



# HP Z Workstations for PACS

Stay ahead of your PACS environment with HP Z Workstations.

Innovation, performance, and reliability to help you create a stable, future-ready infrastructure and increase your productivity.



HP recommends Windows.

“HP durability and reliability meets, if not exceeds, our extremely high uptime standard. For us the benefits are twofold, fast patient care and savings in technical staff time spent supporting the vast amount of equipment.”

– Michael Arends, Client Device Services Manager, OSF HealthCare System

## HP helps you meet the challenge with a portfolio of workstations built with PACS\* in mind.

Widely used in healthcare environments around the world, select HP Z Workstations are FDA registered 892.2010 Class I devices and deliver the speed, proven performance, reliability, and expandability for use in your PACS solution.\* Moreover, HP Z Workstations are designed to provide extremely efficient heat removal from processors, reduce overall acoustic output levels, and support graphics cards that drive multiple high-end monitors. In short, the HP Z Workstations are a natural fit for your PACS environment.

### Why HP Z Workstations

HP Z Workstations offer the power, performance, and efficiency you need to yield fast results, great precision, and increased savings while laying the groundwork for a stable infrastructure that can take you into the future.

### HP Z Workstation family

HP Z Workstations combine bold design, best-in-class engineering, energy efficiency, and robust tools to help you get exceptional return on investment with innovation, performance, and reliability that goes beyond a typical PC.

\* HP offers select workstations that are registered FDA Class I Medical Devices for your PACS system. When ordering your workstation, please choose from these workstation part numbers: Z1 (D4H09AV); Z1 G2 (J5V15AV); Z230 (E9H74AV); Z420 (D4H11AV); Z440 (G8W00AV); Z620 (D4H12AV); Z640 (G8W05AV); Z820 (D4H13AV); Z840 (G8W10AV).

## Digitalize, virtualize, maximize

### Your digital workflow

HP Z Workstations can revolutionize your workflow, help you migrate your 2D and analog records to 3D and digital, and prepare you for future technology developments. HP Z Workstations are engineered to optimize the way the processor, memory, graphics, operating system and software components work together to deliver massive, whole-system computational power that helps you maximize your IT investment and accomplish more with every minute of your time.

### HP Z Workstations

#### HP Z230 Tower and HP Z230 SFF

[Our most affordable workstations. >>](#)

The HP Z230 delivers next-generation processor and graphic technologies in two redesigned models. Choose between an amazingly capable Small Form Factor (SFF) for constrained spaces, or the new compact Tower that is impressively expandable, with no compromise reliability. The Z230 SFF provides capability and flexibility you demand. It is remarkably expandable allowing you to add more storage and connectivity when you need it, featuring six available drive bays, including a 2.5-inch HD bay for high speed solid state drives, and a wide variety of I/O slots and ports. The optional ergonomic Handle in Top ODD Bay also enables allows tool free installation of SSD Hard Drives for easy expandability.

#### HP Z440

[Expand your power. >>](#)

Take your healthcare business to the next level of performance, expandability, and no compromise reliability in one complete package with the HP Z440 Workstation's revolutionary architecture and bold industrial re-design. Featuring a perfect mix of HP Z DNA in a performance workstation package with up to 8 discrete processor cores, up to 128 GB<sup>2</sup> of RAM, and multiple storage and PCIe configuration options.

#### HP Z640

[Flexible, powerful, ready to work. >>](#)

The HP Z640 packs up to 36 sixteen-cores compute and visualization power into a small, quiet package—for the ideal workstation when every inch, watt, and decibel make a difference. HP's quietest workstation, the HP Z640 is designed to fit in compact work spaces where real estate is at a premium and minimizing system noise is paramount. This workstation offers Windows 8 or Linux and your choice of up to 36 cores in dual Intel® Xeon® processors<sup>1</sup> and capacity for increasingly bigger applications and data sets, with up to 256 GB<sup>2</sup> of high-speed DDR4 memory.

#### HP Z840

[More power to you. >>](#)

The HP Z840 Workstation delivers ultimate performance with the extreme speed and massive expandability that you demand to handle your biggest challenges and delivers our ultimate 3D images. Offering two next generation Intel® Xeon® processors<sup>1</sup> for up to 36 total processor cores in one system, the HP Z840 can parse the largest applications and data sets with up to 2 TB<sup>3</sup> of memory.

