451-011500200
REVISION:A
06-Jan-1997

Pentium™ Pro Processor-based Intel 440FX PCI Motherboard User's Manual

EXP8P61

TABLE OF CONTENTS

CHAPTER 1
INTRODUCTION

1.1 Overview

The *EXP8P61* motherboard offers outstanding I/O capabilities. Four PCI Local Bus slots provide a high bandwidth data path for data-movement intensive function such as Graphics. Four ISA slots complete the I/O mix.

The *EXP8P61* motherboard provides the foundation for cost effective, high performance, highly expandable platforms which deliver the latest *EXP8P61* in CPU and I/O technologies.

1.2 System Features

The EXP8P61 motherboard supports the following features:

- Supports INTEL PENTIUM PRO 150/180/200 MHz CPU
- Supports 4 MASTER 32-bit PCI Bus
- Supports L1 Write Back/Write Through Cache Feature
- Supports 72 pin SIMM modules
- Supports 2 Serial 1 Parallel 1 FDC on board
- Supports 2 Channels PCI IDE on board

1.3 System Specifications

Processor:	INTEL PENTIUM PRO 150/180/200 MHz CPU
CPU Clock Speed:	50/60/66 MHz
Memory:	2MB to 128MB
BIOS type:	AWARD BIOS
Additional BIOS Feature:	Set Program Resides in ROM

Slot type: Four 16-bit ISA Bus
Four 32-bit PCI Bus
Dimension: 28x22 cm

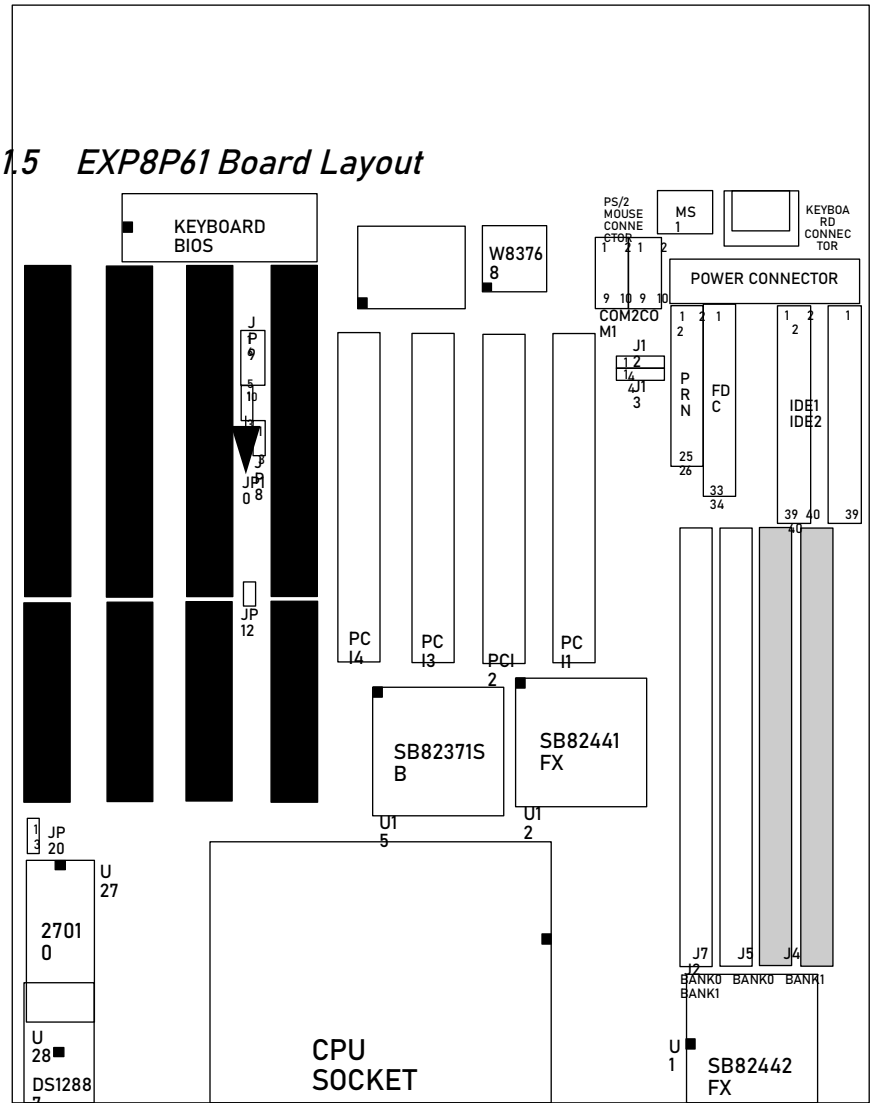
Additional Features

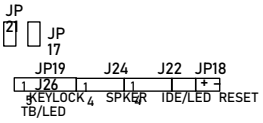
Miscellaneous Connectors: Reset button, Suspend button
Board Design: 4-layer Implementation for Low noise operation

1.4 System Performance

SOFTWARE / CPU TYPE	LANDMARK V2.0	POWER METER V1.8 MIPS	NORTON V8.0 CPU SPEED
PENTIUM PRO 150	936.78 MHz	71.1 MIPS	376
PENTIUM PRO 180	1124.2 MHz	83.6 MIPS	451.2
PENTIUM PRO 200	1249.14 MHz	94.8 MIPS	501.4

1.5 EXP8P61 Board Layout





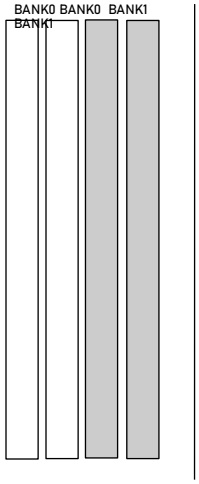
CHAPTER 2
INSTALLATION

Before the system is ready to operate, the hardware must be set up for various functions of the system. To set up the *EXP8P61* motherboard is a simple task. The user only has to set a few jumpers, connectors and sockets.

