USER'S MANUAL

PS-8080

All-in-One Book-size PC
For Socket 478 System

PS-8080 M1

PS-8080 All-in-One Book-size PC

OPERATION MANUAL

COPYRIGHT NOTICE

ACKNOWLEDGEMENTS

CE NOTICE

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

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CHAPTER 1 INTRODUCTION

CHAPTER 2 SYSTEM CONFIGURATION

INTRODUCTION

CHAPTER

1

This chapter gives you the information for PS-8080. It also outlines the System specification.

Section includes:

- About This Manual
- System Specifications
- Safety precautions

Experienced users can skip to chapter 2 on page 2-1 for Quick Start.

1-1. ABOUT THIS MANUAL

Thank you for purchasing our PS-8080 Pentium M Book-size PC enhanced with VGA / Sound / LAN, which is fully PC / AT compatible. PS-8080 provides faster processing speed, greater expandability and can handle more task than before. This manual is designed to assist you how to install and set up the system. It contains four chapters. The user can apply this manual for configuration according to the following chapters :

Chapter 1 Introduction

This chapter introduces you to the background of this manual, illustration of the case, and the specifications for this system. The final page of this chapter indicates some safety reminders on how to take care of your system.

Chapter 2 Hardware Configuration

This chapter outlines the component location and their functions. In the end of this chapter, you will learn how to set jumper and how to configure this card to meet your own needs.

Chapter 3 Software Utilities

This chapter contains helpful information for proper installations of the VGA utility, LAN utility, sound utility, and BIOS update. It also describes the Watchdog timer configuration.

Chapter 4 Award BIOS Setup

This chapter indicates you how to set up the BIOS configurations.

Appendix A System Assembly

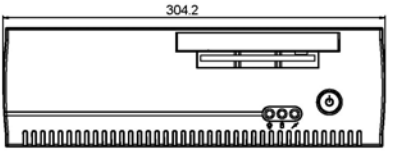
This appendix contain exploded diagram of the system

Appendix B Technical Summary

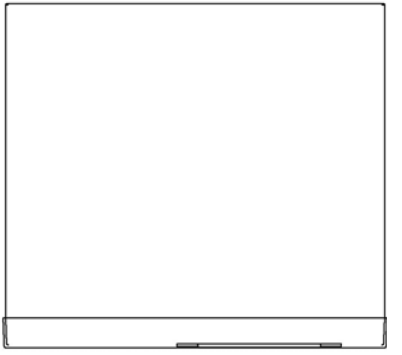
This section gives you the information about the Technical maps.

1-2. CASE ILLUSTRATION

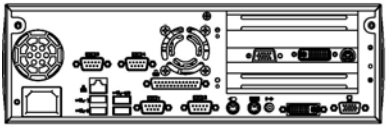
Front View



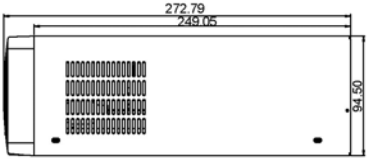
Top View



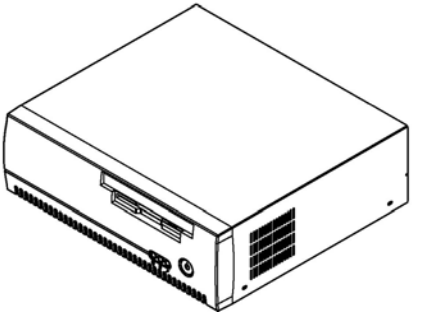
Rear View



Side View



Quarter View



1-3. SYSTEM SPECIFICATION

- **CPU (mPGA 478) :**
  Celeron-M/Pentium-M, 478-pin socket on board（Pentium-M CPU ：up to 2.0GHz ）
  Auto detect voltage regulator

- **SYSTEM CHIPSET :**
  Intel® 915GM + ICH 6M

- **MEMORY :**
  Up to 2G DDR-2 RAM
  2 pieces x DDR-2 DIMM Socket

- **CACHE :**
  Built-in CPU(512K/1M/2M Cache)

- **REAL-TIME CLOCK / CALENDAR :**
  ICH6M -South Bridge

- **BIOS :**
  Phoenix-Award Flash BIOS for plug & play function
  Memory size with 4MB and with VGA BIOS

- **KEYBOARD CONNECTOR :**
  Mini DIN connector
  Supports PC/AT Keyboard

- **MOUSE CONNECTOR :**
  Mini DIN connector
  Supports PS/2 Mouse.

- **BUS SUPPORT :**
  Riser Card:
  Option 1: 1PCI-Express & 1PCI
  Option 2: 2PCI

- **DISPLAY :**
  Intel® Graphics Media Accelerator (GMA) 900 (Build-in North Bridge)
  Support two CRT/LCD Monitor
  (one is CRT and another is DVO to DVI).
  {Optional: additional graphics card with dual-CRT/LCD exit; PCI Express 16-times.}

- **IDE INTERFACE :**
  One IDE port support up to two IDE device
  Support Ultra DMA 33/66/100
  2 SATA

- **FLOPPY DISK DRIVER INTERFACE :**
  One 34-pin connector on board
  Support for slim Floppy Disk Drive

- **SERIAL PORT :**
  Four high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs.
  COM1 (D-Sub Connector) for RS-232;
  COM2 (D-Sub Connector) for RS-232/422/485;
  COM3 (2 x 5 2.0mm Header) for RS-232 (Optional)
  COM4 (2 x 5 2.0mm Header) for RS-232. (Optional)
  All with 5v/12v power capability. (Optional)

- **PARALLEL PORT :**
  One 25-pin D-Sub connector on rear panel.
  Support for SPP, ECP, EPP Function.
  Bi-directional parallel port

- **LAN INTERFACE :**
  Intel® 82541GI Chip
  RJ-45 jack onboard, Support for 10/100/1000 Base-T Ethernet
  Support Wake-On-LAN function

- **UNIVERSAL SERIAL BUS :**
  6 USB ports on rear panel, 4 internal USB ports on board. All USB ports support USB 2.0 standard

- **SOUND INTERFACE :**
  Realtek AC '97 Codec, ALC202A. The signal of LINE-OUT connector on Rear Panel (Another 4-pin pin-header onboard for CD-ROM audio line-out connecter.)
  Optional: 2x5 pin header on board connecting to daughter board (Prox9757) will support 2 channel output with amplifier (Max. 2x7W).
  Interface: Line Out (Optional:Line_IN, Line_OUT, MIC_IN)

- **HARDWARE MONITORING FUNCTION :**
  Monitor CPU Voltage, CPU Temperature

- **LED INDICATOR :**
  Power LED : Green
  HDD LED : Red
  LAN LED : Orange

GENERAL INFORMATION

- **POWER SUPPLY :**
  AC 100V ~240V, 47~63Hz input, ATX 180W (Built-in)

- **DRIVE BAYS (Optional) :**
  1x 3.5" HDD
  1x Slim CD-ROM
  1x FDD

- **CONSTRUCTION :**
  Electroplate
  Galvanized steel chassis / painting

- **DIMENSIONS :**
  300.2mm x 270mm x 94.5mm (W x H x D)

- **NET WEIGHT :**
  5 (kg) or 11 (lb)

1-4. SAFETY PRECAUTIONS

Following messages are safety reminders on how to protect your systems from damages. And thus, helps you lengthen the life cycle of the system.

1. Check the Line Voltage

a. The operating voltage for the power supply should cover the range of 115VAC-230VAC, otherwise the system may be damaged.

2. Environmental Conditions

a. Place your PS-8080 on a sturdy, level surface. Be sure to allow enough room on each side to have easy access.

b. Avoid extremely hot or cold places to install your PS-8080 Book-sized PC.

c. Avoid exposure to sunlight for a long period of time (for example in a closed car in summer time. Also avoid the system from any heating device.). Or do not use PS-8080 when it's been left outdoors in a cold winter day.

d. Bear in mind that the operating ambient temperature is from 0°C up to +40°C (32°F~104°F).

e. Avoid moving the system rapidly from a hot place to a cold place or vice versa because condensation may come from inside of the system.

f. Place PS-8080 against strong vibrations, which may cause hard disk failure.

g. Do not place the system too close to any radio active device. Radio-active device may cause interference.

3. Handling

a. Avoid putting heavy objects on top of the system.

b. Do not turn the system upside down. This may cause the floppy drive and hard drive to mal-function.

c. Do not remove the diskette from the Floppy drive while the light is still on. If you remove the diskette while the light is on, you may damage the information on the diskette.

d. Do not allow foreign objects to fall into this product.

e. If water or other liquid spills into this product, unplug the power cord immediately.

4. Good Care

a. When the outside of the case is stained, remove the stain with neutral washing agent with a dry cloth.

b. Never use strong agents such as benzene and thinner to clean the system.

c. If heavy stains are present, moisten a cloth with diluted neutral washing agent or with alcohol and then wipe thoroughly with a dry cloth.

d. If dust has been accumulated on the outside, remove it by using a special made vacuum cleaner for computers.

HARDWARE CONFIGURATION

CHAPTER

2

*** QUICK START ***

Helpful information describes the jumper & connector settings, and component locations.

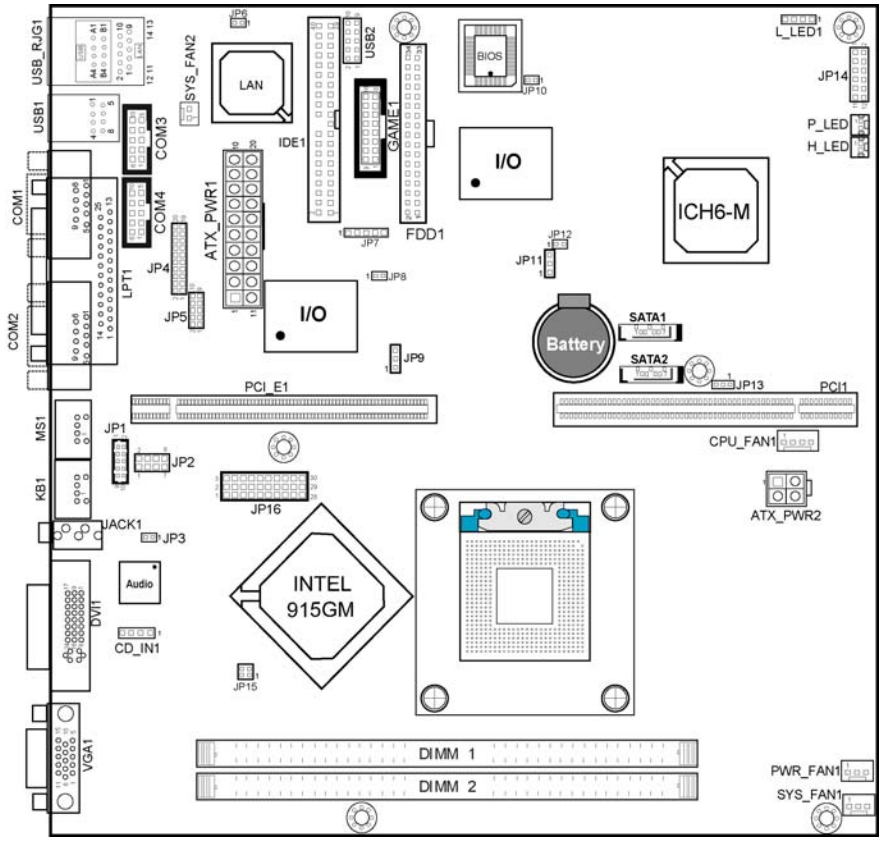
Section includes:

- Jumper & Connector Quick Reference Table
- Component Locations
- Configuration and Jumper settings
- Connector's Pin Assignments

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

FSB Clock Frequency Selection	JP9, JP11
915GM Core Voltage Selection	JP3
COM Port Connector	COM1, COM2 COM3, COM4
COM Port RI/Voltage Selection	JP4
RS232/422/485 (COM2) Selection	JP5
Keyboard Connector	KB1
Mouse Connector	MS1
Reset Connector	JP14 (1,3)
ATX Power Button	JP14 (2,4)
KeyLock Connector	JP14 (5,7)
Sleep Button	JP14 (9,11)
External Buzzer	JP14 (6,8,10,12)
Power LED Connector	P_LED
Hard Disk Drive LED Connector	H_LED
Clear CMOS Data Selection	JP12
CPU Fan Connector	JCPUFAN1
System Fan Connector	SYS_FAN1, PWR_FAN1
Hard Disk Drive Connector	IDE1
VGA Connector	VGA1
Serial ATA Connector	SATA1, SATA2
DVI Connector	DVI1
Floppy Disk Drive Connector	FDD1
Printer Connector	LPT1
Universal Serial Bus Connector	USB1, USB2
Game Port Connector	GAME1
IrDA Connector	JP7
USB&LAN Connector	USB_RJG1
Onboard LAN Enable/Disable Selection	JP6
LAN LED Connector	L_LED1
ATX Power Connector	ATX_PWR1, ATX_PWR2
Sound Connector	JP2, JACK1
CD Audio-In Connector	CD_IN1
PCI/ Riser Card Selection	JP13
FWH BIOS Write Protection Selection	JP10
Case Open	JP8
Memory Installation	DIMM1, DIMM2
For Prox-9757 Daughter Board	JP1
PCI Express/ SDVO Interface Selection	JP15, JP16

2-2. COMPONENT LOCATIONS



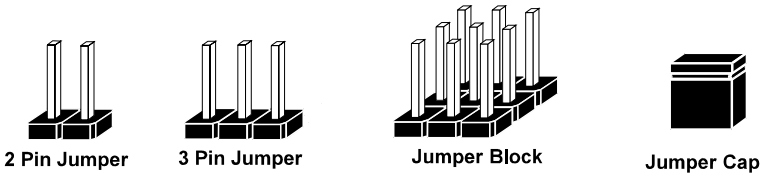
PS-8080 Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and by using a small plastic "cap", Also known as the jumper cap (with a metal contact inside), you are able to connect the pins. So you can set-up your hardware configuration by "open" or "close" pins.

The jumper can be combined into sets that called jumper blocks. When the jumpers are all in the block, you have to put them together to set up the hardware configuration. The figure below shows how this looks like.

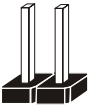
JUMPERS AND CAPS



If a jumper has three pins (for examples, labelled PIN1, PIN2, and PIN3), You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagrams look and what they represent.

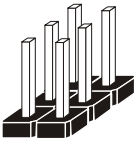
JUMPER DIAGRAMS

Jumper Cap looks like this

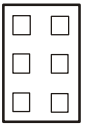


2 pin Jumper looks like this

3 pin Jumper looks like this

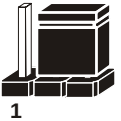


Jumper Block looks like this



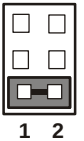
JUMPER SETTINGS

2 pin Jumper close(enabled) Looks like this



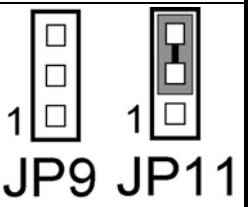
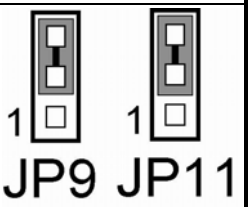
3 pin Jumper 2-3 pin close(enabled) Looks like this

Jumper Block 1-2 pin close(enabled) Looks like this



2-4. FSB CLOCK FREQUENCY SELECTION

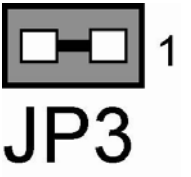
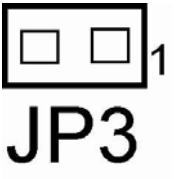
JP9, JP11 : FSB Clock Frequency Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS		JUMPER ILLUSTRATION
	JP9	JP11	
100MHz	open	2-3	
133MHz	2-3	2-3	

***Manufacturing Default –133MHz.

2-5. 915GM CORE VOLTAGE SELECTION

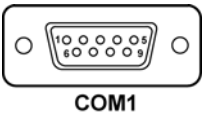
JP3 : 915GM Core Voltage Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
1.5V	1-2	
1.05V	Open	

***Manufacturing Default –1.5V.

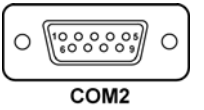
2-6. COM PORT CONNECTOR

COM1 : COM1 Connector
COM1 is fixed as RS-232.
The pin assignment is as follows :



PIN	ASSIGNMENT
1	DCD1
2	RX1
3	TX1
4	DTR1
5	GND
6	DSR1
7	RTS1
8	CTS1
9	RI1

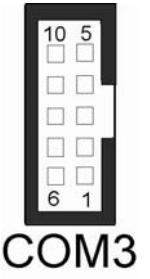
COM2 : COM2 Connector
The COM2 is selectable as RS-232/422/485.
The pin assignment is as follows :



PIN	ASSIGNMENT		
	RS-232	RS-422	RS-485
1	DCD2	TX-	TX-
2	RX2	TX+	TX+
3	TX2	RX+	RX+
4	DTR2	RX-	RX-
5	GND	GND	GND
6	DSR2	RTS-	NC
7	RTS2	RTS+	NC
8	CTS2	CTS+	NC
9	RI2	CTS-	NC

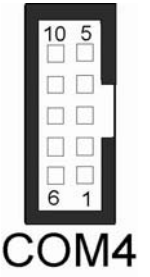
COM3 : COM3 Connector
COM3 is fixed as RS-232.
The pin assignment is as follows :

PIN	ASSIGNMENT
1	DCD3
2	RX3
3	TX3
4	DTR3
5	GND
6	DSR3
7	RTS3
8	CTS3
9	RI-V3
10	NC



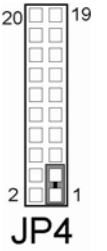
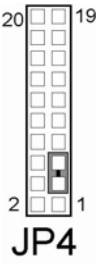
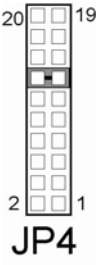
COM4 : COM4 Connector
COM4 is fixed as RS-232.
The pin assignment is as follows :

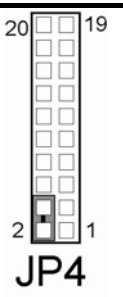
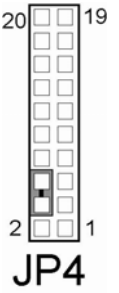
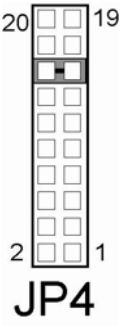
PIN	ASSIGNMENT
1	DCD4
2	RX4
3	TX4
4	DTR4
5	GND
6	DSR4
7	RTS4
8	CTS4
9	RI-V4
10	NC

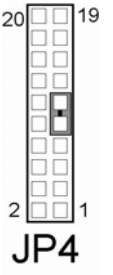
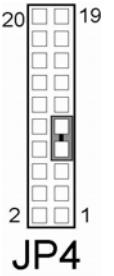
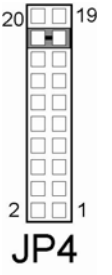


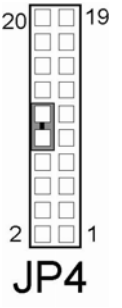
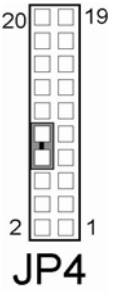
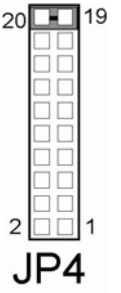
2-7. COM PORT RI & VOLTAGE SELECTION

JP4 : COM Port RI & Voltage Selection
The selections are as follows:

COM	SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
COM1	12V	1-3	
	5V	3-5	
	RI	13-14	

COM2	12V	2-4	
	5V	4-6	
	RI	15-16	

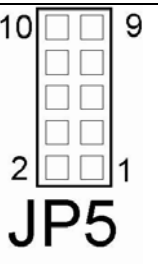
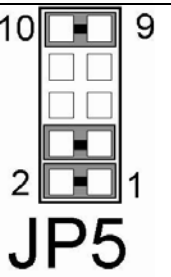
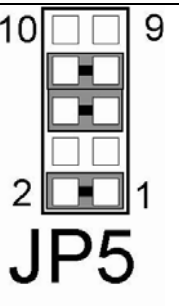
COM	SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
COM3	12V	9-11	
	5V	7-9	
	RI	17-18	

COM4	12V	10-12	
	5V	8-10	
	RI	19-20	

***Manufacturing Default –RI.

2-8. RS232/422/485 (COM2) SELECTION

JP1 : RS-232/422/485 (COM2) Selection
This connector is used to set the COM2 function.
The jumper settings are as follows :

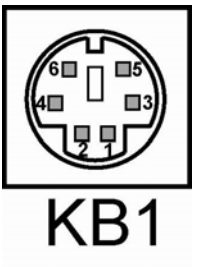
COM 2 Function	Jumper Settings (pin closed)	Jumper Illustrations
RS-232	All Open	
RS-422	1-2, 3-4, 9-10	
RS-485	1-2, 5-6, 7-8	

*** Manufacturing default --- RS-232.

2-9. KEYBOARD CONNECTOR

KB1 : Keyboard Connector
The pin assignments are as follows :

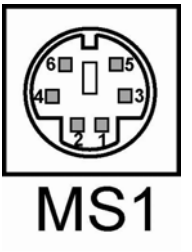
PIN	ASSIGNMENT
1	KBDATA
2	NC
3	GND
4	5VSB
5	KBCLK
6	NC



2-10. MOUSE CONNECTOR

MS1 : Mouse Connector
The pin assignments are as follows :

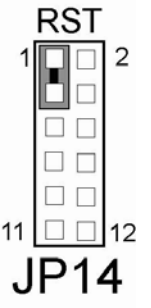
PIN	ASSIGNMENT
1	MSDATA
2	NC
3	GND
4	5VSB
5	MSCLK
6	NC



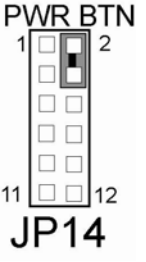
2-11. RESET CONNECTOR

JP14 (1,3) : Reset Connector.
The pin assignment is as follows :

PIN	ASSIGNMENT
1	GND
3	ICH6_SYS_RSTJ



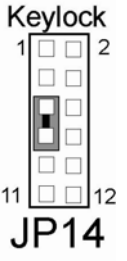
2-12. ATX POWER BUTTON



JP14 (2,4) : ATX Power Button
The pin assignment is as follows :

PIN	ASSIGNMENT
2	LPC1_PWRBTNSWJ
4	GND

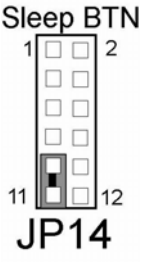
2-13. KEYLOCK CONNECTOR



JP14 (5,7) : Keylock Connector
The pin assignment is as follows:

PIN	ASSIGNMENT
5	LPC1_KEYLOCK
7	GND

2-14. SLEEP BUTTON



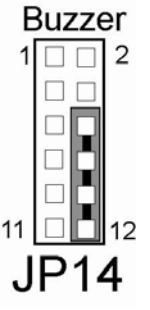
JP14 (9,11) : Sleep Button
The pin assignment is as follows:

