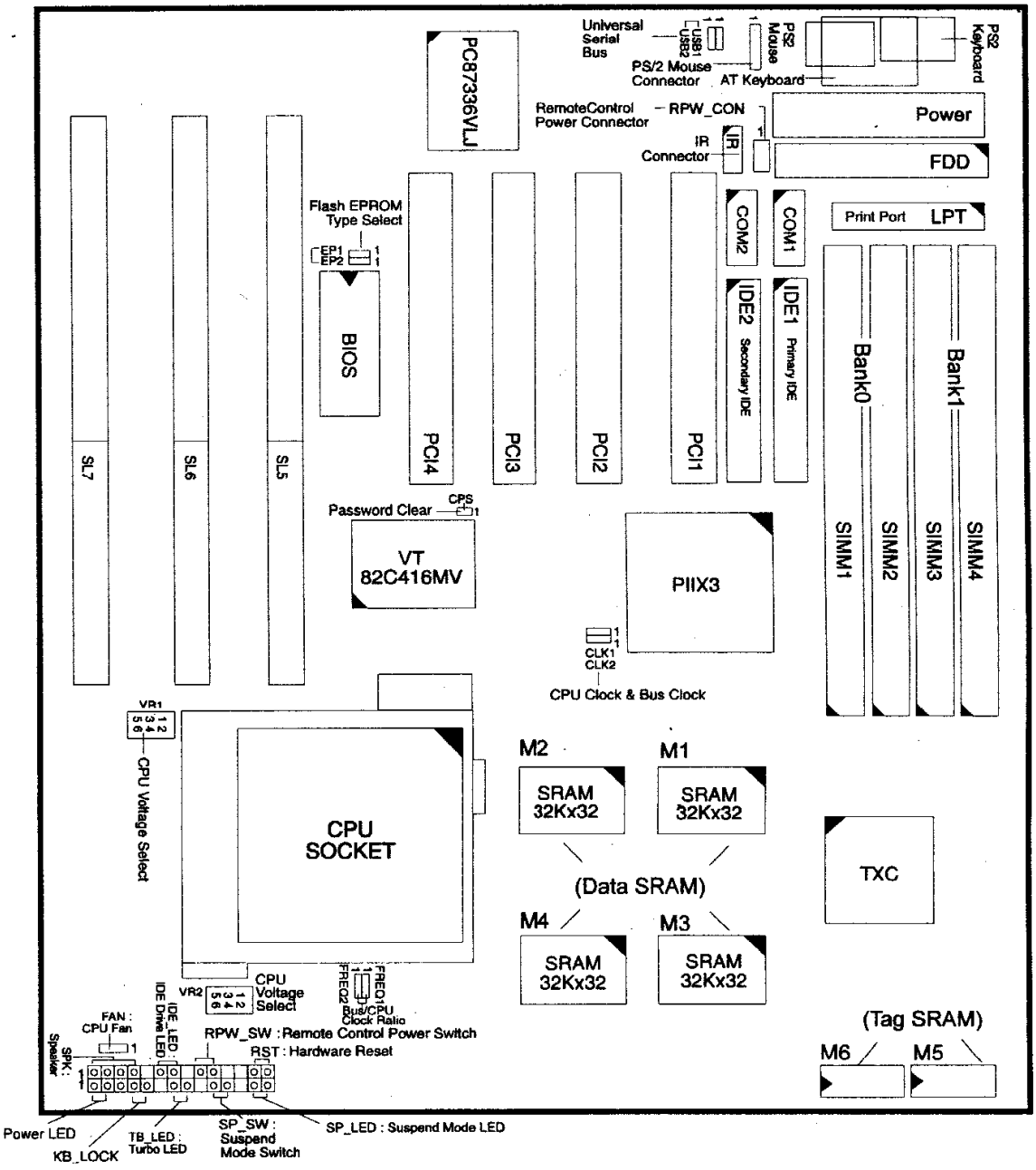
Mainboard Layout



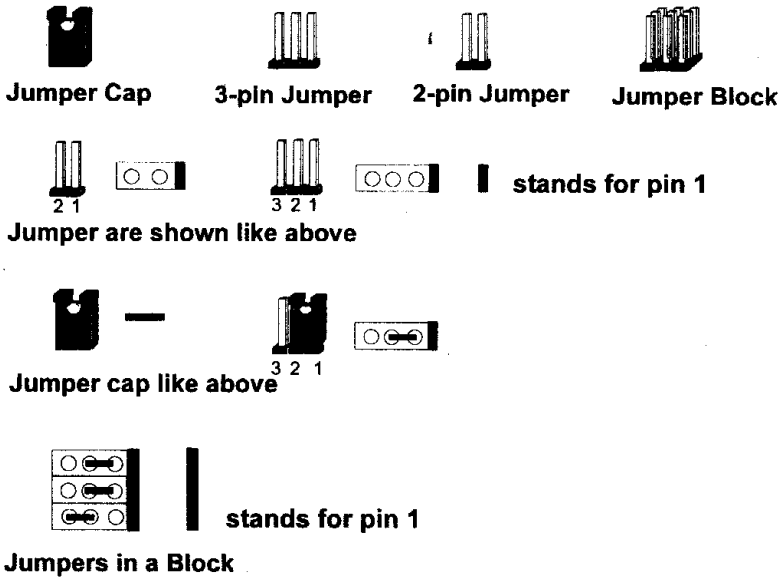
→ **NOTE : When plugging your processor into the CPU (ZIF) socket, make sure that pin 1 matches that of the CPU socket.**

Mainboard Settings

The PT-2200 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 *(in alphabetical order)*

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:



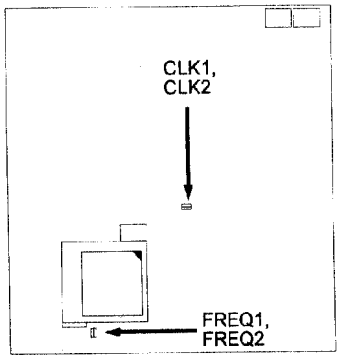
→ **NOTE : Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.**

CPU Speed Select: CLK1, CLK2, FREQ1, FREQ2

The table below shows the jumper settings for the different CPU speed configurations. Set the corresponding External Clock and CPU Clock Rate jumpers according to the CPU speed of the system by following the table below. The External Clock and Int. Multiple column values are for your reference.

Jumper Settings for Intel Pentium CPUs

CPU Speed	External Clock	CLK1	CLK2	CPU Clock Rate		
				Int. Multiple	FREQ1	FREQ2
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.		



Jumper Settings for Cyrix 6x86 and AMD 5k86 CPUs

→ **WARNING : Before you install a Cyrix 6x86 CPU, the CPU's cooler model must be approved by Cyrix. Otherwise, your system may overheat. Please refer to your CPU dealers for details.**

