

# IBM ThinkPad® 310E and 310ED (EMEA) - withdrawn

IBM® ThinkPad®:	310E	310E	310ED
	12.1" Dual Scan SVGA color	11.3" TFT SVGA color	12.1" Dual Scan SVGA color / 10X CD-ROM
Processor type	Pentium® MMX™ 133/66MHz¹		
Processor upgrade	None		
Processor features	MMX technology / P55CLM / 64-bit to transfers to L2 cache and memory		
L2 cache	256KB / write-back / direct mapped / 7ns / synchronous pipelined burst		
External FDD port	External FDD port (works with standard external diskette on CD-ROM-based model; or use if upgrade to CD-ROM)		
Diskette drive	Internal 3.5" 1.44MB (on left side)		
CD-ROM drive	None (upgrade available)		
Code name	LaCrosse-2		
Price			
Type - model	2600-400	2600-600	2600-500
Preload (see side)	Windows 95 OSR2		
Avail / withdrawn date	November 1997 / July 1998		
Disk - size / ms	1.6GB⁴ / 13ms read; 14ms write / PIO Mode 4 / SMART		
Disk controller	EIDE / busmaster / PCI 2.1 / supports one internal disk		
Display - size and type	12.1" Dual Scan SVGA color	11.3" TFT SVGA color	12.1" Dual Scan SVGA color
Display - technology	12.1" SVGA color / 640 x 480 or 800 x 600 256 simultaneous colors / Dual Scan / 30 to 1 contrast ratio		11.3" SVGA color / 640 x 480 or 800 x 600 / 65,536 sim colors Black Matrix TFT - active matrix / 100 to 1 contrast ratio
Graphics - controller	C&T™ 65550 HiQV32™ / 64-bit SVGA accelerator / 1MB EDO DRAM / 70ns		
Graph - arch/data path	PCI 2.1 / interpolation / color space conversion		
Gaphics - features	Simultaneous LCD and CRT / 180 degree tilt / Zoomed Video support		
Graphics - external	External SVGA to 1024x768 with 256 colors		
Memory - std / max	16MB / 64MB / one 16MB SO-DIMM is installed in one of two sockets		
Memory - features	60ns / non-parity / 3.3 volt / EDO / memory installed from bottom of system		
Memory - upgrade	1 socket available for two JEDEC 144 pin EDO SO-DIMM of 8, 16, or 32MB		
Keyboard / # of keys	Full size alp/num / 85 keys (9 Fn key functions)		
Keyboard slope	Large palm rest / keyboard remains flat (no sloop) / no liftup keyboard		
Pointing device	TrackPoint® III / no drag lock keys		
Palm rest	Integrated palm rest / external keyboard support (no optional cable)		
Dimensions	11.7 x 8.9 x 2.0" (208 cubic inches) / 298 mm x 227 mm x 49 mm		
Weight²	6.6 pounds (3.0 kg)	6.6 pounds (3.0 kg)	7.1 lbs (3.2 kg)
Battery - life	3.0 hours	3.5 hours	3.0 hours
Charge time - on / off	3.5 to 10 hrs / 2.0 hrs / no non-disruptive battery exchange		
Battery - type	NiMH / non-intelligent / battery unique to 310 / insert from right side		
Architecture	ISA (audio, diskette, serial, parallel) / ALI® Aladdin III M1521/M1523 chipset PCI2.1/32-bit/33MHz (EIDE, graphics, PCMCIA) NS PC87336VJG (diskette, serial, parallel) / TI PCI1131 CardBus (PCI)		
Docking Station	None		
Port replicator	None		
PCMCIA™ slots	2 Type I or 2 Type II or 1 Type III / PCMCIA 2.1 compatible / PC Card Standard 95 CardBus 32-bit PCI / Zoomed Video support in lower slot		
Serial / parallel ports	One 9 pin; 16550A / one (IEEE P1284-A, EPP, ECP, bidirectional)		
Other features	Universal AC Adapter 3 prong (45 watts) with barrel connector (slim) / APM-aware BIOS / APM 1.2 / Selectable boot / Acer® BIOS		
Video in/out	None		
MPEG decoder	None		
Data/fax modem	None		
Audio support	16-bit audio chip / 18 voice MIDI FM synthesis / Yamaha YMF715 Internal stereo speakers / .5 watt / Fn key volume control Input jack (3.5 mm) / stereo output jack (3.5 mm) / stereo mic jack (3.5 mm)		
Audio jacks	None		
Telephone	None		
Infrared ports	None		
Security	Power-on password / Setup password (for Notebook Manager and BIOS Utility)/ diskette and disk write protect and disable / security keyhole / electronic personalization		
