

ThinkStation



Lenovo ThinkStation D20



Lenovo ThinkStation S20 (left)
Lenovo ThinkStation D20 (right)



Lenovo ThinkStation D20



Lenovo ThinkStation D20
with Lenovo ThinkVision L2440 Monitor



ThinkStation Rail Kit (43R1964)



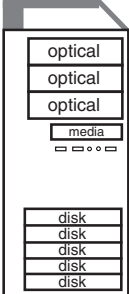
Lenovo ThinkStation Graphics Card
ATI™ FirePro™ 1GB V7750 (51J0511)

ThinkStation® D20 (4155) - TopSeller (UDIMM)

Personal Systems Reference (PSREF)

Name	Type-model	Slot x bay	Proc-essor(s)	GHz	Memory DIMMs	Memory speed	Disk(s)	Disk size	Disk type	RAID	SATA optical	Diskette or Media reader	Graphics adapter(s)	ENERGY STAR 5.0	Pre-load	Avail date
D20	4155-28U	6x9	2 x E5540	2.53	4 x 1GB	1066MHz	1 x 500GB	3.5"	SATA		DVD±RW	Media 1 x V5700	ES50		Bus64	Apr 09
D20	4155-29U	6x9	2 x E5502	1.86	4 x 1GB	1066MHz	1 x 250GB	3.5"	SATA		DVD±RW	Media 1 x FX580			Bus64	Apr 09
D20	4155-31U	6x9	2 x X5560	2.80	4 x 1GB	1333MHz	2 x 300GB	2.5"	SATA	1	DVD±RW	Media 1 x FX1800			Bus64	Apr 09
D20	4155-32U	6x9	1 x E5506	2.13	4 x 1GB	1066MHz	1 x 250GB, 1 x 500GB	3.5"	SATA		DVD±RW	Media 1 x FX1800			Bus64	Apr 09
D20	4155-33U	6x9	1 x E5540	2.53	4 x 1GB	1066MHz	2 x 300GB	3.5"	SAS	0	DVD±RW	Media 1 x FX4800			Bus64	Apr 09
D20	4155-34U	6x9	1 x E5540	2.53	4 x 1GB	1066MHz	1 x 500GB	3.5"	SATA		DVD±RW	Media 1 x FX580			Bus64	Apr 09

- High performance workstation with premium graphics for specialized professionals
- These small and medium business (SMB) models are part of the US TopSeller™ Program

