MP070 USER'S MANUAL
INTEL TRITON HX MOTHERBOARD

Foreword

This manual is designed to provide the basic necessary information for the end user to understand and properly use the MP070 mainboard.The mainbord ensures superlative performance and complete compatibilty with industry standards, which incorporating many techincal enhancements.

Trademarks

Checklist

Your MP070 package contains the following: * MP070 mainboard
* User's manual
* HDD/FDD Cable
* Coml & Com2 Cable
* Printer Cable

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.

Mainboard Features

* Intel 430HX PCI chipset: TXC / 82371 SB(PIIX3).
* Using Intel P54C\P55C ,Cyrix6X86 and AMD KS microprocessor ,system running up to 200Mhz .
* High performance 32 bits PCI local bus and provide four PCI bus master.
* Provides four 16 bits ISA system bus I/O slots.
* 256K synchronous cache onboard, upgradable to 512K by using cache module and write back cache policy.
* Main memory EDO or FPM type DRAM option , DRAM size 4MB to 256MB.
* Bulit-in enhanced IDE .
* Bulit in PnP compatible enhanced fast T/O : Serial Port, Parallel Port (ECP / EPP/ SPP), FDC, IR port.
* Fully Plug and Play mechanism.
* Supports two USB (Universal Serial Bus) ports . * Supports ECC (Error Code Correction) function.

Mainboard Layout

Mainboard layout Placement chart is for your reference ofjumpers location for the following functions. CPU voltage selector , CPU speed setting, Flash

ROM voltage selector , CMOS charge / discharge, Cache size selector , DMA channel of ECP mode option.

Note: Please download motherboard layout.

Jumpers and Connectiors Reference

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

CPU Clock Selector	JP7,JP8
CPU Internal Clock Selector	JP15,JP17
CPU Voltage Selector	JP9,JPI1,JP16,JP18,JP20,JP21,JP22,JP24
Cache Size Selector	JP25
Flash ROM Voltage Selector	JP12
CMOS Charge/ Discharge	JP10
DMA channel of ECP mode option	JP3,JP4
IR or COM2port enable	JPI,JP2

Mainboard Connectors:

Hard disk Connector	IDEI&IDE2
Printer Connector	PRN1
Floppy Connector	FDC 1
Serial Connector	COM1 & COM2
Universal Serial Bus Connector	USB 1,USB 2
IR port Connector	IR1
CPU cooling fan Power Connector	FAN 1
External SMI switch Connector	J6
Hard disk LED Connector	J1
Keylock and Power LED Connector	J5
Speaker Connector	J4
Reset Connector	J19
Turbo LED Connector	J3
Turbo Switch Connector	J2
Keyboard Connector	KB 1
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

CPU Voltage Selector

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

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

SINGLE VOLTAGE CPU:

JP9	JP11	JP18	JP20	JP21	JP22
1-2 CLOSE	1-2 CLOSE				
3-4 CLOSE	3-4 CLOSE	CLOSE	CLOSE	CLOSE	CLOSE
5-6 CLOSE	5-6 CLOSE				

DUAL VOLTAGE CPU:

1-2 OPEN	1-2 CLOSE				
3-4 OPEN	3-4 CLOSE	CLOSE	CLOSE	CLOSE	CLOSE
5-6 OPEN	5-6 CLOSE				

JP24: 1-2 CLOSE 3.47V for STANDARD CPU VOLTAGE
       3-4 CLOSE 3.51V for VRE CPU voltage type

JP16: 1-2 CLOSE 2.5V for Dual voltage CPU
       3-4 CLOSE 2.7V for Dual voltage CPU
       5-6 CLOSE 2.9V for Dual voltage CPU

