



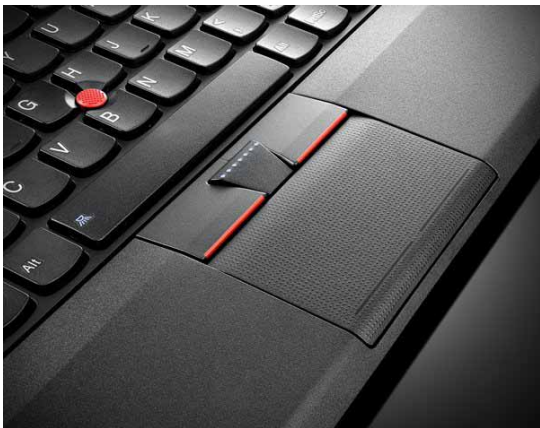
Lenovo® ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230

ThinkPad X230 (2324)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ⁸ rpm	Optical in UltraBase Series 3	ThinkPad Backlit key-board	PCle Mini Card WLAN	Smart Card Reader	Finger print reader	Bat- tery Blue- tooth cells	Global (G) Intel vPro (P)	Ann Date (mm/yy)
2324-3WG	i5-3320M	4GBx1	12.5" HD Prem	720p	500G 7200	Optional	Opt	None	Intel 6205 ²⁸	None	Fing BT	6 vPro	G Pro 64 06/12
2324-3VG	i5-3320M	4GBx1	12.5" HD Prem	720p	500G 7200	DVD±RW	UltraB	None	Intel 6205	None	Fing BT	6 vPro	G Pro 64 06/12
2324-3QG	i5-3320M	4GBx1	12.5" HD Prem	720p	320G 7200	Optional	Opt	None	Intel 6205	None	Fing BT	6 vPro	G Pro 64 06/12
2324-3PG	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	DVD±RW	UltraB	None	Intel 6205	None	Fing BT	6 vPro	G Pro 64 06/12
2324-23G	i7-3520M	4GBx1	12.5" HD Prem	No	180G SSD	Optional	Opt	None	Intel 6300 ²⁸	None	Fing BT	9 vPro	G Pro 64 06/12
2324-22G	i5-3360M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	Intel 6205	None	No No	6 vPro	G Pro 64 06/12
2324-5SG	i5-3320M	4GBx1	12.5" HD Prem	720p	320G 7200	Optional	Opt	None	Intel 6205	None	Fing BT	6 vPro	G Pro 64 07/12
2324-5RG	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	DVD±RW	UltraB	None	Intel 6205	None	Fing BT	6 vPro	G Pro 64 07/12
2324-5QG	i5-3320M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205	None	Fing BT	6 vPro	G Pro 64 07/12
2324-5NG	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	Intel 6205	None	No BT	6 vPro	G Pro 64 07/12
2324-5PG	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	DVD±RW	UltraB	None	Intel 6205	Gemplus	Fing BT	6 vPro	G Pro 64 07/12

