HP Z220 Intel® Core™ i7 i7-3770 4 GB DDR3-SDRAM Windows 7 Professional Minitower Workstation

Brand : HP

Product name : Z220

Product code: WM463EA

Intel Core i7-3770 3.4/3.9 GHz, 4096MB DDR3 RAM, 500GB SATA HDD, SuperMulti DVD, Intel HD Graphics 4000, Gigabit Ethernet, 400W, Windows 7 Professional 64
HP Z220. Processor frequency: 3,4 GHz, Processor family: Intel® Core™ i7, Processor model: i7-3770. Internal memory: 4 GB, Internal memory type: DDR3-SDRAM, Memory clock speed: 1600 MHz. Optical drive type: DVD Super Multi. On-board graphics card model: Intel® HD Graphics 4000. Operating system installed: Windows 7 Professional, Operating system architecture: 64-bit. Power supply: 400 W. Chassis type: Minitower. Product type: Workstation. Weight: 10,4 kg
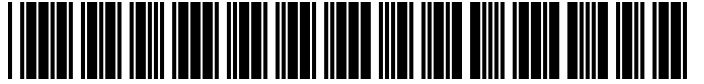
Processor

Processor manufacturer *	Intel
Processor family *	Intel® Core™ i7
Processor generation	3rd gen Intel® Core™ i7
Processor model *	i7-3770
Processor cores	4
Processor threads	8
Processor boost frequency	3,9 GHz
Processor frequency *	3,4 GHz
Processor socket	LGA 1155 (Socket H2)
Processor cache	8 MB
Processor cache type	Smart Cache
System bus rate	5 GT/s
Bus type	DMI
FSB Parity	✘
Processor lithography	22 nm
Processor operating modes	64-bit
Processor series	Intel Core i7-3700 Desktop series
Processor codename	Ivy Bridge
Thermal Design Power (TDP)	77 W
Tcase	67,4 °C
Tjunction	105 °C
PCI Express slots version	3.0
PCI Express configurations	1x8, 1x16, 2x4, 2x8
Number of processors installed	1
Stepping	E1
CPU multiplier (bus/core ratio)	34

Performance

Product type *	Workstation

Software

Operating system architecture	64-bit
Operating system installed *	Windows 7 Professional
Drivers included	✔

Processor special features

Intel® Wireless Display (Intel® WiDi)	✔
Intel 64	✔
Enhanced Intel SpeedStep Technology	✔
Embedded options available	✔
Intel® InTru™ 3D Technology	✔
Intel® Insider™	✔
Intel® Clear Video HD Technology (Intel® CVT HD)	✔
Intel Clear Video Technology	✘
Intel VT-x with Extended Page Tables (EPT)	✔
Intel TSX-NI	✘
Idle States	✔
Thermal Monitoring Technologies	✔
Intel® AES New Instructions (Intel® AES-NI)	✔
Intel® Secure Key	✔
Intel Trusted Execution Technology	✔

Processor

Maximum internal memory supported by processor	32 GB
Memory types supported by processor	DDR3-SDRAM
Memory clock speeds supported by processor	1333,1600 MHz
Memory bandwidth supported by processor (max)	25,6 GB/s
ECC supported by processor	✘

Memory

Internal memory *	4 GB
Internal memory type	DDR3-SDRAM
Memory slots	4x DIMM
Memory clock speed	1600 MHz
ECC	✘
Memory channels	Dual-channel

Storage

Optical drive type *	DVD Super Multi
Total HDDs capacity	500 GB
Number of HDDs installed	1
HDD capacity	500 GB
HDD interface	SATA
HDD speed	7200 RPM
SSD interface	SATA
Card reader integrated	✘
RAID support	✔
RAID levels	0, 1

Graphics

On-board graphics card *	✔
On-board graphics card family	Intel® HD Graphics
On-board graphics card model *	Intel® HD Graphics 4000
On-board graphics card base frequency	650 MHz
On-board graphics card dynamic frequency (max)	1150 MHz
Number of displays supported (on-board graphics)	3
On-board graphics card ID	0x162

Ports & interfaces

USB 2.0 ports quantity *	5
USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity *	4
PS/2 ports quantity	2
Ethernet LAN (RJ-45) ports	1
Microphone in	✔
Headphone outputs	1
Line-in	✔

Expansion slots

PCI Express x4 slots	2
PCI Express x16 slots	1
PCI slots	2

Design

Chassis type *	Minitower
Country of origin	China

Performance

Motherboard chipset	Intel® C216
Audio system	HD

Processor special features

Execute Disable Bit	✔
Intel FDI Technology	✔
Intel Flex Memory Access	✔
Intel Fast Memory Access	✔
Intel Enhanced Halt State	✔
Intel Demand Based Switching	✘
Intel® Clear Video Technology for Mobile Internet Devices (Intel CVT for MID)	✘
Processor package size	37.5 x 37.5 mm
Supported instruction sets	AVX, SSE4.1, SSE4.2
CPU configuration (max)	1
Graphics & IMC lithography	22 nm
Thermal solution specification	PCG 2011D
Intel Virtualization Technology for Directed I/O (VT-d)	✔
Intel Identity Protection Technology version	1,00
Intel Secure Key Technology version	1,00
Intel Virtualization Technology (VT-x)	✔
Intel TSX-NI version	0,00
Intel Dual Display Capable Technology	✘
Intel Rapid Storage Technology	✘
Processor ARK ID	65719
Intel® Turbo Boost Technology	2.0
Intel® Hyper Threading Technology (Intel® HT Technology)	✔
Intel® Quick Sync Video Technology	✔
Intel® My WiFi Technology (Intel® MWT)	✘
Intel® Identity Protection Technology (Intel® IPT)	✔
Intel® Anti-Theft Technology (Intel® AT)	✔
Conflict-Free processor	✔

Power

Power supply *	400 W

Sustainability

Sustainability certificates	ENERGY STAR

Weight & dimensions

Width *	178 mm
Depth *	455 mm
Height *	447 mm
Weight *	10,4 kg

Display

Display included *	✘

Other features

External drive bays	3 x 5.25"
Internal drive bays	3 x 3.5"
Networking features	Gigabit Ethernet (10/100/1000)
Graphics card family	Intel
Graphics card	HD Graphics 4000

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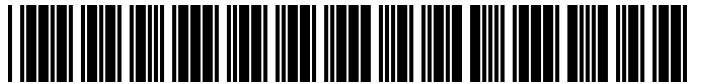
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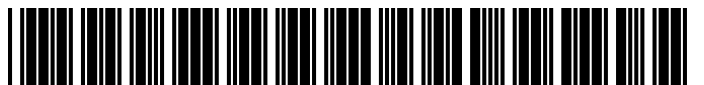
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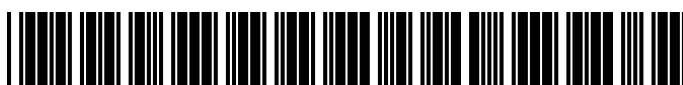
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