



# *Personal Systems Reference Lenovo® Essential Desktops*

*April 2013 - Version 435*



H4xx series Desktop



C3xx series All-In-One

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Lenovo C340/C440



Lenovo C340/C440



Lenovo C340/C440



Lenovo C340/C440



Lenovo C340/C440

# Lenovo® C340 - Windows 8 (web only models)

Personal Systems Reference (PSREF)

Part number	Processor	Memory	Wide-screen display	Touch screen	Cam-era	Graphics	SATA disk	Color	TV tuner	PCIe Mini Card 802.11	Remote control	AC adapter	USB3.0	HDMI-out	Keyboard/Mouse	Win8 preload
57311576	i5-3330S	4GBx2	20.0" HD+	None	720p	HD 2500	1TB	Black	None	11b/g/n <sup>28</sup>	None	120W	USB3.0	HDMI-out	USB/Black	Win8 64
57311577	G540	4GBx1	20.0" HD+	None	720p	Intel HD	1TB	White	None	11b/g/n	None	120W	USB3.0	HDMI-out	USB/White	Win8 64
57311578	G540	4GBx1	20.0" HD+	None	720p	Intel HD	500GB	Black	None	11b/g/n	None	120W	USB3.0	HDMI-out	USB/Black	Win8 64
57311574	i3-3220	4+2GB	20.0" HD+	None	720p	HD 2500	1TB	Black	None	11b/g/n	None	120W	USB3.0	HDMI-out	USB/Black	Win8 64

- **All-In-One design with 20.0" 16:9 wide screen**
- **Stereo speakers supporting Dolby Advanced Audio V2**
- **Share media on any device from anywhere through Lenovo Cloud**
- **Stable full-metal stand with 5° forward / 25° backward viewing angle adjustment**

Processor	Intel® Celeron® G540 processor (2 cores / 2 threads, 2.50GHz, 2MB cache), integrated Intel HD Graphics, integrated 1066MHz dual-channel DDR3 memory controller Intel Core™ i3-3220 processor (2 cores / 4 threads, 3.30GHz, 3MB cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i5-3330S processor (4 cores / 4 threads, 2.70GHz, 6MB cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (up to 3.20GHz)		<b>Preloaded operating system</b> <sup>20</sup> - Windows® 8 64-bit  <b>Preloaded applications</b> <sup>14</sup> (only some listed) <b>- Traditional Desktop apps</b> <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Driver and Application Installation</li><li>• Lenovo Dynamic Brightness System</li><li>• Lenovo Eye Distance System</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Adobe® Reader®</li><li>• Nitro PDF</li><li>• CyberLink YouCam</li><li>• CyberLink PowerDVD (DVD±RW)</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Dolby Advanced Audio V2</li><li>• Microsoft Office preloaded; purchase product key to activate</li></ul> <b>- Windows Store apps (Metro-style)</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• AccuWeather</li><li>• eBay</li><li>• Evernote</li><li>• Amazon Kindle</li><li>• Rara Streaming</li><li>• Lenovo Companion</li></ul>
Memory	8GB max <sup>7</sup> / non-parity, <b>PC3-12800 1600MHz DDR3*</b> , two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1066MHz DDR3 memory controller		
SATA DVD±RW	DVD burner, dual-layer support, fixed, removable, 12.7mm, tray-in		
SATA disk	<b>500GB</b> (7200 rpm) or <b>1TB</b> (7200 rpm), SATA 3.0Gb/s, 3.5" wide		
Widescreen display	<b>20.0"</b> (508mm) <b>HD+ (1600x900) TFT color, LED</b> backlight, 250 nits, 16:9 aspect ratio, 1000:1 contrast ratio		
Multi-touch	None		
Camera	HD720p Camera on top of screen, 1.0-megapixel, fixed focus		
Controls	Power on/off, menu, left, right, and display on/off buttons		
Graphics	<b>Intel HD Graphics</b> or <b>Intel HD Graphics 2500</b> , integrated graphics in processor, uses main memory		
Chipset	<b>Intel H61 Express Chipset</b>		
Multicard reader	6-in-1 reader (MultiMedia Card, Memory Stick, Memory Stick PRO™, Secure Digital Card, Secure Digital High Capacity, Secure Digital Extended Capacity)		
Ports	<b>Rear:</b> Four USB 2.0, ethernet (RJ-45), optional TV tuner connector on models equipped with TV tuner, optional HDMI-out <b>Side:</b> Two USB 2.0 or optional USB 3.0		
PCIe Mini Card 11b/g/n <sup>28</sup>	Two PCIe Mini Card slots (one full size and one half size) 11b/g/n wireless <sup>4</sup> , PCIe half Mini Card, Broadcom® BCM94313, Realtek® RTL8188CE, or Atheros® AR9485		
TV tuner	None		
Bluetooth™	None		
Modem	None		
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F		
Audio support	High Definition (HD) Audio, Realtek ALC272 codec / Dolby® Advanced Audio™ v2 certified / two stereo speakers (3 watt x 2) / internal mono microphone, audio-in/microphone jack (3.5 mm), headphone jack (3.5 mm)		
Security	Power-on password, administrator password, security lockhole		
Keyboard	<i>Some:</i> USB full-size keyboard, black <i>Some:</i> USB full-size keyboard, white		
Mouse	<i>Some:</i> USB Optical Wheel Mouse, black <i>Some:</i> USB Optical Wheel Mouse, white		
Remote control	None		
Dimensions <sup>3</sup>	(WxHxD) including stand: 19.65" x 15.63" x 7.72"; 499.0mm x 397.0mm x 196.0mm		
Weight <sup>2</sup>	From 13.1lb (5.94kg), vary by configuration		
Chassis	Front bezel: black color; back bezel: black color		
Stand	Easily adjustable stand (5° forward / 25° backward viewing angle adjustment)		

| **Limited Warranty**<sup>12</sup> ➤ **1-year parts and labor** ➤ **Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts**<sup>23</sup>, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ➤ **Service upgrade options (in eligible locations):**<sup>9</sup>  - **2-year Lenovo In-Home Repair 9x5 Next Business Day** (78Y1552) - **3-year Lenovo In-Home Repair 9x5 Next Business Day** (78Y1553)  ➤ **24x7**<sup>16</sup> toll-free support for warranty issues during the warranty period<sup>12</sup> via 877-453-6686 | | |

See footnotes for important warranty information

☞ US model(s) announced January 30, 2013; previous model(s) on October 23, 2012

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(LIFO-1) February 2013

Part number	Pro-cessor	Memory	Wide-screen display	Touch screen	Cam-era	Graphics	SATA disk	SATA optical	Color	TV tuner	PCIe Mini Card 802.11	USB3.0	HDMI-out	Keyboard/Mouse	Win8 preload
57308750	E2-1800	4GBx1	20.0" HD+	None	720p	HD 7340	500GB	DVD±RW	Black	None	11b/g/n <sup>28</sup>	USB3.0	HDMI-out	USB/Black	Win8 64
57312396	E2-1800	4GBx1	20.0" HD+	None	720p	HD 7340	1TB	DVD±RW	Black	None	11b/g/n	USB3.0	HDMI-out	USB/Black	Win8 64

- **All-In-One design with 20.0" 16:9 wide screen**
- **Stereo speakers supporting Dolby Advanced Audio V2**
- **Share media on any device from anywhere through Lenovo Cloud**
- **Stable full-metal stand with 5° forward / 25° backward viewing angle adjustment**

Processor	AMD Accelerated Processor E2-1800 (2 cores, 1.70GHz, 1MB L2 cache), integrated AMD Radeon HD 7340 Graphics, integrated DDR3 memory controller (up to 1333MHz)		<b>Preloaded operating system</b> <sup>20</sup> - Windows® 8 64-bit  <b>Preloaded applications</b> <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Driver and Application Installation</li><li>• Lenovo Dynamic Brightness System</li><li>• Lenovo Eye Distance System</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Adobe® Reader®</li><li>• Nitro PDF</li><li>• CyberLink YouCam</li><li>• CyberLink PowerDVD (DVD±RW)</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Dolby Advanced Audio V2</li><li>• Microsoft Office preloaded; purchase product key to activate</li><li>• Education Portal</li><li>• Lenovo Support</li><li>• AccuWeather</li><li>• eBay</li><li>• Evernote</li><li>• Amazon Kindle</li><li>• Rara Streaming</li><li>• Lenovo Companion</li></ul>
Memory	8GB max <sup>7</sup> / non-parity, <b>PC3-12800 1600MHz DDR3*</b> , two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller		
SATA DVD±RW SATA disk	DVD burner, dual-layer support, fixed, removable, 12.7mm, tray-in <b>500GB</b> (7200 rpm) or <b>1TB</b> (7200 rpm), SATA 6.0Gb/s, 3.5" wide		
Widescreen display	<b>20.0"</b> (508mm) <b>HD+ (1600x900) TFT color, LED</b> backlight, 250 nits, 16:9 aspect ratio, 1000:1 contrast ratio		
Multi-touch	None		
Camera	HD720p Camera on top of screen, 1.0-megapixel, fixed focus		
Controls	Power on/off, menu, left, right, and display on/off buttons		
Graphics	<b>AMD Radeon HD 7340 graphics</b> , integrated graphics in processor, uses main memory, DirectX® 11		
Chipset	<b>AMD A68 FCH</b>		
Multicard reader	6-in-1 reader (MultiMedia Card, Memory Stick, Memory Stick PRO™, Secure Digital Card, Secure Digital High Capacity, Secure Digital Extended Capacity)		
Ports	<i>Rear:</i> Four USB 2.0, ethernet (RJ-45), optional TV tuner connector on models equipped with TV tuner, optional HDMI-out <i>Side:</i> Two USB 3.0		
PCIe Mini Card 11b/g/n <sup>28</sup>	Two PCIe Mini Card slots (one full size and one half size) 11b/g/n wireless <sup>4</sup> , PCIe half Mini Card, Broadcom® BCM94313, Realtek® RTL8188CE, or Atheros® AR9485		
TV tuner	None		
Bluetooth™	None		
Modem	None		
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F		
Audio support	High Definition (HD) Audio, Realtek ALC272 codec / Dolby® Advanced Audio™ v2 certified / two stereo speakers (3 watt x 2) / internal mono microphone, audio-in/microphone jack (3.5 mm), headphone jack (3.5 mm)		
Security	Power-on password, administrator password, security lockhole		
Keyboard	USB full-size keyboard, black		
Mouse	USB Optical Wheel Mouse, black		
Remote control	None		
Dimensions <sup>3</sup>	(WxHxD) including stand: 19.65" x 15.63" x 7.72"; 499.0mm x 397.0mm x 196.0mm		
Weight <sup>2</sup>	From 10.78lb (4.89kg), vary by configuration		
Chassis	Front bezel: black or white color; back bezel: black or white color		
Stand	Easily adjustable stand (5° forward / 25° backward viewing angle adjustment)		
<b>Limited Warranty</b> <sup>12</sup> ⇒ <b>1-year parts and labor</b> ⇒ <b>Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts</b> <sup>23</sup> , <b>8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)</b> ⇒ <b>Service upgrade options (in eligible locations):</b> <sup>9</sup> <ul style="list-style-type: none"><li>• <b>2-year Lenovo In-Home Repair 9x5 Next Business Day</b> (78Y1552)</li><li>• <b>3-year Lenovo In-Home Repair 9x5 Next Business Day</b> (78Y1553)</li></ul> ⇒ <b>24x7</b> <sup>16</sup> <b>toll-free support for warranty issues during the warranty period</b> <sup>12</sup> <b>via 877-453-6686</b>			

