

USER'S MANUAL

PS-8830HT

Socket 370 (Celeron / P-III)
Point-of-Sale System

PS-8830HT M0

PS-8830HT POS System With LCD / Touchscreen

OPERATION MANUAL

COPYRIGHT NOTICE

This operation manual is meant to assist both Embedded Computer manufacturers and end-users in installing and setting up the system. The information contained in this document is subject to change without any prior notice.

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ACKNOWLEDGEMENTS

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WARNING:

Some internal parts of the system may have high electrical voltage. And therefore we strongly recommend that only qualified engineers can open and disassemble the system.

The LCD and Touchscreen are easily breakable, please handle them with extra care.

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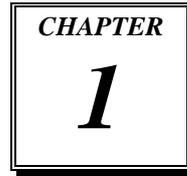
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INTRODUCTION



This chapter gives you the information for PS-8830HT. It also outlines the System specifications.

Section includes:

- About This Manual
- System Specifications
- Safety precautions

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

1-1. ABOUT THIS MANUAL

Thank you for purchasing our PS-8830HT POS System. The PS-8830HT is an updated system designed to be comparable with the highest performance of IBM AT personal computers. The PS-8830HT provides faster processing speed, greater expandability and can handle more tasks than before. This manual is designed to assist you how to install and set up the whole 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. It also includes illustration and the specification for the whole 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 Prox-1675LX component's location and their function. 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 Flash 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 Accessory Board

This Appendix introduces you the Prox-9733 and Prox-9732 accessory board.

Appendix B Technical Summary

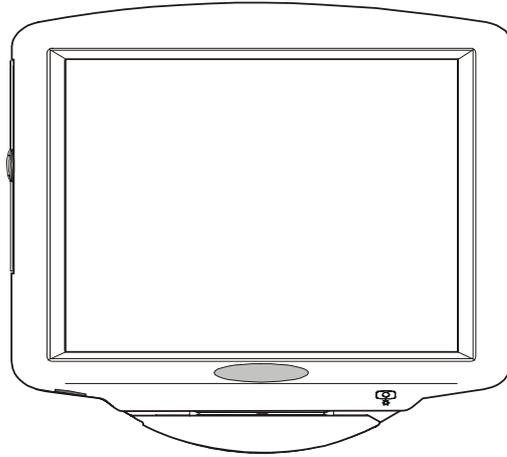
This section gives you the information about the Technical maps.

Appendix C Trouble Shooting

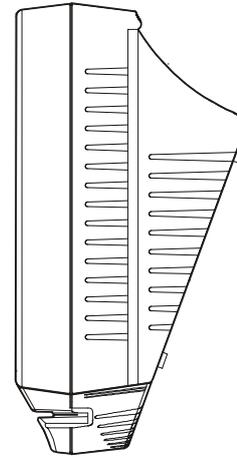
This section outlines the error messages and offers you the methods to solve the problems.

1-2. CASE ILLUSTRATION

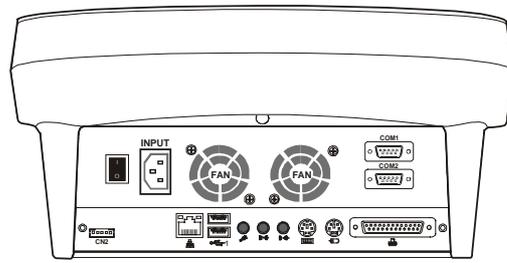
FRONT VIEW



SIDE VIEW



REAR VIEW



1-3. SYSTEM SPECIFICATIONS

MAINBOARD (PROX-1675LX & PROX-9733)

- **CPU TYPE :**
 - Intel® Celeron™ Processors, 300A ~1.0GHz
 - Intel® Pentium® !!! Processors, 500E ~ 1.0GHz
 - VIA C3™ Processors, PR433~733MHz
 - Support Front Side Bus 133 / 100 / 66
 - Auto Detect Voltage Regulator.

- **CHIPSET :**
 - VIA ProSavage™ PL133.

- **MEMORY :**
 - Up to 512MB SDRAM
 - One 168pin DIMM socket on board.

- **CACHE :**
 - Depended on CPU.

- **REAL-TIME CLOCK / CALENDAR :**
 - CMOS data back up from BIOS set or BIOS default.
 - Dallas DS 12887 Real Time Clock.

- **BIOS :**
 - Award Flash BIOS for plug & play function.
 - Easy update 256KB flash EEPROM.
 - Support Green Function.
 - Support S/IO Setup.

- **BUS SUPPORT :**
 - Internal PCI Bus for LAN, & Sound.
 - Internal AGP Bus for VGA.
 - External PC-104 Bus.

- **KEYBOARD / MOUSE CONNECTOR :**
 - Mini DIN connector.

- **FDD INTERFACE :**
Support slim floppy Disk Drives.
- **IDE INTERFACE :**
Two IDE ports, support Ultra DMA-100/66/33.
Two channel, support up to four devices.
- **SERIAL PORT :**
Four high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs;
COM1 for RS-232;
COM2 for RS-232/422/485.
COM3 for RS-232; fixed for Touchscreen [optional]
COM4 for RS-232 (reserved)
MIDI Compatible.
Programmable Baud Rate Generator.
- **PARALLEL PORT :**
Support SPP, ECP, EPP Function mode.
Bi-directional parallel port.
- **UNIVERSAL SERIAL BUS PORT :**
Support up to two USB ports.
- **SSD SOCKET :**
32-pin SSD socket on board.
Support up to 144MB Disk-On-Chip.
- **INFRARED PORT :**
One IrDA device
Support IrDA v1.0 SIR protocol.
- **HARDWARE MONITORING FUNCTION :**
Monitor CPU voltage, temperature and cooling fan.
- **GREEN FUNCTION :**
Software supported by BIOS setup.
Hardware supported by switch control.

● **WATCHDOG :**

I / O port 0443H to Enable watchdog.
I / O port 0441H to Disable watchdog.
Selectable for Reset / NMI Watchdog function.
Time-out timing select 0 ~ 120 sec +/- 25%.

● **LED INDICATOR :**

System power.

● **LAN FUNCTION :**

Realtek RTL 8139 PCI Fast Ethernet
Support 10/100 Base-T specification.
Interface: RJ-45 Jack on board.

● **SOUND FUNCTION :**

Analog Device AD1881, AC'97 SoundMAX® Codec
Integrated Sound Blaster / DirectSound AC97 audio.
Dual Full duplex direct sound channels bet. system memory & AC97 link.
32-byte FIFO of each Direct Sound Channel.
Interface: MIC, Line-In, Line-Out and CD Audio-in

● **VGA FUNCTION :**

Built-in VIA VT8604, support CRT & LCD (LVDS).
Integrated S3®'s Savage4™ 2D/3D/Video Accelerator.
Support simultaneous display of CRT and LCD.
Interface: Two 21-pin connector, support up to 48bit LVDS.
One 15-pin connector for CRT Monitor

● **BOARD DIMENSION :**

Prox-1675LX : 203mm x 146mm.
Prox-9733 : 247mm x 80.75mm.

LCD PANEL

- **LCD TYPE :**

- Tottori SANYO, TM121SV-02L11
 - 31cm (12.1 inch) TFT Color LCD Module
 - With CFL backlight unit
 - Non-glare surface type

- **RESOLUTION :**

- 800 (RGB) x 600

- **PIXEL PITCH :**

- 0.3075 (W) x 0.3075 (H)

- **BRIGHTNESS :**

- 340 cd / m²

- **CONTRAST RATIO :**

- 300 : 1

- **VIEWING ANGLE :**

- UP 40 Degree
 - DOWN 20 Degree
 - LEFT 50 Degree
 - RIGHT 50 Degree

- **RESPONSE TIME :**

- TR 30 ms
 - TF 20 ms

- **OPERATING LIFE :**

- 50,000 HOURS

- **DIMENSION :**

- 280mm x 218mm x 11.5mm

TOUCHSCREEN (OPTIONAL)

TYPE	ANALOG RESISTIVE	CAPACITIVE	TOUGHTOUCH CAPACITIVE
Resolution	1024 x 768	1024 x 1024	1024 x 1024
Light Transmission	80%	85%	80%
Controller	RS-232 interface (uses COM3)	RS-232 interface (uses COM3)	RS-232 interface (uses COM3)
Power Consumption	+5V	+5V @ 100mA	+5V
Durability (Lifetime)	10 million	120 million	20 million

GENERAL INFORMATION

● **POWER SUPPLY :**

Model: PW-F80ATX, 80 watt ATX Power Supply
Input: 90~265 Vac / 3A, 60~60Hz
Output: +5VSB/1.5A, +5Vdc/10A, +12Vdc/1.5A, -12Vdc/0.22A
Input Current: Max. 3.0A at 115 Vac
Dimension: 80mm x 130mm x 40mm

● **DISK DRIVE HOUSING :**

One slim HDD, One slim CD-ROM & One slim FDD.

● **SYSTEM FAN :**

Two [40mm x 40mm x 10mm] Cooling Fan

● **HOUSING CONSTRUCTION:**

High quality plastic frame architecture

● **DIMENSION :**

315mm x 285mm x 145mm

● **NET WEIGHT :**

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 90VAC-265VAC, otherwise the system may be damaged.

2. Environmental Conditions

- a. Place your PS-8830 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-8830 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-8830 when it's been left outdoors in a cold winter day.
- d. Bear in mind that the operating ambient temperature is from 5°C up to +50°C.
- 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-8830 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.

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.

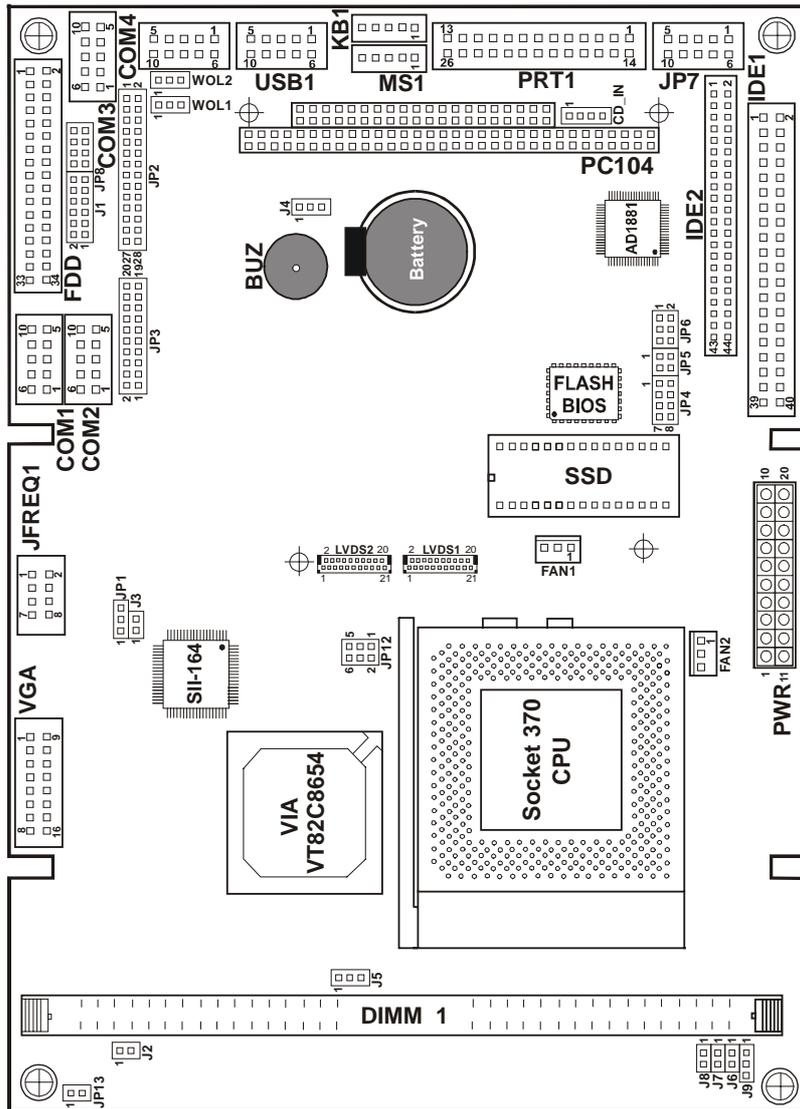
This section includes:

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

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

COM Connector	COM1, COM2
.....	COM3, COM4
RS232/422/485 (COM2) Selection	JP3
COM RI Selection	JP8
RI Voltage Selection	J1
Solid-State Disk Socket	SSD
SSD Memory Mapping Selection	JP4, JP5
Keyboard Connector	KB1
Mouse Connector	MS1
Reset Connector	JP2 (11-12)
External Speaker Connector	JP2 (21,23,25,27)
Power Button	JP2 (8,10)
IrDA Connector	JP2 (1,3,5,7,9)
Green Function Connector	JP2 (13,14)
LVDS Selection	JP12
VGA Connector	VGA
LVDS Connector	LVDS1, LVDS2
LVDS Panel Voltage Selection	JP1
Universal Serial Bus Connector	USB1
Floppy Disk Drive Connector	FDD
Hard Disk Drive Connector	IDE1, IDE2
Printer Connector	PRT1
CPU Fan Connector	FAN2, FAN1
NMI/Reset/Clear Watchdog Selection	JP6
LAN Connector	JFREQ1
ATX Power Connector	PWR
Sound Connector	JP7
CD Audio-in Connector	CD_IN
Clear CMOS Selection	J4
Memory Installation	DIMM1
CPU Type Selection	J7, J8, J9, J6
Power LED Connector	JP13
PC104 Bus Connector	PC104
Reserved pin	FAN1, WOL1
.....	WOL2, J5, J2, J3

2-2. COMPONENT LOCATIONS



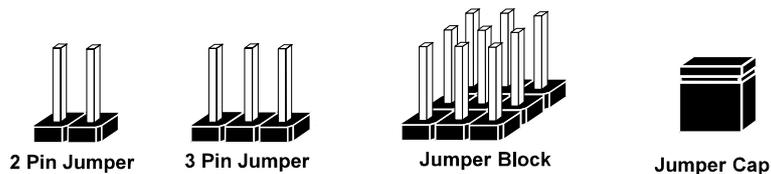
Prox-1675L Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting the 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 "opening" or "closing" 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

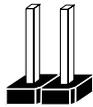


If a jumper has three pins (for example, labelled PIN1, PIN2, and PIN3), You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagram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

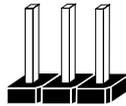
JUMPER DIAGRAMS



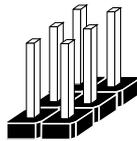
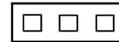
Jumper Cap looks like this



2 pin Jumper looks like this



3 pin Jumper looks like this



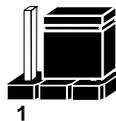
Jumper Block looks like this



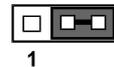
JUMPER SETTINGS



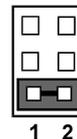
2 pin Jumper close(enabled)
looks like this



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



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



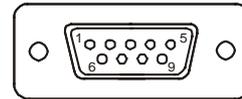
2-4. COM PORT CONNECTOR

There are four COM port enhanced in this board namely: COM1, COM2, COM3 and COM4. COM1, COM3 and COM4 are fixed for RS-232, while COM2 is selectable for RS-232/422/485.

