



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 Diskette | The system boot will not stop for a disk 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. |



BIOS Features Setup



Figure-4 BIOS Features Setup Menu

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

| <u>Item</u> | <u>Option</u> | <u>Description</u> |
|--------------------------|---------------------|---|
| • Virus Warning | <i>Enabled</i> | Activated automatically when the system boots, causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table. |
| | <i>Disabled</i> | No warning message appears. |
| • CPU | <i>Enabled</i> | Enables CPU internal Level1/Level2 cache. |
| L1/L2 Cache | <i>Disabled</i> | Disables CPU internal Level1/Level2 cache. |
| • Boot From LAN First | <i>Enabled</i> | Boot from LAN is ahead of any boot sequence selection (LAN Adapter must support this function). |
| | <i>Disabled</i> | Does not boot from LAN first. |
| • Boot Sequence | <i>C,A,SCSI,...</i> | Any of these search sequence can be chosen for booting. |
| | <i>C,CDROM,A</i> | |
| | <i>LS/ZIP, C</i> | |
| • Swap Floppy Drive | <i>Enabled</i> | Exchanges the assignment of A&B floppy drives. |
| | <i>Disabled</i> | The assignment of A&B floppy drives are normal. |
| • Boot Up Numlock Status | <i>On</i> | Keypad is used as number keys. |
| | <i>Off</i> | Keypad is used as arrow keys. |
| • Gate A20 Option | <i>Normal</i> | The A20 signal is controlled by the keyboard controller or chipset hardware. |
| | <i>Fast</i> | Default setting. The A20 signal is controlled by Port 92 or the chipset specific method. |



| | | |
|--|-----------------|--|
| • Password Setting | <i>System</i> | The system will not boot and access to BIOS Setup will be denied if the correct password is not entered when prompted. |
| | <i>Setup</i> | The system will boot up, but access to BIOS Setup will be denied if the correct password is not entered when prompted. |
| • OS Select For DRAM>64MB | <i>Non-OS2</i> | If your operating system is not OS/2, please select this item. |
| | <i>OS2</i> | 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 | <i>Enabled</i> | Enables S.M.A.R.T hard disk support. |
| • Video BIOS Shadow | <i>Disabled</i> | Invalidates this feature. |
| | <i>Enabled</i> | Video BIOS will be copied to RAM. Video Shadow will increase the video speed. |
| | <i>Disabled</i> | Video shadow is disabled. |
| • C8000~CBFFF Shadow: DC000-DFFFF Shadow: | <i>Enabled</i> | Optional ROM will be copied to RAM by 16K bytes per unit. |
| | <i>Disabled</i> | The shadow function is disabled. |
| • Show Bootup Logo | <i>Enabled</i> | Enables the logo when system boots up. |
| • Flash Write Protect | <i>Disabled</i> | Logo will not be shown when system boots up. |
| | <i>Disabled</i> | Disabling this item allows you to upgrade the BIOS. |
| | <i>Enabled</i> | 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. After completing flashing BIOS, set this item as Enabled (default).



Chipset Features Setup



Figure-5 Chipset Features Setup Menu

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

| <u>Item</u> | <u>Option</u> | <u>Description</u> |
|---------------------------|-----------------|--|
| • Auto Configuration | <i>Enabled</i> | Automatically configures DRAM Timing according to the value of "DRAM Speed Selection". |
| | <i>Disabled</i> | Manually configures. *Note: It is recommended that the Enabled option be chosen by common users. |
| • DRAM Speed Selection | <i>50ns,</i> | This item is of selected DRAM read/write timing. You must ensure that your DIMMs are as fast as 50ns, otherwise 60ns should be selected . |
| | <i>60ns</i> | |
| • MA Wait State | <i>Slow</i> | One additional wait state is inserted before the assertion of the firstst MA and CAS#/RAS# during DRAM read or write leadoff Cycles.This affects page hit, row miss and page miss cases. |
| | <i>Fast</i> | Without additional wait state. |
| • EDO RAS# To CAS# Delay | <i>2</i> | Adds a delay time between the assertion of RAS# and CAS#. |
| | <i>3</i> | Without additional delay time. |
| • EDO RAS# Precharge Time | <i>3</i> | DRAM RAS# Precharge time=3x system clocks. |
| | <i>4</i> | DRAM RAS# Precharge time=4x system clocks. |
| • EDO DRAM Read Burst | <i>x333</i> | The DRAM read burst timing depends on the type of DRAM on a per-row basis. Slower rates may be required to support slower DRAM. |
| | <i>x222</i> | |



