# PENTIUM 5DHX

# I/O Built-in PCI LOCAL BUS SYSTEM BOARD

Your User-friendly Guide!

# **Trademark Acknowledgments**

Intel®, Pentium® are registered trademarks of Intel Corporation.

IBM, IBM PC, IBM PC/AT ,PC-DOS,OS/2 and OS/2 WARP are registered trademarks of International Business Machines Corporation.

MS-DOS, Windows and Windows95 are registered trademarks of Microsoft Corporation.

AWARD BIOS is a product of Award Software International Inc.

All other trademarks are the property of their respective owners.

#### **Disclaimer**

The information contained in this document is subject to change without notice. We do not have any liability for incidental consequential damages in connection with the furnishing, performance, or use of this material.

# **TABLE OF CONTENTS**

CHAPTER 1	
SYSTEM BOARD OVERVIEW	Î
Preface	
Layout Of System Board	
Jumper Settings	
Connector	5
SIMM RAM Support	
CHAPTER 2	
AWARD BIOS SETUP	8
Entering Setup	
Getting Help	9
The Main Menu	
Standard CMOS Setup	11
BIOS Features Setup	
Chipset Features Setup	16
Power Management Setup	
PnP/PCI Configuration	21
Integrated Peripherals Setup	23
Load BIOS Defaults	26
Load Setup Defaults	26
Password Setting	26
IDE HDD Auto Detection	26
Save And Exit Setup	
Exit Without Saving	26

# **CHAPTER 1**

# SYSTEM BOARD OVERVIEW

#### **Preface**

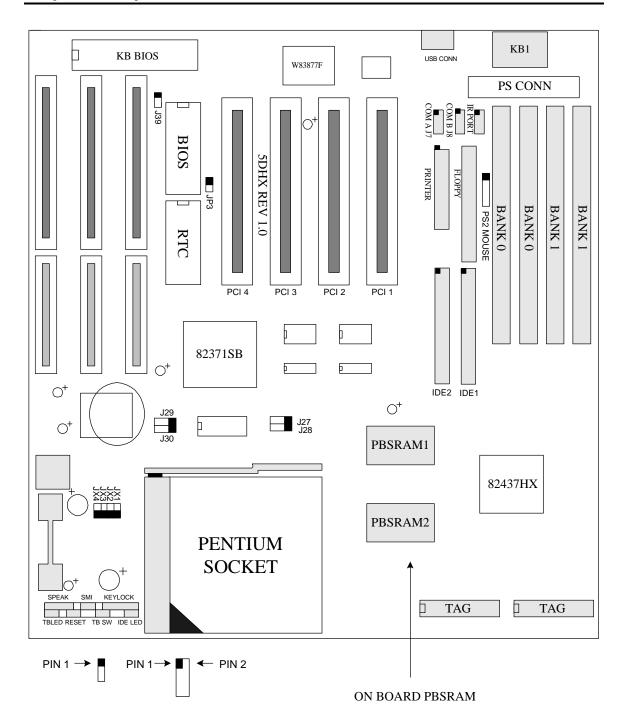
This user's manual explains how to use this system board and configure the board for your system.

The 5DHX system board designed for Intel™ PENTIUM™ or same class CPU use in personal computer. This system board built with high performance VLSI chipset. The system comes with either 256K or 512K external pipeline cache, which boost the system performance without extra cost. The PCI local bus in the system board is designed to work with high performance peripheral devices. The system BIOS can support Plug & Play features which is based on Intel Plug & Play specification. The built in enhanced multi I/O and standard SIMM connector with EDO mode DRAM support, just add a display card will give you total solution for your system. The full specification of the board is listed as follows:

#### **System Board Specifications:**

- IBM PC/AT Compatible.
- Intel 430HX high performance BGA chipset
- Support 75-200Mhz PENTIUM, P55C dual voltage PENTINUM, CYRIX 6x86, AMD 5k86.
- Supports up to 512K cache on board.
- Plug & Play flash BIOS architecture, can be upgradable by user.
- On board dual channel IDE interface, ANSI ATA Rev.3.X, 4.0 compatible.
- Dual port Universal Serial Bus connector(USB) connector.
- Enhanced multi-I/O on board-Floppy interface, 2 x 16550 COM port,
   Enhanced parallel port and IrDA infra red port.
- Supports Standard / EDO mode DRAM.
- Supports up to 512MB DRAM on board (4 x 72pin SIMM), totally 2 banks.
- 4 x PCI 32 bit bus slots, 3 x ISA 16 bit bus slots.
- Mini AT board size 220mm x 250mm.

