PENTIUM 3 MOTHERBOARD USER'S MANUAL

POWERED BY INTEL 81X /SIS630/VIA69X CLE266 CHIPSET SERIES

VER.200411.03

Table of Content

Chapter 1 Introduction
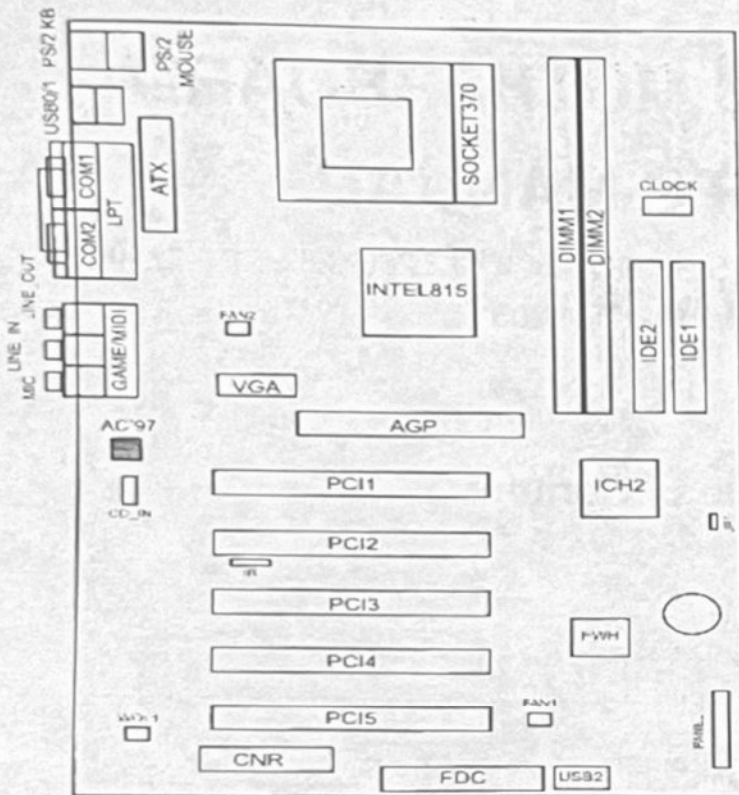
Chapter 2 Hardware Installation

Chapter 3 BIOS Setup

Mainboard Layout

USB2

TJ-815EPT/815ET

Components:

AGP	Accelerated Graphics Port
ATX	ATX power connector
Socket 370	CPU socket (mPGA370)
CD_IN	CD-in connector
F_AUDIO	Front panel MIC/Speaker Out header
FAN1 FAN2	Cooling fan
DIMM1~DIMM2	DDR sockets
FDC	Floppy disk drive connector
IDE1,IDE2	Primary/Secondary IDE channel
PCI1~PCI5	Five PCI slots
IR	Infrared cable header
JP1	COMS jumper
J2	Panel connector for case switches and LEDs
USB1/2	Connector for front panel USB ports
BATTERY	Battery
WOL	Communications and Networking Riser slot

Features Summary(TJ-815EPT/815ET)

Form Factor	ATX size form factor, 4 layers PCB
CPU	Support Intel ® Pentium ® III Coppermine/Celeron2/Celeron/
	VIA Cyrix III socket 370 CPU
	Inter® Pentium ® III 66/100MHz FSB
	Chipset Intel® 815E/815EP HOST/AGP/Controller
	1CH2 I/O Controller Hub
Memory	3 168-pin SDRAM DIMM sockets
	Supports PC133 SDRAM DIMM
	Supports only SDR DIMM
Hardware Monitor	ITE8711F
Slots	1 AGP slot 4X(1.5V) device support
	5 PCI slot supports 33MHz&PCI 2.2 compliant
On-Board IDE	2 IDE bus master (DMA33/ATA66/ATA100)IDE ports for up to
	4 ATAPI devices
	Supports PIO mode3,4(UDMA33/ATA66/ATA100)IDE &ATAPI
	CD-ROM
I/O Control	1 Floppy port supports 2 FDD with 360K,720k,1.2M,1.44M
	and 2.88M Bytes
On Board Peripherals	1 Parallel port supports Normal/EPP/ECP mode
	2 Serial ports (COM1&VGA)
	4xUSB 1.1(2 by cable)
On-Board Sound	Front Audio connector
	Realtek AC97 CODEC
	Line Out /2 front speaker
	Line In / 2 rear speaker(by s/w switch)
	MIC In / center &subwoofer (by s/w switch)
	CD In / Game port
PS/2 Connector	PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	Licensed AVVARD BIOS,2M bit FVVH
	Power management
	Wake-up alarms
	CPU parameters
	CPU and memory timing

Mainboard Layout
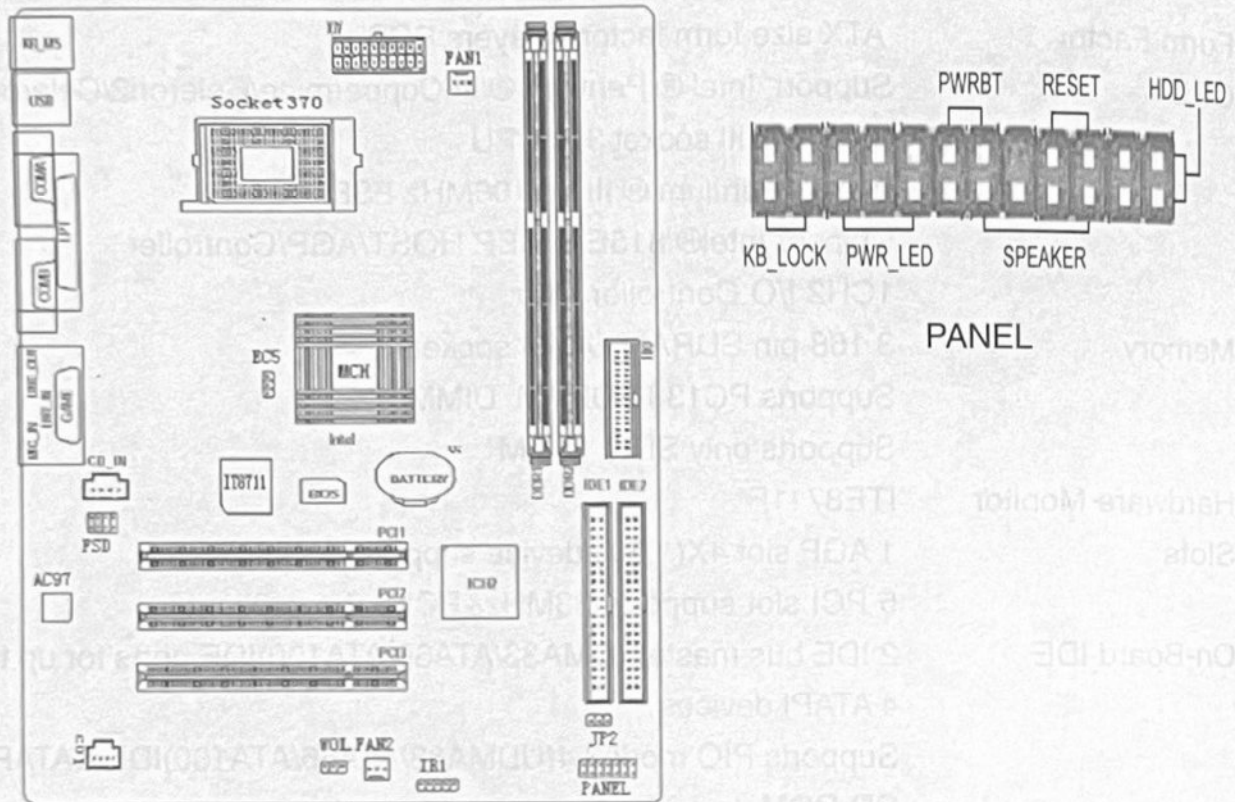
TJ-810T+

Components:

AGP --Accelerated Graphics Port

J4---ATX power connector

Socket 370- ---CPU socket (mPGA370)

CD_IN--- --CD-in connector

F_AUDIO---Front panel MIC/Speaker Out header

SYSTEM FAN---Cooling fan

DIMM1~DIMM2--SDR slots

FDC--Floppy disk drive connector

IDE1,IDE2--- -Primary/Secondary IDE channel

PCI1~PCI3--- --3 PCI slots

IR---Infrared cable header

JP20-- COMS jumper

J20--Panel connector for case switches and LEDs

J3---USB ports

BATTERY-- -Battery

FS0/FS1---Jump for CPU choice

Features Summary(TJ-810T+)

Form Factor	MATX size form factor, 4 layers PCB
CPU	Support Intel ® Pentium ® III Coppermine/Celeron2/Celeron/VIA
	Cyrix III socket 370 CPU
	Inter® Pentium ® III 66/100MHz FSB
	Chipset Intel® 810/810DC100 HOST
Hardware Monitor	2 168-pin DIMM slots
	Supports 24bit/230MHz RAMDAC
	Supports 2D MODE 1600X1200X8bit
	Supports 3D MODE 1024X768X24bit
PCISlots	3 PCI slot
On-Board IDE	2 IDE bus master IDE ports for up to 4 ATAPI devices
On Board Peripherals	1 Floppy port
	2 Serial ports(COM1&COM2)
On-Board Sound	Integration AC97 CODEC
	Line Out /2 front speaker
	Line In / 2 rear speaker(by s/w switch)
	MIC In / center &subwoofer (by s/w switch)
	CD In / Game port
PS/2 Connector	PS/2 Keyboard interface and PS/2 Mouse interface

Mainboard Layout

TJ-694X/T

PANEL

▬	5V
☐	NC
☐	IRRX
☐	GND
☐	IRTX

IR

END (Ground)	END (Ground)
Port+ (+Data)	Port+ (+Data)
Port- (-data)	Port- (-data)
VCC (+5V)	VCC (+5V)

USB
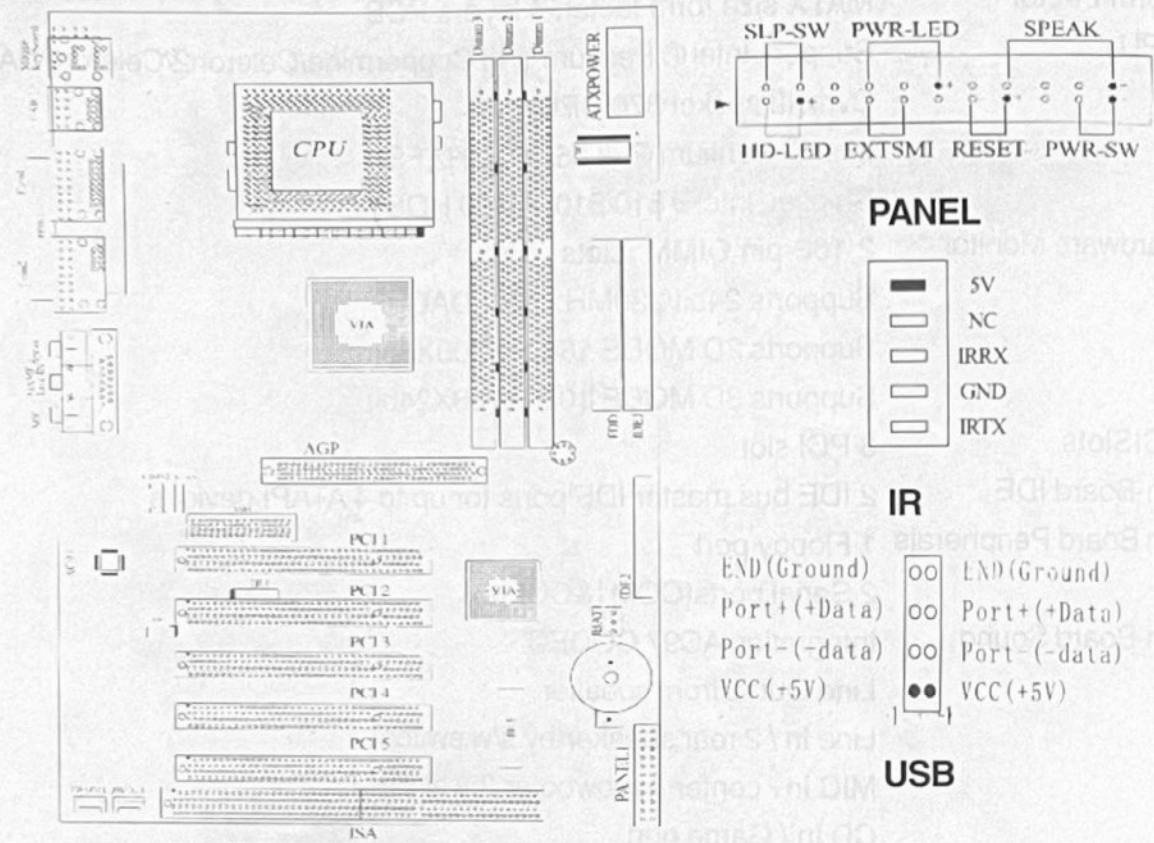
Components:

AGP1 --Accelerated Graphics Port
ATX --ATX power connector
CPU Socket ----------------------------------CPU socket (mPGA370)
CD_IN--CD-in connector
F_AUDIO--------------------------------------Front panel MIC/Speaker Out header
JF FAN---------------------------------------Cooling fan
DIMM1~DIMM3--------------------------------SDR slots
FDD1---Floppy disk drive connector
IDE1,IDE2------------------------------------Primary/Secondary IDE channel
PCI1~PCI5-----------------------------------Five PCI slots
IR--Infrared cable header
JBAT1--COMS jumper
PANEL1--------------------------------------Panel connector for case switches and LEDs
U18--Connector for front panel USB ports
BATTERY-------------------------------------Battery
WOL--Communications and Networking Riser slot

Features Summary(TJ-694X/T)

