UC-486 UMC

User Manual

PC Main Board

Notice

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1 Introduction

Overview

P4U880A/IO main board is a PC/AT compatible system board. It features Write Back/Through secondary cache memory from 128KB to 1024KB in size. It supports PCI local bus and ISA bus architecture. This main board also supports Dark Green function (SMM mode of SMI-CPU) to allow maximum power saving.

Key Features

CPU	- Intel 80486SX/DX/DX2/SL or Non-SL 25/33/50/66MHz
	- Intel 80486DX4 75/100MHz
	- AMD 486DX/DX2/DX4 40/66/80/100/120MHz
	- Cyrix 486DX/DX2 40/50MHz
	- UMC U5S 33MHz
Chipset	- UMC8886, 8881
System memory	- 4 x 72pin SIMM module
	- Flexible main memory size from 2MB to 128MB
Cache memory	- Supports Write-Back or Write-Through mode for 128/256/512/1024KB L2 Cache on board
Green function	- Supports 3 Green modes : Doze, Standby and Suspend
On-board IDE	- Supports 4 IDE devices and Enhanced IDE functions
On-board IO	- UMC 8663A IO on board supports multi-mode EPP/ECP
	- One floppy port supports up to two 3.5" or 5.25" floppy drives
	- One game port
	- Two high speed 16550A compatible UARTs
	- One parallel port at I/O address 378H/278H with multi-mode function (SPP/EPP/ECP)
	- All ports can be enabled or disabled by BIOS Setup
I/O bus slots	- 32-bit PCI local bus slot x 3
	- 16-bit AT bus slot x 4

BIOS	-	Supports Plug and Play BIOS
Board size	-	220mm x 260 mm

2 Jumper Configuration

WARNING: BEFORE TURNING ON THE SYSTEM POWER, PLEASE FOLLOW THE FOLLOWING CONFIGURATION CAREFULLY, OTHERWISE YOUR SYSTEM MAY NOT OPERATE CORRECTLY.

Cache Memory Selection

Table below is the jumper settings and SRAM selections of secondary cache.

CACHE RAM SIZE	J24	J25		J26	J27	J28
		1-2	3-4			
128KB	OPEN	OPEN	OPEN	OPEN	2-3	OPEN
256KB/S	OPEN	OPEN	OPEN	1-2	2-3	CLOSE
256KB/D	OPEN	OPEN	OPEN	OPEN	1-2	CLOSE
512KB/S	OPEN	CLOSE	OPEN	1-2	2-3	CLOSE
512KB/D	2-3	CLOSE	OPEN	2-3	1-2	CLOSE
1024KB	1-2	CLOSE	CLOSE	2-3	1-2	CLOSE

Note : D stands for Double Bank, S stands for Single Bank.

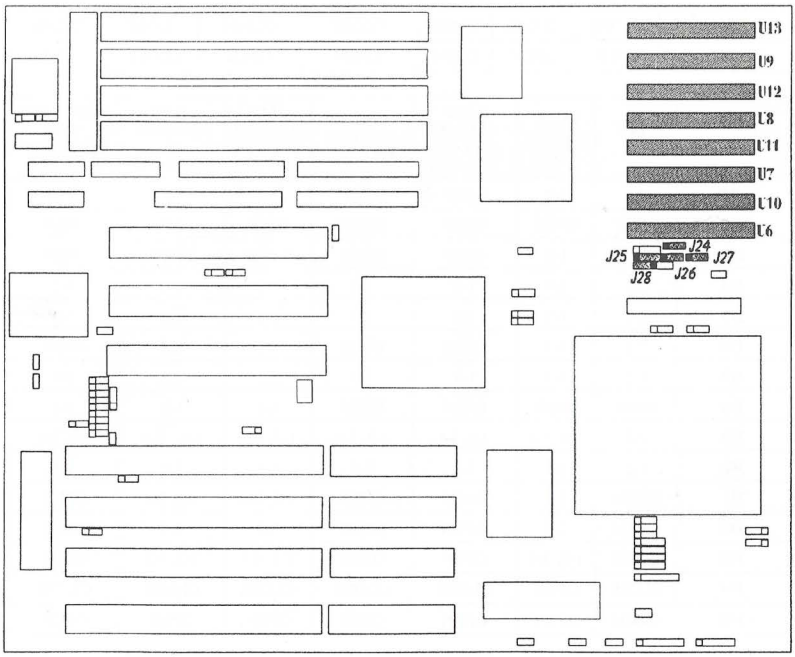

Figure 2-1 The illustration of cache memory configuration

CPU Type Configuration

WARNING: CPU power supply voltage (Q2) must be set up correctly as page 2-3, before setting jumpers for CPU selected.

The main board provides a set of jumper settings that facilitate user to selecte a full range of CPU. When a different 486 CPU installed, you should set the jumpers correctly, otherwise the system will not work properly.

Jumper	Intel 486 SX	Intel SL 486SX	Intel P24D	Intel SL 486 DX/ DX2/DX4	Intel P24T/WB	Intel P24T/WT	486 DX/DX2
J23	OPEN	OPEN	1-2	OPEN	1-2	1-2	OPEN
J29	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
J33	OPEN	OPEN	OPEN	OPEN	2-3	2-3	OPEN
J34	1-2	1-2	1-2	1-2	1-2	1-2	1-2
J35	1-2	1-2	1-2	1-2	1-2	1-2	1-2
J36	OPEN	1-2	1-2	1-2	1-2	1-2	OPEN
J37	1-2	2-3	2-3	2-3	2-3	2-3	1-2
J38	OPEN	OPEN	1-2	OPEN	OPEN	OPEN	OPEN
J39	2-3	2-3	1-2, 3-4	1-2, 3-4	1-2, 3-4	1-2, 3-4	1-2, 3-4
J40	OPEN	OPEN	3-4	3-4	2-3	2-3	3-4
J41	OPEN	1-2	1-2, 3-4	1-2	1-2	1-2	OPEN
J42	OPEN	OPEN	3-4	OPEN	1-2	1-2	OPEN
J43	OPEN	2-3, 4-5	2-3, 4-5	2-3, 4-5	2-3, 4-5	2-3,4-5	OPEN
J44	CLOSE	CLOSE	CLOSE	CLOSE	CLOSE	CLOSE	CLOSE
J48	OPEN	OPEN	OPEN	OPEN	OPEN	CLOSE	OPEN

