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REVISION:D

EXP8661

TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION	1
1.1 OVERVIEW	1
1.2 SYSTEM FEATURES.....	1
1.3 SYSTEM SPECIFICATION	2
1.4 SYSTEM PERFORMANCE.....	2
1.5 EXP8661 BOARD LAYOUT	3
CHAPTER 2 INSTALLATION.....	4
2.1 DRAM INSTALLATION	4
2.2 SRAM INSTALLATION.....	6
2.3 CPU TYPE JUMPER SETTING	7
2.4 CPU I/O & CPU CORE VOLTAGE SELECT.....	8
2.5 FLASH ROM INSTALLATION.....	9
2.6 EPP MODE SETTING	10
2.7 OTHER JUMPER & CONNECTOR INSTALLATION..	11
CHAPTER 3 SYSTEM BIOS SETUP.....	14
3.1 SYSTEM SETUP	16
3.2 SECURITY SETUP	22
3.3 DEFAULT SETUP	25

CHAPTER 4 SYSTEM AWARD BIOS SETUP29

4.1	ENTERING SETUP	29
4.2	CONTROL KEYS	29
4.3	GETTING HELP	30
4.4	THE MAIN MENU	30
4.5	STANDARD CMOS SETUP MENU	32
4.6	BIOS FEATURES SETUP	35
4.7	CHIPSET FEATURES SETUP	38
4.8	POWER MANAGEMENT	39
4.9	PNP/PCI CONFIGURATION SETUP	41
4.10	INTEGRATED PERIPHERALS	42
4.11	PASSWORD SETTING	43
4.12	IDE HDD AUTO DETECTION	44

RMA FORM

CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

The *EXP8661* motherboard is complemented by a maximum 512K L2 Write-Back cache, providing workstation level computing performance. SIMM and DIMM sockets support up to 128MB of DRAM.

The *EXP8661* motherboard offers the outstanding I/O capabilities. Three PCI Local Bus slots provide a high bandwidth data path for data-movement intensive functions such as graphics. Four ISA slots complete the I/O mix.

The *EXP8661* motherboard provides the foundation for cost effective, high performance, and highly expandable platforms which deliver the latest CPU and I/O technologies.

1.2 SYSTEM FEATURES

The *EXP8661* motherboard supports the following features:

- INTEL PENTIUM 75/90/100/120/133/150/166/200 MHz CPU,
CYRIX 6x86-120⁺(100MHz)/ 6x86-133⁺(110MHz)/6x86-150⁺(120MHz)/6x86-166⁺(133MHz)
AMD 5_k86-P75/5_k86-P90/5_k86-P100/K5-PR120(90MHz)/K5-PR133(100MHz)/K5-PR166 CPU
- 3 MASTER 32-bit PCI Bus
- L1/L2 Write Back/Write Through Cache
- 256KB/512KB cache size
- 72-pin SIMM Modules and 168-pin DIMM Module
- 2 Serial/1 Parallel/1 FDC on board
- 2-CHANNEL PCI IDE on board
- MESI (Modified Exclusive Shared Invalid) protocol to maintain the data coherence for L2 Cache to optimize CPU bus.

1.3 SYSTEM SPECIFICATIONS

Processor: INTEL PENTIUM 75/90/100/120/133/150/166/200 MHz CPU
CYRIX 6x86-120⁺(100MHz)/6x86-133⁺(110MHz)/6x86-150⁺(120MHz)/ 6x86-166⁺(133MHz) CPU;
AMD 5_k86-P75/
5_k86-P90/5_k86-P100/K5-PR120/K5-PR133/K5-PR166 CPU
CPU Clock Speed: 50/55/60/66 MHz
Memory: 8MB to 128MB
SRAM: 256K/512K
BIOS type: AMI/AWARD BIOS
Additional BIOS Feature: Set Program Resides in ROM
Slot type: Four 16-bit ISA Bus
Three 32-bit PCI Bus
Dimension: 28x22 cm

