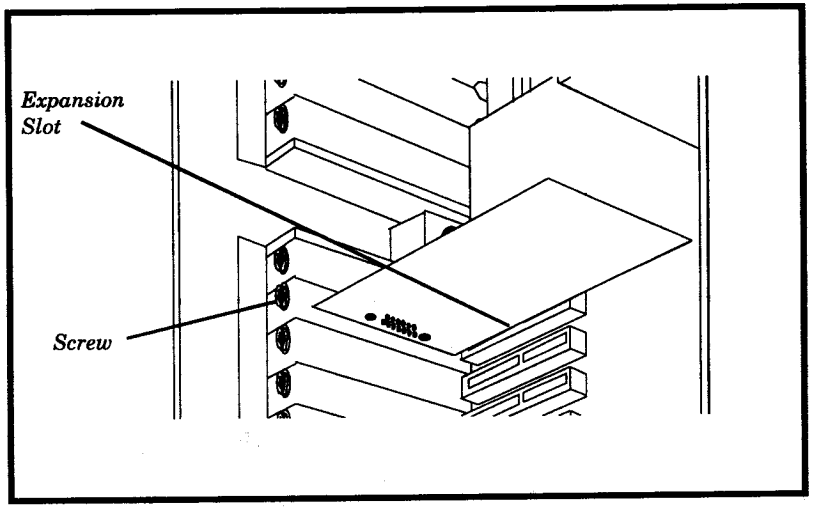
3. Hold the adapter by the top and firmly press it into the expansion slot. If the adapter card is a full size type, make sure the front edge of the adapter card is supported by the support bracket located near the front of the chassis.



4. Install the screw you removed in step 2 as shown above.

5. If you have any internal options that need to be installed, install them now. If no other installations, install the cover and go to Chapter 3 to run the 'Setup' program.

Installing More Memory

There is a total of 16 SIMM sockets on your LASER 486 System board, they are divided into four banks labelled 'BANK 0', 'BANK 1', 'BANK 2' and 'BANK 3' on the system board. The system board will support 256K x 9 SIMMs, 1M x 9 SIMMs or 4M x 9 SIMMs.

The DRAM speed should be 80nS or faster.

The following are the supported DRAM configurations:

BANK 0	BANK 1	BANK 2	BANK 3	Total Memory
256KB	none	none	none	640KB
256KB	256KB	none	none	1664KB
256KB	256KB	1MB	none	5760KB
1MB	none	1MB	1MB	9856KB
1MB	1MB	none	none	3712KB
1MB	1MB	none	none	7808KB
1MB	1MB	1MB	none	11904KB
1MB	1MB	1MB	1MB	16000KB
1MB	1MB	4MB	none	24192KB
4MB	none	4MB	4MB	40576KB
4MB	4MB	none	none	16000KB
4MB	4MB	none	none	32384KB
4MB	4MB	4MB	none	48768KB
		4MB	4MB	65152KB

Parityless DRAM can be used if the hardware parity check is disabled. Refer to the section on System Board Configuration.

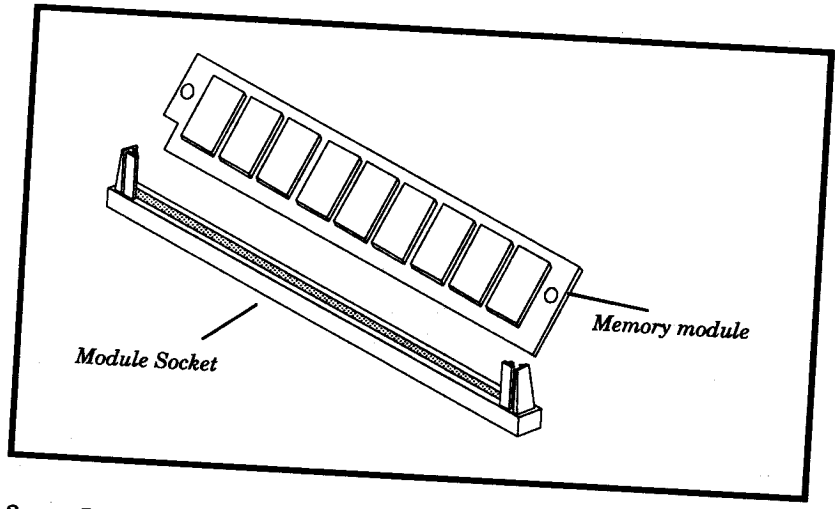
The memory components which can be used for this installation are as follows:

Part Number	Description
MC-42256AE9B-80	256K x 9 SIMM
MC-421000A9B-80	1M x 9 SIMM
MC-424100A9B-80	4M x 9 SIMM

Note: *The part number provided is manufactured by Motorola but can be substituted by other manufacturers. Consult your LASER dealer for the manufacturers of the memory modules suitable for your LASER computer.*

1. Remove the cover on your system unit.

2. Locate the sockets for the additional memory modules. They are on the right side of the system board close to the power supply chassis.



