Expansion Slots & I/O Ports description

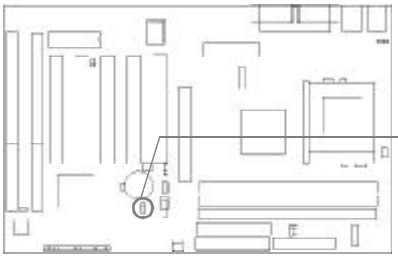
Slot / Port	Description
ISA 1	First ISA slot.
ISA 2	Second ISA slot.
PCI 1	First PCI slot.
PCI 2	Second PCI slot.
PCI 3	Third PCI slot.
PCI 4	Fourth PCI slot.
PCI 5	Fifth PCI slot.
IDE 1	Primary IDE port.
IDE 2	Secondary IDE port.
FLOPPY	Floppy Drive Port.
AGP	Accelerated Graphics Port.

Jumper Settings

Jumpers are located on the mainboard, they represent, clear CMOS jumper JCC, enable keyboard password power-on function jumper JKB etc. Pin 1 for all jumpers are located on the side with a thick white line (Pin1→ ), refer to the mainboard's silkscreen . Jumpers with three pins will be shown as  to represent pin1 & pin2 connected and  to represent pin2 & pin3 connected.

Clear CMOS (JCC)

If you want to clear CMOS, unplug the AC power supply first, close JCC (pin1 & pin2) once, set JCC back to the normal status with pin2 & pin3 connected, then power on the system.



Normal status:

JCC

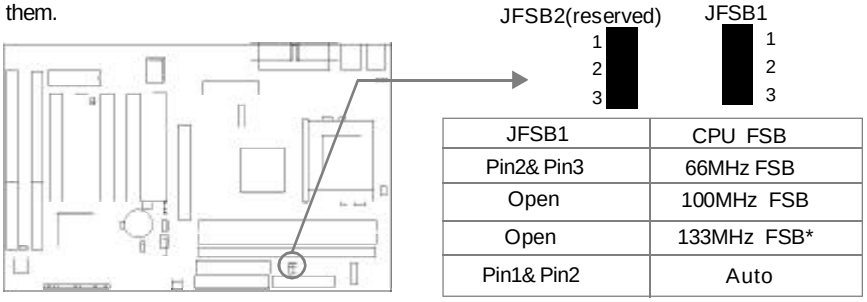
Clear CMOS:

JCC

(Unplug the AC power supply)

Overclocking Jumper Setting (JFSB1)

Jumpers labeled JFSB1, JFSB2 are located on the mainboard providing users with CPU overclocking feature. The JFSB2 is reserved for another mainboard, so overclocking feature is implemented only by JFSB1. The host bus speed can be set as 66/100/133MHz . Refer to the chart below for the location of these jumpers, and the table for information on how to set them.



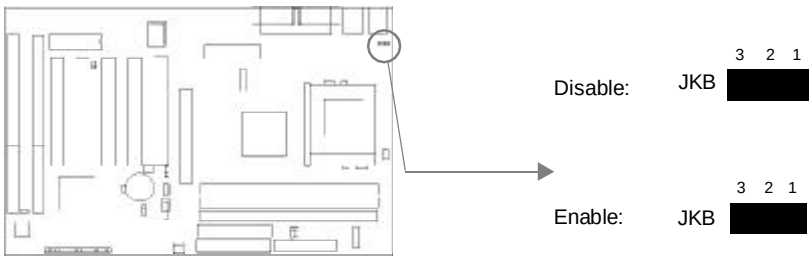
JFSB1	CPU FSB
Pin2& Pin3	66MHz FSB
Open	100MHz FSB
Open	133MHz FSB*
Pin1& Pin2	Auto

If CPU FSB is set as default setting AUTO, the system detects the CPU front side bus automatically and run processor actual front side bus. If CPU FSB is set as 66MHz, the system only run at 66MHz front side bus even if a processor with 100MHz or higher. If CPU FSB is set as 100MHz, the system can run at 100MHz front side bus even if a processor with 66MHz FSB is installed. Setting up to 133MHz FSB is also supported. However, whether or not your system can be overclocked depends on your processor's capability. Whether the processor is bus ratio locked or unlocked should also be taken into account. For bus ratio unlocked processor, this overclocking feature can be implemented by setting CPU FSB as 133MHz, meanwhile adjusting the bus ratio (Multiplier) lower in "SpeedEasy CPU Setup" in AWARD BIOS CMOS Setup. We do not guarantee the overclocking system to be stable.

