 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)											• ThinkPad Utilities			
Port replicator	Optional <b>ThinkPad Port Replicator</b> or <b>Port Replicator II</b>											• IBM Update Connector™ <sup>15</sup>			
Docking Station	Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)											• Veritas RecordNow and DLA			
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door											<b>Downloadable</b>			
Ports	Two USB (version 1.1) / one 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / IEEE 1394 / no keyboard/mouse											• IBM Rapid Restore™ PC			
Video in and out	<b>S-video in and out ports</b> / industry standard connectors / cable ships standard											• Software Delivery Assistant			
IEEE 1394 (FireWire)	<b>IEEE 1394 (FireWire) port</b> (4-pin connector)											• System Migration Assistant			
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											• IBM Director Agent			
11b Wi-Fi <sup>32</sup> /mod	<i>Some: Mini PCI 11b Wi-Fi<sup>32</sup> wireless<sup>4</sup>, Intersil® Prism 2.5 chipset, dual antennas in display cover / 56K<sup>6</sup> V.90 (V.92-designed<sup>29</sup>) modem combo, Lucent® chipset</i>											• Client Security Software (security chip models)			
CDC	Two Communications Daughter Card (CDC) sockets / customer accessible											<b>License</b> (CD not included)			
Modem	<i>Some: 56K<sup>6</sup> V.90 (V.92-designed<sup>29</sup>) CDC modem card / Lucent® chip set</i>											- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
Ethernet	10/100 ethernet on CDC / Intel82562ET chipset (physical layer) / PXE / Wake on LAN®											<b>Office XP Small Business models only</b> (Model RTU)			
Bluetooth™	<i>Some: Bluetooth wireless technology / on CDC / power button on display</i>											- Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)			
Audio support	SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / mic input jack / output jack / line in jack											◇ Office XP Small Business CD			
Security	Power-on password / hard disk password / supervisor password / security keyhole / <b>IBM Embedded Security Subsystem<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											<b>Certified software</b>			
Limited warranty <sup>12</sup>	<b>3 years/1 year battery - EasyServ™<sup>19</sup> onsite pickup and delivery courier service</b>											- Visit <a href="http://ibm.com/pc/thinkpad/cert.html">ibm.com/pc/thinkpad/cert.html</a> for a complete list of applications certified to run on the ThinkPad A31p			
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad A30 Series Li-Ion Battery	02K6878	256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Ultrabay 2000 Li-Ion battery	02K6646	512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Multiple Li-Ion/NiMH Battery Charger	02K6719	Second HDD Adapter for Ultrabay 2000	08K6068	ThinkPad Port Replicator II	74P6733
20GB Hard Disk Drive	08K9686	ThinkPad Mini Dock	287810U	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Dock	263120U	IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Dock II	287710U	IBM USB Portable Diskette Drive	05K9276	IBM Optical Travel Wheel Mouse (black)	31P7410
ThinkPad Removable Diskette Drive	08K9603	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190	Zip 250MB Ultrabay 2000 Drive	00N8253	ServicePac 3yr IOR 9x5 NBD	30L9197	DVD/CD-RW Combo IV Ultrabay 2000	22P6991	ServicePac 4yr IOR 9x5 NBD	69P9198	Travel Bezel for Ultrabay 2000	08K6070	ServicePac 5yr IOR 9x5 NBD	69P9200
Portable Drive Bay 2000	19K4480	ServicePac 4yr P&L P/U Depot	69P9199	IBM Portable USB 2.0 CD-RW Drive	2295297	ServicePac 5yr P&L P/U Depot	69P9201	ThinkPad 72W AC Adapter	02K6699	Other options at <a href="http://ibm.com/us/pc/accessories">ibm.com/us/pc/accessories</a>					

See footnotes for important warranty information

\*80GB for systems manufactured after May 2003

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US models announced on August 27, 2002 or March 12, 2003

US models withdrawn effective January 2004

# IBM® ThinkPad® T20 - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	CD or DVD	Communications Bay	Preload Avail	
2647-21U	Pentium III	650	128MB	13.3" XGA	6.0GB <sup>8</sup>	24X-10X <sup>9</sup> CD	modem	98SE May 00	<b>WINDOWS 98 PRELOAD<sup>14</sup></b> <ul style="list-style-type: none"> <li>- Microsoft® Windows® 98 Second Edition<sup>13</sup></li> <li>• ThinkPad Utilities</li> <li>• ThinkPad Assistant™</li> <li>• ConfigSafe®</li> <li>• IBM Update Connector™<sup>15</sup></li> <li>• Access ThinkPad II</li> <li>• PC-Doctor™</li> <li>• Mediamatics DVD Express (if DVD)</li> </ul> <b>WINDOWS 2000 PRELOAD<sup>14</sup></b> <ul style="list-style-type: none"> <li>- Windows 2000 Professional<sup>13</sup></li> <li>• ThinkPad Utilities</li> <li>• ThinkPad Assistant</li> <li>• ConfigSafe</li> <li>• IBM Update Connector</li> <li>• Access ThinkPad II</li> <li>• PC-Doctor</li> <li>• Mediamatics DVD Express (if DVD)</li> <li>- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license</li> <li>• Software Selections CD-ROM</li> <li>• Recovery CD-ROM (Windows 98 SE)</li> <li>• Recovery CD-ROM (Windows 95)</li> </ul> <b>LINUX PRELOAD<sup>14</sup></b> <ul style="list-style-type: none"> <li>- Caldera® OpenLinux eDesktop™ 2.4</li> <li>• Access ThinkPad II</li> <li>• StarOffice</li> <li>• Netscape Communicator</li> <li>• OpenLinux eDesktop CD-ROM</li> <li>• Recovery CD-ROM</li> </ul> The right bay (Ultrabay 2000) supports the following: <ul style="list-style-type: none"> <li>• optional CD-ROM</li> <li>• optional DVD drive</li> <li>• optional Zip drive</li> <li>• optional second battery</li> <li>• optional SuperDisk (LS-120) drive</li> <li>• optional CD-RW</li> <li>• optional HDD adapter; for second disk</li> <li>• optional travel bezel</li> <li>• optional ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
2647-24U	Pentium III	650	128MB	13.3" XGA	6.0GB	24X-10X CD	Intel® eth/mod	98SE May 00	
2647-61U	Pentium III	650	128MB	13.3" XGA	6.0GB	24X-10X CD	modem	2000 May 00	
2647-64U	Pentium III	650	128MB	13.3" XGA	6.0GB	24X-10X CD	Intel eth/mod	2000 May 00	
2647-41U	Pentium III	700	128MB	14.1" XGA	12.0GB	6X-2.3X <sup>9</sup> DVD	modem	98SE May 00	
2647-44U	Pentium III	700	128MB	14.1" XGA	12.0GB	6X-2.3X DVD	Intel eth/mod	98SE May 00	
2647-81U	Pentium III	700	128MB	14.1" XGA	12.0GB	6X-2.3X DVD	modem	2000 May 00	
2647-84U	Pentium III	700	128MB	14.1" XGA	12.0GB	6X-2.3X DVD	Intel eth/mod	2000 May 00	
2647-52U	Pentium III	750	128MB	14.1" XGA	20.0GB	6X-2.3X DVD	modem	98SE Jun 00	
2647-55U	Pentium III	750	128MB	14.1" XGA	20.0GB	6X-2.3X DVD	Intel eth/mod	98SE Jun 00	
2647-92U	Pentium III	750	128MB	14.1" XGA	20.0GB	6X-2.3X DVD	modem	2000 Jun 00	
2647-95U	Pentium III	750	128MB	14.1" XGA	20.0GB	6X-2.3X DVD	Intel eth/mod	2000 Jun 00	
2647-L1U*	Pentium III	750	128MB	14.1" XGA	20.0GB	24X-10X CD	modem	Linux® July 00	
2647-46U	Pentium III	700	128MB	14.1" XGA	12.0GB	6X-2.3X DVD	3Com® eth/mod	98SE July 00	
2647-86U	Pentium III	700	128MB	14.1" XGA	12.0GB	6X-2.3X DVD	3Com eth/mod	2000 July 00	
Processor	<b>Intel® Mobile Pentium® III 650, 700, or 750MHz<sup>1,24</sup> with Intel SpeedStep™ technology and 100MHz system bus</b>								
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC								
Memory	<b>128MB</b> standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available								
Diskette drive	3.5" 1.44MB (use in Ultrabay 2000 or attach externally with optional cable via parallel port)								
CD-ROM	<i>Some: CD-ROM / 24X-10X<sup>9</sup> speed / bootable / removable from Ultrabay™ 2000</i>								
DVD-ROM	<i>Some: DVD-ROM / 6X-2.3X<sup>9</sup> speed / bootable / removable from Ultrabay 2000</i>								
Ultrabay 2000	Modular bay for interchangeable devices / on all A and T Series, ThinkPad Dock								
Disk	<b>6GB<sup>8</sup> or 12GB or 20GB</b> / upgradeable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000								
Display	<b>13.3"</b> (337.8mm) <b>XGA (1024x768) TFT color</b> / Active Matrix								
	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix								
Graphics controller	<b>S<sup>3</sup>® Savage IX8 / AGP 2X / 8MB SGRAM</b> / 64-bit path to memory								
Graphics - external	External SVGA to 1024x768x16.7 million colors at 85Hz and up to 1600x1200								
Keyboard	<b>ThinkPad Button</b> / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar								
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions								
UltraPort™	UltraPort connector on top of display for options such as digital Ultraport Camera								
Dimensions <sup>3</sup>	12" x 9.8" x 1.3"; 304mm x 250mm x 33.1mm								
Approximate weight <sup>2</sup>	With CD-ROM drive and battery: 5.0 lbs / with DVD drive and battery: 5.3 lb								
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength <sup>4</sup>								
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000								
Battery - life <sup>10</sup>	4 hours (3.75 hours for Pentium III 750MHz models)								
Charge time <sup>10</sup> - on / off	6.0 hrs / 2.5 hrs								
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)								
Port replicator	<b>ThinkPad Port Replicator</b>								
Docking Station	<b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)								
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video								
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)								
Other features	72 watt AC Adapter								
Video out	S-video out / one industry standard connector / full MPEG-2 support / optional cable for S-video to composite conversion available								
Communications Bay	Communications Bay with Mini PCI IIIb slot / customer accessible								
Modem	<i>Some models:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set								
Ethernet/modem	<i>Some models:</i> IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel or 3Com ethernet chipset / Lucent modem chip set								
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack								
Security	Power-on password / hard disk password / supervisor password / security keyhole								
Limited warranty <sup>12</sup>	<b>3 year</b> - carry-in or ThinkPad EasyServ™ <sup>19</sup> depot repair service via courier								
Service options	Optional service upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)								
Communication Bay									
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem by 3Com				09N9774					20L0254
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem				08K3124					20L0255
Ultrabay 2000 interchangeable accessories									33L3069
- 6X-2X DVD Ultrabay 2000 Drive				05K9232					05K9237
- SuperDisk (LS-120) Ultrabay 2000 Drive				05K9236					05K9238
- 24X-10X CD-ROM Ultrabay 2000 Drive				05K9233					05K9239
- 4X/4X/20X CD-Read/Write Ultrabay 2000				00N8252					27L3439
- Zip 250MB Ultrabay 2000 Drive				00N8253					08K6068
- Ultrabay 2000 Li-Ion battery				02K6646					19K4480
- Travel Bezel for Ultrabay 2000				08K6070					02K8667
Wireless connectivity									263110U
- IBM 802.11b Wireless LAN PC Card				09N9863					02K6649
- IBM 802.11b Wireless LAN Access Point				09N9865					02K6699
									00N8222
									04P6135
									27L0530
									08K6064
									27L0524

All trademarks are the property of their respective owners  
 \* Linux preloaded model does not support most options and has other limitations<sup>25</sup>  
 Models withdrawn from marketing effective February 2001

No warranties are expressed or implied in this summary  
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# IBM® ThinkPad® T21 - withdrawn

Type-model	Processor	MHz	Mem	Screen	Disk	CD or DVD	Communica	Bay	Preload	Avail	
2647-27U	Pentium III	750	128MB	13.3" XGA	10GB <sup>8</sup>	24X-10X <sup>9</sup> CD	modem		98SE	Oct 00	<b>WINDOWS 98 PRELOAD<sup>14</sup></b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™.15 • Access ThinkPad II • PC-Doctor™ • Mediamatics DVD Express (if DVD) - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license ♦ Software Selections CD-ROM ♦ Recovery CD-ROM (Win 98 SE)
2647-2BU	Pentium III	750	128MB	13.3" XGA	10GB	24X-10X CD	3Com® eth/mod		98SE	Oct 00	
2647-67U	Pentium III	750	128MB	13.3" XGA	10GB	24X-10X CD	modem		2000	Oct 00	
2647-6BU	Pentium III	750	128MB	13.3" XGA	10GB	24X-10X CD	3Com eth/mod		2000	Oct 00	
2647-47U	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X <sup>9</sup> DVD	modem		98SE	Oct 00	
2647-4AU	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	Intel® eth/mod		98SE	Oct 00	
2647-4BU	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	3Com eth/mod		98SE	Oct 00	
2647-87U	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	modem		2000	Oct 00	
2647-8AU	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	Intel eth/mod		2000	Oct 00	
2647-8BU	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	3Com eth/mod		2000	Oct 00	
2647-L7U*	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	modem		Linux®	Oct 00	
2647-57U	Pentium III	850	128MB	14.1" SXGA+	32GB	8X-2.3X DVD	modem		98SE	Oct 00	
2647-5BU	Pentium III	850	128MB	14.1" SXGA+	32GB	8X-2.3X DVD	3Com eth/mod		98SE	Oct 00	
2647-97U	Pentium III	850	128MB	14.1" SXGA+	32GB	8X-2.3X DVD	modem		2000	Oct 00	
2647-9BU	Pentium III	850	128MB	14.1" SXGA+	32GB	8X-2.3X DVD	3Com eth/mod		2000	Oct 00	
Processor	<b>Intel® Mobile Pentium® III 750, 800, or 850MHz<sup>1,24</sup> with Intel SpeedStep™ technology and 100MHz system bus</b>										
L2 cache	256KB / onboard (at processor speed) / ECC										
Memory	128MB standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available										
Diskette drive	3.5" 1.44MB (use in UltraBay 2000 or attach ext with optional cable via parallel port)										
CD-ROM	Some: CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000										
DVD-ROM	Some: DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000										
UltraBay 2000	Modular bay for interchangeable devices / on all A and T Series, ThinkPad Dock										
Disk	10GB <sup>8</sup> or 20GB (4200 rpm) or 32GB (High speed 5400rpm) / upgradeable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000										
Display	13.3" (337.8mm) XGA (1024x768) TFT color / Active Matrix 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix										
Graphics controller	Others: S3® Savage IX8 / AGP 2X / 8MB SGRAM / 64-bit path to memory 5xx/9xx: S3 Savage IX8+ / AGP 2X / 8MB SGRAM / 64-bit path to memory										
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200										
Keyboard	<b>ThinkPad Button</b> / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar										
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions										
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera										
Dimensions <sup>3</sup>	12" x 9.8" x 1.3"; 304mm x 250mm x 33.1mm										
Approximate weight <sup>2</sup>	with CD or DVD drive and battery: 750MHz: 5.2 lb; 800MHz: 5.3 lb; 850MHz: 5.5 lb										
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength <sup>4</sup>										
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000										
Battery - life <sup>10</sup>	750MHz: 3.7hr; 800MHz: 3.5hr; 850MHz: 3.2hr										
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)										
Port replicator	Optional <b>ThinkPad Port Replicator</b>										
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)										
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video										
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)										
Other features	72 watt AC Adapter										
Video out	S-video out / one industry standard connector / full MPEG-2 support / optional cable for S-video to composite conversion available										
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible										
Modem	Some models: 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set										
Ethernet/modem	Some models: IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem (3Com ethernet chipset / 3Com modem chip set) Some models: IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set										
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack										
Security	Power-on password / hard disk password / supervisor password / security keyhole										
Limited warranty <sup>12</sup>	3 year - EasyServ™.19 onsite pickup and delivery courier service										
Ultrabay 2000 interchangeable accessories	- 64MB SO DIMM 100MHz NP SDRAM 20L0254 - 128MB SO DIMM 100MHz NP SDRAM 20L0255 - 256MB SO DIMM 100MHz NP SDRAM 33L3069 - 10GB HDD 08K9510 - 20GB HDD 27L3439 - 32GB HDD 08K9511 - Second HDD Adapter for Ultrabay 2000 08K6068 - Portable Drive Bay 2000 19K4480 (accepts all Ultrabay 2000 storage devices)										
- 8X-2X DVD Ultrabay 2000 Drive	27L3448										
- 2X SuperDisk (LS-120) Ultrabay 2000	27L3451										
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233										
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252										
- Zip 250MB Ultrabay 2000 Drive	00N8253										
- Ultrabay 2000 Li-Ion battery	02K6646										
- Travel Bezel for Ultrabay 2000	08K6070										
Wireless connectivity	- ThinkPad Port Replicator (A and T Ser) 02K8667 - ThinkPad Dock (A and T Series) 263110U - ThinkPad T Series Battery 02K6649 - Multiple Li-Ion/NiMH Battery Charger 02K6719 - ThinkPad 72W AC Adapter 02K6699 - ThinkPad Monitor Stand 00N8222 - IBM Ultrabay Camera II 04P6135 - RCA video conversion cable 27L0530 - Asset ID RF Adapter 08K6064										
- IBM 802.11b Wireless LAN PC Card	09N9863										
- IBM 802.11b Wireless LAN Access Point	9085NA2										
- Bluetooth™ PC Card (avail 4Q 2000)	09N9812										
Other	- IBM IEEE 1394 CardBus Card 19K5679 - IBM 1GB Microdrive 07N5574 - T Series FDD External Cable Kit 27L0524										
	- Caldera® OpenLinux™ eDesktop 2.4 • Access ThinkPad II • StarOffice • Netscape Communicator ♦ OpenLinux eDesktop CD-ROM ♦ Recovery CD-ROM										
	The right bay (Ultrabay 2000) supports the following: • optional or standard CD-ROM • optional or standard DVD drive • optional Zip drive • optional second battery • optional SuperDisk (LS-120) drive • optional CD-RW • optional HDD adapter; for second disk • optional travel bezel • optional ThinkPad Proven™ solutions <sup>16</sup>										
	Service options: Optional service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										
	PC 99-compliant CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM PC Lifecycle Care <sup>21</sup> provides proactive life cycle management and transition planning tools ENERGY STAR compliant Setup Guide, User's Reference, Windows manual Asset ID™ wireless RF technology (via installing into disk cover) Personalized Web-based support International Warranty Service <sup>17</sup> IBM SystemXtra®.20 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty										
	Communication Bay Options - IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem by 3Com 09N9774 - IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem 08K3124										

All trademarks are the property of their respective owners

\* Linux preloaded model does not support most options and has other limitations<sup>25</sup>

Models withdrawn effective April 2001, July 2001, or September 2001

No warranties are expressed or implied in this summary

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Type-model	Processor	MHz	Memory	Screen	Disk	CD or DVD	Communications Bay	Preload	Available
2647-2AU	Pentium III	750	128MB	13.3" XGA	10GB <sup>8</sup>	24X-10X <sup>9</sup> CD	Intel® ethernet/modem	Windows® 98 SE	Nov 2000
2647-6AU	Pentium III	750	128MB	13.3" XGA	10GB	24X-10X CD	Intel ethernet/modem	Windows 2000	Nov 2000
2647-DAU	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X <sup>9</sup> DVD	Intel ethernet/modem	Windows 98 SE, Small Business	Mar 2001
2647-48U	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	modem	Windows 98 SE, Small Business	Mar 2001
2647-EAU	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	Intel ethernet/modem	Windows 2000, Small Business	Mar 2001
2647-88U	Pentium III	800	128MB	14.1" XGA	20GB	8X-2.3X DVD	modem	Windows 2000, Small Business	Mar 2001
2647-5AU	Pentium III	850	128MB	14.1" SXGA+	32GB	8X-2.3X DVD	Intel ethernet/modem	Windows 98 SE	Nov 2000
2647-9AU	Pentium III	850	128MB	14.1" SXGA+	32GB	8X-2.3X DVD	Intel ethernet/modem	Windows 2000	Nov 2000
<b>Processor</b> Intel® Mobile Pentium® III 750, 800, or 850MHz <sup>1</sup> with Intel SpeedStep™ technology and 100MHz system bus <b>L2 cache</b> 256KB / onboard (at processor speed) / ECC <b>Memory</b> 128MB standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available								<b>WINDOWS 98 PRELOAD<sup>14</sup></b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business (Word, Excel, Outlook, Publisher, Small Business Tools) preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™ <sup>15</sup> • Access ThinkPad II • PC-Doctor™ • Mediamatics DVD Express (if DVD) - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Win 98 SE)	
<b>Diskette drive</b> 3.5" 1.44MB (use in UltraBay 2000 or attach ext with optional cable via parallel port) <b>CD-ROM</b> <i>Some:</i> CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000 <b>DVD-ROM</b> <i>Some:</i> DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000 <b>UltraBay 2000</b> Modular bay for interchangeable devices / on all A and T Series, ThinkPad Dock <b>Disk</b> 10GB <sup>8</sup> , 20GB (4200 rpm) or 32GB (High speed 5400rpm) / upgradeable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000								• ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™ <sup>15</sup> • Access ThinkPad II • PC-Doctor™ • Mediamatics DVD Express (if DVD) - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Win 98 SE)	
<b>Display</b> 13.3" (337.8mm) XGA (1024x768) TFT color / Active Matrix 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> - Windows 2000 Professional <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • Mediamatics DVD Express (if DVD) - Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 2000 and Windows NT)	
<b>Graphics controller</b> 750/800MHz: S3® Savage IX8 / AGP 2X / 8MB SGRAM / 64-bit path to memory <i>Others:</i> S3 Savage IX8+ / AGP 2X / 8MB SGRAM / 64-bit path to memory <b>Graphics - external</b> External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> - Windows 2000 Professional <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • Mediamatics DVD Express (if DVD) - Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 2000 and Windows NT)	
<b>Keyboard</b> ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <b>ThinkLight™</b> Illuminates the keyboard to improve visibility in low-light conditions <b>UltraPort™</b> UltraPort connector on top of display for options such as digital UltraPort Camera								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> - Windows 2000 Professional <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • Mediamatics DVD Express (if DVD) - Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 2000 and Windows NT)	
<b>Dimensions<sup>3</sup></b> 12" x 9.8" x 1.3"; 304mm x 250mm x 33.1mm <b>Approximate weight<sup>2</sup></b> with CD or DVD drive and battery: 750MHz: 5.2 lb; 800MHz: 5.3 lb; 850MHz: 5.5 lb <b>Case material</b> Titanium Composite in the top and bottom covers for enhanced strength <sup>4</sup> <b>Battery - type</b> Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000 <b>Battery - life<sup>10</sup></b> 750MHz: 3.7hr; 800MHz: 3.5hr; 850MHz: 3.2hr								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> - Windows 2000 Professional <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • Mediamatics DVD Express (if DVD) - Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 2000 and Windows NT)	
<b>Architecture</b> Intel 440BX AGPset / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp) <b>Port replicator</b> Optional ThinkPad Port Replicator <b>Docking Station</b> Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot) <b>PC Card Std slots</b> 2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video <b>Ports</b> USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) <b>Other features</b> 72 watt AC Adapter								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> - Windows 2000 Professional <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • Mediamatics DVD Express (if DVD) - Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 2000 and Windows NT)	
<b>Video out</b> S-video out / one industry standard connector / full MPEG-2 support / optional cable for S-video to composite conversion available <b>Communicatns Bay</b> Communications Bay with Mini PCI IIIb slot / customer accessible <b>Modem</b> <i>Some models:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set <b>Ethernet/modem</b> <i>Some models:</i> IBM 10/100 EtherJet™ Mini PCI Adapter with 56K <sup>6</sup> Modem / Intel ethernet chipset / Lucent modem chip set <b>Audio support</b> PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack <b>Security</b> Power-on password / hard disk password / supervisor password / security keyhole								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> - Windows 2000 Professional <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • Mediamatics DVD Express (if DVD) - Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 2000 and Windows NT)	
<b>Limited warranty<sup>*,12</sup></b> 3 year - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service <b>Service options</b> Optional service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)								<b>WINDOWS 2000 PRELOAD<sup>14</sup></b> - Windows 2000 Professional <sup>13</sup> - <i>Some models:</i> Office 2000 Small Business preloaded and CD-ROM • ThinkPad Utilities • ThinkPad Assistant • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • Mediamatics DVD Express (if DVD) - Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license ◇ Software Selections CD-ROM ◇ Recovery CD-ROM (Windows 2000 and Windows NT)	
<b>UltraBay 2000 interchangeable accessories</b> - 8X-2X DVD Ultrabay 2000 Drive 27L3448 - 2X SuperDisk (LS-120) Ultrabay 2000 27L3451 - 24X-10X CD-ROM Ultrabay 2000 Drive 05K9233 - 4X/4X/20X CD-Read/Write Ultrabay 2000 00N8252 - Zip 250MB Ultrabay 2000 Drive 00N8253 - Ultrabay 2000 Li-Ion battery 02K6646 - Travel Bezel for Ultrabay 2000 08K6070 <b>Wireless connectivity</b> - IBM 802.11b Wireless LAN PC Card 09N9863 - IBM 802.11b Wireless LAN Access Point 9085NA2 - Bluetooth™ PC Card (avail 4Q 2000) 09N9812 <b>Other</b> - IBM IEEE 1394 CardBus Card 19K5679 - IBM 1GB Microdrive™ 07N5574 - T Series FDD External Cable Kit 27L0524								The right bay (Ultrabay 2000) supports the following: • optional or standard CD-ROM • optional or standard DVD drive • optional Zip drive • optional second battery • optional SuperDisk (LS-120) drive • optional CD-RW • optional HDD adapter; for 2nd disk • optional travel bezel • opt ThinkPad Proven™ solutions <sup>16</sup>	
- 64MB SO DIMM 100MHz NP SDRAM 20L0254 - 128MB SO DIMM 100MHz NP SDRAM 20L0255 - 256MB SO DIMM 100MHz NP SDRAM 33L3069 - 10GB HDD 08K9510 - 20GB HDD 27L3439 - 32GB HDD 08K9511 - Second HDD Adapter for Ultrabay 2000 08K6068 - Portable Drive Bay 2000 19K4480 (accepts all Ultrabay 2000 storage devices) - ThinkPad Port Replicator (A and T Ser) 02K8667 - ThinkPad Dock (A and T Series) 263110U - ThinkPad T Series Battery 02K6649 - Multiple Li-Ion/NiMH Battery Charger 02K6719 - ThinkPad 72W AC Adapter 02K6699 - ThinkPad Monitor Stand 00N8222 - IBM UltraPort Camera II 04P6135 - RCA video conversion cable 27L0530 - Asset ID RF Adapter 08K6064								PC 99-compliant CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM ImageUltra Services available IBM Rapid Restore PC available to protect software image and data Setup Guide, User's Reference, Windows manual Asset ID™ wireless RF technology (via installing into disk cover) Personalized Web-based support International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty	
<b>Communication Bay Options</b> - IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem 09N9774 - IBM 10/100 EtherJet Mini PCI Adapter w/ 56K Modem 08K3124									

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
 US models announced November 2001 or March 1, 2001  
 US models withdrawn effective July 2001 or April 2002

No warranties are expressed or implied in this summary  
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Type-model	Processor	MHz	Mem	Screen	Disk	Optical	Comm Bay	Preload	Available	OPERATING SYSTEM PRELOAD <sup>14,27</sup>
2647-3CU	Pentium III	800	128M	13.3" XGA	10G <sup>8</sup>	CD-ROM	modem	98 SE	Mar 2001	<b>Windows 98 models</b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> ⇨ Disk-to-Disk Recovery (in hidden Service Partition) <b>Windows 2000 models</b> - Windows 2000 Professional - PC Card Wizard ⇨ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition) <b>Linux models</b> - Caldera® OpenLinux™ eDesktop 2.4 • StarOffice™ • Netscape® Communicator ⇨ OpenLinux eDesktop CD-ROM ⇨ Recovery CD-ROM <b>ADDITIONAL PRELOADED SOFTWARE</b> <b>Common to all models</b> • ThinkPad Assistant™ • Access ThinkPad II <b>Common to most Windows models</b> • ThinkPad Utilities • ConfigSafe® • IBM Update Connector™ <sup>15</sup> • Easy Keys Utility • PC-Doctor™ • Mediamatics™ DVD (models with DVD-ROM) - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0 license
2647-7CU	Pentium III	800	128M	13.3" XGA	10G	CD-ROM	modem	2000	Mar 2001	
2647-3EU	Pentium III	800	128M	13.3" XGA	10G	CD-ROM	Intel® eth/mod	98 SE	Mar 2001	
2647-7EU	Pentium III	800	128M	13.3" XGA	10G	CD-ROM	Intel eth/modem	2000	Mar 2001	
2647-4CU	Pentium III	900	128M	14.1" XGA	20G	DVD-ROM	modem	98 SE	Mar 2001	
2647-8CU	Pentium III	900	128M	14.1" XGA	20G	DVD-ROM	modem	2000	Mar 2001	
2647-4EU	Pentium III	900	128M	14.1" XGA	20G	DVD-ROM	Intel eth/modem	98 SE	Mar 2001	
2647-8EU	Pentium III	900	128M	14.1" XGA	20G	DVD-ROM	Intel eth/modem	2000	Mar 2001	
2647-4GU	Pentium III	900	128M	14.1" XGA	20G	DVD-ROM	3Com® eth/mod	98 SE	Mar 2001	
2647-8GU	Pentium III	900	128M	14.1" XGA	20G	DVD-ROM	3Com eth/mod	2000	Mar 2001	
2647-LCU**	Pentium III	900	128M	14.1" XGA	20G	DVD-ROM	modem	Linux®	Mar 2001	
2647-5CU	Pentium III	1GHz	128M	14.1" SXGA+	32G	DVD-ROM	modem	98 SE	Mar 2001	
2647-9CU	Pentium III	1GHz	128M	14.1" SXGA+	32G	DVD-ROM	modem	2000	Mar 2001	
2647-5EU	Pentium III	1GHz	128M	14.1" SXGA+	32G	DVD-ROM	Intel eth/modem	98 SE	Mar 2001	
2647-9EU	Pentium III	1GHz	128M	14.1" SXGA+	32G	DVD-ROM	Intel eth/modem	2000	Mar 2001	
2647-6CU	Pentium III	900	128M	14.1" SXGA+	32G	DVD-ROM	modem	98 SE	May 2001	
2647-ECU	Pentium III	900	128M	14.1" SXGA+	32G	DVD-ROM	modem	2000	May 2001	
2647-6EU	Pentium III	900	128M	14.1" SXGA+	32G	DVD-ROM	Intel eth/modem	98 SE	May 2001	
2647-AEU	Pentium III	900	128M	14.1" SXGA+	32G	DVD-ROM	Intel eth/modem	2000	May 2001	
Processor	Intel® Mobile Pentium® III 800, 900MHz <sup>1,24</sup> or 1GHz <sup>1</sup> with Intel SpeedStep™ technology and 100MHz system bus									
L2 cache	256KB / onboard (at processor speed) / ECC									
Memory	128MB standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available									
Diskette drive	3.5" 1.44MB (use in UltraBay 2000 or attach ext with optional cable via parallel port)									
CD-ROM	Some: CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000									
DVD-ROM	Some: DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000									
UltraBay 2000	Modular bay for interchangeable devices									
Disk	10GB <sup>8</sup> or 20GB (4200 rpm) or 32GB (High speed 5400rpm) / upgradeable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000									
Display	13.3" (337.8mm) XGA (1024x768) TFT color / Active Matrix 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix									
Graphics controller	S3 Savage IX8+ / AGP 2X / 8MB SGRAM / 64-bit path to memory									
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200									
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm									
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions									
UltraPort™	UltraPort connector on top of display for options such as digital Ultraport Camera									
Dimensions <sup>3</sup>	12" x 9.8" x 1.3" / 304mm x 250mm x 33.1mm									
Approximate weight <sup>2</sup>	with CD or DVD drive and battery: 800MHz: 5.2 lb; 900MHz: 5.3 lb; 1GHz: 5.6 lb									
Case material	Titanium Composite in the top and bottom covers for enhanced strength <sup>4</sup>									
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000									
Battery - life <sup>10</sup>	800MHz: 3.5hr; 900MHz/1GHz: 3.2hr									
AC adapter	Universal 72 watt / 16VDC 4.5A									
Architecture	Intel 440BX AGPset / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)									
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)									
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / Zoomed Video									
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)									
Video out	S-video out / one industry standard connector / full MPEG-2 support / optional cable for S-video to composite conversion available									
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible									
Modem	Some: 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set									
Ethernet/modem	Some: IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem (3Com ethernet chipset / 3Com modem chip set) Some: Intel PRO/100 SP Mini PCI Adapter / Mini PCI ethernet with 56K modem / Intel 82550EY ethernet chipset / Lucent modem chipset									
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack									
Security	Power-on password / hard disk password / supervisor password / security keyhole									
Limited warranty <sup>*,12</sup>	3 year - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service									
64MB SO DIMM	100MHz NP SDRAM	20L0254	ThinkPad T Series Battery	02K6649						
128MB SO DIMM	100MHz NP SDRAM	20L0255	Ultrabay 2000 Li-Ion battery	02K6646						
256MB SO DIMM	100MHz NP SDRAM	33L3069	ThinkPad 72W AC Adapter	02K6699						
SuperDisk (LS-240)	UltraBay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719						
Zip 250MB	Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667						
24X-10X CD-ROM	Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U						
8X/4X/24X CD-RW	Ultrabay 2000	08K9569	ThinkPad Monitor Stand 2001	22P5265						
8X-2X DVD	Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000	19K4480						
CD-RW/DVD Combo	Ultrabay 2000	08K9572	UltraPort Camera	04P6135						
Travel Bezel for	Ultrabay 2000	08K6070	UltraPort Digital Array Microphone	09N4178						
Second HDD Adapter for	Ultrabay 2000	08K6068	T Series FDD External Cable Kit	27L0524						
15GB HDD		08K9588	10/100 Enet/56K Mini PCI (3Com)	09N9774						
30GB HDD		08K9593	Intel Pro/100 SP Mini PCI	06P3801						
32GB HDD		08K9511	ServicePro®, <sup>22</sup> 3yr IOR 9x5 NBD	30L9197						
										Service options: Optional service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227

\*\* Linux preloaded model does not support most options and has other limitations<sup>25</sup>

US models withdrawn effective July 2001 or November 2001 or April 2002

No warranties are expressed or implied in this summary



Type-model	Processor	MHz	Memory	Screen	Disk	Optical	Modular Bay	Comm Bay	Preload	Available
2647-M2U	Pentium III	900	128MB	14.1" XGA	20GB <sup>8</sup>	DVD-ROM	Ultrabay 2000	Modem	Windows® 98 SE, SB	Mar 2001
2647-M3U	Pentium III	900	128MB	14.1" XGA	20GB	DVD-ROM	Ultrabay 2000	Modem	Windows 2000, SB	Mar 2001
2647-M4U	Pentium III	900	128MB	14.1" XGA	20GB	DVD-ROM	Ultrabay 2000	Intel® ethernet/mod	Windows 98 SE, SB	Mar 2001
2647-M5U	Pentium III	900	128MB	14.1" XGA	20GB	DVD-ROM	Ultrabay 2000	Intel ethernet/mod	Windows 2000, SB	Mar 2001
2647-M6U	Pentium III	1GHz	128MB	14.1" SXGA+	32GB	DVD-ROM	Ultrabay 2000	Intel ethernet/mod	Windows 2000, SB	Mar 2001
2647-N5U	Pentium III	900	128MB	14.1" XGA	20GB	DVD-ROM	Ultrabay 2000	Intel ethernet/mod	Windows 2000, XP	Aug 2001
2647-N6U	Pentium III	1GHz	128MB	14.1" SXGA+	32GB	DVD-ROM	Ultrabay 2000	Intel ethernet/mod	Windows 2000, XP	Aug 2001

  

Positioning Processor	<i>Perfect balance of performance and portability</i> <b>Intel® Mobile Pentium® III 900MHz<sup>1,24</sup> or 1GHz<sup>1</sup> with Intel SpeedStep™ technology and 100MHz system bus</b>	<b>OPERATING SYSTEM PRELOAD<sup>14, 27</sup></b> <b>Windows 98 models</b> - Microsoft® Windows® 98 Second Edition <sup>13</sup> ↳ Disk-to-Disk Recovery (in hiddenService Partition) <b>Windows 2000 models</b> - Windows 2000 Professional ↳ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition)
L2 cache Memory	<b>256KB</b> / onboard (at processor speed) / ECC <b>128MB</b> standard / 512MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / 1 socket available	
Diskette drive	3.5" 1.44MB (use in UltraBay 2000 or attach ext with optional cable via parallel port)	<b>ADDITIONAL PRELOADED SOFTWARE</b> <b>Office 2000 SB models (SB)</b> - Microsoft Office 2000 Small Business ↳ Office 2000 Small Business CD <b>Office XP SB models (XP)</b> - Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools) ↳ Office XP Small Business CD
CD-ROM	<i>Some:</i> CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000	
DVD-ROM	<i>Some:</i> DVD-ROM / 8X-2.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000	<b>Common to all models</b> • ThinkPad Utilities • ThinkPad Assistant™ • ConfigSafe® • IBM Update Connector™.15 • Easy Keys Utility • Access ThinkPad II • PC-Doctor™ • Mediamatics™ DVD (DVD models) - License for Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0
UltraBay 2000	Modular bay for interchangeable devices / on all A and T Series, ThinkPad Dock	
Disk	<b>20GB<sup>8</sup></b> (4200 rpm) or <b>32GB (High speed 5400 rpm)</b> / upgradeable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000	The right bay (Ultrabay 2000) supports: • optional or standard CD-ROM • optional or standard DVD drive • optional Zip drive • optional second battery • optional SuperDisk (LS-120) drive • optional CD-RW • optional CD-RW/DVD combo • optional HDD adapter (for 2nd disk) • optional travel bezel • opt ThinkPad Proven™ solutions <sup>16</sup>
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix <b>14.1"</b> (358.1mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix	
Graphics controller	S3 Savage IX8+ / <b>AGP 2X / 8MB SGRAM</b> / 64-bit path to memory	<ul style="list-style-type: none"> <li>• ThinkPad Utilities</li> <li>• ThinkPad Assistant™</li> <li>• ConfigSafe®</li> <li>• IBM Update Connector™.15</li> <li>• Easy Keys Utility</li> <li>• Access ThinkPad II</li> <li>• PC-Doctor™</li> <li>• Mediamatics™ DVD (DVD models)</li> </ul>
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200	
Keyboard	Pitch: 19mm / stroke: 2.7mm / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar	<ul style="list-style-type: none"> <li>• License for Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0</li> </ul>
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions	
UltraPort™	UltraPort connector on top of display for options such as digital Ultraport Camera	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Dimensions <sup>3</sup>	12" x 9.8" x 1.3"; 304mm x 250mm x 33.1mm	
Approximate weight <sup>2</sup>	with CD or DVD drive and battery: <i>900MHz</i> : 5.3 lb; <i>1GHz</i> : 5.6 lb	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength <sup>4</sup>	
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Battery - life <sup>10</sup>	3.2hr	
Architecture	<b>Intel 440BX AGPset</b> / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / TI® PCI1450 for CardBus / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Port replicator	Optional <b>ThinkPad Port Replicator</b>	
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1	
Ports	USB: One (Version 1.1) / Serial: one 9 pin / Parallel: one / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Other features	72 watt AC Adapter	
Video out	S-video out / one industry standard connector / full MPEG-2 support / optional cable for S-video to composite conversion available	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Communicatns Bay	Communications Bay with Mini PCI IIIB slot / customer accessible	
Modem	<i>Some models:</i> 56K <sup>9</sup> V.90 Mini PCI modem card / Lucent® chip set	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Ethernet/modem	<i>Some models:</i> Intel PRO/100 SP Mobile Combo Adapter / Mini PCI ethernet with 56K modem / Intel 82550EY ethernet chipset / Lucent modem chipset	
Audio support	PCI audio / SoundBlaster Pro™ support / CS4624 with CS4297A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Security	Power-on password / hard disk password / supervisor password / security keyhole	
Limited warranty <sup>*, 12</sup>	<b>3 year</b> - EasyServ™.19 onsite pickup and delivery courier service	<ul style="list-style-type: none"> <li>• opt ThinkPad Proven™ solutions<sup>16</sup></li> </ul>
Service options	Optional service upgrades <sup>22</sup> provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period) / visit <a href="http://ibm.com/services/its/us/spwarmain.html">ibm.com/services/its/us/spwarmain.html</a> or call your authorized reseller	

  

64MB SO DIMM 100MHz NP SDRAM	20L0254	ThinkPad T Series Li-Ion Battery	02K6649	PC 99-compliant CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM ImageUltra Services available IBM Rapid Restore PC available to protect software image and data Asset ID™ wireless RF technology (via installing into disk cover) Personalized Web-based support International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty
128MB SO DIMM 100MHz NP SDRAM	20L0255	Ultrabay 2000 Li-Ion battery	02K6646	
256MB SO DIMM 100MHz NP SDRAM	33L3069	ThinkPad 72W AC Adapter	02K6699	
SuperDisk (LS-240) UltraBay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719	
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667	
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U	
8X/4X/24X CD-RW Ultrabay 2000	08K9569	ThinkPad Monitor Stand 2001	22P5265	
8X-2X DVD Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000	19K4480	
CD-RW/DVD Combo Ultrabay 2000	08K9572	UltraPort Camera II	04P6135	
Travel Bezel for Ultrabay 2000	08K6070	IBM Ultraport Compact Flash Reader	19K4510	
Second HDD Adapter for Ultrabay 2000	08K6068	UltraPort Digital Array Microphone	09N4178	
15GB HDD	08K9588	RCA video conversion cable	27L0530	
30GB HDD	08K9593	Asset ID RF Adapter	08K6064	
32GB HDD	08K9511	IBM IEDE 1394 CardBus Card	19K5679	
48GB HDD (5400 rpm)	08K9600	10/100 Enet /56K Mini PCI (3Com)	09N9774	
T Series FDD External Cable Kit	27L0524	Intel Pro/100 SP Mini PCI	06P3801	
IBM 1GB Microdrive™	07N5574	ServicePac® 3yr IOR 9x5 NBD	30L9197	

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
 US models announced March 2001 or July 31, 2001  
 US models withdrawn effective November 2001 or April 2002

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Type-model	Processor	Speed	Memory	Screen	Disk	Optical	Mini PCI	Security Chip	Communications Daughter Card	Preload	Available
2647-2KU	Pentium® III-M	866MHz <sup>1</sup>	128MB	13.3" XGA	15GB	CD-ROM	Modem		Ethernet	Windows® 98 SE	Jul 2001
2647-6KU	Pentium III-M	866MHz	128MB	13.3" XGA	15GB	CD-ROM	Modem		Ethernet	Windows 2000	Jul 2001
2647-5KU	Pentium III-M	1.13GHz	128MB	14.1" SXGA+	48GB	DVD-ROM	Modem		Ethernet	Windows 98 SE	Jul 2001
2647-9KU	Pentium III-M	1.13GHz	128MB	14.1" SXGA+	48GB	DVD-ROM	Modem		Ethernet	Windows 2000	Jul 2001
2647-5LU	Pentium III-M	1.13GHz	128MB	14.1" SXGA+	48GB	DVD-ROM	802.11b/mod	Yes	Ethernet	Windows 98 SE	Jul 2001
2647-9LU	Pentium III-M	1.13GHz	128MB	14.1" SXGA+	48GB	DVD-ROM	802.11b/mod	Yes	Ethernet	Windows 2000	Jul 2001
2647-HLU	Pentium III-M	1.13GHz	128MB	14.1" SXGA+	48GB	DVD-ROM	802.11b/mod	Yes	Ethernet	2000, XP Sm Bus	Jul 2001

Positioning Processor	<i>The perfect balance of performance and portability</i> <b>Mobile Intel® Pentium® III Processor-M 866MHz<sup>1</sup> or 1.13GHz<sup>1</sup> with enhanced Intel SpeedStep™ technology and 133MHz front side bus</b>							<b>SOFTWARE<sup>14, 27</sup></b>			
L2 cache	<b>512KB</b> / on die (at processor speed) / ECC							<b>Windows 98 models</b>			
Memory	<b>128MB</b> standard / 1GB maximum <sup>7</sup> / SDRAM / non-parity / 133MHz / PC 133 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / one socket available							- Microsoft® Windows® 98 Second Edition <sup>13</sup> ↔ Disk-to-Disk Recovery (in hidden Service Partition)			
Diskette drive	3.5" 1.44MB (use in Ultrabay 2000 or attach ext with optional cable via parallel port)							<b>Windows 2000 models</b>			
CD-ROM	Some: CD-ROM / 24X-10X <sup>9</sup> speed / bootable / removable from Ultrabay™ 2000							- Windows 2000 Professional			
DVD-ROM	Some: DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000							- PC Card Wizard			
Ultrabay 2000	Modular bay for interchangeable devices							↔ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition)			
Disk	<b>15GB<sup>8</sup></b> (4200 rpm) or <b>48GB</b> (5400 rpm) / upgradeable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000							<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>			
Display	Some: <b>13.3"</b> (337.8mm) <b>XGA (1024x768) TFT color</b> / Active Matrix Some: <b>14.1"</b> (358.1mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix All: Easy-open cover to unlatch and open with one hand							<b>Preloaded</b>			
Graphics controller	S3® SuperSavage/IXC16 / <b>AGP 4X / 16MB</b> SDRAM							• ThinkPad Assistant™			
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200							• Access ThinkPad II			
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar / pitch: 19mm; stroke: 2.7mm							• ThinkPad Utilities			
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions							• ConfigSafe®			
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera							• Access Connections (W2000 wireless models only)			
Dimensions <sup>3</sup>	xKx: 12.0" x 9.8" x 1.3"; xLx: 12.1" x 9.8" x 1.3"							• PC-Doctor™			
Approximate weight <sup>2</sup>	With optical drive and battery: 2Kx/6Kx: 5.4 lbs; 5Kx/9Kx: 5.45 lbs; 5Lx/9Lx: 5.5 lbs							• Mediamatics™ DVD (DVD models)			
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength <sup>4</sup>							<b>Downloadable</b>			
Battery - type	Lithium Ion 6-cell / 10.8V 3.6AH / intelligent / supports unique 2nd battery in Ultrabay							• IBM Backup and Restore			
Battery - life <sup>10</sup>	xKx: 3.0 hrs; xLx: 2.8 hrs							• IBM Data Transfer			
AC adapter	Universal 72 watt / 16VDC 4.5A							• Universal Manageability Services			
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / E82802AC Firmwave Hub / PCI bus 2.2 32-bit, 33MHz (TI® PCI1420 CardBus, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)							• IBM Update Connector™ <sup>15</sup>			
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)							• Client Security Software 2.0 (models with security chip)			
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video							<b>License</b>			
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)							- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0			
Video out	S-video out / one industry standard connector / full MPEG-2 support / optional cable for S-video to composite conversion available							<b>Office XP Small Business models</b>			
Mini PCI	Mini PCI IIIb slot / customer accessible							- Microsoft Office XP Small Business (Word, Excel, Outlook, Publisher, Small Business Tools)			
CDC	One Communications Daughter Card socket (used by ethernet)							↔ Office XP Small Business CD			
Modem	xKx: Mini PCI 56K <sup>6</sup> V.90 modem card / Lucent® chipset							The Ultrabay 2000 plus supports:			
802.11b/modem	xLx: Mini PCI 802.11b wireless, Intersil® Prism 2.5 chipset, diversity antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 modem combo, Lucent® chipset										
Ethernet	10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset							• optional or standard CD-ROM			
Audio support	Soft audio / ICH AC97 controller / SoundBlaster compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)							• optional or standard DVD drive			
Security	Power-on password / hard disk password / supervisor password / security keyhole xLx: <b>Embedded Security Chip</b> / authenticates and encrypts data communications / stores encrypted passwords in hardware							• optional Zip drive			
Limited warranty* <sup>12</sup>	<b>3 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service							• optional second battery			
64 MB SO DIMM	133MHz NP SDRAM	19K4650	ThinkPad T Series Li-Ion Battery				02K6649	• optional SuperDisk drive			
128 MB SO DIMM	133MHz NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery				02K6646	• optional CD-RW			
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad 72W AC Adapter				02K6699	• optional CD-RW/DVD combo			
512 MB SO DIMM	133MHz NP SDRAM	19K4656	ThinkPad 72W DC Auto/Air Adapter				10K3820	• optional HDD adapter (for 2nd disk)			
SuperDisk (LS-240)	Ultrabay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger				02K6719	• optional travel bezel			
Zip 250MB	Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator				02K8667	IBM ImageUltra Services available IBM Rapid Restore PC available to protect software image and data Asset ID™ wireless RF technology (via installing into disk cover)			
24X-10X CD-ROM	Ultrabay 2000 Drive	05K9233	ThinkPad Dock				263120U				
8X/4X/24X CD-RW	Ultrabay 2000	08K9569	ThinkPad Monitor Stand 2001				22P5265	Personalized Web-based support International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty			
8X-2X DVD	Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)				19K4480				
CD-RW/DVD Combo	Ultrabay 2000	08K9572	UltraPort Camera II				04P6135				
Travel Bezel for	Ultrabay 2000	08K6070	UltraPort Digital Array Microphone				09N4178				
Second HDD Adapter for	Ultrabay 2000	08K6068	Bluetooth™ UltraPort Module from IBM				09N9811				
15GB Hard Disk Drive		08K9588	T Series FDD External Cable Kit				27L0524				
30GB Hard Disk Drive		08K9593	ServicePac <sup>22</sup> 3yr IOR 9x5 NBD				30L9197				
48GB Hard Disk Drive		08K9600									