Additional Features

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

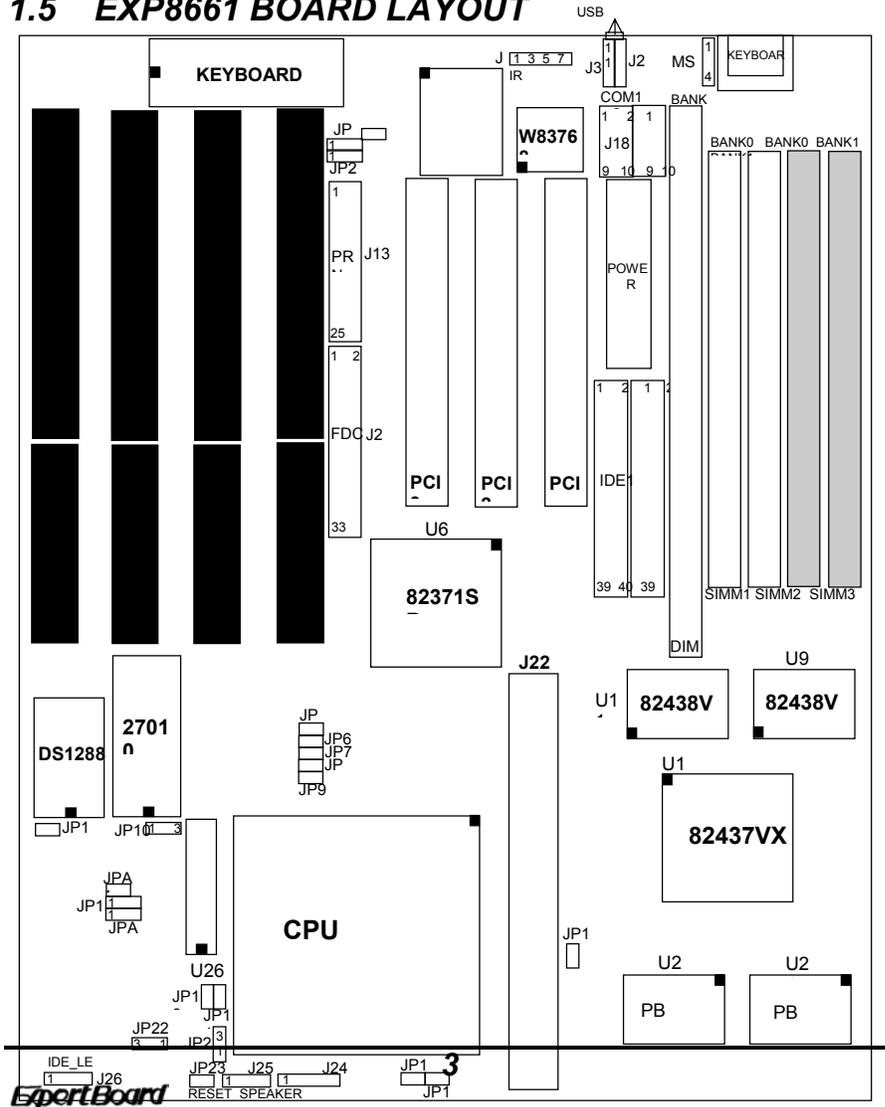
1.4 SYSTEM PERFORMANCE

SOFTWARE CPU TYPE	LANDMARK V2.0	POWER METER V1.8 MIPS	NORTON V8.0 CPU SPEED
PENTIUM 75	433.85 MHz	36.9 MIPS	238.2
PENTIUM 90	526.85 MHz	45.1 MIPS	289.2
PENTIUM 100	578.51 MHz	49.9 MIPS	317.6
PENTIUM 120	702.43 MHz	61.8 MIPS	385.6
PENTIUM 133	771.33 MHz	67.7 MIPS	423.5
PENTIUM 150	878.06 MHz	76.9 MIPS	482.1
PENTIUM 166	964.19 MHz	83.6 MIPS	529.3
PENTIUM 200	1157.04 MHz	94.8 MIPS	635.2
CYRIX 6x86-120 ⁺ (100MHZ)	1209.95 MHz	67.7 MIPS	680.3
CYRIX 6x86-133 ⁺ (110MHZ)	1353.98 MHz	74.8 MIPS	761.2
CYRIX 6x86-150 ⁺ (120MHZ)	1469.25 MHz	81.3 MIPS	826
CYRIX 6x86-166 ⁺ (133MHZ)	1613.31 MHz	84.3 MIPS	907
AMD 5 _k 86-P75	673.26 MHz	39.0 MIPS	297.7
AMD 5 _k 86-P90	817.55 MHz	47.4 MIPS	361.5
AMD 5 _k 86-P100	897.68 MHz	53.7 MIPS	397

EXP8661 User's Manual

AMD K5-PR120 (90MHz)	817.54 MHz	59.2 MIPS	394.3
AMD K5-PR133 (100MHz)	897.72 MHz	64.6 MIPS	433
AMD K5-PR166	1047.35 MHz	76.9 MIPS	505.1

1.5 EXP8661 BOARD LAYOUT



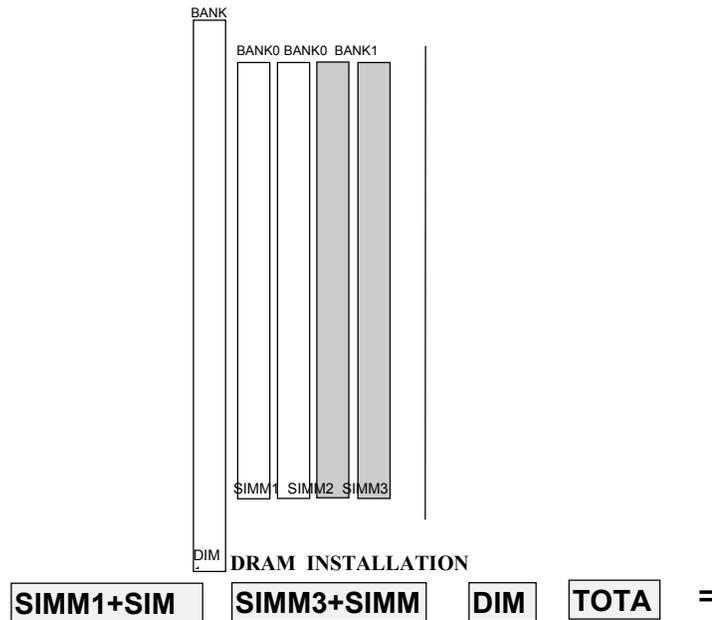
CHAPTER 2 INSTALLATION

Before the system is ready to operate, the hardware must be set up for various functions of the system. To set up the *EXP8661* motherboard is a simple task. The user only has to set a few jumpers, connectors and sockets.

2.1 DRAM INSTALLATION

The *EXP8661* motherboard can support expanded memory from 2MB to 128MB.

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



EXP8661 User's Manual

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 1 (SIMM)

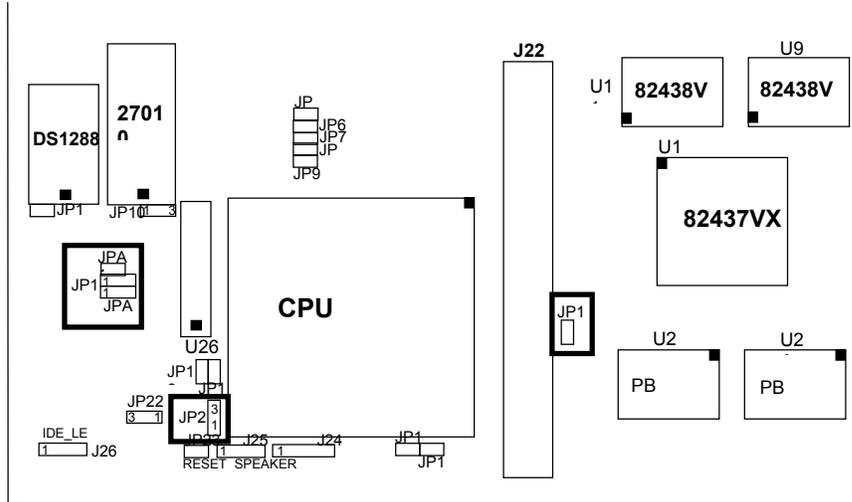
BANK 0		BANK 1		TOTAL MEMORY
SIMM1	SIMM2	SIMM3	SIMM4	
4MB	4MB	None	None	8MB
4MB	4MB	4MB	4MB	16MB
8MB	8MB	None	None	16MB
4MB	4MB	8MB	8MB	24MB
8MB	8MB	4MB	4MB	24MB
8MB	8MB	8MB	8MB	32MB
16MB	16MB	None	None	32MB
4MB	4MB	16MB	16MB	40MB
16MB	16MB	4MB	4MB	40MB
8MB	8MB	16MB	16MB	48MB
16MB	16MB	8MB	8MB	48MB
16MB	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

■ TABLE 2 (DIMM)

DIM1 (BANK0)	TOTAL MEMORY
8MB	8MB
16MB	16MB

Note :DIMM and SIMM can't install together.

