IMB-X60 Series

Industrial Motherboard with Intel Fanless CPU, VGA, Audio, Ethernet, ISA and PCI expansion Slots

USER'S MANUAL

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Chapter 1 Introduction

1.1 Introduction

IMB-X60 With its rich AGP 4X integrated graphics capabilities, flexible FSB settings, and support for PC133 DRAM, the IMB-X60 delivers excellent levels of scalability and performance on a cost-effective, High integrated platform designed for the specific needs of the ,Automation ,POS,Information PC, and Internet Appliance market segments.

Intel ULV 400MHz + VIA Apollo PLE133 - Ultimate Value Combination

IMB-X60 optimizes the performance of the Intel Ultra Low Voltage Processor while its integrated AGP 4X graphics engine delivers rich graphics capabilities for running 2D/3D software and Internet applications. Its highly scaleable asynchronous bus design also makes it the ideal solution for Intel Celeron™ processors running at 100/133MHz FSB speeds. With an advanced memory controller architecture, the IMB-X60 supports up to 1.5GB of high-speed PC133 SDRAM . These advanced memory technologies provide the bandwidth and performance necessary for even the most demanding Internet and 3D graphics applications. Further integrated CPU & multimedia & connectivity features that help minimize the cost of building automation and Internet Appliances without sacrificing features and performance include an integrated 10/100 BaseT Ethernet controller, AC-97 audio, MC-97 modem, Super I/O, hardware monitoring capabilities, plus support for four USB ports, ATA 100, and advanced power management.

1.2 Features

- Intel uFCBGA 400MHz CPU on Board
- VIA VT8601A North Bridge and VT82C686B South Bridge
- Award BIOS
- Integrated AGP 4X Graphics Engine
- AC 97 Audio
- Realtek RTL 8100C 10/100M Ethernet
- 4 x PCI and 4 x ISA expansion slots (Either one PCI or one ISA is shared)
- 1 x LAN, 1 x FDD, 4 x COM, 2 x LPT, Keyboard & Mouse, 4 x USB, 1 x IrDA and 1 x VGA
- Watchdog Timer
- ATX Power Connector

1.3 Specification

IMB-X60 Series

Processor System	CPU	INTEL uFCBGA ULV 400MHz
	L2 Cache	256K
	Chipset	8601A+686B
	FSB	100 MHz
	BIOS	Award, 2 Mbit(Max)
Memory	Technology	3 X SDR/PC133
	Max. Capacity	1.5GB
	Socket	DIMM
Ethernet	Controller	1 x Realtek 8100C
	Interface	10/100 Base-T interface
	Connector	One RJ-45 connectors
EIDE	Mode	PCI IDE ATA33/66/100
	Channel	2
I/O Interface	VGA	1 X DB-15
	Serial port	1 x DB-9; 3x(2x5 con.)
	Parallel port	1 x DB-25; 1x Connector
	USB	4 x USB 1.1 (2 in.,2 ext.)
	Audio	AC'97
	Game port	1 X DB15
Flash Memory Disk	Support DOM	
Expansion Bus	4 X PCI and 4 ISA (Either one PCI or one ISA is shared)	
Health Monitoring	Integrated in 686B	
RTC	Internal RTC with Li battery	
Watchdog Timer	16 Lever time-out intervals	
Power Connector	ATX	
Temperature	Operating	0°C ~ 60°C
	Storage	-20°C ~ 70°C
Humidity	5% ~ 95% RH, non-condensing	
Net weight	TBC	
EMI/EMS	FCC/CE Compliance	
Dimensions	30.5 x 20 cm	
Power Supply	±5V, ±12V,+3.3V	
Model Extension	IMB-X60A	Intel ULV Celeron 400MHz; 4S/2P; 2Ch. Audio;10/100M LAN
	IMB-X60C	Intel ULV Celeron 400MHz; 2S/1P

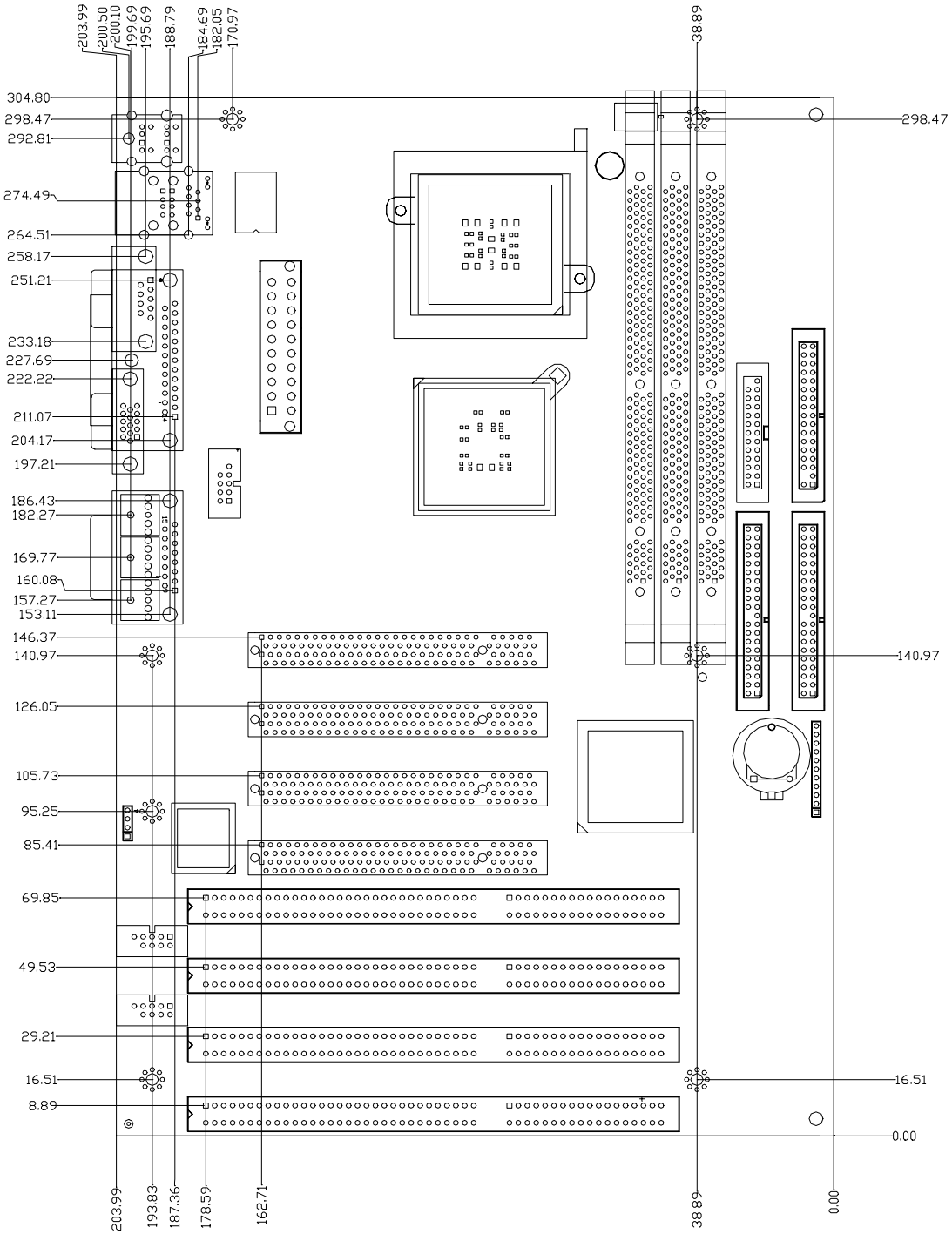
1.4 Unpack your IMB-X60 Series

Before you begin to install your card, please make sure that you received the following materials as listed below:

Standard Packing:

● IMB-X60 x 1 pc	Industrial Motherboard Computer
● Driver Utility CD-ROM x 1 pc	Drivers & Utilities
● User's Manual x 1 pc	This User's Manual
● IDE cable x 1 pc	ATA100 40P IDE 80 Impendence P20 with Key
● FDD cable x 1 pc	FDC. Cable 34 to 34Pin P4 with Key
● USB Y cable x 1 pc (only IMB-X60A)	2 x 5P W/Bracket P3, P8 with Key 50cm
● Com port cable x 1 pc (only IMB-X60A)	Comport x 2 Cable & Bracket Two 2 x5 K10 50cm
● COM+LPT cable x 1 pc (only IMB-X60A)	COM+LPT cable & BKT, D-SUB 9+D-SUB25 with Key 50cm