Jumper	UMC U5S	Cyrix 486DX/ DX2	3.45V AMD486 DX4-100 (Non SL)	5V AMD486 DX/DX2	AMD Enhanced 486 DX4 100/120	AMD Enhanced 486 DX2/66/80	3.45V AMD 486 DX2/66/80 (Non SL)
J23	3-4	1-2	OPEN	OPEN	1-2	1-2	OPEN
J29	OPEN	OPEN	OPEN	OPEN	OPEN	2-3	OPEN
J33	OPEN	1-2	OPEN	OPEN	OPEN	OPEN	OPEN
J34	1-2	2-3	1-2	1-2	1-2	1-2	1-2
J35	2-3	1-2	1-2	1-2	1-2	1-2	1-2
J36	2-3	1-2	OPEN	OPEN	1-2	1-2	OPEN
J37	1-2	2-3	1-2	1-2	2-3	2-3	1-2
J38	OPEN	OPEN	OPEN	OPEN	1-2	1-2	2-3
J39	2-3	1-2, 3-4	1-2, 3-4	1-2, 3-4	1-2, 3-4	1-2, 3-4	1-2, 3-4
J40	1-2	3-4	3-4	3-4	3-4	3-4	3-4
J41	OPEN	2-3	OPEN	OPEN	1-2, 3-4	1-2, 3-4	OPEN
J42	OPEN	2-3	OPEN	OPEN	3-4	3-4	OPEN
J43	OPEN	1-2, 3-4	OPEN	OPEN	2-3, 4-5	2-3, 4-5	OPEN
J44	CLOSE	OPEN	CLOSE	CLOSE	CLOSE	CLOSE	CLOSE
J48	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN

CPU Frequency Configuration

System Clock	J19 (1-2)	J19 (3-4)	J19 (5-6)
25MHz	Open	Open	Open
33MHz	Close	Close	Open
40MHz	Open	Close	Open
50MHz	Close	Open	Open

CPU Power Supply Setup

WARNING: Make sure that the CPU Power Supply Voltage is correct, otherwise the CPU could be damaged.

1. With transistor Q4 on board

Main Board Configuration	Q2 (Pin2-Pin3)
3.45V 486 CPU	Open
5V 486 CPU	Close

2. Without transistor Q4 on board
   Only supports 5V CPU

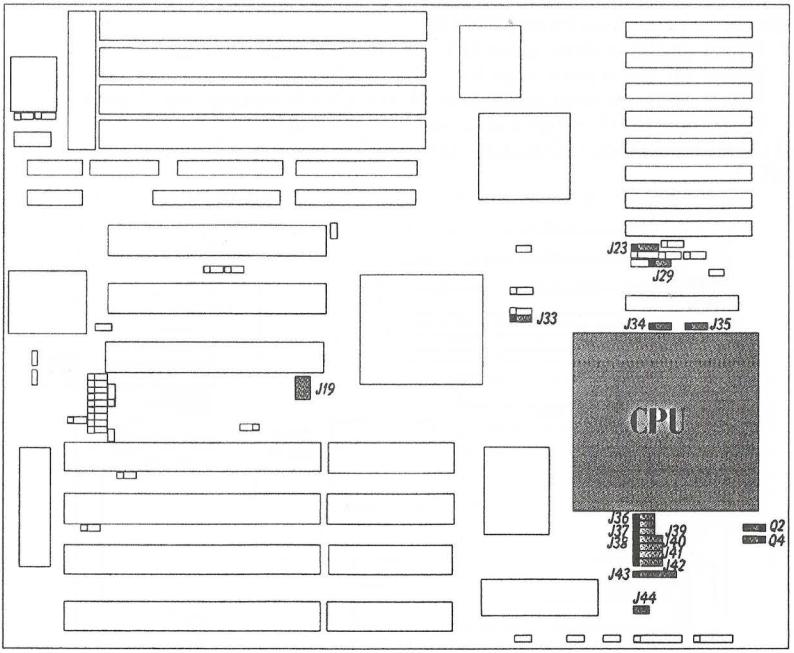

Figure 2-2 The illustration of jumper settings related to CPU

Flash ROM Option

Type	J21
Flash ROM 12V	1-2
Flash ROM 5V	2-3
EPROM	Open

Keyboard Controller Selection

	J1	J2	J3	J22	J31	J32
External KC	2-3	2-3	1-3, 2-4 5-7, 6-8	2-3	1-2	2-3
Internal KC	1-2	1-2	7-9, 8-10	1-2	2-3	1-2

IO Function Selection

FUNCTION	J49	J50
On board IO	Close	Close
External IO	Open	Open

Clear CMOS (J17)

If the RTC installed is BENCHMARK BQ-3287A, the following procedures should be taken for clearing CMOS:

1. Power on the system, close J17 once, then leave J17 open
2. Power off the system, wait for 3-5 seconds
3. Power on the system again, now all the CMOS settings are cleared. Then enter BIOS Setup and set up your system.

If the RTC installed is DALLAS DS-12887A, just close J17 once when power off.

