



ThinkStation S20 Top Options

Turning Workstations into Solutions
Options and Accessories

September 2010



ThinkStation S20 Top Options

Top Option - ThinkStation S20	Part Number
NVIDIA Quadro NVS 290 Dual DVI-I	43R1765
NVIDIA Quadro NVS 295 Dual DisplayPort	45K1669
NVIDIA Quadro NVS 450 Quad DisplayPort, Quad DVI-D	57Y4398
NVIDIA Quadro FX 380 Dual DVI-I	45K1670
NVIDIA Quadro FX 580 Dual DisplayPort, DVI-I	45K1671
NVIDIA Quadro FX 1800 Dual DisplayPort, DVI-I	45K1672
NVIDIA Quadro FX 4800 Dual DisplayPort, DVI-I, Stereo	45K1674
ATI FirePro V3700 Dual DVI-I	51J0509
ATI FirePro V5700 Dual DisplayPort, DVI-I	51J0510
ATI FirePro V7750 Dual DisplayPort, DVI-I	51J0511
PC3-10600 DDR3-1333 ECC UDIMM Memory – 2GB, 4GB	43R2033, 57Y4138
Serial ATA 7200 rpm Hard Drive – 250GB, 500GB, 1TB	41N3015, 43R1990, 45J7918
Serial ATA 10k rpm Hard Drive – 150GB, 300GB	43R2030, 43R2031
SAS 15k rpm Hard Drive – 146GB, 300GB, 450GB	43R1993, 43R1994, 43N3424
Blu-ray Burner, SATA Optical Drive	43R1675
ThinkVision Soundbar / ThinkVision USB Soundbar	45K1263*, 40Y7616
ThinkCentre Extend Arm	57Y4352
Lenovo Laser Mouse	41U3074
Kensington Security Cable Lock by Lenovo	73P2582
Kensington Twin Head Cable Lock from Lenovo	45K1620
DisplayPort to Single-Link DVI-D Monitor Cable	45J7915
DisplayPort to VGA Monitor Cable	57Y4393 - FX 580 and FX 1800 only

Lenovo ThinkVision Monitors



Product	L2440p Wide	L2251x Wide	L2251p Wide	L2250p Wide	L1900p	L1951p Wide
Model	4420-HB2	2578-HB6	2572-HD6	2572-HB6	4431-HE1	2248-HB6 or HC6
Monitor Size	24.0-inch, 610mm	22.0-inch, 559mm	22.0-inch, 559mm	22.0-inch, 559mm	19.0-inch 483mm	19.0-inch 481mm
Resolution	1920 x 1200	1680 x 1050	1680 x 1050	1680 x 1050	1280 x 1024	1440 x 900
Video Input	Analog, DVI-D	Analog, DisplayPort	Analog, DisplayPort	Analog, DVI-D	Analog, DVI-D	Analog, DVI-D
Camera / Mic	----	Yes	----	----	----	----
Power	36.6 Watts/hr(1)	21 Watts/hr	21 Watts/hr	21 Watts/hr	19 Watts/hr(1)	19 Watts/hr
USB Hub	4 powered ports	1-up, 3-down	None	None	None	None
Soundbar	45K1263**	45K1263**	45K1263**	45K1263**	45K1263**	45K1263**
Stand Function	Tilt, Swivel, Pivot, Lift	Tilt, Swivel, Pivot, Lift	Tilt, Swivel, Pivot, Lift	80-mm Lift, Tilt	Tilt, Swivel, Pivot, Lift	80-mm or 100-mm Lift, Tilt
Environmental Attributes	TCO'03	TCO Certified Edge	TCO'05	TCO'05	TCO'03	TCO Displays 5.0
	EPEAT Gold (2)	EPEAT Gold (2)	EPEAT Gold (2)	EPEAT Gold (2)	EPEAT Gold (2)	EPEAT Gold (2)
	ENERGY STAR 5.0	ENERGY STAR 5.0	ENERGY STAR 5.0	ENERGY STAR 5.0	ENERGY STAR 5.0	ENERGY STAR 5.0
		65% post consumer recycled plastic	65% post consumer recycled plastic	65% post consumer recycled plastic		65% post consumer recycled plastic
		20% post industry recycled plastic				
		Mercury-Free (WLED)				
		Low Halogen				
	Arsenic Free Glass	Arsenic Free Glass	Arsenic Free Glass	Arsenic Free Glass	Arsenic Free Glass	Arsenic Free Glass

Notes: ** Indicates U.S. part number for ThinkVision Soundbar

(1) Under ENERGY STAR 5.0 test condition

(2) EPEAT registrations vary by location, go to www.epeat.net for registration by country.

