This document illustrates how to install the MS450-BA/CA and MS451-CA memory modules in an AlphaServer 2100, 2100 RM, or 2100 CAB system.
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Description

<table>
<thead>
<tr>
<th>Memory Type</th>
<th>DRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum modules per system</td>
<td>4</td>
</tr>
<tr>
<td>Minimum modules per system</td>
<td>1</td>
</tr>
<tr>
<td>Operating environment</td>
<td>Class B</td>
</tr>
<tr>
<td>Error detection and correction</td>
<td>EDC logic</td>
</tr>
</tbody>
</table>

The AlphaServer 2100 system supports the following memory module variants:

<table>
<thead>
<tr>
<th>Option</th>
<th>Order Number</th>
<th>DRAM Type</th>
<th>Number of Banks</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS450–BA</td>
<td>B2021–BA</td>
<td>1M × 4</td>
<td>2</td>
<td>64 MB</td>
</tr>
<tr>
<td>MS450–CA</td>
<td>B2021–CA</td>
<td>1M × 4</td>
<td>4</td>
<td>128 MB</td>
</tr>
<tr>
<td>MS451–CA</td>
<td>B2022–CA</td>
<td>4M × 4</td>
<td>4</td>
<td>512 MB</td>
</tr>
</tbody>
</table>
Configuration Information

Up to four memory modules can be installed in the bottom four system bus slots in an AlphaServer 2100 system. Two of the slots however, have a dual function. They can be used for memory or to house a CPU module in a system with three or four CPUs. A system that contains a CPU module in the MEM1 slot supports only two memory modules, because CPU modules occupy two memory slots. Figures 1 and 2 show the various configurations of the system bus.

Figure 1: System Bus Configurations AlphaServer 2100
Install memory modules in an AlphaServer 2100 RM or 2100 CAB system with the components facing toward the right side of the system enclosure.
MS45x Memory Module

Assuring Proper Airflow
System bus slots that are not populated with a printed circuit board (PCB) must contain a plexiglass module to maintain proper airflow in the system cabinet. Figure 3 shows the installation of a plexiglass module (PN 74–48265–01).

Figure 3: Installing a Plexiglass Module
Installation

The MS45x module is static sensitive. Use an antistatic mat and wrist strap when handling the module.

Before installing the memory module, shut down the system power as illustrated in Figure 4.

Figure 4: System Power Shutdown
Caution: Before opening or removing system panels:
1. Perform an orderly shutdown of the operating system.
2. Set the DC power switch on the operator control panel (OCP) to Off (O).
3. Shut off the AC power by setting the AC On/Off switch on each power supply to Off (O). (Note that some systems do not have an AC On/Off switch.)
4. Unplug the AC power cord for each power supply.

Warning: CPU and memory modules have parts that operate at high temperatures. Wait 2 minutes after power is removed before handling these modules.
Figure 5 shows a memory module being installed in the MEM2 slot of the AlphaServer 2100 system. When you install a memory module in an AlphaServer 2100 RM or 2100 CAB system, place the module with the components facing toward the right side of the system enclosure.

**Figure 5: Installing a Memory Module**