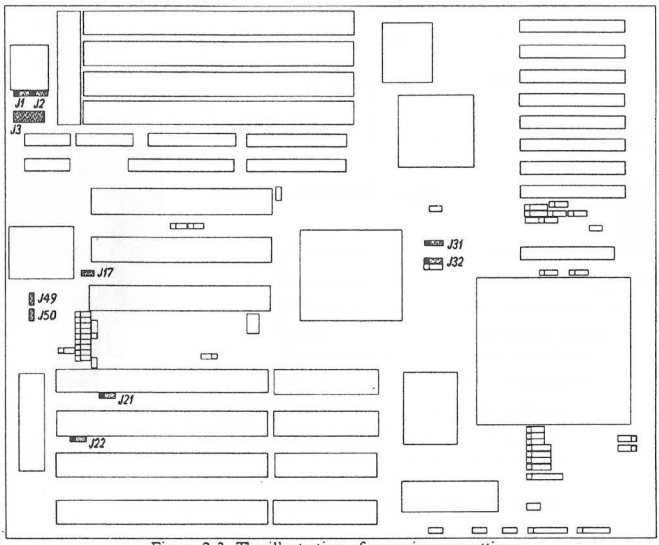

Figure 2-3 The illustration of some jumper settings

Reserved Jumper Settings

JUMPER	SETTING	JUMPER	SETTING
J4	2-3	J5	2-3
J6	2-3	J7	1-2
J8	2-3	J9	2-3
J10	2-3	J11	1-2
J12	2-3	J13	2-3
J14	2-3	J15	Close
J16	1-2	J18	2-3
J20	2-3	J30	Open

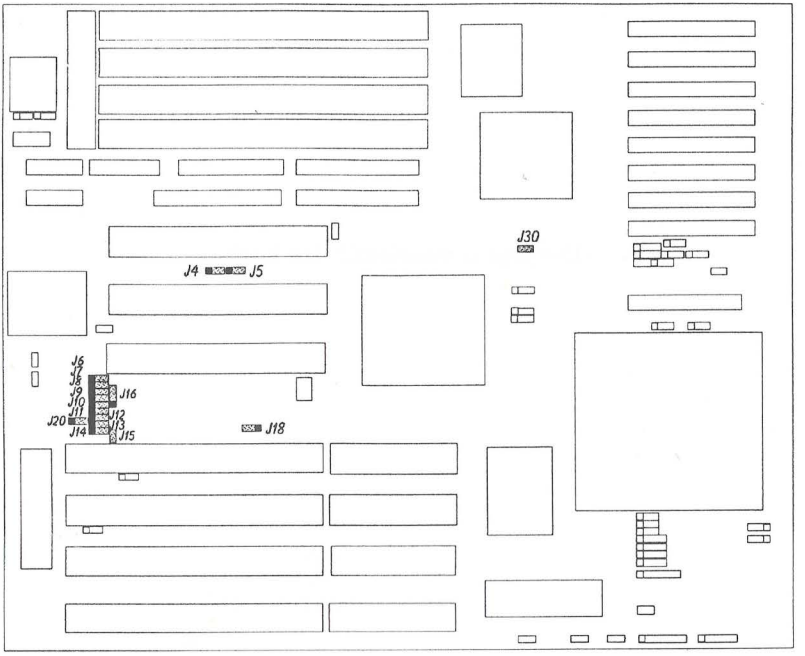

Figure 2-4 The illustration of reserved jumper settings

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3 Connector Configuration

Power Connector (PS1)

PIN NUMBER	FUNCTION
1	Power good
2	+5V
3	+12V
4	-12V
5	GND
6	GND
7	GND
8	GND
9	-5V
10	+5V
11	+5V
12	+5V

Keyboard Connector (KB1)

PIN NUMBER	FUNCTION
1	CLOCK
2	DATA
3	NC
4	GND
5	+5V

Turbo Switch (TURBO)

SETTING	SPEED	TURBO LED
OPEN	HIGH	ON
CLOSE	LOW	OFF

Turbo LED

PIN NUMBER	FUNCTION
1	CATHODE
2	ANODE

Reset Switch (RESET)

SETTING	FUNCTION
CLOSE ONCE	RESET THE SYSTEM
OPEN	NORMAL

Keylock Connector (KEYLOCK)

PIN NUMBER	FUNCTION
1	+5V
2	NC
3	GND
4	KEYLOCK
5	GND

Speaker Connector (SPEAKER)

PIN NUMBER	FUNCTION
1	SPKDATA
2	NC
3	GND
4	VCC

Hard Disk LED (HD LED)

PIN NUMBER	FUNCTION
1	LED CATHODE
2	LED ANODE

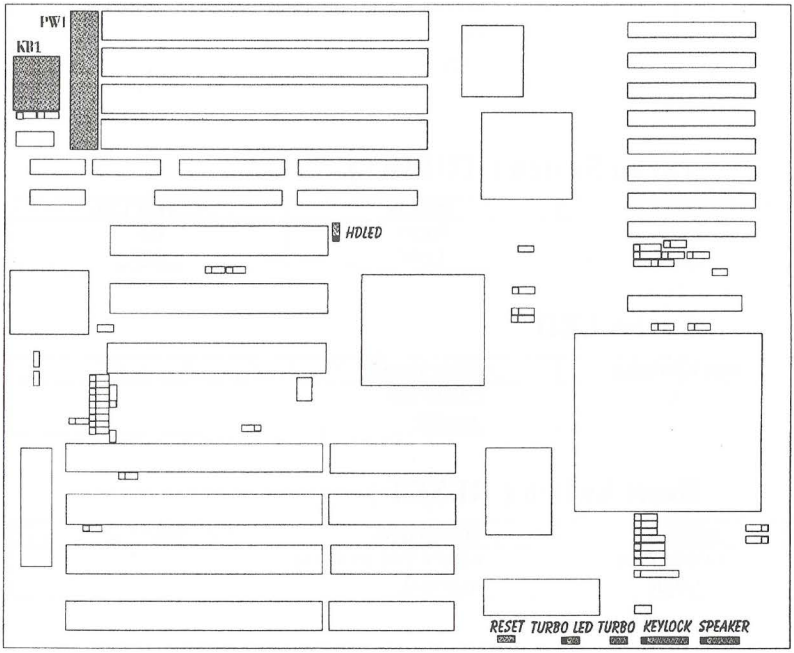

Figure 3-1 The illustration of connector configuration

IO Port Description

CONNECTOR	FUNCTION
JH1	Primary IDE port
JH2	Secondary IDE port
CN3	Floppy Drive Port
CN4	UART 1
CN5	UART 2
CN6	Game Port
CN7	Parallel Port

Note : Adaptec AHA-2940 SCSI card can be used on PCI slot PCI 1 & PCI 3, but not on PCI 2.