Preinstalled software	Microsoft® Windows® 95 with applications (listed on right)		
Limited warranty¹¹	1 year - carry-in		
BIOS Utility is entered by holding F2 while the ThinkPad logo is displayed after power on.		OPTIONS	
Fn + F1 = Hot key help		- 2.1GB disk, 13/14ms (user upgradeable) 11J8643	
Fn + F2 = Brightness/contrast		- 3.2GB disk, 13/14ms (user upgradeable) 05K8864	
Fn + arrows = Adjust brightness/contrast		- NiMH Battery 11J8639	
Fn + F3 = LCD/CRT/Simultaneous		- AC Adapter, 3 prong without power cord 11J8699	
Fn + F4 = Fuel gauge		- 16MB SO DIMM 3.3v NP EDO 64-bit, gold 11J8636	
Fn + F5 = Audio volume		- 32MB SO DIMM 3.3v NP EDO 64-bit, gold 11J8637	
Fn + arrows = Adjust volume		- 10X CD-ROM w/ external FDD/cable (dealer installable only) 11J8676	
Fn + F6 = Power mgmt and system info		- 20X-8X Portable CD-ROM 1969010	
Fn + F7 = Standby		- 20X-8X Portable Stereo CD-ROM 1969011	
Fn + F8 = Hibernation		- PCMCIA 33.6Kbps International Data/Fax 42H4319	
Fn + Esc = Close Hot key icon		- PCMCIA 33.6Kbps Modem w/ XJACK 55H6759	
System does not have non-disruptive battery exchange. Battery can be changed while system is off, in hibernation, or under AC power.			
No suspend mode; has standby and hibernation mode			
FEATURES			
Plug and Play 1.0a			
Standby and hibernation modes			
Color LED indicator			
ENERGY STAR compliant			
Personalized nameplate indentation			
International Warranty Service¹⁴			
IBM SystemXtra™			
24 hour / 7 day telephone, bulletin board, fax, electronic, and Internet (www.ibm.com/pc/us) support			
IBM and dealer warranty/service			

# IBM ThinkPad® 310E and 310ED (EMEA) - Spring 1998 - withdrawn

IBM® ThinkPad®:	310E	310E	310ED
	12.1" Dual Scan SVGA color	12.1" TFT SVGA color	12.1" Dual Scan SVGA color / CD-ROM
Processor type	<b>Pentium® MMX™ 166/66MHz<sup>1</sup></b>		
Processor upgrade	None		
Processor features	MMX technology / P55CLM / 64-bit to transfers to L2 cache and memory		
L2 cache	<b>256KB</b> / write-back / direct mapped / 7ns / synchronous pipelined burst		
External FDD port	External FDD port (works with standard external diskette on CD-ROM-based model; or use if upgrade to CD-ROM)		
Diskette drive	Internal 3.5" 1.44MB (on left side)		
CD-ROM drive	<b>None</b> (dealer upgrade available)		
Price			
Type - model	<b>2600-A00</b>	<b>2600-C00</b>	<b>2600-B00</b>
Preload (see side)	<b>Windows 95 OSR2</b>		
Avail / withdrawn date	March 1998 / September 1998		
Disk - size / ms	<b>2.1GB<sup>4</sup></b> / 13ms read; 14ms write / PIO Mode 4 / SMART		
Disk controller	EIDE / busmaster / PCI 2.1 / supports one internal disk		
Display - size and type	<b>12.1" Dual Scan SVGA color</b>	<b>12.1" TFT SVGA color</b>	<b>12.1" Dual Scan SVGA color</b>
Display - technology	12.1" SVGA color / 640 x 480 or 800 x 600 256 simultaneous colors / Dual Scan / 30 to 1 contrast ratio		12.1" SVGA color / 640 x 480 or 800 x 600 / 65,536 sim colors Black Matrix TFT - active matrix / 100 to 1 contrast ratio
Graphics - controller	C&T™ 65550 HiQV32™ / 64-bit SVGA accelerator		
Graphics - memory	1MB EDO DRAM / 70ns		
Graph - arch/data path	PCI 2.1 / interpolation / color space conversion		
Graphics - features	Simultaneous LCD and CRT / 180 degree tilt / Zoomed Video support		
Graphics - external	External SVGA to 1024 x 768 with 256 colors		
Memory - std / max	<b>16MB</b> / 64MB		<b>32MB</b> / 64MB
Memory - implement	One 16MB SO-DIMM is installed in one of two sockets		
Memory - features	60ns / non-parity / 3.3 volt / EDO / memory installed from bottom of system		