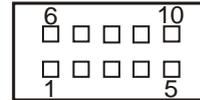
COM1 : COM1 Connector

The COM1 Connector assignments are as follows :

PIN	ASSIGNMENT
1	DCD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI / +5V / +12V selectable
10	NC



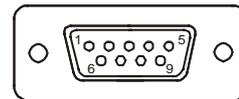
COM1



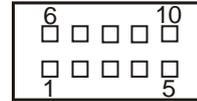
COM2 : COM2 Connector

The COM2 Connector assignments are as follows :

PIN	ASSIGNMENT		
	RS-232	RS-422	RS-485
1	DCD	TX-	TX-
2	RX	TX+	TX+
3	TX	RX+	RX+
4	DTR	RX-	RX-
5	GND	GND	GND
6	DSR	RTS-	NC
7	RTS	RTS+	NC
8	CTS	CTS+	NC
9	RI/+5V/+12	CTS-	NC
10	NC	NC	NC



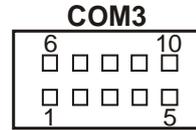
COM2



COM3 : COM3 Connector (For Touchscreen)

The pin assignments are as follows :

PIN	ASSIGNMENT
1	DCD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI / +5V / +12V selectable
10	NC

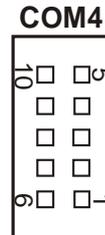


➤ This connector has to be connected with Prox-9733 board. For more detail, please refer to Appendix A.

COM4 : COM4 Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	DCD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI / +5V / +12V selectable
10	NC



➤ This connector has to be connected with Prox-9733 board. For more detail, please refer to Appendix A.

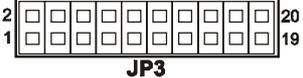
📖 All COM port's pin 9 is selectable for RI, +5V or +12V. For more information, please refer to our "RI Voltage Selection" & "COM RI Selection"

2-5. RS232/422/485 (COM2) SELECTION

JP3 : RS-232/422/485 Selection

COM2 is selectable for RS-232, 422, 485 function.

The jumper settings are as follows :

COM 2 FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
RS-232	Open	 <p>JP3</p>
RS-422	2- .2, 5-6, 7-8, 9-10 11-12, 13-14, 15-16 17-18, 19-20	 <p>JP3</p>
RS-485	2- .3, 4-6, 7-8, 9-10 11-12, 13-14, 15-16 17-18, 19-20	 <p>JP3</p>

*** Manufactory default --- RS-232.

2-6. COM RI & VOLTAGE SELECTION

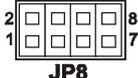
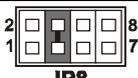
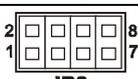
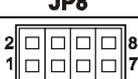
JP8 (1-2) : COM1 RI & Voltage Selection

JP8 (3-4) : COM2 RI & Voltage Selection

JP8 (5-6) : COM3 RI & Voltage Selection

JP8 (7-8) : COM4 RI & Voltage Selection

The selections are as follows:

COM PORT	SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
COM1	RI	1-2	
	Voltage	Open	
COM2	RI	3-4	
	Voltage	Open	
COM3	RI	5-6	
	Voltage	Open	
COM4	RI	7-8	
	Voltage	Open	

***Manufacturing Default – RI. (All jumpers are closed).

⚠ For Voltage Selection, user may select +5V / +12V, please refer to our “RI Voltage Selection”.

2-7. RI VOLTAGE SELECTION

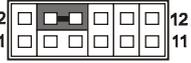
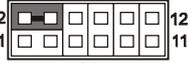
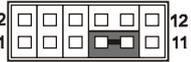
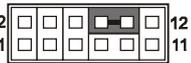
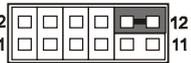
J1 (1,3,5) : COM1 Voltage Selection

J1 (2,4,6) : COM2 Voltage Selection

J1 (7,9,11) : COM3 Voltage Selection

J1 (8,10,12) : COM4 Voltage Selection

The selections are as follows:

COM PORT	VOLTAGE SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
COM1	+5V	3-5	 J1
	+12V	1-3	 J1
COM2	+5V	4-6	 J1
	+12V	2-4	 J1
COM3	+5V	7-9	 J1
	+12V	9-11	 J1
COM4	+5V	8-10	 J1
	+12V	10-12	 J1

2-8. SOLID-STATE DISK SOCKET

SSD: 32-pin Disk-on-chip Socket
 The pin assignments are as follows:



PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	NC	17	SD3
2	NC	18	SD4
3	NC	19	SD5
4	SA12	20	SD6
5	SA7	21	SD7
6	SA6	22	CE
7	SA5	23	SA10
8	SA4	24	OE
9	SA3	25	SA11
10	SA2	26	SA9
11	SA1	27	SA8
12	SA0	28	NC
13	SD0	29	NC
14	SD1	30	VCC
15	SD2	31	WE
16	GND	32	VCC

2-9. SSD MEMORY MAPPING SELECTION

JP4, JP5 : SSD Memory Mapping Selection

A 32-pin SSD socket supports Disk-on-Chip up to 144MB. This PnP Flash ROM SSD can be install as one of user's hard disk drive.

The SSD Memory Mapping Selections are as follows:

SSD Memory Map	Jumper Settings (pins closed)		Jumper Illustration
	JP4	JP5	
CC000h-CDFFFh	1-2	3-4	
D0000h-D1FFFh	3-4	1-2	
D4000h-D5FFFh	3-4	3-4	
D8000h-D9FFFh	5-6	1-2	
DC000h-DDFFFh	5-6	3-4	

*** Manufactory default --- CC000h-CDFFFh

2-10. KEYBOARD CONNECTOR

KB1 : PC/AT Keyboard Connector

The jumper settings are as follows:

PIN	ASSIGNMENT
1	KBCLK
2	KBDATA
3	NC
4	GND
5	KBVCC



KB1

➤ This connector has to be connected with Prox-9733 board. For more detail, please refer to Appendix A.

2-11. PS/2 MOUSE CONNECTOR

MS1 : PS/2 Mouse Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	MSCLK
2	MSDATA
3	NC
4	GND
5	MSVCC



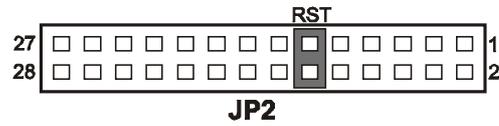
MS1

➤ This connector has to be connected with Prox-9733 board. For more detail, please refer to Appendix A.

2-12. RESET CONNECTOR

JP2 (11-12) : Reset Connector.

The pin assignments are as follows :

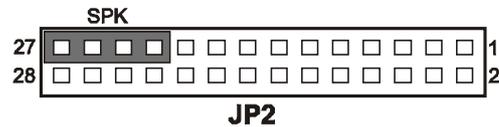


PIN	ASSIGNMENT
11	GROUND
12	RESET

2-13. EXTERNAL SPEAKER CONNECTOR

SPK : External Speaker Connector

The pin assignments are as follows :

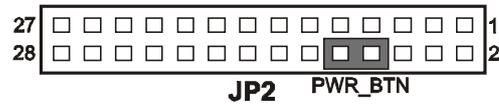


PIN	ASSIGNMENT
21	Speaker Signal (Buz)
23	Speaker Signal (Buz)
25	Speaker Signal (Buz)
27	VCC

2-14. POWER BUTTON

JP2 (8,10): Power Button

The pin assignments are as follows:

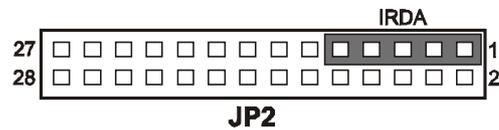


PIN	ASSIGNMENT
8	PWR_BTN
10	GROUND

2-15. IRDA CONNECTOR

JP2 (1,3,5,7,9): IrDA (SIR) Connector

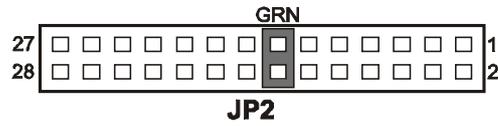
The pin assignments are as follows:



PIN	ASSIGNMENT
1	VCC
3	NC
5	IRRX
7	GND
9	IRTX

2-16. GREEN FUNCTION CONNECTOR

JP2 (13,14): Green Function Connector
 The pin assignments are as follows:



PIN	ASSIGNMENT
13	EXTSMI-
14	GND

2-17. LVDS SELECTION

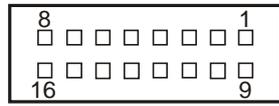
JP12: LVDS Selection
 The selections are as follows:

SELECTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
LVDS	3-5 4-6	

2-18. VGA CONNECTOR

VGA : VGA Connector

The pin assignments are as follows:



VGA

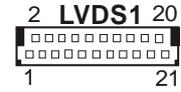
PIN	ASSIGNMENT
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	VCC
10	GND
11	NC
12	PULL HI
13	HSYNC
14	VSYNC
15	PULL HI
16	NC

2-19. LVDS CONNECTOR

LVDS1 : LVDS Connector

The pin assignments are as follows :

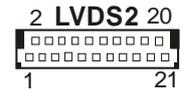
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	12	TXL1+
2	GND	13	TXL1-
3	TXL3+	14	GND
4	TXL3-	15	TXL0+
5	GND	16	TXL0-
6	TXCLK1+	17	GND
7	TXCLK1-	18	GND
8	GND	19	VCC
9	TXL2+	20	VCC
10	TXL2-	21	PANELDET
11	GND		



LVDS2 : LVDS Connector

The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	12	TXU1+
2	GND	13	TXU1-
3	TXU3+	14	GND
4	TXU3-	15	TXU0+
5	GND	16	TXU0-
6	TXCLKU+	17	GND
7	TXCLKU-	18	GND
8	GND	19	VCC
9	TXU2+	20	VCC
10	TXU2-	21	PANELDET
11	GND		

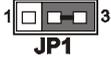


 24bit and below panel used LVDS1, 36/48bit panel used LVDS1 and LVDS2.

2-20. LVDS PANEL VOLTAGE SELECTION

JP1 : LVDS Panel Voltage Selection

The voltage selection are as follows:

VOLTAGE SELECTION	JUMPER SETTINGS (pin closed)	JUMPER ILLUSTRATION
5V VCC	1-2	
3.3V VCC	2-3	

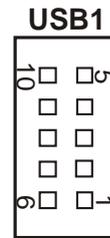
2-21. UNIVERSAL SERIAL BUS CONNECTOR

USB: Universal Serial Bus Connector

USB connector of this board can support two USB ports.

The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC
2	USBP0-
3	USBP0+
4	GND
5	GND
6	VCC
7	USBP1-
8	USBP1+
9	GND
10	GND



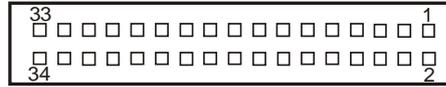
➤ This connector has to be connected with Prox-9733 board. For more detail, please refer to Appendix A.

2-22. FLOPPY DISK DRIVE CONNECTOR

FDD : Floppy Disk Drive Connector

You can use a 34-pin daisy-chain cable to connect two FDDs. On one end of this cable there is a 34-pin flat cable to attach the FDD on the board, the other side attaches to two FDDs.

The pin assignments are as follows :



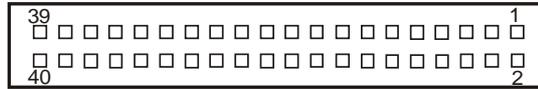
FDD

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	2	DRV DEN0
3	GND	4	NC
5	GND	6	DRV DEN1
7	GND	8	INDEX
9	GND	10	MTR0
11	GND	12	DRV1
13	GND	14	DRV0
15	GND	16	MTR1
17	GND	18	DIR
19	GND	20	STEP
21	GND	22	WDATA
23	GND	24	WGATE
25	GND	26	TRK0
27	GND	28	WRPRT
29	GND	30	RDATA
31	GND	32	SEL
33	GND	34	DSKCHG

2-23. HARD DISK DRIVE CONNECTOR

IDE1: Hard Disk Drive Connector

The pin assignments are as follows:

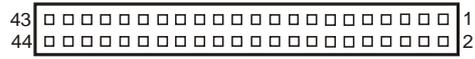


IDE1

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	DDREQA	22	GND
23	-DIOWA	24	GND
25	-DIOA	26	GND
27	HDRDYA	28	PULL LOW
29	-DDACKA	30	GND
31	IRQ14	32	NC
33	PDA1	34	PD_80P
35	PDA0	36	PDA2
37	-PDCS1	38	-PDCS3
39	HDLED1	40	GND

IDE2: Hard Disk Drive Connector

The pin assignments are as follows:



IDE2

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	IDERST	2	GND
3	SDD7	4	SDD8
5	SDD6	6	SDD9
7	SDD5	8	SDD10
9	SDD4	10	SDD11
11	SDD3	12	SDD12
13	SDD2	14	SDD13
15	SDD1	16	SDD14
17	SDD0	18	SDD15
19	GND	20	NC
21	DDREQB	22	GND
23	-DIOWB	24	GND
25	-DIORB	26	GND
27	HDRDYB	28	PULL LOW
29	-DDACKB	30	GND
31	IRQ15	32	NC
33	SDA1	34	SD_80P
35	SDA0	36	SDA2
37	-SDCS1	38	-SDCS3
39	HDLED2	40	GND
41	VCC	42	VCC
43	GND	44	NC

2-24. PRINTER CONNECTOR

PRT : Printer Connector

The pin assignments are as follows :



PRT

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STB	14	AUTFE
2	P0	15	ERROR
3	P1	16	INIT
4	P2	17	SLCTIN
5	P3	18	GND
6	P4	19	GND
7	P5	20	GND
8	P6	21	GND
9	P7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	GPIO

⚠ Pin#26 (GPIO) is signal pin for Backlight Delay.

➤ This connector has to be connected with Prox-9733 board. For more details, please refer to Appendix A.

2-25. CPU FAN CONNECTOR

FAN2 : CPU Fan connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	FAN2 IN
2	+12V
3	GND



2-26. RESET/NMI/CLEAR WATCHDOG SELECTION

JP6 : Reset/NMI/Clear Watchdog Selection

The selections are as follows:

FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
RESET	1-2	<p>The diagram shows a 6-pin jumper labeled JP6. Pins 1 and 2 are connected by a jumper. The other pins (3, 4, 5, 6) are not connected.</p>
NMI	3-4	<p>The diagram shows a 6-pin jumper labeled JP6. Pins 3 and 4 are connected by a jumper. The other pins (1, 2, 5, 6) are not connected.</p>
CLEAR WATCHDOG	5-6	<p>The diagram shows a 6-pin jumper labeled JP6. Pins 5 and 6 are connected by a jumper. The other pins (1, 2, 3, 4) are not connected.</p>

***Manufacturing Default is set as Reset.

2-27. LAN CONNECTOR

JFREQ1: LAN Connector

The pin assignments are as follows:

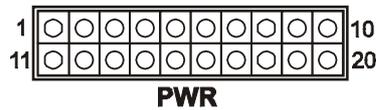
PIN	ASSIGNMENT
1	TX+
2	TX-
3	RX+
4	ISOLATED GND
5	ISOLATED GND
6	RX-
7	CT
8	CT

➤ This connector has to be connected with Prox-9733 board. For more detail, please refer to Appendix A.

