M7MIA

Federal Communications Commission (F.C.C) Statement

This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Accessories: This device has been tested and found to comply with the limits of a Class B digital device, the accessories associated with this equipment are as follows:

1. Shielded serial cable. (Can be obtained from multiple retail outlets)
2. Shielded printer cable. (Can be obtained from multiple retail outlets)
3. Shielded video cable. (Can be obtained from multiple retail outlets)
4. Shielded power cord. (Provided by manufacturer)

These accessories are required to ensure compliance with FCC Rules. It is the responsibility of the user to provide and use these accessories properly.

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

1. Reorient / relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that

to which the receiver is connected.

4. Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Disclaimer

The vendor makes no representations or warranties with respect to the contents here of and specially disclaims any implied warranties of merchantability or fitness for any purpose. Further the vendor reserves the right to revise this publication and to make changes to the contents here of without obligation to notify any party beforehand.

Duplication of this publication, in part or in whole, is not allowed without first obtaining the vendor's approval in writing.

Trademarks and Remarks

MS-DOS, Windows, Windows NT, Windows 9X, Windows ME and Windows 2000 are products of Microsoft Corp, with its ownership of trademark, and are distributed by the vendor under a license agreement.

All trademarks used in this manual are the property of their respective owners.

Canadian D.O.C. Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Cet appareil numbérique n'émet pas de bruits radioélectriques dépassant les limites appliquées aux appareils numbériques de Class B préscrits dans le réglement du brouillage radioélectrique edict par le minister Des Communications du Canada.

Contents

Contents

Introduction

System Overview

Congratulations on the purchase of your new system! This motherboard is designed to take advantage of the latest industry technology to provide you with the ultimate solution in data processing. In the tradition of its predecessors, this motherboard continues a commitment to reliability and performance and strives for full compliance and compatibility with industry software and hardware standards.

M7MIA Highlights:

- Contains on board I/O facilities which include two serial ports, a parallel port, a mouse port, a keyboard port, audio ports, USB ports and a game port.
- Contains on board IDE facilities for IDE devices such as hard disks and CD-ROM Drives.
- Supports the AMD-Athlon™ processor, a leading edge processor which brings to you the latest technology in microarchitecture design, graphics performance, system bus design, cache architecture and much more.
- Complies with PC ATX form factor specifications.
- Supports popular operating systems such as Windows 95/98, Windows NT, Windows 2000, Windows ME, Novell, OS/2, UNIX, LINUX and SCO UNIX.

1 Motherboard Description

1.1 Features

1.1.1 Hardware

CPU

- Single Socket-A for an AMD Athlon Family processor, 500MHz and higher
- 100/133MHz System Interface speed
- Supports ISA Bus, PCI local Bus and AGP Pro Bus
- Chipset – AMD AMD761B/VIA VT82C686B

Chipset

- The AMD Athlon system bus supports the 266MHz high-speed, split-transaction AMD Athlon system bus interface
- The 33MHz 32 bit PCI 2.2 compliant
- The 66MHz AGP 2.0 compliant interface supports 1x, 2x and 4x data transfer mode
- High-speed memory --The AMD761 system controller is designed to support 266MHz DDR SDRAM DIMMs

DRAM Memory

- Supports 64MB/128MB/256MB/512MB/1G DIMM modules (2).
- Supports DDR (Double Data Rate) Synchronous DRAM (2.5 V).
- Supports a maximum memory size of 4Gb with Registered DIMMs and 2 Gb with Unbuffered DIMMs (DDR SDRAM).
- 100 MHz/133MHz Bus Frequency

Shadow RAM

- Motherboard is equipped with a memory controller providing shadow RAM and support for 8 bit ROM BIOS.

Green Functionality

- Supports Award BIOS™ power management functionality.

- Has a power down timer from 1 to 15 minutes.
- Wakes from power saving sleep mode with any keyboard or mouse activity.

BUS Slots

- (1) AGP Pro slot
- (1) AMR slot
- (5) 32-bit PCI bus slots
- (1) ISA bus master slot.

Flash Memory

- Supports flash memory functionality.
- Supports ESCD functionality.

Built in IDE Facilities

- Supports four IDE hard disk drives.
- Supports PIO Mode 4, Master Mode, and high performance hard disk drives.
- Supports disk transfer rates up to 100 MB/second.
- Supports Ultra DMA 33, Ultra DMA 66, Ultra DMA 100 Bus Master Modes.
- Supports IDE interface with CD-ROM.
- Supports high capacity hard disk drives.
- Supports LBA mode.

PCI-Based AC 97 Digital Audio Processor (Optional)

- AC 97 2.1 interface.
- 16 channels of high-quality sample rate conversion.
- 16x8 channel digital mixer.
- Stereo 10 band graphic equalizer.
- Sound Blaster® and Sound Blaster Pro® emulation.
- S/PDIF output (allows standard interface to consumer electronics).
- 64-voice wavetable.
- PC99 complaint and WHQL certified.