See footnotes for important warranty information

US model(s) announced March 06, 2013; previous model(s) on January 9, 2013

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(LIDO1-1) March 2013

- *All-In-One design with 21.5" 16:9 wide screen*
- *Stereo speakers supporting Dolby Advanced Audio V2*
- *Share media on any device from anywhere through Lenovo Cloud*
- *Stable full-metal stand with 5° forward / 25° backward viewing angle adjustment*

See footnotes for important warranty information  
US model(s) announced October 23, 2012



Part number	Pro-cessor	Memory	Wide-screen display	Touch screen	Cam-era	Graphics	SATA disk	Color	TV tuner	PCIe Mini Card 802.11	Remote control	AC adapter	USB3.0	HDMI-out	Keyboard/Mouse	Win8 preload
57312695	G2020	4GBx1	23" FHD	None	720p	Intel HD	1TB <sup>8</sup>	Black	None	11b/g/n <sup>28</sup>	None	120W	None	HDMI-out	USB/Black	Win8 64

- **All-In-One design with 23" 16:9 wide screen**
- **Dolby Advanced Audio v2 certified audio system with stereo speakers (3 watt x 2)**
- **Share media on any device from anywhere through Lenovo Cloud**
- **Stable full-metal stand with 5° forward / 25° backward viewing angle adjustment**

Processor	Intel® Pentium® G2020 processor (2 cores / 2 threads, 2.90GHz, 3MB cache), integrated Intel HD Graphics, DDR3 memory controller (up to 1333MHz)	Preloaded operating system <sup>20</sup> - Windows® 8 64-bit  Preloaded applications <sup>14</sup> (only some listed) <b>- Traditional Desktop apps</b> <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Driver and Application Installation</li><li>• Lenovo Dynamic Brightness System</li><li>• Lenovo Eye Distance System</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Adobe® Reader®</li><li>• Nitro PDF</li><li>• CyberLink YouCam</li><li>• CyberLink PowerDVD (DVD±RW)</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Microsoft Office preloaded; purchase product key to activate</li><li>• Education Portal</li></ul> <b>- Windows Store apps (Metro-style)</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• AccuWeather</li><li>• eBay</li><li>• Evernote</li><li>• Amazon Kindle</li><li>• Rara Streaming</li><li>• Lenovo Companion</li></ul>	
Memory	8GB max <sup>7</sup> / non-parity, <b>PC3-12800 1600MHz DDR3*</b> , two 204-pin SO-DIMM sockets, dual-channel capable * System automatically clocks down for processors with 1333MHz DDR3 memory controller		
SATA DVD±RW SATA disk SATA controller	DVD burner, dual-layer support, fixed, removable, 12.7mm, tray-in <b>1TB</b> (7200 rpm), SATA 6.0Gb/s, 3.5" wide Serial ATA, SATA 3.0Gb/s support, integrated in chipset		
Widescreen display Multi-touch Camera Controls	<b>23.0"</b> (584.2mm) <b>Full HD (1920x1080 WUXGA) TFT color, LED</b> backlight, 250 nits, 16:9 aspect ratio, 1000:1 contrast ratio None HD720p Camera on top of screen, fixed focus Power on/off, menu, left, right, and display on/off buttons		
Graphics	<b>Intel HD Graphics</b> in processor, DirectX® 10.1, uses main memory		
Chipset Multicard reader	<b>Intel H61 Express Chipset</b> 6-in-1 reader (MultiMedia Card, Memory Stick, Memory Stick PRO™, Secure Digital Card, Secure Digital High Capacity, Secure Digital Extended Capacity)		
Ports	<i>Rear:</i> Four USB 2.0, ethernet (RJ-45), optional TV tuner connector on models equipped with TV tuner, optional HDMI-out <i>Side:</i> Two USB 2.0 (Two USB 3.0 on some models)		
PCIe Mini Card 11b/g/n <sup>28</sup> TV tuner Bluetooth™ Modem Ethernet Audio support	Two PCIe Mini Card slots (one full size and one half size) 11b/g/n wireless <sup>4</sup> , PCIe half Mini Card, Realtek® RTL8188CE or Atheros® AR9485 None None None Gigabit ethernet on planar, Realtek RTL8111F High Definition (HD) Audio, Realtek ALC272 codec / Dolby® Advanced Audio™ v2 certified / two stereo speakers (3 watt x 2) / internal mono microphone, audio-in/microphone jack (3.5 mm), headphone jack (3.5 mm)		
Security	Power-on password, administrator password, security lockhole		
Keyboard Mouse Remote control Touchpad	USB full-size keyboard, black USB Optical Wheel Mouse, black None None		
Dimensions <sup>3</sup> Weight <sup>2</sup> Chassis Stand	(WxHxD) including stand: 22.28" x 16.81" x 7.76"; 566mm x 427mm x 197mm From 15.9lb (7.23kg), vary by configuration Front bezel: black or white color; back bezel: black or white color, matches front color Easily adjustable stand (5° forward / 25° backward viewing angle adjustment)		
			120-watt AC adapter ENERGY STAR® qualified RoHS-compliant
			<b>Limited Warranty<sup>12</sup></b> ⇒ 1-year parts and labor ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts <sup>23</sup> , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ Service upgrade options (in eligible locations): <sup>9</sup> <ul style="list-style-type: none"><li>• 2-year Lenovo In-Home Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo In-Home Repair 9x5 Next Business Day (78Y1553)</li></ul> ⇒ 24x7 <sup>16</sup> toll-free support for warranty issues during the warranty period <sup>12</sup> via 877-453-6686

See footnotes for important warranty information  
US model(s) announced March 6, 2013

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# Lenovo® C540 (Windows 8) - web only models

Personal Systems Reference (PSREF)

Part number	Pro-cessor	Memory	Wide-screen display	Touch screen	Cam-era	Graphics	SATA disk	Color	TV tuner	PCIe Mini Card 802.11	Remote control	AC adapter	USB3.0	HDMI-out	Keyboard/ Mouse	Win8 preload
57313093	i3-3220	4+2GB	23" FHD	None	720p	Intel HD 2500	1TB <sup>8</sup>	Black	TV	11b/g/n <sup>28</sup>	Remote	120W	USB3.0	HDMI-out	USB/Black	Win8 64
57313703	i3-3220	4+2GB	23" FHD	None	720p	Intel HD 2500	1TB	Black		11b/g/n		120W	USB3.0	HDMI-out	USB/Black	Win8 64
57313699	i5-3330S	4GBx2	23" FHD	None	720p	Intel HD 2500	2TB	Black		11b/g/n		120W	USB3.0	HDMI-out	USB/Black	Win8 64

- **All-In-One design with 23" 16:9 wide screen**
- **Dolby Advanced Audio v2 certified audio system with stereo speakers (3 watt x 2)**
- **Share media on any device from anywhere through Lenovo Cloud**
- **Stable full-metal stand with 5° forward / 25° backward viewing angle adjustment**

Processor	Intel® Core™ i3-3220 processor (2 cores / 4 threads, 3.30GHz, 3MB cache), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) Intel Core i5-3330S processor (4 cores / 4 threads, 2.70GHz, 6MB cache), Turbo Boost Technology 2.0 (up to 3.20 GHz), integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz)		<b>Preloaded operating system</b> <sup>20</sup> - Windows® 8 64-bit  <b>Preloaded applications</b> <sup>14</sup> (only some listed) <b>- Traditional Desktop apps</b> <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Driver and Application Installation</li><li>• Lenovo Dynamic Brightness System</li><li>• Lenovo Eye Distance System</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Adobe® Reader®</li><li>• Nitro PDF</li><li>• CyberLink YouCam</li><li>• CyberLink PowerDVD (DVD±RW)</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Microsoft Office preloaded; purchase product key to activate</li><li>• Education Portal</li></ul> <b>- Windows Store apps (Metro-style)</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• AccuWeather</li><li>• eBay</li><li>• Evernote</li><li>• Amazon Kindle</li><li>• Rara Streaming</li><li>• Lenovo Companion</li></ul>
Memory	8GB max <sup>7</sup> / non-parity, <b>PC3-12800 1600MHz DDR3*</b> , two 204-pin SO-DIMM sockets, dual-channel capable * System automatically clocks down for processors with 1333MHz DDR3 memory controller		
SATA DVD±RW	DVD burner, dual-layer support, fixed, removable, 12.7mm, tray-in		
SATA disk	<b>1TB</b> (7200 rpm) or <b>2TB</b> (7200 rpm), SATA 6.0Gb/s, 3.5" wide		
SATA controller	Serial ATA, SATA 3.0Gb/s support, integrated in chipset		
Widescreen display	<b>23.0"</b> (584.2mm) <b>Full HD (1920x1080 WUXGA) TFT color, LED backlight</b> , 250 nits, 16:9 aspect ratio, 1000:1 contrast ratio		
Multi-touch	None		
Camera	HD720p Camera on top of screen, fixed focus		
Controls	Power on/off, menu, left, right, and display on/off buttons		
Graphics	<b>Intel HD Graphics 2500</b> in processor, DirectX® 11, uses main memory		
Chipset	<b>Intel H61 Express Chipset</b>		
Multicard reader	6-in-1 reader (MultiMedia Card, Memory Stick, Memory Stick PRO™, Secure Digital Card, Secure Digital High Capacity, Secure Digital Extended Capacity)		
Ports	<i>Rear:</i> Four USB 2.0, ethernet (RJ-45), optional TV tuner connector on models equipped with TV tuner, optional HDMI-out <i>Side:</i> Two USB 2.0 (Two USB 3.0 on some models)		
PCIe Mini Card	Two PCIe Mini Card slots (one full size and one half size)		
11b/g/n <sup>28</sup>	11b/g/n wireless <sup>4</sup> , PCIe half Mini Card, Realtek® RTL8188CE or Atheros® AR9485		
TV tuner	<i>Some:</i> ATSC TV tuner, PCIe Mini Card		
Bluetooth™	None		
Modem	None		
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F		
Audio support	High Definition (HD) Audio, Realtek ALC272 codec / Dolby® Advanced Audio™ v2 certified / two stereo speakers (3 watt x 2) / internal mono microphone, audio-in/microphone jack (3.5 mm), headphone jack (3.5 mm)		
Security	Power-on password, administrator password, security lockhole		
Keyboard	USB full-size keyboard, black		
Mouse	USB Optical Wheel Mouse, black		
Remote control	<i>Some:</i> Remote control, via IR, black		
Touchpad	None		
Dimensions <sup>3</sup>	(WxHxD) including stand: 22.28" x 16.81" x 7.76"; 566mm x 427mm x 197mm		
Weight <sup>2</sup>	From 15.9lb (7.23kg), vary by configuration		
Chassis	Front bezel: black or white color; back bezel: black or white color, matches front color		
Stand	Easily adjustable stand (5° forward / 25° backward viewing angle adjustment)		
120-watt AC adapter ENERGY STAR® qualified RoHS-compliant			
<b>Limited Warranty</b> <sup>12</sup> ⇒ <b>1-year parts and labor</b> ⇒ <b>Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts</b> <sup>23</sup> , <b>8 am - 5 pm, Mon - Fri coverage</b> <b>excluding holidays, next business day response time)</b> ⇒ <b>Service upgrade options (in eligible locations):</b> <sup>9</sup> <ul style="list-style-type: none"><li>• <b>2-year Lenovo In-Home Repair 9x5 Next Business Day</b> (78Y1552)</li><li>• <b>3-year Lenovo In-Home Repair 9x5 Next Business Day</b> (78Y1553)</li></ul> ⇒ <b>24x7</b> <sup>16</sup> <b>toll-free support for warranty issues during the warranty period</b> <sup>12</sup> <b>via 877-453-6686</b>			