2.1 DRAM Installation

The *EXP8P61* motherboard can support expanded memory from 2MB to 128MB.

■The board layout below shows the locations of the DRAM memory banks:



J7 J5 J4
J2

DRAM INSTALLATION

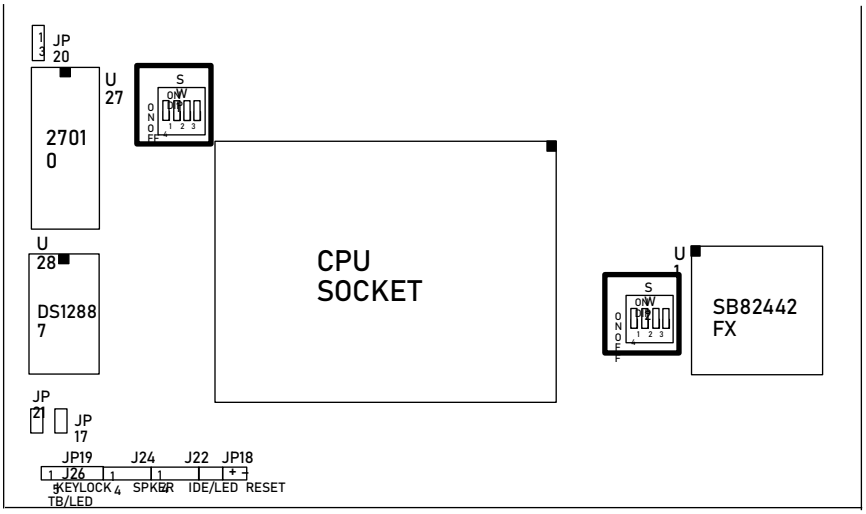
J5+J7 J2+J4 TOTAL

Each group includes two SIMMs each SIMM size can be 1, 2, 4, 8,16, 32MB, please install the same DRAM size in one group.

■ TABLE (SIMM)

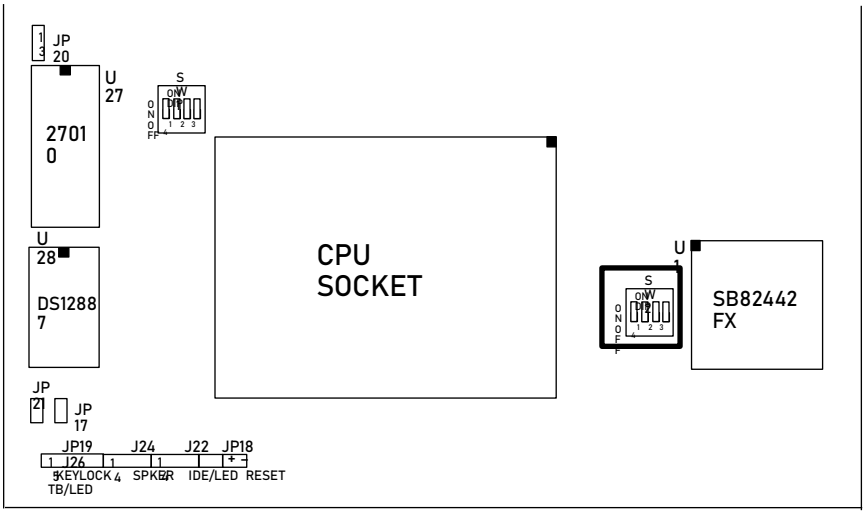
BANK 0		BANK 1		
J7	J5	J4	J2	TOTAL MEMORY
4MB	4MB	None	None	8MB
4MB	4MB	4MB	4MB	16MB
8MB	8MB	None	None	16MB
4MB	4MB	8MB	8MB	24MB
8MB	8MB	4MB	4MB	24MB
8MB	8MB	8MB	8MB	32MB
16MB	16MB	None	None	32MB
4MB	4MB	16MB	16MB	40MB
16MB	16MB	4MB	4MB	40MB
8MB	8MB	16MB	16MB	48MB
16MB	16MB	8MB	8MB	48MB
16MB	16MB	16MB	16MB	64MB
32MB	32MB	None	None	64MB
4MB	4MB	32MB	32MB	72MB
32MB	32MB	4MB	4MB	72MB
8MB	8MB	32MB	32MB	80MB
32MB	32MB	8MB	8MB	80MB
16MB	16MB	32MB	32MB	96MB
32MB	32MB	16MB	16MB	96MB
32MB	32MB	32MB	32MB	128MB

2.2 CPU Type Jumper Setting



CPU type	Jumper Setting
INTEL PENTIUM PRO 150MHz	SW 1 ON OFF, SW 2 ON OFF
INTEL PENTIUM PRO 180MHz	SW 1 ON OFF, SW 2 ON OFF
INTEL PENTIUM PRO 200MHz	SW 1 ON OFF, SW 2 ON OFF