PIN	ASSIGNMENT
9	ICH6_SLP_BTNJ
11	GND

2-15. EXTERNAL BUZZER

JP14 (6, 8, 10, 12) : External Buzzer
The pin assignment is as follows :

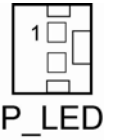
PIN	ASSIGNMENT
6	ICH6_SPK_VCC
8	ICH6_SPK
10	ICH6_SPK
12	ICH6_SPK



2-16. POWER LED CONNECTOR

P_LED : Power LED Connector
The pin assignment is as follows:

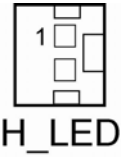
PIN	ASSIGNMENT
1	PLED_P
2	PLED_N



2-17. HARD DISK DRIVE LED CONNECTOR

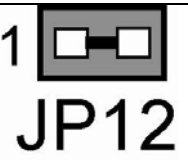
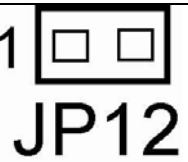
H_LED : Hard Disk Drive LED Connector
The pin assignment is as follows :

PIN	ASSIGNMENT
1	HDD_LED_VCC
2	HDD_LED



2-18. CLEAR CMOS DATA SELECTION

JP12 : Clear CMOS Data Selection
The selections are as follows :

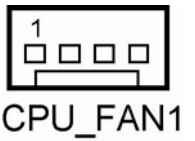
FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
Clear CMOS	1-2	
Normal	Open	

*** Manufacturing Default is set as Normal.

Note: To clear CMOS data, user must power-off the computer and set the jumper to “Clear CMOS” as illustrated above. After five to six seconds, set the jumper back to “Normal” and power-on the computer.

2-19. CPU FAN CONNECTOR

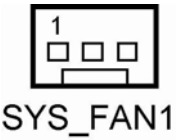
CPUFAN1 : CPU Fan connector
The pin assignment is as follows:



PIN	ASSIGNMENT
1	GND
2	VCC12
3	LPC1_FANIO1
4	LPC1_FANPWM1

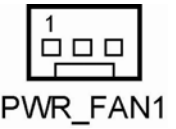
2-20. SYSTEM FAN CONNECTOR

SYS_FAN1 : System Fan connector
The pin assignment is as follows:



PIN	ASSIGNMENT
1	GND
2	VCC12
3	LPC1_FANIO2

PWR_FAN1 : System Fan connector
The pin assignment is as follows:

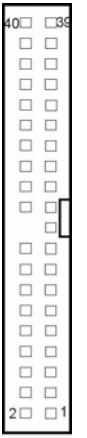


PIN	ASSIGNMENT
1	GND
2	VCC12
3	LPC1_FANIO3

2-21. HARD DISK DRIVE CONNECTOR

IDE1: Hard Disk Drive Connector
The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	IDERST	2	GND
3	PDD7	4	PDD8
5	PDD6	6	PDD9
7	PDD5	8	PDD10
9	PDD4	10	PDD11
11	PDD3	12	PDD12
13	PDD2	14	PDD13
15	PDD1	16	PDD14
17	PDD0	18	PDD15
19	GND	20	NC
21	PDREQ	22	GND
23	PDIOW#	24	GND
25	PDIOR#	26	GND
27	PIORDY	28	PULL LOW
29	PDDACK#	30	GND
31	IRQ14	32	NC
33	PDA1	34	P66 DETECT
35	PDA0	36	PDA2
37	PDCS#1	38	PDCS#3
39	IDEACTP#	40	GND

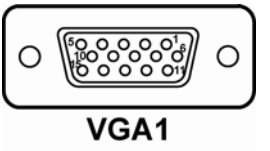


IDE1

2-22. VGA CONNECTOR

VGA1: VGA Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	GMCH_CRTRED
2	GMCH_GRTGREEN
3	GMCH_CRTBLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	GMCH_CRTVCC_L
10	GND
11	NC
12	GMCH_CRTDATA
13	GMCH_HSYNC
14	GMCH_VSYNC
15	GMCH_CRTCLK



2-23. SERIAL ATA CONNECTOR

SATA1, SATA2: The PS-8080 possesses two Serial ATA Connector. The pin assignments are as follows:

SATA1:

PIN	ASSIGNMENT
1	GND
2	SATAHDR_TXP0
3	SATAHDR_TXN0
4	GND
5	SATAHDR_RXN0
6	SATAHDR_RXP0
7	GND

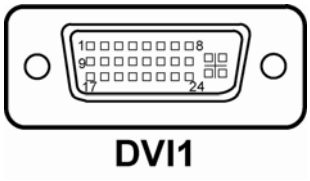
SATA2:

PIN	ASSIGNMENT
1	GND
2	SATAHDR_TXP1
3	SATAHDR_TXN1
4	GND
5	SATAHDR_RXN1
6	SATAHDR_RXP1
7	GND

2-24. DVI CONNECTOR

DVI1 : DVI Connector.
The pin assignments are as follows:

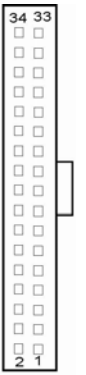
PIN	ASSIGNMENT
1	TDC2J
2	TDC2
3	GND
4	NC
5	NC
6	SC_DDC
7	SD_DDC
8	NC
9	TDC1J
10	TDC1
11	GND
12	NC
13	NC
14	VCC5
15	GND
16	Hot Plug Detect
17	TDC0J
18	TDC0
19	GND
20	NC
21	NC
22	GND
23	TLC
24	TLCJ
G1	GND
G2	GND
G3	NC
G4	NC



2-25. FLOPPY DISK DRIVE CONNECTOR

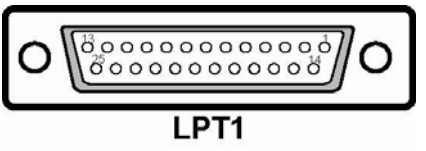
FDD1 : Floppy Disk Drive Connector
You can use a 34-pin daisy-chain cable to connect two-FDDs. On one end of this cable is a 34-pin flat cable to attach the FDD on the board, and the other side is attaches two FDDs.
The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	2	RWC#
3	GND	4	NC
5	GND	6	NC
7	GND	8	INDEX
9	GND	10	MOA#
11	GND	12	DSB#
13	GND	14	DSA#
15	GND	16	MOB#
17	GND	18	DIR#
19	GND	20	STEP#
21	GND	22	WD#
23	GND	24	WE#
25	GND	26	TRK0#
27	GND	28	WP#
29	GND	30	RDATA#
31	GND	32	HEAD#
33	GND	34	DSKCHG



2-26. PRINTER CONNECTOR

LPT1: Printer Connector
As to link the Printer to the card, you need a cable to connect both DB25 connector and parallel port.
The pin assignments are as follows :

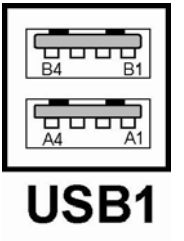


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STB	14	AFD#
2	PDR0	15	ERROR#
3	PDR1	16	PAR_INIT#
4	PDR2	17	SLIN#
5	PDR3	18	GND
6	PDR4	19	GND
7	PDR5	20	GND
8	PDR6	21	GND
9	PDR7	22	GND
10	ACK#	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	NC

2-27. UNIVERSAL SERIAL BUS CONNECTOR

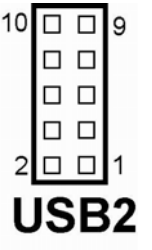
USB1: Universal Serial Bus Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	USB2_VCC5
2	USBN2_L
3	USBP2_L
4	GND
5	USB2_VCC
6	USBN3_L
7	USBP3_L
8	GND



USB2: Universal Serial Bus Connector
The pin assignments are as follows:

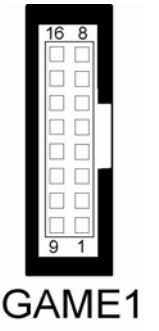
PIN	ASSIGNMENT
1	USB3_VCC5
2	USBN4_L
3	USBP4_L
4	GND
5	NC
6	USB3_VCC5
7	USBN5_L
8	USBP5_L
9	GND
10	NC



2-28. GAME PORT CONNECTOR

GAME1 : GAME Port Connector.
The pin assignments are as follows:

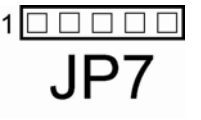
PIN	ASSIGNMENT
1	GMAE-1
2	JOY3
3	GAME-3
4	GND
5	GND
6	GAME-6
7	JOY4
8	GAMEVCC
9	GAME-9
10	JOY7
11	GAME-11
12	GAME-12
13	GAME-13
14	JOY6
15	GAME-15
16	NC



2-29. IRDA CONNECTOR

JP7: IrDA (Infrared) Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	+5V
2	NC
3	IRRX
4	GND
5	IRTX

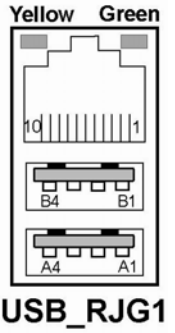


2-30. USB&LAN CONNECTOR

USB_RJG1: USB & LAN Connector
The pin assignments are as follows:

LAN:

PIN	ASSIGNMENT
1	V18_25_LAN2
2	LAN2_1MDI_P0
3	LAN2_1MDI_N0
4	LAN2_1MDI_P1
5	LAN2_1MDI_N1
6	LAN2_1MDI_P2
7	LAN2_1MDI_N2
8	LAN2_1MDI_P3
9	LAN2_1MDI_N3
10	GND
11	LAN2_LILED
12	LAN2_ACTLED
13	LAN2_SPD100
14	LAN2_SPD1000



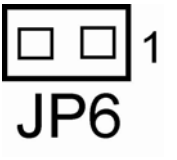
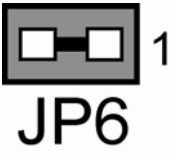
USB_RJG1

USB:

PIN	ASSIGNMENT
A1	USB3_VCC5
A2	USBN0_L
A3	USBP0_L
A4	GND
B1	USB1_VCC5
B2	USBN1_L
B3	USBP1_L
B4	GND

2-31. ONBOARD LAN ENABLE/DISABLE SELECTION

JP6: Onboard LAN Enable/ Disable Selection
The selections are as follows:

SELECTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
Enable	Open	
Disable	1-2	

*** Manufacturing Default: Enable.

2-32. LAN LED CONNECTOR

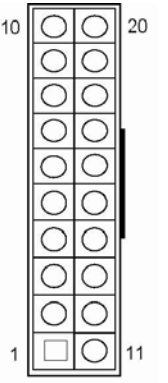
L_LED1: LAN LED Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	LAN2_SPD100
2	LAN2_SPD1000
3	LAN2_LILED
4	LAN2_ACTLED

2-33. ATX POWER CONNECTOR

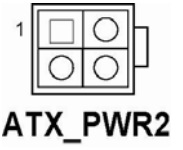
ATX_PW1 : ATX Power Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	+3.3V
2	+3.3V
3	GND
4	+5V
5	GND
6	+5V
7	GND
8	POK
9	5VSB
10	+12V
11	+3.3V
12	-12V
13	GND
14	PSON
15	GND
16	GND
17	GND
18	-5V
19	+5V
20	+5V



ATX_PW2 : ATX 12V Connector
The pin assignments are as follows:

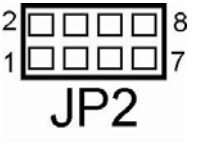
PIN	ASSIGNMENT
1	GND
2	GND
3	VCC12_ATX
4	VCC12_ATX