Form Factor	M-ATX size form factor, 4 layers PCB
CPU	Socket 370 for Intel® Intel PIII,CeleronII&Tualatin processor
	FSB100/133MHZ CPU suitable
Hardware Monitor	Chipset VIA694X(T)® HOST/AGP/Controller
	3X168-pin SDR DIMM sockets
I/O Control	ITE 8711F
Slots	1 AGP slot 4X(1.5V) device
	5 PCI slot supports 33MHz&PCI 2.2 compliant
On-Board IDE	2 IDE bus master (DMA33/ATA66/ATA100)IDE ports for up to
	4 ATAPI devices
	Supports PIO mode3,4(UDMA33/ATA66/ATA100)IDE &ATAPI
	CD-ROM
On Board Peripherals	1 Floppy port supports 2 FDD with 360K,720k,1.2M,1.44M
	and 2.88M Bytes
	1 Parallel port supports Normal/EPP/ECP mode
	2 Serial ports (COM1&COM2)
	2xUSB 1.1(4 by cable)
	Front Audio connector
On-Board Sound	Integration AC97 CODEC
	Line Out /2 front speaker
	Line In / 2 rear speaker(by s/w switch)
	MIC In / center &subwoofer (by s/w switch)
	CD In /Game port
PS/2 Connector	PS/2 Keyboard interface and PS/2 Mouse interface
BIOS	Licensed AVVARD BIOS,2M bit FVVH
	Power management
	Wake-up alarms
	CPU parameters
	CPU and memory timing

Chapter 2 Hardware Installation

⚠️ **WARNING!**

Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you

work on your computer.

1. Unplug your computer when working on the inside.

2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.

3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other

components.

4. Place components on a grounded antistatic pad or on the bag that came with the components

whenever the components are separated from the system.

5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power

connector on the motherboard.

Installing the motherboard to the chassis...

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the mother board PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.
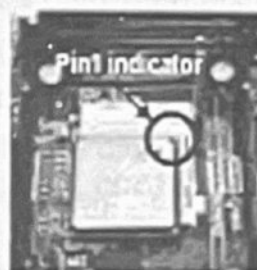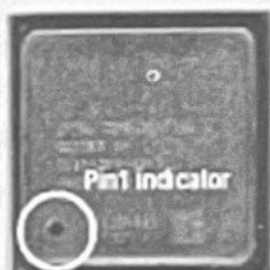
Install the Central Processing Unit (CPU)

1 CPU Installation
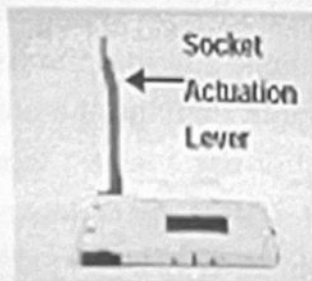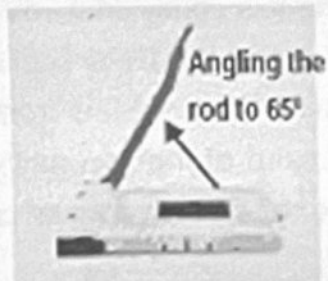
1.Angling the rod to 65-degree maybe feel a   2.Pull the rod to the 90-degree directly.
kind of tight, and then continue pull the rod
to 90-degree when a noise "cough" made.

3.CPU Top View   4.Locate Pin 1 in the socket and look
for a (golden)cut edge on the CPU
upper corner. Then insert the CPU
into the socket.

Please make sure the CPU type is supported by the motherboard

If you do not match the CPU socket Pin1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.

2 CPU Heat Sink Installation

1.Hook one end of the cooler bracket 2.Hook the other end of the cooler
to the CPU socket first.   Bracket to the CPU socket.

Please use Intel approved cooling fan.

We recommend you to apply the thermal tape to provide better heat conduction between your CPU and heatsink . (The CPU cooling fan might stick to the CPU due

to the hardening of the thermal paste. During this condition if you try to remove the cooling fan, you might pull the processor out of the CPU socket alone with the cooling fan, and might damage the processor. To avoid this from happening , we suggest you to either use thermal tape instead of thermal paste, or remove the cooling fan with extreme caution.) Make sure the CPU fan power cable is plugged in to the CPU fan connector, this completes the installation.

Install memory modules

The motherboard has 3 dual inline memory module (DIMM) sockets, but it can only support a maximum of 4 banks of DDR memory. DDR slot 1 uses 2 banks, DDR slot 2 & 3 share the remaining 2 banks.

Please refer to the following tables for possible memory configurations supported. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM socket. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.

DDR
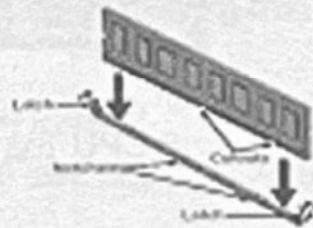
Please note that the DIMM module can only fit in one direction due to the one notch. Wrong orientation will cause improper installation. Please change the insert orientation.

Installing the mainboard in a Case

Refer to the following illustration and instructions for installing the mainboard in a case:This illustration shows an example of a Mainboard being installed in a tower-Type case:

Note: 1. Do not over tighten the Screws as this can Stress the mainboard.

2. Secure the screws in the mainboard holes that align with the chassis holes.

1. Place the mainboard over the case fasteners
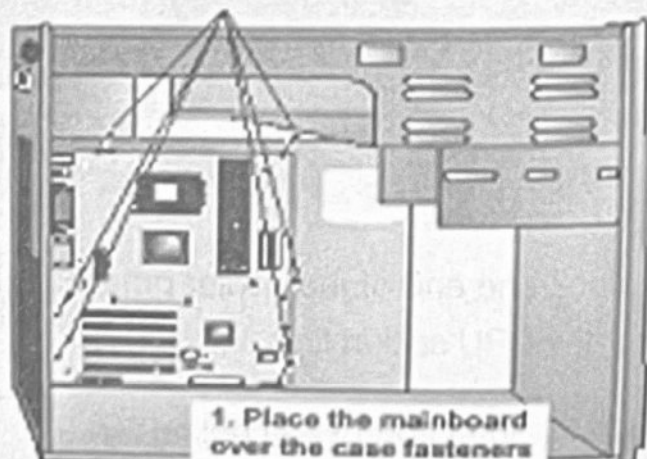
Most system cases have mounting Mounting brackets installed in the Case, which correspond to the mainboard.Place the mainboard over the mounting Brackets and secure the mainboard into The mounting brackets with screws.

I/O Back Panel Connect

PS/2 Mouse   Use the upper PS/2 port to connect a PS/2 pointing device.

PS/2 Ke yboard Use the lower PS/2 port to connect a PS/2 keyboard.

LPT1   Use LPT1 to connect printers or other parallel communications devices.