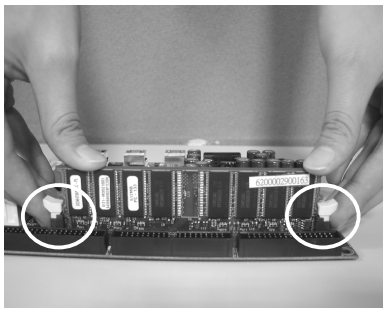
1.5 Board Layout



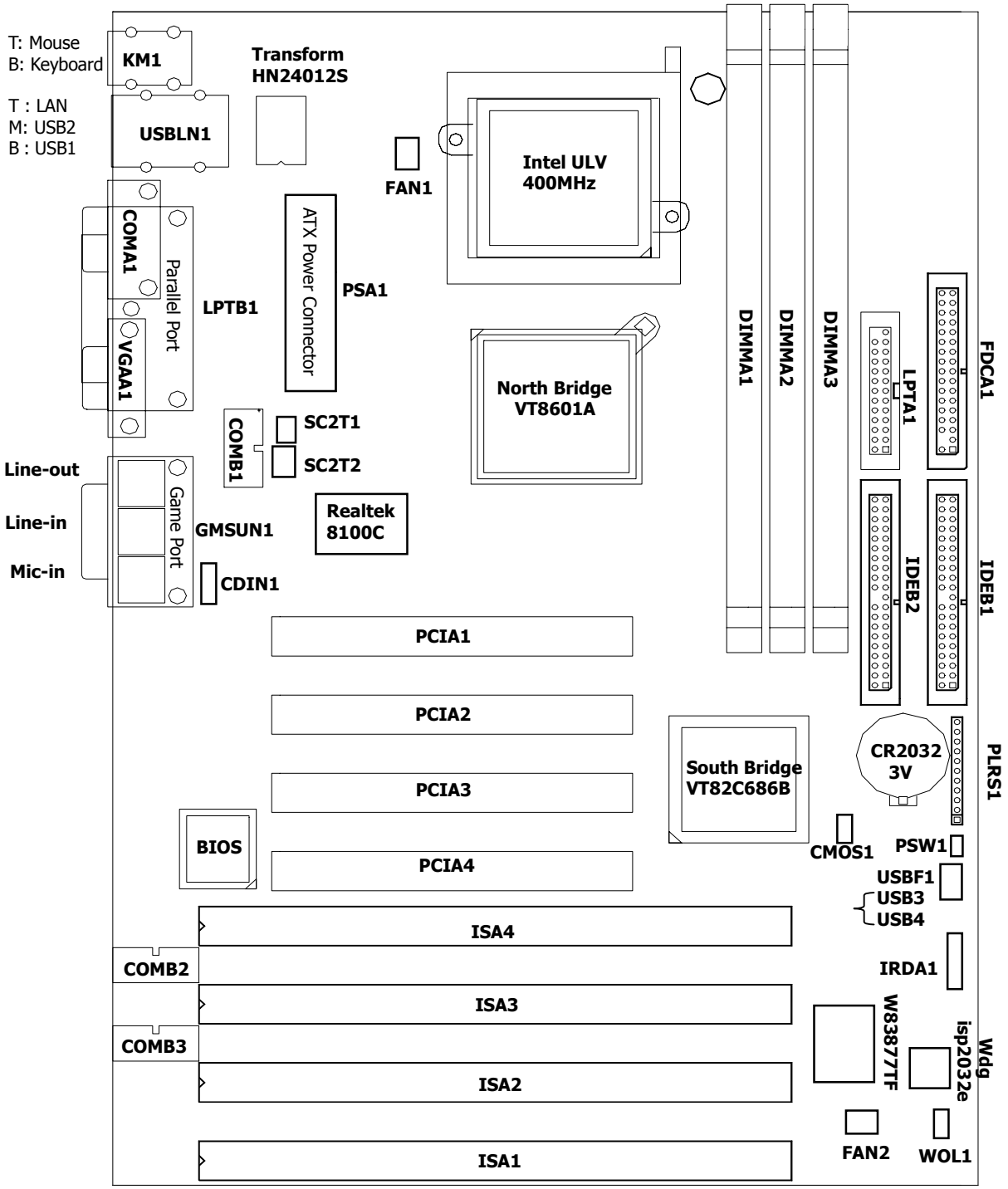
Chapter 2 Installation

2.1 System Memory Installation

Step1: Open latches of DIMM socket.
Step2: Insert the RAM module into the DIMM socket.
Step3: Press the latches into the notches of the RAM module.



2.2 Jumper Settings and Connectors



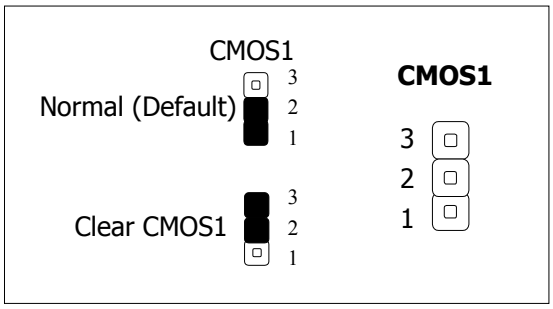
***Full-size PCI Card can't be inserted in PCIA1.**

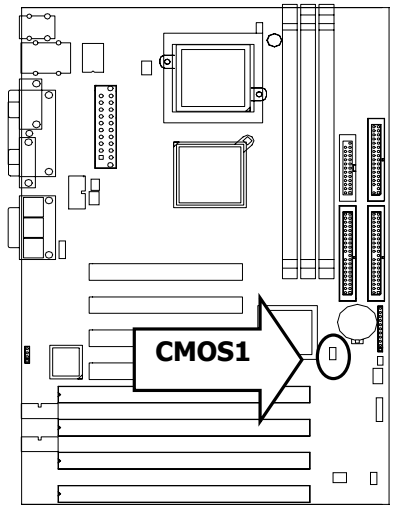
2.2.2 Jumper Settings Summary

LOCATION	FUNCTION
CMOS1	Clear CMOS Data
SC2T1/SC2T2	Select COM2 Type

- **CMOS1 : Clear CMOS Data**

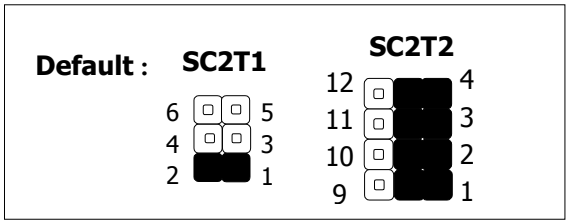
Description	CMOS1
Normal (Default)	1-2
Clear CMOS	2-3

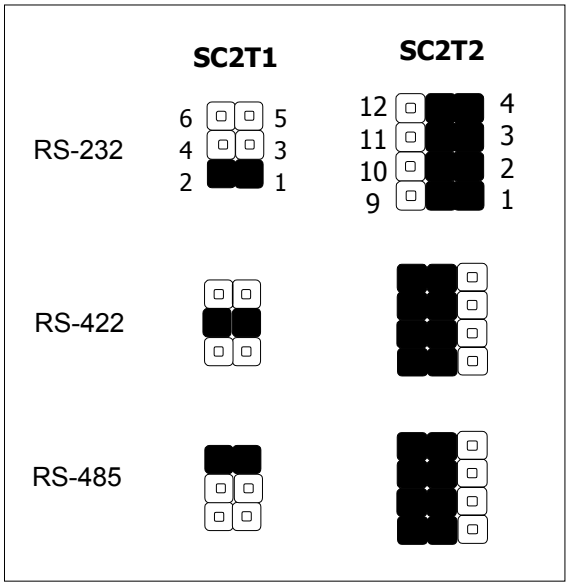


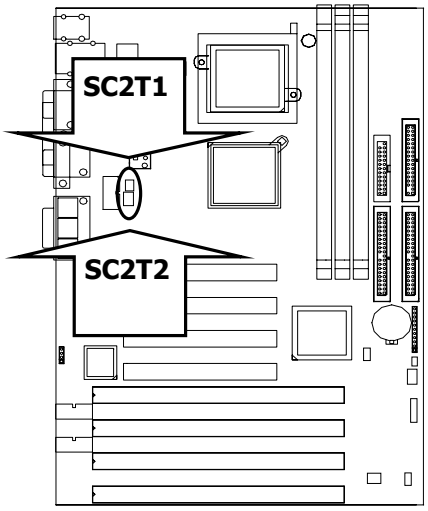


- **SC2T1/SC2T2:Select COM2 Type**

COM2 TYPE	SC2T1	SC2T2
RS-232 (Factory)	1-2	1-5,2-6,3-7,4-8
RS-422	3-4	5-9,6-10,7-11,8-12
RS-485	5-6	5-9,6-10,7-11,8-12







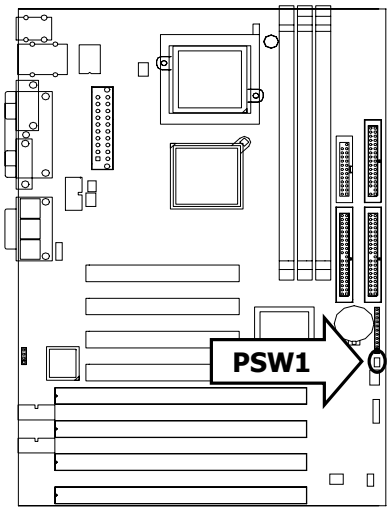
2.2.3 I/O Connectors Summary

LOCATION	FUNCTION
PSW1	For ATX Power Button
PLRS1	Power LED, HD, LED, Reset, Speaker Connector (11 Pin 2.54mm)
FAN1	3 Pin FAN Connector (CPU FAN)
FAN2	3 Pin FAN Connector (SYSTEM FAN)
WOL1	Walk On LAN Wafer 1×3
IDEB1	IDE Interface Connector (40 Pin 2.54mm Pitch Header)
IDEB2	IDE Interface Connector (40 Pin 2.54mm Pitch Header)
IRDA	IRDA Connector
FDCA1	Floppy Interface Connector (34 Pin Header)
CDIN1	CD_IN Connector (2.54mm Pitch 180)
LPTB1	Parallel Port Connector (25 Pin D-Sub)
PSA1	20 Pin ATX Power Connector
KM1	Keyboard & Mouse Connector, Double stack 6 Pin mini DIN Female
COMA1	RS-232 Serial Port #1 Connector (D-Sub)
VGAA1	VGA Connector (15 Pin D-Sub)
COMB1	Serial Port #2 Connector (Header)
COMB2	Serial Port #3 Connector (Header)
COMB3	Serial Port #4 Connector (Header)
GMSUN1	Game Port & Sound Connector
USBLN1	USB Port #1, Port #2 & LAN Port (Top: LAN, Bottom: USB)
USBF1	USB Port #3 & #4 Connector 2×4 Pin 2.54mm
SPOT1	Digital Output Connector 1×4 Header 2.54mm (Optional)
SPIN1	Digital Input Connector 1×2 Header 2.54mm (Optional)
SOUNC1	6 Channel Sound Connector 2×5 Header 2.54mm (Optional)

- **PSW1:For ATX Power Button**

Pin No.	Description
1	PWRSW
2	GND

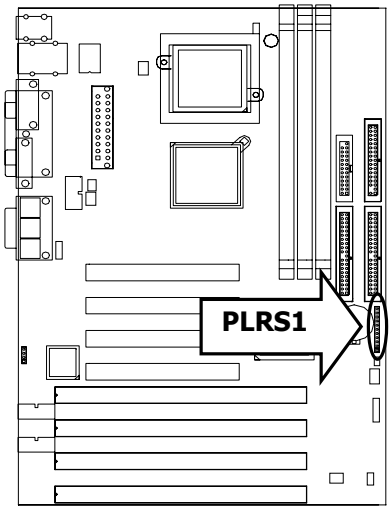
PSW1 2 1

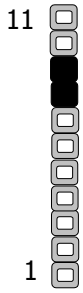


- **PLRS1: Power LED, HD LED, Reset, Speaker Connector (11 Pin 2.54mm)**

Pin No.	Description
1	Power LED +
2	Power LED +
3	GND
4	HDD LED +
5	HDD LED -
6	RESET SW +
7	RESET SW – (GND)
8	External Speaker -
9	Internal Buzzer -
10	NC
11	External Speaker +

Default : 8-9 (ON) Internal Buzzer



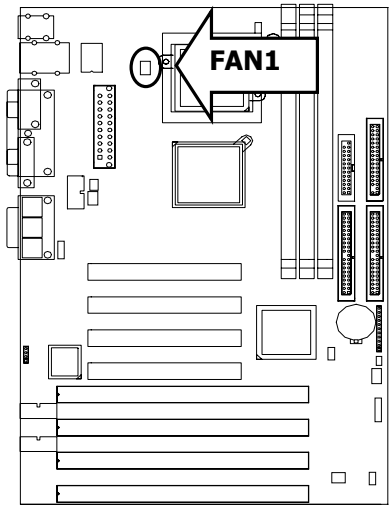


PLRS1

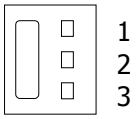
- **FAN1 : 3 Pin FAN Connector (CPU FAN)**