# **Layout Of System Board**



Jumper settings 5DHX

# **Jumper Settings**

# • **CPU TYPE SELECT** J27,J28,J29,J30

CPU TYPE	J27	J28	J29	J30	CORE FREQUENCY Mhz
PENTIUM 75	CLOSE	CLOSE	1-2	1-2	50
PENTIUM 90	OPEN	CLOSE	1-2	1-2	60
PENTIUM 100	CLOSE	OPEN	1-2	1-2	66
PENTIUM 120	OPEN	CLOSE	1-2	2-3	60
PENTIUM 133	CLOSE	OPEN	1-2	2-3	66
PENTIUM 150	OPEN	CLOSE	2-3	2-3	60
PENTIUM 166	CLOSE	OPEN	2-3	2-3	66
PENTIUM 180	OPEN	CLOSE	2-3	1-2	60
PENTIUM 200	CLOSE	OPEN	2-3	1-2	66
PENTIUM 166 MMX*	CLOSE	OPEN	2-3	2-3	66
PENTIUM 200 MMX*	CLOSE	OPEN	2-3	1-2	66
CYRIX / IBM PR120	CLOSE	CLOSE	OPEN	2-3	50
CYRIX / IBM PR133	OPEN	OPEN	OPEN	2-3	55
CYRIX / IBM PR150	OPEN	CLOSE	OPEN	2-3	60
CYRIX / IBM PR166	CLOSE	OPEN	OPEN	2-3	66
AMD-K5-PR75	CLOSE	CLOSE	1-2	1-2	50
AMD-K5-PR90	OPEN	CLOSE	1-2	1-2	60
AMD-K5-PR100	CLOSE	OPEN	1-2	1-2	66
AMD-K5-PR120	OPEN	CLOSE	1-2	1-2	60
AMD-K5-PR133	CLOSE	OPEN	1-2	1-2	66
AMD-K5-PR150	OPEN	CLOSE	1-2	2-3	60
AMD-K5-PR-166	CLOSE	OPEN	2-3	2-3	66

#### • CMOS DISCHARGE

JP3

SETTING	JP3
NORMAL	OPEN
DISCHARGE	CLOSE

# Flash ROM write protection JP39

SETTING	JP39
NORMAL	CLOSE
PROTECTED	OPEN

# • P55C(dual voltage) Pentium Support

JX1-4

CORE VOLTAGE	JX1-4
3.3 V	CLOSE
2.9V	OPEN

Jumper Setting 5DHX

\*DEFAULT SETTING IS SHADED

Connector 5DHX

#### Connector

• Connector Descriptions

Description	Connectors		
Multi I/O Interface			
Floppy Drive Connector	FLOPPY		
IDE Drive Connector 1&2	IDE1, IDE2		
Parallel Port	PRINTER		
Serial Port 1&2	COM A , COM B		
Function Connector			
IDE LED	IDE LED		
IR Connector	IR PORT		
Keyboard	KB1		
PS2 Mouse Port	PS2 MOUSE		
Power Connector	PS CONN		
Power LED & Keylock	KEYLOCK		
Power Saving Control	SMI		
Reset Switch	RESET		
Speaker	SPEAKER		

• Infra Red Communication Link Connector (IR PORT)

PIN	SIGNAL
1	VCC
2	NC
3	SIGNAL RECEIVE
4	GND
5	SIGNAL TRANSMIT
6	VCC
7	RESERVE
8	RESERVE
9	GND
10	NC

Kevboard Connector (KB1)

,		
PIN	SIGNAL	
1	CLOCK	
2	DATA	
3	SPARE	
4	GROUND	
5	+5V	

• PS2 Mouse Connector (PS2 MOUSE)