2.3 CPU Installation



CPU Frequency Setting

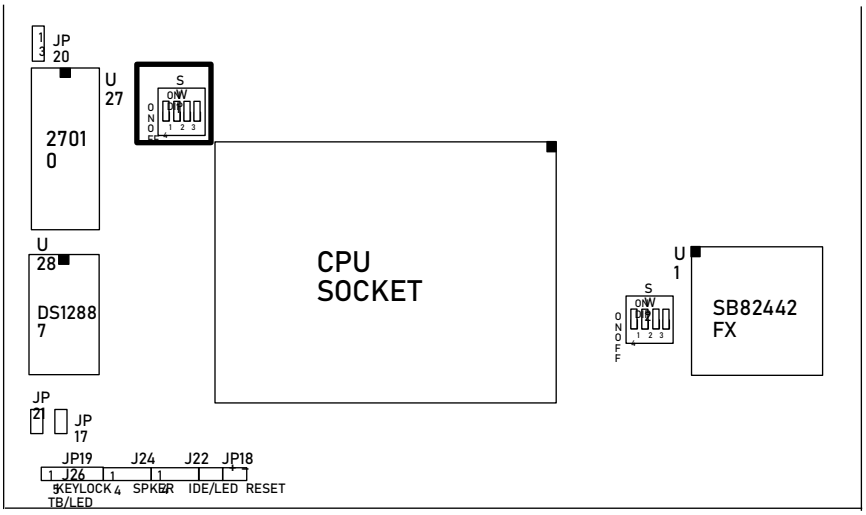
50MHz	♣60MHz	66MHz
SW 2	SW 2	SW 2

♣ Default Setting

CPU Bus Frequency Setting

♣50/60MHz	66MHz
SW 2	SW 2

♣ Default Setting

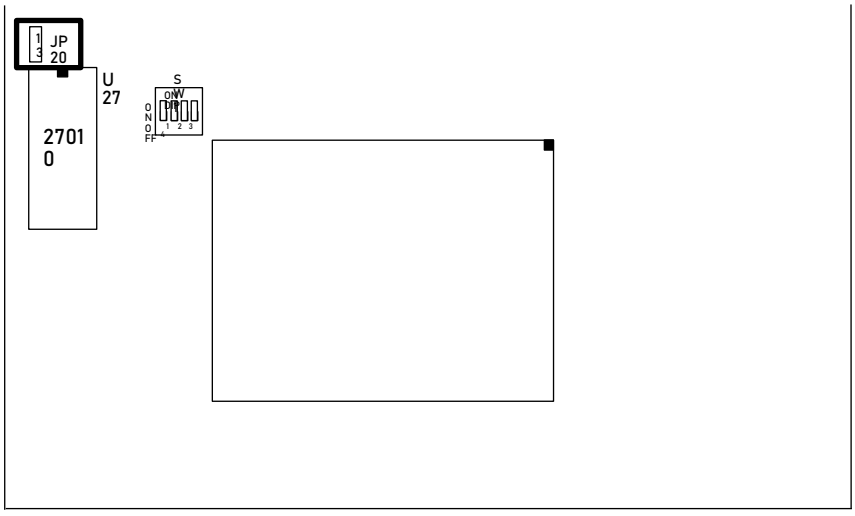


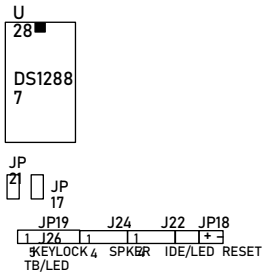
CPU Frequency Times

2	2.5	♣3	3.5	4
SW 1	DIP	SW 1	DIP	DIP

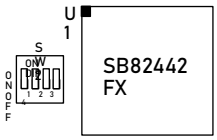
♣ Default Setting

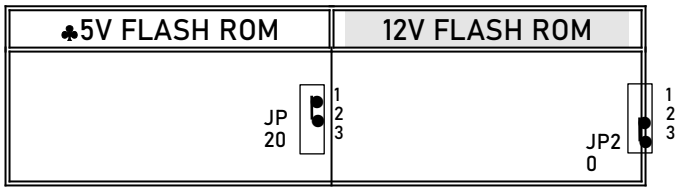
2.4 FLASH ROM Installation





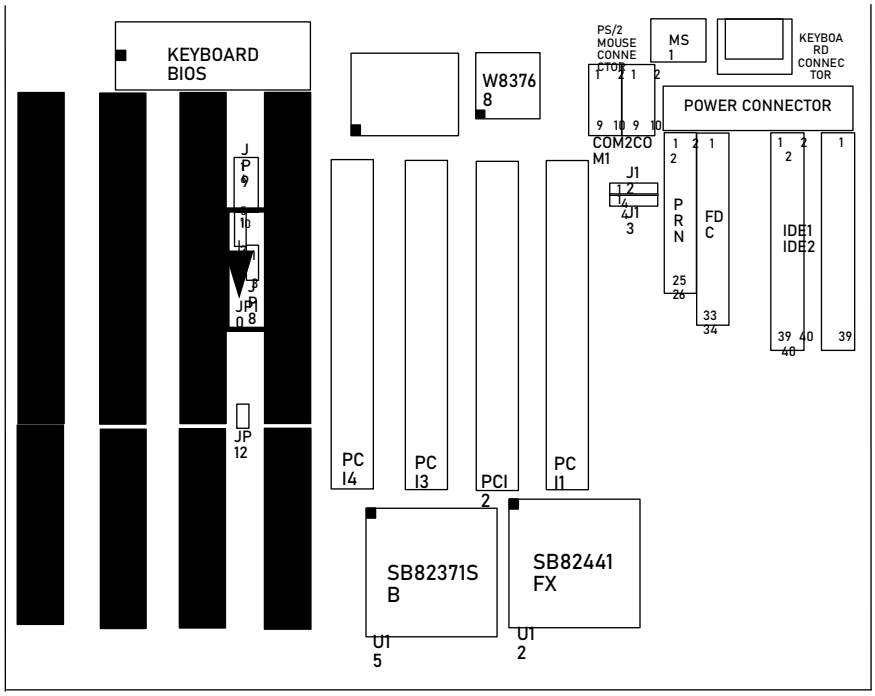
CPU
SOCKET



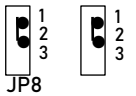
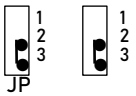


♣ Default Setting

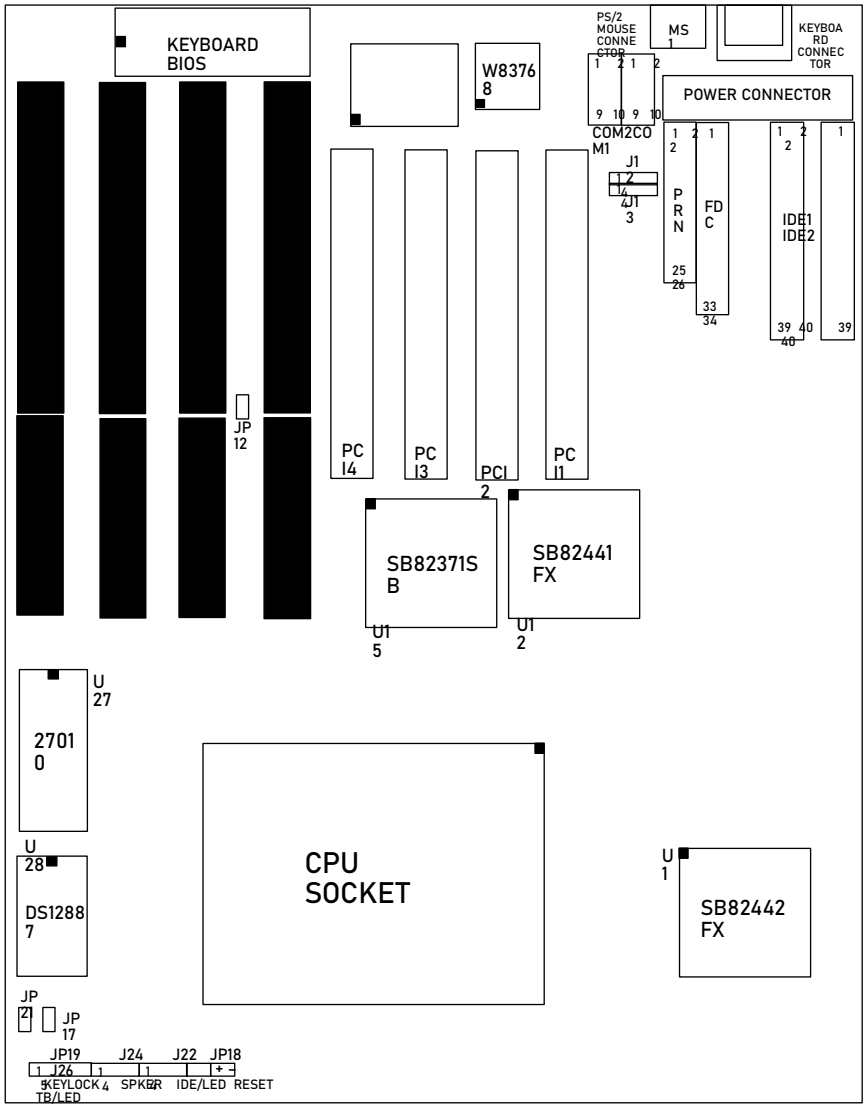
2.5 EPP MODE Setting



DMA CHANNEL CONFIGURATION (FOR EPP DEVICE)

DMA1	DMA3
	

2.6 Other Jumper & Connector Installation