COM1   Use the COM port to connect serial devices such as MICe or fax/ modems. COM1 is identified by the system as COM1/3.
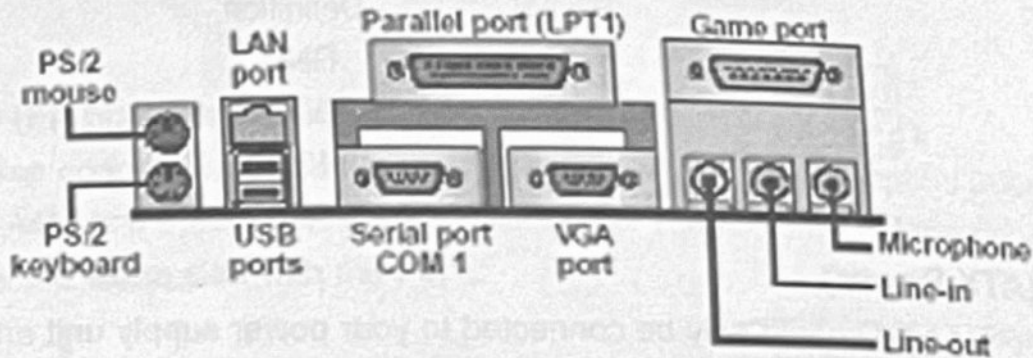
VGA   Connect a monitor to the VGA port.

Game Port   Use the game port to connect a joystick or a MIDI device.

Audio Ports   Use the three audio ports to connect audio devices. The left side jack is for a stereo line-out signal. The middle jack is for a stereo line-in signal. The right side jack is for a Microphone.

LAN Port   Connect an RJ-45 jack to this port to connect your PC to the LAN.

USB Ports   Use the USB ports to connect USB devices.

Connectors Introduction
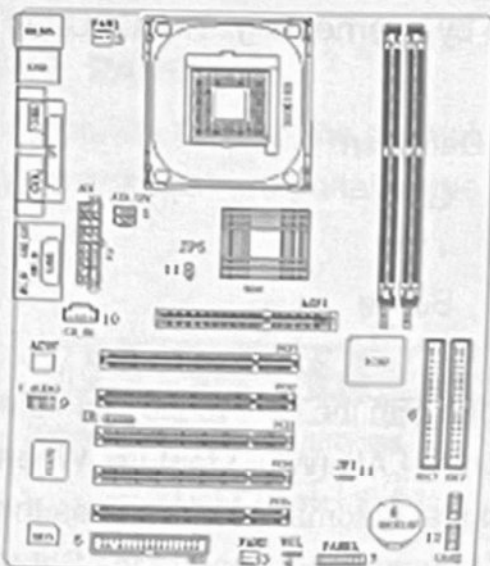
1) ATX_12V   7) PANEL
2) ATX   8) BATTERY
3) FAN1 FAN2   9) F_AUDIO
4) WOL   10) CD_IN
5) FDD   11) JP1 JP5
6) IDE1 IDE2   12) USB2

1) ATX_12V (+12V Power Connector)

This connector (ATX_12V) supplies the CPU operation voltage (Vcore).
If this "ATX_12V connector" is not connected, system cannot boot.

Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

2) ATX (ATX Power)

AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.
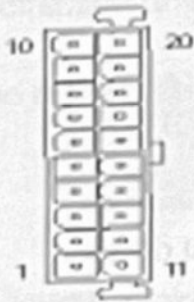
Pin No.	Definition	Pin No.	Definition
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	VCC	14	PS_ON(soft on/off)
5	GND	15	GND
6	VCC	16	GND
7	GND	17	GND
8	Power Good	18	-5V
9	5V SB(sland by+5v)	19	VCC
10	+12V	20	VCC

3) FAN1 FAN2 (Fan Connector)

Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600 mA.
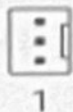
Pin No.	Definition
1	GND
2	+12V
3	Sense

4) WOL: Wake On LAN

If you have installed a LAN card, use the cable provided with the card to plug into the mainboard WOL1 connector. This enables the Wake On LAN (WOL) feature. When your system is in a power-saving mode, any LAN signal automatically resumes the system. You must enable this item using the Power Management page of the Setup

Utility.

	Pin No.	Definition
WOL1	1	5VSB
	2	Ground
	3	Sense

5) FDD (Floppy Connector)

Please connect the floppy drive ribbon cables to FDD. It supports 360K, 1.2M, 720K,1.44M and 2.88M bytes floppy disk types. The red stripe of the ribbon cable must be the same side with the Pin1.
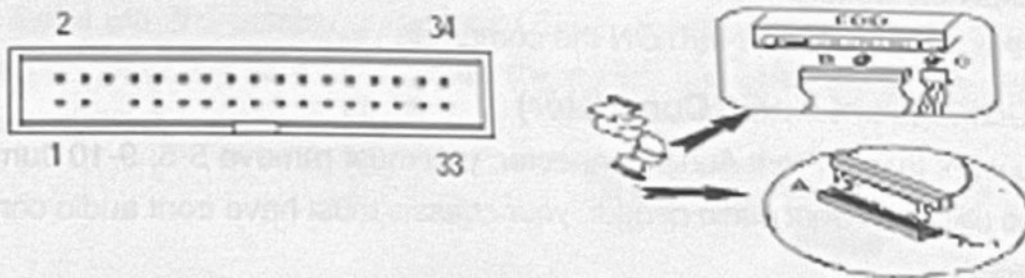
6) IDE1 / IDE2 (IDE1 / IDE2 Connector)

Important Notice: Please connect first hard disk to IDE1 and connect CD-ROM to IDE2.

The red stripe of the ribbon cable must be the same side with the Pin1.
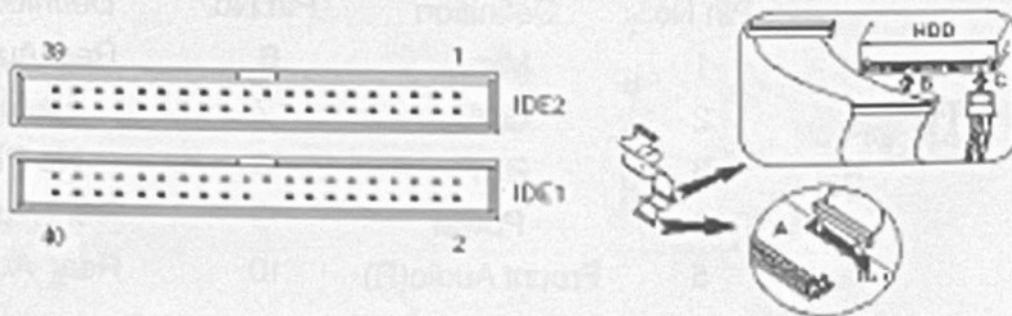
7) F_PANEL

please connect the power LED.PC speaker, reset switch and power switch etc of your chassistront panel to the PANEL connector according to the pin assignment above.
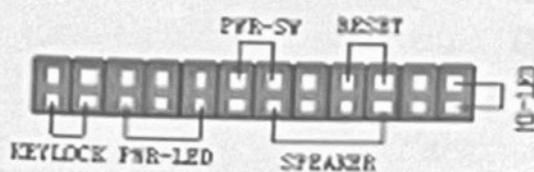
810(T)Rcv:2. 07   810(T)Rcv:3. 61

8) BATTERY

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacture's instructions.

If you want to erase CMOS...

1. Turn OFF the computer and unplug the power cord.
2. Remove the battery, wait for 30 second.
3. Re-install the battery.
4. Plug the power cord and turn ON the computer.

9) F_AUDIO (Front Audio Connector)

If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please

make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the of using front audio connector or of using rear audio connector to play sound.

