PENTIUM

5DVX

I/O Built-in
PCI LOCAL BUS
SYSTEM BOARD

Your User-friendly Guide !

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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 5DVX 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 82430VX high performance chipset

- Support 75-200MHz PENTIUM, P55C dual voltage CPU, CYRIX 6x86, AMD 5k86.

- Supports up to 512K cache on board.

- Plug & Play flash BIOS architecture, can be upgradable by user

- Dual port Universal Serial Bus connector(USB) connector.

- On board dual channel IDE interface, ANSI ATA Rev.3.X, 4.0 compatible Enhanced multi-I/O on board-Floppy interface, 2 x 16550 COM port, Enhanced parallel port.IrDA infra red port

- Dual Regulator, design for 3.3V or 2.xV PENTIUM CPU*.

- Supports up to 128MB FPM or EDO DRAM on board (4 x 72pin SIMM), totally 2 banks.

- 4 x PCI 32 bit bus slots, 3 x ISA 16 bit bus slots.

- Ultra slim AT board size 220mm x 230mm.

* Optional feature, Please contact your supplier for latest information.

Layout Of System Board

KB BIOS

8669 / PRIME 3C

COM 1

COM 2

PRINTER

J1

USB CONNECTOR

JP1

JP2

RTC

JP4

PS2 MOUSE

5DVX REV 1.1

FLOPPY

PS CONN

BANK 0

BANK 0

BANK 1

BANK 1

PRIMARY IDE

SECONDARY IDE

PCI 4   PCI 3   PCI 2   PCI 1

JC1
JC2

82371SB

82437VX

IDE2   IDE1

JP6

1
3
5
7

JP7

JP14
JP12

JP10

JP13

JP3

TAG

PBSRAM1

82438

BIOS

PBSRAM2

82438

PENTIUM
SOCKET

JP11
JP9
JP8

IR PORT