| | | |
|------------------------------|---------------------|--|
| • EDO DRAM Write Burst | x222 x333 | The DRAM Write burst timing depends on the type of DRAM on a per-row basis. Slower rates may be required to support slower DRAM. |
| • DRAM ECC Select | ECC | Provides ECC(Error Checking and correction) function. |
| | Non-ECC | Disables ECC function. |
| • CPU-To-PCI IDE Posting | Enabled Disabled | Enable CPU-TO-PCI Write posting. Disable CPU-TO-PCI Write Cycles to IDE. |
| • Video BIOS Cacheable | Enabled | Beside conventional memory, video BIOS area is also cacheable. |
| | Disabled | Video BIOS area is not cacheable. |
| • Video RAM Cacheable | Enabled | Besides 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 ISA card. |
| | Disabled | Does not set this memory hole. |
| • Passive Release | Enabled Disabled | Default setting is suggested. |
| • Delayed Transaction | Enabled Disabled | Default setting is suggested. |
| • AGP Aperture Size (MB) | 4~256 | Sets the effective size of the Graphics Aperture to be used in the particular PAC Configuration. |
| • SDRAM RAS-To-CAS Delay | Slow Fast | RAS-To-CAS Delay time=3 HCLK. RAS-To-CAS Delay time=2 HCLK. |
| • SDRAM RAS Precharge Time | Slow Fast | RAS Precharge Time=3 HCLK. RAS Precharge Time=2 HCLK. |
| • SDRAM CAS Latency Time | 2 | Defines the CLT timing parameter of SDRAM. Latency Time= 2X system Clocks. |
| | 3 | Latency Time= 3X system Clocks. |
| • Close Empty PCI/AGP Clock | Enabled Disabled | Closes empty PCI/AGP Clock to reduce EMI. Does not close empty PCI/AGP clock. |
| • Close Empty DIMM Clock | Enabled Disabled | Closes empty DIMM clock to reduce EMI. Does not close DIMM clock. |
| • Spread Spectrum Modulated | Enabled | Enables Spread Spectrum Modulated to reduce EMI. |
| | Disabled | Disables Spread Spectrum Modulated. |
| • CPU Host Clock | 66/88 68/75MHz | The external host bus frequency of the CPU. |