See footnotes for important warranty information

US model(s) announced March 27, 2013; previous model(s) on January 30, 2013

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Type-model	Slot x bay	Processor	GHz	L2 cache	Cores	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	TV tuner	Power supply	Win7 preload	Avail date
7723-1AU	4x4	Athlon II X2 255	3.10	2MB	2	2GBx1	6-in-1	500GB <sup>2</sup>	DVD±RW	Radeon 3000	None	180W	Prem 64	Jan 11
7723-1CU	4x4	Athlon II X4 645	3.10	2MB	4	2GBx2	6-in-1	1TB	DVD±RW	Radeon 3000	None	280W	Prem 64	Jan 11
7723-1DU	4x4	Athlon II X4 645	3.10	2MB	4	2+4GB	6-in-1	1TB	DVD±RW	Radeon 3000	None	280W	Prem 64	Jan 11
7723-1EU	4x4	Athlon II X2 255	3.10	2MB	2	2GBx2	6-in-1	500GB	DVD±RW	Radeon 3000	None	180W	Prem 64	Jan 11
7723-1FU	4x4	Athlon II X2 255	3.10	2MB	2	1+2GB	6-in-1	500GB	DVD±RW	Radeon 3000	None	180W	Prem 64	Jan 11

- **Lenovo Rescue System provides OneKey recovery and OneKey Antivirus without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**

Processor	<b>AMD® Athlon™ II X2 Processor 255 with dual-core</b> , 4000MHz HyperTransport™ Bus, AMD Virtualization™ (AMD-V™) technology, AMD64 technology, integrated 1066MHz DDR3 memory controller, and 2MB L2 cache (1MB per core) <b>AMD Athlon II X4 Processor 645 with quad-core</b> , 4000MHz HyperTransport Bus, AMD Virtualization (AMD-V) technology, AMD64 technology, integrated 1333MHz DDR3 memory controller, and 2MB L2 cache (512kB per core) Processor in Socket AM3	<b>Tower</b> <ul style="list-style-type: none"><li>• Black bezel with glossy finish</li><li>• 6.9" W X 16.9" D X 14.5" H</li><li>• 175mm W X 430mm D X 368mm H</li><li>• 17.6 lb (8.0 kg), weight may vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② N/A, N/A, N/A, media reader* Bay ③ 3.5", 1" high, no access, standard disk Bay ④ 3.5", 1" high, no access, optional disk * Only for optional 6-in-1 media reader
Implementation		Slot 1: half-length,full-height, PCI Express x16 Ver 2.0 Slot 2: half-length,full-height, PCI Express x1 Ver 2.0 Slot 3: half-length,full-height, PCI Express x1 Ver 2.0 Slot 4: half-length,full-height, 32-bit PCI Ver 2.3
Memory	<b>2GB, 3GB, 4GB, or 6GB std</b> , 8GB max <sup>8</sup> , dual-channel capable, <b>PC3-10600 1333MHz DDR3</b> , non-parity, two 240-pin DIMM sockets * System automatically clocks down for processors with 1066MHz DDR3 memory controller	
Graphics	<b>ATI™ Radeon™ 3000</b> , integrated graphics in 760G, uses main memory, DirectX® 10, ATI Avivo™, one analog VGA DB-15 connector, one HDMI connector, HDCP-compliant	
SATA disk	<b>500GB or 1TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB710	
SATA DVD±RW	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Media reader	6-in-1 media reader	
Chipset	<b>AMD 760G Chipset</b> with HyperTransport 3.0 and PCI Express® 2.0 support; SB710 south bridge	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, Realtek® ALC662 codec	
External speakers	None	
Internal speaker	None	
Ethernet	10/100 ethernet on planar, Realtek 8103EL	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	104-key standard keyboard (PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 280 watts, universal, manual switch	
<b>Preloaded operating system</b> <sup>20</sup> <ul style="list-style-type: none"><li>- Genuine Windows® 7 Home Premium 64</li></ul> <b>Preloaded applications</b> <sup>5</sup> <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Driver and Application Installation</li><li>• McAfee® VirusScan® Plus (60 days of virus definitions)</li><li>• Windows Live™ Essential</li></ul> <ul style="list-style-type: none"><li>• Microsoft Office 2010 preloaded; purchase product key to activate</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Lenovo Dynamic Brightness System*</li><li>• Lenovo Eye Distance System*</li><li>* Only applicable for optional Lenovo L2362p monitors</li></ul>		<b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>⇒ 1-year parts and labor</li><li>⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm)</li><li>⇒ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>⇒ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>


**Limited Warranty<sup>1</sup>**

- ≈ 1-year parts and labor
- ≈ **Customer Replaceable Unit (CRU)**  
parts only (with limited onsite service  
for selected parts<sup>3</sup>, 8 am - 5 pm)
- ≈ Service upgrade options  
(in eligible locations):<sup>9</sup>
  - 2-year Lenovo Onsite Repair  
9x5 Next Business Day (78Y1552)
  - 3-year Lenovo Onsite Repair  
9x5 Next Business Day (78Y1553)
- ≈ 24x7<sup>14</sup> toll-free support for warranty  
issues during the warranty period<sup>1</sup>  
via 877-453-6686

See footnotes for important warranty information  
US models announced January 12, 2011


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Type-model	Slot x bay	Processor	GHz	L2 cache	Cores	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	TV tuner	Power supply	Win7 preload	Avail date
7723-1MU	4x4	Athlon II X2 260	3.20	2MB	2	2GBx1	6-in-1	500GB <sup>2</sup>	DVD±RW	Radeon 3000	None	280W	Prem 64	Jul 11
7723-1NU	4x4	Athlon II X2 260	3.20	2MB	2	2GBx2	6-in-1	500GB	DVD±RW	Radeon 3000	None	280W	Prem 64	Jul 11
7723-1KU	4x4	Athlon II X4 650	3.20	2MB	4	4+2GB	6-in-1	1TB	DVD±RW	Radeon 3000	None	280W	Prem 64	Jul 11
7723-1LU	4x4	Athlon II X4 650	3.20	2MB	4	2GBx2	6-in-1	1TB	DVD±RW	Radeon 3000	None	280W	Prem 64	Jul 11
7723-2CU	4x4	Athlon II X2 260	3.20	2MB	2	2GBx2	6-in-1	1TB	DVD±RW	Radeon 3000	None	280W	Prem 64	Dec 11
7723-2DU	4x4	Athlon II X4 650	3.20	2MB	4	4+2GB	6-in-1	1.5TB	DVD±RW	Radeon 3000	None	280W	Prem 64	Dec 11

- **Lenovo Rescue System provides OneKey recovery and OneKey Antivirus without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**

Processor	<b>AMD® Athlon™ II X2 Processor 260 with dual-core</b> , 4000MHz HyperTransport™ Bus, AMD Virtualization™ (AMD-V™) technology, AMD64 technology, integrated 1066MHz DDR3 memory controller, and 2MB L2 cache (1MB per core) <b>AMD Athlon II X4 Processor 650 with quad-core</b> , 4000MHz HyperTransport Bus, AMD Virtualization (AMD-V) technology, AMD64 technology, integrated 1333MHz DDR3 memory controller, and 2MB L2 cache (512KB per core) Processor in Socket AM3	<b>Tower</b> <ul style="list-style-type: none"><li>• Black bezel with glossy finish</li><li>• 6.9" W X 16.9" D X 14.5" H</li><li>• 175mm W X 430mm D X 368mm H</li><li>• 17.6 lb (8.0 kg), weight may vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② N/A, N/A, N/A, media reader* Bay ③ 3.5", 1" high, no access, standard disk Bay ④ 3.5", 1" high, no access, optional disk * Only for optional 6-in-1 media reader
Implementation		Slot 1: half-length,full-height, PCI Express x16 Ver 2.0 Slot 2: half-length,full-height, PCI Express x1 Ver 2.0 Slot 3: half-length,full-height, PCI Express x1 Ver 2.0 Slot 4: half-length,full-height, 32-bit PCI Ver 2.3
Memory	8GB max <sup>8</sup> , dual-channel capable, <b>PC3-10600 1333MHz DDR3</b> , non-parity, two 240-pin DIMM sockets * System automatically clocks down for processors with 1066MHz DDR3 memory controller	
Graphics	<b>ATI™ Radeon™ 3000</b> , integrated graphics in 760G, uses main memory, DirectX® 10, ATI Avivo™, one analog VGA DB-15 connector, one HDMI connector, HDCP-compliant	
SATA disk	<b>500GB, 1TB, or 1.5TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in SB710	
SATA DVD±RW	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Media reader	6-in-1 media reader	
Chipset	<b>AMD 760G Chipset</b> with HyperTransport 3.0 and PCI Express® 2.0 support; SB710 south bridge	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, Realtek® ALC662 codec	
External speakers	None	
Internal speaker	None	
Ethernet	10/100 ethernet on planar, Realtek 8103EL	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	104-key standard keyboard (PS/2 connector), black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	280 watts, universal, manual switch	
<b>Preloaded operating system</b> <sup>20</sup> <ul style="list-style-type: none"><li>- Genuine Windows® 7 Home Premium 64</li></ul> <b>Preloaded applications</b> <sup>5</sup> <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Driver and Application Installation</li><li>• McAfee® VirusScan® Plus (60 days of virus definitions)</li><li>• Windows Live™ Essential</li></ul> <ul style="list-style-type: none"><li>• Microsoft Office 2010 preloaded; purchase product key to activate</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Lenovo Dynamic Brightness System*</li><li>• Lenovo Eye Distance System*</li><li>* Only applicable for optional Lenovo L2362p monitors</li></ul>		<b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>⇒ 1-year parts and labor</li><li>⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm)</li><li>⇒ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>⇒ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>





See footnotes for important warranty information

US models announced December 21, 2011; previous models on July 6, 2011

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(PGKR1-2) December 2011

# Lenovo® H420 (7752) - Windows 7

Personal Systems Reference (PSREF)

Type-model	Slot x bay	Processor	GHz	Cache	Cores	Memory <sup>a</sup>	Media reader	SATA disk	SATA optical	Graphics	TV tuner	802.11 wireless	Power supply	Keyboard / Mouse	Win7 preload
7752-1QU	4x4	Pentium G620	2.60	3MB	2	4GBx1	6-in-1	1TB <sup>2</sup>	DVD±RW	Intel HD	None		280W	PS/2 / USB	Prem 64
7752-1RU	4x4	Pentium G620	2.60	3MB	2	4GBx1	6-in-1	500GB	DVD±RW	Intel HD	None		280W	PS/2 / USB	Prem 64
7752-1SU	4x4	i3-2100	3.10	3MB	2	4GBx1	6-in-1	1TB	DVD±RW	Intel HD	None	11b/g/n	280W	PS/2 / USB	Prem 64
7752-1TU	4x4	i3-2100	3.10	3MB	2	4+2GB	6-in-1	1TB	DVD±RW	Intel HD	None	11b/g/n	280W	PS/2 / USB	Prem 64
7752-2CU	4x4	i3-2120	3.30	3MB	2	2GBx2	6-in-1	1TB	DVD±RW	Intel HD	None	11b/g/n	280W	PS/2 / USB	Prem 64
7752-5GU	4x4	Pentium G630	2.70	3MB	2	4GBx1	6-in-1	500GB	DVD±RW	Intel HD	None		180W	USB / USB	Prem 64
7752-5HU	4x4	i3-2120	3.30	3MB	2	4+2GB	6-in-1	500GB	DVD±RW	Intel HD	None		280W	USB / USB	Prem 64

