Pentium Pro Mainboard

USER'S MANUAL

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Chapter 1 System Board Overview

The mainboard is designed for the new generation CPU. It supports the Intel CPU SLOT1(Pentium Pro®, Pentium®II ..), memory up to 1GB, super I/O, and Green PC functions. The mainboard provide high performance for the server system and meet the necessary of the desktop system for Multi-Media in the future.

Specifications

1. CPU:	Supports Intel Pentium Pro® 150~200 MHz, Pentium®II 233~266 MHz
2. Chipset:	Intel 82440 FX chipset
3. Memory(DRAM):	Four 72PIN SIMM modules Two 168PIN DIMM modules Supports 8MB to 1GB memory capacity Supports EDO and FP DRAM type
4. On board IDE:	Two E-IDE channels Supports up to 4 hard devices
5. On board FDC:	Supports two floppy disk drivers up to 2.88MB
6. On board Fast I/O:	One EPP/ECP parallel port (IEEE 1284 Compliant) Two high speed 16550A Compliant UARTs Supports Infrared – **IrDA(HPSIR)** and **Amplitude Shift Keyed IR(ASKIR)** Supports “PCI Bus master IDE controller” to reduce the work load of the CPU Supports two Universal Serial Bus (USB) interface Supports one PS/2 mouse connector
7. I/O slots:	Four 32-bit PCI slots, three 16-bit ISA slots
8. BIOS:	Award Plug and Play BIOS
9. Dimension:	ATX form factor 245 x 305 mm

Component Placement

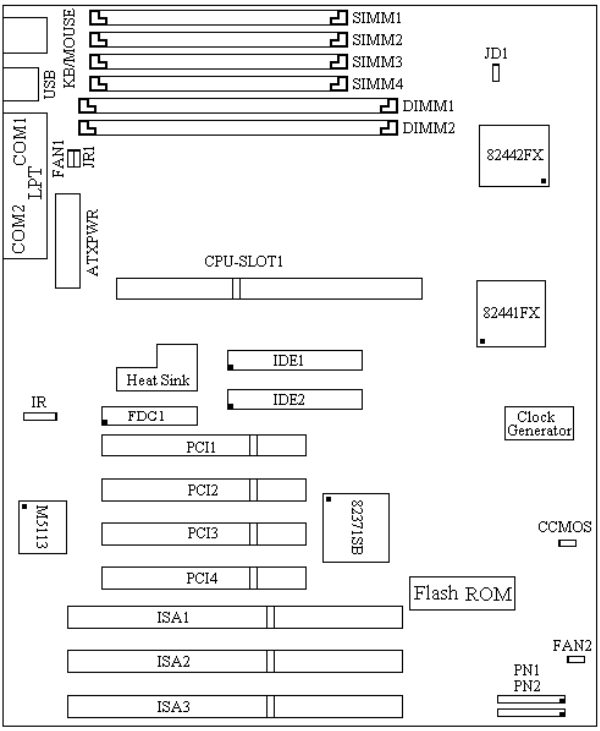
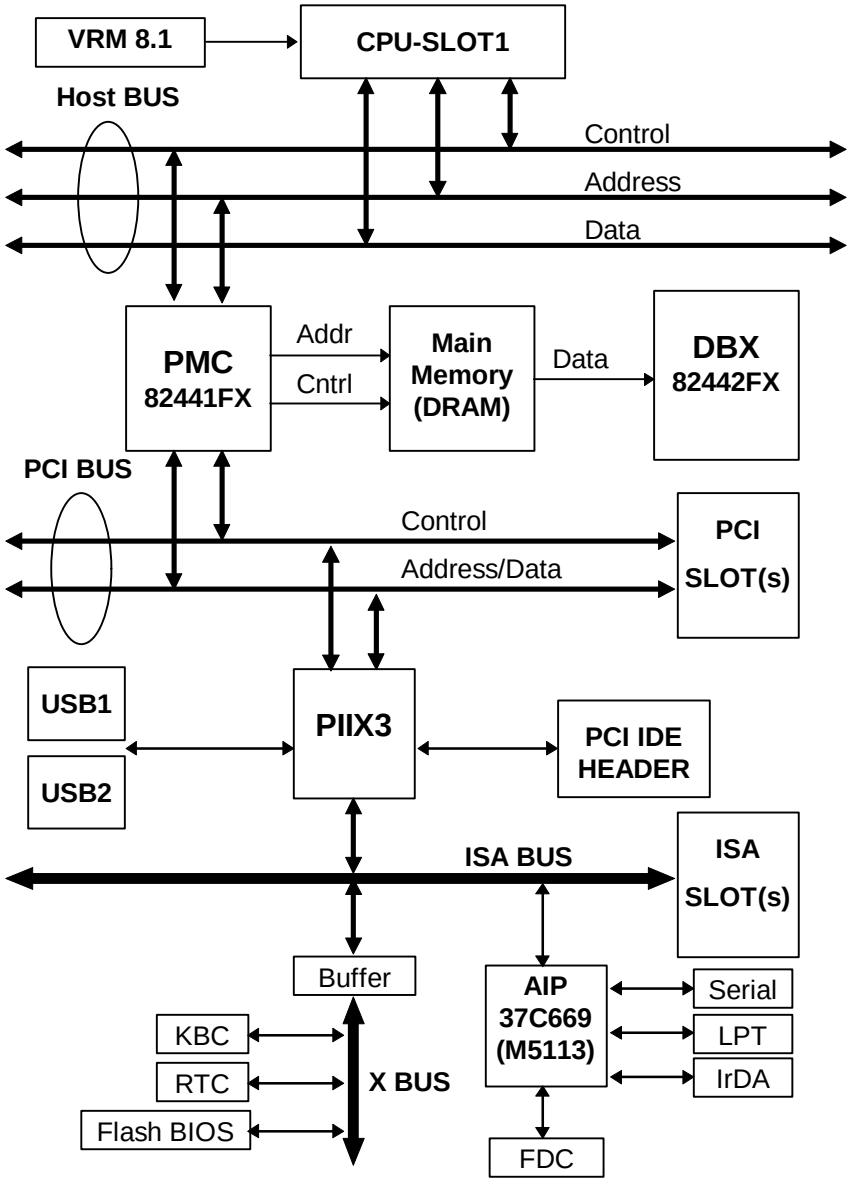


