

Introduction

1-1 Product Specifications

❑ Processor

- Supports up to 200 MHz Intel **Pentium**[®] processors and up to 233 **MHz Pentium**[®] processors with MMX technology
- Supports Cyrix/IBM 6x86MX PR166+~PR233+and up to 366MHz MII processors
- Supports AMD K6 166 MHz~266 MHz processors and K6-2/K6-III up to 500MHz processors
- Supports IDT 180 MHz to 225 MHz Winchip C6, 200MHz to 266MHz Winchip 3D processors
- High efficiency **Switching Power Module**
- Supports 66/75/83/95/100 MHz

❑ Chipset

- VIA **VT82C598MVP/VT82c686A**(Super South) two chip AGPset

❑ L2 Cache

- On board 512KB Pipelined Burst SRAM and up to 2MB(Optional)

❑ DRAM Memory

- Three 3.3V 168-pin DIMM sockets support up to 384MB
- Provides Parity/single-bit ECC capability



Because 256MB unbuffered DIMM modules are not yet mainstream, their compatibility can not be guaranteed. (See Section 2-5 for details.)

❑ Expansion Slots

- One AMR slot (Rev 1.0 compliant)
- One 32-bit AGP slot (Rev 2.0 2x compliant)
- Four 32-bit PCI slots (Rev 2.2 compliant)
- Two 16-bit ISA slots (one PCI/ISA shared slot)

❑ BIOS

- Award System BIOS, supports PnP, APM, DMI,ACPI & Multi-device booting features i.e. floppy, LS120, CD-ROM, HDD(IDE, SCSI), ZIP-ATAPI etc.
- Includes Trend **ChipAway Virus** protection for virus-free boot and virus free operating system
 - ⊗ The Trend ChipAway Virus is a rule-based anti-virus technology and does not require periodical updates of virus code

❑ Embedded Ultra DMA-66 PCI IDE controller

- Supports two IDE ports up to 4 ATAPI devices
- Supports up to PIO Mode 4 up to 14MBps, Multi Mode 4 up to 66MBps with bus mastering
- Bus Mastering software drivers for all well known multi-task operating systems

❑ Embedded Super I/O Functions

- Three UARTs support two serial ports and IR function for HPSIR and ASKIR
- One parallel supports SPP/ECP/EPP
- One floppy disk drive connector supports up to 2.88MB, Japanese 3- Mode and up to 1Mbps transfer rate

❑ Double Stack Back-Panel I/O Connectors

- PC99 compliant color connectors
- PS/2 Mini-DIN keyboard and mouse ports
- Two Channel USB ports
- One D-Sub 9-pin male serial port
- One D-Sub 25-pin female Printer port
- One D-Sub 15-pin female Game/MIDI port
- Audio Line-out, Line-in, Mic-in jacks

❑ Embedded PCI Audio Subsystem

- Supports standard v2.1 AC-Link interface for single or cascaded AC'97 Codec
- CD-quality, 16-bit stereo audio controller
- Full-duplex operation for simultaneous recording and playback
- Supports emulated FM music synthesizer
- Wavetable playback on the system memory
- Direct two game ports and one MIDI port interface
- Loopback capability for redirecting mixed audio streams into USB speaker
- Legacy DOS games and SoundBlaster Pro compatible

❑ Embedded USB Ports

- USB v1.1 and Intel UHCI v1.1 compliance
- Supports root hub and Four USB ports

❑ Board Dimensions

- Standard ATX form factor, 305mm x200mm, 4 Layers
- Six mounting holes

❑ Advanced Management Features

Power-on events:

- WOL(Wake-on-LAN)network card, Modem ring, RTC Alarm
- Software power-off control for Win98
- Over-ride power button, Enhanced Power-failure recovery
- Embedded System Monitor Hardware
- **Poly-fuse** for over-current protection
- **ACPI** features ready
- Hardware design meets Microsoft PC99 requirements
- Complete Data Security

First industrial mainboard to combine Trend ChipAway Virus and PC-cillin for a 100% virus free system boot-up

❑ Switching Power Supply Requirement (at least 200 Watts)

Output Voltage	Max. Regulation Requirement	Min. Current Requirement (Amps)
+12V	+/- 5%	0
+5V	+/- 5%	1
+3.3V	+/- 5%	10*
-5V	+/- 10%	0
-12V	+/- 10%	0
+5VSB	+/- 5%	0.75

Table 1-1



3.3V at 10Amps is necessary to guarantee full loading operation because some AGP cards and memory modules have high current consumption.

1-2 Package Contents

This product comes with the following components:

- ❑ One mainboard
- ❑ One 40-pin Ultra DMA-66 IDE connector ribbon cable (Figure 1-1)
 - * **Color coded connection for UDMA/66 cable**
 - Blue to mainboard, Ground in blue, Gray to Master and Black to slave
- ❑ One 34-pin floppy disk drive ribbon cable (Figure 1-2a) or (Figure 1-2b)
- ❑ One plastic stub for standard ATX installation (Figure 1-3)
- ❑ One User's Manual
- ❑ One CD-ROM that includes
 - Acrobat Reader
 - Award Flash Utility and Award DMI Utility for DOS
 - VIA Bus Master IDE drivers for Win95 and WinNT
 - VIA ACPI Patch file for Win9x
 - Sound Driver and Applications for Win95/NT
 - System Health Monitoring Software
 - Trend **PC-cillin 98** with multilingual support
 - Optional AIRBAG software group including Norton Ghost, Norton AntiVirus and High Point Xstore Pro



Figure 1-1 UDMA66 IDE cable



Figure 1-2a Standard Floppy cable



Figure 1-2b Optional 5.25 in. floppy cable

Insert the stub if the mounting screw is not supported by the ATX case

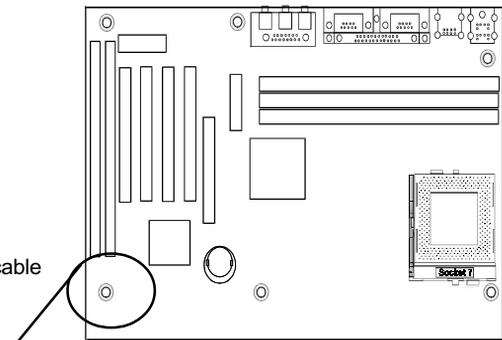
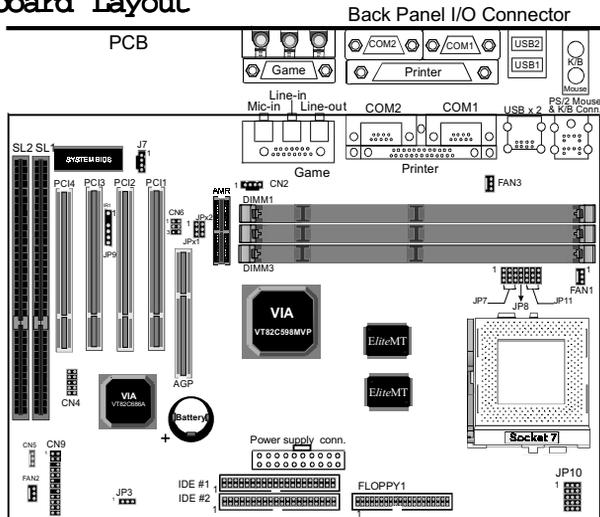


Figure 1-3

1-3 Mainboard Layout



1-4 Connector and Jumper Reference Chart

Jumper & Connector No.	Function	Page
CN2	AUX IN connector	15
CN4	USB3&4 connectors	17
CN5	WOL(Wake-on-LAN) connector	16
CN9	Over-ride power button connector	13
	Keyboard lock & Power indicator LED connector	13
	System reset switch connector	14
	Speaker connector	14
	Green switch / Green LED connector	14
	Turbo LED connector	14
	IDE activity LED connector	14
CN6/JP1/JP2	AMR/MR Jumperfs	15
JP3	Clear CMOS data jumper	17
JP7	System Frequency jumpers	9
JP8	System-memory Asy./Syn. mode setting jumpers	16
JP9	Infrared Connector	15
JP10	CPU Voltage jumpers	10
JP11	System frequency ratio jumpers	9
J7	CD-ROM audio in	15
-	ATX Power supply connector	12
FAN1	CPU cooling fan connector	16
FAN2	System cooling fan connector	16
FAN3	Case cooling fan connector	16
Ports	PS/2 mouse and keyboard ports	14
Ports	USB (Universal Serial Bus) ports	17



Memo

Hardware Setup

If your mainboard has already been installed in your computer you may still need to refer to this chapter if you plan to upgrade your system's hardware.

