

Lenovo® ThinkPad X230



Lenovo ThinkPad X230



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## ThinkPad X230 (2324)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>®</sup> rpm	Optical in UltraBase				Smart Card Reader	Finger print reader	Blue- tooth	Bat- tery cells	Gle Intel s vPro	obal GMP (P)	(G) Pre- load (	Ann Date (mm/yy)
2324-3WG	i5-3320M	4GBx1	12.5" HD Prem	720p	500G 720	0 Optional	Opt	None	Intel 6205 <sup>28</sup>	None	Fing	ВТ	6	vPro	G	Pro 64	06/12
2324-3VG	i5-3320M	4GBx1	12.5" HD Prem	720p	500G 720	0 DVD±RW	/ UltraB	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64	1 06/12
2324-3QG	i5-3320M	4GBx1	12.5" HD Prem	720p	320G 720	0 Optional	Opt	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64	1 06/12
2324-3PG	i5-3320M	4GBx1	12.5" HD	720p	320G 720	0 DVD±RW	UltraB	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64	1 06/12
2324-23G	i7-3520M	4GBx1	12.5" HD Prem	No	180G SS	Optional	Opt	None	Intel 6300 <sup>28</sup>	None	Fing	BT	9	v Pro	G	Pro 64	1 06/12
2324-22G	i5-3360M	4GBx1	12.5" HD	720p	320G 720	0 Optional	Opt	None	Intel 6205	None	No	No	6	v Pro	G	Pro 64	1 06/12
2324-5SG	i5-3320M	4GBx1	12.5" HD Prem	720p	320G 720	0 Optional	Opt	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64	1 07/12
2324-5RG	i5-3320M	4GBx1	12.5" HD	720p	500G 720	0 DVD±RW	/ UltraB	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64	1 07/12
2324-5QG	i5-3320M	4GBx1	12.5" HD	720p	180G SS	Optional	Opt	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64	1 07/12
2324-5NG	i5-3320M	4GBx1	12.5" HD	720p	320G 720	0 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 720	0 DVD±RW	/ UltraB	None	Intel 6205	Gemplu	ıs Fing	BT	6	v Pro	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 system <sup>20</sup> - Genuine Windows <sup>®</sup> 7 Professional 64  Ready to install applications <sup>14</sup> (only some listed) • Rescue and Recovery <sup>™</sup> • Password Manager
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	Preloaded applications <sup>14</sup> (only some
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™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3	Norton™ Internet Security 2012     (30 days of virus definitions)     Access Connections™     ThinkVantage Power Manager     ThinkVantage Tools     Fingerprint Software (fingerprint
mSATA™ SSD	None	models)
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)	<ul> <li>ThinkVantage System Update</li> <li>Adobe® Reader®</li> <li>Microsoft® Office preloaded; purchase a product key to activate</li> </ul>
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	<ul> <li>Skype<sup>™</sup> for Windows</li> </ul>
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; Maximum external resolution: 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 Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup>	without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm	Supports ThinkVantage® technologies
Weight <sup>2</sup> Case material	4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg)  Display cover: Magnesium + PCABS; Bottom: Magnesium alloy	ThinkPad Ultrabase Series 3
Standard Battery	Li-lon 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery	Provides desktop expansion and
External Battery Battery - life <sup>10</sup>	None 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;	cable management for X230 and X230 Tablet
	external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr	Easily connects to the bottom of the
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read	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) Some: Gemplus Smart Card Reader in ExpressCard slot	X230 or X230 Tablet for traveling Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side Other features:
Ports	Two USB 3.0, one powered USB 2.0	Power button (front)
	external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)	Security key lock, security keyhole
PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots  Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2  Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3	<ul> <li>Analog VGA DB-15 monitor port</li> <li>DisplayPort (supports single-link DVI-D via cable 45J7915)</li> <li>Four USB 2.0 ports</li> </ul>
PCIe WWAN SIM card	Wireless WAN upgradable None	Gigabit ethernet (RJ-45) port
Modem	None	<ul> <li>Microphone in and headphone out</li> </ul>
Bluetooth™ Ethernet	Some: Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	<ul><li>Requires 65W or 90W AC adapter</li><li>1.39 lb; 630g</li></ul>
Intel AMT	Intel Active Management Technology (iAMT)	65-watt AC Adapter
Audio support	High Definition (HD) Audio, Realtek ÅLC3202 codec / stereo speakers, 1 watt x 2 /	EPEAT™ Gold rating
Security	volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole	ENERGY STAR® 5.Ö-compliant
Security chip	Trusted Platform Module, TCG 1.2-compliant	GREENGUARD® certified ROHS-compliant
Fingerprint reader	Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	during the warranty period <sup>12</sup>

## ThinkPad X230 (2324) - Windows 8

Type-model	Processor		Widescree display		Disk SATA GB <sup>®</sup> rpm	in	ThinkPac Ultrabase Series 3	key-	PCIe Mini Card WLAN	Finger print reader	Blue-		Intel	Intel			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 V	Vin8 Pro64	4 10/12
2324-66G	i7-3520M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205 <sup>28</sup>	Finger	BT	6	<b>iAMT</b>	vPro	G V	Vin8 Pro64	4 10/12
2324-65G	i7-3520M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	<b>iAMT</b>	vPro	G V	Vin8 Pro64	4 10/12
2324-64G	i5-3320M	4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205	Finger	BT	6	<b>iAMT</b>	vPro	G V	Vin8 Pro64	4 10/12
2324-63G	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	<b>iAMT</b>	vPro	G V	Vin8 Pro64	4 10/12
2324-62G	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6	<b>iAMT</b>	vPro	G V	Vin8 Pro64	4 10/12