Other Jumper Description

JUMPER	DESCRIPTION	
JP12	AT BUS CLOCK EQUAL PCICLK/3 (FOR FREQUENCY 50MHZ)	AT BUS CLOCK PCICLK/4 ♣ (FOR FREQUENCY 60, 66MHZ)

JP17	NORMAL	CLEAR CMOS
JP21	NORMAL MODE	SMI MODE

♣ Default Setting

CONNECTOR DESCRIPTION

CONNECTOR	PIN OUT	SIGNAL NAME
J12, J13 USB CONNECTOR	1 2 3 4	+5V DC DATA OUT DATA OUT GROUND
JP18 RESET	1 2	GROUND RESET IN
JP19 KEYLOCK & POWER LED CONNECTOR	1 2 3 4 5	+5V DC NC GROUND KEYBOARD DATA GROUND
J24 SPEAKER CONNECTOR	1 2 3 4	+5V DC GROUND NC DATA OUT
J22 IDE LED	1 2 3 4	+5V DC DATA OUT DATA OUT +5V DC
MS1 PS/2 MOUSE CONNECTOR	1 2 3 4	DATA DATA GROUND +5V DC

CHAPTER 3
SYSTEM BIOS SETUP

The chapter will explain how to set up the system configuration (CMOS Setup) under AWARD BIOS. The SETUP program is contained in the system's ROM rather than on a diskette.