! Be sure to disconnect the power cable from the power source before performing any work on your mainboard, i. e. installing a CPU, memory module, changing a jumper setting, etc. Not doing so may result in electrical shock!

2-1 Introduction to Jumpers

Jumpers are used to select between various operating modes. A jumper consists of a row of gold colored pins that protrude from the surface of the mainboard. It is important not to confuse jumpers with connectors or headers.

! Putting jumper caps on anything that is not a jumper may result in damaging your mainboard. Please refer to Section 1-3, Mainboard Layout, for the location of jumpers on your mainboard.

As indicated in Figure 2-1 below, a cap is used to cover the pins of a jumper, resulting in shorting those pins that it covers. If the cap is removed from the top of the pins, the jumper is left "open." The number 1 shown both in the diagram below and in all multiple pin jumper and header diagrams in this manual indicates the pin designated with the number 1. The numbering of the remaining pins follows in sequence.

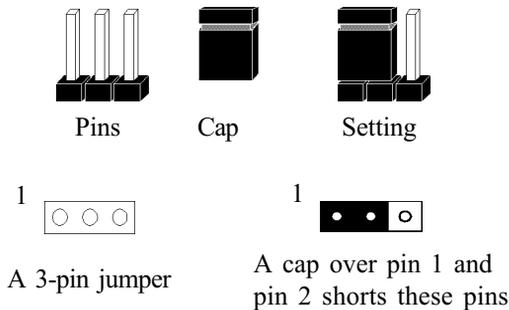


Figure 2-1

2-2 Installing a PGA type CPU in a ZIF Socket

The Intel Socket 7, designed for the Pentium processor, has been incorporated as a standard motherboard specification and is compatible with AMD and Cyrix CPUs. To insert your CPU into Socket 7 please do the following:

1. Locate a small dot marked on the top surface of the CPU close to one of its corners. The same corner will also be cut off, leaving a noticeable notch in the CPU's corner. These markings indicate Pin 1 of the CPU. See Figure 2-2.

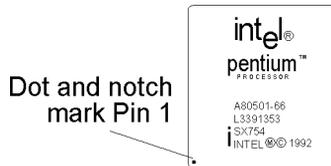


Figure 2-2 The markings on top of a CPU

2. Pull up the lever of Socket 7 so that it is perpendicular with the surface of the motherboard. Gently insert the CPU with Pin 1 at the same corner of Socket 7 that contains the end of the lever. Allow the the weight of the CPU to push itself into place. Do not apply extra pressure as doing so may result in damaging your CPU. Snap the lever back into place. See Figure 2-3.

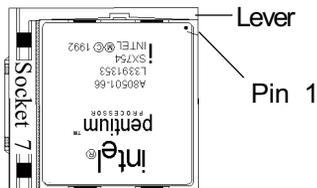


Figure 2-3 Inserting a CPU into Socket 7



Installing a heat sink and cooling fan on top of your CPU is necessary for proper heat dissipation. Failing to install these items may result in overheating and possible burn-out of your CPU.

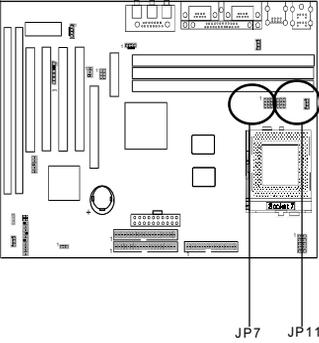
2-3 CPU Jumper Configuration

Frequency Configuration

If you install a CPU on this mainboard, you must set **JP7** for **System Frequency** and **JP11** for **CPU Bus Frequency Ratio**. See Figure 2-4 CPU/System Frequency Jumper Settings.

CPU Bus Frequency & Frequency Ratio Configuration

* CPU Speed = Frequency ratio x System Frequency



System Freq.	JP 7	Freq. Ratio	JP 11																								
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Figure 2-4 System Frequency Jumper Settings

PCI Frequency & AGP Frequency

System Freq.(MHz)	PCI Freq.(MHz)	AGP Freq.(MHz)
60	30	60
66	33	66
75	37.5	75
83	33	66
95	31.75	63.5
100	33	66

Overclocking

Operating a CPU at a higher frequency than its specification allows is called overclocking. If the CPU frequency is set at a higher frequency than its specification allows, it may or may not run at that frequency, depending on the quality of your CPU and the extent to which the frequency has been overset. The mainboard manufacturer highly discourages overclocking as it may result in data loss, CPU burn-out, system failure, etc.

Many processors are frequency locked processors and are not able to perform overclocking. Regardless of whether the processor is a frequency locked, overclocking may cause some processors to hang when turning on the system. When the processor hangs, the screen remains blank and the system does not boot. To solve this problem, do the following:

1. Turn off the computer and then press the Home key on your keyboard
2. Turn on your computer, wait for five seconds and then release the Home key. (Pressing the Home key allows the computer to boot at a low system speed. For example, 100MHz external clock CPUs boot-up at 133MHz.)
3. Enter BIOS and reconfigure your CPU parameters as described in this section.

Voltage Configuration

There are two major processor types in general use--single and dual voltage processors. Most single voltage processors such as Pentium, AMD-K5, and Cyrix 6x86 processors use a single voltage value of 3.5v for both core and I/O voltage settings. Most dual voltage processors such as Pentium processors with MMX technology and Cyrix 6x86L processors use a dual voltage value of 2.8v for core and 3.3v for I/O voltage settings. To make the voltage setting for single and dual voltage processors, simply set **JP10** according to the table on the next page. The voltage range supported by this mainboard is detailed in Figure 2-5 below.

V c o r e	J P 1 0
2 . 0 V	
2 . 1 V	
2 . 2 V	
2 . 4 V	
2 . 7 V	
2 . 8 V	
2 . 9 V	
3 . 0 V	
3 . 2 V	
3 . 3 V	
3 . 5 V	

Figure 2-5 Voltage Jumper Settings

CPU-type		CPU Power		Voltage	System freq.		Freq. ratio																						
		U/D	Vcc	Core	Vcc	J P 1 0	M H z	J P 7	Speed	rate	J P 1 1																		
Intel	P 54 C-133	3.5		1		66	1	x2	1																				
	P 54 C-166	3.5		1					66	1	x2.5	1																	
	P 54 C-200	3.5		1							66	1	x3	1															
	Pentium w / M M X @ 166 M H z	3.3	2.8	1									66	1	x2.5	1													
	Pentium w / M M X @ 200 M H z			1											66	1	x3	1											
	Pentium w / M M X @ 233 M H z			1													66	1	x3.5	1									
Cyrilx / IBM	6x86-PR166 @ 133MHz	3.5		1		75	1	x2	1																				
	6x86-PR200 @ 150MHz	3.5		1		75	1			x2	1																		
	6x86L-PR166 @ 133MHz	3.3	2.8	1		66	1					x2	1																
	6x86L-PR200 @ 150MHz			1		75	1							x2	1														
	6x86MX-PR166			1		66	1									x2	1												
	6x86MX-PR200			1		66	1											x2	1										
	6x86MX-PR200			1		75	1													x2	1								
	6x86MX-PR233			1		83	1															x2	1						
	6x86MX-PR266			1		83	1																	x2	1				
	M11-300			1		66	1																			x2	1		
AMD	K6/166			3.3	2.2	1		66	1																			x2.5	1
	K6/200					1				66	1																	x3	1
	K6/233	1				66	1					x3.5	1																
	K6/266	1										66	1	x4	1														
	K6-2/266	1												66	1	x4	1												
	K6-2/300	1														66	1	x4	1										
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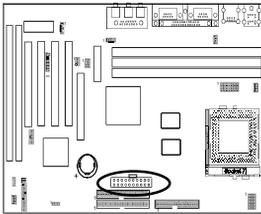
2-4 Connector and Jumper Settings

Connectors are used to link the system board with other parts of the system, including the power supply, the keyboard, and the various controllers on the front panel of the system case.

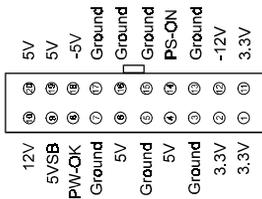


The power supply connector is the last connection to be made while installing a mainboard. Before connecting the power supply, please make sure it is not connected to the power source.