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 | Disabled | Invalidates ACPI function. |
| | Enabled | Validates ACPI function. |
| | Disabled | Global Power Management (PM) will be disabled. |
| | 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. |
| • Power Management | Max Saving | Pre - defined timer values are used. All timers are in their MIN values. |
| | 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. |
| | | Note: If APM is installed, and there is a task running, even when the timer is time out, the APM will not prompt the BIOS to put the system into any power saving mode. But if APM is not installed, this option has no effect. |
| | | |
| • PM Control by APM | Blank Screen | The system BIOS will only blank off the screen when disabling video. |
| | V / H SYNC + | In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor. |
| • Video Off Method | Blank Screen | The system BIOS will only blank off the screen when disabling video. |
| | V / H SYNC + | 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. Note: When the green monitor does not detect the V/H-SYNC signals, the electron gun will be turned off. |
| • Video Off After | <i>N/A</i> | System BIOS never turns off the screen. |
| | <i>Suspend</i> | Screen blanks after the system enters Suspend mode. |
| | <i>Standby</i> | Screen blanks after the system enters Standby mode. |
| | <i>Doze</i> | Screen blanks after the system enters Doze mode. |
| • MODEM Use IRQ | <i>3,7,5,7,9,10,11</i> | Special wake-up event for Modems. |
| | <i>NA</i> | Invalidates this feature. |
| • Doze mode | <i>Disabled</i> | The system never enters Doze mode. |
| | <i>1Min ~ 1 Hr</i> | 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 | <i>Disabled</i> | The system never enters Standby mode. |
| | <i>Min ~ 1Hr</i> | 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 | <i>Disabled</i> | The system never enters Suspend mode. |
| | <i>Min ~ 1Hr</i> | 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 | <i>Disabled</i> | HDD's motor will not be off. |
| | <i>1 ~15 Min</i> | Defines the continuous HDD idle time before the HDD enters the power saving mode (motor off). |
| • Throttle Duty Cycle | <i>12.5%</i> | Selects the duty cycle of the STPCLK# signal, slowing down the CPU speed when the system enters the green mode. |
| | <i>25%</i> | |
| | <i>37.5%</i> | |
| | <i>50 %</i> | |
| | <i>62.5%</i> | |
| | <i>75%</i> | |
| | <i>87.5%</i> | |
| • VGA Active Monitor | <i>Enabled</i> | VGA active reloads global timer. |
| | <i>Disabled</i> | VGA active has no influence to global timer. |
| • Soft-Off by PWR-BTTN | <i>Instant-Off</i> | The system will power off immediately once the 'Power' button is pressed. |



| | | |
|-------------------------|---------------------|---|
| | <i>Delay 4 Secs</i> | The system will not power off until the ' Power' button is pressed continuously for more than 4 seconds. |
| • CPUFAN Off In Suspend | <i>Enabled</i> | CPU fan will be automatically turned off when the system enters suspend mode. |
| | <i>Disabled</i> | CPU fan remains on when the system enters suspend mode. |
| • Resume by Ring/LAN | <i>Enabled</i> | 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. |
| | <i>Disabled</i> | Does not allow Ring Power-On or Wake Up On LAN. |
| • Resume by Alarm | <i>Enabled</i> | 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, any time to power up the system. |
| | <i>Disabled</i> | RTC has no alarm function. |
| • IRQ8 Break suspend | <i>Enabled</i> | Generates a clock event. |
| | <i>Disabled</i> | Does not generate a clock event. |
| • IRQ [3-7, 9-15], NMI | <i>Enabled</i> | Enables the events which can reload global timer. |
| | <i>Disabled</i> | Does not influence the global timer. |
| | | |
| Parallel Port | | |