2-34. SOUND CONNECTOR

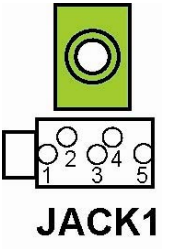
JP2 : Sound Connector. The pin assignments are as follows :

PIN	ASSIGNMENT
1	AC97_MIC1
2	AC97_MIC_VCC_R1
3	GND
4	GND
5	AC97_LINE-L
6	AC97_LINE-R
7	GND
8	GND



JACK1

PIN	ASSIGNMENT
1	GND
2	AC97 OUT-L
3	NC
4	NC
5	AC97 OUT-R



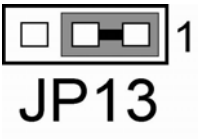
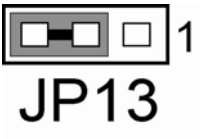
2-35. CD AUDIO-IN CONNECTOR

CD_IN : CD Audio-In Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	CD L
2	CDGND
3	CDGND
4	CD R

2-36. PCI/RISER CARD SELECTION

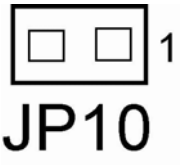
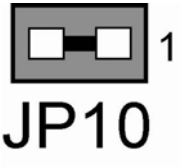
JP13: PCI/ Riser Card Selection
The selections are as follows:

SELECTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
Riser Card	1-2	
PCI	2-3	

*** Manufacturing Default: Riser Card.

2-37. FWH BIOS WRITE PROTECTION SELECTION

JP10: FWH BIOS Write Protection Selection
The selections are as follows:

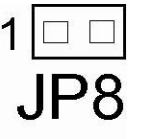
SELECTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
TOP Block Protect	close	
All Blocks Write Enable	open	

*** Manufacturing Default: no jumper.

2-38. CASE OPEN

JP8 : Case Open
The pin assignments are as follows:

PIN	ASSIGNMENT
1	Case Open
2	GND



2-39. MEMORY INSTALLATION

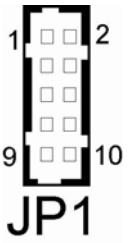
PS-8080 CPU Card can support up to 2GB in four DIMM sockets.
DRAM BANK CONFIGURATION

DIMM 1	DIMM 2	DIMM3	DIMM4	TOTAL MEMORY
128MB	128MB	128MB	128MB	512MB
256MB	256MB	256MB	256MB	1GB
512MB	512MB	512MB	512MB	2GB

2-40. FOR PROX-9757 DAUGHTER BOARD

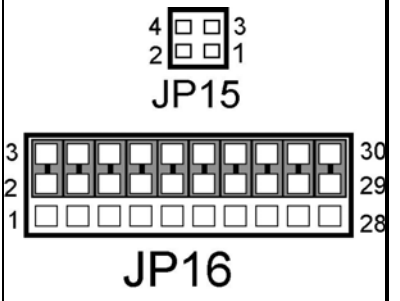
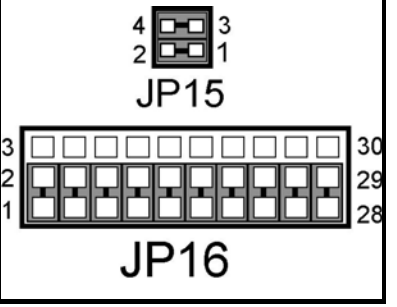
JP1 : For Prox-9757 Daughter Board
The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC12
2	VCC12
3	GND
4	GND
5	AMP-L
6	AMP-R
7	GND
8	GND
9	VCC12
10	VCC12



2-41. PCI EXPRESS / SDVO INTERFACE SELECTION

JP15, JP16 : PCI Express / SDVO Interface Selection
The selections are as follows:

SELECTION	JUMPER SETTING (pin closed)		JUMPER ILLUSTRATION
	JP15	JP16	
PCI Express	open	2-3, 5-6, 8-9, 11-12, 14-15, 17-18, 20-21, 23-24, 26-27, 29-30	
SDVO	1-2, 3-4	1-2, 4-5, 7-8, 10-11, 13-14, 16-17, 19-20, 22-23, 25-26, 28-29	

*** Manufacturing Default: SDVO

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SOFTWARE UTILITIES

CHAPTER

3

This chapter comprises the detailed information of VGA driver, LAN driver, Sound driver, and flash BIOS update. It also describes on how to install the watchdog timer.

Section includes:

- VGA Driver Utility
- Flash BIOS Update
- LAN Driver Utility
- SOUND Driver Utility
- Intel® Chipset Software Installation Utility
- USB2.0 Chipset Software Installation Utility

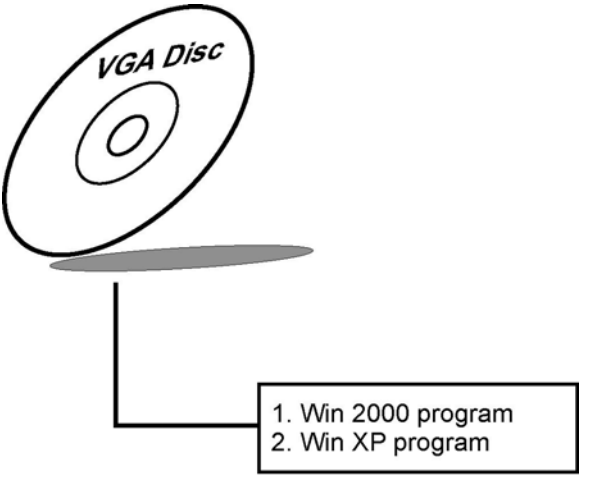
3-1. INTRODUCTION

Enclosed with our PS-8080 package, you will find a CD ROM disk containing all types of drivers we have. As a PS-8080 user, you will only need the some of files contained in the CD ROM disk, please take note of the following chart :

File name (Assume that CD ROM drive is D:)	**Purpose**
D:\VGA\	Intel® 915GM For VGA driver installation
D:\Driver\FLASH	For BIOS update
D:\Driver\LAN	For LAN Driver installation
D:\Driver\Sound\	Realtel ALC202A AC97 For Sound driver installation
D:\Driver\UTILITY	For Intel® Chipset Software Installation Utility For Win 2000, XP
D:\Driver\USB2.0	USB2.0 Software Installation Utility For Win 98SE, 2000, ME, XP

3-2. VGA DRIVER UTILITY

The VGA interface is embedded with our PS-8080 system to support CRT display, Panel Link and TV-Out Encoder. The following illustration briefly shows you the content of VGA driver in D:\VGA\:



3-2-1. Installation of VGA Driver

(1) Start the computer (Win 2000/XP).
(2) Insert the Utility Disk into the CD ROM drive or drive A/B.
(3) Double-click "D:\VGA\WIN9X\SETUP.EXE
(if D is not your CD ROM drive and substitute D with the right drive) in the text entry area and press OK.
(4) Click "Next" on the Welcome screen.
(5) Read the license agreement and click "Yes" to continue.
(6) The driver files will now be installed. When finished, choose the "Yes" to reboot option, and click "Finished" to restart your computer. The driver should now be loaded.

⌛ For more information on VGA driver installation, please refer to the readme.txt found on the sub-directory of the VGA driver utility.

3-3. FLASH BIOS UPDATE

3-3-1. System BIOS Update:

Users of PS-8080 can use the program "Awdflash.exe" contained in CD ROM for BIOS update. This is found in D:\flash\Awdflash.exe.

3-3-2. To update BIOS :

(1) Install "Awdflash.exe" from the CD ROM Disk into your system.
(2) Insert the new BIOS file you have obtained from PS-8080 vendor.
(3) Type the pathname to Awdflash.exe and execute the BIOS update with file b55xxxxx.bin
C:\UTIL\AWDFLASH\AWARDFLASH H50xxxxx.bin
(4) The screen will display the table below:

FLASH MEMORY WRITER v7.xx (C) Award Software 2000 All Rights Reserved
For i845-ITE8712-6A69RP69C-0 DATE : 05/06/01 Flash Type - SST 49LF004A /3.3V File Name to Program : B55xxxxx.bin Checksum : XXXXX
Error Message : Do You Want To Save BIOS (Y/N)

If you want to save up the original BIOS, enter “Y ”and press < Enter > .
If you choose “N”, the following table will appear on screen.

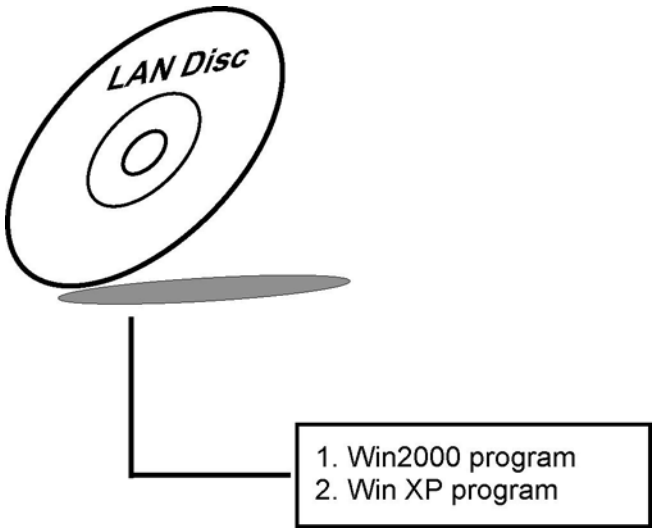
FLASH MEMORY WRITER v7.xx (C) Award Software 2000 All Rights Reserved
For i845-ITE8712-6A69RP69C-0 DATE : 05/06/01 Flash Type - SSL 49LF004A /3.3V File Name to Program : H50xxxxx.bin Checksum : XXXXX
Error Message : Are You Sure To Program (Y/N)

Select “Y”, and the BIOS will be renewed. When you are refreshing your BIOS, do not turn off or reset the system, or you will damage the BIOS. After you have completed all the programming, you will see the line: “Reset System or power off to accomplish update process!”. Please turn off or reset the system. Then the Flash BIOS is fully implemented.

3-4. LAN DRIVER UTILITY

3-4-1. Introduction

The PS-8080 Mainboard is enhanced with LAN function that can support various network adapters. The content of the LAN driver is found as follows :



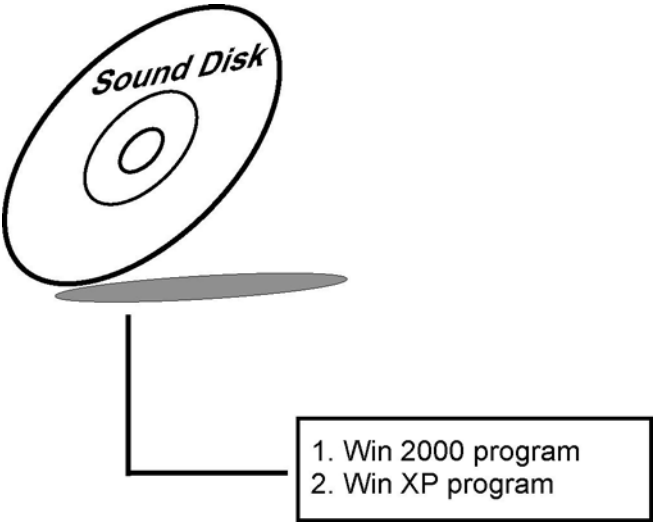
3-4-2. Installation Procedure for Windows 2000/XP

(1) Insert the LAN Driver disk into Drive A or CD ROM drive.
(2) In the "My computer", select the "Control Panel" icon.
(3) In the "Control Panel" windows, select the "System" icon.
(4) The "System Properties" window will appear, select the "Device Manager" and look for the "Network Adapter – PCI Fast Ethernet Adapter".
(5) Click "Properties" and then "PCI Fast Ethernet Adapter Properties", choose the "Driver" icon.
(6) Click "Update Driver" icon, and follow the remaining instruction.

