



# HP Z220 SFF, Z220 CMT, Z420, Z620, and Z820 Workstations

Maintenance and Service Guide

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## About this guide

This guide provides service and maintenance information, technical details and configuration guidance for the HP Z220 SFF, Z220 CMT, Z420, Z620, and Z820 Workstations.

 **IMPORTANT:** Removal and replacement procedures are now available in videos on the HP website.

Go to the HP Customer Self Repair Services Media Library at <http://www.hp.com/go/sml>.

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### Guide topics

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 **NOTE:** View the *HP Z220 SFF, Z220 CMT, Z420, Z620, and Z820 Workstation Series User Guide* at [http://www.hp.com/support/workstation\\_manuals](http://www.hp.com/support/workstation_manuals).



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# 1 Hardware overview

This chapter presents an overview of workstation hardware components. It includes these topics:

Topics
<a href="#">HP Z220 SFF Workstation components on page 1</a>
<a href="#">HP Z220 CMT Workstation components on page 8</a>
<a href="#">HP Z420 Workstation components on page 15</a>
<a href="#">HP Z620 Workstation components on page 23</a>
<a href="#">HP Z820 Workstation components on page 30</a>
<a href="#">Environmental specifications on page 37</a>
<a href="#">ENERGY STAR qualification on page 37</a>
<a href="#">Ensuring proper ventilation on page 38</a>

## HP Z220 SFF Workstation components

For complete and current information on supported accessories and components for the workstation, see <http://partsurfer.hp.com>.

Topics
<a href="#">HP Z220 SFF Workstation front panel components on page 2</a>
<a href="#">HP Z220 SFF Workstation rear panel components on page 3</a>
<a href="#">HP Z220 SFF Workstation chassis components on page 4</a>
<a href="#">HP Z220 SFF Workstation system board component on page 5</a>
<a href="#">HP Z220 SFF Workstation system board architecture on page 6</a>
<a href="#">Workstation specifications on page 7</a>

# HP Z220 SFF Workstation front panel components

Figure 1-1 Front panel components

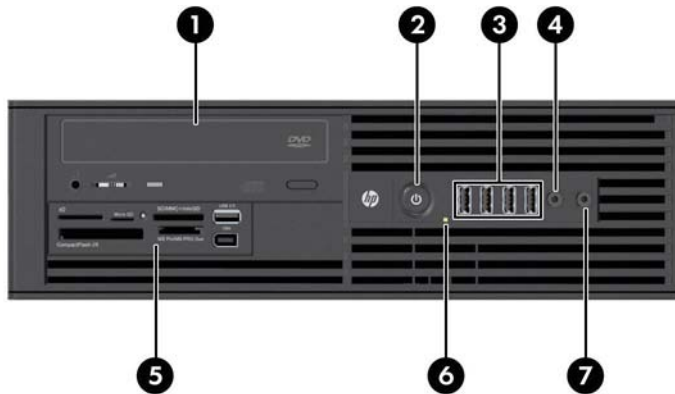





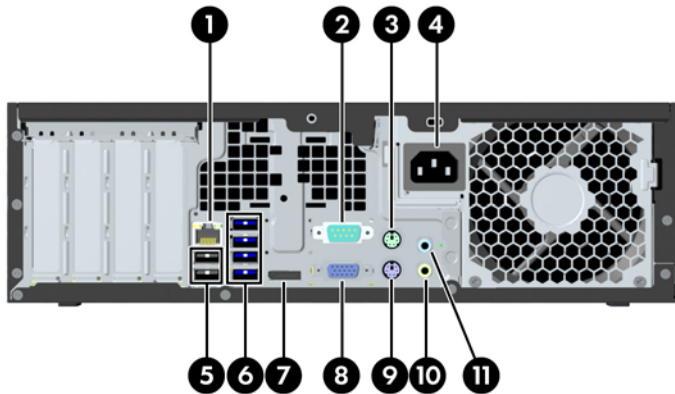


Table 1-1 Component description

1	Optical drive	5	Optional media card reader (shown) or optional second hard disk drive
2	 Power button	6	 Hard drive or optical drive activity light
3	 USB 2.0 ports (4, black)	7	 Headphones connector
4	 Microphone or headphones connector (software selectable, default mode is microphone)		

# HP Z220 SFF Workstation rear panel components

Figure 1-2 Rear panel components



**NOTE:** The labels for the rear panel connectors use industry-standard icons and colors.

Table 1-2 Component descriptions

1		RJ-45 network connector	7		DisplayPort (DP)
2		Serial port	8		VGA (monitor) (blue)
3		PS/2 mouse connector (green)	9		PS/2 keyboard connector (purple)
4		Power cord connector	10		Audio line-out connector (green)
5		USB 2.0 ports (2) (back)	11		Audio line-in connector (blue)
6		USB 3.0 ports (4) (blue)			

**NOTE:** The DP and VGA ports are not supported when the system is configured with Intel Xeon E3-12x0 v2 processors. Also, if a discrete graphics card is installed, these ports are disabled by default.