• A depot repair service 3-year limited warranty

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i5-3360M processor (dual-core, 2.80GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology										Preloaded operating system²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications¹⁴ (only some listed) • Rescue and Recovery™ • Password Manager		
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets										Preloaded applications¹⁴ (only some listed) • Norton™ Internet Security 2012 (30 days of virus definitions) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint models) • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • Skype™ for Windows		
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3												
mSATA™ SSD	None												
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (Premium) 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)												
Camera	<i>Some:</i> HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions ³ Weight ²	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm <i>4-cell:</i> from 2.96 lb (1.34kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg)										Supports ThinkVantage® technologies		
Case material	<i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy												
Standard Battery	Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery												
External Battery	None												
Battery - life ¹⁰	<i>4-cell (28.8Whr):</i> up to 4.6 hr; <i>6-cell (62.4Whr):</i> up to 10.3 hr; <i>9-cell (93.6Whr):</i> up to 15.5 hr; <i>external battery (64Whr):</i> up to 10.6 hr; <i>9-cell plus external battery:</i> up to 26.1 hr												
Chipset	Mobile Intel QM77 Express Chipset												
Ultrabase	<i>Some:</i> ThinkPad Ultrabase Series 3 (see right side)												
Multicard reader	4-in-1 reader (SD, SDHC, SDXC, MMC)												
ExpressCard	One slot (ExpressCard/34, ExpressCard/54)												
Smart Card Read	<i>Some:</i> Gemplus Smart Card Reader in ExpressCard slot												
Ports	Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)												
PCle Mini Card	Two PCI Express Mini Card slots												
PCle WLAN ⁴	<i>Some:</i> 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCle Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3												
PCle WWAN	Wireless WAN upgradable												
SIM card	None												
Modem	None												
Bluetooth™	<i>Some:</i> Bluetooth 4.0 wireless												
Ethernet	Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1												
Intel AMT	Intel Active Management Technology (iAMT)												
Audio support	High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack												
Security	Power-on password, hard disk password, supervisor password, security keyhole												
Security chip	Trusted Platform Module, TCG 1.2-compliant												
Fingerprint reader	<i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												
Limited warranty ¹²	3-years/1-yr battery - depot repair service / service upgrades ²² available												

See footnotes for more detailed information

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ThinkPad X230 (2324) - Windows 8

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ³ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit key-board	PCIe Mini Card WLAN	Finger print reader	Blue-tooth	Bat-tery cells	Intel AMT	Global (G) Intel vPro (P)	Ann date (mm/yy)	
2324-67G	i5-3320M	4GBx1	12.5" HD	No	320G 7200	Optional	Opt	None	Intel 2200	None	No	6	No	No	G Win8 Pro64	10/12
2324-66G	i7-3520M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205 ²⁸	Finger	BT	6	iAMT	vPro	G Win8 Pro64	10/12
2324-65G	i7-3520M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT	vPro	G Win8 Pro64	10/12
2324-64G	i5-3320M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT	vPro	G Win8 Pro64	10/12
2324-63G	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT	vPro	G Win8 Pro64	10/12
2324-62G	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT	vPro	G Win8 Pro64	10/12

• A depot repair service 3-year limited warranty

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology										Preloaded operating system²⁰ - Windows® 8 Pro 64-bit Preloaded applications⁵ (only some listed) - Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap - Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch - All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate					
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets															
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3															
mSATA™ SSD	None															
Widescreen display	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio															
Camera	<i>Some:</i> HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus															
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)															
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions															
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase:</i> 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0A36280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr															
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset <i>Option:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)															
PCIe Mini Card PCIe WLAN ⁴	Two PCI Express Mini Card slots <i>Some:</i> 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2 Wireless WAN upgradable															
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	None None <i>Some:</i> Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip															
Security Security chip Fingerprint reader																
Limited warranty ¹²	3-years/1-yr battery - depot repair service / service upgrades ²² available															

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB ⁹ rpm	Optical in UltraB	ThinkPad Ultrab Series 3	Backlit key-board	PCle Mini Card WLAN	PCle Mini Card WWAN	SIM card	Smart Card Reader	Finger print reader	Blue-tooth	Bat-tery IntelGMP (P)	Global (G) (mm/yy)	Ann Date (mm/yy)
2325-2UG	i5-3320M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	6205 ²⁸	upg	None	None	Fing	BT	6 vPro	G P	06/12
2325-2SG	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	DVD±RW	UltraB	None	6205	upg	None	None	Fing	BT	6 vPro	G P	06/12
2325-2QG	i5-3320M	4GBx1	12.5" HD Prem	720p	320G 7200	Optional	Opt	None	6205	upg	None	None	Fing	BT	6 vPro	G P	06/12
2325-2EG	i7-3520M	4GBx2	12.5" HD Prem	720p	180G SSD	Optional	Opt	Backlit	6205	Ericsson select	None	None	Fing	BT	9 vPro	G P	06/12
2325-2DG	i7-3520M	4GBx1	12.5" HD Prem	720p	500G 7200	DVD±RW	UltraB	Backlit	6205	Ericsson select	None	None	Fing	BT	9 vPro	G P	06/12
2325-2CG	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	6205	Ericsson select	Gemplus	Fing	BT	6 vPro	G P	06/12	
2325-23G	i7-3520M	4GBx1	12.5" HD Prem	No	180G SSD	Optional	Opt	None	6300 ²⁸	upg	None	None	Fing	BT	9 vPro	G P	06/12
2325-22G	i5-3360M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	6205	upg	None	None	No	No	6 vPro	G P	06/12