2-28. POWER CONNECTOR

PWR : Power Connector

The pin assignments are as follows :



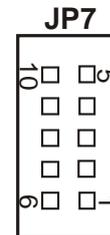
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	+3.3V	11	+3.3V
2	+3.3V	12	-12.0V
3	GND	13	GND
4	+5.0V	14	Power On
5	GND	15	GND
6	+5.0V	16	GND
7	GND	17	GND
8	Power Good	18	-5.0V
9	+5V SB	19	+5.0V
10	+12.0V	20	+5.0V

2-29. SOUND CONNECTOR

JP7 : Sound Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	MIC-IN
2	MIC-VDD
3	GND
4	GND
5	LINE-L
6	LINE-R
7	GND
8	GND
9	SPK-L
10	SPK-R



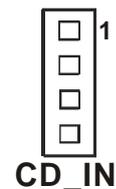
➤ This connector has to be connected with Prox-9733 board. For more detail, please refer to Appendix A.

2-30. CD AUDIO-IN CONNECTOR

CD_IN : CD Audio-in Connector

The pin assignments are as follows:

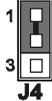
PIN	ASSIGNMENT
1	AUXAL
2	GND
3	GND
4	AUXAR



2-31. CLEAR CMOS SELECTION

J4: Clear CMOS Selection

The selections are as follows:

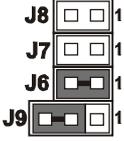
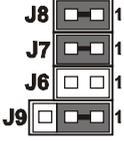
FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
Normal	1-2	
Clear CMOS	2-3	

*** Manufacturing Default – Normal.

2-32. CPU TYPE SELECTION

J6, J7, J8, J9: CPU Type Selection

The selections are as follows:

FUNCTION	JUMPER SETTING (pin closed)				JUMPER ILLUSTRATION
	J8	J7	J6	J9	
INTEL®	Open	Open	1-2	2-3	
VIA	1-2	1-2	Open	1-2	

2-33. MEMORY INSTALLATION

The PS-8830HT Embedded Computer supports 1 SDRAM bank.

DRAM BANK CONFIGURATION

DIMM 1	TOTAL MEMORY
32MB	32MB
64MB	64MB
128MB	128MB
256MB	256MB
512MB	512MB

2-34. POWER LED CONNECTOR

JP13: Power LED Connector

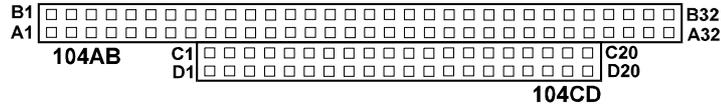
The pin assignment is as follows:

PIN	ASSIGNMENT
1	VCC
2	GROUND



2-35. PC104 BUS CONNECTOR

104AB, 104CD : PC-104 Connector



The PC-104 can support multi-pieces of PC-104 modules. This card has two connectors : one (104AB) consists of 64 pin; the other one (104CD) consists of 40 pin, both of them are dual-in-line headers

The pin assignments for connector 104AB & 104CD are as follow:

104AB				104CD			
PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT
A1	IOCHK	B1	GND	C1	GND	D1	GND
A2	D7	B2	REST	C2	SBHE	D2	MEMCS16
A3	D6	B3	VCC	C3	LA23	D3	IOCS16
A4	D5	B4	IRQ9	C4	LA22	D4	IRQ10
A5	D4	B5	-5V	C5	LA21	D5	IRQ11
A6	D3	B6	DRQ2	C6	LA20	D6	IRQ12
A7	D2	B7	-12V	C7	LA19	D7	IRQ15
A8	D1	B8	OWS	C8	LA18	D8	IRQ14
A9	D0	B9	+12V	C9	LA17	D9	DACK0
A10	IOCHRDY	B10	GND	C10	MEMR	D10	DRQ0
A11	AEN	B11	SMEMW	C11	MEMW	D11	DACK5
A12	A19	B12	SMEMR	C12	D8	D12	DRQ5
A13	A18	B13	IOW	C13	D9	D13	DACK6
A14	A17	B14	IOR	C14	D10	D14	DRQ6
A15	A16	B15	DACK3	C15	D11	D15	DACK7
A16	A15	B16	DRQ3	C16	D12	D16	DRQ7
A17	A14	B17	DACK1	C17	D13	D17	VCC
A18	A13	B18	DRQ1	C18	D14	D18	MASTER
A19	A12	B19	REFRESH	C19	D15	D19	GND
A20	A11	B20	CLK	C20	KEY PIN	D20	GND
A21	A10	B21	IRQ7				
A22	A9	B22	IRQ6				
A23	A8	B23	IRQ5				
A24	A7	B24	IRQ4				
A25	A6	B25	IRQ3				
A26	A5	B26	DACK2				
A27	A4	B27	TC				
A28	A3	B28	BALE				
A29	A2	B29	VCC				
A30	A1	B30	OSC				
A31	A0	B31	GND				
A32	GND	B32	GND				

SOFTWARE UTILITIES

CHAPTER

3

This chapter comprises the detailed information of VGA driver, LAN driver, sound driver, and Flash BIOS update. It also describes how to install the watchdog timer configuration.

Section includes:

- VGA Driver Utility
- Flash BIOS Update
- LAN Driver Utility
- Sound Driver Utility
- Watchdog Timer Configuration

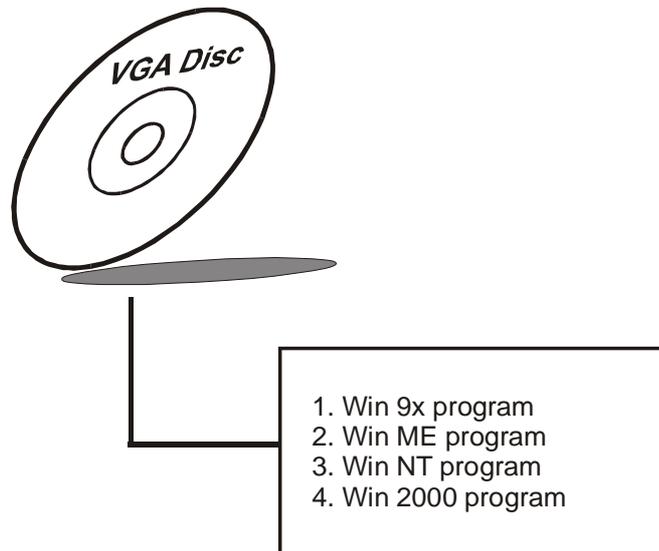
3-1. INTRODUCTION

Enclosed with our PS-8830 package is our driver utility, which may come in a form of a CD ROM disc or floppy diskettes. For CD ROM disc user, you will only need some of the files contained in the CD ROM disc, please kindly refer to the following chart:

Filename (Assume that CD ROM drive is D:)	Purpose
D:\VIA\VGA	For VGA driver installation
D:\Flash\	For BIOS update
D:\LAN\RTL8139	Realtek RTL8139 For LAN Driver installation
D:\VIA\Sound	For Sound Driver installation

3-2. VGA DRIVER UTILITY

The VGA interface embedded with our PS-8830 can support a wide range of display mode, such as SVGA, STN, TFTetc. You can display CRT, LVDS and PanelLink simultaneously with the same mode.



3-3. FLASH BIOS UPDATE

3-3-1. System BIOS Update:

Users of PS-8830 can use the program “Awdflash.exe” contained in the Utility Disk for system BIOS and VGA BIOS update.

3-3-2. To update VGA BIOS for LCD Flat Panel Display:

As PS-8830 user, you have to update the VGA BIOS for your specific LCD flat panel you are going to use. For doing this, you need two files. One is the “Awdflash.exe” file and the other is the VGA BIOS for LCD panel display. Both file must be provided by the vendor or manufacturer. When you get these two files ready, follow the following steps for updating your VGA BIOS:

1. Install “Awdflash.exe” from Utility Disk to Drive C.
2. Insert the VGA BIOS file you have obtained from the vendor.
3. Type the path to Awdflash.exe and execute the VGA BIOS update with file B75xxxxx.bin
C:\UTIL\AWDFLASH>AWDFLASH B75xxxxx.bin
4. The screen will display the table below:

FLASH MEMORY WRITER v7.XX (C) Award Software 2000 All Rights Reserved	
For 8604-686B-6A6LLP69C-0	DATE: 04/23/2001
Flash Type - MXIC 29F002(N)T /5V	
File Name to Program: B75xxxxx.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 8604-686B-6A6LLP69C-0 DATE: 04/23/2001 Flash Type - MXIC 29F002(N)T /5V File Name to Program: B75xxxxx.bin Checksum: XXXXX
Error Message : Are You Sure To Program (Y/N)

Select "Y", and the BIOS will be renewed. When you are refreshing the BIOS, do not turn off or reset the system, or you will damage the BIOS. After you have completed all the programming, the screen displays the table below:

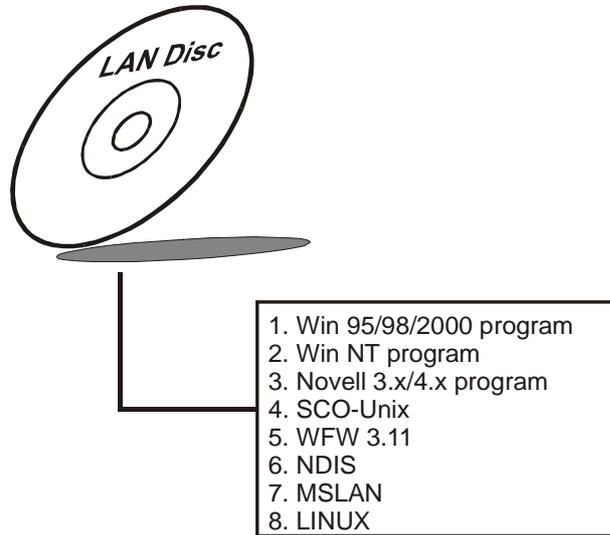
FLASH MEMORY WRITER v7.XX (C) Award Software 2000 All Rights Reserved
For 8604-686B-6A6LLP69C-0 DATE: 04/23/2001 Flash Type - MXIC 29F002(N)T /5V File Name to Program: B75xxxxx.bin Checksum: XXXXX Reset System or Power off to accomplish update process!
F1: Reset F10: Exit

Please reset or power off the system, and then the Flash BIOS is fully implemented.

3-4. LAN DRIVER UTILITY

3-4-1. Introduction

PS-8830 Embedded Board is enhanced with LAN function that can support various network adapters. Installation programs for LAN drivers are listed as follows:



3-4-2. Installation Procedures of LAN Driver

1. Install LAN Driver to Windows 98/2000

Executing Windows 98/Windows 2000, it will auto-detect your system configuration and find the adapter hardware.

- (1) Ask you to select which driver you want to install, select "Driver from disk provided by hardware manufacturer".
- (2) Insert the Realtek RTL8139 driver disk into the drive A or CD drive and specify the setup file pathname, ex: A:\ .
- (3) Win 98/ Win 2000 will appear some messages to insert Windows 98/Win2000 system disk to complete setup step.
- (4) Windows 98/Windows 2000 will finish the other installation procedure automatically, and then restart the system.

2. Install LAN Driver to Windows NT 3.0/4.0

- (1) In the Main group of NT, select the "Control Panel" icon.
- (2) In the Control Panel window, choose the "Network" icon.
- (3) In the Network Settings dialog box, choose the "Add adapter" button. The Add Network Adapter dialog box appears.
- (4) In the list of network cards, select "<other> Requires disk from manufacturer", and then press <Enter> button.
- (5) Insert the LAN driver utility, and enter the filename (ex. A:\pathname) where the setup file OEMSETUP.INF is located, and then choose OK button.
- (6) The screen will appear "Select Line Speed" dialog box, which is provided by RTL8139.SYS driver. The default value is "auto" so that the line speed can be auto detected as 10MB or 100MB, while the RTL8139.SYS is loading.
- (7) The screen will appear "Input Ethernet ID" dialog box, which is provided by RTL8139.SYS driver. This option is only required when you have more than one RTL8139 PCI Fast Ethernet adapters on this computer. Select "SKIP" if only one adapter is installed on this computer.
- (8) "Bus Location" displayed in next screen. Your machine contains more than one hardware bus, please select the Bus Type and Bus number on which your network adapter card is installed.
- (9) NT will then perform the binding process. If any additional network software options were installed, you may be prompted for specific information for these packages.
- (10) Re-starting your system you will acquire network service.

 Note: For Installing Multiple LAN Adapters:

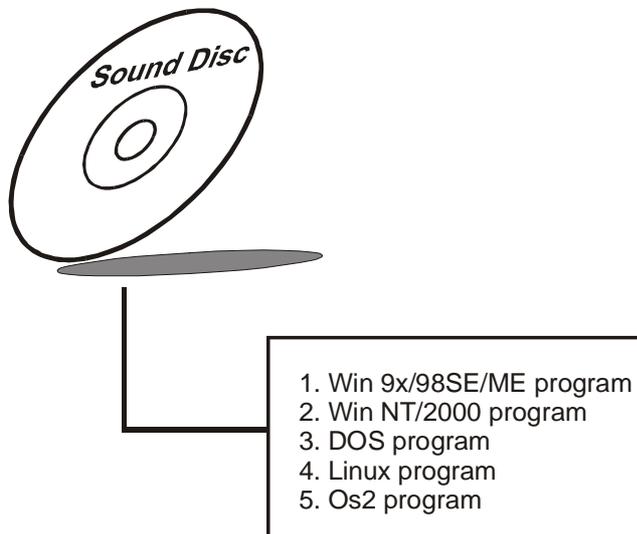
Enter Windows NT and follow above setup procedure step 2, in the "Network Settings" dialog box, choose the "Configure..." button. The "Input Ethernet ID" dialog box appears and input adapter's Ethernet ID. Last step to select OK and close NETWORK SETUP. Select SKIP if only one adapter is installed on this computer.

For more information on installation procedure, please refer to TXT directory found on LAN DRIVER UTILITY.

3-5. SOUND DRIVER UTILITY

3-5-1. Introduction

The sound function enhanced in this system is fully compatible with Windows 9x/98SE/ME, Windows NT, DOS, OS2, Linux, and Windows 2000. Below, you will find the content of the Sound driver :



3-5-2. Installation Procedure In Windows NT

- (1) Open "Main" Window in Program Manager.
- (2) Select "Control Panel" in Main Window, then open it.
- (3) Select "Drivers" in Control Panel. Double Click it to open this window. Then choose "ADD" item to add driver.
- (4) Choose "Unlisted or Updated Driver" on the list. Then press "OK" button.
- (5) Change the "Install Driver" directory to the "VIA Audio Driver directory". Then press "OK" button.
- (6) If it correct, you will see a pop window, which shows "VIA PCI Audio Controller". Press "OK" button to process installing.
- (7) Restart the computer.

3-6. WATCHDOG TIMER CONFIGURATION

This board has watchdog timer function for monitoring whether the system is still work or not after a period of time. The user can select watchdog timer to system reset or NMI (Non Maskable interrupt) depending on the jumper set in “Reset/NMI/Clear Watchdog Selection” found in chapter 2. This is defined at I/O port **443H**. When you want to enable the watchdog timer, please write I/O port **443H**, and then the system will either reset itself or perform the NMI function. Likewise, when you want to disable the function, write I/O port **441H**, the system will run the command to stop the Watchdog function.

