

ThinkPad® W520 4284 (Optimus) - Onsite (April 2011)

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB ⁸ rpm	RAID	SATA optical	PCIe Mini Card WLAN	PCIe Mini Card /mSATA	Finger print reader	Color calib	Battery cells	Intel vPro	Global (G) GMP (P)	Pre-load	
4284-4EU	i7-2630QM	4GBx2	15.6" FHD	2000M	2x500G 7200	0		Intel 6300 ²⁸	upg	Finger	X-Rite	9	iAMT	vPro	G P	Pro 64
4284-4YU	i7-2860QM	4GBx2	15.6" FHD	2000M	1x500G 7200		DVD±RW	Intel 6300	upg			9	iAMT	vPro	G P	Pro 64
4284-4ZU	i7-2760QM	4GBx1	15.6" FHD	2000M	1x500G 7200		DVD±RW	Intel 6300	upg			9	iAMT	vPro	G P	Pro 64

- Part of the Global Models Plus program with limited onsite service²⁴ 3-year limited warranty
- Power-packed engineering with Open GL graphics and ISV certifications
- Microsoft® Office 2010 Product Key Ready (O10PKR)

Positioning Processor	<i>Mobile workstation; two spindles</i> Intel® Core™ i7-2630QM processor (quad-core, 2.00GHz, 6MB Cache), DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (2.90GHz), HT technology Intel Core i7-2760QM processor (quad-core, 2.40GHz, 6MB Cache), DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology Intel Core i7-2860QM processor (quad-core, 2.50GHz, 8MB Cache), 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 applications¹⁴ (only some listed) • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox Preloaded applications¹⁴ (only some listed) • 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) • huey™PRO Monitor Color Correction by Pantone®/X-Rite® (color calibration models)
Memory	<i>dual-core model:</i> 16GB max ⁷ , two 204-pin SO-DIMM sockets <i>quad-core model:</i> 32GB max, four 204-pin SO-DIMM sockets <i>All:</i> PC3-10600 1333MHz DDR3, non-parity, dual-channel capable											
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive											
mSATA™ SSD	None											
Widescreen display	15.6" (396mm) FHD (1920x1080) color , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut											
Color calibration	<i>Some:</i> huey™PRO Colorimeter by X-Rite® color calibration sensor in palm rest											
Camera	HD720p resolution, wider view angle, low light sensitive, fixed focus											
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 3000 in processor, and NVIDIA Quadro® 1000M or 2000M , PCI Express® x16, 2GB memory, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via cable 45J7915); supports three independent displays; <i>Maximum external resolution:</i> 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @85Hz; 1920x1200 @60Hz (single-link DVI-D via cable 45J7915)											
Keyboard TrackPoint®	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys											
Touchpad	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling regions label, multi-touch											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions (WxDxH) ³	<i>HD & HD+:</i> 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm <i>FHD:</i> 14.68" x 9.65" x 1.29-1.44"; 372.8mm x 245.1mm x 32.8-36.6mm											
Weight ²	<i>6-cell:</i> starting at 5.40 lb (2.45kg); <i>9-cell:</i> starting at 5.75 lb (2.61kg)											
Case material	<i>Display cover:</i> Carbon-fiber / Glass-fiber hybrid; <i>Bottom:</i> Glass-fiber reinforced plastic without paint											
Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery (57Y4545) as 2nd battery at bottom											
Battery - life ¹⁰	<i>6-cell:</i> up to 6.5 hr; <i>9-cell:</i> up to 10.8 hr; <i>9-cell plus slice battery:</i> up to 21.6 hr											
Chipset	Mobile Intel QM67 Express Chipset											
ExpressCard	One slot (ExpressCard/34)											
Smart Card Reader	None											
Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC)											
Ports	Two USB 3.0 (blue), one Powered USB 2.0 (yellow), one USB 2.0/eSATA combo port, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)											Supports ThinkVantage® technologies
PCIe Mini Card WLAN ⁴	Two PCI Express Mini Card slots											170-watt AC adapter
WWAN	11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Ultimate-N 6300, 3x3											ThinkPad Roll Cage (one-piece magnesium frame)
Modem	Wireless WAN upgradable											EPEAT™ Gold rating
Bluetooth™	56K V.92 ⁶ modem											ENERGY STAR® 5.0-compliant
Ethernet	Bluetooth 3.0 wireless, LED indicator											RoHS-compliant
Intel AMT	Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1											International Warranty Service ¹⁷
Audio support	<i>Some:</i> 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 mic, mic mute button, combo audio/mic jack											24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹² via 800-426-7378
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> UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip											For compatible accessories, please go to O-W520 sheet;
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											For ThinkPlus™, ²² service upgrade options, please go to S-TA sheet

See footnotes for more detailed information

US model(s) announced April 5 or November 1, 2011

⚡ US model withdrawn effective November 2011

© Lenovo

(KN3W-6) November 2011