PIN	SIGNAL
1	CLOCK
2	DATA
3	GND
4	NC
5	VCC

Connector 5DHX

# • Power Connector (PS CONN)

PIN	SIGNAL
1	POWER GOOD
2	+5V
3	+12V
4	-12V
5	GROUND
6	GROUND
7	GROUND
8	GROUND
9	-5V
10	+5V
11	+5V
12	+5V

# • Power LED & Keylock Connector (KEYLOCK)

PIN	SIGNAL
1	LED POWER
2	NO CONNECTION
3	GROUND
4	KEYBOARD INHIBIT
5	GROUND

# • Power Saving Control (SMI)

PIN	SIGNAL
1	CONTROL
2	GROUND

# • Reset Switch Connector (RESET)

RESET	FUNCTION
OPEN	NORMAL OPERATION
CLOSE	SYSTEM RESET

# • Speaker Connector : (SPEAKER)

PIN	SIGNAL
1	SPEAKER
2	KEY
3	GROUND
4	+5V

SIMM RAM Support 5DHX

# **SIMM RAM Support**

The system board supports flexible SIMM configuration:

- Flexible memory bank location and size.
- Accepts 4 pieces 72-pin SIMM sockets, SIMM 1/2/3/4, total 2 banks.
- Auto detect standard SIMM or EDO SIMM installed on board.
- Support SIMM type: 1MB, 2MB, 4MB, 16MB and 32MB.

The following DRAM table is for your reference:

Total Memory	SIMM1	SIMM2	SIMM3	SIMM4
	BANK 0		BANK1	
8MB	1MB*32	1MB*32	Х	Х
16MB	2MB*32	2MB*32	Х	Х
16MB	1MB*32	1MB*32	1MB*32	1MB*32
32MB	4MB*32	4MB*32	Х	Х
64MB	4MB*32	4MB*32	4MB*32	4MB*32
128MB	8MB*32	8MB*32	8MB*32	8MB*32
512MB	32MB*32	32MB*32	32MB*32	32MB*32

<sup>\*</sup> Use 36 bit SIMM for parity or ECC support.

AWARD BIOS SETUP 5DHX

# CHAPTER 2 AWARD BIOS SETUP

Award's BIOS has a built-in Setup program that allows user to modify the basic system configuration. This type of information is stored in battery-backed RAM so that it retains the setup information when the power is turned off. This chapter explains the setup utility for the Award BIOS.

# **Entering Setup**

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

TO ENTER SETUP BEFORE BOOT UP PRESS CTRL-ALT-DEL 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 your system 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 up, an error message will be displayed and you will again be asked to,

PRESS F1 TO CONTINUE, CTRL-ALT-DEL TO ENTER SETUP

#### **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
PgDn key	Decrease the numeric value or make changes
+ key	Increase the numeric value or make changes
- 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	Calendar, only for Status Page Setup Menu
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the setup default, only for Option Page Setup Menu
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

AWARD BIOS SETUP 5DHX

# **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 <Esc>.

#### The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from 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.

#### Figure 1. Main Setup Menu

#### **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 setup page includes all the items of green features.

AWARD BIOS SETUP 5DHX

#### PnP / PCI configuration

This setup page includes all the items of PnP, PCI IRQ and ISA IRQ settings. You can allocate these resources for your system use in this menu.

#### **Integrated Peripheral setup**

This setup page is used to configure the On-board multi I/O and IDE interface.

#### **Load BIOS defaults**

This function is for user to load the BIOS default settings. The BIOS defaults indicates the most appropriate value of the system parameter which the system would be in minimum performance.

#### Load SETUP defaults

This function is for user to load the SETUP default settings. SETUP defaults indicates the values required by the system for the maximum performance.

#### Supervisor / User Password

This function is for Change, set, or disable the supervisor or user password. The supervisor password allows you to limit the user access to the system and Setup.

#### **IDE HDD auto detection**

Automatically configure hard disk parameters.

#### **HDD** Low Level Format

This 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.

# Standard CMOS Setup

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.

