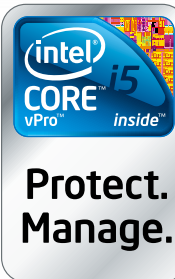


M90/M90p

TechSpecs



Chipset	Intel Q57			System Board Connectors (Cont.)	Tower	SFF	Eco USFF	
Operating System	Genuine Windows® 7 Professional 64 bit			Power Connection Interface	One 24-pin connector + one 4-pin			
	Genuine Windows® 7 Professional 32bit			Internal Speaker Connector	One 2-pin connector			
	Genuine Windows® 7 Home Premium 32 bit			Standard I/O Ports (Front)	Tower	SFF	Eco USFF	
	Genuine Windows® 7 Home Basic 32 bit 2			High Speed USB 2.0	2			
	Windows® XP Professional preinstalled through downgrade rights from Genuine Windows 7			Internal High Speed USB 2.0	2			
Processor	Intel® Quad Core i7-8x01 ¹ (1333MHz 8T4 core)8M95W Turbo LGA 1156)			Microphone	1			
	Intel® Quad Core i5-7x01 ¹ (1333MHz 8T4 core)8M95W Turbo LGA 1156)			Headphone	1			
	Intel® Core i5-6x0 (1333MHz 4T)Dual core)4M73W Turbo LGA 1156)			Standard I/O Ports (Back)	Tower	SFF	Eco USFF	
	Intel® Core i3-5x0 (1333MHz 4T)Dual core)4M73W LGA 1156)			High Speed USB 2.0	6			
	Intel® Pentium G6950 (1066MHz Dual core)3M73W LGA 1156)			2 Serial	1 standard, 1 optional via punching out		1 optional via punching out	
Network Controller	Intel 82578DM, 10/100/1000 Gigabit Ethernet			Optional parallel	By Cable		By PCI-parallel card	
	Memory	Tower	SFF	2 PS/2	Optional, via punching out			
Module Spec	PC3-10600			integrated VGA port	1			
DIMM Slots	4 (UDIMM)		2 (SoDIMM)	integrated Display port	1			
Type	UDIMM DDR3		SoDIMM DDR3	RJ45	1			
Speed	1333 MHZ			RJ11 (on selected models)	0			
Modules Types Supported	1GB/2GB			IEEE 1394 (on selected models)	0			
Min Memory	1GB			Audio Line in	1			
Max Memory	8GB		4GB	Audio line out	1			
Bandwidth	10.6GB/s			eSATA	1 optional E-SATA			
Drive Bay Available	Tower	SFF	Eco USFF	Expansion Bus Information	Tower	SFF	Eco USFF	
	3 1/2 External Bay	1 (MCR or FDD)	1 (MCR)	0	PCI 2.3	33MHz		
	3 1/2 Internal Bay	2 (HDD)	1	1	PCI Express 2.0	Max 8GB/s in Each Direction, for an Aggregate of 16GB/s when x16		
	5 1/4 Bay	2 (ODD)	1	1	SATA	3.0 Gbps		
	HDD Support	2	2 (the 2nd is optional)	2 (the 2nd is optional)	USB 2.0	480 Mbps		
ODD Support	2	1	1	PCI	Tower	SFF	Eco USFF	
Interfaces & Connectors	Tower	SFF	Eco USFF	Available Slots	2 Full Height			
	SATA Connectors	Three SATA + one eSATA standard	Two SATA + one eSATA standard	Two SATA + one eSATA standard	Connector Size	1 Low Profile		1 Low Profile
	PATA Connectors	No			Data Bus Width	120 pins connectors	120 pins connectors	120 pins connectors
	Hard Drive Options	Tower	SFF	Eco USFF	Voltage	32bit /33MHz; 133MB/s	32bit /33MHz; 133MB/s	32bit /33MHz; 133MB/s
	Supported Types	Serial-ATA			PCI Express x1	Tower	SFF	Eco USFF
Available Drives	7200R PM 160GB/250GB/320GB/500GB/1TB * 1TB is Special Bid Only			Available Slots	1 Full Height			
Bus Transfer Rate	300MB/s			Connector Size	36 pins connectors			
Partition Support	NTFS (Default) / FAT32			Data Bus Width	500MB/s per Direction; duplex 1GB/s			
Optical Drive Options	Tower	SFF	Eco USFF	Voltage	12V			
	Supported Types	Serial-ATA			Power (Max)	25W		
	Available Drives	DVD-ROM/DVD Recordable			PCI Express x16	Tower	SFF	Eco USFF
	System Board Connectors	Tower	SFF	Eco USFF	Available Slots	1 Full Height		
	Primary IDE Drive	No			Connector Size	164 pins		
Serial ATA	Four 7-pin connectors	Three 7-pin connectors	Three 7-pin connectors	Data Bus Width	8GB/s per Direction; duplex 16GB/s		No	
Floppy Drive	One 34-pin connector	No	No	Voltage	12V			
CPU Fan	One 4-pin connector			Power (Max)	75W			
System Fan	One 4-pin connector	One 3-pin connector		Audio	Tower	SFF	Eco USFF	
Power Fan	One 3-pin connector	No		Type	Integrated ADI Audio			
CD Drive Audio Interface	No			Chipset	ALC662			
Front Panel	One 14-pin connector	One 6-pin connector		Stereo Conversion	24-bit DAC and 20-bit ADC			
Front Audio	One 14-pin connector	One 10-pin connector		Power	Tower	SFF	Eco USFF	
Front USB	Two 12-pin connectors		One 10-pin connector		320W 88% / 280W 85%			
CASE_OPEN	One			Power Management				
COM	One 16-pin connector			ACPI Wake-up Event	System Wakes From			
CLR_CMOS	One for software and one for Hardware - CLR_CMOS for software - GPIO33_JP for Hardware			Power Button	Suspend or Soft-Off			
				Wake OnLAN	Suspend or Soft-Off			
				PME	Suspend or Soft-Off			
				USB 2.0	Suspend			
				Keyboard	Suspend			
				Mouse	Suspend			