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227

US models announced July 31, 2001

US models withdrawn effective April 2002

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Type-model	Processor	Speed GHz	Memory	Screen	Disk	Optical	Mini PCI Comm Bay	CDC	Security Chip	Preload	Small business software	Workhorse (W) or Global (G) model	Avail date
2647-GNU	Pentium® III-M	1.13	128MB	14.1" XGA	30GB <sup>8</sup>	DVD-ROM	11b Wi-Fi <sup>32</sup> /mod	Ethernet	Yes	XP Pro	Office XP SB <sup>28</sup>		Oct 2001
2647-HNU	Pentium III-M	1.2	128MB	14.1" SXGA+	48GB	CD-RW	11b Wi-Fi/mod	Ethernet	Yes	XP Pro	Office XP SB		Oct 2001
2647-8QU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	Modem			XP Pro		W	Oct 2001
2647-4QU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	Modem			Windows® 2000		W	Oct 2001
2647-8MU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	Modem	Ethernet		XP Pro		W G	Oct 2001
2647-8NU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	11b Wi-Fi/mod	Ethernet		XP Pro		W	Oct 2001
2647-9MU	Pentium III-M	1.2	128MB	14.1" SXGA+	48GB	CD-RW	Modem	Ethernet	Yes	XP Pro			Oct 2001
2647-9NU	Pentium III-M	1.2	128MB	14.1" SXGA+	48GB	CD-RW	11b Wi-Fi/mod	Ethernet	Yes	XP Pro			Oct 2001
2647-4MU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	Modem	Ethernet		Windows 2000		W G	Oct 2001
2647-4NU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	11b Wi-Fi/mod	Ethernet		Windows 2000		W	Oct 2001
2647-5MU	Pentium III-M	1.2	128MB	14.1" SXGA+	48GB	CD-RW	Modem	Ethernet	Yes	Windows 2000			Oct 2001
2647-5NU	Pentium III-M	1.2	128MB	14.1" SXGA+	48GB	CD-RW	11b Wi-Fi/mod	Ethernet	Yes	Windows 2000			Oct 2001
Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>												
L2 cache	<b>Mobile Intel® Pentium® III Processor-M 1.13 or 1.2GHz with enhanced Intel SpeedStep™ technology<sup>1</sup> and 133MHz frontside bus</b>												
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>128MB</b> standard / 1GB maximum <sup>2</sup> / SDRAM / non-parity / 133MHz / PC 133 / 3.3v / two 144-pin SO-DIMM sockets / 128MB in one socket / one socket available												
Diskette drive	3.5" 1.44MB (use in either Ultrabay™ or attach ext with optional cable via parallel port)												
CD-RW	<i>Some:</i> CD-RW / 8X/4X/24X Max <sup>9</sup> / removable from Ultrabay 2000												
DVD-ROM	<i>Some:</i> DVD-ROM / 8X-3.3X <sup>9</sup> speed / removable from Ultrabay 2000												
Ultrabay 2000	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible												
Disk	<b>30GB<sup>8</sup></b> (4200 rpm) or <b>48GB</b> (5400 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000												
Display	<i>Some:</i> <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix <i>Some:</i> <b>14.1"</b> (358.1mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix <i>All:</i> Easy-open cover to unlatch and open with one hand (two latches)												
Graphics controller	S3 Graphics® SuperSavage / IXC16 / <b>AGP 4X / 16MB SDRAM</b>												
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200												
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera												
Dimensions <sup>3</sup>	<i>Wi-Fi<sup>32</sup> models:</i> 12.1" x 9.8" x 1.3"; <i>Others:</i> 12.0" x 9.8" x 1.3";												
Approximate weight <sup>2</sup>	with optical drive and battery: <i>Gxx/8xx/4xx:</i> 5.2 lbs; <i>Hxx/9xx/5xx:</i> 5.5 lbs												
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength												
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000												
Battery - life <sup>10</sup>	3 hrs 11 minutes to 3 hrs 30 minutes depending on model												
AC adapter	Universal 72 watt / 16VDC 4.5A												
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / E82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (TI® PCI1420 CardBus, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)												
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1												
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / <i>some:</i> RJ-45 (ethernet)												
Video out	S-video out port (TV out) / one industry standard connector												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	<i>Some:</i> Mini PCI 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem card / Lucent® chipset												
11b Wi-Fi <sup>32</sup> /modem	<i>Some:</i> Mini PCI 11b Wi-Fi <sup>32</sup> wireless, Intersil® Prism 2.5 chipset, diversity antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset												
Ethernet	<i>Some:</i> 10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset												
Audio support	Soft audio / ICH AC97 controller / SoundBlaster-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)												
Security	Power-on password / hard disk password / supervisor password / security keyhole												
Security chip	<i>Some:</i> <b>IBM Embedded Security Subsystem<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup>												
Limited warranty <sup>12</sup>	<b>3 years/1 year battery</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
64 MB SO DIMM	133MHz NP SDRAM	19K4650	ThinkPad T20 Series Li-Ion Battery					02K6649					
128 MB SO DIMM	133MHz NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery					02K6646					
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad 72W AC Adapter					02K6699					
512 MB SO DIMM	133MHz NP SDRAM	19K4656	ThinkPad 72W DC Auto/Air Adapter					10K3820					
SuperDisk (LS-240)	UltraBay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger					02K6719					
Zip 250MB	Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator					02K8667					
24X-10X CD-ROM	Ultrabay 2000 Drive	05K9233	ThinkPad Dock					263120U					
8X/4X/24X Max	CD-RW Ultrabay 2000	08K9569	ThinkPad Monitor Stand 2001					22P5265					
8X-3X DVD	Ultrabay 2000 Drive	27L3448	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)					19K4480					
CD-RW/DVD Combo	Ultrabay 2000	08K9572	Bluetooth™ UltraPort Module from IBM					09N9811					
Travel Bezel for	Ultrabay 2000	08K6070	T Series FDD External Cable Kit					27L0524					
Second HDD Adapter for	Ultrabay 2000	08K6068	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD					30L9190					
IBM ThinkPad Ultrabay Plus	Carrier	22P5737	ServicePac 3yr IOR 9x5 NBD					30L9197					
IBM ThinkPad Ultrabay Plus	c500 Cradle	22P5738	40GB HS Hard Disk 9.5mm (5400 rpm)					08K9816					
ThinkPad Ultrabay Plus	Numeric Keypad	22P7330	48GB HS Hard Disk 12.5mm (5400 rpm)					08K9600					
ThinkPad Asset ID	RF Adapter	08K6064											

**SOFTWARE<sup>14</sup>**

**Windows XP Pro models**

- Microsoft® Windows® XP Professional
- ↔ Disk-to-Disk Recovery (in hidden Service Partition)

**Windows 2000 models**

- Microsoft Windows 2000 Professional<sup>13</sup>
- ↔ Disk-to-Disk Recovery to Windows 2000 or Windows NT 4.0 (in hidden Service Partition)

**INCLUDED SOFTWARE<sup>14</sup> (all)**

**Preloaded**

- Access ThinkPad
- Access Connections
- Access Help
- ConfigSafe®
- Mediamatics™ DVD (DVD models)
- PC-Doctor™
- SystemSoft CardWizard
- ThinkPad Utilities
- Veritas RecordNOW (CD-RW mod)

**Downloadable**

- IBM Rapid Restore™ PC
- IBM Data Transfer
- Universal Manageability Services™
- IBM Update Connector™<sup>15</sup>
- Client Security Software (models with security chip)

**License**

- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0

**Office XP Small Business models only**

- Microsoft Office XP Small Business<sup>26</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)
- ↔ Office XP Small Business CD

**Ultrabay Plus** integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series

See footnotes for important warranty information  
US models announced October 9, 2001  
US models withdrawn effective July 2002, April 2003, or July 2003

Type-model	Processor	Speed GHz	Memory	Screen	Disk	Optical	Mini PCI Comm Bay	CDC	Security Chip	Preload	Small business software	Workhorse (W) or Global (G) model	Avail date
2647-2RU	Pentium® III-M	1.0	128MB	14.1" XGA	20GB <sup>8</sup> CD-ROM	Modem		Ethernet		Windows® 2000			Jan 2002
2647-6RU	Pentium III-M	1.0	128MB	14.1" XGA	20GB CD-ROM	Modem		Ethernet		XP Pro			Jan 2002
2647-6GU	Pentium III-M	1.0	256MB	14.1" XGA	20GB DVD-ROM	Modem		Ethernet		XP Pro		W G	Feb 2002
2647-2TU	Pentium III-M	1.0	128MB	14.1" XGA	20GB DVD-ROM	Modem		Ethernet		Windows 2000		W G	Feb 2002
2647-2GU	Pentium III-M	1.0	256MB	14.1" XGA	20GB DVD-ROM	Modem		Ethernet		Windows 2000		W G	Feb 2002
2647-5RU	Pentium III-M	1.2	256MB	14.1" SXGA+	60GB DVD/CD-RW	Modem		Ethernet	Yes	Windows2000			Jan 2002
2647-9RU	Pentium III-M	1.2	256MB	14.1" SXGA+	60GB DVD/CD-RW	Modem		Ethernet	Yes	XP Pro			Jan 2002
2647-5SU	Pentium III-M	1.2	256MB	14.1" SXGA+	60GB DVD/CD-RW	11b Wi-Fi <sup>32</sup> /mod		Ethernet	Yes	Windows2000			Jan 2002
2647-9SU	Pentium III-M	1.2	256MB	14.1" SXGA+	60GB DVD/CD-RW	11b Wi-Fi/mod		Ethernet	Yes	XP Pro			Jan 2002
2647-HSU	Pentium III-M	1.2	256MB	14.1" SXGA+	60GB DVD/CD-RW	11b Wi-Fi/mod		Ethernet	Yes	XP Pro	Office XP SB <sup>28</sup>		Jan 2002
Positioning Processor	The perfect balance of performance and portability; two-spindle system												
L2 cache	Mobile Intel® Pentium® III Processor-M 1.0 or 1.2GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus												
Memory	512KB / on die (at processor speed) / ECC												
Diskette drive	3.5" 1.44MB (use in either Ultrabay™ or attach ext with optional cable via parallel port)												
CD-ROM	Some: CD-ROM / 24X-10X <sup>9</sup> / removable from Ultrabay 2000												
DVD-ROM	Some: DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000												
DVD-ROM/CD-RW	Some: DVD-ROM/CD-RW / 8X/8X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000												
Ultrabay 2000	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible												
Disk	20GB <sup>8</sup> (4200 rpm) or 60GB <sup>8</sup> (5400 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000												
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix All: Easy-open cover to unlatch and open with one hand (two latches)												
Graphics controller	S3 Graphics® SuperSavage / IXC16 / AGP 4X / 16MB SDRAM												
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200												
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm (standard-size keys)												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera												
Dimensions <sup>3</sup>	Wi-Fi <sup>32</sup> models: 12.1" x 9.8" x 1.3"; Others: 12.0" x 9.8" x 1.3";												
Approximate weight <sup>2</sup>	with optical drive and battery: 2Rx/6Rx: 5.05 lbs (2.29kg); 6Gx/2Tx/2Gx: 5.19 lbs (2.36kg); 5Rx/9Rx: 5.58 lbs (2.53kg); 5Sx/9Sx/HSx: 5.62 lbs (2.55kg)												
Case material	Titanium Composite in the top and bottom covers for enhanced strength <sup>4</sup>												
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000												
Battery - life <sup>10</sup>	3.1 hrs to 3.5 hrs depending on model												
Architecture	Intel 830MP chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / E82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (TI® PCI1420 CardBus, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)												
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1												
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / some: RJ-45 (ethernet)												
Video out	S-video out port (TV out) / one industry standard connector												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	Some: Mini PCI 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem card / Lucent® chipset												
11b Wi-Fi <sup>32</sup> /modem	Some: Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>3</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 modem combo, Lucent® chipset												
Ethernet	10/100 ethernet on Communications Daughter Card / Intel® 82562E chipset												
Audio support	Soft audio / ICH AC97 controller / SoundBlaster-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)												
Security	Power-on password / hard disk password / supervisor password / security keyhole												
Security chip	Some: <b>IBM Embedded Security Subsystem<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup>												
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™.19 onsite pickup and delivery courier service												
64 MB SODIMM	133MHz CL3 NP SDRAM	19K4650	ThinkPad T20 Series Li-Ion Battery	02K6649	Universal 72 watt AC adapter								
128 MB SO DIMM	133MHz CL3 NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery	02K6646	PC 99-compliant								
256 MB SO DIMM	133MHz CL3 NP SDRAM	19K4654	ThinkPad 72W AC Adapter	02K6699	CIM and DMI 2.0-compliant								
512 MB SO DIMM	133MHz CL3 NP SDRAM	19K4656	ThinkPad 72W DC Auto Adapter	10K3820	PXE 2.0-compliant								
SuperDisk (LS-240)	Ultrabay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719	Wired for Management 2.0								
Zip 250MB	Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667	Local and remote asset management via the IBM Universal Management solutions								
24X-10X CD-ROM	Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U	IBM ImageUltra™ Services available								
8X/4X/24X Max CD-RW	Ultrabay 2000	22P9101	ThinkPad Monitor Stand 2001	22P5265	IBM Rapid Restore PC available to protect software image and data								
Ultralight 8X Max DVD	Ultrabay 2000	22P9102	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480	Asset ID™ wireless RF technology (via installing into disk cover)								
CD-RW/DVD Combo III	Ultrabay 2000	22P6980	Bluetooth™ UltraPort Module from IBM	09N9811	International Warranty Service <sup>17</sup>								
Travel Bezel for Ultrabay 2000		08K6070	T Series FDD External Cable Kit	27L0524	24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>								
Second HDD Adapter for Ultrabay 2000		08K6068	ServicePac®, 22 2yr IOR 9x5 NBD	30L9190									
IBM ThinkPad Ultrabay Plus Carrier		22P5737	ServicePac 3yr IOR 9x5 NBD	30L9197									
IBM ThinkPad Ultrabay Plus c500 Cradle		22P5738	20GB Hard Disk 9.5mm (4200 rpm)	08K9686									
ThinkPad Ultrabay Plus Numeric Keypad		22P7330	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816									
ThinkPad Asset ID RF Adapter		08K6064	80GB Hard Disk 9.5mm (4200 rpm)	08K9869									
Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>													

See footnotes for important warranty information  
US models announced January 22 or February 7, 2002  
US models withdrawn effective July 2002 or July 2003

Type-model	Processor	Speed GHz	Memory	Screen	Disk	Optical	Mini PCI Comm Bay	CDC	Security Chip	Preload	Workhorse (W) or Global (G) model	Avail date
2647-GGU	Pentium® III-M	1.0	256MB	14.1" XGA	20GB <sup>8</sup>	DVD/CD-RW	11b Wi-Fi <sup>32</sup> /mod	Ethernet	No	Windows® XP Pro	No	Apr 2002

This educational model of the ThinkPad T23 notebook must be sold only to qualified education customers. Qualified institution/customer is a public or private K-12 (or higher) accredited school organized and operated exclusively for educational purposes for use by Qualified Students and/or Qualified Teachers.

This model for education is for sale direct from IBM or through an Authorized Education Reseller. The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>										
L2 cache	<b>Mobile Intel® Pentium® III Processor-M 1.0GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus										
Memory	<b>512KB</b> / on die (at processor speed) / ECC										
Diskette drive	3.5" 1.44MB (use in either Ultrabay™ or attach ext with optional cable via parallel port)										
DVD-ROM/CD-RW	DVD-ROM/CD-RW / 8X/8X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000										
Ultrabay 2000	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible										
Disk	<b>20GB<sup>8</sup></b> (4200 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000										
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / easy-open cover to unlatch and open with one hand (two latches)										
Graphics controller	S3 Graphics® SuperSavage / IXC16 / <b>AGP 4X / 16MB</b> SDRAM										
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200										
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm (standard-size keys)										
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions										
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera										
Dimensions <sup>3</sup>	12.1" x 9.8" x 1.3" (305 mm x 250 mm x 33.1 mm)										
Approximate weight <sup>2</sup>	with optical drive and battery: 5.3 lbs (2.4kg)										
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength										
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000										
Battery - life <sup>10</sup>	3.1 hrs										
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / E82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (TI® PCI1420 CardBus, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)										
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)										
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1										
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)										
Video out	S-video out port (TV out) / one industry standard connector										
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable										
11b Wi-Fi <sup>32</sup> /mod	Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset										
CDC	One Communications Daughter Card (CDC) socket / customer accessible										
Ethernet	10/100 ethernet on Communications Daughter Card / Intel 82562ET chipset										
Audio support	Soft audio / ICH AC97 controller / SoundBlaster-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)										
Security	Power-on password / hard disk password / supervisor password / security keyhole										
Limited warranty <sup>12</sup>	<b>3 years/1 year battery</b> - EasyServ™-19 onsite pickup and delivery courier service										
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										
64 MB SO DIMM	133MHz CL3 NP SDRAM	19K4650	ThinkPad T20 Series Li-Ion Battery	02K6649	Universal 72 watt AC adapter						
128 MB SO DIMM	133MHz CL3 NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery	02K6646	PC 99-compliant						
256 MB SO DIMM	133MHz CL3 NP SDRAM	19K4654	ThinkPad 72W AC Adapter	02K6699	CIM and DMI 2.0-compliant						
512 MB SO DIMM	133MHz CL3 NP SDRAM	19K4656	ThinkPad 72W DC Auto Adapter	10K3820	PXE 2.0-compliant						
SuperDisk (LS-240) UltraBay 2000		08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719	Wired for Management 2.0						
Zip 250MB Ultrabay 2000 Drive		00N8253	ThinkPad Port Replicator	02K8667	Local and remote asset management via the IBM Universal Manageability solutions						
24X-10X CD-ROM Ultrabay 2000 Drive		05K9233	ThinkPad Dock	263120U	IBM ImageUltra™ Services available						
8X/4X/24X Max CD-RW Ultrabay 2000		22P9101	ThinkPad Monitor Stand 2001	22P5265	IBM Rapid Restore PC available to protect software image and data						
Ultralight 8X Max DVD Ultrabay 2000		22P9102	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480	Asset ID™ wireless RF technology (via installing into disk cover)						
CD-RW/DVD Combo III Ultrabay 2000		22P6980	Bluetooth™ UltraPort Module from IBM	09N9811	International Warranty Service <sup>17</sup>						
Travel Bezel for Ultrabay 2000		08K6070	T Series FDD External Cable Kit	27L0524	24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>						
Second HDD Adapter for Ultrabay 2000		08K6068	ServicePac®, <sup>22</sup> 2yr IOR 9x5 NBD	30L9190							
IBM ThinkPad Ultrabay Plus Carrier		22P5737	ServicePac 3yr IOR 9x5 NBD	30L9197							
IBM ThinkPad Ultrabay Plus c500 Cradle		22P5738	20GB Hard Disk 9.5mm (4200 rpm)	08K9686							
ThinkPad Ultrabay Plus Numeric Keypad		22P7330	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816							
ThinkPad Asset ID RF Adapter		08K6064	80GB Hard Disk 9.5mm (4200 rpm)	08K9869							
Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											

See footnotes for important warranty information  
US model announced April 30, 2002  
US model withdrawn effective July 2003

Type-model	Processor	Speed GHz	Memory	Screen	Disk	Optical	Mini PCI Comm Bay	CDC	Security Chip	Preload	Small business software	Workhorse (W) or Global (G) model	Avail date
2647-4RU	Pentium® III-M	1.2	256MB	14.1" XGA	40GB <sup>8</sup>	DVD-ROM	Modem	Ethernet	No	Windows® 2000		W G	Apr 2002
2647-4SU	Pentium III-M	1.2	256MB	14.1" XGA	40GB	DVD-ROM	11b Wi-Fi <sup>32</sup> /mod	Ethernet	No	Windows 2000		W G	Apr 2002
2647-8RU	Pentium III-M	1.2	256MB	14.1" XGA	40GB	DVD-ROM	Modem	Ethernet	No	XP Pro		W G	Apr 2002
2647-8SU	Pentium III-M	1.2	256MB	14.1" XGA	40GB	DVD-ROM	11b Wi-Fi/modem	Ethernet	No	XP Pro		W G	Apr 2002
2647-BSU	Pentium III-M	1.2	256MB	14.1" XGA	40GB	DVD-ROM	11b Wi-Fi/modem	Ethernet	No	XP Pro	Office XP SB <sup>28</sup>	W	Apr 2002

Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>										
L2 cache	<b>Mobile Intel® Pentium® III Processor-M 1.2GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus										
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>256MB</b> standard / 1GB max <sup>7</sup> / SDRAM / non-parity / 133MHz / PC 133 / 3.3v / two 144-pin SO-DIMM sockets / 256MB in one socket / one socket available										
Diskette drive	3.5" 1.44MB (use in either Ultrabay™ or attach ext with optional cable via parallel port)										
DVD-ROM	DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000										
CD-RW	Optional / removable from Ultrabay 2000										
DVD-ROM/CD-RW	Optional / removable from Ultrabay 2000										
Ultrabay 2000	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible										
Disk	<b>40GB<sup>8</sup></b> (4200 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000										
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / easy-open cover to unlatch and open with one hand										
Graphics controller	S3 Graphics® SuperSavage / IXC16 / <b>AGP 4X / 16MB</b> SDRAM										
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200										
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm (standard-size keys)										
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions										
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera										
Dimensions <sup>3</sup>	<i>Wi-Fi<sup>32</sup> models:</i> 12.1" x 9.8" x 1.3"; <i>Other (4RU/8RU):</i> 12.0" x 9.8" x 1.3";										
Approximate weight <sup>2</sup>	with optical drive and battery: 5.17 lbs (2.34kg)										
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength										
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000										
Battery - life <sup>10</sup>	xSU: 3.3 hrs; xRU: 3.4 hrs										
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / E82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (TI® PCI1420 CardBus, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)										
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)										
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1										
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)										
Video out	S-video out port (TV out) / one industry standard connector										
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable										
CDC	One Communications Daughter Card (CDC) socket / customer accessible										
Modem	<i>Some:</i> Mini PCI 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem card / Lucent® chipset										
11b Wi-Fi <sup>32</sup> /modem	<i>Some:</i> Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 modem combo, Lucent® chipset										
Ethernet	10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset										
Audio support	Soft audio / ICH AC97 controller / SoundBlaster-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)										
Security	Power-on password / hard disk password / supervisor password / security keyhole										
Limited warranty <sup>12</sup>	<b>3 years</b> /1 year battery - EasyServ™.19 onsite pickup and delivery courier service										
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										

**SOFTWARE<sup>14</sup>**

**Windows XP Pro models**

- Microsoft® Windows® XP Professional<sup>20</sup>
- ◇ Disk-to-Disk Recovery (in hidden Service Partition)

**Windows 2000 models**

- Microsoft Windows 2000 Professional<sup>20</sup>
- ConfigSafe®
- ◇ Disk-to-Disk Recovery (in hidden Service Partition)

**INCLUDED SOFTWARE<sup>14</sup> (all)**

**Preloaded**

- Access ThinkPad
- Access Connections
- Access Help
- Access Support
- Adobe® Acrobat Reader
- Mediamatics™ DVD (DVD models)
- PC-Doctor™
- ThinkPad Utilities
- Veritas RecordNOW (CD-RW mod)
- IBM Software Installer
- IBM Update Connector™.15

**Downloadable**

- IBM Rapid Restore™ PC
- IBM Data Transfer
- IBM Director Agent

**License** (CD not included)

- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0

**Office XP Small Business model only** (2647-BSU)

- Microsoft Office XP Small Business<sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)
- ◇ Office XP Small Business CD

**Ultrabay Plus** integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series

64 MB SODIMM 133MHz CL3 NP SDRAM	19K4650	ThinkPad T20 Series Li-Ion Battery	02K6649	Universal 72 watt AC adapter
128 MB SO DIMM 133MHz CL3 NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery	02K6646	PC 99-compliant
256 MB SO DIMM 133MHz CL3 NP SDRAM	19K4654	ThinkPad 72W AC Adapter	02K6699	CIM and DMI 2.0-compliant
512 MB SO DIMM 133MHz CL3 NP SDRAM	19K4656	ThinkPad 72W DC Auto Adapter	10K3820	PXE 2.0-compliant
SuperDisk (LS-240) UltraBay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719	Local and remote asset management via the IBM Universal Manageability solutions
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667	IBM ImageUltra™ Services available
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U	IBM Rapid Restore PC available to protect software image and data
8X/4X/24X Max CD-RW Ultrabay 2000	22P9101	ThinkPad Monitor Stand 2001	22P5265	Asset ID™ wireless RF technology (via installing into disk cover)
Ultralight 8X Max DVD Ultrabay 2000	22P9102	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480	International Warranty Service <sup>17</sup>
CD-RW/DVD Combo III Ultrabay 2000	22P6980	Bluetooth™ UltraPort Module from IBM	09N9811	24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>
Travel Bezel for Ultrabay 2000	08K6070	T Series FDD External Cable Kit	27L0524	
Second HDD Adapter for Ultrabay 2000	08K6068	ServicePac®, 22 2yr IOR 9x5 NBD	30L9190	
IBM ThinkPad Ultrabay Plus Carrier	22P5737	ServicePac 3yr IOR 9x5 NBD	30L9197	
IBM ThinkPad Ultrabay Plus c500 Cradle	22P5738	20GB Hard Disk 9.5mm (4200 rpm)	08K9686	
ThinkPad Ultrabay Plus Numeric Keypad	22P7330	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	
ThinkPad Asset ID RF Adapter	08K6064	80GB Hard Disk 9.5mm (4200 rpm)	08K9869	
Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>				

See footnotes for important warranty information  
US models announced April 23, 2002  
US models withdrawn effective July 2003

Type-model	Processor	Speed GHz	Memory	Screen	Disk	Optical	Diskette Drive	Mini PCI Comm Bay	CDC	Preload	Workhorse (W) or Global (G) model	Avail date
2647-7GU	Pentium® III-M	1.0	256MB	14.1" XGA	20GB <sup>8</sup>	DVD/CD-RW	None	Modem	Ethernet	Windows® XP Pro	No	Jun 2002
2647-7MU	Pentium III-M	1.13	256MB	14.1" XGA	30GB	DVD/CD-RW	None	Modem	Ethernet	Windows XP Pro	No	Jun 2002
2647-7NU	Pentium III-M	1.13	256MB	14.1" XGA	30GB	DVD/CD-RW	None	11b Wi-Fi <sup>32</sup> /mod	Ethernet	Windows XP Pro	No	Jun 2002
2647-3GU	Pentium III-M	1.0	256MB	14.1" XGA	20GB	DVD/CD-RW	None	Modem	Ethernet	Windows 2000	No	Jun 2002
2647-2MU	Pentium III-M	1.13	256MB	14.1" XGA	30GB	DVD/CD-RW	None	Modem	Ethernet	Windows 2000	No	Jun 2002
2647-2NU	Pentium III-M	1.13	256MB	14.1" XGA	30GB	DVD/CD-RW	None	11b Wi-Fi/mod	Ethernet	Windows 2000	No	Jun 2002
2647-4U2	Pentium III-M	1.0	256MB	14.1" SXGA+	20GB	DVD/CD-RW	None	Modem	Ethernet	Windows 2000	No	Jun 2002
2647-4U3	Pentium III-M	1.13	256MB	14.1" SXGA+	30GB	DVD/CD-RW	None	modem	Ethernet	Windows 2000	No	Jun 2002
2647-T4U	Pentium III-M	1.13	256MB	14.1" XGA	30GB	CD-ROM	Diskette	modem	Ethernet	Windows 2000	No	Jun 2002
2647-4U5	Pentium III-M	1.13	256MB	14.1" XGA	30GB	DVD/CD-RW	Diskette	modem	Ethernet	Windows 2000	No	Jun 2002
Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>											
L2 cache	<b>Mobile Intel® Pentium® III Processor-M 1.0 or 1.13GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional ⇨ Disk-to-Disk Recovery (in hidden Service Partition)  <b>Windows 2000 models</b> - Microsoft Windows 2000 Professional <sup>13</sup> • ConfigSafe® ⇨ Disk-to-Disk Recovery (in hidden Service Partition)  <b>INCLUDED SOFTWARE<sup>14</sup> (all)</b> <b>Preloaded</b> • Access ThinkPad - Access Connections - Access Help - Access Support • Mediamatics™ DVD (Combo models) • PC-Doctor™ • ThinkPad Utilities • Veritas RecordNOW (Combo models) • IBM Software Installer • IBM Update Connector™ <sup>15</sup>  <b>Downloadable</b> • IBM Rapid Restore™ PC • IBM Data Transfer • IBM Director Agent  <b>License</b> (CD not included) • Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0  <b>Ultrabay Plus</b> integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series	
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>256MB</b> standard / 1GB max <sup>7</sup> / SDRAM / non-parity / 133MHz / PC133-compliant / 3.3v / two 144-pin SO-DIMM sockets / std mem in one socket / one socket available											
Diskette drive	Some: 3.5" 1.44MB (use in Ultrabay™ or attach ext with optional cable via parallel port)											
CD-ROM	Some: CD-ROM / 24X-10X <sup>9</sup> / removable from Ultrabay 2000											
DVD-ROM/CD-RW	Some: Combo / DVD-ROM/CD-RW / 8X/8X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000											
Ultrabay 2000 Disk	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible <b>20GB<sup>8</sup> or 30GB</b> (4200 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000											
Display	Some: <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix Some: <b>14.1"</b> (358.1mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix All: Easy-open cover to unlatch and open with one hand (two latches)											
Graphics controller	S3 Graphics® SuperSavage / IXC16 / <b>AGP 4X / 16MB</b> SDRAM											
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200											
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm (standard-size keys)											
ThinkLight™ UltraPort™	Illuminates the keyboard to improve visibility in low-light conditions UltraPort connector on top of display for options such as digital UltraPort Camera											
Dimensions <sup>3</sup>	<i>Wi-Fi<sup>32</sup> models:</i> 12.1" x 9.8" x 1.3"; <i>Others:</i> 12.0" x 9.8" x 1.3"; with optical drive and battery: <i>T4U (CD-ROM model):</i> 5.13 lbs (2.33kg); <i>7NU/2NU (Wi-Fi models):</i> 5.42 lbs (2.46kg); <i>4U2/4U3 (SXGA+ models):</i> 5.45 (2.47kg); <i>Others:</i> 5.37 lbs (2.43kg)											
Approximate weight <sup>2</sup>												
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength <sup>4</sup>											
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000											
Battery - life <sup>10</sup>	3.1 hrs to 3.5 hrs depending on model											
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / E82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (T1® PCI1420 CardBus, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)											
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)											
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / <i>some:</i> RJ-45 (ethernet)											
Video out	S-video out port (TV out) / one industry standard connector											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	Some: Mini PCI 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem card / Lucent® chipset											
11b Wi-Fi <sup>32</sup> /modem	Some: Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 modem combo, Lucent® chipset											
Ethernet	10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset											
Audio support	Soft audio / ICH AC97 controller / SoundBlaster-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)											
Security	Power-on password / hard disk password / supervisor password / security keyhole											
Security chip	None											
Limited warranty <sup>12</sup>	<b>3 years/1 year battery - EasyServ™</b> <sup>19</sup> onsite pickup and delivery courier service											
64 MB SODIMM	133MHz CL3 NP SDRAM	19K4650	ThinkPad T20 Series Li-Ion Battery	02K6649	Universal 72 watt AC adapter							
128 MB SO DIMM	133MHz CL3 NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery	02K6646	PC 99-compliant							
256 MB SO DIMM	133MHz CL3 NP SDRAM	19K4654	ThinkPad 72W AC Adapter	02K6699	CIM and DMI 2.0-compliant							
512 MB SO DIMM	133MHz CL3 NP SDRAM	19K4656	ThinkPad 72W DC Auto Adapter	10K3820	PXE 2.0-compliant							
SuperDisk (LS-240)	Ultrabay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719	Wired for Management 2.0							
Zip 250MB	Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667	Local and remote asset management via the IBM Universal Manageability solutions							
24X-10X CD-ROM	Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U	IBM ImageUltra™ Services available							
8X/4X/24X Max CD-RW	Ultrabay 2000	22P9101	ThinkPad Monitor Stand 2001	22P5265	IBM Rapid Restore PC available to protect software image and data							
UltraLight 8X Max DVD	Ultrabay 2000	22P9102	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480	Asset ID™ wireless RF technology (via installing into disk cover)							
CD-RW/DVD Combo III	Ultrabay 2000	22P6980	Bluetooth™ UltraPort Module from IBM	09N9811	International Warranty Service <sup>17</sup>							
Travel Bezel for Ultrabay 2000		08K6070	T Series FDD External Cable Kit	27L0524	24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>							
Second HDD Adapter for Ultrabay 2000		08K6068	20GB Hard Disk 9.5mm (4200 rpm)	08K9686								
IBM ThinkPad Ultrabay Plus Carrier		22P5737	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816								
IBM ThinkPad Ultrabay Plus c500 Cradle		22P5738	80GB Hard Disk 9.5mm (4200 rpm)	08K9869								
ThinkPad Ultrabay Plus Numeric Keypad		22P7330	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190								
ThinkPad Asset ID RF Adapter		08K6064	ServicePac 3yr IOR 9x5 NBD	30L9197								
Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>												

See footnotes for important warranty information  
US models announced June 11, 2002  
US models withdrawn effective April or July 2003

Type-model	Processor	Speed GHz	Memory	Screen	Disk	Optical	Mini PCI Comm Bay	CDC	Security Chip	Preload	Small business software	Avail date
2647-3HU	Pentium® III-M	1.0	128MB	14.1" XGA	20GB <sup>8</sup>	DVD-ROM	Modem	Ethernet	No	Windows® 2000	Office XP SB <sup>28</sup>	Aug 2002
2647-5GU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	Modem	Ethernet	No	Windows 2000	Office XP SB	Aug 2002
2647-9GU	Pentium III-M	1.13	128MB	14.1" XGA	30GB	DVD-ROM	Modem	Ethernet	No	Windows XP Pro	Office XP SB	Aug 2002

Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>									
L2 cache	<b>Mobile Intel® Pentium® III Processor-M 1.0 or 1.13GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus									
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>128MB</b> standard / 1GB max <sup>7</sup> / SDRAM / non-parity / 133MHz / PC 133 / 3.3v / two 144-pin SO-DIMM sockets / std mem in one socket / one socket available									
Diskette drive	3.5" 1.44MB (use in either Ultrabay™ or attach ext with optional cable via parallel port)									
DVD-ROM	DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000									
Ultrabay 2000	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible									
Disk	<b>20GB<sup>8</sup></b> or <b>30GB</b> (4200 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000									
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / easy-open cover to unlatch and open with one hand									
Graphics controller	S3 Graphics® SuperSavage / IXC16 / <b>AGP 4X / 16MB</b> SDRAM									
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, 1600x1200									
Keyboard	85-key / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / pitch: 19mm; stroke: 2.7mm (standard-size keys)									
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions									
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera									
Dimensions <sup>3</sup>	12.0" x 9.8" x 1.3" (304mm x 250mm x 33.1mm)									
Approximate weight <sup>2</sup>	with optical drive and battery: 5.9 lbs (2.36kg)									
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength <sup>4</sup>									
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000									
Battery - life <sup>10</sup>	3.1 hrs to 3.5 hrs depending on model									
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB) / E82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (TI® PCI1420 CardBus, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, parallel, infrared)									
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)									
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1									
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / keyboard / mouse / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet)									
Video out	S-video out port (TV out) / one industry standard connector									
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable									
Modem	Mini PCI 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem card / Lucent® chipset									
CDC	One Communications Daughter Card (CDC) socket / customer accessible									
Ethernet	10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset									
Audio support	Soft audio / ICH AC97 controller / SoundBlaster-compatible / CS4299 AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal microphone / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)									
Security	Power-on password / hard disk password / supervisor password / security keyhole									
Security chip	None									
Limited warranty <sup>12</sup>	<b>3 years</b> /1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service									
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)									

**SOFTWARE<sup>14</sup>**

**Windows XP Pro models**

- Microsoft® Windows® XP Professional
- ↳ Disk-to-Disk Recovery (in hidden Service Partition)

**Windows 2000 models**

- Microsoft Windows 2000 Professional<sup>13</sup>
- ConfigSafe®
- ↳ Disk-to-Disk Recovery (in hidden Service Partition)

**INCLUDED SOFTWARE<sup>14</sup> (all)**

**Preloaded**

- Access ThinkPad
- Access Connections
- Access Help
- Access Support
- Mediamatics™ DVD (DVD models)
- PC-Doctor™
- ThinkPad Utilities
- IBM Software Installer
- IBM Update Connector™<sup>15</sup>

**Downloadable**

- IBM Rapid Restore™ PC
- IBM Data Transfer
- Universal Manageability Services™

**License**

- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0

**Office XP Small Business**

- Microsoft Office XP Small Business<sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)
- ↳ Office XP Small Business CD

**Ultrabay Plus integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series**

64 MB SODIMM 133MHz CL3 NP SDRAM	19K4650	ThinkPad T20 Series Li-Ion Battery	02K6649
128 MB SO DIMM 133MHz CL3 NP SDRAM	19K4652	Ultrabay 2000 Li-Ion battery	02K6646
256 MB SO DIMM 133MHz CL3 NP SDRAM	19K4654	ThinkPad 72W AC Adapter	02K6699
512 MB SO DIMM 133MHz CL3 NP SDRAM	19K4656	ThinkPad 72W DC Auto Adapter	10K3820
SuperDisk (LS-240) UltraBay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad Port Replicator	02K8667
24X-10X <sup>9</sup> CD-ROM Ultrabay 2000 Drive	05K9233	ThinkPad Dock	263120U
8X/4X/24X Max <sup>9</sup> CD-RW Ultrabay 2000	22P9101	ThinkPad Monitor Stand 2001	22P5265
Ultralight 8X <sup>9</sup> Max DVD Ultrabay 2000	22P9102	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480
CD-RW/DVD Combo III Ultrabay 2000	22P6980	T Series FDD External Cable Kit	27L0524
Travel Bezel for Ultrabay 2000	08K6070	IBM 128MB USB 2.0 Memory Key	22P8998
Second HDD Adapter for Ultrabay 2000	08K6068	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190
IBM ThinkPad Ultrabay Plus Carrier	22P5737	ServicePac 3yr IOR 9x5 NBD	30L9197
IBM ThinkPad Ultrabay Plus c500 Cradle	22P5738	ServicePac 4yr IOR 9x5 NBD	69P9198
ThinkPad Ultrabay Plus Numeric Keypad	22P7330	ServicePac 5yr IOR 9x5 NBD	69P9200
ThinkPad Asset ID RF Adapter	08K6064	ServicePac 4yr P&L P/U Depot	69P9199
IBM Optical 3-Button Travel Wheel Mouse	31P7410	ServicePac 5yr P&L P/U Depot	69P9201
IBM Optical 3-Button ScrollPoint® Mouse	31P7405	20GB Hard Disk Drive	08K9686
IBM High Rate Wireless LAN PC Card 128	09N9904	80GB Hard Disk 9.5mm (4200 rpm)	08K9869
Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>			

See footnotes for important warranty information  
US models announced August 13, 2002  
US models withdrawn effective April 2003



Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	UltraNav™ touch pad	Mini PCI Comm Bay wireless/modem	CDC modem or Bluetooth™	Ethernet on planar	Ethernet Security Chip	Preload business software	Small business model	Workhorse (W) or Global (G) Avail date	
2366-61U	Pentium® 4-M	1.6	256MB	14.1" XGA	20G	DVD	Yes	Open (wireless upg) <sup>36</sup>	Modem	10/100	XP Pro	XP Pro	W G	May 2002	
2366-63U	Pentium 4-M	1.6	256MB	14.1" XGA	20G	DVD		Open (wireless upg)	Modem	10/100	XP Pro	XP Pro	W G	May 2002	
2366-81U	Pentium 4-M	1.8	256MB	14.1" XGA	40G	DVD	Yes	Open (wireless upg)	Modem	10/100	XP Pro	XP Pro	W G	May 2002	
2366-83U	Pentium 4-M	1.8	256MB	14.1" XGA	40G	DVD		Open (wireless upg)	Modem	10/100	XP Pro	XP Pro	W G	May 2002	
2366-82U	Pentium 4-M	1.8	256MB	14.1" XGA	40G	DVD	Yes	11b Wi-Fi <sup>32</sup> /modem	Open	10/100	Yes	XP Pro	XP Pro	W G	May 2002
2366-84U	Pentium 4-M	1.8	256MB	14.1" XGA	40G	DVD		11b Wi-Fi/modem	Open	10/100	Yes	XP Pro	XP Pro	W G	May 2002
2366-85U	Pentium 4-M	1.8	256MB	14.1" XGA	40G	DVD	Yes	Cisco 802.11b	Modem	10/100	Yes	XP Pro	XP Pro	W	May 2002
2366-91U	Pentium 4-M	1.8	256MB	14.1" SXGA+	40HS	Combo	Yes	Open (wireless upg)	Modem	10/100	Yes	XP Pro	XP Pro	W	May 2002
2366-92U	Pentium 4-M	1.8	256MB	14.1" SXGA+	40HS	Combo	Yes	11b Wi-Fi/modem	Bluetoo	10/100	Yes	XP Pro	XP Pro	W	May 2002
2366-C1U	Pentium 4-M	1.8	256MB	14.1" XGA	40G	DVD	Yes	Open (wireless upg)	Modem	10/100	XP Pro	XP Pro Office <sup>28</sup>	XP Pro	W	May 2002
Positioning Processor	The perfect balance of performance and portability; two-spindle system											<b>SOFTWARE<sup>14</sup></b>			
L2 cache	Mobile Intel® Pentium® 4 Processor-M 1.6 or 1.8GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											<b>Windows XP Pro models</b>			
Memory	512KB / on die (at processor speed) / ECC											- Microsoft® Windows® XP Professional <sup>20</sup>			
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive											◇ Disk-to-Disk Recovery (in hidden Service Partition)			
DVD	Some: DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000											<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>			
Combo	Some: DVD-ROM/CD-RW / 8X/8X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000											<b>Preloaded</b>			
Ultrabay 2000	One modular bay for interchangeable devices (right side) / Ultrabay Plus-compatible											• Access ThinkPad			
Disk	20GB <sup>8</sup> or 40GB (4200 rpm) or 40GB HS (5400 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000 / HDD Shock Absorber											- Access Connections			
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits											- Access Help			
	Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits											- Access Support			
	All: Easy-open cover to unlatch and open with one hand											• Adobe Acrobat Reader			
Graphics controller	ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16MB DDR-SDRAM 364MHz											• InterVideo WinDVD (DVD models)			
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions											• PC-Doctor™			
Keyboard	87-key / ThinkPad Button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)											• ThinkPad Utilities			
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup>											• Veritas RecordNOW (CD-RW mod)			
Touch pad	Some: UltraNav multi-pointing system / touch pad below keyboard / Tap Zones											• IBM Update Connector™ <sup>15</sup>			
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™											<b>Downloadable</b>			
Dimensions <sup>3</sup>	12.0" x 9.8" x 1.4"; 304mm x 250mm x 36.6mm											• IBM Rapid Restore™ PC			
Approximate weight <sup>2</sup>	with optical drive and battery: 5.33 to 5.67 lbs (2.42 to 2.57 kg) depending on model											• IBM Data Transfer			
Case material	Titanium Composite in the top and bottom covers for enhanced strength											• IBM Director Agent			
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000											• Client Security Software (models with security chip)			
Battery - life <sup>10</sup>	Wireless 82U/84U/85U/92U: 2.5 hrs; Others: 3.0 hrs											<b>License (CD not included)</b>			
Architecture	Intel 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, external expansion) / LPC bus 33MHz (security chip; PC87392 Super I/O for diskette, serial, par, infrared)											- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)											<b>Office XP Small Business model only (2366-C1U)</b>			
PC Card Std slots	2 Type II, 2 Type I, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											- Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)			
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse port (use USB)											◇ Office XP Small Business CD			
Video out	S-video out port (TV out) / one industry standard connector											<b>Ultrabay Plus</b> integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series			
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable <sup>4,36</sup>														
11b Wi-Fi <sup>32</sup> /mod	Some: Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intel PRO/Wireless LAN with Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset														
802.11b	Some: Mini PCI 802.11b wireless <sup>4</sup> , Cisco® Aironet® Wireless 802.11b, Prism 2.0 chipset, dual antennas in display cover, Wi-Fi-certified														
CDC	One Communications Daughter Card (CDC) socket / customer accessible														
Modem	Some: 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset														
Bluetooth™	Some: Bluetooth wireless technology / on CDC / power button on display														
Ethernet	10/100 ethernet on motherboard / Intel 82562ET chipset (physical layer)														
Audio support	Soft audio / ICH AC97 controller / SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)											Universal 72 watt AC adapter			
Security	Power-on password / hard disk password / supervisor password / security keyhole											Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)			
Security chip	Some: IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multifactor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											PC 2001-compliant			
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service											ACPI 1.0b and 2.0-compliant			
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028				Travel Bezel for Ultrabay 2000			08K6070			IBM ImageUltra™ Services available				
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030				ThinkPad Removable Diskette Drive			08K9603			IBM Rapid Restore PC available to protect software image and data				
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032				Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)			19K4480			International Warranty Service <sup>17</sup>				
IBM 11a/b/g Wireless CardBus Adapter	31P9101				ThinkPad T30 Series Li-Ion Battery			02K7050			Personalized Web-based support <sup>31</sup>				
IBM ThinkPad Ultrabay Plus Carrier	22P5737				Ultrabay 2000 Li-Ion battery			02K6646			Proactive e-mail updates <sup>31</sup>				
ThinkPad Ultrabay Plus Numeric Keypad	22P7330				ThinkPad 72W AC Adapter			02K6699			24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>				
Zip 250MB Ultrabay 2000 Drive	00N8253				ThinkPad 72W AC/DC Combo Adapter			22P9010							
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233				Multiple Li-Ion/NiMH Battery Charger			02K6719							
Ultralight 8X Max DVD Ultrabay 2000	22P9102				20GB Hard Disk 9.5mm (4200 rpm)			08K9686			ThinkPad Port Replicator 02K8667				
CD-RW/DVD Combo IV Ultrabay 2000	22P6991				40GB HS Hard Disk 9.5mm (5400 rpm)			08K9816			ThinkPad Dock 263120U				
Second HDD Adapter for Ultrabay 2000	08K6068				80GB Hard Disk 9.5mm (4200 rpm)			08K9869			ServicePac® <sup>22</sup> 2yr IOR 9x5 NBD				
IBM High Rate Wireless LAN Mini PCI	22P7701				Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>						30L9190				
Cisco Aironet Wireless 802.11b Mini PCI	31P8301										ServicePac 3yr IOR 9x5 NBD 30L9197				

See footnotes for important warranty information  
US models announced April 23, 2002  
US models withdrawn effective April or July 2003

# IBM® ThinkPad® T30 (Windows 2000) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	Speed GHz Memory	Screen	Disk GB <sup>8</sup>	Optical	UltraNav™ touch pad	Mini PCI Comm Bay wireless/modem	CDC modem or Bluetooth™	Ethernet on planar	Preload Security Chip	Small business software	Workhorse (W) or Global (G) model	Avail date
2366-21U	Pentium® 4-M	1.6 256MB	14.1" XGA	20G	DVD	Yes	Open (wireless upg) <sup>36</sup>	Modem	10/100	W2000	W G	May 2002	
2366-23U	Pentium 4-M	1.6 256MB	14.1" XGA	20G	DVD		Open (wireless upg)	Modem	10/100	W2000	W G	May 2002	
2366-41U	Pentium 4-M	1.8 256MB	14.1" XGA	40G	DVD	Yes	Open (wireless upg)	Modem	10/100	W2000	W G	May 2002	
2366-43U	Pentium 4-M	1.8 256MB	14.1" XGA	40G	DVD		Open (wireless upg)	Modem	10/100	W2000	W G	May 2002	
2366-42U	Pentium 4-M	1.8 256MB	14.1" XGA	40G	DVD	Yes	11b Wi-Fi <sup>32</sup> /modem	Open	10/100	Yes W2000	W G	May 2002	
2366-44U	Pentium 4-M	1.8 256MB	14.1" XGA	40G	DVD		11b Wi-Fi/modem	Open	10/100	Yes W2000	W G	May 2002	
2366-45U	Pentium 4-M	1.8 256MB	14.1" XGA	40G	DVD	Yes	Cisco 802.11b	Modem	10/100	Yes W2000	W	May 2002	
2366-51U	Pentium 4-M	1.8 256MB	14.1" SXGA+	40HS	Combo	Yes	Open (wireless upg)	Modem	10/100	Yes W2000		May 2002	
2366-52U	Pentium 4-M	1.8 256MB	14.1" SXGA+	40HS	Combo	Yes	11b Wi-Fi/modem	Bluetoo	10/100	Yes W2000		May 2002	
2366-G1U	Pentium 4-M	1.8 256MB	14.1" XGA	40G	DVD	Yes	Open (wireless upg)	Modem	10/100	W2000 Office <sup>28</sup>	W	May 2002	
Positioning Processor	The perfect balance of performance and portability; two-spindle system												
L2 cache	Mobile Intel® Pentium® 4 Processor-M 1.6 or 1.8GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus												
Memory	512KB / on die (at processor speed) / ECC 256MB standard / 1GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / 256MB in one socket / one socket available												
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive												
DVD	Some: DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000												
Combo	Some: DVD-ROM/CD-RW / 8X/8X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000												
Ultrabay 2000	One modular bay for interchangeable devices (right side) / Ultrabay Plus-compatible												
Disk	20GB <sup>8</sup> or 40GB (4200 rpm) or 40GB HS (5400 rpm) / removable / 9.5 or 12.5mm bay* supports 2nd disk with optional HDD Adapter in Ultrabay 2000 / HDD Shock Absorber												
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits All: Easy-open cover to unlatch and open with one hand (two latches)												
Graphics controller	ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16MB DDR-SDRAM 364MHz												
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions												
Keyboard	87-key / ThinkPad Button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)												
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup>												
Touch pad	Some: UltraNav multi-pointing system / touch pad below keyboard / Tap Zones												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™												
Dimensions <sup>3</sup>	12.0" x 9.8" x 1.4"; 304mm x 250mm x 36.6mm												
Approximate weight <sup>2</sup>	with optical drive and battery: 5.33 to 5.67 lbs (2.42 to 2.57 kg) depending on model												
Case material	Titanium Composite in the top and bottom covers for enhanced strength												
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000												
Battery - life <sup>10</sup>	Wireless 42U/44U/45U/52U: 2.5 hrs; Others: 3.0 hrs												
Architecture	Intel 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, external expansion) / LPC bus 33MHz (security chip; PC87392 Super I/O for diskette, serial, par, infrared)												
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1												
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse port (use USB)												
Video out	S-video out port (TV out) / one industry standard connector												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable												
11b Wi-Fi <sup>32</sup> /mod	Some: Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intel PRO/Wireless LAN with Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset												
802.11b	Some: Mini PCI 802.11b wireless <sup>4</sup> , Cisco® Aironet® Wireless 802.11b, Prism 2.0 chipset, dual antennas in display cover, Wi-Fi-certified												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	Some: 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset												
Bluetooth™	Some: Bluetooth wireless technology / on CDC / power button on display												
Ethernet	10/100 ethernet on motherboard / Intel 82562ET chipset (physical layer)												
Audio support	Soft audio / ICH AC97 controller / SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)												
Security	Power-on password / hard disk password / supervisor password / security keyhole												
Security chip	Some: IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multifactor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant												
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	Travel Bezel for Ultrabay 2000	08K6070										
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad Removable Diskette Drive	08K9603										
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480										
IBM ThinkPad Ultrabay Plus Carrier	22P5737	ThinkPad T30 Series Li-Ion Battery	02K7050										
IBM ThinkPad Ultrabay Plus c500 Cradle	22P5738	Ultrabay 2000 Li-Ion battery	02K6646										
ThinkPad Ultrabay Plus Numeric Keypad	22P7330	ThinkPad 72W AC Adapter	02K6699										
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad 72W AC/DC Combo Adapter	22P9010										
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	Multiple Li-Ion/NiMH Battery Charger	02K6719										
Ultralight 8X Max DVD Ultrabay 2000	22P9102	20GB Hard Disk 9.5mm (4200 rpm)	08K9686										
CD-RW/DVD Combo IV Ultrabay 2000	22P6991	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816										
Second HDD Adapter for Ultrabay 2000	08K6068	80GB Hard Disk 9.5mm (4200 rpm)	08K9869										
IBM High Rate Wireless LAN Mini PCI	22P7701	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											
Cisco Aironet Wireless 802.11b Mini PCI	31P8301												

