886LCD/ATXU

ATX mPGA 478 Socket Mainboard

Flatpanel support

User's Manual

Model	**: 886LCD/ATXU Mainboard**
Manual version	**: Version 1.06**
Release Date	**: February, 2004**

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User's Notice

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FCC & DOC Compliance

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- ✧ This device may not cause harmful interference, and
- ✧ This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and radiates radio frequency energy and, if not installed and used in accordance with the manufacturer s instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ✧ Re-orient or relocate the receiving antenna.
- ✧ Increase the separation between the equipment and the receiver.
- ✧ Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- ✧ Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- ✧ Consult the dealer or an experienced radio/TV technician for help.

Warning! The use of shielded cables for the connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Deviation from this requires extended authority to operate this equipment.

Table of Content

1 Product information

Thanks for purchasing this 886LCD/ATXU mPGA478 socket mainboard. This user's manual contains all the information and features that show you how to use the mainboard. Please take a moment to familiarize yourself with the design and organization of this manual.

1.1 Manual Features

This manual is divided into the following four sections:
Section 1: Product Information
A brief overview of what comes in the mainboard package, the mainboard layout and a brief board specification.
Section 2: Hardware Installation
Tell you the usage of the mainboard jumpers and the connectors.
Section 3: CMOS Setup Utility
A summary of the mainboard CMOS (BIOS) Setting.
Section 4: Software Utility
Introduction of some useful mainboard software utilities.

1.2 Package Check List

This mainboard package contains the following items. Please inspect the package contents and confirm that everything is there. If anything is missing or damaged, call your vendor for instructions before operating.

The package includes:

- One 886LCD/ATXU Mainboard
- One Floppy Interface Cable
- One IDE Interface Cable
- One Motherboard resource kit CD titled "886LCD, Drivers & Manual CD"
- One Chassis Rear I/O Panel

1.3 Requirement according to IEC60950

1.3.1 Power connections to the motherboard

Users of 886LCD/ATXU boards should take care when designing chassis interface connectors in order to fulfill the EN60950 standard :

When an interface/connector has a power pin (3.3V,5V,12V,….), that is directly connected to the motherboard power, please fulfill the following requirements:

To protect the external power lines of peripheral devices the customer has to take care about:

- That the wires have the right diameter to withstand the maximum available power.
- That the enclosure of the peripheral device fulfils the fire protecting requirements of IEC/EN 60950.

1.3.2 Lithium Battery Precautions

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by manufacturer. Dispose of used batteries according to the manufacturer's instructions.	**VORSICHT!** Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Ersatz nur durch den selben oder einen vom Hersteller empfohlenen gleichwertigen Typ. Entsorgung gebrauchter Batterien nach angaben des Herstellers.
ADVARSEL! Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.	**ADVARSEL** Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.
VARNING Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.	**VAROITUS** Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laltevalmistajan suosittelemaan tyyppiln. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

1.4 Mainboard Specification

Form Factor	● Micro-ATX form factor
Board Size	● 24.4 cm x 24.4 cm
CPU	● Support Intel P4 and P4 based Celeron CPU up to 2.8GHz ● Socket 478 (mPGA478) ● Jumperless BIOS setup ● Supports 400MHz and 533MHz FSB speed
System Memory	● DDR-DIMM 184-pin x 2, DDR SDRAM maximum 2GB ● Supports 64/128/256/512M/1G-bit DDR-SDRAM technology
Chipset	● Intel 82845G(V) (GMCH)+ 82801DB(ICH4) for 886LCD/ATXU
I/O Controller	● Winbond W83627
Expansion Slots	● 1x 2X/4X AGP (*note1*) or 2 x DVO ports for ADD card expansion ● 3 x PCI bus with Bus master mode
Serial Port	● Two serial ports, UART 16C550 compatible One port has extended functionality. ● Port 2 can be set to operate in normal, IrDA or ASKIR mode.
Parallel Port	One parallel port supports: ● SPP-standard parallel port ● EPP-enhanced parallel port ● ECP-extended capabilities port
Game/Midi Port	Extend Game/Midi port
Floppy Interface	Supports drives inches/format with: ● 3.5 inches—720KB/1.44MB/2.88MB ● 5.25 inches—360KB/1.2MB
IDE Interface	● Dual PCI IDE interface support up to 4 x IDE HDD or CDROM ● Supports PIO mode4, DMA mode5 and Ultra ATA100
USB Interface	● 4 x USB2.0 ports supported, extension connector for additional 2 ports. ● USB legacy keyboard function supported

PS/2 Mouse	● PS/2 mouse supported by connector onboard
Keyboard	● PS/2 keyboard supported by connector onboard
Fuse	● Supports recoverable fuse for USB and KB/Mouse
LAN	● On board Realtek 8100(B) PCI interface ● 10/100 Mb Operation ● Supports ACPI & Wake on LAN
RTC and Battery	● RTC build in chipset (ICH4) ● Lithium (CR-2032) battery
Wake Up Function	● Modem ring wake up ● LAN wake up ● RTC Alarm wake up
Synchronous Switching Regulator	● High efficient synchronous switching regulator for CPU c ore voltage from 1.05V to 1.825V ● Supports over-voltage / over-current protection function
Hardware Monitor	● Fan speed monitor—Three fan connectors, warning whe n CPU or Housing fan is malfunction ● Voltage monitor—Warning when system voltage (5V) 12V,3.3V,-5V,-12V VCORE) are abnormal ● CPU and system thermal monitor—Warning when CPU and system temperature is higher than a predefined value ● Optional temperature sensor
Power Connector	● Supports ATX (20 pin) power connector
BIOS	● Award BIOS ● Year 2000 Compliance ● PCI 2.2 Compliance ● PnP BIOS v1.0a Compliance ● APM v1.2 Compliance ● DMI 2.0 compliance ● Flash/Upgrade BIOS protection ● Supports ACPI (Advanced Configuration and Power Interface) and OS Directed Power Management ● Supports SOFT power ● Anti-Virus Boot Protection ● Floppy drive swapping function supported
LED Indicator	● System power LED ● HDD activity LED ● Suspend LED (Green LED)

Note 1: *When the motherboard is mounted with an 845GV chipset, AGP graphic cards are not supported. The "AGP" connector can then only supply 2xDVO ports for digital display connection.*

1.4.1 Power Consumption

This section describes static and dynamic power consumption on the 886LCD/ATXU board in a specific configuration:

- 886LCD/ATXU
- P4, 2.0GHz, 400MHz FSB, 256MByte L2 cache
- P4 intel approved cooler
- 256Mbyte of PC2100 DDR Sdram, type Elixir M2U25664DS88A0G-75B
- VGA monitor, Keyboard and mouse inserted

Maesurement[1]	Static Power consumption	Dynamic power consumption[2]
WinXP idle	23.6W	2.6W
WinXP Full load[3]	61.6W	7.4W

[1] Max values measured @ 25dg Celcius.

[2] The dynamic power consumption of the 886LCD/ATXU board is measured with the Fluke Current Probe 80i-100S AC/DC in a similar setup as static measurement.

[3] 3D-MARK2000. See description at www.madonion.com

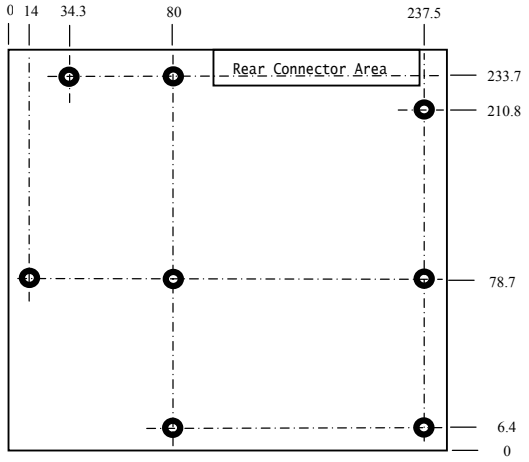
1.4.2 Environmental Conditions

State	Conditions
Operating Temperature	0°C – 50°C (forced cooling). It is the customer's responsibility to provide sufficient airflow to/from the board.
Operating Humidity	10% - 90% relative humidity (non-condensing)
Storage Temperature	-10°C – 85°C
Storage Humidity	5% - 95% relative humidity (non-condensing)

1.4.3 Mechanical Design

886LCD/ATXU is a micro ATX motherboard with a board size of 9.6"x 9.6" or in cm 24.38 x 24.38. Mechanical design conforms to the "microATX Motherboard Interface Specification" rev 1.0, except for heights constraints for Area E (specification page 16).