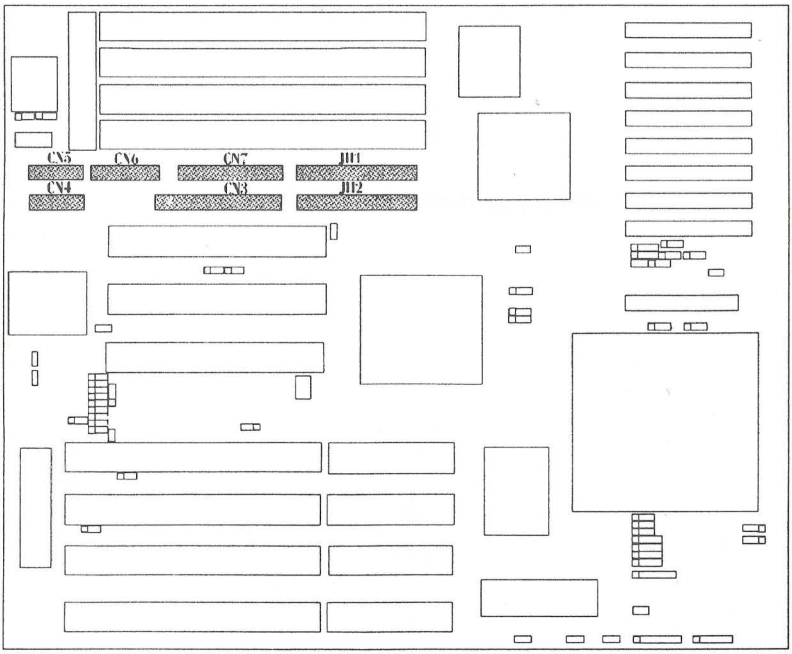

Figure 3-2 The illustration of IO port description

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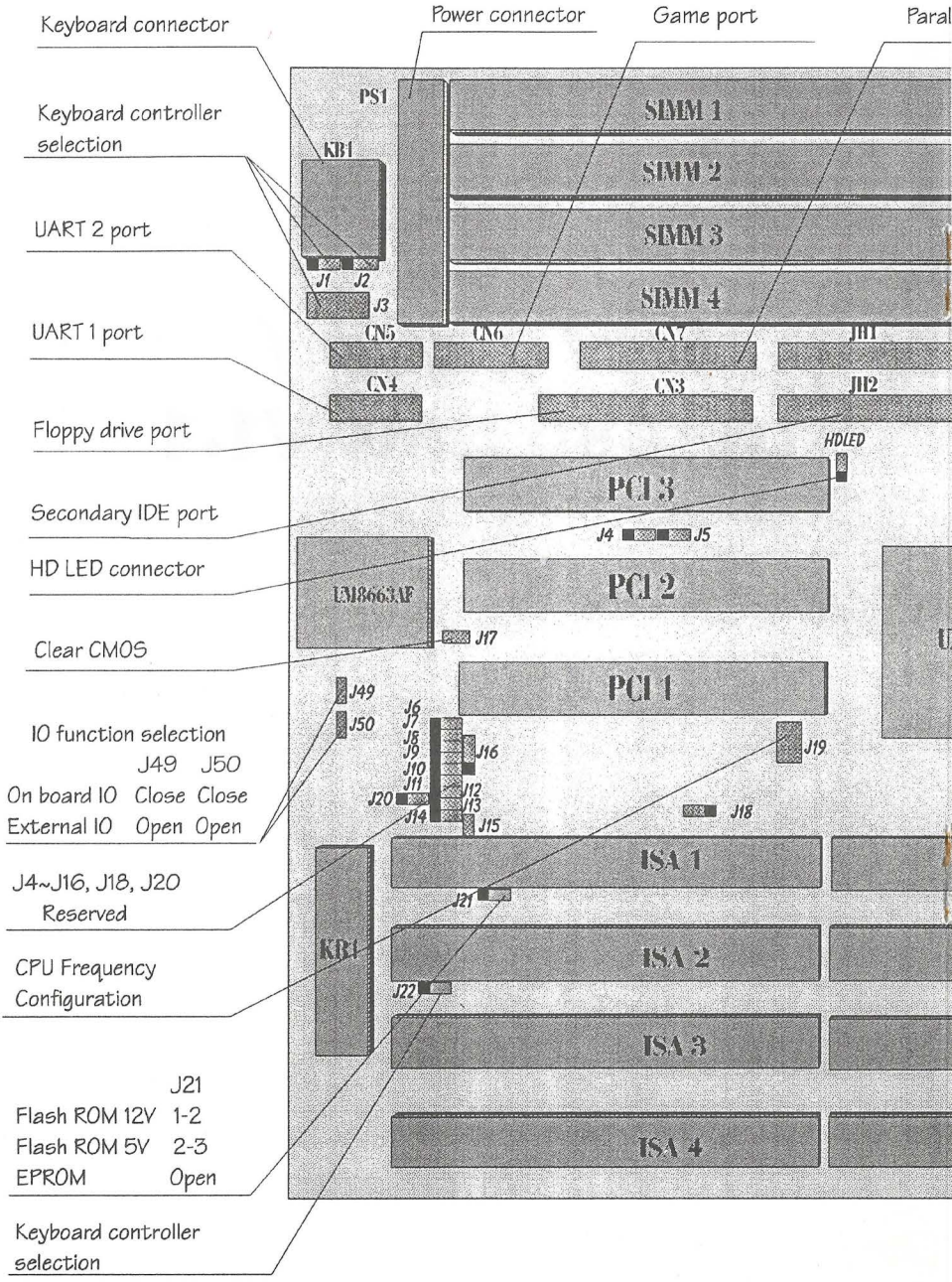
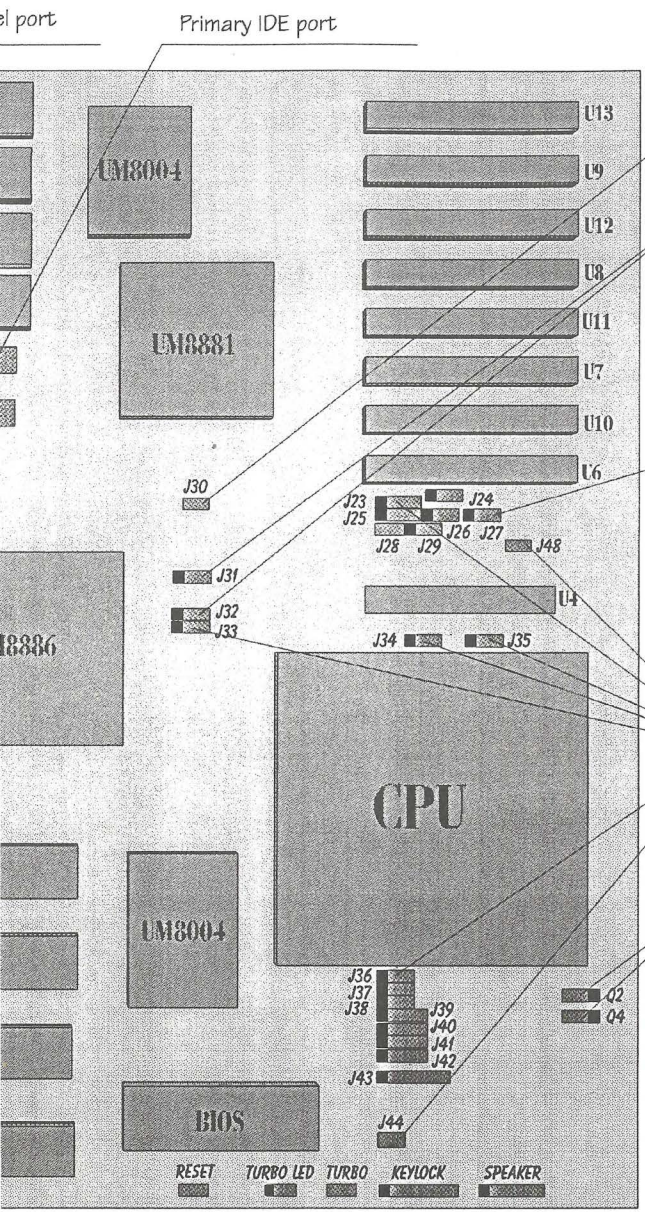
Board Layout of
UC-486 UMC V1.1