Figure 1-1 Component Locations

The System block diagram



Chapter 2 Hardware Setup

This chapter describes the mainboard's connectors and how to set the mainboard's jumpers.

Precautions

You should take the following precautions before you begin working with the motherboard and its components:

- Turn off the mainboard's power, and unplug the power cord.
- Unplug all cables connect the mainboard to any external devices.

Caution:	*Make sure you first turn off all power to the system before attaching components to the mainboard.*

Connectors

You attach system components and case devices to the mainboard's connectors. A description of each connector and its pin assignments follows. Refer to Figure 1-1 for connector location on the mainboard.

PN2(Pin 4-5-6-7) - Speaker Connector

Attach the system speaker to connector PN2.

Pin	Assignment
4	Speaker data
5	Ground
6	Ground
7	+5VDC

PN2(Pin 1-2) - Hardware Reset Connector

Attach the cable from the case's Reset switch to this connector. Press and hold the reset button for at least one second to reset the system.

Pin	Assignment
1	Reset input
2	Ground

PN1(Pin 13-14) - Hardware Suspend Switch (SMI Switch)

Attach the cable from the case's suspend switch (if exist) to this switch. Use this switch to enable/disable the power management function by hardware.

Pin	Assignment
13	Suspend signal
14	Ground

PN1(Pin 1-2-3-4-5) - Keylock and Power LED Connector

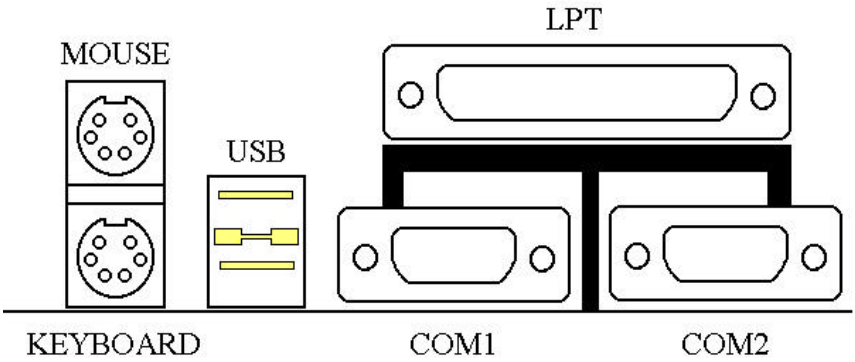
Attach the case's keylock to connector.

Pin	Assignment
1	+5VDC
2	No connection
3	Ground
4	Keylock inhibit signal
5	Ground

PN1(Pin 7-8) - HDD LED Connector

Attach the cable from the case's HDD LED to this connector.

Pin	Assignment
7	LED power
8	HDD active



MOUSE - PS/2 Mouse Connector

Attach a PS/2 mouse to this 6-pins Din-connector.

Pin	Assignment
1	Mouse data
2	No connection
3	Ground
4	+5VDC
5	Mouse clock
6	No connection

KB - PS/2 Keyboard Connector

Attach a keyboard to this 6-pins Din-connector.

Pin	Assignment
1	Keyboard data
2	No connection
3	Ground
4	+5VDC
5	Keyboard clock
6	No connection

ATX PWR - ATX Power input Connector

Caution:	*If power supply connectors are not properly attached to ATX PWR, the power supply or add-on cards may be damaged.*

Attach the connectors from the power supply to ATX PWR.