3-5. SOUND DRIVER UTILITY

3-5-1. Introduction

The ALC202A sound function enhanced in this system is fully compatible with Windows 98, Windows NT 4.0, Windows 2000 and Windows XP. Below, you will find the content of the Sound driver :



3-5-2. Installation Procedure for Windows2000/XP

(1) From the task bar, click on Start, and then Run.
(2) In the Run dialog box, type D:\Driver\Sound\path\setup, where "D:\Driver\Sound\path" refers to the full path to the source files.
(3) Click on the OK button or press the ENTER key.
(4) Click on the "Next" and OK prompts as they appear.
(5) Reboot the system to complete the driver installation.

3-6. INTEL® CHIPSET SOFTWARE INSTALLATION UTILITY

3-6-1. Introduction

The Intel® Chipset Software Installation Utility installs to the target system the Windows* INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

- Core PCI and ISAPNP Services
- AGP Support
- IDE/ATA33/ATA66/ATA100 Storage Support
- USB Support
- Identification of Intel® Chipset Components in Device Manager

3-6-2. Installation of Utility for Windows 2000/XP

The Utility Pack is to be installed only for Windows 2000 and XP program.
It should be installed right after the OS installation, kindly follow the following steps:

1. Place insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
2. Under Windows 2000/XP system, go to the directory where Utility Disc is located.
3. Click **Setup.exe** file for utility installation.
4. Follow the instructions on the screen to complete the installation.
5. Once installation is completed, shut down the system and restart in order for the changes to take effect.

3-7. USB2.0 SOFTWARE INSTALLATION UTILITY

3-7-1. Installation of Utility for Windows 98SE/ 2000/XP

Intel USB 2.0 Enhanced Host Controller driver can only be used on Windows 98SE, Windows 2000 and Windows XP on Intel Desktop boards. It should be installed right after the OS installation, kindly follow the following steps:

1. Place insert the Utility Disk into Floppy Disk Drive A/B or CD ROM drive.
2. Under Windows 98SE, 2000, and XP system, go to the directory where Utility Disc is located.
3. Start the "System" wizard in control panel. (Click Start/Settings/Control Panel).
4. Select "Hardware" and click "Device Manager " button.
5. Double Click "USB Root Hub".
6. Select "Driver".
7. Click "Install" to install the driver.
8. Follow the instructions on the screen to complete the installation.
9. Click "Finish" after the driver installation is complete.

AWARD BIOS SETUP

CHAPTER

4

This chapter shows how to set up the Award BIOS.

Section includes:

- Introduction
- Entering Setup
- The Standard CMOS Features
- The Advanced BIOS Features
- The Advanced Chipset Features
- Integrated Peripherals
- Power Management Setup
- PNP/PCI Configuration
- PC Health Status
- Frequency/Voltage Control
- Load Fail-Safe Defaults
- Password Setting
- Save and Exit Setup

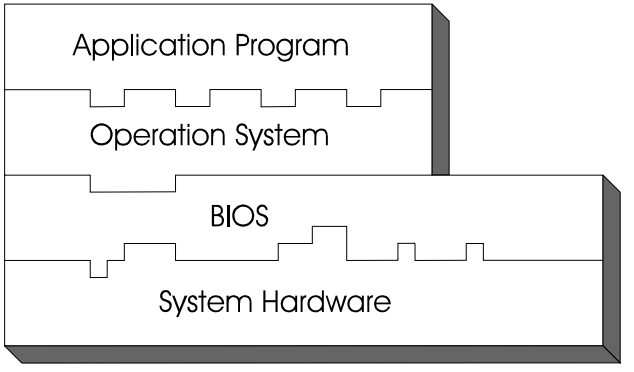
4-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The PS-8080 Book Size PC is equipped with the BIOS for system chipset from Award Software Inc. This page briefly explains the function of the BIOS in managing the special features of your system. The following pages describe how to use the BIOS for system chipset Setup menu.

Your application programs (such as word processing, spreadsheets, and games) rely on an operating system such as DOS or OS/2 to manage such things as keyboard, monitor, disk drives, and memory.

The operating system relies on the BIOS (Basic Input and Output system), a program stored on a ROM (Read-only Memory) chip, to initialize and configure your computer's hardware. As the interface between the hardware and the operating system, the BIOS enables you to make basic changes to your system's hardware without having to write a new operating system.

The following diagram illustrates the interlocking relationships between the system hardware, BIOS, operating system, and application program:



4-2. ENTERING SETUP

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines and the following message will appear on the lower screen:

PRESS <DEL> TO ENTER SETUP, ESC TO SKIP MEMORY TEST

As long as this message is present on the screen you may press the <Del> key (the one that shares the decimal point at the bottom of the number keypad) to access the Setup program. In a moment, the main menu of the Award Setup Program will appear on the screen:

Phoenix – AwardBIOS CMOS Setup Utility

►Standard CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Defaults
►Advanced Chipset Features	Load Optimized Defaults
►Integrated Peripherals	Set Supervisor Password
►Power Management Setup	Set User Password
►PnP/PCI Configurations	Save & Exit Setup
►PC Health Status	Exit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑↓→← : Select Item
Change CPU's Clock & Voltage	

Setup program initial screen

You may use the cursor the up/down keys to highlight the individual menu items. As you highlight each item, a brief description of the highlighted selection will appear at the bottom of the screen.

4-3. THE STANDARD CMOS FEATURES

Highlight the "STANDARD CMOS FEATURES" and press the <ENTER> key and the screen will display the following table:

Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date (mm:dd:yy)	Wed, Oct 26 2005	Item Help
Time (hh:mm:ss)	11 : 16 : 6	
► IDE Primary Master	[ST3200014A]	Menu Level ►
► IDE Primary Slave	[None]	
► IDE Secondary Master	[None]	
► IDE Secondary Slave	[None]	Change the day, month, year and century
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	1039360K	
Total Memory	1040384K	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Standard CMOS Setup Screen

In the above Setup Menu, use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item. Note that as you highlight each item, the description of the selected item is found on the right side of the screen.

Date:

< Month >, < Date > and <Year >. Ranges for each value are in the CMOS Setup Screen, and the week-day will be skipped automatically.

Time:

< Hour >, < Minute >, and < Second >. Use 24 hour clock format, i.e., for PM numbers, add 12 to the hour. For example: 4: 30 P.M. You should enter the time as 16:30:00.

IDE Primary Master / Slave:
IDE Secondary Master / Slave:

The BIOS can automatically detect the specifications and optimal operating mode of almost all IDE hard drives. When you select type AUTO for a hard drive, the BIOS detect its specifications during POST, every time system boots.

If you do not want to select drive type AUTO, other methods of selecting drive type are available:

1. Match the specifications of your installed IDE hard drive(s) with the preprogrammed values for hard drive types 1 through 45.
2. Select USER and enter values into each drive parameter field.
3. Use the IDE HDD AUTO DETECTION function in Setup.

Here is a brief explanation of drive specifications:

- Type: The BIOS contains a table of pre-defined drive types. Each defined drive type has a specified number of cylinders, number of heads, write precompensation factor, landing zone, and number of sectors. Drives whose specifications do not accommodate any predefine type are classified as type USER.
- Size: Disk drive capacity (approximate). Note that this size is usually greater than the size of a formatted disk given by a disk-checking program.
- Cyls: number of cylinders.
- Head: number of heads.
- Precomp: write precompensation cylinders.
- Landz: landing zone.
- Sector: number of sectors.
- Mode: Auto, Normal, Large or LBA.
- Auto: The BIOS automatically determines the optimal mode.
  - Normal: Maximum number of cylinders, heads, sectors supported are 1024, 16 and 63.
  - Large: For drives that do not support LBA and have more than 1024 cylinders.

- LBA (Logical Block Addressing): During drive accesses, the IDE controller transforms the data address described by sector, head and cylinder number into a physical block address, significantly improving data transfer rates. For drives greater than 1024 cylinders.

DRIVE A AND DRIVE B:

Select the type of floppy disk drive installed in your system. The available options are 360KB 5.25in, 1.2KB 5.25in, 720KB 3.5in, 1.44MB 3.5in, 2.88MB 3.5in and None.

VIDEO:

This category selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type in Setup. Available Options are Mono, Color 40, VGA/EGA, and Color 80.

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode.
CGA 80	Color Graphics Adapter, power up in 80 column mode.
MONO	Monochrome adapter, includes high resolution monochrome adapters.

HALT ON:

This category allows user to choose whether the computer will stop if an error is detected during power up. Available options are “All errors”, “No errors”, “All, But keyboard”, “All, But Diskette”, and “All But Disk/Key”.

BASE MEMORY:

Displays the amount of conventional memory detected during boot up.

EXTENDED MEMORY:

Displays the amount of extended memory detected during boot up.

TOTAL MEMORY:

Displays the total memory available in the system.

HARD DISK ATTRIBUTES:

Type	Cylinders	Heads	V-P comp	LZone	Sect	Capacity
1	306	4	128	305	17	10
2	615	4	300	615	17	20
3	615	6	300	615	17	30
4	940	8	512	940	17	62
5	940	6	512	940	17	46
6	615	4	65535	615	17	20
7	642	8	256	511	17	30
8	733	5	65535	733	17	30
9	900	15	65535	901	17	112
10	820	3	65535	820	17	20
11	855	5	65535	855	17	35
12	855	7	65535	855	17	49
13	306	8	128	319	17	20
14	733	7	65535	733	17	42
15	000	0	0000	000	00	00
16	612	4	0000	663	17	20
17	977	5	300	977	17	40
18	977	7	65535	977	17	56
19	1024	7	512	1023	17	59
20	733	5	300	732	17	30
21	733	7	300	732	17	42
22	733	5	300	733	17	30
23	306	4	0000	336	17	10
24	977	5	65535	976	17	40
25	1024	9	65535	1023	17	76
26	1224	7	65535	1223	17	71
27	1224	11	65535	1223	17	111
28	1224	15	65535	1223	17	152
29	1024	8	65535	1023	17	68
30	1024	11	65535	1023	17	93
31	918	11	65535	1023	17	83
32	925	9	65535	926	17	69
33	1024	10	65535	1023	17	85
34	1024	12	65535	1023	17	102
35	1024	13	65535	1023	17	110
36	1024	14	65535	1023	17	119
37	1024	2	65535	1023	17	17
38	1024	16	65535	1023	17	136
39	918	15	65535	1023	17	114
40	820	6	65535	820	17	40
41	1024	5	65535	1023	17	42
42	1024	5	65535	1023	26	65
43	809	6	65535	852	17	40
44	809	6	65535	852	26	61
45	776	8	65335	775	33	100
47			AUTO			

Award Hard Disk Type Table

4-4. THE ADVANCED BIOS FEATURES

Choose the "ADVANCED BIOS FEATURES" in the main menu, the screen shown as below.

Phoenix – AwardBIOS CMOS Setup Utility
Advanced BIOS Features

▶ CPU Feature	[Press Enter]	Item Help
▶ Hard Disk Boot Priority	[Press Enter]	Menu Level ►
Virus Warning	[Disabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep
Second Boot Device	[Hard Disk]	
Third Boot Device	[LS120]	
Boot Other Device	[Enabled]	
Boot Up Floppy Seek	[Enabled]	
Boot Up NumLock Status	[On]	
Typematic Rate Setting	[Disabled]	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	[Setup]	
APIC Mode	[Enabled]	
Small Logo (EPA) Show	[Disabled]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Advanced BIOS Features Setup Screen

The "ADVANCED BIOS FEATURES SETUP" allow you to configure your system for basic operation. The user can select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

A brief introduction of each setting in the BIOS FEATURES SETUP program is given below.