Figure 2 Standard CMOS Setup Menu

```
3 Date (mm:dd:yy) : Web, May 20 1996
 Time (hh:mm:ss) : 10 : 27 : 52
3 HARD DISKS
               TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
 Secondary Slave :None 0 0 0
Secondary Slave :None 0 0 0
Secondary Slave :None 0 0 0
Drive A : None
<sup>3</sup> PRIMARY MASTER :None 0
<sup>3</sup> PRIMARY Slave
                                         0
                                   0
                                              Ω
                                    0
                                          0
                                              0
3 Drive A: None
                               3 Drive B : None
                                     Base Memory: 640K
                                   Extended Memory: 7168K
                                     Other Memory: 384K
<sup>3</sup> Video : EGA/VGA
                               3 Halt On : All Errors
                               3
                                   Total Memory: 8192
^3 ESC : Quit \uparrow \downarrow \rightarrow \leftarrow : Select Item PU/PD/+/- : Modify
<sup>3</sup> F1 : Help
               (Shift)F2 : Change Color
```

#### Date & Time

Enter current Date & Time to set system clock. The date format is <day>, <month> <date> <year> and the time format is <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock.

# Primary Master / Slave Secondary Master / Slave

The categories identify the types of hard disk on primary or secondary IDE channel that have been installed in the computer. There are 46 predefined types and a user definable type. Type 1 to Type 46 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.

There are the option of Type "AUTO" and Mode "AUTO" to auto detect the hard disk type and the hard disk mode (Normal, LBA and Large). If a hard disk has not been installed select NONE and press <Enter>.

#### Note: Mode Setting For Hard Disk Larger than 528MB

The Mode settings are for IDE hard disks only. There are three entries you can select from in the mode field, "Normal", "Large" and "LBA".

Set Mode to the Normal settings for IDE hard disk drives smaller than 528MB. Use the LBA setting for drives over 528MB that use Logical Block Addressing mode to allow larger IDE hard disks.

#### Drive A / Drive B

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

#### Video

This 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.

#### Halt On

This category determines whether the computer will stop if an error is detected during power up. There are different types of error can be config in this category.

#### **Total Memory**

This 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 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 applicause for this area is Shadow RAM.

# **BIOS Features Setup**

The item BIOS Features Setup Menu is divided into 17 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.

Figure 3. BIOS Features Setup Menu

```
Video BIOS Shadow
                           : Disabled <sup>3</sup>
  Virus warning
                                                              : Enabled
  CPU Internal Cache
                            : Enabled <sup>3</sup> C8000-CBFFF Shadow
Disabled
3 External Cache
                           : Enabled <sup>3</sup> CC000-CFFFF Shadow
Disabled
<sup>3</sup> Quick Power On Self Test : Enabled <sup>3</sup> D0000-D3FFF Shadow
Disabled <sup>3</sup>
<sup>3</sup> Boot Sequence
                            : A , C <sup>3</sup> D4000-D7FFF Shadow
Disabled
                            : Disabled <sup>3</sup> D8000-DBFFF Shadow
<sup>3</sup> Swap Floppy Driver
Disabled <sup>3</sup>
3 Boot Up Floppy seek
                            : Enabled <sup>3</sup> DC000-DFFFF Shadow
Disabled 3
                            : On
                                       3
  Boot Up NumLock Status
  Boot Up System Speed
                            : High
Memory Parity Check
                            : Disabled 3
<sup>3</sup> Typematic Rate Setting
                          : Disabled
3 ESC : Quit
Typematic Rate (Char/Sec) : 6
                                                         \uparrow\downarrow\rightarrow\leftarrow: Select
Ttem3
                           : 250
                                      <sup>3</sup> F1 : Help
                                                          PU/PD/+/- :
<sup>3</sup> Typematic Delay (Msec)
Modify3
                                       3 F5 : Old Values (Shift)F2 :
3 Security Option
                            : Setup
Color 3
<sup>3</sup> PCI/VGA Pallette Snoop : Disabled <sup>3</sup> F6 : Load BIOS Defaults
                                       <sup>3</sup> F7 : Load Setup Defaults
```

#### **Virus Warning**

ÄÄÄÄÄÙ

You can enable or disable this feature. When enabled, it will activate automatically if anything attempt to access the boot sector or hard disk partition table during system bootup. The default value is disabled.

#### **CPU Internal Cache**

This category enables or disables the internal cache to speed up memory access. The default value is Enabled.

#### **External Cache**

This category enables or disables the external cache to speed up memory access. The default value is Enabled.