### SOFTWARE<sup>14</sup>

**Windows 2000 models**  
- Microsoft® Windows® 2000 Professional<sup>20</sup>  
• ConfigSafe®  
◊ Disk-to-Disk Recovery (in hidden Service Partition)

### INCLUDED SOFTWARE<sup>14</sup> (all)

**Preloaded**  
• Access ThinkPad  
- Access Connections  
- Access Help  
- Access Support  
• Adobe Acrobat Reader  
• InterVideo WinDVD (DVD models)  
• PC-Doctor™  
• ThinkPad Utilities  
• Veritas RecordNOW (CD-RW mod)  
• IBM Update Connector™<sup>15</sup>

**Downloadable**  
• IBM Rapid Restore™ PC  
• IBM Data Transfer  
• IBM Director Agent  
• Client Security Software (models with security chip)

**License (CD not included)**  
- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client

**Office XP Small Business model only (2366-G1U)**  
- Microsoft® Office XP Small Business<sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)  
◊ Office XP Small Business CD

**Ultrabay Plus** integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series

Universal 72 watt AC adapter  
Asset ID™<sup>34</sup> (system-specific info in chip accessed over network)  
PC 2001-compliant  
ACPI 1.0b and 2.0-compliant  
CIM and DMI 2.0-compliant  
PXE 2.0-compliant  
IBM ImageUltra™ Services available  
IBM Rapid Restore PC available to protect software image and data  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup>

ThinkPad Port Replicator 02K8667  
ThinkPad Dock 263120U  
IBM 11a/b/g Wireless CardBus Adapter 31P9101  
ServicePac®<sup>22</sup> 2yr IOR 9x5 NBD 30L9190  
ServicePac 3yr IOR 9x5 NBD 30L9197

See footnotes for important warranty information  
US models announced April 23, 2002  
US models withdrawn effective April or July 2003

\* UltraNav-based systems have 9.5mm bay

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	UltraNav™ touch pad	Mini PCI Comm Bay wireless/modem	CDC modem or Bluetooth™	Ethernet on Security Chip	Preload business software	Small or Global (G) model	Workhorse (W) or Global (G) Avail date
2366-66U	Pentium® 4-M	1.9	256MB	14.1" XGA	20G	DVD	Yes	Open (wireless upg) <sup>36</sup>	Modem	10/100	XP Pro	W G	Aug 2002
2366-86U	Pentium 4-M	2.0	256MB	14.1" XGA	40HS	DVD	Yes	Open (wireless upg)	Modem	10/100	XP Pro	W G	Aug 2002
2366-87U	Pentium 4-M	2.0	256MB	14.1" XGA	40HS	DVD	Yes	11b Wi-Fi <sup>32</sup> /modem	Open	10/100	Yes XP Pro	W G	Aug 2002
2366-8AU	Pentium 4-M	2.0	256MB	14.1" XGA	40HS	DVD	Yes	Cisco 802.11b	Modem	10/100	Yes XP Pro	W	Aug 2002
2366-68U	Pentium 4-M	1.9	256MB	14.1" XGA	20G	DVD		Open (wireless upg)	Modem	10/100	XP Pro	W G	Aug 2002
2366-88U	Pentium 4-M	2.0	256MB	14.1" XGA	40HS	DVD		Open (wireless upg)	Modem	10/100	XP Pro	W G	Aug 2002
2366-89U	Pentium 4-M	2.0	256MB	14.1" XGA	40HS	DVD		11b Wi-Fi/modem	Open	10/100	Yes XP Pro	W G	Aug 2002
2366-96U	Pentium 4-M	2.0	256MB	14.1" SXGA+	60G	Combo	Yes	Open (wireless upg)	Modem	10/100	Yes XP Pro	W	Aug 2002
2366-97U	Pentium 4-M	2.0	256MB	14.1" SXGA+	60G	Combo	Yes	11b Wi-Fi/modem	Bluetoo	10/100	Yes XP Pro	W	Aug 2002
2366-C6U	Pentium 4-M	2.0	256MB	14.1" XGA	40HS	DVD	Yes	Open (wireless upg)	Modem	10/100	XP Pro Office <sup>28</sup>	W	Aug 2002
Positioning Processor	The perfect balance of performance and portability; two-spindle system											SOFTWARE <sup>14</sup>	
L2 cache	Mobile Intel® Pentium® 4 Processor-M 1.9 or 2.0GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											Windows XP Pro models	
Memory	512KB / on die (at processor speed) / ECC											- Microsoft® Windows® XP Professional <sup>20</sup>	
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive											◇ Disk-to-Disk Recovery (in hidden Service Partition)	
DVD	Some: DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000											INCLUDED SOFTWARE <sup>14</sup> (all)	
Combo	Some: DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000											Preloaded	
Ultrabay 2000	One modular bay for interchangeable devices (right side) / Ultrabay Plus-compatible											• Access ThinkPad	
Disk	20GB <sup>8</sup> (4200 rpm) or 40GB HS (5400 rpm) or 60GB (4200 rpm) / 9.5 or 12.5 mm bay* / supports 2nd disk with optional HDD Adapter in Ultrabay 2000 / HDD Shock Absorber											- Access Connections	
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits											- Access Help	
	Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits											- Access Support	
	All: Easy-open cover to unlatch and open with one hand (two latches)											• Adobe Acrobat Reader	
Graphics controller	ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16MB DDR-SDRAM 364MHz											• IBM Rapid Restore™ PC	
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions											• InterVideo WinDVD (DVD models)	
Keyboard	87-key / ThinkPad Button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)											• PC-Doctor™	
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup>											• ThinkPad Utilities	
Touch pad	Some: UltraNav multi-pointing system / touch pad below keyboard / Tap Zones											• Veritas RecordNOW (Combo mod)	
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™											• IBM Update Connector™ <sup>15</sup>	
Dimensions <sup>3</sup>	12.0" x 9.8" x 1.4"; 304mm x 250mm x 36.6mm											Downloadable	
Approximate weight <sup>2</sup>	with optical drive and battery: 5.33 to 5.67 lbs (2.42 to 2.57 kg) depending on model											• IBM Director Agent	
Case material	Titanium Composite in the top and bottom covers for enhanced strength											• Software Delivery Assistant	
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000											• System Migration Assistant	
Battery - life <sup>10</sup>	Wireless 87U/8AU/89U/97U: 2.5 hrs; Non-wireless others: 2.8 hrs											• Client Security Software (models with security chip)	
Architecture	Intel 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, external expansion) / LPC bus 33MHz (security chip; PC87392 Super I/O for diskette, serial, par, infrared)											License (CD not included)	
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)											- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											Office XP Small Business model only (2366-C6U)	
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse port (use USB)											- Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)	
Video out	S-video out port (TV out) / one industry standard connector											◇ Office XP Small Business CD	
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											Universal 72 watt AC adapter	
11B Wi-Fi <sup>32</sup> /mod	Some: Mini PCI 11B Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intel PRO/Wireless LAN with Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset											Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)	
802.11b	Some: Mini PCI 802.11b wireless <sup>4</sup> , Cisco® Aironet® Wireless 802.11b, Prism 2.0 chipset, dual antennas in display cover, Wi-Fi-certified											PC 2001-compliant	
CDC	One Communications Daughter Card (CDC) socket / customer accessible											ACPI 1.0b and 2.0-compliant	
Modem	Some: 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											CIM and DMI 2.0-compliant	
Bluetooth™	Some: Bluetooth wireless technology / on CDC / power button on display											PXE 2.0-compliant	
Ethernet	10/100 ethernet on motherboard / Intel 82562ET chipset (physical layer)											IBM ImageUltra™ Services available	
Audio support	Soft audio / ICH AC97 controller / SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)											IBM Rapid Restore PC available to protect software image and data	
Security	Power-on password / hard disk password / supervisor password / security keyhole											International Warranty Service <sup>17</sup>	
Security chip	Some: IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multifactor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>	
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service											ThinkPad Port Replicator 02K8667	
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM 128MB USB 2.0 Memory Key	22P8998	ThinkPad Dock	263120U								
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480	ServicePac® <sup>22</sup> 2yr IOR 9x5 NBD	30L9190								
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad T30 Series Li-Ion Battery	02K7050	ServicePac 3yr IOR 9x5 NBD	30L9197								
IBM ThinkPad Ultrabay Plus Carrier	22P5737	Ultrabay 2000 Li-Ion battery	02K6646	ServicePac 4yr IOR 9x5 NBD	69P9198								
ThinkPad Ultrabay Plus Numeric Keypad	22P7330	ThinkPad 72W AC Adapter	02K6699	ServicePac 5yr IOR 9x5 NBD	69P9200								
SuperDisk (LS-240) UltraBay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger	02K6719	ServicePac 4yr P&L P/U Depot	69P9199								
Zip 250MB Ultrabay 2000 Drive	00N8253	IBM High Rate Wireless LAN Mini PCI	22P7701	ServicePac 5yr P&L P/U Depot	69P9201								
24X-10X <sup>9</sup> CD-ROM Ultrabay 2000 Drive	05K9233	Cisco Aironet Wireless 802.11b Mini PCI	31P8301										
Ultralight 8X <sup>9</sup> Max DVD Ultrabay 2000	22P9102	20GB Hard Disk 9.5mm (4200 rpm)	08K9686										
CD-RW/DVD Combo IV Ultrabay 2000	22P6991	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816										
Second HDD Adapter for Ultrabay 2000	08K6068	80GB Hard Disk 9.5mm (4200 rpm)	08K9869										
ThinkPad Removable Diskette Drive	08K9603	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											
IBM 11 a/b/g Wireless CardBus Adapter	31P9101												

See footnotes for important warranty information

\* UltraNav-based systems have 9.5mm bay

US models announced August 27, 2002

US models withdrawn effective April 2003, October 2003, or January 2004

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	UltraNav™ touch pad	Mini PCI Comm Bay wireless/modem	CDC modem or Bluetooth™	Ethernet on planar	Security chip	Preload	Workhorse (W) or Global (G) or Entry (E)	Avail date
2366-FBU	Pentium® 4-M	2.2	256MB	14.1" XGA	40HS	Combo	Yes	11b Wi-Fi <sup>32</sup> /modem	Open	10/100	Yes	XP Pro	W G	Jan 2003
2366-JBU	Pentium 4-M	2.4	256MB	14.1" SXGA+	60G	Combo	Yes	11b Wi-Fi/modem	Open	10/100	Yes	XP Pro		Jan 2003
2366-JCU	Pentium 4-M	2.2	256MB	14.1" SXGA+	40HS	Combo	Yes	Open (wireless upg <sup>36</sup> )	Modem	10/100	Yes	XP Pro		Sep 2003
Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>													
L2 cache	<b>Mobile Intel® Pentium® 4 Processor-M 2.2 or 2.4GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus													
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>256MB</b> standard / 1GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / 256MB in one socket / one socket available													
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive													
Combo	DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000													
Ultrabay 2000	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible													
Disk	<b>40GB<sup>9</sup> HS</b> (5400 rpm) or <b>60GB</b> (4200 rpm), 9.5mm / removable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay 2000 / HDD Shock Absorber													
Display	<i>Some: 14.1"</i> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits <i>Some: 14.1"</i> (358.1mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix / 150 nits <i>All: Easy-open cover to unlatch and open with one hand (two latches)</i>													
Graphics controller	<b>ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16MB</b> DDR-SDRAM 364MHz													
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions													
Keyboard	87-key / ThinkPad Button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)													
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup>													
Touch pad	UltraNav multi-pointing system / touch pad below keyboard / Tap Zones													
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™													
Dimensions <sup>3</sup>	12.0" x 9.8" x 1.4"; 304mm x 250mm x 36.6mm													
Approximate weight <sup>2</sup>	with optical drive and battery: 5.67 lbs (2.57 kg)													
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength													
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000													
Battery - life <sup>10</sup>	2.5 hrs													
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, external expansion) / LPC bus 33MHz (security chip; PC87392 Super I/O for diskette, serial, par, infrared)													
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot) or <b>Mini Dock</b>													
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1													
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse port (use USB)													
Video out	S-video out port (TV out) / one industry standard connector													
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable													
11b Wi-Fi <sup>32</sup> /mod	<i>Some: Mini PCI 11b Wi-Fi<sup>32</sup> wireless<sup>4</sup>, Intel PRO/Wireless LAN with Intersil® Prism 2.5</i> chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset													
Wireless upg <sup>36</sup>	<i>Some: Wireless upgradable with wireless Mini PCI options</i>													
CDC	One Communications Daughter Card (CDC) socket / customer accessible													
Modem	<i>Some: 56K<sup>6</sup> V.90 (V.92-designed<sup>29</sup>)</i> modem in CDC / Agere® chipset													
Bluetooth™	None													
Ethernet	10/100 ethernet on motherboard / Intel 82562ET chipset (physical layer)													
Audio support	Soft audio / ICH AC97 controller / SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)													
Security	Power-on password / hard disk password / supervisor password / security keyhole													
Security chip	<b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCPA-compliant													
Limited warranty <sup>12</sup>	<b>3 years/1 year battery</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service													
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)													
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)										19K4480		
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad T30 Series Li-Ion Battery										02K7050		
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Ultrabay 2000 Li-Ion battery										02K6646		
IBM ThinkPad Ultrabay Plus Carrier	22P5737	ThinkPad 72W AC Adapter										02K6699		
ThinkPad Ultrabay Plus Numeric Keypad	22P7330	ThinkPad 72W AC/DC Combo Adapter										22P9010		
SuperDisk (LS-240) Ultrabay 2000	08K9616	Multiple Li-Ion/NiMH Battery Charger										02K6719		
Zip 250MB Ultrabay 2000 Drive	00N8253	IBM High Rate Wireless LAN Mini PCI										22P7701		
24X-10X <sup>9</sup> CD-ROM Ultrabay 2000 Drive	05K9233	Cisco Aironet Wireless 802.11b Mini PCI										31P8301		
Ultralight 8X <sup>9</sup> Max DVD Ultrabay 2000	22P9102	20GB Hard Disk 9.5mm (4200 rpm)										08K9686		
CD-RW/DVD Combo IV Ultrabay 2000	22P6991	40GB HS Hard Disk 9.5mm (5400 rpm)										08K9816		
Second HDD Adapter for Ultrabay 2000	08K6068	80GB Hard Disk 9.5mm (4200 rpm)										08K9869		
ThinkPad Removable Diskette Drive	08K9603	ThinkPad Port Replicator										02K8667		
IBM USB Portable Diskette Drive	05K9276	ThinkPad Port Replicator II										74P6733		
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ThinkPad Mini Dock										287810U		
IBM 128MB USB 2.0 Memory Key	22P8998	ThinkPad Dock										263120U		
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Monitor Stand 2001										22P5265		
IBM Portable USB 2.0 CD-RW Drive	22P5297	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>												
ThinkPad USB 2.0 PC CardBus Adapter	33L3245													

**SOFTWARE<sup>14</sup>**

**Windows XP Pro models**

- Microsoft® Windows® XP Professional<sup>20</sup>
- ↔ Disk-to-Disk Recovery (in hidden Service Partition)

**Preloaded**

- Access ThinkPad
- Access Connections
- Access Help
- Access Support
- Adobe Acrobat Reader
- IBM Rapid Restore™ PC
- InterVideo WinDVD
- PC-Doctor™
- ThinkPad Utilities
- Veritas RecordNOW
- IBM Update Connector™<sup>15</sup>

**Downloadable**

- IBM Director Agent
- Software Delivery Assistant
- System Migration Assistant
- Client Security Software

**License** (CD not included)

- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client

Universal 72 watt AC adapter  
Asset ID™<sup>34</sup> (system-specific info in chip accessed over network)  
PC 2001-compliant  
ACPI 1.0b and 2.0-compliant  
CIM and DMI 2.0-compliant  
PXE 2.0-compliant  
IBM ImageUltra™ Services available  
IBM Rapid Restore PC available to protect software image and data  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup>

ServicePac®.<sup>22</sup> 2yr IOR 9x5 NBD  
30L9190

ServicePac 3yr IOR 9x5 NBD  
30L9197

ServicePac 4yr IOR 9x5 NBD  
69P9198

ServicePac 5yr IOR 9x5 NBD  
69P9200

ServicePac 4yr P&L P/U Depot  
69P9199

ServicePac 5yr P&L P/U Depot  
69P9201

Post-warranty annual maintenance agreements at  
[ibm.com/services/its/us/source/maspspleu.pdf](http://ibm.com/services/its/us/source/maspspleu.pdf)

See footnotes for important warranty information  
US models announced on January 28 or September 17, 2003  
US models withdrawn effective January 2004

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	UltraNav™ touch pad	Mini PCI Comm Bay wireless/modem	CDC modem or Bluetooth™	Ethernet on planar	Preload Security Chip	Small business software	Workhorse (W) or Global (G) model	Availability date
2366-56U	Pentium® 4-M.2.0	256MB	14.1" SXGA+	60GB Combo	Yes	Open (wireless upg <sup>36</sup> )	Modem	10/100	Yes	W2000	None	No	Aug 2002	
2366-57U	Pentium 4-M	2.0	256MB	14.1" SXGA+	60GB Combo	Yes	11b Wi-Fi <sup>32</sup> /modem	Bluetooth	10/100	Yes	W2000	None	No	Aug 2002

Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>											<p><b>SOFTWARE<sup>14</sup></b></p> <p><b>Windows 2000 models</b></p> <ul style="list-style-type: none"> <li>- Microsoft® Windows® 2000 Professional<sup>20</sup></li> <li>• ConfigSafe®</li> <li>◆ Disk-to-Disk Recovery (in hidden Service Partition)</li> </ul> <p><b>INCLUDED SOFTWARE<sup>14</sup> (all)</b></p> <p><b>Preloaded</b></p> <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>• IBM Rapid Restore™ PC</li> <li>• InterVideo WinDVD (DVD models)</li> <li>• PC-Doctor™</li> <li>• ThinkPad Utilities</li> <li>• Veritas RecordNOW (Combo mod)</li> <li>• IBM Update Connector™.15</li> </ul> <p><b>Downloadable</b></p> <ul style="list-style-type: none"> <li>• IBM Director Agent</li> <li>• Software Delivery Assistant</li> <li>• System Migration Assistant</li> <li>• Client Security Software (models with security chip)</li> </ul> <p><b>License (CD not included)</b></p> <ul style="list-style-type: none"> <li>- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client</li> </ul> <p><b>Ultrabay Plus</b> integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series</p> <p>Universal 72 watt AC adapter Asset ID™.34 (system-specific info in chip accessed over network)</p> <p>PC 2001-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant PXE 2.0-compliant</p> <p>IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data International Warranty Service<sup>17</sup> Personalized Web-based support<sup>31</sup> Proactive e-mail updates<sup>31</sup></p> <p>24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup></p>
L2 cache	<b>Mobile Intel® Pentium® 4 Processor-M 2.0GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											
Memory	<b>512KB</b> / on die (at processor speed) / ECC <b>256MB</b> standard / 1GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / 256MB in one socket / one socket available											
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive											
Combo	DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000											
Ultrabay 2000	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible											
Disk	<b>60GB<sup>8</sup></b> (4200 rpm) 9.5mm high (not high speed 5400 rpm) / upgradable / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000 / HDD Shock Absorber											
Display	<b>14.1"</b> (358.1mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix / 150 nits / easy-open cover to unlatch and open with one hand											
Graphics controller	<b>ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16MB</b> DDR-SDRAM 364MHz											
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor <sup>5</sup> via the Digital Video Interface (DVI) port on either of the optional docking solutions											
Keyboard	87-key / ThinkPad Button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)											
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup>											
Touch pad	<i>Some:</i> UltraNav multi-pointing system / touch pad below keyboard / Tap Zones											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™											
Dimensions <sup>3</sup>	12.0" x 9.8" x 1.4"; 304mm x 250mm x 36.6mm											
Approximate weight <sup>2</sup>	with optical drive and battery: 5.33 to 5.67 lbs (2.42 to 2.57 kg) depending on model											
Case material	<b>Titanium Composite</b> in the top and bottom covers for enhanced strength											
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000											
Battery - life <sup>10</sup>	<i>Wireless 57U:</i> 2.5 hrs; <i>Non-wireless 56U:</i> 3.0 hrs											
Architecture	<b>Intel 845MP</b> chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, external expansion) / LPC bus 33MHz (security chip; PC87392 Super I/O for diskette, serial, par, infrared)											
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)											
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse port (use USB)											
Video out	S-video out port (TV out) / one industry standard connector											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable <sup>4,36</sup>											
11b Wi-Fi <sup>32</sup> /mod	<i>57U:</i> Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intel PRO/Wireless LAN with Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset											
Wireless upg <sup>36</sup>	<i>56U:</i> Dual antennas in display cover for wireless connectivity Mini PCI options											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	<i>56U:</i> 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
Bluetooth™	<i>57U:</i> Bluetooth wireless technology / on CDC / power button on display											
Ethernet	10/100 ethernet on motherboard / Intel 82562E Chipset (physical layer)											
Audio support	Soft audio / ICH AC97 controller / SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)											
Security	Power-on password / hard disk password / supervisor password / security keyhole											
Security chip	<b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCPA-compliant											
Limited warranty <sup>12</sup>	<b>3 years/1 year battery - EasyServ™.19</b> onsite pickup and delivery courier service											
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM 128MB USB 2.0 Memory Key	22P8998	ThinkPad Port Replicator	02K8667							
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480	ThinkPad Dock	263120U							
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad T30 Series Li-Ion Battery	02K7050	ServicePac®.22 2yr IOR 9x5 NBD								
IBM ThinkPad Ultrabay Plus Carrier	22P5737	Ultrabay 2000 Li-Ion battery	02K6646	ServicePac 3yr IOR 9x5 NBD								
ThinkPad Ultrabay Plus Numeric Keypad	22P7330	ThinkPad 72W AC Adapter	02K6699		30L9197							
Zip 250MB Ultrabay 2000 Drive	00N8253	Multiple Li-Ion/NiMH Battery Charger	02K6719	ServicePac 4yr IOR 9x5 NBD								
24X-10X <sup>9</sup> CD-ROM Ultrabay 2000 Drive	05K9233	IBM High Rate Wireless LAN Mini PCI	22P7701		69P9198							
Ultralight 8X <sup>9</sup> Max DVD Ultrabay 2000	22P9102	Cisco Aironet Wireless 802.11b Mini PCI	31P8301	ServicePac 5yr IOR 9x5 NBD								
CD-RW/DVD Combo III Ultrabay 2000	22P6980	20GB Hard Disk Drive	08K9686		69P9200							
Second HDD Adapter for Ultrabay 2000	08K6068	40GB Hard Disk Drive	08K9687	ServicePac 4yr P&L P/U Depot								
ThinkPad Removable Diskette Drive	08K9603	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816		69P9199							
IBM High Rate Wireless LAN PC Card 128	09N9904	80GB Hard Disk 9.5mm (4200 rpm)	08K9869	ServicePac 5yr P&L P/U Depot								
IBM 11a Wireless LAN CardBus Adapter	22P7501	IBM Optical Travel Wheel Mouse (black)	31P7410		69P9201							
IBM Portable USB 2.0 20GB Hard Drive	09N4211	IBM 1GB Microdrive	07N5574									
IBM Portable USB 2.0 CD-RW Drive	22P5297	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										
ThinkPad USB 2.0 PC CardBus Adapter	33L3245											

See footnotes for important warranty information  
US models announced August 27, 2002  
US models withdrawn effective April 2003

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	UltraNav™ touch pad	Mini PCI Comm Bay wireless/modem	CDC modem or Bluetooth™	Ethernet on planar	Security Chip	Preload	Workhorse (W) or Global (G) model	Avail date
2366-B1U	Pentium® 4-M	1.6	256MB	14.1" XGA	40G	Combo	Yes	11b Wi-Fi <sup>32</sup> /mod	Open	10/100	No	Windows® XP Pro	No	Apr 2002
2366-B2U	Pentium 4-M	2.0	256MB	14.1" XGA	40HS	Combo	Yes	11b Wi-Fi/mod	Open	10/100	Yes	Windows® XP Pro	No	Nov2002

This educational model of the ThinkPad T30 notebook must be sold only to qualified education customers. Qualified institution/customer is a public or private K-12 (or higher) accredited school organized and operated exclusively for educational purposes for use by Qualified Students and/or Qualified Teachers.

This model for education is for sale direct from IBM or through an Authorized Education Reseller. The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i>											<b>SOFTWARE<sup>14</sup></b>		
L2 cache	Mobile Intel® Pentium® 4 Processor-M 1.6 or 2.0GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											<b>Windows XP Pro models</b>		
Memory	512KB / on die (at processor speed) / ECC											- Microsoft® Windows® XP Professional <sup>20</sup>		
Diskette drive	None standard / use optional Ultrabay™-based or USB-based diskette drive											↳ Disk-to-Disk Recovery (in hidden Service Partition)		
Combo	B1U: DVD-ROM/CD-RW / 8X/8X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000; B2U: DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000											<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b>		
Ultrabay 2000 Disk	One modular bay for interchangeable devices (right side) / <b>Ultrabay Plus</b> -compatible											<b>Preloaded</b>		
	B1U: 40GB <sup>9</sup> 4200 rpm; B2U: 40GB high-speed (HS) 5400 rpm											• Access ThinkPad		
	All: removable and upgradable / 9.5mm high bay / S.M.A.R.T. / supports 2nd disk with optional HDD Adapter in Ultrabay 2000 / HDD Shock Absorber											- Access Connections		
Display	14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits easy-open cover to unlatch and open with one hand (two latches)											- Access Help		
Graphics controller	ATI® Mobility™ RADEON™ 7500 / AGP 4X / 16MB DDR-SDRAM 364MHz											- Access Support		
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M colors at 75Hz / DDC2B / supports external digital monitor via the Digital Video Interface (DVI) port on either of the optional docking solutions											• Adobe Acrobat Reader		
Keyboard	87-key / ThinkPad Button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)											• InterVideo WinDVD		
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup>											• IBM Rapid Restore™ PC		
Touch pad	UltraNav multi-pointing system / touch pad below keyboard / Tap Zones											• PC-Doctor™		
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions / no UltraPort™											• ThinkPad Utilities		
Dimensions <sup>3</sup>	12.0" x 9.8" x 1.4"; 304mm x 250mm x 36.6mm											• Veritas RecordNOW		
Approximate weight <sup>2</sup>	with optical drive and battery: B1U: 5.4 lbs (2.43kg); B2U: 5.5 lbs (2.5kg)											• IBM Update Connector™ <sup>15</sup>		
Case material	Titanium Composite in the top and bottom covers for enhanced strength											<b>Downloadable</b>		
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay 2000											• IBM Director Agent		
Battery - life <sup>10</sup>	2.5 hrs											• Software Delivery Assistant		
Architecture	Intel 845MP chipset / 82845MP Memory Controller Hub (MCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth], Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, external expansion) / LPC bus 33MHz (PC87392 Super I/O for diskette, serial, par, infrared)											• System MigrationAssistant		
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)											• IBM Client Security Software (for security chip)		
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											<b>License (CD not included)</b>		
Ports	Two USB (Version 1.1) / 9-pin serial / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse port (use USB)											- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		
Video out	S-video out port (TV out) / one industry standard connector											<b>Ultrabay Plus</b> integrated modular bay supports most Ultrabay 2000 devices including CD-RW/DVD Combo drive, diskette drive, or Zip drive; the optional Ultrabay Plus Device Carrier adds potential functionality by supporting the Ultrabay Plus Numeric Keypad and Cradle for the WorkPad® c500 Series		
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable													
11b Wi-Fi <sup>32</sup> /mod	Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intel PRO/Wireless LAN with Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset													
CDC	One Communications Daughter Card (CDC) socket / customer accessible													
Modem	One Communications Daughter Card (CDC) socket open													
Bluetooth™	None													
Ethernet	10/100 ethernet on motherboard / Intel 82562ET chipset (physical layer)													
Audio support	Soft audio / ICH AC97 controller / SoundBlaster Pro™-compatible / AD1881A AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / line in jack (3.5 mm)													
Security	Power-on password / hard disk password / supervisor password / security keyhole													
Security chip	B2U: <b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant													
Limited warranty <sup>12</sup>	3 years/1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service													
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)													
128 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	Travel Bezel for Ultrabay 2000	08K6070										ThinkPad Port Replicator	02K8667
256 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad Removable Diskette Drive	08K9603										ThinkPad Dock	263120U
512 MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Portable Drive Bay 2000 (accepts Ultrabay 2000 media and storage devices)	19K4480										IBM 11a/b/g Wireless CardBus Adapter	31P9101
IBM ThinkPad Ultrabay Plus Carrier	22P5737	ThinkPad T30 Series Li-Ion Battery	02K7050										ServicePac®.22 2yr IOR 9x5 NBD	30L9190
ThinkPad Ultrabay Plus Numeric Keypad	22P7330	Ultrabay 2000 Li-Ion battery	02K6646										ServicePac 3yr IOR 9x5 NBD	30L9197
SuperDisk (LS-240) UltraBay 2000	08K9616	ThinkPad 72W AC Adapter	02K6699										ServicePac 5yr P&L P/U Depot	69P9201
Zip 250MB Ultrabay 2000 Drive	00N8253	ThinkPad 72W AC/DC Combo Adapter	22P9010										Other ServicePac options at <a href="http://ibm.com/services/its/us/source/wamomxeu.pdf">ibm.com/services/its/us/source/wamomxeu.pdf</a>	
24X-10X CD-ROM Ultrabay 2000 Drive	05K9233	Multiple Li-Ion/NiMH Battery Charger	02K6719											
Ultralight 8X Max DVD Ultrabay 2000	22P9102	20GB Hard Disk 9.5mm (4200 rpm)	08K9686											
CD-RW/DVD Combo IV Ultrabay 2000	22P6991	40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816											
Second HDD Adapter for Ultrabay 2000	08K6068	80GB Hard Disk 9.5mm (4200 rpm)	08K9869											
Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>														

See footnotes for important warranty information  
US models announced on April 30 or November 19, 2002  
US models withdrawn effective October 2003

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/Bluetooth™	Ethernet on planar chip	Battery Security cells	Workhorse (W) or Global (G) Avail model date
2373-58U	Pentium® M1.3	256MB	14.1"	SXGA+	9000	30G	DVD	Open; wireless upg <sup>36</sup>	Modem	Gigabit	Yes	6 XP Pro Mar 2003
2373-14U	Pentium M 1.3	256MB	14.1"	XGA	7500	30G	DVD	Open; wireless upg	Modem	10/100	Yes	6 XP Pro Mar 2003
2373-12U	Pentium M 1.3	256MB	14.1"	XGA	7500	30G	Combo	Open; wireless upg	Modem	10/100	Yes	6 XP Pro Mar 2003
2373-72U	Pentium M 1.5	256MB	14.1"	XGA	7500	40HS	Combo	*Intel 11b Wi-Fi <sup>32</sup>	Modem	Gigabit	Yes	6 XP Pro W G Mar 2003
2373-7CU	Pentium M 1.5	256MB	14.1"	XGA	7500	40HS	Combo	Open; wireless upg	Modem	10/100	Yes	6 XP Pro W G Mar 2003
2373-75U	Pentium M 1.5	256MB	14.1"	XGA	7500	40HS	Combo	Cisco® 802.11b <sup>32</sup>	Modem	Gigabit	Yes	6 XP Pro W G Mar 2003
2373-82U	Pentium M 1.5	256MB	14.1"	XGA	7500	40HS	DVD	*Intel 11b Wi-Fi	Modem	Gigabit	Yes	6 XP Pro W G Mar 2003
2373-85U	Pentium M 1.5	256MB	14.1"	XGA	7500	40HS	DVD	Cisco 802.11b	Modem	Gigabit	Yes	6 XP Pro W Mar 2003
2373-8CU	Pentium M 1.5	256MB	14.1"	XGA	7500	40HS	DVD	Open; wireless upg	Modem	10/100	Yes	6 XP Pro W G Mar 2003
2373-8DU	Pentium M 1.5	256MB	14.1"	XGA	7500	40HS	DVD	Open; wireless upg	Modem	Gigabit	Yes	6 XP Pro W Mar 2003
2373-47U	Pentium M 1.5	512MB	14.1"	XGA	7500	40HS	DVD	*Intel 11b Wi-Fi	Modem	Gigabit	Yes	6 XP Pro W Mar 2003
2373-19U	Pentium M 1.3	256MB	14.1"	XGA	7500	30G	Combo	*Intel 11b Wi-Fi	Modem	10/100	Yes	6 XP Pro Mar 2003
2373-91U	Pentium M 1.6	512MB	14.1"	SXGA+	9000	80G	Combo	Open; wireless upg	Modem	Gigabit	Yes	9 XP Pro Mar 2003
2373-92U	Pentium M 1.6	512MB	14.1"	SXGA+	9000	80G	Combo	11a/b Wi-Fi <sup>27</sup>	Mod/Blue	Gigabit	Yes	9 XP Pro Mar 2003
2373-94U	Pentium M 1.6	512MB	14.1"	SXGA+	9000	80G	Combo	*Intel 11b Wi-Fi	Mod/Blue	Gigabit	Yes	9 XP Pro Mar 2003
2373-96U	Pentium M 1.6	512MB	14.1"	SXGA+	9000	80G	Combo	Cisco 802.11b	Mod/Blue	Gigabit	Yes	9 XP Pro Mar 2003
Positioning Processor	Perfect balance of performance and portability; two-spindle system											
L2 cache	Intel® Pentium® M Processor 1.3, 1.5, or 1.6GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											
Memory	1MB / on die (at processor speed) / ECC											
Diskette drive	256 or 512MB standard / 2GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std mem in one socket / one socket available											
DVD	None standard / use optional USB-based diskette drive											
Combo	Some: DVD-ROM / 24X-8X <sup>9</sup> speed / bootable / removable from Ultrabay™ Slim											
Ultrabay Slim	Some: DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay Slim											
Disk	One modular bay for interchangeable devices (right side) / 9.5mm high bay											
Display	30GB <sup>8</sup> (4200 rpm), 40GB HS (5400 rpm), or 80GB (4200 rpm), 9.5mm / removable and upgradable / 9.5mm bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim / IBM Integrated HDD Shock Absorber											
Graphics controller	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits											
Graphics - external	Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits											
Keyboard	Some: ATI® Mobility RADEON® 7500 / AGP 4X / 32MB DDR-SDRAM											
TrackPoint®	Some: ATI Mobility RADEON 9000 / AGP 4X / 32MB DDR-SDRAM											
Touch pad	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz											
ThinkLight™	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)											
Dimensions <sup>3</sup>	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones											
Approximate weight <sup>2</sup>	Illuminates the keyboard to improve visibility in low-light conditions											
Case material	6-cell models (WxDxH): 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm;											
Battery - type	9-cell models (WxDxH): 12.2" x 10.9" x 1.0-1.2"; 311mm x 276.8mm x 26.6-31.4mm											
Battery - life <sup>10</sup>	with optical drive and battery: 4.9 lbs (2.22 kg)											
Architecture	Magnesium composite in the top cover, titanium-reinforced CFRP in bottom cover											
PC Card Std slots	Lithium Ion 6- or 9-cell / intelligent / supports unique 2nd battery in Ultrabay Slim											
Ports	6-cell models: 5.5 hr; 9-cell models: 7.5 hr; 9-cell plus Ultrabay Slim battery: 9.5 hr											
Video out	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) /											
Wireless antenna	82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) /											
Mini PCI	PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, ext expansion) /											
Wireless upg <sup>36</sup>	LPC bus 33MHz (PC87392 Super I/O for infrared, parallel [docking-based ports])											
11b Wi-Fi <sup>32</sup>	2 Type II, 2 Type III, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											
Cisco 802.11b <sup>32</sup>	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) /											
11a/b Wi-Fi <sup>27</sup>	RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)											
CDC	S-video out port (TV out) / one 4-pin industry standard connector											
Modem	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception											
Bluetooth™	One Mini PCI type III slot (Communications Bay) / customer upgradable											
Ethernet	Some: Wireless upgradable with wireless Mini PCI options											
Audio support	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100, Intel 82531 chipset											
Security	Some: 802.11b wireless <sup>4</sup> , Mini PCI, Cisco® Aironet® Wireless 802.11b											
Security chip	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset											
Limited warranty <sup>12</sup>	One Communications Daughter Card (CDC) socket / customer accessible											
128MB PC2100 DDR-SDRAM CL2.5 SOD	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
256MB PC2100 DDR-SDRAM CL2.5 SOD	Some: Bluetooth wireless technology / in CDC (with modem)											
512MB PC2100 DDR-SDRAM CL2.5 SOD	Some: 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE											
1GB PC2100 DDR-SDRAM CL2.5 SOD	Some: Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE											
IBM USB Portable Diskette Drive	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec /											
CD-RW/DVD Combo II Ultrabay Slim Drive	stereo speakers / 1 watt / volume up, down, mute buttons / internal mic /											
Second HDD Adapter for Ultrabay Slim	microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)											
ThinkPad T40 Li-Ion Battery 6-cell	Power-on password / hard disk password / supervisor password / security keyhole											
T40 High Capacity Li-Ion Battery 9-cell	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											
Ultrabay Slim Li-Polymer Battery 3-cell	3 years/1 yr battery - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> avail											
IBM 11a/b/g Wireless CardBus Adapter	128MB PC2100 DDR-SDRAM CL2.5 SOD 10K0028											
IBM 11a/b/g Wireless Mini PCI Adapter	256MB PC2100 DDR-SDRAM CL2.5 SOD 10K0030											
Intel PRO/Wireless 2200BG Mini PCI	512MB PC2100 DDR-SDRAM CL2.5 SOD 10K0032											
Cisco Aironet Wireless 802.11b Mini PCI	1GB PC2100 DDR-SDRAM CL2.5 SOD 10K0034											
	IBM USB Portable Diskette Drive 05K9276											
	CD-RW/DVD Combo II Ultrabay Slim Drive 73P3288											
	Second HDD Adapter for Ultrabay Slim 62P4554											
	ThinkPad T40 Li-Ion Battery 6-cell 08K8214											
	T40 High Capacity Li-Ion Battery 9-cell 08K8197											
	Ultrabay Slim Li-Polymer Battery 3-cell 08K8190											
	IBM 11a/b/g Wireless CardBus Adapter 31P9101											
	IBM 11a/b/g Wireless Mini PCI Adapter 31P9701											
	Intel PRO/Wireless 2200BG Mini PCI 73P2801											
	Cisco Aironet Wireless 802.11b Mini PCI 31P8301											
	IBM 256MB USB 2.0 Memory Key 08K9816											
	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a> 09N4273											

See footnotes for important warranty information  
US models announced March 12, 2003  
US models withdrawn effective January 2004 or July 2004

\* Powered by Intel Centrino™ mobile technology

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/Bluetooth™	Ethernet on planar	Security chip	Preload software	Small business or Global (G) model	Workhorse (W) or Avail date
2373-7AU	Pentium® M	1.5	256MB	14.1"	XGA 7500	40HS	Combo	Open; wireless upg <sup>36</sup>	Modem	10/100		XP Pro Office SB <sup>28</sup>	W	Mar 2003
2373-8AU	Pentium M	1.5	256MB	14.1"	XGA 7500	40HS	DVD	Open; wireless upg	Modem	10/100		XP Pro Office SB	W	Mar 2003
2373-16U	Pentium M	1.3	256MB	14.1"	XGA 7500	30G	DVD	Open; wireless upg	Modem	10/100		2000		Mar 2003
2373-BDU	Pentium M	1.5	256MB	14.1"	XGA 7500	40HS	DVD	Open; wireless upg	Modem	Gigabit	Yes	2000		Mar 2003

- This sheet lists models with Office XP Small Business preinstalled with XP Professional
- This sheet lists models with Windows 2000 preloaded

Positioning Processor	Perfect balance of performance and portability; two-spindle system <b>Intel® Pentium® M Processor 1.3 or 1.5GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											<b>SOFTWARE<sup>14</sup></b>		
L2 cache Memory	1MB / on die (at processor speed) / ECC <b>256MB</b> standard / 2GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std mem in one socket / one socket available											<b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ⇨ Disk-to-Disk Recovery (in hidden protected area)		
Diskette drive	None standard / use optional USB-based diskette drive <i>Some:</i> DVD-ROM / 24X-8X <sup>8</sup> speed / bootable / removable from Ultrabay™ Slim											<b>Windows 2000 models</b> - Microsoft® Windows® 2000 Professional <sup>20</sup> • ConfigSafe® ⇨ Disk-to-Disk Recovery (in hidden Service Partition)		
DVD Combo	<i>Some:</i> DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay Slim													
Ultrabay Slim Disk	One modular bay for interchangeable devices (right side) / 9.5mm high bay <b>30GB<sup>8</sup></b> (4200 rpm) or <b>40GB HS</b> (5400 rpm), 9.5mm high / removable and upgradable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim / IBM Integrated HDD Shock Absorber													
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits											<b>Preloaded(all)</b> • Access IBM • Access Connections • Adobe Acrobat Reader • IBM Rapid Restore™ PC • Veritas RecordNOW (combo mdl) • InterVideo WinDVD • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup>		
Graphics controller	<b>ATI® Mobility RADEON® 7500 / AGP 4X / 32MB</b> DDR-SDRAM													
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz													
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)													
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass /													
Touch pad	UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones													
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions <sup>3</sup>	<i>6-cell models (WxDxH):</i> 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm													
Approximate weight <sup>2</sup>	with optical drive and battery: 4.9 lbs (2.22 kg)													
Case material	Magnesium composite in the top cover, titanium-reinforced CFRP in bottom cover													
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay Slim													
Battery - life <sup>10</sup>	<i>6-cell models:</i> 5.5 hr; <i>9-cell High Capacity plus Ultrabay Slim battery:</i> 9.5 hr													
Architecture	<b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared, parallel [docking-based ports])													
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door													
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)											<b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant • Client Security Software (security chip model)		
Video out	S-video out port (TV out) / one 4-pin industry standard connector											<b>License (CD not included)</b> - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception											<b>Office XP Small Business models only</b> (2373-7AU and 8AU) - Microsoft Office XP Small Business <sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools) ⇨ Office XP Small Business CD		
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable													
Wireless upg <sup>36</sup>	Wireless upgradable with wireless Mini PCI options													
CDC	One Communications Daughter Card (CDC) socket / customer accessible													
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset													
Bluetooth™	None													
Ethernet	<i>Some:</i> 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE <i>Some:</i> Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE													
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)													
Security	Power-on password / hard disk password / supervisor password / security keyhole													
Security chip	<i>Some:</i> <b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant													
Limited warranty <sup>12</sup>	<b>3 years/1 yr battery</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service													
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)													
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad T40 Li-Ion Battery 6-cell	08K8214											
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	T40 High Capacity Li-Ion Battery 9-cell	08K8197											
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190											
1GB PC2100 DDR-SDRAM CL2.5 SOD	10K0034	ThinkPad Multiple Battery Charger II	22P9040											
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699											
IBM USB 2.0 Portable Combo Drive	22P9194	ThinkPad 72W AC/DC Combo Adapter	22P9010											
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	IBM 11a/b/g Wireless CardBus Adapter	31P9101											
CD-RW/DVD Combo II Ultrabay Slim Drive	73P3288	IBM 11a/b/g Wireless Mini PCI Adapter	31P9701											
ThinkPad DVD-ROM Ultrabay Slim Drive	73P3270	Intel PRO/Wireless 2200BG Mini PCI	73P2801											
Second HDD Adapter for Ultrabay Slim	62P4554	Cisco Aironet Wireless 802.11b Mini PCI	31P8301											
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	IBM E400 Projector	0038A04											
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	Kensington® MicroSaver® Security Cable	73P2582											
IBM 4GB Microdrive™ with PC Card	09N4280	ThinkPad Port Replicator II	74P6733											
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Mini Dock	287810U											
IBM USB Keyboard with UltraNav	31P8950	ThinkPad Dock II	287710U											
ThinkPad Premiere Leather Carrying Case	10K0209	ThinkPad Monitor Stand 2001	22P5265											
ThinkPad Carrying Case - Leather	73P3600	IBM MicroPortable Data/Video Projector	0037A02											
Ericsson® GC82 EDGE PC Card Wireless	58P8782	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>												
ServicePac® <sup>22</sup> 2yr IOR 9x5 NBD	30L9190													
ServicePac 3yr IOR 9x5 NBD	30L9197													
ServicePac 4yr IOR 9x5 NBD	69P9198													
ServicePac 5yr IOR 9x5 NBD	69P9200													
ServicePac 4yr P&L P/U Depot	69P9199													
ServicePac 5yr P&L P/U Depot	69P9201													

See footnotes for important warranty information  
US models announced March 12, 2003  
US models withdrawn effective January or May 2004



# IBM® ThinkPad® T40 (Education) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/ Bluetooth™	Ethernet on planar	Battery Security chip	Battery cells	Workhorse (W) or Global (G) model	Avail date	
2373-2AU	Pentium® M	1.3	512MB	14.1" XGA	7500	40HS	Combo	11a/b Wi-Fi <sup>27</sup>	Modem	10/100	Yes	6	XP Pro	No	Mar 2003
2373-2CU	Pentium M	1.3	512MB	14.1" XGA	7500	40HS	Combo	*Intel 11b Wi-Fi <sup>32</sup>	Modem	10/100	Yes	6	XP Pro	No	Mar 2003
2373-44U	Pentium M	1.5	512MB	14.1" XGA	7500	40HS	Combo	11a/b Wi-Fi	Modem	10/100	Yes	6	XP Pro	No	Mar 2003
2373-4CU	Pentium M	1.5	512MB	14.1" XGA	7500	40HS	Combo	*Intel 11b Wi-Fi	Modem	10/100	Yes	6	XP Pro	No	Mar 2003
2373-9CU	Pentium M	1.6	512MB	14.1" SXGA+	9000	80G	Combo	11a/b Wi-Fi	Mod/Blue Gigabit	Gigabit	Yes	6	XP Pro	No	Mar 2003
2373-3CU	Pentium M	1.5	512MB	14.1" SXGA+	9000	40HS	Combo	*Intel 11b Wi-Fi	Modem	Gigabit	Yes	6	XP Pro	No	Jun 2003

These educational models of the ThinkPad T40 notebook are available only to public or private K-12 (or higher) accredited schools organized and operated exclusively for educational purposes for use by qualified students and/or teachers.

This model for education is for sale direct from IBM or through an Authorized Education Reseller.

