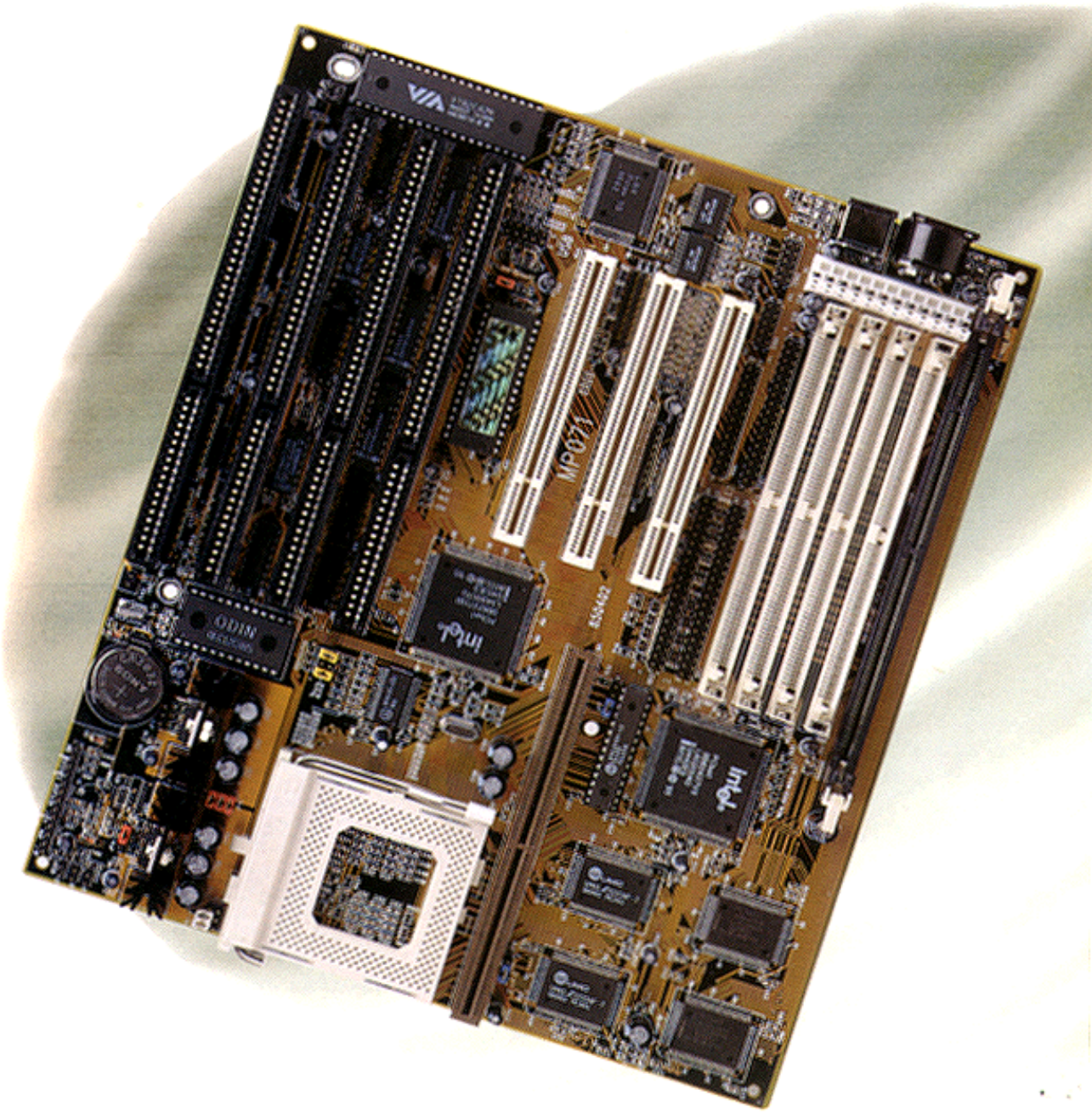
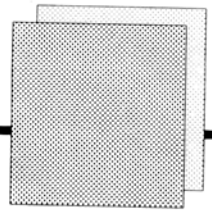
586 PCI/ISA SYSTEM BOARD