CPU FEATURE :

You could expand the whole menu by pressing <ENTER>, and you will see a screen like the one listed below.

Phoenix – AwardBIOS CMOS Setup Utility
CPU Feature

Delay Prior to Thermal	[16 Min]	Item Help
Thermal Management	[Thermal Monitor 1]	
X TM2 Bus Ratio	14 X	Menu Level ►►
X TM2 Bus VID	1.308V	
Execute Disable Bit	[Enabled]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Table 1 – CPU Feature sub menu

Descriptions of each item in the above chart are listed below:

1. Delay Prior to Thermal
   The Delay Prior To Thermal BIOS feature controls the activation of the Thermal Monitor's automatic mode. It allows you to determine when the Pentium-M's Thermal Monitor should be activated in automatic mode after the system boots.

2. Thermal Management
   The used Thermal Monitor.

HARD DISK BOOT PRIORITY:

You could expand the whole menu by pressing <ENTER>, and you will see a screen like the one listed below.

Phoenix – AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority

1. CH 0 M. : ST320014A 2. Bootable Add-in Cards	Item Help Menu Level ►► Use <↑> or <↓> to select a device ,then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults	

Table 2 – Hard Disk Boot Priority sub menu

Descriptions of each item in the above chart are listed below:

1. CH 0M.:

2. Bootable Add-in Cards

VIRUS WARNING :

This item allows you to choose the Virus Warning feature for IDE Hard Disk boot sector protection. When this function is enabled, the BIOS will supervise the boot sector and partition table of the hard disk drive for any attempt for modification.

QUICK POWER ON SELF TEST:

This item allows you to speed up Power On Self Test (POST) after power-up the computer. When enabled, the BIOS will shorten or skip some check items during POST.

FIRST/SECOND/THIRD/OTHER BOOT DEVICE:

The BIOS load the operating system in a sequence selected by these items.

BOOT UP FLOPPY SEEK:

You may enable / disable this item to define whether the system will look for a floppy disk drive to boot at power-on, or proceed directly to the hard disk drive.

BOOT UP NUMLOCK STATUS:

Select power on state for NumLock.

TYPEMATIC RATE SETTING:

Enable this item if you wish to be able to configure the characteristics of your keyboard. Typematic refers to the way in which characters are entered repeatedly if a key is held down. For example, if you press and hold down the "A" key, the letter "a" will repeatedly appear on your screen on your screen until you release the key. When enabled, the typematic rate and typematic delay can be selected.

TYPEMATIC RATE (CHARS/SEC):

This item sets the number of times a second to repeat a key stroke when you hold the key down. The choices are 6, 8, 10, 12, 15, 20, 24, and 30.

TYPEMATIC DELAY (MSEC):

The item sets the delay time after the key is held down before it begins to repeat the keystroke. The choices are 250, 500, 750, and 1000.

SECURITY OPTION:

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

🔔 To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

APIC MODE :

Advanced Programmable Interrupt Controller Mode.

SMALL LOGO (EPA) SHOW :

Energy Star Logo shows in screen.

4-5. ADVANCED CHIPSET FEATURES

Choose the "ADVANCED CHIPSET FEATURES" from the main menu, the screen shown as below.

Phoenix – AwardBIOS CMOS Setup Utility
Advanced Chipset Features

DRAM Timing Selectable	[By SPD]	Item Help
X CAS Latency Time	3	
X DRAM RAS# to CAS# Delay	3	Menu Level ►
X DRAM RAS# Precharge	3	
X Precharge dealy (tRAS)	9	
X System Memory Frequency	400 MHz	
System BIOS Cacheable	[Enabled]	
Video BIOS Cacheale	[Disabled]	
** VGA Setting **		
PEG/ Onchip VGA Control	[Auto]	
On-Chip Frame Buffer Size	[8MB]	
DVMT Mode	[DVMT]	
DVMT/FIXED Memory Size	[128MB]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Advanced Chipset Features Setup

The parameters in this setup screen are for system designers, service personnel, and technically competent users only. Do not reset these values unless you understand the consequences of your changes.

DRAM TIMING SELECTABLE:

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

CAS LATENCY TIME:

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

DRAM RAS# TO CAS# DELAY:

This field let's you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

DRAM RAS# PRECHARGE:

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

PRECHARGE DEALY (tRAS) :

Precharge Delay This setting controls the precharge delay, which determines
the timing delay for DRAM precharge

SYSTEM MEMORY FREQUENCY:

Front Side Bus Frequency.

SYSTEM BIOS CACHEABLE:

This item allows you to enable caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

VIDEO BIOS CACHEABLE:

This item allows you to enable caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

PEG/ ONCHIP VGA CONTROL:

PCI-Express Graphics / On-Chip VGA Select

ON-CHIP FRAME BUFFER SIZE:

On-Chip VGA Frame Buffer Memory Size Select

DVMT MODE:

Intel Dynamic Video Memory Technology Mode.

DVMT/ FIXED MEMORY SIZE :

DVMT Memory Size Select

4-6. INTEGRATED PERIPHERALS

Choose〝INTEGRATED PERIPHERALS〞from the main setup menu, and you will see a screen like the one listed below.

Phoenix – AwardBIOS CMOS Setup Utility Integrated Peripherals		
►OnChip IDE Device	[Press Enter]	Item Help
►Onboard Device	[Press Enter]	
►SuperIO Device	[Press Enter]	Menu Level ►
Onboard Serial Port 3	[3E8/ IRQ10]	
Onboard Serial Port 4	[2E8 / IRQ11]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Integrated Peripherals Setup Screen

By moving the cursor to the desired selection and by pressing the <F1> key, the all options for the desired selection will be displayed for choice.

If bios setup menu item supports USB device boot, it will cause Win9x detects the same storages twice when the system is rebooted, and USB HDD will fail. Note: this cause just happen under Win9x, the phenomenon is a limitation.

ONCHIP IDE DEVICE:

You could expand the whole menu by pressing <ENTER>, and you will see a screen like the one listed below.

Phoenix – AwardBIOS CMOS Setup Utility
OnChip IDE Device

IDE HDD Block Mode	[Enabled]	Item Help
IDE DMA transfer access	[Enabled]	
On-Chip Primary PCI IDE	[Enabled]	Menu Level ►►
IDE Primary Master PIO	[Auto]	
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	
IDE Primary Slave UDMA	[Auto]	
On-Chip Secondary PCI IDE	[Enabled]	
IDE Secondary Master PIO	[Auto]	
IDE Secondary Slave PIO	[Auto]	
IDE Secondary Master UDMA	[Auto]	
IDE Secondary Slave UDMA	[Auto]	
*** On-Chip Serial ATA Setting ***		
On-Chip Serial ATA	[Auto]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Table 1 – VIA On-Chip IDE Device sub menu

Descriptions of each item in the above chart are listed below:

1. IDE HDD Block Mode
   Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support
2. IDE DMA Transfer Access
3. On-Chip Primary PCI IDE
   The integrated peripheral controller contains an IDE interface which supports two IDE channels. Select Enabled to activate each channel separately.

4. IDE Primary Master/Slave PIO
   IDE Secondary Master/Slave PIO
   The four IDE PIO fields allow you to set up PIO mode for each IDE devices supported by the onboard IDE interface. Greater value will provide better performance. Auto mode will determine the best mode for each device automatically.

5. IDE Primary Master/Slave UDMA
   IDE Secondary Master/Slave UDMA
   To support Ultra DMA, both of the following items must be supported.
   a. Your IDE hard drive must support Ultra DMA.
   b. DMA driver must be included in your OS. (Windows 95 must have OSR2 or a third-party IDE bus master driver)
   If your system supports both of the above items, then please select Auto and the system will support it automatically.

6. On-Chip Secondary PCI IDE
   Enable the secondary IDE channel

7. On-Chip Serial ATA

ONBOARD DEVICE:

You could expand the whole items by pressing <ENTER>, and you will see a screen like the one listed below:

Phoenix – AwardBIOS CMOS Setup Utility
Onboard Device

USB Controller	[Enabled]	Item Help
USB 2.0 Controller	[Enabled]	
USB Keyboard Support	[Disabled]	Menu Level ►►
AC97 Audio	[Enabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Table 2 –Onboard Device sub menu

Descriptions of each item above are listed below:

1. USB Controller
   This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature

2. USB 2.0 Support
   Enable the USB 2.0 controller
3. USB Keyboard Support
   Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.
4. AC97 Audio
   This item allows you to enable or disable the support of AC7 Audio.

SUPER IO DEVICE:

You could expand the whole menu by pressing <ENTER>, and you will see a screen like the one listed below:

Phoenix – Award CMOS Setup Utility
SuperIO Device

POWER ON Function	[Any KEY]	Item Help
X KB Power ON Password	Enter	
X Hot Key Power ON	Ctrl – F1	
Onboard FDC Controller	[Enabled]	Menu Level ►
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[Normal]	
X UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
X ECP Mode Use DMA	3	
PWRON After PWR-Fail	[On]	
Game Port Address	[201]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Table 3 – SuperIO Device sub menu

Descriptions of each item above are listed below:

1. Power On Function
   Support power on by Keyboard or Mouse
2. KB Power On Password
   Set Power on by Keyboard Password
3. Hot Key Power On
   Set Power On Hot Key
4. Onboard FDC Controller
   Select Enabled if the system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled.
5. Onboard Serial Port 1/2
   Select an address and corresponding interrupt for the first and second serial ports
6. UART Mode Select
   This item allows you to select UART mode
7. UR2 Duplex Mode
   This item allows you to select the IR half/full duplex function
8. Onboard Parallel Port
   This item allows you to determine access onboard parallel port controller with which I/O address.
9. Parallel Port Mode
   Select an operating mode for the onboard parallel (printer) port. Select *Normal, Compatible,* or *SPP* unless you are certain your hardware and software both support one of the other available modes.
10. ECP Mode Use DMA
    Select a DMA channel for the parallel port for use during ECP mode
11. PWRON After PWR-Fail
    This item allows you to select if you want to power on the system after power failure. The choice: Off, On, Former-Sts
12. Game Port Address
    This item allows you to select the Game Port I/O Address or to disable

ONBOARD SERIAL PORT 3
ONBOARD SERIAL PORT 4:

Select a logical COM port name and matching address for the third and forth serial ports. Select an address and corresponding interrupt for third and forth serial port.

4-7. POWER MANAGEMENT SETUP

Choose "POWER MANAGEMENT SETUP" option on the main menu, a display will be shown on screen as below :

Phoenix – AwardBIOS CMOS Setup Utility
Power Management Setup

ACPI Function	[Enabled]	Item Help
ACPI Suspend Type	[S1 (POS)]	Menu Level ►
X Run VGABIOS if S3 Resume	Auto	
Power Management	[User Define]	
Soft-Off by PWR-BTTN	[Instant-Off]	
Wake-Up by PCI card	[Enabled]	
Power On by Ring	[Enabled]	
Resume by Alarm	[Disabled]	
X Date (of Month) Alarm	0	
X Time (hh:mm:ss) Alarm	0 : 0: 0	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Power Management Setup Screen

The "Power Management Setup" allows the user to configure the system to the most effectively save energy while operating in a manner consistent with your own style of computer use.

ACPI FUNCTION:

Users are allowed to enable or disable the Advanced Configuration and Power Management (ACPI).