The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<i>The perfect balance of performance and portability; two-spindle system</i> <b>Intel® Pentium® M Processor 1.3, 1.5, or 1.6GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus										<b>SOFTWARE<sup>14</sup></b>			
L2 cache	<b>1MB</b> / on die (at processor speed) / ECC										<b>Windows XP Pro models</b>			
Memory	<b>512MB</b> standard / <b>2GB</b> max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std mem in one socket / one socket available										- Microsoft® Windows® XP Professional <sup>20</sup> ⇨ Disk-to-Disk Recovery (in hidden protected area)			
Diskette drive	None standard / use optional USB-based diskette drive										<b>Preloaded(all)</b>			
Combo	DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay Slim										• Access IBM			
Ultrabay Slim	One modular bay for interchangeable devices (right side) / 9.5mm high bay										- Access Connections			
Disk	<b>40GB<sup>8</sup> HS</b> (5400 rpm) or <b>80GB</b> (4200 rpm), 9.5mm high / removable and upgradable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim / IBM Integrated HDD Shock Absorber										• Adobe Acrobat Reader			
Display	<i>Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits</i> <i>Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits</i>										• IBM Rapid Restore™ PC			
Graphics controller	<i>Some: ATI® Mobility RADEON® 7500 / AGP 4X / 32MB DDR-SDRAM</i> <i>Some: ATI Mobility RADEON 9000 / AGP 4X / 32MB DDR-SDRAM</i>										• IBM RecordNOW and DLA			
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz										• InterVideo WinDVD			
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)										• Norton AntiVirus (OEM edition)			
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones										• PC-Doctor™			
Touch pad	Illuminates the keyboard to improve visibility in low-light conditions										• ThinkPad Utilities			
ThinkLight™											• IBM Update Connector™ <sup>15</sup>			
Dimensions <sup>3</sup>	(WxDxH): 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm										<b>Downloadable</b>			
Approximate weight <sup>2</sup>	with optical drive and battery: 4.9 lbs (2.22 kg)										• IBM Director Agent			
Case material	Magnesium composite in the top cover, carbon fiber reinforced plastic in bottom cover										• Software Delivery Assistant			
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay Slim										• System Migration Assistant			
Battery - life <sup>10</sup>	Up to 4.6 hr; 9-cell High Capacity plus Ultrabay Slim battery: up to 8.9 hr										• Client Security Software (for security chip)			
Architecture	<b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI®) PCI1520 CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared, parallel [docking-based ports])										<b>License</b> (CD not included)			
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door										- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)										Universal 72 watt AC adapter			
Video out	S-video out port (TV out) / one industry standard connector										Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)			
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception										PC 2001-compliant			
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable										ACPI 1.0b and 2.0-compliant			
11b Wi-Fi <sup>32</sup>	<i>Some: 11b Wi-Fi<sup>32</sup> wireless<sup>4</sup>, Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset</i>										CIM and DMI 2.0-compliant			
11a/b Wi-Fi <sup>27</sup>	<i>Some: 11a/b Wi-Fi<sup>27</sup> wireless<sup>4</sup>, Mini PCI, Atheros™ AR5001X chipset</i>										PXE 2.0-compliant			
CDC	One Communications Daughter Card (CDC) socket / customer accessible										IBM ImageUltra™ Services available			
Modem	56K <sup>5</sup> V.90 (V.92-designed <sup>28</sup> ) modem in CDC / Agere® chipset										IBM Rapid Restore PC available to protect software image and data			
Bluetooth™	<i>Some: Bluetooth wireless technology / in CDC (with modem)</i>										International Warranty Service <sup>17</sup>			
Ethernet	<i>Some: 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE</i> <i>Some: Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE</i>										24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>			
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)										The Ultrabay Slim supports:			
Security	Power-on password / hard disk password / supervisor password / security keyhole										• standard or optional CD-RW/DVD combo drive			
Security chip	<b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant										• optional second battery			
Limited warranty <sup>12</sup>	<b>3 years/1 yr battery - EasyServ™<sup>19</sup></b> onsite pickup and delivery / service upgrades <sup>22</sup> avail										• optional HDD adapter (for 2nd disk)			
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad T40 Li-Ion Battery 6-cell	08K8214	ServicePac®. <sup>22</sup> 2yr IOR 9x5 NBD										30L9190
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	T40 High Capacity Li-Ion Battery 9-cell	08K8197	ServicePac 3yr IOR 9x5 NBD										30L9197
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190	ServicePac 4yr IOR 9x5 NBD										69P9198
1GB PC2100 DDR-SDRAM CL2.5 SOD	10K0034	ThinkPad Multiple Battery Charger II	22P9040	ServicePac 5yr IOR 9x5 NBD										69P9200
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699	ServicePac 4yr P&L P/U Depot										69P9199
IBM Portable USB 2.0 CD-RW Drive	22P5297	ThinkPad 72W AC/DC Combo Adapter	22P9010	ServicePac 5yr P&L P/U Depot										69P9201
CD-RW/DVD Combo Ultrabay Slim Drive	22P7011	IBM 11a/b/g Wireless CardBus Adapter	31P9101	Post-warranty annual maintenance agreements at										
Second HDD Adapter for Ultrabay Slim	62P4554	IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ibm.com/services/its/us/source/maspspleu.pdf										
20GB Hard Disk 9.5mm (4200 rpm)	08K9686	IBM 11a/b/g Wireless 2100 3B Mini PCI	31P8601											
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	Cisco Aironet Wireless 802.11b Mini PCI	31P8301											
80GB Hard Disk 9.5mm (4200 rpm)	08K9869	GemPC400 Smart Card Reader/Writer	31P8901											
IBM 1GB Microdrive™ with PC Card	07N5574	ThinkPad Port Replicator II	74P6733											
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Mini Dock	287810U											
IBM USB Keyboard with UltraNav	31P8950	ThinkPad Dock II	287710U											
IBM Optical 3-Button Travel Wheel Mouse	31P7410	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>												

See footnotes for important warranty information  
US models announced March 25 or June 17, 2003  
US models withdrawn effective October 2003

\* Powered by Intel Centrino™ mobile technology

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Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/ Bluetooth™	Ethernet on planar	Security chip	Preload	TAA-compliant	Workhorse (W) or Global (G) Avail date
2373-C3U	Pentium® M	1.5	256MB	14.1"	XGA 7500	40HS	Combo	*Intel 11b Wi-Fi <sup>32</sup>	Modem	Gigabit	Yes	XP Pro	TAA	W Mar 2003
2373-C4U	Pentium M	1.5	256MB	14.1"	XGA 7500	40HS	Combo	Open; wireless upg <sup>36</sup>	Modem	10/100	Yes	XP Pro	TAA	W Mar 2003
2373-C7U	Pentium M	1.3	256MB	14.1"	XGA 7500	40HS	DVD	Cisco® 802.11b	Modem	Gigabit	Yes	XP Pro	TAA	W Mar 2003
2373-C8U	Pentium M	1.5	256MB	14.1"	XGA 7500	40HS	DVD	Open; wireless upg	Modem	10/100	Yes	XP Pro	TAA	W Mar 2003
2373-CAU	Pentium M	1.5	256MB	14.1"	XGA 7500	40HS	DVD	Open; wireless upg	Modem	Gigabit	Yes	XP Pro	TAA	W Mar 2003
2373-C1U	Pentium M	1.3	256MB	14.1"	XGA 7500	30G	DVD	Open; wireless upg	Modem	10/100		2000	TAA	W Mar 2003

• Trade Act Agreement (TAA)-compliant models

Positioning TAA-compliant	The perfect balance of performance and portability; two-spindle system												
Processor	<b>Trade Act Agreement-compliant Intel® Pentium® M Processor 1.3 or 1.5GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus												
L2 cache	<b>1MB</b> / on die (at processor speed) / ECC												
Memory	<b>256MB</b> standard / 2GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std mem in one socket / one socket available												
Diskette drive DVD	None standard / use optional USB-based diskette drive												
Combo	Some: DVD-ROM / 24X-8X <sup>8</sup> speed / bootable/removable from Ultrabay™ Slim												
Ultrabay Slim Disk	Some: DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay Slim One modular bay for interchangeable devices (right side) / 9.5mm high bay <b>30GB<sup>8</sup></b> (4200 rpm) or <b>40GB HS</b> (5400 rpm), 9.5mm high / removable and upgradable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim												
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits / one latch to unlatch and open with one hand												
Graphics controller	<b>ATI® Mobility RADEON® 7500 / AGP 4X / 32MB</b> DDR-SDRAM												
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz												
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)												
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones												
Touch pad	Illuminates the keyboard to improve visibility in low-light conditions												
ThinkLight™													
Dimensions <sup>3</sup>	6-cell models (WxDxH): 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm												
Approximate weight <sup>2</sup>	with optical drive and battery: 4.9 lbs (2.22 kg)												
Case material	Magnesium composite in the top cover, titanium-reinforced CFRP in bottom cover												
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay Slim												
Battery - life <sup>10</sup>	5.5 hr; 9-cell High Capacity plus Ultrabay Slim battery: 9.5 hr												
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared, parallel [docking-based ports])												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door												
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)												
Video out	S-video out port (TV out) / one industry standard connector												
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable												
Wireless upg <sup>36</sup>	Some: Wireless upgradable with wireless Mini PCI options												
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection												
Cisco 802.11b	Some: 802.11b wireless <sup>4</sup> , Mini PCI, Cisco® Aironet® Wireless 802.11b												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	56K <sup>9</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset												
Bluetooth™	None standard (optional PC Card available)												
Ethernet	Some: 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE												
Audio support	Some: Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)												
Security	Power-on password / hard disk password / supervisor password / security keyhole												
Security chip	Some: <b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / T CPA-compliant												

SOFTWARE<sup>14</sup>

Windows XP Pro models

- Microsoft® Windows® XP Professional<sup>20</sup>
- ◇ Disk-to-Disk Recovery (in hidden protected area)

Windows 2000 models

- Microsoft® Windows® 2000 Professional<sup>20</sup>
- ConfigSafe®
- ◇ Disk-to-Disk Recovery (in hidden protected area)

Preloaded(all)

- Access IBM
- Access Connections
- Adobe Acrobat Reader
- IBM Rapid Restore™ PC
- Veritas RecordNOW (combo mdl)
- InterVideo WinDVD
- Norton AntiVirus (OEM edition)
- PC-Doctor™
- ThinkPad Utilities
- IBM Update Connector™<sup>15</sup>

Downloadable

- IBM Director Agent
- Software Delivery Assistant
- System Migration Assistant
- Client Security Software (security chip models)

License (CD not included)

- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client

Universal 72 watt AC adapter  
Asset ID™<sup>34</sup> (system-specific info in chip accessed over network)  
PC 2001-compliant  
ACPI 1.0b and 2.0-compliant  
CIM and DMI 2.0-compliant  
PXE 2.0-compliant  
IBM ImageUltra™ Services available  
IBM Rapid Restore PC available to protect software image and data  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup>

The Ultrabay Slim supports:

- standard or optional CD-RW/DVD combo drive
- standard DVD drive
- optional second battery
- optional HDD adapter (for 2nd disk)
- optional travel bezel

Limited warranty<sup>12</sup> 3 years/1 yr battery - EasyServ™<sup>19</sup> onsite pickup and delivery / service upgrades<sup>22</sup> avail

128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad T40 Li-Ion Battery 6-cell	08K8214
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	T40 High Capacity Li-Ion Battery 9-cell	08K8197
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190
1GB PC2100 DDR-SDRAM CL2.5 SOD	10K0034	ThinkPad Multiple Battery Charger II	22P9040
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699
IBM USB 2.0 Portable CD-RW Drive	22P5297	ThinkPad 72W AC/DC Combo Adapter	22P9010
CD-RW/DVD Combo Ultrabay Slim Drive	22P7011	IBM H Rate Wireless LAN PC Card 128	09N9904
Second HDD Adapter for Ultrabay Slim	62P4554	IBM 11a Wireless LAN CardBus Adaptor	22P7501
20GB Hard Disk 9.5mm (4200 rpm)	08K9686	Intel PRO/Wireless 2100 3B Mini PCI	31P8601
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	Cisco Aironet Wireless 802.11b Mini PCI	31P8301
80GB Hard Disk 9.5mm (4200 rpm)	08K9869	Bluetooth™ PC Card II from IBM	19K5796
IBM 1GB Microdrive™ with PC Card	07N5574	GemPC400 Smart Card Reader/Writer	31P8901
IBM 64MB USB 2.0 Memory Key	22P9024	ThinkPad Port Replicator II	74P6733
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Mini Dock	287810U
IBM USB Keyboard with UltraNav	31P8950	ThinkPad Dock II	287710U
IBM Optical 3-Button Travel Wheel Mouse	31P7410	ThinkPad Monitor Stand 2001	22P5265
IBM Optical 3-Button ScrollPoint Pro Mouse	31P8700	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>	
		ServicePac®.22 2yr IOR 9x5 NBD	30L9190
		ServicePac 3yr IOR 9x5 NBD	30L9197
		ServicePac 4yr IOR 9x5 NBD	69P9198
		ServicePac 5yr IOR 9x5 NBD	69P9200
		ServicePac 4yr P&L P/U Depot	69P9199
		ServicePac 5yr P&L P/U Depot	69P9201

See footnotes for important warranty information  
US models announced March 12, 2003  
US models withdrawn effective July 2003

\* Powered by Intel Centrino™ mobile technology

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/Bluetooth™	Ethernet on planar	Security chip	Battery cells	Limited Warranty	Avail date
2378-D1U	Pentium® M	1.3	256MB	14.1" XGA	7500	30GB	DVD	Open; wireless upg <sup>36</sup>	Modem	10/100	No	6-cell	XP Pro	1 year Jun 2003
2378-D2U	Pentium® M	1.3	256MB	14.1" XGA	7500	30GB	DVD*	Intel 11b Wi-Fi <sup>32</sup>	Modem	10/100	Yes	6-cell	XP Pro	1 year Jun 2003

- These small and medium business (SMB) models are part of the IBM US Think Express Program
- The 2378 has a 1 year limited warranty (other ThinkPad T40 2379 models have a 3 year limited warranty)

Positioning	Perfect balance of performance and portability; two-spindle system												
Processor	Intel® Pentium® M Processor 1.3GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											<b>SOFTWARE<sup>14</sup></b>	
L2 cache	1MB / on die (at processor speed) / ECC											Windows XP Pro models	
Memory	256MB standard / 2GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std mem in one socket / one socket available											- Microsoft® Windows® XP Professional <sup>20</sup>	
Diskette drive	None standard / use optional USB-based diskette drive											↳ Disk-to-Disk Recovery (in hidden protected area)	
DVD	DVD-ROM / 24X-8X <sup>6</sup> speed / bootable/removable from Ultrabay™ Slim											<b>Preloaded(all)</b>	
Ultrabay Slim	One modular bay for interchangeable devices (right side) / 9.5mm high bay											• Access IBM	
Disk	30GB <sup>8</sup> (4200 rpm), 9.5mm high / upgradable and removable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim / IBM Integrated HDD Shock Absorber											- Access Connections	
Display	14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits / one latch to unlatch and open with one hand											• Adobe Acrobat Reader	
Graphics controller	ATI® Mobility RADEON® 7500 / AGP 4X / 32MB DDR-SDRAM											• IBM Rapid Restore™ PC	
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz											• InterVideo WinDVD	
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)											• Norton AntiVirus (OEM edition)	
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones											• PC-Doctor™	
Touch pad	Illuminates the keyboard to improve visibility in low-light conditions											• ThinkPad Utilities	
ThinkLight™												• IBM Update Connector™ <sup>15</sup>	
Dimensions <sup>3</sup>	6-cell models (WxDxH): 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm											<b>Downloadable</b>	
Approximate weight <sup>2</sup>	with optical drive and battery: 4.9 lbs (2.2 kg)											• IBM Director Agent	
Case material	Magnesium composite in the top cover, titanium-reinforced CFRP in bottom cover											• Software Delivery Assistant	
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay Slim											• System Migration Assistant	
Battery - life <sup>10</sup>	6-cell: 5.0 hr; 9-cell High Capacity plus Ultrabay Slim battery: 9.5 hr											• Client Security Software (models with security chip)	
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared, parallel [docking-based ports])											<b>License (CD not included)</b>	
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)											Universal 72 watt AC adapter	
Video out	S-video out port (TV out) / one 4-pin industry standard connector											Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)	
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception											PC 2001-compliant	
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											ACPI 1.0b and 2.0-compliant	
Wireless upg <sup>36</sup>	Some: Wireless upgradable with wireless Mini PCI options											CIM and DMI 2.0-compliant	
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100, Intel 82531 chipset											PXE 2.0-compliant	
CDC	One Communications Daughter Card (CDC) socket / customer accessible											IBM ImageUltra™ Services available	
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>25</sup> ) modem in CDC / Agere® chipset											IBM Rapid Restore PC available to protect software image and data	
Bluetooth™	None											International Warranty Service <sup>17</sup>	
Ethernet	Some: 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE											24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>	
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)											ServicePac® <sup>22</sup> 1yr IOR 9x5 NBD	
Security	Power-on password / hard disk password / supervisor password / security keyhole											30L9188	
Security chip	Some: IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											ServicePac 2 yr IOR 9x5 NBD	
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service											30L9189	
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											ServicePac 3 yr IOR 9x5 NBD	
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad T40 Li-Ion Battery 6-cell	08K8214	ServicePac 4 yr IOR 9x5 NBD	30L9194								
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	T40 High Capacity Li-Ion Battery 9-cell	08K8197	ServicePac 5 yr IOR 9x5 NBD	30L9196								
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190	ServicePac 2 yr P&L P/U Depot	30L9191								
1GB PC2100 DDR-SDRAM CL2.5 SOD	10K0034	ThinkPad Multiple Battery Charger II	22P9040	ServicePac 3 yr P&L P/U Depot	30L9192								
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699	ServicePac 4 yr P&L P/U Depot	69P9195								
IBM USB 2.0 Portable Combo Drive	22P9194	ThinkPad 72W AC/DC Combo Adapter	22P9010	ServicePac 5 yr P&L P/U Depot	69P9197								
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	IBM 11a/b/g Wireless CardBus Adapter	31P9101	Other ServicePac options at									
CD-RW/DVD Combo II Ultrabay Slim Drive	73P3288	IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	<a href="http://ibm.com/services/its/us/source/wamomxeu.pdf">ibm.com/services/its/us/source/wamomxeu.pdf</a>									
ThinkPad DVD-ROM Ultrabay Slim Drive	73P3270	Intel PRO/Wireless 2100 3B Mini PCI	31P8601	Post-warranty annual maintenance agreements at									
Second HDD Adapter for Ultrabay Slim	62P4554	Intel PRO/Wireless 2200BG Mini PCI	73P2801	<a href="http://ibm.com/services/its/us/source/maspspleu.pdf">ibm.com/services/its/us/source/maspspleu.pdf</a>									
20GB Hard Disk 9.5mm (4200 rpm)	08K9686	Cisco Aironet Wireless 802.11b Mini PCI	31P8301										
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	iL300 Conf Room Data/Video Projector	0039A03										
80GB Hard Disk 9.5mm (4200 rpm)	08K9869	GemPC400 Smart Card Reader/Writer	31P8901										
IBM 4GB Microdrive™ with PC Card	09N4280	ThinkPad Port Replicator II	74P6733										
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Mini Dock	287810U										
IBM TrackPoint USB Space Saver Keybrd	22P5150	ThinkPad Dock II	287710U										
IBM Optical 3-Button Travel Wheel Mouse	31P7410	ThinkPad Monitor Stand 2001	22P5265										
Ericsson® GC82 EDGE PC Card Wireless	58P8782	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											

See footnotes for important warranty information  
US models announced June 17, 2003  
US models withdrawn effective April 2004

\* Powered by Intel Centrino™ mobile technology

# IBM® ThinkPad® T40 (2379) - SMB - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>a</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/ Bluetooth™	Ethernet on planar chip	Battery Security cells	Limited Warranty	Avail date
2379-D3U	Pentium® M	1.4	256MB	14.1" XGA	7500	30G	Combo	* Intel 11b Wi-Fi <sup>32</sup>	Modem	10/100	Yes	6-cell	XP Pro 3 yrs Jun 2003
2379-D4U	Pentium M	1.6	256MB	14.1" XGA	7500	40HS	Combo	* Intel 11b Wi-Fi	Modem	10/100	Yes	6-cell	XP Pro 3 yrs Jun 2003
2379-D5U	Pentium M	1.6	512MB	14.1" SXGA+	9000	80G	Combo	11a/b Wi-Fi <sup>27</sup>	Mod/Blue	Gigabit	Yes	6-cell	XP Pro 3 yrs Jun 2003
2379-D6U	Pentium M	1.4	256MB	14.1" SXGA+	9000	40HS	Combo	* Intel 11b Wi-Fi	Modem	Gigabit	Yes	6-cell	XP Pro 3 yrs Jun 2003

- These small and medium business (SMB) models are part of the IBM US Think Express Program
- The 2379 has a 3 year limited warranty (other ThinkPad T40 2378 models have a 1 year limited warranty)

Positioning Processor	The perfect balance of performance and portability; two-spindle system											
L2 cache	Intel® Pentium® M Processor 1.4 or 1.6GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus											
Memory	1MB / on die (at processor speed) / ECC											
Diskette drive	None standard / use optional USB-based diskette drive											
Combo	DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay Slim											
Ultrabay Slim	One modular bay for interchangeable devices (right side) / 9.5mm high bay											
Disk	30GB <sup>a</sup> (4200 rpm), 40GB HS (5400 rpm), or 80GB (4200 rpm), 9.5mm high / removable and upgradable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim / IBM Integrated HDD Shock Absorber											
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits											
Graphics controller	Some: ATI® Mobility RADEON® 7500 / AGP 4X / 32MB DDR-SDRAM Some: ATI Mobility RADEON 9000 / AGP 4X / 32MB DDR-SDRAM											
Graphics - external	support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz											
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)											
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass /											
Touch pad	UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup>	6-cell models (WxDxH): 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm											
Approximate weight <sup>2</sup>	with optical drive and battery: 4.9 lbs (2.22 kg)											
Case material	Magnesium composite in the top cover, titanium-reinforced CFRP in bottom cover											
Battery - type	Lithium Ion 6-cell or 9-cell / intelligent / supports unique 2nd battery in Ultrabay Slim											
Battery - life <sup>10</sup>	6-cell models: 5.0 hr; Optional 9-cell: 7.5 hr; 9-cell plus Ultrabay Slim battery: 9.5 hr											
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared, parallel [docking-based ports])											
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1											
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)											
Video out	S-video out port (TV out) / one industry standard connector											
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset											
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	56K V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
Bluetooth™	Some: Bluetooth wireless technology / in CDC (with modem)											
Ethernet	Some: 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE Some: Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE											
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)											
Security	Power-on password / hard disk password / supervisor password / security keyhole											
Security chip	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											
Limited warranty <sup>12</sup>	3 years/1 yr battery - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> avail											
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad T40 Li-Ion Battery 6-cell	08K8214	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190							
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	T40 High Capacity Li-Ion Battery 9-cell	08K8197	ServicePac 3yr IOR 9x5 NBD	30L9197							
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190	ServicePac 4yr IOR 9x5 NBD	69P9198							
1GB PC2100 DDR-SDRAM CL2.5 SOD	10K0034	ThinkPad Multiple Battery Charger II	22P9040	ServicePac 5yr IOR 9x5 NBD	69P9198							
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699	ServicePac 5yr IOR 9x5 NBD	69P9200							
IBM USB 2.0 Portable CD-RW Drive	22P5297	ThinkPad 72W AC/DC Combo Adapter	22P9010	ServicePac 4yr P&L P/U Depot	69P9199							
CD-RW/DVD Combo Ultrabay Slim Drive	22P7011	IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 5yr P&L P/U Depot	69P9201							
ThinkPad DVD-ROM Ultrabay Slim Drive	73P3270	IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	Other ServicePac options at								
Second HDD Adapter for Ultrabay Slim	62P4554	Intel PRO/Wireless 2100 3B Mini PCI	31P8601	ibm.com/services/its/us/source/wamomxeu.pdf								
20GB Hard Disk 9.5mm (4200 rpm)	08K9686	Cisco Aironet Wireless 802.11b Mini PCI	31P8301	Post-warranty annual maintenance agreements at								
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	GemPC400 Smart Card Reader/Writer	31P8901	ibm.com/services/its/us/source/maspspleu.pdf								
80GB Hard Disk 9.5mm (4200 rpm)	08K9869	ThinkPad Port Replicator II	74P6733									
IBM 1GB Microdrive™	07N5574	ThinkPad Mini Dock	287810U									
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Dock II	287710U									
IBM TrackPoint USB Space Saver Keybrd	22P5150	ThinkPad Monitor Stand 2001	22P5265									
IBM Optical 3-Button Travel Wheel Mouse	31P7410	IBM MicroPortable Data/Video Projector	0037A02									
IBM Optical 3-Button ScrollPoint Pro Mouse	31P8700	Other options at	ibm.com/pc/us/accessories									

See footnotes for important warranty information  
US models announced June 17, 2003  
US models withdrawn effective January 2004

\* Powered by Intel Centrino™ mobile technology

(T40B3) © IBM Corp. January 2004

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>5</sup> and rpm	Optical	Mini PCI Comm Bay wireless	CDC modem/Bluetooth™	Ethernet on planar chip	Battery Securitycells	Workhorse (W) or Global (G) Preload model	Avail date
2373-G1U	Pentium® M 1.6	512MB	14.1"	SXGA+	9000	40G 5400	Combo	11a/b Wi-Fi <sup>27</sup>	Mod/Blue	Gigabit	Yes	9 XP Pro	No Mar 2003
2373-G3U	Pentium M 1.6	512MB	14.1"	SXGA+	9000	60G 7200	Combo	11a/b Wi-Fi	Mod/Blue	Gigabit	Yes	9 XP Pro	No Jun 2003
2373-G5U	Pentium M 1.6	512MB	14.1"	SXGA+	9000	60G 7200	Combo*	Intel 11b Wi-Fi <sup>32</sup>	Mod/Blue	Gigabit	Yes	9 XP Pro	No Jun 2003
Positioning Processor	<i>Perfect balance of performance and portability; two-spindle system</i>												
L2 cache	Intel® Pentium® M Processor 1.6GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus												
Memory	1MB / on die (at processor speed) / ECC 512MB standard / 2GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / standard memory in one socket / one socket available												
Diskette drive	None standard / use optional USB-based diskette drive												
Combo	DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay Slim												
Ultrabay Slim	One modular bay for interchangeable devices (right side) / 9.5mm high bay												
Disk	40GB <sup>8</sup> HS (5400 rpm) or 60GB Ultra HS (7200 rpm), 9.5mm high / removable and upgradable / 9.5mm high bay / supports 2nd disk with opt HDD Adapter in Ultrabay Slim / IBM Integrated HDD Shock Absorber												
Display	14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits / one latch to unlatch and open with one hand												
Graphics controller	ATI® Mobility FireGL® 9000 / AGP 4X / 64MB DDR-SDRAM												
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz												
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)												
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap												
Touch pad	UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup>	9-cell model (WxDxH): 12.2" x 10.9" x 1.0-1.2"; 311mm x 276.8mm x 26.6-31.4mm												
Approximate weight <sup>2</sup>	with optical drive and battery: 4.9 lbs (2.22 kg)												
Case material	Magnesium composite in the top cover, titanium-reinforced carbon fiber reinforced plastic (Ti-CFRP) in bottom cover												
Battery - type	Lithium Ion 9-cell / intelligent / supports unique 2nd battery in Ultrabay Slim												
Battery - life <sup>10</sup>	9-cell models: 7.0 hr; 9-cell High Capacity plus Ultrabay Slim battery: 9.0 hr												
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1520 CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared, parallel [docking-based ports])												
Docking Station	Optional Dock II (includes Ultrabay 2000 and half-size PCI slot) or Mini Dock												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door												
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)												
Video out	S-video out port (TV out) / one 4-pin industry standard connector												
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception												
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable												
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset												
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100, Intel 82531 chipset												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>28</sup> ) modem in CDC / Agere® chipset												
Bluetooth™	Bluetooth wireless technology / in CDC (with modem)												
Ethernet	Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE												
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)												
Security	Power-on password / hard disk password / supervisor password / security keyhole												
Security chip	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>15</sup> / TCG-compliant												
Limited warranty <sup>12</sup>	3 years/1 yr battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	ThinkPad T40 Li-Ion Battery 6-cell	08K8214										
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	T40 High Capacity Li-Ion Battery 9-cell	08K8197										
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190										
1GB PC2100 DDR-SDRAM CL2.5 SOD	10K0034	ThinkPad Multiple Battery Charger II	22P9040										
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699										
IBM USB 2.0 Portable CD-RW Drive	22P5297	ThinkPad 72W AC/DC Combo Adapter	22P9010										
IBM USB 2.0 Portable Combo Drive	22P9194	IBM 11a/b/g Wireless CardBus Adapter	31P9101										
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	IBM 11a/b/g Wireless Mini PCI Adapter	31P9701										
CD-RW/DVD Combo II Ultrabay Slim Drive	73P3288	Intel PRO/Wireless 2100 3B Mini PCI	31P8601										
Second HDD Adapter for Ultrabay Slim	62P4554	Intel PRO/Wireless 2200BG Mini PCI	73P2801										
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	Cisco Aironet Wireless 802.11b Mini PCI	31P8301										
80GB Hard Disk 9.5mm (4200 rpm)	08K9869	iLC300 Conf Room Data/Video Projector	0039A01										
IBM 4GB Microdrive™ with PC Card	09N4280	GemPC400 Smart Card Reader/Writer	31P8901										
IBM 256MB USB 2.0 Memory Key	22P9025	ThinkPad Port Replicator II	74P6733										
IBM USB Keyboard with UltraNav	31P8950	ThinkPad Mini Dock	287810U										
IBM Optical 3-Button Travel Wheel Mouse	31P7410	ThinkPad Dock II	287710U										
IBM Optical 3-Button ScrollPoint® Mouse	31P7405	Kensington® MicroSaver® Security Cable	73P2582										
IBM Optical 3-Button ScrollPoint Pro Mouse	31P8700	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											
<p><b>SOFTWARE<sup>14</sup></b></p> <p><b>Windows XP Pro models</b></p> <ul style="list-style-type: none"> <li>- Microsoft® Windows® XP Professional<sup>20</sup></li> <li>◇ Disk-to-Disk Recovery (in hidden protected area)</li> </ul> <p><b>Preloaded</b></p> <ul style="list-style-type: none"> <li>• Access IBM</li> <li>- Access Connections</li> <li>• Adobe Acrobat Reader</li> <li>• IBM Rapid Restore™ PC</li> <li>• Veritas RecordNOW</li> <li>• InterVideo WinDVD</li> <li>• Norton AntiVirus (OEM edition)</li> <li>• PC-Doctor™</li> <li>• ThinkPad Utilities</li> <li>• IBM Update Connector™<sup>15</sup></li> </ul> <p><b>Downloadable</b></p> <ul style="list-style-type: none"> <li>• IBM Director Agent</li> <li>• Software Delivery Assistant</li> <li>• System Migration Assistant</li> <li>• Client Security Software</li> </ul> <p><b>License (CD not included)</b></p> <ul style="list-style-type: none"> <li>- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client</li> </ul>													
<p>Universal 72 watt AC adapter</p> <p>Asset ID™<sup>34</sup> (system-specific info in chip accessed over network)</p> <p>PC 2001-compliant</p> <p>ACPI 1.0b and 2.0-compliant</p> <p>CIM and DMI 2.0-compliant</p> <p>PXE 2.0-compliant</p> <p>IBM ImageUltra™ Services available</p> <p>IBM Rapid Restore PC available to protect software image and data</p> <p>International Warranty Service<sup>17</sup></p> <p>24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup></p> <p>The Ultrabay Slim supports:</p> <ul style="list-style-type: none"> <li>• standard or optional CD-RW/DVD combo drive</li> <li>• standard DVD drive</li> <li>• optional second battery</li> <li>• optional HDD adapter (for 2nd disk)</li> <li>• optional travel bezel</li> </ul>													
<p>ServicePac®.<sup>22</sup> 2yr IOR 9x5 NBD</p> <p>30L9190</p> <p>ServicePac 3yr IOR 9x5 NBD</p> <p>30L9197</p> <p>ServicePac 4yr IOR 9x5 NBD</p> <p>69P9198</p> <p>ServicePac 5yr IOR 9x5 NBD</p> <p>69P9200</p> <p>ServicePac 4yr P&amp;L P/U Depot</p> <p>69P9199</p> <p>ServicePac 5yr P&amp;L P/U Depot</p> <p>69P9201</p> <p>Post-warranty annual maintenance agreements at <a href="http://ibm.com/services/its/us/source/maspspleu.pdf">ibm.com/services/its/us/source/maspspleu.pdf</a></p>													

See footnotes for important warranty information  
US models announced May 27, 2003; previous models on March 12, 2003  
US models withdrawn effective April 2004

\* Powered by Intel Centrino™ mobile technology

# IBM® ThinkPad® T41 (2378) - Express - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>6</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/ Bluetooth™	Ethernet on planar chip	Battery Security cells Preload	Limited Warranty	Avail date
2378-DEU	Pentium® M 1.4	256MB	14.1" SXGA+	9000	30GB DVD	Open; wireless upg <sup>36</sup>	Modem Gigabit	Yes	6	XP Pro	1 yr	Oct 2003	
2378-DFU	Pentium M 1.4	256MB	14.1" XGA	7500	40HS DVD	Open; wireless upg	Modem Gigabit	Yes	6	XP Pro	1 yr	Oct 2003	
2378-DGU	Pentium M 1.4	256MB	14.1" XGA	7500	40HS Combo	Open; wireless upg	Modem Gigabit	Yes	6	XP Pro	1 yr	Oct 2003	
2378-DHU	Pentium M 1.4	256MB	14.1" XGA	7500	40HS Combo	* Intel 11b Wi-Fi <sup>32</sup>	Modem Gigabit	Yes	6	XP Pro	1 yr	Oct 2003	
<ul style="list-style-type: none"> <li>• These small and medium business (SMB) models are part of the IBM US Think Express Program</li> <li>• The 2378 has a 1 year limited warranty (other ThinkPad T41 2379 models have a 3 year limited warranty)</li> </ul>													
Positioning	Perfect balance of performance and portability; two-spindle system											<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ⇨ Disk-to-Disk Recovery (in hidden protected area) <b>Preloaded(all)</b> • Access IBM • Access Connections • Adobe Acrobat Reader • IBM Rapid Restore™ Ultra • IBM RecordNOW and IBM Drive Letter Access (combo models) • InterVideo WinDVD (combo mdl's) • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup> <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant • Client Security Software (for security chip) <b>License (CD not included)</b> - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
Processor	Intel® Pentium® M Processor 1.4GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus												
L2 cache	1MB / on die (at processor speed) / ECC												
Memory	256MB standard / 2GB max <sup>7</sup> / PC2700 333MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std mem in one socket / one socket available												
Diskette drive	None standard / use optional USB-based diskette drive												
DVD	Some: DVD-ROM / 24X-8X <sup>8</sup> speed / bootable / removable from Ultrabay™ Slim												
Combo	Some: DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay Slim												
Ultrabay Slim	One modular bay for interchangeable devices (right side) / 9.5mm high bay												
Disk	30GB <sup>8</sup> (4200 rpm) or 40GB HS (5400 rpm) / 9.5mm high / removable and upgradable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim / IBM Hard Disk Drive Shock Absorber / IBM Active Protection System (shock protection)												
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 14.1" (358.1mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits												
Graphics controller	Some: ATI® Mobility RADEON® 7500 / AGP 4X / 32MB DDR-SDRAM Some: ATI Mobility RADEON 9000 / AGP 4X / 32MB DDR-SDRAM												
Graphics - external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz												
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)												
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones												
Touch pad	Illuminates the keyboard to improve visibility in low-light conditions												
ThinkLight™													
Dimensions <sup>3</sup>	(WxDxH): 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm												
Approximate weight <sup>2</sup>	with optical drive and battery: DFU/DGU/DHU: 4.9 lb (2.2 kg); DEU: 5.0 lb (2.2kg)												
Case material	Magnesium composite in the top cover, titanium-reinforced CFRP in bottom cover												
Battery - type	Lithium Ion 6-cell or 9-cell / intelligent / supports unique 2nd battery in Ultrabay Slim												
Battery - life <sup>10</sup>	6-cell models: 4.7 to 5.0 hr; Optional 9-cell: 7 hr; 9-cell plus Ultrabay Slim battery: 9 hr												
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count [LPC] interface, USB, [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI® PCI4520A CardBus and 1394 controller, Mini PCI, external expansion) / LPC bus 33MHz (security chip; PC87392 Super I/O for diskette, parallel, infrared, [docking-based ports])												
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1												
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)												
Video out	S-video out port (TV out) / one 4-pin industry standard connector												
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable												
Wireless upg <sup>36</sup>	Some: wireless upgradable with wireless Mini PCI options												
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset												
Bluetooth™	None												
Ethernet	Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE												
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)												
Security	Power-on password / hard disk password / supervisor password / security keyhole												
Security chip	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant												
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery courier serv / service upgrades <sup>22</sup> avail												
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad T40 Li-Ion Battery 6-cell	08K8214										
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	T40 High Capacity Li-Ion Battery 9-cell	08K8197										
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190										
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Multiple Battery Charger II	22P9040										
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699										
IBM USB 2.0 Portable CD-RW Drive	22P5297	ThinkPad 72W AC/DC Combo Adapter	22P9010										
IBM USB 2.0 Portable Combo Drive	22P9194	IBM 11a/b/g Wireless CardBus Adapter	31P9101										
CD-RW/DVD Combo II Ultrabay Slim Drive	73P3288	IBM 11a/b/g Wireless Mini PCI Adapter	31P9701										
ThinkPad DVD-ROM Ultrabay Slim Drive	73P3270	Intel PRO/Wireless 2200BG Mini PCI	73P2801										
Second HDD Adapter for Ultrabay Slim	62P4554	Cisco Aironet Wireless 802.11b Mini PCI	31P8301										
30GB Hard Disk 9.5mm (4200 rpm)	09N4268	GemPC400 Smart Card Reader/Writer	31P8901										
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Port Replicator II	74P6733										
80GB Hard Disk 9.5mm (4200 rpm)	08K9869	ThinkPad Mini Dock	287810U										
IBM 4GB Microdrive™ with PC Card	09N4280	ThinkPad Dock II	287710U										
IBM 256MB USB 2.0 Memory Key	22P9025	Kensington® SecuritySaver® Security Cable	73P2582										
IBM Optical 3-Button Travel Wheel Mouse	31P7410	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											

See footnotes for important warranty information  
US models announced October 7, 2003  
US models withdrawn effective July 2004

\* Powered by Intel Centrino™ mobile technology

# IBM® ThinkPad® T41 (Education) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	Speed GHz	Memory	Screen	Graphics controller	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem/ Bluetooth™	Ethernet on planar	Battery Security cells	Workhorse (W) or Global (G) Avail date
2373-4JU	Pentium® M	1.5	512MB	14.1" XGA	7500	30GB	Combo	11a/b/g Wi-Fi <sup>32</sup>	Modem	Gigabit	Yes	6 XP Pro No Apr 2004
2373-4HU	Pentium M	1.6	512MB	14.1" XGA	7500	40HS	Combo	11a/b/g Wi-Fi	Modem	Gigabit	Yes	6 XP Pro No Oct 2003
2373-4KU	Pentium M	1.7	512MB	14.1" XGA	7500	40HS	Combo	11a/b/g Wi-Fi	Modem	Gigabit	Yes	6 XP Pro No Apr 2004

These educational models of the ThinkPad T41 notebook are available only to public or private K-12 (or higher) accredited schools organized and operated exclusively for educational purposes for use by qualified students and/or teachers.

This model for education is for sale direct from IBM or through an Authorized Education Reseller.

The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<i>Perfect balance of performance and portability; two-spindle system</i>										<b>SOFTWARE<sup>14</sup></b>	
L2 cache	<b>Intel® Pentium® M Processor 1.5, 1.6, or 1.7GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus										<b>Windows XP Professional</b>	
Memory	<b>1MB</b> / on die (at processor speed) / ECC										- Microsoft® Windows® XP Professional <sup>20</sup>	
Diskette drive	None standard / use optional USB-based diskette drive										↳ Disk-to-Disk Recovery (in hidden protected area)	
Combo	DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay™ Slim										<b>Preloaded</b>	
Ultrabay Slim	One modular bay for interchangeable devices (right side) / 9.5mm high bay										• Access IBM	
Disk	<b>30GB<sup>8</sup></b> (4200 rpm) or <b>40GB HS</b> (5400 rpm), 9.5mm high / removable and upgradable / 9.5mm high bay / supports 2nd disk with optional HDD Adapter in Ultrabay Slim / <b>IBM Hard Disk Drive Shock Absorber</b> / <b>IBM Active Protection System</b> (shock protection)										• Access Connections	
Display	<b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits / one latch to unlatch and open with one hand										• Adobe Reader	
Graphics	<b>ATI® MOBILITY™ RADEON® 7500 / AGP 4X / 32MB DDR1 (DDR-SDRAM)</b>										• IBM Rapid Restore™ Ultra	
Graphics external	External monitor support via analog DB-15 connector / up to 2048x1536x16.7M at 75Hz										• IBM RecordNOW and IBM Drive Letter Access (combo models)	
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.5mm (std-size keys)										• InterVideo WinDVD (combo models)	
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / UltraNav™ multi-pointing system / touch pad below keyboard / Tap Zones										• Norton AntiVirus (OEM edition)	
Touch pad	Illuminates the keyboard to improve visibility in low-light conditions										• PC-Doctor™	
ThinkLight™											• ThinkPad Utilities	
Dimensions <sup>3</sup>	(WxDxH): 12.2" x 10.0" x 1.0-1.2"; 311mm x 255mm x 26.6-31.4mm										• IBM Update Connector™ <sup>15</sup>	
Weight <sup>2</sup>	with optical drive and battery: 4.9 lbs (2.2 kg)										<b>Downloadable</b>	
Case material	Magnesium composite in the top cover, titanium-reinforced CFRP in bottom cover										• IBM Director Agent	
Battery - type	Lithium Ion 6-cell / intelligent / supports unique 2nd battery in Ultrabay Slim										• Software Delivery Assistant	
Battery - life <sup>10</sup>	4HU/4KU: 4.7 hr; 4JU: 4.9 hr; <i>Optional 9-cell: 7 hr; 9-cell plus Ultrabay Slim batt: 9 hr</i>										• System Migration Assistant	
Architecture	<b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count [LPC] interface, USB, [Bluetooth]) / PCI bus 2.2 32-bit, 33MHz (TI® PCI4520A CardBus controller, Mini PCI, external expansion) / LPC bus 33MHz (security chip; PC87392 Super I/O for diskette, parallel, infrared, [docking-based ports])										• Client Security Software (for security chip)	
PC Card Std slots	2 Type I, 2 Type II, or 1 Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door										<b>License</b> (CD not included)	
Ports	Two USB (Version 2.0) / parallel / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no keyboard or mouse or serial ports (use USB)										- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
Video out	S-video out port (TV out) / one 4-pin industry standard connector										Universal 72 watt AC adapter	
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception										Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)	
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable										PC 2001-compliant	
11a/b/g Wi-Fi <sup>32</sup>	11a/b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X+ chipset										ACPI 1.0b and 2.0-compliant	
CDC	One Communications Daughter Card (CDC) socket / customer accessible										CIM and DMI 2.0-compliant	
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset										PXE 2.0-compliant	
Bluetooth™	None										IBM ImageUltra™ Services available	
Ethernet	Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE										IBM Rapid Restore Ultra available to protect software image and data	
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / stereo speakers / 1 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)										International Warranty Service <sup>17</sup>	
Security	Power-on password / hard disk password / supervisor password / security keyhole										24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> via 800-IBM-SERV (426-7378)	
Security chip	<b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / Atmel® chip / TCG-compliant										The Ultrabay Slim supports:	
Limited warranty <sup>12</sup>	<b>3 years/1 yr battery - EasyServ™<sup>19</sup></b> onsite pickup and delivery courier service										• standard or optional CD-RW/DVD combo drive	
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										• optional DVD drive	
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad T40 Li-Ion Battery 6-cell	08K8214									ServicePac®. <sup>22</sup> 2yr IOR 9x5 NBD
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	T40 High Capacity Li-Ion Battery 9-cell	08K8197									30L9190
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	Ultrabay Slim Li-Polymer Battery 3-cell	08K8190									ServicePac 3yr IOR 9x5 NBD
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Multiple Battery Charger II	22P9040									30L9197
IBM USB Portable Diskette Drive	05K9276	ThinkPad 72W AC Adapter	02K6699									ServicePac 4yr IOR 9x5 NBD
IBM USB 2.0 Combo Drive	73P4515	ThinkPad 72W AC/DC Combo Adapter	22P9010									69P9198
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	IBM 11a/b/g Wireless CardBus Adapter	31P9101									ServicePac 5yr IOR 9x5 NBD
IBM USB 2.0 Memory Key 512MB	22P9230	IBM 11a/b/g Wireless Mini PCI Adptr II	73P4301									69P9200
CD-RW/DVD Combo II Ultrabay Slim Drive	73P3288	Intel PRO/Wireless 2200BG Mini PCI	73P2801									ServicePac 4yr P&L P/U Depot
Multi-Burner Plus Ultrabay Slim Drive	73P3342	IBM M400 Projector	0037A04									69P9199
Second HDD Adapter for Ultrabay Slim	62P4554	IBM E400 Projector	0038A04									ServicePac 5yr P&L P/U Depot
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	IBM C400 Projector	0039A04									69P9201
60GB HS Hard Disk 9.5mm (5400 rpm)	73P3357	GemPC400 Smart Card Reader/Writer	31P8901									Other ServicePac options at
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	ThinkPad Port Replicator II	74P6733									<b>ibm.com/services/its/us/source/wamomxeu.pdf</b>
IBM 4GB Microdrive™ with PC Card	09N4280	ThinkPad Mini Dock	287810U									Post-warranty annual maintenance agreements at
IBM USB Travel Keyboard with UltraNav	31P9490	ThinkPad Dock II	287710U									<b>ibm.com/services/its/us/source/maspspleu.pdf</b>
IBM Optical 3-Button Travel Wheel Mouse	31P7410	ThinkPad Monitor Stand 2001	22P5265									
ThinkPad Nylon Carrying Case	10K0207	Other options at <b>ibm.com/options</b>										

See footnotes for important warranty information  
US models announced on October 7, 2003 or April 20, 2004  
US models withdrawn effective May 2005

# IBM® ThinkPad® X20 - withdrawn

Type-model	Processor	MHz	Memory	Screen	Disk	DVD drive	Communications Bay	Preload	Available	
2662-11U	Celeron™	500	64MB	12.1" SVGA	10GB <sup>8</sup>	opt via UltraBase™ X2 or Dock	modem	Windows 98 SE	Sept 00	
2662-12U	Celeron	500	64MB	12.1" SVGA	10GB	option via UltraBase X2 or Dock	modem	Windows 2000	Sept 00	
2662-31U	Pentium® III	600	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	modem	Windows 98 SE	Sept 00	
2662-32U	Pentium III	600	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	modem	Windows 2000	Sept 00	
2662-34U	Pentium III	600	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	Intel® ethernet/modem	Windows 98 SE	Sept 00	
2662-35U	Pentium III	600	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	Intel ethernet/modem	Windows 2000	Sept 00	
2662-36U	Pentium III	600	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	3Com® ethernet/modem	Windows 98 SE	Sept 00	
2662-37U	Pentium III	600	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	3Com ethernet/modem	Windows 2000	Sept 00	
Processor	<b>Intel® Mobile Celeron™ 500MHz<sup>1</sup> with 100MHz system bus or Intel Mobile Pentium® III 600MHz with Intel SpeedStep™ technology and 100MHz system bus</b>						<b>WINDOWS 98 PRELOAD<sup>14</sup></b>			
L2 cache	Celeron: <b>128KB</b> / onboard (at processor speed) / ECC Pentium III: <b>256KB</b> / onboard (at processor speed) / ECC						- Microsoft® Windows® 98 Second Edition			
Memory	<b>64MB</b> or <b>128MB</b> standard / 320MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / one 144-pin SO-DIMM socket / 64MB on systemboard / 1 socket available on 64MB models; socket occupied by 64MB SO-DIMM in 128MB models						• ThinkPad Utilities • ThinkPad Assistant™ • Easy Keys Utility • ConfigSafe® • IBM Update Connector™.15			
Diskette drive	None standard / 3.5" 1.44MB integrated in optional UltraBase X2 media slice						• Access ThinkPad II			
CD or DVD-ROM	None standard / optional CD or DVD-ROM removable from optional UltraBase X2						• PC-Doctor™			
UltraBay™ 2000	Modular bay for interchangeable devices / support for UltraBay™ 2000 devices in optional UltraBase X2 media slice or ThinkPad Dock						• SystemSoft Card Wizard			
Disk	<b>10GB<sup>8</sup> or 20GB</b> / user upgradeable / S.M.A.R.T. / ATA-66						- Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license			
Display	<b>12.1"</b> (308mm) <b>SVGA (800x600) TFT color</b> / Active Matrix / 125 nits or <b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits						• Software Selections CD-ROM • Disk-to-Disk Recovery (in hidden Service Partition)			
Graphics controller	<b>ATI™ Rage™ Mobility M / AGP 2X / 4MB SGRAM / DDC2B</b>						<b>WINDOWS 2000 PRELOAD<sup>14</sup></b>			
Graphics - external	External SVGA to 1024x768x16.7 million colors at 75Hz and up to 1600x1200						- Microsoft Windows 2000 Professional			
Keyboard	<b>ThinkPad Button</b> / palm rest / TrackPoint®, Press-to-Select, Internet Scroll Bar						• ThinkPad Utilities			
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions						• ThinkPad Assistant			
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera						• Easy Keys Utility • ConfigSafe • IBM Update Connector • Access ThinkPad II • PC-Doctor • SystemSoft Card Wizard			
Dimensions <sup>3</sup>	11U/12U: 11" x 8.9" x .94"-1.1"; 279mm x 227mm x 23.8-27.9mm Others: 11" x 8.9" x .98"-1.2"; 279mm x 227mm x 24.9-30.5mm						- Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license			
Travel weight <sup>2</sup>	11U/12U: 3.1 lbs Others: 3.5 lbs						• Software Selections CD-ROM • Disk-to-Disk Recovery (in hidden Service Partition)			
Case material	<b>Titanium Composite</b> in the top cover for enhanced strength <sup>4</sup>									
Battery - type	11U/12U: Lithium Ion 4-cell / intelligent Others: Lithium Ion 6-cell / intelligent									
Battery - life <sup>10</sup>	11U/12U: 2.1 hrs Others: 3.8 hrs									
Architecture	<b>Intel 440ZXM AGPset</b> / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / Ricoh® R5C476II CardBus controller for PC Card and Compact Flash / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)									
Port replicator	Optional <b>ThinkPad Port Replicator</b>									
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)									
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive									
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video									
Ports	Two USB (Version 1.1) / external DB-15 monitor / RJ-11 (modem) / RJ-45 (ethernet) / no serial, parallel, keyboard, mouse or infrared ports									
Video out	None									
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible									
Modem	<i>Some models:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set									
Ethernet/modem	<i>Some models:</i> IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem (3Com ethernet chipset / 3Com modem chip set) <i>Some models:</i> IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set									
Audio support	PCI audio / SoundBlaster Pro™ support / CS4281 with CS4297A AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack									
Security	Power-on password / dual hard disk password / supervisor pwr / security keyhole									
Limited warranty <sup>12</sup>	<b>3 year</b> - EasyServ™.19 onsite pickup and delivery courier service									
Service options <sup>22</sup>	Optional service upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)									
Communication Bay					- 64MB SO DIMM 100MHz NP SDRAM		20L0254			
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem by 3Com	09N9774				- 128MB SO DIMM 100MHz NP SDRAM		20L0255			
- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem	19K5887				- 256MB SO DIMM 100MHz NP SDRAM		33L3069			
Ultrabay 2000 interchangeable accessories					- 10GB HDD		08K9510			
- 8X <sup>9</sup> -3X DVD Ultrabay 2000 Drive	27L3448				- 20GB HDD		27L3439			
- 2X SuperDisk (LS-120) Ultrabay 2000	27L3451				- 32GB HDD <sup>23</sup>		08K9511			
- 24X-10X CD-ROM Ultrabay 2000 Drive	05K9233				- Second HDD Adapter for Ultrabay 2000		08K6068			
- 4X/4X/20X CD-Read/Write Ultrabay 2000	00N8252				- 1GB Microdrive		07N5574			
- Zip 250MB Ultrabay 2000 Drive	00N8253				- UltraBase X2 media slice		08N1180			
- Portable Drive Bay 2000	19K4480				- ThinkPad Port Replicator		02K8667			
Wireless connectivity					- ThinkPad Dock		263110U			
- IBM High Rate Wireless LAN PC Card	09N9863				- ThinkPad X Series Battery (6-cell)		02K6651			
- IBM High Rate Wireless LAN Access Point	9085NA2				- Li-Ion Multiple Battery Charger		02K6643			
- Bluetooth™ PC Card (avail 4Q 2000)	09N9812				- ThinkPad 72W AC Adapter		02K6699			
					- ThinkPad Monitor Stand		00N8222			
					- IBM UltraPort Camera II		04P6135			
					- Multi-Port USB Hub		00N8215			
					- USB Portable Diskette Drive		05K9276			
									72 watt AC Adapter PC 99-compliant CIM and DMI 2.0 compliant Wired for Management 2.0 Local and remote asset management via the IBM Universal Manageability solutions IBM PC Lifecycle Care <sup>21</sup> provides proactive life cycle management and transition planning tools ENERGY STAR compliant Setup Guide, User's Reference, Windows OS manual Personalized Web-based support International Warranty Service <sup>17</sup> IBM SystemXtra®.20 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty	

All trademarks are the property of their respective owners  
Models withdrawn effective April 2001 or July 2001