Keyboard connector
Power connector
Game port
Paral
Keyboard controller selection
UART 2 port
UART 1 port
Floppy drive port
Secondary IDE port
HD LED connector
Clear CMOS
IO function selection
J49 J50
On board IO Close Close
External IO Open Open
J4~J16, J18, J20 Reserved
CPU Frequency Configuration
J21
Flash ROM 12V 1-2
Flash ROM 5V 2-3
EPROM Open
Keyboard controller selection
PS1
KB1
J1
J2
J3
SIMM 1
SIMM 2
SIMM 3
SIMM 4
CN5
CN6
CN7
JH1
CN4
CN3
JH2
HDLED
PCI 3
J4
J5
LM8663AF
PCI 2
J17
PCI 1
J49
J50
J6
J7
J8
J9
J10
J11
J20
J14
J16
J12
J13
J15
J19
J18
ISA 1
J21
KB1
ISA 2
J22
ISA 3
ISA 4


el port
Primary IDE port
UM8004
UM8881
UM8886
UM8004
CPU
BIOS
U13
U9
U12
U8
U11
U7
U10
U6
U4
J30
J31
J32
J33
J23
J24
J25
J26
J27
J28
J29
J48
J34
J35
J36
J37
J38
J39
J40
J41
J42
J43
J44
Q2
Q4
RESET
TURBO LED
TURBO
KEYLOCK
SPEAKER
Reserved
Keyboard controller selection
J24 ~ J28 Cache memory configuration (See page 2-1)
J23, J29, J33 ~ J44, J48 CPU type configuration (See page 2-2)
CPU power supply setup (See page 2-3)

4 Memory Configuration

Main Memory Configuration

The P4U880A/IO main board supports single-bank 72-pin SIMMs or double-bank 72-pin SIMMs providing a flexible size from 2MB up to 128MB main memory. Only one type SIMM (72-pin) will be recognized, please do not plug in two types of SIMM on a bank simultaneously.

RAM SIZE	72-pin SIMM #1	72-pin SIMM #2	72-pin SIMM #3	72-pin SIMM #4
2 MB	1 MB x 1	1 MB x 1	---	---
4 MB	4 MB x 1	---	---	---
8 MB	4 MB x 1	4 MB x 1	---	---
8 MB	8 MB x 1	---	---	---
12 MB	4 MB x 1	4 MB x 1	4 MB x 1	---
16 MB	4 MB x 1	4 MB x 1	4 MB x 1	4 MB x 1
16 MB	8 MB x 1	8 MB x 1	---	---
16 MB	16 MB x 1	---	---	---
32 MB	16 MB x 1	16 MB x 1	---	---
32 MB	---	---	16 MB x 1	16 MB x 1
32 MB	32 MB x 1	---	---	---
48 MB	16 MB x 1	16 MB x 1	16 MB x 1	---
64 MB	32 MB x 1	32 MB x 1	---	---
128 MB	32 MB x 1	32 MB x 1	32 MB x 1	32 MB x 1

Cache Memory Configuration

P4U880A/IO main board supports 128/256/512/1024KB of secondary cache memory. The secondary cache memory consists of one Tag SRAM and 4 or 8 Data SRAMs.