ATX Power Supply Connector



This mainboard requires a power supply of at least 200 watts. **The power cord leading from the system's power supply to the external power source must be the very last part connected when assembling a system.**



The ATX power supply provides a single 20-pin connector interface which incorporates standard +/-5V, +/-12V, optional 3.3V and Soft-power signals. The Soft-power signal, a 5V trickle supply is continuously supplied when AC power is available. When the system is in the Soft-Off mode, this trickle supply maintains the system in its minimum power state.

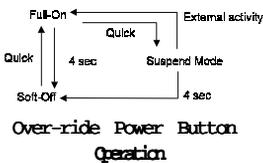
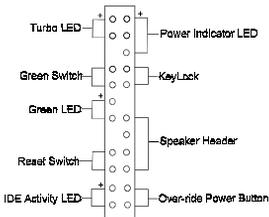
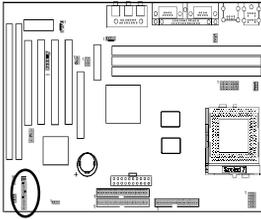
Software Power-Off Control

This mainboard can be powered down using the Windows 95 Software Power-Off function. To power down your computer, click the START button on the Windows 95 Task Bar. Select "Shut Down The Computer" and the system turns off. The message "It is now safe to turn off your computer" will not be shown when using this function.

Power-On By Modem

While in Soft-off state, if an external modem ring-up signal occurs, the system wakes up and can be remotely accessed. Enable this function in BIOS's Power Management Setup menu. (See section 3-4)

Front Panel Connector Set A through G (CN9)



A. Over-ride Power Button Connector

The power button on the ATX chassis can be used as a normal power switch as well as a button to activate Advanced Power Management Suspend mode. This mode is used for saving electricity when the computer is not in use for long periods of time. The Soft-OFF by PWR-BTTN function in BIOS's Power Management Setup menu must be set to "Delay 4 Sec." to activate this function. (See section 3-4)

When the Soft-OFF by PWR-BTTN function is enabled, pushing the power button rapidly will switch the system to Suspend mode. Any occurrence of external activity such as pressing a key on the keyboard or moving the mouse will bring the system back to Full-On. Pushing the button while in Full-On mode for more than 4 seconds will switch the system completely off. See Over-ride Power Button Operation diagram.

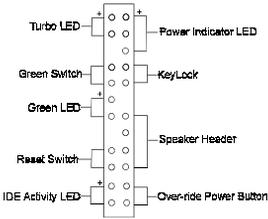
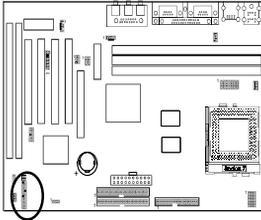
B. Keyboard Lock & Power Indicator LED Connector

Plugging this connector into the lock on the front panel of the system case allows the lock to enable or disable the keyboard. This function provides limited security against casual intruders. The power indicator LED shows the system's power status. It is important to pay attention to the correct cable and pin orientation (i.e., not to reverse the order of these two connectors.)

Pin	Definition
1	+5V DC
2	No Connect
3	Ground
4	Keylock
5	Ground

Blinking LED in Suspend Mode(optional)

While in Suspend mode, the LED light on the front panel of your computer will flash. Suspend mode is entered by pressing the Override Power Button, pushing the Green button on your ATX case, or enabling the Power Management and Suspend Mode options in BIOS's Power Management menu. (See section 3-4)



C. Green Switch/Green LED Connector

Some ATX cases provide a Green switch which is used to put the system in Suspend mode. In Suspend mode, the power supply to the system is reduced to a trickle, the CPU clock is stopped, and the CPU core is in its minimum power state. The system is woken up whenever the keyboard or mouse is touched. The system resumes in different ways as defined by Power Management Setup screen in BIOS.

D. System Reset Switch Connector

This connector should be connected to the reset switch on the front panel of the system case. The reset switch allows you to restart the system without turning the power off.

Pin	Definition
1	System
2	GND

E. Speaker Connector

PIN	Definition
1	Speaker Signal
2	NC
3	NC
4	+5V DC

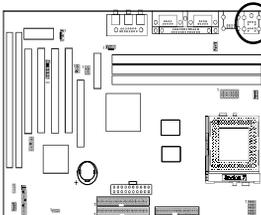
F. IDE Activity LED Connector

The IDE activity LED lights up whenever the system reads/writes to the IDE devices.

G. Turbo LED Connector

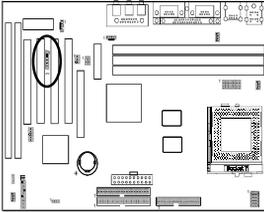
This mainboard does not have a Turbo/De-turbo speed modes. Even though this function does not exist, the turbo LED will light when the LED is connected and turbo button pressed

PS/2 Mouse and Keyboard Ports

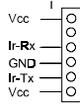


If a PS/2 mouse is used, BIOS will automatically detect and assign IRQ12 to the PS/2 mouse.

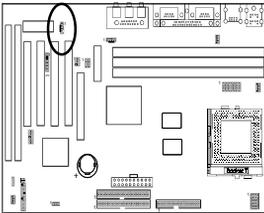
Infrared Connector (JP9)



If you enable the COM2 Mode in BIOS's Integrated Peripherals menu the COM2 port will support IR functions. (See section 3-7)



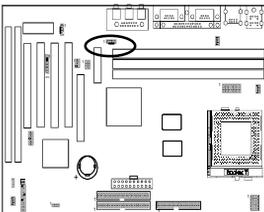
CD-ROM Audio-in (J7)



Use the cable enclosed with your CD-ROM disk drive to connect the CD-ROM to your mainboard. This will enable your CD-ROM's audio function.



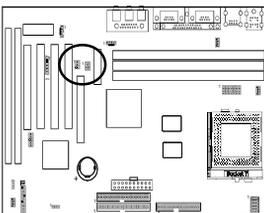
AUX Audio-in Connector (CN2)

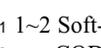


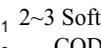
Use the cable enclosed with your CD-ROM disk drive to connect the CD-ROM to your mainboard. This will enable your CD-ROM's audio function.



AMR/MR Jumper (CN6/JP1/JP2)

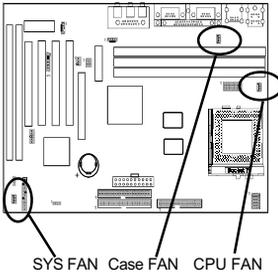




 1~2 Soft-Modem riser only (On-board AC97 CODEC enabled)



 2~3 Soft-Audio/Modem riser (On-board AC97 CODEC disabled).

Short pin 1-2 to enable Soft Modem riser only (On-board AC97 CODEC enabled). Short pin 2-3 to enable Soft Audio Modem riser (On-board AC97 CODEC disabled).

CPU/System/Case Cooling Fan Connectors (FAN1/FAN2/FAN3)

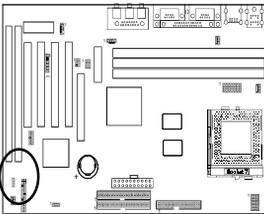


These added connectors allow the fan to draw their power from the mainboard instead of the disk drive connector. The mainboard's management extension hardware is able to detect the CPU and system fan speed in rpm (revolutions per minute). These connectors supports 3-pin cooling fans with minimum of 3500 RPM. The wiring and plug may vary depending on the manufacturer. On standard fans, the red is positive (+12V), the black is ground, and the yellow wire is the rotation signal.



FAN3 (Case Fan) is an independent power line that is not control by system health monitor and power management.

WOL (Wake-on-LAN) Connector (CN5)

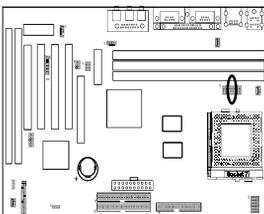


Enable the Wake Up On LAN selection in BIOS's Power Management Menu to use this function. The capability to remotely manage PCs on a network is a significant factor in reducing administrative and ownership costs. Magic Packet technology is designed to give WOL (Wake-on-LAN) capability to the LAN controller. When a PC capable of receiving wake up command goes to sleep, the Magic Packet mode in the LAN controller is enabled. When the LAN controller receives a Magic Packet frame, the LAN controller will wake up the PC. This header is used to connect an add-in NIC (Network Interface Card) which gives WOL capability to the mainboard.



To support this function, a switching power supply with a minimum of **750mA 5VSB** is required.