2.2 SRAM INSTALLATION

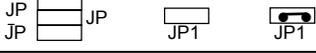
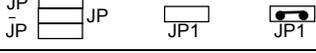


CACHE SIZE CONFIGURATION

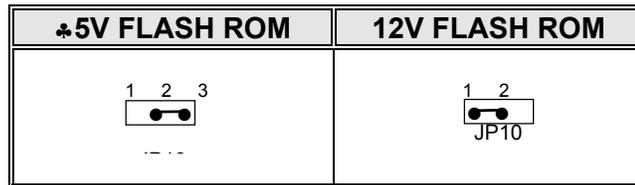
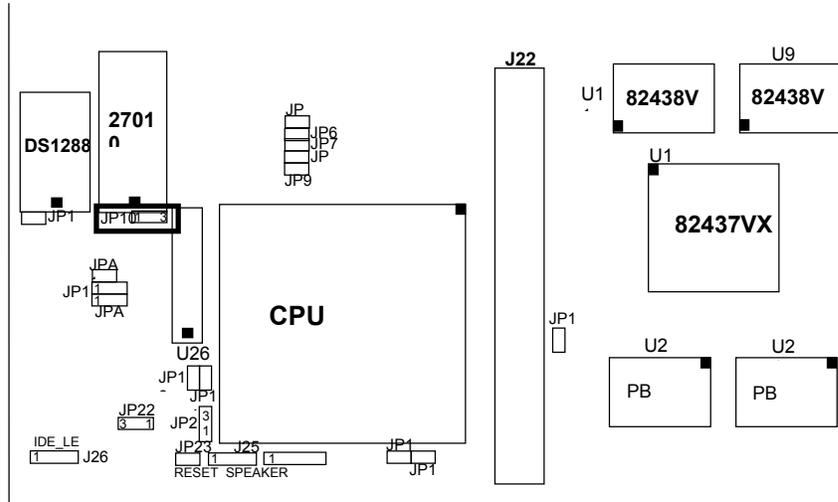
NON CACHE		* 256K	
		TAG RAM	DATA RAM
		U26 8KX8, 16KX8, 32KX8	U24, U25 32KX32
512K		512K (on Board)	
TAG RAM	DATA RAM	TAG RAM	DATA RAM
U26 16KX8, 32KX8	U24, U25, J22 32KX32	U26 16KX8, 32KX8	U24, U25 64KX32

* Default setting

2.3 CPU TYPE JUMPER SETTING

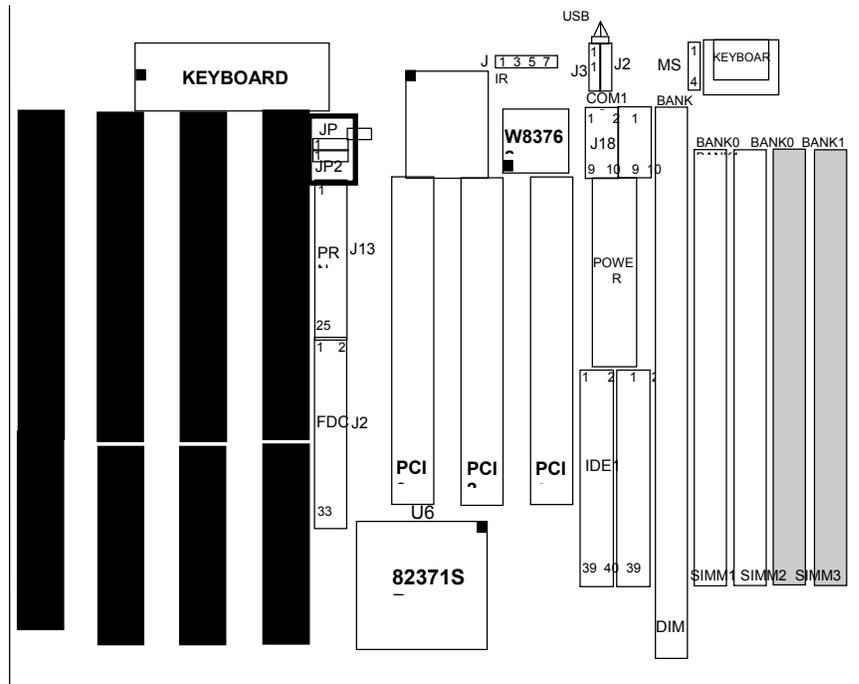
CPU TYPE	JUMPER SETTING
AMD 5 _K 86-P75/PENTIUM 75MHz	
AMD 5 _K 86-P90/AMD K5-PR120/ PENTIUM 90MHz	
AMD 5 _K 86-P100/AMD K5-PR133/ PENTIUM 100MHz	
INTEL PENTIUM 120MHz	
INTEL PENTIUM 133MHz	
INTEL PENTIUM 150MHz	
AMD K5-PR166/PENTIUM 166MHz	
INTEL PENTIUM 200MHz	
CYRIX 6x86-120 ⁺ (100MHz)	
CYRIX 6x86-133 ⁺ (110MHz)	
CYRIX 6x86-150 ⁺ (120MHz)	
CYRIX 6x86-166 ⁺ (133MHz)	