Pin No.	Description
1	Ground
2	+12V
3	FAN Status

Default: OFF



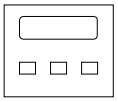
FAN1



- **FAN2 : 3 Pin FAN Connector (SYSTEM FAN)**

Pin No.	Description
1	Ground
2	+12V
3	FAN Status

FAN2



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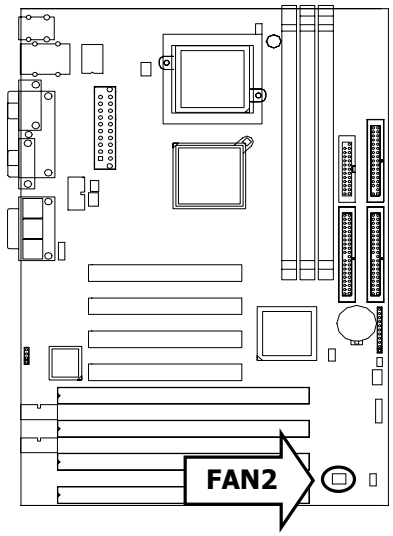
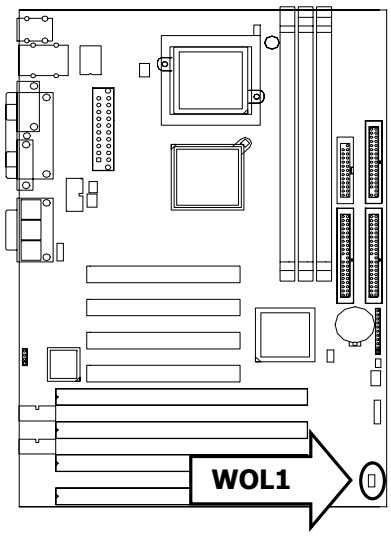


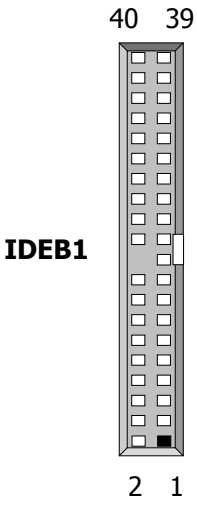
- **WOL1 : Walk On LAN Wafer1x3**

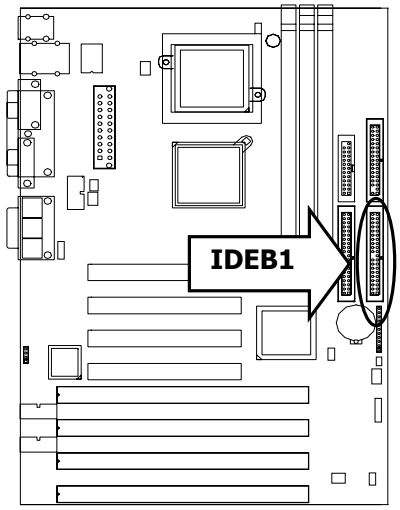
Pin No.	Description
1	WAKEUP
2	GND
3	5VSB



- **IDEB1 : IDE Interface Connector (40 Pin 2.54mm Pitch Header)**

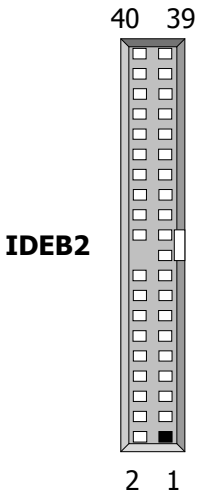
Pin No.	Description	Pin No.	Description
1	Reset #	2	Ground
3	Data 7	4	Data 8
5	Data 6	6	Data 9
7	Data 5	8	Data 10
9	Data 4	10	Data 11
11	Data 3	12	Data 12
13	Data 2	14	Data 13
15	Data 1	16	Data 14
17	Data 0	18	Data 15
19	Ground	20	KEY
21	DMA REQ#	22	Ground
23	IOW #	24	Ground
25	IOR #	26	Ground
27	IOCHRDY	28	Ground
29	DMA ACK #	30	Ground
31	Interrupt	32	NC
33	SA1	34	PD80P / SD80P
35	SA0	36	SA2
37	HDC CS0 #	38	HDC CS1 #
39	HDD Active LED #	40	Ground

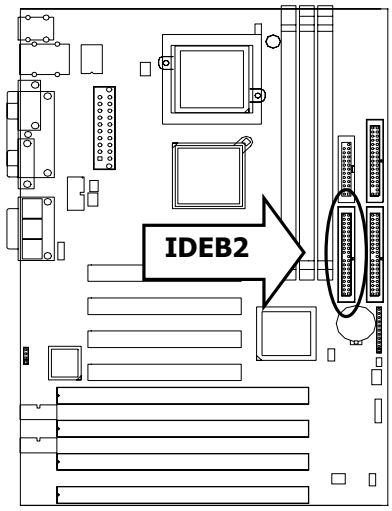




- **IDEB2 : IDE Interface Connector (40 Pin 2.54mm Pitch Header)**

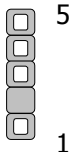
Pin No.	Description	Pin No.	Description
1	Reset #	2	Ground
3	Data 7	4	Data 8
5	Data 6	6	Data 9
7	Data 5	8	Data 10
9	Data 4	10	Data 11
11	Data 3	12	Data 12
13	Data 2	14	Data 13
15	Data 1	16	Data 14
17	Data 0	18	Data 15
19	Ground	20	KEY
21	DMA REQ#	22	Ground
23	IOW #	24	Ground
25	IOR #	26	Ground
27	IOCHRDY	28	Ground
29	DMA ACK #	30	Ground
31	Interrupt	32	NC
33	SA1	34	PD80P / SD80P
35	SA0	36	SA2
37	HDC CS0 #	38	HDC CS1 #
39	HDD Active LED #	40	Ground



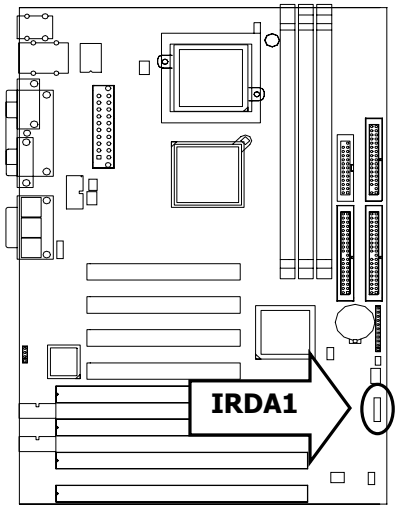


- **IRDA1: IRDA Connector**

Pin No.	Description
1	VCC
2	NC
3	IRRX
4	GND
5	IRTX



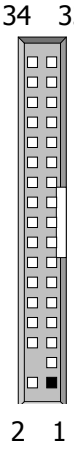
IRDA1

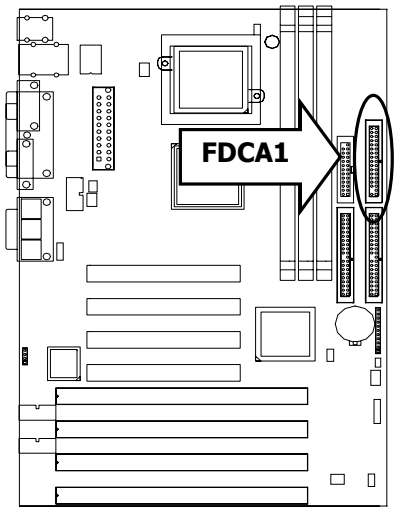


- **FDCA1: Floppy Interface Connector (34 Pin Header)**

Pin No.	Description	Pin No.	Description
1	Ground	2	Density Select
3	Ground	4	KEY
5	Ground	6	DS1
7	Ground	8	Index #
9	Ground	10	Motor Enable A #
11	Ground	12	Drive Select B #
13	Ground	14	Drive Select A #
15	Ground	16	Motor Enable B #
17	Ground	18	Direction #
19	Ground	20	Step #
21	Ground	22	Write Data #
23	Ground	24	Write Gate #
25	Ground	26	Track 0 #
27	Ground	28	Write Protect #
29	NC	30	Read Data #
31	Ground	32	Head Side Select #
33	NC	34	Disk Change #

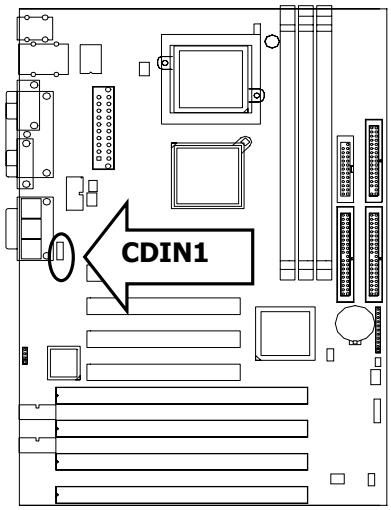
FDCA1





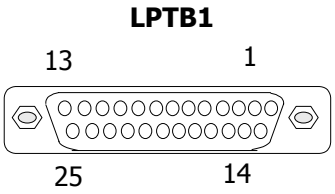
- **CDIN1：CD_IN Connector（2.54mm Pitch 180˚）**

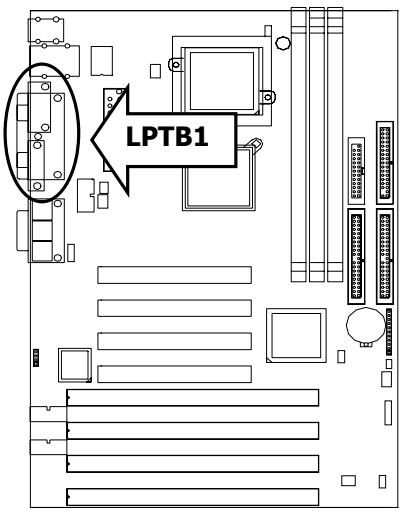
Pin No.	Description
1	CDL
2	CO_GND
3	CO_GND
4	CDR



- **LPTB1：Parallel Port Connector (25 Pin D-Sub)**

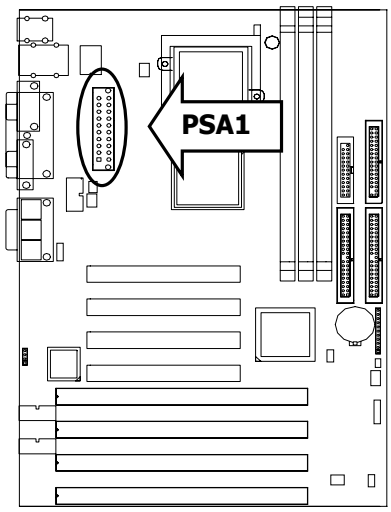
Pin No.	Description	Pin No.	Description
1	Strobe #	14	Auto Form Feed #
2	Data 0	15	Error #
3	Data 1	16	Initialize #
4	Data 2	17	Printer Select IN #
5	Data 3	18	Ground
6	Data 4	19	Ground
7	Data 5	20	Ground
8	Data 6	21	Ground
9	Data 7	22	Ground
10	Acknowledge #	23	Ground
11	Busy	24	Ground
12	Paper Empty	25	Ground
13	Printer Select		