SPEAK   EXTSMI   KEYLOCK

TBLED   RESET   IDE LED
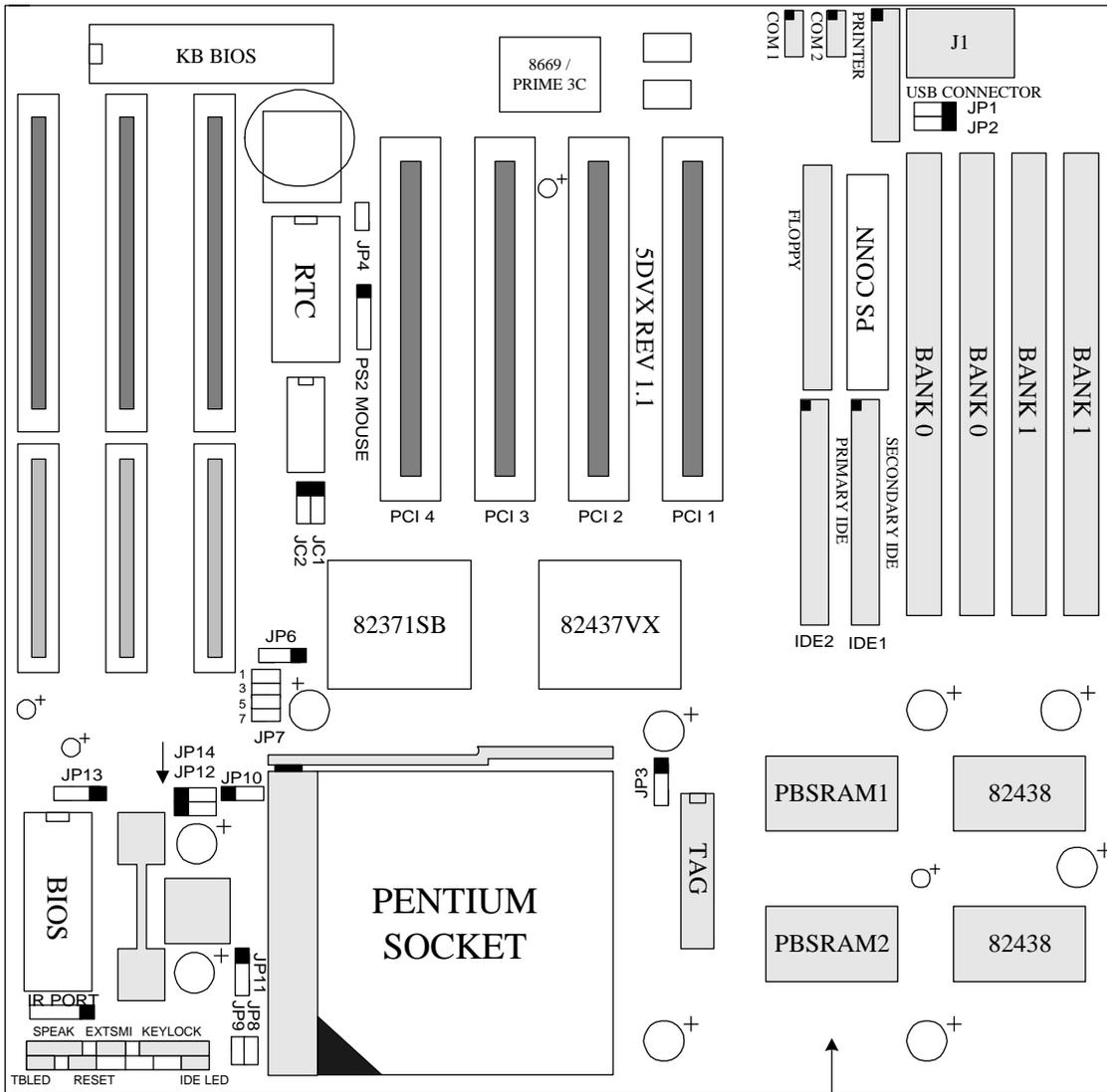
ON BOARD PBSRAM

Jumper Settings

- **CPU TYPE SELECT**
  JC1, JC2, JP8, JP9, J6

CPU TYPE	JC1	JC2	JP8	JP9	JP6	BUS FREQUENCY
PENTIUM 75	2-3	2-3	2-3	2-3	1-2	50
PENTIUM 90	1-2	2-3	2-3	2-3	2-3	60
PENTIUM 100	2-3	1-2	2-3	2-3	2-3	66
PENTIUM 120	1-2	2-3	2-3	1-2	2-3	60
PENTIUM 133	2-3	1-2	2-3	1-2	2-3	66
PENTIUM 150	1-2	2-3	1-2	1-2	2-3	60
PENTIUM 166	2-3	1-2	1-2	1-2	2-3	66
PENTIUM 180	1-2	2-3	1-2	2-3	2-3	60
PENTIUM 200	2-3	1-2	1-2	2-3	2-3	66
PENTIUM 166 MMX*	2-3	1-2	1-2	1-2	2-3	66
PENTIUM 200 MMX*	2-3	1-2	1-2	2-3	2-3	66
CYRIX / IBM PR120	2-3	2-3	OPEN	OPEN	1-2	50
CYRIX / IBM PR133	1-2	1-2	OPEN	OPEN	2-3	55
CYRIX / IBM PR150	1-2	2-3	OPEN	OPEN	2-3	60
CYRIX / IBM PR166	2-3	1-2	OPEN	OPEN	2-3	66
AMD-K5-PR75	2-3	2-3	2-3	2-3	1-2	50
AMD-K5-PR90	1-2	2-3	2-3	2-3	2-3	60
AMD-K5-PR100	2-3	1-2	2-3	2-3	2-3	66
AMD-K5-PR120	1-2	2-3	2-3	2-3	1-2	60
AMD-K5-PR133	2-3	1-2	2-3	2-3	2-3	66
AMD-K5-PR150	1-2	2-3	1-2	1-2	2-3	60
AMD-K5-PR166	2-3	1-2	1-2	1-2	2-3	66

- **CMOS DISCHARGE**
  JP4

SETTING	JP4
NORMAL	OPEN
DISCHARGE	CLOSE

- ***P54C / P55C / INTEL MMX PENTIUM VOLTAGE SELECT**
  JP7

SETTING JP7	P55C 2.8V*	P54C 3.52V
1-2, 3-4, 5-6, 7-8	OPEN	CLOSE

- The following jumpers are for functional testing. Normally, you did not need to change this settings

  JP10=2-3, JP11=OPEN, JP12=2-3, JP13=1-2, JP14=2-3

*Optional features, Contact your supplier for latest information.