Mounting terminal Locations:



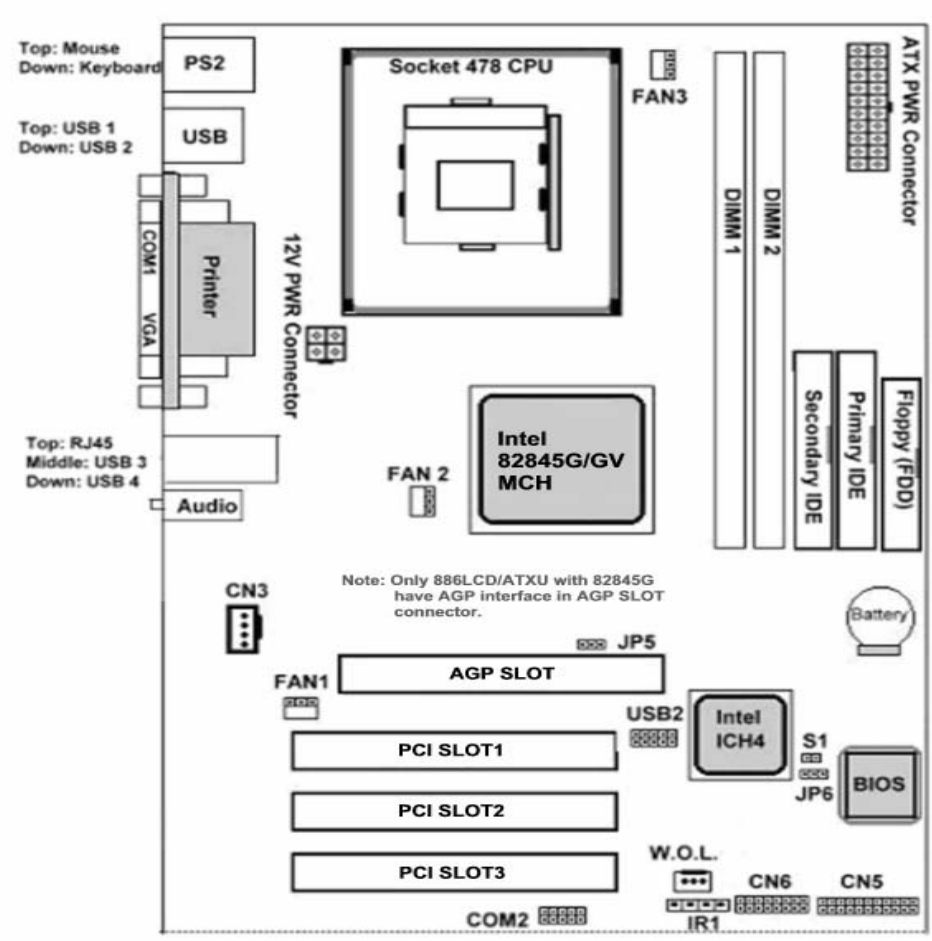
1.5 Digital Display connectivity

The 845G(V) chipset is prepared for easy interface to Digital Displays. BIOS and hardware will support AGP Digital Display cards inserted into the AGP connector. In a windows environment full plug and play functionality can be experienced.
Interfaces offered:

- DVI-D
- Pannellink
- LVDS
- Digital RGB

Full adaptation to an almost complete selection of Digital Displays is available from Kontron Technology A/S

1.6 Mainboard Layout



III. CMOS SETUP UTILITY

Jumpers

1. JP 5	CPU Speed Select
2. S1	Case Open Switch Connector
3. JP 6	Clear CMOS (Real Time Clock)
4. JP3	Optional Temperature sensor

Expansion Sockets

1. DIMM 1	Support 184-pin DIMM Memory
2. DIMM 2	Support 184-pin DIMM Memory

Expansion Slots

1. CPU	Intel Pentium 4 processor (mPGA478)
2. PCI Slot 1 to Slot 6	32-bit PCI Bus Expansion Slot

Connectors

1. PS/2 KB	PS/2 Keyboard Connector (6-pin female)
2. PS/2 Mouse	PS/2 Mouse Connector (6-pin female)
3. USB	Universal Serial Port USB Port1~4 (4pin femalex4),
Extend USB	Extend port5 and 6 (5pin on board connectorx2)
4. COM1	9 Pin female/ Serial Port
Extend COM2	Extend port (10Pin on board connector)
5. PRINTER	Printer (Parallel) Port Connector (25-pin female)
6. ATX POWER	ATX Mainboard Power Connector (20-pin block)
	+12V Power Connector (4-pin block)
7. FAN3	CPU Fan Connector (3 pins)
8. FAN1/FAN2	Chassis /Power Fan Connector (3 pins)
9. Floppy	Floppy Drive Connector (34 pins)
10. Primary IDE	Primary IDE Connector (40 pins)
11. Secondary IDE	Secondary IDE Connector (40 pins)
12. FIR	Infrared Port Connector (5 pins)
13. Wake on LAN	LAN wake up connector
14. VGA	CRT display port for integrated graphics
15. RJ45	LAN connector RJ45 8 pin
16. Game/Midi port (CN6)	Extend Game/Midi Port (16 pins connector)

17. Audio	Microphone/Line In/Line Out
18. Panel (CN5)	
- **PWR LED**	ATX Power LED Connector (3 pins)
- **KBLCK**	Keyboard Lock Switch Connector (2 pins)
- **SLEEP**	Suspend Switch Connector (2 pins)
- **SPEAKER**	Chassis Speaker Connector (4 pins)
- **Green LED**	Sleep LED Status LED Connector (3 pins)
- **HDD LED**	HDD LED Connector (4 pins)
- **RESET**	Reset Switch Connector (2 pins)
- **PWR SW**	ATX Power Switch Connector (2 pins)
19. CD in (CN3)	CD Audio in

1.7 System Support

The 886LCD/ATXU motherboard installations CD include drivers for all onboard hardware and subsystems. These sets of drivers are applicable for the following operating systems:

- Windows 98SE
- Windows NT 4.0
- Windows ME
- Windows 2000
- Windows XP

Driver updates can be found at:

- www.inside.dk/download/BIOS_%26_Drivers/886LCD-ATXU/

User Manual updates can be found at:

- www.inside.dk/download/Manuals_%26_Reports_etc/886LCD-ATXU/UserManual/

Technical notes can be found at:

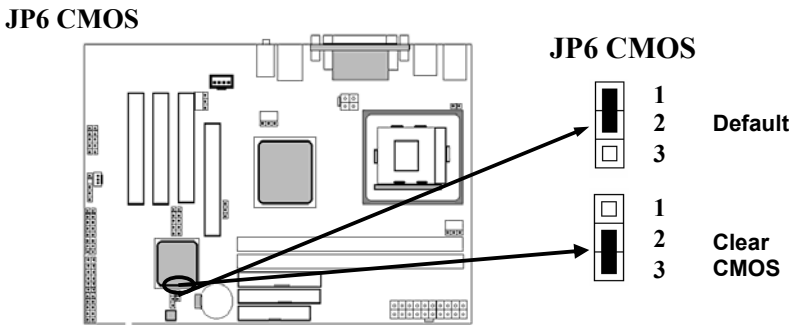
- www.inside.dk/download/Manuals_%26_Reports_etc/886LCD-ATXU/TechNotes/

2 Hardware installation

This section gives you a step-by-step procedure on how to install your system. Follow each section accordingly.

2.1 Jumper Settings

Please refer to the following figures for the locations of the jumpers on the mainboard.



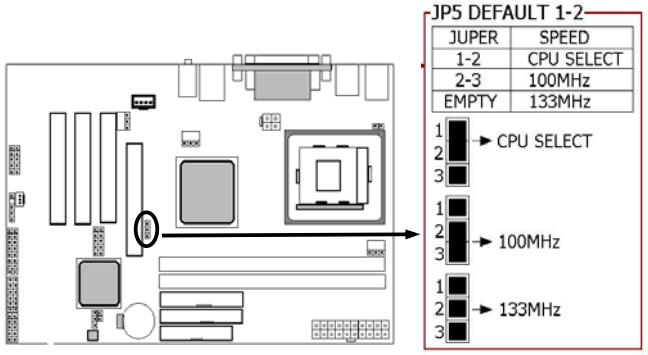
2.1.1 CMOS Clear Setting

To clear CMOS, please follow the steps below:

- Power off the system and unplug the chassis AC power cord.
- Short JP6 at pin 2-3 for few seconds.
- Set JP6 back to its Normal position at pin 1-2
- Plug the AC power cord to the chassis.
- Power on the system and load the BIOS setup default.

2.1.2 CPU Base clock select

Select CPU base clock to one of 3 options by configuring JP5 as shown below.



The CPU used has itself output signals that indicate what the maximum/default frequency to be used is. Please also note that the CPU internal clock multiplier is fixed by the manufacturer.

"CPU select"
Will let the CPU control the base clock.

"100MHz setting"
Will force CPU input clock to 100MHz and the internal CPU clock and FSB will be set accordingly.
CPU clock = 100MHz x Clock multiplier
FSB clock = 400MHz

"133MHz setting"
Will force CPU input clock to 133MHz and the internal CPU clock and FSB will be set accordingly.
CPU clock = 133MHz x Clock multiplier
FSB clock = 533MHz

2.1.3 CPU Type Setting

This mainboard supports jumperless CPU type setting; no jumper or switch is needed. Select your CPU Type under "Frequency / Voltage Control" in BIOS (CMOS) Setup Menu. Speeds up to 2.80GHz are supported.

The Intel Pentium 4 processor types currently available and supported are:

CPU Type	CPU Clock Ratio	CPU Clock Frequency
1.6GHz	16.0x	100MHz
1.7GHz	17.0x	100MHz
1.8GHz	18.0x	100MHz
1.9GHz	19.0x	100MHz
2.0GHz	20.0x	100MHz
2.1GHz	21.0x	100MHz
2.2GHz	22.0x	100MHz
2.4GHz	24.0x	100MHz
2.5GHz	25.0x	100MHz
2.6GHz	26.0x	100MHz
2.26GHz	17.0x	133MHz
2.4GHz	18.0x	133MHz
2.53GHz	19.0x	133MHz
2.66GHz	20.0x	133MHz
2.8GHz	21.0x	133MHz

2.1.4 Optional Temperature Sensor

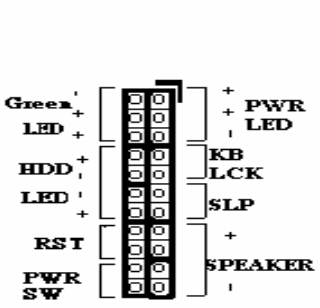
Is supported through JP3 jumper. By connecting a NTC termistor to this header you can add a third temperature parameters to your system. The Termistor specifications must be

- THERMISTOR 10K B3435 1% RT2.54

TCF3A103H34D3AX from Thinking Electronic or equivalent may be chosen.

