



Sun Fire™ V490/V890 CPU/Memory Module Configuration Guide

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Sun Fire V490/V890 CPU/Memory Module Configuration Guide

This document describes:

- [Minimum Software Versions](#)
- Supported Mixed Speed Configurations
- [Identifying the Speed of CPU/Memory Modules](#)
- Additional Information for 2100 MHz CPU/Memory Modules

Minimum Software Versions

TABLE 1 lists the minimum versions of the operating system and OpenBoot™ PROM (OBP) firmware required by the 1050 MHz, 1200 MHz, and 1350 MHz UltraSPARC™ IV and the 1500 MHz, 1800 MHz and 2100 MHz UltraSPARC IV+ CPU/Memory modules.

TABLE 1 Minimum Operating System and Firmware Versions

CPU/Memory Module	Operating System	Firmware Version
1050 MHz	Solaris 8 2/04	OBP 4.15.1
	Solaris 9 4/04	OBP 4.15.1
	Solaris 10 3/05	OBP 4.15.1
1200 MHz	Solaris 8 2/04	OBP 4.15.1
	Solaris 9 4/04	OBP 4.15.1
	Solaris 10 3/05	OBP 4.15.1
1350 MHz	Solaris 8 2/04	OBP 4.15.6
	Solaris 9 4/04	OBP 4.15.6
	Solaris 10 3/05	OBP 4.15.6
1500 MHz	Solaris 9 9/05	OBP 4.18.1
	Solaris 10 3/05 HW1	OBP 4.18.1

TABLE 1 Minimum Operating System and Firmware Versions (*Continued*)

CPU/Memory Module	Operating System	Firmware Version
1800 MHz	Solaris 9 9/05	OBP 4.18.8
	Solaris 10 3/05 HW1	OBP 4.18.8
2100 MHz	Solaris 9 9/05	OBP 4.22.24
	Solaris 10 3/05 HW1	OBP 4.22.24

Caution – Use OBP version 4.22.24 or greater on systems equipped with 2100 MHz CPU/Memory modules. Loading an earlier version of OBP on these systems makes them unbootable.

Note – Use RSC version 2.2.3 Patch 06 or later on systems equipped with 2100 MHz CPU/Memory modules. Earlier versions of RSC may report false temperature errors for the 2100 MHz CPU/Memory modules.

Supported Mixed-Speed Configurations

Note – The 1200 MHz and 1350 MHz CPU/Memory modules use UltraSPARC IV architecture. The 1500 MHz and 1800 MHz modules use UltraSPARC IV+ architecture, as indicated in the tables.

Note – Systems equipped with 2100 MHz CPU/Memory modules do not support mixed-speed configurations.

The following tables list the various mixed-speed configurations of CPU/Memory modules currently supported on the Sun Fire V490 and the Sun Fire V890 servers. [TABLE 2](#) shows the mixed-speed configurations supported on V490 servers. [TABLE 3](#) shows the supported mixed-speed configurations for two CPU/Memory modules in V890 servers. Likewise, [TABLE 4](#) and [TABLE 5](#) respectively show supported mixed-speed configurations for three and four CPU/Memory modules on V890 servers. The different configuration possibilities are presented in separate tables in this way to simplify the search for specific configurations.

Note – All V490 and V890 mixed-speed configurations are based on the simple rule-of-thumb of populating the chassis slots from bottom to top in ascending order of clock speed. In other words, lower speed boards should always be below higher speed boards and empty slots should always be above filled slots.

TABLE 2 Mixed-Speed Configurations Supported on Sun Fire V490 Server

Slot A	Slot B
1350 MHz	1050 MHz
1500 MHz	1050 MHz
1800 MHz	1050 MHz
1500 MHz	1350 MHz
1800 MHz	1350 MHz
1800 MHz	1500 MHz

TABLE 3 Mixed-Speed Configurations Supported for Two CPU/Memory Modules on Sun Fire V890 Servers

Slot A	Slot B	Slot C	Slot D
1200 MHz	1350 MHz	empty	empty
1200 MHz	1500 MHz	empty	empty
1200 MHz	1800 MHz	empty	empty
1350 MHz	1500 MHz	empty	empty
1350 MHz	1800 MHz	empty	empty
1500 MHz	1800 MHz	empty	empty

TABLE 4 Mixed-Speed Configurations Supported for Three CPU/Memory Modules on Sun Fire V890 Servers

Slot A	Slot B	Slot C	Slot D
1200 MHz	1200 MHz	1350 MHz	empty
1200 MHz	1200 MHz	1500 MHz	empty
1200 MHz	1200 MHz	1800 MHz	empty
1200 MHz	1350 MHz	1350 MHz	empty
1200 MHz	1500 MHz	1500 MHz	empty
1200 MHz	1800 MHz	1800 MHz	empty
1200 MHz	1350 MHz	1500 MHz	empty
1200 MHz	1350 MHz	1800 MHz	empty
1200 MHz	1500 MHz	1800 MHz	empty
1350 MHz	1350 MHz	1500 MHz	empty
1350 MHz	1350 MHz	1800 MHz	empty
1350 MHz	1500 MHz	1500 MHz	empty
1350 MHz	1800 MHz	1800 MHz	empty
1350 MHz	1500 MHz	1800 MHz	empty
1500 MHz	1500 MHz	1800 MHz	empty
1500 MHz	1800 MHz	1800 MHz	empty