Pin No.	Definition	Pin No.	Definition
1	Mic	6	Rear Audio(R)
2	GND	7	Reserved
3	REF	8	No Pin
4	Power	9	Front Audio(L)
5	Frount Audio(R)	10	Rear Audio(L)

10) CD_IN (CD In Connector)

Connect CD-ROM or DVD-ROM audio out to the connector.

Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX-R

11) Setting Jumpers

Use the mainboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations below show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN. This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.

Jumper	Type	Description	Setting (default)	
JP1	3 pin	CMOS jumper	1-2: Normal	JP1
			2-3: Clear CMOS	1 ▮▯
JP5	2 pin	Wake On LAN	1-2 support wake on LAN	1 ▮ 2

12) F_USB1 (Front USB Connector)

Be careful with the polarity of the front USB connector. Check the pin assignment while you connect the front USB cable. Please contact your nearest dealer for optional front USB 2.0 cable.
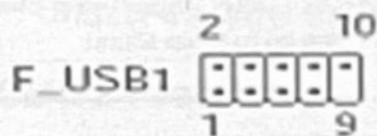
Pin No.	Definition
1	Power
2	Power
3	USB Dx-
4	USB Dy-
5	USB Dx+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

Chapter 3 BIOS Setup

INTRODUCTION

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Powering ON the computer and pressing <Del> immediately will allow you to enter Setup. If you require ore advanced BIOS settings, please go to "Advanced BIOS" setting menu. To enter Advanced BIOS setting menu, press "Ctrl+F1" key on the BIOS screen.

CONTROL KEYS

Key	Description
<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select Item
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the file-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Q-Flash utility
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from eight setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
              Phoenix - AwardBIOS CMOS Setup Utility

  ▶ Standard CMOS Features         Load Fail-Safe Defaults

  ▶ 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

  ▶ Frequency/Voltage Control


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

                Time, Date, Hard Disk Type...
```

If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option widden.

Standard CMOS Features

This setup page includes all the items in standard compatible BIOS.

Advanced BIOS Features

This setup page includes all the items of Award special enhanced features.

Advanced Chipset Features

This setup page includes all the items of Award Advanced Chipset features.

Integrated Peripherals

This setup page includes all onboard peripherals.

Power Management Setup

This setup page includes all the items of Green function features.

PnP/PCI Configurations

This setup page includes all the configurations of PCI & PnP ISA resources.

Frequency/Voltage Control

This setup page is control CPU's clock and frequency ratio.

Load Fail-Safe Defaults

Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.

Load Optimized Defaults

Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.

Set Supervisor password

Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

Set User password

Change, set, or disable password. It allows you to limit access to the system.

Save & Exit Setup

Save CMOS value settings to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Features

This option displays a table of items defining basic information about your system.

```
                   Phoenix - AwardBIOS CMOS Setup Utility
                          Standard CMOS Features
 ┌─────────────────────────────────────────────────┬───────────────────────┐
 │  Date (mm:dd:yy)        Tue, Nov 18 2003          │      Item Help        │
 │  Time (hh:mm:ss)         9 : 51 : 30              ├───────────────────────┤
 │                                                   │                       │
 │ ▶ IDE Primary Master                              │  Menu Level    ▶      │
 │ ▶ IDE Primary Slave                               │                       │
 │ ▶ IDE Secondary Master                            │  Change the day, month,│
 │ ▶ IDE Secondary Slave                             │  year and century     │
 │                                                   │                       │
 │   Drive A               [1.44M, 3.5 in.]          │                       │
 │   Drive B               [None]                    │                       │
 │                                                   │                       │
 │   Video                 [EGA/VGA]                 │                       │
 │   Halt On               [All , But Keyboard]      │                       │
 │                                                   │                       │
 │   Base Memory                 640K                │                       │
 │   Extended Memory           65472K                │                       │
 │   Total Memory               1024K                │                       │
 │                                                   │                       │
 └─────────────────────────────────────────────────┴───────────────────────┘
  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5: Previous Values     F6: Fail-Safe Defaults    F7: Optimized Defaults
```

Date

The date format is <month>,<day>,<year>.

Time

The times format in<hour><minute><second>.

IDE Primary Master, Slave/IDE Secondary Master, Slave

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types ,auto type and manual type .Manual type is user-definable; Auto type which will automatically detect HDD type.

Drive A/ Drive B

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer .

Halton

The category determines whether the computer will stop if an error is detected during power up.

Advanced BIOS Setup

This option displays a table of items that define advanced information about your system.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                      Advanced BIOS Features
 ┌──────────────────────────────────────────┬─────────────────────────┐
 │ Virus Warning              [Disabled]     │        Item Help        │
 │ CPU Internal Cache         [Enabled]      │                         │
 │ External Cache             [Enabled]      │  Menu Level   ▶         │
 │ CPU L2 Cache ECC Checking  [Enabled]      │                         │
 │ Quick Power On Self Test   [Enabled]      │  Allows you to choose   │
 │ First Boot Device          [Floppy]       │  the VIRUS warning      │
 │ Second Boot Device         [HDD-0]        │  feature for IDE Hard   │
 │ Third Boot Device          [LS120]        │  Disk boot sector       │
 │ Boot Other Device          [Enabled]      │  protection. If this    │
 │ Swap Floppy Drive          [Disabled]     │  function is enabled    │
 │ Boot Up Floppy Seek        [Enabled]      │  and someone attempt to │
 │ Boot Up NumLock Status     [On]           │  write data into this   │
 │ Gate A20 Option            [Normal]       │  area ,  BIOS will show │
 │ Typematic Rate Setting     [Disabled]     │  a warning message on   │
 │ x Typematic Rate (Chars/Sec) 6            │  screen and alarm beep  │
 │ x Typematic Delay (Msec)    250           │                         │
 │ Security Option            [Setup]        │                         │
 │ OS Select For DRAM > 64MB  [Non-OS2]      │                         │
 │ Report No FDD For WIN 95   [No]           │                         │
 └──────────────────────────────────────────┴─────────────────────────┘
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
      F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```

Virus Warning (Disabled)

When enabled, this item provides protection against viruses that try to write to the boot sector and partition table of your hard disk drive. You need to disable this item when installing an operating system. We recommend that you enable antivirus protection as soon as you have installed an operating system.

CPU Internal Cache (Enabled)

All processors that can be installed in this mainboard use internal level 1 (L1) cache memory to improve performance. Leave this item at the default value for better performance.

External Cache (Enabled)

Most processors that can be installed in this system use external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

CPU L2 Cache ECC Checking (Enabled)

This item enables or disables ECC (Error Correction Code) error checking on the CPU cache memory. We recommend that you leave this item at the default value.

Quick Power On Self Test (Enabled)

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

1st/2nd/3rd Boot Device (Floppy/HDD-0/LS120)

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device (Enabled)

When enabled, the system searches all other possible locations for an operating system. If it fails to find one in the devices specified under the first, second, and third boot devices.

Swap Floppy Drive (Disabled)

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

Boot Up Floppy Seek (Enabled)

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Boot Up NumLock Status (On)

This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option (Fast)

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

Typenatic Rate Setting (Disabled)

If this item is enabled, you can use the following two items to set the typenatic rate and the typenatic delay settings for your keyboard.

Security Option (Setup)

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

OS Select For DRAM > 64 MB (Non-OS2)

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.

Report No FDD For WIN95 (Yes)

If you are running a system with no floppy drive and using Windows 95, select Yes for this item to ensure compatibility with the Windows 95 logo certification. Otherwise, select No.

Small Logo <EPA> show

Enables or disables the display of the EPA logo during boot.

Advanced Chipset Features

This option displays a table of items that define critical timing parameters of the mainboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