3.1 Entering Setup

Power on the computer and press <Del> immediately in order to enter Setup. The other way to enter Setup is to restart the computer and press <Del> key or simultaneously press <Ctrl>and<Alt>keys when the following message appears at the bottom of the screen during POST (Power On Self Test):

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

If the message disappears before you respond and you still try to enter Setup, restart the computer to try again or press the RESET button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do'nt press the keys in time and the system does not boot, an error message will be displayed:

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR <DEL> TO ENTER SETUP

3.2 Control Keys

Keystroke	Function
Up	Move to previous item
Down	Move to next item
Left	Move to the item in the left hand
Right	Move to the item in the right hand
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
(Shift)F2	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F3	Reserved
F4	Reserved
F8	Reserved
F9	Reserved
F10	Save all the CMOS changes, only for Main Menu

3.3 Getting Help

- ***Main Menu***

The on-line description of the highlighted setup item is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

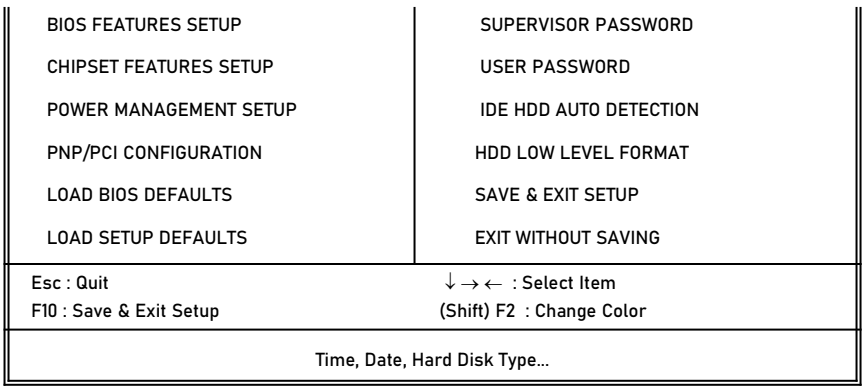
Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help window, press <F1> or <Esc>.

3.4 The Main Menu

Once you enter AWARD BIOS CMOS Setup Utility, the Main Menu will appear. The Main Menu allows you to select from ten setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

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

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS



- ***Standard CMOS Setup***

This category includes all the items in a standard BIOS.

- ***BIOS Features Setup***

This category includes all the items of Award special enhanced features.

- ***Chipset Features Setup***

This category includes all the items of chipset special features.

- ***Power Management Setup***

This_category determines how much power consumption for system is activated after selecting the related item. Default value is Disable.

- ***PNP/PCI Configuration Setup***

This category specifies the value (in units of PCI bus clocks) of the latency timer for this PCI bus master and the IRQ level for PCI device.

- ***Load BIOS Defaults***

BIOS defaults indicates the most appropriate value of the parameter which makes the system in minimum performance. The OEM manufacturer may change the defaults through MODBIN before the binary image is burned into ROM.

- ***Load Setup Defaults***

Chipset defaults indicates the values required by the system for maximum performance. The OEM manufacturer may change the defaults through MODBIN before the binary image is burned into ROM.

- ***User Password***

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

- ***IDE HDD Auto Detection***

Automatically configure hard disk parameters.

- ***Save & Exit Setup***

Save CMOS value changes to CMOS and exit setup.

- ***Exit Without Save***

Abandon all CMOS value changes and exit setup.

3.5 Standard CMOS Setup Menu

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and use the <PgUp>/<PgDn> key to select the value you want.

ROM PCI/ISA BIOS
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Tue, Sep 3 1996								
Time (hh:mm:ss) : 10:21:21								
HARD DISKS	TYPE	SIZE	CYLS	HEAD		PRECOMP	LANDE	SECTOR MODE
Primary Master :	Auto	0	0	0	0	0	0	AUTO
Primary Slave :	Auto	0	0	0	0	0	0	AUTO
Secondary Master :	Auto	0	0	0	0	0	0	AUTO
Secondary Slave :	Auto	0	0	0	0	0	0	AUTO

Drive A : 1.44M, 3.5 in.		
Drive B : None		
Floppy 3 Mode Support : Disabled	Base Memory	: 640K
	Extended Memory	: 15360K
Video : EGA/VGA	Other Memory	: 384K
Halt On : All Errors	Total Memory	: 16384K

ESC: Quit	↓→←: Select Item	PU / PD /+ /– : Modify
F1 : Help	(Shift)F2: Change Color	

- *Date*

The date format is <day>, <month> <date> <year>. Press <F3> to show the calendar.

DAY	The day of week, from Sun to Sat, determined by the BIOS, is read only
MONTH	The month, Jan through Dec
DATE	The date, from 1 to 31 (or the maximum allowed in the month), can key in the numerical / function key
YEAR	The year, depending on the year of BIOS

- *Time*

The time format is <hour>:<minute>:<second>, which accepts both function key and numerical key The time is calculated based on the 24-hour military-time format. For example, 1 p.m. is 13:00:00.

- *Drive C Type/Drive D Type*

The category identifies the type of hard disk drive C or drive D that has been installed in the computer. There are 45 predefined types and 2 user definable types are for Normal BIOS.. Type 1 to Type 45 are predefined. Type User is user-definable.

- *Primary Master/Primary Slave/Secondary Master/Secondary Slave*

The category identifies the types of 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type User is user-definable.