- Some models are part of the Global Models Plus program with limited onsite service²⁴ 3-year limited warranty

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i5-3360M processor (dual-core, 2.80GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology		Preloaded operating system ²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications ¹⁴ (only some listed) • Rescue and Recovery™ • Password Manager Preloaded applications ¹⁴ (only some listed) • Norton™ Internet Security 2012 (30 days of virus definitions) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint models) • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • Skype™ for Windows
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets		
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3		
mSATA™ SSD	None		
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (Premium) 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)		
Camera	<i>Some:</i> HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus		
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)		
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions		
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm <i>4-cell:</i> from 2.96 lb (1.34kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None <i>4-cell (28.8Whr):</i> up to 4.6 hr; <i>6-cell (62.4Whr):</i> up to 10.3 hr; <i>9-cell (93.6Whr):</i> up to 15.5 hr; <i>external battery (64Whr):</i> up to 10.6 hr; <i>9-cell plus external battery:</i> up to 26.1 hr		
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset <i>Some:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>Some:</i> Gemplus Smart Card Reader in ExpressCard slot Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)		
PCle Mini Card PCle WLAN ⁴ PCle WWAN	Two PCI Express Mini Card slots <i>Some:</i> 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCle Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCle Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS <i>Some:</i> User selectable, contract required with service provider		
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip		
Security Security chip Fingerprint reader			
Limited warranty ¹²	3-years/1-year battery, limited onsite service ²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available		

Supports ThinkVantage® technologies ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g 65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²
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See footnotes for more detailed information

ThinkPad X230 (2325) - Onsite - II

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Disk SATA GB ⁹ rpm	Optical in UltraB	ThinkPad Ultrab Series 3	Backlit key-board	PCIe Mini Card WWAN	SIM card	Smart Card Reader	Finger-print reader	Bat-tery cells	Ext Battery cells	Intel AMT	Global (G) Intel vPro (P)	Ann Date (mm/yy)
2325-2GG	i5-3210M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Ericsson select	None	None	Fing	6	No	None	No	06/12
2325-2FG	i5-3210M	4GBx1	12.5" HD	500G 7200	DVD±RW	UltraB	Backlit	Ericsson select	None	None	Fing	6	No	None	No	06/12
2325-5VG	i5-3210M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	upg	None	None	Fing	6	No	None	No	07/12
2325-5UG	i5-3210M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Ericsson select	None	None	Fing	6	6	None	No	07/12
2325-5TG	i5-3320M	4GBx1	12.5" HD Prem	320G 7200	DVD±RW	UltraB	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12
2325-3QG	i5-3320M	4GBx1	12.5" HD Prem	320G 7200	Optional	Opt	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12
2325-5SG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12
2325-5RG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12
2325-5PG	i5-3320M	4GBx1	12.5" HD	320G 7200	DVD±RW	UltraB	None	upg	None	Gemplus	Fing	6	No	iAMT	vPro G P	07/12
2325-5NG	i5-3320M	4GBx1	12.5" HD	320G 7200	Optional	Opt	None	upg	None	None	No	6	No	iAMT	vPro G P	07/12