CACHE RAM SIZE	TAG SRAM U4	DATA SRAM	LOCATION OF DATA SRAM
128KB	8K x 8	32K x 8 x 4	U(10-13)(Pin3-30)
256KB/S*	32K x 8	64K x 8 x 4	U(10-13)
256KB/D*	32K x 8	32K x 8 x 8	U(6-13)(Pin3-30)
512KB/S*	32K x 8	128K x 8 x 4	U(10-13)
512KB/D*	32K x 8	64K x 8 x 8	U(6-13)
1024KB	64K x 8	128K x 8 x 8	U(6-13)

System Clock Configuration

CPU should work at proper clock frequency. The system clock frequency should not exceed the CPU maximum working frequency. Table below is the maximum working frequency of different CPU types.

CPU TYPE	486SX/25 486DX/25	486SX/33 486DX/33	486DX/40 486DX2/80	486 DX/50	486SX2/50 486DX2/50	486 DX2/66	486 DX4/75	486 DX4/100	486 DX4/120
System Clock	25MHz	33MHz	40MHz	50MHz	25MHz	33MHz	25MHz	33MHz	40MHz

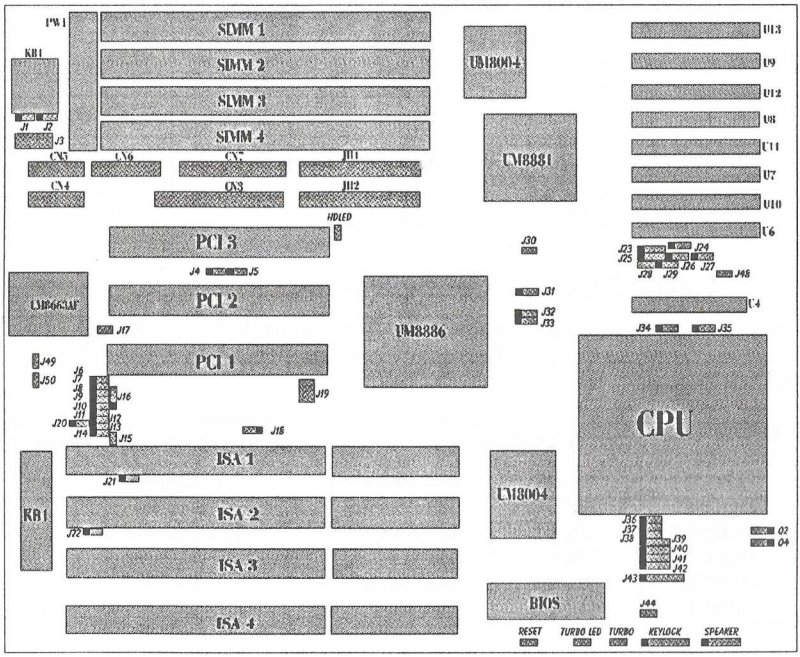
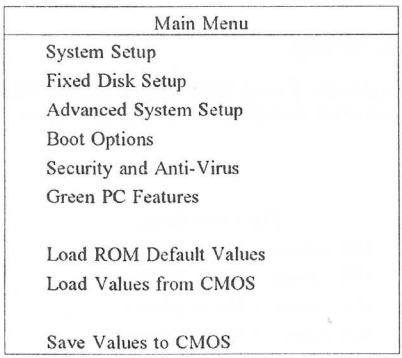


Figure 4-1 The illustration of board layout

5 BIOS Configuration

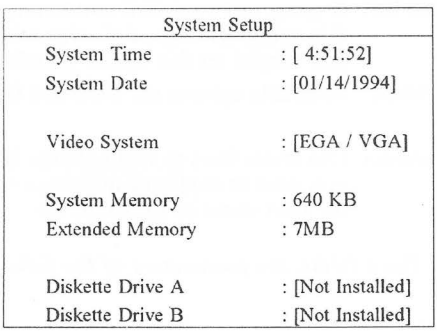
P4U880A/IO main board provides an easy-to-use Phoenix BIOS for you to set up your system and store your system information in CMOS RAM.
After power on or reset the system, the following messages appear :
Press <DEL> to enter SETUP, then you can press <DEL> to enter BIOS SETUP main menu as shown below :



↑↓Move Enter Select
F1 Help ESC Exit F10 Save & Exit

System Setup

Use arrow keys to highlight the System Setup selection in main menu then press <Enter> and the System Setup menu will appear as shown below :



↑↓Move ESC Exit PgUp Previous Value F5 Previous Configuration
F1 Help PgDn Next Value F6 Default Configuration

System Time/Date : Use arrow keys to move the highlight cursor to the time and date that you want to modify, then use <PgUp> or <PgDn> key to modify the value.

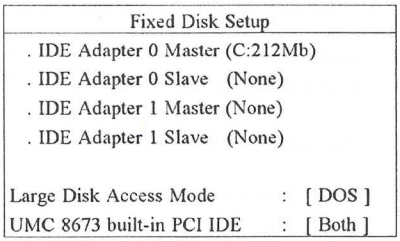
Video System : Use arrow keys to highlight this option then use <PgUp> or <PgDn> to select the correct value.

System/Extended Memory : Auto configured by BIOS and cannot be modified.

Diskette Drive A/B : Use arrow keys to highlight this option then use <PgUp> or <PgDn> to select the correct floppy drive settings.