No warranties are expressed or implied in this summary  
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Type-model	Processor	MHz	Memory	Screen	Disk	CD or DVD drive	Comm Bay	Preload	Available
2662-41U	Pentium® III	600	64MB	12.1" SVGA	10GB <sup>8</sup>	opt via UltraBase™ X2 or Dock	modem	98 SE	Apr 2001
2662-42U	Pentium III	600	64MB	12.1" SVGA	10GB	option via UltraBase X2 or Dock	modem	2000	Apr 2001
2662-61U	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	modem	98 SE	Apr 2001
2662-62U	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	modem	2000	Apr 2001
2662-64U	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	Intel® eth/mod	98 SE	Apr 2001
2662-65U	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	Intel eth/mod	2000	Apr 2001
2662-66U	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	3Com® eth/mod	98 SE	Apr 2001
2662-67U	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	3Com eth/mod	2000	Apr 2001
2662-6MU	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	Intel eth/mod	98 SE, Office 2000 SB	Apr 2001
2662-6NU	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	Intel eth/mod	2000, Office 2000 SB	Apr 2001
2662-6HU	Pentium III	700	128MB	12.1" XGA	20GB	option via UltraBase X2 or Dock	Intel eth/mod	2000, Office XP SB	Aug 2001
Processor	<b>Intel® Mobile Pentium® III 600MHz with Intel SpeedStep™ technology and 100MHz system bus</b>							<b>WINDOWS 98 PRELOAD<sup>14, 27</sup></b>	
L2 cache	256KB / onboard (at processor speed) / ECC							- Microsoft® Windows® 98 Second Edition	
Memory	64MB or 128MB standard / 320MB or 384MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / one 144-pin SO-DIMM socket / 64MB or 128MB on systemboard / 1 socket available							- <i>Some:</i> Microsoft Office 2000 Small Business (Word, Excel, Outlook, Publisher, Small Business Tools)	
Diskette drive	None standard / 3.5" 1.44MB integrated in optional UltraBase X2 media slice							• ThinkPad Utilities	
CD or DVD-ROM	None standard / optional CD or DVD-ROM removable from optional UltraBase X2							• ThinkPad Assistant™	
UltraBay™ 2000	Modular bay for interchangeable devices / support for UltraBay™ 2000 devices in optional UltraBase X2 media slice or ThinkPad Dock							• Universal Manageability Svcs (web)	
Disk	10GB <sup>8</sup> or 20GB / user upgradeable / S.M.A.R.T. / ATA-66							• ConfigSafe®	
Display	12.1" (308mm) SVGA (800x600) TFT color / Active Matrix / 125 nits or 12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits							• IBM Update Connector™.15	
Graphics controller	ATI™ Rage™ Mobility M / AGP 2X / 4MB SGRAM / DDC2B							• Access ThinkPad II	
Graphics - external	External SVGA to 1024x768x16.7 million colors at 75Hz and up to 1600x1200							• PC-Doctor™	
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / pitch: 18.5mm / stroke: 2.5mm / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar							• SystemSoft Card Wizard	
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions							- Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license	
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera							• Some: Office 2000 Small Bus CD	
Dimensions <sup>3</sup>	4xx: 11" x 8.9" x .94"-1.1"; 279mm x 227mm x 23.8-27.9mm Others: 11" x 8.9" x .98"-1.2"; 279mm x 227mm x 24.9-30.5mm							• Disk-to-Disk Recovery (in hidden Service Partition)	
Travel weight <sup>2</sup>	4xx: 3.1 lbs Others: 3.5 lbs							<b>WINDOWS 2000 PRELOAD<sup>14, 27</sup></b>	
Case material	Titanium Composite in the top cover for enhanced strength <sup>4</sup>							- Microsoft Windows 2000 Professional	
Battery - type	4xx: Lithium Ion 4-cell / intelligent Others: Lithium Ion 6-cell / intelligent							- <i>Some:</i> Microsoft Office 2000 or XP Small Business <sup>28</sup>	
Battery - life <sup>10</sup>	4xx: 2.8 hrs 61U/62U: 4.9 hrs Others: 4.8 hrs							• ThinkPad Utilities	
Architecture	Intel 440ZX AGPset / Intel PIIX4M (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / Ricoh® R5C476II CardBus controller for PC Card and Compact Flash / AGP 2X for graphics / PCI 2.1 / 32-bit / 33MHz (EIDE, CardBus, audio, USB, ext expansion) / PC97338 Super I/O / ISA (diskette, serial, parallel, infrared, ext exp)							• ThinkPad Assistant	
Port replicator	Optional ThinkPad Port Replicator							• Universal Manageability Svcs (web)	
Media slice	Optional UltraBase X2 media slice (see right side)							• ConfigSafe	
Docking Station	Optional ThinkPad Dock (includes Ultrabay 2000 and half-size PCI slot)							• IBM Update Connector	
Compact Flash slot	Compact Flash slot / 1 CF+ Type II / supports optional IBM Microdrive™							• Access ThinkPad II	
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video							• PC-Doctor	
Ports	Two USB (Version 1.1) / external DB-15 monitor / RJ-11 (modem) / RJ-45 (ethernet) / no serial, parallel, keyboard, mouse or infrared ports							• SystemSoft Card Wizard	
Video out	None							- Lotus SmartSuite Millennium and Lotus Notes Client 5.0 license	
Communicatns Bay	Communications Bay with Mini PCI IIIb slot / customer accessible							• Some: Office 2000 Small Bus CD	
Modem	<i>Some:</i> 56K <sup>6</sup> V.90 Mini PCI modem card / Lucent® chip set							• Some: Office XP Small Bus CD	
Ethernet/modem	<i>Some:</i> IBM 10/100 Ethernet Mini PCI Adapter with 56K Modem (3Com ethernet chipset / 3Com modem chip set)							• Disk-to-Disk Recovery (in hidden Service Partition)	
Audio support	<i>Some:</i> Intel PRO/100 SP Mobile Combo Adapter / Mini PCI ethernet with 56K modem / Intel 82550EY ethernet chipset / Lucent modem chipset								
	PCI audio / SoundBlaster Pro™ support / CS4281 with CS4297A AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack								
	Power-on password / dual hard disk password / supervisor pwr / security keyhole								
Security	3 year - EasyServ™.19 onsite pickup and delivery courier service								
Limited warranty* <sup>12</sup>	Optional service upgrades provide up to three years of onsite or depot repair service								
Service options <sup>22</sup>	coverage from date of ThinkPad purchase (including warranty period)								
Communication Bay	- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem by 3Com 09N9774			- 64MB SO DIMM 100MHz NP SDRAM 20L0254			- 128MB SO DIMM 100MHz NP SDRAM 20L0255		
	- Intel Pro/100 SP Mini PCI Adapter with 56K modem 06P3801			- 256MB SO DIMM 100MHz NP SDRAM 33L3069			- 10GB HDD 08K9510		
Ultrabay 2000 interchangeable accessories	- 8X <sup>9</sup> -3X DVD Ultrabay 2000 Drive 27L3448			- 20GB HDD 27L3439			- 32GB HDD <sup>23</sup> 08K9511		
	- 2X SuperDisk (LS-120) UltraBay 2000 27L3451			- Second HDD Adapter for Ultrabay 2000 08K6068			- 1GB Microdrive 07N5574		
	- 24X-10X CD-ROM Ultrabay 2000 Drive 05K9233			- UltraBase X2 media slice 08N1180			- ThinkPad Port Replicator 02K8667		
	- 8X/4X/24X CD-RW Ultrabay 2000 08K9569			- Enhanced ThinkPad Dock 263120U			- ThinkPad X Series Battery (6-cell) 02K6651		
	- Zip 250MB Ultrabay 2000 Drive 00N8253			- ThinkPad Monitor Stand 2001 22P5265			- Li-Ion Multiple Battery Charger 02K6643		
	- Portable Drive Bay 2000 19K4480			- IBM UltraPort Camera II 04P6135			- ThinkPad 72W AC Adapter 02K6699		
	- CD-RW/DVD Combo Ultrabay 2000 Drive 08K9572			- Multi-Port USB Hub 00N8215			- ThinkPad Monitor Stand 2001 22P5265		
Wireless connectivity	- IBM H Rate Wireless LAN PC Card 128 09N9904			- USB Portable Diskette Drive 05K9276			- Portable DVD-ROM Drive 22P5282		
	- IBM H R Wireless LAN Access Pt 500 09N9906								
	- Bluetooth™ PC Card 09N9812								
								72 watt AC Adapter	
								PC 99-compliant	
								CI/M and DMI 2.0-compliant	
								Wired for Management (WfM) 2.0	
								Local and remote asset management via the IBM Universal Manageability solutions	
								IBM PC Lifecycle Care <sup>21</sup>	
								Personalized Web-based support	
								International Warranty Service <sup>17</sup>	
								24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty	

\* For a copy of IBM's Statement of Limited Warranty, call 1-800-772-2227  
US model announced August 7, 2001; others on March 20, 2001  
US models withdrawn effective November 2001 or January 2001

No warranties are expressed or implied in this summary  
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Type-model	Processor	MHz	Memory	Screen	Disk	Optical	Mini PCI Comm Bay	CDC ethernet	Security Chip	Preload	Small business software	Workhorse or Global model	Avail date
2662-9MU	Pentium® III	800	128MB	12.1" XGA	20GB <sup>8</sup>	None	Modem	10/100		Windows® XP Pro	Office XP SB		Oct 2001
2662-9NU	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100		Windows 2000	Office XP SB		Oct 2001
2662-9BU	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100		Windows XP Pro		W	Oct 2001
2662-9AU	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100		Windows XP Pro		W	Oct 2001
2662-9EU	Pentium III	800	128MB	12.1" XGA	20GB	None	Wi-Fi <sup>32</sup> /mod	10/100		Windows XP Pro		W	Oct 2001
2662-9GU	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100	Yes	Windows XP Pro		W	Oct 2001
2662-8BU	Pentium III	733	128MB	12.1" XGA	10GB	None	Modem	10/100		Windows XP Pro			Oct 2001
2662-85U	Pentium III	733	128MB	12.1" XGA	10GB	None	Modem	10/100		Windows 2000			Oct 2001
2662-9DU	Pentium III	800	128MB	12.1" XGA	20GB	None	Wi-Fi/mod	10/100		Windows 2000		W	Oct 2001
2662-97U	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100	Yes	Windows 2000		W	Oct 2001
2662-95U	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100		Windows 2000		W G	Oct 2001
2662-92U	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100		Windows 2000		W	Oct 2001
2662-9PU*	Pentium III	800	256MB	12.1" XGA	20GB	None	Modem	10/100		Windows 2000		W G	Dec 2001
Positioning Processor	<i>Extra-light, extra-small ultraportable notebook; one spindle</i> <b>Mobile Intel® Pentium® III Processor-M 733 or 800MHz with enhanced Intel SpeedStep™ technology<sup>1</sup> and 133MHz frontside bus</b>												
L2 cache	<b>512KB</b> / on die (at processor speed) / ECC												
Memory	<b>128MB or 256MB</b> std / 640MB max <sup>2</sup> / SDRAM / non-parity / 133MHz / PC 133 / 3.3v / one 144-pin SO-DIMM socket / 128MB integrated / 1 socket available (128MB models)												
Diskette drive	None standard / 3.5" 1.44MB integrated in optional UltraBase™ X2 media slice												
CD or DVD-ROM	None standard / optional optical drive removable from optional UltraBase X2												
Ultrabay™ 2000	Supports Ultrabay 2000 devices in optional Ultrabase X2 media slice or ThinkPad Dock												
Disk	<b>10GB<sup>8</sup> or 20GB</b> / 4200 rpm / user upgradeable / S.M.A.R.T. / ATA-100												
Display	<b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits												
Graphics controller	<b>ATI™ Rage™ Mobility RADEON M6 / AGP 4X / 8MB DDR-SDRAM / DDC2B</b>												
Graphics - external	External monitor to 1024x768 with 16.7 million colors at 100Hz and up to 1600x1200												
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 85-key / 18.5mm pitch; 2.5mm stroke / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera												
Dimensions <sup>3</sup>	11" x 8.9" x .98"-1.2"; 279mm x 227mm x 25-30.2mm												
Travelweight <sup>2</sup>	with battery: 8xx: 3.4 lbs (1.54kg); 9Ex/9Dx: 3.7 lbs (1.68kg); Others: 3.6 lbs (1.64kg)												
Case material	<b>Titanium Composite</b> in the top cover for enhanced strength <sup>4</sup>												
Battery - type	8xx: Lithium Ion 4-cell / intelligent Others: Lithium Ion 6-cell / intelligent												
Battery - life <sup>10</sup>	8xx: 2.7 hrs; 802.11b models: 4.4 hrs; Modem only: 5.0 hrs; Others: 4.6 hrs												
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C476II CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87391 Super I/O for infrared [dock-based diskette, serial, parallel])												
Port replicator	Optional <b>ThinkPad Port Replicator</b>												
Media slice	Optional <b>UltraBase X2 media slice</b> (see right side)												
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)												
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™												
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1 / no Zoomed Video												
Ports	Two USB (version 1.1) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / some: RJ-45 (ethernet) / no serial, parallel, keyboard, or mouse ports												
Video out	None												
Mini PCI	One Mini PCI IIIa slot (Communications Bay) / customer upgradeable												
CDC	One Communications Daughter Card (CDC) socket / not customer accessible												
Modem	Some: 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) Mini PCI modem card / Lucent® chip set												
Wi-Fi <sup>32</sup> /modem	Some: Mini PCI Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, diversity antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 <sup>29</sup> modem combo, Lucent® chipset												
Ethernet	Some: 10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset												
Audio support	SoundBlaster Pro™-compatible / CS4299 AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack												
Security	Power-on password / dual hard disk password / supervisor pwr / security keyhole												
Security chip	Some: <b>IBM Embedded Security Subsystem<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup>												
Limited warranty <sup>12</sup>	<b>3 years</b> / 1 year battery - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service												
Service options <sup>22</sup>	Optional service upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)												
64 MB SO DIMM	133MHz NP SDRAM	19K4650	UltraBase X2 media slice								08N1180		
128 MB SO DIMM	133MHz NP SDRAM	19K4652	ThinkPad Port Replicator								02K8667		
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad Dock								263120U		
512 MB SO DIMM	133MHz NP SDRAM	19K4656	ThinkPad X20 Series Li-Ion Battery (6-cell)								02K6651		
USB Portable Diskette Drive		05K9276	Multiple Li-Ion/NiMH Battery Charger								02K6719		
Portable DVD-ROM Drive		22P5282	ThinkPad Ultraportable 56W AC Adapter								02K6880		
Portable Drive Bay 2000		19K4480	ThinkPad 72W AC Adapter								02K6699		
Ultrabay 2000 interchangeable accessories:			IBM USB Serial Parallel Adapter								22P5298		
SuperDisk (LS-240)	UltraBay 2000	08K9616	UltraPort Camera II								04P6135		
Zip 250MB	UltraBay 2000 Drive	00N8253	UltraPort Compact Flash Reader								19K4510		
24X-10X CD-ROM	UltraBay 2000 Drive	05K9233	10/100 Enet/56K Mini PCI (3Com)								09N9774		
8X/4X/24X Max CD-RW	UltraBay 2000	08K9569	10/100 EtherJet™ CardBus Adapter								08K9687		
8X-3X DVD	UltraBay 2000 Drive	27L3448	15GB HDD								08K9588		
CD-RW/DVD Combo	UltraBay 2000	08K9572	40GB HDD								08K9687		
Travel Bezel for Ultrabay 2000		08K6070	48GB HDD (5400 rpm) <sup>23</sup>								08K9600		
Second HDD Adapter for Ultrabay 2000		08K6068	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD								30L9190		
			ServicePac 3yr IOR 9x5 NBD								30L9197		

**SOFTWARE<sup>14</sup>**

**Windows XP Pro models**

- Microsoft® Windows® XP Professional
- ↔ Disk-to-Disk Recovery (in hidden Service Partition)

**Windows 2000 models**

- Microsoft Windows 2000 Professional<sup>13</sup>
- ↔ Disk-to-Disk Recovery (in hidden Service Partition)

**INCLUDED SOFTWARE<sup>14</sup> (all)**

**Preloaded**

- Access ThinkPad
- Access Connections
- Access Help
- ConfigSafe®
- PC-Docor™
- ThinkPad Utilities

**Downloadable**

- IBM Rapid Restore™ PC
- IBM Data Transfer
- Universal Manageability Services™
- IBM Update Connector™<sup>15</sup>
- Client Security Software (for security chip)

**License**

- Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0

**Office XP Small Business models only**

- Microsoft Office XP Small Business<sup>28</sup> (Word, Excel, Outlook, Publisher, Small Business Tools)
- ↔ Office XP Small Business CD

**ULTRABASE X2 MEDIA SLICE OPTION**

- Left bay of UltraBase X2 supports most Ultrabay 2000 options:
- Optional CD-ROM, CD-RW, DVD-ROM, LS-120/240 SuperDisk, Zip 250MB, CD-RW/DVD Combo
  - Optional HDD adapter; for 2nd disk
- UltraBase X2 right bay contains:
- Standard diskette drive (fixed)

**Other features**

- Stereo speakers (1 watt)
- Security keyhole, UltraBase lock
- Serial and parallel ports
- Keyboard/mouse port
- 56 watt AC Adapter
- PC 2001-compliant
- CIM and DMI 2.0-compliant
- Wired for Management (WfM) 2.0
- Local and remote asset management via the IBM Universal Manageability solutions
- Setup Guide, Service and Troubleshooting Guide, Windows manual
- IBM ImageUltra Services available
- IBM Rapid Restore PC available to protect software image and data
- Personalized Web-based support
- International Warranty Service<sup>17</sup>
- 24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty

See footnotes for important warranty information; \* Special ordering only  
US models announced October 9 or November 27, 2001  
US models withdrawn effective April 2002 or July 2002

Type-model	Processor	MHz	Memory	Screen	Disk	Optical	Mini PCI Comm Bay	CDC: ethernet or Bluetooth™	Security Chip	Preload	Workhorse or Global model	Avail date
2662-DBU	Pentium® III	800	128MB	12.1" XGA	20GB <sup>8</sup>	None	Modem	10/100		Windows® XP Pro		Jan 2002
2662-D5U	Pentium III	800	128MB	12.1" XGA	20GB	None	Modem	10/100		Windows 2000		Jan 2002
2662-EBU	Pentium III	866	128MB	12.1" XGA	30GB	None	Modem	10/100		Windows XP Pro	W G	Jan 2002
2662-EEU	Pentium III	866	128MB	12.1" XGA	30GB	None	11b Wi-Fi <sup>32</sup> /modem	10/100		Windows XP Pro	W G	Jan 2002
2662-ELU	Pentium III	866	128MB	12.1" XGA	30GB	None	10/100/modem	Bluetooth		Windows XP Pro	W	Jan 2002
2662-EGU	Pentium III	866	128MB	12.1" XGA	30GB	None	11b Wi-Fi/modem	10/100	Yes	Windows XP Pro	W	Jan 2002
2662-E5U*	Pentium III	866	128MB	12.1" XGA	30GB	None	Modem	10/100		Windows 2000	W G	Jan 2002
2662-EDU	Pentium III	866	128MB	12.1" XGA	30GB	None	11b Wi-Fi/modem	10/100		Windows 2000	W G	Jan 2002
2662-E6U	Pentium III	866	128MB	12.1" XGA	30GB	None	10/100/modem	Bluetooth		Windows 2000	W	Jan 2002
2662-E7U	Pentium III	866	128MB	12.1" XGA	30GB	None	11b Wi-Fi/modem	10/100	Yes	Windows 2000	W	Jan 2002
Positioning Processor	<i>Extra-light, extra-small ultraportable notebook; one spindle</i>											
L2 cache	<b>Mobile Intel® Pentium® III Processor-M 800 or 866MHz with enhanced Intel SpeedStep™ technology<sup>1</sup> and 133MHz frontside bus</b>											
Memory	<b>512KB / on die (at processor speed) / ECC</b> <b>128MB std / 640MB max<sup>7</sup> / SDRAM / non-parity / 133MHz / PC133 / 3.3v / one 144-pin SO-DIMM socket / 128MB integrated / 1 socket avail (128MB models)</b>											
Diskette drive	None standard / 3.5" 1.44MB integrated in optional UltraBase™ X2 media slice											
CD or DVD-ROM	None standard / optional optical drive removable from optional UltraBase X2											
Ultrabay™ 2000	Supports Ultrabay 2000 devices in optional Ultrabase X2 media slice or ThinkPad Dock											
Disk	<b>20GB<sup>8</sup> or 30GB / 4200 rpm / user upgradable / S.M.A.R.T. / ATA-100</b>											
Display	<b>12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits</b>											
Graphics controller	<b>ATI™ Rage™ Mobility RADEON M6 / AGP 4X / 8MB DDR-SDRAM / DDC2B</b>											
Graphics - external	External monitor to 1024x768 with 16.7 million colors at 100Hz and up to 1600x1200											
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 85-key / 18.5mm pitch; 2.5mm stroke / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup>											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera											
Dimensions <sup>3</sup>	11" x 8.9" x .98"-1.2"; 279mm x 227mm x 25-30.2mm											
Travel weight <sup>2</sup>	with battery: <i>Dxx</i> : 3.2 lbs; <i>E5x/EBx</i> : 3.5 lbs; <i>Others</i> : 3.6 lbs											
Case material	<b>Titanium Composite</b> in the top cover for enhanced strength											
Battery - type	<i>Dxx</i> : Li-Ion 4-cell / intelligent; <i>Exx</i> : Li-Ion 6-cell / intelligent											
Battery - life <sup>10</sup>	<i>Dxx</i> : 2.7 hrs; <i>802.11b/Bluetooth models</i> : 4.4 hrs; <i>Others</i> : 4.6 hrs											
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C476II CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87391 Super I/O for infrared [dock-based diskette, serial, parallel])											
Port replicator	Optional <b>ThinkPad Port Replicator</b>											
Media slice	Optional <b>UltraBase X2 media slice</b> (see right side)											
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)											
Compact Flash slot	<b>Compact Flash slot / 1 CF+ Type II / supports optional IBM Microdrive™</b>											
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1											
Ports	Two USB (version 1.1) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no serial, parallel, keyboard, or mouse ports											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											
Modem	<i>Some</i> : 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) Mini PCI modem card / Lucent® chip set											
Wi-Fi <sup>32</sup> /modem	<i>Some</i> : Mini PCI Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 <sup>29</sup> modem combo, Lucent® chipset											
10/100/modem	<i>Some</i> : 10/100 ethernet, 56K <sup>6</sup> V.90 modem combo Mini PCI card / IP Sec / Intel chipset											
CDC	One Communications Daughter Card (CDC) socket / not customer accessible											
Ethernet	<i>Some</i> : 10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset											
Bluetooth™	<i>Some</i> : Bluetooth wireless technology / on CDC / power button near keyboard											
Audio support	SoundBlaster Pro™-compatible / CS4299 AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal microphone / mic in / line in / headphone out											
Security	Power-on password / dual hard disk password / supervisor pwd / security keyhole											
Security chip	<i>Some</i> : <b>IBM Embedded Security Subsystem<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup>											
Limited warranty <sup>12</sup>	<b>3 years/1 year battery - EasyServ™<sup>19</sup> onsite pickup and delivery courier service</b>											
Service options <sup>22</sup>	Optional service upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											
64 MB SO DIMM	133MHz NP SDRAM	19K4650	UltraBase X2 media slice								08N1180	56 watt AC Adapter PC 2001-compliant CIM and DMI 2.0-compliant Local and remote asset management via the IBM Universal Manageability solutions Setup Guide, Service and Troubleshooting Guide, Windows manual IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>
128 MB SO DIMM	133MHz NP SDRAM	19K4652	ThinkPad Port Replicator								02K8667	
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad Dock								263120U	
512 MB SO DIMM	133MHz NP SDRAM	19K4656	ThinkPad X20 Series Li-Ion Battery (6-cell)								02K6651	
USB Portable Diskette Drive		05K9276	Multiple Li-Ion/NiMH Battery Charger								02K6719	
Portable CD-RW Drive		22P5297	ThinkPad Ultraportable 56W AC Adapter								02K6880	
Portable Drive Bay 2000		19K4480	ThinkPad 72W AC Adapter								02K6699	
IBM USB Serial Parallel Adapter			IBM USB Serial Parallel Adapter								22P5298	
IBM UltraPort Camera II			IBM UltraPort Camera II								04P6135	
IBM IEEE 1394 CardBus Card			IBM IEEE 1394 CardBus Card								19K5679	
IBM 32MB USB Memory Key			IBM 32MB USB Memory Key								22P5296	
20GB Hard Disk 9.5mm (4200 rpm)			20GB Hard Disk 9.5mm (4200 rpm)								08K9686	
40GB HS Hard Disk 9.5mm (5400 rpm)			40GB HS Hard Disk 9.5mm (5400 rpm)								08K9816	
80GB Hard Disk 9.5mm (4200 rpm)			80GB Hard Disk 9.5mm (4200 rpm)								08K9869	
ServicePac <sup>22</sup> 2yr IOR 9x5 NBD			ServicePac <sup>22</sup> 2yr IOR 9x5 NBD								30L9190	
ServicePac 3yr IOR 9x5 NBD			ServicePac 3yr IOR 9x5 NBD								30L9197	
Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>												

See footnotes for important warranty information

US models announced January 23, 2002; US models withdrawn effective July 2002 or July 2003

\* Special ordering only

Type-model	Processor	GHz	Memory	Screen	Disk	Optical	Mini PCI wireless/modem or Bluetooth™	CDC: ethernet or Bluetooth™	Security Chip	Preload	Workhorse or Global model	Avail date
2662-MPU	Pentium® III-M	1.13	256MB	12.1" XGA	30GB <sup>8</sup>	None	Modem	10/100		Windows® 2000	W G	May 2002
2662-MXU	Pentium III-M	1.13	256MB	12.1" XGA	30GB	None	11b Wi-Fi <sup>32</sup> /modem	10/100	Yes	Windows 2000	W G	May 2002
2662-M6U	Pentium III-M	1.13	256MB	12.1" XGA	30GB	None	10/100/modem	Bluetooth		Windows 2000	W	May 2002
2662-MQU	Pentium III-M	1.13	256MB	12.1" XGA	30GB	None	Modem	10/100		Windows XP Pro	W G	May 2002
2662-MWU	Pentium III-M	1.13	256MB	12.1" XGA	30GB	None	11b Wi-Fi/modem	10/100	Yes	Windows XP Pro	W G	May 2002
2662-MLU	Pentium III-M	1.13	256MB	12.1" XGA	30GB	None	10/100/modem	Bluetooth		Windows XP Pro	W	May 2002
Positioning Processor	<i>Extra-light, extra-small ultraportable notebook; one spindle</i> <b>Mobile Intel® Pentium® III Processor-M 1.13GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ◇ Disk-to-Disk Recovery (in hidden Service Partition) <b>Windows 2000 models</b> - Microsoft Windows 2000 Professional <sup>20</sup> • ConfigSafe® ◇ Disk-to-Disk Recovery (in hidden Service Partition) <b>INCLUDED SOFTWARE<sup>14</sup> (all)</b> <b>Preloaded</b> • Access ThinkPad - Access Connections - Access Help - Access Support • PC-Doctor™ • ThinkPad Utilities <b>Downloadable</b> • IBM Rapid Restore™ PC • IBM Data Transfer • IBM Director Agent • IBM Update Connector™ <sup>15</sup> • IBM Client Security Software (for security chip) <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0	
L2 cache	<b>512KB</b> / on die (at processor speed) / ECC											
Memory	<b>256MB</b> std / 640MB max <sup>7</sup> / SDRAM / non-parity / 133MHz / PC133 / 3.3v / one 144-pin SO-DIMM socket / 128MB integrated / 128MB SO-DIMM in 1 socket (none avail)											
Diskette drive	None standard / 3.5" 1.44MB integrated in optional UltraBase™ X2 media slice											
CD or DVD-ROM	None standard / optional optical drive removable from optional UltraBase X2											
Ultrabay™ 2000	Supports Ultrabay 2000 devices in optional Ultrabase X2 media slice or ThinkPad Dock											
Disk	<b>30GB<sup>8</sup></b> / 4200 rpm / user upgradable / S.M.A.R.T. / ATA-100											
Display	<b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits											
Graphics controller	<b>ATI™ Rage™ Mobility RADEON M6MC / AGP 4X / 8MB DDR-SDRAM / DDC2B</b>											
Graphics - external	External monitor to 1024x768 with 16.7 million colors at 100Hz and up to 1600x1200											
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 85-key / 18.5mm pitch; 2.5mm stroke / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup>											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
UltraPort™	UltraPort connector on top of display for options such as digital UltraPort Camera											
Dimensions <sup>3</sup>	11" x 8.9" x .98"-1.2"; 279mm x 227mm x 24.9-30.2mm											
Travel weight <sup>2</sup>	with battery: <i>Wi-Fi/Bluetooth models</i> : 3.7 lbs (1.69 kg); <i>Others</i> : 3.6 lbs (1.64 kg)											
Case material	<b>Titanium Composite</b> in the top cover for enhanced strength											
Battery - type	Li-Ion 6-cell / intelligent											
Battery - life <sup>10</sup>	<i>Wi-Fi/Bluetooth models</i> : 4.0 hrs; <i>Others (MPU/MQU)</i> : 4.1 hrs											
Architecture	<b>Intel 830MP</b> chipset / 82830MP Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C476II CardBus controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87391 Super I/O for infrared [dock-based diskette, serial, parallel])											
Port replicator	Optional <b>ThinkPad Port Replicator</b>											
Media slice	Optional <b>UltraBase X2 media slice</b> (see right side)											
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)											
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™											
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1											
Ports	Two USB (version 1.1) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no serial, parallel, keyboard, or mouse ports											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradable											
Modem	<i>Some</i> : 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) Mini PCI modem card / Lucent® chip set											
11b Wi-Fi <sup>32</sup> /mod	<i>Some</i> : Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Lucent® chipset											
10/100/modem	<i>Some</i> : 10/100 ethernet, 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo Mini PCI card / IP Sec / Intel chipset											
CDC	One Communications Daughter Card (CDC) socket / not customer accessible											
Ethernet	<i>Some</i> : 10/100 ethernet on Communications Daughter Card / Intel® 82562ET chipset											
Bluetooth	<i>Some</i> : Bluetooth wireless technology / on CDC / power button near keyboard											
Audio support	SoundBlaster Pro™-compatible / CS4299 AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal microphone / mic in / line in / headphone out											
Security	Power-on password / dual hard disk password / supervisor pwd / security keyhole											
Security chip	<i>Some</i> : <b>IBM Embedded Security Subsystem<sup>33</sup></b> / hardware key storage / multi-factor authentication / enhances VPN security <sup>16</sup>											
Limited warranty <sup>12</sup>	<b>3 years/1 year battery</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery courier service											
Service options <sup>22</sup>	Optional service upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)											
64 MB SO DIMM	133MHz NP SDRAM		19K4650	UltraBase X2 media slice		08N1180	56 watt AC Adapter					
128 MB SO DIMM	133MHz NP SDRAM		19K4652	ThinkPad Port Replicator		02K8667	PC 2001-compliant					
256 MB SO DIMM	133MHz NP SDRAM		19K4654	ThinkPad Dock		263120U	CIM and DMI 2.0-compliant					
512 MB SO DIMM	133MHz NP SDRAM		19K4656	ThinkPad X20 Series Li-Ion Battery (6-cell)		02K6651	Setup Guide, Service and Troubleshooting Guide, Windows manual					
USB Portable Diskette Drive			05K9276	Multiple Li-Ion/NiMH Battery Charger		02K6719	IBM ImageUltra™ Services available					
Portable CD-RW Drive			22P5297	ThinkPad Ultraportable 56W AC Adapter		02K6880	IBM Rapid Restore PC available to protect software image and data					
Portable Drive Bay 2000			19K4480	ThinkPad 72W AC Adapter		02K6699	International Warranty Service <sup>17</sup>					
Ultrabay 2000 interchangeable accessories:				IBM USB Serial Parallel Adapter		22P5298	24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>					
SuperDisk (LS-240) UltraBay 2000			08K9616	IBM UltraPort Camera II		04P6135						
Zip 250MB Ultrabay 2000 Drive			00N8253	IBM IEEE 1394 CardBus Card		19K5679						
24X-10X CD-ROM Ultrabay 2000 Drive			05K9233	IBM 32MB USB Memory Key		22P5296						
8X/4X/24X Max CD-RW Ultrabay 2000			22P9101	20GB Hard Disk 9.5mm (4200 rpm)		08K9686						
Ultralight 8X Max DVD Ultrabay 2000			22P9102	40GB HS Hard Disk 9.5mm (5400 rpm)		08K9816						
CD-RW/DVD Combo III Ultrabay 2000			22P6980	80GB Hard Disk 9.5mm (4200 rpm)		08K9869						
Travel Bezel for Ultrabay 2000			08K6070	ServicePac®, <sup>22</sup> 2yr IOR 9x5 NBD		30L9190						
256 HDD Adapter for Ultrabay 2000			08K6068	ServicePac 3yr IOR 9x5 NBD		30L9197						
				Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>								

See footnotes for important warranty information  
US models announced April 23, 2002  
US models withdrawn effective July 2003

Type-model	Processor	GHz	Memory <sup>11</sup>	Screen	Disk	Optical	Mini PCI wireless/modem	CDC: modem or Bluetooth™	Security Chip	Ethernet planar	Workhorse or Global model	Avail date	
2672-42U	Pentium® III-M	1.20	256MB	12.1" XGA	40GB <sup>8</sup>	None	Open	Modem	Yes	10/100	W G	Sep 2002	
2672-4BU	Pentium III-M	1.20	256MB	12.1" XGA	40GB	None	11b Wi-Fi <sup>32</sup> /modem	None	Yes	10/100	W G	Sep 2002	
2672-4HU	Pentium III-M	1.20	256MB	12.1" XGA	40GB	None	11b Wi-Fi/modem	Bluetooth	Yes	10/100	W	Sep 2002	
2672-41U	Pentium III-M	1.20	256MB	12.1" XGA	40GB	None	Open	Modem	Yes	10/100	W	Sep 2002	
2672-4AU	Pentium III-M	1.20	256MB	12.1" XGA	40GB	None	11b Wi-Fi/modem	None	Yes	10/100	W	Sep 2002	
2672-4GU	Pentium III-M	1.20	256MB	12.1" XGA	40GB	None	11b Wi-Fi/modem	Bluetooth	Yes	10/100	W	Sep 2002	
2672-4XU	Pentium III-M	1.20	256MB	12.1" XGA	40GB	None	Cisco 802.11b	Modem	Yes	10/100	W	Sep 2002	
2672-12U	Pentium III-M	1.06	128MB	12.1" XGA	20GB	None	Open	Modem	Yes	10/100	W	Sep 2002	
2672-1BU	Pentium III-M	1.06	128MB	12.1" XGA	20GB	None	11b Wi-Fi/modem	None	Yes	10/100	W	Sep 2002	
2672-11U	Pentium III-M	1.06	128MB	12.1" XGA	20GB	None	Open	Modem	Yes	10/100	W	Sep 2002	
2672-1AU	Pentium III-M	1.06	128MB	12.1" XGA	20GB	None	11b Wi-Fi/modem	None	Yes	10/100	W	Sep 2002	
Positioning Processor	<i>Extra-light, extra-small ultraportable notebook; one spindle</i> <b>Mobile Intel® Pentium® III Processor-M 1.06 or 1.20GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 133MHz frontside bus												
L2 cache	<b>512KB</b> / on die (at processor speed) / ECC												
Memory	<b>128 or 256MB</b> std / 1GB max <sup>7</sup> / SDRAM / non-parity / 133MHz / PC133 / CAS latency 3 / two 144-pin SO-DIMM sockets / one socket used by std memory / one socket available												
Diskette drive	None standard / use optional Ultrabay™-based (in opt X3) or USB-based diskette drive												
CD or DVD-ROM	None standard / optional optical drive removable from optional X3 UltraBase												
Ultrabay™ 2000 Disk	Supports Ultrabay 2000 devices in optional X3 Ultrabase media slice or ThinkPad Dock <b>20 or 40GB<sup>8</sup></b> / 4200 rpm / user upgradable / S.M.A.R.T. / ATA-100 / 9.5mm tall												
Display	<b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits												
Graphics controller	<b>Intel 830MG Integrated Direct AGP 3D</b> / Unified Memory Architecture / in GMCH / controller dynamically allocates 8 to 32MB <sup>11</sup> of system memory for graphics												
Graphics - external	External SVGA to various modes such as 16.7 million colors, 85Hz, or 1600x1200												
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / ThinkPad Button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup>												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup>	10.7" x 8.8" x .98"-1.19"; 273mm x 223mm x 24.9-30.2mm												
Travel weight <sup>2</sup>	with battery: 3.6 lbs to 3.7 lbs (1.62 to 1.66 kg)												
Case material	<b>Titanium Composite</b> in the top cover / magnesium alloy bottom case												
Battery - type	Li-Ion 6-cell / intelligent (also supports opt Extended Life Battery and Ultrabay battery)												
Battery - life <sup>10</sup>	<i>Non-wireless</i> : 5.0 hrs; <i>Intel wireless</i> : 4.6 hrs; <i>Cisco wireless</i> : 4.5 hrs												
Architecture	<b>Intel 830MG</b> chipset / 82830MG Graphics Memory Controller Hub (GMCH-M) / 82801CAM ICH3-M I/O Controller Hub (ATA-100/66 EIDE, PCI bus, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])												
Media slice	Optional <b>X3 UltraBase media slice</b> (see right side)												
Docking Station	Optional <b>ThinkPad Dock</b> (includes Ultrabay 2000 and half-size PCI slot)												
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™												
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1												
IEEE 1394	<b>IEEE 1394 (FireWire) Port</b> (4-pin)												
Ports	Two USB (version 1.1) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable												
11b Wi-Fi <sup>32</sup> /mod	<i>Some</i> : Mini PCI 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Intel PRO/Wireless LAN with Intersil® Prism 2.5 chipset, dual antennas in display cover, Wi-Fi-certified / 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem combo, Agere® chipset												
802.11b	<i>Some</i> : Mini PCI 802.11b wireless <sup>4</sup> , Cisco® Aironet® Wireless 802.11b, Prism 2.0 chipset, dual antennas in display cover, Wi-Fi-certified												
Wireless upg	<i>Some</i> : PC Card or USB option; not via Mini PCI option as no antennas in display cover												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	<i>Some</i> : 56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset												
Bluetooth™	<i>Some</i> : Bluetooth wireless technology / in CDC / power button on display												
Ethernet	10/100 ethernet on systemboard / Intel 82562ETchipset (physical layer) / PXE												
Audio support	SoundBlaster Pro™-compatible / AD1981A AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal microphone / mic in / line in / headphone out												
Security	Power-on password / dual hard disk password / supervisor pwd / security keyhole												
Security chip	<i>Some</i> : <b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant												
Limited warranty <sup>12</sup>	<b>3 years/1 year battery - EasyServ™.19</b> onsite pickup and delivery courier service												
64 MB SO DIMM	133MHz NP SDRAM	19K4650	IBM ThinkPad X30 UltraBase media slice								46P7912		
128 MB SO DIMM	133MHz NP SDRAM	19K4652	ThinkPad Port Replicator								02K8667		
256 MB SO DIMM	133MHz NP SDRAM	19K4654	ThinkPad Dock								263120U		
512 MB SO DIMM	133MHz NP SDRAM	19K4656	ThinkPad X30 Series Li-Ion Battery (6-cell)								02K7039		
USB Portable Diskette Drive		05K9276	ThinkPad X30 Series Extended Life Battery								02K7041		
Portable CD-RW Drive		22P5297	ThinkPad Ultraportable 56W AC Adapter								02K6880		
Portable Drive Bay 2000		19K4480	ThinkPad 72W AC Adapter								02K6699		
20GB Hard Disk Drive		08K9686	IBM 128MB USB 2.0 Memory Key								22P8998		
40GB HS Hard Disk 9.5mm (5400 rpm)		08K9816	ThinkPad Monitor Stand 2001								22P5265		
80GB Hard Disk 9.5mm (4200 rpm)		08K9869	IBM 11a/b/g Wireless CardBus Adapter								31P9101		
Ultrabay 2000 interchangeable accessories:			ServicePac <sup>22</sup> 2yr IOR 9x5 NBD								30L9190		
24X-10X <sup>9</sup> CD-ROM Ultrabay 2000 Drive		05K9233	ServicePac 3yr IOR 9x5 NBD								30L9197		
Ultralight 8X <sup>9</sup> Max DVD Ultrabay 2000		22P9102	ServicePac 4yr IOR 9x5 NBD								69P9198		
CD-RW/DVD Combo III Ultrabay 2000		22P6980	ServicePac 5yr IOR 9x5 NBD								69P9200		
Second HDD Adapter for Ultrabay 2000		08K6068	ServicePac 4yr P&L P/U Depot								69P9199		
			ServicePac 5yr P&L P/U Depot								69P9201		
			Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										
			<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ◇ Disk-to-Disk Recovery (in hidden Service Partition)										
			<b>Windows 2000 models</b> - Microsoft Windows 2000 Professional <sup>20</sup> • ConfigSafe® ◇ Disk-to-Disk Recovery (in hidden Service Partition)										
			<b>INCLUDED SOFTWARE<sup>14</sup> (all)</b> <b>Preloaded</b> • Access ThinkPad - Access Connections - Access Help - Access Support • PC-Doctor™ • IBM Rapid Restore™ PC • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup>										
			<b>Downloadable</b> • IBM Data Transfer • IBM Director Agent • IBM Client Security Software (for security chip)										
			<b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Client 5.0										
			<b>IBM ThinkPad X30 UltraBase™ Option</b> Right bay of X30 UltraBase supports most Ultrabay 2000 options: • Optional battery, CD-ROM, CD-RW, DVD-ROM, Zip 250MB, Combo • Optional HDD adapter; for 2nd disk • Ultrabay Plus-compatible X30 UltraBase bottom contains: • Bay for X30 battery (same as X30)										
			<b>Other features</b> • Second battery support (for Ultrabay battery or second system battery) • Stereo speakers (1 watt) • Security keyhole, UltraBase lock • Serial and parallel ports • PS/2 mouse port • Analog DB-15 monitor port • One USB port (Ver 1.1) • Ethernet port and modem port • Retractable feet; 1.41 lb; 638g										
			56 watt AC Adapter PC 2001-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant Setup Guide, Service and Troubleshooting Guide, Windows manual IBM Rapid Restore PC available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>										

See footnotes for important warranty information  
 US models announced August 27, 2002  
 US models withdrawn effective April or October 2003

Type-model	Processor	GHz	Memory	Screen	Disk	Optical	Mini PCI wireless	CDC: modem/Bluetooth™	Security Chip	Ethernet planar Preload	Workhorse or Global model	Avail date
2672-B2U	Pentium® M	1.3	256MB	12.1" XGA	20GB <sup>8</sup>	None	Open; wireless upg <sup>36</sup>	Modem	Yes	10/100	XP Pro	Mar 2003
2672-BBU	Pentium M	1.3	256MB	12.1" XGA	20GB	None	*Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	10/100	XP Pro	Mar 2003
2672-C2U	Pentium M	1.4	256MB	12.1" XGA	40GB	None	Open; wireless upg	Modem	Yes	10/100	XP Pro	W G Mar 2003
2672-CBU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	*Intel 11b Wi-Fi	Modem	Yes	10/100	XP Pro	W G Mar 2003
2672-CXU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	Cisco® 802.11b	Modem	Yes	10/100	XP Pro	W G Mar 2003
2672-JHU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	11a/b Wi-Fi <sup>27</sup>	Mod/Blue	Yes	Gigabit	XP Pro	W Mar 2003
2672-J7U	Pentium M	1.4	256MB	12.1" XGA	40GB	None	Open; wireless upg	Modem	Yes	Gigabit	XP Pro	W Mar 2003
2672-JBU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	*Intel 11b Wi-Fi	Modem	Yes	Gigabit	XP Pro	W Mar 2003
2672-JXU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	Cisco 802.11b	Modem	Yes	Gigabit	XP Pro	W Mar 2003
Positioning Processor	<i>Ultimate mobility in a versatile ultraportable; one spindle</i>											
L2 cache	Intel® Pentium® M Processor 1.3 or 1.4GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus										<b>SOFTWARE</b> <sup>14</sup> <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ◇ Disk-to-Disk Recovery (in hidden protected area)	
Memory	1MB / on die (at processor speed) / ECC 256MB std / 2GB max <sup>7</sup> / PC2100 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available											
Diskette drive	None standard / use optional Ultrabay™-based (in opt X3) or USB-based diskette drive										<b>Preloaded</b> • Access IBM - Access Connections • Adobe Acrobat Reader • IBM Rapid Restore™ PC • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup> <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant • Client Security Software (security chip model) <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
Optical drive	None standard / optional USB-based optical, or optional Ultrabay 2000-based optical removable from optional X3 UltraBase, ThinkPad Dock, or ThinkPad Dock II											
Ultrabay™ 2000 Disk	Supports Ultrabay 2000 devices in optional X3 Ultrabase, ThinkPad Dock, or Dock II 20 or 40GB <sup>9</sup> , 4200 rpm, 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay											
Display	12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits / two latches											
Graphics controller	ATI® Mobility RADEON® / AGP 4X / 16MB DDR-SDRAM											
Graphics - external	External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz											
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap Illuminates the keyboard to improve visibility in low-light conditions											
ThinkLight™												
Dimensions <sup>3</sup>	10.7" x 8.8" x .98"-1.19"; 273mm x 223mm x 24.9-30.2mm											
Travel weight <sup>2</sup>	with battery: 3.6 lb (1.64 to 1.65kg)											
Case material	Titanium composite in the top cover / magnesium alloy bottom case											
Battery - type	Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries); supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries)											
Battery - life <sup>10</sup>	5.3 to 6.0 hrs; with std battery and optional Extended Life Battery: 9.9 to 10.1 hrs											
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])										<b>IBM ThinkPad X3 UltraBase™ Option</b> Right bay of X3 UltraBase supports most Ultrabay 2000 options: • Optional battery, CD-ROM, CD-RW, DVD-ROM, Zip 250MB, Combo • Optional HDD adapter; for 2nd disk such as 80GB HS Hard Disk 9.5mm (5400 rpm) 09N4273 • Ultrabay Plus-compatible Ultrabay 2000 accessories: • CD-RW/DVD Combo IV Ultrabay 2000 22P6991 • Second HDD Adptr for Ultrabay 2000 08K6068 • ThinkPad Removable Diskette Drive 08K9603 • Ultrabay 2000 Li-Ion battery 02K6646 X3 UltraBase bottom contains: • Bay for X30 battery (same as X31) Other features: • Second battery support (for Ultrabay battery or second 6-cell battery) • Stereo speakers (1 watt) • Security keyhole, UltraBase lock • Serial and parallel ports • PS/2 mouse port • Analog DB-15 monitor port • One USB port (Ver 2.0 only on X31) • Ethernet port and modem port • Retractable feet; 1.41 lb; 638g	
Media slice	Optional X3 UltraBase media slice (see right side)											
Compact Flash slot	One Type II / CardBus 32-bit / PCMCIA 2.1											
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1											
IEEE 1394	IEEE 1394 (FireWire) Port (4-pin)											
Ports	Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports											
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable											
Wireless upg <sup>36</sup>	Some: Wireless upgradable with wireless Mini PCI options											
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset											
Cisco 802.11b	Some: 802.11b wireless <sup>4</sup> , Mini PCI, Cisco® Aironet® Wireless 802.11b, Prism 2.0 chipset											
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
Bluetooth™	Some: Bluetooth wireless technology / in CDC (with modem)											
Ethernet	Some: 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE Some: Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE											
Audio support	Soft audio / ICH AC97 controller / DirectSound™ support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]											
Security	Power-on password / dual hard disk password / supervisor pwr / security keyhole											
Security chip	Some: IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											
Limited warranty <sup>12</sup>	3 years/1 yr battery - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> avail											
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM ThinkPad X3 UltraBase media slice	46P7912									
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad Port Replicator II	74P6733									
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Mini Dock	287810U									
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U									
USB Portable Diskette Drive	05K9276	ThinkPad X30 Series Li-Ion Battery (6-cell)	02K7039									
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad X30 Series Extended Life Battery	02K7041									
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	ThinkPad Ultraportable 56W AC Adapter	02K6880									
IBM 256MB USB 2.0 MemoryKey	22P9025	ThinkPad 72W AC/DC Combo Adapter	22P9010									
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190									
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac 3yr IOR 9x5 NBD	30L9197									
Intel PRO/Wireless 2100 3B Mini PCI	31P8601	ServicePac 5yr IOR 9x5 NBD	69P9200									
Cisco Aironet Wireless 802.11b Mini PCI	31P8301	ServicePac 5yr P&L P/U Depot	69P9201									
Intel PRO/Wireless 2200BG Mini PCI	73P2801	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										
See footnotes for important warranty information			* Powered by Intel Centrino™ mobile technology			(X31) © IBM Corp. July 2004						
US models announced March 12, 2003												
US models withdrawn effective October 2003 or July 2004												

Type-model	Processor	GHz	Memory	Screen	Disk	Optical	Mini PCI wireless	CDC: modem/Bluetooth™	Security Chip	Ethernet planar	Preload	Workhorse or Global model	Avail date
2672-B1U	Pentium® M	1.3	256MB	12.1" XGA	20GB <sup>8</sup>	None	Open; wireless upg <sup>36</sup>	Modem	Yes	10/100	2000	No	Mar 2003
2672-BAU	Pentium M	1.3	256MB	12.1" XGA	20GB	None	*Intel 11b Wi-Fi	Modem	Yes	10/100	2000	No	Mar 2003
2672-C1U	Pentium M	1.4	256MB	12.1" XGA	40GB	None	Open; wireless upg	Modem	Yes	10/100	2000	No	Mar 2003
2672-CAU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	*Intel 11b Wi-Fi	Modem	Yes	10/100	2000	No	Mar 2003
2672-J6U	Pentium M	1.4	256MB	12.1" XGA	40GB	None	Open; wireless upg	Modem	Yes	Gigabit	2000	No	Mar 2003
2672-JAU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	*Intel 11b Wi-Fi	Modem	Yes	Gigabit	2000	No	Mar 2003
Positioning Processor	<i>Extreme mobility in a small and light ultraportable; one spindle</i>												
L2 cache	<b>Intel® Pentium®M Processor 1.3 or 1.4GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz frontside bus												
Memory	<b>1MB</b> / on die (at processor speed) / ECC <b>256MB</b> std / <b>2GB</b> max <sup>7</sup> / <b>PC2100</b> 266MHz DDR-SDRAM / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available												
Diskette drive	None standard / use optional Ultrabay™-based (in opt X3) or USB-based diskette drive												
Optical drive	None standard / optional USB-based optical, or optional Ultrabay 2000-based optical removable from optional X3 UltraBase, ThinkPad Dock, or ThinkPad Dock II												
Ultrabay™ 2000 Disk	Supports Ultrabay 2000 devices in optional X3 Ultrabase, ThinkPad Dock, or Dock II <b>20</b> or <b>40GB</b> <sup>9</sup> , 4200 rpm, 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay												
Display	<b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits / easy-open cover to unlatch and open with one hand (two latches)												
Graphics controller	<b>ATI® Mobility RADEON® / AGP 4X / 16MB</b> DDR-SDRAM												
Graphics - external	External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz												
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap Illuminates the keyboard to improve visibility in low-light conditions												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup>	10.7" x 8.8" x .98"-1.19"; 273mm x 223mm x 24.9-30.2mm												
Travel weight <sup>2</sup>	with battery: 3.6 lb (1.64 to 1.65kg)												
Case material	<b>Titanium composite</b> in the top cover / magnesium alloy bottom case												
Battery - type	Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries) supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries) 5.2 to 5.4 hrs; <i>with std battery and optional Extended Life Battery: 9.2 to 9.4 hrs</i>												
Battery - life <sup>10</sup>	5.2 to 5.4 hrs; <i>with std battery and optional Extended Life Battery: 9.2 to 9.4 hrs</i>												
Architecture	<b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])												
Media slice	Optional <b>X3 UltraBase media slice</b> (see right side)												
Docking Station	Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)												
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™												
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1												
IEEE 1394	<b>IEEE 1394 (FireWire) Port</b> (4-pin)												
Ports	Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports												
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable												
Wireless upg <sup>36</sup>	<i>Some:</i> Wireless upgradeable with wireless Mini PCI options												
11b Wi-Fi <sup>32</sup>	<i>Some:</i> 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset												
Bluetooth™	None standard (optional PC Card available)												
Ethernet	<i>Some:</i> 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE <i>Some:</i> Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE												
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]												
Security	Power-on password / dual hard disk password / supervisor pwd / security keyhole												
Security chip	<i>Some:</i> <b>IBM Embedded Security Subsystem 2.0</b> <sup>35</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant												
Limited warranty <sup>12</sup>	<b>3 years/1 yr battery</b> - EasyServ™.19 onsite pickup and delivery / service upgrades <sup>22</sup> avail												
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM ThinkPad X3 UltraBase media slice	46P7912										
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad Port Replicator II	74P6733										
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Mini Dock	287810U										
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U										
IBM USB Portable Diskette Drive	05K9276	ThinkPad X30 Series Li-Ion Battery (6-cell)	02K7039										
IBM USB 2.0 Portable CD-RW Drive	22P5297	ThinkPad X30 Series Extended Life Battery	02K7041										
20GB Hard Disk Drive 9.5 mm (4200 rpm)	08K9686	ThinkPad Multiple Battery Charger II	22P9040										
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Ultraportable 56W AC Adapter	02K6880										
80GB Hard Disk Drive 9.5mm (4200 rpm)	08K9869	ThinkPad 72W AC/DC Combo Adapter	22P9010										
IBM 64MB USB 2.0 Memory Key	22P9024	ServicePac <sup>38</sup> .22 2yr IOR 9x5 NBD	30L9190										
IBM 256MB USB 2.0 MemoryKey	22P9025	ServicePac 3yr IOR 9x5 NBD	30L9197										
ThinkPad Monitor Stand 2001	22P5265	ServicePac 4yr IOR 9x5 NBD	69P9198										
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 5yr IOR 9x5 NBD	69P9200										
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac 4yr P&L P/U Depot	69P9199										
Intel PRO/Wireless 2100 3B Mini PCI	31P8601	ServicePac 5yr P&L P/U Depot	69P9201										
Cisco Aironet Wireless 802.11b Mini PCI	31P8301	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											
<b>SOFTWARE</b> <sup>14</sup> <b>Windows 2000 models</b> - Microsoft® Windows® 2000 Professional <sup>20</sup> • ConfigSafe® ✦ Disk-to-Disk Recovery (in hidden protected area) <b>Preloaded</b> • Access IBM - Access Connections • Adobe Acrobat Reader • IBM Rapid Restore™ PC • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™.15 <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant • Client Security Software (security chip model) <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client <b>IBM ThinkPad X3 UltraBase™ Option</b> Right bay of X3 UltraBase supports most Ultrabay 2000 options: • Optional battery, CD-ROM, CD-RW, DVD-ROM, Zip 250MB, Combo • Optional HDD adapter; for 2nd disk such as 80GB Hard Disk 9.5mm (4200 rpm) 08K9869 • Ultrabay Plus-compatible Ultrabay 2000 accessories: • CD-RW/DVD Combo IV Ultrabay 2000 22P6991 • Second HDD Adptr for Ultrabay 2000 08K6068 • ThinkPad Removable Diskette Drive 08K9603 • Ultrabay 2000 Li-Ion battery 02K6646 X3 UltraBase bottom contains: • Bay for X30 battery (same as X31) Other features: • Second battery support (for Ultrabay battery or second 6-cell battery) • Stereo speakers (1 watt) • Security keyhole, UltraBase lock • Serial and parallel ports • PS/2 mouse port • Analog DB-15 monitor port • One USB port (Ver 2.0 only on X31) • Ethernet port and modem port • Retractable feet; 1.41 lb; 638g 56 watt AC Adapter Asset ID™.34 (system-specific info in chip accessed over network) PC 2001-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant IBM Rapid Restore PC available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free hardware support during the warranty <sup>12</sup>													