- **Lenovo Rescue System provides OneKey recovery and OneKey Antivirus without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**

Processor	<b>Intel® Pentium® G620 Processor (2 cores / 2 threads, 2.60 GHz, 3MB Cache)</b> integrated Intel HD Graphics, integrated 1066MHz dual-channel DDR3 memory controller <b>Intel® Pentium® G630 Processor (2 cores / 2 threads, 2.70 GHz, 3MB Cache)</b> integrated Intel HD Graphics, integrated 1066MHz dual-channel DDR3 memory controller <b>Intel Core™ i3-2100 Processor (2 cores / 4 threads, 3.10 GHz, 3MB Cache),</b> integrated Intel HD Graphics, integrated 1333MHz dual-channel DDR3 memory controller <b>Intel Core i3-2120 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache),</b> integrated Intel HD Graphics, integrated 1333MHz dual-channel DDR3 memory controller Processor in LGA1155 socket	<b>Preloaded operating system</b> <sup>20</sup> - Genuine Windows® 7 Home Premium 64  <b>Preloaded applications</b> <sup>5</sup> • Lenovo® Rescue System • Driver and Application Installation • McAfee® VirusScan® Plus (60 days of virus definitions) • Windows Live™ Essentials • Microsoft Office 2010 preloaded; purchase product key to activate • CyberLink Power2Go (DVD±RW) • Lenovo Dynamic Brightness System* • Lenovo Eye Distance System* * Only applicable for optional Lenovo L2362p monitors
Implementation		
Memory	8GB max <sup>8</sup> , dual-channel capable, <b>PC3-10600 1333MHz DDR3*</b> , non-parity, two 240-pin DIMM sockets * System automatically clocks down for processors with 1066MHz DDR3 memory controller	
Graphics	<b>Intel HD Graphics</b> , integrated graphics in processor, uses main memory, DirectX®10, one analog VGA DB-15 connector, one HDMI connector, HDCP-compliant (only for i3/i5/i7 models)	
SATA disk	<b>500GB</b> or <b>1TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA DVD±RW	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Media reader	6-in-1 media reader	
Chipset	<b>Intel H61 Express Chipset</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, keyboard (PS/2), mouse (PS/2), ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, Realtek® ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	<i>Some:</i> 11b/g/n wireless <sup>4</sup> , PCIe x1 adapter	
Ethernet	Gigabit ethernet on planar, Intel 82579LM	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	<i>Some:</i> standard keyboard (PS/2 connector), black <i>Some:</i> standard keyboard (USB connector), black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 280 watts, universal, manual switch	
Mechanical	<b>Tower</b> • Black bezel with glossy finish • 6.9" W X 16.9" D X 14.5" H • 175mm W X 430mm D X 368mm H • 17.6 lb (8.0 kg), weight may vary by configuration Bay ① 5.25", 1.6" high, access, standard optical Bay ② N/A, N/A, N/A, media reader* Bay ③ 3.5", 1" high, no access, standard disk Bay ④ 3.5", 1" high, no access, optional disk * Only for optional 6-in-1 media reader Slot 1: half-length, full-height, PCI Express x16 Ver 2.0 Slot 2: half-length, full-height, PCI Express x1 Ver 2.0* Slot 3: half-length, full-height, PCI Express x1 Ver 2.0 Slot 4: half-length, full-height, PCI Express x1 Ver 2.0 * Wireless adapter in slot in some models	<b>Limited Warranty</b> <sup>1</sup> ⇒ 1-year parts and labor ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts <sup>3</sup> , 8 am - 5 pm) ⇒ Service upgrade options (in eligible locations): <sup>9</sup> • 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552) • 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553) ⇒ 24x7 <sup>14</sup> toll-free support for warranty issues during the warranty period <sup>1</sup> via 877-453-6686


See footnotes for important warranty information

US model(s) announced March 21, 2012; previous models on July 6 or December 21, 2011

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Type-model	Slot x bay	Processor	GHz	Cache	Cores	Memory <sup>3</sup>	Media reader	SATA disk	SATA optical	Graphics	TV tuner	802.11 wireless	Power supply	Keyboard / Mouse	Win7 preload
2558-1PU	4x4	G640	2.80	3MB	2	4GBx1	6-in-1	500GB <sup>2</sup>	DVD±RW	Intel HD	None	None	180W	USB / USB	Prem 64
2558-1CU	4x4	i3-2120	3.30	3MB	2	4+2GB	6-in-1	1TB	DVD±RW	Intel HD 2000	None	None	280W	USB / USB	Prem 64
2558-1BU	4x4	i5-2320	3.00	6MB	4	4GBx2	6-in-1	1TB	DVD±RW	Intel HD 2000	None	None	280W	USB / USB	Prem 64

- **Lenovo Rescue System provides OneKey recovery and OneKey Antivirus without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**


Processor	<b>Intel® Pentium® G640 Processor (2 cores / 2 threads, 2.80 GHz, 3MB Cache)</b> integrated Intel HD Graphics, integrated 1066MHz dual-channel DDR3 memory controller <b>Intel Core™ i3-2120 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2000, integrated 1333MHz dual-channel DDR3 memory controller <b>Intel Core i5-2320 Processor (4 cores / 4 threads, 3.00 GHz, 6MB Cache)</b> , integrated Intel HD Graphics 2000, Turbo Boost Technology 2.0 (up to 3.30 GHz), integrated 1333MHz dual-channel DDR3 memory controller Processor in LGA1155 socket	<b>Preloaded operating system</b> <sup>20</sup> - Genuine Windows® 7 Home Premium 64  <b>Preloaded applications</b> <sup>5</sup> (only some listed) • Lenovo® Rescue System • Driver and Application Installation • McAfee® VirusScan® Plus (60 days of virus definitions) • Windows Live™ Essentials • Microsoft Office 2010 preloaded; purchase product key to activate • CyberLink Power2Go (DVD±RW)
Implementation		
Memory	8GB max <sup>8</sup> , dual-channel capable, <b>PC3-10600 1333MHz DDR3*</b> , non-parity, two 240-pin DIMM sockets * System automatically clocks down for processors with 1066MHz DDR3 memory controller	
Graphics	<b>Intel HD Graphics</b> or <b>Intel HD Graphics 2000</b> , integrated graphics in processor, uses main memory, one analog VGA DB-15 connector, one HDMI connector, HDCP-compliant (only for i3/i5/i7 models)	
SATA disk	<b>500GB</b> or <b>1TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA DVD±RW	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Media reader	6-in-1 media reader	
Chipset	<b>Intel H61 Express Chipset</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, Realtek® ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	None	
Ethernet	Gigabit ethernet on planar, Intel 82579LM	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	Standard keyboard (USB connector), black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 280 watts, universal, manual switch	
Mechanical	<b>Tower</b> • Black bezel with glossy finish • 6.9" W X 16.9" D X 14.5" H • 175mm W X 430mm D X 368mm H • 17.6 lb (8.0 kg), weight may vary by configuration Bay ① 5.25", 1.6" high, access, standard optical Bay ② N/A, N/A, N/A, media reader* Bay ③ 3.5", 1" high, no access, standard disk Bay ④ 3.5", 1" high, no access, optional disk * Only for optional 6-in-1 media reader Slot 1: half-length,full-height, PCI Express x16 Ver 2.0** Slot 2: half-length,full-height, PCI Express x1 Ver 2.0* Slot 3: half-length,full-height, PCI Express x1 Ver 2.0* Slot 4: half-length,full-height, PCI Express x1 Ver 2.0* * TV tuner, USB 3.0 adapter, or wireless adapter in slot in some models ** Graphics adapter in slot in some models	<b>Limited Warranty</b> <sup>1</sup> ⇨ 1-year parts and labor ⇨ <b>Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm)</b> ⇨ <b>Service upgrade options (in eligible locations):</b> <sup>9</sup> • 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552) • 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553) ⇨ 24x7 <sup>14</sup> toll-free support for warranty issues during the warranty period <sup>1</sup> via 877-453-6686

See footnotes for important warranty information  
 US model(s) announced November 8, 2012

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Part number	Slot x bay	Processor	GHz	Cache	Cores	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	TV tuner	802.11 wireless	Power supply	Keyboard / Mouse	Win8 preload
57309109	4x4	G645	2.90	3MB	2	4GBx1, 1333	6-in-1	1TB <sup>2</sup>	DVD±RW	Intel HD	None	None	180W	USB / USB	Win8 64
57310770	4x4	i3-2130	3.40	3MB	2	4+2GB, 1333	6-in-1	1TB	DVD±RW	Intel HD 2000	None	None	280W	USB / USB	Win8 64
57311432	4x4	i5-3330	3.00	6MB	4	4GBx2, 1600	6-in-1	1TB	DVD±RW	Intel HD 2500	None	None	280W	USB / USB	Win8 64
57312387	4x4	i3-3220	3.30	3MB	2	4+2GB, 1600	6-in-1	1TB	DVD±RW	Intel HD 2500	None	None	280W	USB / USB	Win8 64
57312709	4x4	G2020	2.90	3MB	2	4GBx1, 1333	6-in-1	1TB	DVD±RW	Intel HD	None	None	180W	USB / USB	Win8 64

- **Lenovo Rescue System provides OneKey recovery and OneKey Antivirus without booting into Windows**

Processor	<b>Intel® Pentium® G645 Processor (2 cores / 2 threads, 2.90 GHz, 3MB Cache)</b> integrated Intel HD Graphics, DDR3 memory controller (up to 1066MHz) <b>Intel Pentium G2020 Processor (2 cores / 2 threads, 2.90 GHz, 3MB Cache)</b> integrated Intel HD Graphics, DDR3 memory controller (up to 1333MHz) <b>Intel Core™ i3-2130 Processor (2 cores / 4 threads, 3.40 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2000, DDR3 memory controller (up to 1333MHz) <b>Intel Core i3-3220 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2500, DDR3 memory controller (up to 1600MHz) <b>Intel Core i5-3330 Processor (4 cores / 4 threads, 3.00 GHz, 6MB Cache)</b> , integrated Intel HD Graphics 2500, Turbo Boost Technology 2.0 (up to 3.20 GHz), DDR3 memory controller (up to 1600MHz) Processor in LGA1155 socket	<b>Preloaded operating system</b> <sup>20</sup> - Windows® 8 64-bit  <b>Preloaded applications</b> <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Driver and Application Installation</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Adobe® Reader®</li><li>• Cyberlink PowerDVD (DVD±RW)</li><li>• Cyberlink Power2Go (DVD±RW)</li><li>• Microsoft Office preloaded; purchase product key to activate</li><li>• Intel AppUp®</li><li>• AccuWeather</li><li>• Evernote</li><li>• Kindle</li><li>• Lenovo Support</li><li>• Lenovo Companion</li></ul>	
Implementation			
Memory	8GB max <sup>8</sup> , <b>PC3-10600 1333MHz DDR3</b> or <b>PC3-12800 1600MHz DDR3*</b> , non-parity, dual-channel capable, two 240-pin DIMM sockets * System automatically clocks down for processors with 1066MHz or 1333MHz DDR3 memory controller		
Graphics	<b>Intel HD Graphics, Intel HD Graphics 2000, or Intel HD Graphics 2500</b> , integrated graphics in processor, uses main memory, one analog VGA DB-15 connector, one HDMI connector, HDCP-compliant (only for i3/i5/i7 models)		
SATA disk	<b>1TB</b> , SATA 3.0Gb/s, 7200 rpm		
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset		
SATA DVD±RW	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive		
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors		
EIDE controller	None		
EIDE cables	None		
Diskette drive	None		
Media reader	6-in-1 media reader		
Chipset	<b>Intel H61 Express Chipset</b>		
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Four USB 2.0, ethernet (RJ-45), monitor (VGA DB-15, HDMI)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)		
Audio	High Definition (HD) audio, Realtek® ALC662 codec		
External speakers	None		
Internal speaker	None		
Wireless	None		
Ethernet	Gigabit ethernet on planar, Intel 82579LM		
Modem	None		
Security chip	None		
TV tuner	None		
Camera	None		
Keyboard	Standard keyboard (USB connector), black		
Mouse	Optical Wheel Mouse (USB connector), black		
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 280 watts, universal, manual switch		
Mechanical	<b>Tower</b> <ul style="list-style-type: none"><li>• Black bezel with glossy finish</li><li>• 6.9" W X 16.9" D X 14.5" H</li><li>• 175mm W X 430mm D X 368mm H</li><li>• 17.6 lb (8.0 kg), weight may vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② N/A, N/A, N/A, media reader* Bay ③ 3.5", 1" high, no access, standard disk Bay ④ 3.5", 1" high, no access, optional disk * Only for optional 6-in-1 media reader Slot 1: half-length, full-height, PCI Express x16 Ver 2.0** Slot 2: half-length, full-height, PCI Express x1 Ver 2.0* Slot 3: half-length, full-height, PCI Express x1 Ver 2.0* Slot 4: half-length, full-height, PCI Express x1 Ver 2.0* * TV tuner, USB 3.0 adapter, or wireless adapter in slot in some models ** Graphics adapter in slot in some models		<b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>➤ 1-year parts and labor</li><li>➤ <b>Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm)</b></li><li>➤ <b>Service upgrade options (in eligible locations):</b><sup>9</sup><ul style="list-style-type: none"><li>• 2-year <b>Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</b></li><li>• 3-year <b>Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</b></li></ul></li><li>➤ <b>24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</b></li></ul>