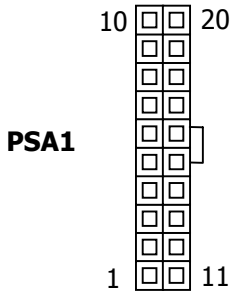




- **PSA1: 20 Pin ATX Power Connector**

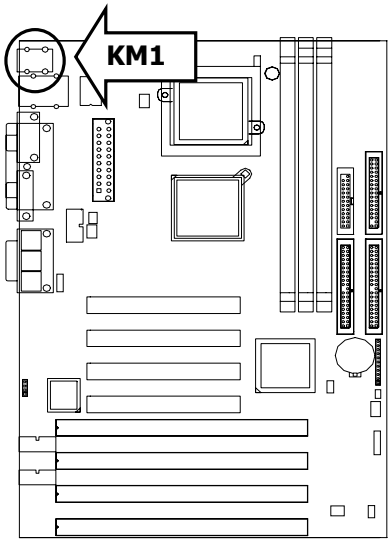
Pin No.	Description	Pin No.	Description
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS-ON
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	Power Good	18	-5V
9	Stand-By 5V	19	+5V
10	+12V	20	+5V





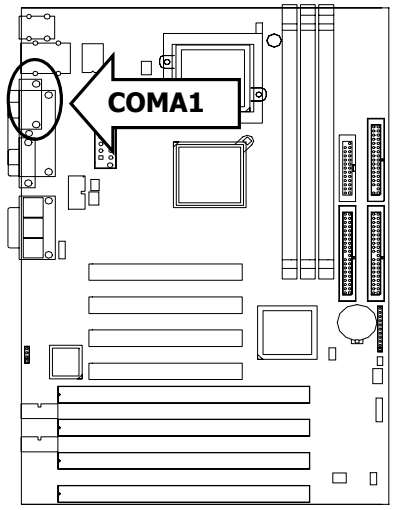
- **KM1**：**Keyboard & Mouse Connector**
  Double stack 6 Pin mini DIN Female

Pin No.	Description
1	KBDATA
2	NC
3	GND
4	+5V
5	KBCLK
6	NC
7	MSDATA
8	NC
9	GND
10	+5V
11	MSCLK
12	NC

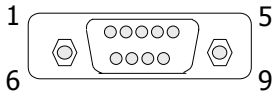


- **COMA1: RS-232 Serial Port #1 Connector (D-Sub)**

Pin No.	Description
	RS-232
1	Data Carrier Detect (DCD1 #)
2	Data Set Ready (DSR1 #)
3	Receive Data (RXD1)
4	Request To Send (RTS1 #)
5	Transmit Data (TXD1)
6	Clear To Send (CTS1 #)
7	Data Terminal Ready (DTR1 #)
8	Type Select1
9	Ground

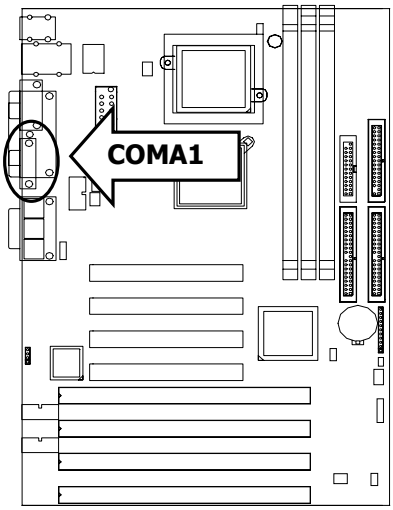


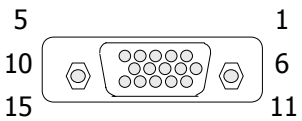
COMA1



- **VGAA1 : External VGA Connector (15 Pin D-Sub)**

Pin No.	Description
1	Red Color Signal
2	Green Color Signal
3	Blue Color Signal
4	NC
5	Ground
6	Ground
7	Ground
8	Ground
9	NC
10	Ground
11	NC
12	DDC-DATA
13	H-Sync.
14	V-Sync.
15	DDC-CLK

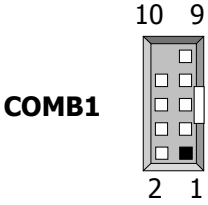


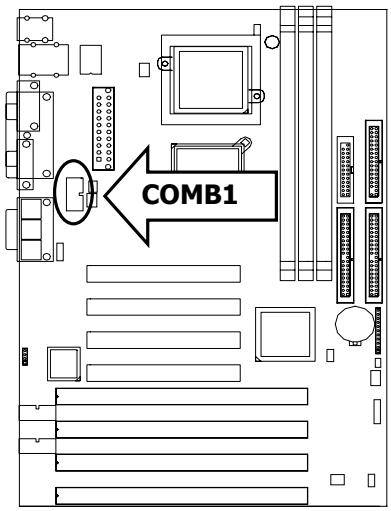


VGAA1

- **COMB1: Serial Port #2 Connector (Header)**

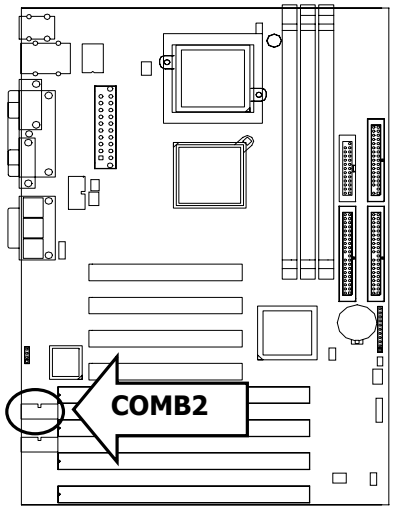
Pin No.	Description		
	RS-232 (Default)	**RS-422**	**RS-485**
1	Data Garrier Detect（DCD2）#	Transmit Data-（TXD-）	Data-
2	Receive Data（RXD2）	Transmit Data+（TXD+）	Data+
3	Transmit Data（TXD2）	Receive Data+（RXD+）	NC
4	Data Terminal Ready（DTR2#）	Receive Data-（RXD-）	NC
5	Ground	NC	NC
6	Data set Ready（DSR2#）	NC	NC
7	Request To Send（RTS2#）	NC	NC
8	Clear To Send（CTS2#）	NC	NC
9	Ring Indicator (RI2#)	NC	NC
10	KEY	KEY	KEY

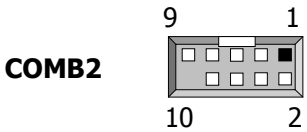




- **COMB2: Serial Port #3 Connector (Header)**

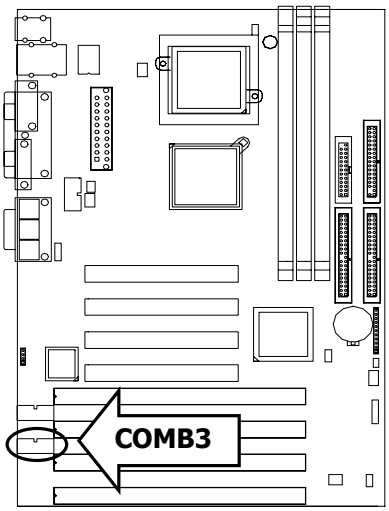
Pin No	Description
	RS-232
1	Data Carrier Detect (DCD3 #)
2	Data Set Ready (DSR3 #)
3	Receive Data (RXD3)
4	Request To Send (RTS3 #)
5	Transmit Data (TXD3)
6	Clear To Send (CTS3 #)
7	Data Terminal Ready (DTR3 #)
8	Type Select4
9	Ground
10	KEY



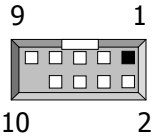


- **COMB3: Serial Port #4 Connector (Header)**

Pin No	Description
	RS-232
1	Data Carrier Detect (DCD4 #)
2	Data Set Ready (DSR4 #)
3	Receive Data (RXD4)
4	Request To Send (RTS4 #)
5	Transmit Data (TXD4)
6	Clear To Send (CTS4 #)
7	Data Terminal Ready (DTR4 #)
8	Type Select4
9	Ground
10	KEY

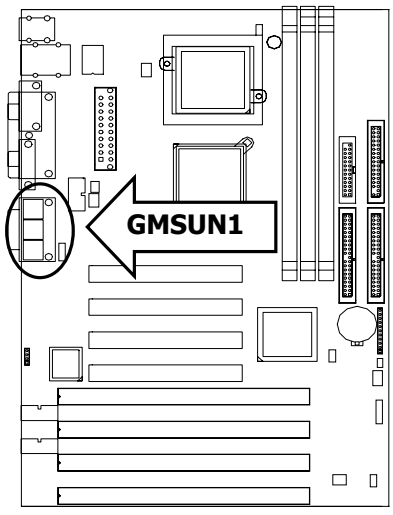


COMB3



- **GMSUN1：Game Port and Sound Connector**

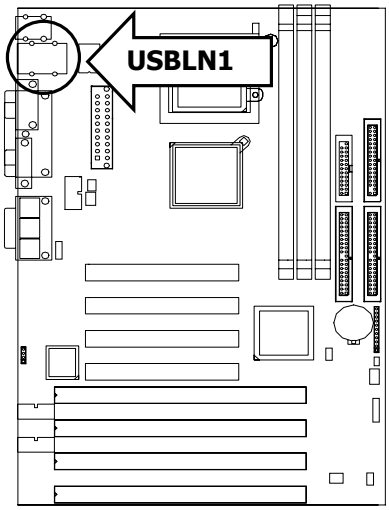
Pin No	Description	Pin No	Description
1	VCC	16	CO_GND
2	JAB1	17	MIC-IN
3	SJACX	18	NC
4	GND	19	NC
5	GND	20	MICR
6	SJACY	21	CO_GND
7	JAB2	22	LIN-L
8	SJAB12	23	NC
9	VCC	24	NC
10	JBB1	25	LIN-R
11	SJBCX	26	CO_GND
12	MSO	27	LOUT-L
13	SJBCY	28	NC
14	JBB2	29	NC
15	MSI	30	LOUT-R