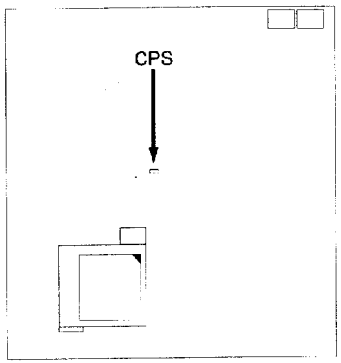
Model Name	CPU Speed	External Clock	CLK1	CLK2	CPU Clock Rate		
					Int. Multiple	FREQ1	FREQ2
Cyrix							
6x86-P166+	133 MHz	66 MHz			2 x Ext.		
6x86-P150+	120 MHz	60 MHz			2 x Ext.		
6x86-P133+	110 MHz	55 MHz			2 x Ext.		
6x86-P120+	100 MHz	50 MHz			2 x Ext.		
AMD							
AMD5k86-P166**	133 MHz	66 MHz			2 x Ext.		
AMD5k86-P150**	120 MHz	60 MHz			2 x Ext.		
AMD5k86-P100**	100 MHz	66 MHz			1.5 x Ext.		
AMD5k86-P90**	90 MHz	60 MHz			1.5 x Ext.		
AMD5k86-P90**	83 MHz	55 MHz			1.5 x Ext.		
AMD5k86-P75	75 MHz	50 MHz			1.5 x Ext.		
AMD5k86-P75	66 MHz	66 MHz			1 x Ext.		

→ **NOTE : ** This CPU has not yet been tested when this manual was printed.**

Password Clear: CPS

The password clear jumper lets you set the password configuration to "**Enabled**" or "**Disabled**". You may need to enable password clear if you forget your passsword. (Refer to Page 4-20, Clear Password)

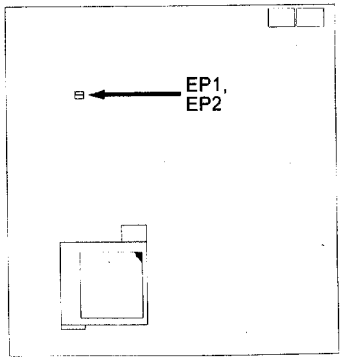
Password Clear	CPS
Enable	
Disable (Default)	



Flash EPROM Feature: EP1, EP2

The Flash EPROM Type Select lets you configure the mainboard when using Intel 28F001BX-T or SST29EE010 Flash EPROM chip. Your mainboard uses the SST chip as default.