2.2 Connectors

2.2.1 Panel Connector (CN5)

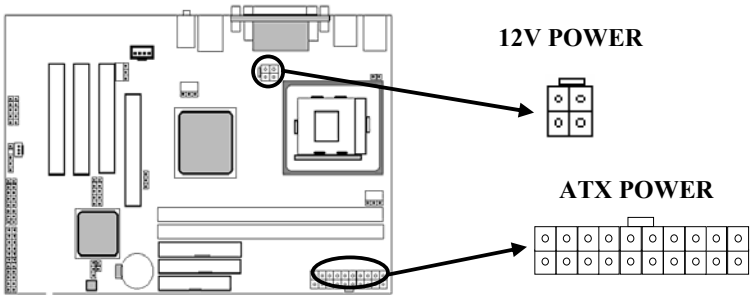


- **PWR LED** ATX Power LED Connector (3 pins)
- **KBLCK** Keyboard Lock Switch Connector (2 pins)
- **SLEEP** Suspend Switch Connector (2 pins)
- **SPEAKER** Chassis Speaker Connector (4 pins)
- **Green LED** Green Status LED Connector (3 pins)
- **HDD LED** HDD LED Connector (4 pins)
- **RESET** Reset Switch Connector (2 pins)
- *** PWR SW** ATX Power Switch Connector and Suspend Switch Connector (2 pins)

*** PWR SW : ATX Power Switch and Suspend Switch Connector**
Attach the ATX power button or suspend switch cable to this connector.
In the ATX power system, this connector will be not only an ATX power button, but a suspend switch as well. Details are describes as below:
When the system is off, push the power button to turn the system on. When the system is on, push the power button rapidly within 4 seconds to switch the system to the suspend mode, and, by pushing the button for more than 4 seconds, it will turn the system completely off. When the system is in the suspend mode, push the power button rapidly to turn the system on.
When the system is in suspend mode, the **Green LED** will flash. And when the system is in normal working mode, the **Green LED** will not work.

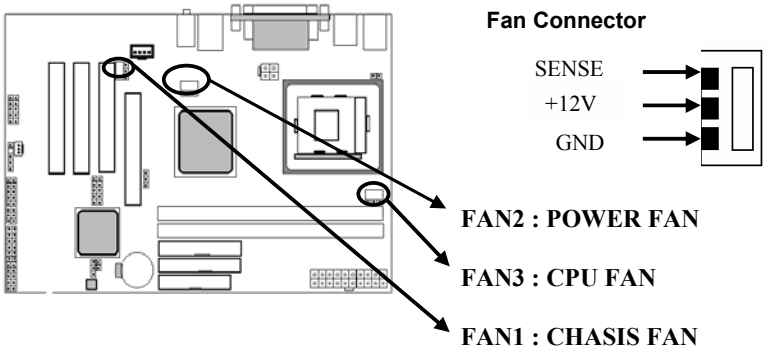
2.2.2 Power Connector

Connect the 20-pin ATX power supply cable to this power connector. Make sure the right plug-in direction and the power supply is off before connecting or disconnecting the power cable.



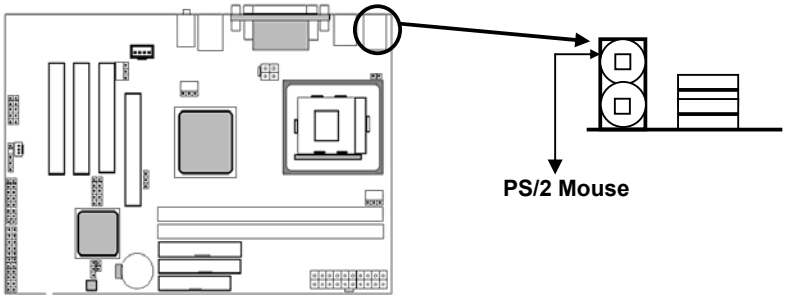
2.2.3 Fan Connectors

Connect the CPU and Chassis Fan cables to the fan connectors shown below. The fan connectors are marked as: **FAN1** ,**FAN2** and **FAN3** on the mainboard



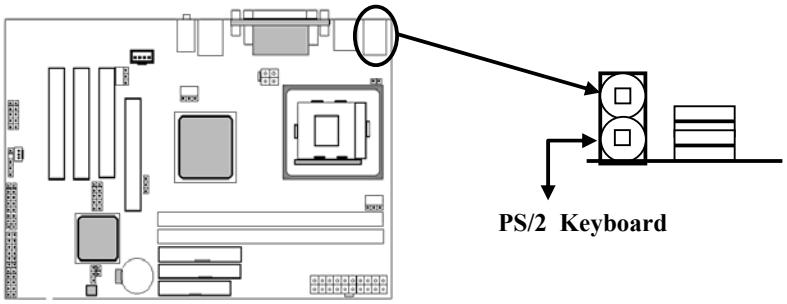
2.2.4 PS/2 Mouse Connector

Connect the PS/2 mouse to the onboard 6-pin Mini-Din connector marked as **MOUSE**.



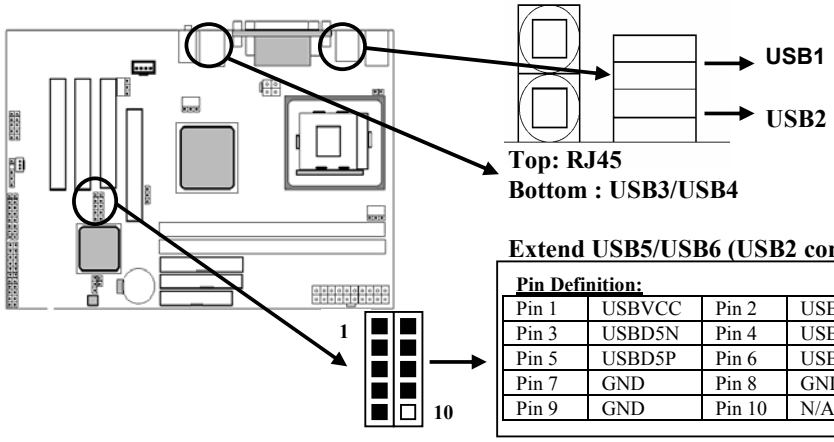
2.2.5 Keyboard Connector

Connect the PS/2 keyboard to the onboard 6-pin Mini-Din connector marked as **KB.**



2.2.6 USB, RJ45(LAN), & Extend USB

Connect your USB device(s) to the onboard USB connector marked as **USB**. Connect your LAN to the onboard RJ45 connector.



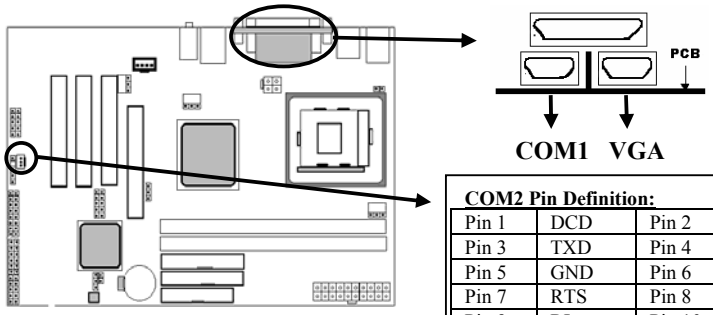
Extend USB5/USB6 (USB2 connector)

Pin Definition:

Pin 1	USBVCC	Pin 2	USBVCC
Pin 3	USBD5N	Pin 4	USBD6N
Pin 5	USBD5P	Pin 6	USBD6P
Pin 7	GND	Pin 8	GND
Pin 9	GND	Pin 10	N/A

2.2.7 COM1/ COM2/ VGA Connectors

Connect your serial device(s) to the onboard 9-pin serial connector marked as **COM1** (standard DB9 DTE connection) or to the 2x5 pin header expansion port marked as **COM2**. Connect your VGA device to the 15pin D-SUB VGA connector

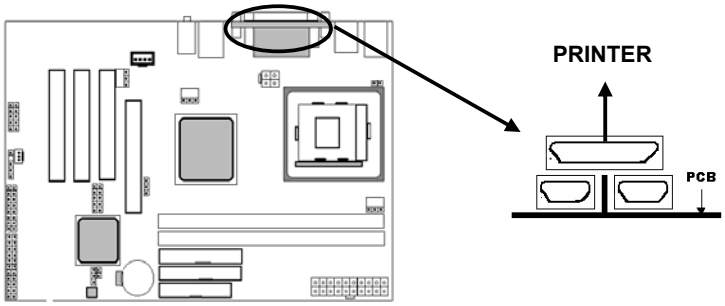


COM2 Pin Definition:

Pin 1	DCD	Pin 2	RXD
Pin 3	TXD	Pin 4	DTR
Pin 5	GND	Pin 6	DSR
Pin 7	RTS	Pin 8	CTS
Pin 9	RI	Pin 10	N/A

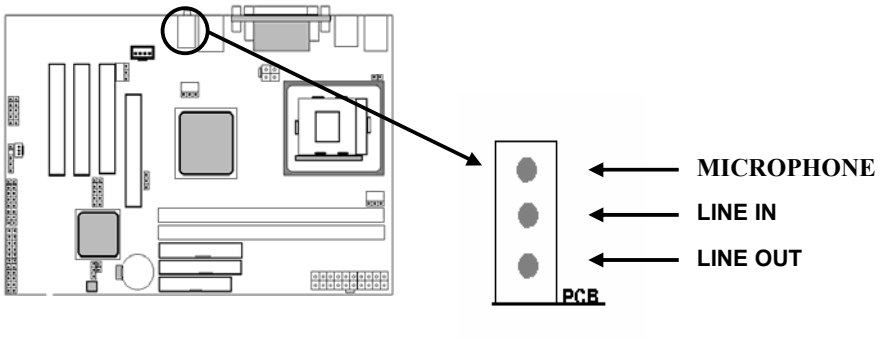
2.2.8 Printer Connector

Connect your local printer to the onboard 25-pin printer connector marked as **PRINTER**.