System Memory Asyn./Syn. Mode Setting Jumper (JP8)



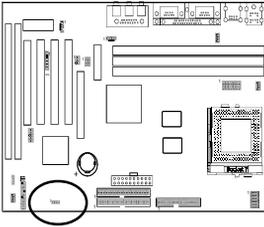
Memory freq.=System frequency(default)



Memory freq.=AGP frequency

This feature allow memory frequency to run at system frequency (synchronous) mode or at AGP frequency (asynchronous) mode. Set the jumper cap at location 1~2 for system frequency mode or set the jumper cap at location 2~3 for AGP frequency mode.

Clear CMOS Data Jumper (JP3)



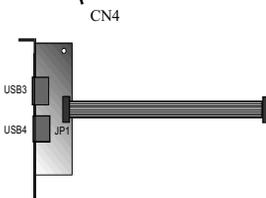
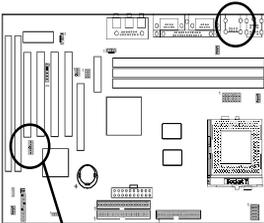
- 1  Normal (default) 1  Clear CMOS data

Short pin 1-2 to enabled the on-board audio and open pin 1-2 to disabled.

To clear the contents of the CMOS, please follow the steps below.

1. Disconnect the system power supply from the power source.
2. Set the jumper cap at location 2~3 for 5 seconds, then set it back to the default position.
3. Connect the system's power and then start the system.
4. Enter BIOS's CMOS Setup Utility and choose Load Setup Defaults. Type Y and press enter.
5. Set the system configuration in the Standard CMOS Setup menu.

USB(Universal Serial Bus) Ports and USB3&4 Connector (CN4)



Optional USB Adaptor

If you want to use a USB keyboard, you must enable the USB keyboard support function in BIOS's Integrated Peripherals menu (See Section 3-7). USB is an open industry standard, providing a simple and inexpensive way to connect up to 125 devices to a single computer port. Keyboards, mice, tablets, digitizers, scanners, barcode readers, modems, printers and many more can all be used at the same time.

USB is a dynamically reconfigurable serial bus with an elementary data rate of 12Mbps. Based on off the shelf, low cost micro-controller technology, its modular layered software protocol supports sophisticated devices and application programs.

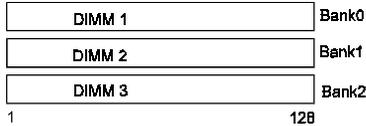
This board contains a USB Host controller and includes a root hub with four USB ports (meets USB Rev 1.0 spec.)and a connector for optional USB Adaptor (CN4). four USB peripherals or hub devices are able to be connected.



Compatibility with different USB peripherals is still being tested.

2-5 Main Memory Configuration

The DRAM memory system consists three banks and the memory size ranges from **16~384 MBytes**. If you only use one bank it does not matter which one you use and if you use two or more banks, it does not matter which bank you install first.



DRAM Specifications

DIMM type: 3.3V, 64/72-bit Synchronous DRAM
Module size: Single/double-sided 16/32/64/128 MBytes
DRAM speed: 10/12ns for Synchronous DRAM
Parity: Either parity or non-parity



The compatibility of 256MB DIMM is still under testing and cannot be guaranteed.



This mainboard supports 3.3v, unbuffered, 4-clock, SDRAM DIMM only. Buffered, 5V, or 2-clock SDRAM DIMMs should not be used.



Due to loading anomalies, using DIMM with an 'n x 4' DRAM base on this mainboard is not recommended. For example, a DIMM that uses sixteen 16Mb x 4 devices should not be used.

Award BIOS Setup Program

Award's BIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This information is stored in CMOS RAM so that it can retain the setup information, even when the power is turned off.

When you turn on or reboot the system, press the Delete key to enter the Award BIOS setup program. The primary screen as shown in Figure 3-1 is a list of the menus and functions available in the setup program. Select the desired item and press enter to make changes. Operating commands are located at the bottom of this and all other BIOS screens. When a field is highlighted, on-line help information is displayed on the left bottom edge of the screen.

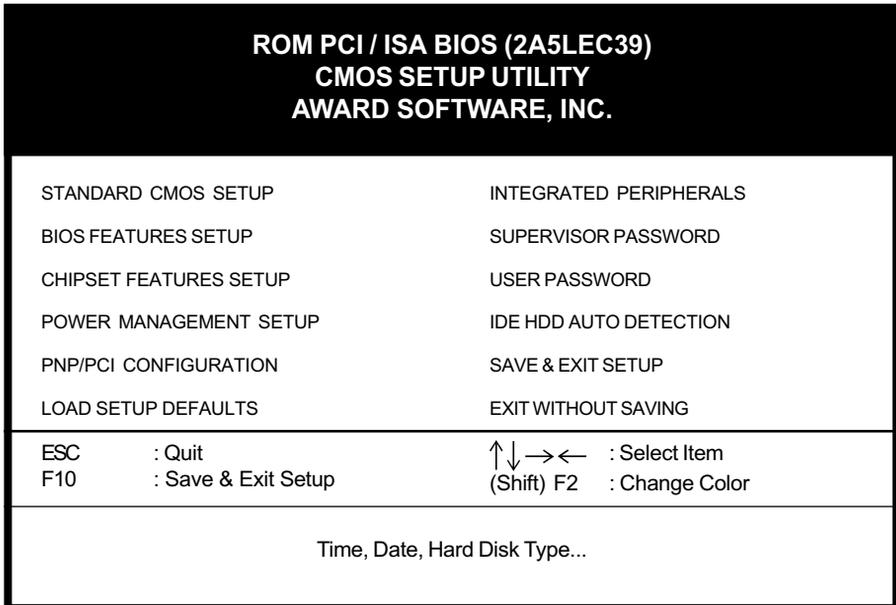


Figure 3-1 Setup Program Initial Screen

3-1 Standard CMOS Setup

The Standard CMOS Setup allows users to configure system components such as hard disk drive, floppy disk drive and video display as well as date, time and boot-up error signaling. This configuration menu should be changed when installing a mainboard for the first time, changing hardware in your system such as the HDD, FDD, video display, or when the CMOS data has been lost or contaminated. Choose the Standard CMOS Setup option from the CMOS Setup Utility menu (Figure 3-1) to display the following screen. When a field is highlighted, on-line help information is displayed on the left bottom edge of the screen.

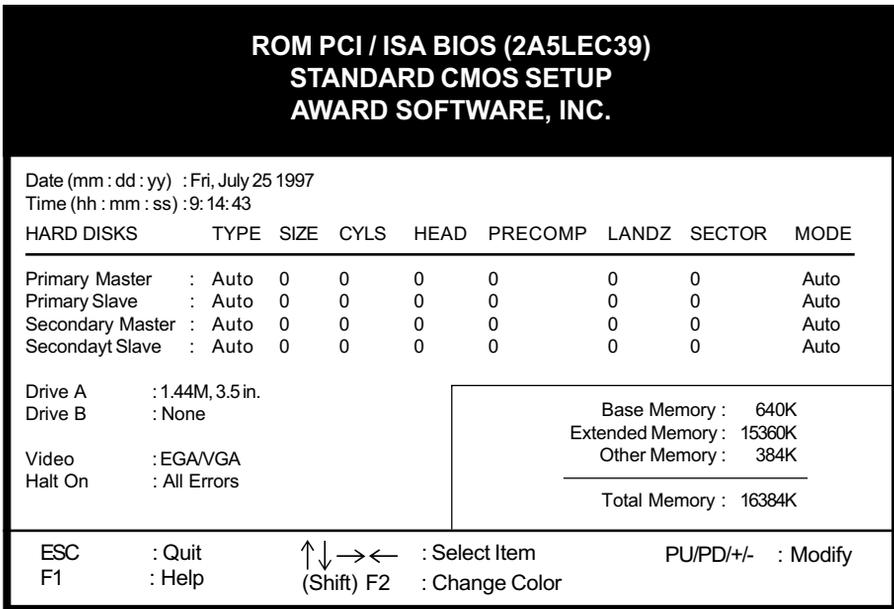


Figure 3-2 Standard CMOS Setup Screen

Date/Time

Set the date and time. Do not skip this function as all of your timed events such as power management, saving files, etc. are based on this timer.

Hard Disk Setup (Primary/Secondary; Master/Slave)

This category identifies up to four IDE hard disk drives that have been installed in the computer. This section does not show information on other IDE devices such as CD-ROM drives or other hard drive types such as SCSI drives.

Type (Auto/User/None): Use the fields under the Type column to determine the method you will use to configure the IDE devices. If you choose Auto, BIOS will automatically detect and make optimal settings for most IDE hard drives.



The mainboard manufacturer recommends that you choose Auto for all drives.