Press PgUp/<+> or PgDn/<–> to select a numbered hard disk type, or type the number and press <Enter>. Note that your drive must match the drive specification table. The hard disk will not work properly if you enter improper information. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is reguired for the following items. Enter the information directly. This information should be provided in the documentation of your hard disk vendor or the manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1".
If the controller of HDD interface is SCSI, the selection shall be "None".
If the controller of HDD interface is CD-ROM, the selection shall be "None".

CYLS.	Number of Cylinders
HEADS	Nnumber of Heads
PRECOMP	Write Precomp
LANDZONE	Landing Zone
SECTORS	Number of Sectors
MODE	HDD Access Mode

If a hard disk has not been installed, select NONE and press <Enter>.

- *Drive A Type/Drive B Type*

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

NONE	NO FLOPPY DRIVE INSTALLED
360K, 5-1/4 in.	5-1/4 inch PC-type standard drive; 360 kilobyte capacity
1.2M, 5-1/4 in.	5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity
720K, 3-1/2 in.	3-1/2 inch double-sided drive; 720 kilobyte capacity
1.44M, 3-1/2 in.	3-1/2 inch double-sided drive; 1.44 megabyte capacity
2.88M, 3-1/2 in.	3-1/2 inch double-sided drive; 2.88 megabyte capacity

- *Floppy 3 Mode Support*

Disabled	No 3 Mode floppy drive installed.
Drive A	Installed 3 mode drive at drive A.
Drive B	Installed 3 mode drive at drive B.
Both	Installed 3 mode drive at drive A and drive B.

- *Video*

The category selects the type of adapter used for the primary monitor that must match your video display card and monitor. Although secondary monitors are supported, you do not need to select the type in Setup.

You have two ways to boot up the system:

1. When VGA is primary and monochrome is secondary, select the video tape as "VGA Mode".
2. When monochrome is primary and VGA is secondary, select the video type as "Monochrome mode".

EGA/VGA	Enhanced Graphics Adapter/video Graphics Array. For EGA, VGA, SEGA, or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode
CGA 80	Color Graphics Adapter, power up in 80 column mode
MONO	Monochrome adapter, includes high resolution monochrome adapters

- *Error Halt*

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

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

- *Memory*

The category is for display only which is determined by BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The size of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

Extended Memory

The BIOS determines how much extended memory is present during POST. This is the amount of memory located above 1MB in the CPU's address map.

Other Memory

It refers to the memory located in the 640K to 1024K address space. This is the memory that can be used for different applications. DOS uses this area to load device drivers to keep as much base memory free as possible for application programs. Some of this area is Shadow RAM.

- *Total Memory*

System memory is the sum of base memory, extended memory, and other memory.

3.6 BIOS Features Setup Menu

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

Virus Warning	:	Disabled	Video BIOS	:	Enabled
CPU Internal Cache	:	Enabled	Shadow	:	Disabled
External Cache	:	Enabled	C8000-CBFFF	:	Disabled
Quick Power On Self Test	:	Disabled	Shadow	:	Disabled
Boot Sequence	:	A ,C	CC000-CFFFF	:	Disabled
Swap Floppy Drive	:	Disabled	Shadow	:	Disabled
Boot Up Floppy Seek	:	Enabled	D0000-D3FFF	:	Disabled
Boot Up NumLock Status	:	On	Shadow		
Boot Up System Speed	:	High	D4000-D7FFF		
Gate A20 Option	:	Fast	Shadow		
Typematic Rate Setting	:	Disabled	D8000-DBFFF		
Typematic Rate (Chars/Sec)	:	6	Shadow		
Typematic Delay (Msec)	:	250	DC000-DFFFF		
Security Option	:	Setup	Shadow		
PCI/VGA Palette Snoop	:	Disabled			
OS Select For DRAM > 64MB	:	Non-OS2			

ESC : Quit	↓ → ← : Select Item
F1 : Help	PU/PD/+/- : Modify
F5 : Old Values	(Shift) F2 : Color
F6 : Load BIOS Defaults	
F7 : Load Setup Defaults	

- *Virus Warning*

This category protects the boot sector and partition table of you hard disk. Any attempt to write to the boot sector or partition table of the hard disk will halt the system and the following warning message will appear. At this time, you can run an anti-virus program to solve the roblem.

! WARNING !
Disk boot sector is to be modified Type "Y" to accept write or "N" to abort write
Award Software, Inc.

ENABLED	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
DISABLED	No warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Note: This function is available only for DOS and other OSes that do not trap INT13.

- *CPU Internal Cache/External Cache*

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is Enable. If your CPU has no Internal Cache then this item "CPU Internal Cache" will not be show.

Enabled	Enable cache
Disabled	Disable cache

- *Quick Power On Self Test*

This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Enabled	Enable quick POST
Disabled	Normal POST

- *Boot Sequence*

This category determines which drive the computer first searches for an operating system. Default value is A, C.

A,C	System will first search for floppy disk drive then hard disk drive.
C,A	System will first search for hard disk drive then floppy disk drive.
C, CD-ROM, A	System will first search for hard disk drive, CD-ROM then floppy drive.
CD-ROM, C, A	System will first search for CD-ROM, hard disk drive then floppy disk drive.

Note: This function is only available for IDE type. As for SCSI type, the boot sequence starts from A.

- *Boot Up Floppy Seek*

During POST, BIOS will determine if the floppy disk drive installed has 40 or 80 tracks. 360K type is 40 tracks while 760K, 1.2M and 1.44M are all 80 tracks.