- **USBLN1 : USB Port #1, Port #2 & LAN Port (Top: LAN, Bottom: USB)**

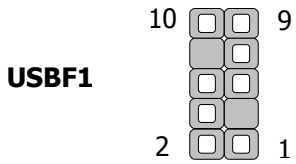
Pin No.	Description	Pin No.	Description
1	ATX+ (AMDX0+)	2	ATX- (AMDX0-)
3	ARX+ (AMDX1+)	4	AT45 (AMDX1-)
5	AT45 (AMDX2+)	6	ARX- (AMDX2-)
7	AT78 (AMDX3+)	8	AT78 (AMDX3-)
9	-SPEED	10	+SPEED
11	-LKACT	12	+LKACT
13	CLGND	14	CLGND
15	USB0 VCC	16	USB DT0-
17	USBDT0+	18	USB-GND
19	USB1 VCC	20	USBDT1-
21	USBDT1+	22	USB-GND

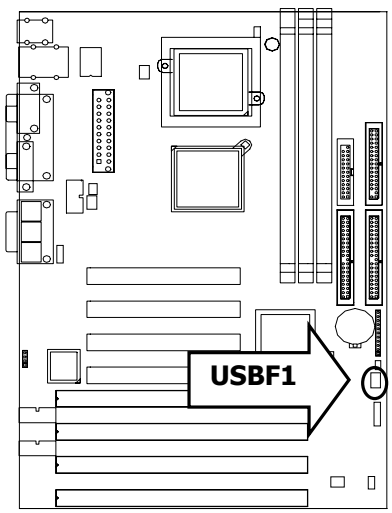
Default: 10/100 LAN



- **USBF1 : USB Port #3 & #4 Connector 2x4 Pin 2.54mm**

Pin No.	Description	Pin No.	Description
1	USB_VCC	2	Grond
3	Key	4	USBD3+
5	USBD2-	6	USBD3-
7	USBD2+	8	Key
9	Ground	10	USB_VCC





- **SPOT1：Digital Output Connector 1x4 Header 2.54mm(Optional)**

Pin No.	Description
1	VCC
2	+3.3V
3	GND_AUD
4	SPDIF-OUT

- **SPIN1：Digital Input Connector 1x2 Header 2.54mm(Optional)**

Pin No.	Description
1	GND_AUD
2	SPDIF-IN

- **SOUNC1：6 Channel Sound Connector 2x5 Header 2.54mm(Optional)**

Pin No	Description	Pin No	Description
1	KEY	2	SRROUND L
3	CO_GND	4	SRROUND R
5	KEY	6	CENTER
7	FRONT-OUT-L	8	LEF
9	FRONT-OUT-R	10	CO_GND

Chapter 3 BIOS Setup

Award's ROM BIOS provides a built-in Setup program that allows users to modify the basic system configuration and settings. The modified data will be stored in a battery-backed CMOS RAM so that this data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM remains unchanged unless there is a configuration change in the system, such as hard drive replacement or new equipment installment.

3.1 Running AWARD BIOS

The Setup Utility is stored in the BIOS ROM. When the power of the computer system is turned on, a screen message will appear to give you an opportunity to call up the Setup Utility while the BIOS will enter the Power On Self Test (POST) routines. The POST routines perform various diagnostic checks while initializing the board hardware. If the routines encounter an error during the tests, the error will be reported in one of two ways, a series of short beeps or an error message on the screen. There are two kinds of errors, fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

Press <F1> to RESUME

Write down the message and press the F1 key to continue the boot up sequence. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Entering Setup

Turn on the power of the computer system and press <Del> immediately. If you don't have the chance to respond, reset the system by simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys, or by pushing the ' Reset ' button on the system cabinet. You can also restart by turning the system OFF then ON.

3.2 CMOS Setup Utility

To access the AWARD BIOS SETUP program, press the <DEL> key. The screen display will appears as shown below:

Main Program Screen

Phoenix - Award BIOS CMOS Setup Utility

▶ Standard CMOS Features	▶ PC Health Status
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power Management Setup	Save & Exit Setup
▶ PnP/PCI Configurations	Exit Without Saving

Esc : Quit	F9: Menu in BIOS	↑ ↓ →← : Select Item
F10 : Save & Exit Setup		

Time, Date, Hard Disk Type...

This screen provides access to the utility's various functions.

Listed below is explanation of the keys displayed at the bottom of the screen:

<ESC>: Exit the utility.
<↑ ↓ → ←>: Use arrow keys ↑ ↓ → ← to move cursor to your desired selection.
<F1> : General Help
<F10>: Saves all changes made to Setup and exits program.

Standard CMOS Setup: Use this menu for basic system configurations.

Advanced BIOS Features: Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features: Use this menu to change the values in the chipset registers and optimizes your system's performance.

Integrated Peripherals: Use this menu to specify your settings for integrated peripherals.

Power Management Setup: Use this Menu to specify your settings for power management.

PnP/PCI Configurations: This entry appears if your system supports PnP/PCI.

PC Health Status: This entry shows your PC health status. If Hardware Monitor Chipset is installed.

Load Optimized Defaults: Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

Set Supervisor Password: Use this menu to set Supervisor Passwords.

Set User Password: Use this menu to set User Passwords.

Save & Exit Setup: Save CMOS value changes to CMOS and exit setup.

Exit Without Saving: Abandon all CMOS value changes and exit setup.

3.3 Standard CMOS Setup

When you select the STANDARD CMOS SETUP on the main program, the screen display will appears as:

Standard CMOS Setup Screen

Phoenix - Award BIOS CMOS Setup Utility

Standard CMOS Features

	Date (mm:dd:yy)	Web, Aug 13, 2003	Item Help
	Time (hh:mm:ss)	15 : 57 : 0	Menu Level ►
►	IDE Primary Master	[Maxtor 6Y120po]	Change the day, month, year and century
►	IDE Primary Slave	[None]	
►	IDE Secondary Master	[ASUS CD-S400/A]	
►	IDE Secondary Slave	[None]	
	Drive A	[1.44M, 3.5 in.]	
	Drive B	[None]	
	Halt On	[All , But Disk/Key]	
	Base Memory	640K	
	Extended Memory	65472K	
	Total Memory	1024K	

↑ ↓ →← Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help

F5: Previous Values F7:Optimized Defaults

The Standard CMOS Setup utility is used to configure the following components such as date, time, hard disk drive, floppy drive, display and memory. Once a field is highlighted, on-line help information is displayed in the left bottom of the Menu screen.

Set Date: Month, Date, and Year.

Set Time: Hour, Minute and Second. Use 24-hour clock format (for p.m. time, add 12 to the hour number, e.g. you would enter 4:30 p.m. as 16:30).

IDE Primary Master / Primary Slave

Secondary Master / Secondary Slave: Press PgUp / <+> or PgDn / <-> to select Manual, None, Auto type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Manual to define your own drive type manually.

If you select Manual, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is SCSI, the selection shall be
None

If the controller of HDD interface is CD-ROM, the selection shall be
None

Here is a brief explanation of drive specifications:

- **Access Mode:** The settings are Auto, Normal, Large, and LBA.
- **Cylinder:** Number of cylinders
- **Head:** Number of heads
- **Precomp:** Write precom
- **Landing Zone:** Landing Zone
- **Sector:** Number of sectors

Drive A and Drive B: Select the correct specifications for the diskette drive(s) installed in the computer.

None	No diskette drive installed
360K, 5.25 in	5-1/4 inch PC-type standard drive; 360 kilobyte capacity
1.2M, 5.25 in	5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity
720K, 3.5 in	3 1-2 inch double-sided drive; 720 kilobyte capacity
1.44M, 3.5 in	3 1-2 inch double-sided drive; 1.44 megabyte capacity
2.88M, 3.5 in	3 1-2 inch double-sided drive; 2.88 megabyte capacity

Note: 1. Not Installed could be used as an option for diskless workstations.
2. Highlight the listing after each drive name and select the appropriate entry.

Halt On: During the power-on-self-test (POST), the computer stops if the BIOS detect a hardware error. You can tell the BIOS to ignore certain errors POST and continue the boot-up process. These are the selections:

All errors	The system boot will be stopped for any error that may be detected.
No errors	Whenever the BIOS detects a non-fatal error the system will not be stopped and you will be prompted
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all Other errors.
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other Errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

3.4 Advanced BIOS Features

When you select the ADVANCED BIOS FEATURES on the main program, the screen display will appear as:

Advanced BIOS Features Screen

Phoenix - Award BIOS CMOS Setup Utility

Advanced BIOS Features

		Item Help
Virus Warning	[Disabled]	Menu Level ►
Quick Power On Self Test	[Enabled]	Allow 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
First Boot Device	[Floppy]	
Second Boot Device	[HDD-0]	
Third Boot Device	[CDROM]	
Boot Other Device	[Enabled]	
Swap Floppy Drive	[Disabled]	
Boot Up NumLock Status	[On]	
Security Option	[Setup]	
PS2 Mouse Function Control	[Enabled]	
HDD S.M.A.R.T Capability	[Enabled]	
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]	
Full Screen LOGO Show	[Disabled]	

↑ ↓ →← Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help

F5: Previous Values F7: Optimized Defaults

The following explains the options for each of the features as listed in the above menu:

Virus Warning: The default setting of Virus Warning is Disabled. When it is enabled, any attempt to write the boot sector and partition table will halt the system and cause a warning message to appear. If this happens, you can use an anti-virus utility on a virus free, bootable floppy diskette to reboot, to clean and to investigate your system.

Quick Power On Self Test: The default setting is Enabled. This speeds up the Power On Self Test (POST) by skipping some items that are normally checked during the full POST. If your system is functioning normally, you can choose this feature to speed up the booting process.

First / Second / Third / Other Boot Device: The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The settings are Floppy, LS120, HDD-0/HDD-1/HDD-2/HDD-3, SCSI, CDROM, Enabled, and Disabled.

Swap Floppy Drive: The default setting is Disabled. This setting gives you an option to swap A and B floppy disks. Normally, the floppy drive A is the one at the end of the cable and drive B is at the other end. If you set this option to Enabled, the Drive A will function as Drive B, and vice-versa under the DOS.

Boot Up NumLock Status: The default setting is *On*. If it set *Off* the cursor controls will function on the numeric keypad.

Security Option: This setting controls the password in the main screen. The options are *Setup* and *System*. Select *Setup* and it will protect the Setup Utility settings from being tampered with. Select *System* if you want to use password feature every time the system boots up. The default setting is *Setup*. You can create your password by using the *SUPERVISOR/USER PASSWORD* utility on the main program screen.

PS2 Mouse Function Control: This option enable Award BIOS support for a PS/2-type mouse.

HDD S.M.A.R.T Capability: SMART (Self-Monitoring, Analysis, and Reporting Technology) is a technology developed to manage disk drive reliability by predicting device failures. Award BIOS can warn of possible device failure, allowing time for backups or drive replacement.