Choose User to define your own drive type manually. You must enter values indicated in the table below into each drive parameter field. This information should be included in the documentation from your hard disk vendor or system manufacturer:

TYPE	Setting method
CYLS	Number of cylinders
HEAD	Number of heads
PRECOMP	Write precompensation cylinder
LANDZ	Landing zone
SECTOR	Number of sectors
MODE	Mode type

Table 3-1 Hard Disk Drive Parameters

Cyls/Head/Sector: The number of Cylinders, Heads, and Sectors can usually be found written on the top of the hard disk. If you have a relatively new hard drive, entering this information alone is usually sufficient for normal hard disk operation. The hard disk will not work properly if you enter improper information for these categories.

Precomp: Older hard drives (i.e., MFM or RLL drives) have the same number of sectors per track at the innermost tracks as at the outermost tracks. Thus, the data density at the innermost tracks is higher and the bits are lying closer together. Even though the physical size of a sector gets progressively smaller as the track diameter diminishes, each sector must still hold 512 bytes. Write precompensation circuitry compensates for the difference in sector size by boosting the write current for inner track sectors.

Landz: This defines the address of the landing zone and is only used for older hard drives which do not have an auto-parking feature.

Mode: If the Type value is not None for any device, you must set the Mode value for that device. There are four different Mode values: Auto, Normal, Large, and LBA.

Auto - BIOS detects and enters the IDE drive type during bootup.

Normal - for IDE drives that meet the old IDE specification which support a maximum capacity of 528MB (1024 cylinders, 16 heads, and 63 sectors).

Large - for IDE drives that do not support LBA and have more than 1024 cylinders. Try this setting if your hard disk does not operate properly with

the LBA setting. Large mode is not supported by all operating systems, i.e., only certain versions of DOS support large mode.

LBA - (Large/Logical Block Addressing) With LBA, the IDE controller transforms the data address described by sector, head, and cylinder number into a physical block address, significantly improving data transfer rates. This mode is for drives with greater than 1024 cylinders and between 528MB and 8.4GB in size. This protocol is the current common standard.

Choose None for Type if there are no IDE HDD devices in your system.

-  You can use the IDE HDD Auto Detection function to auto detect your hard drive parameters. Using this function will automatically insert the parameters discussed under Hard Disk Setup and will indicate User for the Field value. Please see Section 3-9 for more information.

Floppy Disk Drives

Choose the memory capacity and disk size that corresponds with that of your floppy disk drive(s).

Video

Select the type of video adapter present in your system. You can ignore this setting if you are using a VGA monitor since VGA BIOS automatically configures this setting.

Halt

When the system is powered on, BIOS performs a series of diagnostic tests called POST (Power On Self Test). This function stops the computer if BIOS detects a hardware error. You can tell BIOS to halt on all errors, no errors, or not to halt on specific errors.

3-2 BIOS Features Setup

By choosing the BIOS Features Setup option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

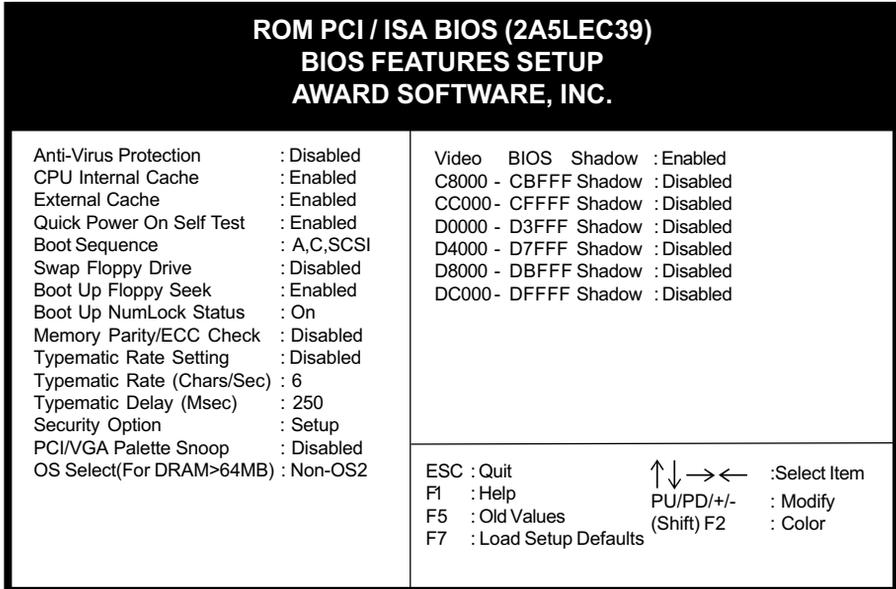


Figure 3-3 BIOS Feature Setup Screen

A. Virus Protection

Anti-Virus Protection

This is an anti-virus code incorporated in the mainboard's BIOS firmware. During the boot-up sequence, BIOS loads before loading of the partition table or boot sector. The anti-virus code loads with BIOS and is able to detect boot-up viruses before they have a chance to infect the hard drive. This function employs rule-based logic that doesn't look for specific viruses but rather detects patterns found in every virus, eliminating the need to perform periodical version updates after new viruses have been found.

B. Cache Control

CPU Internal Cache/External Cache

Cache memory is much faster than conventional DRAM system memory. These fields allow you to enable or disable the CPUs Level 1 built-in cache and Level

2 external cache. Both settings are left enabled to significantly increase the performance of your computer.

C. Boot Up Features

After turning on the system, BIOS will perform a series of device initializations and diagnostic tests discussed below.

Quick Power On Self Test (POST)

Enable this function to reduce the amount of time required to run the POST (Power On Self Test). BIOS saves time by skipping some items during POST. It is recommended that you disable this setting. Discovering a problem during bootup is better than losing data during your work.

Boot Sequence

This option sets the sequence of drives BIOS attempts to boot from after POST completes. BIOS will search these drives for an operating system.

Swap Floppy Drive

Enabling this function will swap the floppy drive assignment so that drive A will function as drive B, and drive B will function as drive A. Note that the boot sequence assignment mentioned directly above does not include booting from floppy drive B. This function is useful if floppy drives B and A are of a different format and you want to boot from floppy drive B.

Boot up Floppy Seek

During POST, BIOS will determine if the installed floppy disk drive has 40 or 80 tracks. A 360K drive has 40 tracks and 720K, 1.2M and 1.44M drives have 80 tracks. All modern floppy disk drives have 80 tracks.

Boot Up NumLock Status

This function defines the keyboard's numberpad as number keys or arrow keys.

D. Memory Parity/ECC Check

Enable this function to perform ECC (Error Check and Correct). ECC detects and corrects single-bit errors while it only detects double bit errors. Certain SDRAM modules have ECC capability. For more information on SDRAM, see Section 2-5 in this manual.

E. Keyboard Interface

Typematic Rate Setting

When enabled, you can set the following two typematic control items. When disabled, keystrokes are determined arbitrarily by the keyboard controller in your system.

Typematic Rate (Chars/Sec)

The typematic rate sets the rate at which characters on the screen repeat when a key is pressed and held down.

Typematic Delay (Msec)

The typematic delay sets how long after you press a key that a character begins repeating.

F. Security Option

The Supervisor and/or User Password functions shown in Figure 3-1 must be set to take advantage of this function. See Section 3-8 for password setting information. When the Security Option is set to System, a password must be entered to boot the system or enter the BIOS setup program. When the Security Option is set to Setup, a password is required to enter the BIOS setup program.

G. PCI/VGA Palette Snoop

Some non-standard VGA cards or MPEG video cards may not show colors properly. Setting this function to Enabled can correct this problem.

H. OS Select (For DRAM > 64MB)

If your system's DRAM is larger than 64MB and you are running OS/2, select OS/2 as the item value. Otherwise, set the item value to Non-OS/2 for all other operating systems.

I. Shadow Memory

Software such as system BIOS, video BIOS, SCSI BIOS, etc that resides in ROM (Read Only Memory) chips is called firmware. Shadowing of firmware occurs when BIOS is copied to RAM address C0000h through DFFFFh. Video BIOS loads into the C0000-C7FFF memory area when video shadowing is enabled. If an expansion peripheral in your system contains ROM-based firmware, you need to know the address range the ROM occupies to shadow it into the correct area of RAM.

Shadowing improves the firmware's performance because the firmware can be read by the CPU through the 16- or 32-bit DRAM bus as opposed to the 8-bit XT bus. However, shadowing also results in reducing the amount of high memory (640 KB to 1 MB) for loading device drivers. Shadowing is used mostly for ROM chips on ISA cards and not for PCI cards. Shadowing and playing games at the same time may result in system instability as some games access the RAM memory area being shadowed.