Pin	Assignment	Pin	Assignment
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	ON/OFF control signal
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	Powergood	18	-5V
9	+5V	19	+5V
10	+12V	20	+5V

FAN1, FAN2 - DC-FAN Power Connector

Pin	Assignment
1	Ground
2	+12V
3	Ground

IR - IR Connector(Infrared)

Pin	Assignment
1	+5V
2	No connection
3	IR_RX
4	Ground
5	IR_TX

I/O port connectors

Name	No. of pins	Description
IDE1	40	IDE channel 1 connector
IDE2	40	IDE channel 2 connector
FDC	34	Floppy disk connector
LPT	25	Parallel port connector
COM1	9	Serial port COM1 connector
COM2	9	Serial port COM2 connector
USB	8	Universal serial Bus

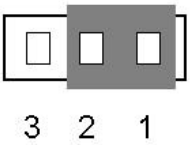
Notes: *IDE1, IDE2 are high performance PCI IDE connectors. Up to four IDE interface devices are supported.

Jumper Switches

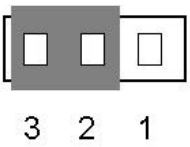
You set jumper switches on the mainboard to configure various hardware options. See Figure 1-1 for jumper locations.

Throughout this section the following symbols are used to indicate jumper settings.

For 3-pin jumpers, the symbols below are used:

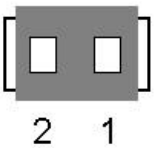
Pin 1-2 

Short Pins 1 and 2 with a jumper cap.

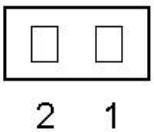
Pin 2-3 

Short Pins 2 and 3 with a jumper cap.

For 2-pins jumpers, the following symbols are used:

ON 

Place the jumper cap over the two pins of the jumper to Short the jumper.

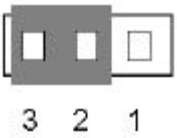
OFF 

Remove the jumper cap to Open the jumper cap.

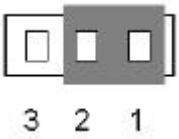
Note: To avoid losing jumper caps, attach the removed jumper cap to one of the jumper pins.

CCMOS - CMOS Discharge Jumper

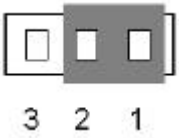
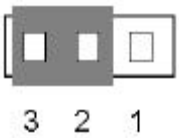
Jumper CCMOS discharge CMOS memory. When you install the mainboard, make sure this jumper is set for Normal Operation(1-2). See the jumper as below.

Setting	CCMOS
Normal Operation (Default)	
Discharge CMOS	

JR1 - ATX Power Power-On

Setting	JR1
Low active	
High active (Default)	

JD1 - DIMM Power Select

Setting	JD1
5V	
3.3V (Default)	

Installation of CPU

The mainboard is equipped with a CPU-SLOT1 slot to accommodate the KP6 CPU card and Intel Pentium®II CPU or above. The default clock rate setting for KP6 CPU card is 150MHz and Pentium®II CPU is 233MHz depend on autodetect from BIOS. But there is an advantage way for setup menu. The details please refer the chapter 3 “Award BIOS Setup”.

Installation of Memory

The mainboard provides four 72-pin SIMM and two 168-pin DIMM sites for memory expansion. The SIMM socket supports 1Mx32(4MB), 2Mx32(8MB), 4Mx32(16MB), 8Mx32(32MB), 16Mx32(64MB), and 32Mx32(128MB) single side or double side SIMM modules. The DIMM socket supports 1Mx64(8MB), 2Mx64(16MB), 4Mx64(32MB), 8Mx64(64MB), 16Mx64(128MB), and 32Mx64(256MB) or double side DIMM modules. Minimum memory size is 8MB and Maximum memory size will be 1GB.

There are four banks of Memory on the system board.

In order to create a memory array certain rules must be followed. The following set of rules allows for optimum configurations.

- SIMM modules must be populated in pairs; the memory array is 64 or 72 bits wide. (Without parity or with parity)
- Those modules can populated in any order.
- SIMM modules pairs need to populated with the same densities, single or double. For example, Bank0 must populated with identical densities. However Bank1 can be populated with different densities than Bank0.
- The asymmetrical DRAM modules should be the same type in the same bank.
- The EDO DRAM modules can mixed with standard page mode DRAM module, but must not be in the same bank. For example, Bank0 can be populated with EDO DRAM module. Each bank will be optimized for that type of memory according to the BIOS setup.