Video BIOS Shadow: The default setting is *Enabled* which will copy the VGA display card BIOS into system DRAM to improve performance.

C8000-CBFFF Shadow to DC000-DFFFF Shadow: The default setting for the shadow feature is *Disabled*. When enabled, the ROM with the specific address is copied into system DRAM. It will also reduce the size of memory available to the system. After you have made your selection in the BIOS FEATURES SETUP, press the <ESC> key to go back to the main program screen.

Full Screen LOGO Show: As the system boots custom company LOGO will appear instead of the system information prior to the initialization of the operating system.

3.5 Advanced Chipset Features

When you select the ADVANCED CHIPSET FEATURES SETUP on the main program, the screen display will appears as:

Advanced Chipset Features Screen

Phoenix - Award BIOS CMOS Setup Utility

Advanced Chipset Features

Spread Spectrum	[Disabled]	Item Help
DRAM Clock	[By Auto]	Menu Level ►
DRAM Timing By SPD	[Enabled]	
SDRAM Cycle Length	[3]	
Bank Interleave	[Disabled]	
Memory Hole	[Disabled]	
P2C/C2P Concurrency	[Enabled]	
Fast R-W Turn Around	[Enabled]	
System BIOS Cacheable	[Enabled]	
Video RAM Cacheable	[Enabled]	
Frame Butter Size	[8M]	
AGP Aperture Size	[64M]	
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	[Disabled]	
AGP Master 1 WS Write	[Disabled]	
AGP Master 1 WS Read	[Disabled]	

↑ ↓ →← Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help

F5: Previous Values F7: Optimized Defaults

Spread Spectrum: When the system clock generator pulses, the extreme values of the pulse generate excess EMI. Enabling pulse spectrum spread modulation changes the extreme values from spikes to flat curves, thus reducing EMI. This benefit may in some cases be outweighed by problems with timing-critical devices, such as a clock-sensitive SCSI device.

DRAM Clock: Set the clock frequency of the DRAMs. The default is *HOST CLOCK*. You can select *HCLK+33M* if your DRAM modules are faster than CPU (eg. a 66Mhz FSB CPU with a PC100 SDRAM or a 100Mhz FSB CPU with PC-133 SDRAM) or select *HCLK-33M* for a faster CPU with slower SDRAMs. This selection is indeed important if you're thinking of overclocking a Pentium III to run beyond 133Mhz but only have PC-100 SDRAM

DRAM Timing By SPD: This item allows you to select the value in this field, depending on whether the board has paged DRAMs or EDO (extended data output) DRAMs.

SDRAM Cycle Length: This item allows you to select the SDRAM cycle length. The settings are 2 or 3.

Bank Interleave: Select the bank interleave. The default setting is *Disabled*.

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

P2C / C2P Concurrency: This item allows you to Enable or Disable the PCI to CPU, CPU to PCI concurrency. The default setting is *Enabled*.

Fast R-W Turn Around: This setting activates or deactivates a timing rapid of the cycles of lettura-scrittura. If memories of low quality are used or a system bus specifies outside deactivating this mode, not to have problems of instability of the system is advisable. Activating it with memories to high performance is possible. It is not possible to pretend resulted convincing from desks of memory of low quality.

System BIOS Cacheable: Selecting *Enabled* allows 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. The settings are *Enabled* and *Disabled*.

Video RAM Cacheable: The choices: Enabled(Default) and Disabled.

Frame Butter Size: The choices: 2M, 4M, and 8M(Default).

AGP Aperture Size: Select the size of the Accelerated Graphics Port (AGP) aperture. 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. The choices: 128M, 64M, 32M, 16M, 8M, and 4M.

CPU to PCI Write Buffer: When this field is *Enabled*, writes from the CPU to the PCI bus is buffered, to compensate for the 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 cycle. The default setting is *Enabled*.

PCI Dynamic Bursting: This item allows you to enable or disable the PCI dynamic bursting function. The settings are *Enabled* or *Disabled*.

PCI Master 0 WS Write: When enabled, writes to the PCI bus and are executed with zero wait states. The settings are *Enabled* or *Disabled*.

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. The settings are *Enabled* or *Disabled*.

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. The default setting is *Enabled*.

AGP Master 1 WS Write: Implements a single delay when writing from the AGP Bus. Normally, two wait states are used, allowing for greater stability, but check with your motherboard manufacturer to see if they have already implemented a Master latency of zero, in which case the lowest writing here of 1 will reduce performance.

AGP Master 1 WS Read: Implements a single delay when reading from the AGP Bus. Normally, two wait states are used, allowing for greater stability, but check with your motherboard manufacturer to see if they have already implemented a Master latency of zero, in which case the lowest reading here of 1 will reduce performance.

3.6 Integrated Peripherals

When you select the *INTEGRATED PERIPHERIALS* on the main program, the screen display will appears as:

Integrated Peripherals Setup Screen

Phoenix - Award BIOS CMOS Setup Utility

Integrated Peripherals

			Item Help
	On-Chip Primary PCI IDE	[Enabled]	
	On-Chip Secondary PCI IDE	[Enabled]	Menu Level ►
	Init Display First	[Add-On Card]	
	USB Controller	[Enabled]	
	USB Keyboard Support	[Disabled]	
	USB Mouse Support	[Disabled]	
	AC97 Audio	[Auto]	
	Onboard Lan Boot ROM	[Disabled]	
	Onboard FDD Controller	[Enabled]	
	Onboard Serial Port 1	[3F8/IRQ4]	
	Onboard Serial Port 2	[2F8/IRQ3]	
	UART 2 Mode Select	[Normal]	
X	UART 2 Duplex Mode	[Half]	
	Onboard Parallel Port 1	[378/IRQ7]	
	Onboard Parallel Mode	[SPP]	
X	ECP Mode Use DMA	[3]	
X	Parallel Port EPP Type	[Epp1.9]	

↑ ↓ → ←Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help

F5: Previous Values F7: Optimized Defaults

Phoenix - Award BIOS CMOS Setup Utility

Integrated Peripherals

				Item Help
	Onboard Parallel Port 1	[378/IRQ7]		
	Onboard Parallel Mode	[SPP]		Menu Level ►
X	ECP Mode Use DMA	[3]	▲	
X	Parallel Port EPP Type	[EPP1.9]		
	Onboard Serial Port 3	[Disabled]		
X	Serial Port 3 Use IRQ	[IRQ10]		
	Onboard Serial Port 4	[Disabled]		
X	Serial Port 4 Use IRQ	[IRQ11]		
	Onboard parallel Port 2	[Disabled]		
X	Parallel Port 2 Use IRQ	[IRQ5]		
X	Parallel Port 2 Mode	[SPP]		
X	LPT2 ECP Mode Use DMA	[1]	**Only IMB-X60A has**	
	Sound Blaster	[Disabled]		
X	SB I/O Base Address	[220H]		
X	SB IRQ Select	[IRQ 5]		
X	SB DMA Select	[DMA0]		
	MPU-401	[Disabled]	▼	
	MPU-401 I/O Address	320-323H		
	Game Port	[Enabled]		

On-Chip Primary PCI IDE: 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. The settings are Enabled and Disabled.

On-Chip Secondary PCI IDE: 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. The settings are *Enabled* and *Disabled*.

Init Display First: This item allows you to decide to active whether PCI Slot of VGA card or AGP first. The settings are *Add-On Card* and *Onboard AGP*.

USB Controller: Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals

USB Keyboard/Mouse Support: Set this option to *Enabled* or *Disabled* the USB keyboard/ mouse support. The default setting is *Disabled*.

AC97 Audio: This option sets the AC97 Audio. The settings are Auto and Disabled.

Onboard Lan Boot ROM: Unless you intend to boot using PXE Enabled/Disabled.

Onboard FDD Controller: Select Enabled if your system has a floppy disk controller (FDD) installed on the system board and you want to use it. If you install add-in FDD or the system has no floppy drive, select Disabled in this field. The settings are Enabled and Disabled.

Onboard Serial Port 1 / Port 2: Select an address and corresponding interrupt for the first and second serial ports. The settings are 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled, Auto.

UART 2 Mode Select: This item allows you to select which mode for the Onboard Serial Port 2. The settings are Normal, HPSIR, and ASKIR.

UART 2 Duplex Mode: This item allows you to select the is half/full duplex function. The default setting is Half

Onboard Parallel Port: This item allows you to determine onboard parallel port controller I/O address setting. The settings are Disabled, 3BC/IRD7, 378/IRQ7, and 278/IRQ5.

Onboard Parallel Mode: There are four options *SPP* (default), *EPP*, *ECP* and *ECP/EPP*. Change the mode from *Normal* to the enhanced mode only if your peripheral device can support it. When it is set to ECP mode, the printer port always uses DMA3.

ECP Mode Use DMA: Select a DMA channel for the parallel port for use during ECP mode. The settings are *3* and *1*.

Parallel Port EPP Type: Select EPP port type 1.7 or 1.9.

Onboard Serial Port 3: The choices: Disabled (Default), 3F8H, 2F8H, 3E8H, and 2E8H.

Serial Port 3 Use IRQ: The choices: IRQ10, IRQ11, IRQ4, IRQ3.

Onboard Serial Port 4: The choices: Disabled (Default), 3F8H, 2F8H, 3E8H, and 2E8H.

Serial Port 4 Use IRQ: The choices: IRQ10, IRQ11, IRQ4, IRQ3.

Onboard Parallel Port 2: The choices: Disabled (Default),378H, and 278H.

Parallel Port 2 Use IRQ: The choices: IRQ10, IRQ11, IRQ4, IRQ3.

Parallel Port 2 Mode: Select an operating mode for the onboard parallel (printer) port. Select "Normal", "Compatible", or "SPP" unless you are certain your hardware and software both support one of the other available modes.

LPT2 ECP Mode Use DMA: Select a DMA channel for the parallel port for use during ECP mode. The settings are "3" and "1".

Onboard Legacy Audio : This field controls the onboard legacy audio.

- Sound Blaster
- SB I/O Base Address
- SB IRQ Select
- SB DMA Select
- MPU-401
- MPU-401 I/O Address
- Game Port (200-207H)

3.7 Power Management Setup

The *Power Management Setup* controls the CPU card's *Green* features. When you select the *POWER MANAGEMENT SETUP* on the main program, the screen display will appears as:

Power Management Setup Screen

Phoenix - Award BIOS CMOS Setup Utility

Power Management Setup

ACPI function	[Enabled]	Item Help
Power Management	[Press Enter]	Menu Level ►
Video Off In Suspend	[Suspend -> Off]	
Video Off Method	[DPMS]	
Soft-Off by PWRBTN	[Instant-Off]	
********** Power On Events	*********	
Power On by LAN/Ring	[Disabled]	
Power On by RTC Alarm	[Disabled]	
Date (of Month)	0	
Resume Time (hh:mm:ss)	0:0:0	
PwrOn After AC Power Lose	[On]	

↑ ↓ → ←Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help

F5: Previous Values F7: Optimized Defaults

ACPI Function: This item allows you to enable or disable the Advanced Configuration and Power Management (ACPI). The settings are *Enabled* and *Disabled*.