Built in I/O facilities

- One multi-mode Parallel Port capable of supporting the following specifications:
- Standard & Bidirection Parallel Port.
- Enhanced Parallel Port (EPP).
- Extended Capabilities Port (ECP).
- Normal
- Supports two serial ports, 16550 UART.
- Supports Infrared Data Transmission using IrDA.
- Supports PS/2 mouse and PS/2 keyboards.
- Supports 360KB, 720KB, 1.2MB, 1.44MB, and 2.88MB floppy disk drives.

Universal Serial Bus

- Supports two back panel Universal Serial Bus Ports and two front panel Universal Serial Bus Ports (optional).
- Supports 48 MHz USB.

Hardware Monitor Function

- Monitors CPU Fan Speed.
- Monitors System and CPU Temperature.
- Monitors System Voltage.

BIOS

- Award BIOS™.
- Supports APM1.2.
- Supports USB Functionality.
- Supports ACPI.

Dimensions (ATX form-factor)

- 24.4cm x 30.5cm (WxL)

HPT370 is designed to enable you add high performance ATA/ATAPI devices. (Optional)

- Ultra DMA 100MB/S operation per ATA channel.
- Support up to 66MHz PCI bus Clock.
- One PCI function supports two independent ATA channels.
- Dedicated ATA Bus.
- ATA clock independent from PCI bus.
- Optional between external 50Hz ATA bus clock or internal PLL.
- 256Byte FIFO per ATA channel.
- Large FIFO independent.
- Easy Plug-and-Play feature.
- Supports up to 4 IDE devices. (Coexist with on-board IDE)
- Supports Hard Drive with capacity larger than 30GB.
- RAID function supported (RAID 0,1,0+1).
- Supports the most popular Windows 95/98,Windows NT4.0, Windows 2000, Windows ME and Linux.
- Supports booting function with Flash Memory interface.
- Automatically fine tunes to the best performance for each IDE/ATAPI device.
- Concurrent PIO and bus master access(ATA port accessible during DMA transfer)
- Total ATA bus tri-state by external control and Supports Hotswap (Low signal Current).

HW Sound CT5880 (Optional)

- 128 voice PCI wave-table synthesis.
- EAX Support.
- Four Speaker support.
- Real Mode DOS Game Compatibility w/ no ISA bus pins required.
- CD audio over the PCI bus (CDDA).
- Tone Control.
- Speaker EQ.
- SPDIF output for PCM or compressed AC3 data.
- Mixing of Analong inputs routed to SPDIF out for PCM data.
- PCI Bus Master for fast DMA.

- Uses a single sharable PCI Interrupt.
- Multiple sample rate support.
- Sounds are stored in Host memory.
- Sound Library of over 4000 Sounds.
- 3 Stereo inputs and 3 mono inputs can be mixed into the output stream.
- Direct I/O space access of the control registers.
- 100 Pin PQFP.
- AC97 2.1 interface.
- 5V Power.
- ACPI Support.
- Fully Compliant with PC97 Power Management specification.

1.1.2 Software

BIOS

- AWARD legal BIOS.
- Supports APM1.2.
- Supports USB Function.
- Supports ACPI.

Operating System

- Offers the highest performance for MS-DOS, OS/2, Windows NT, Windows 2000, Windows 95/98, Windows ME, Novell, LINUX, UNIX, SCO UNIX etc.

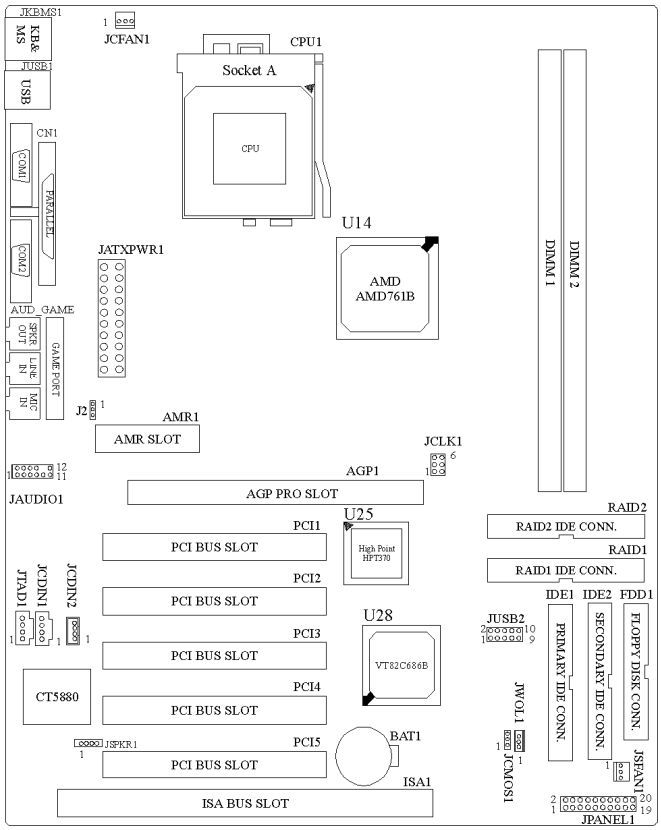
1.1.3 Attachments

- HDD Cable.
- FDD Cable.
- Flash Memory Writer for BIOS Update.
- USB2 Cable (Optional).
- Rear I/O Panel for ATX Case (Optional).
- Fully Setup Driver CD.