```
          Phoenix - AwardBIOS CMOS Setup Utility
                 Advanced Chipset Features

   SDRAM CAS Latency Time      [3]                  Item Help
   SDRAM Cycle Time Tras/Trc [Auto]
   SDRAM RAS-to-CAS Delay    [Auto]           Menu Level  ▶
   SDRAM RAS Precharge Time  [Auto]
   System BIOS Cacheable     [Disabled]
   Video BIOS Cacheable      [Disabled]
   CPU Latency Timer         [Disabled]
   Delayed Transaction       [Enabled]
   AGP Graphics Aperture Size[64MB]
   Display Cache Frequency   [100 MHz]
   System Memory Frequency   [Auto]
   On-Chip Video Window Size [64MB]
      CAS# Latency           [3]
      Paging Mode Control    [Open]
      RAS-to-CAS Override    [by CAS# LT]
      RAS# Timing            [Fast]
      RAS# Precharge Timing  [Fast]


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

SDRAM CAS Latency Time (3)

This item enables you to select the CAS latency time in HCLKs of 2/2 or 3/3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change the specifications of the installed DRAM or the installed CPU.

SDRAM Cycle Time Tras/Trc (7/9)

This item sets the minimum time from activation to activation of the same memory bank. When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. We recommend that you leave this item at the default value.

SDRAM RAS-to-CAS Delay (3)

This sets the relative delay between the Row Address Strobe (RAS) and the Column Address Strobe (CAS). Select the RAS to CAS delay time in HCLKs of 2/2 or 3/3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you have changed the specifications of the installed DRAM or the installed CPU.

SDRAM RAS Precharge Time (3)

DRAM must continually be refreshed or it will lose its data. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe (RAS) to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

System BIOS/Video RAM Cacheable (Enabled)

These items allow the video and system to be cached in memory for faster execution. Leave these items at the default value for better performance.

CPU Latency Timer (Enabled)

This item sets a timing parameter for CPU access. Since the CPU timing is determined by the system hardware, leave this item at the default value.

Delayed Transaction (Enabled)

If the chipset has an embedded 32-bit write buffer, to support delay transaction cycles, you can enable this item to provide compliance with PCI Ver: 2.1 specifications. We recommend that you leave this item at the default value.

AGP Graphics Aperture Size (64 MB)

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.
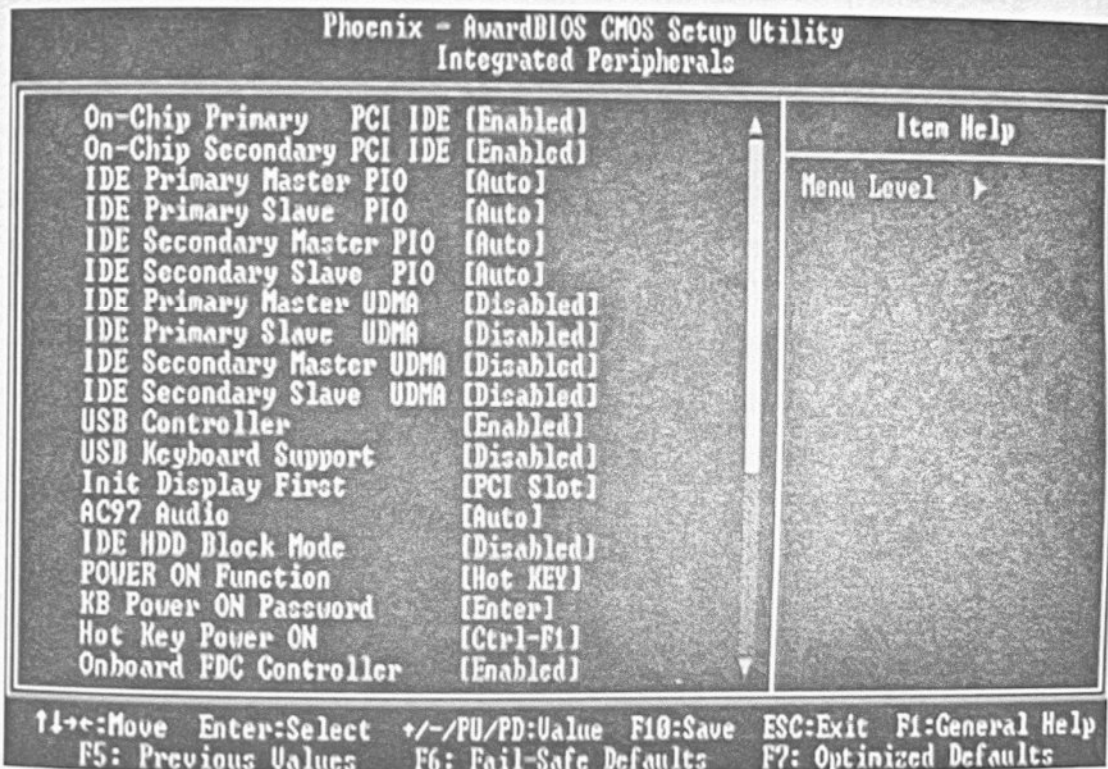
System Memory Frequency (Auto)

This item sets the main memory frequency. When you use an external graphics card, you can adjust this to enable the best performance for your system. Press <Esc> to return to the previous screen.

On-chip Video Windows Size (64 MB)

This allows you to set the Graphics Aperture size.