(MP071)



USER'S MANUAL



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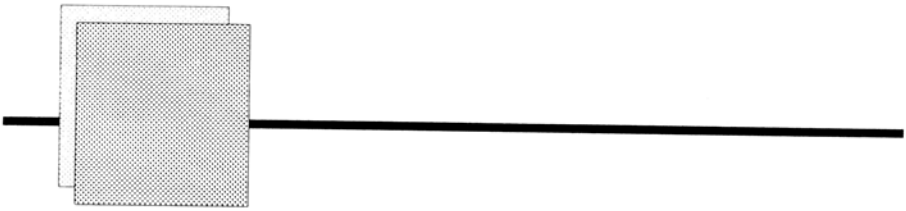
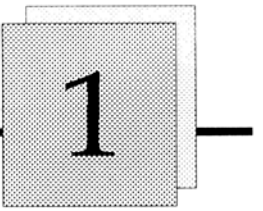


Introduction



Foreword

This manual is designed to provide the basic necessary information for the end user to understand and properly use the MP071 mainboard.The mainbord ensures superlative performance and complete compatibilty with industry standards, which incorporating many techincal enhancements.

Trademarks

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Checklist

Your MP071 package contains the following:
* MP071 mainboard
* User's manual
* HDD/FDD Cable
* Com1 & Com2 Cable
* Printer Cable

1 Introduction

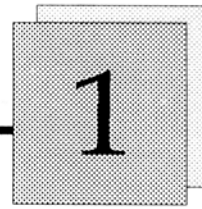
Precautions

Make sure you ground yourself before handling the mainboard or other system components. Electrostatic discharge will damage the mainboard. Note that you must take special precaution when handling the mainboard in dry or air-conditioned environments.

The precaution below is to protect the mainboard from electrostatic discharge.

* Do not remove the anti-static packaging until you are ready to install the mainboard and other system components.
* Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself , grasp the expansion slot covers or other unpainted portion computer chassis.
* Frequently ground yourself while working, or use a grounding strap.
* Handle the mainboard by the edges and avoid touching its components.

Introduction



Mainboard Features

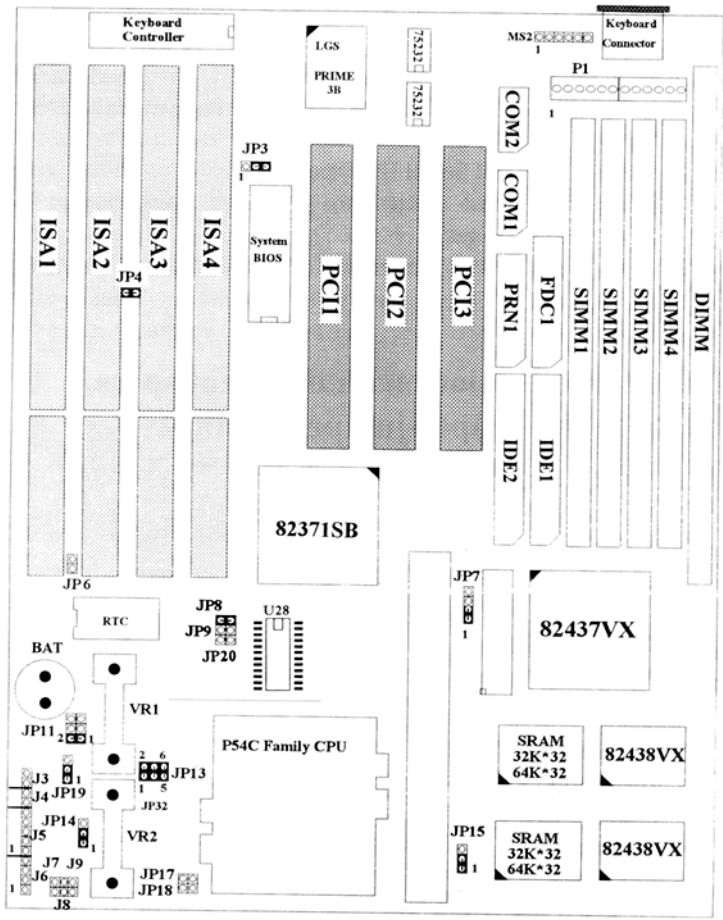
* Intel 430VX PCI chipset: 82437(TVX) / 82438(TDX) / 82371 (PIIX3)
* Supports Intel Pentuim, Cyrix6X86 and AMD K5 microprocessor
* Three high performance 32 bits PCI local bus master
* Four 16 bits ISA system bus I/O slots
* 256K synchronous cache onboard, upgradable to 512K, write back cache policy
* Main memory (DRAM) from 4MB to 128MB, either Page mode / EDO mode
* Supports SDRAM (Option) , DIMM socket
* Supports two USB (Universal Serial Bus) ports
* Enchanced IDE onboard
* Support PnP (Plug and Play) function
* Enhanced fast I/O (Serial port, Parallel port (ECP/EPP/SPP), FDC) onboard