1.2 Motherboard Installation

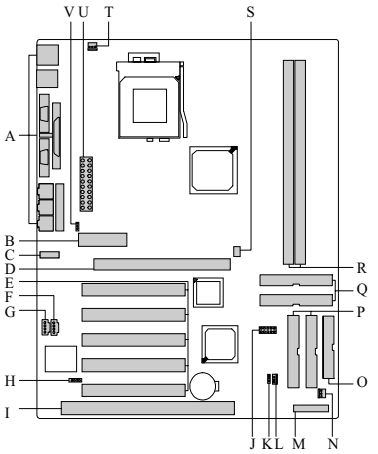
1.2.1 Layout of Motherboard

Model No.M7MIA



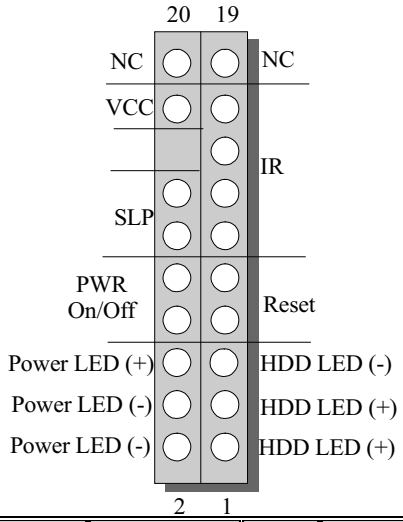
1.3 Motherboard Quick Reference

Model No.M7MIA



A. Back Panel I/O Connectors
B. Audio Modem Riser Slot (AMR1)
C. Front Audio Connector (JAUDIO1)
D. AGP PRO Slot (AGP1)
E. PCI BUS Slots (PCI1-5)
F. CD Audio-In Connector (JCDIN1)
G. Telephony Connector (JTAD1)
H. Speaker Header (JSPKR1)
I. ISA BUS Slot (ISA1)
J. Front USB Header (JUSB2)
K. CMOS Clear Function (JCMOS1)
L. Wake-On-LAN Connector (JWOL1)
M. Front Panel Connector (JPANEL1)
N. System Fan Connector (JSFAN1)
O. Floppy Disk Drive Connector (FDD1)
P. IDE Connectors (IDE1/2)
Q. RAID IDE Connectors (RAID1/2)
R. Double Data Rate Memory Sockets (DIMM1-2)
S. CPU Clock Selection (JCLK1)
T. CPU Fan Connector (JCFAN1)
U. ATX Power Connector (JATXPWR1)
V. AMR Coedc Primary / Secondary Selection (J2)

1.3.1 Front Panel Connectors (JPANEL1)



Pin No.	Assignment	Function	Pin No.	Assignment	Function
1	HDD LED (+)	Hard Disk	2	Power LED (-)	Power On
3	HDD LED (+)	Activity LED	4	Power LED (-)	Indicator
5	HDD LED (-)		6	Power LED (+)	LED
7	Ground	Reset	8	Power Switch	ATX Power
9	Reset Control		10	Ground	Button
11	+5V		12	Green Control	Sleep
13	IRRX	Infrared	14	Ground	Button
15	Ground	Comm.	16		
17	IRTX		18	+5V	VCC
19	NC	NC	20	NC	NC

RST (Reset Button)

This connector can be attached to a momentary SPST switch. This switch is usually open and when closed will cause the motherboard to reset and run the POST (Power On Self Test).

PW-LED (Power LED Connector)

This connector can be attached to an LED on the front panel of a computer case. The LED will illuminate while the computer is powered on.

HD-LED (Hard Drive LED Connector)

This connector can be attached to an LED on the front panel of a computer case. The LED will flicker during disk activity. This disk activity only applies to those IDE drives directly attached to the system board.

IR (Infrared Connector)

This connector is used to attach to an infrared sensing device. After the IrDA interface is configured, connectionless data transfer to and from portable devices such as laptops, PDAs is possible.

SLP (Sleep/Green Button)

This connector is used to conserve energy by powering down the monitor and the hard disk when not in use. To configure this option, you need to connect a button from the front panel to this connector. Depressing the button will power down the monitor and hard drives until the system is invoked by any keyboard activity, mouse activity, modem activity or when the sleep button is depressed again. APM (Advanced Power Management) must be enabled in the system BIOS and the APM driver must be loaded.

PW-BN (Power Button)

This connector can be attached to a front panel power
switch. The switch must pull the Power Button pin to ground for at least 50 ms to signal the power supply to switch on or off. (The time required is due to internal debounce circuitry on the system board). At least two seconds must pass before the power supply will recognize another on/off signal.

1.3.2 Internal Speaker Connector (JSPKR1)

The "JSPKR1" connector is used to attach to a small internal speaker usually embedded into your computer case. This is a special speaker used to sound off diagnostic alarm beeps when the system is experiencing problems with the boot sequence and is unable to send the diagnostic information to the video display.