In PS-8830 watchdog function, you must write your program so when it writes I/O port address 443 for enable watchdog and write I/O port address 441 for disable watchdog. The timer's intervals have a tolerance of 25% so you should program an instruction that will refresh the timer about every second.

The following program shows you how to program the watch timer in your program.

Watchdog enable program:

```
MOVAX, 000FH(choose the values you need; start from 0)
MOVDX, 443H
OUTDX, AX
```

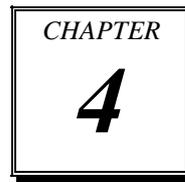
Watchdog disable program:

```
MOVAX, 000FH(this value can be ignored)
MOVDX, 441H
OUTDX, AX
```

The Watchdog Timer control table is as follows:

Level	Value	Time/sec	Level	Value	Time/sec
1	F	0	9	7	64
2	E	8	10	6	72
3	D	16	11	5	80
4	C	24	12	4	88
5	B	32	13	3	96
6	A	40	14	2	104
7	9	48	15	1	112
8	8	56	16	0	120

AWARD BIOS SETUP



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
- Load Optimized Defaults
- Password Setting
- Save and Exit Setup

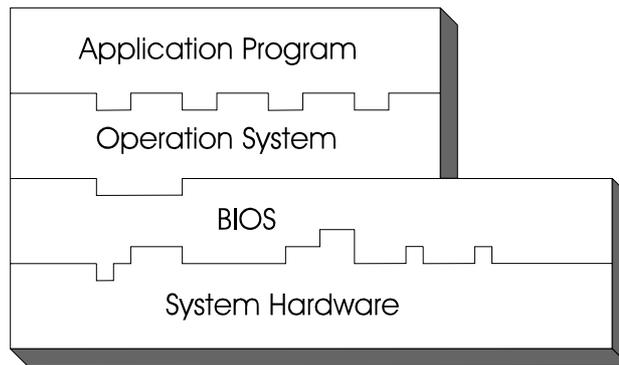
4-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The PS-8830 POS System 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 TO ENTER SETUP, ESC TO SKIP MEMORY TEST

As long as this message is present on the screen you may press the 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:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software

<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status 	<ul style="list-style-type: none"> ▶ Frequency/Voltage Control Load Fail-Safe Defaults Load Optimized Defaults Set Password Save & Exit Setup Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item F10 : Save & Exit Setup	
Time, Date, Hard Disk Type	

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:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Standard CMOS Features

Date (mm:dd:yy)	Thu, Jan 4 2001	Item Help
Time (hh:mm:ss)	15 : 24 : 14	
▶ IDE Primary Master	[ST320414A]	Menu Level ▶ Change the day, month, year and century
▶ IDE Primary Slave	[None]	
▶ IDE Secondary Master	[None]	
▶ IDE Secondary Slave	[ATAPI CD-ROM Drive 4]	
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	97280K	
Total Memory	98304K	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

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.

Date:

< Month >, < Date > and <Year >. Ranges for each value are in the CMOS Setup Screen, and the week-day will skip 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 options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
IDE Primary Master

IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Primary Master Access Mode	[Auto] [Auto]	Menu Level ►►
Capacity	13022 MB	To auto-detect the HDD's size, head...on this channel
Cylinder	25232	
Head	16	
Precomp	65535	
Landing Zone	25231	
Sector	63	
↑↓→←: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 – IDE Primary Master sub menu

Descriptions on each item above are as follows:

1. IDE HDD Auto-detection

Press the enter key to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

2. IDE Primary Master

There are three available options on this category, namely: None, Auto, and Manual. By selecting “Manual”, you can set the remaining fields on this screen, such as -

- a. Cylinder – Set the number of cylinders for this hard disk.
- b. Head – Set the number of read/write heads.
- c. Precomp - *****Warning!** Setting a value of 65535 means no HDD.
- d. Landing Zone
- e. Sector – Set the number of sector per track

3. Access Mode

There are four available options for this item, namely: Normal, LBA, Large and Auto. Choose the access mode for this hard disk.

4. Capacity

Disk Drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk-checking program.

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 as follows:

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.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Advanced BIOS Features

Virus Warning	[Disabled]	Item Help	
CPU Internal Cache	[Enabled]		
External Cache	[Enabled]	Menu Level ▶	
CPU L2 Cache ECC Checking	[Enabled]		
Processor Number Feature	[Enabled]	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	
Quick Power On Self Test	[Enabled]		
First Boot Device	[Floppy]		
Second Boot Device	[HDD-0]		
Third Boot Device	[LS120]		
Boot Other Device	[Enabled]		
Swap Floppy Drive	[Disabled]		
Boot Up Floppy Seek	[Enabled]		
Boot Up NumLock Status	[On]		
Gate A20 Option	[Fast]		
Typematic Rate Setting	[Disabled]		
X Typematic Rate (Chars/Sec)	6		
X Typematic Delay (Msec)	250		
Security Option	[Setup]		
OS Select for DRAM > 64MB	[Non-OS2]		
Video BIOS Shadow	[Enabled]		
C8000-CBFFF Shadow	[Disabled]		
CC000-CFFFF Shadow	[Disabled]		
D0000-D3FFF Shadow	[Disabled]		
D4000-D7FFF Shadow	[Disabled]		
D8000-DBFFF Shadow	[Disabled]		
DC000-DFFFF Shadow	[Disabled]		
Small Logo (EPA) Show	[Enabled]		
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults			

BIOS Features Setup Menu

The "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.

VIRUS WARNING :

This item 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.

CPU INTERNAL CACHE/EXTERNAL CACHE :

These two categories speed up memory access. However, it depends on CPU/chipset design.

CPU L2 CACHE ECC CHECKING :

This item allows you to enable or disable CPU L2 Cache ECC checking.

PROCESSOR NUMBER FEATURE :

This option is for Pentium III processor only. During Enabled, this will check the CPU Serial number. Disabled this option if you don't want the system to know the Serial number.

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 attempt to load the operating system from the devices in the sequence selected in these items.

SWAP FLOPPY DRIVE:

This field is effective only in systems with two floppy drives. Selecting Enabled assigns physical drive B to logical drive A, and physical drive A to logical drive B.

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.

GATE 20A OPTION:

This entry allows you to select how the gate A20 is handled. When Normal was set, a pin in the keyboard controller controls Gate A20. And when Fast was set, the chipset controls Gate A20.

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.

TYPEMATIC DELAY (MSEC):

The item sets the delay time after the key is held down before it begins to repeat the keystroke.

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.

OS SELECT FOR DRAM >64MB :

Select the operating system that is running with greater than 64MB or RAM on the system. You may choose OS2 or Non-OS2.

VIDEO BIOS SHADOW :

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

C8000-CBFFF SHADOW ~ DC000-DFFFF SHADOW:

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of on-board SCSI.

4-5. ADVANCED CHIPSET FEATURES

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Advanced Chipset Features

		Item Help
DRAM Timing by SPD	[Enabled]	
X DRAM Clock	Host CLK	
X SDRAM Cycle Length	3	Menu Level ►
X Bank Interleave	Disabled	
Memory Hole	[Disabled]	
P2C/C2P Concurrency	[Enabled]	
Fast R-W Turn Around	[Disabled]	
System BIOS Cacheable	[Disabled]	
Video RAM Cacheable	[Disabled]	
Frame Buffer Size	[8M]	
AGP Aperture Size	[64M]	
AGP-4X Mode	[Enabled]	
AGP Driving Control	[Auto]	
X AGP Driving Value	DA	
OnChip USB	[Enabled]	
USB Keyboard Support	[Disabled]	
OnChip Sound	[Auto]	
Keyboard POWER-ON	[Disabled]	
CPU to PCI Write Buffer	[Enabled]	
PCI Dynamic Bursting	[Enabled]	
PCI Master 0 WS Write	[Enabled]	
PCI Delay Transaction	[Disabled]	
PCI#2 Access #1 Retry	[Enabled]	
AGP Master 1 WS Write	[Disabled]	
AGP Master 1 WS Read	[Disabled]	
IO Channel check NMI	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Chipset Features Setup Screen

The parameter allows you to configure the system based on the specific features of the installed chipset. The chipset manages bus speed and access to system memory resources, such as DRAM and the external cache.

It also coordinates communications between conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for the system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

DRAM CLOCK:

This item allows you to control the DRAM speed.

SDRAM CYCLE LENGTH:

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

MEMORY HOLE:

In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

P2C/C2P CONCURRENCY:

This item allows you to enable/disable the PCI to CPU, CPU to PCI concurrency.

FAST R-W TURN AROUND:

This item controls the DRAM timing. It allows you to enable/disable the fast read/write turn around.

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 RAM CACHEABLE:

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

AGP APERTURE SIZE:

This allows you to adjust the graphics aperture size. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

AGP-4X MODE:

This item allows you to enable or disable the AGP-4X Mode.

AGP DRIVING CONTROL:

This item allows you to adjust the AGP driving force. Choose *Manual* to key in an AGP Driving Value in the next selection. This field is recommended to set in Auto for avoiding any error in your system.

AGP DRIVING VALUE:

This item allows you to adjust the AGP driving force.

ONCHIP USB:

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.

USB KEYBOARD SUPPORT:

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

ONCHIP SOUND:

This item allows you to control the onboard AC '97 audio.

KEYBOARD POWER-ON:

This item allows you to power-up the system through keyboard.

CPU TO PCI WRITE BUFFER:

When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.

PCI DYNAMIC BURSTING:

When Enabled, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and non-burstable transaction don't.

PCI MASTER 0 WS WRITE:

When Enabled, writes to the PCI bus are executed with zero wait states.

PCI DELAY TRANSACTION:

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

PCI#2 ACCESS #1 RETRY:

When disabled, PCI#2 will not be disconnected until access finishes. When Enabled, PCI#2 will be disconnected if max retries are attempted without success.

AGP MASTER 1 WS WRITE:

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait state.

AGP MASTER 1 WS READ:

When Enabled, read to the AGP (Accelerated Graphics Port) are executed with one wait state.

IO CHANNEL CHECK NMI:

This field enables or disables IO channel check NMI. Before selecting this function, the user should check first that NMI function is enabled as described in chapter 2 (Reset/NMI/Clear Watchdog Selection).

4-6. INTEGRATED PERIPHERALS

Choose "INTEGRATED PERIPHERALS" from the main setup menu, a display will be shown on screen as below:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Integrated Peripherals

On-Chip IDE Channel0	[Enabled]	Item Help
On-Chip IDE Channel1	[Enabled]	
IDE Prefetch Mode	[Enabled]	
Primary Master PIO	[Auto]	Menu Level ►
Primary Slave PIO	[Auto]	
Secondary Master PIO	[Auto]	
Secondary Slave PIO	[Auto]	
Primary Master UDMA	[Auto]	
Primary Slave UDMA	[Auto]	
Secondary Master UDMA	[Auto]	
Secondary Slave UDMA	[Auto]	
Init Display First	[PCI Slot]	
IDE HDD Block Mode	[Enabled]	
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART 2 Mode	[Standard]	
IR Function Duplex	[Half]	
TX,RX inverting enable	[No, Yes]	
Onboard Parallel Port	[378/IRQ7]	
Onboard Parallel Mode	[Normal]	
X ECP Mode Use DMA	3	
X Parallel Port EPP Type	EPP1.9	
Onboard Serial Port 3	[3E8H]	
X Serial Port 3 Use IRQ	IRQ10	
Onboard Serial Port 4	[2E8H]	
X Serial Port 4 Use IRQ	IRQ11	
Onboard Legacy Audio	[Enabled]	
Sound Blaster	[Disabled]	
SB I/O Base Address	[220H]	
SB IRQ Select	[IRQ 5]	
SB DMA Select	[DMA 1]	
MPU-401	[Disabled]	
MPU-401 I/O Address	[330-333H]	
↑↓→←: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.

ONCHIP IDE CHANNEL 0:

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface.

ONCHIP IDE CHANNEL 1:

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this interface.

IDE PREFETCH MODE:

The onboard IDE drive interfaces supports IDE pre-fetching for faster drive accesses. If you install a primary and or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support pre-fetching.

PRIMARY MASTER/SLAVE PIO:

SECONDARY MASTER/SLAVE PIO:

The four IDE PIO fields allow you to set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

PRIMARY MASTER/SLAVE UDMA:

SECONDARY MASTER/SLAVE UDMA:

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If you hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

INIT DISPLAY FIRST:

This item allows you to decide to active whether PCI Slot or on-chip VGA first. The choices are PCI Slot and Onboard.

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.

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.

ONBOARD SERIAL PORT 1:

ONBOARD SERIAL PORT 2:

ONBOARD SERIAL PORT 3:

ONBOARD SERIAL PORT 4:

Select an address and corresponding interrupt for the 1st, 2nd, 3rd and forth serial ports.

UART 2 MODE:

This item allows you to select which mode for the Onboard Serial Port 2.

IR FUNCTION DUPLEX:

This item allows you to select the IR half/full duplex function.

TX, RX INVERTING ENABLE:

This item allows you to enable TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

ONBOARD PARALLEL PORT:

This item allows you to determine access onboard parallel port controller with which I/O address.

ONBOARD PARALLEL MODE:

Select an operating mode for the onboard (printer) port. Select *Normal* unless you are certain your hardware and software both support one of the other available modes.

ECP MODE USE DMA:

Select a DMA channel for the parallel port for use during ECP mode.

PARALLEL PORT EPP TYPE:

Select EPP port type 1.7 or 1.9 as required by your parallel peripheral.

ONBOARD LEGACY AUDIO:

This field controls the onboard legacy audio.

- | | |
|------------------------|-----------------------|
| ❶ Sound Blaster | ❷ SB I/O Base Address |
| ❸ SB IRQ Select | ❹ SB DMA Select |
| ❺ MPU-401 | ❻ MPU-401 I/O Address |
| ❼ Game Port (200-207H) | |

4-7. POWER MANAGEMENT SETUP

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Power Management Setup

ACPI Function	[Enabled]	Item Help
▶ Power Management	[Press Enter]	
PM Control by APM	[Yes]	Menu Level ▶
Video Off Option	[Suspend->Off]	
Video Off Method	[DPMS Support]	
MODEM Use IRQ	[3]	
Soft-Off by PWRBTN	[Instant-Off]	
State After Power Failure	[Auto]	
▶ Wake Up Events	[Press Enter]	
↑↓→←: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).

POWER MANAGEMENT:

This item allows the user to select the type or degree of power saving and is directly related to HDD Power Down, Doze Mode and Suspend Mode.

PM CONTROL BY APM:

If Advanced Power Management (APM) is installed on your system, selecting Yes gives better power savings.

VIDEO OFF OPTION:

This category determines the power-saving modes during which the monitor goes blank:

ALWAYS ON	Monitor remains on during power-saving modes.
SUSPEND → OFF	Monitor blanked when system enters Suspend mode.
SUSP,STBY → OFF	Monitor blanked when system enters either Suspend or Standby mode.
ALL MODES → OFF	Monitor blanked when system enters any power saving mode.