Programmable Flash EPROM	EP1	EP2
Intel 28F010		
Intel 28F001BX- T		
SST 29EE010 (Default)		

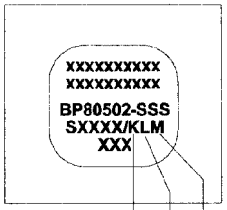


CPU Voltage Mode Select: VR1, VR2

These jumpers allow you to modify the voltage of the system with the corresponding CPU upgrade.

CPU Voltage	VR1	VR2
P54C STD, VR (3.384V)	5 3 1 / 6 4 2	5 3 1 / 6 4 2
P54C VRE (3.49V)	5 3 1 / 6 4 2	5 3 1 / 6 4 2
P55C (2.5V/3.3V)	5 3 1 / 6 4 2	5 3 1 / 6 4 2

Bottom Side Marking :



K = V for VRE voltage range
and
S for standard volgate range

L = M for min valid MD timings
and
S for min valid standard timings

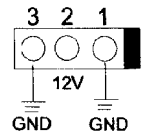
M = U is not tested for DP,
is tested for UP and MP
and
S is tested for DP, UP, and MP

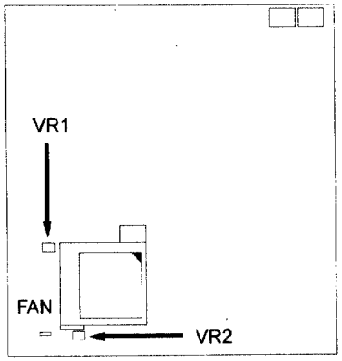
Connectors *(in alphabetical order)*

Connectors allow the mainboard to link electronically with other parts of the system. Some connectors have two pins, others have three, or five pins. Some malfunction problems encountered with your system may be caused by loose or improper connections. Ensure that all connections are in place and firmly attached.

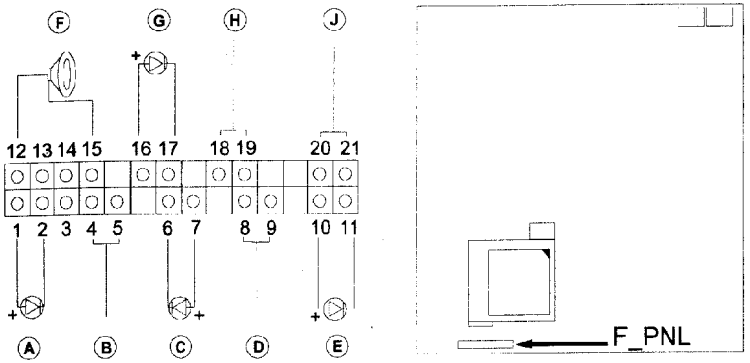
CPU Fan Connector: FAN

This connector is linked to the CPU fan.





Block Connector: F_PNL



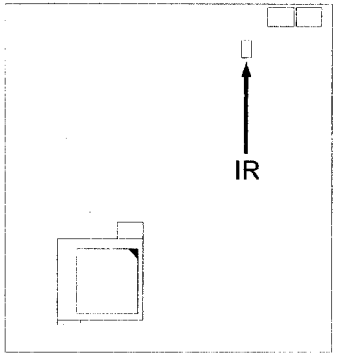
Item	Connector	Feature
A	PW_LED	Power LED, indicates the system power on/off status. LED lit : power on
B	KBLOCK	Keyboard Lock, allows the keyboard to access the system.
C	TB_LED	Turbo Speed LED, indicates the system speed is in normal or turbo speed. LED lit : turbo speed
D	SP_SW	Suspend Mode Switch, set the system at suspend mode from normal mode.
E	SP_LED	Suspend LED, incates the systemis in suspend mode. or in normal mode. LED lit : system in suspend mode
F	SPK	Speaker, connects to the speaker.
G	IDE_LED	IDE HDD LED, indicates the IDE HDD read / write access. LED lit : IDE HDD read / write
H	RPW_SW	Remote Power Switch, turns on/off the system power.
J	RST	Hardware Reset Switch, allows you to reset the system.

Software Turbo Speed

The BIOS supports Software Turbo Speed function. Simply press the <**Alt**>, <**Ctrl**>, and <+> keys at the same time for Turbo function; and press the <**Alt**>, <**Ctrl**>, and <-> keys at the same time for De-Turbo function.