PNP/PCI Configuration Setup

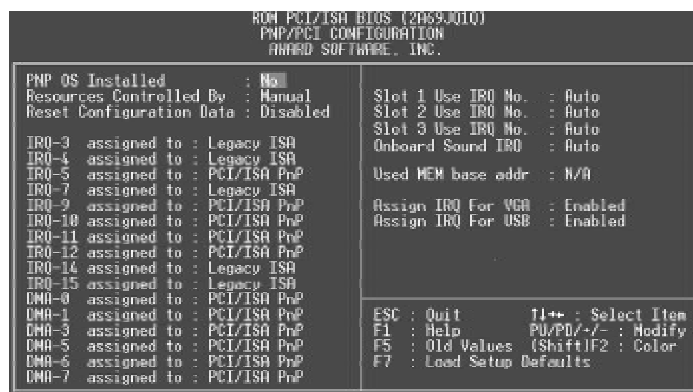


Figure-7 PNP/PCI Configuration Setup Menu

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

| <u>Item</u> | <u>Option</u> | <u>Description</u> |
|----------------------------|--|--|
| • PNP OS Installed | Yes No | Device resources assigned by PnP OS. Device resources assigned by BIOS. |
| • Resources Controlled By | Manual Auto | Assigns the system resources (IRQ and DMA) manually . Assigns system resources (IRQ and DMA) automatically by BIOS. |
| • Reset Configuration Data | Enabled Disabled | The system BIOS will reset configuration data once, then automatically set this item as Disabled. Disables the configuration data function. |
| • IRQ-3~IRQ-15 assigned to | Legacy ISA PCI/ISA PnP | The specified IRQ-x will be assigned to ISA only. The specified IRQ-x will be assigned to PNP ISA or PCI. |
| • DMA-0~DMA-7 assigned to | Legacy ISA PCI/ISA PnP | The specified DMA-x will be assigned to ISA only. The specified DMA-x will be assigned to PNP ISA or PCI. |
| • Slot 1/2/3 use IRQ No. | Auto,3,4,5,7,9 10,11,12,14,15 | Assigns an IRQ for PCI Slot1/2 /3 manually or automatically. |
| • Onboard sound IRQ | Auto 3,4,5,7 | Assigns an IRQ for onboard sound manually or automatically. |
| • Used MEM base addr | 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. |



- | • Assign IRQ for VGA | <i>N/A</i> | Invalidates this feature. |
|----------------------|-----------------|--|
| | <i>Enabled</i> | Assigns the needed IRQ for the VGA Card. |
| | <i>Disabled</i> | Does not assign an IRQ for the VGA card, in order to release the IRQ. |
| • Assign IRQ for USB | <i>Enabled</i> | Assigns the IRQ for USB. If an USB device is used, enable this item. |
| | <i>Disabled</i> | Does not assign an IRQ for USB. If no USB device is 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.

| <u>Item</u> | <u>Option</u> | <u>Description</u> |
|--|--------------------|--|
| • IDE HDD Block Mode | <i>Enabled</i> | Allows IDE HDD to read/write several sectors once. |
| | <i>Disabled</i> | IDE HDD only reads/writes a sector once. |
| • IDE Primary/ Secondary Master/Slave PIO | <i>Mode 0 - 4</i> | Defines the IDE primary/secondary master/ slave PIO mode. |
| | <i>Auto</i> | The IDE PIO mode is defined by auto -detection. |
| • IDE Primary/ Secondary Master/Slave UDMA | <i>Auto</i> | Ultra DMA mode will be enabled if Ultra DMA device is detected. |
| | <i>Disabled</i> | Disables this function. |
| • On-chip Primary/Secondary PCI IDE | <i>Enabled</i> | On-chip primary/secondary PCI IDE port is enabled. |
| | <i>Disabled</i> | On-chip primary/secondary PCI IDE port is disabled. |
| • USB Keyboard Support | <i>Enabled</i> | USB Keyboard Support is enabled. |
| | <i>Disabled</i> | USB Keyboard Support is disabled. |
| • Init Display First | <i>PCI SLOT</i> | 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. |
| | <i>AGP</i> | Initializes the AGP first. |
| • POWER ON Function | <i>BUTTON ONLY</i> | Use the power button to power up the system. |
| | <i>Password</i> | 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. |