2.5 FLASH ROM INSTALLATION



* Default Setting

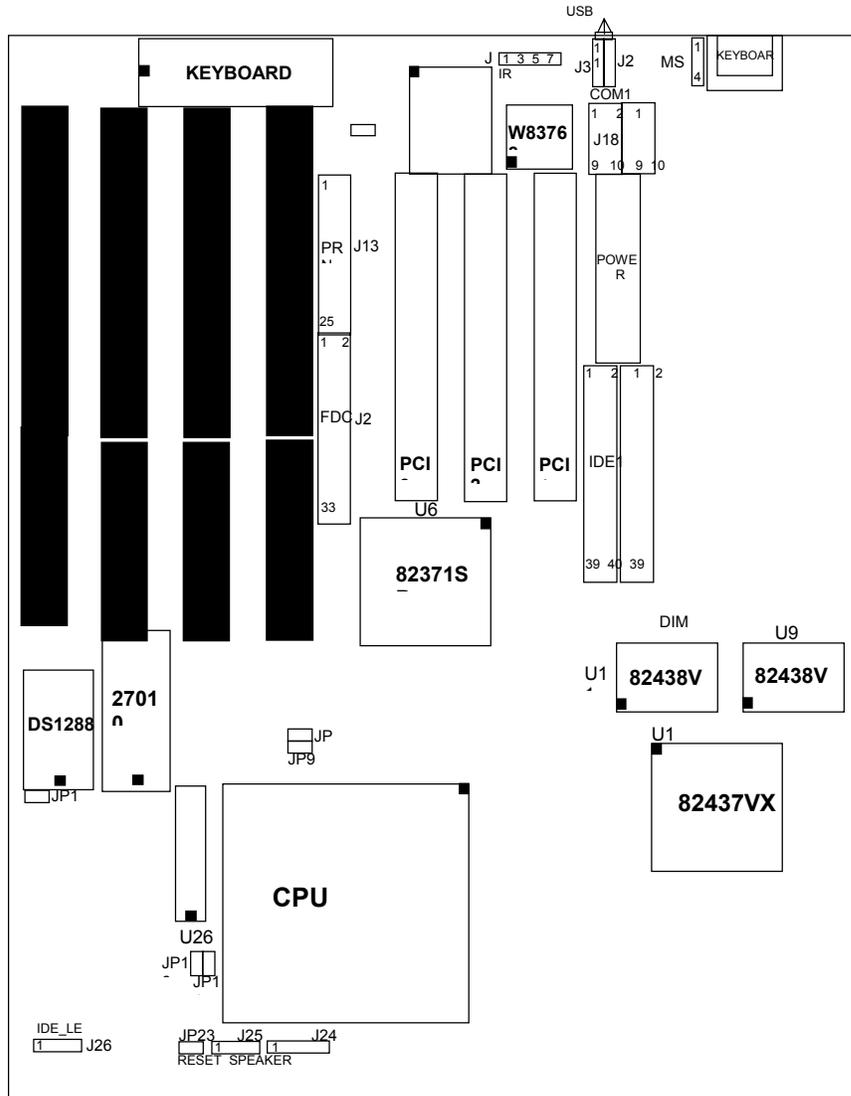
2.6 EPP MODE SETTING



DMA CHANNEL CONFIGURATION (FOR EPP DEVICE)

DMA1	DMA3

2.7 OTHER JUMPER & CONNECTOR INSTALLATION



OTHER JUMPER DESCRIPTION

JUMPER	DESCRIPTION	
JP4	<input type="checkbox"/> FOR PARALLEL PORT EPP MODE	<input checked="" type="checkbox"/> FOR STANDARD PARALLEL PORT ♣
JP8	<input type="checkbox"/> AT BUS CLOCK EQUAL PCICLK/3 (FOR FREQUENCY 50MHZ)	<input checked="" type="checkbox"/> AT BUS CLOCK PCICLK/4 ♣ (FOR FREQUENCY 60, 66MHZ)
JP9	<input type="checkbox"/> NORMAL MODE	<input checked="" type="checkbox"/> SMI MODE
JP12	<input type="checkbox"/> NORMAL	<input checked="" type="checkbox"/> CLEAR CMOS

♣ Default Setting

CONNECTOR DESCRIPTION

CONNECTOR	PIN OUT	SIGNAL NAME
J1 IR CONNECTOR	1	VCC
	2	NC
	3	IRRX
	4	GROUND
	5	IRTX
J2, J3 USB CONNECTOR	1	+5V DC
	2	DATA OUT
	3	DATA OUT
	4	GROUND
JP23 RESET	1	GROUND
	2	RESET IN
J24 KEYLOCK CONNECTOR	1	VCC
	2	NC
	3	GROUND
	4	KEYBOARD INHIBITOR
	5	GROUND
J25 SPEAKER CONNECTOR	1	DATA LINE
	2	NC
	3	GROUND
	4	+5V DC
J26 IDE_LED	1	+5V DC
	2	DATA OUT
	3	DATA OUT
	4	+5V DC
MS1 PS/2 MOUSE CONNECTOR	1	DATA
	2	DATA
	3	GROUND
	4	VCC

⚠ JP9: EXTERNAL POWER SAVING CONNECTOR.

CHAPTER 3

SYSTEM AMI BIOS SETUP

WinBIOS Setup can be accessed via keyboard, mouse, or pen. The mouse click functions are:

- single click change or select both global and current fields and
- double click to perform an operation in the selected field.

Using the keyboard with WinBIOS Setup

WinBIOS Setup has a built-in keyboard driver that uses simple keystroke combinations:

KEYSTROKE	FUNCTION
<Tab>	Move to the next window or field.
→,←,↑,↓	Move to the next field to the right, left, above, or below.
<Enter>	Select in the current field.
+	Increments a value.
-	Decrements a value.
<Esc>	Closes the current operation and return to previous level.
<PgUp>	Returns to the previous page.
<PgDn>	Advances to the next page.
<Home>	Returns to the beginning of the text.
<End>	Advances to the end of the text.
<Alt>, <H>	Access a help window.
<Alt>, <Spacebar>	Exit WinBIOS Setup.
Alphabetic keys	A to Z are used in the Virtual Keyboard, and are not case sensitive.

EXP8661 User's Manual

Numeric Keys	0 to 9 are used in the Virtual Keyboard and Numeric Keypad.
--------------	---

The hardware features and options of the *EXP8661* are on-site selectable for maximum flexibility. You will need to configure these options through the built-in Setup Utility prior to using *EXP8661* for the first time. This setup Utility is a multi-screen, menu driven program and is contained within the BIOS EPROM.

EXP8661 User's Manual

The following sections show the procedures that you may need to configure the *EXP8661*:

1. Presswhile turning on or rebooting the system to invoke Setup Utility program.
2. The main menu will be shown as follows:

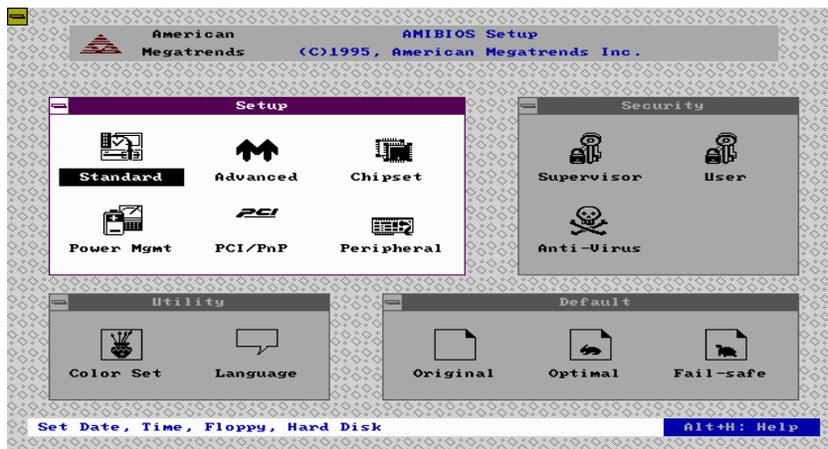


Figure 1

3. The functions are grouped into four categories which are Setup, Utility, Security and Default.
4. By using <TAB>key or mouse cursor to select the function group.
5. Use arrow keys or mouse to select the function icon within the group. Then press <Enter>key to invoke the setup function.
6. Use<Esc>key to go back to the previous screen.

3.1 SYSTEM SETUP

3.1.1 Advanced Setup

Optimal Setting

You can load the optimal default settings for the WINBIOS by pressing the "END" key upon power-up. The Optimal default settings are best-case values that should optimize system performance. The Optimal settings will automatically detect and load the parameter of hard disk type.

Advanced Setup

Advanced Setup options are displayed by choosing the Advanced icon from the WINBIOS Setup main menu. All Advanced Setup options are described in this section.

