

ThinkPad® X220 (4291) - Onsite (May 2011)

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ² rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Finger print reader	Battery Blue-tooth cells	Global Intel (G) vPro GMP (P)	Pre-load
4291-48U	i7-2620M	4GBx1	12.5" HD Prem		160G SSD	Optional	Optional	Intel 6300 ²⁸	WWAN upg	Fing	Blue	9 vPro	G P Pro 64
4291-47U	i7-2620M	4GBx1	12.5" HD Prem		320G 7200	Optional	Optional	Intel 6300	WWAN upg	Fing	Blue	6 vPro	G P Pro 64
4291-46U	i5-2520M	4GBx1	12.5" HD		320G 7200	Optional	Optional	Intel 6300	WWAN upg	Fing	Blue	6 vPro	G P Pro 64
4291-45U	i7-2620M	4GBx1	12.5" HD		320G 7200	Optional	Optional	Intel 6300	WWAN upg	Fing	Blue	9 vPro	G P Pro 64
4291-43U	i5-2520M	4GBx1	12.5" HD	720p	128G SSD	Optional	Optional	Intel 6205 ²⁸	WWAN upg	Fing	Blue	6 vPro	G P Pro 64
4291-44U	i5-2520M	4GBx1	12.5" HD	720p	320G 7200	Optional	Optional	Intel 6205	WWAN upg	Fing	Blue	6 vPro	G P Pro 64
4291-42U	i5-2540M	4GBx1	12.5" HD Prem		128G SSD	Optional	Optional	Intel 6300	WWAN upg	Fing	Blue	6 vPro	G P Pro 64
4291-4XU	i7-2640M	4GBx1	12.5" HD Prem	720p	320G 7200	Optional	Optional	Intel 6205	WWAN upg	Fing	Blue	9 vPro	G P Pro 64

- Part of the Global Models Plus program with limited onsite service²⁴ 3-year limited warranty
- Microsoft® Office 2010 Product Key Ready (O10PKR)

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-2520M processor (dual-core, 2.50GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-2540M processor (dual-core, 2.60GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-2620M processor (dual-core, 2.70GHz, 4MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology Intel Core i7-2640M processor (dual-core, 2.80GHz, 4MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology										Preloaded operating system ²⁰ - Genuine Windows® 7 Professional 64	
Memory	8GB max ⁷ / PC3-10600 1333MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets										Ready to install applications¹⁴ (all OSes; only some listed) <ul style="list-style-type: none"> • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox Preloaded applications¹⁴ (all OSes; only some listed) <ul style="list-style-type: none"> • Norton™ Internet Security 2011 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Windows Live™ Essentials • Microsoft Office 2010 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW) 	
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 3.0Gb/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, wider view angle, low light sensitive, fixed focus											
Graphics	Intel HD Graphics 3000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via cable 45J7915); supports dual independent display; <i>Maximum external resolution:</i> 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via cable 45J7915)											
Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys 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											Supports ThinkVantage® technologies
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 0.75-1.36"; 305mm x 206.5mm x 19.0-34.6mm <i>4-cell:</i> from 2.97 lb (1.35kg); <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 Lithium Ion 4-cell, 6-cell, or 9-cell, supports optional external battery (0A36280) as 2nd battery None <i>4-cell:</i> up to 4.1 hr; <i>6-cell:</i> up to 9.2 hr; <i>9-cell:</i> up to 13.8 hr; <i>external battery:</i> up to 9.4 hr; <i>9-cell plus external battery:</i> up to 23.2 hr											ThinkPad Ultrabase Series 3 <ul style="list-style-type: none"> • Provides desktop expansion and cable management for X220 and X220 Tablet • Easily connects to the bottom of the X220 or X220 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: <ul style="list-style-type: none"> - DVD-ROM Ultrabay Slim Drive II SATA 1.5G/s 43N3292 - Serial ATA Hard Drive Bay Adapter III 43N3412 • Disks supported (some): <ul style="list-style-type: none"> • 128GB 2.5" SSD II 0A33984
Chipset	Mobile Intel QM67 Express Chipset											
Ultrabase Multicard reader ExpressCard Ports	<i>Option:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>i7 model:</i> One USB 3.0, two USB 2.0 (one powered) <i>other model:</i> Three USB 2.0 (one powered) external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)											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
PCIe Mini Card WLAN ⁴ WWAN Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 Wireless WAN upgradable None Bluetooth 3.0 wireless, LED indicator Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Conexant 20672 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack										65-watt AC Adapter ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹² via 800-426-7378	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant UPEK 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 holidays, next business day response time/ service upgrades ²² available											