| | | | |
|--------------------------|-------------------|--|---|
| | | | Note: If this option(Password) is chosen, the jumper JKB must be set as PIN1& PIN2 closed, or this will prevent you from power-ing up your system. |
| ● Onboard FDC Controller | <i>Enabled</i> | | Onboard floppy disk controller is enabled. |
| | <i>Disabled</i> | | Onboard floppy disk controller is disabled. |
| ● Onboard Serial 1/2 | <i>3F8/IRQ4,</i> | | Defines the onboard serial port address and required interrupt number. |
| | <i>2F8/IRQ3,</i> | | |
| | <i>3E8/IRQ4,</i> | | |
| ● Serial Port 2 Mode | <i>2E8/IRQ3,</i> | | Onboard serial port address and IRQ are automatically assigned. |
| | <i>Auto</i> | | |
| | <i>Disabled</i> | | |
| | <i>Normal</i> | | |
| ● Onboard Parallel Port | <i>ASKIR</i> | | Onboard serial port is disabled. |
| | <i>IrDA</i> | | Defines Serial Port 2 as standard serial port. Supports SHARP ASK-IR protocol with maximum baud rate up to 57600bps. |
| ● Parallel Port Mode | | | Supports IrDA version1.0 SIR protocol with maximum baud rate up to 115.2Kbps. |
| | | | Defines onboard parallel port address and IRQ channel. |
| ● PWRON After PWR-Fail | <i>378/IRQ7,</i> | | Onboard parallel port is disabled. |
| | <i>278/IRQ5,</i> | | |
| | <i>3BC/IRQ7</i> | | |
| | <i>Disabled</i> | | |
| ● PWRON After PWR-Fail | <i>SPP</i> | | Defines the parallel port mode as Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), or Extended Capabilities Port (ECP). |
| | <i>EPP</i> | | |
| | <i>ECP,</i> | | |
| ● PWRON After PWR-Fail | <i>ECP+EPP</i> | | The system remains OFF when the AC power supply resumes. |
| | <i>Off</i> | | |
| | <i>On</i> | | |
| ● PWRON After PWR-Fail | <i>Former-Sts</i> | | The system will be powered up when the AC power supply resumes. |
| | | | |
| ● PWRON After PWR-Fail | | | Whatever the system status is, before the AC power supply cuts off, the system resumes in the previous status(ON/OFF) when the AC power supply resumes. |
| | | | |



System Monitor

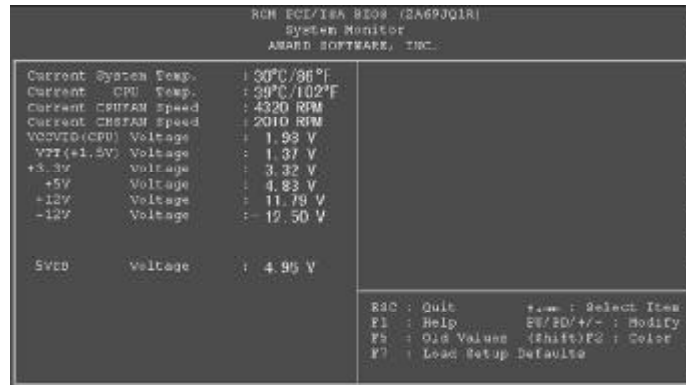


Figure-9 System Monitor Menu

The following describes the meaning of each item.

| <u>Item</u> | <u>Current Data Shown</u> | <u>Description</u> |
|---|--|--|
| <ul style="list-style-type: none"> Current System Temp. Current CPU Temp Current CPUFAN Speed Current CHSFAN Speed | 30°C/ 86°C 39°C/ 102°C 4320RPM 2010RPM | The temperature inside the chassis. The temperature of the CPU core. RPM(Revolution Per Minute) speed of fan Speed connected to the fan header CPUFAN or CHSFAN. FAN Speed value is based on an assumption that tachometer signal is two pulses per revolution; In other cases, you should regard it relatively. |
| <ul style="list-style-type: none"> VCCVID(CPU) Voltage VTT (+1.5) Voltage + 3.3V Voltage + 5V Voltage +12V Voltage -12V Voltage 5VSB Voltage | 1.98V 1.37V 3.32V 4.83V 11.79V -12.50V 4.95V | Displays current Voltage values including all significant volages of the motherboard. +3.3V, +5V, +12V, -12V, 5VSB are voltages from the ATX power supply, VTT (+1.5) Voltage is GTL Termination Voltage from the on-board regulator. |



Supervisor/ User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

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 BIOS Setup freely.

PASSWORD DISABLED

If you have selected “**System**” in “Password Setting” of “BIOS Features Setup” menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected “**Setup**” at “Password Setting” from “BIOS Features Setup” menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.