Pin	Assignment	Function
1	+5V	Speaker
2	No Connect	
3	No Connect	
4	Speaker	

1.3.3 Floppy Disk Connector (FDD1)

The motherboard provides a standard floppy disk connector (FDC) that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.

1.3.4 Hard Disk Connectors (IDE1/IDE2)

The motherboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA / 33, Ultra DMA / 66,Ultra DMA / 100 functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary). You can connect up to four hard disk drives, a CD-ROM, a 120MB Floppy (reserved for future BIOS) and other devices to IDE1 and IDE2. These connectors support the IDE hard disk cable provided.

- **IDE1 (Primary IDE Connector)**

The first hard drive should always be connected to IDE1. IDE1 can connect a Master and a Slave drive. You must configure the second hard drive on IDE1 to Slave mode by setting the jumper accordingly.

- **IDE2 (Secondary IDE Connector)**

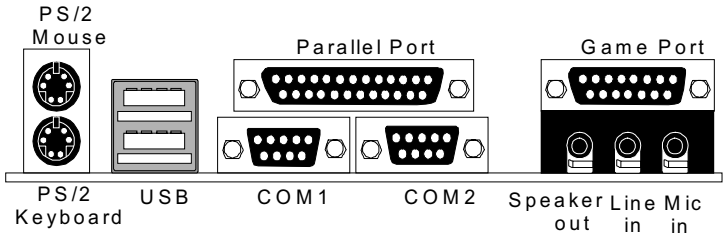
The IDE2 controller can also support a Master and a Slave drive. The configuration is similar to IDE1. The second drive on this controller must be set to slave mode.

1.3.5 ATX 20-pin Power Connector (JATXPWR1)

This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported on this motherboard. This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board.

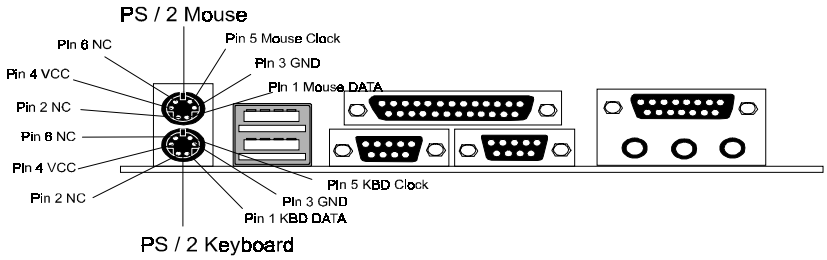
PIN	Assignment	PIN	Assignment
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	Ground	13	Ground
4	5V	14	PS_ON
5	Ground	15	Ground
6	5V	16	Ground
7	Ground	17	Ground
8	PW_OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

1.4 Back Panel Connectors



1.4.1 PS/2 Mouse / Keyboard CONN.: JKBMS1

The motherboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector. The connector location and pin definition are shown below:

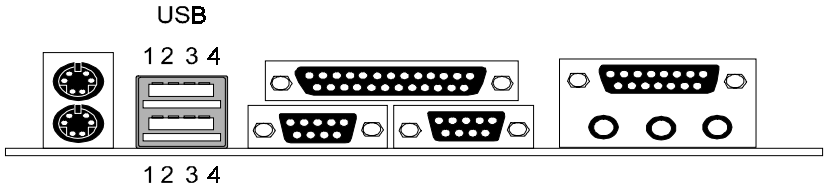


PS/2 Mouse / Keyboard Connectors

Pin	Assignment
1	Data
2	No connect
3	Ground
4	+5 V (fused)
5	Clock
6	No connect

1.4.2 Back Panel USB Connector: JUSB1

The motherboard provides a **OHCI (Open Host Controller Interface) Universal Serial Bus Roots** for attaching USB devices such as: keyboard, mouse and other USB devices. You can plug the USB devices directly into this connector.

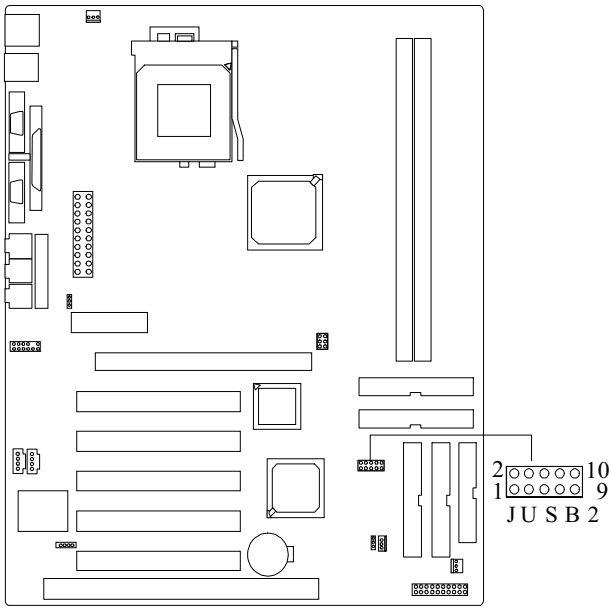


Stacked USB Connectors

Pin	Assignment
1	+5 V (fused)
2	USBP0- [USBP1-]
3	USBP0+ [USBP1+]
4	Ground

Signal names in brackets ([ ]) are for USB Port 1.