NVIDIA Quadro 2D Multiple Monitor Graphic Adapters



	NVS 290	NVS 295	NVS 450
Option Part Number	43R1765	45K1669	57Y4398
Memory Configuration	256MB	256MB GDDR3 64-bit	512MB 128-bit
Memory Bandwidth	6.4 GB/sec	11.2 GB/sec	11.2GB/sec
Connectors	DMS59 for Dual-DVI and Dual-VGA	Two DisplayPort	Four DisplayPort
Monitor adapters / cables	DMS59 Dual-DVI, DMS59-Dual-VGA	-----	Four DisplayPort to Single-Link DVI-D (45J7915)
Maximum Resolution	1920 x 1200	2560 x 1600	2560 x 1600
Shader Model	4.0	4.0	4.0
Open GL	3.0	3.0	2.1
Microsoft DirectX	10	10	10
NVIDIA CUDA Architecture	Yes	Yes	Yes
NVIEW Display Management Software	Yes	Yes	Yes
Cards per S20	Two (attach 4 monitors)	Two (attach 4 monitors)	Two (attach 8 monitors)



NVS 290



NVS 295



NVS 450



• DisplayPort Monitor Cable Notes:

- Digital monitors can attach to DisplayPort using a DisplayPort to Single-Link DVI-I Monitor Cable (45J7915)
- Maximum digital resolution is reduced to 1920 x 1200

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NVIDIA Quadro 3D CAD, DCC Graphic Cards



	FX 380	FX 580	FX 1800	FX 3800	FX 4800
Option Part Number	45K1670	45K1671	45K1672	45K1673	45K1674
Target CAD, DCC Segment	Entry-level	Entry-level	Mid-Range	High-End	Ultra High-End
CUDA Parallel Processor	16-core	32-core	64-core	192-core	192-core
Memory Frame Size	256MB	512MB	768MB	1GB	1.5GB
Memory Bandwidth	22.4 GB/sec	25.6 GB/sec	38.4 GB/sec	51.2 GB/sec	76.8 GB/sec
Connectors	Two Dual-Link DVI-I	Two DisplayPort, One Dual-Link DVI-I (only 2 of 3 monitor ports are active)		Two DisplayPort, One Dual-Link DVI-I, 3-pin stereo (only 2 of 3 monitor ports are active)	
NVIDIA SLI Connector	-----	-----	-----	-----	55Y8963 Option for C20, D20
Monitor adapters / cables	Two DVI-VGA	One DVI-VGA	One DVI-VGA	One DVI-VGA	One DVI-VGA
Maximum	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600
Cards per S20	Two (attach 4 monitors)	Two (attach 4 monitors)	Two (attach 4 monitors)	Two (attach 4 monitors)	Two (attach 4 monitors)

Notes:

- Digital monitors can attach to DisplayPort using a DisplayPort to Single-Link DVI-I Monitor Cable (45J7915)
- Analog monitors can attach to DisplayPort using a DisplayPort to VGA Monitor Cable (57Y4393) – FX 580 and FX 1800 only
 - Maximum digital resolution is reduced to 1920 x 1200.
- Analog monitors can attach to Dual-Link DVI-I ports using the DVI-to-VGA monitor adapter.



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ATI FirePro 3D CAD, DCC Graphic Cards



	FirePro V3700	FirePro V5700	FirePro V7750
Option Part Number	51J0509	51J0510	51J0511
Target CAD, DCC Segment	Entry-level	Mid-range	High End
Memory Frame Size	256MB	512MB	1GB
Memory Bandwidth	15 GB/sec	28.8 GB/sec	108.8 GB/sec
Connectors	Two Dual-Link DVI-I	Two DisplayPort, One Dual-Link DVI-I (only 2 of 3 monitor ports are active)	
Monitor adapters / cables	Two DVI-VGA	One DVI-VGA	One DVI-VGA
Maximum	2560 x 1600	2560 x 1600	2560 x 1600
Cards per S20	Two (attach 4 monitors)	Two (attach 4 monitors)	Two (attach 4 monitors)

• Notes:

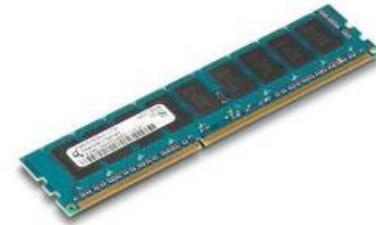
- Digital monitors can attach to DisplayPort using a DisplayPort to Single-Link DVI-I Monitor Cable (45J7915)
 - Maximum digital resolution is reduced to 1920 x 1200.
- Analog monitors can attach to Dual-Link DVI-I ports using the DVI-to-VGA monitor adapter.
 - Maximum analog resolution is reduced to 2048 x 1536.

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Lenovo DDR3 ECC UDIMM Memory

- Enhance multi-tasking usability
- Extend system useful life
- Ensure systems compatibility
- Higher bandwidth made possible by 8-bit prefetch buffer (4-bit on DDR2)
 - Buffer address, control, and clock signals, reducing system loading.
- ECC (Error Correcting Code) memory provides greater data accuracy and system uptime by protecting against errors in memory.