3. Insert the modules in the sockets at an angle as shown. Ensure they are inserted all the way into the socket, then stand the module upright until it snaps into place.

4. The BIOS on the system board should automatically detect the type and number of banks of DRAM you have installed. No jumper / switch setting is necessary for installing additional memory modules.

5. If you have any other internal options that need to be installed, install them now.

6. If you have no other installations, then install the cover and go to Chapter 3 to run the 'Setup' program.

Appendix A
Jumper Functions

JP1 - Processor select

This jumper is used to select the type of processor installed in the upgrade processor socket.

Upgrade Processor or 80487SX

80486SX

80486DX

JP4 - Monitor type select


CGA


MDA

Note : either position is valid for a VGA or EGA type monitor.

JP5 - Battery select

On-Board rechargable battery

External battery pack, connected to J3

JP6 & JP7 - External Cache Size Select

128K Cache

256K Cache

JP8 - Parity Check Select


Check DRAM Parity only


Check DRAM and Cache Parity


No Parity Check

Note: See description on JP10, 11, 12, 13

JP9 - Processor Select

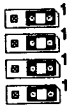
This jumper is used to select the type of processor installed in the upgrade processor socket.

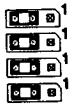

Upgrade type processor


DX Processor

JP10,11,12,13 -External Cache SRAM Type Select (U90-U93, U95-U98)

These jumpers configure the cache system to operate with either 32K x 8 or 32K x 9 type SRAM


32K x 8


32K x 9

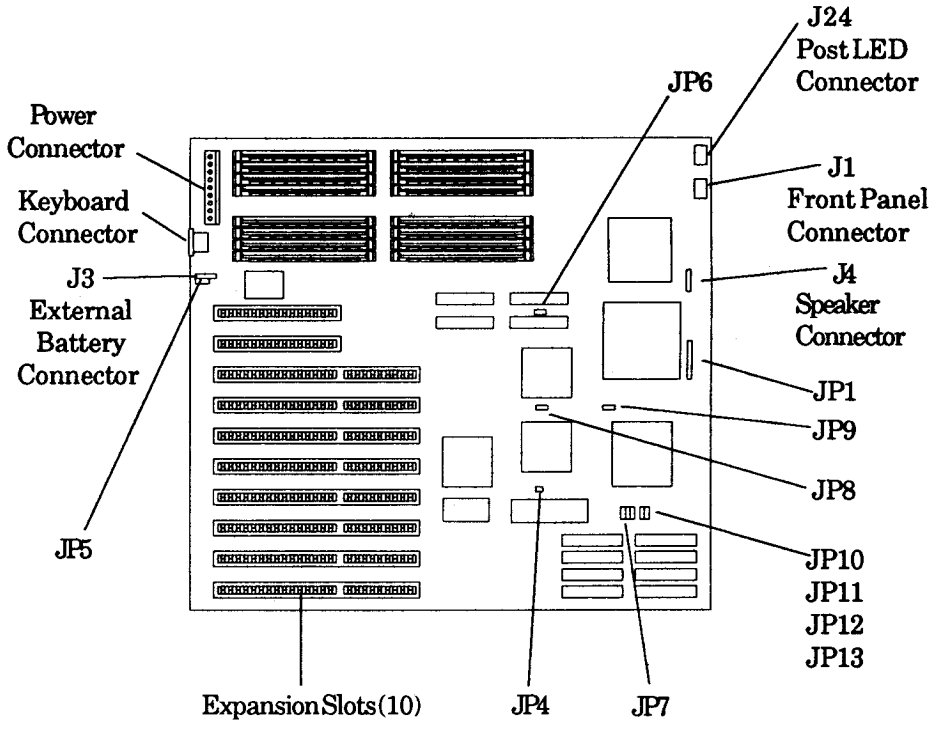
DRAM	SRAM	JP8	WB/WT	Remark
x8	x8/x9	Not Installed	WB/WT	No parity check; prefer set to WB for higher performance.
x9	x9	Short 2-3	WB/WT	Parity check; prefer set to WB for higher performance.
x9	Not Installed	Short 1-2	Not Applicable	External Cache Mode should set to 'Disabled'.
x9	x8	Not Installed	WB/WT	Parity NOT check; prefer set to WB for higher performance.
x9	x8	Short 1-2	WT	Parity checked; Must be in WT. Lower performance but better data checking.

Note: All other combinations are not recommended.
x8 DRAM = SIMM Modules with no parity bit
x9 DRAM = SIMM Modules with parity bit
x8 SRAM = 32k x 8 SRAM
x9 SRAM = 32k x 9 SRAM
WB/WT = Write-Back/Write-Through Selection on Advanced CMOS Setup.

Appendix B
System Board Layout

The following diagrams show the relative positions of the jumpers, connectors, major components and IO ports on the system board.

Jumpers and connectors



Memory Banks and Major Component Location