1.4.3 Front USB Header: JUSB2



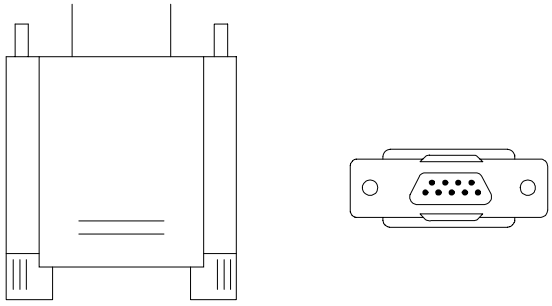
Pin	Assignment	Pin	Assignment
1	+5V(fused)	**2**	NC
3	USBP2-	**4**	Ground
5	USBP2+	**6**	USBP3+
7	Ground	**8**	USBP3-
9	NC	**10**	+5V(fused)

1.5 Serial and Parallel Interface Ports

This system comes equipped with two serial ports and one parallel port. Both types of interface ports will be explained in this chapter.

The Serial Interface: COM1/COM2

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices can be connected to a serial port. The serial port can also be used to connect your computer with another computer system. If you wish to transfer the contents of your hard disk to another system it can be accomplished by using each machine's serial port.



The serial ports on this system have two 9-pin connectors. Some older computer systems and peripherals used to be equipped with only one 25-pin connector. Should you need to connect your 9-pin serial port to an older 25-pin serial port, you can purchase a 9-to-25 pin adapter.

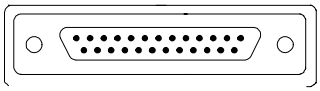
Connectivity

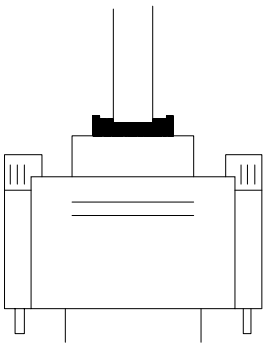
The serial ports can be used in many ways, and it may be necessary to become familiar with the pinout diagram. The following chart gives you the function of each pin on the 9-pin connector and some of the 25-pin connector. This information can be used when configuring certain software programs to work with the serial ports.

Signal	Name	DB9 PIN	DB25 PIN
DCD	Data Carrier Detect	1	8
RX	Receive Data	2	3
TX	Transmit Data	3	2
DTR	Data Terminal Ready	4	20
GND	Signal Ground	5	7
DSR	Data Set Ready	6	6
RTS	Request to Send	7	4
CTS	Clear to Send	8	5
RI	Ring Indicator	9	22

Parallel Interface Ports

Unlike the serial ports, parallel interface port has been standardized and should not present any difficulty interfacing peripherals to your system. Sometimes called centronics port, the parallel port is almost exclusively used with printers. The parallel port on your system has a 25-pin, DB25 connector (see picture below). The pinout for the parallel port are shown in the table below.

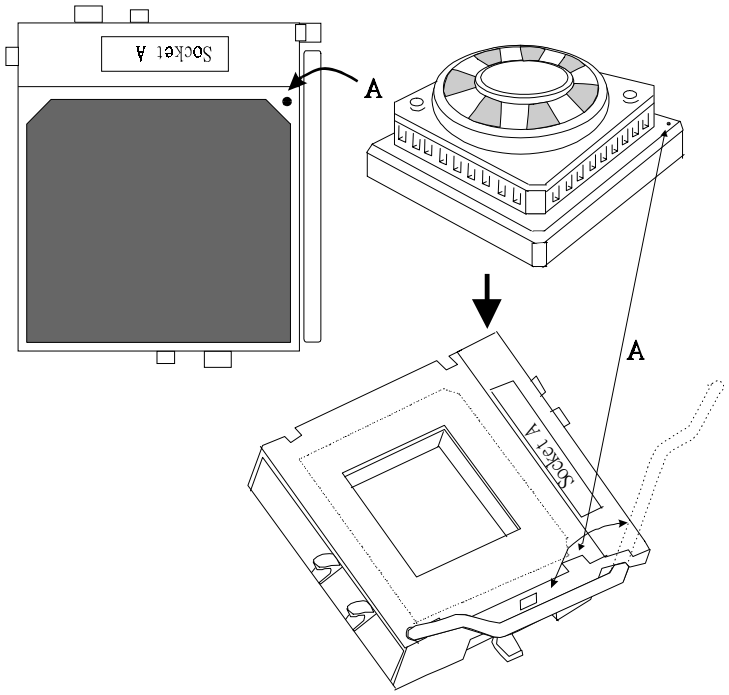




Signal	Pin
-Strobe	1
Data 0	2
Data 1	3
Data 2	4
Data 3	5
Data 4	6
Data 5	7
Data 6	8
Data 7	9
-Ack	10
Busy	11
Paper Empty	12
+Select	13
-Auto FDXT	14
-Error	15
-Init	16
-SLCTN	17
Ground	18
Ground	19
Ground	20
Ground	21
Ground	22
Ground	23
Ground	24
Ground	25

