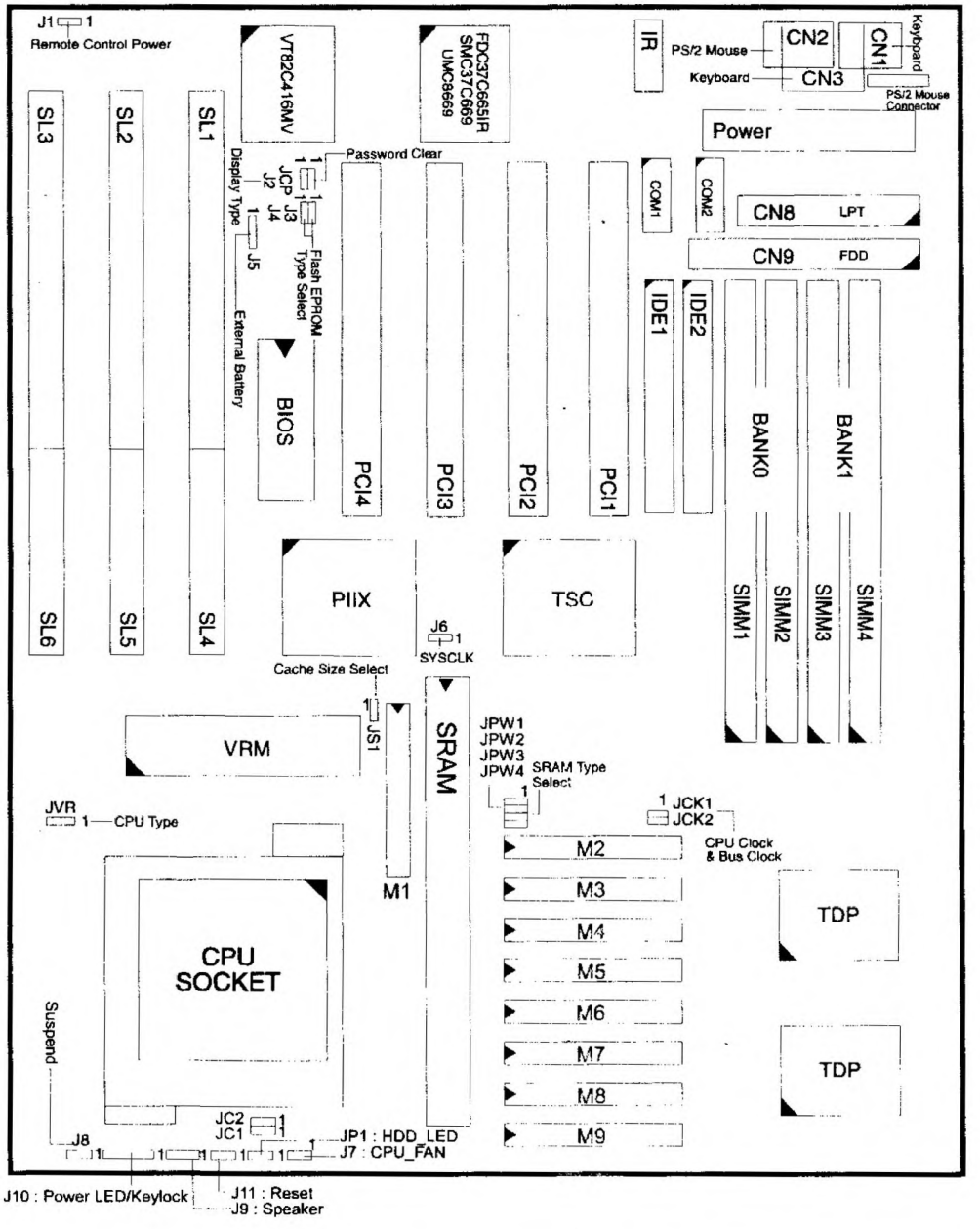
Mainboard Layout



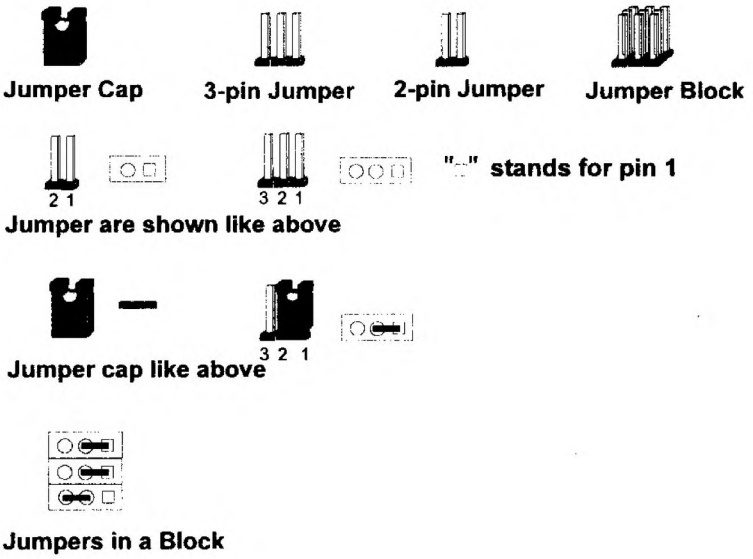
→ **NOTE : When plugging your processor into the CPU (ZIF) socket, make sure that pin 1 matches that of the CPU socket.**

Mainboard Settings

The PT-2003 has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

Jumpers

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. To "**set**" a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration. A jumper is said to be "**shorted**" when the black cap has been placed on one or two of its pins. The types of jumpers used in this manual are shown below:



→ **NOTE : Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.**

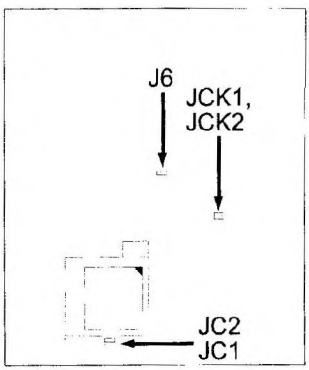
CPU Speed Select: JCK1, JCK2, J6

The table below shows the jumper settings for the CPU based on its internal clock speed.