Connector

- ## Connector Descriptions

Description	Connectors
Multi I/O & USB Interface	
Floppy Drive Connector	FLOPPY
IDE Drive Connector	IDE1, IDE2
Parallel Port	PRINTER
Serial Port 1&2	COM1 , COM2
USB CONNECTOR	JP1, JP2
Function Connector	
IDE LED	IDE LED
IR Connector *	IR
Keyboard	J1
PS2 Mouse Port	PS2/MOUSE
Power Connector	PW1
Power LED & Keylock	KEY LOCK
Power Saving Control	EXTSMI
Reset Switch	RESET
Speaker	SPEAK

- ## Infra Red Communication Link Connector (IR)

PIN	SIGNAL
1	VCC
2	NC
3	SIGNAL RECEIVE
4	NC
5	SIGNAL TRANSMIT

- ## Keyboard Connector (J1)

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

-

Power Connector (PW1)

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

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

SIMM RAM Support

The system board supports flexible SIMM configuration:

- Flexible memory bank location and size.

- Accept 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, 32MB

The following DRAM table is for your reference:

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

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 numberic value or make changes
- key	Decrease the numberic 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

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

```
ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ-ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³                            CMOS SETUP UTILITY                       ³
³                           AWARD SOFTWARE, INC.                      ³
ÃÄÄÄÄ-ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÂÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ´
³  STANDARD CMOS SETUP              ³   INTEGRATED PERIPHERAL         ³
³  BIOS FEATURES SETUP             ³   SUPERVISOR PASSWORD           ³
³  CHIPSET FEATURES SETUP          ³   USER PASSWORD                 ³
³  POWER MANAGEMENT SETUP          ³   IDE AUTO DETECTION            ³
³  PCI/PnP CONFIGURATION           ³   HDD LOW LEVEL FORMAT          ³
³  LOAD BIOS DEFAULTS              ³   SAVE & EXIT SETUP             ³
³  LOAD SETUP DEFAULTs             ³   EXIT WITHOUT SAVING           ³
³                                  ³                                ³
ÃÄÄÄÄÄÄ-ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ´
³  ESC : Quit                      ↑↓→←   : Select Item             ³
³  F10 : Save & Exit Setup             (Shift)F2 : Change Color     ³
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
```

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.

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

```
ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ–ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³  Date (mm:dd:yy) : Web, May 20 1996                                       ³
³  Time (hh:mm:ss) : 10 : 27 : 52                                           ³
³                                                                          ³
³  HARD DISKS         TYPE  SIZE  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE  ³
³                                                                          ³
³  PRIMARY MASTER    :None  0     0      0      0        0      0          ³
³  PRIMARY Slave     :None  0     0      0      0        0      0          ³
³  Secondary Master  :None  0     0      0      0        0      0          ³
³  Secondary Slave   :None  0     0      0      0        0      0          ³
³                                                                          ³
³  Drive A : None                          ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ´
³  Drive B : None                          ³     Base Memory:   640K      ³
³                                          ³ Extended Memory: 7168K      ³
³  Video   : EGA/VGA                        ³     Other Memory: 384K      ³
³  Halt On : All Errors                     ³ ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ     ³
³                                          ³    Total Memory: 8192        ³
ÃÄÄÄÄÄÄ–ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ´
³ ESC : Quit          ↑↓→←   : Select Item       PU/PD/+/- : Modify     ³
³ F1  : Help          (Shift)F2 : Change Color                          ³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÙ
```