ACPI SUSPEND TYPE:

This item allows you to select the sleep-type in Windows stand-by mode.

RUN VGABIOS IF S3 RESUME:

Select whether to run VGA BIOS if resumed from S3 state

POWER MANAGEMENT:

This item allows the user to select the type or degree of power saving and is directly related to the following modes:

a. HDD Power Down

b. Suspend Mode

SOFT-OFF BY PWR-BTTN:

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung".

WAKE-UP BY PCI CARD:

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from the soft-off state.

POWER ON BY RING:

This category enables or disables the powering up of the system when the modem receives a call while the computer is in Soft-Off state.

RESUME BY ALARM:

When enabled, you can set the date and time at which the RTC alarm awakens the system from Suspend mode.

4-8. PNP/PCI CONFIGURATION

Choose "PNP/PCI CONFIGURATION" from the main menu, a display will be shown on screen as below:

Phoenix – AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

Init Display First	[PCI Slot]	Item Help
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto (ESCD)	Menu Level ►
X IRQ Resources	Press Enter	
XX PCI Express relative items **		
Maximum Payload Size	[4096]	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

PNP/PCI CONFIGURATION

This section describes how to configure PCI bus system. PCI, also known as Personal Computer Interconnect, is a system, which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers technical items, which is strongly recommended for experienced users only.

INIT DISPLAY FIRST:

To select the first display output

RESET CONFIGURATION DATA:

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system configuration has caused such a serious conflict that the operating system can not boot.

RESOURCE CONTROLLED BY:

The Award Plug and Play Bios can automatically configure all of the booth and Plug and Play-compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system

such as Windows 95. By choosing "manual", you are allowed to configure the *IRQ Resources*, *DMA Resources* and *Memory Resources*. The choices are Auto(ESCD) and Manual.

IRQ RESOURCES:

You may assign each system interrupt a type, depending on the type of device using the interrupt.

MAXIMUM PAYLOAD SIZE:

Set maximum TLP payload size for the PCI Express devices. The unit is byte.

4-9. PC HEALTH STATUS

Choose "PC HEALTH STATUS" from the main menu, a display will be shown on screen as below:

Phoenix – AwardBIOS CMOS Setup Utility
PC Health Status

Shutdown Temperature	[Disabled]	Item Help
Vcore	1.26V	
Vddr2	1.82V	Menu Level ►
+3.3 V	3.36V	
+ 5 V	5.05V	
+12V	12.09V	
+1.5V	1.48V	
Voltage Battery	3.26V	
Current System Temperature	31℃	
Current CPU Temperature	29℃	
Fan 1 Speed	0 RPM	
Fan 2 Speed	4963 RPM	
Fan 3 Speed	4963 RPM	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

PC Health Status Setup Screen

SHUTDOWN TEMPERATURE:

User is allowed to set the temperature on which the system automatically shutdown when reaches or exceeds the temperature set.

VCORE:
This item shows you the current system voltage.

+3.3V / +5V / +12V / 1.5V / VDDR2:
Show you the voltage of 3.3V/+5V/+12V/+1.5V/Vddr2.

CURRENT CPU TEMPERATURE:
This item displays the current CPU temperature.

FAN 1/2/3 SPEED:
This item shows you the current System FAN speed

4-10. FREQUENCY/VOLTAGE CONTROL

Choose "FREQUENCY/VOLTAGE CONTROL" from the main menu, a display will be shown on screen as below:

Phoenix – AwardBIOS CMOS Setup Utility
Frequency/Voltage Control

Auto Detect PCI Clk	[Enabled]	Item Help
Spread Spectrum	[Enabled]	Menu Level ►

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Frequency / Voltage Control Setup Screen

AUTO DETECT DIMM/PCI CLK:
This item allows you to enable or disable auto detect DIMM/PCI Clock.

SPREAD SPECTRUM:
This item allows you to enable or disable the spread spectrum modulate.

4-11. LOAD FAIL-SAFE DEFAULTS

By pressing the <ENTER> key on this item, you get a confirmation dialog box with a message similar to the following:

```
Load Fail-Safe Defaults ( Y/N ) ? N
```

To use the BIOS default values, change the prompt to "Y" and press the <Enter > key. CMOS is loaded automatically when you power up the system.

4-12. LOAD OPTIMIZED DEFAULTS

When you press <Enter> on this category, you get a confirmation dialog box with a message similar to the following:

```
Load Optimized Defaults ( Y/N ) ? N
```

Pressing "Y" loads the default values that are factory setting for optimal performance system operations.

4-13. PASSWORD SETTING

User is allowed to set either supervisor or user password, or both of them. The difference is that the supervisor password can enter and change the options of the setup menus while the user password can enter only but do not have the authority to change the options of the setup menus.

TO SET A PASSWORD

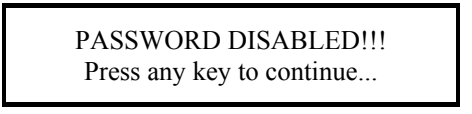
When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password up to eight characters in length, and press < Enter >. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press the < Enter > key. You may also press < Esc > to abort the selection and not enter a password.

🔔 User should bear in mind that when a password is set, you will be asked to enter the password everything you enter CMOS setup Menu.

TO DISABLE THE PASSWORD

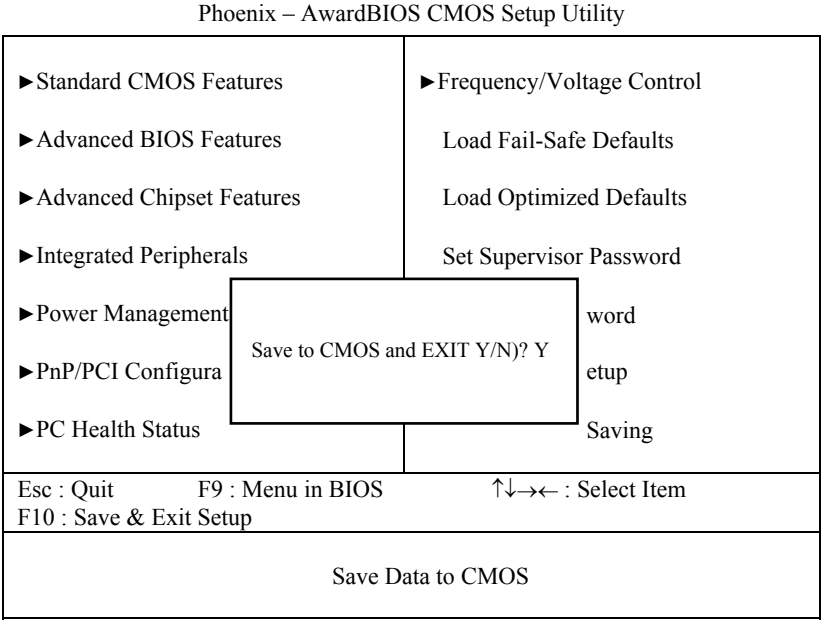
To disable the password, select this function (do not enter any key when you are prompt to enter a password), and press the <Enter> key and a message will appear at the center of the screen:



Press the < Enter > key again and the password will be disabled. Once the password is disabled, you can enter Setup freely.

4-14. SAVE & EXIT SETUP

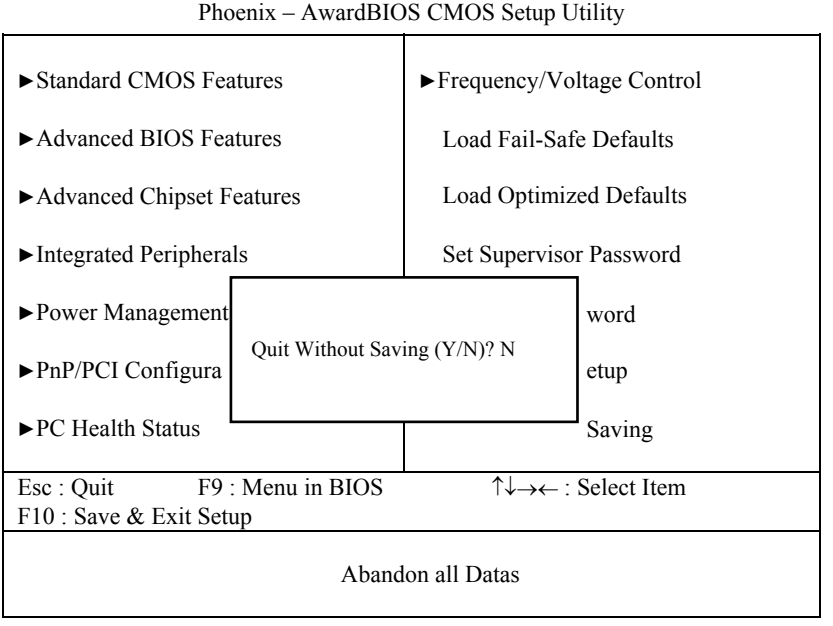
After you have completed adjusting all the settings as required, you must remember to save these setting into the CMOS RAM. To save the settings, select "SAVE & EXIT SETUP" and press <Enter>, a display will be shown as follows:



When you confirm that you wish to save the settings, your system will be automatically restarted and the changes you have made will be implemented. You may always call up the setup program at any time to adjust any of the individual items by pressing the <Del> key during boot up.

4-14. EXIT WITHOUT SAVING

If you wish to cancel any changes you have made, you may select the "EXIT WITHOUT SAVING" and the original setting stored in the CMOS will be retained. The screen will be shown as below:



SYSTEM ASSEMBLY

APPENDIX

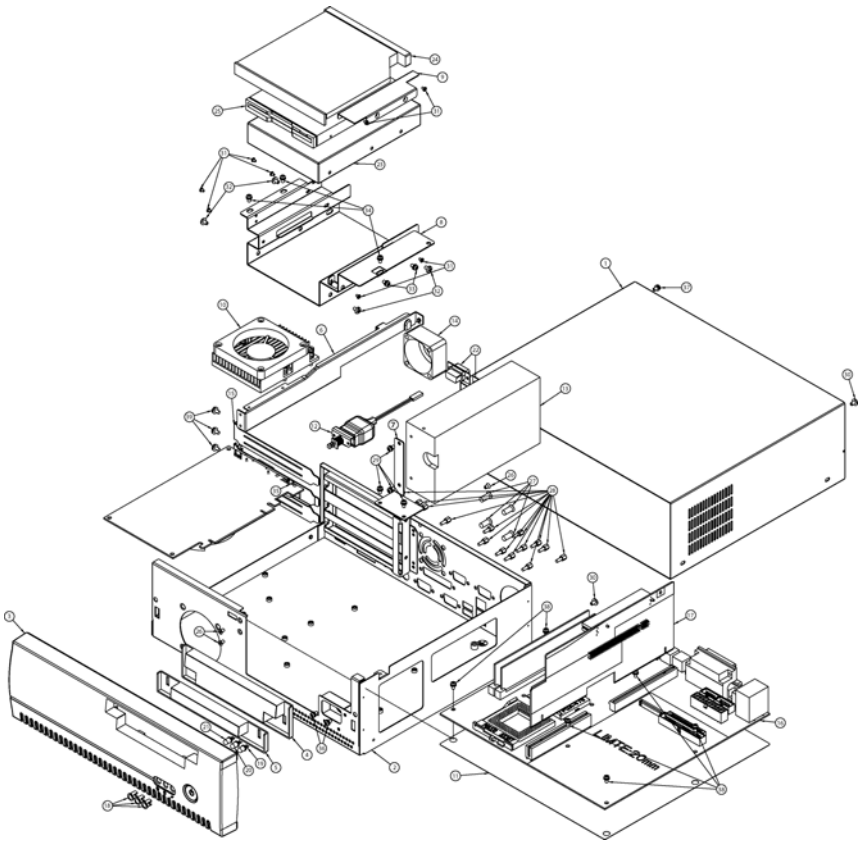
A

This appendix contain exploded diagram of the system.