Remarks:
MP071 has three versions with different specs.
Please refer to the proper jumper setting .

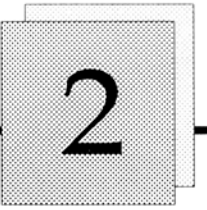
1 Introduction

Mainboard Layout

Mainboard layout Placement chart is for your referenc of jumpers location for the following functions. CPU jumper setting, CPU voltage selector , Cache configuration , AT BUS clock speed selector , Flash ROM voltage selector , CMOS charge / dicharge



Mainboard Setup



Jumpers and Connectors Reference

Before installing the mainboard, make sure that the jumper settings are properly set for your configuration. The functions of the different jumpers are respectively as follows:

CPU Clock Selector	JP8,JP9
CPU Internal Clock Selector	JP17,JP18
CPU Voltage Selector	JP11,JP13,JP14,JP19
Cache Size Selector	JP7,JP15
Flash ROM Voltage Selector	JP3
AT Bus Clock Speed Selector	JP4
CMOS Charge / Discharge	JP6

Mainboard Connectors:

Hard disk Connector	IDE1&IDE2
Printer Connector	PRN1
Floppy Connector	FDC1
Serial Connector	COM1 & COM2
Universal Serial Bus Connector	USB
SMI Connector	J3
Hard disk LED Connector	J4
Keylock and Power LED Connector	J5
Speaker Connector	J6
Reset Connector	J7
Turbo LED Connector	J8
Turbo Switch Connector	J9
Keyboard Connector	KB1
PS/2 Mouse	MS1
Power Supply Connector	P1

Jumper Caps reference :
Red cap for voltage selector
White cap for CPU type
Yellow cap for Clock Selector
Blue cap for Cache option
Black cap for others

2 MP071 Mainboard Setup

CPU JUMPER SETTING

Before installing the CPU, make sure that the CPU VOLTAGE SELECTOR is set properly.Please refer the CPU VOLTAGE SELECTOR,wrong setting will damage the CPU.

NOTE: CPU has two different types of voltage (A) Single Voltage (B) Dual Voltage

CPU TYPE	CPU Clock Selector YELLOW jumper Cap			CPU Internal Clock Selector WHITE jumper Cap		
INTEL CPU		JP8	JP9		JP17	JP18	
SINGLE VOLTAGE							
PP-75	75 Mhz	OP	OP	50 Mhz	OP	OP	x1.5
PP-90	90 Mhz	OP	CL	60 Mhz	OP	OP	x1.5.
PP-100	100 Mhz	CL	OP	66 Mhz	OP	OP	x1.5
PP-120	120 Mhz	OP	CL	60 Mhz	CL	OP	x2
PP-133	133 Mhz	CL	OP	66 Mhz	CL	OP	x2
PP-150	150 Mhz	OP	CL	60 Mhz	CL	CL	x2.5
PP-166	166 Mhz	CL	OP	66 Mhz	CL	CL	x2.5
P54CT-180	180 Mhz	OP	CL	60 Mhz	OP	CL	x3
P54CT-200	200 Mhz	CL	OP	66 Mhz	OP	CL	x3
DUAL VOLTAGE							
P55C-150	150 Mhz	OP	CL	60 Mhz	CL	CL	x2.5
P55C-166	166 Mhz	CL	OP	66 Mhz	CL	CL	x2.5
P55C-200	200 Mhz	CL	OP	66 Mhz	OP	CL	x3