3-3 Chipset Features Setup

By choosing the Chipset Features Setup option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

ROM PCI / ISA BIOS (2A5LE39) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
DIMM 1 EDO/SDRAM Timing	: 70/12 ns	Current CPU Temp.	: 25 °C/77 °F
DIMM 2 EDO/SDRAM Timing	: 70/12 ns	Current CPU Temp.	: 65 °C/140 °F
DIMM 3 EDO/SDRAM Timing	: 70/12 ns	Current CPUFAN Speed	: 4600 RPM
SDRAM Cycle Length	: 3	Current SYSFAN Speed	: 4600 RPM
DRAM Read Pipeline	: Enabled	Vcore : 2.83V	
Cache Rd+CPU Wt Pipeline	: Enabled	3.3V : 3.33V	
Cache Timing	: Fast	5V : 5.12V	
Video BIOS Cacheable	: Enabled	12V : 12.06V	
System BIOS Cacheable	: Enabled		
Memory Hole At 15MB Addr.	: Disabled		
AGP	: Enabled		
AGP Aperture Size	: 64M		
AGP-2X Mode	: Enabled		
OnChip Sound	: Enabled		
OnChip Modem	: Disabled		
Flash BIOS Protection	: Disabled		
Hardware Reset Protect	: Disabled		
Spectrum Spread	: Disabled		
		ESC : Quit	↑ ↓ → ← : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
		F7 : Load Setup Defaults	

Figure 3-4 Chipset Features Setup Screen



All of the above settings have been determined by the mainboard manufacturer and should not be changed unless you are absolutely sure of what you are doing. Explanation of the DRAM timing and chipset features setup is lengthy, highly technical and beyond the scope of this manual. Below are abbreviated descriptions of the functions in this setup menu. You can look on the world wide web for helpful chipset and RAM configuration information including AWARD's web site at <http://www.award.com>.

A. Cache Timing

Select Fast for a secondary cache of one bank, select Fastest for a secondary cache of two banks.

B. Video BIOS Cacheable

Enabling this function allows caching of the video BIOS ROM at C0000h-C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result. Caching the video BIOS results in better performance than shadowing the video BIOS as discussed in Section 3-2.

C. System BIOS Cacheable

Enabling this function allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. Caching the system BIOS results in better performance than shadowing the system BIOS as discussed in Section 3-2.

D. Memory Hole at 15MB Addr.

Enabling this feature will reserve the 15MB to 16MB memory address space for ISA expansion cards. However, enabling this function will result in not allowing the system to have access to memory above 16MB. Please note that some expansion cards require this setting to be enabled. The default setting is Disabled.

E. AGP

This function must be enabled when using an AGP card. If you disable this function you can still use an AGP card. However, the AGP card will only have PCI card performance.

F. AGP Aperture Size

This function determines the amount of system memory that is given to the AGP card. Options range from 4MB to 256MB. This is a dynamic memory allotment in that the AGP card will only use the amount of memory that it needs. The remaining memory not in use will be available for the system to use. For example, if 16MB is allotted to the AGP card and the card only needs 8MB, the remaining 8MB will be available for system use.

G. AGP-2X Mode

Enable this setting to utilize the 2X mode (twice as fast as 1X) offered by advanced AGP cards. Your VGA card must support 2X mode in order to take advantage of the faster speed.

H. Flash BIOS Protection

The mainboard manufacturer developed BIOS protection technology that protects the System BIOS from accidental corruption by unauthorized users or computer viruses. When enabled, the BIOS data cannot be changed when attempting to update BIOS with the the FLASH utility. When disabled, the BIOS data can be updated by using the FLASH utility.

I. System Monitoring and Alerting (Optional)

These optional system health monitoring features are available when an EISCA v1.0 compliant fan is connected to the Fan 78 connector on your mainboard. Change the CPU warning temperature according to the specifications of your CPU. For more information about EISCA fans, see Appendix II of this manual.

3-4 Power Management Setup

This section provides information on the Green PC power management functions. In order to enable the power management functions, please select the Power Management Setup option from the CMOS Setup Utility menu (Figure 3-1). This sample screen contains the manufacturer's default values for the mainboard.

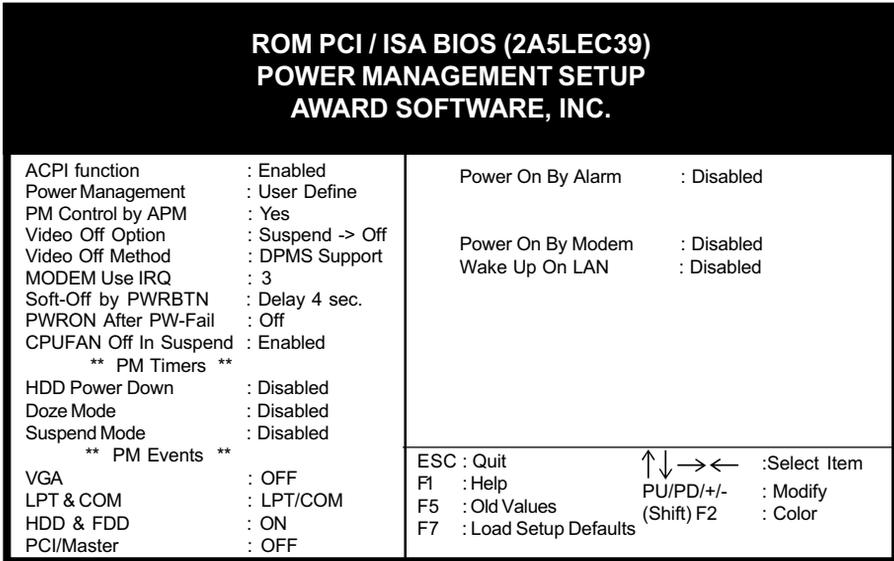


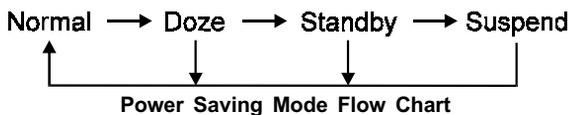
Figure 3-5 Power Management Setup Screen

A. Advanced Configuration Power Interface (ACPI)

ACPI management enables the operating system to control the amount of power given to each device attached to the computer. With ACPI, the operating system can turn off peripherals devices, such as CD-ROM players, when they are not in use.

B. Power Management

Power management allows the computer to save electricity when it is not in use by entering increasingly deep power saving modes as shown by the diagram below.



The computer runs in Normal operation mode until the Doze timer expires, at which point the computer enters Doze mode. If no external activity occurs, the computer will go into Standby and Suspend modes when their respective timers expire. If external activity occurs, the computer will wake up from Power Management and return to Normal mode. To activate the function, set Power Management to Maximum Saving, User Define, or Minimum Saving described

below. For a description of the power saving modes (Doze, Standby, and Suspend) see their descriptions below.

Disabled - Turns off the Power Management functions.

Max. Saving - All timers are set at the minimum value of one minute to maximize power saving.

Min. Saving - All timers are set at the maximum value of one hour for minimal power saving.

User Define - User can configure the timer to a desired time according to the values available.

Note that enabling the Power Management function will result in enabling the HDD Power Down function (Max Saving = 15 min, Min Saving = 1 min). The HDD Power Down function is not part of the Power Management scheme as indicated in Figure 3-6 Refer to the Standby Mode, Suspend Mode, and HDD Power Down descriptions below for more information on hard drive power management.

C. PM Control by APM

This function allows software other than BIOS to control Power Management features Enable this function in BIOS and make sure APM (Advanced Power Management) is present. For example, run the Power utility program located in the DOS directory, C:\DOS\POWER.EXE to use Power Management features under DOS. For Windows 3.1x and Windows 95, you need to install Windows with the APM feature.

D. Video Off Option

This setting determines when the monitor enters power saving mode. As the function name indicates, the monitor enters the power saving mode after the chosen event expires. The Power Management function must be enabled to use this function.

E. Video Off Method

This function serves as both a screen saver and power saver for monitors. See the next function, Video Off After, for setting the video timer.

Blank - BIOS will only blank the monitor's screen. The electricity saved in this mode is negligible and this function is only used as a screen saver to prevent screen damage while the screen is on but not in use.