### • A depot repair service 3-year limited warranty

Processor   Intel® Core® 15-3320M processor (dual-core, 2.60Gftz, 3MB Cache), Intel ND Graphics 4000,   Vindows® Pro 64-bit   DPR3 memory controller (up to 1600MHz), Intel Turbo Boost 2, 03, 30Gftz), 17 Hi Technology Intel Core 17-3320M processor (dual-core, 2.90Gftz, 4MB Cache), Intel HD Graphics 4000,   DPR3 memory controller (up to 1600MHz), Intel Turbo Boost 2, 03, 60Gftz), 17 Hi Technology Intel® Core 17-3320M processor (dual-core, 2.90Gftz, 4MB Cache), Intel HD Graphics 4000,   United Lands and Caphelia (up to 1600MHz), Intel Turbo Boost 2, 03, 60Gftz), 17 Hi Technology   Hongrow 1, 18 Hi Te	- ··· ·		
Optical Ultrabay Optical Optic	Positioning Processor	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,	<b>Preloaded applications</b> <sup>5</sup> (only some listed)
Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Sim devices in optional or standard ThinkPad Ultrabase Series 3 (0A39932) SAITA disk SAITA disk SAITA disk brief Supports Ultrabay Sim devices in optional or standard ThinkPad Ultrabase Series 3 (0A39932) Some: Solid State Drive (SSD) / SAITA 6.0Gb/s, 2.5° wide, 7mm high, Active Protection System* All: removable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports the second disk memovable, urgardable, Shock Mounted Hard Drive, supports	Memory		<ul> <li>Lenovo® Message Center Plus</li> </ul>
All models	Uİtrabay SATA disk	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™  removable, upgradable, Shock Mounted Hard Drive, supports the second disk  in optional or standard ThinkPad Ultrabase Series 3	<ul> <li>ThinkVantage Power Manager</li> <li>Lenovo SimpleTap</li> <li>Windows 8 models</li> <li>Lenovo Support</li> <li>Lenovo Companion</li> </ul>
Camera  Gamera  Gamera  Gamera  Gamera  Gomera  Gamera  Gomera  HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus  Intel HD Graphics 4000 in processor, supports dual independent display.  Maximum external analog monitor via WGA DB-15 and digital monitor via Mini DisplayPort, supports dual independent display.  Maximum external resolution: 2560x1600 @60Hz (DisplayPort via optional Mini DP cable); 2048x1536 @75Hz (VGA)  Keyboard  TrackPoint* TrackPo	mSATA™ SSD	None	
Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DP cable); 2048x1536@75Hz (VGA)	display	200 nits, 16:9 aspect ratio, 300:1 contrast ratio	<ul><li>Lenovo Solution Center</li><li>Password Manager</li></ul>
Feyboard   F-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight   TrackPoint*   Tra	Graphics	supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display;  Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable);	purchase a product key to activate
TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar¹³, magnifying glass Ultrabav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions  improve visibility in l	<del></del>	, , , , , , , , , , , , , , , , , , , ,	Supports ThinkVantage® technologies
Dimensions <sup>3</sup> without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm wheight <sup>3</sup> 4-cell: from 2.36 b (1.34kg); 6-cell: from 3.31 b (1.67kg) 5-cell: from 3.67 b (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spindle system with optional Ultrabay Slim accessories in right side: a two-spin	TrackPoint® Touchpad	TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch	Provides desktop expansion and cable management for X230 and
Chipset Ultrabase Option: ThinkPad Ultrabase Series 3 (see right side) Multicard reader ExpressCard Smart Card Read Ports Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)  PCIe Mini Card PCIe WLAN⁴ Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2  Wireless WAN upgradable SIM card Modem Bluetooth™ Some: Bluetooth 4.0 wireless Ethernet Intel AMT Audio support Fingerprint reader  Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports single-linr support  Disks supported (some):  128GB SSD 6.0Gb/s 0A65632  188GB SSD 6.0Gb/s 0A65632  188GB SSD 6.0Gb/s 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 Ethernet Intel AdT Some: Intel Active Management Technology (iAMT) Audio support  Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Fingerprint reader  Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	Weight <sup>2</sup> Case material Standard Battery External Battery	4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-lon 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 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;	<ul> <li>Easily connects to the bottom of the X230 or X230 Tablet for traveling</li> <li>Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:</li> </ul>
Ports Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)  PCIe Mini Card PCIE xpress Mini Card slots PCIe WLAN⁴ Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2  PCIe WWAN Wireless WAN upgradable SIM card None Modem None Bluetooth™ Some: Bluetooth 4.0 wireless Ethernet Intel ABT 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 Trusted Platform Module, TCG 1.2-compliant Fingerprint reader Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip  Two USB 3.0, one powered USB 2.0 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 PRequires 65W or 90W AC adapter PEAT™ Gold rating ENERGY STAR® 5.0-compliant REENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support	Ultrabase Multicard reader ExpressCard	Option: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54)	
PCIe WLAN* Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2  PCIe WWAN SIM card None None None Bluetooth™ Some: Bluetooth 4.0 wireless Ethernet Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel AMT Audio support Audio support Audio support Security Security Security Security Fingerprint reader Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports  ■ 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  ■ PEAT™ Gold rating  ■ ENERGY STAR® 5.0-compliant  GREENGUARD® certified  ROHS-compliant  International Warranty Service¹7  24 hour x 7 day¹8 toll-free support		Two USB 3.0, one powered USB 2.0	<ul> <li>Power button (front)</li> </ul>
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 Trusted Platform Module, TCG 1.2-compliant Fingerprint reader Fingerprint re	PCIe WLAN⁴  PCIe WWAN SIM card Modem Bluetooth™ Ethernet	Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2 Wireless WAN upgradable None None Some: Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	<ul> <li>Analog VGÁ DB-15 monitor port</li> <li>DisplayPort (supports single-link DVI-D via cable 45J7915)</li> <li>Four USB 2.0 ports</li> <li>Gigabit ethernet (RJ-45) port</li> <li>Microphone in and headphone out</li> <li>Requires 65W or 90W AC adapter</li> </ul>
	Audio support Security Security chip Fingerprint reader	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 Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator,	EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup>