## HP Z Workstation innovation highlights

HP award-winning Workstations are rich with customer-driven innovations. Servicing is easy with a tool-less access chassis and modular, direct-connect drives and power supplies on select models.

#### HP Performance Advisor

[The built-in workstation guru. >>](#)

Get the most out of your HP Workstation on day one—and every day thereafter. Designed for non-techies, this ultra-savvy software wizard is a simple and effective way to make sure your computer is always operating at its optimum potential. HP Performance Advisor comes pre-installed with every HP Workstation.

#### Remote Graphics Software

[Remote access with a “just like local” feel. >>](#)

HP Remote Graphics Software gives you high performance remote desktop access to your 2D, 3D, video, and media-rich applications—when and where you need them, on-site or from a remote location through a standard Internet connection. This HP innovation allows you to collaborate with colleagues across geographies, in real-time, using content-rich interactive applications.

Advances in clinical applications and workflow management tools have transformed the picture archiving and communication system (PACS) into a crucial decision-support system that requires robust performance from integrated workstations.

## Why HP Z Workstations

Feature	Description	Benefit
<b>FDA Registered Devices requirements</b>	<ul style="list-style-type: none"> <li>Select HP Z Workstations are FDA Class I Registered Medical Devices*</li> </ul>	<ul style="list-style-type: none"> <li>Fast, reliable graphic data process for accurate storage and transmission of data</li> </ul>
<b>High-quality graphics</b>	<ul style="list-style-type: none"> <li>Dual graphics support that drives up to eight displays</li> <li>Updated line of professional 2D and 3D graphics from NVIDIA® and AMD</li> </ul>	<ul style="list-style-type: none"> <li>Visual accuracy and image clarity you require</li> </ul>
<b>High performance</b>	<ul style="list-style-type: none"> <li>Wide selection of dual-, and quad-, and six-core Intel® Xeon® processors<sup>1</sup></li> <li>ECC and non-ECC memory options</li> </ul>	<ul style="list-style-type: none"> <li>Power through increasingly bigger applications and datasets</li> <li>Faster time to results</li> <li>Improved patient quality of care</li> <li>Help ensure accuracy and reliability of results to mitigate risk</li> </ul>
<b>Quiet, energy-efficient operation</b>	<ul style="list-style-type: none"> <li>ENERGY STAR® certified configurations</li> <li>90% efficient power supplies</li> <li>Quiet acoustic design</li> </ul>	<ul style="list-style-type: none"> <li>Reduce power and cooling costs</li> <li>Create a quieter work environment so you can focus on your work</li> </ul>
<b>HP stable and consistent offerings</b>	<ul style="list-style-type: none"> <li>Lifecycles are measured in years</li> <li>Maintain software image stability</li> <li>Hardware and software components (such as processors, hard drives, graphics cards, and peripherals) designed to last for the lifecycle of select HP Z Workstations</li> </ul>	<ul style="list-style-type: none"> <li>Optimize your testing and certification processes</li> <li>Transition smoothly as new technologies and architectures are introduced</li> <li>Buy exactly what you need</li> <li>Maximize your technology investment</li> <li>Customize a platform that's future-ready</li> </ul>
<b>Extraordinary ease of service</b>	<ul style="list-style-type: none"> <li>Tool-free chassis</li> <li>Uncluttered and highly streamlined internal design</li> <li>Modular direct connect drives and power supplies</li> </ul>	<ul style="list-style-type: none"> <li>Add or change components, from hard drives to power supplies, in seconds</li> <li>Reduced downtime = lower TCO</li> </ul>
<b>Certified medical diagnostic monitors from industry leaders</b>	<ul style="list-style-type: none"> <li>Tested with HP Z Workstations</li> <li>DICOM compliant</li> <li>FDA approved diagnostic monitors are available from Barco, Eizo, NDSi/Dome</li> </ul>	<ul style="list-style-type: none"> <li>Exceptional detail accuracy</li> </ul>

