Memory Module Installation

Technical Manual

Electrostatic Discharge (ESD) Information

Electrostatic discharge, or the release of Static electricity, can damage any of the electronic components of a computer such as the disk drive, system board, processor, memory, add-in boards, etc. ESD occurs when you touch an object that conducts electricity and is at a different electrical potential than you are. To protect your memory module from ESD, keep the module in its original ESD-protective package. Do not remove from the protective packaging until you are ready to install it.

Equipment

- Memory modules
- Nonmagnetic tip screwdriver (for removing cover only)
- Your computer's manual

Rules of Thumb for Memory Module Installation

1. Make sure that you are working in a static safe environment. Remove any plastic bags or papers from your workspace, and make sure to keep your computer plugged in but with the power turned off. Keeping your PC plugged in will keep the case grounded, thus reducing the chance of damaging the module or system from ESD. Touch an unpainted metal part of your case before touching your new modules or any other components in your system.
2. Refer to your computer's manual when removing the computer's cover.
3. Ground yourself by touching any of the unpainted metal surfaces on your computer's frame. (This will remove any static electricity from your body or clothing.)
4. Locate your computer's memory expansion slots (consult your owners manual). Do not use any tools in the removal or installation of memory modules.
5. Insert your memory upgrade according to the illustrations in this guide. Note how the modules are keyed to the socket. This insures that the module will be aligned correctly and cannot be installed backwards.

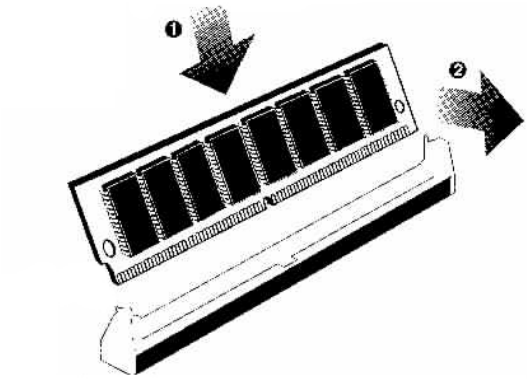

Figure 1 - SIMM Installation Modules are keyed for proper alignment.

6. Once the module(s) have been installed, the computer's cover can be replaced. The installation is now complete

Note: When restarting your computer you may get a message prompting you to update the configuration settings. Refer to your computer's manual on how to accomplish this step. If the instructions provided here do not appear to cover your system, please consult your owners manual. It you are still unsure, please refer to Technical Support.

SIMM Installation — Figure 1
When installing Single Inline Memory Modules (SIMMs), most manufacturers require the module to be inserted at a 45 degree angle, then "snapped" forward to the correct position. Most Pentium systems require matched pairs of modules.

DIMM Installation — Figure 2
Unlike SIMM installation, Dual Inline Memory Modules (DIMMs) may be "snapped" directly into the socket.
Note: Certain DIMM sockets have minor physical differences. If your module doesn't seem to fit**,** please do not force it into the socket. Instead, contact Technical Support.

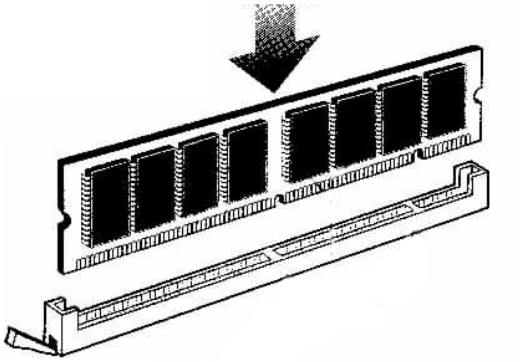

Figure 2 - DIMM Installation The ejector pushed the module out of the socket. Modules are keyed for proper alignment.

SODIMM Installation — Figure 3
Insert module at an angle and "snap" down into position. Some laptops require a single SODIMM module while others require matched pairs.

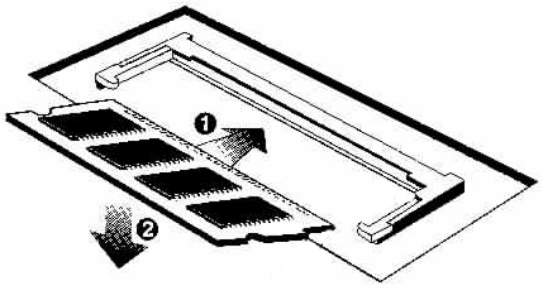

Figure 3 - SODIMM Installation 72 pin SODIMM pictured. 144 pin SODIMM has middle alignment key. Note: Some modules must be installed in pairs. Modules are keyed for proper alignment.

Helpful Hints & Troubleshooting Tips

1. If you receive an error message or hear a series of beeps, your system may not be recognizing the new memory. Remove and reinstall the modules to make sure they are seated securely in the sockets.
2. Make sure that your new memory is the same type as your old memory (i.e. FPM/EDO/SDRAM, parity/non-parity/ECC, buffered/unbuffered). Using EDO or SDRAM in a system that dues not support it will not work, often resulting in a blank screen and no POST (power on self test), or a BIOS/CMOS setup error.
3. Fill your slots starting with the largest density (put the largest module in bank 0, and the second largest in bank 1, and so on). If this doesn't work, try reversing the order.
4. If your DIMM module will not fit into the slot it may be because you have an incompatible module. The notches are different for 3.3V, 5V, buffered, and unbuffered DIMM modules.

5. If your system won't boot up with only the original modules, check all of your connections inside your PC. It is easy to bump a cable and pull it out of its connector, disabling your hard drive or CD-ROM.
6. If you are using MS-DOS version 6.22 or earlier and are getting memory errors, consider running Memmaker to re-configure your memory settings.
7. If you get a memory mismatch message, follow the prompts to enter setup, then select save and exit. (This is not an error - some systems must do this to update their CMOS settings
8. If your system is only recognizing half of the new module's memory please refer to Technical Support.