See footnotes for important warranty information

US model(s) announced March 6, 2013; previous model(s) on November 8, 2012


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(PGKR4-2) March 2013



Type-model	Slot x bay	Processor	GHz	Cores	Memory <sup>a</sup>	Media reader	SATA disk	SATA optical	Graphics	TV tuner	802.11 wireless	Power supply	Keyboard / Mouse	Win7 preload	Avail data
3099-1NU	4x4	A6-3600	2.10	4	4GBx1, 1333	6-in-1	500GB <sup>2</sup>	DVD±RW	HD 6530D	None	None	180W	USB / USB	Prem 64	Apr 12
3099-1RU	4x4	A8-3800	2.40	4	2+4GB, 1333	6-in-1	500GB	DVD±RW	HD 6550D	None	None	280W	USB / USB	Prem 64	Apr 12
☞ 3099-1DU	4x4	E2-3200	2.40	2	4GBx1, 1333	6-in-1	500GB	DVD±RW	HD 6370D	None	None	180W	USB / USB	Prem 64	Aug 12
☞ 3099-1VU	4x4	A4-3420	2.80	2	2+4GB, 1333	6-in-1	500GB	DVD±RW	HD 6410D	None	None	180W	USB / USB	Prem 64	Aug 12
☞ 3099-1UU	4x4	A6-3620	2.20	4	2+4GB, 1600	6-in-1	1TB	DVD±RW	HD 6530D	None	None	280W	USB / USB	Prem 64	Aug 12
☞ 3099-1TU	4x4	A8-3850	2.90	4	4GBx2, 1600	6-in-1	1TB	DVD±RW	HD 6550D	None	None	280W	USB / USB	Prem 64	Aug 12

- **Lenovo Rescue System provides OneKey recovery and OneKey Antivirus without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**

Processor	<b>AMD Accelerated Processor E2-3200</b> (dual-core, 2.40GHz, 1MB L2 cache), integrated AMD Radeon™ HD 6370D Graphics, integrated DDR3 memory controller (up to 1600MHz) <b>AMD Accelerated Processor A4-3420</b> (dual-core, 2.80GHz, 1MB L2 cache), integrated AMD Radeon HD 6410D Graphics, integrated DDR3 memory controller (up to 1600MHz) <b>AMD Accelerated Processor A6-3600</b> (quad-core, 2.10GHz, 4MB L2 cache), integrated AMD Radeon HD 6530D Graphics, AMD Turbo Core technology (up to 2.40GHz), integrated DDR3 memory controller (up to 1866MHz) <b>AMD Accelerated Processor A6-3620</b> (quad-core, 2.20GHz, 4MB L2 cache), integrated AMD Radeon HD 6530D Graphics, AMD Turbo Core technology (up to 2.50GHz), integrated DDR3 memory controller (up to 1866MHz) <b>AMD Accelerated Processor A8-3800</b> (quad-core, 2.40GHz, 4MB L2 cache), integrated AMD Radeon HD 6550D Graphics, AMD Turbo Core technology (up to 2.70GHz), integrated DDR3 memory controller (up to 1866MHz) <b>AMD Accelerated Processor A8-3850</b> (quad-core, 2.90GHz, 4MB L2 cache), integrated AMD Radeon HD 6550D Graphics, integrated DDR3 memory controller (up to 1866MHz) Processor in FM1 socket	<b>Preloaded operating system</b> <sup>20</sup> - Genuine Windows® 7 Home Premium 64  <b>Preloaded applications</b> <sup>5</sup> <ul style="list-style-type: none"><li>• Lenovo® Rescue System</li><li>• Driver and Application Installation</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Windows Live™ Essentials</li><li>• Microsoft Office 2010 preloaded; purchase product key to activate</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Lenovo Dynamic Brightness System*</li><li>• Lenovo Eye Distance System*</li></ul> * Only applicable for optional Lenovo L2362p monitors
Implementation	Processor in FM1 socket	
Memory	8GB max <sup>8</sup> , dual-channel capable, <b>PC3-10600 1333MHz DDR3</b> or <b>PC3-12800 1600MHz DDR3</b> , non-parity, two 240-pin DIMM sockets	
Graphics	<b>AMD Radeon HD Graphics</b> , integrated graphics in processor, uses main memory, DirectX® 11, one analog VGA DB-15 connector, one HDMI connector, HDCP-compliant	
SATA disk	<b>500GB</b> or <b>1TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA DVD±RW	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), three SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Media reader	6-in-1 media reader	
Chipset	<b>AMD A55 FCH</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, Realtek® ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	None	
Ethernet	Gigabit ethernet on planar, Realtek RTL8111E	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	Full-size keyboard (USB connector), Fn keys, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 280 watts, universal, manual switch	
Mechanical	<b>Tower</b> <ul style="list-style-type: none"><li>• Black bezel with glossy finish</li><li>• 6.9" W X 16.9" D X 14.5" H</li><li>• 175mm W X 430mm D X 368mm H</li><li>• 17.6 lb (8.0 kg), weight may vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② N/A, N/A, N/A, media reader* Bay ③ 3.5", 1" high, no access, standard disk Bay ④ 3.5", 1" high, no access, optional disk * Only for optional 6-in-1 media reader Slot 1: half-length, full-height, PCI Express x16 Ver 2.0 Slot 2: half-length, full-height, PCI Express x1 Ver 2.0** Slot 3: half-length, full-height, PCI Express x1 Ver 2.0 Slot 4: half-length, full-height, PCI Express x1 Ver 2.0 ** Wireless adapter in slot in some models	
	<b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>⇒ 1-year parts and labor</li><li>⇒ <b>Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm)</b></li><li>⇒ <b>Service upgrade options (in eligible locations):</b><sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>⇒ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>	




See footnotes for important warranty information

☞ US model(s) announced August 17, 2012; previous model(s) April 11, 2012




Part number	Slot x bay	Processor	GHz	Cores	Memory <sup>a</sup>	Media reader	SATA disk	SATA optical	Graphics	TV tuner	802.11 wireless	Power supply	Keyboard / Mouse	Win8 preload	Avail data (mm/yy)
57308795	4x4	A4-3420	2.80	2	4GBx1, 1600	6-in-1	1TB <sup>2</sup>	DVD±RW	HD 6410D	None	None	180W	USB / USB	Win8 64	11/12
57308959	4x4	A6-3650	2.60	4	4+2GB, 1600	6-in-1	1TB	DVD±RW	HD 6530D	None	None	280W	USB / USB	Win8 64	11/12
57308960	4x4	A8-3850	2.90	4	4GBx2, 1600	6-in-1	1TB	DVD±RW	HD 6550D	None	None	280W	USB / USB	Win8 64	11/12
57308958	4x4	A8-3850	2.90	4	4GBx2, 1600	6-in-1	2TB	DVD±RW	HD 6550D	None	None	280W	USB / USB	Win8 64	11/12

- **Lenovo Rescue System provides OneKey recovery and OneKey Antivirus without booting into Windows**

Processor	<b>AMD Accelerated Processor A4-3420</b> (dual-core, 2.80GHz, 1MB L2 cache), integrated AMD Radeon™ HD 6410D Graphics, integrated DDR3 memory controller (up to 1600MHz) <b>AMD Accelerated Processor A6-3650</b> (quad-core, 2.60GHz, 4MB L2 cache), integrated AMD Radeon HD 6530D Graphics, integrated DDR3 memory controller (up to 1866MHz) <b>AMD Accelerated Processor A8-3850</b> (quad-core, 2.90GHz, 4MB L2 cache), integrated AMD Radeon HD 6550D Graphics, integrated DDR3 memory controller (up to 1866MHz) Processor in FM1 socket	<b>Preloaded operating system</b> <sup>20</sup> - Windows® 8 64-bit  <b>Preloaded applications</b> <sup>5</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® OneKey Recovery</li><li>• Driver and Application Installation</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Nitro PDF</li><li>• Adobe® Reader®</li><li>• Microsoft® Office preloaded; purchase product key to activate</li><li>• Cyberlink PowerDVD (DVD±RW)</li><li>• CyberLink Power2Go (DVD±RW)</li><li>• Exent Games Portal</li><li>• Intel AppUp®</li><li>• AccuWeather</li><li>• Evernote</li><li>• Kindle</li><li>• Rara Streaming</li><li>• eBay</li><li>• Lenovo Support</li><li>• Lenovo Companion</li></ul>
Implementation		
Memory	8GB max <sup>8</sup> , dual-channel capable, <b>PC3-12800 1600MHz DDR3</b> , non-parity, two 240-pin DIMM sockets	
Graphics	<b>AMD Radeon HD Graphics</b> , integrated graphics in processor, uses main memory, DirectX® 11, one analog VGA DB-15 connector, one HDMI connector, HDCP-compliant	
SATA disk	<b>1TB</b> or <b>2TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA DVD±RW	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), three SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Media reader	6-in-1 media reader	
Chipset	<b>AMD A55 FCH</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, Realtek® ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	None	
Ethernet	Gigabit ethernet on planar, Realtek RTL8111E	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	Full-size keyboard (USB connector), Fn keys, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 280 watts, universal, manual switch	
Mechanical	<b>Tower</b> <ul style="list-style-type: none"><li>• Black bezel with glossy finish</li><li>• 6.9" W X 16.9" D X 14.5" H</li><li>• 175mm W X 430mm D X 368mm H</li><li>• 17.6 lb (8.0 kg), weight may vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② N/A, N/A, N/A, media reader* Bay ③ 3.5", 1" high, no access, standard disk Bay ④ 3.5", 1" high, no access, optional disk * Only for optional 6-in-1 media reader Slot 1: half-length,full-height, PCI Express x16 Ver 2.0 Slot 2: half-length,full-height, PCI Express x1 Ver 2.0** Slot 3: half-length,full-height, PCI Express x1 Ver 2.0 Slot 4: half-length,full-height, PCI Express x1 Ver 2.0 ** Wireless adapter in slot in some models	  <b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>➤ 1-year parts and labor</li><li>➤ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm)</li><li>➤ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>➤ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>