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

- *Boot Up NumLock Status*

The default value is On.

On	Keypad is number keys
Off	Keypad is arrow keys

- *Boot Up System Speed*

It selects the default system speed - the speed that the system will run at immediately after power up.

High	Set the speed to high
Low	Set the speed to low

- *IDE HDD Block Mode*

Enabled	Enable IDE HDD Block Mode. The BIOS will detect the block size of the HDD and send block command automatically.
Disabled	Disable IDE HDD Block Mode

- *Gate A20 Option*

Normal	The A20 signal is controlled by keyboard controller or chipset hardware.
Fast	Default : Fast. The A20 signal is controlled by Port 92 or chipset specific method.

- *Typematic Rate Setting*

This determines the typematic rate.

Enabled	Enable typematic rate and typematic delay programming
Disabled	Disable typematic rate and typematic delay programming. The system BIOS will use default value of this 2 items and the default is controlled by keyboard.

- *Typematic Rate (Chars/Sec)*

6	6 characters per second
8	8 characters per second
10	10 characters per second
12	12 characters per second
15	15 characters per second
20	20 characters per second
24	24 characters per second
30	30 characters per second

- *Typematic Delay (Msec)*

It controls the time between display of the first and second character.

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

- *Security Option*

This category allows you to limit access to the System and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note: To disable security, select PASSWORD SETTING from Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

- *System BIOS Shadow*

It determines whether system BIOS will be copied to RAM or the system BIOS is always shadow to support LBA HDD.

Enabled	System shadow is enabled
Disabled	System shadow is disabled

- *Video BIOS Shadow*

It determines whether video BIOS will be copied to RAM, however, it is optional from chipset design. Video Shadow will increase the video speed.

Enabled	Video shadow is enabled
Disabled	Video shadow is disabled

3.7 Chipset Features Setup

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

Auto Configuration	: Enabled	8 Bit I/O Recovery Time	: 1		
DRAM Speed Selection	: 70 ns	16 Bit I/O Recovery Time	: 1		
DRAM RAS# Precharge Time	: 4	Memory Hole At 15M-16M	: Disabled		
MA Additional Wait State	: Disabled	DRAM Fast Leadoff	: Disabled		
RAS# To CAS# Delay	: Enabled	Passive Release	: Enabled		
DRAM Read Burst (B/E/F)	: x2 / 3 / 4	Delayed Transaction	: Enabled		
DRAM Write Burst (B/E/F)	: x3 / 3 / 3				
ISA Bus Clock	: PCICLK/4				
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
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		

3.8 Power Management Setup

The Power Management Setup will appear on your screen like this:

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

Power Management	: Disable	** Power Down & Resume Events **		
PM Control by APM	: Yes	IRQ3	(COM2)	: ON
Video Off Method	: V/H SYNC+ Blank	IRQ4	(COM1)	: ON
MODEM Use IRQ	: 3	IRQ5	(LPT2)	: ON
		IRQ6	(Floppy Disk)	: ON
Doze Mode	: Disable	IRQ7	(LPT1)	: ON
Standby Mode	: Disable	IRQ8	(RTC Alarm)	: OFF
Suspend Mode	: Disable	IRQ9	(IRQ2 Redir)	: ON
HDD Power Down	: Disable	IRQ10	(Reserved)	: ON
		IRQ11	(Reserved)	: ON
** Wake Up Events In Doze & Standby **		IRQ12	(PS/2 Mouse)	: ON

IRQ3 (Wake-up Event)	: ON	IRQ13 (Coprocessor)	: ON
IRQ4 (Wake-up Event)	: ON	IRQ14 (Hard Disk)	: ON
IRQ8 (Wake-up Event)	: OFF	IRQ15 (Reserved)	: ON
IRQ12 (Wake-up Event)	: ON		
ESC	: Quit	↓→←	: Select
F1	: Help	PU / PD / + / -	: Modify
F5	: Old Values	(Shift)F2	: Color
F6	: Load BIOS Defaults		
F7	: Load Setup Defaults		

- *Power Management*

This category determines how much power consumption for system is activated after selecting the below items. Default value is Disable. The following will tell you the options of each item and describe the meaning of each option.

ITEM	OPTIONS	DESCRIPTION
A. Power Management	1. Disable	Global Power Management will be disabled
	2. Min Saving	Pre-defined timer values are used such that all timers MIN value
	3. Max Saving	Pre-defined timer values are used such that all timers are in their MAX value
	4. User Define	Users can configure their own power management
B. PM Control by APM	1. No	System BIOS will ignore APM when power managing the system
	2. Yes	System BIOS will wait for APM's prompt before it enter any PM mode e.g. DOZE, STANDBY or SUSPEND Note: If APM is installed, & if there is a task running, even the timer is time out, the APM will not prompt the BIOS to put the system into any power saving mode!

		Note: – if APM is no installed, this option has no effect
C. Video Off Method	1. Always On	System BIOS will never turn off the screen
	2. Suspend –> Off	Screen off when system is in SUSPEND mode
	3. Susp, Stby –> Off	Screen off when system is in STANDBY or SUSPEND mode
	4. All Modes –> Off	Screen off when system is in DOZE, STANDBY or SUSPEND mode Note: The M/B makers are recommended to fix this item to (2) or (3) and hide it by using MODBIN Utility

3.9 PNP/PCI Configuration Setup

You can manually configure the PCI Device's IRQ. The following will tell you the options of each item and describe the meaning of each option.

