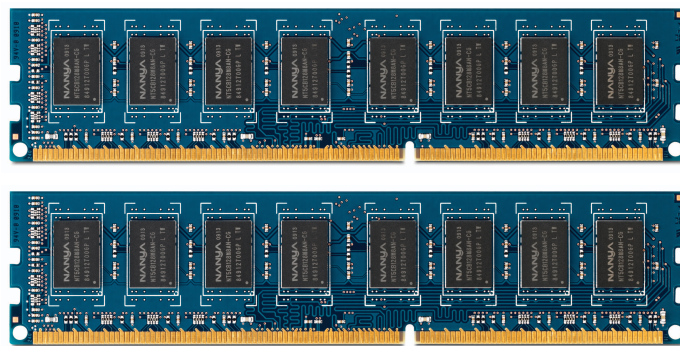# HP Z210 Memory Configuration and Optimization

The purpose of this document is to provide an overview of the memory configuration for the HP Z210 Workstation and to provide recommendations to optimize performance.

Supported DIMMs

The HP Z210 supports:

• Unbuffered 1GB, 2GB and 4GB single and dual rank PC3-10600E 1333MHZ ECC DIMMs

• Unbuffered 1GB, 2GB and 4GB single and dual rank PC3-10600U 1333MHz nECC DIMMs

ECC memory and non ECC memory cannot be mixed within a system.

The CPU determines what type of memory is supported on the HP Z210. Please see below for a complete list of CPUs and memory supported.

CPU	Supports Non ECC memory	Supports ECC memory	Notes
i3-21xx	▬	▬	
i5-24xx	▬		1
i5-25xx	▬		1
i7-26xx	▬		1
Xeon E3-12xx		▬	
Pentium G6xx	▬	▬	
Pentium G8xx	▬	▬	

1. If ECC memory is added to the system, the ECC function is disabled and the DIMM will appear to the system as Non ECC memory.

HP Z210 Memory Configuration and Optimization

Best Performance Optimization Tips

Since the memory controller is based on a two channel design, the following rules should be used for best performance:

- Configure memory in sets of 2.
- Configure memory using the smallest DIMM size. This will sometimes optimize memory performance if it prevents single channel configurations. Example: for a 2GB configuration, buy 2 x 1GB DIMMS, not 1 x 2GB DIMMs.
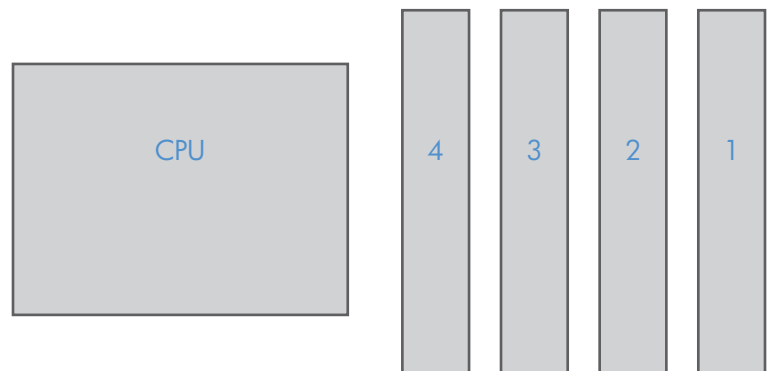
KEY	
☐	Good configuration
▬ (gray)	Better configuration
▬ (black)	Best configuration

	Notes	DIMM1	DIMM2	DIMM3	DIMM4	RATING
1GB		1GB				☐
2GB		1GB 2GB		1GB		▬ (black) ☐
3GB	*	1GB	1GB	1GB		▬ (gray)
4GB		1GB 2GB	1GB	1GB 2GB	1GB	▬ (black) ▬ (black)
8GB		2GB 4GB	2GB	2GB 4GB	2GB	▬ (black) ▬ (black)
16GB		4GB	4GB	4GB	4GB	▬ (black)

* For 32 bit operating systems, it is optimal to only load 3GB of memory because the 4th GB isn't fully accessible by the operating system, this optimizes the cost per usable memory.

Loading Order

When loading the system memory start in the slot furthest from the CPU, DIMM1, and move towards the CPU, first filling the black slots and then filling the white slots.

CPU	4	3	2	1

For more information, visit the HP Workstations home page at **http://www.hp.com/go/workstations**.

4AA3-4042ENW, April 2011