## ThinkPad X230 (2325) - Onsite

	_		s	Vide- creen		SA	sk TA	in	Ultrab	key- N	Iini Card	PCIe d Mini Card	d SIM	Smart I Card	Finger print B	lue-	Bat- tery	Glol	bal (G	G) Ann Date
Type-model	Processor	Memory	d	isplay	Camera	a GB <sup>8</sup>	rpm	UltraB	Series 3	board	WLAN	WWAN	card	Reader I	eaderte	ooth	cells	svPro (	(P) (I	mm/yy)
2325-2UG	i5-3320M	4GBx1	12.5"	HD	720p	180G	SSD	Optional	Opt	None	620528	upg	None	None	Fing	BT	6	vPro (	GΡ	06/12
2325-2SG	i5-3320M	4GBx1	12.5"	HD	720p	500G	7200	DVD±RV	√ UltraB	None	6205	upg	None	None	Fing	BT	6	vPro (	GΡ	06/12
2325-2QG	i5-3320M	4GBx1	12.5"	HD Pre	m 720p	320G	7200	Optional	Opt	None	6205	upg	None	None	Fing	BT	6	vPro (	GΡ	06/12
2325-2EG	i7-3520M	4GBx2	12.5"	HD Pre	m 720p	180G	SSD	Optional	Opt	Backlit	6205	Ericsson	select	None	Fing	BT	9	vPro		06/12
2325-2DG	i7-3520M	4GBx1	12.5"	HD Pre	m 720p	500G	7200	DVD±RV	√ UltraB	Backlit	6205	Ericsson	select	None	Fing	BT	9	vPro		06/12
2325-2CG	i5-3320M	4GBx1	12.5"	HD	720p	320G	7200	Optional	Opt	None	6205	Ericsson	select	Gemplus	Fing	BT	6	vPro		06/12
2325-23G	i7-3520M	4GBx1	12.5"	HD Pre	m No .	180G	SSD	Optional	Opt	None	630028	upg	None	None	Fing	BT	9	vPro (	GΡ	06/12
2325-22G	i5-3360M	4GBx1	12.5"	HD	720p	320G	7200	Optional	Opt	None	6205	upg	None	None	No	No	6	vPro (	GΡ	06/12

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 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 <sup>20</sup> - Genuine Windows <sup>®</sup> 7 Professional 64  Ready to install applications <sup>14</sup> (only some listed) • Rescue and Recovery <sup>™</sup>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	Password Manager     Preloaded applications <sup>14</sup> (only some
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™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3	listed)  • Norton™ Internet Security 2012 (30 days of virus definitions)  • Access Connections™  • ThinkVantage Power Manager  • ThinkVantage Tools  • Fingerprint Software (fingerprint
mSATA™ SSD	None	models)
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)	<ul> <li>ThinkVantage System Update</li> <li>Adobe® Reader®</li> <li>Microsoft® Office preloaded; purchase a product key to activate</li> </ul>
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	<ul> <li>Skype™ for Windows</li> </ul>
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; Maximum external resolution: 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 Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery	without UltraBase; 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) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-lon 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery	
External Battery Battery - life <sup>10</sup>	None 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): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr	Supports ThinkVantage® technologies  ThinkPad Ultrabase Series 3
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) Some: 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)	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
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots  Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2  Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3  Some: Wireless WAN upgradable  Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card,	accessories in right side Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security chip	GPRS/WCDMA/HSPA+, GPS  Some: User selectable, contract required with service provider  None  Some: 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	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
	<ul> <li>Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</li> <li>3-years/1-year battery, limited onsite service<sup>24</sup>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business</li> </ul>	GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support
	day for service dispatch / service upgrades available	during the warranty period <sup>12</sup>