• Limited onsite service²⁴ 3-year limited warranty

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache) , Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache) , Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology		Preloaded operating system ²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications ¹⁴ (only some listed) • Rescue and Recovery™ • Password Manager Preloaded applications ¹⁴ (only some listed) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint models) • ThinkVantage System Update • Microsoft® Office preloaded; purchase a product key to activate • Skype™ for Windows
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets		
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3		
mSATA™ SSD	None		
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (Premium) 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)		
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus		
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)		
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions		
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm <i>4-cell:</i> from 2.96 lb (1.34kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery <i>Some:</i> Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280) <i>4-cell (28.8Whr):</i> up to 4.6 hr; <i>6-cell (62.4Whr):</i> up to 10.3 hr; <i>9-cell (93.6Whr):</i> up to 15.5 hr; <i>external battery (64Whr):</i> up to 10.6 hr; <i>9-cell plus external battery:</i> up to 26.1 hr		
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset <i>Some:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>Some:</i> Gemplus Smart Card Reader in ExpressCard slot Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)		
PCIe Mini Card PCIe WLAN ⁴ PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS		
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> User selectable, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack		
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip		
Limited warranty ¹²	3-years/1-year battery, limited onsite service ²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available		

Supports ThinkVantage® technologies	
ThinkPad Ultrabase Series 3 <ul style="list-style-type: none">• Provides desktop expansion and cable management for X230 and X230 Tablet• Easily connects to the bottom of the X230 or X230 Tablet for traveling• Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side	
Other features: <ul style="list-style-type: none">• Power button (front)• Security key lock, security keyhole• Analog VGA DB-15 monitor port• DisplayPort (supports single-link DVI-D via cable 45J7915)• Four USB 2.0 ports• Gigabit ethernet (RJ-45) port• Microphone in and headphone out• Requires 65W or 90W AC adapter• 1.39 lb; 630g	
65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²	

See footnotes for more detailed information

ThinkPad X230 (2325) - Onsite (Windows 8)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Disk SATA GB ⁹ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit key-board	PCIe Mini Card WWAN	SIM card	Battery cells	Ext Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2325-7BG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win7 Pro64	10/12
2325-7AG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win7 Pro64	10/12
2325-79G	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win7 Pro64	10/12
2325-78G	i7-3520M	4GBx2	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win7 Pro64	10/12
2325-77G	i7-3520M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win7 Pro64	10/12
2325-6GG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win8 Pro64	10/12
2325-6FG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win8 Pro64	10/12
2325-6EG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win8 Pro64	10/12
2325-6DG	i7-3520M	4GBx2	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win8 Pro64	10/12
2325-6CG	i7-3520M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win8 Pro64	10/12
2325-7MG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	iAMT	vPro	Win7 Pro64	10/12
Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000 , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000 , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000 , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology										Preloaded operating system²⁰ - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit				
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets										Preloaded applications⁵ (only some listed) - Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap - Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch - All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate				
Optical Ultrabay SATA disk	Some: DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3														
mSATA™ SSD	None														
Widescreen display	(Premium) 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)														
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus														
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)														
Keyboard TrackPoint®	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight														
Touchpad	TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass														
ThinkLight™	UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions														
Dimensions ³	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm														
Weight ²	<i>4-cell:</i> from 2.96 lb (1.34kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg)														
Case material	<i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy														
Standard Battery	Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery														
External Battery	Some: Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280)														
Battery - life ¹⁰	<i>4-cell (28.8Whr):</i> up to 4.6 hr; <i>6-cell (62.4Whr):</i> up to 10.3 hr; <i>9-cell (93.6Whr):</i> up to 15.5 hr; <i>external battery (64Whr, 0A36280):</i> up to 10.6 hr; <i>9-cell plus external battery:</i> up to 26.1 hr														
Chipset	Mobile Intel QM77 Express Chipset														
Ultrabase	Some: ThinkPad Ultrabase Series 3 (see right side)														
Multicard reader	4-in-1 reader (SD, SDHC, SDXC, MMC)														
ExpressCard	One slot (ExpressCard/34, ExpressCard/54)														
Smart Card Read	None														
Ports	Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)														
PCIe Mini Card	Two PCI Express Mini Card slots														
PCIe WLAN ⁴	11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2														
PCIe WWAN	Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS														
SIM card	Some: User selectable, contract required with service provider														
Modem	None														
Bluetooth™	Bluetooth 4.0 wireless														
Ethernet	Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1														
Intel AMT	Some: Intel Active Management Technology (iAMT)														
Audio support	High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack														
Security	Power-on password, hard disk password, supervisor password, security keyhole														
Security chip	Trusted Platform Module, TCG 1.2-compliant														
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip														
Limited warranty ¹²	3-years/1-year battery, limited onsite service²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available										65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²				