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

```
ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ-
ÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ¿
³  Virus warning             : Disabled ³ Video BIOS Shadow    : Enabled
³
³  CPU Internal Cache        : Enabled  ³ C8000-CBFFF Shadow   : Disabled
³
³  External Cache            : Enabled  ³ CC000-CFFFF Shadow   : Disabled
³
³  Quick Power On Self Test  : Enabled  ³ D0000-D3FFF Shadow   : Disabled
³
³  Boot Sequence             : A , C    ³ D4000-D7FFF Shadow   : Disabled
³
³  Swap Floppy Driver        : Disabled ³ D8000-DBFFF Shadow   : Disabled
³
³  Boot Up Floppy seek       : Enabled  ³ DC000-DFFFF Shadow   : Disabled
³
³  Boot Up NumLock Status    : On       ³
³
³  Boot Up System Speed      : High     ³
³
³  Memory Parity Check       : Disabled ³
³
³  Typematic Rate Setting    : Disabled
ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ-Ä´
³  Typematic Rate (Char/Sec) : 6        ³ ESC : Quit           ↑↓→← : Select
Item³
³  Typematic Delay (Msec)    : 250      ³ F1  : Help          PU/PD/+/- :
Modify³
³  Security Option           : Setup    ³ F5  : Old Values  (Shift)F2 :
Color ³
³  PCI/VGA Pallette Snoop    : Disabled ³ F6  : Load BIOS Defaults
³
³                                       ³ F7  : Load Setup Defaults
³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ
ÄÄÄÙ
```