1.6 CPU Installation

1.6.1 CPU Installation Procedure: Socket A

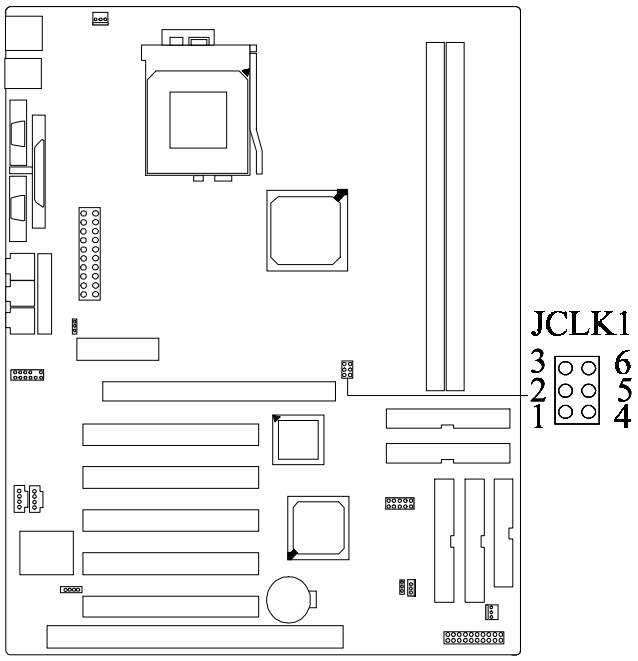


1. Pull the lever sideways away from the socket then raise the lever up to a 90-degree angle.

2. Locate Pin A in the socket and look for the white dot or cut edge in the CPU. Match Pin A with the white dot/cut edge then insert the CPU.

3. Press the lever down to complete the installation.

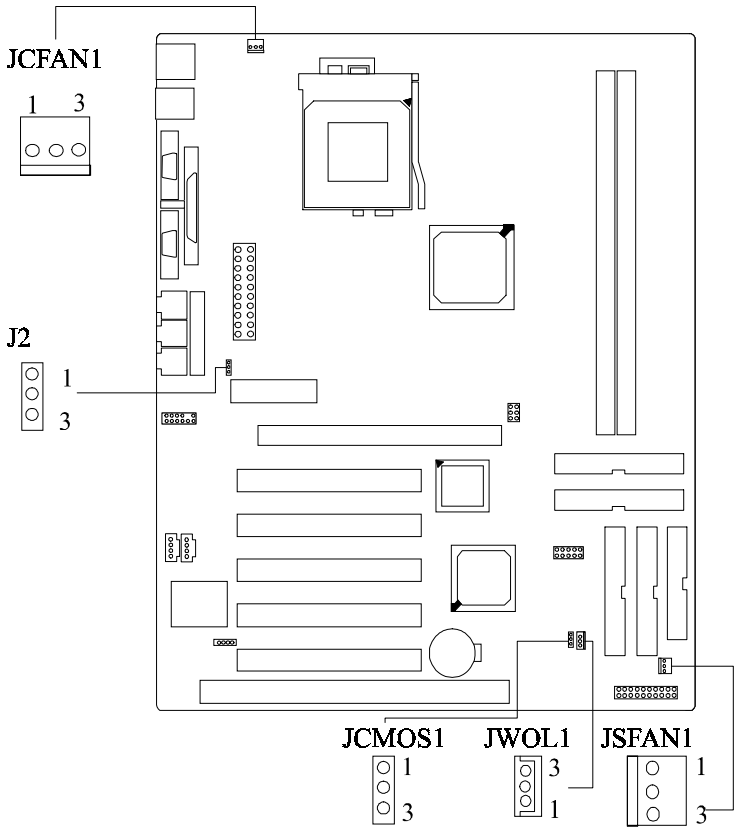
1.6.2 CPU Clock Selection: JCLK1



CPU Clock	PIN	PIN
100.0MHz	2-3	5-6
133.3MHz	1-2	4-5

1.7 Jumper Settings

A jumper has two or more pins that can be covered by a plastic jumper cap, allowing you to select different system options.



1.7.1 CPU Fan Connector: JCFAN1

Pin No.	Assignment
1	Ground
2	+12V
3	Sense

1.7.2 System Fan Connector: JSFAN1

Pin No.	Assignment
1	Ground
2	+12V
3	Sense

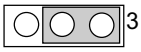
1.7.3 Wake-On-LAN Header: JWOL1

Pin No.	Assignment
1	5V SB
2	Ground
3	Wake up

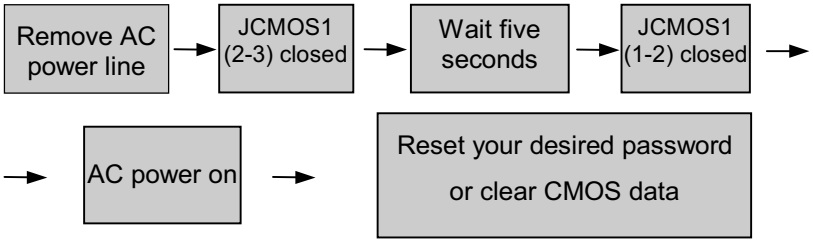
1.7.4 AMR Code Primary/Secondary Selection: J2

Pin No.	Assignment
1-2	On-board primary Codec
2-3	AMR Primary Codec

1.7.5 CMOS Function Selection: JCMOS1

JCMOS1	Assignment
1  3 1-2 Closed	Normal Operation (default)
1  3 2-3 Closed	Clear CMOS Data

The following procedures are for resetting the BIOS password. It is important to follow these instructions closely.