The following is the valid memory configuration:

Bank	Memory Module	Total Memory	
Bank0 (SIMM1, 2)	4MB, 8MB, 16MB, 32MB, 64MB, 128MB	x2	8MB ~ 256MB
Bank1 (SIMM3, 4)	4MB, 8MB, 16MB, 32MB, 64MB, 128MB	x2	8MB ~ 256MB
Bank2 (DIMM1)	8MB,16MB,32MB,64MB, 128MB, 256MB	x1	8MB ~ 256MB
Bank3 (DIMM2)	8MB,16MB,32MB,64MB, 128MB, 256MB	x1	8MB ~ 256MB
Total System Memory		+)=	8MB ~ 1GB

Chapter 3 Award BIOS Setup

All personal computer use a BIOS, or Basic Input / Output system, to provide control for the hardware functions. When system is powered on or reset, the CPU is reset and BIOS will do the following:

- Self-test on CPU.
- Verify ROM BIOS checksum.
- Verify CMOS configuration chip.
- Initialize timer.
- Initialize DMA controller.
- Verify system memory and cache memory.
- Install all BIOS function call utilities.
- Verify/initialize all system configurations, like keyboard, floppy drive, hard disk, initialize EGA or VGA if there is any.
- Hook to the add-in BIOS (include NCR PCI SCSI BIOS) or expansion BIOS to perform initialization and driver link to the system.

Award's BIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM so that the setup information is retained when the power is turned off. When the system is powered on or reset, the Award BIOS will display a copyright message on the screen, then the BIOS will perform the system diagnostics test and initialization. When all of the above tests have been passed, the message:

"TO ENTER SETUP BEFORE BOOT PRESS CTRL-ALT-ESC OR DEL KEY"

is display. If the [Del] key or Ctrl-Alt-Esc is pressed, the screen will be cleared and then the following message will be shown:

ROM PCI/ISA BIOS (XXXXXXXX)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

!! CPU SOFT MENU !!	LOAD BIOS DEFAULTS
STANDARD CMOS SETUP	LOAD SETUP DEFAULTS
BIOS FEATURES SETUP	PASSWORD SETTING
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PCI & ONBOARD I/O SETUP	EXIT WITHOUT SAVING
Esc: Quit	↓↑→←: Select Item
F10: Save & Exit Setup	(Shift)F2: Change Color
Description of each function	

Figure 3-1 Main Menu

CPU SOFT MENU

The CPU SOFT MENU™ is for setting CPU parameter. User can change CPU setting by software easily. In each item press the <F1> key, which will display the available option.

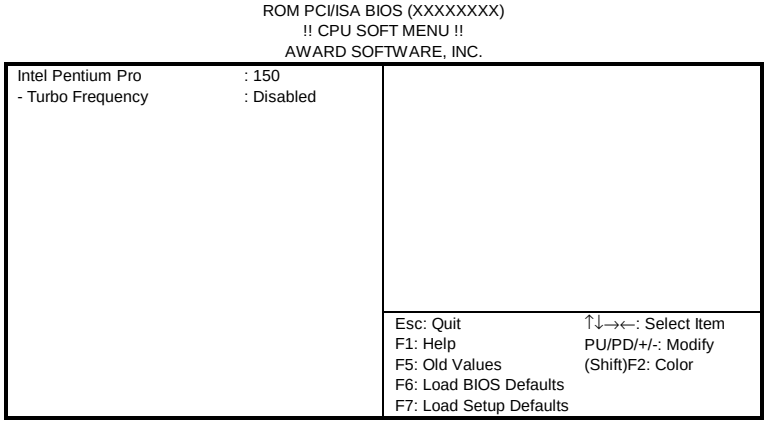


Figure 3-2 !! CPU SOFT MENU !!

Intel Pentium Pro Available item as below:

⇒ 150
⇒ 166
⇒ 180
⇒ 200
⇒ ……

à *Turbo Frequency:*

If external clocks support turbo frequency then screen will display this item.

The meaning of the turbo frequency is external clock frequency, that can improve the system performance.

⇒ Disable: CPU external clock is normal frequency.

⇒ Enable: CPU external clock is turbo frequency.

Note: Disable turbo mode is recommended.

Standard CMOS Setup Menu

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes none, one, or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

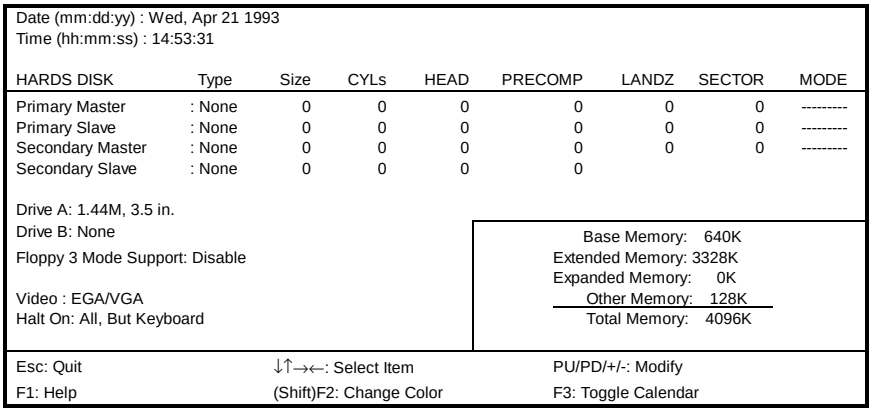


Figure 3-3 Standard CMOS Setup Menu

The setup program is completely menu-driven:

1. Use arrow keys to select entry of **Data, Time, Hard Disk, Floppy, Display,** and **Keyboard**.
2. Use **PgUp/PgDn** key to modify the options of each entry.
3. Use **Esc** to exit.