Section includes:

- Exploded Diagram for Whole System Unit

EXPLODED DIAGRAM FOR WHOLE SYSTEM UNIT



No.	Part Name	Q'TY
1	PDS-8080-TOP_CASE_AG1	1
2	PS-8080-CHASSIS-TYPE_C	1
3	FRONT_PANEL-TYPE_C(w/ Button)	1
4	FRONT_PANEL_CD_FDD_LID	1
5	FRONT_PANEL_FDD_LID	1
6	8000_UPFA_STD	1
7	POWER_HOLDER	1
8	CD_FDD_HDD_HOLDER(new)	1
9	SLIM_CD-ROM_HOLDER	1
10	CPU_HEATS_MODULE	1
11	MAIN_PCB_FOR_MYLAR	1
12	POWER_SWITCH_CODE	1
13	POWER SUPPLY	1
14	SYSTEM FAN(rear)	1
15	INTERFACE	3
16	M/B	1
17	RISER CARD	1
18	LED HOUSING	3
19	LAN LED CABLE	1
20	HDD LED CABLE	1
21	POWER LED CABLE	1
22	COM3 & COM4	2
23	3.5" HDD	1
24	SLIM_CD-ROM	1
25	SLIM_FDD	1
26	SCREW	3
27	FAN SCREW	12
28	I/O PORT pillor	14
29	SCREW(QSTUD-3-0.5-6-SP-W)	4
30	SCRWE(QSTUD-3)	2
31	SCRWE	8
32	SCRWE(QSTUD-3)	4
33	SCREW(QSTUD-3-0.5-6-SP-W)	2
34	SCREW(QSTUD-3-0.5-6-SP-W)	3
35	SCREW(QSTUD-3-0.5-6-SP-W)	1
36	SCREW(QSTUD-3-0.5-6-SP-W)	2
37	SCREW(QSTUD-3-0.5-6-SP-W)	1
38	SCREW(QSTUD-3-0.5-6-SP-W)	6
39	SCREW(QSTUD-G)	3

TECHNICAL SUMMARY

APPENDIX

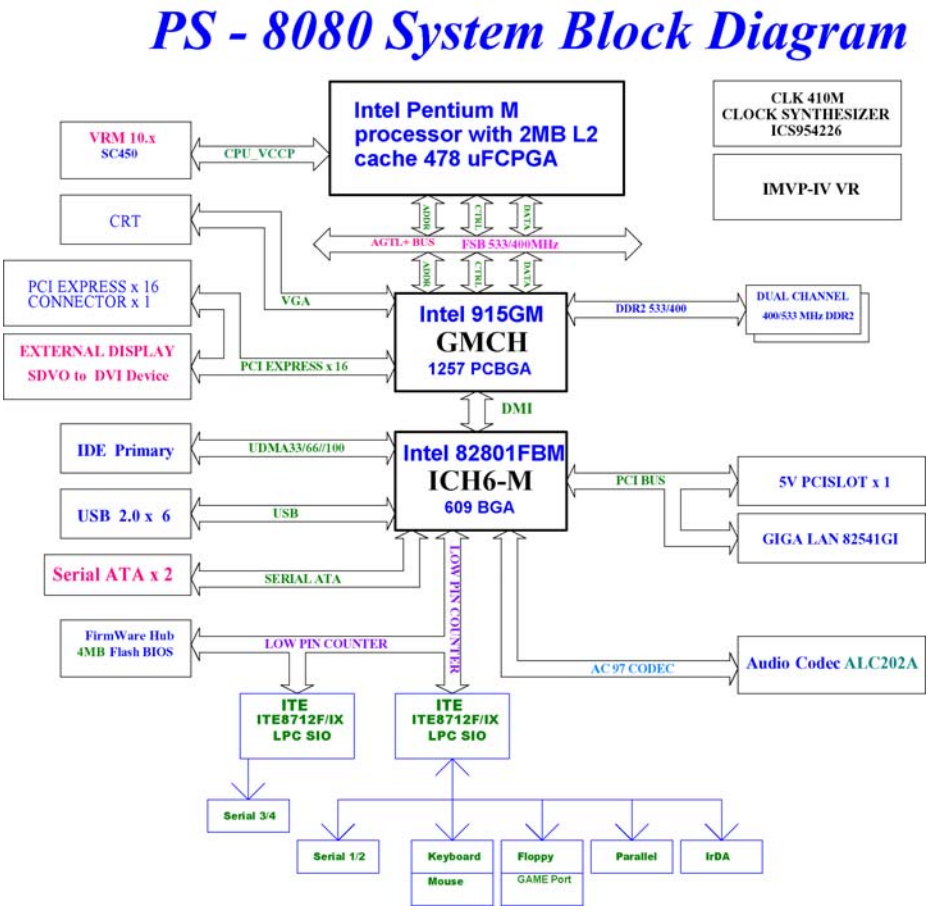
B

This section introduce you the maps concisely.

Section includes:

- Block Diagram
- Interrupt Map
- RTC (Standard) RAM Bank
- Timer & DMA Channels Map
- I / O & Memory Map

BLOCK DIAGRAM



INTERRUPT MAP

IRQ	ASSIGNMENT
0	System TIMER interrupt from TIMER-0
1	Keyboard output buffer full
2	Cascade for IRQ 8-15
3	Serial port 2
4	Serial port 1
5	Parallel Port 2
6	Floppy Disk adapter
7	Parallel port 1
8	RTC clock
9	Available
10	Serial 3
11	Serial 4
12	PS/2 Mouse
13	Math coprocessor
14	IDE Controller
15	IDE Controller

RTC (STANDARD) RAM BANK

CODE	ASSIGNMENT
00h	Seconds
01h	Second alarm
02h	Minutes
03h	Minutes alarm
04h	Hours
05h	Hours alarm
06h	Day of week
07h	Day of month
08h	Month
09h	Year
0Ah	Status register A
0Bh	Status register B
0Ch	Status register C
0Dh	Status register D
0Eh-7Fh	114 Bytes of User RAM

TIMER & DMA CHANNELS MAP

Timer Channel Map :

Timer Channel	Assignment
0	System timer interrupt
1	DRAM Refresh request
2	Speaker tone generator

DMA Channel Map :

DMA Channel	Assignment
0	Available
1	Available / Parallel
2	Floppy Disk adapter
3	Available / Parallel
4	Cascade for DMA controller 1
5	Available
6	Available
7	Available

I/O & MEMORY MAP

Fixed I/O Ranges Decoded by ICH2 :

I/O Address	Read Target	Write Target	Internal Unit
00h-08h	DMA Controller	DMA Controller	DMA
09h-0Eh	Reserved	DMA Controller	DMA
0Fh	DMA Controller	DMA Controller	DMA
10h-18h	DMA Controller	DMA Controller	DMA
19h-1Eh	Reserved	DMA Controller	DMA
1Fh	DMA Controller	DMA Controller	DMA
20h-21h	Interrupt Controller	Interrupt Controller	Interrupt
24h-25h	Interrupt Controller	Interrupt Controller	Interrupt
28h-29h	Interrupt Controller	Interrupt Controller	Interrupt
2Ch-2Dh	Interrupt Controller	Interrupt Controller	Interrupt
2Eh-2Fh	LPC SIO	LPC SIO	Forwarder to LPC
30h-31h	Interrupt Controller	Interrupt Controller	Interrupt
34h-35h	Interrupt Controller	Interrupt Controller	Interrupt
38h-39h	Interrupt Controller	Interrupt Controller	Interrupt
3Ch-3Dh	Interrupt Controller	Interrupt Controller	Interrupt
40h-42h	Timer/Counter	Timer/Counter	PIT (8254)
43h	Reserved	Timer/Counter	PIT
4E-4F	LPC SIO	LPC SIO	Forwarder to LPC
50h-52h	Timer/Counter	Timer/Counter	PIT
53h	Reserved	Timer/Counter	PIT
60h	Microcontroller	Microcontroller	Forwarder to LPC
61h	NMI Controller	NMI Controller	Processor I/F
62h	Microcontroller	Microcontroller	Forwarder to LPC
63h	NMI Controller	NMI Controller	Processor I/F
64h	Microcontroller	Microcontroller	Forwarder to LPC
65h	NMI Controller	NMI Controller	Processor I/F
66h	Microcontroller	Microcontroller	Forwarder to LPC
67h	NMI Controller	NMI Controller	Processor I/F
70h	Reserved[5]	NMI & RTC controller	RTC
71h	RTC Controller	RTC Controller	RTC
72h	RTC Controller	NMI & RTC controller	RTC
73h	RTC Controller	RTC Controller	RTC
74h	RTC Controller	NMI & RTC controller	RTC
75h	RTC Controller	RTC Controller	RTC
76h	RTC Controller	NMI & RTC controller	RTC
77h	RTC Controller	RTC Controller	RTC

I/O Address	Read Target	Write Target	Internal Unit
80h	DMA Controller	DMA controller & LPC/PCI	DMA
81h-83h	DMA Controller	DMA Controller	DMA
84h-86h	DMA Controller	DMA Controller & LPC or PCI	DMA
87h	DMA Controller	DMA Controller	DMA
88h	DMA Controller	DMA Controller & LPC or PCI	DMA
89h-8Bh	DMA Controller	DMA Controller	DMA
8Ch-8Eh	DMA Controller	DMA Controller & LPC or PCI	DMA
08Fh	DMA Controller	DMA Controller	DMA
90h-91h	DMA Controller	DMA Controller	DMA
92h	Reset Generator	Reset Generator	Processor I/F
93h-9Fh	DMA Controller	DMA Controller	DMA
A0h-A1h	Interrupt Controller	Interrupt Controller	Interrupt
A4h-A5h	Interrupt Controller	Interrupt Controller	Interrupt
A8h-A9h	Interrupt Controller	Interrupt Controller	Interrupt
ACh-ADh	Interrupt Controller	Interrupt Controller	Interrupt
B0h-B1h	Interrupt Controller	Interrupt Controller	Interrupt
B2h-B3h	Power Management	Power Management	Power Management
B4h-B5h	Interrupt Controller	Interrupt Controller	Interrupt
B8h-B9h	Interrupt Controller	Interrupt Controller	Interrupt
BCh-BDh	Interrupt Controller	Interrupt Controller	Interrupt
C0h-D1h	DMA Controller	DMA Controller	DMA
D2h-DDh	Reserved	DMA Controller	DMA
DEh-DFh	DMA Controller	DMA Controller	DMA
F0h	See Note 3	FERR# /IGNNE#/ Interrupt Controller	Processor interface
170h-177h	IDE Controller[1]	IDE Controller[1]	Forwarded to IDE
1F0h-1F7h	IDE Controller[2]	IDE Controller[2]	Forwarded to IDE
376h	IDE Controller[1]	IDE Controller[1]	Forwarded to IDE
3F6h	IDE Controller[2]	IDE Controller[2]	Forwarded to IDE
4D0h-4D1h	Interrupt Controller	Interrupt Controller	Interrupt
CF9h	Reset Generator	Reset Generator	Processor interface

Notes:

1. Only if IDE Standard I/O space is enabled for Primary Drive. Otherwise, the target is PCI.
2. Only if IDE Standard I/O space is enabled for Secondary Drive. Otherwise, the target is PCI.
3. If POS_DEC_EN bit is enabled, reads from F0h will not be decoded by the ICH2. If POS_DEC_EN is not enabled, reads from F0h will forward to LPC.