OP = OPEN CL = CLOSE

CYRIX/IBM CPU		JP8	JP9		JP17	JP18	
SINGLE VOLTAGE							
6X86-PR120	100 Mhz	OP	OP	50 Mhz	OP	OP	x2
6X86-PR133	110 Mhz	CL	CL	55 Mhz	OP	OP	x2
6X86-PR150	120 Mhz	OP	CL	60 Mhz	OP	OP	x2
6X86-PR166	133 Mhz	CL	OP	66 Mhz	OP	OP	x2
DUAL VOLTAGE							
6X86-PR120	100 Mhz	OP	OP	50 Mhz	OP	OP	x2
6X86-PR133	110 Mhz	CL	CL	55 Mhz	OP	OP	x2
6X86-PR150	120 Mhz	OP	CL	60 Mhz	OP	OP	x2
6X86-PR166	133 Mhz	CL	OP	66 Mhz	OP	OP	x2

AMD CPU	JP8	JP9		JP17	JP18	
SINGLE VOLTAGE CPU						
AMD-K5-PR75	OP	OP	50 Mhz	OP	OP	x1.5
AMD-K5-PR90	OP	CL	60 Mhz	OP	OP	x1.5
AMD-K5-PR100	CL	OP	66 Mhz	OP	OP	x1.5
DUAL VOLTAGE CPU						
AMD-K5-PR120	OP	CL	60 Mhz	OP	OP	x1.5
AMD-K5-PR133	CL	OP	66 Mhz	OP	OP	x1.5
AMD-K5-PR150	OP	CL	60 Mhz	CL	OP	x2
AMD-K5-PR166	CL	OP	66 Mhz	CL	OP	x2

OP = OPEN CL = CLOSE

2 MP071A Mainboard Setup

CPU JUMPER SETTING

Before installing the CPU, make sure that the CPU VOLTAGE SELECTOR is set properly.Please refer the CPU VOLTAGE SELECTOR,wrong setting will damage the CPU.

NOTE: CPU has two different types of voltage (A) Single Voltage (B) Dual Voltage

CPU TYPE	CPU Clock Selector YELLOW jumper Cap		CPU Internal Clock Selector WHITE jumper Cap		
INTEL CPU	JP8	JP9		JP17	JP18	
SINGLE VOLTAGE						
PP-75	75 Mhz	CL	CL	50 Mhz	OP	OP	x1.5
PP-90	90 Mhz	OP	CL	60 Mhz	OP	OP	x1.5
PP-100	100 Mhz	CL	OP	66 Mhz	OP	OP	x1.5
PP-120	120 Mhz	OP	CL	60 Mhz	CL	OP	x2
PP-133	133 Mhz	CL	OP	66 Mhz	CL	OP	x2
PP-150	150 Mhz	OP	CL	60 Mhz	CL	CL	x2.5
PP-166	166 Mhz	CL	OP	66 Mhz	CL	CL	x2.5
P54CT-180	180 Mhz	OP	CL	60 Mhz	OP	CL	x3
P54CT-200	200 Mhz	CL	OP	66 Mhz	OP	CL	x3
DUAL VOLTAGE						
P55C-150	150 Mhz	OP	CL	60 Mhz	CL	CL	x2.5
P55C-166	166 Mhz	CL	OP	66 Mhz	CL	CL	x2.5
P55C-200	200 Mhz	CL	OP	66 Mhz	OP	CL	x3