Hard Disk size selection

The Award BIOS supports three HDD modes: **NORMAL, LBA** and **LARGE**.

NORMAL mode: The maximum HDD size supported by the NORMAL mode is 528 Megabytes.

LBA mode: Logical Block Addressing mode is a new HDD accessing method designed to overcome the 528Megabytes limitation. The number of cylinders, heads, and sectors shown in setup may not be the number physically contained in the HDD. During HDD accessing the IDE controller will transform the logical address described by cylinder, head, and sector number into its own physical address inside the HDD. The maximum HDD size supported by the LBA mode is 8.4Gigabytes.

LARGE mode: Some IDE HDDs contain more than 1024 cylinders without LBA supports. This access mode tricks DOS (or other OS) that the number of cylinders is less than 1024 by dividing it by 2. At the same time, the number of heads is Multiplied by 2. The maximum HDD size supported by LARGE mode is 1 Gigabytes.

Floppy 3 mode support

This is the Japanese standard floppy drive. The standard stores 1.2MB in a 3.5” diskette.

BIOS Features Setup Menu

The BIOS Features setup program is equipped with a series of help screens accessed by the <F1> key, which will display the available options for a particular configuration feature and special help for some of the options. If you don't really understand the meanings of each item, please don't change the following default values.

ROM PCI/ISA BIOS (XXXXXXXX)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power on Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A, C	D40000D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up Numlock Status	: On		
IDE HDD Block Mode	: Enabled		
Typematic Rate Setting	: Enabled		
Typematic Rate (Chars/Sec)	: 30		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled		
		Esc: Quit	↑↓→←: Select Item
		F1: Help	PU/PD/+/-: Modify
		F5: Old Values	(Shift)F2: Color
		F6: Load BIOS Defaults	
		F7: Load Setup Defaults	

Figure 3-4 BIOS Feature Setup

A short description of screen items follows:

Virus Warning Enable this option and a warning message appears when there is any attempt to access the boot sector or hard disk partition table.

CPU Internal Cache This option enables/disables the CPU's internal cache. (The Default setting is Enabled.)

External Cache This option enables/disables the external cache memory. (The Default setting is Enabled.)

Quick Power On Self Test Enabled provides a fast POST at boot-up.

Boot Sequence The system can be boot from drive A:, or C:. There are two sequences can be choose: "A, C", "C, A".

Swap Floppy Drive	Enabled changes the sequence of the A: and B: drives. (The Default setting is Disabled.)
Boot Up Floppy Seek	Enable this item and the BIOS searches for installed floppy disk drives to determine if they are 40 tracks (360K drive) or 80 tracks (720K, 1.2M, 1.44M, or 2.88M drives). Disable this item and the BIOS does not search for floppy drive type by track number.
IDE HDD Block Mode	This option enables/disables the IDE HDD Block Mode function. Older HDDs do not support this function. (The Default setting is Enabled.)
Typematic Rate Setting	Enable this option to adjust the keystroke repeat rate.
Typematic Rate (Chars/Sec)	Choose the rate a Character keeps repeating.
Typematic Delay (Msec)	Choose how long after you press a key that a character begins repeating.
Security Option	Choose Setup or System. Use this feature to prevent unauthorized system boot-up or use of BIOS Setup. "System" - Each time the system is booted the password prompt appears. "Setup" - If a password is set, the password prompt only appears if you attempt to enter the Setup program.
PCI/VGA Palette Snoop	Choose Enable or Disable. Used to alter VGA palette setting while graphics pass through feature connector of PCI VGA card and processed by MPEG card.
Video or Adapter BIOS Shadow	BIOS shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.

Chipset Features Setup Menu

The Chipset Features Setup Menu are used to change the parameter of the chipset internal registers. All of these parameters are hardware dependent. A wrong parameters may be caused the mainboard out of order.

Run the Chipset Features Setup as follows.

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and following screen appears.

ROM PCI/ISA BIOS (XXXXXXXX)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	8 Bit I/O Recovery Time	: 1
DRAM Speed Selection	: 60 ns	16 Bit I/O Recovery Time	: 1
DRAM RAS# Precharge Time	:4	Memory Hole At 15M-16M	: Disabled
MA Additional Wait State	: Enabled	DRAM Fast Leadoff	: Disabled
RAS# to CAS# Delay	: Enabled	Passive Release	: Enabled
DRAM Read Burst (B/E/F)	: x2/2/3	Delayed Transaction	: Disabled
DRAM Write Burst (B/E/F)	: x3/3/3		
ISA Bus Clock	: PCICLK/3		
DRAM Refresh Queue	: Enabled		
DRAM RAS Only Refresh	: Disabled		
DRAM ECC/PARITY Select	: Disabled		
Fast Dram Refresh	: Disabled		
Read-Around-Write Combine	: Enabled		
PCI Burst Write Combine	: Enabled		
PCI-To-DRAM Pipeline	: Enabled	Esc: Quit	↑↓→←: Select Item
CPU-To-PCI Write Post	: Enabled	F1: Help	PU/PD/+/-: Modify
CPU-To-PCI IDE Posting	: Enabled	F5: Old Values	(Shift)F2: Color
System BIOS Cacheable	: Disabled	F6: Load BIOS Defaults	
Video RAM Cacheable	: Disabled	F7: Load Setup Defaults	