VIDEO OFF METHOD:

This category determines the manner in which the monitor is blanked.

V/H SYNC+BLANK	This selection will cause the system to turn off the vertical & horizontal synchronization ports and writes blanks to video buffer.
BLANK SCREEN	This selection only writes blanks to video buffer.
DPMS SUPPORT	Initial display power management signaling.

MODEM USE IRQ:

This item enable you to name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

SOFT-OFF BY PWRBTN:

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung”. The choices are Delay 4 Sec and Instant-Off.

STATE AFTER POWER FAILURE:

This field lets you determine the state that your system returns to after a power failure. When set to OFF, the system will not boot after a power failure. When set to ON, the system will restart after a power failure.

PM EVENTS:

PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything that occurs to a device, which is configured as ON, even when the system is in a power down mode.

VGA:

When Enabled, you can set the VGA awakens the system.

LPT & COM:

When *ON of LPT & COM*, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

HDD & FDD:

When *ON of HDD & FDD*, any activity from one of the listed system peripheral devices wakes up the system.

PCI MASTER:

When *ON of PCI Master*, any activity from one of the listed system peripheral devices wakes up the system.

WAKE UP ON LAN/RING:

This category allows you to wake up the system from LAN from remote host. And it also can be awoken from an input signal on serial Ring Indicator (RI) line (incoming call on the modem).

RTC ALARM RESUME:

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

PRIMARY INTR:

When set to Off, IRQ Activity Monitoring is set to BIOS default. When set to On, user may select the desired setting.

4-8. PNP/PCI CONFIGURATION

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
PnP/PCI Configurations

PNP OS Installed	[No]	Item Help
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto(ESCD)]	Menu Level ►
X IRQ Resources	Press Enter	Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
X DMA Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ for VGA	[Enabled]	
Assign IRQ for USB	[Enabled]	
↑↓→←: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 Setup Screen

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.

PNP OS INSTALLED:

This item allows you to determine install PnP OS or not.

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 cannot 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.

DMA RESOURCES:

When resources are controlled manually, assign each system DMA channel a type, depending on the type of device using the DMA channel.

PCI/VGA PALETTE SNOOP:

Leave this field at disabled.

ASSIGN IRQ FOR USB:

Enable or Disable to assign IRQ for USB.

ASSIGN IRQ FOR VGA:

Enable or Disable to assign IRQ for VGA.

4-9. PC HEALTH STATUS

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
PC Health Status

Current CPU Temp.	56°C/132°F	Item Help
Current CPUFAN Speed	5649 RPM	Menu Level ►
Vcore1	1.68V	
2.5V	2.35V	
3.3V	3.38V	
5V	5.15V	
12V	12.24V	
↑↓→←: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

The setup menu allows you to select whether to choose between monitoring or ignoring the hardware monitoring function of your system.

CURRENT CPU TEMPERATURE:

This item shows you the current CPU temperature.

CURRENT CPUFAN SPEED:

This item shows you the current CPUFAN speed.

VCORE:

This item shows you the current system voltage.

4-10. FREQUENCY/VOLTAGE CONTROL

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Frequency Control

Auto Detect DIMM/PCI Clk	[Enabled]	Item Help
Spread Spectrum	[Disabled]	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

This setup menu allows you to specify your settings for frequency/voltage control.

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.

Enter 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

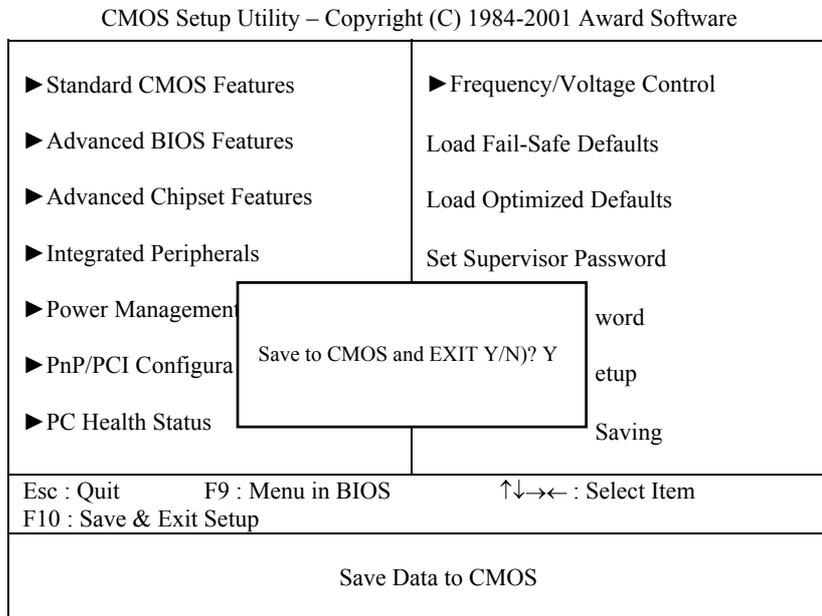
To disable the password, select this function (do not enter any key when you are prompt to enter a password), and press the <Enter> key and a message will appear at the center of the screen:

PASSWORD DISABLED!!!
Press any key to continue...

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

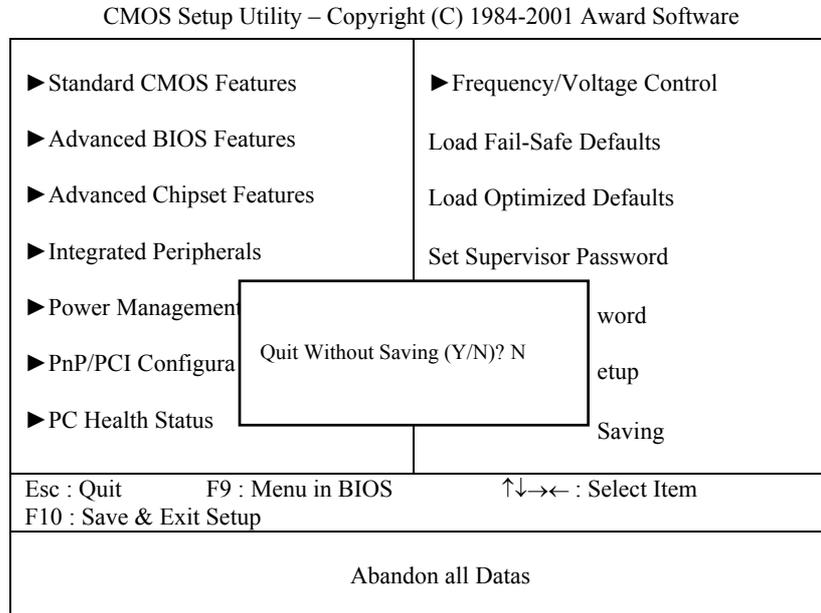
After you have completed adjusting all the settings as required, you must remember to save these setting into the CMOS RAM. To save the settings, select “SAVE & EXIT SETUP” and press <Enter>, a display will be shown as follows:



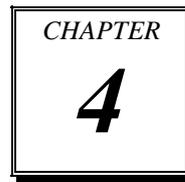
When you confirm that you wish to save the settings, your system will be automatically restarted and the changes you have made will be implemented. You may always call up the setup program at any time to adjust any of the individual items by pressing the key during boot up.

4-15. 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:



AWARD BIOS SETUP



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
- Load Optimized Defaults
- Password Setting
- Save and Exit Setup

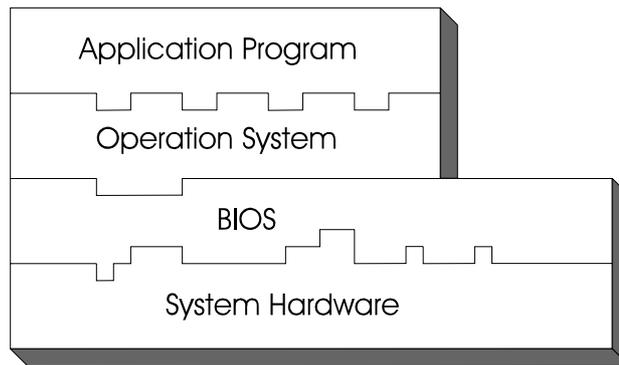
4-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The PS-8830 POS System 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 TO ENTER SETUP, ESC TO SKIP MEMORY TEST

As long as this message is present on the screen you may press the 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:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software	
<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status 	<ul style="list-style-type: none"> ▶ Frequency/Voltage Control Load Fail-Safe Defaults Load Optimized Defaults Set Password Save & Exit Setup Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item F10 : Save & Exit Setup	
Time, Date, Hard Disk Type	

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:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Standard CMOS Features

Date (mm:dd:yy)	Thu, Jan 4 2001	Item Help
Time (hh:mm:ss)	15 : 24 : 14	
▶ IDE Primary Master	[ST320414A]	Menu Level ▶ Change the day, month, year and century
▶ IDE Primary Slave	[None]	
▶ IDE Secondary Master	[None]	
▶ IDE Secondary Slave	[ATAPI CD-ROM Drive 4]	
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	97280K	
Total Memory	98304K	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

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.

Date:

< Month >, < Date > and <Year >. Ranges for each value are in the CMOS Setup Screen, and the week-day will skip 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 options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
IDE Primary Master

IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Primary Master Access Mode	[Auto] [Auto]	Menu Level ►►
Capacity	13022 MB	To auto-detect the HDD's size, head...on this channel
Cylinder	25232	
Head	16	
Precomp	65535	
Landing Zone	25231	
Sector	63	
↑↓→←: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 – IDE Primary Master sub menu

Descriptions on each item above are as follows:

1. IDE HDD Auto-detection

Press the enter key to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

2. IDE Primary Master

There are three available options on this category, namely: None, Auto, and Manual. By selecting “Manual”, you can set the remaining fields on this screen, such as -

- a. Cylinder – Set the number of cylinders for this hard disk.
- b. Head – Set the number of read/write heads.
- c. Precomp - *****Warning!** Setting a value of 65535 means no HDD.
- d. Landing Zone
- e. Sector – Set the number of sector per track

3. Access Mode

There are four available options for this item, namely: Normal, LBA, Large and Auto. Choose the access mode for this hard disk.

4. Capacity

Disk Drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk-checking program.

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 as follows:

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.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Advanced BIOS Features

Virus Warning	[Disabled]	Item Help
CPU Internal Cache	[Enabled]	
External Cache	[Enabled]	Menu Level ▶
CPU L2 Cache ECC Checking	[Enabled]	
Processor Number Feature	[Enabled]	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
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	
Second Boot Device	[HDD-0]	
Third Boot Device	[LS120]	
Boot Other Device	[Enabled]	
Swap Floppy Drive	[Disabled]	
Boot Up Floppy Seek	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	[Setup]	
OS Select for DRAM > 64MB	[Non-OS2]	
Video BIOS Shadow	[Enabled]	
C8000-CBFFF Shadow	[Disabled]	
CC000-CFFFF Shadow	[Disabled]	
D0000-D3FFF Shadow	[Disabled]	
D4000-D7FFF Shadow	[Disabled]	
D8000-DBFFF Shadow	[Disabled]	
DC000-DFFFF Shadow	[Disabled]	
Small Logo (EPA) Show	[Enabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

BIOS Features Setup Menu

The "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.

VIRUS WARNING :

This item 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.

CPU INTERNAL CACHE/EXTERNAL CACHE :

These two categories speed up memory access. However, it depends on CPU/chipset design.

CPU L2 CACHE ECC CHECKING :

This item allows you to enable or disable CPU L2 Cache ECC checking.

PROCESSOR NUMBER FEATURE :

This option is for Pentium III processor only. During Enabled, this will check the CPU Serial number. Disabled this option if you don't want the system to know the Serial number.

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 attempt to load the operating system from the devices in the sequence selected in these items.

SWAP FLOPPY DRIVE:

This field is effective only in systems with two floppy drives. Selecting Enabled assigns physical drive B to logical drive A, and physical drive A to logical drive B.

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.

GATE 20A OPTION:

This entry allows you to select how the gate A20 is handled. When Normal was set, a pin in the keyboard controller controls Gate A20. And when Fast was set, the chipset controls Gate A20.

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.

TYPEMATIC DELAY (MSEC):

The item sets the delay time after the key is held down before it begins to repeat the keystroke.

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.

OS SELECT FOR DRAM >64MB :

Select the operating system that is running with greater than 64MB or RAM on the system. You may choose OS2 or Non-OS2.

VIDEO BIOS SHADOW :

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

C8000-CBFFF SHADOW ~ DC000-DFFFF SHADOW:

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of on-board SCSI.

4-5. ADVANCED CHIPSET FEATURES

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Advanced Chipset Features

		Item Help
DRAM Timing by SPD	[Enabled]	
X DRAM Clock	Host CLK	
X SDRAM Cycle Length	3	Menu Level ►
X Bank Interleave	Disabled	
Memory Hole	[Disabled]	
P2C/C2P Concurrency	[Enabled]	
Fast R-W Turn Around	[Disabled]	
System BIOS Cacheable	[Disabled]	
Video RAM Cacheable	[Disabled]	
Frame Buffer Size	[8M]	
AGP Aperture Size	[64M]	
AGP-4X Mode	[Enabled]	
AGP Driving Control	[Auto]	
X AGP Driving Value	DA	
OnChip USB	[Enabled]	
USB Keyboard Support	[Disabled]	
OnChip Sound	[Auto]	
Keyboard POWER-ON	[Disabled]	
CPU to PCI Write Buffer	[Enabled]	
PCI Dynamic Bursting	[Enabled]	
PCI Master 0 WS Write	[Enabled]	
PCI Delay Transaction	[Disabled]	
PCI#2 Access #1 Retry	[Enabled]	
AGP Master 1 WS Write	[Disabled]	
AGP Master 1 WS Read	[Disabled]	
IO Channel check NMI	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Chipset Features Setup Screen

The parameter allows you to configure the system based on the specific features of the installed chipset. The chipset manages bus speed and access to system memory resources, such as DRAM and the external cache.

It also coordinates communications between conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for the system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

DRAM CLOCK:

This item allows you to control the DRAM speed.

SDRAM CYCLE LENGTH:

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

MEMORY HOLE:

In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

P2C/C2P CONCURRENCY:

This item allows you to enable/disable the PCI to CPU, CPU to PCI concurrency.

FAST R-W TURN AROUND:

This item controls the DRAM timing. It allows you to enable/disable the fast read/write turn around.

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 RAM CACHEABLE:

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

AGP APERTURE SIZE:

This allows you to adjust the graphics aperture size. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

AGP-4X MODE:

This item allows you to enable or disable the AGP-4X Mode.

AGP DRIVING CONTROL:

This item allows you to adjust the AGP driving force. Choose *Manual* to key in an AGP Driving Value in the next selection. This field is recommended to set in Auto for avoiding any error in your system.

AGP DRIVING VALUE:

This item allows you to adjust the AGP driving force.

ONCHIP USB:

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.

USB KEYBOARD SUPPORT:

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

ONCHIP SOUND:

This item allows you to control the onboard AC '97 audio.

KEYBOARD POWER-ON:

This item allows you to power-up the system through keyboard.

CPU TO PCI WRITE BUFFER:

When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.