OP = OPEN CL = CLOSE

CYRIX/IBM CPU		JP8	JP9		JP17	JP18	
SINGLE VOLTAGE							
6X86-PR120	100 Mhz	CL	CL	50 Mhz	OP	OP	x2
6X86-PR133	110 Mhz	OP	OP	55 Mhz	OP	OP	x2
6X86-PR150	120 Mhz	OP	CL	60 Mhz	OP	OP	x2
6X86-PR166	133 Mhz	CL	OP	66 Mhz	OP	OP	x2
DUAL VOLTAGE							
6X86-PR120	100 Mhz	CL	CL	50 Mhz	OP	OP	x2
6X86-PR133	110 Mhz	OP	OP	55 Mhz	OP	OP	x2
6X86-PR150	120 Mhz	OP	CL	60 Mhz	OP	OP	x2
6X86-PR166	133 Mhz	CL	OP	66 Mhz	OP	OP	x2

AMD CPU	JP8	JP9		JP17	JP18	
SINGLE VOLTAGE CPU						
AMD-K5-PR75	CL	CL	50 Mhz	OP	OP	x1.5
AMD-K5-PR90	OP	CL	60 Mhz	OP	OP	x1.5
AMD-K5-PR100	CL	OP	66 Mhz	OP	OP	x1.5
DUAL VOLTAGE CPU						
AMD-K5-PR120	OP	CL	60 Mhz	OP	OP	x1.5
AMD-K5-PR133	CL	OP	66 Mhz	OP	OP	x1.5
AMD-K5-PR150	OP	CL	60 Mhz	CL	OP	x2
AMD-K5-PR166	CL	OP	66 Mhz	CL	OP	x2

OP = OPEN CL = CLOSE

2 MP071B Mainboard Setup

CPU JUMPER SETTING

Before installing the CPU, make sure that the CPU VOLTAGE SELECTOR is set properly.Please refer the CPU VOLTAGE SELECTOR,wrong setting will damage the CPU.

NOTE: CPU has two different types of voltage (A) Single Voltage (B) Dual Voltage

CPU TYPE	CPU Clock Selector YELLOW jumper Cap	CPU Internal Clock Selector WHITE jumper Cap

INTEL CPU		JP8	JP9	JP20		JP17	JP18	
SINGLE VOLTAGE								
PP-75	75 Mhz	1-2	1-2	1-2	50 Mhz	OP	OP	x1.5
PP-90	90 Mhz	2-3	1-2	1-2	60 Mhz	OP	OP	x1.5
PP-100	100 Mhz	1-2	2-3	1-2	66 Mhz	OP	OP	x1.5
PP-120	120 Mhz	2-3	1-2	1-2	60 Mhz	CL	OP	x2
PP-133	133 Mhz	1-2	2-3	1-2	66 Mhz	CL	OP	x2
PP-150	150 Mhz	2-3	1-2	1-2	60 Mhz	CL	CL	x2.5
PP-166	166 Mhz	1-2	2-3	1-2	66 Mhz	CL	CL	x2.5
P54CT-180	180 Mhz	2-3	1-2	1-2	60 Mhz	OP	CL	x3
P54CT-200	200 Mhz	1-2	2-3	1-2	66 Mhz	OP	CL	x3
DUAL VOLTAGE								
P55C-150	150 Mhz	2-3	1-2	1-2	60 Mhz	CL	CL	x2.5
P55C-166	166 Mhz	1-2	2-3	1-2	66 Mhz	CL	CL	x2.5
P55C-200	200 Mhz	1-2	2-3	1-2	66 Mhz	OP	CL	x3

OP = OPEN CL = CLOSE

CYRIX/IBM CPU		JP8	JP9	JP20		JP17	JP18	
SINGLE VOLTAGE								
6X86-PR120	100 Mhz	1-2	1-2	1-2	50 Mhz	OP	OP	x2
6X86-PR133	110 Mhz	1-2	1-2	2-3	55 Mhz	OP	OP	x2
6X86-PR150	120 Mhz	2-3	1-2	1-2	60 Mhz	OP	OP	x2
6X86-PR166	133 Mhz	1-2	2-3	1-2	66 Mhz	OP	OP	x2
DUAL VOLTAGE								
6X86-PR120	100 Mhz	1-2	1-2	1-2	50 Mhz	OP	OP	x2
6X86-PR133	110 Mhz	1-2	1-2	2-3	55 Mhz	OP	OP	x2
6X86-PR150	120 Mhz	2-3	1-2	1-2	60 Mhz	OP	OP	x2
6X86-PR166	133 Mhz	1-2	2-3	1-2	66 Mhz	OP	OP	x2