1.8 DRAM Installation

1.8.1 DIMM

DRAM Access Time : 3.3V Unbuffered SDRAM PC66/ PC100 and PC133 Type required.
DRAM Type : 8MB/ 16MB/ 32MB/ 64MB/ 128MB/ 256MB DIMM Module (168pin)

Total Memory Size With Registeed DIMMs

Devices used on DIMM	1 DIMM (2 Rows) x64/x72	2 DIMMs (2 Rows each) x64/x72
64M (4Mx4x4banks)	256 M	512 M
64M (2Mx8x4banks)	128 M	256 M
64M (1Mx16x4banks)	64 M	128 M
128M (8Mx4x4banks	512 M	1 G
128M (4Mx8x4banks)	256 M	512 M
128M (2Mx16x4banks)	128 M	256 M
256M (16Mx4x4banks)	1 G	2 G
256M (8Mx8x4banks)	512 M	1 G
256M (4Mx16x4banks)	256 M	512 M
512M (32Mx4x4banks)	2 G	4 G
512M (16Mx8x4banks)	1 G	2 G
512M (8Mx16x4banks)	512 M	1 G

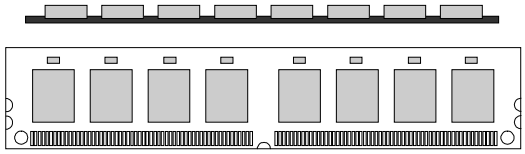
Total Memory Sizes With Unbuffered DIMMs

Devices used on DIMM	1 DIMM (2 Rows) x64/x72	2 DIMMs (2 Rows each) x64/x72
64M (2Mx8x4banks)	128 M	256 M
64M (1Mx16x4banks)	64 M	128 M
128M (4Mx8x4banks)	256 M	512 M
128M (2Mx16x4banks)	128 M	256 M
256M (8Mx8x4banks)	512 M	1 G
256M (4Mx16x4banks)	256 M	512 M
512M (16Mx8x4banks)	1 G	2 G
512M (8Mx16x4banks)	512 M	1 G

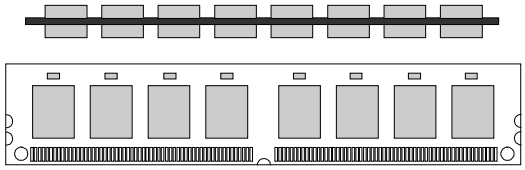
*The list shown above for DRAM configuration is only for reference.

Note: Don't stuff or remove the DIMM memory, If the LED1 is lighting.

1.8.2 How to install a DIMM Module



Single Sided DIMM

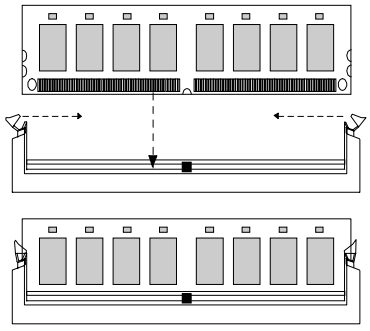


Double Sided DIMM

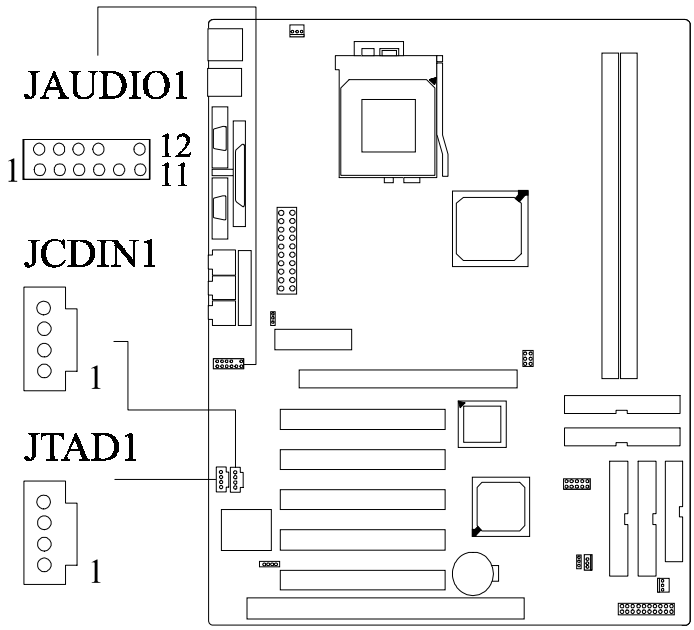
1. The DIMM socket has a " Plastic Safety Tab" and the DIMM memory module has an asymmetrical notch", so the DIMM memory module can only fit into the slot in one direction.