***** If CPU FSB is overclock to 133MHz, settting the jumper JFSB1 as opened and adjusting the CPU FSB to 133MHz in "SpeedEasy CPU Setup" in AWARD BIOS CMOS Setup.

Enable keyboard password power-on function (JKB)

The mainboard provides the advanced keyboard password power-on function. When wanting to use this function, set JKB with pin1& pin2 closed.Otherwise, set JKB with pin2 & pin3 closed for disabling this function.

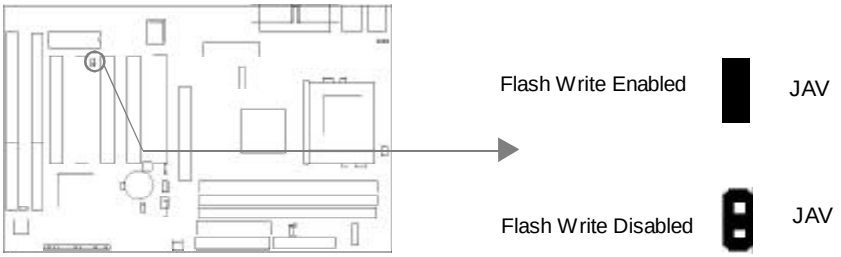


In order to implement this function, set "POWER ON Function" to **Password/Button** or **Password** and set the keyboard power-on password in the "INTEGRATED PERIPHERALS" section of the BIOS. For detailed information, see the explanations in " INTEGRATED PERIPHERALS" section of BIOS part.

Note: 1.If wanting to use this function, 5VSB line of the power supply should be capable of delivering enough current (eg. 200mA) for all devices connected to the keyboard port, or you will be unable to power up the system using the keyboard.
2.If you set JKB with pin2 & pin3 closed, set "POWER ON Function" to Password/Button or BUTTON ONLY, don't set it to Password, or this will prevent you from powering up your system.
3. If you encounter the above problems, clear CMOS and reset the jumper and BIOS option.

BIOS-ProtectEasy Jumper (JAV)

The BIOS of the mainboard is contained inside the Flash ROM. If the jumper JAV is set as closed, you will be unable to flash the BIOS to the mainboard. However in this status, the system BIOS is protected from being attacked by serious virus such as CIH virus.



Setting the jumper JAV as opened(default), meanwhile disabling the "Flash Write Protect" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the Flash ROM.

The DMI (Desktop Management Interface) system information such as the CPU type/speed, memory size, and expansion cards will be detected by the onboard BIOS and stored in the flash ROM. Whenever the system hardware configuration is changed, DMI information will be updated automatically. However, setting jumper JAV as closed makes flashing BIOS and updating DMI information impossible. Therefore, set JAV as opened when changing the system hardware configuration, or the error message "Unkown Flash Type" will be displayed on the screen, and DMI information update will be fail.

Setting the jumper JAV as opened(default), meanwhile disabling the "Flash Write Protect" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the Flash ROM.

Setting the jumper JAV as closed, the Pentium®III Processor Number can be not readable whatever disabling or enabling "Processor Number Feature" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup.

Memory Configuration

This mainboard provides three 168 pin 3.3V DIMM sockets to support a flexible memory size ranging from 8MB up to 768MB for SDRAM or from 8MB up to 768MB for EDO memory. Both PC66 /PC100MHz SDRAM with SPD and 66MHz EDO DIMMs are supported. The following set of rules allows optimum configurations.