Part number	Slot x bay	Pro-processor	GHz	Cores	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	802.11 wireless	TV tuner	Power adapter	Keyboard/Mouse	Win8 preload	Avail date (mm/yy)
57308578	1x2	E2-1800	1.70	Dual	4GBx1	7-in-1	500GB <sup>2</sup>	DVD±RW	Radeon HD 7340	None	None	65W	USB / USB	Win8 64	01/13
57312710	1x2	E2-1800	1.70	Dual	4GBx1	7-in-1	1TB	DVD±RW	Radeon HD 7340	None	None	65W	USB / USB	Win8 64	03/13

- **Lenovo Rescue System provides OneKey recovery without booting into Windows**

Processor	<b>AMD Accelerated Processor E2-1800 (2 cores, 1.70GHz, 1MB L2 cache)</b> , integrated AMD Radeon HD 7340 Graphics, integrated DDR3 memory controller (up to 1333MHz) Processor in FT1 packages		<b>Small Form Factor (11L)</b> <ul style="list-style-type: none"><li>• Glossy black and brushed metal</li><li>• 4.1" L X 14.2" D X 12.0" H</li><li>• 105mm W X 360mm D X 305mm H</li><li>• 11.0 lb (5.0 kg) vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, no access, standard disk Slot 1: half-length, Low Profile, PCI Express x1 Ver 2.0
Implementation			
Memory	8GB max <sup>8</sup> , <b>PC3-12800 1600MHz DDR3*</b> , non-parity, single-channel, two 240-pin DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller		
Graphics	<b>AMD Radeon HD 7340 graphics</b> , integrated in processor, uses main memory, DirectX <sup>®</sup> 11, one analog VGA DB-15 connector, one HDMI connector, HDCP		
SATA disk	<b>500GB</b> or <b>1TB</b> , SATA 6.0Gb/s, 7200 rpm		
SATA optical	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive		
SATA controller	Serial ATA, SATA 6.0Gb/s, integrated in chipset		
SATA cables	Two SATA cables (each 1-drop to device), two SATA connectors		
EIDE controller	None		
EIDE cables	None		
Diskette drive	None		
Multicard reader	7-in-1 reader (SD, SDHC, SDXC, MMC, MMC plus, MS, MS pro)		
Chipset	<b>AMD A68 FCH</b>		
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)		
Rear ports	Two USB 2.0, two USB 3.0, ethernet (RJ-45), monitor (VGA DB-15, HDMI)		
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)		
Audio	High Definition (HD) audio, Realtek ALC662-VD codec		
External speakers	None		
Internal speaker	None		
Wireless	None		
Ethernet	10/100M ethernet on planar, Realtek RTL8105E		
Modem	None		
Security chip	None		
TV tuner	None		
Camera	None		
Keyboard	Full-size keyboard (USB connector), Fn keys, black		<b>Limited Warranty<sup>1</sup></b> <ul style="list-style-type: none"><li>⇒ 1-year parts and labor</li><li>⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)</li><li>⇒ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>⇒ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>
Mouse	Optical Wheel Mouse (USB connector), black		
Power supply	65 watts power adapter, ENERGY STAR <sup>®</sup> qualified		
<b>Preloaded operating system<sup>20</sup></b> <ul style="list-style-type: none"><li>- Windows<sup>®</sup> 8 64-bit</li></ul> <b>Preloaded applications<sup>5</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo<sup>®</sup> OneKey Recovery</li><li>• Driver and Application Installation</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• McAfee<sup>®</sup> Internet Security (30-Day Trial)</li><li>• Nitro PDF</li><li>• Adobe<sup>®</sup> Reader<sup>®</sup></li><li>• Microsoft<sup>®</sup> Office preloaded; purchase product key to activate</li><li>• Cyberlink PowerDVD (DVD±RW, Blu-ray models)</li><li>• CyberLink Power2Go (DVD±RW, Blu-ray models)</li><li>• Exent Games Portal</li><li>• Intel AppUp<sup>®</sup></li><li>• AccuWeather</li><li>• Evernote</li><li>• Kindle</li><li>• Rara Streaming</li><li>• eBay</li><li>• Lenovo Support</li><li>• Lenovo Companion</li></ul>			




See footnotes for important warranty information

US model(s) announced March 6, 2013; previous model(s) on January 9, 2013

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(CRET3-1) March 2013

Type-model	Slot x bay	Pro-processor	GHz	Max turbo (GHz)	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	802.11 wireless	USB3.0	Power supply	Keyboard/ Mouse	Win7 preload	Avail date (mm/yy)
2561-2JU	2x2	G640	2.80		4GBx1	7-in-1	500GB <sup>2</sup>	DVD±RW	Intel HD Graphics	11b/g/n <sup>28</sup>	None	180W	USB / USB	Prem 64	08/12
2561-1SU	2x2	i3-2120	3.30		4GBx1	7-in-1	1TB	DVD±RW	Intel HD 2000	11b/g/n	None	180W	USB / USB	Prem 64	08/12
2561-1LU	2x2	i5-2320	3.00	3.30	4+2GB	7-in-1	1TB	DVD±RW	Intel HD 2000	11b/g/n	None	240W	USB / USB	Prem 64	08/12

- **Lenovo Rescue System provides OneKey recovery without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**


Processor	<b>Intel® Pentium® G640 Processor (2 cores / 2 threads, 2.80 GHz, 3MB Cache)</b> , integrated Intel HD Graphics, integrated 1066MHz dual-channel DDR3 memory controller <b>Intel Core™ i3-2120 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2000, integrated 1333MHz dual-channel DDR3 memory controller <b>Intel Core i5-2320 Processor (4 cores / 4 threads, 3.00 GHz, 6MB Cache)</b> , Turbo Boost Technology 2.0 (up to 3.30 GHz), integrated Intel HD Graphics 2000, integrated 1333MHz dual-channel DDR3 memory controller Processor in LGA1155 socket	<b>Small Form Factor (11L)</b> <ul style="list-style-type: none"><li>• Glossy black and brushed metal</li><li>• 4.1" L X 14.2" D X 12.0" H</li><li>• 105mm W X 360mm D X 305mm H</li><li>• 17.4 lb (7.9 kg) vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, no access, standard disk Slot 1: half-length, Low Profile, PCI Express x16 Ver 2.0 Slot 2: half-length, Low Profile, PCI Express x1 Ver 2.0**  * Graphics adapter in slot on some models ** TV tuner or USB 3.0 card in slot on some models
Implementation		
Memory	8GB max <sup>8</sup> , <b>PC3-10600 1333MHz DDR3</b> , non-parity, dual-channel capable, two 240-pin DIMM sockets * System automatically clocks down for processors with 1066MHz DDR3 memory controller	
Graphics	<b>Intel HD Graphics</b> or <b>Intel HD Graphics 2000</b> , integrated in processor, uses main memory, one analog VGA DB-15 connector, one HDMI connector, HDCP	
SATA disk	<b>500GB</b> or <b>1TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA optical	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Multicard reader	7-in-1 reader (SD, SDHC, SDXC, MMC, MMC plus, MS, MS pro)	
Chipset	<b>Intel H61 Express Chipset</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	11b/g/n wireless <sup>4</sup> , PCIe Half Mini Card, Realtek® or Atheros® chip	
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	Full-size keyboard (USB connector), Fn keys, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 240 watts, universal, auto-sensing	
<b>Preloaded operating system</b> <sup>20</sup> <ul style="list-style-type: none"><li>- Genuine Windows® 7 Home Premium 64</li></ul> <b>Preloaded applications</b> <sup>5</sup> <ul style="list-style-type: none"><li>• Lenovo® OneKey Recovery</li><li>• Driver and Application Installation</li><li>• McAfee® AntiVirus Plus (60 days of virus definitions)</li><li>• Power Setting</li><li>• Cyberlink PowerDVD (Blu-ray models)</li><li>• CyberLink Power2Go (DVD±RW, Blu-ray models)</li><li>• Windows Live Essentials</li><li>• Microsoft® Office 2010 preloaded; purchase product key to activate</li></ul>		
		<b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>↪ 1-year parts and labor</li><li>↪ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)</li><li>↪ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>↪ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>

See footnotes for important warranty information  
 US model(s) announced August 17, 2012

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 (CRET1-2) August 2012

Part number	Slot x bay	Pro-processor	GHz	Max turbo (GHz)	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	802.11 wireless	USB3.0	Power supply	Keyboard/ Mouse	Win8 preload	Avail date (mm/yy)
57309119	2x2	G645	2.90		4GBx1	7-in-1	500GB <sup>2</sup>	DVD±RW	Intel HD Graphics	11b/g/n <sup>28</sup>	None	180W	USB / USB	Win8 64	11/12
57311165	2x2	i3-2130	3.40		4GBx1	7-in-1	500GB	DVD±RW	Intel HD 2000	None	None	180W	USB / USB	Win8 64	11/12
57311128	2x2	i3-2130	3.40		4GBx1	7-in-1	1TB	DVD±RW	Intel HD 2000	11b/g/n	None	180W	USB / USB	Win8 64	11/12
57311365	2x2	i5-3330	3.00	3.20	4+2GB	7-in-1	1TB	DVD±RW	Intel HD 2500	11b/g/n	None	240W	USB / USB	Win8 64	11/12
57312711	2x2	G2020	2.90		4GBx1	7-in-1	1TB	DVD±RW	Intel HD Graphics	11b/g/n	None	180W	USB / USB	Win8 64	02/13
57312877	2x2	i3-3220	3.30		4GBx1	7-in-1	1TB	DVD±RW	Intel HD 2500	11b/g/n	None	180W	USB / USB	Win8 64	02/13