#### **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. The default value is disabled.

#### **Boot Sequence**

This category determines which drive computer searches first for the disk operating system (i.e., DOS). Default value is A,C.

#### **Swap Floppy Drive**

This feature allows you to enable the system swap floppy function. When this function enables, the system will assign the Drive A as Drive B, and vice versa.

#### **Boot Up Floppy Seek**

If enabled, the BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. If disabled, BIOS will not search for the type of floppy disk drive by track number. Note that there will be no warning message if the drive installed is 360K.

#### **Boot Up NumLock Status**

It determine the Num-Lock is turned on/off Num Lock. when the system is powered on so that the end user can use the arrow keys on both the numeric keypad and the keyboard. The default value is On.

#### **Boot Up System Speed**

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

#### Gate A20 Option

The A20 signal option specify A20 controlled by keyboard controller or chipset hardware. If *Fast* is selected, the A20 signal is controlled by chipset specific method

#### **Typematic Rate Setting**

Typematic Rate sets the rate at which characters on the screen at which characters on the screen repeat. The default setting is Disabled.

#### **Typematic Rate (Chars/Sec)**

Typematic rate sets the rate at which characters on the screen repeat when a key is pressed and held down. You can select 6-30 characters per second. The default setting is 6.

#### **Typematic Delay (Msec)**

When holding down a key, the time between the first and second character display. you specified numbers of times of character repeat on the screen. The default setting is 250.

#### **Security Option**

This category allows you to limit access to the system and Setup or just to Setup. When you select system, the system will not boot and access to Setup will be denied if the correct password is not entered at the prompt. If you select Setup, the system will boot but access to Setup will be denied if the correct password is not entered at the prompt. The default setting is Setup.

#### PCI/VGA Palette Snoop

This option controls the system to access the PCI VGA card palette register. In general, this option is disabled. However, you may need to enable this option for some VGA cards which have incorrect color displayed on some software application.

#### OS Select For DRAM > 64MB

Some the OS/2 application access the memory in different mode. Enable this option to allow the system use another mode to access the main memory for OS/2 applications.

#### **VIDEO BIOS Shadow**

The system BIOS is automatically shadowed.

The default setting for the "Video BIOS Shadow" is "Enabled". It determines whether video BIOS will be copied to RAM. However, it is optional from chipset design. Video Shadow will increase the video speed.

#### C8000 - CFFFF Shadow/E8000 - EFFFF Shadow

These categories determine whether optional ROM will be copied to RAM by 16K byte. You can enable the optional shadow or you can disable it. The default setting is disabled.

# **Chipset Features Setup**

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache.

Figure 4. Chipset Features Setup Menu

```
Auto Configuration
                         : Enabled
                                    3 Memory Parity / ECC check : AUTO
                                     <sup>3</sup> Signal Bit Err Report
                         : 70 ns
                                    <sup>3</sup> L2 Cache Cacheable Size
  DRAM Timing
                                                              : 64MB
  DRAM RAS# Precharge Time : 4
                                    3 Chipset NA# Assected
                                                              : Enable
  DRAM R/W Leadoff Timing : 7/6
                                    <sup>3</sup> Pipeline Cache Timing
                                                             : Faster
  Fast RAS# To CAS# Delay : 3
  DRAM Read Burst (EDO/FPM): 3333/4444 3
  Turbo Read Leadoff
                         : 3333
  DRAM Speculative Leadoff : Disable
                                     3
  TURN-Around Insertion : Disable
  ISA CLOCK
                         : PCI/4
  System BIOS Cacheable
                         : Enable
  Video BIOS Cacheable
                         : Enable
  8 Bit I/O Recovery Time : 1
  16 Bit I/O Recovery Time : 1
                                    Ä
                                    <sup>3</sup> ESC : Ouit
  Memory Hole At 15M-16M
                         : Disable
                                                     \uparrow\downarrow\rightarrow\leftarrow: Select
Item<sup>3</sup>
  Peer Concurrency
                         : Enabled
                                     <sup>3</sup> F1 : Help
                                                       PU/PD/+/- :
Modify3
  Chipset Special Features : Enabled
                                     <sup>3</sup> F5 : Old Values (Shift)F2 : Color
                                    <sup>3</sup> F6 : Load BIOS Defaults
  DRAM ECC / PARITY Select : Parity
                                     <sup>3</sup> F7 : Load Setup Defaults
ÄÙ
```

#### **Auto Configuration**

The "Auto Configuration" default is "Enabled". This automatically setting up your system at optimum performance. You cannot change the setting with the Auto

Configuration enabled and you should not change the setting unless you know what are the functions of the item.