CPU SPEED SETTING
==========

CPU TYPE	CPU Clock Selector YELLOW jumper Cap		CPU Internal Clock Selector YELLOW jumper Cap			
INTEL CPU		JP8	JP7		JP17	JP15
SINCLE VOLTAGE						
PP-75	75 Mhz	CL	CL	5OMhz	OP	OP x1.5
PP-90	90 Mhz	OP	CL	60Mhz	OP	OP x1.5.
PP-100	100 Mhz	CL	OP	66Mhz	OP	OP x1.5
PP-120	120 Mhz	OP	CL	60Mhz	OP	CL x2
PP-133	133 Mhz	CL	OP	66Mhz	OP	CL x2
PP-150	150 Mhz	OP	CL	60Mhz	CL	CL x2.5
PP-166	166 Mhz	CL	OP	66Mhz	CL	CL x2.5
P54CT-180	180 Mhz	OP	CL	6OMhz	CL	OP x3
P54CST-200	200 Mhz	CL	OP	66Mhz	CL	OP 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	CL	OP x3

NOTE:OP = OPEN(without cap) CL = CLOSE(with cap)

CYRIX/IBM CPU		JP8	JP7		JP17	JP15
SINGLE VOLTAGE						
6X86-PR120	100Mhz	CL	CL	5OMhz	OP	OP x2
6X86-PR133	11OMhz	OP	OP	55Mhz	OP	OP x2
6X86-PR150	120Mhz	OP	CL	60Mhz	OP	OP x2
6XS6-PR166	133Mhz	CL	OP	66Mhz	OP	OP x2
DUAL VOLTAGE						
6X86-PR120	100Mhz	CL	CL	5O 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	133Mhz	CL	OP	66 Mhz	OP	OP x2

AMD CPU		JP8	JP7		JP17	JP15
SINGLE VOLTAGE CPU						
AMD-K5-PR75		CL	CL	5OMhz	OP	OP x1.5
AMD-KS-PR90		OP	CL	6OMhz	OP	OP x1.5
AMD-K5-PR100		CL	OP	66Mhz	OP	OP x1.5
DUAL VOLTAGE CPU						
AMD-KS-PR120		OP	CL	60Mhz	OP	OP x1.5
AMD-KS-PR133		CL	OP	66Mhz	OP	OP x1.5
AMD-KS-PR15O		OP	CL	60Mhz	OP	CL x2
AMD-K5-PR166		CL	OP	66Mhz	OP	CL x2

NOTE:OP = OPEN CL = CLOSE

Flash ROM Voltage Selector
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JP12 RED Jumper Cap
1-2 12 VOLTS FLASH ROM (Intel / MX brand)
2-3 5 VOLTS FLASH ROM (SST / WINBOND or other brands)
Note: Please find out the brand name on the bottom of BIOS.

CMOS Charge/ Discharge Connector
==========
JP10 BLACK Jumper Cap
OPEN CMOS CHARGE
CLOSE CMOS DISCHARGE OR RESET

CACHE SIZE & SELECTOR
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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:

JP25	BLUE Jumper Cap	SRAM(U21,U23)	TAG RAM (U24)
1-2	256K Cache onboard	32K*32	8K*8
x	512K Cache onboard	64K*32	16K*8

B. Onboard 256K cache upgrade to 512K:

JP25		SRAM (U22,U26)	TAG RAM (U24)
2-3	Upgrade to 512K	32K*32	8K*8

PLUS WIN CD013 synchronous cache module (CD013 cache module is only available at Edom International Corporation (510) 659-8882 or Edom's authority dealers)

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

Note2: MP070 supports, TWO TAG-RAMS for 256KB or 512KB external cache.
If using U24 TAG-RAM only , the memory space cacheable for the secondary cache is 64MB.
If using U24 and U25 TAG-RAM , the memory space cacheable for the secondary cache is 512 MB, U24 and U25 must be the same type.

Note3: If using two TAG-RAMS, make sure that the CMOS setup is set properly.Please refer to CHARPTER 3 CHIPSET FEATLTRE SEIZrP/Signle Bit Cacheable size.