Type-model Processor Memor	Widescreen y display	Disk SATA GB <sup>8</sup> rpm	Optical in UltraB	Ultrab	key-	PCIe Mini Card WWAN		Smart Card Reader	Finger print reader	Bat- tery cells	Ext Batte cells	ry Intel	Glo Intel vPro	obal (G) Ann GMP Date (P) (mm/yy)
2325-2GG i5-3210M 4GBx	12.5" HD	500G 7200	Optional	Opt	Backlit	Ericsson	select	None	Fing	6	No	None	No	06/12
2325-2FG i5-3210M 4GBx <sup>-1</sup>	12.5" HD	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	select	None	Fing	6	No	None	No	06/12
2325-5VG i5-3210M 4GBx	12.5" HD	500G 7200	Optional	Opt	Backlit	upg	None	None	Fing	6	No	None	No	07/12
2325-5UG i5-3210M 4GBx <sup>-1</sup>	12.5" HD	500G 7200	Optional	Opt	Backlit	Ericsson	select	None	Fing	6	6	None	No	07/12
2325-5TG i5-3320M 4GBx	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 4GBx <sup>-1</sup>	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 4GBx	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 4GBx <sup>-1</sup>	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 4GBx	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 4GBx <sup>-</sup>	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 <sup>20</sup> - Genuine Windows® 7 Professional 64 Ready to install applications <sup>14</sup> (only
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	ome listed)  ■ Rescue and Recovery  ■ Password Manager
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™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3	Preloaded applications¹⁴ (only some listed) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint
mSATA™ SSD	None	models)
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)  HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	<ul> <li>ThinkVantage System Update</li> <li>Microsoft® Office preloaded; purchase a product key to activate</li> <li>Skype™ for Windows</li> </ul>
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;  Maximum external resolution: 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 Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	without UltraBase; 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) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy	
Standard Battery External Battery	Li-lon 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)	Supports ThinkVantage® technologies
Battery - life <sup>10</sup>	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): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr	ThinkPad Ultrabase Series 3  • Provides desktop expansion and
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) Some: 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)	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
PCIe Mini Card PCIe WLAN <sup>4</sup> 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	Other features:  Power button (front)  Security key lock, security keyhole  Analog VGA DB-15 monitor port  DisplayPort (supports single-link
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 /	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
	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 Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant
Limited warranty <sup>12</sup>	<b>3-years</b> /1-year battery, <b>limited onsite service</b> <sup>24</sup> , 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	International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