Fixed Disk Setup

Use arrow keys to highlight Fixed Disk Setup in the main menu and press <Enter> to enter Fixed Disk Setup menu as shown below :



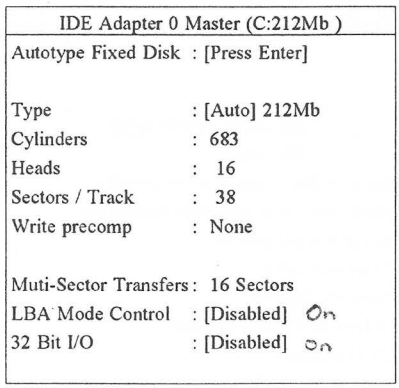
↑↓Move Enter Select
F1 Help ESC Exit F10 Save & Exit

UMC 8673 built-in PCI IDE: If using on-board IDE connector, you should set this option [Both],and if using other IDE adapter, you should set this option [Disabled].

Large Disk Access Mode : Available options are DOS and OTHER.

Fixed Disk Configuration: Use arrow keys to highlight the IDE adapter that you want to configure and press <Enter> to enter the next menu as shown below:

Note: For different Hard Disks, the parameters of the following menu are different.



If the Type option is set to [Auto], BIOS will auto detect Hard Disk during system boot. If you want BIOS to auto-type the Hard Disk, you can highlight the Autotype Fixed Disk option then press <Enter> . You can also manually select the Hard Disk type by choosing the BIOS built-in Hard Disk Table. Use arrow keys to highlight the Type option and use <PgUp> or <PgDn> to select the correct HD type from BIOS HD table. If your Hard Disk has cylinder greater than 1024, set LBA Mode Control to [Enable] for the maximum use of your Hard Disk.

Advanced System Setup

Use arrow keys to highlight the Advanced System Setup option in main menu and press <Enter> to enter the Advanced System Setup menu as shown below:

Advanced System Setup	
Warning !	
Items on this menu, if set incorrectly,	
could cause your system to malfuction.	
.Integrated peripherals	
.Memory Cache	
.Memory Shadow	
.Advanced Chipset Control	
.PCI Devices	
Plug & Play O/S	[No] Yes
Reset Configuration Data	[No]

↑↓Move Enter Select
F1 Help ESC Exit F10 Save & Exit

Integrated Peripherals To configure on board IO, use arrow keys to highlight this option and press <Enter> to enter Intergrated Peripherals menu as shown below:

Integrated Peripherals	
COM port	: [3F8, IRQ4]
COM port	: [2F8, IRQ3]
LPT port	: [378, IRQ7]
Diskette controller	: [Enabled]
LPT extend mode	: [Standard]
Game port	: [Enabled]

↑↓Move ESC Exit PgUp Previous Value F5 Previous Configuration
F1 Help PgDn Next Value F6 Default configuration

COM port : Use arrow keys to highlight this option, use <PgUp> or <PgDn> key to setup on board IO COM port address or [disabled].
LPT port : Use arrow keys to highlight this option, use <PgUp> or <PgDn> key to setup on board IO LPT port address or [disabled].
Diskette controller : Use arrow keys to highlight this option, use <PgUp> or <PgDn> key to setup on board IO Diskette Controller [Enabled] or [Disabled].
LPT extend mode : Use arrow keys to highlight this option, use <PgUp> or <PgDn> key to setup on board IO LPT extend mode: Standard, ECP or EPP.

Game port : Use arrow keys to highlight this option, use <PgUp> or <PgDn> key to setup on board Game port [Enabled] or [Disabled].

Memory Cache: To configure your memory cache, use arrow keys to highlight this option and press <Enter> to enter memory cache menu as shown below :

Memory Cache	
Cache Auto Configuration	: [Enabled]
External Cache	: [Enabled]
System BIOS Cacheable	: [Disabled]
Video BIOS Cacheable	: [Disabled]
L2 Cache Write Back	: [Enabled]
Cache Speed	: 2-2-2-2
CPU Cache Policy	: [Write Back]
L2 Cache Tag Length	: 7 bits

5

↑↓Move	ESC	Exit	PgUp	Previous Value	F5	Previous Configuration
	F1	Help	PgDn	Next Value	F6	Default configuration

Note :

1. If you want to re-configure the cache speed, you should first set Cache Auto Configuration option to [Disabled]

2. If system clock is 50MHz (Intel 486DX50), the cache speed should always be 3-2-2-2.

Memory Shadow: Use arrow keys to highlight this option in Advanced System Setup menu and press <Enter> to enter Memory Shadow submenu as shown below:

Memory Shadow	
System shadow	: Enabled
Video shadow	: [Enabled]
Shadow memory regions	
C800 - CBFF	: [Disabled]
CC00 - CFFF	: [Disabled]
D000 - D3FF	: [Disabled]
D400 - D7FF	: [Disabled]
D800 - DBFF	: [Disabled]
DC00 - DFFF	: [Disabled]

↑↓Move	ESC	Exit	PgUp	Previous Value	F5	Previous Configuration
	F1	Help	PgDn	Next Value	F6	Default Configuration

Use arrow keys to select the item and use <PgUp> or <PgDn> to modify the value. To return to the previous menu press <ESC>.

Advanced Chipset Control: Use arrow keys to highlight this option in Advanced System Setup menu and press <Enter> to enter Advanced Chipset Control as shown below :

Advanced Chipset Control	
Chipset Auto Configuration	: [Enabled]
DRAM Read Wait State	: 1
DRAM Write Wait State	: 1
Resource Lock For DRAM	: [Disabled]
Host-to-PCI Wait State	: [1]
PCI Parity Check	: [Disabled]
DRAM Parity Check	: [Disabled]
LDEV# Sampling Point	: 1 T2

↑↓Move	ESC	Exit	PgUp	Previous Value	F5	Previous Configuration
	F1	Help	PgDn	Next Value	F6	Default Configuration

Note : It is recommended that DRAM Read/Write Wait State should be greater than or equal to 1 wait state.