Figure 3-5 Chipset Feature Setup Menu

Note:

Memory Hole At 15M-16M Choose Enable or Disable (Default). Used to reserved memory addressing space for some special add-on-card that requires 1M bytes addressing space from 15 to 16M.

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

3. After you have finished with the Chipset Features Setup, press the <Esc> key and follow the screen instructions to save or disregard your new settings.

Power Management Setup

The Power Management Setup option lets you set the system's power saving functions.

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu.

ROM PCI/ISA BIOS (XXXXXXXX)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management	: User Define	** Power Down & Resume Events **	
PM Control by APM	: Yes	IRQ 3 (COM2)	: ON
Video Off Method	: V/H SYNC + Blank	IRQ 4 (COM1)	: ON
Video Off Option	: Susp, stby → off	IRQ 5 (LPT2)	: ON
Modem Use IRQ	: NA	IRQ 6 (Floppy Disk)	: ON
		IRQ 7 (LPT 1)	: ON
Doze Mode	: Disable	IRQ 8 (RTC Alarm)	: OFF
Standby Mode	: Disable	IRQ 9 (IRQ2 Redir)	: ON
Suspend Mode	: Disable	IRQ 10 (Reserved)	: ON
HDD Power Down	: Disable	IRQ 11 (Reserved)	: ON
		IRQ 12 (PS/2 Mouse)	: ON
** Wake Up Events In Doze & Standby **		IRQ 13 (Coprocessor)	:ON
IRQ 3 (Wake-Up Event)	: ON	IRQ 14 (IDE-1)	: ON
IRQ 4 (Wake-Up Event)	: ON	IRQ 15 (IDE-2)	: ON
IRQ 8 (Wake-Up Event)	: OFF		
IRQ12 (Wake-Up Event)	: ON	Esc: Quit	↑↓→←: Select Item
		F1: Help	PU/PD/+/-: Modify
		F5: Old Values	(Shift)F2: Color
		F6: Load BIOS Defaults	
		F7: Load Setup Defaults	

Figure 3-6 Power Management Setup Menu

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/- keys.

A short description of selected screen items follows:

Power Management Options are as follows:

User Define Set the power saving options by user. (Default)

Disabled Disables the Green PC Features.

Min Saving
Doze = 1Hour
Standby = 1Hour
Suspend = 1Hour

Max Saving
Doze = 1Min
Standby = 1Min
Suspend = 1Min

PM Control by APM Choose No or Yes (Default). APM stands for Advanced Power Management. “Yes” makes your power management more flexible.

Video Off Method Choose DPMS, Blank screen, or V/H Sync + Blank (Default). With this item V/H SYNC is controlled by software. If you have a VGA card that is not compatible with the default option, switch to “Blank screen”, even though it consumes more power than “V/H SYNC + Blank”. If your VGA card and VGA monitor support VESA DPMS, switch the option to “DMPS”.

Video Off Option Choose “Always On”, “All Modes — Off” (Suspend, Standby and Doze mode), “Susp, Stby — Off”(Default) and “Suspend — Off”. This item shuts the video off when entering Doze mode, Standby mode or Suspend mode.

Modem Use IRQ Setting “Modem Use IRQ” for the APM modem ring wake up function.

HDD Power Down Choose a time interval from 1 to 15 minutes or “Disabled” (Default). When the set time has elapsed, the BIOS sends a command to the HDD to enter idle (sleep) mode, turning off the motor. This function is only valid for IDE HDDs that support power saving function.

Doze Mode The default setting is Disabled. When the Power Management item is switched to “User Define” you can select a time interval from 1minute to 1 hour. When the set time elapses without activity the system enters Doze mode.
If the idle time for all PM events — IRQ 3-15 Activity — is greater than the Doze mode, and the CPU speed slows down. If the Video Off Option is set to “All Modes — Off”, the screen shuts off.

Standby Mode The default setting is Disabled. When the Power Management item is switched to “User Define” you can select a time interval from 1 minute to 1 hour. When the set time elapses without activity the system enters Standby mode.

If the idle time for all PM events is greater than the Standby time you set the system will enter Standby mode, and the CPU speed slows down. If the screen will shut off.