AMD CPU	JP8	JP9	JP20		JP17	JP18	
SINGLE VOLTAGE CPU							
AMD-K5-PR75	1-2	1-2	1-2	50 Mhz	OP	OP	x1.5
AMD-K5-PR90	2-3	1-2	1-2	60 Mhz	OP	OP	x1.5
AMD-K5-PR100	1-2	2-3	1-2	66 Mhz	OP	OP	x1.5
DUAL VOLTAGE CPU							
AMD-K5-PR120	2-3	1-2	1-2	60 Mhz	OP	OP	x1.5
AMD-K5-PR133	1-2	2-3	1-2	66 Mhz	OP	OP	x1.5
AMD-K5-PR150	2-3	1-2	1-2	60 Mhz	CL	OP	x2
AMD-K5-PR166	1-2	2-3	1-2	66 Mhz	CL	OP	x2

OP = OPEN CL = CLOSE

2 Mainboard Setup

CPU VOLTAGE SELECTOR

MP071 is designed to support different types of CPU with Single or Dual voltage.
NOTE: For Dual Voltage CPU, make sure JP13 and JP19 is set properly , WRONG setting will cause Voltage Output Conflict and will DAMAGE the CPU.

JP13 and JP19 is used to select CPU Single or Dual voltage.

JP19	JP13	CPU VOLTAGE	RED jumper Cap
1-2	ALL CLOSE	SINGLE VOLTAGE	
2-3	ALL OPEN	DUAL VOLTAGE	

JP11 and JP14 is used to select the different voltage output for the CPU

SINGLE VOLTAGE CPU
JP11 is not used
JP14 is used to control the VR2 Voltage output for Single Voltage CPU.

JP11	JP14		RED jumper Cap
NOT USED	1-2	3.41 VOLTS	
NOT USED	2-3	3.52 VOLTS	

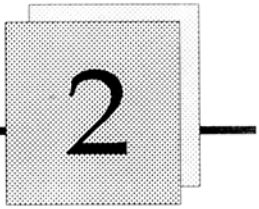
DUAL VOLTAGE CPU
JP11 is used to control the VR1 Voltage output for the CPU CORE
JP14 is used to control the VR2 Voltage output for the CPU I/O

JP11		JP14		RED jumper Cap
1-2	2.5 VOLTS	1-2	3.41 VOLTS	
3-4	2.7 VOLTS	2-3	3.52 VOLTS	
5-6	2.9 VOLTS			

FLASH ROM VOLTAGE SELECTOR

JP3			RED jumper Cap
1-2	12 VOLTS	FLASH ROM	(Intel / MX brand)
2-3	5 VOLTS	FLASH ROM	(SST / WINBOND brand)

Mainboard Setup



AT-BUS CLOCK SELECTOR

JP4		YELLOW jumper Cap
OPEN	PCI CLOCK / 3	
CLOSE	PCI CLOCK / 4	

CMOS RESET CONNECTOR

JP6	
OPEN	CMOS CHARGE
CLOSE	CMOS DISCHARGE OR RESET

CACHE SIZE SELECTOR

Cache size selector is used to configure the external cache of the mainboard.External cache can be configured by using 32K * 32 or 64K * 32 SRAM synchronous cache or cache module.

A. Onboard Synchronous Cache

JP7	JP15	SRAM (U22,U26)	TAG RAM (U20)	
1-2	1-2	32K*32	8K*8	256K Cache onboard
2-3	1-2	64K*32	16K*8	512K Cache onboard

B. Onboard 256K cache upgrade to 512K

JP7	JP15	SRAM (U22,U26)	TAG RAM (U20)	
2-3	2-3	32K*32	8K*8	Upgrade to 512K PLUS WIN CD013 synchronous cache module

Note: Win CD013 cache module default setting is for upgrade purpose only.