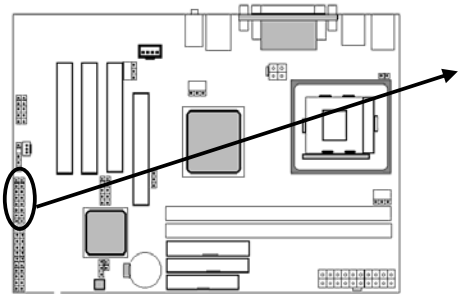
2.2.9 Audio Jack

Connect the speaker/Microphone/Line in marked as AUDIO



2.2.10 Game / MIDI Connector(CN6)

Connect the Joystick/Game pad to the onboard 16-Pin Game Connector Marked as GAME/MIDI

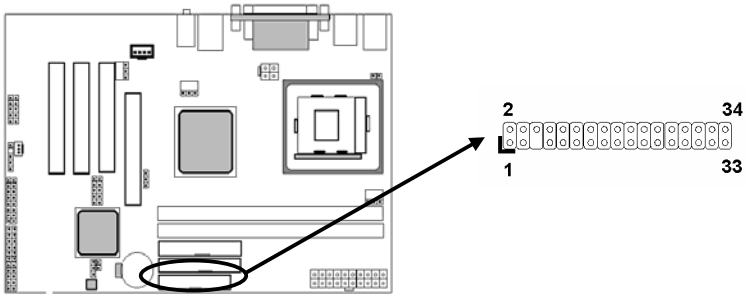


GAME/MIDI connector

Pin 1	VCC	Pin 2	VCC
Pin 3	J1BUTTON1	Pin 4	J2BUTTON1
Pin 5	J1X	Pin 6	J2X
Pin 7	GND	Pin 8	MIDI_OUT
Pin 9	GND	Pin 10	J2Y
Pin 11	J1Y	Pin 12	J2BUTTON2
Pin 13	J1BUTTON2	Pin 14	MIDI_IN
Pin 15	VCC	Pin 16	NC

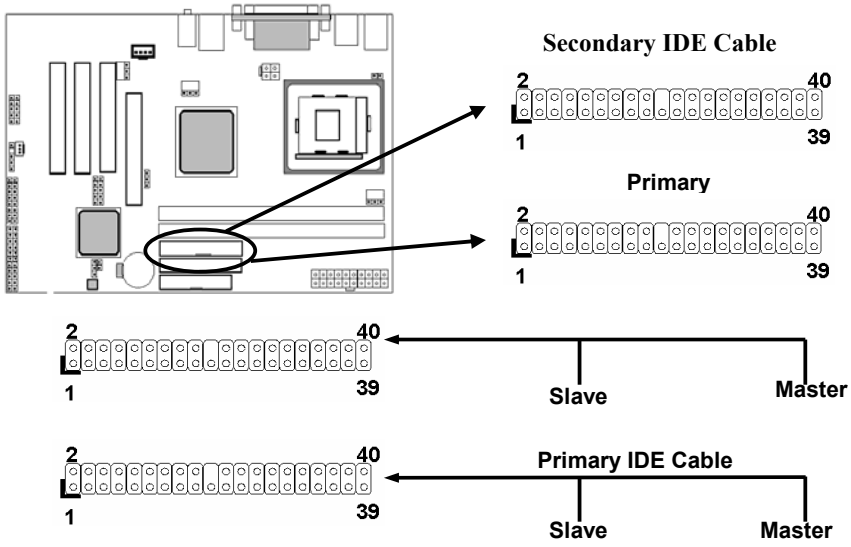
2.2.11 Floppy Drive Connector

Connect the floppy drive cable to the onboard 34-pin floppy drive connector marked as **FDD**.



2.2.12 IDE Hard Disk and CD-ROM Connector

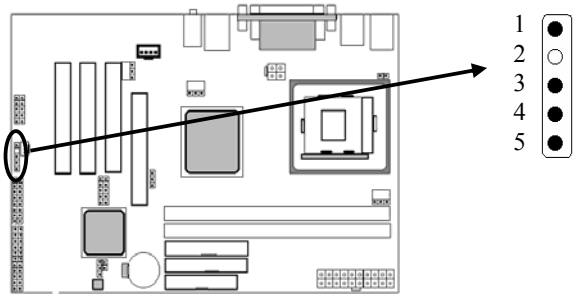
Connect your IDE devices to the onboard 40-pin IDE connectors marked as **Primary** and **Secondary**.



It is suggested that you connect the IDE devices to your IDE cables as the figure shown above. Each IDE channel, either Primary or Secondary, supports two IDE devices which must be set differently to master mode and slave mode.
(Refer to your hard disk and CD-ROM user's manual for detailed settings of IDE master and slave mode.)
886LCD/ATXU motherboard also supports ATA-66 and ATA-100 interface, if you want to use these kinds of IDE devices, please install the drivers bundled in Microsoft products like Windows 98 or Windows 2000 .

2.2.13 IrDA Connector(IR1)

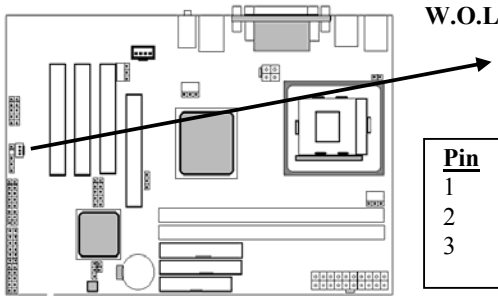
Connect your IR device to the onboard IrDA connector marked as **FIR**.



Pin	Description
1	+5V
2	NC
3	IRRX
4	GND
5	IRTX

2.2.14 Wake on LAN Connector(W.O.L.)

Wake on LAN from an external LAN addapter is supported through this connector. Connect the W.O.L. signals from the addapter to this connector and install software to support W.O.L.



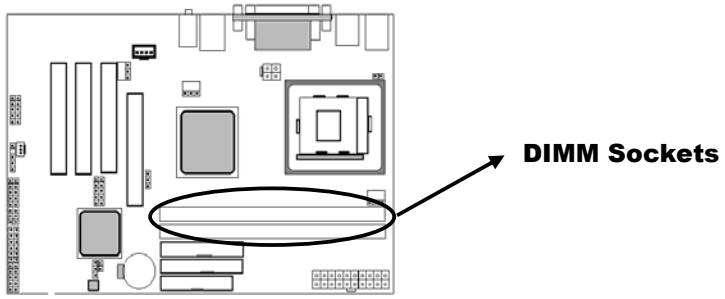
W.O.L : Wake on LAN

1 2 3

Pin	Description
1	+5V Standby
2	GND
3	Signal

2.3 System Memory Installation

There are 2 pcs of 184-pin **DIMM** (Dual Inline Memory Module) sockets on the mainboard, which supports Registered and un-buffered DDR SDRAM. Maximum system memory supported, is 2GB.



2.3.1 Type

This mainboard supports un-buffered and Registered DDR SDRAM. However, mixing the 2 types is not allowed. Install one type only in your system for compatibility.

2.3.2 Speed

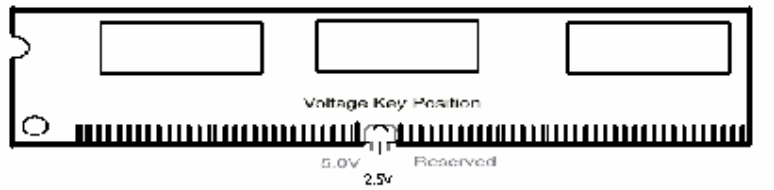
Memory modules identified as PC1600 or PC2100 is also referred to as DDR200 respectively DDR266.
Translated into actual Bus speed,

- PC1600 or DDR200 = Samples data on a 100MHz clock, on rising and falling clock edge (2x100M samples per clock)
- PC2100 or DDR266 = Samples data on a 133MHz clock, on rising and falling clock edge (2x133M samples per clock)

This motherboard supports all the above memory speed. For better system performance and reliability, we suggest that you use DDR 266 given that above CPU Bus Clock is used in your system.

2.3.3 Buffered and Non-buffered

Only the un-buffered DIMM can be used in this mainboard.



The difference between buffered and un-buffered DIMM can be identified by the notch position shown above.

2.3.4 3-clock and 6-clock signal

Both 3-clock and 6-clock DDR DIMM's are supported by this mainboard.

2.3.5 ECC memory

Is not supported.

2.3.6 Parity and Non-parity

This mainboard supports standard 64 bit (Non-parity) and 72 bit (Parity) DIMM modules.

2.3.7 Memory Auto detection by BIOS

This mainboard BIOS can automatically detect the DIMM memory size and type, so you do not need to adjust any hardware or software settings. The maximum memory size supported up to 2GB.

2.3.8 Suggested DDR SDRAM combination

This mainboard supports the following DDR SDRAM combination.

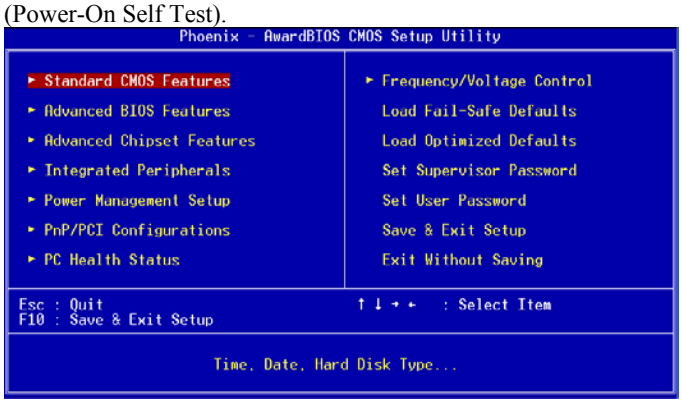
DIMM Location	DIMM Size
DIMM 1	DDR SDRAM 32MB, 64MB, 128MB, 256MB, 512MB, 1GB
DIMM 2	DDR SDRAM 32MB, 64MB, 128MB, 256MB, 512MB, 1GB

Total Memory Size = DIMM1 + DIMM2

3 CMOS SETUP UTILITY

3.1 BIOS Setup Main Menu

This section tells you how to configure the system by changing BIOS setup options. To enter the BIOS Setup Utility, press **DEL** key during POST (Power-On Self Test).