PCI Devices : Use arrow keys to highlight this option in Advanced System Setup menu and press <Enter> to enter PCI Devices menu as shown below :

PCI Devices	
PCI Auto Configuration	: [Enabled]
PCI Device, Slot # 1	:
Enable Master	: [Enabled]
Use Default Latency Timer Value	: [Yes]
Latency Timer Value	: [00400]
PCI Device, Slot # 2	:
Enable Master	: [Enabled]
Use Default Latency Timer Value	: [Yes]
Latency Timer Value	: [00400]
PCI Device, Slot # 3	

↑↓Move	ESC	Exit	PgUp	Previous Value	F5	Previous Configuration
	F1	Help	PgDn	Next Value	F6	Default Configuration

The items in PCI Devices menu cannot be displayed on a single screen, you can use arrow keys to scroll the whole items up or down and use <PgUp> or <PgDn> key to modify the value of each item. To return to the previous menu press <ESC> key.

Plug and Play O/S : If using Plug and Play O/S, set this option [Yes].

Warning: As this BIOS supports Plug & Play function, if a Non-PnP card is used, it maybe conflict with other devices. In that case, you should configure it correctly as follows:

1. ***Chang the jumper settings of your Non-PnP card to avoid conflict with other devices.***
2. ***Add the configuration data of this card to ESCD (Extend System Configuration Data) through system utility, such as Intel ICU (ISA Configuration Utility), Windows 95, etc.***

Reset Configuration Data : If set [Yes], all system configuration data will be reset.

Boot Options

Use arrow keys to highlight Boot Options in the main menu and press <Enter> to enter Boot Options menu as shown below :

Boot Options	
Boot sequence	: [C: then A:]
SETUP Prompt	: [Enabled]
POST Errors	: [Enabled]
Floppy check	: [Disabled]
Summary Screen	: [Enabled]

↑↓Move	ESC	Exit	PgUp	Previous Value	F5	Previous Configuration
	F1	Help	PgDn	Next Value	F6	Default Configuration

Boot Options menu gives you the options to choose the system boot up sequence. You can use arrow keys to highlight the item then use <PgUp> or <PgDn> key to change the value. To return to the main menu press <ESC> key.

Security and Anti-Virus

Use arrow keys to highlight Security and Anti-Virus in the main menu and press <Enter> to enter security and Anti-Virus menu as shown below :

Security and Anti-Virus	
Supervisor Password is	: [Disabled]
User Password is	: [Disabled]
Set Supervisor Password	: [Press Enter]
Set User Password	: [Disabled]
Password on boot	: [Disabled]
Diskette access	: [Supervisor]
Fixed disk boot sector	: [Disabled]

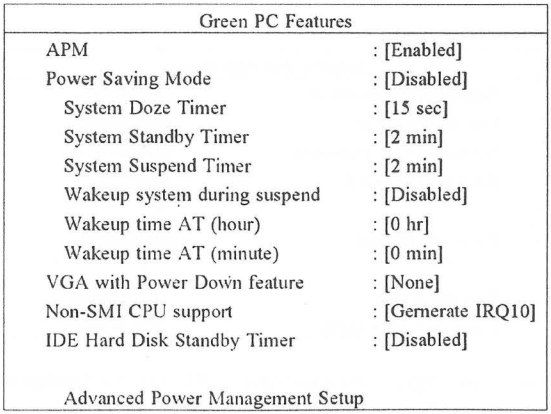
↑↓Move ESC Exit PgUp Previous Value F5 Previous Configuration
F1 Help PgDn Next Value F6 Default Configuration

The Phoenix BIOS gives you a tight control on your computer through the settings of Supervisor Password and User Password, if you want to set or change the password, use the arrow keys to highlight Set Supervisor Password item and press <Enter> . Use keyboard to enter the new password and press <Enter>, then the system will ask you to re-enter it and press <Enter>. Your new password will take effect until you save & exit setup and reboot the system. To return to the main menu press <ESC>.

Green PC Feature

P4U880A/IO Main Board features a most efficient power saving management and supports all 486 CPUs for green feature (Non-SMI 486 IRQ green mode and SMI-CPU in SMM mode). In Doze mode CPU clock will be slowed down to 1/2 of normal speed for a SMI-CPU or be switched to 8MHz for a normal CPU. In Standby mode CPU clock will be slowed down to 1/4 of normal speed for a SMI-CPU or be kept in 8 MHz for a normal CPU and the screen will be blank, hard disk will be powered down if set in BIOS. In Suspend mode CPU will be stopped working for a Intel SL Enhanced or Cyrix CPU while other CPUs will be worked in their slowest state in order to save energy. In any of the 3 green mode you could wake up the system by pressing any key or a pre-set wake up event.

Use arrow keys to highlight Green PC Features and press <Enter> to enter Green PC Features menu as shown below :



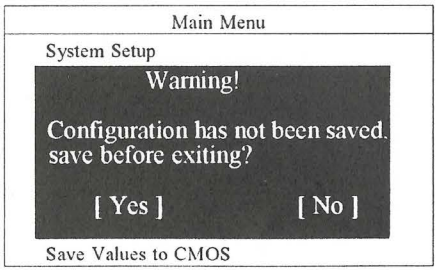
The items in Green PC Features menu cannot be displayed on a single screen, you can use arrow keys to scroll the whole items and use <PgUp> or <PgDn> key to modify the value of each item. To return to the previous menu press <ESC> key.

VGA with Power Down feature : If set then VGA screen will be blank when entering Standby mode.

IDE Hard Disk Standby Timer : If timer set, Hard Disk will turn down power, when there is no disk access and time-out. (Only valid for the Hard Disk with power management feature)

Save & Exit

After you configure all BIOS settings, you should return to the main menu by pressing <ESC> key and save your changes to CMOS RAM and reboot the system so that all your changes of configurations can take effect. To save the settings, press <F10> and the following screen will appear as shown below then press <Y> and <Enter> to save the value and reboot the system.



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