DMA channel of ECP mode option
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JP3	JP4	BLACK Jumper Cap
1-2	1-2	DMA CHANNEL 1
2-3	2-3	DMA CHANNEL 3

1R or COM2 port selector
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JP1	JP2	BLACK Jumper CAP
1-2	1-2	IR FUNCTION (IR1 CONNECTOR AVAILABLE)
2-3	2-3	STANDARD FUNCTION(COM2 CONNECTOR AVAILABLE)

Note: If JP1 & JP2 set to 2-3 close, You need to run CMOS setup select intergred peripherals onabord UART2 mode set to standard.

MEMORY CONFIGURATION
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Memory supports from 4MB upto 256MB by using Standard ,EDO DRAM.
MEMORY MODULE CONBINATIONS:

1)USING SINGLE SIDE SIMM MODULE:

BANKO SIMM1	BANKO SIMM2	BANK1 SIMM3	BANK1 SIMM4	TOTAL MEMORY
2MB	2MB	NONE	NONE	4MB
NONE	NONE	2MB	2MB	4MB
4MB	4MB	NONE	NONE	8MB
NONE	NONE	4MB	4MB	8MB
2MB	2MB	2MB	2MB	8MB
8MB	8MB	NONE	NONE	16MB
NONE	NONE	8MB	8MB	16MB
4MB	4MB	4MB	4MB	16MB
16MB	16MB	NONE	NONE	32MB
NONE	NONE	16MB	16MB	32MB
8MB	8MB	8MB	8MB	32MB
32MB	32MB	NONE	NONE	64MB
NONE	NONE	32MB	32MB	64MB
16MB	16MB	16MB	16MB	64MB
64MB	64MB	NONE	NONE	128MB
NONE	NONE	64MB	64MB	128MB
32MB	32MB	32MB	32MB	128MB
64MB	64MB	64MB	64MB	256MB

2)USING DOUBLE SIDE SIMM MODULE:

BANKO	BANKO	BANK1	BANK1	TOTAL MEMORY
4MB	4MB	NONE	NONE	8MB
NONE	NONE	4MB	4MB	8MB
8MB	8MB	NONE	NONE	16MB
NONE	NONE	8MB	8MB	16MB
16MB	16MB	NONE	NONE	32MB

NONE	NONE	16MB	16MB	32MB
32MB	32MB	NONE	NONE	64MB
NONE	NONE	32MB	32MB	64MB
64MB	64MB	NONE	NONE	128MB
NONE	NONE	64MB	64MB	128MB
128MB	128MB	NONE	NONE	256MB
NONE	NONE	128MB	128MB	256MB
64MB	64MB	64MB	64MB	256MB

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.

Mainboard Connectors
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IDE 1 & 2	HARD DISK CONNECTOR
FDC 1	FLOPPY CONNECTOR
PRN 1	PRINTER PORT CONNECTOR
COM 1 & 2	SERIAL PORT CONNECTOR
USB1&2	UNIVERSAL BUS CONNECTOR
MS 1	PS/2 MOUSE CONNECTOR
IR1	IR PORT CONNECTOR
FAN1	CPU COOLING FAN POWER CONNECTOR
J6	EXTERNAL SMI SWITCH CONNECTOR
J1	HARD DISK LED CONNECTOR
J5	KEYLOCK & POWER LED
J4	SPEAKER CONNECTOR
J19	RESET SWITCH CONNECTOR
J3	TURBO LED CONNECTOR
J2	TURBO SWITCH CONNECTOR

AWARD BIOS SETUP
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Award BIOS support plug and play function and has a built-in setup program that allows the users to modify the basic system configuration. This type of information is stored in CMOS so that it retains the setup information when the power is turned off.

1. Turn on or reboot the system. when the below message appears at the bottom of the screen during the POST (Power On Self Test) press DEL key to enter setup.

2. Press the DEL key to enter the Award BIOS program and the main menu will appear on the screen. The main menu allows you to select from ten setup functions and two exit choices.

3. For the safe, please select "LOAD SETUP DEFAULTS" for BIOS setup.

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