Suspend Mode The default setting is Disabled. When the Power Management item is switched to "User Define" you can select a time interval from 1 minute to 1 hour. When the set time elapses without activity the system enters Suspend mode.
If the idle time for all PM events is greater than the Suspend time you set the system will enter Suspend mode, and the CPU Internal frequency drops to 0 MHz. If the "Video Off Option" is set to "Suspend — Off", the screen will shut off.

Wake-up Event "ON" - Wake up the system when IRQn signal received in the Doze & Standby mode.
"OFF" - IRQn signal does not wake up the system, when the system is in the Doze & Standby mode.

Power Down & Resume Events There are several Power Management events can be selected — **IRQ3-15 Activity**.
"ON" - Reset green timer whenever PM Events Activity.
"OFF - Discard any PM Events Activity and continuously accumulate timer count down for green function.

3. After you have finished with the Power Management Setup, press the <Esc> key to return to the Main Menu.

PCI & Onboard I/O Setup

The PCI & Onboard I/O Setup option lets you assign INT#s, IRQs, I/O ports, and other hardware settings to the mainboard's PCI slots and onboard I/O.

ROM PCI/ISA BIOS (XXXXXXXX)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Reset PnP Config Data	: Disabled	Onboard FDD Controller	: Enabled
PCI IRQ Actived By	: Level	Onboard Serial Port 1	: 3F8/IRQ4
BIOS Auto-Config PCI IRQ	: Disabled	Onboard Serial Port 2	: 2F8/IRQ3
- 1st Available IRQ	: 10	- Onboard IR Function	: IrDA
- 2nd Available IRQ	: 11	- IR Duplex Mode	: Half
- 3rd Available IRQ	: 9	Onboard Parallel Port	: 378/IRQ7
- 4th Available IRQ	: 5	- Parallel Port Mode	: ECP+EPP1.9
		- ECP Mode Use DMA	: 3
PCI IDE Card 2nd Channel	: Enable		
PCI IDE Card IRQ Map to	: PCI-AUTO		
-Primary IDE INT#	: A		
- Secondary IDE INT#	: B		
Onboard USB Controller	: Disabled		
Onboard IDE-1 Controller	: Enabled		
- Master Drive PIO Mode	: Auto	Esc: Quit	↑↓→←: Select Item
- Slave Drive PIO Mode	: Auto	F1: Help	PU/PD/+/-: Modify
Onboard IDE-2 Controller	: Enabled	F5: Old Values	(Shift)F2: Color
- Master Drive PIO mode	: Auto	F6: Load BIOS Defaults	
- Slave Drive PIO mode	: Auto	F7: Load Setup Defaults	

Figure 3-7 PCI Configuration Setup Menu

Reset PnP Config Data If you want to clear ESCD data next time you boot up, and ask the BIOS to reset the settings for the Plug & Play ISA Card and PCI Card, select "Enabled". But the next time you boot up, this option will automatically be set as "Disabled".

PCI PnP BIOS Auto-Config Choose Enabled (Default) or Disabled. If Enabled the BIOS will automatically assigns IRQ to the PCI INT#. If Disabled the PCI INT# will be assigned by the next setup item - "Xth Available IRQ".

Xth Available IRQ These categories select a IRQ for INT#. There are ten IRQs options (3, 4, 5, 7, 9, 10, 11, 12, 14, 15) for available IRQs.
1st Available IRQ means BIOS will assign this IRQ to first INT found on the PCI slots (the assignment sequence is slot1, 2, 3).

PCI IDE Card 2nd Channel
Choose Disable or Enable (Default). If the 2nd channel is not used on the PCI IDE card, switch the option to "Disable". Or IRQ15 can not work on the ISA slots.

PCI IDE Card IRQ Map to
PCI-Auto:
If the BIOS can detect PCI IDE on one of the PCI slots, then the appropriate INT# will be auto-assigned to IRQ14.

PCI-slotX:
If the BIOS can not detect a PCI IDE card, (because the PCI IDE card does not support this function) the user needs to manually select the PCI-slot occupied by the PCI IDE card.

Primary IDE INT#, Secondary IDE INT#:
If the IDE card supports 2 IDE channels, the BIOS needs to assign 2 INT channels for the IDE card. (Don't select same INT#)

ISA:
This setting assigns no IRQs to the PCI slots. Use this setting with PCI IDE cards that connect IRQ14 and IRQ15 directly from an ISA slot using a cable from a legacy paddle board.

Note: M/B PCI Slot INT# hardware is designed as below:

"Slot1-INT#A", "Slot2-INT#B", and "Slot3-INT#C" are assigned to the same IRQ. (Do not use them at the same time.)

"Slot1-INT#B", "Slot2-INT#C", and "Slot3-INT#D" are assigned to the same IRQ. (Do not use them at the same time.)

"Slot1-INT#C", "Slot2-INT#D", and "Slot3-INT#A" are assigned to the same IRQ. (Do not use them at the same time.)