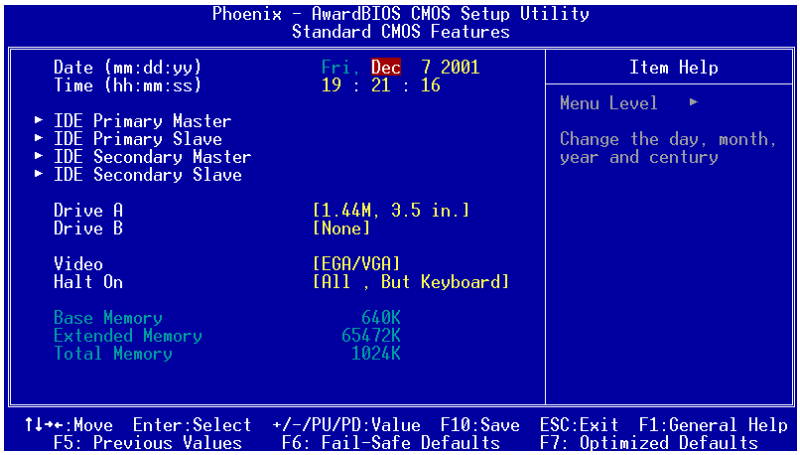


The main menu displays a table of items, which defines basic information about your system. Shown below are the keyboard function keys you can use under the menu.

Menu function keys:

E S C	To close the BIOS Setup Utility.
↑ ↓ ← →	To move around the screen. An item is highlighted if it is selected.
F 1 0	To save the changes before exit the BIOS Setup Utility.
ENTER	To select or enter a submenu.

3.2 Standard CMOS Features



This "Standard CMOS Setup" sets the basic system settings such as the date, time, and the hard disk type, Video display type and error handling. Use the arrows keys [↑] [↓] [←] [→] to highlight an item and use **Page Up** / **Page Down** or [+] [-] to set the value for each item.

➢ Date (mm:dd:yy)

To set the date, highlight the date area. Press [+] / [-] or **Page Up** / **Page Down** to set the current date. The date format is month: **Jan.** ~ **Dec**., date: **1** ~ **31**, and year: **1999** ~ **2098**

➢ Time

To set the time, highlight the time area. Press [+] / [-] or **Page Up** / **Page Down** to set the current time. The time format is hour: **00** ~ **23**, minute: **00** ~ **59**, and second: **00** ~ **59**.

➢ IDE Primary/Secondary Master/Slave IDE HDD Auto-Detection press Enter

IDE Primary Master:
- None
- Auto
- Manual

These items let you set your system IDE hard disk type. Select Auto to let BIOS automatically detects the installed hard disk when system boot up. Select User if you prefer manually entering the hard disk type. The available parameters are SIZE (HDD Size), CYLS (No. of Cylinder), HEAD (No. of Head), PRECOMP (Pre-compensation), LANDZ (Landing Zone), SECTOR (No. of Sector) and MODE (HDD Mode). Select None if there is no hard disk connected to the system.

Access Mode:
- CHS
- LBA
- Large
- Auto

Select NORMAL for IDE HDD smaller than 528MB. Select LBA for IDE HDD over than 528MB and support LBA (Logical Block Addressing) mode. Select LARGE for IDE HDD over than 528MB and do not support LBA mode.

Note: We recommend that you set both IDE HDD TYPE and MODE to AUTO to make BIOS automatically detect the hard disk drives for you.

➢ Drive A/B

Drive A / B:
- None
- 360KB , 5.25"
- 1.2MB , 5.25"
- 720KB , 3.5"
- 1.44MB ,3.5"
- 2.88MB ,3.5"

Select the floppy drive type installed in your system. The available options for Drive A and Drive B are: 360KB 5.25”, 1.2MB 5.25”, 720KB 3.5”, 1.44MB 3.5”, 2.88MB 3.5” and None.

➢ Video

Video:
- EGA/VGA
- CGA 40
- CGA 80
- Mono

Select the video display card type installed in your system. The available types are: EGA/VGA, CGA 40, CGA 80 and Mono.

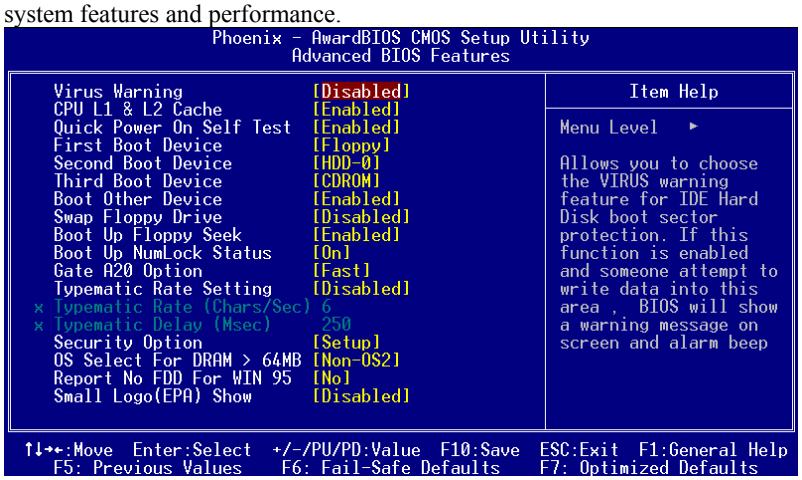
➢ Halt On

Halt On:
- All Errors
- No Errors
- All, But Keyboard
- All, But Diskette
- All, But Disk/Key

This item defines the operation of the system POST(Power On Self Test). You can use these items to select which kind of errors will cause the system to halt during POST.

3.3 BIOS Features Setup

This "BIOS Features Setup" option allows you to setup and improve your system features and performance.



➢ Virus Warning

Anti-Virus Protection:

- Enabled
- Disabled

When this item is enabled, BIOS will automatically show a warning message when the boot partition is accessed, you can check whether the system is infected by Boot Viruses or not.

➢ CPU L1 & L2 Cache

CPU L1 & L2 Cache:

- Disabled
- Enable

This item let you to enable or disable the function of the L1 and L2 cache of the P4 CPU.

➢

➢ Quick Power On Self Test

Quick Power On Self Test:
- Disabled
- Enable

This item can be used to start operating system quickly by skip some normal POST checking items.

➢ First/Second/Third Boot Device

First Boot Device:
- Floppy
- LS120
- HDD-0
- SCSI
- CDROM
- HDD-1
- HDD-2
- HDD-3
- ZIP100
- USB-FDD
- USB-ZIP
- USB-CDROM
- USB-HDD
- LAN
- Disabled

These items define where the system will look for an operating system. The boot up search device shown as left.

➢ Boot Other Device

Boot Other Device:
- Disabled
- Enabled

This item enables/disables if the system will look for an operating system from other booting device instead of the booting devices listed under First/Second/Third Boot Device item. .

➢ Swap Floppy Drive

Swap Floppy Drive:
- Disabled
- Enabled

If you have two floppy drives in your system, This item allows you to swap around the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

➢ Boot Up Floppy Seek

Boot Up Floppy Seek:
- Disabled
- Enabled

This item controls the system to seek floppy drive during boot up POST.

➢ Boot Up NumLock Status

Boot Up NumLock Status:
- Off
- On

This item defines if the keyboard **NumLock** key is active when your system is started.

➢ Gate A20 Option

Gate A20 Option:
- Normal
- Fast

This item allows you select how the Gate A20 is handled. The Gate A20 is a device used to address memory above 1MB. Select "Normal" to handle the Gate A20 by keyboard. Select "Fast" to handle Gate A20 for better condition by system chipset.

➢ Typematic Rate Setting

Typematic Rate Setting:
- Disabled
- Enabled

To Enable or Disable the speed of keyboard to send repeat keystrokes.

➢

➢ Typematic Rate (Chars/Sec)

Typematic Rate:
- 6
- 8
- 10
- 12
- 15
- 20
- 24
- 30

This item provides typematic rate setting, which allows you to control the repeated keystrokes speed.

➢ Typematic Delay (Msec)

Typematic Delay:
- 250
- 500
- 750
- 1000

This item provides typematic delay setting, which allows you to control the delay time between the first and the second keystroke.

➢ Security Option

Security Option:
- Setup
- System

The "Setup" option is for password request in entering BIOS setup.
The "System" option is for password request in both entering setup and system boot up.

➢ OS Select for DRAM > 64MB

OS Select for DRAM > 64MB:
- Non-OS/2
- OS/2

This item is to patch that OS/2 cannot report correct memory size for more than 64 MB. Set it to OS/2 if you have an OS/2 installed and have over 64MB system memory.