2GB PC3-10600 DDR3-1333 ECC UDIMM Memory	(43R2033)
4GB PC3-10600 DDR3-1333 ECC UDIMM Memory	(57Y4138)
ThinkStation S20 has 6 memory slots	

Serial ATA and SAS Hard Drives

- Expand hard drive system capacity – store more data
 - For primary system upgrade or as an additional Hard Drive
- Large capacity 7200 rpm and 10K rpm SATA drives
- High speed 15K rpm SAS hard drives
- Notes:
 - S20 is SATA-based. SAS hard drives require the Lenovo-installed SAS controller adapter on S20
 - Mixing of SAS and SATA Hard Drives is supported



Lenovo 250GB 7200 rpm Serial ATA Hard Drive	(41N3015)
Lenovo 500GB 7200 rpm Serial ATA Hard Drive	(43R1990)
Lenovo 1TB 7200 rpm Serial ATA Hard Drive	(45J7918)
Lenovo 150GB 10K rpm Serial ATA Hard Drive	(43R2030)
Lenovo 300GB 10K rpm Serial ATA Hard Drive	(43R2031)
ThinkStation 300GB 15K rpm SAS Hard Drive	(43R1994)
ThinkStation 450GB 15K rpm SAS Hard Drive	(43R3424)

Lenovo Blu-ray Burner SATA Optical Drive

- Up to 50GB removable storage with high-definition video playback
- Next revolution in optical storage solutions
- Huge read/write storage capacity using Blu-ray media:
 - 25GB: single layer
 - 50GB: double layer
- Blu-ray high definition (HD) video playback support
- Backward compatible reading and writing to CD & DVD media



Lenovo Blu-ray Burner

(45K1675)



ThinkVision Soundbar

- ThinkVision Soundbar
 - Compatible with: L2440p Wide, L2440x Wide, L2251x Wide, L2251p Wide, L2250p Wide, L1951p Wide, L1900p, L1711p, L215p Wide, L215 Wide, D185 Wide
 - Dual Speaker support with 3+3 total watts of output
 - Integrated headphone, microphone jacks
 - Integrated cable lock slot
 - External AC power adapter (varies by country, region)
- ThinkVision USB Soundbar
 - Compatible with: L151, L151p, L171, L171p, L172, L174, L1700p, L190x, L191, L192p, L193p, L194 Wide, L197 Wide, L1900, L1940 Wide, L1940p Wide, L201p, L220x Wide, L200p Wide, L2240p Wide
 - Dual speakers provides full range business audio sound
 - Two integrated headphone jacks for private and dual listening
 - USB delivered audio and power; No external power adapters or audio cords



ThinkVision Soundbar

(45K1263)

ThinkVision USB Soundbar

(40Y7616)

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ThinkCentre Extend Arm

- Helps free up valuable desk space and position the display for greater comfort
 - Sleek design allows you to extend, retract, tilt and rotate your LCD to an ideal viewing angle and position
 - Easy to install and use on the desk
 - Attaches to (75 x 75 and 100 x 100 mm) VESA compliant displays
 - Supports :
 - ThinkVision Monitors up to 24"
 - ThinkCentre A70z All-in-One System
 - ThinkCentre M90z All-in-One System



ThinkCentre Extend Arm

(57Y4352)

Lenovo Laser Mouse

- High-definition, extraordinary accurate laser mouse with 2000 dpi resolution (user selectable to 1600, 800, or 400 dpi)
- Laser technology delivers extraordinary accuracy and more responsiveness than traditional optical mice, resulting in smoother tracking on virtually any surface
- Fully programmable tilt wheel and buttons
- Tilting scroll-wheel for more efficient scroll horizontally (left/right) and vertically (up/down) through documents and webpages.
- Ambidextrous design for both right and left-handed usage
- Full-featured Lenovo Mouse Suite
- Soft-to-the-touch metallic black finish



Lenovo Laser Mouse

(41U3074)

Kensington Security Cable Locks by Lenovo

- Secure your ThinkCentre and ThinkVision monitor
- Easy to install and use for office environments
- Strong, steel composite cable with carbon tempered steel core:
 - MicroSaver: 6.0-feet, 5.5 mm thick cable
 - Twin Head: 7.0-feet, 5.5 mm thick cable
- Patented T-bar lock provides superior lock strength in the security slot and theft protection
- Sleek styling and design using a rotating head and pivoting cable allows you to easily connect and position the lock
- Attached rubber cable tie for cable management
- Twin Head Cable Lock to secure two devices
 - 2nd lock “floats”, “moves” along the cable for user preference
- Attaching the cable lock to any ThinkCentre form factor not only secures the machine to the work area, but it also prevents users from opening the chassis itself!



Kensington Microsaver Security Cable Lock by Lenovo	(73P2582)
Kensington Twin Head Cable Lock from Lenovo	(45K1620)

DisplayPort Monitor Cables

- **DisplayPort to Single-Link DVI-D Monitor Cable (45J7915)**

- Attach a DVI digital monitor to a DisplayPort



- **DisplayPort to Single-Link DVI-D Monitor Cable Notes:**
 - Does not support attachment of a DVI-to-VGA monitor adapter.



- **DisplayPort to VGA Monitor Cable (57Y4393)**

- Attach a VGA analog monitor to DisplayPort



DisplayPort to Single-Link DVI-D Monitor Cable	(45J7915)
DisplayPort to VGA Monitor Cable	(57Y4393)

thank you grazie **merci** danke **grazias** 謝謝 **спасибо**
gracias **obrigado** ありがとう **dank** takk **bedankt** dakujem

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