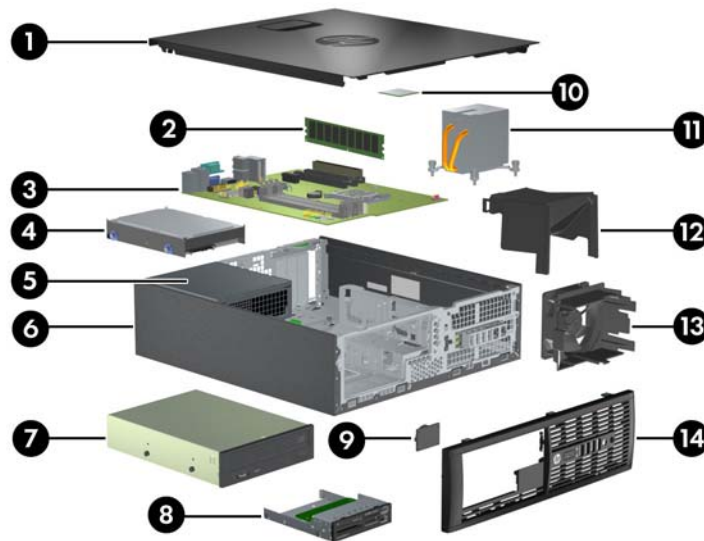
**NOTE:** Simultaneous usage of integrated Intel HD graphics and discrete graphics cards (in order to drive more than two displays) can be enabled using the Computer (F10) Setup Utility. However, HP recommends using only discrete graphics cards when attaching three or more displays.

## HP Z220 SFF Workstation chassis components

For complete and current information on supported accessories and components for the computer, see <http://partsurfer.hp.com>.

The following image shows the components of a typical computer layout. Drive configurations can vary.

**Figure 1-3** Chassis components



**Table 1-3** Component descriptions

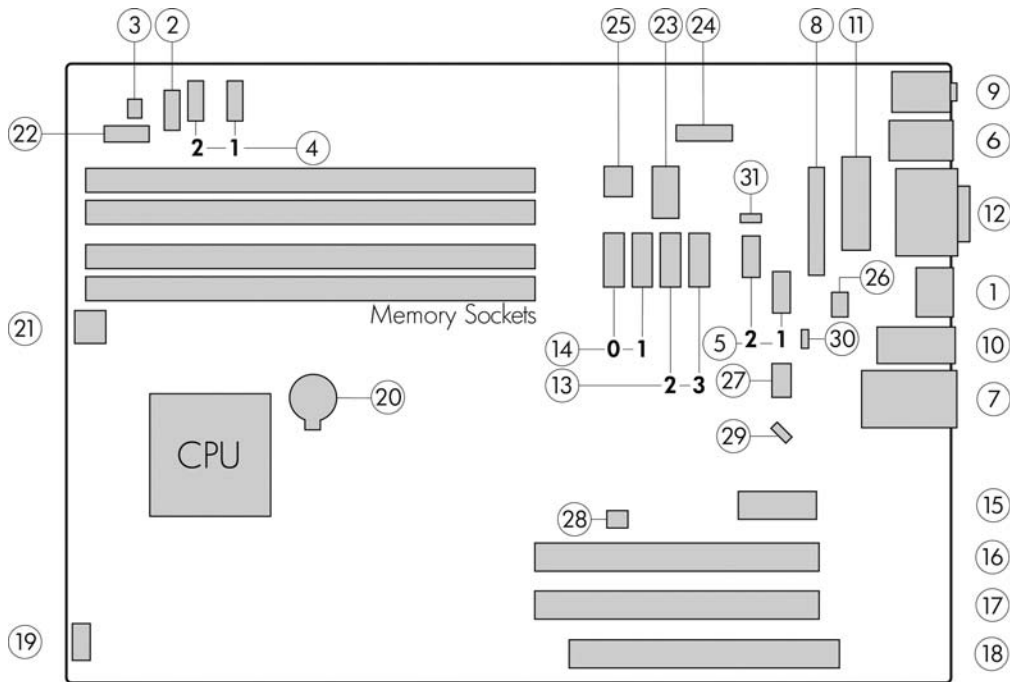
1	Access panel	8	Optional media reader or second hard disk drive
2	Memory module (DIMM)	9	Speaker
3	System board	10	CPU
4	Hard disk drive	11	Heatsink
5	Power supply	12	Airflow guide
6	Chassis	13	System fan
7	Optical drive	14	Front bezel



# HP Z220 SFF Workstation system board component

The following illustration and table identify computer system board components.

**Figure 1-4** System board component locations



**Table 1-4** System board component descriptions

I/O		SATA		Power	
1	Display Port	13	AHCI 3Gb/s	20	Battery
2	Front audio	14	AHCI 6Gb/s	21	CPU power
3	Front speaker	<b>NOTE:</b> Only the port labeled eSATA is eSATA compatible.		22	Front power button/LED
4	Front USB 2.0			23	Main power
5	Internal USB 2.0	PCI/PCIe		24	Power COMM
6	Keyboard/mouse	15	PCIe2 x1	25	SATA power
7	Network/rear USB 2.0	16	PCIe2 x16 (4)	Security	
8	Parallel (optional)	17	PCIe3 x16	26	Chassis solenoid lock
9	Rear audio	18	PCI 32/33	27	Hood sense
10	Rear USB 3.0	<b>NOTE:</b> For related expansion card slot information, see <a href="#">Expansion slots on page 84</a>		Service	
11	Serial (optional)			28	Clear CMOS button
12	VGA/serial	Cooling		29	Crisis recovery jumper
		19	Chassis fan	30	ME/AMT flash override
				31	Password jumper