M90/M90p

TechSpecs



**Protect.
Manage.**

Chassis Dimensions	Tower	SFF	Eco USFF	Preloaded Software in Windows 7 (Cont.)	SUN JRE
Height (mm)	414	99	79		
Width (mm)	175	317	279		Corel Burn.Now SE Lenovo Edition
Depth (mm)	442	355	238		Corel DVD MovieFactory 7 Lenovo Edition
Weight (kg)	10.6	8.6	4.18		Intervideo WinDVD (Home Basic only)
Volume (L)	25	10	4.8		Microsoft Office Professional 2007 60-Day Trial Version
Displays					Norton Internet Security 2009 with 30 days of virus definitions
	ThinkVision L2440p Wide				ThinkVantage Rescue and Recovery
	ThinkVision L2251x Wide				ThinkVantage Product Recovery
	ThinkVision L2251p Wide				ThinkVantage Password Manager
	ThinkVision L2250p Wide				ThinkVantage Power Manager
	ThinkVision L1951p Wide				Lenovo Message Center Plus
	ThinkVision L197 Wide				Lenovo ThinkVantage Toolbox
	ThinkVision L1900p				ThinkVantage System Update
	ThinkVision L1711p			Certifications	China RoHS
	Lenovo L215 Wide				EU RoHS
	Lenovo L2060 Wide				EU WEEE
	Lenovo D186 Wide				Japan J-Moss
Peripherals	Tower	SFF	Eco USFF		California RoHS
Keyboard	Lenovo Preferred Pro Full Size Keyboard				USA Chemical Emission Test
	Preferred Pro Fingerprint Keyboard				New York RoHS
Mouse	USB Optical Wheel Mouse				Japan Energy Saving
Audio	Int Speaker (1.5W)	Int Speaker (1W)	Int Speaker (1W)		Korea RoHS
	Ext 2.0 Speaker (4W)	Ext 2.0 Speaker (4W)	Ext 2.0 Speaker (4W)		Non-Basic Mandatory Certification Geo Represents Responsible for:
Card Readers	Media Card Reader	Media Card Reader Slim	Single Slot SD Media Card Reader		KCC certification for Korea
Additional Storage	No				C-Tick DoC for Australia & New Zealand
Communications	Intel 82578DM				Mexico - NOM
	56KBPS Soft Modem V.90/V.44 - HP	56KBPS Soft Modem V.90/V.44 - LP			South Africa - SABS
Environment Attributes	Tower	SFF	Eco USFF		Russia GOST-R Mark (AR46)
Temperature	Operating: 10°C- 35°C (50F to 95F) Non-operating: -40°C - 60°C (50F to 140F) Wet Bulb Temperature: 25°C (max) (Operating), 40°C (max) (Non-Operating)				US ENERGY STAR 4.0
Relative Humidity	Operating: 20% - 80% (non-condensing) Non-Operating: 20% - 90%(non-condensing)				Green PC (EPEAT)
Max Vibration	Operating: 0.27 G at 5 to 500 Hz at 0.5 octave/min, Random(without LCD panel) Non-Operating: 1.04 G at 2 to 200 Hz at 1 octave/min With Package: 1.04 G at 2 to 200 Hz at 1 octave/min				Japan PC Green Label
Max Shock	Operating: Bottom half-sine pulse with a change in velocity of 37.4 cm/sec (14.7 inches/sec) Non-Operating: 45-G faired square wave with a velocity change of 441 cm/sec (173.7 inches/sec)				China Energy Saving
Max Altitude	Operating: -15.2 to 3048 m (-50 to 10,000 ft) Storage: -15.2 to 10,668 m (-50 to 35,000 ft)				GreenGuard
Operating Environment	Must meet ISA class G1 ²				Voluntary Certification (Per Marketing Input):
Preloaded Software in Windows 7	Adobe Acrobat Reader				Israel (Done, under general license)
	Acrobat Flash Player				Croatia - ZIK(Enable Process Only)
	Skype voice and video calling				Nigeria (Enable process only)
	PC-Doctor for WinPE				Kenya (Enable process only)
					Jordan (Enable process only)
					Belarus (Enable process only)
					Ukraine (Enable process only)
					Kuwait (Enable process only)
					Macedonia (Enable process only)
					Germany BlueAngel
					Sweden TCO05
					EU Green Label
					Taiwan Green Mark

* Please contact your local Lenovo Sales Representatives for more certifications in your area.

1. For Tower and SFF only

2. The Instrumentation, Systems, and Automation Society (ISA) defines four classes of environments:

G1: Mild - An environment sufficiently well controlled that corrosion is not a factor in determining equipment reliability.

G2: Moderate - An environment in which the effects of corrosion are measurable and maybe be a factor in determining equipment reliability

G3: Harsh - An environment in which there is a high probability that corrosive attack will occur. These harsh levels should prompt further evaluation resulting in environmental controls or specially designed and packaged equipment.

GX: Severe - ambient-electronic/electrical equipment is not expected to survive in these environments