- **Lenovo Rescue System provides OneKey recovery without booting into Windows**

Processor	<b>Intel® Pentium® G645 Processor (2 cores / 2 threads, 2.90 GHz, 3MB Cache)</b> , integrated Intel HD Graphics, integrated 1066MHz dual-channel DDR3 memory controller <b>Intel Pentium G2020 Processor (2 cores / 2 threads, 2.90 GHz, 3MB Cache)</b> , integrated Intel HD Graphics, integrated 1333MHz dual-channel DDR3 memory controller <b>Intel Core™ i3-2130 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2000, integrated 1333MHz dual-channel DDR3 memory controller <b>Intel Core i3-3220 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2500, integrated 1600MHz dual-channel DDR3 memory controller <b>Intel Core i5-3330 Processor (4 cores / 4 threads, 3.00 GHz, 6MB Cache)</b> , Turbo Boost Technology 2.0 (up to 3.20 GHz), integrated Intel HD Graphics 2500, integrated 1600MHz dual-channel DDR3 memory controller Processor in LGA1155 socket	<b>Small Form Factor (11L)</b> <ul style="list-style-type: none"><li>• Glossy black and brushed metal</li><li>• 4.1" L X 14.2" D X 12.0" H</li><li>• 105mm W X 360mm D X 305mm H</li><li>• 17.4 lb (7.9 kg) vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, no access, standard disk Slot 1: half-length, Low Profile, PCI Express x16 Ver 2.0* Slot 2: half-length, Low Profile, PCI Express x1 Ver 2.0**  * Graphics adapter in slot on some models ** TV tuner or USB 3.0 card in slot on some models
Implementation		
Memory	8GB max <sup>8</sup> , <b>PC3-10600 1333MHz DDR3</b> , non-parity, dual-channel capable, two 240-pin DIMM sockets * System automatically clocks down for processors with 1066MHz DDR3 memory controller	
Graphics	<b>Intel HD Graphics, Intel HD Graphics 2000, or Intel HD Graphics 2500</b> , integrated in processor, uses main memory, one VGA connector, one HDMI connector	
SATA disk	<b>500GB or 1TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA optical	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Multicard reader	7-in-1 reader (SD, SDHC, SDXC, MMC, MMC plus, MS, MS pro)	
Chipset	<b>Intel H61 Express Chipset</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0, ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	<i>Some:</i> 11b/g/n wireless <sup>4</sup> , PCIe Half Mini Card, Realtek® or Atheros® chip	
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	Full-size keyboard (USB connector), Fn keys, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 240 watts, universal, auto-sensing	
<b>Preloaded operating system<sup>20</sup></b> - Windows® 8 64-bit		
<b>Preloaded applications<sup>5</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® OneKey Recovery</li><li>• Driver and Application Installation</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Nitro PDF</li><li>• Adobe® Reader®</li><li>• Microsoft® Office preloaded; purchase product key to activate</li><li>• Cyberlink PowerDVD (DVD±RW, Blu-ray models)</li><li>• CyberLink Power2Go (DVD±RW, Blu-ray models)</li><li>• Exent Games Portal</li><li>• Intel AppUp®</li><li>• AccuWeather</li><li>• Evernote</li><li>• Kindle</li><li>• Rara Streaming</li><li>• eBay</li><li>• Lenovo Support</li><li>• Lenovo Companion</li></ul>		<b>Limited Warranty<sup>1</sup></b> <ul style="list-style-type: none"><li>➤ 1-year parts and labor</li><li>➤ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)</li><li>➤ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>➤ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>

See footnotes for important warranty information

US model(s) announced February 21, 2013; previous model(s) on November 28, 2012

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 (CRET1-4) February 2013




# Lenovo® H520s (2561) - web only models

Personal Systems Reference (PSREF)

Type-model	Slot x bay	Pro-processor	GHz	Max turbo (GHz)	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	802.11 wireless	USB3.0	Power supply	Keyboard/ Mouse	Win7 preload	Avail date (mm/yy)
2561-5AU	2x2	i3-2130	3.40		4+2GB	7-in-1	1TB <sup>2</sup>	DVD±RW	Intel HD 2000	None	USB3.0	180W	2.4G / 2.4G	Prem 64	08/12

- **Lenovo Rescue System provides OneKey recovery without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**

Processor	<b>Intel® Core™ i3-2130 Processor (2 cores / 4 threads, 3.40 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2000, integrated 1333MHz dual-channel DDR3 memory controller	<b>Small Form Factor (11L)</b> <ul style="list-style-type: none"><li>• Glossy black and brushed metal</li><li>• 4.1" L X 14.2" D X 12.0" H</li><li>• 105mm W X 360mm D X 305mm H</li><li>• 17.4 lb (7.9 kg) vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, no access, standard disk Slot 1: half-length, Low Profile, PCI Express x16 Ver 2.0* Slot 2: half-length, Low Profile, PCI Express x1 Ver 2.0** * Graphics adapter in slot on some models ** TV tuner or USB 3.0 card in slot on some models
Implementation	Processor in LGA1155 socket	
Memory	8GB max <sup>8</sup> , <b>PC3-10600 1333MHz DDR3</b> , non-parity, dual-channel capable, two 240-pin DIMM sockets	
Graphics	<b>Intel HD Graphics 2000</b> , integrated in processor, uses main memory, one analog VGA DB-15 connector, one HDMI connector, HDCP	
SATA disk	<b>1TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA optical	Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Multicard reader	7-in-1 reader (SD, SDHC, SDXC, MMC, MMC plus, MS, MS pro)	
Chipset	<b>Intel H61 Express Chipset</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0 and two USB 3.0 (Via USB 3.0 adding card on selected models), ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	None	
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	2.4G wireless Ultra Slim keyboard, 6-row, Fn keys, black	
Mouse	2.4G wireless Laser Wheel Mouse, black	
Power supply	180 watts, universal, manual switch	
<b>Preloaded operating system</b> <sup>20</sup> <ul style="list-style-type: none"><li>- Genuine Windows® 7 Home Premium 64</li></ul> <b>Preloaded applications</b> <sup>5</sup> <ul style="list-style-type: none"><li>• Lenovo® OneKey Recovery</li><li>• Driver and Application Installation</li><li>• McAfee® AntiVirus Plus (60 days of virus definitions)</li></ul> <ul style="list-style-type: none"><li>• Power Setting</li><li>• Cyberlink PowerDVD (Blu-ray)</li><li>• CyberLink Power2Go (DVD±RW, Blu-ray)</li><li>• Windows Live Essentials</li><li>• Microsoft® Office 2010 preloaded; purchase product key to activate</li></ul>		
		<b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>⇒ 1-year parts and labor</li><li>⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)</li><li>⇒ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>⇒ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>

See footnotes for important warranty information  
US model(s) announced August 29, 2012

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(CRET1-3) August 2012




# Lenovo® H520s (4746) - web only models

Personal Systems Reference (PSREF)

Type-model	Slot x bay	Pro-processor	GHz	Max turbo (GHz)	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	802.11 wireless	USB3.0	Power supply	Keyboard/ Mouse	Win7 preload	Avail date (mm/yy)
4746-1DU	2x2	i3-2120	3.30		4+2GB	7-in-1	1TB <sup>2</sup>	DVD±RW	Radeon HD 7570	None	USB3.0	240W	2.4G / 2.4G	Prem 64	06/12
4746-1FU	2x2	i7-3770	3.40	3.90	4GBx2	7-in-1	2TB	DVD±RW	Intel HD 4000	None	USB3.0	240W	2.4G / 2.4G	Prem 64	06/12
4746-1HU	2x2	i7-3770	3.40	3.90	4GBx2	7-in-1	2TB	BD burner	GeForce GT 620	None	USB3.0	240W	2.4G / 2.4G	Prem 64	06/12
4746-1KU	2x2	i7-3770	3.40	3.90	4GBx2	7-in-1	2TB	BD burner	Radeon HD 7570	None	USB3.0	240W	2.4G / 2.4G	Prem 64	06/12
ES 4746-1VU	2x2	i5-2320	3.00	3.30	4GBx2	7-in-1	1TB	DVD±RW	Intel HD 2000	None	USB3.0	240W	2.4G / 2.4G	Prem 64	10/12

- **Lenovo Rescue System provides OneKey recovery without booting into Windows**
- **These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)**

Processor	<b>Intel® Core™ i3-2120 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2000, integrated 1333MHz dual-channel DDR3 memory controller <b>Intel Core i5-2320 Processor (4 cores / 4 threads, 3.00 GHz, 6MB Cache)</b> , Turbo Boost Technology 2.0 (up to 3.30 GHz), integrated Intel HD Graphics 2000, <b>Intel Core i7-3770 Processor (4 cores / 8 threads, 3.40 GHz, 8MB Cache)</b> , Turbo Boost Technology 2.0 (up to 3.90 GHz), integrated Intel HD Graphics 4000, integrated 1600MHz dual-channel DDR3 memory controller Processor in LGA1155 socket	<b>Small Form Factor (11L)</b> <ul style="list-style-type: none"><li>• Glossy black and brushed metal</li><li>• 4.1" L X 14.2" D X 12.0" H</li><li>• 105mm W X 360mm D X 305mm H</li><li>• 17.4 lb (7.9 kg) vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, no access, standard disk  Slot 1: half-length, Low Profile, PCI Express x16 Ver 2.0* Slot 2: half-length, Low Profile, PCI Express x1 Ver 2.0**  * Graphics adapter in slot on some models ** TV tuner or USB 3.0 card in slot on some models
Implementation		
Memory	8GB max <sup>8</sup> , <b>PC3-10600 1333MHz DDR3</b> , non-parity, dual-channel capable, two 240-pin DIMM sockets	
Graphics	<i>Some:</i> <b>Intel HD Graphics 2000</b> or <b>4000</b> , integrated in processor, uses main memory, one analog VGA DB-15 connector, one HDMI connector, HDCP  <i>Some:</i> <b>NVIDIA GeForce GT 620</b> , PCI Express® x16, <b>1GB DDR3</b> , DirectX 11, one analog VGA DB-15 connector, one HDMI connector, HDCP  <i>Some:</i> <b>AMD Radeon™ HD 7570</b> , PCI Express x16, <b>2GB DDR3</b> , DirectX 11, one analog VGA DB-15 connector, one HDMI connector, HDCP	
SATA disk	<b>1TB</b> or <b>2TB</b> , SATA 3.0Gb/s, 7200 rpm	
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset	
SATA optical	<i>Some:</i> Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive <i>Some:</i> Blu-ray™ burner, Blu-ray and DVD disk recordable	
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors	
EIDE controller	None	
EIDE cables	None	
Diskette drive	None	
Multicard reader	7-in-1 reader (SD, SDHC, SDXC, MMC, MMC plus, MS, MS pro)	
Chipset	<b>Intel H61 Express Chipset</b>	
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)	
Rear ports	Four USB 2.0 and two USB 3.0 (Via USB 3.0 adding card on selected models), ethernet (RJ-45), monitor (VGA DB-15, HDMI)	
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)	
Audio	High Definition (HD) audio, ALC662 codec	
External speakers	None	
Internal speaker	None	
Wireless	None	
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F	
Modem	None	
Security chip	None	
TV tuner	None	
Camera	None	
Keyboard	2.4G wireless Ultra Slim keyboard, 6-row, Fn keys, black	
Mouse	2.4G wireless Laser Wheel Mouse, black	
Power supply	240 watts, universal, auto-sensing, 85% PSU, 80 PLUS® Bronze qualified	
<b>Preloaded operating system</b> <sup>20</sup> <ul style="list-style-type: none"><li>- Genuine Windows® 7 Home Premium 64</li></ul> <b>Preloaded applications</b> <sup>5</sup> <ul style="list-style-type: none"><li>• Lenovo® OneKey Recovery</li><li>• Driver and Application Installation</li><li>• McAfee® AntiVirus Plus (60 days of virus definitions)</li><li>• Power Setting</li><li>• Cyberlink PowerDVD (Blu-ray)</li><li>• CyberLink Power2Go (DVD±RW, Blu-ray)</li><li>• Windows Live Essentials</li><li>• Microsoft® Office 2010 preloaded; purchase product key to activate</li></ul>		<b>Limited Warranty</b> <sup>1</sup> <ul style="list-style-type: none"><li>⇒ 1-year parts and labor</li><li>⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)</li><li>⇒ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>⇒ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul>

See footnotes for important warranty information

ES US model(s) announced October 24, 2012; previous models on June 21, 2012


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(CRET-1-1) October 2012

# Lenovo® H520s (Windows 8) - web only models

Personal Systems Reference (PSREF)