Integrated Peripherals

This option displays a list of items that defines the operation of peripheral components on the system's input/output ports.

```
            Phoenix - AwardBIOS CMOS Setup Utility
                      Integrated Peripherals

   On-Chip Primary   PCI IDE  [Enabled]              ▲         Item Help
   On-Chip Secondary PCI IDE  [Enabled]
   IDE Primary Master PIO     [Auto]              Menu Level  ►
   IDE Primary Slave  PIO     [Auto]
   IDE Secondary Master PIO   [Auto]
   IDE Secondary Slave  PIO   [Auto]
   IDE Primary Master UDMA    [Disabled]
   IDE Primary Slave  UDMA    [Disabled]
   IDE Secondary Master UDMA  [Disabled]
   IDE Secondary Slave  UDMA  [Disabled]
   USB Controller             [Enabled]
   USB Keyboard Support       [Disabled]
   Init Display First         [PCI Slot]
   AC97 Audio                 [Auto]
   IDE HDD Block Mode          [Disabled]
   POWER ON Function          [Hot KEY]
   KB Power ON Password       [Enter]
   Hot Key Power ON           [Ctrl-F1]
   Onboard FDC Controller     [Enabled]            ▼

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

On-Chip IDE Primary/Secondary PCI IDE (Enabled)

Use these items to enable or disable the PCI IDE channels that are integrated on the mainboard.

IDE Primary/Secondary Master/Slave PIO (Auto)

Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

IDE Primary/Secondary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device. This mainboard supports UltraDMA technology, which provides faster access to IDE devices.

USB Controller (Enabled)

Enable this item if you plan to use the Universal Serial Bus ports on this mainboard.

USB Keyboard Support (Disabled)

Enable this item if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

Init Display First (PCI Slot)

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the mainboard.

AC97 Audio (Auto)

Enables and disables the onboard audio chip. Disable this item if you are going to install a PCI audio PCI.

IDE HDD Block Mode (Enabled)

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

POWER ON Function (Hot KEY)

Enables computer power on by keyboard, mouse, or hotkey activity.

KB Power ON Password

Enables you to set a password to be entered when using the keyboard to power on the computer.

Hot Key Power ON (Ctrl-F12)

Enables you to select a hot key to turn on the computer.

Onboard FDC Controller (Enabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1 (3F8/IRQ4)

This option is used to assign the I/O address and address and interrupt request (IRQ) for onboard serial port 1 (COM1).

Onboard Serial Port 2 (2F8/IRQ3)

This option is used to assign the I/O address and address and interrupt request (IRQ) for onboard serial port 2 (COM2).

UART Mode Select (Normal)

This field is available if the Onboard Serial Port 2 field is set to any option but Disabled. UART Mode Select enables you to select the infrared communication protocol-Normal (default), IrDA, or ASKIR. IrDA is an infrared communication protocol with a maximum baud rate up to 115.2K bps. ASKIR is Sharp's infrared communication protocol with a maximum baud rate up to 57.6K bps.

Onboard Parallel Port (378/IRQ7)

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.

Parallel Port Mode (ECP)

Enables you to set the data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP. SPP allows data output only. Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) are bi-directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP and ECP aware peripherals.

ECP Mode Use DMA (3)

When the onboard parallel port is set to ECP mode, the parallel port can use DMA 3 or DMA 1.

PWRON After PWR-Fail (Off)

This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

Game Port Address (201)

This item sets the I/O address for the game port.

Midi Port Address (330)

This item sets the I/O address for the Midi function.

Midi Port IRQ (10)

This item sets the interrupt request for the Midi function. Press <Esc> to return to the previous screen.

Power Management Setup

This option displays items that let you control the system power management. This mainboard supports ACPI (A dvanced Configuration and Power Interface). The system has various power saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events. The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power-saving mode. If any item in the list of Reload Global Timer Events is Enabled, then any activity on that item will reset the timeout counters to zero. If the system is suspended or has been powered down by software, it can be resumed by a wake up call that is genera tedby incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock.

```
               Phoenix - AwardBIOS CMOS Setup Utility
                        Power Management Setup
   ┌──────────────────────────────────────────────┬──────────────────────┐
   │ ACPI Function              [Enabled]        ▲ │     Item Help        │
   │ ACPI Suspend Type          [S1(POS)]          ├──────────────────────┤
   │ x Run VGABIOS if S3 Resume  Auto              │  Menu Level    ►     │
   │ Power Management           [User Define]      │                      │
   │ Video Off Method           [Blank Screen]     │                      │
   │ Video Off In Suspend       [No]               │                      │
   │ Suspend Type               [Stop Grant]       │                      │
   │ MODEM Use IRQ              [NA]                │                      │
   │ Suspend Mode              [Disabled]          │                      │
   │ HDD Power Down            [Disabled]          │                      │
   │ Soft-Off by PWR-BTTN      [Instant-Off]       │                      │
   │ Resume by Alarm           [Disabled]          │                      │
   │ x Date(of Month) Alarm     0                  │                      │
   │ x Time(hh:mn:ss) Alarm     0 : 0 : 0          │                      │
   │                                               │                      │
   │ ** Reload Global Timer Events **              │                      │
   │ Primary IDE 0             [Disabled]          │                      │
   │ Primary IDE 1             [Disabled]          │                      │
   │ Secondary IDE 0           [Disabled]        ▼ │                      │
   └──────────────────────────────────────────────┴──────────────────────┘
   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
         F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```

ACPI Function (Enabled)

This mainboard supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

ACPI Suspend Type (S1 (POS))

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (SR), the suspend mode is a suspend to RAM - the system shuts down with the exception of a refresh current to the system memory.

Power Management Option (User Define)

This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a longer timeout. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

Video Off Method (DPMS)

This item defines how the video is powered down to save power. This item is set to DPMS (Display Power Management Software) by default.

Video Off In Suspend (Yes)

This option defines if the video is powered down when the system is put into sus-

pend mode.

Suspend Type (Stop Grant)

If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.

MODEM Use IRQ (3)

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the mainboard Wake On Modem connector for this feature to work.

Suspend Mode (Disable)

The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. Options are from 1 Min to 1 Hour and Disable.

HDD Power Down (Disable)

The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from 1 Min to 15 Min and Disable.

Soft-Off by PWRBTN (Instant-Off)

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be re-sumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the normal power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. Then you have to hold the power button down for four seconds to cause a software power down.

Resume by Alarm (Disabled)

When set to Enabled, the following two fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

Primary/Secondary IDE 1/0 (Disabled)

When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels.

FDD, COM, LPT Port (Disabled)

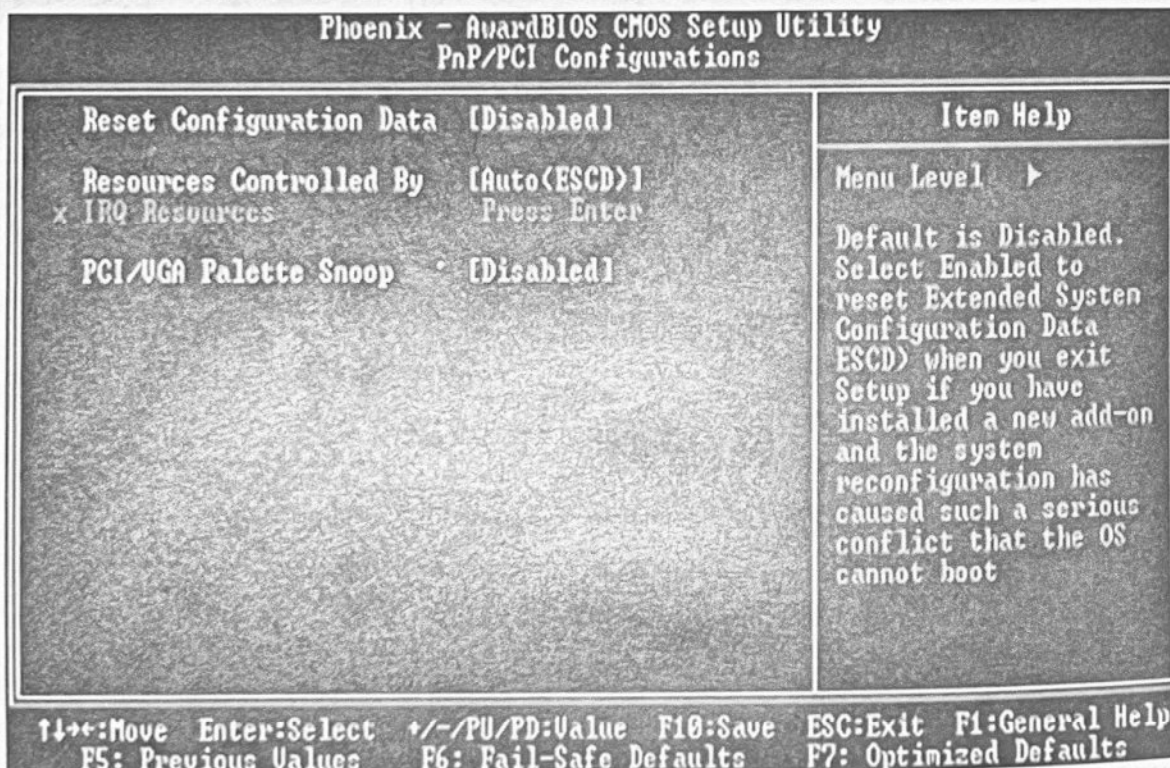When this item is enabled, the system will restart the power saving timeout counters