See footnotes for more detailed information

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ThinkPad X230 (2325) - Onsite (Windows 8) - II

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ^a rpm	Optical in UltraBase Series 3	ThinkPad Backlit key-board	PCIe Mini Card WLAN	Finger print reader	Bat- tery toothcells	Intel AMT	Intel vPro	Global (G) GMP (P)	Preload	Ann Date (mm/yy)
2325-67G	i5-3320M	4GBx1	12.5" HD	No	320G 7200	Optional	Opt	None	Intel 2200	None	No	No	G P	Win8 Pro64	10/12
2325-66G	i7-3520M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205 ²⁸	Finger	BT	6	iAMT vPro	G P	Win8 Pro64 10/12
2325-65G	i7-3520M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT vPro	G P	Win8 Pro64 10/12
2325-64G	i5-3320M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT vPro	G P	Win8 Pro64 10/12
2325-63G	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT vPro	G P	Win8 Pro64 10/12
2325-62G	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	iAMT vPro	G P	Win8 Pro64 10/12

• Part of the Global Models Plus program with limited onsite service²⁴ 3-year limited warranty

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology		Preloaded operating system ²⁰ - Windows® 8 Pro 64-bit Preloaded applications ⁵ (only some listed) - Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap - Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch - All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets		
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3		
mSATA™ SSD	None		
Widescreen display	12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus		
Camera	<i>Some:</i> HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus		
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)		
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions		
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm <i>4-cell:</i> from 2.96 lb (1.34kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None <i>4-cell (28.8Whr):</i> up to 4.6 hr; <i>6-cell (62.4Whr):</i> up to 10.3 hr; <i>9-cell (93.6Whr):</i> up to 15.5 hr; <i>external battery (64Whr, 0A36280):</i> up to 10.6 hr; <i>9-cell plus external battery:</i> up to 26.1 hr		
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset <i>Option:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)		
PCIe Mini Card PCIe WLAN ⁴	Two PCI Express Mini Card slots <i>Some:</i> 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2		
PCIe WWAN	Wireless WAN upgradable		
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	None None <i>Some:</i> Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant		
Security Security chip Fingerprint reader	<i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip		
Limited warranty ¹²	3-years/1-year battery, limited onsite service ²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available		
			Supports ThinkVantage® technologies ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: – Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632 Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g 65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²

See footnotes for more detailed information

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ThinkPad X230 (2325) - Onsite (Windows 8) - III

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Disk SATA GB ³ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit key-board	PCIe Mini Card WWAN	SIM card cells	Battery cells	Ext Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2325-ALG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	iAMT	vPro	Win8 Pro64	03/13
2325-AGK	i5-3230M	4GBx1	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	6	No	None	No	Win8 Pro64	03/13
2325-AJG	i5-3230M	4GBx1	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	6	No	None	No	Win7 Pro64	03/13
2325-AHG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win8 Pro64	03/13
2325-AGG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win7 Pro64	03/13
2325-AFG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win8 Pro64	03/13
2325-AEG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win7 Pro64	03/13
2325-ADG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win8 Pro64	03/13
2325-ACG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win7 Pro64	03/13
2325-B3G	i5-3380M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	iAMT	vPro	Win7 Pro64	05/13
Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000 , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000 , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i5-3380M processor (2 cores, 2.90GHz, 3MB cache), Intel HD Graphics 4000 , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology										Preloaded operating system²⁰ - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit Preloaded applications⁵ (only some listed) - Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap - Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch - All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate				
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets										Supports ThinkVantage® technologies ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: – Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632 Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g 65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²				
Optical Ultrabay SATA disk	Some: DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3														
mSATA™ SSD	None														
Widescreen display	Some: 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: (Premium) 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)														
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus														
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)														
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions														
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm <i>4-cell:</i> from 2.96 lb (1.34kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery Some: Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280) <i>4-cell (28.8Whr):</i> up to 4.6 hr; <i>6-cell (62.4Whr):</i> up to 10.3 hr; <i>9-cell (93.6Whr):</i> up to 15.5 hr; <i>external battery (64Whr, 0A36280):</i> up to 10.6 hr; <i>9-cell plus external battery:</i> up to 26.1 hr														
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)														
PCIe Mini Card PCIe WLAN ⁴ PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS														
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack														
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip														
Limited warranty ¹²	3-years/1-year battery, limited onsite service²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available														