- Using the serial presence detect (SPD) data structure, programmed into an E^2PROM on the DIMM, the BIOS can determine the SDRAM' s size and speed.
- The DRAM Timing register, which provides the DRAM speed grade control for the entire memory array, must be programmed to use the timing of the slowest DRAMs installed.
- Possible SDRAM DIMM memory sizes are 16MB, 32MB, 64MB, 128MB, 256MB in each DIMM socket.
- Possible EDO DIMM memory sizes are 16MB, 32MB, 64MB, 128MB, 256MB in each DIMM socket.
- Processor with 66MHz FSB should be paired with PC66, PC100 SDRAM processor with 100MHz FSB should be paired only with PC100 SDRAM.

Chapter 3
BIOS Description

Utility Support:

AWDFLASH.EXE

This is a flash memory write/read utility used for the purpose of upgrading your BIOS when necessary. Before doing so, please note:

- **We strongly recommend you only upgrade BIOS when encounter problems.**
- **Before upgrading your BIOS, review the description below to avoid making mistakes, destroying the BIOS and resulting in a non-working system.**

When you encounter problems, for example, you find your system does not support the latest CPU released after our current mainboard, you may therefore upgrade the BIOS, please don't forget to set JAV as close and disable the "Flash Write Protect" item in AWARD BIOS CMOS Setup first (refer to page 26).

Follow the steps exactly for a successful upgrade.

1. Create a bootable system floppy diskette by typing Format A:/s from the DOS prompt under DOS6.xx or Windows 9x environment.
2. Copy AWDFLASH.EXE (version>7.07) from the directory \Utility located on QDI Mainboard Utility CD onto your new bootable diskette.
3. Download the updated BIOS file from the Website (http://www.qdigrp.com). Please be sure to download the suitable BIOS file for your mainboard.
4. Uncompress the file download, copy the BIOS file (xx.bin) onto the bootable diskette, and note the checksum of this BIOS which is located in readme file.
5. Reboot the system from the bootable diskette created.
6. Then run the AWDFLASH utility at the **A:** prompt as shown below:

   A:\AWDFLASH xxxx.bin

   Follow the instruction through the process. Don't turn off power or reset the system until the BIOS upgrade has been completed.

If you require more detailed information concerning AWDFLASH Utility, for example, the different usage of parameters, please type A:\>AWDFLASH /?

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AWARD BIOS Description

Entering Setup

Power on the computer, when the following message briefly appears at the bottom of the screen during the POST (Power On Self Test), press <Del> key or simultaneously press the <Ctrl> + <Alt> + <Esc> keys, to enter the AWARD BIOS CMOS Setup Utility.

Press <Del> to enter SETUP

Once you have entered, the Main Menu (Figure 1) appears on the screen. The main menu allows you to select from twelve setup functions and two exit choices. Use the arrow keys to select among the items and press the <Enter> key to accept or enter the sub-menu.

Figure-1 Main Menu

Note:The "System Monitor" item will not be displayed if there is no system monitor hardware on the mainboard.

Load Setup Defaults

The Setup Defaults are common and efficient. It is recommended that users load the setup defaults first, then modify the needed configuration settings.

Standard CMOS Setup

The basic CMOS settings included in "Standard CMOS Setup" are Date, Time, Hard Disk Drive Types, Floppy Disk Drive Types, and VGA etc. Use the arrow keys to highlight the item, then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Figure-2 Standard CMOS Setup Menu

Hard Disk

Primary Master/Primary Slave/Secondary Master/Secondary Slave

These categories identify the HDD types of 2 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and User. "None" means no HDD is installed or set; "Auto" means the system can auto-detect the hard disk when booting up; by choosing "User", the related information should be entered regarding the following items. Enter the information directly from the keyboard and press < Enter>:

CYLS	number of cylinders	HEAD	number of heads
PRECOMP	write pre-compensation	LANDZ	landing zone
SECTOR	number of sectors	MODE	HDD access mode

Video

Set this field to the type of video display card installed in your system.

EGA/ VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.

Halt On

This category determines whether or not the computer will stop if an error is detected during powering up.