2 Mainboard Setup

MEMORY CONFIGURATION

Memory supports from 4MB upto 128MB by using Standard , EDO and SDRAM.
NOTE: If DIMM socket is used then SIM3 & 4 can not be used due to memory Bank Conflict

MEMORY MODULE CONBINATIONS:

BANK 0 SIMM 3 & 4	BANK 1 SIMM 1 & 2	DIMM SOCKET	TOTAL MEMORY
NONE	NONE	4MB	4MB
4MB x 2	NONE	NONE	8MB
NONE	4MB x 2	NONE	8MB
NONE	NONE	8MB	8MB
8MB x 2	NONE	NONE	16MB
NONE	8MB x 2	NONE	16MB
NONE	NONE	16MB	16MB
8MB x 2	4MB x 2	NONE	24MB
NONE	8MB x 2	8MB	24MB
NONE	4MB x 2	16MB	24MB
8MB x 2	8MB x 2	NONE	32MB
NONE	8MB x 2	16MB	32MB
16MB x 2	NONE	NONE	32MB
NONE	16MB x 2	NONE	32MB
NONE	NONE	32MB	32MB
4MB x 2	16MB x 2	NONE	40MB
16MB x 2	4MB x 2	NONE	40MB
NONE	16MB x 2	8MB	40MB
8MB x 2	16MB x 2	NONE	48MB
16MB x 2	8MB x 2	NONE	48MB
NONE	16MB x 2	32MB	48MB
32MB x 2	NONE	NONE	64MB
NONE	32MB x 2	NONE	64MB

NONE	NONE	64MB	64MB
4MB x 2	32MB x 2	NONE	72MB
32MB x 2	4MB x 2	NONE	72MB
NONE	32MB x 2	8MB	72MB
8MB x 2	32MB x 2	NONE	80MB
32MB x 2	8MB x 2	NONE	80MB
NONE	32MB x 2	16MB	80MB
16MB x 2	32MB x 2	NONE	96MB
32MB x 2	16MB x 2	NONE	96MB
NONE	32MB x 2	32MB	96MB
NONE	16MB x 2	64MB	96MB
32MB x 2	32MB x 2	NONE	128MB
NONE	32MB x 2	64MB	128MB

Improtant: Do not use 72-pin SIMM module with more than 24 chips. Module with more than 24 chips exceeds the design specification of the memory subsystem and will cause unreliable operation.

CONNECTORS

IDE 1 & 2	HARD DISK CONNECTOR
FDC1	FLOPPY CONNECTOR
PRN1	PRINTER PORT CONNECTOR
COM 1 & 2	SERIAL PORT CONNECTOR
USB	UNIVERSAL SERIAL BUS CONNECTOR
MS1	PS/2 MOUSE CONNECTOR
J3	SMI SWITCH CONNECTOR
J4	HARD DISK LED CONNECTOR
J5	KEYLOCK & POWER LED
J6	SPEAKER CONNECTOR
J7	RESET CONNECTOR
J8	TURBO LED CONNECTOR
J9	TURBO SWITCH CONNECTOR

NONE	NONE	64MB	64MB
4MB x 2	32MB x 2	NONE	72MB
32MB x 2	4MB x 2	NONE	72MB
NONE	32MB x 2	8MB	72MB
8MB x 2	32MB x 2	NONE	80MB
32MB x 2	8MB x 2	NONE	80MB
NONE	32MB x 2	16MB	80MB
16MB x 2	32MB x 2	NONE	96MB
32MB x 2	16MB x 2	NONE	96MB
NONE	32MB x 2	32MB	96MB
NONE	16MB x 2	64MB	96MB
32MB x 2	32MB x 2	NONE	128MB
NONE	32MB x 2	64MB	128MB

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J4	HARD DISK LED CONNECTOR
J5	KEYLOCK & POWER LED
J6	SPEAKER CONNECTOR
J7	RESET CONNECTOR
J8	TURBO LED CONNECTOR
J9	TURBO SWITCH CONNECTOR