ROM PCI/ISA BIOS
PNP/PCI CONFIGURATION SETUP
AWARD SOFTWARE, INC.

Resources Controlled By	: Manual	PCI IRQ Actived BY	: Level
Reset Configuration Data	: Disabled	PCI IDE IRQ Map To	: PCI-AUTO
		Primary IDE INT#	: A
IRQ-3 assigned to	: Legacy ISA	Secondary IDE INT#	: B
IRQ-4 assigned to	: Legacy ISA		
IRQ-5 assigned to	: PCI/ISA PnP	Used MEM base addr	: N/A
IRQ-7 assigned to	: Legacy ISA	Used MEM Length	: 8k
IRQ-9 assigned to	: PCI/ISA PnP		
IRQ-10 assigned to	: PCI/ISA PnP		

IRQ-11	assigned to	: PCI/ISA PnP				
IRQ-12	assigned to	: PCI/ISA PnP				
IRQ-14	assigned to	: PCI/ISA PnP				
IRQ-15	assigned to	: PCI/ISA PnP				
DMA-0	assigned to	: PCI/ISA PnP				
DMA-1	assigned to	: PCI/ISA PnP	ESC	: Quit	↓→←	: Select Item
DMA-3	assigned to	: PCI/ISA PnP	F1	: Help	PU/PD/+/-	: Modify
DMA-5	assigned to	: PCI/ISA PnP	F5	: Old Values	(Shift)F2	: Color
DMA-6	assigned to	: PCI/ISA PnP	F6	: Load BIOS Defaults		
DMA-7	assigned to	: PCI/ISA PnP	F7	: Load Setup Defaults		

3.10 Integrated Peripherals

ROM PCI/ISA BIOS
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block MODE	: Enabled	USB Controller	: Disabled
IDE Primary Master PIO	: Auto		
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
PCI Slot IDE 2nd	: Enabled		

Channel					
Onboard FDD Controller	: Enabled				
Onboard Serial Port 1	: Auto				
Onboard Serial Port 2	: Auto				
Onboard Parallel Port	: 378H				
Onboard Parallel Mode	: Normal				
		ESC	: Quit	↓→←	: Select
		F1	: Help	PU/PD/+/-	: Modify
		F5	: Old Values	(Shift)F2	: Color
		F6	: Load BIOS Defaults		
		F7	: Load Setup Defaults		

3.11 Password Setting

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

STANDARD CMOS SETUP		INTEGRATED PERIPHERALS	
BIOS FEATURES SETUP		SUPERVISOR PASSWORD	
CHIPSET FEATURES SETUP		USER PASSWORD	
POWER MANAGEMENT SETUP		IDE HDD AUTO DETECTION	
PNP/PCI CONFIRURATION		HDD LOW LEVEL FORMAT	
LOAD BIOS DEFAULT	Enter Password:		T SETUP
LOAD SETUP DEFAULTS		EXIT WITHOUT SAVING	
Esc : Quit		↓→← : Select Item	
F10 : Save & Exit Setup		(Shift)F2 : Change Color	

Change /set /Disable Password

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters, and press <Enter>. The password typed now will overwrite any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the operation and enter no password.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, you can enter Setup freely.

PASSWORD DISABLED.

If you select System at Security Option of BIOS Features Setup Menu, you will be prompted for the password entry when the system is rebooted or you try to enter Setup. If you select Setup at Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

3.12 IDE HDD Auto Detection

The Enhanced IDE features are included in all Award BIOS. Below is a brief description of the features. If your computer has an IDE hard disk, you can use this ability to detect its parameters and enter them into the Standard CMOS Setup automatically.

- BIOS setup will display all possible modes that supported by the HDD including NORMAL, LBA & LARGE.
- If HDD does not support LBA modes, no 'LBA'option will be shown.
- If no of cylinders is less than or equal to 1024, no 'LARGE' option will be show.
- Users can select a mode which is appropriate for them.

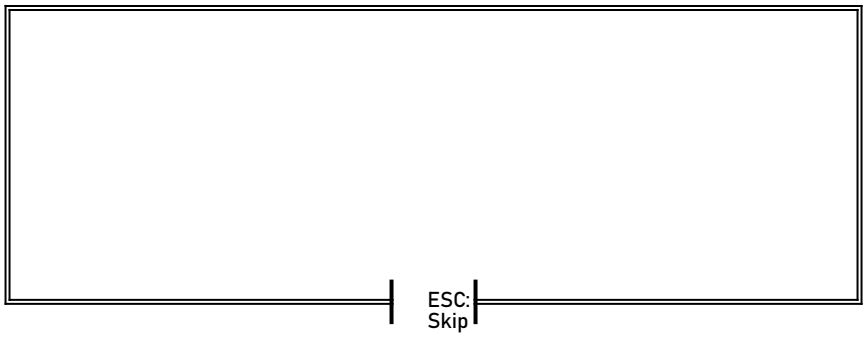
ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :								
Primary Slave :								

Select Primary Slave Option (N = Skip) : N

OPTIONS	SIZE	CYLS	HEADS	PRECOMP	LANDZ	SECTOR	MODE
1(Y)	516	1120	16	65535	1119	59	NORMAL
2	516	524	32	0	1119	63	LBA
3	516	560	32	65535	1119	59	LARGE

Note: Some OSes (like SCO-UNIX) must use "NORMAL " for installation


ESC:
Skip