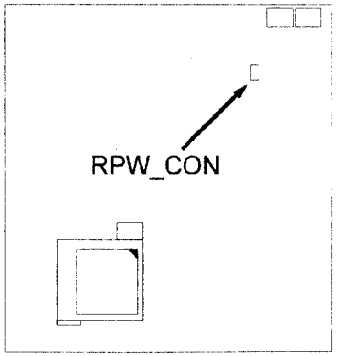
Infrared Connector: IR

It connects to an infrared (IR) port and allows transmission of data to another system which also supports the IR feature. For the related BIOS information, please read Page 4-15.



Remote Power Connector: RPW_CON

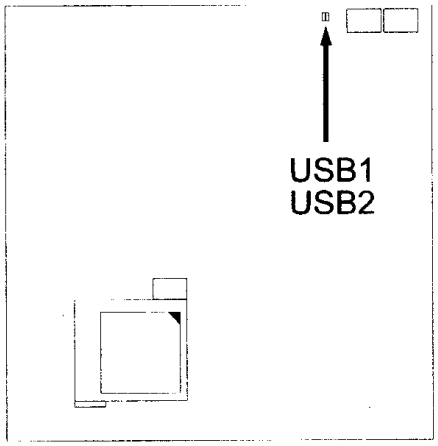
It connects to the power supply for enabling (or disabling) the system power if the RPW_SW is turned on (or off).



Universal Serial Bus Connector: USB1, USB2

It connects to the port that allows you to attach with a USB hub. Please refer to Page 4-9 for the related BIOS information.

The devices related to this feature, are not available for testing when this manual was printed.



PT-2200

Item: Intel Pentium 166 Jumper Settings

Please use the jumper setting of Intel Pentium 166Mhz.

CPU Speed ---------- 166
External (CPU/CLK) ---------- 66Mhz

CLK1 ---------- 1-2
CLK2 ---------- 2-3

CPU Clock Rate ---------- 2.5

FREQ1 ---------- 2-3
FREQ2 ---------- 2-3

PT-2200

Item: Pentium MMX 233 Jumper Settings

Hereunder are the jumper settings for Intel P55C (MMX) 233 Mhz.

CPU Speed ------------- 233Mhz
External (CPU/CLK) ---- 66Mhz
CPU Clock Multiplier -- 1.5x

CLK1 ------------------ 1-2
CLK2 ------------------ 2-3

FREQ1 ----------------- 1-2
FREQ2 ----------------- 1-2

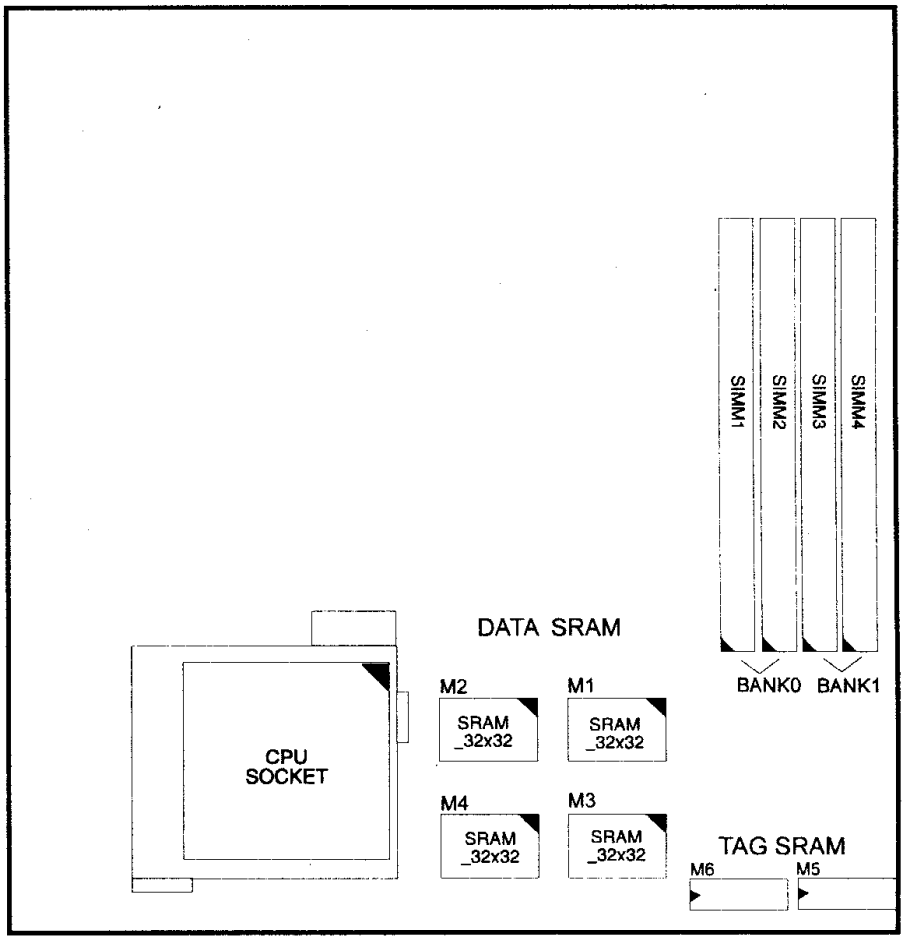
VR1 ------------------- 5-6
VR2 ------------------- 5-6, 7-8