V/H SYNC+Blank - The system turns off the vertical and horizontal synchronization ports, writes blanks to the VGA buffer and the monitor's electron gun turns off. This function requires a monitor with Green features in order to take advantage of the power saving function. If you enable this function and do not have a Green monitor, the result will be the same as if you had selected Blank. This function serves as both a screen saver and an electricity saver.

DPMS Supported - Select this option if your video card supports the Display Power Management Signaling (DPMS) standard (i.e., you have a monitor that supports Green features). Use software supplied by your video subsystem to set video power management options.

F. Modem Use IRQ

If your computer has a modem, use this function to tell BIOS which IRQ is being occupied by the modem card. When the system is in Green mode, the modem requires an IRQ assignment to wake up the system and perform tasks. This assignment is compliant with the APM 1.2 specification and is to be used in coordination with APM 1.2 compliant operating systems.

G. Soft-Off by PWRBTN

When Enabled, this function allows the power button to put the system in Suspend, a power saving mode. See section 2-4 for operation instructions of the power button.

H. HDD Power Down

To enable this function, make sure the Power Management function is not set to disabled. When the HDD idle time has elapsed, BIOS sends a command to the hard disk to turn off the motor. Set a time between 1 and 15 to indicate time required to wait before the hard drive enters a power saving mode. Some old hard drives may not support this function.

I. CPUFAN Off in Suspend

When Enabled, the CPU fan turns off during Suspend mode.

J. HDD Power Down

The Power Management function must not be set to disabled to enable this function. When the HDD idle time has elapsed, BIOS sends a command to the hard disk to turn off the motor. Set a time between 1 and 15 to indicate time required to wait before the hard drive enters a power saving mode. Some old hard drives may not support this function.

K. Doze Mode

To enable this function, make sure the Power Management function is not set to disabled. If no interrupts have occurred and the Doze timer expires, system will enter Doze mode. In Doze mode, the CPU clock runs at a lower speed while all other devices operate normally.

✎ Power saving modes achieved in lower power saving states will either be maintained or enter higher power saving modes when switching to higher power saving states. For example, the CPU clock will not switch back to normal in Standby mode. It will maintain a decreased rate in Standby Mode and turn off in Suspend Mode.

L. Suspend Mode

To enable this function, make sure the Power Management function is not set to disabled. If the system runs in Dozemode and the Suspend timer expires, all devices regulated by power management will shut off and the CPU speed will be 0 MHz.

M. Power On By Modem

When enabled, a modem that receives a call will wake up the system from Soft-off or Green mode. To activate this function, you must leave your modem on and use the Software Power off. See the Software Power-Off control description in Section 2-4 of this manual.

N. Power On By Alarm

When enabled, this setting allows the system to turn back on at a designated time of the month. User must designate date of month and time of day. This function is only available when using an ATX power supply and Software Power-Off. See the Software Power-Off control description in Section 2-4 of this manual.

3-5 PNP/PCI Configuration

This section provides IRQ and DMA setting information. By choosing the PnP/PCI Configuration option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

ROM PCI / ISA BIOS (2A5LEC39)					
PNP/PCI CONFIGURATION					
AWARD SOFTWARE, INC.					
PNP OS Installed	:	No	CPU to PCI Write Buffer	:	Enabled
Resources Controlled By	:	Manual	PCI Parity Check	:	Disabled
Reset Configuration Data	:	Disabled	PCI Delay Transaction	:	Enabled
IRQ-3 assigned to	:	PCI/ISA PnP	FDD IRQ Can Be Free	:	Yes
IRQ-4 assigned to	:	PCI/ISA PnP	Assign IRQ For USB	:	Enabled
IRQ-5 assigned to	:	PCI/ISA PnP	Assign IRQ For VGA	:	Enabled
IRQ-7 assigned to	:	PCI/ISA PnP	Slot 1 Use IRQ No.	:	Auto
IRQ-9 assigned to	:	PCI/ISA PnP	Slot 2 Use IRQ No.	:	Auto
IRQ-10 assigned to	:	PCI/ISA PnP	Slot 3 Use IRQ No.	:	Auto
IRQ-11 assigned to	:	PCI/ISA PnP	Slot 4 Use IRQ No.	:	Auto
IRQ-12 assigned to	:	PCI/ISA PnP			
IRQ-14 assigned to	:	PCI/ISA PnP			
IRQ-15 assigned to	:	PCI/ISA PnP			
DMA-0 assigned to	:	PCI/ISA PnP	ESC : Quit		↑ ↓ → ← : Select Item
DMA-1 assigned to	:	PCI/ISA PnP	F1 : Help		PU/PD/+/- : Modify
DMA-3 assigned to	:	PCI/ISA PnP	F5 : Old Values		(Shift) F2 : Color
DMA-5 assigned to	:	PCI/ISA PnP	F7 : Load Setup Defaults		
DMA-6 assigned to	:	PCI/ISA PnP			
DMA-7 assigned to	:	PCI/ISA PnP			

Figure 3-6 PCI & Onboard I/O Setup Screen

A. PNP OS installed

If you want to install a PNP compatible OS (such as Windows 95) set to **Yes**.

B. Resources Controlled By

When set to Manual the system BIOS will not refer to the ESCD for IRQ & DMA information. Instead, it will refer to the items in the setup menu for assigning IRQ & DMA. When set to Auto the system BIOS will refer to the ESCD for all legacy information.



ESCD(Extended System Configuration Data) provides a detailed format of the configuration data structures stored in flash memory. Each data structure defines the resources used by a device or a card in the system. This includes legacy and PCI/ISA PnP devices.

C. Reset Configuration Data

When Enabled the system BIOS will clear/reset the ESCD during POST. After clearing the ESCD, the BIOS will then change this item's value to "Disabled." Otherwise, the ESCD data would become useless.

D. IRQ#/DMA# assign to

When resources are controlled manually, you can assign each system interrupt & DMA channel for "Legacy ISA" or "PCI/ISA PnP" card used. While using **Legacy ISA Cards** (non-PnP ISA cards), please set the necessary corresponding resources (INT#, DMA#) from "PCI/ISA PnP" to "Legacy ISA."

- ⊗ All ISA non-PnP devices are legacy devices that select resources (I/O Addr., INT# or DMA#) by using hardware jumpers on these devices.
- ⊗ IRQ-3/4/7/12/14/15 have been set as default for on board devices (COM2,COM1, Printer port, PS/2 mouse, IDE1 and IDE2).

E. CPU to PCI Write Buffer

When Enabled, CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus.

F. PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

G. FDD IRQ Can Be Free

This function allows users to choose if the FDD IRQ is able to be freed for use with other processes that require IRQ.

H. Assign IRQ For USB

If USB is employed this function must be Enabled. Otherwise, disable this function to optimize Windows 95 IRQ resources for other IRQ usage. N/A (disabled.)

I. Assign IRQ For VGA

This function allows BIOS to make an IRQ available to VGA cards. Current VGA card models do not require this function to be enabled.

3-6 Load Setup Defaults

Load Setup Defaults loads the default system values directly from the CMOS Setup Utility menu (Figure3-1). If the stored record created by the setup program becomes corrupted and therefore unusable, these defaults will be loaded automatically when you turn on the computer.

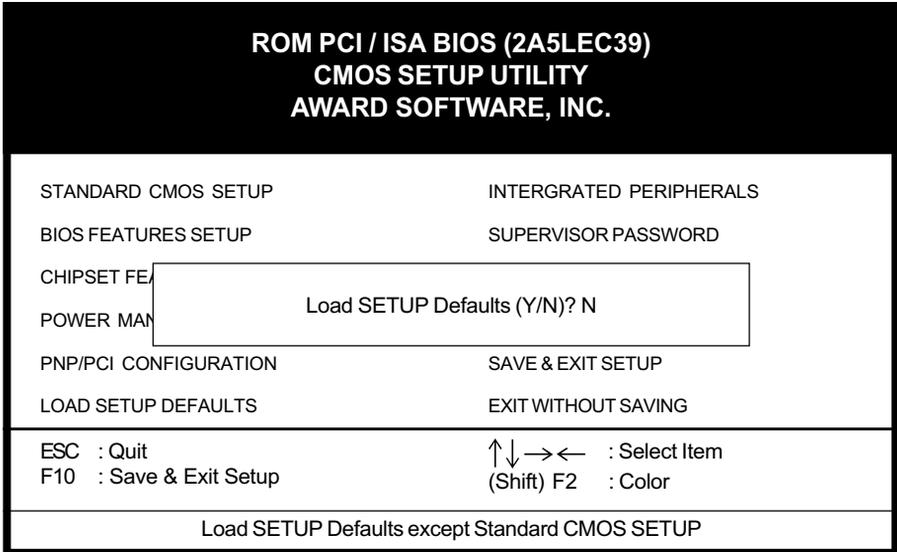


Figure 3-7 Load Setup Defaults Screen

3-7 Integrated Peripherals

This section provides information on setting peripheral devices. By choosing the Integrated Peripherals option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