Power Management:

User Defined	Allow you to set each mode individually. When not disabled, each of the ranges is from 1 min. to 1 hr. except for HDD Power Down, which ranges from 1 min. to 15 min. and disabled.
Min. Saving	Minimum power management. Doze Mode=1hr. Standby Mode =1hr., Suspend Mode=1hr., and HDD Power Down=15min.
Max. Saving	Maximum power management. –Only available for SL CPU's. Doze Mode=1min., Standby Mode=1min., Suspend Mode=1min., and HDD Power Down=1min.

Video Off In Suspend: This option is for choosing the setting in which the monitor will turn off. The default setting is Suspend.

Always On	Always turn on.
Suspend	During Suspend mode, the monitor will be turned off.
All Modes	During All Modes mode, the monitor will be turned off.

Video Off Method: This determines the manner in which the monitor is blanked. The default setting is DPMS.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blank to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

Soft-Off by PWRBTN: Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state. The settings are: Delay 4 Sec., and Instant-Off.

Power On by LAN/Ring: When Enabled, an input signal on the serial LAN/Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

Power On by RTC Alarm: Power-on interval by RTC setting.

PwrOn After AC Power Lose: This option specifies the Power ON/OFF Status after AC power loss.

3.8 PnP/PCI Configuration

Both the ISA and PCI buses on the CPU card use system IRQs & DMAs. You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configuration Setup utility; otherwise the motherboard will not work properly.

PnP/PCI Configuration Setup Screen

Phoenix – Award BIOS CMOS Setup Utility

PnP/PCI Configurations

			Item Help
	PNP OS Installed	[No]	
	Reset Configuration Data	[Disabled]	Menu Level ▶
			Select Yes if you are
	Resources Controlled By	[Manual]	using a Plug and Play
▶	IRQ Resources	[Press Enter]	capable operating
▶	DMA Resources	[Press Enter]	system. Select No if
			you need the BIOS to
	PCI/VGA Palette Snoop	[Disabled]	configure non-boot
	Assign IRQ For VGA	[Enabled]	devices.
	Assign IRQ For USB	[Enabled]	
	INT Pin 1 Assignment	[Auto]	
	INT Pin 2 Assignment	[Auto]	
	INT Pin 3 Assignment	[Auto]	
	INT Pin 4 Assignment	[Auto]	

↑ ↓ → ←Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help

F5: Previous Values F7: Optimized Defaults

PNP OS Installed: When set to *Yes*, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows 95 or 98. When set to *No*, BIOS will initialize all the PnP cards. So, for non-PnP operating system (DOS, Netware), this option must set to *Yes*.

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 reconfiguration has caused such a serious conflict that the operating system cannot boot.
The settings are: *Enabled* and *Disabled*.

Resources Controlled By: The Award Plug and Play BIOS has the capacity to automatically configure all of the boot 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®98. If you set this field to *Manual* choose specific resources by going into each of the sub menu that follows this field (a sub menu is proceeded by a ►). The settings are *Auto (ESCD), Manual*.

IRQ Resources: When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt.

			Item Help
IRQ-3	assigned to	[Legacy ISA]	Menu Level ►►►
IRQ-4	assigned to	[Legacy ISA]	
IRQ-5	assigned to	[PCI /ISA PNP]	Legacy ISA for devices compliant with the original PC AT bus specification, /ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.
IRQ-7	assigned to	[Legacy ISA]	
IRQ-9	assigned to	[PCI /ISA PNP]	
IRQ-10	assigned to	[PCI /ISA PNP]	
IRQ-11	assigned to	[PCI /ISA PNP]	
IRQ-12	assigned to	[PCI /ISA PNP]	
IRQ-14	assigned to	[PCI /ISA PNP]	
IRQ-15	assigned to	[PCI /ISA PNP]	

DMA Resources: The sub menu can let you control the DMA resource.

			Item Help
DMA-0	assigned to	[PCI /ISA PnP]	Menu Level ►►►
DMA-1	assigned to	[PCI /ISA PnP]	
DMA-3	assigned to	[PCI /ISA PnP]	Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.
DMA-5	assigned to	[PCI /ISA PnP]	
DMA-6	assigned to	[PCI /ISA PnP]	
DMA-7	assigned to	[PCI /ISA PnP]	

PCI/VGA Palette Snoop: Leave this field at *Disabled*. The settings are *Enabled, Disabled*.

Assign IRQ For VGA: Enable/Disable to assign IRQ for VGA. The settings are Enabled and Disabled.

Assign IRQ For USB: Enable/Disable to assign IRQ for VGA. The settings are Enabled and Disabled.

INT Pin 1/2/3/4 Assignment: These options specify the IRQ priority for PCI devices installed in the PCI expansion slots.

3.9 PC Health Status (Optional)

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages. It is recommended that you contact your motherboard supplier to get proper value about your setting of the CPU temperature.

Phoenix - Award BIOS CMOS Setup Utility

PC Health Status

CPU Temperature	36℃/ 96℉	Item Help
System Temperature	29℃/ 80℉	Menu Level ►
FAN2	0 RPM	
Vcore	+0.95 V	
+2.5V	+2.56 V	
+3.3V	+3.46 V	
+5V	+5.20 V	
+12V	+12.30 V	

↑ ↓ →←Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help

F5: Previous Values F7: Optimized Defaults

CPU Temperature: This item shows the CPU temperature.

System Temperature: This item displays the value of system temperature.

FAN2: This item displays the value of FAN2 speed.

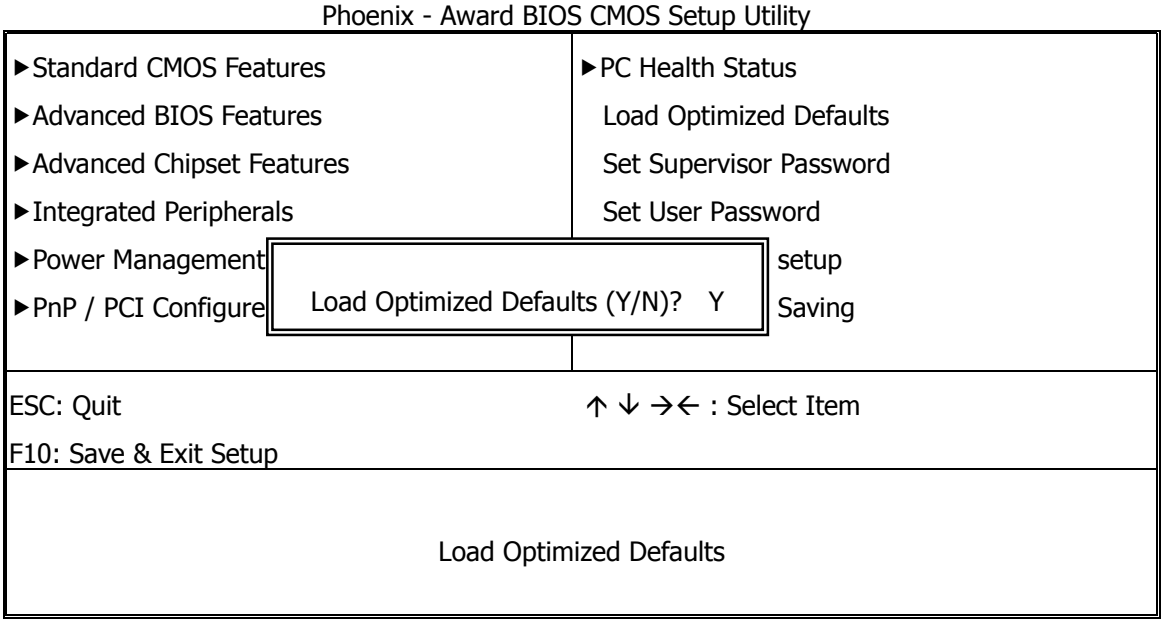
Vcore: This item shows the current system voltage.

3.10 Load Optimized Defaults

When you press *Enter* on this item, you get a confirmation dialog box with a message similar to:

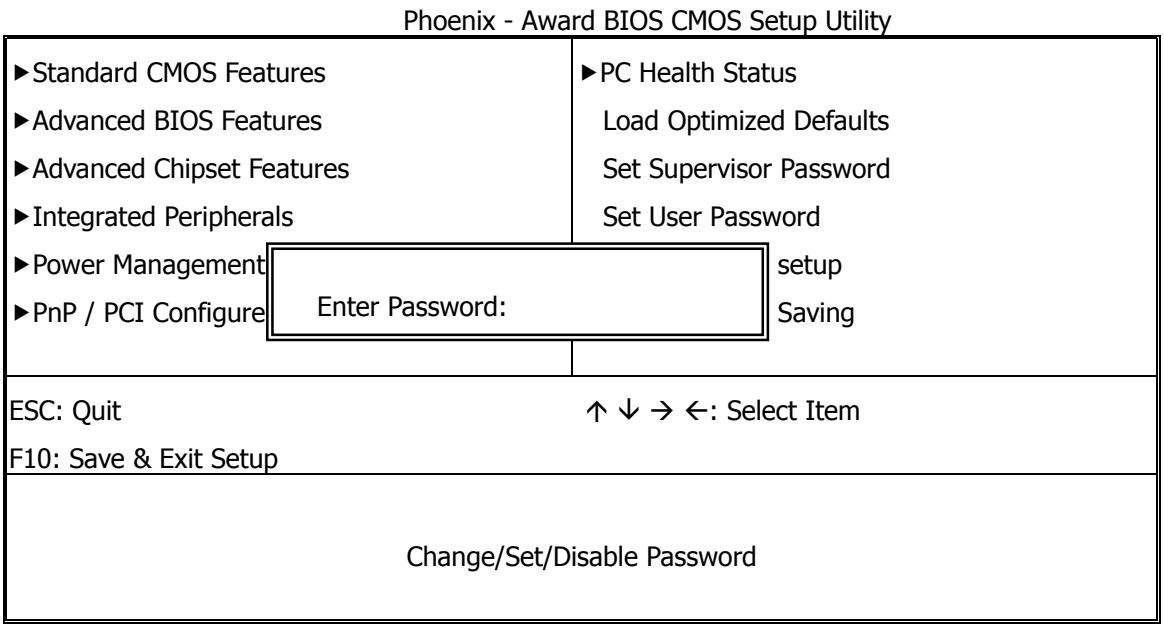
Load Optimized Defaults (Y/N)? N

Pressing *Y* loads the default values that are factory settings for optimal performance system operations.