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

Memory

This is a Display-Only Category, 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.
Extended Memory	The BIOS determines how much extended memory is presented during the POST.
Other Memory	This is the memory that can be used for different applications. Shadow RAM is most used in this area.
Total Memory	Total memory of the system equals the sum of the above memory.

SpeedEasy CPU Setup

Figure-3 SpeedEasy CPU Setup

The following indicates the options of each item and describes their meanings .

Item	Option	Description
• CPU Model	*Intel(R) Celeron(TM)*	BIOS can automatically detect the CPU model, therefore this item is shown only.
• CPU Speed	*200MHz (66x3)*	CPU frequency should be set according to the CPU type. For processors with 66MHz front-side bus you can choose from 200MHz (66X3) to 533MHz(66x8). For processors with 100MHz front-side bus, you can select from 300MHz(100X3) to 800MHz(100X8).
	Jumper Emulation	This item is only for users who understand all the CPU parameters, i.e. Bus clock and Multiplier. Users are provided with CPU overclock feature through "Jumper Emulation". The host bus speed can be set from 66MHz up to 155MHz. The multiplier can be chosen from 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8. However the multiplier setting will not function for bus radio locked processor, only bus ratio unlocked processor.
• Clock Spread Spectrum	*Enabled*	Enables Clock Spread Spectrum to reduce EMI. you can choose 66/83/100/133/140/150MHz host bus speed.
	Disabled	Disables Clock Spread Specturm. you can choose 66/ 78/100/113/133/144/155MHz host bus speed.

Warning:

Dot not set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damages caused.

BIOS Features Setup

Figure-4 BIOS Features Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● ChipAway Virus On Guard	*Enabled*	Guards against boot virus threats early in the boot cycle, before they have a chance to load into your system, ensuring your computer boots to a clean operating system.
	Disabled	Invalidates this function.
● CPU L1/L2 Cache	*Enabled*	Enables CPU internal Level1/Level2 cache.
	Disabled	Disables CPU internal Level1/Level2 cache.
● CPU L2 Cache ECC Checking	*Enabled*	Enables CPU L2 Cache ECC (Error Checking and Correction) function.
	Disabled	Disables CPU L2 Cache ECC function.
● Processor Number Feature	*Enabled*	Pentium®III Processor Number can be readable.
	Disabled	Pentium®III Processor Number can be unreadable.
● Quick Power On self Test	*Enabled*	Enables quick POST. BIOS will shorten or skip some check items during POST to speed up POST after you power on the computer.
	Disabled	Normal POST.
● Boot from LAN first	*Enabled*	Boot from LAN is ahead of any boot sequence selection (LAN adapter must support this function).
	Disabled	Does not boot from LAN first.
● Boot Sequence	*C,A,SCSI,... C,CDROM,A LS/ZIP, C*	Any search sequence can be chosen for booting.

• Swap Floppy Drive	*Enabled*	Exchanges the assignment of A&B floppy drives.
	Disabled	The assignment of A&B floppy drives are normal.
• Boot Up Numlock Status	*On*	Keypad is used as number keys.
	Off	Keypad is used as arrow keys.
• Gate A20 Option	*Normal*	The A20 signal is controlled by the keyboard controller or chipset hardware.
	Fast	Default setting. The A20 signal is controlled by Port 92 or the chipset specific method.
• Password Setting	*System*	The system will not boot and access to Setup will be denied if the correct password is not entered when prompted.
	Setup	The system will boot up, but access to Setup will be denied if the correct password is not entered when prompted.
• OS Select For DRAM>64MB	*Non-OS2*	If your operating system is not OS/2, please select this item.
	OS2	If system DRAM is more than 64MB and the operating system is OS/2, please select this item.
• HDD S.M.A.R.T Capability	*Enabled*	Enables S.M.A.R.T hard disk support.
	Disabled	Invalidates this feature.
• Video BIOS Shadow	*Enabled*	Video BIOS will be copied to RAM. Video Shadow will increase the video speed.
	Disabled	Video shadow is disabled.
• C8000~CBFFF Shadow: DC000-DFFFF Shadow:	*Enabled*	Optional ROM will be copied to RAM by 16K bytes per unit.
	Disabled	The shadow function is disabled.
• Show Bootup Logo	*Disabled*	Enables the logo when system boots up.
	Enabled	Logo will not be shown when system boots up.
• Flash Write Protect	*Disabled*	Disabling this item allows you to upgrade the BIOS.
	Enabled	Does not allow you to upgrade the BIOS. Note: Enabling this item can protect the system BIOS from being attacked by severe virus such as CIH. Therefore disable this item only when wanting to flash BIOS, set this itme Enabled (default) when completed.