when any activity is detected on the floppy disk drive, serial ports, or the parallel port.

PCI PIRQ[A-D]# (Disabled)

When disabled, any PCI device set as the Master will not power on the system.

PNP/PCI Configuration

This option displays a table of items that configures how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the ISA and PCI buses on the Mainboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Set up utility; therwise, the mainboard will not work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:

```
           Phoenix - AwardBIOS CMOS Setup Utility
                   PnP/PCI Configurations

   Reset Configuration Data   [Disabled]              Item Help

   Resources Controlled By    [Auto(ESCD)]       Menu Level  ▶
 x IRQ Resources              Press Enter
                                               Default is Disabled.
   PCI/VGA Palette Snoop      [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 OS
                                               cannot boot

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

Reset Configuration Data (Disabled)

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS setup is cleared from memory. New updated data is created.

Resources Controlled By (Auto(ESCD))

You should leave this item at the default Auto(ESCD). Under this setting, the system dynaMICally allocates resources to plug and play devices as they are required.
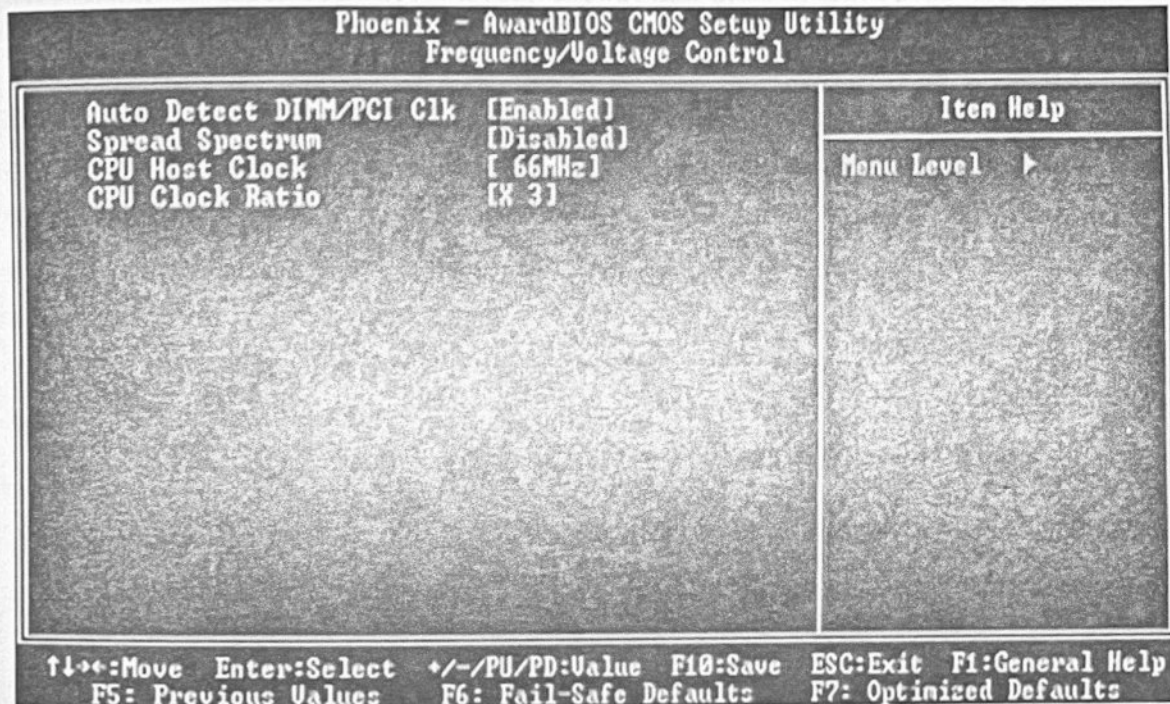
PCI/VGA Palette Snoop (Disabled)

This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not

require palette snooping so you must leave this item disabled.

Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.

```
          Phoenix - AwardBIOS CMOS Setup Utility
                  Frequency/Voltage Control

  Auto Detect DIMM/PCI Clk   [Enabled]           Item Help
  Spread Spectrum            [Disabled]
  CPU Host Clock             [ 66MHz]        Menu Level   ▶
  CPU Clock Ratio            [X 3]




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

Auto Detect DIMM/PCI Clk (Enabled)

When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.

Spread Spectrum (Enabled)

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

CPU Host/PCI Clock &CPU Clock Ratio

These items appear if you have set the CPU Internal Core Speed to Manual. Use the CPU Host/PCI Clock to set the frontside bus frequency for the installed processor (usually 133 MHz, 100 MHz or 66 MHz). Then use *CPU Clock Ratio* to set a multiple. The multiple times the frontside bus must equal the core speed of the installed processor - e.g., 3.5 (multiple) x 100 MHz (frontside bus) = 350 MHz (installed processor clock speed).

Load Fail-Safe Defaults

This option opens a dialog box that lets you install fail-safe defaults for all appro-

priate items in the Setup Utility: Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install failsafe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press<F7>.

Set Supervisor and User Passwords

These items can be used to install a password. A Supervisor password takes precedence over a User password, and the Supervisor can limit the activities of a User. To install a password, follow these steps:
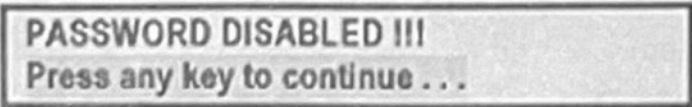
1. Highlight the item Set Supervisor/User Password on the main menu and press <Enter>.

2. The password dialog box appears.

```
Enter Password:
```

3. If you are installing a new password, type in the password.

You cannot use more than eight characters or numbers. The Set Supervisor/User Password item differentiates between upper case and lower characters. 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. You see a message that indicates that the password has been disabled.

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

4. Press any key. You are prompted to confirm the password:

Confirm Password:

5. Type the password again and press <Enter>, or just press <Enter> if you are deleting a password that is already installed.

6. If you typed the password correctly, the password will be installed.

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 Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu:

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

Note: If you have made settings that you do not want to save, use the "Exit Without Saving" item and press Y to discard any changes you have made.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the mainboard.