System Memory

The PT-2200 can be equipped with sufficient memory for running even the most advanced software applications. Memory comes in the form of DRAM (SIMMs) and onboard cache PBSRAM (Pipeline-Burst SRAM). This chapter describes these two types of memory and gives instructions on how to install DRAM modules 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-2200 can accommodate onboard memory from 8 to 512MB using EDO 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 pair of 4MB, 8MB, 16MB, 32MB, 64MB, or 128MB SIMM in each socket.

Extended Data Output (EDO) memory is the latest DRAM chip design that performs a lot better than the fast-page mode DRAM type. With EDO memory, CPU access to memory is 10 to 15% faster.

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
136MB	64MB & 64MB	4MB & 4MB
144MB	64MB & 64MB	8MB & 8MB
160MB	64MB & 64MB	16MB & 16MB

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

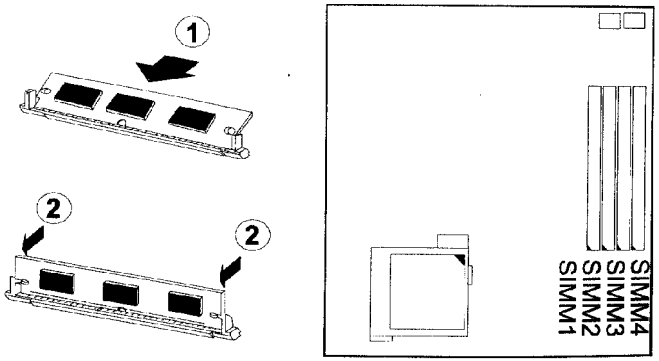
TOTAL MEMORY	BANK 0 (72-PIN x 2)	BANK 1 (72-PIN x 2)
192MB	64MB & 64MB	32MB & 32MB
256MB	64MB & 64MB	64MB & 64MB
512MB	128MB & 128MB*	128MB & 128MB*

* The SIMM of this size is not available yet for testing when this manual is printed.

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.

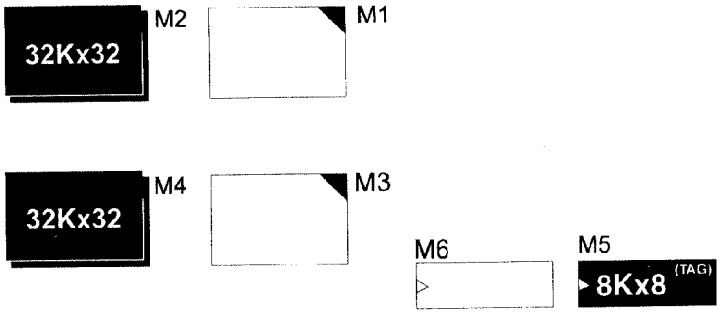
Cache Memory

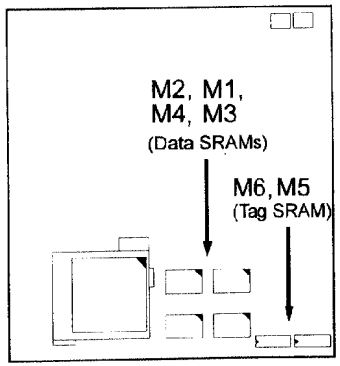
Pentium mainboards may implement various types of L2 cache SRAMs. Pipeline-Burst SRAM is one of them, delivering the best price of performance ratio. They perform much better than asynchronous SRAMs.

The PT-2200 comes with onboard 256KB/512KB synchronous 3V Pipeline Burst SRAMs.

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

256KB Cache SRAM





512KB Cache SRAM