Virus Warning

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

```
ÚÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ--ÂÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ--Ä¿
³  Auto Configuration      : Enabled  ³                                       ³
³  DRAM Timing             : 70ns     ³                                       ³
³                                     ³                                       ³
³  DRAM RAS# Precharge Time : 4       ³                                       ³
³  DRAM R/W Leadoff Timing  : 6       ³                                       ³
³  Fast RAS# To CAS# Delay  : 3       ³                                       ³
³  DRAM Read Burst (EDO/FPM): x333/x444 ³                                     ³
³  DRAM write burst timing  : x333    ³                                       ³
³  Fast MA to RAS# Delay CLK: 1       ³                                       ³
³  Fast EDO path Select     : Disabled ³                                      ³
³  Refresh RAS# Assertion   : 5CLK    ³                                       ³
³  ISA BUS CLOCK            : PCICLK/4 ³                                       ³
³                                     ³                                       ³
³  System BIOS Cacheable    : NORMAL  ³                                       ³
³  Video BIOS Cacheable     : NORMAL  ³                                       ³
³  8 Bit I/O Recovery Time  : NORMAL  ³                                       ³
³  16 Bit I/O Recovery Time : NORMAL  ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ-Ä´
³  Memory Hole At 15M-16M   : Normal  ³ ESC : Quit          ↑↓→← : Select Item³
³  Peer Concurrency         : NORMAL  ³ F1  : Help       PU/PD/+/- : Modify³
³                                     ³ F5  : Old Values  (Shift)F2 : Color ³
³                                     ³ F6  : Load BIOS Defaults            ³
³                                     ³ F7  : Load Setup Defaults           ³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ-ÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ--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. You are not recommended to 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

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³ Power Management     : Disabled      ³ ** Power Down & Resume Events **   ³
³ PM Control by APM    : Yes           ³ IRQ3 (COM2)                 :ON    ³
³ Video off Method     : V/H SYNC+Blank³ IRQ4 (COM1)                 :ON    ³
³ Doze MODE            : NORMAL        ³ IRQ5 (LPT2)                 :ON    ³
³ Standby Mode         : NORAML        ³                                   ³
³ Suspend Mode         : NORMAL        ³                                   ³
³ HDD Power Down       : NORMAL        ³                                   ³
³** Wake Up Events In Doze &show only  ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ´
³ IRQ3: Disabled                       ³ ESC : Quit          ↑↓→← Select Item ³
³ IRQ4: Disabled                       ³ F1  : Help          PU/PD/+/- : Modify ³
³ IRQ8: Disabled                       ³ F1  : Help          PU/PD/+/- : Modify ³
³ IRQ12                                ³ F5  : Old Values  (Shift)F2 : Color  ³
³ IRQ4                                 ³ F6  : Load BIOS Defaults           ³
³ IRQ8                                 ³ F7  : Load Setup Defaults          ³
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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, it 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 enter 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

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³ Resources Controlled By  : Manual  ³ PCIIRQ ACTIVED BY : Level         ³
³ Reset Configuration Data : Disabled³ PCIIDE IRQ Map To : PCI-AUTO       ³
³                                     ³     Primary   IDE INT# : A        ³
³ IRQ-3  assigned to    : ISA PnP  ³     Secondary IDE INT# : B        ³
³ IRQ-4  assigned to    : ISA PnP  ³                                   ³
³ IRQ-5  assigned to    : ISA PnP  ³                                   ³
³ IRQ-7  assigned to    : ISA PnP  ³                                   ³
³ IRQ-9  assigned to    : ISA PnP  ³                                   ³
³ IRQ-10 assigned to    : ISA PnP  ³                                   ³
³ IRQ-11 assigned to    : ISA PnP  ³                                   ³
³ IRQ-12 assigned to    : ISA PnP  ³                                   ³
³ IRQ-14 assigned to    : Legacy ISA ³                                 ³
³ IRQ-15 assigned to    : Legacy ISA ³                                 ³
³ DMA-0  assigned to    : Normal     ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ´
³ DMA-1  assigned to    : Normal     ³ ESC : Quit        ↑↓→← Select Item ³
³ DMA-3  assigned to    : Normal     ³ F1  : Help        PU/PD/+/- : Modify ³
³ DMA-5  assigned to    : Normal     ³ F5  : Old Values  (Shift)F2 : Color  ³
³ DMA-6  assigned to    : Normal     ³ F6  : Load BIOS Defaults           ³
³ DMA-7  assigned to    : Normal     ³ F7  : Load Setup Defaults          ³
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Resources Controlled By

You can allocate the system resources manually by choosing manual. If choose AUTO in this option, the system resources will be allocated 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 you 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 Integrated Peripherals Setup Menu is 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.

Figure 7. Integrated Peripherals Setup Menu

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³ IDE HDD BLOCK MODE          :ENABLE ³                                  ³
³ IDE PRIMARY MASTER   PIO MODE :AUTO  ³                                 ³
³ IDE PRIMARY SLAVE    PIO MODE :AUTO  ³                                 ³
³ IDE SECONDARY MASTER PIO MODE :AUTO  ³                                 ³
³ IDE SECONDARY SLAVE  PIO MODE :AUTO  ³                                 ³
³ ON-CHIP PRIMARY   PCI IDE     :ENABLE ³                                ³
³ ON-CHIP SECONDARY PCI IDE     :ENABLE ³                                ³
³ PCI SLOT IDE 2nd CHANNEL          ³                                    ³
³ USE CONTROLLER              : NORMAL ³                                 ³
³                                  ³                                     ³
³ ON BOARD FDD CONTROLLER     :ENABLE  ³                                 ³
³ ON BOARD SERIAL PORT 1      :3F8/IRQ3 ³                                ³
³ ON BOARD SERIAL PORT 2      :2F8/IRQ2 ÃÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ-Ä´
³ UART 2 MODE                 :STANDARD ³ ESC : Quit        ↑↓→← : Select Item³
³                                  ³ F1  : Help        PU/PD/+/- : Modify³
³ ON BOARD PARALLEL PORT      :378/IRQ7 ³ F5  : Old Values  (Shift)F2 : Color ³
³ ON BOARD PARALLEL MODE      :NORMAL   ³ F6  : Load BIOS Defaults          ³
³                                  ³ F7  : Load Setup Defaults         ³
ÀÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ-ÁÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄÄ--ÄÙ
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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.

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

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.

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.

USB Controller

The option allows you enable or disable the USB connector functions.

Onboard FDD Controller

The on-board floppy disk controller can be enabled or disabled by 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.

UART 2 Mode

The on-board Serial port 2 can be change the function mode to HPSIR(Hewlett Packard Serial Infrared Red) ,ASKIR(Amplitude Shift Keyed Infrared Red) mode or standard mode. Depends on type of devices you want to communicate to , You can change the Data link mode in this option

IR Function Duplex

The communication link between the system to the device can be half or full duplex. This option allows you specify the communication link is a half or full duplex.

Onboard parallel port

The on-board parallel port can be 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.

Serial port 1(2) MIDI
You can enable or disable the serial MIDI (Musical Instrument Digital Interface) support by this option.

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

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.