See footnotes for more detailed information
US model(s) announced May 3 or October 4, 2011

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ThinkPad® X220i (4287) - TopSeller

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB ⁹ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Finger print reader	Blue-tooth	Battery cells	Intel vPro	Preload
4287-2UU	i3-2310M	4GBx1	12.5" HD	720p	320G 7200	Optional	Optional	Intel 1000	WWAN upg	None	None	6	None	Pro 64
4287-3ZU	i3-2350M	4GBx1	12.5" HD	720p	320G 7200	Optional	Optional	Intel 1000	WWAN upg	None	None	6	None	Pro 64

- **Small and medium business (SMB) model(s), part of the US TopSeller™ Program**
- **A depot repair service 3-year limited warranty**
- **Microsoft® Office 2010 Product Key Ready (O10PKR)**

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i3-2310M processor (dual-core, 2.10GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), HT technology Intel Core i3-2350M processor (dual-core, 2.30GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), HT technology										Preloaded operating system²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications¹⁴ (all OSes; only some listed) • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox			
Memory	8GB max ⁷ / PC3-10600 1333MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets										Preloaded applications¹⁴ (all OSes; only some listed) • Norton™ Internet Security 2011 (30 days of virus definitions) • Skype™ for Windows			
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 3.0Gb/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										Supports ThinkVantage® technologies ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X220 and X220 Tablet • Easily connects to the bottom of the X220 or X220 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: – DVD-ROM Ultrabay Slim Drive II SATA 1.5G/s 43N3292 – Serial ATA Hard Drive Bay Adapter III 43N3412 Disks supported (some): • 128GB 2.5" SSD II 0A33984			
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 HD720p resolution, wider view angle, low light sensitive, fixed focus													
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Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys 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 0.75-1.36"; 305mm x 206.5mm x 19.0-34.6mm 4-cell: from 2.97 lb (1.35kg); 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 Lithium Ion 4-cell, 6-cell, or 9-cell, supports optional external battery (0A36280) as 2nd battery None 4-cell: up to 4.1 hr; 6-cell: up to 9.2 hr; 9-cell: up to 13.8 hr; <i>external battery:</i> up to 9.4 hr; 9-cell plus external battery: up to 23.2 hr										65-watt AC Adapter ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service¹⁷ 24 hour x 7 day¹⁸ toll-free support during the warranty period¹² via 800-426-7378			
Chipset	Mobile Intel QM67 Express Chipset													
Ultrabase Multicard reader ExpressCard Ports	Option: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>17 model:</i> One USB 3.0, two USB 2.0 (one powered) <i>other model:</i> Three USB 2.0 (one powered) external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)										65-watt AC Adapter ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service¹⁷ 24 hour x 7 day¹⁸ toll-free support during the warranty period¹² via 800-426-7378			
PCIe Mini Card WLAN ⁴ WWAN Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 1000, 1x2 Wireless WAN upgradable None None Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None High Definition (HD) Audio, Conexant 20672 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 None										65-watt AC Adapter ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service¹⁷ 24 hour x 7 day¹⁸ toll-free support during the warranty period¹² via 800-426-7378			
Limited warranty ¹²	3-years/1-yr battery - depot repair service / service upgrades²² available													

See footnotes for more detailed information
US model(s) announced March 1 or October 4, 2011

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