3.11 Set Supervisor / User Password

The *SUPERVISOR/USER PASSWORD* utility sets the password. The SBC is shipped with the password disabled. If you want to change the password, you must first enter the current password, and then at the prompt -- enter your new password. The password is case sensitive, and can be up to 8 alphanumeric characters. Press <Enter> after you have finished typing in the password. At the next prompt, confirm the new password by re-typing it and pressing <Enter> again. When you are done, the screen automatically reverts to the main screen. Remember that when you use this feature, the *Security Option* line in BIOS FEATURES SETUP will determine when entering the password will be required.



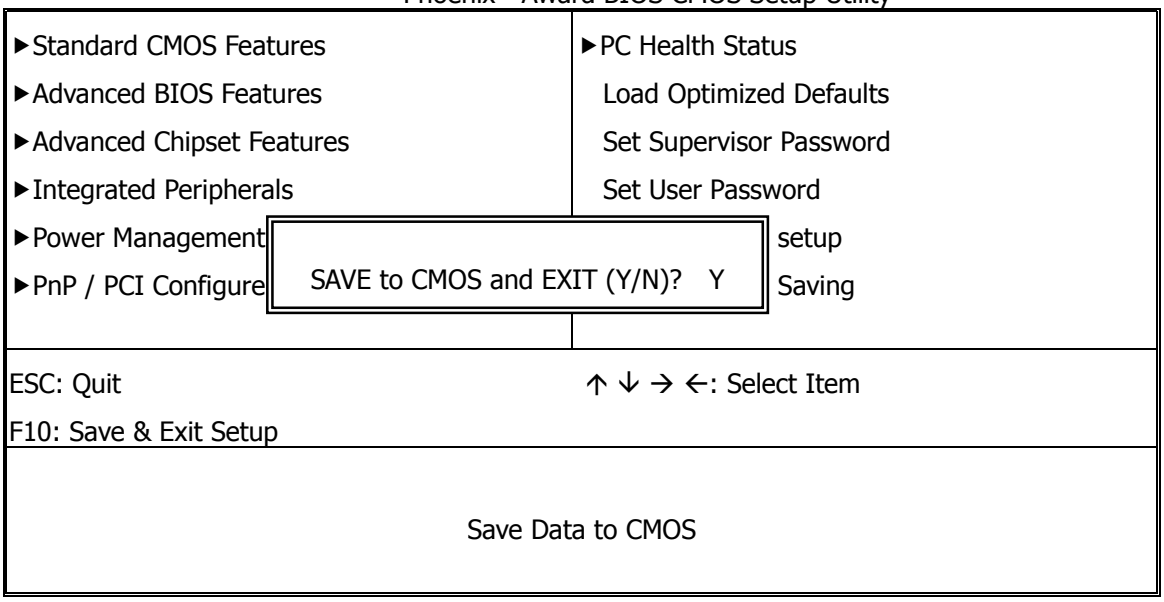
To disable the password, press the <Enter> key instead of entering a new password when the *Enter Password* in the dialog box appears. A message will appear confirming that the password is disabled.

If you have set both supervisor and user password, only the supervisor password allows you to enter the BIOS SETUP PROGRAM.

Note: If you forget your password, the only way to solve this problem is to discharge the CMOS memory.

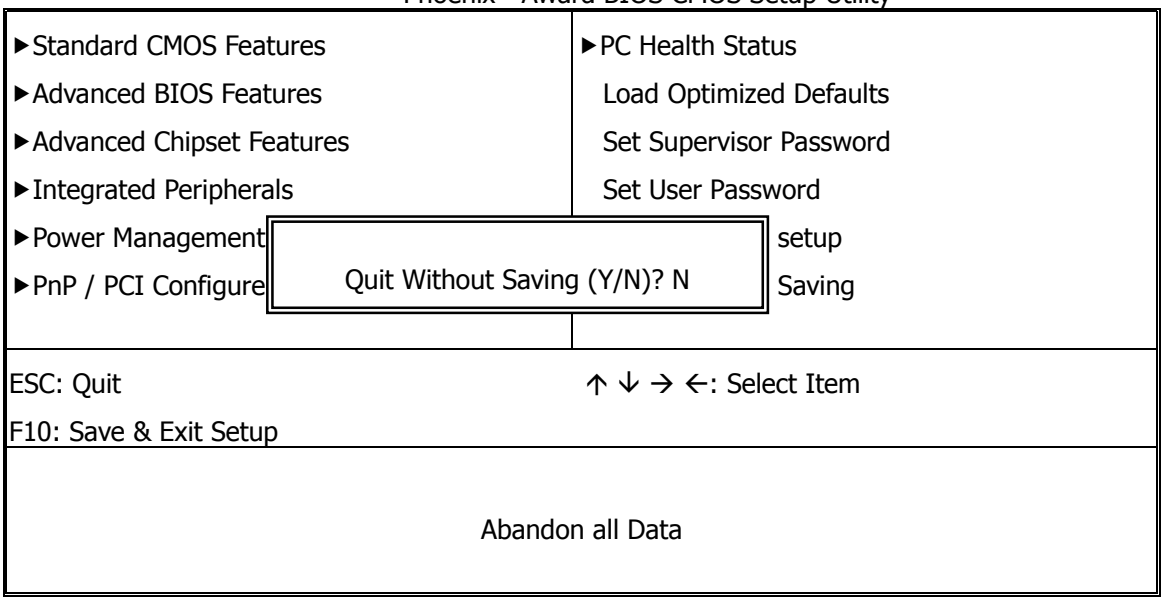
3.12 Save & Exit Setup

Select this option and press the <Enter> key to save the new setting information in the CMOS memory and continue with the booting process.



3.13 Exit Without Saving

Select this option and press the <Enter> key to exit the Setup Utility without recording any new values or changing old ones.



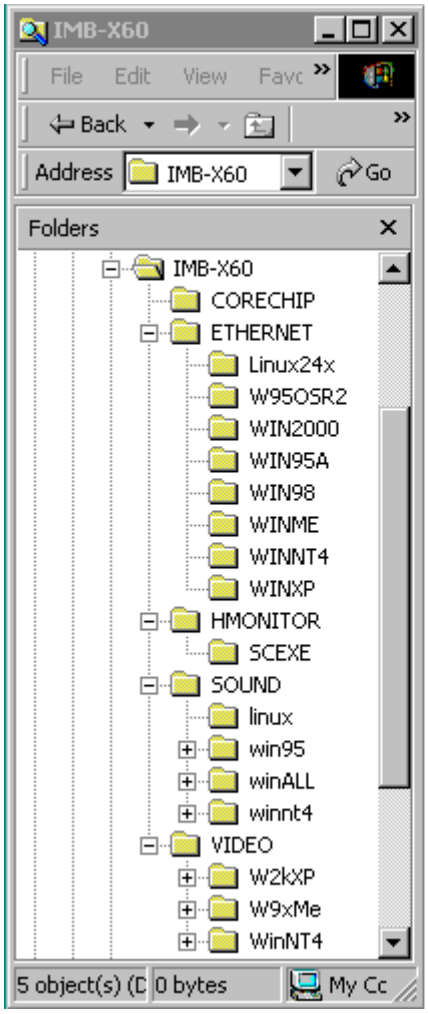
Chapter 4 Drivers Support

4.1 Use Your Driver CD-ROM

This chapter provides information on how to install the drivers in generally and related directory that come with the CD-ROM in the package. Please follow the instructions set forth on the screen carefully.

1. Find the directory for your O/S accordingly.
2. Always read the README.TXT before installation
3. Run the *.EXE and follow the installation prompt step by step.

4.2 File Directory



Note: Windows XP and ME should optimally configure the VIA chipset. Not need to run VIA Chipset Software Installation Utility.

APPENDIX A. Watch-Dog Timer

To use the watch-dog timer:

Step 1. Enable and re-trigger the Watchdog timer: Output port **443H**

Step 2. Disable : Output port **441H**

EX.1: For DOS

Execute the **DEBUG.EXE** file under DOS, Then key-in **O443**. The system will reboot automatically according to the time-out you set.

Enable	**Disable**
C:\DOS> DEBUG	C:\DOS> DEBUG
O 443 0~F	O 441 0~F

EX.2: For assemble Language

Enable:

```
:
:
MOV   DX, 443H
OUT   DX, AL
:
:
```

Disable:

```
:
:
MOV   DX, 441H
OUT   DX, AL
:
```

Terms and Conditions

Date: 2003.09.30

Warranty Policy

1. All products are warranted against defects in materials and workmanship on a period of two years from the date of purchase by the customer.
2. The buyer will bear the return freight charges for goods that are returned for repair within the warranty period whereas manufacturer will bear the other way after repair.
3. The buyer will pay for repair (for the replaced materials plus service time) and transportation charges (both ways) for items after the expiration of the warranty period.
4. If the RMA Service Request Form does not meet the stated requirement as listed on "RMA Service", RMA goods will be returned at the customer expense.
5. The following conditions are excluded from this warranty‥
   A. Improper or inadequate maintenance by the customer.
   B. Unauthorized modification or misuse.
   C. Operation outside of the environmental specifications for the product.

RMA Service

1. Request a RMA#:

Complete and fax to Supplier the "RMA Request Form" to obtain a RMA number.

2. Shipping:

A. The customer is requested to fill up the problem code as listed. If none of the code is selected, please write the symptom description on the remark.

B. Ship the defective units with freight prepaid.

C. Mark the RMA # clearly on the box.

D. Shipping damage as a result of inadequate packing is the customer's responsibility.

E. Use the original packing materials whenever possible.

3. All RMA# are valid for 30 days only:

When RMA goods are received after valid RMA# period, the goods will be rejected.

RMA Service Request Form

When requesting RMA service, please fill out this **RMA Service Request Form**.
Without this form your RMA will be REJECTED!!!

RMA No:	Reasons to Return: ☐ Repair(Please include failure details) ☐ Testing Purpose
Company:	Contact Person:
Phone No.	Purchased Date:
Fax No.:	Applied Date:
Return Shipping Address:	
Shipping by: ☐ Air Freight ☐ Sea ☐ Express : ☐ Others:	

Item	Model Name	Serial Number	Configuration

Item	Problem Code	Failure Status

***Problem Code:**

01:D.O.A.
02: Second Time R.M.A.
03: CMOS Data Lost
04: FDC Fail
05: HDC Fail
06: Bad Slot
07: BIOS Problem
08: Keyboard Controller Fail
09: Cache RMA Problem
10: Memory Socket Bad
11: Hang Up Software
12: Out Look Damage
13: SCSI
14: LPT Port
15: PS2
16: LAN
17: COM Port
18: Watchdog Timer
19: DIO
20: Buzzer
21: Shut Down
22: Panel Fail
23: CRT Fail
24: Others (Pls specify)

Request Party

Confirmed By Supplier

Authorized Signatures / Date

Authorized Signatures / Date