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

Type-model Proces	Widescreen ssor Memory display	SATA i	tical ThinkPa n Ultrabas Base Series	e key-	PCIe Mini Card WWAN	ter	t- Ext y Battery Intel is cells AMT		Preload (	Ann Date (mm/yy)
2325-7BG i5-321 2325-7AG i5-321 2325-79G i5-321 2325-78G i7-352 2325-77G i7-352 2325-6FG i5-321 2325-6FG i5-321 2325-6EG i5-321 2325-6EG i5-321 2325-6EG i7-352	OM 4GBx1 12.5" HD Prem OM 4GBx2 12.5" HD Prem OM 4GBx1 12.5" HD Prem OM 4GBx2 12.5" HD Prem OM 4GBx1 12.5" HD Prem	500G 7200 Optic 500G 7200 Optic 500G 7200 DVD: 180G SSD Optic 500G 7200 Optic 500G 7200 Optic 500G 7200 DVD: 180G SSD Optic 500G 7200 DVD:	onal Opt onal Opt the World UltraB onal Opt the World UltraB onal Opt onal Opt the World UltraB	Backlit Backlit Backlit Backlit Backlit Backlit Backlit Backlit Backlit	Ericsson WWAN upg Ericsson Ericsson Ericsson WWAN upg Ericsson Ericsson	selectable 6 None 6 selectable 5 selectable 6 None 6 selectable 6 selectable 6 selectable 9 selectable 9	6 None 6 No None 6 No None 7 No iAMT 7 No iAMT 6 None 6 No None 6 No None 7 No iAMT 7 No iAMT	No W No W vPro W vPro W No W No W No W vPro W vPro W	Vin7 Pro64 Vin7 Pro64 Vin7 Pro64 Vin7 Pro64 Vin7 Pro64 Vin8 Pro64 Vin8 Pro64 Vin8 Pro64 Vin8 Pro64 Vin8 Pro64 Vin8 Pro64 Vin7 Pro64	10/12 10/12 10/12 10/12 10/12 10/12 10/12 10/12 10/12 10/12
Positioning Processor	An ultraportable for the exelection in the large transfer of the exelection in the large transfer in the large transfer of the large transfer in the larg	cessor (2 cores, 2. p to 1600MHz), Inte ssor (2 cores, 2.60 p to 1600MHz), Inte ssor (dual-core, 2.9	.50GHz, 3MB el Turbo Boosi GHz, 3MB ca el Turbo Boosi 90GHz, 4MB	t 2.0 (3.1 ache), In t 2.0 (3.3 Cache),	10GHz), HT to Itel HD Grap BOGHz), HT to Intel HD Gr	echnology hics 4000, echnology aphics 4000,	pr do	indows® einstalled wngrade indows 8 indows 8	7 Profession d through e rights in Pro 64-bit Pro 64-bit	onal 64
Memory  Optical Ultrabay SATA disk  mSATA™ SSD	16GB max <sup>7</sup> / PC3-12800 16 dual-channel capable, two 2 Some: DVD burner, remove Supports Ultrabay Slim device Some: Solid State Drive (Some: Hard Disk Drive / Some: All: removable, upgrada in optional or standa None	204-pin SO-DIMM so able from ThinkPad tes in optional or sta SD) / SATA 6.0Gb/s ATA 3.0Gb/s, 2.5" w ble, Shock Mounted	Ockets Ultrabase Se ndard ThinkP s, 2.5" wide, 7 ide, 7mm high Hard Drive,	ad Ultra mm high h, Active	n Protection S	System™	listed) - Windows - Lenovo® I - ThinkVan - ThinkVan - Lenovo S - Windows - Lenovo S	7 mode Message tage Pro tage Pow impleTap 8 mode upport	els Center Pluduct Recover Manage	us ⁄ery
Widescreen display Camera Graphics	(Premium) 12.5" (317.5mm 300 nits, 16:9 aspect ratio, 9 HD720p resolution, wide viewers Intel HD Graphics 4000 in supports external analog management of the supports dual independent Maximum external resolution 1920x1200@60Hz (single-	500:1 contrast ratio, ew angle, low light s processor, onitor via VGA DB-1 display; n: 2560x1600@60l nk DVI-I via optiona	IPS, WideVie ensitive, face 5 and digital Hz (DisplayPo Il Mini DP cab	tracking monitor ort via opole); 204	viewing) J, fixed focus via Mini Disp otional Mini D 8x1536@75h	olayPort; DP cable); Hz (VGA)	Lenovo C     Lenovo C     All mode     Lenovo S     Password     Microsoft purchase	uickLaur I <b>s</b> olution C Manage Office p	nch Center er	etivate
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage TrackPoint pointing device, UltraNav™, buttonless toucl Illuminates the keyboard to	'Press-to-Select," In Ipad below keyboar	iternet Scroll d, multi-touch	Bar¹³, m า	ys, optional L agnifying gla	ED backlight ss	Supports Th		age® techno	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase; 4/6-cell: 4-cell: from 2.96 lb (1.34kg Display cover: Magnesium Li-lon 4-cell, 6-cell, or 9-cell Some: Slim external Lithium 4-cell (28.8Whr): up to 4.6 k external battery (64Whr, 0A	12.0" x 8.13" x 0.7; ); 6-cell: from 3.5; + PCABS; Bo , HW Authentication in Ion 6-cell battery ir; 6-cell (62.4Whr):	5-1.05"; 305n 31 lb (1.50kg) ttom: Magn i; optional ext (ThinkPad Ba up to 10.3 hr	nm x 206; 9-celesium alternal battery 19; 9-celles	<ul><li>II: from 3.67</li><li>loy</li><li>ttery as 2nd</li><li>+, 0A36280)</li><li>(93.6Whr): up</li></ul>	lb (1.67kg) battery to 15.5 hr;	Provides of cable man X230 Table     Easily con X230 or X     Converts	desktop o nagemen et nects to t 230 Tabl ThinkPao	expansion and the bottom of th	and and of the ling spindle
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Expres Some: ThinkPad Ultrabase 4-in-1 reader (SD, SDHC, S One slot (ExpressCard/34, None Two USB 3.0, one powered external monitor (VGA DB-	Series 3 (see right DXC, MMC) ExpressCard/54) USB 2.0,	,	J-45)			Disks st • 128GE • 180GE	TA Hard Bay Adar Ipported B SSD 6. B SSD 6.	Drive oter III 43	.65629 .65630
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card 11a/b/g/n, PCIe Half Mini C Some: Wireless WAN upgr Some: Wireless WAN, Eric	ard, Intel Centrino® adable sson® H5321gw Mol		-		Mini Card,	Other featur     Power but     Security k     Analog VC	ton (fron ey lock, s A DB-1	security key 5 monitor p	ort
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	GPRS/WCDMA/HS Some: User selectable, cor None Bluetooth 4.0 wireless Intel 82579LM Gigabit Netw Some: Intel Active Manage High Definition (HD) Audio,	ntract required with start connection (Le ment Technology (i) Realtek® ALC3202	wisville), PHY AMT) codec / stere	/, PCle x o speake	ers, 1 watt x 2	2 /	<ul> <li>DisplayPo DVI-D via</li> <li>Four USB</li> <li>Gigabit et</li> <li>Microphoi</li> <li>Requires</li> <li>1.39 lb; 63</li> </ul>	cable 45 2.0 port hernet (F ne in and 65W or 9	5J7915) :s RJ-45) port I headphon	ne out
	volume up, down, mute butto Power-on password, hard d Trusted Platform Module, To AuthenTec fingerprint reade Power On Authentication, s	sk password, super CG 1.2-compliant r on palm rest, swip upports the security	visor passwo e sensor, LEI chip	ord, secu	rity keyhole tor,		65-watt AC EPEAT™ GG ENERGY S GREENGU ROHS-com	old rating TAR® 5.0 ARD® ce oliant	Ó-compliant rtified	
	3-years/1-year battery, limi public and national holidays day for service dispatch / se	. Calls received afte	r 3 pm will re	n, Mon - quire an	Fri coverage addtional ne	e excluding ext business	International 24 hour x 7 during the	day18 toll	l-free suppo ty period <sup>12</sup>	ort
See footnotes for m	nore detailed information							(G-DS	© H2-5) Augu	Lenovo