# **Power Management Setup**

Power Management setup controls the system board Power Management features. This is a feature of microprocessor with the energy-efficient technology. The setup screen is shown in figure below.

Figure 5. Power Management Setup Menu

```
<sup>3</sup> Power Management
                       : Disabled
                                       3 ** Power Down & Resume Events **
 <sup>3</sup> PM Control by APM
                       : Yes
                                       3 IRQ3 (COM2)
                                                                  :ON
 <sup>3</sup> Video off Method
                      : V/H SYNC+Blank<sup>3</sup> IRQ4 (COM1)
                                                                  :ON
 3 Doze MODE
                       : NORMAL
                                       3 IRQ5 (LPT2)
                                                                  :ON
 <sup>3</sup> Standby Mode
                      : NORAML
 <sup>3</sup> Suspend Mode
                      : NORMAL
 <sup>3</sup> HDD Power Down
                      : NORMAL
 3** Wake Up Events In Doze &show only
<sup>3</sup> ESC : Quit
 <sup>3</sup> IRQ3: Disabled
                                                         \uparrow\downarrow\rightarrow\leftarrow Select Item
 3 IRO4: Disabled
                                       <sup>3</sup> F1 : Help
                                                          PU/PD/+/- : Modify
 3 IRQ8: Disabled
                                                          PU/PD/+/- : Modify
                                       <sup>3</sup> F1 : Help
 3 IRO12
                                       3 F5 : Old Values (Shift)F2 : Color
 3 IRQ4
                                       <sup>3</sup> F6 : Load BIOS Defaults
 3 IRQ8
                                       <sup>3</sup> F7 : Load Setup Defaults
```

#### **Power Management**

"Power Management" is the master control for the power saving features, including HDD power down, Doze, Standby and suspend Modes and the I/O Device Timer, that together form the hard-ware power conservation scheme. There are three options:

User Defined	- Allows you to configure the power conservation features by
	yourself.
Max Saving	- Factory presetted setting for optimal power saving setting
Min Saving	- Factory presetted setting for minimal power saving setting
Disable	- Turn off all the power conservation features.

#### PM Control by APM

This feature is automatically set to "Yes", the system BIOS will wait for APM prompt before it enters the GREEN mode.

NOTE: If APM is installed, & if there is a task running, event the timer is time out, the APM will not prompt the BIOS to put the system into any power saving mode!

#### **Video Off Method**

There are three options you can choose to turn off the VGA display.

Blank Screen - The system will blank the screen only.

DPMS - This function is enabled for only the VGA card supporting

DPM.

V/H SYNC + Blank - Choose this mode if your system use the monitor with

power management feature. In addition to the blank screen, the system will turn off the horizontal and vertical sync signal. Most monitor will turn off itself if these signal are

inactive.

#### Modem Use IRQ

If you installed the MODEM on your system, you can use this option to specify the MODEM use which IRQ. Normally, if you install the external modem on COM1 will use IRQ4 and COM2 will use IRQ3.

#### Doze Mode/Standby Mode/Suspend Mode

These option specify the continuous idle time before the system enter the power saving mode. Normally, Doze and Standby mode puts the system into low speed clock and suspend mode puts the system clock stopped.

#### **HDD Power Down**

This option defines the continuous HDD idle time before the HDD entering power saving mode (motor off).

#### Wake up & Resume Events

The menu lists the SMI events by which the system wakes up from SUSPEND modes. The settings for the following SMI events can **On** or **OFF**. When an activity is set to off, the system will enter power saving modes even this activity is still occurring.