TABLE 5 Mixed-Speed Configurations Supported for Four CPU/Memory Modules on Sun Fire V890 Servers

Slot A	Slot B	Slot C	Slot D
1200 MHz	1200 MHz	1200 MHz	1350 MHz
1200 MHz	1200 MHz	1200 MHz	1500 MHz
1200 MHz	1200 MHz	1200 MHz	1800 MHz
1200 MHz	1200 MHz	1350 MHz	1350 MHz
1200 MHz	1200 MHz	1500 MHz	1500 MHz
1200 MHz	1200 MHz	1800 MHz	1800 MHz
1200 MHz	1200 MHz	1350 MHz	1500 MHz
1200 MHz	1200 MHz	1350 MHz	1800 MHz

TABLE 5 Mixed-Speed Configurations Supported for Four CPU/Memory Modules on Sun Fire V890 Servers (Continued)

Slot A	Slot B	Slot C	Slot D
1200 MHz	1200 MHz	1500 MHz	1800 MHz
1200 MHz	1350 MHz	1350 MHz	1350 MHz
1200 MHz	1500 MHz	1500 MHz	1500 MHz
1200 MHz	1800 MHz	1800 MHz	1800 MHz
1200 MHz	1350 MHz	1350 MHz	1500 MHz
1200 MHz	1350 MHz	1350 MHz	1800 MHz
1200 MHz	1350 MHz	1500 MHz	1500 MHz
1200 MHz	1350 MHz	1800 MHz	1800 MHz
1200 MHz	1500 MHz	1500 MHz	1800 MHz
1200 MHz	1500 MHz	1800 MHz	1800 MHz
1200 MHz	1350 MHz	1500 MHz	1800 MHz
1350 MHz	1350 MHz	1350 MHz	1500 MHz
1350 MHz	1350 MHz	1350 MHz	1800 MHz
1350 MHz	1350 MHz	1500 MHz	1500 MHz
1350 MHz	1350 MHz	1800 MHz	1800 MHz
1350 MHz	1350 MHz	1500 MHz	1800 MHz
1350 MHz	1500 MHz	1500 MHz	1500 MHz
1350 MHz	1800 MHz	1800 MHz	1800 MHz
1350 MHz	1500 MHz	1500 MHz	1800 MHz
1350 MHz	1500 MHz	1800 MHz	1800 MHz
1500 MHz	1500 MHz	1500 MHz	1800 MHz
1500 MHz	1500 MHz	1800 MHz	1800 MHz
1500 MHz	1800 MHz	1800 MHz	1800 MHz

▼ Identifying the Speed of CPU/Memory Modules

The speed of recently manufactured UltraSPARC IV and all UltraSPARC IV+ CPU/Memory modules appears on a label on the front edge of the board. It is visible through the plastic shroud when the board is installed in its slot. Speed is listed in GHz, for example: 1.35 GHz.

If your CPU/Memory module does not have a label, use the `prtdiag -v` command. It lists the speed of the module located in each slot of the server, for example:

```
# prtdiag -v
System Configuration: Sun Microsystems sun4u Sun Fire V890
System clock frequency: 150 MHz
Memory size: 24576 Megabytes

===== CPU$ =====

      Run  E$ CPU      CPU
Brd  CPU  MHz  MB Impl.  Mask
---  ---  ---  ---  ---  ---
  A  0, 16 1200 16.0 US-IV   2.4
  B  1, 17 1200 16.0 US-IV   2.4
  A  2, 18 1200 16.0 US-IV   2.4
  B  3, 19 1200 16.0 US-IV   2.4
```

Alternatively, if you have not yet booted the Solaris OS, you can use the `.speed` command at the `OK` prompt to display the speed of the CPU/Memory modules installed on your system.

Note – The 2100 MHz CPU/Memory modules can also be identified by the color of their ejector levers, which is gray. All other CPU/Memory modules have green ejector levers.

Additional Information for 2100 MHz CPU/Memory Modules

Sun Fire V490/V890 servers shipped with 2100 MHz CPU/Memory modules are factory upgraded to support the additional power of the 2100 MHz UltraSPARC IV+ processors. For more information on the software requirements and hardware upgrades for 2100 MHz systems, see the *Sun Fire V490/V890 Systems with UltraSPARC IV+ 2100 MHz CPU/Memory Modules Supplement*, located online at:

<http://www.sun.com/products-n-solutions/hardware/docs/Servers>