Quick Boot

Set this option to *Enabled* to instruct AMIBIOS to boot quickly when the computer is powered on. This option replaces the old **Above 1 MB Memory Test** Advanced Setup option. The settings are:

Setting	Description
Disabled	AMIBIOS test all system memory. AMIBIOS waits up to 40 seconds for a READY signal from the IDE hard disk drive. AMIBIOS waits for .5 seconds after sending a RESET signal to the IDE drive to allow the IDE drive time to get ready again. AMIBIOS checks for a key press and runs WINBIOS Setup if the key has been pressed.
Enabled	AMIBIOS does not test system memory above 1 MB. AMIBIOS does not wait up to 40 seconds for a READY signal from the IDE hard disk drive. If a READY signal is not received immediately from the IDE drive, AMIBIOS does not configure that drive. AMIBIOS does not wait for .5 seconds after sending a RESET signal to the IDE drive to allow the IDE drive time to get ready again. You cannot run WINBIOS Setup at system boot, because there is no delay for the <i>Hit to run Setup</i> message.

The Optimal and Fail-Safe default settings are *Enabled*.

OS/2 Compatible Mode

Set this option to *Enabled* to permit AMIBIOS to run with IBM OS/2. The settings are *Enabled* or *Disabled*. The default settings are *Disabled*.

System BIOS Cacheable

When this option is set to *Enabled*, the contents of the F0000h system memory segment can be read from or written to L2 secondary cache memory. The contents of the F0000h memory segment are always copied from the BIOS ROM to system RAM for faster execution.

The settings are *Enabled* or *Disabled*. The Optimal default setting is *Enabled*. The Fail-Safe default setting is *Disabled*.

3.1.2 Power Management Setup

Power Management Setup options are displayed by choosing the Power Mgmt icon from the WINBIOS Setup main menu. All Power Management Setup options are described in this section.

Power Management/APM

Set this option to *Enabled* to enable the power management and APM (Advanced Power Management) features. The settings are *Enabled* or *Disabled*. The default settings are *Disabled*.

Instant On Timeout

Set this option to *Enabled* to allow the computer to go to full power on mode when leaving a power-conserving state. *This option is only available if supported by the computer hardware.* AMIBIOS uses the RTC Alarm function to wake the computer at a prespecified time. The settings are *Enabled* or *Disabled*. The default settings are *Disabled*.

Green PC Monitor Power State

This option specifies the power management state that the Green PC-compliant video monitor enters after the specified period of display

inactivity has expired. The settings are *Disabled*, *Off*, *Standby*, or *Suspend*. The default settings are *Disabled*.

Video Power Down Mode

This option specifies the power management state that the video subsystem enters after the specified period of display inactivity has expired. The settings are *Disabled*, *Standby*, or *Suspend*. The default settings are *Disabled*.

Hard Disk Power Down Mode

This option specifies the power management state that the hard disk drive enters after the specified period of display inactivity has expired. The settings are *Disabled*, *Standby*, or *Suspend*. The default settings are *Disabled*.

Hard Disk Time out (Min)

This option specifies the length of a period of hard disk inactivity. When this period expires, the hard disk drive enters the power-conserving mode specified in the **Hard Disk Power Down Mode** option described on the previous page. The settings are *Disabled*, *1 Min (minutes)*, and all one minute intervals up to and including *15 Min*. The default settings are *Disabled*.

Standby Time out

This option specifies the length of the period of system inactivity when the computer is in Full-On mode before the computer is placed in Standby mode. In Standby mode, some power use is curtailed. The settings are *Disabled*, *1 Min*, *2 Min*, and all one minute intervals up to and including *15 Min*. The default settings are *Disabled*.

Suspend Time out

This option specifies the length of the period of system inactivity when the computer is already in Standby mode before the computer is placed in Suspend mode. In Suspend mode, nearly all power use is curtailed. The settings are *Disabled*, *1 Min*, *2 Min*, and all one minute intervals up to and including *15 Min*. The default settings are *Disabled*.

Slow Clock Ratio

This option specifies the speed at which the system clock runs in power saving modes. The settings are expressed as a ratio between the normal clock speed and the power down clock speed. The settings are *1:1*, *1:2* (half as fast as normal), *1:4* (the normal clock speed), *1:8*, *1:16*, *1:32*, *1:64*, or *1:128*. The default setting is *1:1*.

Display Activity

This option specifies if AMIBIOS is to monitor activity on the display monitor for power conservation purposes. When this options set to *Monitor* and there is no display activity for the length of time specified in the value in **the Full-On to Standby Timeout (Min)** option, the computer enters a power saving state. The settings are *Monitor* or *Ignore*. The default settings are *Ignore*.

IRQ XX

These options enable event monitoring. When the computer is in a power saving mode, activity on the named interrupt request line is monitored by AMIBIOS. When any activity occurs, the computer enters Full On mode. Each of these options can be set to *Monitor* or *Ignore*. The default setting for all options is *Ignore*.

3.1.3 PCI/PnP Setup

PCI/PnP Setup options are displayed by choosing the PCI/PnP Setup icon from the WINBIOS Setup main menu. All PCI/PnP Setup options are described in this section

Plug and Play Aware O/S

Set this option to *Yes* if the operating system installed in the computer is Plug and Play-aware. AMIBIOS only detects and enables PnP ISA adapter cards that are required for system boot. The Windows 95 operating system detects and enables all other PnP-aware adapter cards. Windows 95 is

PnP-aware. Set this option to *No* if the operating system (such as DOS, OS/2, Windows 3.x) does not use PnP. *You must set this option correctly or PnP-aware adapter cards installed in your computer will not be configured properly.* The settings are *No* or *Yes*. The Optimal and Fail-Safe default settings are *No*.

PCI Burst Mode

Set this option to *Enabled* to enable PCI burst mode. The settings are *Disabled* or *Enabled*. The Optimal default setting is *Enabled*. The Fail-Safe default setting is *Disabled*.

PCI Latency Timer (PCI Clocks)

This option sets latency of all PCI devices on the PCI bus. The settings are in units equal to PCI clocks. The settings are *32, 64, 96, 128, 160, 192, 224,* or *248*. The Optimal and Fail-Safe default settings are *64*.

PCI VGA Palette Snoop

This option must be set to *Enabled* if any ISA adapter card installed in the computer requires VGA palette snooping. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

PCI IDE BusMaster

Set this option to *Enabled* to specify that the IDE controller on the PCI local bus has bus mastering capability. The settings are *Disabled* or *Enabled*. The Optimal and Fail-Safe default settings are *Disabled*.

Offboard PCI IDE Card

This option specifies if an offboard PCI IDE controller adapter card is used in the computer. You must also specify the PCI expansion slot on the motherboard where the offboard PCI IDE controller card is installed. If an offboard PCI IDE controller is used, the onboard IDE controller on the motherboard is automatically disabled. The settings are *Disabled, Auto, Slot1, Slot2, Slot3,* or *Slot4*.