Chipset Features Setup

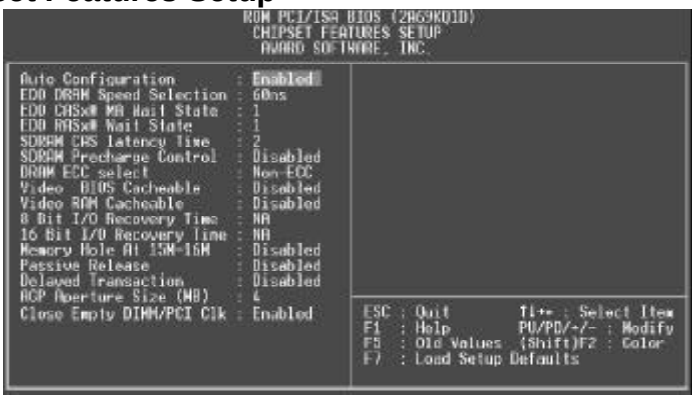

Figure-5 Chipset Features Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
• Auto Configuration	*Enabled*	Automatically configures DRAM Timing according to the value of "DRAM Speed Selection."
	Disabled	Manually configures. ***Note: It is recommended that the "Enabled" option be chosen by common users.**
• EDO DRAM Speed Selection	*50ns, 60ns*	This item is of selected EDO DRAM read/write timing. Ensure your DIMMs are as fast as 50ns, otherwise 60ns should be selected.
• EDO CASx# MA Wait State	*2*	One additional wait state is inserted before the assertion of the first CASx# for page hit cycles This allows one additional clock of MA setup time to CASx# for the lead off page hit cycle. Page miss and row miss timing are not affected by this bit.
	1	Without additional wait state.
• EDO RASx# Wait State	2	One additional wait state is inserted before RAS# is asserted for row misses. This provides one clock of additional MAX[13:0] setup time to RASx# assertion. This bit does not affect page misses since the MAX [13:0] line are setup several clocks in advance of RASx# assertion for page misses.
	1	Without additional wait state.
• SDRAM CAS Latency Time	*2*	Define the CLT timing parameter of SDRAM expressed in the bus speed. Latency Time=2 clocks
	3	Latency Time=3 clocks

• SDRAM Precharge Control	*Enabled*	Default setting is suggested.
	Disabled	
• DRAM ECC Select	*ECC*	Provides ECC (Error Checking and Correction) function.
	Non-ECC	Disabled ECC function.
• Video BIOS Cacheable	*Enabled*	Beside conventional memory, video BIOS area is also cacheable.
	Disabled	Video BIOS area is not cacheable.
• Video RAM Cacheable	*Enabled*	Beside conventional memory, video RAM area is also cacheable.
	Disabled	Video RAM area is not cacheable.
• 8 Bit I/ O Recovery Time.	*1~ 8*	Defines the ISA Bus 8 bit I/O operating recovery time.
	NA	8 bit I/O recovery time does not exist.
• 16 Bit I / O Recovery Time	*1~ 4*	Defines the ISA Bus 16 bit I/O operating recovery time.
	NA	16 bit I/O recovery time does not exist.
• Memory Hole at 15m-16m	*Enabled*	Memory hole at 15-16m is reserved for expanded PCI card.
• Passive Release	*Enabled*	Default setting is suggested.
	Disabled	
• Delayed Transcaction	*Enabled*	Default setting is suggested.
	Disabled	
• AGP Aperture Size (MB)	*4~256*	Sets the effective size of the Graphics Aperture to be used in the particular PAC Configuration.
• Close Empty DIMM/PCI Clk	*Enabled*	Closes empty DIMM or PCI clock to reduce EMI.
	Disabled	Does not close empty DIMM or PCI clock.