IDE HDD Auto Detection

The Enhanced IDE features are included in all Award BIOS. Below is a brief description of these features.

| ROM PCI/ISA BIOS (2A69KQ10) CMOS SETUP UTILITY AWARD SOFTWARE, INC. | | | | | | | | |
|---|------|------|------|---------|---------|--------|--------|------|
| HARD DISKS | TYPE | SIZE | CYLS | HEAD | PRECOMP | LANDZ | SECTOR | MODE |
| Primary Master: | | | | | | | | |
| Select Primary Master Option (N=Skip): N | | | | | | | | |
| OPTION | SIZE | CYLS | HEAD | PRECOMP | LANDZ | SECTOR | MODE | |
| 2(Y) | 541 | 525 | 32 | 0 | 1049 | 67 | LBA | |
| 1 | 541 | 1050 | 16 | 65535 | 1049 | 63 | NORMAL | |
| 3 | 541 | 525 | 32 | 65535 | 1049 | 63 | LARG | |
| Note: Some OSes (like SCO-UNIX) must use "NORMAL" for installation | | | | | | | | |
| ESC: Skip | | | | | | | | |

Figure-11 IDE HDD Auto Detection Menu

1. Setup Changes

With auto-detection

- BIOS setup will display all possible modes supported by the HDD including NORMAL, LBA and LARGE.
- If HDD does not support LBA modes, no "LBA" option will be shown.
- If number of physical cylinder is less than or equal to 1024, "LARGE" option may not be shown.
- Users can select their appropriate mode .

With Standard CMOS Setup

| | CYLS | HEADS | PRECOMP | LAND | SECTOR | MODE |
|----------------------|------|-------|---------|------|--------|--------|
| | | | | ZONE | | |
| Drive C: User(516MB) | 1120 | 16 | 65535 | 1119 | 59 | Normal |
| Drive D: None(203MB) | 684 | 16 | 65535 | 685 | 38 | ----- |

When HDD type is in "user" type, the "MODE" option will be available for users to select their own HDD mode.



2. HDD Modes

The Award BIOS supports 3 HDD modes: NORMAL, LBA and LARGE.

NORMAL

Generic access mode in which neither the BIOS nor the IDE controller will make any transformation during accessing. The maximum number of cylinders, heads and sectors for NORMAL mode are 1024,16 and 63.

If the user sets his HDD to NORMAL mode, the maximum accessible HDD size will be 528 megabytes even though its physical size may be greater than that.

LBA (Logical Block Addressing) mode

A new HDD accessing method to overcome the 528 Megabyte bottleneck. The number of cylinders, heads and sectors shown in setup may not be the number physically contained in the HDD.

During HDD accessing, the IDE controller will transform the logical address described by sector, head and cylinder number into its own physical address inside the HDD. The maximum HDD size supported by LBA mode is 8.4 Gigabytes.

LARGE mode

Some IDE HDDs contain more than 1024 cylinder without LBA support (in some cases, users do not want LBA). The Award BIOS provides another alternative to support these kinds of HDD.

BIOS tricks DOS (or other OS) into recognizing the number of cylinders is less than 1024 by dividing it by 2. At the same time, the number of heads is multiplied by 2. A reverse transformation process will be made inside INT13h in order to access the right HDD address.

If using Auto detect, the BIOS will automatically detect the IDE hard disk mode and set it as one of the three modes.

3. Remark

To support LBA or LARGE mode of HDDs, there must be some softwares involved which are located in Award HDD Service Routine(INT13h).It may fail to access a HDD with LBA (LARGE) mode selected if you are running under an Operating System which replaces the whole INT 13h.

Boot with BIOS defaults

If you have made all the changes to CMOS values and the system can not boot with the CMOS values selected in setup, clear CMOS after power-down, then power on again. System will boot with BIOS default settings.



Chapter 4

YAMAHA Audio Description

Onboard audio system is based on the high performance Yamaha YMF740 PCI audio controller and AC97 audio decoder. It incorporates the best features of Sound Blaster™, Sound Blaster™Pro, Microsoft Windows Sound System and MPU-401 for all multimedia applications, entertainment, educational sound and business audio.