➢

➢ Report No FDD For Win 95

Report No FDD For Win 95:
- No
- Yes

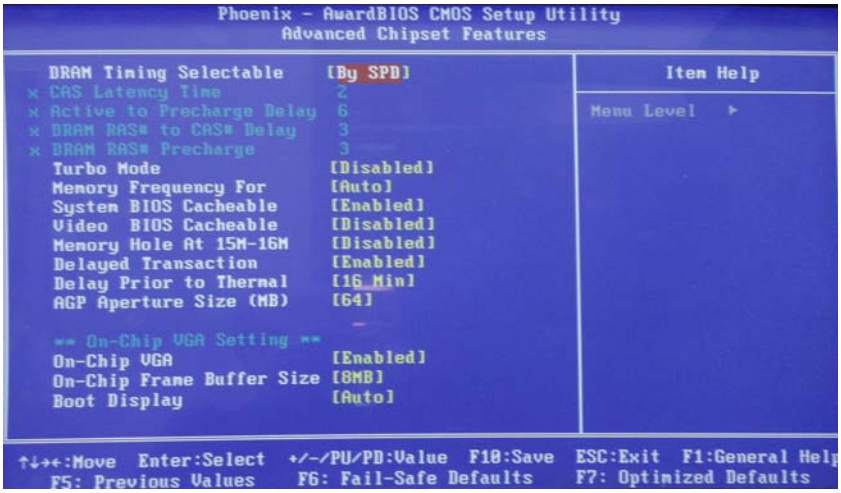
This Item allows you to select whether the BIOS report no FDD for Windows 95 operating system or not.

➢ Small Logo(EPA) Show

Small Logo(EPA):
- Disabled
- Enabled

Selection for Small EPA Logo display during BIOS Boot.

3.4 Advanced Chipset Features



This option displays a table of items, which define timing parameters of the mainboard components including the graphic system, memory, and the system logic. In general rule, you should leave the items on this page at the default

values unless you are familiar with the technical specifications of your hardware. If you change the values, you may introduce fatal errors or recurring instability into your system.

➢ DRAM Timing Selectable

DRAM Timing Selectable:
- Manual
- BY SPD

This item allows you to choose the configuration type of the DRAM timing
Choose "SPD" if you do not know how to configure the following 4 items.

*** Manual Settings for DRAM Timing ***
The following 4 items are adjustable only when the "DRAM Timing Selectable" is set to be "Manual".

➢ CAS Latency Time

CAS Latency Time:
- 1.5
- 2
- 2.5
- 3

This item defines the latency between SDRAM read command and the actual data time.
It is an important SDRAM parameter. If your SDRAM has unstable problem, try set this item to the biggest number.

➢ Active to Precharge Delay

Active to Precharge Delay:
- 7
- 6
- 5

This item controls the number of DRAM clocks for TRAS.

➢ DRAM RAS# toCAS# Delay

DRAM RAS# to CAS# Delay:
- 3
- 2

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

➢ DRAM RAS Precharge

DRAM RAS Precharge:
- 3
- 2

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

➢ Turbo Mode

Turbo Mode:
- Disabled
- Enabled

"Turbo Mode" is for the purpose of improving system performance in very short time. It is very similar to so called "over-clocking". The way it works is that BIOS will internally turn key timings to a max. level so that system performance can be driven better for some applications.
Compatibility issues might occur if "Turbo Mode" is enabled. The system might not work well with some memory modules. Also, "Turbo Mode" might only be effective for some applications. The recommendation is to use the default settings, disabled.

➢ Memory Frequency for

Memory Frequency for:
- DDR200
- DDR266
- Auto

This item controls the frequency of system memory. You can set the memory frequency or let the frequency be configured automatically.

➢ System BIOS Cacheable

System BIOS Cacheable:
- Disabled
- Enabled

This item allows the System BIOS to be cached for faster system performance.

➢ Video BIOS Cacheable

Video BIOS Cacheable:
- Disabled
- Enabled

This item allows the Video BIOS to be cached for faster video performance.

➢ Memory Hole At 15M-16M

Memory Hole At 15M-16M:
- Disabled
- Enabled

This item can be used to reserve memory space for some ISA cards that require it.

➢ Delayed Transaction

Delayed Transaction:
- Disabled
- Enabled

This item makes the PCI Bus Compliant with the PCI Specification ver.2.1.

➢ Delay Prior to Thermal

Delay Prior to Thermal:
- 4 Min
- 8 Min
- 16 Min
- 32Min

This item allows you to select the delayed time to enable P4 CPU Thermal function. When enter NT4.0, this function must be active to prevent from the system hanged

➢ AGP Aperture Size (MB)

AGP Aperture Size:
- 4MB
- 8MB
- 16MB
- 32MB
- 64MB
- 128MB
- 256MB

This item defines the effective memory size of the AGP Aperture. (No AGP for 845GV)

➢ On-Chip VGA

On-Chip VGA:
- Enabled
- Disabled

This item allows you to enable or disable the on board graphical controller.

➢ On-Chip Frame Buffer Size

On-Chip Frame Buffer Size:
- 1MB
- 8MB

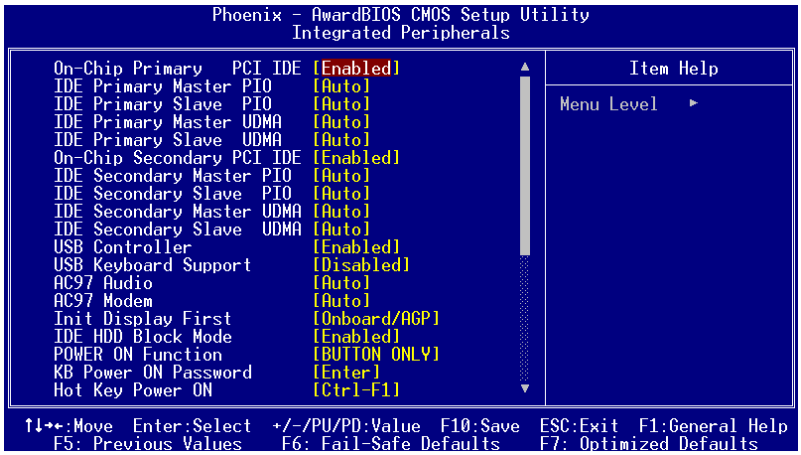
This item allows you to select the sharing memory size for the Frame Buffer of On-Chip Video graphics function.

➢ Boot Display

Boot Display:
- Auto
- CRT
- TV
- EFP

This item allows you to select the Boot Display. It works only if the VGA BIOS support these devices and if they are inserted into AGP. EFP is External Flat Panel.

3.5 Integrated Peripherals



This option allows you to set the I/O features.

➢ On-Chip Primary/Secondary PCI IDE

On-Chip Primary/Secondary PCI IDE:

To enable or disable the IDE device connected to the Primary/Secondary IDE connector.

- Disabled
- Enabled

➢ IDE Primary/Secondary Master/Slave PIO

IDE Primary/Secondary Master/Slave PIO:
- Auto
- Mode 0
- Mode 1
- Mode 2
- Mode 3
- Mode 4

Set these items to Auto to auto-detect the HDD speed. The PIO mode specifies the data transfer rate of HDD.

IDE HDD Mode	Transfer Rate
Mode 0	3.3MB/s
Mode 1	5.2MB/s
Mode 2	8.3MB/s
Mode 3	11.1MB/s
Mode 4	16.6MB/s.

Set to slower mode if your hard disk performance becomes unstable.

➢ IDE Primary/Secondary Master/Slave UDMA

IDE Primary/Secondary Master/Slave UDMA:
- Disabled
- Auto

These items allows you to set the Ultra DMA 33/66/100 mode supported by the IDE hard disk drive installed in your system.

➢ USB Controller

USB Controller:
- Enabled
- Disabled

This item allows you to enable/disable the chipset USB controller function.

➢ USB Keyboard Support

USB Keyboard Support:
- Disabled
- Enabled

BIOS simulates USB keyboard in legacy mode, which means during POST or under operating system, you can use a USB keyboard without loading USB driver. Note you cannot use both USB driver and USB legacy keyboard at the same time. Set disabled if you have USB driver in the operating system.

➢ AC97 Audio

AC97 Audio:
- Auto
- Disabled

This item allows you disable the onboard audio function.

➢ AC97 Modem

AC97 Modem:
- Auto
- Disabled

This item allows you to disable the chipset AC97 modem function. Set it to Auto will force system to scan if CNR modem card is inserted. If there is CNR modem card, the chipset AC97 modem function will be enabled.

➢ Init Display First

Init Display First:
- PCI Slot
- Onboard/AGP

This item allows you to select whether PCI Slot or onboard Graphics/AGP card that will be initialed first for display. (No AGP for 845GV)

➢ IDE HDD Block Mode

IDE HDD Block Mode:
- Disabled
- Enabled

This BIOS supports the enhanced IDE specification and allows multiple sectors access in a time when read/write. If sets this item to disabled, IDE runs in single sector access.

➢ Power On Function

Power On Function:
- Password
- Hot Key
- Mouse Left
- Mouse Right
- Any Key
- Button Only
- Keyboard 98

This item defines the options of the power on function.

➢ KB Power On Password

KB Power On Password

This item displayed when selects "Password" option under the Power On Function item.
You can specify 1~5 keys as a password.

➢ Hot Key Power On

Hot Key Power On:
- Ctrl-F1
- Ctrl-F2
- Ctrl-F3
- Ctrl-F4
- …
- Ctrl-F12

This item displayed when selects "Hot Key" option under the Power On Function item.
You can specify the hot key shown here to power on the system.

➢ Onboard FDC Controller

Onboard FDC Controller:
- Disabled
- Enabled

To enable or disable the onboard floppy disk controller. Set to disabled if you want to use a separate floppy disk controller card.

➢

➢ Onboard Serial Port 1 & 2

Onboard Serial Port 1 & 2:
- Disabled
- 3F8/IRQ4
- 2F8/IRQ3
- 3E8/IRQ4
- 2E8/IRQ3
- Auto

This item allows you to select the I/O port and IRQ used by the onboard serial ports.