PCI DYNAMIC BURSTING:

When Enabled, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and non-burstable transaction don't.

PCI MASTER 0 WS WRITE:

When Enabled, writes to the PCI bus are executed with zero wait states.

PCI DELAY TRANSACTION:

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

PCI#2 ACCESS #1 RETRY:

When disabled, PCI#2 will not be disconnected until access finishes. When Enabled, PCI#2 will be disconnected if max retries are attempted without success.

AGP MASTER 1 WS WRITE:

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait state.

AGP MASTER 1 WS READ:

When Enabled, read to the AGP (Accelerated Graphics Port) are executed with one wait state.

IO CHANNEL CHECK NMI:

This field enables or disables IO channel check NMI. Before selecting this function, the user should check first that NMI function is enabled as described in chapter 2 (Reset/NMI/Clear Watchdog Selection).

4-6. INTEGRATED PERIPHERALS

Choose "INTEGRATED PERIPHERALS" from the main setup menu, a display will be shown on screen as below:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Integrated Peripherals

On-Chip IDE Channel0	[Enabled]	Item Help
On-Chip IDE Channel1	[Enabled]	
IDE Prefetch Mode	[Enabled]	
Primary Master PIO	[Auto]	Menu Level ►
Primary Slave PIO	[Auto]	
Secondary Master PIO	[Auto]	
Secondary Slave PIO	[Auto]	
Primary Master UDMA	[Auto]	
Primary Slave UDMA	[Auto]	
Secondary Master UDMA	[Auto]	
Secondary Slave UDMA	[Auto]	
Init Display First	[PCI Slot]	
IDE HDD Block Mode	[Enabled]	
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART 2 Mode	[Standard]	
IR Function Duplex	[Half]	
TX,RX inverting enable	[No, Yes]	
Onboard Parallel Port	[378/IRQ7]	
Onboard Parallel Mode	[Normal]	
X ECP Mode Use DMA	3	
X Parallel Port EPP Type	EPP1.9	
Onboard Serial Port 3	[3E8H]	
X Serial Port 3 Use IRQ	IRQ10	
Onboard Serial Port 4	[2E8H]	
X Serial Port 4 Use IRQ	IRQ11	
Onboard Legacy Audio	[Enabled]	
Sound Blaster	[Disabled]	
SB I/O Base Address	[220H]	
SB IRQ Select	[IRQ 5]	
SB DMA Select	[DMA 1]	
MPU-401	[Disabled]	
MPU-401 I/O Address	[330-333H]	
↑↓→←: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.

ONCHIP IDE CHANNEL 0:

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface.

ONCHIP IDE CHANNEL 1:

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this interface.

IDE PREFETCH MODE:

The onboard IDE drive interfaces supports IDE pre-fetching for faster drive accesses. If you install a primary and or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support pre-fetching.

PRIMARY MASTER/SLAVE PIO:

SECONDARY MASTER/SLAVE PIO:

The four IDE PIO fields allow you to set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

PRIMARY MASTER/SLAVE UDMA:

SECONDARY MASTER/SLAVE UDMA:

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If you hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

INIT DISPLAY FIRST:

This item allows you to decide to active whether PCI Slot or on-chip VGA first. The choices are PCI Slot and Onboard.

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.

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.

ONBOARD SERIAL PORT 1:

ONBOARD SERIAL PORT 2:

ONBOARD SERIAL PORT 3:

ONBOARD SERIAL PORT 4:

Select an address and corresponding interrupt for the 1st, 2nd, 3rd and forth serial ports.

UART 2 MODE:

This item allows you to select which mode for the Onboard Serial Port 2.

IR FUNCTION DUPLEX:

This item allows you to select the IR half/full duplex function.

TX, RX INVERTING ENABLE:

This item allows you to enable TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

ONBOARD PARALLEL PORT:

This item allows you to determine access onboard parallel port controller with which I/O address.

ONBOARD PARALLEL MODE:

Select an operating mode for the onboard (printer) port. Select *Normal* unless you are certain your hardware and software both support one of the other available modes.

ECP MODE USE DMA:

Select a DMA channel for the parallel port for use during ECP mode.

PARALLEL PORT EPP TYPE:

Select EPP port type 1.7 or 1.9 as required by your parallel peripheral.

ONBOARD LEGACY AUDIO:

This field controls the onboard legacy audio.

- | | |
|------------------------|-----------------------|
| ❶ Sound Blaster | ❷ SB I/O Base Address |
| ❸ SB IRQ Select | ❹ SB DMA Select |
| ❺ MPU-401 | ❻ MPU-401 I/O Address |
| ❼ Game Port (200-207H) | |

4-7. POWER MANAGEMENT SETUP

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Power Management Setup

ACPI Function [Enabled] ▶ Power Management [Press Enter] PM Control by APM [Yes] Video Off Option [Suspend->Off] Video Off Method [DPMS Support] MODEM Use IRQ [3] Soft-Off by PWRBTN [Instant-Off] State After Power Failure [Auto] ▶ Wake Up Events [Press Enter]	Item Help <hr/> 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	

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).

POWER MANAGEMENT:

This item allows the user to select the type or degree of power saving and is directly related to HDD Power Down, Doze Mode and Suspend Mode.

PM CONTROL BY APM:

If Advanced Power Management (APM) is installed on your system, selecting Yes gives better power savings.

VIDEO OFF OPTION:

This category determines the power-saving modes during which the monitor goes blank:

ALWAYS ON	Monitor remains on during power-saving modes.
SUSPEND → OFF	Monitor blanked when system enters Suspend mode.
SUSP,STBY → OFF	Monitor blanked when system enters either Suspend or Standby mode.
ALL MODES → OFF	Monitor blanked when system enters any power saving mode.

VIDEO OFF METHOD:

This category determines the manner in which the monitor is blanked.

V/H SYNC+BLANK	This selection will cause the system to turn off the vertical & horizontal synchronization ports and writes blanks to video buffer.
BLANK SCREEN	This selection only writes blanks to video buffer.
DPMS SUPPORT	Initial display power management signaling.

MODEM USE IRQ:

This item enable you to name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

SOFT-OFF BY PWRBTN:

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung”. The choices are Delay 4 Sec and Instant-Off.

STATE AFTER POWER FAILURE:

This field lets you determine the state that your system returns to after a power failure. When set to OFF, the system will not boot after a power failure. When set to ON, the system will restart after a power failure.

PM EVENTS:

PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything that occurs to a device, which is configured as ON, even when the system is in a power down mode.

VGA:

When Enabled, you can set the VGA awakens the system.

LPT & COM:

When *ON of LPT & COM*, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

HDD & FDD:

When *ON of HDD & FDD*, any activity from one of the listed system peripheral devices wakes up the system.

PCI MASTER:

When *ON of PCI Master*, any activity from one of the listed system peripheral devices wakes up the system.

WAKE UP ON LAN/RING:

This category allows you to wake up the system from LAN from remote host. And it also can be awakened from an input signal on serial Ring Indicator (RI) line (incoming call on the modem).

RTC ALARM RESUME:

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

PRIMARY INTR:

When set to Off, IRQ Activity Monitoring is set to BIOS default. When set to On, user may select the desired setting.

4-8. PNP/PCI CONFIGURATION

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
PnP/PCI Configurations

PNP OS Installed	[No]	Item Help
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto(ESCD)]	Menu Level ►
X IRQ Resources	Press Enter	Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
X DMA Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ for VGA	[Enabled]	
Assign IRQ for USB	[Enabled]	
↑↓→←: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 Setup Screen

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.

PNP OS INSTALLED:

This item allows you to determine install PnP OS or not.

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 cannot 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.

DMA RESOURCES:

When resources are controlled manually, assign each system DMA channel a type, depending on the type of device using the DMA channel.

PCI/VGA PALETTE SNOOP:

Leave this field at disabled.

ASSIGN IRQ FOR USB:

Enable or Disable to assign IRQ for USB.

ASSIGN IRQ FOR VGA:

Enable or Disable to assign IRQ for VGA.

4-9. PC HEALTH STATUS

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
PC Health Status

Current CPU Temp.	56°C/132°F	Item Help
Current CPUFAN Speed	5649 RPM	Menu Level ►
Vcore1	1.68V	
2.5V	2.35V	
3.3V	3.38V	
5V	5.15V	
12V	12.24V	
↑↓→←: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

The setup menu allows you to select whether to choose between monitoring or ignoring the hardware monitoring function of your system.

CURRENT CPU TEMPERATURE:

This item shows you the current CPU temperature.

CURRENT CPUFAN SPEED:

This item shows you the current CPUFAN speed.

VCORE:

This item shows you the current system voltage.

4-10. FREQUENCY/VOLTAGE CONTROL

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

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
Frequency Control

Auto Detect DIMM/PCI Clk	[Enabled]	Item Help
Spread Spectrum	[Disabled]	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

This setup menu allows you to specify your settings for frequency/voltage control.

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.

Enter 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

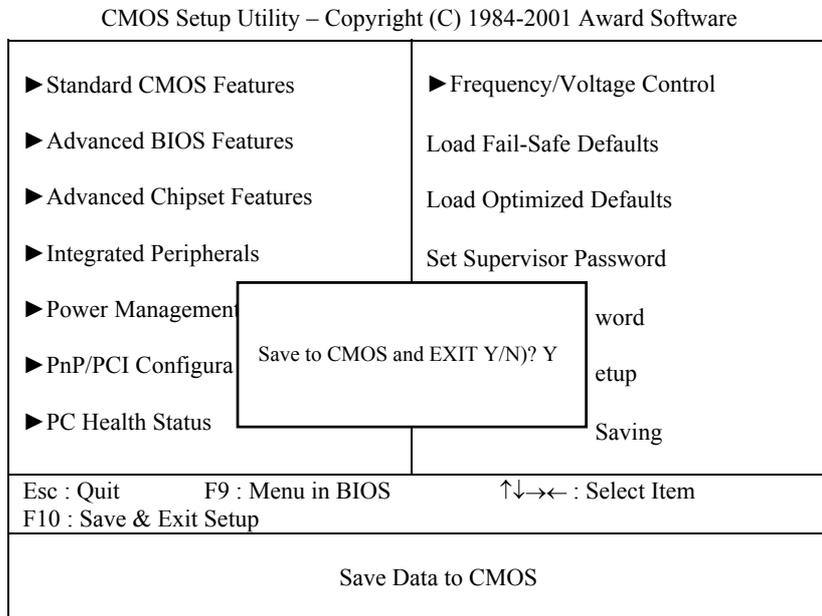
To disable the password, select this function (do not enter any key when you are prompt to enter a password), and press the <Enter> key and a message will appear at the center of the screen:

PASSWORD DISABLED!!!
Press any key to continue...

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

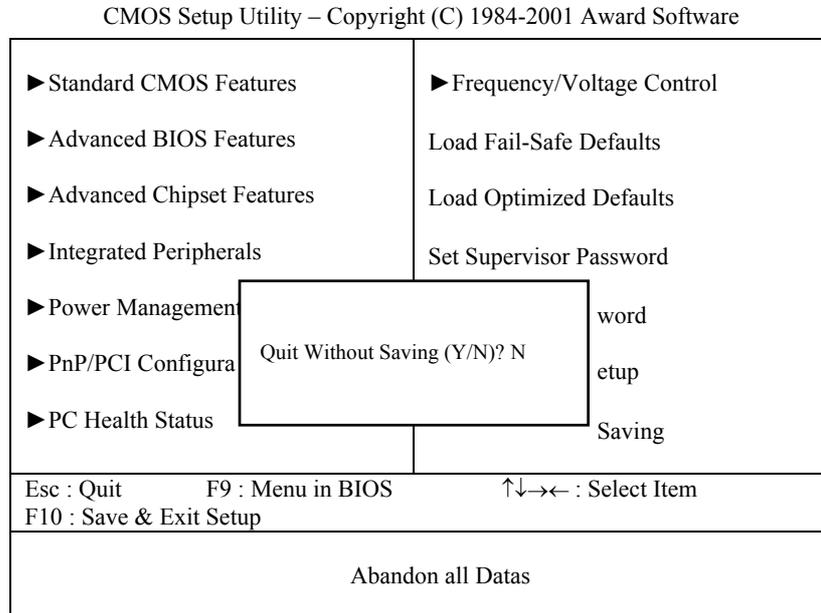
After you have completed adjusting all the settings as required, you must remember to save these setting into the CMOS RAM. To save the settings, select “SAVE & EXIT SETUP” and press <Enter>, a display will be shown as follows:



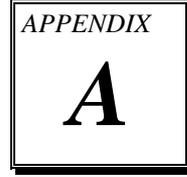
When you confirm that you wish to save the settings, your system will be automatically restarted and the changes you have made will be implemented. You may always call up the setup program at any time to adjust any of the individual items by pressing the key during boot up.

4-15. 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:



ACCESSORY BOARD



This appendix explains the accessory board and how to connect to the Prox-1675 mainboard.

Section includes:

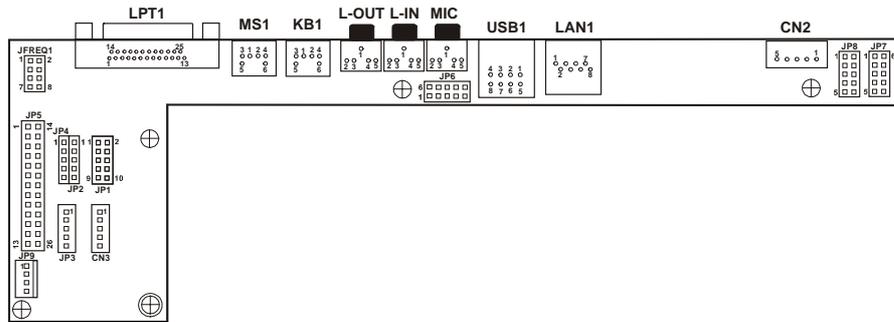
- Prox-9733 Accessory Board
- Prox-9732 Accessory Board

A-1. INTRODUCTION

You will find a Prox-9733 & Prox-9732 accessory board in our PS-8830HT POS system. These boards are specially designed to convert connector and signal from Prox-1675L.

A-2. PROX-9733 ACCESSORY BOARD

A-2-1. ILLUSTRATION :



A-2-2. REFERENCE TABLE :

Keyboard Connector	JP4, KB1
Mouse Connector	JP2, MS1
Universal Serial Bus Connector	JP6, USB1
Connector	
LAN Connector	JFREQ1, LAN1
Sound Connector	JP1, MIC, L-IN
.....	L-OUT
Brightness Control	CN2
Power Connector	JP9
Backlight Delay Power Connector	CN3
Printer Connector	JP5, LPT1
Reserved pin	JP3, JP7, JP8

A-2-3. KEYBOARD CONNECTOR :

JP4 : Keyboard Signal-In Connector

JP4 is to be connected to KB1 of Prox-1675L.

The pin assignments are as follows :

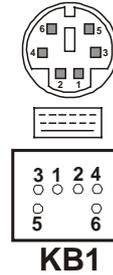
PIN	ASSIGNMENT
1	KB CLK
2	KB DATA
3	NC
4	GND
5	+5V SB



KB1 : Keyboard Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	KB DATA
2	NC
3	GND
4	+5V SB
5	KB CLK
6	NC



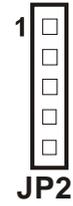
A-2-4. MOUSE CONNECTOR :

JP2 : Mouse Signal-In Connector

JP2 is to be connected to MS1 of Prox-1675L.