If *Auto* is selected, AMIBIOS automatically determines the correct setting for this option. The Optimal and Fail-Safe default settings are *Auto*.

In the AMIBIOS for the Intel Triton chipset, this option forces IRQ 14 and 15 to a PCI slot on the PCI local bus. This is necessary to support non-compliant PCI IDE adapter cards.

Offboard PCI IDE Primary IRQ

This option specifies the PCI interrupt used by the primary IDE channel on the offboard PCI IDE controller. The settings are *Disabled*, *INTA*, *INTB*, *INTC*, or *INTD*. The Optimal and Fail-Safe default settings are *Disabled*.

Offboard PCI IDE Secondary IRQ

This option specifies the PCI interrupt used by the secondary IDE channel on the offboard PCI IDE controller. The settings are *Disabled*, *INTA*, *INTB*, *INTC*, or *INTD*. The Optimal and Fail-Safe default settings are *Disabled*.

PCI/PnP Setup

These options specify the bus that the named interrupt request lines (IRQs) are used on. These options allow you to specify IRQs for use by legacy ISA adapter cards.

These options determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to BIOS configurable devices. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these PCI/PnP Setup options to remove the IRQ by assigning the option to the *ISA/EISA* setting. Onboard I/O is configurable by AMIBIOS. The IRQs used by onboard I/O are configured as *PCI/PnP*.

The settings are *PCI/PnP* or *ISA/EISA*. The Optimal and Fail-Safe default settings are *PCI/PnP*.

Reserved Memory Size

This option specifies the size of the memory area reserved for legacy ISA adapter cards.

The settings are *Disabled*, *16K*, *32K*, or *64K*. The Optimal and Fail-Safe default settings are *Disabled*.

Reserved Memory Address

This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards.

EXP8661 User's Manual

The settings are *C0000*, *C4000*, *C8000*, *CC000*, *D0000*, *D4000*, *D8000*, or *DC000*. The Optimal and Fail-Safe default settings are *C0000*.

3.2 Security Setup

WinBIOS Setup has an optional password feature. The system can be configured so that all users must enter a password every time the system boots or when WinBIOS Setup is executed. The following screen appears when you select the password icon.

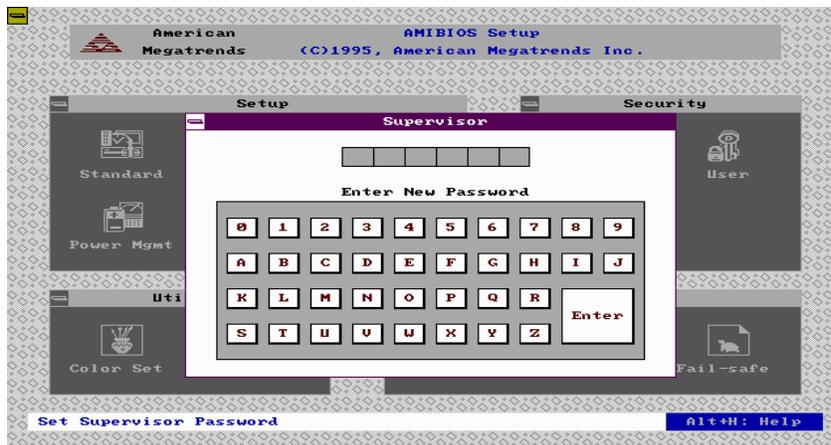


Figure 2

You can enter a password by:

- typing the password on the keyboard,
- selecting each letter via the mouse, or
- selecting each letter via the pen stylus.

Pen access must be customized for each specific hardware platform.

The password check option is enabled in Advanced Setup by choosing either Always (the password prompt appears every time the system is powered on) or Setup (the password prompt appears only when WinBIOS Setup is run). The password is stored in CMOS RAM
CMOS RAM. The system asks for a password.

Enter a 1-6 character password. The password does not appear on the screen when typed. WinBIOS will ask you to retype the password. Make sure you write it down. If you forget it, you must drain CMOS RAM and reconfigure the system. WinBIOS will then display the following:



Figure 3

Select the Password icon from the Security section of the WinBIOS Setup main menu. Enter the password and press <Enter>. The screen does not display the characters entered. After the new password is entered, retype the new password as prompted and press<Enter>.

If the password confirmation is incorrect, an error message appears. If the new password is entered without error, press<Esc>to return to the WinBIOS Setup Main Menu. The password is stored in CMOS RAM after WinBIOS Setup completes. The next time the system boots, you are prompted for the password if the password function is present and is enabled.

Remember the Password

Keep a record of the new password when the password is changed. If you forget the password and you computer has an American

EXP8661 User's Manual

Megatrends motherboard, remove the computer cover, set switch 1-2 (the DIAG switch) to ON, power on the computer. WinBIOS erases the password.

When this icon is selected from the Security section of the WinBIOS Setup main menu, WinBIOS issues a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. The following screen appears when you select the Anti-Virus icon:

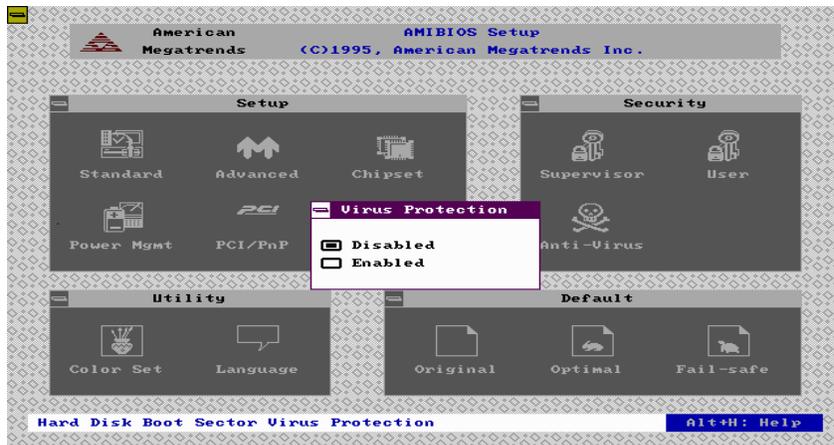


Figure 4

The setting are Enabled or Disabled. If enabled, the following appears when a write is attempted to the boot sector. You may have to type N several times to prevent the boot sector write.

3.3 Default Setup

The icons in this section permit you to select a group of settings for all WinBIOS Setup options. Not only can you use these icons to quickly set system configuration parameters, you can choose a group of settings that have a better chance of working when the system is having configuration-related problems.

Original

Choose the Original icon to return to the system configuration values present in WinBIOS Setup when you first began this WinBIOS Setup session.