➢ UART Mode Select

UART Mode Select:
- IrDA
- ASKIR
- Normal

This item is selectable only when the onboard serial port 2 is enabled. The available mode selections for the serial port 2 are Normal, IrDA, and ASKIR.
Normal: Configures serial port as normal mode.
IrDA: Set this mode if there is an infrared device connected on the onboard IrDA connector. The maximum baud rate of this setting is: 115K baud.
ASKIR: Set this mode if there is an infrared device connected on the onboard IrDA connector. The maximum baud rate in this case is: 19.2K baud.

The Following 4 items are configurable when "IrDA" or "ASKIR" are chosen for "UART Mode Select" :

➢ RXD,TXD Active

RXD, TXD Active
- Hi, Hi
- Hi, Lo
- Lo, Hi
- Lo, Lo

This item allows you to determine the active states of RXD and TXD signals. Hi = High voltage level, Lo = Low voltage level.

➢ IR Transmission Delay

IR Transmission Delay:
- Disabled
- Enabled

This item allows you to disable /enable IR Transmission Delay.

➢ UR2 Duplex Mode

UR2 Duplex Mode:
- Full
- Half

To select UR2 Half or Full Duplex mode.

➢ Use IR Pins

Use IR Pins:
- RxD2,TxD2
- IR-Rx2Tx2

This item allows you to select IR Transmission routes, one is through RxD2, TxD2 (COM Port) and the other is through IR-Rx2Tx2 (jumper IR1)

➢ Onboard Parallel Port

Onboard Parallel Port:
- Disabled
- 378/IRQ7
- 278/IRQ5
- 3BC/IRQ7

This item controls the onboard parallel port address and interrupt.

➢ Parallel Port Mode

Parallel Port Mode:
- SPP
- EPP
- ECP
- ECP + EPP
- Normal

This item allows you to set the parallel port mode.

1. **SPP (Standard Parallel Port):** IBM AT and PS/2 compatible mode
2. **EPP (Enhanced Parallel Port):** To enhances the parallel port by directly write/read data to/from parallel port without latch.
3. **ECP (Extended Parallel Port):** ECP supports DMA and RLE (Run Length Encoded) compression and decompression.

The 2 following items are only configurable if the respective parallel modes are selected in above item.

➢ EPP Mode Select

EPP Mode Select:
- EPP1.9
- EPP1.7

This item is displayed when select the EPP mode above for the parallel port. You can set the specification of the EPP mode.

➢ ECP Mode Use DMA

ECP Mode Use DMA:
- 1
- 3

This item is displayed when select the ECP mode above for the parallel port. You can set the DMA channel of ECP mode.

➢ PWRON After PWR-Fail

PWRON After PWR-Fail:
- Off
- On
- Former-Sts

This item allows you to set if you want your system to reboot after the power has been failed.

Off : leaves your system off.

On : always reboot your system after power interruption.

Former-Sts : Sets your system back to the state it was before the power loss.

➢ Game Port Address

Game Port Address:
- Disabled
- 201
- 209

This item is used to assign an I/O address for the game port.

➢ Midi Port Address

Midi Port Address:
- Disabled
- 330
- 300
- 290

This item is used to assign an I/O address for the MIDI port.

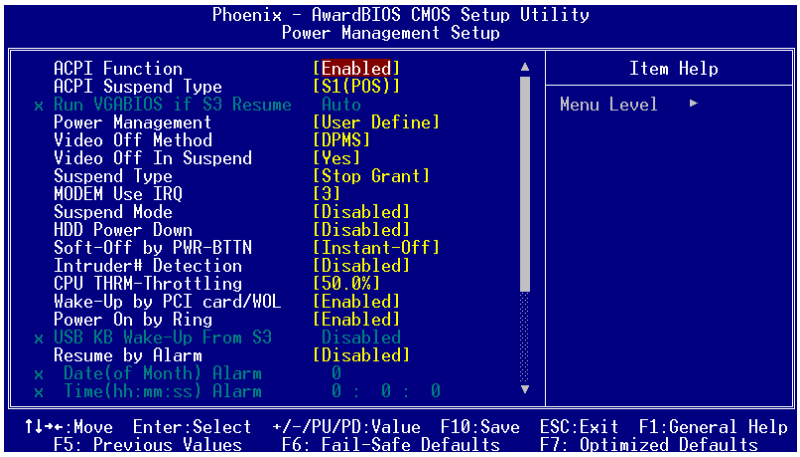
➢ Midi Port IRQ

Midi Port IRQ:
- 5
- 10

This item is used to assign an IRQ for the MIDI port.

3.6 Power Management Setup

This option displays a table of items, which lets you control the power management of the system. Modern operating system takes care of much of the routine power management. This mainboard supports ACPI (Advanced Configuration and Power Interface).



➢ ACPI Function

ACPI Function:
- Enabled
- Disabled

This item allows you to enable or disable the ACPI function.

➢ ACPI Suspend Type

ACPI Suspend Type:
- S1 (POS)
- S3 (STR)
- S1&S3

To select the ACPI Suspend type, S1(POS)→ Power On Suspend, or S3(STR)→ Suspend To RAM. S1&S3→ let ACPI OS decide which state it will use.

➢ Run VGABIOS if S3 Resume

Run VGABIOS if S3 Resume:
- Auto
- Yes
- No

If "S3(STR)" or "S1&S3" is selected in the item above , this item will be displayed. This item let you to choose running VGA BIOS after system resume from ACPI S3 (Suspend to RAM) State.

➢ Power Management

Power Management:
- User Define
- Mix Saving
- Max Saving

This item allows you to set the default parameters of power-saving modes in DOS. Set to Disable to disable power management function. Set to User Define to define your own parameters.

Mode	Doze	Standby	Suspend	HDD Power Down
Min Saving	1 hour	1 hour	1 hour	15 min
Max Saving	1 min	1 min	1 min	1 min

➢ Video Off Method

Video Off Method:
- Blank Screen
- V/H SYNC + Blank
- DPMS

In suspending, this item allows you to select the monitor off method under APM mode OS.

➢ Video Off In Suspend

Video Off In Suspend:
- No
- Yes

To select if the video will be off when in suspend mode.

➢ Suspend Type

Suspend Type:
- Stop Grant
- PwrOn Suspend

This item allows you to select the suspend type. Stop Grant means wake up by IRQ, and PowerOn Suspend means wake up by ACPI wake up event.

➢ Modem Use IRQ

Modem Use IRQ:
- NA
- 3
- 4
- 5
- 7
- 9
- 10
- 11

APM 1.2 function used only..

➢ Suspend Mode

Suspend Mode:
- Disabled
- 1 Min
- 2 Min
- 4 Min
- 8 Min
- 12 Min
- 20 Min
- 30 Min
- 40 Min
- 1 Hour

This item lets you set the timer after which the system enters into Suspend mode from Standby mode. The system activity is detected by monitoring the IRQ signals or other I/O events.

➢ HDD Power Down

HDD Power Down:
- Disabled
- 1 Min
- .....
- 15 Min

This item allows you to specify the IDE HDD idle time before the device enters the power down state. This item is independent from the power states, Standby and Suspend Mode.

➢ Soft-Off by PWR-BTTN

Soft-Off by PWR-BTTN:
- Instant-Off
- Delay 4 Sec

When set to "Delay 4 Sec", the power switch on the front panel can be used to control power On/Suspend/Off.

Press switch	System status
Less than 4 seconds	Suspend mode
Longer than 4 seconds	Power off

When set to Instant-Off, the power switch is only used to control On/Off, no Suspend mode function. Press the power switch and hold for 4 seconds will shut down the system unconditionally.

➢ Intruder # Detection

Intruder# Detection:
- Disabled
- Enabled

This item allows you to enable the intruder detection function.

➢ CPU Thermal-Throttling

CPU Thermal-Throttling:
- 87.5%
- 75.0%
- 62.5%
- 50.0%
- 37.5%
- 25.0%
- 12.5%

To control the CPU clock throttling function. When CPU temperature is over the setting of "Shot down Temperature" in "PC Health" page, the system will turn the CPU clocks down for reducing CPU temperature. **Choose "Disable" for not control the CPU clocks Throttling**, the CPU will run in full speed. Choose other setting for an example of 87.5%, The CPU clock will be throttled down 87.5%, means the CPU will has only 12.5% of the full speed performance.

➢ Wake Up by PCI card/WOL

Wake Up by PCI card/WOL:
- Disabled
- Enabled

To enable or disable any PCI cards Wake Up function (PCI PME# event), and Wake On LAN function of add-in PCI LAN card or onboard LAN. For Wake On LAN function, please refer to the WOL jumper.

➢ Power On by Ring

Power On by Ring:
- Disabled
- Enabled

To enable or disable External COM port Modem Wake Up function and Wake on LAN function.

➢ USB KB Wake-Up from S3

USB KB Wake-Up from S3:
- Disabled
- Enabled

To enable or disable USB keyboard Wake Up from S3 function.

➢ Resume by Alarm

Resume by Alarm:
- Disabled
- Enabled

To enable or disable the RTC Wake Up function.

➢ Date (of Month) Alarm

Date (of Month) Alarm
- 0
- 1
- .....
- 31

This item displayed only when you enable the RTC Wake Up Timer item.
You can use this item to specify the date you want to wake up the system. For Example, if you set to 18, the system will wake up on the 18th day of every month. If set to 0, the system will wake up on the specified time every day.

➢ Time (hh:mm:ss) Alarm

Time (hh:mm:ss) Alarm
- hh:mm:ss

This item is displayed only when you enable the RTC Wake Up Timer item. You can use this item to specify the time you want to wake up the system.