Type-model	Slot x bay	Pro-processor	GHz	Max turbo (GHz)	Memory <sup>8</sup>	Media reader	SATA disk	SATA optical	Graphics	802.11 wireless	USB3.0	Power supply	Keyboard/ Mouse	Win8 preload	Avail date (mm/yy)
57310716	2x2	i3-2130	3.40		4GB	7-in-1	1TB <sup>2</sup>	DVD±RW	Intel HD 2000	None	USB3.0	180W	USB / USB	Win8 64	12/12
57310714	2x2	i3-3220	3.30		4+2GB	7-in-1	2TB	DVD±RW	Intel HD 2500	None	USB3.0	180W	USB / USB	Win8 64	12/12
57310722	2x2	i7-3770	3.40	3.90	4GBx2	7-in-1	2TB	DVD±RW	Intel HD 4000	None	USB3.0	240W	USB / USB	Win8 64	12/12
57310721	2x2	i7-3770	3.40	3.90	4GBx2	7-in-1	2TB	BD burner	GeForce GT 630	None	USB3.0	240W	USB / USB	Win8 64	12/12
57310718	2x2	i5-3330	3.00	3.20	4GBx2	7-in-1	1TB	DVD±RW	Intel HD 2500	None	USB3.0	240W	USB / USB	Win8 64	02/13

- **Lenovo Rescue System provides OneKey recovery without booting into Windows**

Processor	<b>Intel® Core™ i3-2130 Processor (2 cores / 4 threads, 3.40 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2000, integrated 1333MHz dual-channel DDR3 memory controller <b>Intel Core i3-3220 Processor (2 cores / 4 threads, 3.30 GHz, 3MB Cache)</b> , integrated Intel HD Graphics 2500, integrated 1600MHz dual-channel DDR3 memory controller <b>Intel Core i5-3330 Processor (4 cores / 4 threads, 3.00 GHz, 6M Cache)</b> , Turbo Boost Technology 2.0 (up to 3.20 GHz), integrated Intel HD Graphics 2500, integrated 1600MHz dual-channel DDR3 memory controller <b>Intel Core i7-3770 Processor (4 cores / 8 threads, 3.40 GHz, 8MB Cache)</b> , Turbo Boost Technology 2.0 (up to 3.90 GHz), integrated Intel HD Graphics 4000, integrated 1600MHz dual-channel DDR3 memory controller Processor in LGA1155 socket		<b>Small Form Factor (11L)</b> <ul style="list-style-type: none"><li>• Glossy black and brushed metal</li><li>• 4.1" L X 14.2" D X 12.0" H</li><li>• 105mm W X 360mm D X 305mm H</li><li>• 17.4 lb (7.9 kg) vary by configuration</li></ul> Bay ① 5.25", 1.6" high, access, standard optical Bay ② 3.5", 1" high, no access, standard disk Slot 1: half-length, Low Profile, PCI Express x16 Ver 2.0* Slot 2: half-length, Low Profile, PCI Express x1 Ver 2.0** * Graphics adapter in slot on some models ** TV tuner or USB 3.0 card in slot on some models	
Implementation				
Memory	8GB max <sup>8</sup> , <b>PC3-10600 1333MHz DDR3</b> , non-parity, dual-channel capable, two 240-pin DIMM sockets			
Graphics	<i>Some:</i> <b>Intel HD Graphics 2000, 2500, or 4000</b> , integrated in processor, uses main memory, one analog VGA DB-15 connector, one HDMI connector, HDCP <i>Some:</i> <b>NVIDIA GeForce GT 630</b> , PCI Express® x16, <b>2GB DDR3</b> , DirectX® 11, one analog VGA DB-15 connector, one HDMI connector, HDCP			
SATA disk	<b>1TB</b> or <b>2TB</b> , SATA 3.0Gb/s, 7200 rpm			
SATA controller	Serial ATA, SATA 3.0Gb/s, integrated in chipset			
SATA optical	<i>Some:</i> Multi-Burner DL DVD±RW SATA 1.5Gb/s Drive <i>Some:</i> Blu-ray™ burner, Blu-ray and DVD disk recordable			
SATA cables	Two SATA cables (each 1-drop to device), four SATA connectors			
EIDE controller	None			
EIDE cables	None			
Diskette drive	None			
Multicard reader	7-in-1 reader (SD, SDHC, SDXC, MMC, MMC plus, MS, MS pro)			
Chipset	<b>Intel H61 Express Chipset</b>			
Front ports	Two USB 2.0, microphone (stereo, 3.5mm), headphone (stereo, 3.5mm)			
Rear ports	Four USB 2.0 and two USB 3.0 (Via USB 3.0 adding card on selected models), ethernet (RJ-45), monitor (VGA DB-15, HDMI)			
Rear audio ports	Line-in (stereo, 3.5mm), line-out (stereo, 3.5mm), microphone-in (stereo, 3.5mm)			
Audio	High Definition (HD) audio, ALC662 codec			
External speakers	None			
Internal speaker	None			
Wireless	None			
Ethernet	Gigabit ethernet on planar, Realtek RTL8111F			
Modem	None			
Security chip	None			
TV tuner	None			
Camera	None			
Keyboard	Full-size keyboard (USB connector), Fn keys, black			
Mouse	Optical Wheel Mouse (USB connector), black			
Power supply	<i>Some:</i> 180 watts, universal, manual switch <i>Some:</i> 240 watts, universal, auto-sensing			
<div><div><div><b>Preloaded operating system<sup>20</sup></b> - Windows® 8 64-bit</div><div><b>Preloaded applications<sup>5</sup></b> (only some listed)<ul style="list-style-type: none"><li>• Lenovo® OneKey Recovery</li><li>• Driver and Application Installation</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• McAfee® Internet Security (30-Day Trial)</li><li>• Nitro PDF</li><li>• Adobe® Reader®</li><li>• Microsoft® Office preloaded; purchase product key to activate</li></ul></div></div><div><ul style="list-style-type: none"><li>• Cyberlink PowerDVD (DVD±RW, Blu-ray models)</li><li>• CyberLink Power2Go (DVD±RW, Blu-ray models)</li><li>• Exent Games Portal</li><li>• Intel AppUp®</li><li>• AccuWeather</li><li>• Evernote</li><li>• Kindle</li><li>• Rara Streaming</li><li>• eBay</li><li>• Lenovo Support</li><li>• Lenovo Companion</li></ul></div></div>				
<div><div><div><b>Limited Warranty<sup>1</sup></b><ul style="list-style-type: none"><li>⇒ 1-year parts and labor</li><li>⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts<sup>3</sup>, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time)</li><li>⇒ Service upgrade options (in eligible locations):<sup>9</sup><ul style="list-style-type: none"><li>• 2-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1552)</li><li>• 3-year Lenovo Onsite Repair 9x5 Next Business Day (78Y1553)</li></ul></li><li>⇒ 24x7<sup>14</sup> toll-free support for warranty issues during the warranty period<sup>1</sup> via 877-453-6686</li></ul></div></div><div></div></div>				

See footnotes for important warranty information

US model(s) announced February 21, 2013; previous model(s) on December 13, 2012

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Partial list of Lenovo® Care Services<sup>22</sup>  
for Lenovo Essential desktops

For more information see:  
[http://www.lenovo.com/services\\_warranty/us/en/index.html](http://www.lenovo.com/services_warranty/us/en/index.html)

<b><u>Lenovo Care service upgrade options</u></b>	
<b><i>Lenovo Essential desktops with 1-year Onsite warranty</i></b>	
2-year Lenovo Onsite Repair warranty 9x5	78Y1552
3-year Lenovo Onsite Repair warranty 9x5	78Y1553

**Availability:** All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.

**Warranty:** For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC, 27709, Attn: Dept ZPYA/B676. Lenovo makes no representation or warranty regarding third party products or services.

**Footnotes:**

- <sup>1</sup> Power management, including Intel® SpeedStep® Technology, reduces processor speed when in battery mode.
- <sup>2</sup> **Weight** includes battery and standard optical drive; weight may vary due to vendor components, manufacturing process and options.
- <sup>3</sup> **Thinness** may vary at certain points on the system.
- <sup>4</sup> **Wireless capability:** Requires compatible wireless-enabled options sold separately.
- <sup>5</sup> **Post-warranty annual maintenance agreement:** Service begins at the end of the base warranty or the end of any other applied warranty and maintenance option, whichever occurs last. Service delivery is not available the same day the maintenance agreement is purchased. Maintenance agreements must be purchased and the registration successfully completed prior to the service being available.
- <sup>6</sup> **Public network download modem speeds** are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.
- <sup>7</sup> **Maximum memory capacity** may require the replacement of standard component with largest supported component available. On systems, even though it is possible to physically install 4GB of memory, the actual amount of memory addressable by a 32-bit operating system will be limited to 3GB. This limitation does not exist with 64-bit operating systems.
- <sup>8</sup> **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less; up to 4GB is service partition.
- <sup>9</sup> **Service upgrade options:** Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees.
- <sup>10</sup> **Battery:** These model numbers achieved the battery life based on MobileMark® 2007 during testing. Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.
- <sup>11</sup> **Wireless:** Based on IEEE 802.11a, 802.11b, and 802.11g respectively. An adapter with 11a/b, 11b/g, or 11a/b/g can communicate on either/any of these listed formats respectively, the actual connection will be based on the access point to which it connects.
- <sup>12</sup> **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.
- <sup>13</sup> **Onsite Repair:** If a machine is listed as having "On-site", this means that on-site service is available for the replacement of parts for warranty repairs. Certain parts, referred to as Customer Replaceable Unit ("CRU") parts, are easy to install and require little or no tools or technical knowledge. Some examples of CRU parts are mice, keyboards, hard disk drives, speakers, and memory. If your problem can be resolved with a CRU, the Support Center will offer to ship the part to you for you to install.
- <sup>14</sup> **Included software** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.
- <sup>15</sup> **Modem speeds:** Public network download speeds are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.
- <sup>16</sup> **Response times may vary.** May exclude some holidays. Telephone support may be subject to additional charges.
- <sup>18</sup> **Telephone support** may be subject to additional charges, even during the limited warranty period. Response times may vary and may exclude some holidays.
- <sup>19</sup> **Depot repair service:** In the United States call 1-877-453-6686. The customer may be asked certain diagnostic questions before a courier is sent. Your purchase includes this depot repair service, available in the U.S. during the limited warranty period.
- <sup>20</sup> **Operating System:** Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to [lenovo.com/pc/support](http://lenovo.com/pc/support) and enter your machine type and model number for more information.
- <sup>21</sup> **For combination drives**, maximum possible speeds only are given in the following order: CD write, CD rewrite, CD read, DVD read.
- <sup>22</sup> **Lenovo Services:** These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part can be express shipped to you for quick replacement. For notebooks requiring LCD or other component replacement, Lenovo may choose to perform service at the depot repair center. Calls must be received by 5 pm local time in order to qualify for Next Business Day service. P&L means parts and labor. P/U means pick-up. See terms and conditions for complete details and restrictions.

<sup>23</sup> **Customer Replacement Units (CRUs)** are designed to be replaced by customers during the applicable warranty period. Lenovo will send a technician onsite to perform a repair if remote telephone diagnosis does not isolate the problem, if customer replaceable parts are unable to resolve the problem, or at the request of the customer. For a list of customer replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges.

<sup>25</sup> **Wireless WAN Cards:** Wireless data service requires separate agreement with Verizon Wireless. Verizon Wireless, not Lenovo, is solely responsible for service. Monthly and airtime charges may apply. Service may not be available in all areas; purchaser is responsible for verifying with Verizon Wireless that service is available for the intended location before the purchase of the card. For complete details, including service plans, additional required hardware or software, and service coverage, visit [www.verizonwireless.com](http://www.verizonwireless.com).

<sup>28</sup> **The IEEE 802.11n specification (MIMO)** has been finalized and is currently in IEEE 802.11n-2009 release. The maximum speed depends on the access point device and the number of integrated antenna used for connection. An adapter with 11a/b, 11a/b/g, 11b/g/n, or 11a/b/g/n can communicate on any of its supported formats.



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