CPU Speed	External Clock	JCK1	JCK2	CPU Clock Rate Int. Multiple	JC1	JC2	Bus Clock Rate J6
166 MHz	66 MHz			2.5 x Ext.			
150 MHz	60 MHz			2.5 x Ext.			
133 MHz	66 MHz			2 x Ext.			
120 MHz	60 MHz			2 x Ext.			
100 MHz	66 MHz			1.5 x Ext.			
90 MHz	60 MHz			1.5 x Ext.			
75 MHz	50 MHz			1.5 x Ext.			

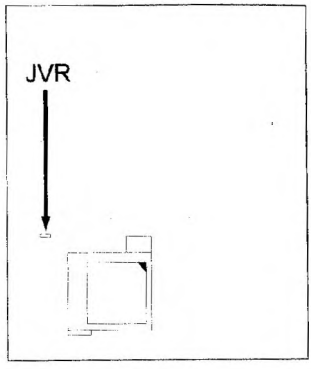
Bus / CPU Clock Ratio: JC1, JC2

Bus/CPU Clock Ratio	JC1	JC2
1/2		
1/3		
2/3		
2/5		



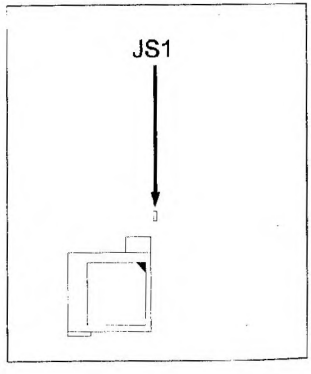
CPU Voltage Mode Select: JVR

CPU Voltage Mode	JVR
STD / VR (Default) 3.38V	
VRE 3.5V	



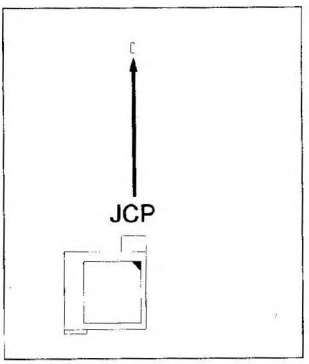
Cache Size Select: JS1

Cache Size	JS1
256KB (Default)	
512KB	



Password Clear: JCP

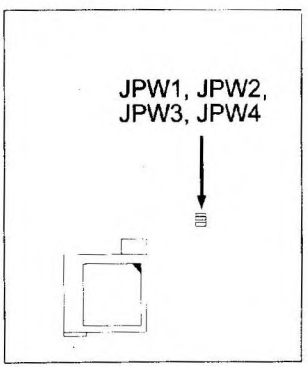
Password Clear	JCP
Enable	
Disable (Default)	



