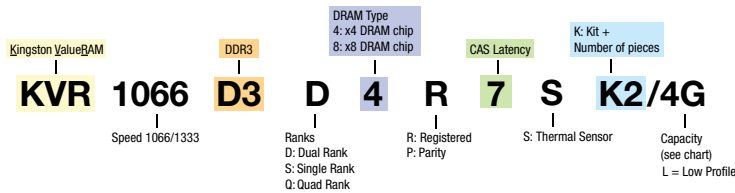


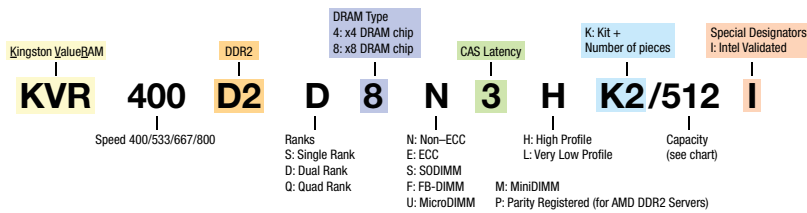
# Identifying ValueRAM Memory Modules

This reference guide is designed to help you identify our ValueRAM® memory modules by specification. While this is a representation of a majority of our generic modules, naming conventions may vary as necessary. The back page is a summary of the terms used to describe these industry-standard modules.

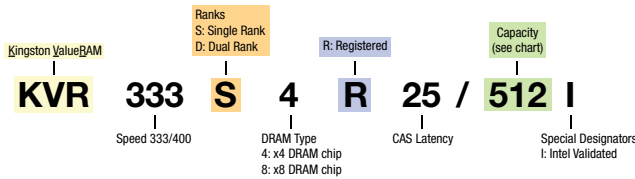
## DDR3 for Desktops and Servers (PC3-8500, PC3-10600)



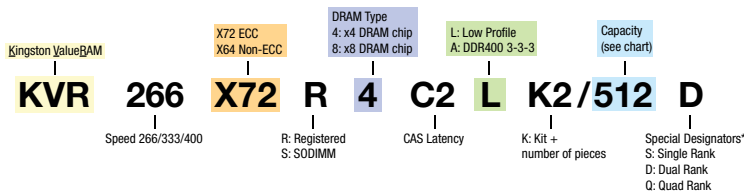
## DDR2 for Notebooks, Desktops, and Servers (PC2-3200, PC2-4200, PC2-5300, PC2-6400)



## DDR for Servers (PC2700, PC3200)

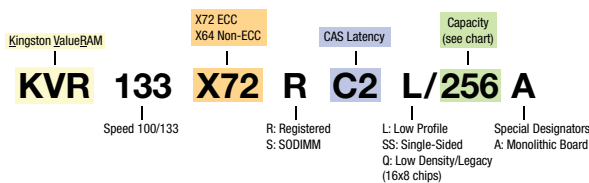


## DDR for Notebooks, Desktops, and PC2100 Servers (PC2100, PC2700, PC3200)



\* For server memory, if an S/D/Q designators is not shown, please check product list for ranks.

## SDRAM for Notebooks, Desktops, and Servers (PC100, PC133)



[more >>](#)

# Identifying ValueRAM Memory Modules

## Module Capacities Currently Available

128MB | 256MB | 512MB | 1GB | 2GB | 4GB | 8GB

For more information, please visit:  
[valueram.com](http://valueram.com)

### x4 or x8 DRAM Organization

Registered DIMMs for servers are available with x4 ("By 4") or x8 DRAM chips. x8-based server modules are generally more cost-effective but only x4-based server modules can support server features such as multiple-bit error correction, Chipkill, memory scrubbing, and Intel Single Device Data Correction (SDCC).

### X64 Module

Non-ECC unbuffered memory module with 64-bit data width.

### X72 Module

Unbuffered memory module with ECC, or a Registered DIMM (which always includes ECC). ECC modules have a 72-bit width (64 bits of data + 8 bits of ECC).

### Capacity

Total number of memory cells on a module expressed in Megabytes or Gigabytes. For kits, listed capacity is the combined capacity of all modules in the kit.

### CAS Latency

One of the most important latency (wait) delays (expressed in clock cycles) when data is accessed on a memory module. Once the data read or write command and the row/column addresses are loaded, CAS Latency represents the (final) wait time until the data is ready to be read or written.

### DDR2

Second-generation DDR memory technology. DDR2 memory modules are not backward-compatible with DDR due to lower voltage (1.8V vs. 2.5V), different pin configurations, and incompatible memory chip technology.

### DDR3

Third-generation DDR memory technology. DDR3 memory modules are not backward-compatible with DDR or DDR2 due to lower voltage (1.5V), different pin configurations and incompatible memory chip technology.

### Density

Synonymous with Capacity; usually used with DRAM chips.

### ECC

(Error Correction Code) A method of checking the integrity of the data stored in the DRAM module. ECC can detect multiple-bit errors and can locate and correct single-bit errors.

### FB-DIMM (Fully Buffered DIMM)

Next-generation server memory modules incorporating an Advanced Memory Buffer chip on the module to connect to two high-speed serial connections from and to the memory controller.

### Intel Validated

Parts with this designation have been validated by Intel's authorized validation lab for their server platforms.

### Kit

A single package containing multiple memory modules K2 = 2 module kit.

### Legacy (or Low Density)

Refers to modules that are engineered to work on older systems, e.g., use only 128MB SDRAM memory chips if the memory controller does not support 256MB SDRAM chips.

### Rank: Single, Dual, Quad Rank Memory Modules

Important when installing memory modules in workstations and servers. If the total number of ranks installed exceeds the system's memory specifications, the system may not boot, may have memory errors, or may not recognize part of the memory capacity. Check your system's user guide for supported number of ranks.

### Registered DIMM

A memory module containing Register chip(s) used to relay and synchronize address and control signals issued by the motherboard's memory controller, and a Phase Locked Loop (PLL) chip used to relay the motherboard's clock signal to all the DRAM chips. The majority of server and workstation platforms require Registered DIMMs. Some entry-level servers and workstations only require Unbuffered DIMMs. Please check your system's user manual to verify what type of memory module is required.

### SODIMM

Small Outline Dual In-line Memory Module. A reduced form-factor memory module intended for portable computers or appliances.

### Speed

The data rate or effective clock speed that a memory module supports.