- Keyboard Activity
- Harddisk Activity
- IRQ 3 (Com 2) Activity
- IRQ 4 (Com 1) Activity
- IRQ 5 (Lpt 2) Activity
- IRQ 7 (Lpt 1) Activity
- IRQ 8 (RTC Alarm) Activity
- IRQ 9 Activity
- IRQ 10 Activity
- IRQ 11 Activity
- IRQ 12 (PS/2 Mouse) Activity
- IRQ 15 (Secondary Harddisk channel) Activity

# **PnP/PCI Configuration**

The System BIOS on a PCI platform plays the role of a System Resources Manager. Its main job is to dynamically allocate system resources such as I/O, Memory & IRQs to all PCI devices without any conflicts!

Figure 6. PCI Configuration Setup

```
<sup>3</sup> Resources Controlled By : Manual <sup>3</sup> PCIIRQ ACTIVED BY : Level
^{\rm 3} Reset Configuration Data : AUTO $^{\rm 3}$ PCIIDE IRQ Map To : PCI-AUTO
                                           Primary IDE INT# : A
<sup>3</sup> IRQ-3 assigned to : ISA PnP
                                               Secondary IDE INT# : B
<sup>3</sup> IRQ-4 assigned to
                           : ISA PnP
3 IRQ-5 assigned to
                           : ISA PnP
3 IRQ-7 assigned to
3 IRQ-9 assigned to
                           : ISA PnP
                         : ISA PnP
<sup>3</sup> IRQ-10 assigned to : ISA PnP
<sup>3</sup> IRQ-11 assigned to : ISA PnP
<sup>3</sup> IRQ-12 assigned to : ISA PnP
<sup>3</sup> IRQ-14 assigned to : Legacy ISA <sup>3</sup>
<sup>3</sup> IRQ-15 assigned to : Legacy ISA <sup>3</sup>
3 DMA-1 assigned to : Normal 3 ESC : Quit \uparrow\downarrow\rightarrow\leftarrow Select Item 3 DMA-3 assigned to : Normal 3 F1 : Help PU/PD/+/- : Modify 3 DMA-5 assigned to : Normal 3 F5 : Old Values (Shift)F2 : Color 3 DMA-6 assigned to : Normal 3 F6 : Load BIOS Defaults 3 DMA-7 assigned to : Normal 3 F7 : Load Setup Defaults
                                                                 PU/PD/+/- : Modify <sup>3</sup>
```

#### **Resources Controlled By**

You can allocate the system resources manually by choosing manual. If choose AUTO in this option, the system resources will be allowcated automatically.

#### **Reset Configuration Data**

Select enabled in this option if you want to reset your PnP hardware information which stored in the system board. For normal use, this option should be set to disabled.

#### IRQ-3 to 15, DMA-0 to 7

If you select manual in the Resources Controlled by option, you need to assign the system resources manually. In the resources list, you can assign the resources either for PCI / ISA PnP or for legacy (non-PnP) ISA. If you are using a legacy ISA card and using a specified IRQ or DMA, you should assign your system resources correctly for that ISA card otherwise you system / peripheral card will not function correctly.

#### **PCI IRQ Actived By**

This option is hardware related setting and it tell the system the IRQ signals level or edge trigger. You can select either level or edge in this option. Most PCI IRQ function actived by level. If your PCI card is not function on your board, you can try to select edge option. Please consult your hardware supplier for information.

#### PCI IDE IRQ Map To

Primary IDE INT: Secondary IDE INT:

This option indicates the presence and the information of an offboard PCI IDE device. The first option indicates the slot number of PCI IDE and the other options indicate how IRQ14 and IRQ15 are routed to the device. If an IDE IRQ MAP To is set to PCI-AUTO, this means that the system will scan for PCI IDE devices & determine the location of the PCI IDE device. If this option is set to PCI-SLOT, this indicates that the offboard PCI IDE device is present and the system will route the IRQ to that SLOT. If an IDE IRQ MAP is set to ISA, the system does not need to route the IRQ because a paddle card is installed and the IRQ is received from an ISA slot. Otherwise, the IRQ can be routed correctly according to the specification of the INT# value.

# **Integrated Peripherals Setup**

The items Integrated Peripherals Setup Menu are divided into different categories. 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.

The Auto configuration settings are enabled or disabled. When set to enabled, the Award BIOS automatically detects all the peripheral installed in the system and configures the onboard I/O (serial ports, parallel ports, floppy controllers, and IDE controller) automatically. All other Peripheral Setup option settings are ignored. If disabled is selected, the setting chosen by the end user in Peripheral Setup apply.