SRAM Type Select: JPW1, JPW2, JPW3, JPW4

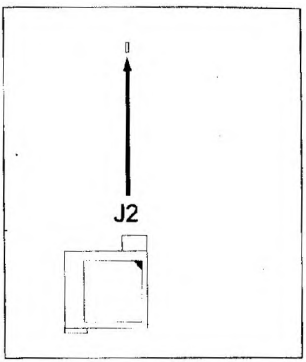
SRAM Voltage	JPW1	JPW2
Mixed (Default)		
3.3V		

SRAM Voltage	JPW3	JPW4
Mixed (Default)		
3.3V		



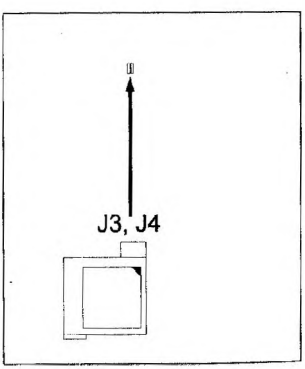
Display Type Select: J2

Display Type	J2
CGA	
Mono/VGA/EGA (Default)	



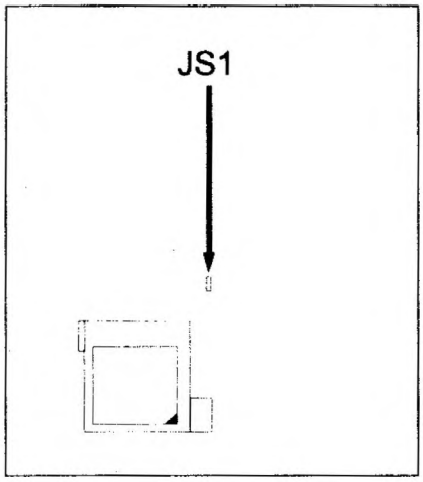
Flash EPROM Type: J3, J4

Programmable Flash EPROM Type	J3	J4
Intel 28F010		
Intel 28F001BX-T		
SST 29EE010 (Default)		



Cache Size Select: JS1

Cache Size	JS1
256KB (Default)	
512KB	

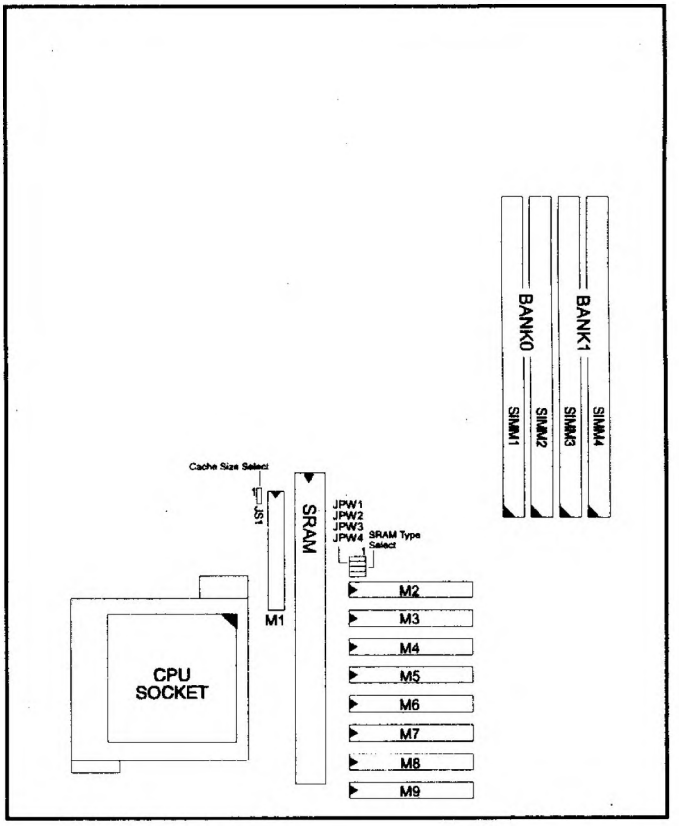


System Memory

The PT-2003 can be equipped with sufficient memory for running even the most advanced software applications. Memory comes in the form of DRAM (SIMMs) and cache SRAM. This chapter describes these two types of memory and gives instructions on how to install each type on the mainboard.