## HP Z Workstations for PACS

Model*	<b>HP Z230 CMT &amp; HP Z230 SFF</b> for affordable high performance	<b>HP Z440</b> for mainstream users needing memory expansion	<b>HP Z640</b> for affordable multi-core machines	<b>HP Z840</b> for the best performance and expandability
<b>AV number*</b>	E9H74AV	G8W00AV	G8W05AV	G8W10AV
<b>User</b>	Ideal for entry level users where workstation performance is needed	Ideal for those who want to maximize performance with single-threaded applications	Ideal for those who need multi-core performance	Ideal for those who have the largest files and store large data sets
<b>Operating System</b>	Windows 8.1 Pro 64-bit <sup>1</sup> Windows 7 Professional 64-bit (available through downgrade rights from Windows 8.1 Pro 64-bit) <sup>1</sup> Range of Linux <sup>®</sup> choices	Windows 8.1 Pro 64-bit <sup>1</sup> Windows 7 Professional 64-bit (available through downgrade rights from Windows 8.1 Pro 64-bit) <sup>1</sup> Windows 7 Professional (MSNA) 64-bit <sup>1</sup>	Windows 8.1 Pro 64-bit <sup>1</sup> Windows 7 Professional 64-bit (available through downgrade rights from Windows 8.1 Pro 64-bit) <sup>1</sup> Windows 7 Professional (MSNA) 64-bit <sup>1</sup>	Windows 8.1 Pro 64-bit <sup>1</sup> Windows 7 Professional 64-bit (available through downgrade rights from Windows 8.1 Pro 64-bit) <sup>1</sup> Windows 7 Professional (MSNA) 64-bit <sup>1</sup>
<b>Application</b>	Review/Referral station	Standard PACS applications	Pro users 3D visualization and analysis	3D, 4D and rendering
<b>Processors</b>	Intel <sup>®</sup> Xeon <sup>®</sup> processor E3-1200v3 family <sup>1</sup> Intel <sup>®</sup> Core <sup>®</sup> i5, i7 Processors <sup>1</sup> Intel <sup>®</sup> C226 Chipset	Intel <sup>®</sup> Xeon <sup>®</sup> Processor E5-1600v3 and E5-2600v3 series <sup>1</sup> Intel <sup>®</sup> C612 Chipset	Intel <sup>®</sup> Xeon <sup>®</sup> Processor E5-1600v3 and E5-2600v3 series <sup>1</sup> Intel <sup>®</sup> C612 Chipset	Intel <sup>®</sup> Xeon <sup>®</sup> Processor E5-2600v3 series <sup>1</sup> Intel <sup>®</sup> C612 Chipset
<b>Graphic Cards</b>	NVIDIA <sup>®</sup> Quadro <sup>®</sup> K420 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K620 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K2200** NVIDIA <sup>®</sup> Quadro <sup>®</sup> K4200** AMD FirePro <sup>™</sup> W2100 AMD FirePro <sup>™</sup> W7100**	NVIDIA <sup>®</sup> NVS <sup>™</sup> 510 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K620 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K2200 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K4200 AMD FirePro <sup>™</sup> W2100 AMD FirePro <sup>™</sup> W7100	NVIDIA <sup>®</sup> NVS <sup>™</sup> 510 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K620 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K2200 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K4200 AMD FirePro <sup>™</sup> W2100 AMD FirePro <sup>™</sup> W7100	NVIDIA <sup>®</sup> NVS <sup>™</sup> 510 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K620 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K2200 NVIDIA <sup>®</sup> Quadro <sup>®</sup> K4200 AMD FirePro <sup>™</sup> W2100 AMD FirePro <sup>™</sup> W7100

### Learn more at [hp.com/go/wshealthcare](http://hp.com/go/wshealthcare) [hp.com/zworkstations](http://hp.com/zworkstations)

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\*\* Not available on HP Z230 SFF.

<sup>1</sup> Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows functionality. See [microsoft.com](http://microsoft.com).

1. Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing system required. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
2. Each processor supports up to 2 (HP Z230 Tower/HP Z230 SFF) or 3 (HP Z440, Z640, Z840) channels of DDR3 memory. To realize full performance at least 1 DIMM must be inserted into each channel. To get full 6 channel support, 2 processors MUST be installed.
3. For hard drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 20 GB of system disk is reserved for system recovery software (for Windows 7) and up to 30 GB is reserved for Windows 8.

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