See footnotes for important warranty information  
US models announced March 12, 2003  
US models withdrawn effective October 2003 or January 2004

\* Powered by Intel Centrino™ mobile technology

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Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase	ThinkPad X3 UltraBase™	Mini PCI wireless	CDC: modem/Bluetooth™	Sec Ethernet chip	Ethernet planar Preload	WH (W) Entry (E)	Gbl (G) Avail date
2672-38U	Pentium® M 1.5	256MB	12.1" XGA	30GB <sup>8</sup>	None	Optional	Open; wireless upg <sup>36</sup>	Modem	Yes	10/100	XP Pro	Entry	Feb 04
2672-3KU	Pentium M 1.5	256MB	12.1" XGA	30GB	None	Optional	*Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	10/100	XP Pro	Entry	Feb 04
2672-3UU	Pentium M 1.5	256MB	12.1" XGA	30GB	None	Optional	IBM 11b/g <sup>32</sup>	Modem	Yes	10/100	XP Pro	Entry	Feb 04
2672-58U	Pentium M 1.7	256MB	12.1" XGA	40GB	None	Optional	Open; wireless upg	Modem	Yes	Gigabit	XP Pro	W G	Feb 04
2672-5KU	Pentium M 1.7	256MB	12.1" XGA	40GB	None	Optional	*Intel 11b Wi-Fi	Modem	Yes	Gigabit	XP Pro	W G	Feb 04
2672-7KU	Pentium M 1.7	512MB	12.1" XGA	40GB	None	Optional	*Intel 11b Wi-Fi	Modem	Yes	Gigabit	XP Pro	W	Feb 04
2672-4UU	Pentium M 1.7	512MB	12.1" XGA	40HS	None	Optional	IBM 11b/g	Modem	Yes	Gigabit	XP Pro	W	Feb 04
2672-5UU	Pentium M 1.7	256MB	12.1" XGA	40GB	None	Optional	IBM 11b/g	Modem	Yes	Gigabit	XP Pro	W	Feb 04
2672-5ZU	Pentium M 1.7	256MB	12.1" XGA	40GB	None	Optional	11a/b/g Wi-Fi <sup>32</sup>	Modem	Yes	Gigabit	XP Pro	W	Feb 04
Positioning Processor	<i>Ultimate mobility in a versatile ultraportable; one spindle</i>												
L2 cache	Intel® Pentium® M Processor 1.5 or 1.7GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus												
Memory	1MB / on die (at processor speed) / ECC												
Diskette drive	None standard / use optional Ultrabay™-based (inX3) or USB-based diskette drive												
Optical	None standard / optional USB-based optical, or optional Ultrabay 2000-based optical removable from optional X3 UltraBase, ThinkPad Dock, or ThinkPad Dock II												
Ultrabay™ 2000 Disk	Supports Ultrabay 2000 devices in optional X3 UltraBase (or optional ThinkPad Dock II) 30GB (4200 rpm), 40GB <sup>8</sup> (4200 rpm), or 40GB (HS 5400 rpm), 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay												
Display	12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits												
Graphics controller	ATI® MOBILITY™ RADEON® / AGP 4X / 16MB DDR1 (DDR-SDRAM)												
Graphics - external	External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz												
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup>	<i>without X3 UltraBase:</i> 10.7" x 8.8" x .98-1.19"; 273mm x 223mm x 24.9-30.2mm <i>with X3 UltraBase and optical:</i> 10.8" x 8.9" x 2.0-2.3"; 273 x 227 x 51-58mm												
Travel weight <sup>2</sup>	with battery: 3.6 lb (1.65kg); with X3 UltraBase and optical: 5.6 lb (2.54kg)												
Case material	Color: black; All: titanium composite in the top cover / magnesium alloy bottom case												
Battery - type	Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries) supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries)												
Battery - life <sup>10</sup>	5.5 to 6.0 hrs; with std battery and optional Extended Life Battery: up to 10.1 hrs												
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB (Bluetooth)) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C554 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O)												
Media slice	Optional X3 UltraBase media slice (see right side)												
Compact Flash slot	Compact Flash slot / 1 CF+ Type II / supports optional IBM Microdrive™												
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door												
IEEE 1394	IEEE 1394 (FireWire) port (4-pin)												
Ports	Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports												
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception												
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable												
Wireless upg <sup>36</sup>	Some: wireless upgradeable with wireless Mini PCI options												
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset												
IBM 11b/g <sup>32</sup>	Some: IBM 11b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5004G chipset												
11a/b/g Wi-Fi <sup>32</sup>	Some: 11a/b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X+ chipset												
CDC	One Communications Daughter Card (CDC) socket / customer accessible												
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset												
Bluetooth™	None												
Ethernet	Some: 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE												
Audio support	Some: Gigabit Ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]												
Security	Power-on password / dual hard disk password / supervisor password / security keyhole												
Security chip	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / Atmel® chip / TCG-compliant												
Limited warranty <sup>12</sup>	3 years/1 yr battery - EasyServ™.19 onsite pickup and delivery / service upgrades <sup>22</sup> avail												
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	IBM ThinkPad X3 UltraBase media slice	46P7912										
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad Port Replicator II	74P6733										
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	ThinkPad Mini Dock	287810U										
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U										
IBM USB 2.0 Portable Multi-Burner	22P9163	IBM USB Portable Diskette Drive	05K9276										
IBM USB Fingerprint Reader	73P4774	ThinkPad X30 Series Li-Ion Battery (6-cell)	92P1097	56 watt AC Adapter									
60GB HS Hard Disk 9.5mm (5400 rpm)	73P3357	ThinkPad X30 Series Extended Life Battery	02K7041	Asset ID™.34 (system-specific info in chip accessed over network)									
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	ThinkPad Ultraportable 56W AC Adapter	02K6880	PC 2001-compliant									
IBM 11a/b/g Wireless CardBus Adapter	31P9101	Carrying Case - Leather Ultraportable	73P5186	ACPI 1.0b and 2.0-compliant									
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac®.22 2yr IOR 9x5 NBD	30L9190	CIM and DMI 2.0-compliant									
Intel PRO/Wireless 2200BG Mini PCI	73P2801	ServicePac 5yr P&L P/U Depot	69P9201	ENERGY STAR®-compliant									
Preferred Pro USB Fingerprint Keyboard	73P4730	Other options at <a href="http://ibm.com/options">ibm.com/options</a>		International Warranty Service <sup>17</sup>									
				24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup>									

See footnotes for important warranty information

\* Powered by Intel Centrino™ mobile technology

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US models announced February 10, 2004

US models withdrawn effective October 2004 or June 2005



Type-model	Processor	GHz	Memory	Screen	Disk	Optical	Mini PCI wireless	CDC: modem/ Bluetooth™	Security Chip	Ethernet planar	Preload	Limited Warranty	Avail date
2884-BNU	Pentium® M	1.3	256MB	12.1" XGA	20GB <sup>8</sup>	None	Open; wireless upg <sup>36</sup>	Modem	Yes	10/100	XP Pro	1 year	May 2003
2884-BRU	Pentium M	1.3	256MB	12.1" XGA	20GB	None	*Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	10/100	XP Pro	1 year	May 2003
2884-CRU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	*Intel 11b Wi-Fi	Modem	Yes	10/100	XP Pro	1 year	May 2003
2884-JUU	Pentium M	1.4	256MB	12.1" XGA	40GB	None	11a/b Wi-Fi <sup>27</sup>	Mod/Blue	Yes	10/100	XP Pro	1 year	May 2003

- These small and medium business (SMB) models are part of the IBM US Think Express Program
- The 2884 has a 1 year limited warranty

Positioning Processor	<p><i>Ultimate mobility in a versatile ultraportable; one spindle</i>  <b>Intel® Pentium® M Processor 1.3 or 1.4GHz</b> with enhanced Intel SpeedStep™ technology<sup>1</sup> and 400MHz frontside bus</p>											
L2 cache	<p><b>1MB</b> / on die (at processor speed) / ECC</p>											
Memory	<p><b>256MB</b> std / 2GB max<sup>7</sup> / <b>PC2100</b> 266MHz DDR1 (DDR-SDRAM) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available</p>											
Diskette drive	None standard / use optional Ultrabay™-based (in opt X3) or USB-based diskette drive											
Optical drive	None standard / optional USB-based optical, or optional Ultrabay 2000-based optical removable from optional X3 UltraBase, ThinkPad Dock, or ThinkPad Dock II											
Ultrabay™ 2000 Disk	Supports Ultrabay 2000 devices in optional X3 UltraBase, ThinkPad Dock, or Dock II <b>20</b> or <b>40GB<sup>8</sup></b> , 4200 rpm, 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay											
Display	<p><b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits / easy-open cover to unlatch and open with one hand (two latches)</p>											
Graphics controller	<b>ATI® Mobility RADEON® / AGP 4X / 16MB</b> DDR1 (DDR-SDRAM)											
Graphics - external	External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz											
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internal Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup>	10.7" x 8.8" x .98"-1.19"; 273mm x 223mm x 24.9-30.2mm											
Travel weight <sup>2</sup>	with battery: 3.6 lb (1.64kg)											
Case material	<b>Titanium composite</b> in the top cover / magnesium alloy bottom case											
Battery - type	Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries) supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries)											
Battery - life <sup>10</sup>	Up to 5.5 hrs; with std battery and optional <i>Extended Life Battery</i> : up to 10 hrs											
Architecture	<p><b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])</p>											
Media slice	Optional <b>X3 UltraBase media slice</b> (see right side)											
Docking Station	Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)											
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™											
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1											
IEEE 1394	<b>IEEE 1394 (FireWire) Port</b> (4-pin)											
Ports	Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports											
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable											
Wireless upg <sup>36</sup>	Some: Wireless upgradable with wireless Mini PCI options											
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset											
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>25</sup> ) modem in CDC / Agere® chipset											
Bluetooth™	Some: Bluetooth wireless technology / in CDC (with modem)											
Ethernet	10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE											
Audio support	Soft audio / ICH AC97 controller / DirectSound™ support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]											
Security	Power-on password / dual hard disk password / supervisor pwr / security keyhole											
Security chip	<b>IBM Embedded Security Subsystem 2.0<sup>33</sup></b> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> avail											
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM ThinkPad X3 UltraBase media slice	46P7912									
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad Port Replicator II	74P6733									
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Mini Dock	287810U									
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U									
IBM USB Portable Diskette Drive	05K9276	ThinkPad X30 Series Li-Ion Battery (6-cell)	02K7039									
IBM Powered USB 2.0 Port Combo Drive	22P9194	ThinkPad X30 Series Extended Life Battery	02K7041									
20GB Hard Disk Drive 9.5 mm (4200 rpm)	08K9686	ThinkPad Multiple Battery Charger II	22P9040									
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Ultraportable 56W AC Adapter	02K6880									
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	ThinkPad 72W AC/DC Combo Adapter	22P9010									
IBM USB 2.0 Memory Key 256MB	22P9228	ServicePac <sup>22</sup> 1yr IOR 9x5 NBD	30L9188									
IBM USB 2.0 Memory Key 512MB	22P9230	ServicePac 2yr IOR 9x5 NBD	30L9189									
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 3yr IOR 9x5 NBD	30L9195									
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac 2yr P&L P/U Depot	30L9191									
Intel PRO/Wireless 2200BG Mini PCI	73P2801	ServicePac 3yr P&L P/U Depot	30L9192									
SonyEricsson® GC83 EDGE PC Card	26K3393	ServicePac 5yr P&L P/U Depot	69P9197									
IBM M400 Projector	0037A04	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										
		56 watt AC Adapter	02K7039									
		Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)										
		PC 2001-compliant										
		ACPI 1.0b and 2.0-compliant										
		CIM and DMI 2.0-compliant										
		IBM Rapid Restore PC available to protect software image and data										
		International Warranty Service <sup>17</sup>										
		24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> via 800-IBM-SERV (426-7378)										

See footnotes for important warranty information  
US models announced on April 22 or May 6, 2003  
US models withdrawn effective January 2004 or January 2005

\* Powered by Intel Centrino™ mobile technology

# IBM® ThinkPad® X31 (2884) - Express (June 2003) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase	ThinkPad X3 UltraBase™	Mini PCI wireless	CDC: modem/Bluetooth™	Security chip	Ethernet planar Preload	Avail date
2884-B5U	Pentium® M	1.3	256MB	12.1" XGA	20GB <sup>8</sup>	DVD	X3 UltraBase	Open; wireless upg <sup>36</sup>	Modem	Yes	10/100 XP Pro	Jun 2003
2884-BSU	Pentium M	1.3	256MB	12.1" XGA	20GB	DVD	X3 UltraBase	* Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	10/100 XP Pro	Jun 2003
2884-CWU	Pentium M	1.4	256MB	12.1" XGA	40GB	Combo	X3 UltraBase	* Intel 11b Wi-Fi	Modem	Yes	10/100 XP Pro	Jun 2003
2884-JGU	Pentium M	1.4	256MB	12.1" XGA	40GB	Combo	X3 UltraBase	11a/b Wi-Fi <sup>27</sup>	Mod/Blue	Yes	Gigabit XP Pro	Jun 2003

- These small and medium business (SMB) models are part of the IBM US Think Express Program
- The 2884 has a 1 year limited warranty

Positioning Processor	<b>Ultimate mobility in a versatile ultraportable; one spindle Intel® Pentium® M Processor 1.3 or 1.4GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus											
L2 cache	<b>1MB</b> / on die (at processor speed) / ECC											
Memory	<b>256MB</b> std / 2GB max <sup>7</sup> / <b>PC2100</b> 266MHz DDR1 (DDR-SDRAM) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available											
Diskette drive	None standard / use optional Ultrabay™-based (in opt X3) or USB-based diskette drive											
DVD	<i>Some:</i> DVD-ROM / 8X-3.3X <sup>9</sup> speed / bootable / removable from Ultrabay 2000 of X3											
Combo	<i>Some:</i> DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000											
Ultrabay™ 2000	Supports Ultrabay 2000 devices in standard X3 UltraBase (or optional ThinkPad Dock II)											
Disk	<b>20</b> or <b>40GB<sup>8</sup></b> , 4200 rpm, 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay											
Display	<b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits / easy-open cover to unlatch and open with one hand (two latches)											
Graphics controller	<b>ATI® Mobility RADEON® / AGP 4X / 16MB</b> DDR1 (DDR-SDRAM)											
Graphics - external	External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz											
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup>	<i>without X3 UltraBase:</i> 10.7" x 8.8" x .98-1.19"; 273mm x 223mm x 24.9-30.2mm <i>with X3 UltraBase and optical:</i> 10.8" x 8.9" x 2.0-2.3"; 273 x 227 x 51-58mm <i>with battery:</i> 3.6 lb (1.65kg); <i>with X3 UltraBase and optical:</i> 5.6 lb (2.54kg)											
Travel weight <sup>2</sup>	<b>Titanium composite</b> in the top cover / magnesium alloy bottom case											
Case material	Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries)											
Battery - type	supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries)											
Battery - life <sup>10</sup>	Up to 6 hrs; <i>with std battery and optional Extended Life Battery:</i> up to 10.1 hrs											
Architecture	<b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])											
Media slice	<b>X3 UltraBase media slice</b> (see right side)											
Docking Station	Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)											
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™											
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door											
IEEE 1394	<b>IEEE 1394 (FireWire) port</b> (4-pin)											
Ports	Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports											
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable											
Wireless upg <sup>36</sup>	<i>Some:</i> Wireless upgradeable with wireless Mini PCI options											
11b Wi-Fi <sup>32</sup>	<i>Some:</i> 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset											
11a/b Wi-Fi <sup>27</sup>	<i>Some:</i> 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
Bluetooth™	<i>Some:</i> Bluetooth wireless technology / in CDC (with modem)											
Ethernet	<i>Some:</i> 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE											
Audio support	<i>Some:</i> Gigabit ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE											
Security	Soft audio / ICH AC97 controller / DirectSound™ support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]											
Security chip	Power-on password / dual hard disk password / supervisor password / security keyhole											
Limited warranty <sup>12</sup>	<b>1 year - EasyServ™.19</b> onsite pickup and delivery / service upgrades <sup>22</sup> avail											
128MB PC2100 DDR-SDRAM CL2.5 SOD	10K0028	IBM ThinkPad X3 UltraBase media slice	46P7912									
256MB PC2100 DDR-SDRAM CL2.5 SOD	10K0030	ThinkPad Port Replicator II	74P6733									
512MB PC2100 DDR-SDRAM CL2.5 SOD	10K0032	ThinkPad Mini Dock	287810U									
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U									
IBM USB Portable Diskette Drive	05K9276	ThinkPad X30 Series Li-Ion Battery (6-cell)	02K7039									
IBM Powered USB 2.0 Port Combo Drive	22P9194	ThinkPad X30 Series Extended Life Battery	02K7041									
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad Multiple Battery Charger II	22P9040									
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	ServicePac <sup>22</sup> 1yr IOR 9x5 NBD	30L9188									
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 2yr IOR 9x5 NBD	30L9189									
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac 3yr IOR 9x5 NBD	30L9195									
Intel PRO/Wireless 2200BG Mini PCI	73P2801	ServicePac 2yr P&L P/U Depot	30L9191									
SonyEricsson® GC83 EDGE PC Card	26K3393	ServicePac 3yr P&L P/U Depot	30L9192									
ThinkPad 72W AC/DC Combo Adapter	22P9010	ServicePac 5yr P&L P/U Depot	69P9197									
IBM M400 Projector	0037A04	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										
			<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Professional</b> - Microsoft® Windows® XP Professional <sup>20</sup> • ConfigSafe® ♦ Disk-to-Disk Recovery (in hidden protected area) <b>Preloaded</b> • Access IBM - Access Connections • Adobe Reader • IBM Rapid Restore™ PC • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™.15 • InterVideo WinDVD • RecordNow and DLA (combo mods) <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant • Client Security Software (for security chip) <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client <b>IBM ThinkPad X3 UltraBase™ (standard with B5U/BSU/CWU/JGU)</b> Right bay of X3 UltraBase supports most Ultrabay 2000 options: • Optional battery, CD-ROM, CD-RW, DVD-ROM, Zip 250MB, Combo • Optional HDD adapter; for 2nd disk such as 80GB HS Hard Disk 9.5mm (5400 rpm) 09N4273 • Ultrabay Plus-compatible Ultrabay 2000 accessories: • CD-RW/DVD Combo IV Ultrabay 2000 22P6991 • Second HDD Adptr for Ultrabay 2000 08K6068 • ThinkPad Removable Diskette Drive 08K9603 • Ultrabay 2000 Li-Ion battery 02K6646 X3 UltraBase bottom contains: • Bay for X30 battery (same as X31) Other features: • Second battery support (for Ultrabay battery or second 6-cell battery) • Stereo speakers (1 watt) • Security keyhole, UltraBase lock • Serial and parallel ports • PS/2 mouse port • Analog DB-15 monitor port • One USB port (Ver 2.0 only on X31) • Ethernet port and modem port • Retractable feet; 1.41 lb; 638g 56 watt AC Adapter Asset ID™.34 (system-specific info in chip accessed over network) PC 2001-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant IBM Rapid Restore PC available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup>									

See footnotes for important warranty information

US models announced June 17, 2003

US models withdrawn effective January 2004 or January 2005

\* Powered by Intel Centrino™ mobile technology

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# IBM® ThinkPad® X31 (2884) - Express (October 2003) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase	ThinkPad X3 UltraBase™	Mini PCI wireless	CDC: modem/Bluetooth™	Security chip	Ethernet planar Preload	Avail date
2884-25U	Pentium® M 1.4	256MB	12.1" XGA	20GB <sup>8</sup>	DVD	X3 UltraBase	Open; wireless upg <sup>36</sup>	Modem	Yes	10/100 XP Pro	Oct 2003	
2884-2NU	Pentium M 1.4	256MB	12.1" XGA	20GB		Optional	Open; wireless upg	Modem	Yes	10/100 XP Pro	Oct 2003	
2884-2WU	Pentium M 1.4	256MB	12.1" XGA	20GB	Combo	X3 UltraBase *	Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	10/100 XP Pro	Oct 2003	
2884-NRU	Pentium M 1.6	256MB	12.1" XGA	40GB		Optional	* Intel 11b Wi-Fi	Modem	Yes	Gigabit XP Pro	Oct 2003	

- These small and medium business (SMB) models are part of the IBM US Think Express Program
- The 2884 has a 1 year limited warranty

Positioning Processor	<p><i>Ultimate mobility in a versatile ultraportable; one spindle</i>  <b>Intel® Pentium® M Processor 1.4 or 1.6GHz</b> with enhanced Intel SpeedStep™ technology<sup>1</sup> and 400MHz system bus</p>										
L2 cache Memory	<p><b>1MB</b> / on die (at processor speed) / ECC  <b>256MB</b> std / 2GB max<sup>7</sup> / <b>PC2700</b> 333MHz DDR-SDRAM (memory controller limits speed to 266MHz) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available</p>										
Diskette drive DVD	<p>None standard / use optional Ultrabay™-based (inX3) or USB-based diskette drive  <i>Some:</i> DVD-ROM / 8X-3.3X<sup>9</sup> speed / bootable / removable from Ultrabay 2000 of X3</p>										
Combo Ultrabay™ 2000 Disk	<p><i>Some:</i> DVD-ROM/CD-RW / 16X/10X/24X/8X<sup>21</sup> speed / removable from Ultrabay 2000            Supports Ultrabay 2000 devices in std or opt X3 UltraBase (or opt ThinkPad Dock II)  <b>20</b> or <b>40GB</b><sup>8</sup>, 4200 rpm, 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay</p>										
Display	<p><b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits / easy-open cover to unlatch and open with one hand (two latches)</p>										
Graphics controller	<p><b>ATI® Mobility RADEON® / AGP 4X / 16MB</b> DDR-SDRAM</p>										
Graphics - external	<p>External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz</p>										
Keyboard	<p>Standard-size<sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar<sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap            Illuminates the keyboard to improve visibility in low-light conditions</p>										
ThinkLight™	<p>Illuminates the keyboard to improve visibility in low-light conditions</p>										
Dimensions <sup>3</sup>	<p><i>without X3 UltraBase:</i> 10.7" x 8.8" x .98-1.19"; 273mm x 223mm x 24.9-30.2mm  <i>with X3 UltraBase and optical:</i> 10.8" x 8.9" x 2.0-2.3"; 273 x 227 x 51-58mm  <i>with battery:</i> 3.6 lb (1.65kg); <i>with X3 UltraBase and optical:</i> 5.6 lb (2.54kg)</p>										
Travel weight <sup>2</sup>	<p><i>Color:</i> black; <i>All: titanium composite</i> in the top cover / magnesium alloy bottom case</p>										
Case material	<p>Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries) supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries) Up to 6 hrs; <i>with std battery and optional Extended Life Battery:</i> up to 10.1 hrs</p>										
Battery - type	<p>Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries) supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries) Up to 6 hrs; <i>with std battery and optional Extended Life Battery:</i> up to 10.1 hrs</p>										
Battery - life <sup>10</sup>	<p>Up to 6 hrs; <i>with std battery and optional Extended Life Battery:</i> up to 10.1 hrs</p>										
Architecture	<p><b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth] / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoch® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])</p>										
Media slice	<p><i>Some:</i> <b>X3 UltraBase media slice</b> (see right side)</p>										
Docking Station	<p>Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)</p>										
Compact Flash slot	<p><b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™</p>										
PC Card Std slot	<p>One Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door</p>										
IEEE 1394	<p><b>IEEE 1394 (FireWire) port</b> (4-pin)</p>										
Ports	<p>Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports</p>										
Wireless antenna	<p>UltraConnect™ antenna built into the display cover for optimal wireless signal reception</p>										
Mini PCI	<p>One Mini PCI type III slot (Communications Bay) / customer upgradeable</p>										
Wireless upg <sup>36</sup> 11b Wi-Fi <sup>32</sup>	<p><i>Some:</i> wireless upgradeable with wireless Mini PCI options  <i>Some:</i> 11b Wi-Fi<sup>32</sup> wireless<sup>4</sup>, Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset</p>										
CDC	<p>One Communications Daughter Card (CDC) socket / customer accessible</p>										
Modem	<p>56K<sup>6</sup> V.90 (V.92-designed<sup>29</sup>) modem in CDC / Agere® chipset</p>										
Bluetooth™	<p>None</p>										
Ethernet	<p><i>Some:</i> 10/100 ethernet on systemboard / Intel 82562EZ chipset (physical layer) / PXE  <i>Some:</i> Gigabit Ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE</p>										
Audio support	<p>Soft audio / ICH AC97 controller / DirectSound™ support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]</p>										
Security	<p>Power-on password / dual hard disk password / supervisor password / security keyhole</p>										
Security chip	<p><b>IBM Embedded Security Subsystem 2.0</b><sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security<sup>16</sup> / TCG-compliant</p>										
Limited warranty <sup>12</sup>	<p><b>1 year</b> - EasyServ™<sup>19</sup> onsite pickup and delivery / service upgrades<sup>22</sup> avail</p>										
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	IBM ThinkPad X3 UltraBase media slice	46P7912								
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad Port Replicator II	74P6733								
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	ThinkPad Mini Dock	287810U								
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U								
IBM USB Portable Diskette Drive	05K9276	ThinkPad X30 Series Li-Ion Battery (6-cell)	02K7039								
IBM USB 2.0 Portable CD-RW Drive	22P5297	ThinkPad X30 Series Extended Life Battery	02K7041								
30GB Hard Disk 9.5mm (4200 rpm)	09N4268	ThinkPad Ultraportable 56W AC Adapter	02K6880								
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad 72W AC/DC Combo Adapter	22P9010								
80GB Hard Disk Drive 9.5mm (4200 rpm)	08K9869	ServicePac® <sup>22</sup> 1yr IOR 9x5 NBD	30L9188								
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 3yr IOR 9x5 NBD	30L9195								
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac 5yr IOR 9x5 NBD	30L9196								
Intel PRO/Wireless 2100 3B Mini PCI	31P8601	ServicePac 3yr P&L P/U Depot	30L9192								
Cisco Aironet Wireless 802.11b Mini PCI	31P8301	ServicePac 5yr P&L P/U Depot	69P9197								
Intel PRO/Wireless 2200BG Mini PCI	73P2801	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>									
<p><b>SOFTWARE</b><sup>14</sup></p> <p><b>Windows XP Pro models</b></p> <ul style="list-style-type: none"> <li>- Microsoft® Windows® XP Professional<sup>20</sup></li> <li>◇ Disk-to-Disk Recovery (in hidden protected area)</li> </ul> <p><b>Preloaded</b></p> <ul style="list-style-type: none"> <li>• Access IBM</li> <li>• Access Connections</li> <li>• Adobe Acrobat Reader</li> <li>• IBM Rapid Restore™ Ultra</li> <li>• Norton AntiVirus (OEM edition)</li> <li>• PC-Doctor™</li> <li>• ThinkPad Utilities</li> <li>• IBM Update Connector™<sup>15</sup></li> <li>• InterVideo WinDVD (combo, DVD)</li> <li>• RecordNow and DLA (combo model)</li> </ul> <p><b>Downloadable</b></p> <ul style="list-style-type: none"> <li>• IBM Director Agent</li> <li>• Software Delivery Assistant</li> <li>• System Migration Assistant</li> <li>• Client Security Software (for security chip)</li> </ul> <p><b>License</b> (CD not included)</p> <ul style="list-style-type: none"> <li>- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client</li> </ul> <p><b>IBM ThinkPad X3 UltraBase™ (standard with 25U/2WU)</b></p> <p>Right bay of X3 UltraBase supports most Ultrabay 2000 options:</p> <ul style="list-style-type: none"> <li>• Optional battery, CD-ROM, CD-RW, DVD-ROM, Zip 250MB, Combo</li> <li>• Optional HDD adapter; for 2nd disk such as 80GB Hard Disk 9.5mm (4200 rpm) 08K9869</li> <li>• Ultrabay Plus-compatible</li> </ul> <p>Ultrabay 2000 accessories:</p> <ul style="list-style-type: none"> <li>• CD-RW/DVD Combo IV Ultrabay 2000 22P6991</li> <li>• Second HDD Adptr for Ultrabay 2000 08K6068</li> <li>• ThinkPad Removable Diskette Drive 08K9603</li> <li>• Ultrabay 2000 Li-Ion battery 02K6646</li> </ul> <p>X3 UltraBase bottom contains:</p> <ul style="list-style-type: none"> <li>• Bay for X30 battery (same as X31)</li> </ul> <p>Other features:</p> <ul style="list-style-type: none"> <li>• Second battery support (for Ultrabay battery or second 6-cell battery)</li> <li>• Stereo speakers (1 watt)</li> <li>• Security keyhole, UltraBase lock</li> <li>• Serial and parallel ports</li> <li>• PS/2 mouse port</li> <li>• Analog DB-15 monitor port</li> <li>• One USB port (Ver 2.0 only on X31)</li> <li>• Ethernet port and modem port</li> <li>• Retractable feet; 1.41 lb; 638g</li> </ul> <p>56 watt AC Adapter            Asset ID™<sup>34</sup> (system-specific info in chip accessed over network)            PC 2001-compliant            ACPI 1.0b and 2.0-compliant            CIM and DMI 2.0-compliant            IBM Rapid Restore Ultra available to protect software image and data            International Warranty Service<sup>17</sup>            24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty<sup>12</sup></p>											

See footnotes for important warranty information  
 US models announced October 7, 2003  
 US models withdrawn effective April 2004

\* Powered by Intel Centrino™ mobile technology

(X31OB) © IBM Corp. April 2004

# IBM® ThinkPad® X31 (2885) - Express (October 2003) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase	ThinkPad X3 UltraBase™	Mini PCI wireless	CDC: modem/Bluetooth™	Security chip	Ethernet planar Preload	Avail date
2885-PWU	Pentium® M 1.6	256MB	12.1" XGA	40GB <sup>8</sup>	Combo	X3 UltraBase	*Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	Gigabit XP Pro	Oct 2003	
2885-RGU	Pentium M 1.6	512MB	12.1" XGA	40HS	Combo	X3 UltraBase	11a/b/g Wi-Fi <sup>32</sup>	Modem	Yes	Gigabit XP Pro	Oct 2003	
<ul style="list-style-type: none"> <li>• These small and medium business (SMB) models are part of the IBM US Think Express Program</li> <li>• The 2885 has a 3 year limited warranty</li> </ul>												
Positioning Processor	<i>Ultimate mobility in a versatile ultraportable; one spindle</i> <b>Intel® Pentium® M Processor 1.6GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus											
L2 cache	<b>1MB</b> / on die (at processor speed) / ECC											
Memory	<b>256 or 512MB</b> std / 2GB max <sup>7</sup> / <b>PC2700</b> 333MHz DDR1 (memory controller limits speed to 266MHz) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available											
Diskette drive	None standard / use optional Ultrabay™-based (inX3) or USB-based diskette drive											
Combo	DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000											
Ultrabay™ 2000	Supports Ultrabay 2000 devices in standard X3 UltraBase (or optional ThinkPad Dock II)											
Disk	<b>40GB<sup>8</sup></b> (4200 rpm) or <b>40GB</b> (HS 5400 rpm), 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay											
Display	<b>12.1"</b> (308mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits / easy-open cover to unlatch and open with one hand (two latches)											
Graphics controller	<b>ATI® Mobility RADEON® / AGP 4X / 16MB</b> DDR1 (DDR-SDRAM)											
Graphics - external	External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz											
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup>	<i>without X3 UltraBase:</i> 10.7" x 8.8" x .98-1.19"; 273mm x 223mm x 24.9-30.2mm <i>with X3 UltraBase and optical:</i> 10.8" x 8.9" x 2.0-2.3"; 273 x 227 x 51-58mm											
Travel weight <sup>2</sup>	<i>with battery:</i> 3.6 lb (1.65kg); <i>with X3 UltraBase and optical:</i> 5.6 lb (2.54kg)											
Case material	Color: black; All: <b>titanium composite</b> in the top cover / magnesium alloy bottom case											
Battery - type	Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries) supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries)											
Battery - life <sup>10</sup>	Up to 5.5 hrs; <i>with std battery and optional Extended Life Battery:</i> up to 10.1 hrs											
Architecture	<b>Intel 855PM</b> chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])											
Media slice	<b>X3 UltraBase media slice</b> (see right side)											
Docking Station	Optional <b>ThinkPad Dock</b> or <b>Dock II</b> (includes Ultrabay 2000 and half-size PCI slot)											
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™											
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door											
IEEE 1394	<b>IEEE 1394 (FireWire) port</b> (4-pin)											
Ports	Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports											
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable											
11b Wi-Fi <sup>32</sup>	<i>Some:</i> 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset											
11a/b/g Wi-Fi <sup>32</sup>	<i>Some:</i> 11a/b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X+ chipset											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
Bluetooth™	None											
Ethernet	Gigabit Ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE											
Audio support	Soft audio / ICH AC97 controller / DirectSound™ support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]											
Security	Power-on password / dual hard disk password / supervisor password / security keyhole											
Security chip	<b>IBM Embedded Security Subsystem 2.0</b> <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											
Limited warranty <sup>12</sup>	<b>3 years/1 yr battery</b> - EasyServ™.19 onsite pickup and delivery / service upgrades <sup>22</sup> avail											
128 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	IBM ThinkPad X3 UltraBase media slice	46P7912									
256 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad Port Replicator II	74P6733									
512 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	ThinkPad Mini Dock	287810U									
1 GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U									
IBM USB Portable Diskette Drive	05K9276	ThinkPad X30 Series Li-Ion Battery (6-cell)	02K7039									
IBM Powered USB 2.0 Port Combo Drive	22P9194	ThinkPad X30 Series Extended Life Battery	02K7041									
IBM USB 2.0 Portable 40GB Hard Disk	22P7196	ThinkPad Multiple Battery Charger II	22P9040									
30GB Hard Disk 9.5mm (4200 rpm)	09N4268	ThinkPad Ultraportable 56W AC Adapter	02K6880									
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	ThinkPad 72W AC/DC Combo Adapter	22P9010									
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	IBM Travel USB Keyboard with UltraNav	31P9493									
IBM USB 2.0 Memory Key 256MB	22P9228	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190									
IBM USB 2.0 Memory Key 512MB	22P9230	ServicePac 3yr IOR 9x5 NBD	30L9197									
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 4yr IOR 9x5 NBD	69P9198									
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac 5yr IOR 9x5 NBD	69P9200									
Intel PRO/Wireless 2200BG Mini PCI	73P2801	ServicePac 4yr P&L P/U Depot	69P9199									
SonyEricsson® GC83 EDGE PC Card	26K3393	ServicePac 5yr P&L P/U Depot	69P9201									
IBM M400 Projector	0037A04	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										
<b>SOFTWARE</b> <sup>14</sup> <b>Windows XP Professional</b> - Microsoft® Windows® XP Professional <sup>20</sup> ⇨ Disk-to-Disk Recovery (in hidden protected area)												
<b>Preloaded</b> <ul style="list-style-type: none"> <li>• Access IBM</li> <li>• Access Connections</li> <li>• Adobe Reader</li> <li>• IBM Rapid Restore™ Ultra</li> <li>• Norton AntiVirus (OEM edition)</li> <li>• PC-Doctor™</li> <li>• ThinkPad Utilities</li> <li>• IBM Update Connector™.15</li> <li>• InterVideo WinDVD</li> <li>• RecordNow and DLA</li> </ul>												
<b>Downloadable</b> <ul style="list-style-type: none"> <li>• IBM Director Agent</li> <li>• Software Delivery Assistant</li> <li>• System Migration Assistant</li> <li>• Client Security Software (for security chip)</li> </ul>												
<b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client												
<b>IBM ThinkPad X3 UltraBase™ (standard with PWU/RGU)</b> Right bay of X3 UltraBase supports most Ultrabay 2000 options: <ul style="list-style-type: none"> <li>• Optional battery, CD-ROM, CD-RW, DVD-ROM, Zip 250MB, Combo</li> <li>• Optional HDD adapter; for 2nd disk such as 80GB HS Hard Disk 9.5mm (5400 rpm) 09N4273</li> <li>• Ultrabay Plus-compatible</li> </ul> Ultrabay 2000 accessories: <ul style="list-style-type: none"> <li>• CD-RW/DVD Combo IV Ultrabay 2000 22P6991</li> <li>• Second HDD Adapter for Ultrabay 2000 08K6068</li> <li>• ThinkPad Removable Diskette Drive 08K9603</li> <li>• Ultrabay 2000 Li-Ion battery 02K6646</li> <li>• Multi-Burner Plus Ultrabay Enhanced Drive 73P3312</li> </ul> X3 UltraBase bottom contains: <ul style="list-style-type: none"> <li>• Bay for X30 battery (same as X31)</li> </ul> Other features: <ul style="list-style-type: none"> <li>• Second battery support (for Ultrabay battery or second 6-cell battery)</li> <li>• Stereo speakers (1 watt)</li> <li>• Security keyhole, UltraBase lock</li> <li>• Serial and parallel ports</li> <li>• PS/2 mouse port</li> <li>• Analog DB-15 monitor port</li> <li>• One USB port (Ver 2.0 only on X31)</li> <li>• Ethernet port and modem port</li> <li>• Retractable feet; 1.41 lb; 638g</li> </ul>												
56 watt AC Adapter Asset ID™.34 (system-specific info in chip accessed over network) PC 2001-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant IBM Rapid Restore Ultra available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup>												

See footnotes for important warranty information  
US models announced October 7, 2003  
US models withdrawn effective January 2005

\* Powered by Intel Centrino™ mobile technology

# IBM® ThinkPad® X31 (2885) - Express (February 2004) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase	ThinkPad X3 UltraBase™	Mini PCI wireless	CDC: modem/Bluetooth™	Security chip	Ethernet planar Preload	Avail date
2885-4LU	Pentium® M 1.7	256MB	12.1" XGA	40HS	Combo	X3 UltraBase	*Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	Gigabit XP Pro	Feb 2004	
2885-4WU	Pentium M 1.7	512MB	12.1" XGA	40HS	Combo	X3 UltraBase	IBM 11b/g <sup>32</sup>	Modem	Yes	Gigabit XP Pro	Feb 2004	
<ul style="list-style-type: none"> <li>• These small and medium business (SMB) models are part of the IBM US Think Express Program</li> <li>• The 2885 has a 3 year limited warranty</li> </ul>												
Positioning Processor	<i>Ultimate mobility in a versatile ultraportable; one spindle</i> <b>Intel® Pentium® M Processor 1.7GHz</b> with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Professional</b> - Microsoft® Windows® XP Professional <sup>20</sup> ◇ Disk-to-Disk Recovery (in hidden protected area)  <b>Preloaded</b> • Access IBM • Access Connections • Adobe Reader • IBM Rapid Restore™ Ultra • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup> • InterVideo WinDVD • RecordNow and DLA  <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant • Client Security Software (for security chip)  <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client  <b>IBM ThinkPad X3 UltraBase™</b> (standard with 4LU/4WU) Right bay of X3 UltraBase supports most Ultrabay 2000 options: • Optional battery, CD-ROM, CD-RW, DVD-ROM, Zip 250MB, Combo • Optional HDD adapter; for 2nd disk such as 80GB HS Hard Disk 9.5mm (5400 rpm) 09N4273 • Ultrabay Plus-compatible  Ultrabay 2000 accessories: • CD-RW/DVD Combo IV Ultrabay 2000 22P6991 • Second HDD Adapter for Ultrabay 2000 08K6068 • ThinkPad Removable Diskette Drive 08K9603 • Ultrabay 2000 Li-Ion battery 02K6646 • Multi-Burner Plus Ultrabay Enhanced Drive 73P3312  X3 UltraBase bottom contains: • Bay for X30 battery (same as X31)  Other features: • Second battery support (for Ultrabay battery or second 6-cell battery) • Stereo speakers (1 watt) • Security keyhole, UltraBase lock • Serial and parallel ports • PS/2 mouse port • Analog DB-15 monitor port • One USB port (Ver 2.0 only on X31) • Ethernet port and modem port • Retractable feet; 1.41 lb; 638g  56 watt AC Adapter Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network) PC 2001-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant IBM Rapid Restore Ultra available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup>	
L2 cache	1MB / on die (at processor speed) / ECC											
Memory	256 or 512MB std / 2GB max <sup>7</sup> / PC2700 333MHz DDR1 (memory controller limits speed to 266MHz) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available											
Diskette drive	None standard / use optional Ultrabay™-based (inX3) or USB-based diskette drive											
Combo	DVD-ROM/CD-RW / 16X/10X/24X/8X <sup>21</sup> speed / removable from Ultrabay 2000 in X3 UltraBase											
Ultrabay™ 2000	Supports Ultrabay 2000 devices in standard X3 UltraBase (or optional ThinkPad Dock II)											
Disk	40GB <sup>8</sup> (HS 5400 rpm), 9.5mm, ATA-100 / removable and upgradable / 9.5mm high bay											
Display	12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits / easy-open cover to unlatch and open with one hand (two latches)											
Graphics controller	ATI® Mobility RADEON® / AGP 4X / 16MB DDR1 (DDR-SDRAM)											
Graphics - external	External monitor support via analog DB-15 connector / up to 1280x1024x16.7M at 85Hz											
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup>	without X3 UltraBase: 10.7" x 8.8" x .98-1.19"; 273mm x 223mm x 24.9-30.2mm with X3 UltraBase and optical: 10.8" x 8.9" x 2.0-2.3"; 273 x 227 x 51-58mm											
Travel weight <sup>2</sup>	with battery: 3.6 lb (1.65kg); with X3 UltraBase and optical: 5.6 lb (2.54kg)											
Case material	Color: black; All: titanium composite in the top cover / magnesium alloy bottom case											
Battery - type	Li-Ion 6-cell / intelligent / supports opt Extended Life Battery on base (for two batteries) supports Ultrabay battery or optional 6-cell battery in X3 UltraBase (for two batteries)											
Battery - life <sup>10</sup>	Up to 5.5 hrs; with std battery and optional Extended Life Battery: up to 10.1 hrs											
Architecture	Intel 855PM chipset / 82855PM Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (Ricoh® R5C522 CardBus/1394 combo controller, Mini PCI, ext expansion) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based diskette, serial, parallel])											
Media slice	X3 UltraBase media slice (see right side)											
Docking Station	Optional ThinkPad Dock or Dock II (includes Ultrabay 2000 and half-size PCI slot)											
Compact Flash slot	Compact Flash slot / 1 CF+ Type II / supports optional IBM Microdrive™											
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door											
IEEE 1394	IEEE 1394 (FireWire) port (4-pin)											
Ports	Two USB (version 2.0) / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / parallel / IEEE 1394 (4-pin) / no serial, keyboard, or mouse ports											
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception											
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable											
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset											
IBM 11b/g <sup>32</sup>	Some: IBM 11b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5004G chipset											
CDC	One Communications Daughter Card (CDC) socket / customer accessible											
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
Bluetooth™	None											
Ethernet	Gigabit Ethernet on systemboard / Intel 82540EP chipset (MAC/PHY) / PXE											
Audio support	Soft audio / ICH AC97 controller / DirectSound™ support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (pink) / headphone jack (green) / mic in (blue) [all 3.5mm]											
Security	Power-on password / dual hard disk password / supervisor password / security keyhole											
Security chip	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											
Limited warranty <sup>12</sup>	3 years/1 yr battery - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> avail											
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	IBM ThinkPad X3 UltraBase media slice	46P7912									
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad Port Replicator II	74P6733									
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	ThinkPad Mini Dock	287810U									
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad Dock II	287710U									
IBM USB Portable Diskette Drive	05K9276	ThinkPad X30 Series Li-Ion Battery (6-cell)	02K7039									
IBM Powered USB 2.0 Port Combo Drive	22P9194	ThinkPad X30 Series Extended Life Battery	02K7041									
IBM USB 2.0 Portable Multi-Burner	22P9163	ThinkPad Multiple Battery Charger II	22P9040									
IBM USB 2.0 Memory Key 512MB	22P9230	ThinkPad Ultraportable 56W AC Adapter	02K6880									
30GB Hard Disk 9.5mm (4200 rpm)	09N4268	ThinkPad 72W AC/DC Combo Adapter	22P9010									
40GB HS Hard Disk 9.5mm (5400 rpm)	08K9816	IBM USB Travel Keyboard with UltraNav	31P9490									
80GB HS Hard Disk 9.5mm (5400 rpm)	09N4273	ServicePac <sup>22</sup> 2yr IOR 9x5 NBD	30L9190									
ThinkPad Monitor Stand 2001	22P5265	ServicePac 3yr IOR 9x5 NBD	30L9197									
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 4yr IOR 9x5 NBD	69P9198									
IBM 11a/b/g Wireless Mini PCI Adapter	31P9701	ServicePac 5yr IOR 9x5 NBD	69P9200									
Intel PRO/Wireless 2200BG Mini PCI	73P2801	ServicePac 4yr P&L P/U Depot	69P9199									
IBM E400 Projector	0038A04	ServicePac 5yr P&L P/U Depot	69P9201									
IBM M400 Projector	0037A04	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										

See footnotes for important warranty information  
US models announced February 10, 2004  
US models withdrawn effective January 2005