Power Management Setup

Figure-6 Power Management Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
• ACPI function	*Enabled*	Validates ACPI function.
	Disabled	Invalidates ACPI function.
• Power Management	*User Define*	Users can configure their own Power Management Timer.
	Min Saving	Pre - defined timer values are used. All timers are in their MAX values.
	Max Saving	Pre - defined timer values are used. All timers are in their MIN values.
• PM Control by APM	No	System BIOS will ignore APM when Power Management is enabled.
	Yes	System BIOS will wait for APM' s prompt before entering any PM mode e.g. Standby or Suspend.
• Video Off Method	*Blank Screen*	The system BIOS will only blank off the screen when disabling video.
	V / H SYNC + Blank	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.
	DPMS	This function is enabled only for the VGA card supporting DPMS.
• Video Off After	*N/A*	System BIOS will never turn off the screen.
	Suspend	Screen blanks after the system enters suspend mode.
	Standby	Screen blanks after the system enters standby mode.
	Doze	Screen blanks after the system enters Doze mode.

● Doze Mode	*Disabled*	The system never enters Doze mode.
	10Sec ~ 1 Hr	Defines the continuous idle time before the system enters Doze mode. If any items defined in "Reload Global Timer Events" are on and activated, the system will be woken up.
● Standby Mode	*Disabled 1 Min~ 1 Hr*	The system will never enter Standby mode. Defines the continuous idle time before the system enters standby mode. If any items defined in "Reload Global Timer Events" are on and activated, the system will be woken up.
● Suspend Mode	*Disabled*	The system never enters Suspend mode.
	10Sec~ 1Hr	Defines the continuous idle time before the system enters Suspend mode. If any items defined in "Reload Global Timer Events" are on and activated, the system will be woken up.
● HDD Power Down	*Disabled*	HDD' s motor remains on.
	1~15 Min	Defines the continuous HDD idle time before the HDD enters the power saving mode (motor off).
● HDD Down When Suspend	*Enabled*	HDD' s motor will be off when the system enters suspend mode.
	Disabled	HDD' s motor remains on.
● Throttle Duty Cycle	*12.5%*	Selects the duty cycle of the STPCLK# signal , slowing down the CPU speed when the system enters the green mode.
	25%	
	37.5%	
	50 %	
	62.5%	
	75%	
● PCI/VGA Act -Monitor	*Enabled*	VGA active reloads global timer.
	Disabled	VGA active has no influence to global timer.
● Soft-Off by PWR-BTTN	*Instant-Off*	The system will power off immediately once the "Power" button is pressed.
	Delay 4 Secs	The system will not power off until the "Power" button is pressed continuously for more than 4 seconds.
● PowerOn by Ring/ LAN	*Enabled*	Allows the system to be powered on when a ring indicator signal comes up to UART1 or UART2 from an external modem or comes up to WOM header from an internal modem card, or when a remote wake up signal comes up to the WOL header from LAN adapter.
	Disabled	Does not allow wake up on LAN or wake up from internal/external modem.
● Resume by Alarm	*Enabled*	RTC alarm can be used to generate a wake event to power up the system which is in power-off status. You can set any date or any time to power up the system.
	Disabled	RTC has no alarm function.