Features

- PC97/PC98 specification compliant.
- PCI Bus Power Management rev1.0 compliant.
- PCI Bus Master for audio:
 - Maximum 32-voice XG capital Wavetable.
 - Synthesizer including GM compatibility.
 - DirectSound Hardware Acceleration.
 - DirectMusic Hardware Acceleration.
 - Downloadable Sound (DSL) level-1.
- Supports PC/PCI for legacy DMAC(8237) emulation.
- Legacy Audio compatibility.
 - Genuine OPL3.
 - Hardware Sound Blaster Pro compatibility.
 - MPU401 UART mode MIDI interface.
- Provides onboard Mic-in jack, Line-in jack, speaker-out jack and MIDI/Joystick connector.
- Provides Hardware Volume Control.

YAMAHA Software Installation

Before you begin:

All of the installation instructions assume that the CD-ROM disk is located in drive D: and that Windows 95/98 is in C:\Windows. Replace either with the actual location if necessary.

1. Installation of Windows 95/98 Driver

There are two ways to install the Windows 95/98 drivers. One is by using normal PnP installation of Windows. Another is by using the Yamaha Driver Installer. Please note, if using normal PnP installation, the system will prompt you for the Yamaha audio driver during Windows 95/98 startup, direct the path to D:\DevDrv\Sound\Yamaha\Driver\Win95&98 and run setup.exe.



Installation using the Yamaha Driver installer.

- Under Windows 95/98, insert the QDI Motherboard Utility CD into the CD-ROM drive.
- Direct the path to D:\DevDrv\Sound\Yamaha\Driver\Inst95&98 and run Setup.exe.

The Yamaha DS-XG Driver Setup will guide you through the setup process.



- Restart the computer when prompted.
- During Windows 95/98 startup, several New Hardware Found boxes will appear as shown below.



- After completing the installation, the sound, video and game controllers should be listed in Device Manager from System Properties as shown below.



For more information, please refer to the file inst95.pdf in the directory
D:\DevDrv\Sound\Yamaha\Driver\Guide



2. Installation of Dos/Windows 3.1x Driver

Before installing the audio drivers from the CD-ROM, a CD-ROM drive must be installed and working properly in your system. If you have not yet installed a CD-ROM drive and associated driver, refer to your CD-ROM drive's documentation for instructions. Use the diskette provided with the CD-ROM drive to install the needed driver.

To install the audio drivers from the CD-ROM:

- Start your system.
- Insert the QDI Motherboard Utility CD into your CD-ROM drive.
- At the DOS prompt, change to the drive containing your CD-ROM. For example, type D:.
- Change to the directory \DevDrv\Sound\Yamaha\Driver\RealDOS.
- Type INSTALL, then press <Enter>.
- Follow the instructions presented on the screen to complete the installation.

3. Installation of Windows NT 4.0 Driver

There are two ways to install the WindowsNT 4.0 drivers. One is by using normal audio installation of Windows NT4.0. Another is by using the Yamaha Driver Installer, direct the path to D:\DevDrv\Sound\Yamaha\Driver\InstNT and run setup.exe.

Normal Audio Installation under Windows NT 4.0

- Log on to Windows NT 4.0.
- Insert the QDI Motherboard Utility CD into the CD-ROM drive.
- Double click the **Multimedia** icon in the **Control Panel**, then click on the **Devices** tab.
- Press the **ADD** button, and select "**Unlisted or Updated Drivers**", then press the **OK** button.
- A dialog box appears requesting the path of the location for the drivers. Click the **Browse** button and direct the path to D:\DevDrv\Sound\Yamaha\Driver\winNT.
- The *Add Unlisted or Updated Driver* window then appears prompting you to select a language. Click on the desired language in the list and click on the **OK** button.





- If the *Driver Exists* window appears as shown below, click the **New** button to overwrite the existing driver.



- Windows NT will now copy the necessary files to your computer. When the *YAMAHA DS-XG Audio Driver* window appears, verify that the MPU401 I/O address, IRQ and joystick I/O address settings are correct as shown in the figure below. Click the **OK** button to continue.