See footnotes for more detailed information

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ThinkPad X230 (2325) - Onsite (Windows 8) - IV

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Disk SATA GB ⁸ rpm	Optical in UltraBase Series 3	ThinkPad Ultrabase Series 3	Backlit key-board	PCIe Mini Card WWAN	SIM card	Finger print reader	Bat- tery cells	Ext Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2325-BDG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	upg	None	None	6	No	iAMT	vPro	Win8 Pro64	06/13
2325-BCG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	upg	None	None	6	No	iAMT	vPro	Win7 Pro64	06/13
2325-BBG	i5-3230M	4GBx1	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	select	None	6	No	No	No	Win8 Pro64	06/13
2325-BAG	i5-3230M	4GBx1	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	select	None	6	No	No	No	Win7 Pro64	06/13
2325-B9G	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	select	None	6	No	No	No	Win8 Pro64	06/13
2325-B8G	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	select	None	6	No	No	No	Win7 Pro64	06/13
2325-B7G	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	upg	None	None	6	No	No	No	Win8 Pro64	06/13
2325-B6G	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	upg	None	None	6	No	No	No	Win7 Pro64	06/13
2325-B5G	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	select	None	6	No	No	No	Win8 Pro64	06/13
2325-B4G	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	select	None	6	No	No	No	Win7 Pro64	06/13
2325-BHG	i5-3230M	4GBx1	12.5" HD Prem	256G SSD OPAL	Optional	Opt	Backlit	Ericsson	select	None	6	No	No	No	Win8 Pro64	06/13
2325-BGG	i5-3230M	4GBx1	12.5" HD Prem	256G SSD OPAL	Optional	Opt	Backlit	Ericsson	select	None	6	No	No	No	Win7 Pro64	06/13
2325-BFG	i7-3520M	8GBx1	12.5" HD Prem	256G SSD OPAL	Optional	Opt	Backlit	Ericsson	select	Finger	9	No	iAMT	vPro	Win7 Pro64	06/13
2325-BEG	i7-3520M	8GBx1	12.5" HD Prem	256G SSD OPAL	Optional	Opt	Backlit	Ericsson	select	Finger	9	No	iAMT	vPro	Win8 Pro64	06/13

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology		Preloaded operating system ²⁰ - <i>Some:</i> Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - <i>Some:</i> Windows 8 Pro 64-bit Preloaded applications ⁵ (only some listed) - Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap - Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch - All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate
Memory	16GB max ⁷ / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets		
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3		
mSATA™ SSD	None		
Widescreen display Camera	(Premium) 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing) HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus		
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)		
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions		
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm <i>4-cell:</i> from 2.96 lb (1.34kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery <i>Some:</i> Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280) <i>4-cell (28.8Whr):</i> up to 4.6 hr; <i>6-cell (62.4Whr):</i> up to 10.3 hr; <i>9-cell (93.6Whr):</i> up to 15.5 hr; <i>external battery (64Whr, 0A36280):</i> up to 10.6 hr; <i>9-cell plus external battery:</i> up to 26.1 hr		
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset <i>Some:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)		
PCIe Mini Card PCIe WLAN ⁴ PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS		
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> User selectable, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole		
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip		
Limited warranty ¹²	3-years/1-year battery, limited onsite service ²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available		

ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: – Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632	
Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g	
65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²	

See footnotes for more detailed information

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