The pin assignments are as follows :

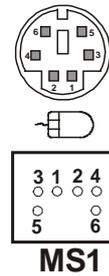
PIN	ASSIGNMENT
1	KB CLK
2	KB DATA
3	NC
4	GND
5	+5V SB



MS1 : PS/2 Mouse Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	MS DATA
2	NC
3	GND
4	+5V SB
5	MS CLK
6	NC



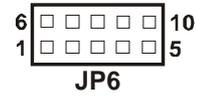
A-2-5. UNIVERSAL SERIAL BUS CONNECTOR :

JP6 : USB Signal-In Connector

JP6 is to be connected to USB1 of Prox-1675L.

The pin assignments are as follows :

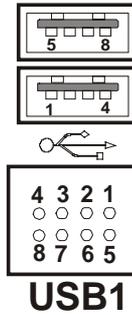
PIN	ASSIGNMENT
1	VCC
2	USBDT0-
3	USBDT0+
4	GND
5	GND
6	VCC
7	USBDT1-
8	USBDT1+
9	GND
10	GND



USB1 : USB Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	VCC
2	USBDT0-
3	USBDT0+
4	GND
5	VCC
6	USBDT1-
7	USBDT1+
8	GND



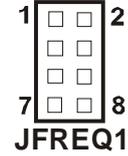
A-2-6. LAN CONNECTOR :

JFREQ1 : LAN Signal-In Connector

JFREQ1 is to be connected to JFREQ found in Prox-1675L.

The pin assignments are as follows :

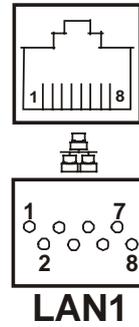
PIN	ASSIGNMENT
1	GND
2	GND
3	GND
4	RDN
5	RDP
6	GND
7	TDP
8	TDN



LAN1 : LAN Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	TDP
2	TDN
3	RDP
4	RDN
5	GND
6	GND
7	GND
8	GND

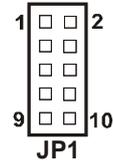


A-2-7. SOUND CONNECTOR :

JP1 : Sound Signal-In Connector

JP1 is to be connected to JP7 found in Prox-1675L. This connector is composed of MIC, Line-In and Line-Out signal. The pin assignments are as follows :

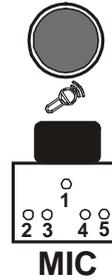
PIN	ASSIGNMENT
1	MIC-IN
2	MIC-VDD
3	GND
4	GND
5	LINE-L
6	LINE-R
7	GND
8	GND
9	SPK-L
10	SPK-R



MIC : Microphone Connector

The pin assignments are as follows :

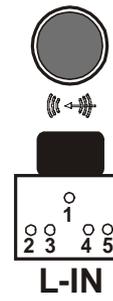
PIN	ASSIGNMENT
1	GND
2	MIC-IN
3	NC
4	NC
5	MIC-VDD



L-IN : Line-In Connector

The pin assignments are as follows :

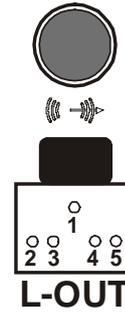
PIN	ASSIGNMENT
1	GND
2	LINE-L
3	NC
4	NC
5	LINE-R



L-OUT : Line-Out (SPK) Connector

The pin assignments are as follows :

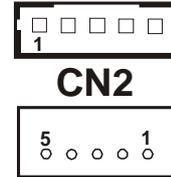
PIN	ASSIGNMENT
1	GND
2	SPK-L
3	NC
4	NC
5	SPK-R



A-2-8. BRIGHTNESS CONTROLLER CONNECTOR :

CN2 : Brightness Controller Connector
 The pin assignments are as follows :

PIN	ASSIGNMENT
1	+12V
2	GND
3	BR UP
4	GND
5	BR DN



A-2-9. POWER CONNECTOR :

JP9 : Power-In Connector for Inverter.
 The pin assignments are as follows :

PIN	ASSIGNMENT
1	+5V
2	GND
3	GND
4	+12V



A-2-10. INVERTER POWER CONNECTOR :

CN3 : Inverter Power Connector
 The pin assignments are as follows :

PIN	ASSIGNMENT
1	+12V
2	GND
3	BR CTR
4	GND
5	+5V

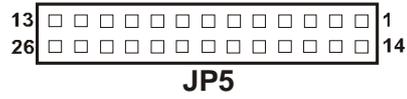


A-2-11. PRINTER CONNECTOR :

JP5 : Printer Signal-In Connector

JP5 is to be connected to PRT1 found in Prox-1675L.

The pin assignments are as follows :

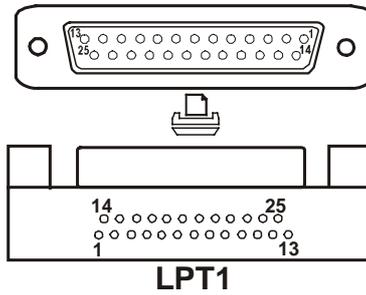


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STB	14	AUTFE
2	P0	15	ERROR
3	P1	16	INIT
4	P2	17	SLCTIN
5	P3	18	GND
6	P4	19	GND
7	P5	20	GND
8	P6	21	GND
9	P7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	GPIO

⚠ Pin#26 is signal pin for Backlight Delay.

LPT1 : Printer Connector

The pin assignments are as follows :



LPT1

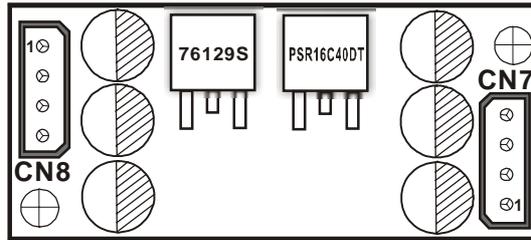
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STB	14	AUTFE
2	P0	15	ERROR
3	P1	16	INIT
4	P2	17	SLCTIN
5	P3	18	GND
6	P4	19	GND
7	P5	20	GND
8	P6	21	GND
9	P7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT		

A-3. PROX-9732 ACCESSORY BOARD

A-3-1. INTRODUCTION :

Since Prox-1675L Embedded board need the +3.3V and the PW-F80ATX power supply does not have +3.3V. In order to have +3.3V, we specially designed the Prox-9732 Accessory Board to convert the +5V & +12V power signal to +3.3V.

A-3-2. ILLUSTRATION :



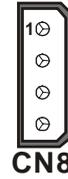
A-3-3. REFERENCE TABLE :

Power In Connector	CN8
Power Out Connector	CN7

A-3-4. POWER-IN CONNECTOR :

CN8 : Power-In Connector
The pin assignments are as follows :

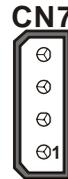
PIN	ASSIGNMENT
1	+5V
2	GND
3	GND
4	+12V



A-3-5. POWER-OUT CONNECTOR :

CN7 : Power-Out Connector
The pin assignments are as follows :

PIN	ASSIGNMENT
1	+3.3V
2	GND
3	GND
4	+3.3V

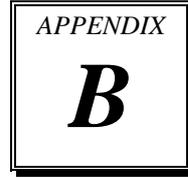


A-3-6. Installation:

For installation, follow the following steps:

- (1) Locate the Power Cable. The Power Cable is composed of
 - [a] 10-pin power connector,
 - [b] 20-pin power connector,
 - [c] Two big 4-pin power connector, and
 - [d] Two small 4-pin power connector
- (2) Using the Power Cable, Connect 10-pin to PW-F80ATX and 20-pin to Prox-1675L board.
- (3) Connect the 4-pin big connector, which is attached to 10-pin connector, to CN8.
- (4) Connect the 4-pin big connector, which is attached to 20-pin connector, to CN7.

TECHNICAL SUMMARY

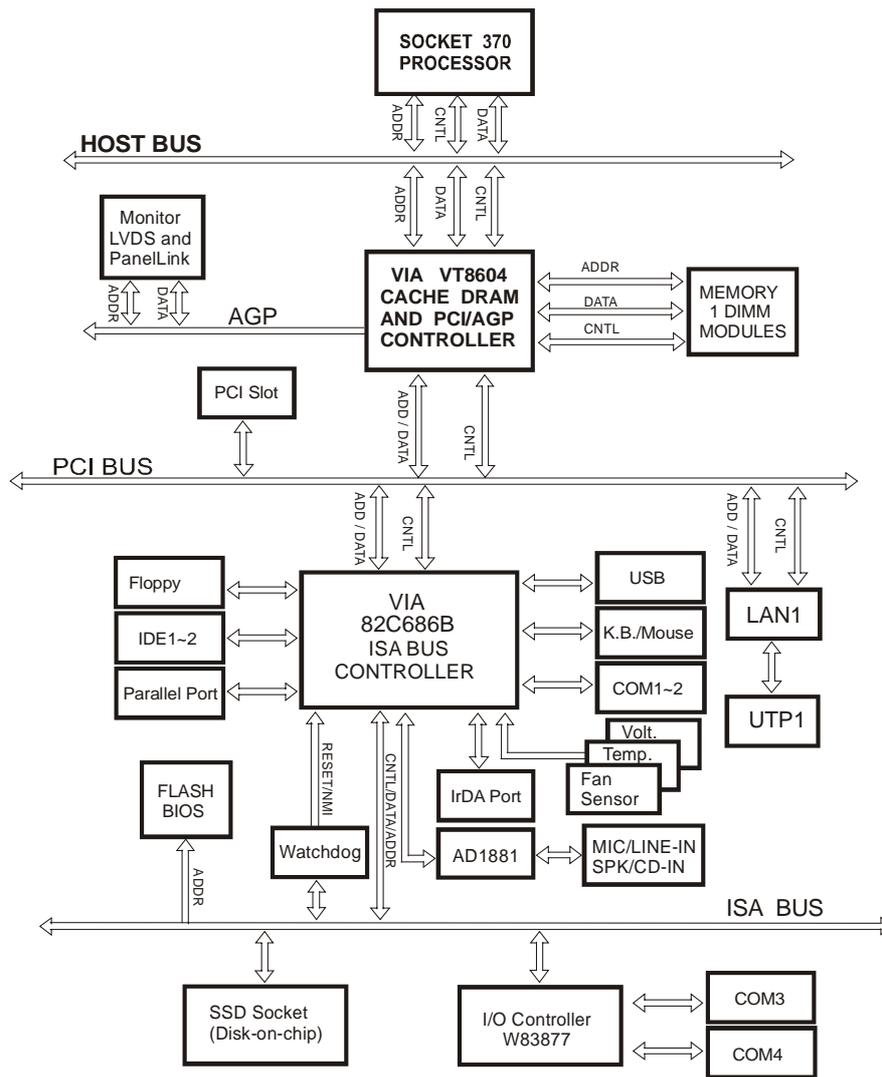


This section introduce you the maps concisely.

Sections include:

- Block Diagram
- Interrupt Map
- RTC & CMOS RAM Map
- 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 / Modem
4	Serial port 1
5	Parallel port 2 / Sound Blaster
6	Floppy
7	Parallel port 1
8	RTC clock
9	Available
10	COM4
11	COM3
12	PS/2 Mouse
13	Math coprocessor
14	IDE1
15	IDE2

RTC & CMOS RAM MAP

CODE	ASSIGNMENT
00	Seconds
01	Second alarm
02	Minutes
03	Minutes alarm
04	Hours
05	Hours alarm
06	Day of week
07	Day of month
08	Month
09	Year
0A	Status register A
0B	Status register B
0C	Status register C
0D	Status register D
0E	Diagnostic status byte
0F	Shutdown byte
10	Floppy Disk drive type byte
11	Reserve
12	Hard Disk type byte
13	Reserve
14	Equipment byte
15	Base memory low byte
16	Base memory high byte
17	Extension memory low byte
18	Extension memory high byte
30	Reserved for extension memory low byte
31	Reserved for extension memory high byte
32	Date Century byte
33	Information Flag
34-3F	Reserve
40-7f	Reserved for Chipset Setting Data

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 / Sound Blaster
2	Floppy
3	Available / ECP
4	Cascade for DMA controller 1
5	Available
6	Available
7	Available

I/O & MEMORY MAP

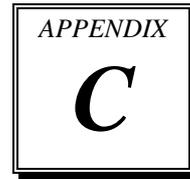
Memory Map :

MEMORY MAP	ASSIGNMENT
0000000-009FFFF	System memory used by DOS and application
00A0000-00BFFFF	Display buffer memory for VGA/ EGA / CGA / MONOCHROME adapter
00C0000-00DFFFF	Reserved for I/O device BIOS ROM or RAM buffer.
00E0000-00EFFFF	Reserved for PCI device ROM
00F0000-00FFFFFF	System BIOS ROM
0100000-FFFFFFF	System extension memory

I/O Map :

I/O MAP	ASSIGNMENT
000-01F	DMA controller (Master)
020-021	Interrupt controller (Master)
022-023	Chipset controller registers I/O ports.
040-05F	Timer control registers.
060-06F	Keyboard interface controller (8042)
070-07F	RTC ports & CMOS I/O ports
080-09F	DMA register
0A0-0BF	Interrupt controller (Slave)
0C0-0DF	DMA controller (Slave)
0F0-0FF	Math coprocessor
1F0-1F8	Hard Disk controller
278-27F	Parallel port-2
2B0-2DF	Graphics adapter controller
2F8-2FF	Serial port-2
360-36F	Net work ports
378-37F	Parallel port-1
3B0-3BF	Monochrome & Printer adapter
3C0-3CF	EGA adapter
3D0-3DF	CGA adapter
3F0-3F7	Floppy disk controller
3F8-3FF	Serial port-1

TROUBLE SHOOTING



This section outlines the errors may occur when you operate the system. It also gives you the suggestions on solving the problems.

Section includes:

- Trouble Shooting for Error Messages
- Trouble Shooting for POST Code

TROUBLE SHOOTING FOR ERROR MESSAGES

The following information gives you the error messages and the trouble-shooting. Please adjust your systems according to the messages below. And make sure all the components and connectors are in proper position and firmly attached. If the errors still encountered, please contact with your distributor for maintenance.

POST BEEP :

Currently there are two kinds of beep codes in BIOS. One code indicates that a video error has occurred and the BIOS cannot initialize the video screen to display any additional information. This beep code consists of a single long beep followed by two short beeps. The other code indicates that your DRAM error has occurred. This beep code consists of a single long beep repeatedly.

CMOS BATTERY HAS FAILED :

This message informs you that the CMOS battery is no longer functional. The user should replace it.

CMOS CHECKSUM ERROR :

This message informs you that the CMOS is incorrect. This error may have caused by a weak battery. Check the battery and replace if necessary.

DISK BOOT FAILURE, INSERT SYSTEM DISK AND PRESS ENTER :

No boot device was found. This could mean that either a boot drive was not detected or the drive does not contain proper system boot files. Insert a system disk into Drive A: and press < Enter >. If you assumed the system would boot from the hard drive, make sure the controller is inserted correctly and all cables are properly attached. Also make sure the disk is formatted as a boot device. Then reboot the system.