Memory Locations

The board layout below shows the locations of the DRAM memory banks and the cache SRAM:



Installing DRAM

SIMM Banks

The PT-2003 can accommodate onboard memory from 8 to 128MB using SIMMs (Single-In-Line Memory Modules). The mainboard has two memory banks — Bank 0 and Bank 1. Each bank has two SIMM sockets which can accept either a 4MB, 8MB, 16MB or 32MB SIMM in each socket.

DRAM Configuration

Memory can be installed in a variety of configurations, as shown in the following table:

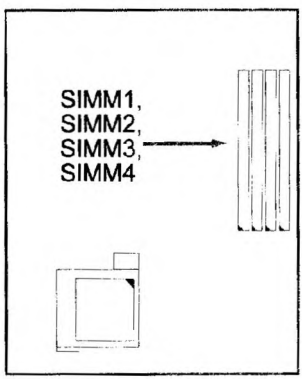
TOTAL MEMORY	BANK 0 (72-PIN x 2)	BANK 1 (72-PIN x 2)
8MB	4MB & 4MB	
16MB	8MB & 8MB	
24MB	8MB & 8MB	4MB & 4MB
32MB	8MB & 8MB	8MB & 8MB
40MB	16MB & 16MB	4MB & 4MB
48MB	16MB & 16MB	8MB & 8MB
64MB	16MB & 16MB	16MB & 16MB
	32MB & 32MB	
72MB	32MB & 32MB	4MB & 4MB
80MB	32MB & 32MB	8MB & 8MB
96MB	32MB & 32MB	16MB & 16MB
128MB	32MB & 32MB	32MB & 32MB

→ **NOTE : All memory banks use 72-pin memory modules.**

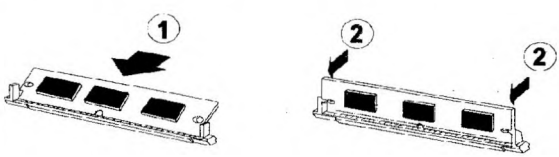
Installation Instructions

→ **NOTE : Always observe static electricity precautions. See "Handling Precautions" at the start of this manual.**

1. Locate the SIMM banks on the mainboard.



2. Insert the SIMM edge connector onto the socket.



3. Carefully push the SIMM down and back into the socket until the retaining clips of the socket snap, holding the SIMM in place. The holes in the SIMM should match the pins on the socket's retaining clips.

To remove the SIMM/s, pull the retaining latch on both ends of the socket and reverse the procedure above.

Cache Memory

The PT-2003 can accept either onboard SRAMs or a SRAM module. If the onboard SRAMs are installed, the SRAM module can not be used. On the otherhand, if the SRAM module is implemented, the onboard SRAMs, including tag SRAM, must be pulled out. The onboard SRAMs support asynchronous 3.3V/mixed voltage SRAMs. The SRAM module can support synchronous SRAMs.

→ **NOTE : Use the correct chips for the amount of cache memory you want to add. Install both the correct Cache and Tag SRAM.**

Installing Onboard Cache Memory

→ **NOTE : Always observe static electricity precautions. See "Handling Precautions" at the start of this manual.**

If you do not have the confidence to make the installation, you should consult a service technician for assistance.

1. Locate the cache memory on the mainboard.
2. Be guided by the Cache SRAM settings depending on your desired SRAM configuration.

Correct orientation of the chip is necessary for the cache to operate properly. Normally, the chips have either a curved notch or a dot. This marker on the chip must be matched to the marker on the socket for correct alignment.