• IRQ 8 Break Suspend	*Enabled*	Generates a clock event.
	Disabled	Does not generate a clock event.
• IRQ [3-7, 9-15], NMI	*Enabled*	Reloads global timer.
	Disabled	Does not influence the global timer.
.....		
Parallel Port		

PNP/PCI Configuration Setup

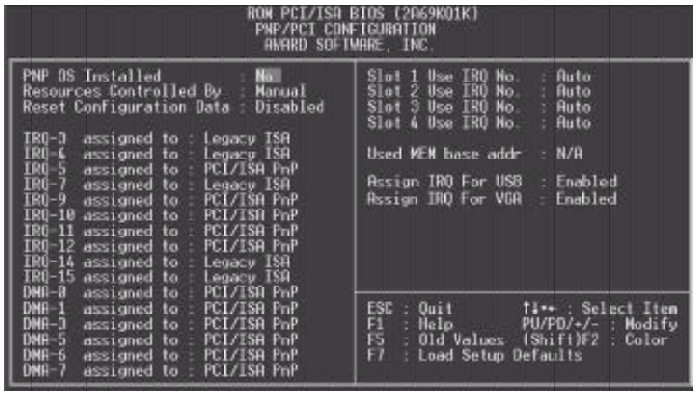

Figure-7 PNP/PCI Configuration Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● PNP OS Installed	*Yes*	Device resources assigned by PnP OS.
	No	Device resources assigned by BIOS.
● Resources Controlled by	*Manual*	Assigns the system resources (IRQ and DMA) manually .
	Auto	Assigns system resources (IRQ and DMA) automatically by BIOS.
● Reset Configuration Data	*Enabled*	The system BIOS will reset configuration data once, then automatically set this item as Disabled.
	Disabled	Disables the configuration data function.
● IRQ-3~IRQ-15 assigned to	*Legacy ISA*	The specified IRQ-x will be assigned to ISA only.
	PCI/ISA PnP	The specified IRQ-x will be assigned to PNP ISA or PCI.
● DMA-0~DMA-7 assigned to	*Legacy ISA*	The specified DMA-x will be assigned to ISA only.
	PCI/ISA PnP	The specified DMA-x will be assigned to PNP ISA or PCI.
● PCI Slot 1/2/3/4 IRQ No.	*Auto,3,4,5,7,9 10,11,12,14,15*	Assigns an IRQ for PCI slot1/2/3/4 manually or automatically.
● Used MEM base address	*C800/8~64K*	Claims a memory space to be occupied by legacy ISA card. The memory address and the memory size (8/16/32/64K) can be chosen from the options.
	N/A	Invalidates this feature.
● Assign IRQ for USB	*Enabled*	Assigns the needed IRQ for the VGA Card.
	Disabled	Does not assign an IRQ for the VGA card, in order to release the IRQ.

• Assign IRQ for VGA	*Enabled*	Assigns an IRQ for USB. If an USB device is used, enable this item.
	Disabled	Does not assign an IRQ for USB. If USB device isn' t used, disabling this item can release the IRQ.

Integrated Peripherals

Figure-8 Integrated Peripherals Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● IDE HDD Block Mode	*Enabled*	Allows IDE HDD to read/write several sectors at once.
	Disabled	IDE HDD only reads/writes a sector once.
● IDE Primary/ Secondary Master/Slave PIO	*Mode 0 - 4*	Defines the IDE primary/secondary master/ slave PIO mode.
	Auto	The IDE PIO mode is defined by auto -detection.
● IDE Primary/ Secondary Master/Slave UDMA	*Auto*	Ultra DMA mode will be enabled if ultra DMA device is detected.
	Disabled	Disables this function.
● On-chip Primary/Secondary PCI IDE	*Enabled*	On-chip primary/secondary PCI IDE port is enabled.
	Disabled	On-chip primary/secondary PCI IDE port is disabled.
● USB Keyboard Support	*Enabled*	USB Keyboard Support is enabled.
	Disabled	USB Keyboard Support is disabled.
● Init Display First	*PCI SLOT*	Initializes the PCI VGA first. If a PCI VGA card and an AGP card are installed together in the system, the one initialized first functions.
	AGP	Initializes the AGP first.
● POWER ON Function	*BUTTON ONLY*	Use the power button to power up the system.
	Password	Enables the Keyboard Password Power-on function and disables the power button' s power-on function. Other than choosing this option, the password should be entered to implement this function.