\* Powered by Intel Centrino™ mobile technology

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Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase™ X4	ThinkPad UltraBase™	Mini PCI wireless	CDC: modem/Bluetooth™	Sec Ethernet chip planar	Battery cells Preload	WH (W) Entry (Ent)	Gbl (G) Avail	date	
2371-13U	Pentium® M	1.0	256MB	12.1" XGA	20GB	None	Optional	Open; wireless upg <sup>36</sup>	Modem	Yes	Gigabit	4	XP Pro	Ent	Feb 2004
2371-1CU	Pentium M	1.0	256MB	12.1" XGA	20GB	None	Optional *	Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	Gigabit	4	XP Pro	Ent	Feb 2004
2371-57U	Pentium M	1.2	256MB	12.1" XGA	40GB	None	Optional	Open; wireless upg	Modem	Yes	Gigabit	4	XP Pro	W	Feb 2004
2371-67U	Pentium M	1.2	256MB	12.1" XGA	40GB	None	Optional	Open; wireless upg	Modem	Yes	Gigabit	8	XP Pro	W G	Feb 2004
2371-87U	Pentium M	1.2	512MB	12.1" XGA	40GB	None	Optional	Open; wireless upg	Modem	Yes	Gigabit	8	XP Pro	W	Feb 2004
2371-6GU	Pentium M	1.2	256MB	12.1" XGA	40GB	None	Optional *	Intel 11b Wi-Fi	Modem	Yes	Gigabit	8	XP Pro	W	Feb 2004
2371-7GU	Pentium M	1.2	512MB	12.1" XGA	40GB	None	Optional *	Intel 11b Wi-Fi	Modem	Yes	Gigabit	4	XP Pro	W	Feb 2004
2371-6EU	Pentium M	1.2	256MB	12.1" XGA	40GB	None	Optional	IBM 11b/g <sup>32</sup>	Modem	Yes	Gigabit	8	XP Pro	W	Feb 2004
2371-8EU	Pentium M	1.2	512MB	12.1" XGA	40GB	None	Optional	IBM 11b/g	Modem	Yes	Gigabit	8	XP Pro	W G	Feb 2004
2371-8LU	Pentium M	1.2	512MB	12.1" XGA	40GB	None	Optional	IBM 11b/g	Mod/Blue	Yes	Gigabit	8	XP Pro	W	Feb 2004
2371-8VU	Pentium M	1.2	512MB	12.1" XGA	40GB	None	Optional	11a/b/g Wi-Fi <sup>32</sup>	Modem	Yes	Gigabit	8	XP Pro	W	Feb 2004
Positioning Processor	Ultimate mobility in a versatile ultraportable; one spindle Intel® Pentium® M Processor Ultra Low Voltage 1.0GHz or Low Voltage 1.2GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus											SOFTWARE <sup>14</sup>			
L2 cache	1MB / on die (at processor speed) / ECC											Windows XP Professional			
Memory	256 or 512MB std / 1.28 to 1.53GB max <sup>7</sup> / PC2700 333MHz DDR1 / non-parity / CL2.5 / std memory soldered to systemboard / one 200-pin SO-DIMM socket available											- Microsoft® Windows® XP Professional <sup>20</sup> ↳ Disk-to-Disk Recovery (in hidden protected area)			
Diskette drive	None standard / use optional USB-based diskette drive											Preload			
Ultrabay™ Slim Disk	Supports Ultrabay Slim devices in optional or standard X4 UltraBase Dock 20GB or 40GB <sup>9</sup> (4200 rpm), 9.5mm, ATA-100 / 1.8" platter / removable and upgradable / 9.5mm high bay / IBM Active Protection System (shock protection)											<ul style="list-style-type: none"> <li>Access IBM</li> <li>Access Connections</li> <li>Adobe Reader</li> <li>IBM Rescue and Recovery™</li> <li>Norton AntiVirus (OEM edition)</li> <li>PC-Doctor™</li> <li>ThinkPad Utilities</li> <li>IBM Update Connector™<sup>15</sup></li> </ul>			
Display	12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits											Downloadable			
Graphics	Integrated Intel Extreme™ Graphics 2 / in 855GME GMCH / uses main memory (up to 64MB) / 266MHz											<ul style="list-style-type: none"> <li>IBM Director Agent</li> <li>Software Delivery Assistant</li> <li>System Migration Assistant</li> <li>Client Security Software (for security chip)</li> </ul>			
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200x16.7M at 85Hz											License (CD not included)			
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap Illuminates the keyboard to improve visibility in low-light conditions											- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
ThinkLight®	Illuminates the keyboard to improve visibility in low-light conditions											Supports IBM ThinkVantage™ technologies			
Dimensions <sup>3</sup>	4-cell without X4 UltraBase: 10.5" x 8.3" x .81-1.06"; 268mm x 211mm x 20.6-26.9mm 8-cell without X4 UltraBase: 10.5" x 9.3" x .81-1.06"; 268mm x 237mm x 20.6-26.9mm 4-cell battery models: 2.7 lb (1.23kg); 8-cell battery models: 3.2 lb (1.44kg); with 8-cell battery and X4 UltraBase with combo: 4.89 lb (2.22kg)											IBM ThinkPad X4 UltraBase™ Dock			
Weight <sup>2</sup>	4-cell without X4 UltraBase: 10.5" x 8.3" x .81-1.06"; 268mm x 211mm x 20.6-26.9mm 8-cell without X4 UltraBase: 10.5" x 9.3" x .81-1.06"; 268mm x 237mm x 20.6-26.9mm 4-cell battery models: 2.7 lb (1.23kg); 8-cell battery models: 3.2 lb (1.44kg); with 8-cell battery and X4 UltraBase with combo: 4.89 lb (2.22kg)											<ul style="list-style-type: none"> <li>Provides desktop expansion and cable management for the X40</li> <li>Easily connects to the bottom of the X40 for traveling</li> <li>Converts the X40 to a two-spindle system by supporting optional Ultrabay Slim accessories in left side: <ul style="list-style-type: none"> <li>Ultrabay Slim Li-Polymer Battery 3-cell 08K8190</li> <li>CD-RW/DVD Combo II Ultrabay Slim Drive 73P3288</li> <li>Multi-Burner Plus Ultrabay Slim Drive 73P3342</li> <li>Second HDD Adapter for Ultrabay Slim 62P4554</li> </ul> </li> <li>Disks supported: <ul style="list-style-type: none"> <li>40GB HS Hard Disk 08K9816</li> <li>60GB HS Hard Disk 73P3357</li> <li>80GB HS Hard Disk 09N4273</li> </ul> </li> </ul>			
Case material	Color: black; All: magnesium alloy											Other features:			
Battery - type	Li-Ion 4- or 8-cell / intelligent / supports optional Extended Life Battery on base (for two batteries) / supports optional battery in X4 UltraBase Dock (for two batteries) with 4-cell: 3.5 hr; with 8-cell: 7.5 hr; with 8-cell and optional Extended Life Battery: up to 10 hr											<ul style="list-style-type: none"> <li>Power button (front)</li> <li>Stereo speakers (1 watt)</li> <li>Security key lock, security keyhole, and optical security screw</li> <li>Serial and parallel ports</li> <li>PS/2 port for keyboard or mouse</li> <li>Analog DB-15 monitor port</li> <li>Three USB 2.0 ports (via USB hub)</li> <li>Ethernet port (Gigabit Ethernet)</li> <li>Modem port</li> <li>Retractable feet; 1.3 lb; 580g</li> </ul>			
Battery - life <sup>10</sup>	with 4-cell: 3.5 hr; with 8-cell: 7.5 hr; with 8-cell and optional Extended Life Battery: up to 10 hr														
Architecture	Intel 855GME chipset / 82852GME Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, Low Pin Count (LPC) interface, USB (Bluetooth) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (ethernet, Ricoh® R5C511 CardBus controller, Mini PCI) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based ports])														
Mobile media base	Supports optional X4 UltraBase Dock (see right side)														
Secure Digital slot	One Secure Digital Card slot / supports SD memory cards used in consumer devices														
PC Card Std slot	One Type I or one Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door														
Ports	Two USB (version 2.0), plus one powered USB port for select IBM options / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no serial, parallel, keyboard/mouse ports (use X4) / no IEEE 1394 port														
Wireless antenna	UltraConnect™ antenna built into the display cover for optimal wireless signal reception														
Mini PCI	One Mini PCI type III slot (Communications Bay) / customer upgradeable														
Wireless upg <sup>36</sup>	Some: wireless upgradable with wireless Mini PCI options														
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset														
IBM 11b/g <sup>32</sup>	Some: IBM 11b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5004G chipset														
11a/b/g Wi-Fi <sup>32</sup>	Some: 11a/b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X+ chipset														
CDC	One Communications Daughter Card (CDC) socket / customer accessible														
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>28</sup> ) modem in CDC / Conexant® chipset														
Bluetooth™	Some: Bluetooth wireless technology / in CDC (with modem)														
Ethernet	Intel PRO/1000 Gigabit Ethernet / on systemboard / Intel 82541GI chipset (MAC/PHY) / Wake on LAN®														
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)														
Security	Power-on password / dual hard disk password / supervisor password / security keyhole														
Security chip	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / Atmel® chip / TCG-compliant														
Limited warranty <sup>12</sup>	3 years/1 yr battery - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> avail														
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	IBM ThinkPad X40 UltraBase Dock									92P3429				
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad X40 Series Li-Ion Battery (4-cell)									92P1009				
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	ThinkPad X40 Series Li-Ion Battery (8-cell)									91P1119				
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad X40 Series Extended Life Battery									92P1006				
IBM USB Portable Diskette Drive	05K9276	ThinkPad Ultraportable 56W AC Adapter									02K6880				
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	ThinkPad 72W AC/DC Combo Adapter									22P9010				
60GB Mini Hard Disk 9.5mm (4200 rpm)	73P3358	ServicePac™ <sup>22</sup> 2yr IOR 9x5 NBD									30L9190				
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 3yr IOR 9x5 NBD									30L9197				
IBM 11a/b/g Wireless Mini PCI Adapter II	73P4301	ServicePac 5yr P&L P/U Depot									69P9201				
Intel PRO/Wireless 2200BG Mini PCI	73P2801	Other options at <a href="http://ibm.com/options">ibm.com/options</a>													
											56 watt AC Adapter				
											Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)				
											ACPI 1.0b and 2.0-compliant				
											International Warranty Service <sup>17</sup>				
											24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> via 800-IBM-SERV (426-7378)				

See footnotes for important warranty information  
US models announced February 10, 2004  
US models withdrawn effective March 2005

\* Powered by Intel Centrino™ mobile technology

# IBM® ThinkPad® X40 (2386) - Express - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase X4	ThinkPad UltraBase™	Mini PCI wireless	CDC: modem/ Bluetooth™	Sec chip	Ethernet planar	Battery cells	Avail date
2386-13U	Pentium® M 1.0	256MB	12.1" XGA	20GB	DVD	X4 UltraBase	Open; wireless upg <sup>36</sup>	Modem	Yes	Gigabit	4	XP Pro	Feb 2004
2386-1QU	Pentium M 1.0	256MB	12.1" XGA	20GB	DVD	X4 UltraBase	Open; wireless upg	Modem	Yes	Gigabit	4	XP Pro	Feb 2004
2386-1ZU	Pentium M 1.0	256MB	12.1" XGA	20GB	Combo	X4 UltraBase	* Intel 11b Wi-Fi <sup>32</sup>	Modem	Yes	Gigabit	4	XP Pro	Feb 2004
2386-1CU	Pentium M 1.0	256MB	12.1" XGA	20GB			* Intel 11b Wi-Fi	Modem	Yes	Gigabit	4	XP Pro	Feb 2004
2386-1GU	Pentium M 1.0	256MB	12.1" XGA	40GB			* Intel 11b Wi-Fi	Modem	Yes	Gigabit	4	XP Pro	Feb 2004
2386-5GU	Pentium M 1.2	256MB	12.1" XGA	40GB			* Intel 11b Wi-Fi	Modem	Yes	Gigabit	4	XP Pro	Feb 2004
2386-6GU	Pentium M 1.2	256MB	12.1" XGA	40GB			* Intel 11b Wi-Fi	Modem	Yes	Gigabit	8	XP Pro	Feb 2004
2386-6UU	Pentium M 1.2	256MB	12.1" XGA	40GB	Combo	X4 UltraBase	* Intel 11b Wi-Fi	Modem	Yes	Gigabit	8	XP Pro	Feb 2004
2386-8EU	Pentium M 1.2	512MB	12.1" XGA	40GB			IBM 11b/g <sup>32</sup>	Modem	Yes	Gigabit	8	XP Pro	Feb 2004
2386-8WU	Pentium M 1.2	512MB	12.1" XGA	40GB	Combo	X4 UltraBase	IBM 11b/g	Mod/Blue	Yes	Gigabit	8	XP Pro	Feb 2004
<p>• These small and medium business (SMB) models are part of the IBM US Think Express Program • The 2386 has a 1 year limited warranty</p>													
Positioning	Ultimate mobility in a versatile ultraportable; one spindle											SOFTWARE <sup>14</sup>	
Processor	Intel® Pentium® M Processor Ultra Low Voltage 1.0GHz or Low Voltage 1.2GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus											Windows XP Professional	
L2 cache	1MB / on die (at processor speed) / ECC											- Microsoft® Windows® XP Professional <sup>20</sup>	
Memory	256 or 512MB std / 1.28 to 1.53GB max <sup>7</sup> / PC2700 333MHz DDR1 / non-parity / CL2.5 / std memory soldered to systemboard / one 200-pin SO-DIMM socket available											◆ Disk-to-Disk Recovery (in hidden protected area)	
Diskette drive	None standard / use optional USB-based diskette drive											Preloaded	
DVD	Some: DVD-ROM / 24X-8X <sup>9</sup> speed / removable from Ultrabay™ Slim in X4 UltraBase											• Access IBM	
Combo	Some: DVD-ROM/CD-RW / 24X/24X/24X/8X <sup>21</sup> speed / removable from X4 UltraBase											• Access Connections	
Ultrabay™ Slim	Supports Ultrabay Slim devices in optional or standard X4 UltraBase Dock											• Adobe Reader	
Disk	20GB or 40GB <sup>8</sup> (4200 rpm), 9.5mm, ATA-100 / 1.8" platter / removable and upgradable / 9.5mm high bay / IBM Active Protection System (shock protection)											• IBM Rescue and Recovery™	
Display	12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits											• Norton AntiVirus (OEM edition)	
Graphics	Integrated Intel Extreme™ Graphics 2 / in 855GME GMCH / uses main memory (up to 64MB) / 266MHz											• PC-Doctor™	
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200x16.7M at 85Hz											• IBM Update Connector™ <sup>15</sup>	
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap											• InterVideo WinDVD (DVD, combo)	
ThinkLight®	Illuminates the keyboard to improve visibility in low-light conditions											• RecordNow and DLA (combo)	
Dimensions <sup>3</sup>	4-cell without X4 UltraBase: 10.5" x 8.3" x .81-1.06"; 268mm x 211mm x 20.6-26.9mm											Downloadable	
Weight <sup>2</sup>	8-cell without X4 UltraBase: 10.5" x 9.3" x .81-1.06"; 268mm x 237mm x 20.6-26.9mm											• IBM Director Agent	
Case material	8-cell with X4 UltraBase and optical: 10.7" x 9.3" x 1.5-2.0"; 272 x 237 x 38.2-50.4mm											• Software Delivery Assistant	
Battery - type	4-cell with battery: 2.7 lb (1.23kg); 8-cell with battery: 3.1 lb (1.43kg); 8-cell battery and X4 UltraBase with combo: 4.89 lb (2.2kg)											• System Migration Assistant	
Battery - life <sup>10</sup>	Color: black; All: magnesium alloy											• Client Security Software (for security chip)	
Architecture	Li-Ion 4- or 8-cell / intelligent / supports optional Extended Life Battery on base (for two batteries) / supports optional battery in X4 UltraBase Dock (for two batteries)											License (CD not included)	
Mobile media base	4-cell models: 3.5 hr; 6GU with 8-cell: 7.5 hr; with 8-cell and optional Extended Life Battery: up to 10 hr											- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
Secure Digital slot	Intel 855GME chipset / 82852GME Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (ethernet, Ricoh® R5C511 CardBus controller, Mini PCI) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based ports])											IBM ThinkPad X4 UltraBase™ Dock (standard with 1QU/1ZU/6UU/8WU)	
PC Card Std slot	Some: X4 UltraBase Dock (see right side)											• Provides desktop expansion and cable management for the X40	
Ports	One Secure Digital Card slot / supports SD memory cards used in consumer devices											• Easily connects to the bottom of the X40 for traveling	
Wireless antenna	One Type I or one Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door											• Converts the X40 to a two-spindle system by supporting optional Ultrabay Slim accessories in left side:	
Mini PCI	Two USB (version 2.0), plus one powered USB port for select IBM options / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no serial, parallel, keyboard/mouse ports (use X4) / no IEEE 1394 port											- Ultrabay Slim Li-Polymer Battery 3-cell 08K8190	
Wireless upg <sup>36</sup>	UltraConnect™ antenna built into the display cover for optimal wireless signal reception											- CD-RW/DVD Combo II Ultrabay Slim Drive 73P3288	
11b Wi-Fi <sup>32</sup>	One Mini PCI type III slot (Communications Bay) / customer upgradeable											- ThinkPad Multi-Burner Ultrabay Slim Drive 73P3294	
IBM 11b/g <sup>32</sup>	Some: wireless upgradable with wireless Mini PCI options											- Second HDD Adapter for Ultrabay Slim 62P4554	
CDC	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2100 Network Connection 802.11b, Intel 82531 chipset											Disks supported:	
Modem	Some: IBM 11b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5004G chipset											• 30GB Hard Disk 09N4268	
Bluetooth™	One Communications Daughter Card (CDC) socket / customer accessible											• 40GB HS Hard Disk 08K9816	
Ethernet	56K <sup>9</sup> V.90 (V.92-designed <sup>25</sup> ) modem in CDC / Conexant® chipset											• 80GB HS Hard Disk 09N4273	
Audio support	Some: Bluetooth wireless technology / in CDC (with modem)											Other features:	
Security	Intel PRO/1000 Gigabit Ethernet / on systemboard / Intel 82541GI chipset (MAC/PHY)											• Power button (front)	
Security chip	Soft audio / ICH AC97 controller / DirectSound™ support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)											• Stereo speakers (1 watt)	
Limited warranty <sup>12</sup>	Power-on password / dual hard disk password / supervisor password / security keyhole											• Security key lock, security keyhole, and optical security screw	
128MB PC2700 DDR-SDRAM CL2.5 SOD	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant											• Serial and parallel ports	
256MB PC2700 DDR-SDRAM CL2.5 SOD	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> available											• PS/2 port for keyboard or mouse	
512MB PC2700 DDR-SDRAM CL2.5 SOD	128MB PC2700 DDR-SDRAM CL2.5 SOD 31P9828											• Analog DB-15 monitor port	
1GB PC2700 DDR-SDRAM CL2.5 SOD	256MB PC2700 DDR-SDRAM CL2.5 SOD 31P9830											• Three USB 2.0 ports (via USB hub)	
IBM USB Portable Diskette Drive	512MB PC2700 DDR-SDRAM CL2.5 SOD 31P9832											• Ethernet port (Gigabit Ethernet)	
IBM USB 2.0 Portable Multi-Burner Drive	1GB PC2700 DDR-SDRAM CL2.5 SOD 31P9834											• Modem port	
IBM 11a/b/g Wireless CardBus Adapter	IBM USB Portable Diskette Drive 05K9276											• Retractable feet; 1.3 lb; 580g	
IBM 11a/b/g Wireless Mini PCI Adapter II	IBM USB 2.0 Portable Multi-Burner Drive 22P9163											56 watt AC Adapter	
Intel PRO/Wireless 2200BG Mini PCI	IBM 11a/b/g Wireless CardBus Adapter 31P9101											Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)	
	IBM 11a/b/g Wireless Mini PCI Adapter II 73P4301											ACPI 1.0b and 2.0-compliant	
	Intel PRO/Wireless 2200BG Mini PCI 73P2801											International Warranty Service <sup>17</sup>	
												24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup>	

See footnotes for important warranty information  
US models announced February 10, 2004  
US models withdrawn effective January 2005

\* Powered by Intel Centrino™ mobile technology

(X40B1) © IBM Corp. December 2004

# IBM® ThinkPad® X40 (2386) - Express (May 2004) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	GHz	Memory	Screen	Disk	Optical in UltraBase	ThinkPad X4 UltraBase™	Mini PCI wireless	CDC: modem/Bluetooth™	Sec Battery chip	Battery cells	Preload	Limited warranty <sup>12</sup>	Avail date
2386-5FU	Pentium® M 1.3	256MB	12.1" XGA	40GB	Optional	* Intel 11b/g Wi-Fi <sup>32</sup>	Modem	Yes	4	XP Pro	1 year	May 2004		
2386-6RU	Pentium M 1.3	256MB	12.1" XGA	40GB	Combo	* Intel 11b/g Wi-Fi	Modem	Yes	8	XP Pro	1 year	May 2004		
2386-8RU	Pentium M 1.3	512MB	12.1" XGA	40GB	Combo	* Intel 11b/g Wi-Fi	Modem	Yes	8	XP Pro	1 year	May 2004		
<ul style="list-style-type: none"> <li>• These small and medium business (SMB) models are part of the IBM US Think Express Program</li> <li>• The 2386 has a 1 year limited warranty</li> </ul>														
Positioning Processor	Ultimate mobility in a versatile ultraportable; one spindle Intel® Pentium® M Processor Low Voltage 1.3GHz with enhanced Intel SpeedStep™ technology <sup>1</sup> and 400MHz system bus										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Professional</b> - Microsoft® Windows® XP Professional <sup>20</sup> ◇ Disk-to-Disk Recovery (in hidden protected area) <b>Preloaded</b> • Access IBM • Access Connections • Adobe Reader • IBM Rescue and Recovery™ • Norton AntiVirus (OEM edition) • PC-Doctor™ • IBM Update Connector™ <sup>15</sup> • InterVideo WinDVD (DVD, combo) • RecordNow and DLA (combo) <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant • IBM Client Security Software (for security chip) <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
L2 cache	1MB / on die (at processor speed) / ECC													
Memory	256 or 512MB std / 1.28 to 1.53GB max <sup>7</sup> / PC2700 333MHz DDR1 (DDR-SDRAM) / non-parity / CL2.5 / 5FU/6RU: std memory soldered to systemboard; one 200-pin SO-DIMM socket available 8RU with 512MB: 256MB soldered to board; one 256MB SO-DIMM in 200-pin socket													
Diskette drive	None standard / use optional USB-based diskette drive													
Combo	Some: DVD-ROM/CD-RW / 24X/24X/24X/8X <sup>21</sup> speed / removable from X4 UltraBase													
Ultrabay™ Slim	Supports Ultrabay Slim devices in optional or standard X4 UltraBase Dock													
Disk	40GB <sup>8</sup> (4200 rpm), 9.5mm, ATA-100 / 1.8" platter / removable and upgradable / 9.5mm high bay / IBM Active Protection System (shock protection)													
Display	12.1" (308mm) XGA (1024x768) TFT color / Active Matrix / 150 nits													
Graphics	Integrated Intel Extreme™ Graphics 2 / in 855GME GMCH / uses main memory (up to 64MB) / 266MHz													
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200x16.7M at 85Hz													
Keyboard	Standard-size <sup>26</sup> keys / 97% size of T Series / 87-key / 18.5mm pitch; 2.5mm stroke / Access IBM button / palm rest / TrackPoint®, "Press-to-Select," Internet Scroll Bar <sup>13</sup> / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap													
ThinkLight®	Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions <sup>3</sup>	4-cell without X4 UltraBase: 10.5" x 9.3" x .81-1.06"; 268mm x 211mm x 20.6-26.9mm 8-cell without X4 UltraBase: 10.5" x 9.3" x .81-1.06"; 268mm x 237mm x 20.6-26.9mm 8-cell with X4 UltraBase and optical: 10.7" x 9.3" x 1.5-2.0"; 272 x 237 x 38.2-50.4mm 4-cell with battery: 2.7 lb (1.23kg); 8-cell with battery: 3.2 lb (1.47kg); 8-cell battery and X4 UltraBase with combo: 5.0 lb (2.26kg)													
Weight <sup>2</sup>	Color: black; All: magnesium alloy													
Case material	Li-Ion 4- or 8-cell / intelligent / supports optional Extended Life Battery on base (for two batteries) / supports optional battery in X4 UltraBase Dock (for two batteries)													
Battery - type	4-cell models: 3.5 hr; 8-cell models: 7.5 hr; with 8-cell and optional Extended Life Battery: up to 10 hr													
Battery - life <sup>10</sup>	Intel 855GME chipset / 82852GME Memory Controller Hub (MCH-M) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, Low Pin Count (LPC) interface, USB [Bluetooth]) / Intel 82802AC Firmware Hub / PCI bus 2.2 32-bit, 33MHz (ethernet, Ricoh® R5C511 CardBus controller, Mini PCI) / LPC bus 33MHz (PC87392 Super I/O for infrared [dock-based ports])													
Architecture	Some: X4 UltraBase Dock (see right side)													
Mobile media base	One Secure Digital Card slot / supports SD memory cards used in consumer devices													
Secure Digital slot	One Type I or one Type II / CardBus 32-bit / PCMCIA 2.1 / integrated door													
PC Card Std slot	Two USB (version 2.0), plus one powered USB port for select IBM options / external DB-15 monitor / infrared (4Mbps) / RJ-11 (modem) / RJ-45 (ethernet) / no serial, parallel, keyboard/mouse ports (use X4) / no IEEE 1394 port													
Ports	UltraConnect™ antenna built into the display cover for optimal wireless signal reception													
Wireless antenna	One Mini PCI type III slot (Communications Bay) / customer upgradeable													
Mini PCI	11b/g Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intel PRO/Wireless 2200BG, Intel 82532 chipset													
CDC	One Communications Daughter Card (CDC) socket / customer accessible													
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Conexant® chipset													
Bluetooth™	None													
Ethernet	Intel PRO/1000 Gigabit Ethernet / on systemboard / Intel 82541GI chipset (MAC/PHY)													
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 0.5 watt / volume up, down, mute buttons / internal mic / microphone input jack (3.5 mm; pink) / headphone jack (3.5 mm; green)													
Security	Power-on password / dual hard disk password / supervisor password / security keyhole													
Security chip	IBM Embedded Security Subsystem 2.0 <sup>33</sup> / hardware key storage / multi-factor authentication / local file encryption / enhances VPN security <sup>16</sup> / TCG-compliant													
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> available													
128 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	IBM ThinkPad X4 UltraBase Dock	92P3429											
256 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad X40 Series Li-Ion Battery (4-cell)	92P1009											
512 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	ThinkPad X40 Series Li-Ion Battery (8-cell)	92P1005											
1GB PC2700 DDR-SDRAM CL2.5 SOD	31P9834	ThinkPad X40 Series Extended Life Battery	92P1006											
IBM USB Portable Diskette Drive	05K9276	ThinkPad Multiple Battery Charger II	22P9040											
IBM USB 2.0 Portable CD-RW Drive	22P5297	ThinkPad Ultraportable 56W AC Adapter	02K6880											
IBM Powered USB 2.0 Port Combo Drive	22P9194	ThinkPad 72W AC/DC Combo Adapter	22P9010											
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	IBM 4GB Microdrive™ with PC Card	09N4280											
IBM USB 2.0 Memory Key 512MB	22P9230	IBM Enh Perf Wireless Keybd and Mouse	73P4067											
40GB Mini Hard Disk 9.5mm (4200 rpm)	09N4283	ServicePac™ <sup>22</sup> 1yr IOR 9x5 NBD	30L9188											
Kensington® MicroSaver® Security Cable	73P2582	ServicePac 2yr IOR 9x5 NBD	30L9189											
IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 3yr IOR 9x5 NBD	30L9195											
IBM 11a/b/g Wireless Mini PCI Adapter II	73P4301	ServicePac 5yr IOR 9x5 NBD	30L9196											
Intel PRO/Wireless 2200BG Mini PCI	73P2801	ServicePac 3yr P&L P/U Depot	30L9192											
SonyEricsson® GC83 EDGE PC Card	26K3393	ServicePac 5yr P&L P/U Depot	69P9197											
IBM M400 Projector	0037A04	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>												
<b>IBM ThinkPad X4 UltraBase™ Dock</b> (standard with 6RU/8RU) <ul style="list-style-type: none"> <li>• Provides desktop expansion and cable management for the X40</li> <li>• Easily connects to the bottom of the X40 for traveling</li> <li>• Converts the X40 to a two-spindle system by supporting optional Ultrabay Slim accessories in left side:                             <ul style="list-style-type: none"> <li>- Ultrabay Slim Li-Polymer Battery 3-cell 08K8190</li> <li>- CD-RW/DVD Combo II Ultrabay Slim Drive 73P3288</li> <li>- ThinkPad Multi-Burner Ultrabay Slim Drive 73P3294</li> <li>- Second HDD Adapter for Ultrabay Slim 62P4554</li> </ul> </li> <li>Disks supported:                             <ul style="list-style-type: none"> <li>• 30GB Hard Disk 09N4268</li> <li>• 40GB HS Hard Disk 08K9816</li> <li>• 80GB HS Hard Disk 09N4273</li> </ul> </li> </ul> <b>Other features:</b> <ul style="list-style-type: none"> <li>• Power button (front)</li> <li>• Stereo speakers (1 watt)</li> <li>• Security key lock, security keyhole, and optical security screw</li> <li>• Serial and parallel ports</li> <li>• PS/2 port for keyboard or mouse</li> <li>• Analog DB-15 monitor port</li> <li>• Three USB 2.0 ports (via USB hub)</li> <li>• Ethernet port (Gigabit Ethernet)</li> <li>• Modem port</li> <li>• Retractable feet; 1.3 lb; 580g</li> </ul> 56 watt AC Adapter Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network) ACPI 1.0b and 2.0-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> via 800-IBM-SERV (426-7378)														

See footnotes for important warranty information  
US models announced May 18, 2004  
US models withdrawn effective January 2005

\* Powered by Intel Centrino™ mobile technology



Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem	Ethernet on planar	Battery	Workhorse (W) or Global (G) model	Avail date
2388-1NU	Celeron®	2.0	128MB	14.1" XGA	20GB	DVD	None	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-17U	Celeron	2.0	128MB	15.0" XGA	20GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-18U	Celeron	2.0	256MB	15.0" XGA	20GB	Combo	11b Wi-Fi <sup>32</sup>	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-1QU	Celeron	2.0	256MB	14.1" XGA	40GB	Combo	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-2MU	Pentium® 4	2.4	256MB	14.1" XGA	20GB	DVD	None	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-2UU	Pentium 4	2.4	256MB	14.1" XGA	40GB	DVD	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-2VU	Pentium 4	2.4	256MB	14.1" XGA	40GB	Combo	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-3BU	Pentium 4	2.4	256MB	15.0" XGA	20GB	DVD	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-3CU	Pentium 4	2.4	256MB	15.0" XGA	20GB	DVD	None	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-3HU	Pentium 4	2.4	256MB	15.0" XGA	40GB	Combo	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-3JU	Pentium 4	2.4	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-4PU	Pentium 4	2.8	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	6-cell Li-Ion	XP Pro	No Apr 2003
2388-4QU	Pentium 4	2.8	256MB	15.0" XGA	40GB	Combo	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2003
2388-51U	Pentium 4	3.0	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No May 2003
2388-5BU	Pentium 4	3.0	256MB	15.0" SXGA+	40GB	Combo	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No May 2003
2388-5DU	Pentium 4	3.0	256MB	15.0" SXGA+	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No May 2003
Positioning	Powerful desktop replacement; three-spindle system										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Professional</b> - Microsoft® Windows® XP Professional <sup>20</sup> ♦ Disk-to-Disk Recovery (in hidden protected area)  <b>Preloaded</b> • Access IBM • Access Connections • Adobe Reader • IBM Rapid Restore™ PC • IBM RecordNOW and DLA by Veritas (combo models) • InterVideo WinDVD (combo, DVD) • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup>  <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant  <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client  Universal 120 watt AC adapter Asset ID™ <sup>24</sup> (system-specific info in chip accessed over network) PC 2001 and PXE 2.0-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup>  ServicePac® <sup>22</sup> 1 yr IOR 9x5 NBD 30L9188 ServicePac 2 yr IOR 9x5 NBD 30L9189 ServicePac 3 yr IOR 9x5 NBD 30L9195 ServicePac 4 yr IOR 9x5 NBD 30L9194 ServicePac 5 yr IOR 9x5 NBD 30L9196 ServicePac 2 yr P&L P/U Depot 30L9191 ServicePac 3 yr P&L P/U Depot 30L9192 ServicePac 4 yr P&L P/U Depot 69P9195 ServicePac 5 yr P&L P/U Depot 69P9197  Other ServicePac options at <a href="http://ibm.com/services/its/us/source/wamomxeu.pdf">ibm.com/services/its/us/source/wamomxeu.pdf</a> Post-warranty annual maintenance agreements at <a href="http://ibm.com/services/its/us/source/maspspleu.pdf">ibm.com/services/its/us/source/maspspleu.pdf</a>	
Processor	Intel® Celeron 2.0GHz <sup>37</sup> with 400MHz frontside bus or Intel Pentium 4 at 2.4, 2.8 or 3.0GHz <sup>37</sup> with 400MHz frontside bus											
L2 cache	Celeron: 128KB; Pentium 4: 512KB; All: on die (at processor speed) / ECC											
Memory	128 or 256MB std / 1GB max <sup>7</sup> / PC2100 266MHz DDR1 / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available											
Diskette drive	3.5" 1.44MB / fixed, not removable / 12.7mm high											
DVD	Some: DVD-ROM / 24X-8X <sup>9</sup> speed / fixed, not removable / 12.7mm high											
Combo	Some: DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / fixed, not removable / 12.7mm											
Disk	20GB <sup>8</sup> or 40GB, 4200 rpm, 9.5mm high / removable / 9.5mm high bay											
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 15.0" (381.0mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 15.0" (381.0mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits All: One latch to unlatch and open with one hand											
Graphics	Integrated Intel Extreme™ Graphics / Direct AGP / in 852GM GMCH / uses main memory (8 to 32MB with 128MB memory; 8 to 64MB with 256MB+) / 133MHz / DMVT											
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B											
EasyPivot	ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle											
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)											
ComfortSlant	ThinkPad ComfortSlant keyboard with built-in incline provides maximum typing comfort											
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap											
Touch pad	No touch pad (UltraNav™ multi-pointing system) / no ThinkLight™											
Dimensions <sup>3</sup>	12.9" x 11.1" x 1.5-2.0"; 329mm x 282.5mm x 37.1-50.9mm; Volume: 4 liters											
Weight <sup>2</sup>	with optical drive and battery: 7.94 to 8.89 lb (3.6 to 4.0kg)											
Case material	Color: Black; All: Acrylonitrile-Butadiene-Styrene/Polycarbonate (ABS/PC) plastic											
Battery - type	Lithium Ion 6 or 12-cell / intelligent / removable											
Battery - life <sup>10</sup>	4PU: 1.24 hr; 4QU: 2.48 hr; 2.0GHz models: 3.0 hr; 2.4GHz: 3.3 hr; 3.0GHz: 2.0 hr											
Architecture	Intel 852GM chipset / 82852GM Graphics Memory Controller Hub (GMCH) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1410A CardBus controller, Mini PCI) / LPC bus 33MHz (PC87393F Super I/O for diskette, parallel, PS/2)											
PC Card Std slots	One Type I, one Type II, or one Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door											
Ports	Four USB (Version 2.0) / parallel / external monitor (DB-15) / RJ-11 (modem) / RJ-45 (ethernet) / PS/2 (for keyboard or mouse) / no serial or infrared or IEEE 1394 or video out											
Wireless antenna	Some (wireless models): UltraConnect™ Antenna built into the display cover											
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable											
None	Some: Empty / not customer upgradable											
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intersil® Prism 2.5 chipset											
CDC	One Communications Daughter Card (CDC) socket (used by modem) / not accessible											
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>29</sup> ) modem in CDC / Agere® chipset											
Bluetooth	None											
Ethernet	10/100 ethernet on planar / Broadcom® BCM5901 (PHY/MAC) / PXE / Wake on LAN®											
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 2 watt / volume up, down, mute buttons / no internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / no line in jack											
Security	Power-on password / hard disk password / supervisor password / security keyhole											
Security chip	None											
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery											
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad G40 Li-Ion Battery 12-cell	08K8178									
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad 120W AC Adapter	22P9150									
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	IBM H Rate Wireless LAN PC Card 128	09N9904									
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	IBM 11a/b/g Wireless CardBus Adapter	31P9101									
IBM USB 2.0 Portable 40GB Hard Drive	22P7196	GemPC400 Smart Card Reader/Writer	31P8901									
IBM USB 2.0 Memory Key 256MB	22P9228	ThinkPad Monitor Stand 2001	22P5265									
IBM USB 2.0 Memory Key 512MB	22P9230	ThinkPad Nylon Carrying Case	10K0207									
IBM 4GB Microdrive™ with PC Card	09N4280	ThinkPad Leather Carrying Case	10K0209									
IBM Optical 3-Button Travel Wheel Mouse	31P7410	Keyboard/Mouse Connector	07G3793									
IBM Optical 3-Button ScrollPoint® Mouse	31P7405	IBM USB Keyboard with UltraNav	31P8950									
IBM Optical 3-Button ScrollPoint Pro Mouse	31P8700	IBM Enhanced Performance USB Keybrd	73P2620									
IBM USB Serial Parallel Adapter	22P5298	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>										

See footnotes for important warranty information  
US models announced April 22, 2003  
US models withdrawn effective October 2003 or January 2005

# IBM® ThinkPad® G40 (October 2003) - withdrawn

Created by IBM PC Institute  
Personal Systems Reference (PSREF)

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem	Ethernet on planar	Battery	Workhorse (W) or Global (G) Preload or Entry (E)	Avail date	
2388-7DU	Celeron®	2.2	256MB	14.1" XGA	30GB	CD	None	Modem	10/100	6-cell Li-Ion	XP Pro	No	Oct 2003
2388-7NU	Celeron	2.2	256MB	14.1" XGA	30GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-8GU	Celeron	2.2	256MB	15.0" XGA	40GB	DVD	None	Modem	10/100	6-cell Li-Ion	XP Pro	No	Oct 2003
2388-8JU	Celeron	2.2	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-9DU	Pentium® 4	2.6	256MB	14.1" XGA	20GB	DVD	None	Modem	10/100	6-cell Li-Ion	XP Pro	No	Oct 2003
2388-9HU	Pentium 4	2.6	256MB	14.1" XGA	30GB	DVD	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-9JU	Pentium 4	2.6	256MB	14.1" XGA	30GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-9RU	Pentium 4	2.6	256MB	14.1" XGA	40GB	Combo	11a/b Wi-Fi <sup>27</sup>	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-AKU	Pentium 4	2.6	256MB	15.0" XGA	20GB	DVD	None	Modem	10/100	6-cell Li-Ion	XP Pro	No	Oct 2003
2388-ANU	Pentium 4	2.6	256MB	15.0" XGA	30GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-ASU	Pentium 4	2.6	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	6-cell Li-Ion	XP Pro	No	Oct 2003
2388-ATU	Pentium 4	2.6	256MB	15.0" XGA	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-AWU	Pentium 4	2.6	256MB	15.0" XGA	60GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-B1U	Pentium 4	2.6	256MB	15.0" SXGA+	30GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-B3U	Pentium 4	2.6	256MB	15.0" SXGA+	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-BFU	Pentium 4	3.0	256MB	15.0" XGA	60GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-BLU	Pentium 4	3.0	256MB	15.0" SXGA+	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-BMU	Pentium 4	3.0	256MB	15.0" SXGA+	60GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-BNU	Pentium 4	3.0	512MB	15.0" SXGA+	60GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
2388-B9U	Pentium 4	3.0	256MB	15.0" XGA	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	No	Oct 2003
Positioning Processor	<b>Powerful desktop replacement; three-spindle system</b> Intel® Celeron 2.2GHz <sup>37</sup> with 400MHz system bus or Intel Pentium 4 at 2.6 or 3.0GHz <sup>37</sup> with 400MHz system bus										<b>SOFTWARE<sup>14</sup></b>		
L2 cache	Celeron: 128KB; Pentium 4: 512KB; All: on die (at processor speed) / ECC										<b>Windows XP Professional</b>		
Memory	256 or 512MB std / 1GB max <sup>7</sup> / PC2100 266MHz DDR1 / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available										- Microsoft® Windows® XP Professional <sup>20</sup> ◆ Disk-to-Disk Recovery (in hidden protected area)		
Diskette drive	3.5" 1.44MB / fixed, not removable / 12.7mm high										<b>Preloaded</b>		
CD	Some: CD-ROM / 24X-10X <sup>9</sup> speed / fixed, not removable / 12.7mm high										• Access IBM		
DVD	Some: DVD-ROM / 24X-8X <sup>9</sup> speed / fixed, not removable / 12.7mm high										- Access Connections		
Combo	Some: DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / fixed, not removable / 12.7mm										• Adobe Reader		
Disk	20GB <sup>8</sup> , 40GB, or 60GB / 4200 rpm / 9.5mm high / removable / 9.5mm high bay										• IBM Rapid Restore™ PC		
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 15.0" (381.0mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 15.0" (381.0mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits										• IBM RecordNOW and DLA by Veritas (combo models)		
Graphics	<b>Integrated Intel Extreme™ Graphics</b> / Direct AGP / in 852GM GMCH / uses main memory (8 to 32MB with 128MB memory; 8 to 64MB with 256MB+) / 133MHz / DMVT										• Norton AntiVirus (OEM edition)		
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B										• PC-Doctor™		
EasyPivot	ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle										• ThinkPad Utilities		
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)										• IBM Update Connector™ <sup>15</sup>		
ComfortSlant	ThinkPad ComfortSlant keyboard with built-in incline provides maximum typing comfort										<b>Downloadable</b>		
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap										• IBM Director Agent		
Touch pad	No touch pad (UltraNav™ multi-pointing system) / no ThinkLight™										• Software Delivery Assistant		
Dimensions <sup>3</sup>	12.9" x 11.1" x 1.5-2.0"; 329mm x 282.5mm x 37.1-50.9mm; Volume: 4 liters										• System Migration Assistant		
Weight <sup>2</sup>	with optical drive and battery: 7.64 to 8.89 lb (3.5 to 4.0kg)										<b>License</b> (CD not included)		
Case material	Color: Black; All: Acrylonitrile-Butadiene-Styrene/Polycarbonate (ABS/PC) plastic										- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client		
Battery - type	Lithium Ion 6 or 12-cell / intelligent / removable										Universal 120 watt AC adapter		
Battery - life <sup>10</sup>	6-cell models: 1.3 hr; 12-cell 3.0GHz models: 2.0 hr; other 12-cell models: 3.0 hr										Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)		
Architecture	<b>Intel 852GM</b> chipset / 82852GM Graphics Memory Controller Hub (GMCH) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1410A CardBus controller, Mini PCI) / LPC bus 33MHz (PC87393F Super I/O for diskette, parallel, PS/2)										PC 2001 and PXE 2.0-compliant		
PC Card Std slots	One Type I, one Type II, or one Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door										ACPI 1.0b and 2.0-compliant		
Ports	Four USB (Version 2.0) / parallel / external monitor (DB-15) / RJ-11 (modem) / RJ-45 (ethernet) / PS/2 (for keyboard or mouse) / no serial or infrared or IEEE 1394 or video out										CIM and DMI 2.0-compliant		
Wireless antenna	Some (wireless models): UltraConnect™ Antenna built into the display cover										IBM ImageUltra™ Services available		
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable										IBM Rapid Restore PC available to protect software image and data		
None	Some: empty / not customer upgradable										International Warranty Service <sup>17</sup>		
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset										24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> via 800-IBM-SERV (426-7378)		
CDC	One Communications Daughter Card (CDC) socket (used by modem) / not accessible										ServicePac®. <sup>22</sup> 1yr IOR 9x5 NBD		
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>23</sup> ) modem in CDC / Agere™ chipset										30L9188		
Bluetooth	None										ServicePac 2 yr IOR 9x5 NBD		
Ethernet	10/100 ethernet on planar / Broadcom® BCM5901 (PHY/MAC) / PXE / Wake on LAN®										30L9189		
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 2 watt / volume up, down, mute buttons / no internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / no line in jack										ServicePac 3 yr IOR 9x5 NBD		
Security	Power-on password / hard disk password / supervisor password / security keyhole										30L9195		
Security chip	None										ServicePac 4 yr IOR 9x5 NBD		
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™ <sup>19</sup> onsite pickup and delivery										30L9194		
128 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad G40 Li-Ion Battery 12-cell	08K8178										
256 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad 120W AC Adapter	22P9150										
512 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	IBM 11a/b/g Wireless CardBus Adapter	31P9101										
IBM USB Portable Diskette Drive	05K9276	IBM 4GB Microdrive™ with PC Card	09N4280										
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	IBM USB 2.0 Memory Key 256MB	22P9228										
IBM USB 2.0 Portable 40GB Hard Disk	22P7196	IBM USB 2.0 Memory Key 512MB	22P9230										
IBM USB Serial Parallel Adapter	22P5298	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											
											ServicePac 5 yr IOR 9x5 NBD		
											30L9196		
											ServicePac 2 yr P&L P/U Depot		
											30L9191		
											ServicePac 3 yr P&L P/U Depot		
											30L9192		
											ServicePac 4 yr P&L P/U Depot		
											69P9195		
											ServicePac 5 yr P&L P/U Depot		
											69P9197		

See footnotes for important warranty information  
US models announced October 7, 2003  
US models withdrawn effective April 2004 or January 2005

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>6</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem	Ethernet on planar	Battery	Preload	Workhorse or Global or Entry	Avail date	
2388-1CU	Celeron®	2.0	128MB	14.1" XGA	20GB	CD	None	Modem	10/100	6-cell Li-Ion	XP Home	Entry	Apr 2003	
2388-7RU	Celeron	2.2	128MB	14.1" XGA	20GB	CD	None	Modem	10/100	6-cell Li-Ion	XP Home	Entry	Oct 2003	
2388-2BU	Pentium® 4	2.4	128MB	14.1" XGA	20GB	CD	None	Modem	10/100	6-cell Li-Ion	XP Home	Entry	Apr 2003	
2388-2QU	Pentium 4	2.4	256MB	14.1" XGA	20GB	Combo	None	Modem	10/100	6-cell Li-Ion	XP Home	No	Apr 2003	
2388-2TU	Pentium 4	2.4	256MB	14.1" XGA	40GB	DVD	None	Modem	10/100	6-cell Li-Ion	XP Home	No	Apr 2003	
2388-3AU	Pentium 4	2.4	128MB	15.0" XGA	20GB	DVD	None	Modem	10/100	6-cell Li-Ion	XP Home	No	Apr 2003	
2388-52U	Pentium 4	3.0	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Home	No	May 2003	
2388-6AU	Pentium 4	2.2	128MB	14.1" XGA	20GB	CD	None	Modem	10/100	6-cell Li-Ion	XP Home	Entry	Aug 2003	
2388-BAU	Pentium 4	3.0	256MB	14.1" XGA	30GB	DVD	None	Modem	10/100	12-cell Li-Ion	XP Home	No	Oct 2003	
2388-BCU	Pentium 4	3.0	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Home	No	Oct 2003	
Positioning Processor	Powerful desktop replacement; three-spindle system										<b>SOFTWARE<sup>14</sup></b>			
L2 cache	Intel® Celeron 2.0 or 2.2GHz <sup>37</sup> with 400MHz system bus or Intel Pentium 4 at 2.2, 2.4, or 3.0GHz <sup>37</sup> with 400MHz system bus										Windows XP Home models			
Memory	Celeron: 128MB; Pentium 4: 512KB; All: on die (at processor speed) / ECC 128 or 256MB std / 1GB max <sup>7</sup> / PC2100 266MHz DDR1 / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available										- Microsoft® Windows® XP Home Edition <sup>20</sup> ♦ Disk-to-Disk Recovery (in hidden protected area)			
Diskette drive	3.5" 1.44MB / fixed, not removable / 12.7mm high										<b>Preloaded</b>			
CD	Some: CD-ROM / 24X-10X <sup>9</sup> speed / fixed, not removable / 12.7mm high										• Access IBM			
DVD	Some: DVD-ROM / 24X-8X <sup>9</sup> speed / fixed, not removable / 12.7mm high										- Access Connections			
Combo	Some: DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / fixed, not removable / 12.7mm										• Adobe Reader			
Disk	20GB <sup>8</sup> , 30GB, or 40GB / 4200 rpm / 9.5mm high / removable / 9.5mm high bay										• IBM Rapid Restore™ PC			
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 15.0" (381.0mm) XGA (1024x768) TFT color / Active Matrix / 150 nits All: one latch to unlatch and open with one hand										• IBM RecordNOW and DLA by Veritas (combo models)			
Graphics	Integrated Intel Extreme™ Graphics / Direct AGP / in 852GM GMCH / uses main memory (8 to 32MB with 128MB memory; 8 to 64MB with 256MB+) / 133MHz / DMVT										• InterVideo WinDVD (combo, DVD)			
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B										• Norton AntiVirus (OEM edition)			
EasyPivot	ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle										• PC-Doctor™			
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)										• ThinkPad Utilities			
ComfortSlant	ThinkPad ComfortSlant keyboard with built-in incline provides maximum typing comfort										• IBM Update Connector™ <sup>15</sup>			
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap										<b>Downloadable</b>			
Touch pad	No touch pad (UltraNav™ multi-pointing system) / no ThinkLight™										• IBM Director Agent			
Dimensions <sup>3</sup>	12.9" x 11.1" x 1.5-2.0"; 329mm x 282.5mm x 37.1-50.9mm; Volume: 4 liters										• Software Delivery Assistant			
Weight <sup>2</sup>	with optical drive and battery: Some: 7.64 to 7.89 lb (3.46 to 3.57kg); Pentium 4 at 3.0GHz models: 8.63 to 8.85 lb (3.91 to 4.01kg)										• System Migration Assistant			
Case material	Color: black; All: Acrylonitrile-Butadiene-Styrene/Polycarbonate (ABS/PC) plastic										<b>License</b> (CD not included)			
Battery - type	Lithium Ion 6 or 12-cell / intelligent / removable										- Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client			
Battery - life <sup>10</sup>	6-cell battery models: 1.3 to 1.45 hr; 12-cell battery models: up to 2.0 hr										ThinkPad notebooks implement IBM ThinkVantage™ technologies and design; visit <a href="http://ibm.com/thinkvantage">ibm.com/thinkvantage</a>			
Architecture	Intel 852GM chipset / 82852GM Graphics Memory Controller Hub (GMCH) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1410A CardBus controller, Mini PCI) / LPC bus 33MHz (PC87393F Super I/O for diskette, parallel, PS/2)										Universal 120 watt AC adapter			
PC Card Std slots	One Type I, one Type II, or one Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door										Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network)			
Ports	Four USB (Version 2.0) / parallel / external monitor (DB-15) / RJ-11 (modem) / RJ-45 (ethernet) / PS/2 (for keyboard or mouse) / no serial or infrared port										PC 2001 and PXE 2.0-compliant			
Video out	No video out port										ACPI 1.0b and 2.0-compliant			
IEEE 1394	None										CIM and DMI 2.0-compliant			
Wireless antenna	None										IBM ImageUltra™ Services available			
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable										IBM Rapid Restore PC available to protect software image and data			
None	Empty / not customer upgradable										International Warranty Service <sup>17</sup>			
CDC	One Communications Daughter Card (CDC) socket (used by modem) / not accessible										24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> via 800-IBM-SERV (426-7378)			
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>25</sup> ) modem in CDC / Agere® chipset										ServicePac®. <sup>22</sup> 1yr IOR 9x5 NBD 30L9188			
Bluetooth	None										ServicePac 2 yr IOR 9x5 NBD 30L9189			
Ethernet	10/100 ethernet on planar / Broadcom® BCM5901 (PHY/MAC) / PXE / Wake on LAN®										ServicePac 3 yr IOR 9x5 NBD 30L9195			
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 2 watt / volume up, down, mute buttons / no internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / no line in jack										ServicePac 4 yr IOR 9x5 NBD 30L9194			
Security	Power-on password / hard disk password / supervisor password / security keyhole										ServicePac 5 yr IOR 9x5 NBD 30L9196			
Security chip	None										ServicePac 2 yr P&L P/U Depot 30L9191			
Limited warranty <sup>12</sup>	1 year - EasyServ™. <sup>19</sup> onsite pickup and delivery										ServicePac 3 yr P&L P/U Depot 30L9192			
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)										ServicePac 4 yr P&L P/U Depot 69P9195			
128 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828		ThinkPad G40 Li-Ion Battery 12-cell		08K8178									
256 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830		ThinkPad 120W AC Adapter		22P9150									
512 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832		IBM 11a/b/g Wireless CardBus Adapter		31P9101									
IBM USB Portable Diskette Drive	05K9276		GemPC400 Smart Card Reader/Writer		31P8901									
IBM USB 2.0 Portable Multi-Burner Drive	22P9163		TrackPoint Cap Collection		73P2698									
IBM USB 2.0 Portable 40GB Hard Disk	22P7196		ThinkPad Monitor Stand 2001		22P5265									
IBM 4GB Microdrive™ with PC Card	09N4280		ThinkPad Nylon Carrying Case		10K0207									
IBM USB 2.0 Memory Key 256MB	22P9228		ThinkPad Premiere Leather Carrying Case		10K0209									
IBM USB 2.0 Memory Key 512MB	22P9230		Keyboard/Mouse Connector		07G3793									
IBM Optical 3-Button Travel Wheel Mouse	31P7410		IBM USB Keyboard with UltraNav		31P8950									
IBM USB Serial Parallel Adapter	22P5298		IBM M400 Projector		0037A04									
IBM USB Numeric Keypad	33L3225		Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											