Figure 7. Integrated Peripherals Setup Menu

```
IDE HDD BLOCK MODE
                             :ENABLE 3
 IDE PRIMARY MASTER
                     PIO MODE :AUTO
 IDE PRIMARY SLAVE
                     PIO MODE : AUTO
 IDE SECONDARY MASTER PIO MODE :AUTO
 IDE SECONDARY SLAVE PIO MODE :AUTO
 ON-CHIP PRIMARY
                  PCI IDE
                             :ENABLE 3
 ON-CHIP SECONDARY PCI IDE
                             :ENABLE 3
 PCI SLOT IDE 2nd CHANNEL
 USE CONTROLLER
                           : NORMAL
<sup>3</sup> ON BOARD FDD CONTROLLER
                           : ENABLE
<sup>3</sup> ON BOARD SERIAL PORT 1
                           :3F8/IRQ3 3
<sup>3</sup> ON BOARD SERIAL PORT 2
                          Ä
<sup>3</sup> UART 2 MODE
                           :STANDARD 3 ESC : Quit
                                                      \uparrow\downarrow\rightarrow\leftarrow: Select
Item<sup>3</sup>
                                    <sup>3</sup> F1 : Help
                                                       PU/PD/+/- :
Modify<sup>3</sup>
                           :378/IRQ7 3 F5 : Old Values (Shift)F2 : Color
3 ON BOARD PARALLEL PORT
3 ON BOARD PARALLEL MODE
                           :NORMAL
                                    <sup>3</sup> F6 : Load BIOS Defaults
                                    <sup>3</sup> F7 : Load Setup Defaults
```

#### **IDE HDD Block Mode**

If IDE HDD Block Mode Enabled, the BIOS will detect the block size of the HDD and send block command automatically. Select Disable if your harddisk not support the Block mode transfer.

#### **PCI Slot IDE 2nd Channel**

This option allows you disable the second channel IDE interface if you are not using it or you are using another peripheral as second channel IDE interface.

#### On-Chip Primary/Secondary PCI IDE

This option allows you disable the IDE interface if you are not using it or you are using another peripheral as IDE interface.

#### **IDE PIO Mode**

This option sets the PIO mode for all drives connected to the onboard PCI IDE. If this option is set to AUTO, the PIO mode will be set according to the value the drive reports with the auto detect harddisk function. The user may decrease the PIO mode by modifying this option

#### **Onboard FDD Controller**

The on-board floppy disk controller can be enabled or disabled. You can select enabled or disabled in this option.

#### Onboard serial port 1(2)

You can config the on-board serial port as COM1-COM4 or select "none" to disable the serial port.

#### **Onboard parallel port**

The on-board parallel port configed as LPT1 (378), LPT2 (278) or select "none" to disable the parallel port.

#### Onboard parallel port mode

You can select ESP (Standard mode), EPP(Enhanced mode) and ECP(Extended mode) for parallel port mode in this menu.

#### ECP mode use DMA

This option specifies which DMA channel will be used when the parallel port is set to ECP mode.

#### Parallel port EPP type

In EPP mode, there are two different versions-Ver. 1.7 or Ver.1.9. When you connect a device to the parallel port which using EPP mode, you may need to choice

correct EPP version before you can access that device. Please consult the device menu to identify which version of EPP mode it support.

Other Setting 5DHX

#### **Load BIOS Defaults**

This features stay in the default system values before the user has changed any CMOS values. If CMOS setting is lost, the BIOS defaults will automatically be loaded.

# **Load Setup Defaults**

This features load the default setting for normal use.

# **Password Setting**

When you select the supervisor or user password function, the following message will appear on 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 to 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.

#### **IDE HDD Auto Detection**

You can use this utility to detect the IDE hard disk parameters. It can automatically detect up to four hard disk.

# Save And Exit Setup

Select this option when you finished setup the CMOS and it will save the change you made and reboot the system after you press "YES".

# **Exit Without Saving**

If you decided not to save any change you had made, you can select this option to exit the CMOS setup and all the change you made will be ignored.