- **Primary/Secondary IDE 0/1, FDD,COM, LPT Port, PCI PIRQ[A-D]#**

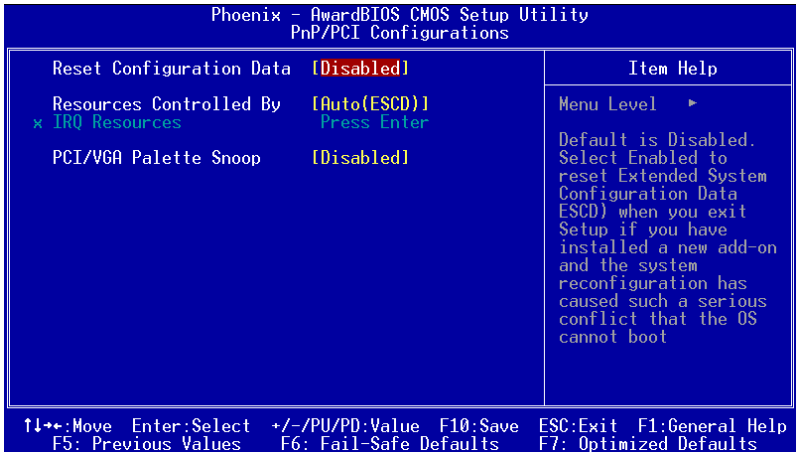
Primary/Secondary IDE 0/1, FDD, COM, LPT Port, PCI PIRQ[A-D]#:

These items enable or disable the detection of IDE, Floppy, Serial and Parallel port activities for power saving mode in DOS.

- Disabled
- Enabled

3.7 PNP/PCI Configuration Setup

This option displays a table of items that configures how PNP (Plug and Play) and PCI expansion cards operates in your system.



➢ Reset Configuration Data

Reset Configuration Data:
- Disabled
- Enabled

When this item is set to Enabled, BIOS will turn it Disabled again in the next boot up. This item is for clearing ESCD data. The only reason to clear is the data loosing the confidence. The engineering test is a good reason to change the default setting.

➢ Resources Controlled By

Resources Controlled by:
- Auto (ESCD)
- Manual

Basically, BIOS will allocate the IRQ/DMA resources automatically for these PNP/PCI and onboard devices. The exception might be encountered when legacy ISA devices are installed, which occupies resources, those BIOS cannot know. Therefore, this option is for BIOS to know in advance that legacy ISA devices occupy IRQ/DMA if Manual is selected.

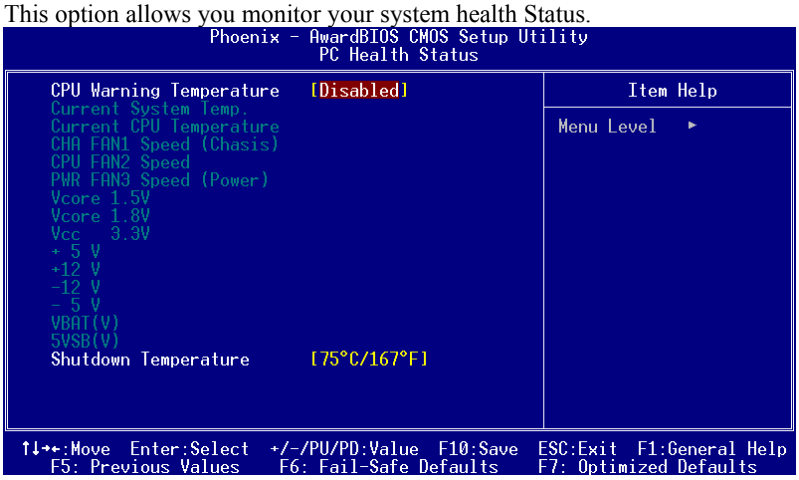
➢ PCI/VGA Palette Snoop

PCI/VGA Palette Snoop:
- Disabled
- Enabled

To enable or disable PCI/VGA Palette Snoop.

3.8 PC Health Status

This option allows you monitor your system health Status.



➢ CPU Warning Temperature

CPU Warning Temperature

- Disabled
- 50 ˚C/122 ˚F
- 53 ˚C/127 ˚F
- 56 ˚C/133 ˚F
- 60 ˚C/140 ˚F
- 63 ˚C/145 ˚F
- 66 ˚C/151 ˚F
- 70 ˚C/158 ˚F

This item allows system to produce warning beep when the current temperature of CPU is higher than the setting.

➢ Shutdown Temperature

Shutdown Temperature:
- Disabled
- 60 ˚C/140 ˚F
- 65 ˚C/149 ˚F
- 70 ˚C/158 ˚F
- 75 ˚C/167 ˚F

This item allows system to shutdown automatically when CPU temperature is higher than critical temperature you set to prevent catastrophic damage. This item is effective only in an ACPI OS

3.9 Frequency/Voltage Control

This option allows you to select some CPU parameters.

➢ Auto Detect PCI Clk

Auto Detect PCI Clk: This item allows system to shut clocks for unused PCI slots to give lower EMI effect.

- Enabled
- Disabled

➢ Spread Spectrum

Spread Spectrum: This item allows system to level out (spread) the spectrum of System clocks to give lower EMI effects.

- Disabled
- Enabled

➢ CPU Clock

CPU clock: This item allows you to adjust the clock frequency for the CPU clock .

3.10 Load Fail-Safe Defaults

This option allows you to load BIOS safe settings. We recommend you to use the Fail-Safe settings if your system has large memory size and fully loading with add-on cards.

3.11 Load Optimized Defaults

This option provides a better performance than optimal setup values. Load the turbo values if you have light system loading, that is, few add-on cards and memories.
If your system has heavy loading (more add-on cards and memories), you may manually set the parameters in the "Chipset Features Setup" to get proper setting to get the best system performance. Before changing any settings in the "Chipset Features Setup", be sure that you understand the functions of every item.

3.12 Set Supervisor/User Password

Password prevents unauthorized use of your computer. If you set a password, the system will prompt for the correct password before boot or access to Setup (decided by setting of "security Option", please refer to Section 3.3) , the steps as follows,

1. **Highlight the item Password Setting on the main menu and press ENTER.**
2. **The password dialog box will appear.**
3. **If you are installing a new password, carefully type in the password. Press ENTER after you have typed in the password. If you are deleting a password that is already installed just press ENTER when the password dialog box appears.**
4. **The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press ENTER, or just press ENTER if you are deleting a password that is already installed.**
5. **If you typed the password correctly, the password will be installed.**

III. CMOS SETUP UTILITY

The Supervisor password and User password are used to give different access permission of settings of "BIOS Setup".

1. Only the Supervisor password is set : You must type the valid supervisor password for entering into "BIOS Setup" , and then you can change every setting.

2. The User password is set with the supervisor password set : You must type the valid supervisor password for entering into "BIOS Setup" and changing any one of settings, In case of typing the valid User password, you can only enter "BIOS Setup" for changing user password or settings of IDE devices, and you can only browse to see other settings without permission to change them.

3. Only the User password is set: You can enter the "BIOS Setup" only by typing valid User password, and then you can change every setting of "BIOS Setup"

[Note]

If you forget your password, or you want to cancel your password, you can do

the steps as the following,

(1) Password forgotten:

i> Turn off the system

ii> Short JP1 at Pin 2-3 for a few seconds to clear CMOS.

iii> Set the JP1 back to Pin 1-2.

iv> Power on the system.

(2) Clear Password:

Clear your password by key-in the password you installed before, then go to PASSWORD SETTING to press ENTER twice.

3.13 Save & Exit Setup

Highlight this item and press ENTER to save the changes that you have made in the setup utility and exit the setup program. When the *Save and Exit* dialog box appears, press Y to save and exit, or press N to return to the setup main menu.

3.14 Exit without Saving

Use this option to exit Setup Utility without saving the CMOS value changes.

4 SOFTWARE UTILITY

4.1 Resource Kit CD

Insert the "Resource Kit CD" CD in your CD-Rom drive. By browsing on the CD, please install drivers in the following order:

1. Chipset
2. Application Utility
3. Graphics
4. Audio
5. LAN
6. USB2.0

The order of bullets 3 to 6 only for convenience.

To start installation of the individual drivers, run the available setup file or the self extracting .exe file. Chose the drivers for actual OS while browsing.
We suggest you to install Intel chipset INF Update driver first to let the OS recognize the Intel chipset on the main board , and then you can install the Intel build-in graphics display driver, and follow the AC-97 audio driver if you are using the build-in audio function,.

When you intend to use USB 2.0 function on your board, you need to install Intel chipset USB 2.0 INF update driver first and then you should install Microsoft USB 2.0 driver latter. Please be noticed that Microsoft only support USB 2.0 software driver on Window 2000, and Window XP system.

The "Resource Kit" CD includes drivers for on board LAN installation. Please choose the OS you have installed, and you will find "LAN" ICON on the screen. After pressing the "LAN" ICON, the system will automatically install the related drivers. (Note: If you are using LAN card adapter instead of on-board LAN, do not install LAN drivers from the resource kit CD.)

4.2 Flash Utility AWDFLASH.EXE

This section tells you a step-by-step procedure on how to use the flash utility, "awdflash.exe", to upgrade your mainboard BIOS.

To upgrade your motherboard BIOS, please do the following:

1. For Win98 system, press F8 before Win98 boot-up, and select "Safe mode command prompt only".

   For Non-Win98 system, boot-up the system into DOS prompt with a bootable floppy disk.

   !!!DO NOT load any memory manager like EMM386.EXE,

   QEMM386.EXE under config.sys. !!!

2. Run **A:>awdflash biosfile.bin**
3. After loading the new BIOS code, the utility will prompt you to save original BIOS code into your HDD or floppy. Please press "Y" to store it as "BIOS.OLD".
4. After the old BIOS has been successfully saved, press "Y" to replace **BIOS.**
5. **After the flashing process, reboot the system by turning off the power.**

   !!! DO NOT TURN OFF THE POWER DURING THE FLASHING PROCESS. !!!

6. Press "DEL" key to enter BIOS setup during POST. Reload the "BIOS SETUP DEFAULT" and reconfigure other items as your previous set
7. Then save and exit.