- You will be prompted to restart your computer now. Click the **Restart Now** button.

For more information, please refer to the file *instnt.pdf* in the directory
D:\DevDrv\Sound\Yamaha\Driver\Guide



Appendix A

QDI Motherboard Utility CD-ROM

A QDI Motherboard Utility CD-ROM is supplied with each motherboard. The contents used for this motherboard are:

1. Chipset Dispatches:
Intel Chipset Drivers included in the directory \ChipDrv\Intel can be used for this motherboard.
 - a. Intel PIIX4 Driver, included in directory \ChipDrv\Intel\PIIX4
This driver is for Windows 95/OSR2 which supports the latest Intel PCI devices such as the PCI IDE hard disk controller, PCI USB device etc. It can also remove the yellow question mark in the Device Manager of Windows 95 after installation.
Run \ChipDrv\Intel\PIIX4\Setup.exe for installation.
 - b. Intel Bus Master Driver, included in directory \ChipDrv\Intel\BMIDE
It's Intel Bus Master Driver for Windows 95, which can enhance the capability of IDE data transaction up to Ultra DMA/33MB supported by 440LX chipset or other ultimate chipset.
Run \ChipDrv\Intel\BMIDE\Setup.exe for installation.
2. Onboard Audio Drivers
The audio drivers included in the directory \DevDrv\Sound\Yamaha\Driver are for the onboard Yamaha YMF 740 PCI audio.
Run \DevDrv\Sound\Yamaha\Driver\Real Dos\Install.exe to install Dos/Windows 3.1x driver.
Run \DevDrv\Sound\Yamaha\Driver\Inst 95&98\Setup.exe to install Windows 95 & 98 driver.
Run \DevDrv\Sound\Yamaha\Driver\InstNT\Setup.exe to install Windows NT 4.0 driver.
3. PC-cillin Anti-Virus software:
For Windows 95/98 English version, it is located in the directory \Pccillin\Win9X. Run Setup.exe for installation.
For Windows NT English version, it is located in the directory \Pccillin\WinNT4.0. Run Setup.exe for installation. S/N is PNEF-9991-6558-5857-5535.
4. QDI ManageEasy:
Run Setup.exe from the directory \QME to install the ManageEasy. For detailed information about QDI ManageEasy, refer to the ManageEasy Manual included in the directory \Doc. Please note, hardware is a manufacturing option.
6. QDI Motherboard Utility:
The utilities located in the directory \Utility are:
FLASH.EXE
CBLOGO.EXE
LF.EXE
Refer to the online help for information on how to use these utilities.



6. Documents for QDI Motherboard:
The files included in the directory \Doc are:
Adobe Acrobat Reader V3.0 —ar32e301.exe
ManageEasy Manuals —QMEV12.PDF.



Appendix B.

Boot Logo

When you power on or reset your system, the picture shown below will appear on the screen.



If you press <Esc>, it switches to the booting message screen. Otherwise, it enters operating system directly. You can use “**cblogo.exe**” (included on the QDI Motherboard Utility CD) to replace it by any other logo which you prefer. Regarding the method of using **cblogo.exe** utility, please refer to it’s online help. If you don’t prefer the logo displayed on the screen during boot up, set the “Show Bootup Logo” option as Disabled in the ‘ BIOS FEATURES SETUP’ section of the BIOS

*** We reserve the right of modifying the default full-logo of QDI without further notification.**

Item Checklist

Completely check your package. If you discover damaged or missing items, contact your retailer.

- ☒ LegenX 8 motherboard
- ☒ QDI Motherboard Utility CD-ROM
- ☒ I/O shield
- ☒ 1 IDE ribbon cable
- ☒ 1 floppy ribbon cable
- ☒ User' s manual

Notice

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If you need any further information, please visit our web-site: "www.qdigrp.com".

Board Layout of LegenX 8 V1.0