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

Type-model	Processor		Widescree display		Disk SATA GB <sup>®</sup> rpm		Ultrabase	key-	PCIe Mini Card WLAN	Finger print reader	Blue-		Intel	Intel			Ann Date (mm/yy)
2325-67G	i5-3320M	4GBx1	12.5" HD	No	320G 7200	Optiona	l Opt	None	Intel 2200	None	No	6	No	No	GΡ	Win8 Pro64	10/12
2325-66G	i7-3520M	4GBx1	12.5" HD	720p	180G SSD	Optiona	l Opt	None	Intel 620528	Finger	BT	6	<b>iAMT</b>	vPro	GΡ	Win8 Pro64	10/12
2325-65G	i7-3520M	4GBx1	12.5" HD	720p	500G 7200	Optiona	l Opt	None	Intel 6205	Finger	BT	6	iAMT	vPro	GΡ	Win8 Pro64	10/12
2325-64G	i5-3320M	4GBx1	12.5" HD	720p	180G SSD	Optiona	l Opt	None	Intel 6205	Finger	BT	6	<b>iAMT</b>	vPro	GΡ	Win8 Pro64	10/12
2325-63G	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	Optiona	l Opt	None	Intel 6205	Finger	BT	6	iAMT	vPro	GΡ	Win8 Pro64	10/12
2325-62G	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	Optiona	l Opt	None	Intel 6205	Finger	BT	6	<b>iAMT</b>	vPro	GΡ	Win8 Pro64	10/12

• Part of the Global Models Plus program with limited onsite service<sup>24</sup> 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	Preloaded operating system <sup>20</sup> - Windows® 8 Pro 64-bit
	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	<b>Preloaded applications</b> <sup>5</sup> (only some listed)
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	Windows 7 models     Lenovo® Message Center Plus     ThinkVantage Product Recovery
Optical Ultrabay SATA disk	Option for 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™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3	<ul> <li>ThinkVantage Power Manager</li> <li>Lenovo SimpleTap</li> <li>Windows 8 models</li> <li>Lenovo Support</li> <li>Lenovo Companion</li> </ul>
mSATA™ SSD	None	Lenovo QuickLaunch
Widescreen display Camera	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	All models     Lenovo Solution Center     Password Manager     Microsoft Office prolocold
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; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	Microsoft® Office preloaded; purchase a product key to activate
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 Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	Supports ThinkVantage® technologies ThinkPad Ultrabase Series 3
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase; 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) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-lon 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 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	<ul> <li>Provides desktop expansion and cable management for X230 and X230 Tablet</li> <li>Easily connects to the bottom of the X230 or X230 Tablet for traveling</li> <li>Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:</li> </ul>
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset Option: 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)	- 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:
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2	Power button (front)     Security key lock, security keyhole     Analog VGA DB-15 monitor port
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None Some: Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1 Some: Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 /	<ul> <li>DisplayPort (supports single-link DVI-D via cable 45J7915)</li> <li>Four USB 2.0 ports</li> <li>Gigabit ethernet (RJ-45) port</li> <li>Microphone in and headphone out</li> <li>Requires 65W or 90W AC adapter</li> <li>1.39 lb; 630g</li> </ul>
Security Security chip	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 Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant
Limited warranty <sup>12</sup>	<b>3-years</b> /1-year battery, <b>limited onsite service</b> <sup>24</sup> , 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	International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