"Slot1-INT#D", "Slot2-INT#A", and "Slot3-INT#B" are assigned to the same IRQ. (Do not use them at the same time.)

Onboard FDD Controller
This option enables or disables the on-board floppy disk controller.

Onboard Serial Port X
Choose Disable, 3F8h/IRQ4, 2F8h/IRQ3, 3E8h/IRQ4, 2E8h/IRQ3 to set the on-board serial ports. But don't choose duplicate I/O port and IRQ.

Serial Port 2 Use IR
This option enables/disables the IR function in on-board serial port 2 and selects IR mode HPSIR(IrDA) or ASKIR(Amplitude Shift Keyed IR).

IR Duplex Mode	IR duplex mode Half(Default) or Full selection.
Onboard Parallel Port	Choose Disable, 3BCh/IRQ7, 278h/IRQ5, or 378h/IRQ7 (Default) to set the on-board parallel port.
Parallel Port Mode	Choose EPP1.7, EPP1.9, ECP, ECP + EPP1.7, ECP + EPP1.9, PS/2, or Normal (Default) mode.
ECP Mode Use DMA	Choose DMA channel 1 or channel 3 to set the ECP mode.
Onboard IDE Controller	This option enables or disables the one board PCI IDE controller.
Onboard IDE PIO Mode	Choose Mode 0 ~ Mode 4, or Auto (Default) to change IDE data transfers speed.

Load BIOS Defaults

BIOS Defaults indicates the values required by the system for the minimum performance. Choose this item and following message appears:

"Load BIOS Defaults (Y/N)? N"

To use the BIOS defaults, change the prompt to "Y" and press <Enter>.

Load Setup Defaults

Setup Defaults indicates the values of system parameters which will give the best performance. Choose this item and the following message appears:

"Load Setup Defaults (Y/N)? N"

To use the Setup defaults, change the prompt to "Y" and press <Enter>.

Setting Password

This Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. Change the password as follows:

1. Choose "PASSWORD SETTING" in the Main Menu and press <Enter>. The following message appears:

   "Enter Password:"

2. Enter a password and press <Enter>.

   (If you do not wish to use the password function, you can just press <Enter> and a "Password disabled" message appears.)

3. After you enter your password, the following message appears prompting you to confirm the new password:

   "Confirm Password:"

4. Re-enter your password and then Press <ESC> to exit to the Main Menu.

Important: If you forget or lose the password, the only way to access the system is to set the CMOS RAM discharge jumper to clear the CMOS RAM. All setup information is lost and you must run the BIOS setup program again.

IDE HDD Auto Detection

The BIOS automatically detects the hard disk type and configures the STANDARD CMOS SETUP accordingly.

Standard types of hard disks

Type	Size	Cylinders	Heads	W-Pcomp	L-Zone	Sect
1	10MB	306	4	128	305	17
2	20MB	615	4	300	615	17
3	30MB	615	6	300	615	17
4	62MB	940	8	512	940	17
5	49MB	940	6	512	940	17
6	21MB	615	4	65535	615	17
7	32MB	462	8	256	511	17
8	31MB	733	5	65535	733	17
9	117MB	900	15	65535	901	17
10	20MB	820	3	65535	820	17
11	35MB	855	5	65535	855	17
12	49MB	855	7	65535	855	17
13	20MB	306	8	128	319	17
14	42MB	733	7	65535	733	17
16	20MB	612	4	0000	663	17
17	40MB	977	5	300	977	17
18	56MB	977	7	65535	977	17
19	59MB	1024	7	512	1023	17
20	30MB	733	5	300	732	17
21	42MB	733	7	300	732	17
22	30MB	733	5	300	733	17
23	10MB	306	4	0000	336	17
24	53MB	925	7	0000	925	17
25	69MB	925	9	65535	925	17
26	43MB	754	7	754	754	17
27	68MB	754	11	65535	754	17
28	40MB	699	7	256	699	17
29	68MB	823	10	65535	823	17
30	53MB	918	7	918	918	17
31	93MB	1024	11	65535	1024	17
32	127MB	1024	15	65535	1024	17
33	42MB	1024	5	1024	1024	17
34	10MB	612	2	128	612	17
35	76MB	1024	9	65535	1024	17
36	68MB	1024	8	512	1024	17
37	40MB	615	8	128	615	17
38	24MB	987	3	987	987	17
39	57MB	987	7	987	987	17
40	40MB	820	6	820	820	17
41	40MB	977	5	977	977	17
42	40MB	981	5	981	981	17
43	48MB	830	7	512	830	17
44	68MB	830	10	65535	830	17
45	114MB	917	15	65535	918	17
46	152MB	1224	15	65535	1223	17

Chapter 4 Bus Master IDE Driver

The Intel PIIX3 Bus Master IDE is now include in the mainboard.

OS Support: Windows 95, Windows NT 3.5/3.51/4.0, OS/2 V2.x & Warp 3.0

Installation: Each OS has different install procedure, please check README.TXT file under each OS's directory.