See footnotes for important warranty information

US models announced on April 22, August 5, October 7, or October 14, 2003

US models withdrawn effective October 2003, April 2004, or January 2005

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Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>5</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem	Ethernet on planar	Battery	Workhorse (W) or Global (G) or Entry (E)	Avail date																																															
2388-HBU	Celeron®	2.5	128MB	14.1" XGA	30GB	CD	None	Modem	10/100	6-cell Li-Ion	XP Home	Entry Apr 2004																																															
2388-JBU	Celeron	2.6	128MB	14.1" XGA	30GB	DVD	None	Modem	10/100	6-cell Li-Ion	XP Home	Entry Apr 2004																																															
2388-KBU	Pentium® 4	2.8	256MB	14.1" XGA	30GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2004																																															
2388-KNU	Pentium 4	3.0	256MB	14.1" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	No Apr 2004																																															
Positioning	<i>Powerful desktop replacement; three-spindle system</i>										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Home models</b> - Microsoft® Windows® XP Home Edition <sup>20</sup> ♦ Disk-to-Disk Recovery (in hidden protected area) <b>Windows XP Pro models</b> - Microsoft® Windows® XP Professional <sup>20</sup> ♦ Disk-to-Disk Recovery (in hidden protected area) <b>Preloaded (all)</b> • Access IBM • Access Connections • Adobe Reader • IBM Rapid Restore™ PC • IBM RecordNOW and IBM Drive Letter Access powered by Sonic products (combo models) • InterVideo WinDVD (combo, DVD) • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup> <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant <b>License (CD not included)</b> - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client Universal 120 watt AC adapter Asset ID™ <sup>34</sup> (system-specific info in chip accessed over network) PC 2001 and PXE 2.0-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> ServicePac®. <sup>22</sup> 1 yr IOR 9x5 NBD 30L9188 ServicePac 2 yr IOR 9x5 NBD 30L9189 ServicePac 3 yr IOR 9x5 NBD 30L9195 ServicePac 4 yr IOR 9x5 NBD 30L9194 ServicePac 5 yr IOR 9x5 NBD 30L9196 ServicePac 2 yr P&L P/U Depot 30L9191 ServicePac 3 yr P&L P/U Depot 30L9192 ServicePac 4 yr P&L P/U Depot 69P9195 ServicePac 5 yr P&L P/U Depot 69P9197 Other ServicePac options at <a href="http://ibm.com/services/its/us/source/wamomxeu.pdf">ibm.com/services/its/us/source/wamomxeu.pdf</a> Post-warranty annual maintenance agreements at <a href="http://ibm.com/services/its/us/source/maspspleu.pdf">ibm.com/services/its/us/source/maspspleu.pdf</a>																																																
Processor	Intel® Celeron 2.5 or 2.6GHz <sup>37</sup> with 400MHz system bus or Intel Pentium 4 at 2.8 or 3.0GHz <sup>37</sup> with 400MHz system bus																																																										
L2 cache	Celeron: 128KB; Pentium 4: 512KB; All: on die (at processor speed) / ECC																																																										
Memory	128 or 256MB std / 1GB max <sup>7</sup> / PC2100 266MHz or PC2700 333MHz DDR1 (memory controller limits speed to 266MHz) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available																																																										
Diskette drive	3.5" 1.44MB / fixed, not removable / 12.7mm high																																																										
CD	Some: CD-ROM / 24X-10X <sup>9</sup> speed / fixed, not removable / 12.7mm high																																																										
DVD	Some: DVD-ROM / 24X-8X <sup>9</sup> speed / fixed, not removable / 12.7mm high																																																										
Combo	Some: DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / fixed, not removable / 12.7mm																																																										
Disk	30GB <sup>8</sup> or 40GB, 4200 rpm, 9.5mm high / removable / 9.5mm high bay																																																										
Display	14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits / one latch to unlatch and open with one hand																																																										
Graphics	Integrated Intel Extreme™ Graphics / Direct AGP / in 852GM GMCH / uses main memory (8 to 32MB with 128MB memory; 8 to 64MB with 256MB+) / 133MHz / DMVT External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle																																																										
Graphics external	EasyPivot																																																										
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)																																																										
ComfortSlant	ThinkPad ComfortSlant keyboard with built-in incline provides maximum typing comfort																																																										
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap																																																										
Touch pad	No touch pad (UltraNav™ multi-pointing system) / no ThinkLight™																																																										
Dimensions <sup>3</sup>	12.9" x 11.1" x 1.5-2.0"; 329mm x 282.5mm x 37.1-50.9mm; Volume: 4 liters																																																										
Weight <sup>2</sup>	with optical drive and battery: HBU: 7.63 lb (3.47kg); JBU: 7.70 lb (3.50kg); KBU: 8.34 lb (3.79kg); KNU: 8.65 lb (3.93kg)																																																										
Case material	Color: black; All: Acrylonitrile-Butadiene-Styrene/Polycarbonate (ABS/PC) plastic																																																										
Battery - type	Lithium Ion 6-cell or 12-cell / intelligent / removable																																																										
Battery - life <sup>10</sup>	HBU/JBU: up to 1.30 hr; KNU: up to 2.0 hr; KBU: up to 2.48 hr																																																										
Architecture	Intel 852GM chipset / 82852GM Graphics Memory Controller Hub (GMCH) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1410A CardBus controller, Mini PCI) / LPC bus 33MHz (PC87393F Super I/O for diskette, parallel, PS/2)																																																										
PC Card Std slots	One Type I, one Type II, or one Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door																																																										
Ports	Four USB (Version 2.0) / parallel / external monitor (DB-15) / RJ-11 (modem) / RJ-45 (ethernet) / PS/2 (for keyboard or mouse) / no serial or infrared																																																										
Video out	No video out port																																																										
IEEE 1394	None																																																										
Wireless antenna	None																																																										
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable																																																										
None	Empty / not customer upgradable																																																										
CDC	One Communications Daughter Card (CDC) socket (used by modem) / not accessible																																																										
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>23</sup> ) modem in CDC / Agere® chipset																																																										
Bluetooth	None																																																										
Ethernet	10/100 ethernet on planar / Broadcom® BCM5901 (PHY/MAC) / PXE / Wake on LAN®																																																										
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 2 watt / volume up, down, mute buttons / no internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / no line in jack																																																										
Security	Power-on password / hard disk password / supervisor password / security keyhole																																																										
Security chip	None																																																										
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery																																																										
Service options	Service upgrades <sup>22</sup> provide up to five years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)																																																										
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad G40 Li-Ion Battery 12-cell	08K8178	256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad 120W AC Adapter	22P9150	512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	IBM H Rate Wireless LAN PC Card 128	09N9904	IBM USB 2.0 Combo Drive	73P4515	IBM 11a/b/g Wireless CardBus Adapter	31P9101	IBM USB 2.0 Portable Multi-Burner	22P9163	ThinkPad Monitor Stand 2001	22P5265	IBM USB 2.0 Portable 40GB Hard Drive	22P7196	ThinkPad Nylon Carrying Case	10K0207	IBM 4GB Microdrive™ with PC Card	09N4280	ThinkPad Carrying Case - Expander	73P3597	IBM USB 2.0 Memory Key 256MB	22P9228	ThinkPad Leather Carrying Case	10K0209	IBM USB 2.0 Memory Key 512MB	22P9230	Keyboard/Mouse Connector	07G3793	IBM Optical 3-Button Travel Wheel Mouse	31P7410	IBM USB Keyboard with UltraNav	31P8950	IBM Optical 3-Button ScrollPoint Pro Mouse	31P8700	IBM Enhanced Performance USB Keybrd	73P2620	IBM USB Serial Parallel Adapter	22P5298	IBM M400 Projector	0037A04	TrackPoint Cap Collection	73P2698	IBM E400 Projector	0038A04	Kensington® MicroSaver® Security Cable	73P2582	IBM C400 Projector	0039A04	GemPC400 Smart Card Reader/Writer	31P8901	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>	

See footnotes for important warranty information  
US models announced April 6, 2004  
US models withdrawn effective January 2005

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem	Ethernet on planar	Battery	Preload	Workhorse (W) or Global (G) or Education software	Avail date
2389-1DU	Celeron®	2.0	128MB	14.1" XGA	20GB	CD	11b Wi-Fi <sup>32</sup>	Modem	10/100	12-cell	XP Pro	Educ	Apr 2003
2389-2XU	Pentium® 4	2.4	256MB	14.1" XGA	20GB	CD	11b Wi-Fi	Modem	10/100	12-cell	XP Pro	Educ	Apr 2003
2389-3HU	Pentium 4	2.4	256MB	15.0" XGA	40GB	Combo	11b Wi-Fi	Modem	10/100	12-cell	XP Pro	Educ	Apr 2003
2389-7EU	Celeron	2.2	128MB	14.1" XGA	20GB	CD	11a/b Wi-Fi <sup>27</sup>	Modem	10/100	12-cell	XP Pro	Educ	Oct 2003
2389-9FU	Pentium 4	2.6	256MB	14.1" XGA	30GB	CD	11a/b Wi-Fi	Modem	10/100	12-cell	XP Pro	Educ	Oct 2003
2389-ATU	Pentium 4	2.6	256MB	15.0" XGA	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell	XP Pro	Educ	Oct 2003
2389-DHU	Celeron	2.4	256MB	14.1" XGA	30GB	CD	11a/b Wi-Fi	Modem	10/100	12-cell	XP Pro	Educ	Jan 2004
2389-HEU	Celeron	2.5	256MB	14.1" XGA	30GB	CD	11a/b Wi-Fi	Modem	10/100	12-cell	XP Pro	Educ Vital Source	Apr 2004
2389-KHU	Pentium 4	2.8	256MB	15.0" XGA	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell	XP Pro	Educ Vital Source	Apr 2004

• **The 2389 has an EasyServ™<sup>19</sup> onsite pickup and delivery 3 year limited warranty**

These educational models of the ThinkPad notebook are available only to public or private K-12 (or higher) accredited schools organized and operated exclusively for educational purposes for use by qualified students and teachers.

This model for education is for sale direct from IBM or through an Authorized Education Reseller.

The model or models for education are not available for resale to any other organization or individual.

Positioning Processor	<b>Powerful desktop replacement; three-spindle system</b>										<p><b>SOFTWARE<sup>14</sup></b></p> <p><b>Windows XP Professional</b></p> <ul style="list-style-type: none"> <li>Microsoft® Windows® XP Professional<sup>20</sup></li> <li>◆ Disk-to-Disk Recovery (in hidden protected area)</li> </ul> <p><b>Preloaded</b></p> <ul style="list-style-type: none"> <li>HEU/KHU: Education software from Vital Source Technologies®: vitalsource KEY™ and Personal Portable library™</li> <li>Access IBM</li> <li>Access Connections</li> <li>Adobe Reader</li> <li>IBM Rapid Restore™ PC</li> <li>IBM RecordNOW and Drive Letter Access powered by Sonic products (combo models)</li> <li>InterVideo WinDVD (combo models)</li> <li>Norton AntiVirus (OEM edition)</li> <li>PC-Doctor™</li> <li>ThinkPad Utilities</li> <li>IBM Update Connector™<sup>15</sup></li> </ul> <p><b>Downloadable</b></p> <ul style="list-style-type: none"> <li>IBM Director Agent</li> <li>Software Delivery Assistant</li> <li>System Migration Assistant</li> </ul> <p><b>License (CD not included)</b></p> <ul style="list-style-type: none"> <li>Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client</li> </ul>		
L2 cache	Intel® Celeron 2.0, 2.2, 2.4 or 2.5GHz <sup>37</sup> with 400MHz system bus or Intel Pentium 4 at 2.4, 2.6 or 2.8GHz <sup>37</sup> with 400MHz system bus												
Memory	Celeron: 128KB; Pentium 4: 512KB; All: on die (at processor speed) / ECC 128 or 256MB std / 1GB max <sup>7</sup> / PC2100 266MHz or PC2700 333MHz DDR1 (memory controller limits speed to 266MHz) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available												
Diskette drive	3.5" 1.44MB / fixed, not removable / 12.7mm high												
CD	Some: CD-ROM / 24X-10X <sup>9</sup> speed / fixed, not removable / 12.7mm high												
Combo	Some: DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / fixed, not removable / 12.7mm												
Disk	20GB <sup>8</sup> , 30GB, or 40GB, 4200 rpm, 9.5mm high / removable / 9.5mm high bay												
Display	Some: 14.1" (358.1mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 15.0" (381.0mm) XGA (1024x768) TFT color / Active Matrix / 150 nits												
Graphics	Integrated Intel Extreme™ Graphics / Direct AGP / in 852GM GMCH / uses main memory (8 to 32MB with 128MB memory; 8 to 64MB with 256MB+) / 133MHz / DMVT External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle												
Graphics external EasyPivot	ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle												
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)												
ComfortSlant	ThinkPad ComfortSlant keyboard with built-in incline provides maximum typing comfort												
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap												
Touch pad	No touch pad (UltraNav™ multi-pointing system) / no ThinkLight™												
Dimensions <sup>3</sup>	12.9" x 11.1" x 1.5-2.0"; 329mm x 282.5mm x 37.1-50.9mm; Volume: 4 liters												
Weight <sup>2</sup>	with optical drive and battery: 14.1" models: 8.24 lb (3.74kg); 15.0" models: 8.54 lb (3.87kg)												
Case material	Color: black; All: Acrylonitrile-Butadiene-Styrene/Polycarbonate (ABS/PC) plastic												
Battery - type	Lithium Ion 12-cell / intelligent / removable												
Battery - life <sup>10</sup>	KHU with Pentium 4 at 2.8GHz: up to 2.48 hr; Others: up to 3.0 hr												
Architecture	Intel 852GM chipset / 82852GM Graphics Memory Controller Hub (GMCH) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1410A CardBus controller, Mini PCI) / LPC bus 33MHz (PC87393F Super I/O for diskette, parallel, PS/2)												
PC Card Std slots	One Type I, one Type II, or one Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door												
Ports	Four USB (Version 2.0) / parallel / external monitor (DB-15) / RJ-11 (modem) / RJ-45 (ethernet) / PS/2 (for keyboard or mouse) / no serial or infrared port												
Video out	No video out port												
IEEE 1394	None												
Wireless antenna	UltraConnect™ Antenna built into the display cover for optimal wireless signal reception												
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable												
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intersil® Prism 2.5 chipset												
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset												
CDC	One Communications Daughter Card (CDC) socket (used by modem) / not accessible												
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>25</sup> ) modem in CDC / Agere® chipset												
Bluetooth	None standard												
Ethernet	10/100 ethernet on planar / Broadcom® BCM5901 (PHY/MAC) / PXE / Wake on LAN®												
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 2 watt / volume up, down, mute buttons / no internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / no line in jack												
Security	Power-on password / hard disk password / supervisor password / security keyhole												
Security chip	None												
Limited warranty <sup>12</sup>	3 years/1 yr battery - EasyServ™ <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> avail												
128 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad G40 Li-Ion Battery 12-cell	08K8178										
256 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad 120W AC Adapter	22P9150										
512 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	IBM 11a/b/g Wireless CardBus Adapter	31P9101										
IBM USB 2.0 Portable Multi-Burner Drive	22P9163	GemPC400 Smart Card Reader/Writer	31P8901										
IBM USB 2.0 Portable 40GB Hard Disk	22P7196	ThinkPad Monitor Stand 2001	22P5265										
IBM 4GB Microdrive™ with PC Card	09N4280	ThinkPad Nylon Carrying Case	10K0207										
IBM USB 2.0 Memory Key 256MB	22P9228	ThinkPad Premiere Leather Carrying Case	10K0209										
IBM USB 2.0 Memory Key 512MB	22P9230	Keyboard/Mouse Connector	07G3793										
IBM Optical 3-Button Travel Wheel Mouse	31P7410	IBM USB Keyboard with UltraNav	31P8950										
IBM Optical 3-Button ScrollPoint® Mouse	31P7405	TrackPoint Cap Collection	73P2698										
IBM USB Serial Parallel Adapter	22P5298	Other options at <a href="http://ibm.com/pc/us/accessories">ibm.com/pc/us/accessories</a>											
<p>ServicePac<sup>®</sup>,<sup>22</sup> 2 yr IOR 9x5 NBD 30L9190</p> <p>ServicePac 3 yr IOR 9x5 NBD 30L9197</p> <p>ServicePac 4 yr IOR 9x5 NBD 69P9198</p> <p>ServicePac 5 yr IOR 9x5 NBD 69P9200</p> <p>ServicePac 4 yr P&amp;L P/U Depot 69P9199</p> <p>ServicePac 5 yr P&amp;L P/U Depot 69P9201</p> <p>Other ServicePac options at <a href="http://ibm.com/services/its/us/source/wamomxeu.pdf">ibm.com/services/its/us/source/wamomxeu.pdf</a></p> <p>Post-warranty annual maintenance agreements at <a href="http://ibm.com/services/its/us/source/maspspleu.pdf">ibm.com/services/its/us/source/maspspleu.pdf</a></p>													

See footnotes for important warranty information  
US models announced on April 22 or October 7, 2003, or January 20 or April 6, 2004  
US models withdrawn effective October 2003, April 2004, October 2004, or January 2005

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>3</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem	Ethernet on planar	Battery	Preload	Small and medium business	Avail date
2384-DLU	Celeron®	2.4	256MB	14.1" XGA	30GB	DVD	None	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Jan 2004
2384-DWU	Celeron	2.4	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Jan 2004
2384-ECU	Pentium® 4	2.8	256MB	14.1" XGA	30GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Jan 2004
2384-EHU	Pentium 4	2.8	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Jan 2004
2384-JCU	Celeron	2.6	256MB	14.1" XGA	30GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Apr 2004
2384-JNU	Celeron	2.6	256MB	15.0" XGA	40GB	Combo	11a/b Wi-Fi <sup>27</sup>	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Apr 2004
2384-KMU	Pentium 4	2.8	256MB	15.0" SXGA+	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Apr 2004
2384-KPU	Pentium 4	3.0	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Apr 2004
2384-KQU	Pentium 4	3.0	256MB	15.0" SXGA+	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro	Yes	Apr 2004
<b>These small and medium business (SMB) models are part of the IBM US Think Express Program</b>													
Positioning Processor	Powerful desktop replacement; three-spindle system <b>Intel® Celeron 2.4 or 2.6GHz<sup>37</sup></b> with 400MHz system bus or <b>Intel Pentium 4 at 2.8 or 3.0GHz<sup>37</sup></b> with 400MHz system bus											<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Professional</b> - Microsoft® Windows® XP Professional <sup>20</sup> ♦ Disk-to-Disk Recovery (in hidden protected area)	
L2 cache	Celeron: <b>128MB</b> ; Pentium 4: <b>512KB</b> ; All: on die (at processor speed) / ECC												
Memory	<b>256MB</b> std / 1GB max <sup>7</sup> / <b>PC2100</b> 266MHz or <b>PC2700</b> 333MHz DDR1 (memory controller limits speed to 266MHz) / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available												
Diskette drive	3.5" 1.44MB / fixed, not removable / 12.7mm high											<b>Preloaded</b> • Access IBM • Access Connections • Adobe Reader • IBM Rapid Restore™ PC • IBM RecordNOW and Drive Letter Access powered by Sonic products (combo models) • InterVideo WinDVD (combo, DVD) • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup>	
DVD	Some: DVD-ROM / 24X-8X <sup>9</sup> speed / fixed, not removable / 12.7mm high												
Combo	Some: DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / fixed, not removable / 12.7mm											<b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant	
Disk	<b>30GB<sup>8</sup></b> or <b>40GB</b> / 4200 rpm / 9.5mm high / removable / 9.5mm high bay												
Display	Some: <b>14.1"</b> (358.1mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits Some: <b>15.0"</b> (381.0mm) <b>XGA (1024x768) TFT color</b> / Active Matrix / 150 nits Some: <b>15.0"</b> (381.0mm) <b>SXGA+ (1400x1050) TFT color</b> / Active Matrix / 150 nits											<b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client	
Graphics	<b>Integrated Intel Extreme™ Graphics</b> / Direct AGP / in 852GM GMCH / uses main memory (8 to 32MB with 128MB memory; 8 to 64MB with 256MB+) / 133MHz / DMVT												
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B											Universal 120 watt AC adapter Asset ID™. <sup>34</sup> (system-specific info in chip accessed over network) PC 2001 and PXE 2.0-compliant ACPI 1.0b and 2.0-compliant CIM and DMI 2.0-compliant IBM ImageUltra™ Services available IBM Rapid Restore PC available to protect software image and data International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free warranty support during the warranty <sup>12</sup> via 800-IBM-SERV (426-7378)	
EasyPivot	ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle												
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)											ServicePac®. <sup>22</sup> 1yr IOR 9x5 NBD 30L9188	
ComfortSlant	ThinkPad ComfortSlant keyboard with built-in incline provides maximum typing comfort												
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>19</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap											ServicePac 2 yr IOR 9x5 NBD 30L9189	
Touch pad	No touch pad (UltraNav™ multi-pointing system) / no ThinkLight™												
Dimensions <sup>3</sup>	12.9" x 11.1" x 1.5-2.0"; 329mm x 282.5mm x 37.1-50.9mm; <i>Volume</i> : 4 liters											ServicePac 3 yr IOR 9x5 NBD 30L9195	
Weight <sup>2</sup>	with optical drive and battery: <i>DLU</i> : 8.32 lb (3.78kg); <i>JCU</i> : 8.34 lb (3.79kg); <i>ECU</i> : 8.36 lb (3.80kg); <i>JNU</i> : 8.52 lb (3.87 kg); <i>DWU/EHU</i> : 8.54 lb (3.88kg); <i>KMU</i> : 8.56 lb (3.89kg); <i>KPU</i> : 8.83 lb (4.01kg); <i>KQU</i> : 8.87 lb (4.03kg)												
Case material	<i>Color</i> : black; <i>All</i> : Acrylonitrile-Butadiene-Styrene/Polycarbonate (ABS/PC) plastic											ServicePac 4 yr IOR 9x5 NBD 30L9194	
Battery - type	Lithium Ion 12-cell / intelligent / removable												
Battery - life <sup>10</sup>	<i>KPU/KQU</i> : up to 2.0 hr; <i>ECU/EHU/KMU</i> : up to 2.48 hr; <i>DLU/DWU/JCU/JNU</i> : 3.0 hr											ServicePac 5 yr IOR 9x5 NBD 30L9196	
Architecture	<b>Intel 852GM</b> chipset / 82852GM Graphics Memory Controller Hub (GMCH) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1410A CardBus controller, Mini PCI) / LPC bus 33MHz (PC87393F Super I/O for diskette, parallel, PS/2)												
PC Card Std slots	One Type I, one Type II, or one Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door											ServicePac 2 yr P&L P/U Depot 30L9191	
Ports	Four USB (Version 2.0) / parallel / external monitor (DB-15) / RJ-11 (modem) / RJ-45 (ethernet) / PS/2 (for keyboard or mouse) / no serial or infrared port												
Video out	No video out port											ServicePac 3 yr P&L P/U Depot 30L9192	
IEEE 1394	None												
Wireless antenna	Some ( <i>wireless models</i> ): UltraConnect™ Antenna built into the display cover											ServicePac 4 yr P&L P/U Depot 69P9195	
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable												
None	Some: empty / not customer upgradable											ServicePac 5 yr P&L P/U Depot 69P9197	
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset												
CDC	One Communications Daughter Card (CDC) socket (used by modem) / not accessible											Other ServicePac options at <b>ibm.com/services/its/us/source/wamomxeu.pdf</b> Post-warranty annual maintenance agreements at <b>ibm.com/services/its/us/source/maspspleu.pdf</b>	
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>25</sup> ) modem in CDC / Agere® chipset												
Bluetooth	None standard (optional PC Card available)											ServicePac 2 yr P&L P/U Depot 30L9191	
Ethernet	10/100 ethernet on planar / Broadcom® BCM5901 (PHY/MAC) / PXE / Wake on LAN®												
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 2 watt / volume up, down, mute buttons / no internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / no line in jack												
Security	Power-on password / hard disk password / supervisor password / security keyhole											ServicePac 3 yr P&L P/U Depot 30L9192	
Security chip	None												
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™. <sup>19</sup> onsite pickup and delivery / service upgrades <sup>22</sup> available											ServicePac 5 yr P&L P/U Depot 69P9197	
128 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad G40 Li-Ion Battery 12-cell	08K8178										
256 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad 120W AC Adapter	22P9150										
512 MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	IBM 11a/b/g Wireless CardBus Adapter	31P9101										
IBM USB Portable Diskette Drive	05K9276	ThinkPad Monitor Stand 2001	22P5265										
IBM USB 2.0 Combo Drive	73P4515	ThinkPad Nylon Carrying Case	10K0207										
IBM USB 2.0 Portable Multi-Burner	22P9163	ThinkPad Premiere Leather Carrying Case	10K0209										
IBM USB 2.0 Portable 40GB Hard Disk	22P7196	Keyboard/Mouse Connector	07G3793										
IBM 4GB Microdrive™ with PC Card	09N4280	TrackPoint Cap Collection	73P2698										
IBM USB 2.0 Memory Key 512MB	22P9230	IBM USB Keyboard with UltraNav	31P8950										
IBM Optical 3-Button ScrollPoint Pro Mouse	31P8700	IBM M400 Projector	0037A04										
IBM USB Serial Parallel Adapter	22P5298	IBM E400 Projector	0038A04										
IBM USB Numeric Keypad	33L3225	Other options at <b>ibm.com/pc/us/accessories</b>											

See footnotes for important warranty information  
US models announced on January 20 or April 6, 2004  
US models withdrawn effective January 2005

Type-model	Processor	Speed GHz	Memory	Screen	Disk GB <sup>8</sup>	Optical	Mini PCI Comm Bay wireless	CDC modem	Ethernet on planar	Battery	Workhorse or Global or Entry or TAA	Avail date
2388-F1U	Pentium® 4	2.8	256MB	15.0" XGA	40GB	Combo	11b Wi-Fi <sup>32</sup>	Modem	10/100	12-cell Li-Ion	XP Pro TAA	Jan 2004
2388-F2U	Pentium 4	3.0	256MB	15.0" XGA	40GB	Combo	None	Modem	10/100	12-cell Li-Ion	XP Pro TAA	Jan 2004
2388-F3U	Pentium 4	3.0	256MB	15.0" SXGA+	40GB	Combo	11b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro TAA	Jan 2004
2388-F4U	Pentium 4	2.6	256MB	15.0" XGA	40GB	Combo	11a/b Wi-Fi <sup>27</sup>	Modem	10/100	12-cell Li-Ion	XP Pro TAA	Jan 2004
2388-F5U	Pentium 4	2.6	256MB	15.0" SXGA+	40GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro TAA	Jan 2004
2388-F6U	Pentium 4	3.0	512MB	15.0" SXGA+	60GB	Combo	11a/b Wi-Fi	Modem	10/100	12-cell Li-Ion	XP Pro TAA	Jan 2004

• US Government Trade Act Agreement (TAA)-compliant models

Positioning	<i>Powerful desktop replacement; three-spindle system</i>										<b>SOFTWARE<sup>14</sup></b> <b>Windows XP Professional</b> - Microsoft® Windows® XP Professional <sup>20</sup> ♦ Disk-to-Disk Recovery (in hidden protected area)  <b>Preloaded</b> • Access IBM • Access Connections • Adobe Reader • IBM Rapid Restore™ PC • IBM RecordNOW and IBM Drive Letter Access (combo models) • InterVideo WinDVD (combo models) • Norton AntiVirus (OEM edition) • PC-Doctor™ • ThinkPad Utilities • IBM Update Connector™ <sup>15</sup>  <b>Downloadable</b> • IBM Director Agent • Software Delivery Assistant • System Migration Assistant  <b>License</b> (CD not included) - Lotus® SmartSuite® Millennium and Lotus Notes® Stand-alone Client
US Govt (TAA) <sup>5</sup>	All: US Government model (Trade Act Agreement-compliant)										
Processor	Intel® Pentium 4 at 2.6, 2.8 or 3.0GHz <sup>37</sup> with 400MHz system bus										
L2 cache	512KB / on die (at processor speed) / ECC										
Memory	256 or 512MB std / 1GB max <sup>7</sup> / PC2100 266MHz DDR1 / non-parity / CL2.5 / two 200-pin SO-DIMM sockets / std memory in one socket / one socket available										
Diskette drive	3.5" 1.44MB / fixed, not removable / 12.7mm high										
Combo	DVD-ROM/CD-RW / 24X/10X/24X/8X <sup>21</sup> speed / fixed, not removable / 12.7mm										
Disk	40GB <sup>8</sup> or 60GB, 4200 rpm, 9.5mm high / removable / 9.5mm high bay										
Display	Some: 15.0" (381.0mm) XGA (1024x768) TFT color / Active Matrix / 150 nits Some: 15.0" (381.0mm) SXGA+ (1400x1050) TFT color / Active Matrix / 150 nits All: one latch to unlatch and open with one hand										
Graphics	Integrated Intel Extreme™ Graphics / Direct AGP / in 852GM GMCH / uses main memory (8 to 32MB with 128MB memory; 8 to 64MB with 256MB+) / 133MHz / DMVT External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle										
Graphics external	External monitor support via analog DB-15 connector / up to 1600x1200 at 85Hz / DDC2B										
EasyPivot	ThinkPad EasyPivot base allows smooth positioning for a comfortable viewing angle										
Keyboard	87-key / Access IBM button / palm rest / pitch: 19mm; stroke: 2.7mm (std-size keys)										
ComfortSlant	ThinkPad ComfortSlant keyboard with built-in incline provides maximum typing comfort										
TrackPoint®	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass / soft dome TrackPoint cap / ships with classic dome and soft rim TrackPoint cap										
Touch pad	No touch pad (UltraNav™ multi-pointing system) / no ThinkLight™										
Dimensions <sup>3</sup>	12.9" x 11.1" x 1.5-2.0"; 329mm x 282.5mm x 37.1-50.9mm; Volume: 4 liters										
Weight <sup>2</sup>	with optical drive and battery: F1U/F4U: 8.54 lb (3.88kg); F2U: 8.85 lb (4.02kg); F3U/F6U: 8.89 lb (4.04kg); F5U: 8.58 lb (3.90kg)										
Case material	Color: black; All: Acrylonitrile-Butadiene-Styrene/Polycarbonate (ABS/PC) plastic										
Battery - type	Lithium Ion 12-cell / intelligent / removable										
Battery - life <sup>10</sup>	F1U: 2.8 hr; F2U/F3U/F6U: 2.0 hr; F4U/F5U: 3.0 hr										
Architecture	Intel 852GM chipset / 82852GM Graphics Memory Controller Hub (GMCH) / 82801DBM ICH4-M I/O Controller Hub (ATA-100 EIDE, PCI bus, ethernet MAC, Low Pin Count (LPC) interface, USB, Firmware Hub) / PCI bus 2.2 32-bit, 33MHz (TI® PCI1410A CardBus controller, Mini PCI) / LPC bus 33MHz (PC87393F Super I/O for diskette, parallel, PS/2)										
PC Card Std slots	One Type I, one Type II, or one Type III / CardBus 32-bit / PCMCIA 2.1 / integrated door										
Ports	Four USB (Version 2.0) / parallel / external monitor (DB-15) / RJ-11 (modem) / RJ-45 (ethernet) / PS/2 (for keyboard or mouse) / no serial or infrared										
Video out	No video out port										
IEEE 1394	None										
Wireless antenna	Some (wireless models): UltraConnect™ Antenna built into the display cover										
Mini PCI	One Mini PCI type III slot (Communications Bay) / not customer upgradable										
None	Some: empty / not customer upgradable										
11b Wi-Fi <sup>32</sup>	Some: 11b Wi-Fi <sup>32</sup> wireless <sup>4</sup> , Mini PCI, Intersil® Prism 2.5 chipset										
11a/b Wi-Fi <sup>27</sup>	Some: 11a/b Wi-Fi <sup>27</sup> wireless <sup>4</sup> , Mini PCI, Atheros™ AR5001X chipset										
CDC	One Communications Daughter Card (CDC) socket (used by modem) / not accessible										
Modem	56K <sup>6</sup> V.90 (V.92-designed <sup>28</sup> ) modem in CDC / Agere® chipset										
Bluetooth	None										
Ethernet	10/100 ethernet on planar / Broadcom® BCM5901 (PHY/MAC) / PXE / Wake on LAN®										
Audio support	Soft audio / ICH AC97 controller / DirectSound® support / AD1981B AC97 codec / mono speaker / 2 watt / volume up, down, mute buttons / no internal mic / microphone input jack (3.5 mm) / headphone jack (3.5 mm) / no line in jack										
Security	Power-on password / hard disk password / supervisor password / security keyhole										
Security chip	None										
Limited warranty <sup>12</sup>	1 year - EasyServ™ <sup>19</sup> onsite pickup and delivery										
128MB PC2700 DDR-SDRAM CL2.5 SOD	31P9828	ThinkPad G40 Li-Ion Battery 12-cell	08K8178	ServicePac 2 yr IOR 9x5 NBD	30L9188						
256MB PC2700 DDR-SDRAM CL2.5 SOD	31P9830	ThinkPad 120W AC Adapter	22P9150	ServicePac 2 yr IOR 9x5 NBD	30L9189						
512MB PC2700 DDR-SDRAM CL2.5 SOD	31P9832	IBM 11a/b/g Wireless CardBus Adapter	31P9101	ServicePac 3 yr IOR 9x5 NBD	30L9195						
IBM USB Portable Diskette Drive	05K9276	Kensington® MicroSaver® Security Cable	73P2582	ServicePac 4 yr IOR 9x5 NBD	69P9195						
IBM USB 2.0 Combo Drive	73P4515	ThinkPad Monitor Stand 2001	22P5265	ServicePac 5 yr IOR 9x5 NBD	30L9196						
IBM USB 2.0 Portable Multi-Burner	22P9163	ThinkPad Nylon Carrying Case	10K0207	ServicePac 2 yr P&L P/U Depot	30L9191						
IBM USB 2.0 Portable 40GB Hard Drive	22P7196	ThinkPad Leather Carrying Case	10K0209	ServicePac 3 yr P&L P/U Depot	30L9192						
TrackPoint Cap Collection	73P2698	ThinkPad Carrying Case - Expander	73P3597	ServicePac 4 yr P&L P/U Depot	69P9195						
IBM USB 2.0 Memory Key 256MB	22P9228	Keyboard/Mouse Connector	07G3793	ServicePac 5 yr P&L P/U Depot	69P9197						
IBM USB 2.0 Memory Key 512MB	22P9230	IBM USB Keyboard with UltraNav	31P8950	Other ServicePac options at							
IBM Optical 3-Button Travel Wheel Mouse	31P7410	IBM Enhanced Performance USB Keybrd	73P2620	ibm.com/services/its/us/source/wamomxeu.pdf							
IBM Optical 3-Button ScrollPoint® Mouse	31P7405	IBM M400 Projector	0037A04	Post-warranty annual maintenance agreements at							
IBM Optical 3-Button ScrollPoint Pro Mouse	31P8700	IBM E400 Projector	0038A04	ibm.com/services/its/us/source/maspspleu.pdf							
IBM USB Serial Parallel Adapter	22P5298	IBM C400 Projector	0039A04								
IBM USB Numeric Keypad	33L3225	Other options at	ibm.com/pc/us/accessories								

See footnotes for important warranty information

US models announced January 20, 2004

US models withdrawn effective April 2004 or January 2005

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Type-model	Processor	MHz	Memory	Screen	Disk	Digital notepad and pen	Hand	Comm Bay	Preload	Available
2675-21U	Pentium® III	600	64MB	10.4" TFT FlipTouch™	10GB <sup>8</sup>	ThinkScribe™ notepad	Right	ethernet/modem	Windows® 98 SE	Feb 2001
2675-22U	Pentium III	600	64MB	10.4" TFT FlipTouch	10GB	ThinkScribe notepad	Left	ethernet/modem	Windows 98 SE	Feb 2001
2675-61U	Pentium III	600	64MB	10.4" TFT FlipTouch	10GB	ThinkScribe notepad	Right	ethernet/modem	Windows 2000	Feb 2001
2675-62U	Pentium III	600	64MB	10.4" TFT FlipTouch	10GB	ThinkScribe notepad	Left	ethernet/modem	Windows 2000	Feb 2001

- IBM ThinkPad TransNote portfolio notebook is a revolutionary portfolio notebook that integrates paper and ink with a mobile computer

Processor	<b>Intel® Mobile Pentium® III 600MHz</b> with Intel SpeedStep™ technology <sup>1</sup> and 100MHz frontside bus		<p><b>WINDOWS 98 PRELOAD<sup>14</sup></b></p> <ul style="list-style-type: none"> <li>- Microsoft® Windows® 98 Second Edition</li> <li>• Ink Manager™ Pro</li> <li>• 3M Post-It® Notes Lite</li> <li>• TouchBoard™ on-screen keyboard</li> <li>• Utility Wizard</li> <li>• ThinkPad Assistant™</li> <li>• IBM Update Connector™.15</li> <li>• Access ThinkPad II</li> <li>• PC-Doctor™</li> <li>• ConfigSafe</li> <li>↳ Lotus SmartSuite Millennium CD</li> <li>↳ Software Selections CD-ROM</li> <li>↳ Recovery CD-ROM (Windows 98 SE)</li> <li>↳ Disk-to-Disk Recovery (in hidden Service Partition)</li> </ul> <p><b>WINDOWS 2000 PRELOAD<sup>14</sup></b></p> <ul style="list-style-type: none"> <li>- Microsoft Windows 2000 Professional</li> <li>• Ink Manager™ Pro</li> <li>• 3M Post-It® Notes Lite</li> <li>• TouchBoard™ on-screen keyboard</li> <li>• Utility Wizard</li> <li>• ThinkPad Assistant™</li> <li>• IBM Update Connector™.15</li> <li>• Access ThinkPad II</li> <li>• PC-Doctor™</li> <li>• ConfigSafe</li> <li>↳ Lotus SmartSuite Millennium CD</li> <li>↳ Recovery CD-ROM (Windows 2000)</li> <li>↳ Software Selections CD-ROM</li> <li>↳ Disk-to-Disk Recovery (in hidden Service Partition)</li> </ul> <p><b>ThinkScribe Digital Notepad</b></p> <ul style="list-style-type: none"> <li>- Uses regular pad of paper (up to 50 pages) on side of system (left or right handed models available)</li> <li>- Automatically saves handwritten notes and transfers them to PC via Ink Manager Pro</li> <li>- Stores up to 50 pages of notes in 2MB flash memory</li> <li>- Stores even with PC off and transferred when PC powered on</li> </ul> <p><b>Digital Pen</b></p> <ul style="list-style-type: none"> <li>- Pen stored on side of system</li> <li>- Used three ways                             <ol style="list-style-type: none"> <li>1. Write with ink (blue or black) on paper (can be saved to PC)</li> <li>2. Touch screen (either red end)</li> <li>3. Move mouse cursor by moving pen on paper (with ink side of pen with ink or red cap on)</li> </ol> </li> </ul> <p>72 watt AC Adapter PC-99, WfM 2.0, DMI 2.0-compliant Local and remote asset management via the IBM Universal Manageability solutions IBM ImageUltra™ Services available IBM Rapid Restore™ PC available to protect software image and data Setup Guide, User's Reference, Windows OS manual Personalized Web-based support International Warranty Service<sup>17</sup> 24 hour x 7 day<sup>18</sup> toll-free hardware support during the warranty</p>
L2 cache	<b>256KB</b> / onboard (at processor speed) / ECC		
Memory	<b>64MB</b> standard / 320MB maximum <sup>7</sup> / SDRAM / non-parity / 100MHz / PC 100 / 3.3v / one 144-pin SO-DIMM socket / 64MB on systemboard / 1 socket available		
Diskette drive	None standard / optional USB Portable Diskette Drive		
CD or DVD-ROM	None standard / optional USB CD or DVD-ROM		
Disk	<b>10GB<sup>8</sup></b> / user upgradeable / S.M.A.R.T. / ATA-66		
Display	<b>10.4"</b> (264mm) <b>SVGA (800x600) TFT color</b> / Active Matrix / FlipTouch™ screen / touch screen display / display can be used flat or raised exposing the keyboard / image and screen both invert to share work with someone across from user / 3 buttons on right: ThinkPad Button, Flip Touch Button, Mute Button		
Graphics controller	<b>ATI™ Mobility-M / 4MB</b> SGRAM / PCI / DDC2B		
Graphics - external	External SVGA to 1024x768x16.7 million colors at 100Hz and up to 1600x1200		
Digital notepad	<b>ThinkScribe digital notepad</b> automatically saves handwritten notes		
Digital pen	<b>Digital pen</b> used for handwriting and for touch screen functions		
Keyboard	Ergonomic keyboard, 95% size / TrackPoint®, "Press-to-Select," Internet Scroll Bar		
FlexFold™ design	FlexFold™ hinge compacts the system in one quick motion to use one side (PC or pad) independently, even standing / available for right- or left-handed users		
Dimensions <sup>3</sup>	12.6" x 11.1" x 1.3"; 320mm x 282mm x 33mm		
Travel weight <sup>2</sup>	5.5 lbs; 2.5 kg (includes digital pen and paper pad)		
Cover material	Endurimer™ cover (man-made leather)		
Battery	Lithium Ion 4-cell / intelligent / also has warm swap bridge battery		
Battery - life <sup>10</sup>	2.5 hrs (ThinkScribe will operate additional 10 hours if battery low)		
Architecture	<b>Intel 440ZX chipset</b> / Intel <b>PIIX4M</b> (EIDE with Ultra DMA/33 or PIO Mode 4 support, ISA Bridge, USB) / PCI 2.1, 32-bit, 33MHz (graphics, EIDE, CardBus, audio) / Ricoh® R5C476II CardBus controller for PC Card and Compact Flash / PC97338 Super I/O, ISA (infrared)		
Port replicator	Optional TransNote Port Extender (graphics, power, two USB ports)		
Docking Station	None		
Compact Flash slot	<b>Compact Flash slot</b> / 1 CF+ Type II / supports optional IBM Microdrive™		
PC Card Std slot	One Type II / CardBus 32-bit / PCMCIA 2.1		
Ports	Two USB (Version 1.1) / external DB-15 monitor / RJ-11 (modem) / RJ-45 (ethernet) / infrared / no serial, parallel, keyboard, or mouse ports		
Video out	None		
Communicatns Bay	Communications Bay with Mini PCI type III slot / customer accessible		
Ethernet/modem	IBM 10/100 EtherJet™ Mini PCI Adapter with 56K Modem / Intel ethernet chipset / Lucent modem chip set		
Audio support	PCI audio / SoundBlaster Pro™ support / CS4281 with CS4297A AC97 codec / mono speaker / 0.25 watt / mute button / software volume control / internal microphone / input jack (3.5 mm) / output jack (3.5 mm) / line in jack		
Security	Power-on password / hard disk password / supervisor pwrld / security keyhole		
Limited warranty <sup>12</sup>	<b>1 year</b> - EasyServ™.19 onsite pickup and delivery courier service		
Service options <sup>22</sup>	Optional service upgrades provide up to three years of onsite or depot repair service coverage from date of ThinkPad purchase (including warranty period)		
OS support <sup>11</sup>	Microsoft Windows 98 Second Edition, Windows 2000 Professional, Windows Millennium Edition		
Communication Bay	- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem by 3Com	09N9774	- USB Portable Diskette Drive 05K9276
	- IBM 10/100 EtherJet Mini PCI Adapter with 56K Modem	19K5887	- USB Portable CD-ROM 33L5151
Devices for IBM Portable Drive Bay 2000* (USB or PC Card)		19K4480	- 64MB SO DIMM 100MHz NP SDRAM 20L0254
- 8X/8X/24X <sup>9</sup> CD-Read/Write Ultrabay		08K9569	- 128MB SO DIMM 100MHz NP SDRAM 20L0255
- 8X-3X DVD Ultrabay 2000 Drive		27L3448	- 256MB SO DIMM 100MHz NP SDRAM 33L3069
- 2X SuperDisk (LS-120) UltraBay		27L3451	- TransNote Li-Ion Battery 02K6713
- 10GB Ultrabay 2000 Disk Drive**		08K9510	- TransNote Port Extender 27L0572
- 20GB Ultrabay 2000 Disk Drive**		27L3439	- Multi-Port USB Hub 00N8215
- 32GB Ultrabay 2000 Disk Drive**		08K9511	- USB to Parallel Printer Cable 19K4164
* accepts Ultrabay 2000 storage devices			- TransNote Digital Pen 02K5280
** requires Second Hard Disk Drive Adapter 08K6068			- ThinkScribe Paper Pads (A4) 04P3685
Wireless connectivity			- ThinkScribe Paper Pads (Letter) 04P3686
- IBM High Rate Wireless PC Card 128	09N9904		- 10GB HDD 08K9510
- High Rate Wireless Access Point 500	09N9906		- 20GB HDD 27L3439
- Bluetooth PC Card from IBM	09N9812		- 1GB Microdrive 07N5574
			- ThinkPad 72W AC Adapter 02K6699
			- IBM UltraPort Camera II (USB) 04P6135
			- Visit <a href="http://ibm.com/options">ibm.com/options</a> (U.S.) or <a href="http://ibm.com/pc/ca/accessories">ibm.com/pc/ca/accessories</a> (CA)

See footnotes for important warranty information  
US models withdrawn effective October 2003



**Availability:** All offers 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.

**Warranty:** 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.

**Footnotes:**

- <sup>1</sup> With Intel SpeedStep, processor speed may be reduced to conserve battery power.
- <sup>2</sup> **Travel weight** includes battery and optional travel bezel instead of standard optical drive in Ultrabay bay, if applicable; weight may vary due to vendor components, manufacturing process and options.
- <sup>3</sup> **Thinness** may vary at certain points on the system.
- <sup>4</sup> **Wireless capability:** Requires compatible wireless-enabled options sold separately.
- <sup>5</sup> **TAA:** ThinkPad notebook is compliant with the U.S. Federal Government's country-of-origin requirements prescribed in 48 C.F.R. Subpart 25.4; Trade Act Agreement (TAA) model.
- <sup>6</sup> **Public network download speeds** are limited to 53Kbps. Upload speeds are limited to 31.2Kbps. Compatible phone line and server equipment required. Actual speeds depend on many factors and are often less than the maximum possible.
- <sup>7</sup> **Maximum memory and hard disk drive capacity** may require the replacement of standard component with largest supported component available.
- <sup>8</sup> **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity may be less; up to 4GB is used in service partition.
- <sup>9</sup> **CD/DVD drive speeds** list maximum rates; rates are variable and are often less than the maximum.
- <sup>10</sup> **Battery:** These model numbers achieved the Ziff Davis Media Inc.'s Business Winstone 2002 BatteryMark™ Version 1.0, Battery Rundown Time of at least the times 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. Winstone is a registered trademark and BatteryMark is a trademark of Ziff Davis Publishing Holdings Inc., in the US and other countries. A description of the environment under which the test was performed is available at [ibm.com/pc/ww/thinkpad/batterylife](http://ibm.com/pc/ww/thinkpad/batterylife). Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning and other customer preferences. Refer to [ibm.com/pc/support](http://ibm.com/pc/support) and enter machine type and model number for more information.
- <sup>11</sup> **Memory:** For ThinkPad models without a separate video card, memory supports both system and video. Accessible system memory may be up to 64MB less than the amount stated, depending on video mode.
- <sup>12</sup> **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.
- <sup>13</sup> **Internet access not included.**
- <sup>14</sup> **Included 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>15</sup> **Update Connector** is available to registered ThinkPad customers during the limited warranty period at no charge. Line charges may apply.
- <sup>16</sup> **IBM Embedded Security Subsystem** works with optional VPN software.
- <sup>17</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>18</sup> **Telephone support** may be subject to additional charges, even during the limited warranty period. If a machine is listed as having "On-site service for select repairs", this means that onsite service is available only for the replacement of select parts. For all other warranty repairs, IBM will provide the customer a replacement part for customer installation. The parts for which onsite service is available varies by machine, but may include the processor, power supply, heat sink, system board, or base cover. For IBM machines with EasyServ or Courier service, IBM will attempt to diagnose and resolve the problem remotely before sending a courier.
- <sup>19</sup> **Depot repair:** 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>20</sup> **Delivered with** Windows 2000, Windows XP Professional, or Windows XP Home Edition preloaded and a recovery partition on the hard disk drive.
- <sup>21</sup> **For combination drives**, maximum possible speeds only are given in the following order: CD write, CD rewrite, CD read, DVD read.
- <sup>22</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. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. If the machine problem turns out to be a Customer Replaceable Unit (CRU), IBM will express ship the part to you for quick replacement. Onsite 24x7x2-hour service is not available in all locations. For ThinkPad notebooks requiring LCD or other component replacement, IBM may choose to perform service at the depot repair center.

<sup>23</sup> **For ThinkPad X Series**, the 32GB, 48GB, and 60GB HDD only supports ThinkPad Dock, UltraBase X2, or X3 UltraBase media slice and requires the ThinkPad Second HDD Adapter for Ultra-bay 2000.

<sup>24</sup> **Systems with limited onsite service** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by IBM. IBM will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by IBM for onsite replacement. For a list of onsite replaceable parts, contact IBM. Support unrelated to a warranty issue may be subject to additional charges. IBM onsite repair (IOR), 8 am to 5 pm, Monday through Friday coverage excluding holidays, next business day response time.

<sup>25</sup> **Linux preloaded systems** do not support UltraPort connector solutions and S-video-out port that may be included on this machine.

<sup>26</sup> **As defined by ISO/IEC 15412.**

<sup>27</sup> **Based on IEEE 802.11a and 802.11b.** A customer can not upgrade to a different wireless Mini PCI adapter due to FCC regulations. Security screws prevent removal of this adapter. This wireless LAN product has been designed to permit legal operation world-wide in regions 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 logo.

<sup>28</sup> **Certain Microsoft software products** included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software products or reconfigurations of the computer, and may be completed by Internet or telephone (toll charges may apply).

<sup>29</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. Check with your telephone and ISP service providers for availability. Requires download of V.92 microcode when available and country approval.

<sup>30</sup> **Measures only maximum** data transfer rate, not application performance. Many factors affect application performance.

<sup>31</sup> **Internet access** account (not included) and profiling at [ibm.com/support](http://ibm.com/support) required.

<sup>32</sup> **Wireless:** based on IEEE 802.11a, 802.11b, and 802.11g respectively. An adapter with 11a/b, 11b/g, or 11a/b/g can communicate on either/any of these listed formats respectively, the actual connection will be based on the access point to which it connects.

- <sup>33</sup> **IBM Embedded Security Subsystem** requires download of client security software from the Web and requires Internet access, not included.
- <sup>34</sup> **Asset ID** allows system-specific information to be stored in a chip inside the system; it does not have any radio frequency support.
- <sup>35</sup> **Operating system:** 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](http://ibm.com/pc/support) and enter your machine type and model number for more information.
- <sup>36</sup> **Wireless upgradable** allows the system to be wireless-enabled with an optional wireless Mini PCI card. These systems are designed to operate only with wireless LAN Mini PCI options sold by IBM.
- <sup>37</sup> **Mobile processors:** Power management features reduce processor speed when in battery mode.

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IBM Personal Computing Division  
Department WY3A  
3039 Cornwallis Road  
Research Triangle Park, NC 27709

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