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

		Widescreen	Disk SATA	Optical in		nd Backlit se key-	PCle Mini Card		Bat-		y Intel	Intel		Ann Date
Type-model Proce		display	GB <sup>8</sup> rpm	UltraBase		3 board	WWAN	SIM card of	ells	cells	AMT	vPro	Preload	(mm/yy)
2325-ALG i5-332		12.5" HD Prem		Optional	Opt		WWAN upg		6				Win8 Pro6	
2325-AKG i5-323 2325-AJG i5-323				Optional Optional	Opt Opt		Ericsson Ericsson	selectable selectable			None None		Win8 Pro6 Win7 Pro6	
2325-AHG i5-323	30M 4GBx1	12.5" HD Prem	500G 7200	Optional	Opt		Ericsson	selectable	6	6	None	No	Win8 Pro6	4 03/13
2325-AGG i5-323					Opt		Ericsson	selectable		6	None None		Win7 Pro6 Win8 Pro6	
2325-AFG i5-323 2325-AEG i5-323					Opt Opt		WWAN upg WWAN upg		6		None		Win7 Pro6	
2325-ADG i5-323	30M 4GBx1	12.5" HD Prem	500G 7200	DVD±RW	/ UİtraB	Backlit	Ericsson	selectable			None		Win8 Pro6	
2325-ACG i5-323 2325-B3G i5-338			500G 7200 500G 7200				Ericsson WWAN upg	selectable	6		None		Win7 Pro6 Win7 Pro6	
						Dackiit	www.ii upg	TVOTIC						
Positioning Processor	Intel® Core® DDR3 memoral Core is DDR3 memoral Core is Intel Core is Intel Core is	able for the execu- i5-3230M procipion (up position) in 15-320M processory controller (up position) in 15-3380M processory controller (up	essor (2 coresto 1600MHz) sor (2 coresto 1600MHz) sor (2 coresto 1600MHz)	es, 2.60GH , Intel Turk 2.60GHz, , Intel Turk 2.90GHz,	Hz, 3MB to Boost 3MB ca to Boost 3MB ca	2.0 (3.2) che), Int 2.0 (3.3) che), Int	0GHz), HT te t <b>el HD Graph</b> 0GHz), HT te t <b>el HD Graph</b>	chnology nics 4000, echnology nics 4000,	0, -	Som	e: Wir pre dow Wir e: Wir	dows nstal ngra dows dows	ting systen s® 7 Profess lled through de rights in s 8 Pro 64-t s 8 Pro 64-t ations⁵ (on	sional 64 bit
Memory		PC3-12800 160 capable, two 20							li	isted)	·		`	ly come
Optical		burner, removab				ries 3					dows 7		<b>dels</b> ge Center F	Divie
Uİtrabay	Supports Ult	rabay Sİim device	s in optional	or standard	ThinkP	ad Ultrab	ase Series 3	(0A33932	)  •	Thin	kVanta	ge P	roduct Rec	overy
SATA disk	Some: Hard	d State Drive (SS I Disk Drive / SAT	A 3.0Gb/s, 2	.5" wide, 7	mm high	n, Active					kVanta ovo Sir		ower Mana āp	ger
		ovable, upgradab otional or standard				supports	the second	disk			dows 8			
mSATA™ SSD	None Compy 10 F	" (217 Fmm) HD	(1066,760)	TET color	anti ala	*a LEDI	a a akli a b t		- 1		ovo Su ovo Co			
Widescreen display	200	" (317.5mm) <b>HD</b> nits, 16:9 aspect	ratio, 300:1 c	ontrast rat	tio						ovo Qu		aunch	
		mium) <b>12.5"</b> (317 nits, 16:9 aspect							- 1		<b>nodels</b> ovo So		Center	
Camera		olution, wide view									sword I		iger e preloaded	
Graphics	supports ext supports dua Maximum ex	aphics 4000 in preernal analog moreal independent di al independent di aternal resolution: 60Hz (single-lin	nitor via VGA splay; : 2560x1600	@60Hz (D	oisplayPo	ort via op	tional Mini Di	P cable);					duct key to a	
Keyboard		y, ThinkVantage I							nt					
TrackPoint® Touchpad	UltraNav™, k	ointing device, "Pouttonless touchp	ad below key	/board, mι	ılti-touch		agrillying glas	55	5				ntage® tech	
ThinkLight™ Dimensions³		he keyboard to in Base; 4/6-cell: 1		•			5mm v 10 0	-26 6mm	┨.				rabase Ser	
Weight <sup>2</sup>	4-cell: from	2.96 lb (1.34kg);	6-cell: fro	m 3.31 lb (	(1.50kg):	; 9-cell	: from 3.67 l		•				p expansior ent for X230	
Case material Standard Battery		er: Magnesium - 6-cell, or 9-cell, l				esium all ernal bat		atterv	١.		) Table		to the bottom	ofthe
External Battery	Some: Slim	external Lithium	Ion 6-cell ba	ttery (Thin	kPad Ba	ttery 19+	-, 0A36280)	•		X230	or X2	30 Ta	ablet for trav	eling
Battery - life <sup>10</sup>		<i>Vhr):</i> up to 4.6 hr; t <i>ery (64Whr, 0A3</i>							•				Pad to a two onal Ultraba	
Chipset		QM77 Express			-					acce	ssorie	s in r	ight side: d Drive	
Ultrabase Multicard reader		kPad Ultrabase S r (SD, SDHC, SD		right side)						9.5	mm Ba	ay Ac	dapter III 4	3N3412
ExpressCard Smart Card Read	One slot (Ex	pressCard/34, Ex		4)									ed (some): 6.0Gb/s 0	A65629
Ports	Two USB 3.0	), one powered U		D1\ -41-	1. (D	L 45\				• 1	80GB	SSD	6.0Gb/s 0 7200 rpm 0	A65630
PCIe Mini Card		nitor (VGA DB-15 oress Mini Card s		/Port), eth	ernet (R	J-45)			$\dashv$		feature		, 200 i pili 0	, 100002
PCIe WLAN⁴	11a/b/g/n, P	Cle Half Mini Car	d, Intel Centr	ino® Advar	nced-N 6	6205, 2x2	2				er butto		ont) k, security k	ovholo
PCIe WWAN	Some: Wire Some: Wire	less WAN upgrad less WAN, Ericss	dable son® H5321av	v Mobile B	roadban	d Modul	e. PCIe Half I	Mini Card.	•	Anal	og VG	A DB	<ul><li>-15 monitor</li></ul>	port
SIM oard	GPF	RS/WCDMA/HSP/	A/HSPA+, GF	'S					•	Disp	layPort	(sup	ports single 45J7915)	e-link
SIM card Modem	None User	r selectable, cont	raci required	with Servic	e provio	ıeı				Four	USB 2	2.0 pc	orts	.
Bluetooth™ Ethernet	Bluetooth 4.	0 wireless M Gigabit Netwo	rk Connactio	n (Lewievil		PCIo v	1						: (RJ-45) po .nd headpho	
Intel AMT	Some: Intel	Active Managem	ent Technolo	gỳ (iAMT)	, .				•	Requ	uires 6	5W o	r 90W AC a	
Audio support		on (HD) Audio, R own, mute buttons						! /	$\vdash$		lb; 630		2.5	
Security	Power-on pa	ssword, hard dis	k password, :	supervisor							tt AC A Γ™ Gol			
Security chip Fingerprint reader		form Module, TC0 ngerprint reader			nsor, LEI	) indicate	or,						5.0-complia certified	nt
	Power On A	uthentication, sup	ports the sec	curity chip					F	ROHS	-compl	iant		- 17
Limited warranty <sup>12</sup>	public and n	ear battery, <b>limite</b> ational holidays. ( ce dispatch / serv	Calls receive	d after 3 pr	m will re					24 hou	ır x 7 d	ay18 1	anty Service toll-free sup anty period <sup>1</sup>	port
See footnotes for m	nore detailed in	nformation												© Lenovo