DISKETTE DRIVES OR TYPES MISMATCH ERROR - RUN SETUP :

Type of diskette drive installed in the system is different from the CMOS definition. Run Setup to reconfigure the drive type correctly.

DISPLAY SWITCH IS SET INCORRECTLY :

Display switch on the motherboard can be set to either monochrome or color. This indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the VIDEO selection.

DISPLAY TYPE HAS CHANGED SINCE LAST BOOT :

Since last powering off the system, the display adapter has been changed. You must configure the system for the new display type.

**EISA CONFIGURATION CHECKSUM ERROR
PLEASE RUN EISA CONFIGURATION UTILITY :**

The EISA non-volatile RAM checksum is incorrect or cannot correctly read the EISA slot. This can indicate either the EISA non-volatile memory has become corrupt or the slot has been configured incorrectly. Also be sure the card is installed firmly in the slot.

**EISA CONFIGURATION IS NOT COMPLETE
PLEASE RUN EISA CONFIGURATION UTILITY :**

The slot configure information stored in the EISA non-volatile memory is incomplete.

Note: When either of these errors appear, the system will boot in ISA mode, which allows you to run the EISA Configuration Utility.

ERROR ENCOUNTERED INITIALIZING HARD DRIVE :

Hard drive cannot be initialized. Be sure the adapter is installed correctly and all cables are correctly and firmly attached. Also be sure the correct hard drive type is selected in Setup.

ERROR INITIALIZING HARD DISK CONTROLLER :

Cannot initialize controller. Make sure the cord is correctly and firmly installed in the bus. Be sure the correct hard drive is selected in Setup. Also check to see if any jumper needs to be set correctly on the hard drive.

FLOPPY DISK CNTRLR ERROR OR NO CNTRLR PRESENT :

Cannot find or initialize the floppy drive controller. Make sure the controller is installed correctly and firmly. If there are no floppy drives installed, be sure the Diskette Drive selection in Setup is set to NONE.

INVALID EISA CONFIGURATION

PLEASE RUN EISA CONFIGURATION UTILITY :

The non-volatile memory containing EISA configuration information was programmed incorrectly or has become corrupt. Re-run EISA configuration utility to correctly program the memory.

Note: When this error appears, the system will boot in ISA mode, which allows you to run the EISA Configuration Utility.

KEYBOARD ERROR OR NO KEYBOARD PRESENT :

Cannot initialize the keyboard. Make sure that the keyboard is properly attached and no keys being pressed during the boot.

If you are purposely configuring the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. This will cause the BIOS to ignore the missing keyboard and continue the boot.

MEMORY ADDRESS ERROR AT ... :

Indicates a memory address error at a specific location. You can use this location along with the memory map for your system to find and replace the bad memory chips.

MEMORY PARITY ERROR AT ... :

Indicates a memory parity error at a specific location. You can use this location along with the memory map for your system to find and replace the bad memory chips.

MEMORY SIZE HAS CHANGED SINCE LAST BOOT :

Memory has been added or removed since the last boot. In EISA mode use Configuration Utility to reconfigure the memory configuration. In ISA mode enter Setup and enter the new memory size in the memory fields.

MEMORY VERIFY ERROR AT ... :

Indicates an error verifying a value already written to memory. Use the location along with your system's memory map to locate the bad chip.

OFFENDING ADDRESS NOT FOUND :

This message is used in conjunction with the I/O CHANNEL CHECK and RAM PARITY ERROR messages when the segment that has caused the problem cannot be isolated.

OFFENDING SEGMENT :

This message is used in conjunction with the I/O CHANNEL CHECK and RAM PARITY ERROR messages when the segment that has caused the problem has been isolated.

PRESS A KEY TO REBOOT :

This will be displayed at the bottom screen when an error occurs that requires you to reboot. Press any key and the system will reboot.

PRESS F1 TO DISABLE NMI, F2 TO REBOOT :

When BIOS detects a Non-maskable Interrupt condition during boot, this will allow you to disable the NMI and continue to boot, or you can reboot the system with the NMI enabled.

RAM PARITY ERROR – CHECKING FOR SEGMENT :

Indicates a parity error in Random Access Memory.

Should be Empty But EISA Board Found

PLEASE RUN EISA CONFIGURATION UTILITY :

A valid board ID was found in a slot that was configured as having no board ID.

Note: When this error appears, the system will boot in ISA mode, which allows you to run the EISA Configuration Utility.

Should Have EISA Board But Not Found

PLEASE RUN EISA CONFIGURATION UTILITY :

The board installed is not responding to the ID request, or no board ID has been found in the indicated slot.

Note: When this error appears, the system will boot in ISA mode, which allows you to run the EISA Configuration Utility.

Slot Not Empty :

Indicates that a slot designated as empty by the EISA Configuration Utility actually contains a board.

SYSTEM HALTED, (CTRL-ALT-DEL) TO REBOOT :

Indicates the present boot attempt has been aborted and the system must be rebooted. Press and hold down the CTRL and ALT keys and press DEL.

Wrong Board in Slot

PLEASE RUN EISA CONFIGURATION UTILITY :

The board ID does not match the ID stored in the EISA non-volatile memory.

Note: When this error appears, the system will boot in ISA mode, which allows you to run the EISA Configuration Utility.

FLOPPY DISK(S) FAIL (80) :

Unable to reset floppy subsystem.

FLOPPY DISK(S) FAIL (40) :

Floppy type mismatch.

Hard Disk(S) Fail (80) :

Hard Disk Drive reset failed.

Hard Disk(S) Fail (40) :

Hard Disk Drive controller diagnostics failed.

Hard Disk(S) Fail (20) :

Hard Disk Drive initialization error.

Hard Disk(S) Fail (10) :

Unable to recalibrate fixed disk.

Hard Disk(S) Fail (08) :

Sector Verify failed.

Keyboard is locked out – Unlock the key :

BIOS detect the keyboard is locked. P17 of keyboard controller is pulled low.

Keyboard error or no keyboard present :

Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are being pressed during the boot.

Manufacturing POST loop :

System will repeat POST procedure infinitely while the P15 of keyboard controller is pull low. This is also used for M/B burn in test.

BIOS ROM checksum error – System halted :

The checksum of ROM address F0000H-FFFFFFH is bad.

Memory test fail :

BIOS reports the memory test fail if the onboard memory is tested error.

TROUBLE SHOOTING FOR POST CODES

The lists below indicate you the post codes. Please follow the instruction to adjust your system. If the error still occurred, please contact with your distributor for maintenance.

- CFh** : Test CMOS R/W functionality.
- C0h** : Early chipset initialization
 - Disable shadow RAM
 - Disable L2 cache (socket 7 or below)
 - Program basic chipset registers
- C1h** : Detect memory
 - Auto-detection of DRAM size, type and ECC
 - Auto-detection of L2 cache (socket 7 or below)
- C3h** : Expand compressed BIOS code to DRAM.
- C5h** : Call chipset hook to copy BIOS black to E000 & F000 shadow RAM.
- 0h1** : Expand the Xgroup codes locating in physical address 1000:0
- 02h** : Reserved.
- 03h** : Initial Superio_Early_Init switch.
- 04h** : Reserved.
- 05h** :
 1. Blank out screen
 2. Clear CMOS error flag
- 06h** : Reserved
- 07h** :
 1. Clear 8042 interface
 2. Initialize 8042 self-test

- 08h** :
 1. Test special keyboard controller for Winbond 977 series Super I/O Chips.
 2. Enable keyboard interface.

- 09h** : Reserved

- 0Ah** :
 1. Disable PS/2 mouse interface (optional)
 2. Auto detect ports for keyboard & mouse followed by a port & interface swap (optional).
 3. Reset keyboard for Winbond 977 series Super I/O chips.

- 0Bh** : Reserved

- 0Ch** : Reserved

- 0Dh** : Reserved

- 0Eh** : Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker.

- 0Fh** : Reserved

- 10h** : Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD and DMI support.

- 11h** : Reserved

- 12h** : Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override.

- 13h** : Reserved

- 14h** : Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers.

- 15h** : Reserved

- 16h** : Initial Early_Init_Onboard_Generator switch.

- 17h** : Reserved
- 18h** : Detect CPU information including brand, SMI type (Cyrilx or Intel) and CPU level (586 or 686).
- 19h** : Reserved
- 1Ah** : Reserved
- 1Bh** : Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INIT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR.
- 1Ch** : Reserved
- 1Dh** : Initial EARLY_PM_INIT switch
- 1Eh** : Reserved
- 1Fh** : Load keyboard matrix (notebook platform)
- 20h** : Reserved
- 21h** : HPM initialization (notebook platform)
- 22h** : Reserved
- 23h** :
 1. Check validity of RTC value:
e.g. a value of 5Ah is an invalid value for RTC minute.
 2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value instead.
 3. Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration of the ESCD's legacy information.
 4. Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots.
 5. Early PCI initialization:
 - Enumerate PCI bus number
 - Assign memory & I/O resource
 - Search for a valid VGA device & VGA BIOS, and put it into C000:0.

- 24h** : Reserved
- 25h** : Reserved
- 26h** : Reserved
- 27h** : Initialize INT 09 buffer
- 28h** : Reserved
- 29h** :
 1. Program CPU internal mtrr (P6 & PII) for 0-640K memory address.
 2. Initialize the APIC for Pentium class CPU.
 3. Program early chipset according to CMOS setup.
Example: onboard IDE controller.
 4. Measure CPU speed.
 5. Invoke video BIOS.
- 2Ah** : Reserved
- 2Bh** : Reserved
- 2Ch** : Reserved
- 2Dh** :
 1. Initialize multi-language
 2. Put information on screen display, including Award title, CPU type, CPU speed ...
- 2Eh** : Reserved
- 2Fh** : Reserved
- 30h** : Reserved
- 31h** : Reserved
- 32h** : Reserved
- 33h** : Reset keyboard except Winbond 977 series Super I/O chips.

- 34h** : Reserved
- 35h** : Reserved
- 36h** : Reserved
- 37h** : Reserved
- 38h** : Reserved
- 39h** : Reserved
- 3Ah** : Reserved
- 3Bh** : Reserved
- 3Ch** : Test 8254
- 3Dh** : Reserved
- 3Eh** : Test 8259 interrupt mask bits for channel 1.
- 3Fh** : Reserved
- 40h** : Test 8259 interrupt mask bits for channel 2.
- 41h** : Reserved
- 42h** : Reserved
- 43h** : Test 8259 functionality.
- 44h** : Reserved
- 45h** : Reserved
- 46h** : Reserved
- 47h** : Initialize EISA slot

- 48h** : Reserved
- 49h** :
 - 1. Calculate total memory by testing the last double word of each 64K page.
 - 2. Program writes allocation for AMD K5 CPU.
- 4Ah** : Reserved
- 4Bh** : Reserved
- 4Ch** : Reserved
- 4Dh** : Reserved
- 4Eh** :
 - 1. Program MTRR of M1 CPU
 - 2. Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range.
 - 3. Initialize the APIC for P6 class CPU.
 - 4. On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical.
- 4Fh** : Reserved
- 50h** : Initialize USB
- 51h** : Reserved
- 52h** : Test all memory (clear all extended memory to 0)
- 53h** : Reserved
- 54h** : Reserved
- 55h** : Display number of processors (multi-processor platform)
- 56h** : Reserved
- 57h** :
 - 1. Display PnP logo
 - 2. Early ISA PnP initialization
 - Assign CSN to every PnP device.

- 58h** : Reserved
- 59h** : Initialize the combined Trend Anti-Virus code.
- 5Ah** : Reserved
- 5Bh** : (Optional Feature)
Show message for entering AWDFLASH.EXE from FDD
(optional)
- 5Ch** : Reserved
- 5Dh** : 1. Initialize Init_Onboard_Super_IO switch.
2. Initialize Init_Onboard_AUDIO switch.
- 5Eh** : Reserved
- 5Fh** : Reserved
- 60h** : Okay to enter Setup utility; i.e. not until this POST stage can users
enter the CMOS setup utility
- 61h** : Reserved
- 62h** : Reserved
- 63h** : Reserved
- 64h** : Reserved
- 65h** : Initialize PS/2 Mouse
- 66h** : Reserved
- 67h** : Prepare memory size information for function call:
INT 15h ax=E820h
- 68h** : Reserved
- 69h** : Turn on L2 cache.

- 6Ah** : Reserved

- 6Bh** : Program chipset registers according to items described in Setup and Auto-configuration table.

- 6Ch** : Reserved

- 6Dh** :
 - 1. Assign resources to all ISA PnP devices.
 - 2. Auto assign ports to onboard COM ports if the corresponding item in Setup is set to "AUTO".

- 6Eh** : Reserved

- 6Fh** :
 - 1. Initialize floppy controller.
 - 2. Set up floppy related fields in 40:hardware.

- 70h** : Reserved

- 71h** : Reserved

- 72h** : Reserved

- 73h** : (Optional Feature)
Enter AWDFLASH.EXE if:
 - AWDFLASH is found in floppy drive.
 - ALT+F2 is pressed

- 74h** : Reserved

- 75h** : Detect & install all IDE devices: HDD, LS120, ZIP, CDROM.....

- 76h** : Reserved

- 77h** : Detect serial ports and parallel ports

- 78h** : Reserved

- 79h** : Reserved

- 7Ah** : Detect and install co-processor

- 7Bh** : Reserved
- 7Ch** : Reserved
- 7Dh** : Reserved
- 7Eh** : Reserved
- 7Fh** :
 1. Switch back to text mode if full screen logo is supported.
 - If errors occur, report errors and wait for keys
 - If no errors occur or F1 key is pressed to continue:
 - *Clear EPA or customization logo.
- 80h** : Reserved
- 81h** : Reserved
- 82h** :
 1. Call chipset power management hook.
 2. Recover the text font used by EPA logo (not for full screen logo).
 3. If password is set, ask for password.
- 83h** : Save all data in stack back to CMOS.
- 84h** : Initialize ISA PnP boot devices.
- 85h** :
 1. USB final initialization.
 2. NET PC: Build SYSID structure.
 3. Switch screen back to text mode.
 4. Setup ACPI table at top of memory.
 5. Invoke ISA adapter ROMs.
 6. Assign IRQs to PCI devices.
 7. Initialize APM.
 8. Clear noise of IRQs.
- 86h** : Reserved
- 87h** : Reserved

- 88h** : Reserved
- 89h** : Reserved
- 90h** : Reserved
- 91h** : Reserved
- 92h** : Reserved
- 93h** : Read HDD boot sector information for Trend Anti-Virus code.
- 94h** :
 - 1. Enable l2 cache.
 - 2. Program boot up speed.
 - 3. Chipset final initialization.
 - 4. Power management final initialization.
 - 5. Clear screen and display summary table
 - 6. Program K6 write allocation.
 - 7. Program P6 class write combining.
- 95h** :
 - 1. Program daylight saving.
 - 2. Update keyboard LED and typematic rate.
- 96h** :
 - 1. Build MP table.
 - 2. Build and update ESCD.
 - 3. Set CMOS century to 20h or 19h.
 - 4. Load CMOS time into DOS timer tick.
 - 5. Build MSIRQ routing table.
- FFh** : Boot attempt (INT 19h)

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