Optimal

You can load the optimal default settings for the WinBIOS Setup options by selecting the Optimal icon. The Optimal default settings are best-case values that should optimize system performance. If CMOS RAM is corrupted, the Optimal settings are loaded automatically.

Fail-Safe

You can load the Fail-Safe WinBIOS Setup option settings by selecting the Fail-Safe icon from the Default section of the WinBIOS Setup main menu.

EXP8661 User's Manual

The Fail-Safe settings provide far from optimal system performance, but are the most stable settings. Use this option as a diagnostic aid if the system is behaving erratically.



Figure 5

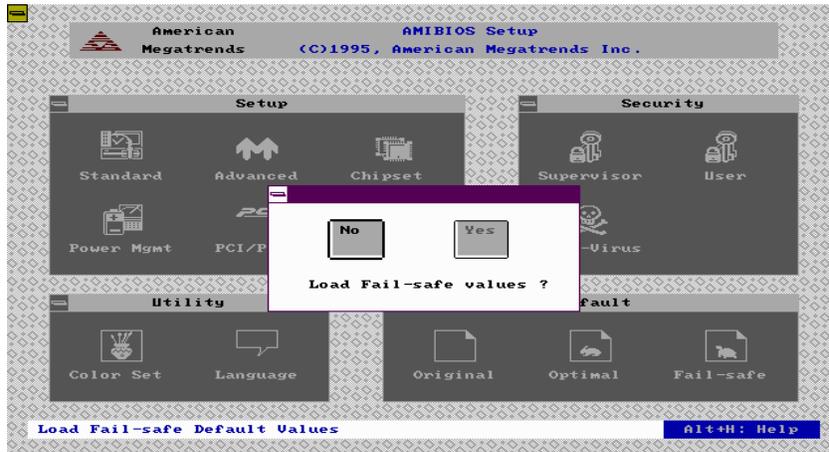


Figure 6

WINBIOS BEEP CODES

BEEPS	ERROR MESSAGE	DESCRIPTION
1	Refresh Failure	The memory refresh circuitry is faulty.
2	Parity Error	Parity error in the base memory (the first 64 KB block) of memory.
3	Base 64 KB Memory Failure	Memory failure in first 64 KB.
4	Timer Not Operational	A memory failure in the first 64 KB of memory, or Timer 1 is not functioning.
5	Processor Error	The CPU generated an error.
6	8042-Gate A20 Failure	Cannot switch to protected mode.
7	Processor Exception Interrupt Error	The CPU on the CPU Card generated an exception interrupt.
8	Display Memory Read/Write Error	The system video adapter is either missing or its memory is faulty. This is not a fatal error.
9	ROM Checksum Error	The ROM checksum value does not match the value encoded in WinBIOS.
10	CMOS Shutdown Register Read/Write Error	The shutdown register for CMOS RAM has failed.
11	Cache Memory Bad Do Not Enable Cache	The cache memory test failed. Cache memory is disabled. Do not press<Ctrl><Alt><Shift><+>to enable cache memory.

What to Do If the Computer Beeps

Here is what you need to do if your computer has a WinBIOS and it starts beeping:

IF THE SYSTEM BEEPS.....	THEM...
1, 2, or 3 times...	Reseat the memory SIMMs or DIPs. If the system still beeps, replace the memory.
6 times...	Reseat the keyboard controller chip. If it still beeps, replace the keyboard controller. If it still beeps, try a different keyboard, or replace the keyboard fuse, if the keyboard has one.
8 times...	There is a memory error on the video adapter. Replace the video adapter , or the RAM on the video adapter.
9 times...	The BIOS ROM chip is bad. The system probably needs a new BIOS ROM chip.
11 times...	Reseat the cache memory on the motherboard. If it still beeps, replace the cache memory.
4, 5, 7 or 10 times...	The motherboard must be replaced.

CHAPTER 4 SYSTEM AWARD BIOS SETUP

The section will explain how to set up the system configuration (CMOS) under the AWARD BIOS. The SETUP program is contained in the system's Read-Only-Memory rather than on a diskette.

4.1 ENTERING SETUP

Power on the computer and press immediately will allow you to enter Setup. The other way to enter Setup is to power on the computer, when the below message appears briefly at the bottom of the screen during the (Power On Self Test), press key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

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

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

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

4.2 CONTROL KEYS

Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item in the left hand
Right arrow	Move to the item in the right hand
Esc key	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 / "+" key	Increase the numeric value or make changes

EXP8661 User's Manual

PgDn / "—" key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
(Shift)F2 key	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F3 key	Reserved
F4 key	Reserved
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

4.3 GETTING HELP

- **Main Menu**

The on-line description of the highlighted setup function 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>**.

4.4 THE MAIN MENU

Once you enter AWARD BIOS CMOS Setup Utility, the Main Menu will appear on the screen. 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
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP

EXP8661 User's Manual

LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

- **Standard CMOS Setup**

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

- **BIOS Features Setup**

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

- **Chipset Features Setup**

This setup page includes all the items of chipset special features.

- **Power Management Setup**

This category determines how much power consumption for system after selecting below items. 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 system parameter which the system would be in minimum performance. The OEM manufacturer may change the defaults through MODBIN before the binary image burn into the ROM.

- **Load Setup Defaults**

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

- **User Password**

EXP8661 User's Manual

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.

4.5 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 then use the <PgUp> or <PgDn> keys to select the value you want in each item.

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

Date(mm:dd:yy) : Tue, July 23 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									
Video : EGA/VGA		Memory Base		: 640K					
Halt On : All Errors		Memory Extended		: 15360K					
		Memory Other		: 384K					
		Memory Total		: 16384K					
ESC: Quit		↑↓→←: Select Item				PU / PD /+ /- :			
Modify									
F1 : Help		(Shift)F2: Change Color							

- **Date**

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

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

- **Time**

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

- **Drive C Type/Drive D Type**

The categories identify the types of hard disk drive C or drive D that have 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 categories identify 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 the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system 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 Precom
LANDZONE	Landing Zone
SECTORS	Nnumber of Sectors
MODE	HDD Aaccess Mode

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

- **Drive A Type/Drive B Type**

EXP8661 User's Manual

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

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

- **Video**

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

You have two ways to boot up the system:

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

EGA/VGA	Enhanced Graphics Adapter/video Graphics Array. For EGA, VGA, SEGA, or VGA 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 if 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 errors	The system boot will not be stopped for any error that may be detected.
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.

- **Memory**

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value 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 the POST. This is the amount of memory located above 1MB in the CPU's memory address map.

Other Memory

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

- ***Total Memory***

System total memory is the sum of basic memory, extended memory, and other memory.