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

	Widescreen	Disk SATA	in	ThinkPac Ultrabase	e key-	Mini Card	SIM	Finger print	tery Ba	ttery Inte	l Intel		Ann Date										
Type-model Proces	ssor Memory display 0M 4GBx1 12.5" HD Prem 500	GB <sup>®</sup> rpm	UltraBase Optional			WWAN	None			ells AM		Win8 Pro6											
	OM 4GBx1 12.5" HD Prem 500		Optional	- '	Backlit Backlit		None					Win7 Pro6											
2325-BBG i5-323	0M 4GBx1 12.5" HD Prem 180	G SSD	Optional	Opt	Backlit	Ericsson	select	None	6 N		No	Win8 Pro6											
	OM 4GBx1 12.5" HD Prem 180 OM 4GBx1 12.5" HD Prem 500		Optional Optional			Ericsson Ericsson				o No No	No No	Win7 Pro6- Win8 Pro6-											
	0M 4GBx1 12.5" HD Prem 500		Optional			Ericsson				No	No	Win7 Pro6											
	OM 4GBx1 12.5" HD Prem 500		Optional		Backlit		None			o No	No	Win8 Pro6											
	0M 4GBx1 12.5" HD Prem 500 0M 4GBx1 12.5" HD Prem 500		Optional DVD+RV		Backlit Backlit	Ericsson	None select		-	o No o No	No No	Win7 Pro6- Win8 Pro6-											
2325-B4G i5-323	0M 4GBx1 12.5" HD Prem 500	G 7200	DVD±RV	V UltraB	Backlit	Ericsson	select	None	6 N	o No	No	Win7 Pro6	4 06/13										
	0M 4GBx1 12.5" HD Prem 256 0M 4GBx1 12.5" HD Prem 256					Ericsson Ericsson				o No o No	No No	Win8 Pro6- Win7 Pro6-											
	OM 8GBx1 12.5" HD Prem 256											Win7 Pro6											
2325-BEG i7-352	0M 8GBx1 12.5" HD Prem 256	G SSD OPAL	. Optional	Opt	Backlit	Ericsson	select	Finger	<b>9</b> N	o iAMT	vPro	Win8 Pro6	4 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 i5-3320M 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									preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit														
Memory  16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets									Preloaded applications <sup>5</sup> (only some listed)														
Optical Ultrabay SATA disk	Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932)  A disk  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									Windows 7 models     Lenovo® Message Center Plus     ThinkVantage Product Recovery     ThinkVantage Power Manager     Lenovo SimpleTap  Windows 8 models													
in optional or standard ThinkPad Ultrabase Series 3 mSATA™ SSD None									- Windows 8 models - Lenovo Support														
Widescreen (Premium) 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight,										novo Co													
display 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									- All models														
Graphics										Lenovo Solution Center													
supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display;  Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)									Password Manager     Microsoft® Office preloaded; purchase a product key to activate														
Keyboard	6-row, 84-key, ThinkVantage bu							cklight															
TrackPoint® Touchpad ThinkLight™	TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions								Supports ThinkVantage® technologies ThinkPad Ultrabase Series 3														
	without UltraBase; 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) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy ry Li-lon 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) 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								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														
Chipset	Mobile Intel QM77 Express C	hipset							ac		s in ri	ght side:											
Ultrabase Multicard reader	Some: ThinkPad Ultrabase Set 4-in-1 reader (SD, SDHC, SDX		gnt side)							.5mm B	ay Ad	apter III 43	3N3412										
ExpressCard	ard One slot (ExpressCard/34, ExpressCard/54)								Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629														
Ports	Card Read None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)								• 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632														
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	WLAN <sup>4</sup> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2								Other features:  • Power button (front)  • Security key lock, security keyhole														
	Some: Wireless WAN, Ericsson GPRS/WCDMA/HSPA	n® H5321gw I		adband	Module	, PCIe Ha	lf Mini C	ard,				-15 monitor ports single											
SIM card	Some: User selectable, contra	ct required wi	th service	provide	r				D\	'İ-D via (	able -	45J7915)											
Modem Bluetooth™	None Bluetooth 4.0 wireless									ur USB gabit eth		orts (RJ-45) por	t l										
Ethernet Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1									<ul> <li>Mi</li> </ul>	crophon	e in a	nd headpho	ne out										
Intel AMT Audio support	Some: Intel Active Manageme High Definition (HD) Audio, Re	nt Technology altek® Al C320	/ (IAMT) 02 codec	stereo	speaker	s. 1 watt x	2/		<ul> <li>Requires 65W or 90W AC adapter</li> <li>1.39 lb; 630g</li> </ul>														
	volume up, down, mute buttons /	dual array mid	crophone,	combo a	audio/mi	c jack				att AC A													
Security Power-on password, hard disk password, supervisor password, security keyhole Security chip Trusted Platform Module, TCG 1.2-compliant Fingerprint reader Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip									EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support during the warranty period¹2														
Limited warranty <sup>12</sup> <b>3-years</b> /1-year battery, <b>limited onsite service</b> <sup>24</sup> , 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 n	nore detailed information											See footnotes for more detailed information  © Lenovo											