ROM PCI / ISA BIOS (2A5LEC39) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
OnChip IDE First Channel	: Enabled	Parallel Port Mode	: Normal
OnChip IDE Second Channel	: Enabled	Onboard Legacy Audio	: Enabled
IDE Prefetch Mode	: Enabled	Sound Blaster	: Enabled
IDE HDD Block Mode	: Enabled	SB I/O Base Address	: 220H
IDE Primary Master PIO	: Auto	SB IRQ Select	: IRQ 5
IDE Primary Slave PIO	: Auto	SB DMA Select	: DMA 1
IDE Secondary Master PIO	: Auto	MPU-401	: Enabled
IDE Secondary Slave PIO	: Auto	MPU-401 I/O Address	: 330-333H
IDE Primary Master UDMA	: Auto	FM Port (388-38BH)	: Enabled
IDE Primary Slave UDMA	: Auto	Game Port (200-207H)	: Enabled
IDE Secondary Master UDMA	: Auto	On-Chip USB	: Disabled
IDE Secondary Slave UDMA	: Auto		
Init Display First	: PCI Slot		
Onboard FDC Controller	: Enabled		
Onboard Serial Port 1	: 3F8/IRQ4	ESC : Quit	↑ ↓ → ← : Select Item
Onboard Serial Port 2	: 2F8/IRQ3	F1 : Help	PU/PD/+/- : Modify
COM2 Mode	: Standard	F5 : Old Values	(Shift) F2 : Color
Onboard Parallel Port	: 378/IRQ7	F7 : Load Setup Defaults	

Figure 3-8 Integrated Peripherals Setup Screen

A. On-chip Primary/Secondary PCI IDE

Disable these settings to turn off the built-in IDE controller.

B. IDE Prefetch Mode

This mode is involved in multiple sector read/writes and improves the performance of your system. Enabling this function improves the performance of your computer.

C. IDE HDD Block Mode

Enable this mode to improve the performance of your system. Block Mode is also referred to as block transfer or multiple sector read/write. When this setting is enabled, the maximum number of block read/writes per sector supported by the the drive is detected. Most new hard drives support this mode.

D. On Board IDE Control

The following settings are used to configure the on-board IDE controller.

IDE Primary/Secondary Master/Slave PIO/UDMA

The four IDE PIO (programmed Input/Output) fields let you set a PIO mode (0-4) for each IDE device that the internal PCI IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

B. Init Display First

This function allows user to choose between AGP slot or VGA slot to initialise Display first .

C. On Board FDC Controller

Enabling the floppy disk controller (FDC) allows for normal use of the floppy drive connected to the mainboard. If you install an add-in FDC or the system has no floppy drive, disable this function.

D. Com2 Mode

When set to Enabled, the COM port will be redirected to support IR function.

E. Onboard Legacy Audio

This function must be enabled in order to use the onboard audio function. To terminate this function set it to disable.

F. OnChip USB

Enable the on-board Universal Serial Bus (USB) controller if you want to connect a USB keyboard to your system. Note that if this setting is disabled, you can still temporarily use a USB keyboard during bootup so that you can enter BIOS and enable this setting. If you pass the bootup stage without enabling this function, your PS/2 keyboard will no longer work.

3-8 Supervisor Password & User Password Setting

There are four different variables that control password settings. The first two are located under the Security Option function in BIOS Features Setup Menu (Figure 3-3). When the Security Option function is set to Setup, a password is required to enter BIOS and change BIOS settings. When the Security Option function is set to System, a password is required to enter both BIOS and the the computer's operating system (for example Windows 95) found on the boot drive. This is shown in Figures 3-9 and 3-10.

The third and fourth variables are user password and supervisor password selected in BIOS (Figure 3-1). The main purpose of separating user and supervisor is to allow only the supervisor to have control over the settings in BIOS. The user, on the other hand, is only allowed to access the computer's operating system and change the user password in BIOS (See Figure 3-10). Note that when there is no supervisor password set, the user password controls access to all BIOS settings (See Figure 3-9 below).

A. Set Either Supervisor Password or User Password

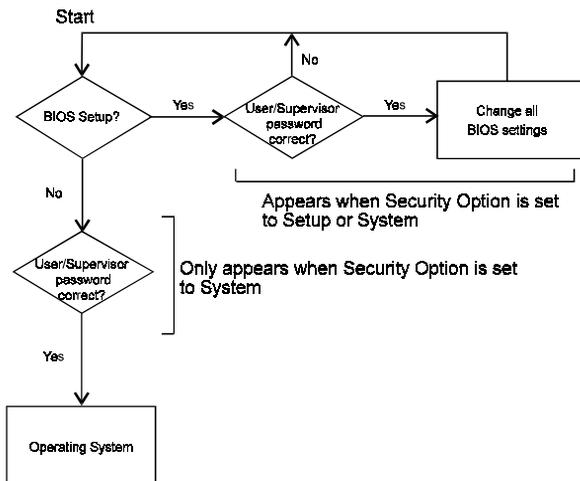


Figure 3-9 Set Either Supervisor or User Password

B. Set Both Supervisor Password and User Password

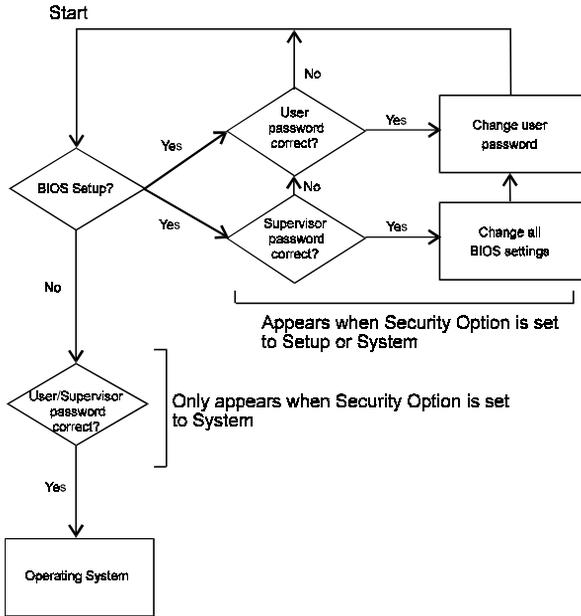


Figure 3-10 Set Both Supervisor and User Password

3-9 IDE HDD Auto Detection

This utility can automatically detect IDE hard disk type and parameters. The detection process take about 5 seconds for each physical drive. After the utility detects the disk drive, type Y and press [Enter] to automatically load the parameters in the Hard Disk section of the Standard CMOS Setup menu. Otherwise, leave the option set at N and press [Enter] or the [Esc] key to skip the detected drive. After detecting your hard drive(s), return to the Standard CMOS menu to check your settings.

ROM PCI / ISA BIOS (2A5LEC39)
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								
OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
2 (Y)	547	530	32	0	1059	63	LBA	
1	547	1060	16	65535	1059	63	NORMAL	
3	547	530	32	65535	1059	63	LARGE	

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

Figure 3-11 IDE HDD Auto Detection Screen

3-10 Save and Exit Setup

If you select this and type Y (for yes) followed by the [Enter] key, the values entered in the setup utilities will be recorded in the CMOS memory of the BIOS chip.

3-11 Exit Without Saving

Selecting this option and pressing Y followed by the [Enter] key lets you exit the Setup program without recording any new values or changing old ones.



Memo

Brief Software Driver Guide

The Mainboard Software Guide is found on the CD-ROM that is enclosed with your mainboard and is a PDF file which must be viewed with Adobe's freeware called Acrobat® Reader. The Acrobat Reader software is also included on the same CD-ROM. See the Readme.txt file in the CD-ROM's root directory for installation instructions of the Acrobat Reader. The Mainboard software guide discusses the following items:

The following items are discussed in the PDF files:

- Bus Master/PIO IDE Driver Installation
- Sound Driver and Utility Installation
- USB Driver Installation
- Removing the Exclamation and/or Question Marks From the Windows 95 Device Manager Menu
- Updating Your System BIOS
- Installing and Using a Desktop Management Interface (DMI) Utility for DOS



The DMI utility is a DOS utility, operating under Windows or other operating system might cause damage to the BIOS.



Memo