Memory - upgrade	1 socket available for two JEDEC 144 pin EDO SO-DIMM of 16 or 32MB		
Keyboard / # of keys	Full size alp/num / 85 keys (9 Fn key functions)		
Keyboard slope	Large palm rest / keyboard remains flat (no sloop) / no liftup keyboard		
Pointing device	TrackPoint® III / no drag lock keys		
Palm rest	Integrated palm rest / external keyboard support (no optional cable)		
Dimensions	11.7 x 8.9 x 2.0" (208 cubic inches) / 298 mm x 227 mm x 50 mm		
Weight <sup>2</sup>	6.6 pounds (3.0 kg)	6.6 pounds (3.0 kg)	6.9 lbs (3.1 kg)
Battery - life	3.0 hours	2.8 hours	3.0 hours
Charge time - on / off	3.5 to 10 hrs / 2.0 hrs / no non-disruptive battery exchange		
Battery - type	NiMH / non-intelligent / battery unique to 310 / insert from right side		
Architecture	ISA (audio, diskette, serial, parallel) / ALI® Aladdin III M1521/M1523 chipset PCI 2.1 / 32-bit / 33 Mhz (EIDE, graphics, PCMCIA) NS PC87336VJG (diskette, serial, parallel) / TI PCI1131 CardBus (PCI)		
Docking Station	None		
Port replicator	None		
PCMCIA™ slots	2 Type I or 2 Type II or 1 Type III / PCMCIA 2.1 compatible / PC Card Standard 95 <b>CardBus 32-bit PCI / Zoomed Video support in lower slot</b>		
Serial / parallel ports	One 9 pin; 16550A / one (IEEE P1284-A, EPP, ECP, bidirectional)		
Other features	Universal AC Adapter 3 prong (45 watts) with barrel connector (slim) / APM-aware BIOS / APM 1.2 / Selectable boot / Acer® BIOS		
Video in/out	None		
MPEG decoder	None		
Data/fax modem	None		
Audio support	<b>16-bit audio chip / 18 voice MIDI FM synthesis / Yamaha YMF715</b> Internal stereo speakers / .5 watt / Fn key volume control		
Audio jacks	Input jack (3.5 mm) / stereo output jack (3.5 mm) / stereo mic jack (3.5 mm)		
Telephone	None		
Infrared ports	None		
Security	Power-on password / Setup password (for Notebook Manager and BIOS Utility)/ diskette and disk write protect and disable / security keyhole / electronic personalization		
Preinstalled software	Microsoft® Windows® 95 with applications (listed on right)		
Limited warranty <sup>11</sup>	<b>1 year</b> - carry-in		
BIOS Utility is entered by holding F2 while the ThinkPad logo is displayed after power on.  Fn + F1 = Hot key help Fn + F2 = Brightness/contrast Fn + arrows = Adjust brightness/contrast Fn + F3 = LCD/CRT/Simultaneous Fn + F4 = Fuel gauge Fn + F5 = Audio volume Fn + arrows = Adjust volume Fn + F6 = Power mgmt and system info Fn + F7 = Standby Fn + F8 = Hibernation Fn + Esc = Close Hot key icon		<b>OPTIONS</b> - 2.1GB disk 13/14ms (user upgradeable) 11J8643 - 3.2GB disk 13/14ms (user upgradeable) 05K8864 - NiMH Battery 11J8639 - AC Adapter, 3 prong without power cord 11J8699 - 16MB SO DIMM 3.3v NP EDO 64-bit, gold 11J8636 - 32MB SO DIMM 3.3v NP EDO 64-bit, gold 11J8637 - 10X CD-ROM w/ external FDD/cable 11J8676 (dealer installable only) - 20X-8X CD-ROM w/ external FDD/cable 05K8867 (dealer installable only) - 20X-8X Portable CD-ROM 1969010 - 20X-8X Portable Stereo CD-ROM 1969011 - PCMCIA 33.6Kbps International Data/Fax 42H4319 - PCMCIA 33.6Kbps Modem w/ XJACK 55H6759	
		System does not have non-disruptive battery exchange. Battery can be changed while system is off, in hibernation, or under AC power.  No suspend mode; has standby and hibernation mode	
		<b>FEATURES</b> Plug and Play 1.0a Standby and hibernation modes Color LED indicator ENERGY STAR compliant Personalized nameplate indentation <b>International Warranty Service<sup>14</sup></b> <b>IBM SystemXtra™</b> <b>24 hour / 7 day telephone, bulletin board, fax, electronic, and Internet (www.ibm.com/pc/us) support IBM and dealer warranty/service</b>	