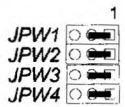
Install the chips individually as follows:

3. Align the chip with the marker on the socket. Press the chip onto the socket, ensuring that the pins on the chip are aligned with the corresponding connections on the socket.
4. Press the chip completely into the socket so that the pins are properly seated.

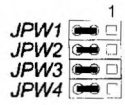
Using Various Voltage Onboard SRAMs

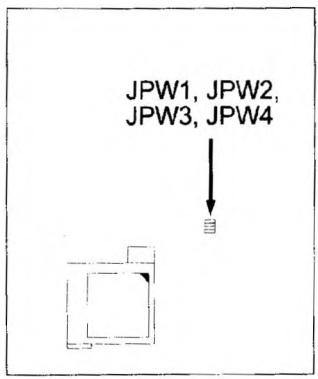
Cache sockets M2 to M9 can take 3.3V or mix-voltage SRAMs. The jumper settings are listed below.

Jumper setting for mix-voltage SRAMs (M2-M9).

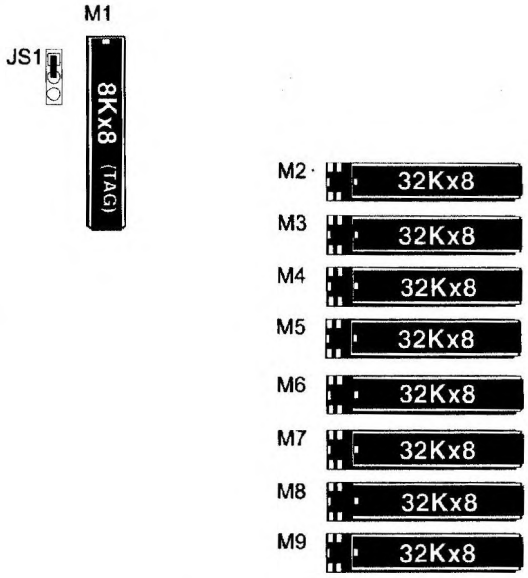


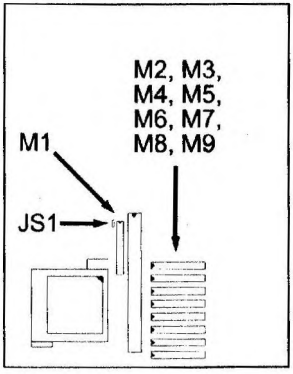
Jumper setting for 3.3V SRAMs (M2-M9).



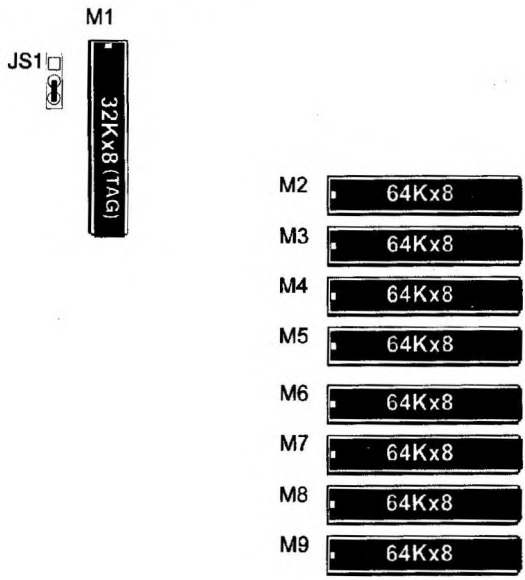


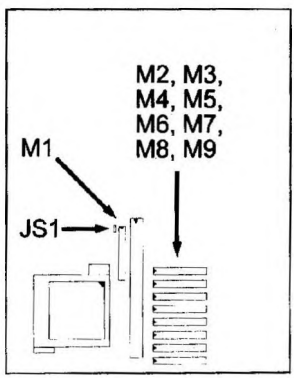
Onboard 256KB Cache SRAM





Onboard 512KB Cache SRAM





Installing Cache Memory Module

The PT-2003 allows the installation of either the 256KB or 512KB cache module. The jumper settings of JPW1, JPW2, JPW3, and JPW4 will not affect it.

Locate the slot SRAM on the mainboard, then insert your SRAM module for installation.

Cache Size	JS1
256KB (Default)	
512KB