4.6 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	: 6	Shadow	
(Chars/Sec)	: 250	DC000-DFFFF	
Typematic Delay (Msec)	: Setup	Shadow	
Security Option	: Disabled		
PCI/VGA Palette Snoop	: Non-OS2		
OS Select For DRAM > 64MB			
		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 flashes on the screen. During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the following error message will appear, in the mean time, you can run an anti-virus program to locate the problem.

! 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 without 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 computer searches first for the disk operating system (i.e., DOS). Default value is A,C.

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

Note: This function is only available for IDE type
For SCSI type is always boot from A.

- **Boot Up Floppy Seek**

During POST, BIOS will determine if the floppy disk drive installed is 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.

EXP8661 User's Manual

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)**

When holding a key, the time between the first and second character displayed.

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 at 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

4.7 CHIPSET FEATURES SETUP

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

Auto Configuration	: Enabled	
DRAM Timing	: 70 ns	
DRAM RAS# Precharge Time	: 4	
DRAM R/W Leadoff Timing	: 7	
Fast RAS To CAS Delay	: 3	
DRAM Read Burst (EDO/FP)	: x222/x333	
DRAM Write Burst Timing	: x333	
Fast MA to RAS# Delay	: 1	
CLK		
Fast EDO Path Select	: Disabled	

EXP8661 User's Manual

Refresh RAS# Assertion : 5 Clks			
ISA Bus Clock : PCICLK/4			
System BIOS Cacheable : Disabled			
Video BIOS Cacheable : Disabled			
8 Bit I/O Recovery Time : 1			
16 Bit I/O Recovery Time : 1			
Memory Hole At 15M-16M : Disabled		ES : Quit	↑↓→← : Select
Peer Concurrency : Enabled		C	
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

4.8 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	IRQ1 (Reserved 0)	: ON
		IRQ1 (Reserved 1)	: ON
** Wake Up Events In Doze & Standby **		IRQ1 (PS/2 Mouse)	: ON
IRQ3 (Wake-up Event)	: ON	IRQ1 (Coprocessor)	: ON
IRQ4 (Wake-up Event)	: ON	IRQ1 (Hard Disk)	: ON
IRQ8 (Wake-up Event)	: OFF	IRQ1 (Reserved 5)	: ON

EXP8661 User's Manual

IRQ12 (Wake-up Event)	: ON		
		ES : Quit	↑↓→← : Select
		C	
		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 after selecting below items. Default value is Disable. The following pages tell you the options of each item & describe the meanings of each options.

ITEM	OPTIONS	DESCRIPTIONS
A. Power Management	1. Disable	Global Power Management will be disabled
	2. User Define	Users can configure their own power management
	3. Min Saving	Pre-defined timer values are used such that all timers are in their MAX value
	4. Max Saving	Pre-defined timer values are used such that all timers MIN value
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

EXP8661 User's Manual

		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 Option	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 markers are recommended to fix this item to (2) or (3) & hidden it by using MODBIN Utility

4.9 PNP/PCI CONFIGURATION SETUP

You can manually configure the PCI Device's IRQ. The following pages tell you the options of each item & describe the meanings of each options.

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

Resources Controlled	: Manual	PCI IRQ Activated BY	: Level
----------------------	----------	----------------------	---------

EXP8661 User's Manual

By Reset Configuration Data	: Disabled	PCI IDE IRQ Map To	: PCI-AUTO
IRQ-3	assigned to : Legacy ISA	Primary IDE INT#	: A
IRQ-4	assigned to : Legacy ISA	Secondary IDE	: B
IRQ-5	assigned to : PCI/ISA PnP	INT#	
IRQ-7	assigned to : PCI/ISA PnP		
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	ES : Quit	↑↓→← : Select Item
DMA-3	assigned to : PCI/ISA PnP	C	
DMA-5	assigned to : PCI/ISA PnP	F1 : Help	PU/PD/+/- : Modify
DMA-6	assigned to : PCI/ISA PnP	F5 : Old Values	(Shift)F2 : Color
DMA-7	assigned to : PCI/ISA PnP	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

The following pages tell you the options of each item & describe the meanings of each options.

4.10 INTEGRATED PERIPHERALS

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

IDE HDD Block MODE	: Enabled	
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 Channel	: Enabled	
USB Controller	: Disabled	
Onboard FDD Controller	: Enabled	
Onboard Serial Port 1	: Auto	
Onboard Serial Port 2	: Auto	
UART2 Mode	: Standard	
Onboard Parallel Port	: 378/IRQ7	
Onboard Parallel Mode	: SPP	
		ES : Quit ↑↓→← : Select
		C
		F1 : Help PU/PD/+/- : Modify
		-
		F5 : Old Values (Shift)F2 : Color
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

4.11 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: <input type="text"/> T SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit	↑↓→← : Select Item
F1 : Save & Exit Setup	(Shift)F2 : Change Color
0	
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 clear 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 selection and not enter a 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, the system will boot and 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 every time the system is rebooted or any time 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.

4.12 IDE HDD AUTO DETECTION

The Enhance IDE features was included in all Award BIOS. Below is a brief description of this feature.

1. Setup Changes

<I> Auto-detection

- 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.

EXP8661 User's Manual

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ
SECTOR	MODE					
Primary Master :		1282	621	64	0	2483 63
LBA						
Prim						
Select Primary Slave Option (N = Skip) : N						
OPTIONS	SIZE	CYLS	HEADS	PRECOMP	LANDZ	
SECTOR	MODE					
1(Y)	0	0	0	0	0	0
NORMAL						

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

|ESC: |

RMA FORM

When the motherboard can not work well, please fill up this form to describe related situations. If the space is not enough to use, you can attach separate paper.

MODEL:

MODEL NO:

HARDWARE

CPU : Brand _____ , Model _____ , Speed _____ MHz

CD-PROCESSOR: Brand _____ , Model _____ , Speed _____ MHz

SIMM: Brand _____ , Speed _____ ns, Q'ty _____ pcs, Total _____ MB

CACHE: Brand _____ , Speed _____ ns, Total _____ K

TAG RAM: Brand _____ , Speed _____ ns

BIOS DATA CODE: _____

SYSTEM SPEED RUNNING _____ MHz

VIDEO CARD: Chip _____ , RAM _____ , VGA Mode _____
Bus _____ (ISA, VESA or PCI)

OTHER ADD-ON CARDS:

SOFTWARE

OPERATING SYSTEM _____ VERSION _____

SOFTWARE PROGRAM _____

BIOS SETUP: DRAM Wait State _____ CACHE Wait State _____

If you change BIOS SETUP, please describe the changes:

<A>ERROR

HANG UP

NO SCREEN

FLOPPY R/W ERROR

HARD DISK R/W ERROR

PARITY MEMORY ERROR

OTHER _____

EXP8661 User's Manual

**ERROR MESSAGES ON YOUR SCREEN (PLEASE SHOW US THE
WHOLE SENTENCE)**

<C>PROBLEM DESCRIPTION