Processor(s)	Up to two processors, one or two processors standard, Intel® Xeon® Processor E5502 with dual-core , 4.8GT/s (giga-transfers/second) QPI (QuickPath Interconnect), 800MHz DDR3 memory controller, and 4MB cache or Intel Xeon Processor E5506 with quad-core , 4.8GT/s QPI, 800MHz DDR3 memory controller, and 4MB cache or Intel Xeon Processor E5540 with quad-core , 5.86GT/s QPI, 1066MHz DDR3 memory controller, and 8MB cache or Intel Xeon Processor X5560 with quad-core , 6.4GT/s QPI, 1333MHz DDR3 memory controller, and 8MB cache Processor uses FC-LGA8 package, two LGA1366 sockets	Tower <ul style="list-style-type: none"> • Raven black color; metal case • 8.3"W x 23.7"D x 19.1"H (with handle) • 210mm W x 602mm D x 485mm H • 60 lb (27.1kg) max configuration • 55-liter • Removable handle on top front • Toolless side cover removal • Toolless disk and optical drive removal • Toolless adapter retention • Illuminated front icons • Rack shelf support or optional rail kit 
Implementation		
Memory	4GB std, 48GB max, UDIMM, PC3-8500 1066MHz DDR3 or PC3-10600 1333MHz DDR3, ECC , 6-channel capable, twelve 240-pin DIMM sockets** ** Over six DIMMs requires dual processors	Bay ① 5.25", 1.6" high, external, std optical Bay ② 5.25", 1.6" high, external, open Bay ③ 5.25", 1.6" high, external, open Bay ④ 3.5", 1" high, external, std media reader Bay ⑤ 3.5", 1" high, internal, std disk Bay ⑥ 3.5", 1" high, internal, std or opt disk Bay ⑦ 3.5", 1" high, internal, opt disk Bay ⑧ 3.5", 1" high, internal, opt disk Bay ⑨ 3.5", 1" high, internal, opt disk
Graphics	Two PCI Express® x16 adapters required for quad monitor support, * Adapters >75W use auxiliary power connector(s) from PSU <i>Some: NVIDIA® Quadro® FX 580</i> , PCIe x16 adapter, 512MB, two DisplayPort, one dual-link DVI-I***, 40W <i>Some: NVIDIA Quadro FX 1800</i> , PCIe x16 adapter, 768MB, two DisplayPort, one dual-link DVI-I***, 59W <i>Some: NVIDIA Quadro FX 4800</i> , PCIe x16 adapter, 1.5GB, two slot width, 2 DisplayPort, 1 dual-link DVI-I***, 121W <i>Some: ATI™ FirePro™ V5700</i> , PCIe x16 adapter, 512MB, two DisplayPort, one dual-link DVI-I***, 49W *** Only two display connectors are active at a time	Slot 1: half-length, full-height, PCIe x1 Slot 2: full-length, full-height, PCIe 2.0 x16 (75W* max) Slot 3: full-length, full-height, 32-bit PCI 2.3 Slot 4: full-length, full-height, PCIe 2.0 x16 (75W* max) Slot 5: full-length, full-height, PCIe x4 (x16 mechanical) Slot 6: full-length, full-height, 32-bit PCI 2.3
Diskette drive	None (use optional USB diskette)	SECURITY <ul style="list-style-type: none"> • Security chip (see information on left) • Side cover lock (ships with two identical keys) • Padlock loop (in rear for opt padlock; padlock prohibits side cover removal) • Security slot (in rear for optional Kensington® Microsaver® cable; prohibits side cover removal) • Power-on password • Administrator password • Boot sequence control • Boot without keyboard, mouse, diskette • Serial port I/O control • USB port disablement (front or all)
Media reader	20-in-1 media reader	
SATA disk(s)	<i>Some: 250GB</i> or <i>500GB</i> , SATA 3.0Gb/s, 7200 rpm, 3.5" <i>Some: 300GB</i> , SATA 3.0Gb/s, 10000 rpm, 2.5"	
SAS disk(s)	<i>Some: 300GB</i> , SAS 3.0Gb/s, 15000 rpm	
SATA DVD±RW	Super Multi-Burner DL DVD±RW, SATA 1.5Gb/s	Supports ThinkVantage® technologies GREENGUARD® certified RoHS-compliant <i>Some: ENERGY STAR® 5.0-compliant</i> EPEAT™ Gold rating (only for ES5.0 models) LIMITED WARRANTY¹ <ul style="list-style-type: none"> ⇒ 3-year parts and labor ⇒ Customer Replaceable Unit (CRU) parts only (with limited onsite service for selected parts³, 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time) ⇒ ThinkPlus™ services available; see http://lenovo.com/thinkplus/warranty ⇒ 24x7¹⁴ toll-free support for warranty issues during the warranty period¹ via 800-426-7378
Disk controller	Three SATA connectors for opticals, SATA 3.0Gb/s, integrated in ICH10; five SATA/SAS ⁴ connectors for disks, SATA 3.0Gb/s, SAS 3.0Gb/s, RAID ⁰ , 1, 5, 10, integrated in Marvell® 88SE6480	
Chipset	Intel 5520 Chipset , Intel ICH10, Winbond® W83627DHG-P Super I/O	
Front ports	Two USB 2.0, microphone (3.5mm), headphone (3.5mm), FireWire 400 (IEEE 1394a)	
Rear ports	Eight USB 2.0, eSATA, serial (9-pin), two ethernet (RJ-45), FireWire 400 (IEEE 1394a), six analog audio ports (line-in, mic-in, front-out, rear-out, center/sub-out, side out), Optical SPDIF digital out, Optical SPDIF digital in	
IEEE 1394 adptr	None	
Audio	High Definition (HD) Audio, Analog Devices ADI 1988A codec	
Speaker	Internal speaker for business audio	
Ethernet	Dual gigabit ethernet on planar, Broadcom® BCM5755 and BCM5754	
Security chip	Broadcom Trusted Platform Module, TCG 1.2-compliant	
Keyboard	Preferred Pro USB Keyboard (USB connector), 104-key, black	
Mouse	Optical Wheel Mouse (USB connector), black	
Power supply	1060 watts with 120mm bottom-mounted variable speed fan, universal, Climate Savers® Computing Bronze, 80 PLUS® Bronze qualified	
Cooling	Five fans (power supply, first processor, second processor, rear, front disk)	
Rack mount	Rack shelf support or optional sliding rack mount rail kit support	
Preloaded operating system²⁰	Accessories	
- Genuine Windows® Vista® Business 64	2GB PC3-8500 DDR3 ECC UDIMM	51J0504
↔ Vista Premium logo	2GB PC3-10600 DDR3 ECC UDIMM	43R2033
	4GB PC3-10600 DDR3 ECC UDIMM	57Y4138
	Blu-ray™ Burner SATA 1.5Gb/s	45K1675
	1TB SATA 3.0Gb/s Disk (7200 rpm)	45J7918
	150GB SATA 3.0Gb/s Disk (10000 rpm)	2.5" 43R2030
	300GB SAS 3.0Gb/s Disk (15000 rpm)	43R1994
	ThinkStation Rail Kit	43R1964
	ThinkVision® L2440p Wide 24" Monitor	4420HB2
	ATI FirePro 1GB V7750	51J0511
	NVIDIA® Quadro® 1.5GB FX 4800	45K1674
	Other accessories at lenovo.com/accessories	

See footnotes for important warranty information
US models announced March 31, 2009

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