2. Push the tabs out. Insert the DIMM memory modules into the socket at a 90-degree angle then push down vertically so that it will fit into place.

3. The Mounting Holes and plastic tabs should fit over the edge and hold the DIMM memory modules in place.



1.9 Audio Subsystem



1.9.1 CD Audio-In Connector: JCDIN1

Pin No. of JCDIN1	Assignment
1	Left Channel Input
2	Ground
3	Ground
4	Right Channel Input

1.9.2 Telephony Connector: JTAD1

Pin No.	Assignment
1	MONO_IN
2	Ground
3	Ground
4	MONO_OUT

1.9.3 Front Panel Audio Connector: JAUDIO1

Pin No.	Assignment	Function	Pin No.	Assignment	Function
1	LFT Line Out	LFT Line Out	2	RT Line Out	RT Line Out Out
3	LFT Line Out		4	RT Line Out	
5	Ground	Ground	6	Ground	Ground
7	LFT Line In	LFT Line In	8	RT Line In	RT Line In
9	Ground	Ground	10	NC	
11	Mic In	Mic	12	Ground	Ground

2. BIOS Setup

Introduction

This manual discussed Award™ Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The Award BIOS™ installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports AMD-Athlon™ / Duron ™ processors input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

Adding important has customized the Award BIOS™, but nonstandard, features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

These AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD (Extended System Configuration Data) write is supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

These AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

SDRAM and DDR (Synchronous DRAM & Double Data Rate) are supported.

Supported CPUs

This AWARD BIOS supports the AMD Athlon™ / Duron™ CPU.

Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

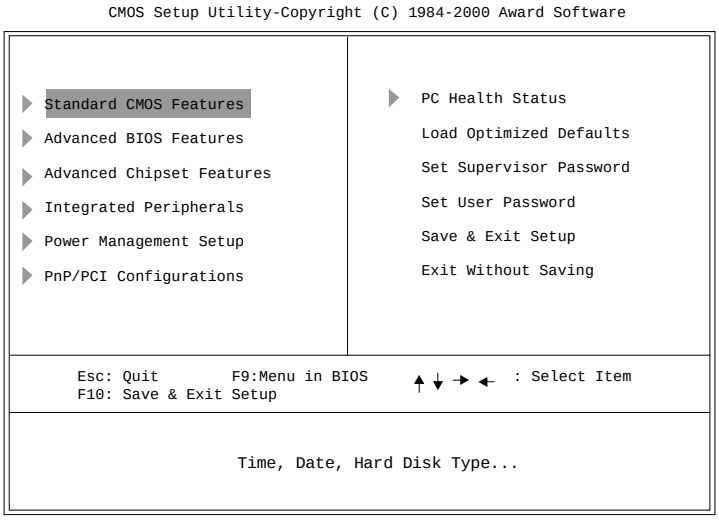
Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the fail-safe defaults from BIOS default table
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

2.1 Main Menu

Once you enter Award BIOS™ CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

> ***!! WARNING !!***
>
> The information about BIOS defaults on manual (**Figure 1,2,3,4,5,6,7,8**) is just for reference, please refer to the BIOS installed on board, for update information.

■ **Figure 1. Main Menu**



Standard CMOS Features

This submenu contains industry standard configurable options.

Advanced BIOS Features

This submenu allows you to configure enhanced features of the BIOS.

Advanced Chipset Features

This submenu allows you to configure special chipset features.

Integrated Peripherals

This submenu allows you to configure certain IDE hard drive options and Programmed Input/ Output features.

Power Management Setup

This submenu allows you to configure the power management features.

PnP/PCI Configurations

This submenu allows you to configure certain "Plug and Play" and PCI options.

PC Health Status

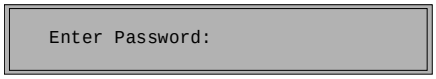
This submenu allows you to monitor the hardware of your system.

Load Optimized Defaults

This selection allows you to reload the BIOS when the system is having problems particularly with the boot sequence. These configurations are factory settings optimized for this system. A confirmation message will be displayed before defaults are set.

Set Supervisor Password

Setting the supervisor password will prohibit everyone except the supervisor from making changes using the CMOS Setup Utility. You will be prompted with to

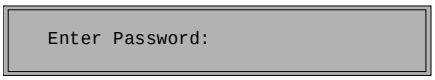


enter a password.

Set User Password

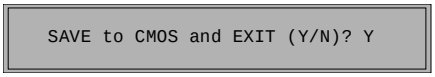
If the Supervisor Password is not set, then the User Password will function in the

same way as the Supervisor Password. If the Supervisor Password is set and the User Password is set, the "User" will only be able to view configurations but will not be able to change them.



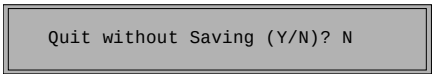
Save & Exit Setup

Save all configuration changes to CMOS(memory) and exit setup. confirmation message will be displayed before proceeding.



Exit Without Saving

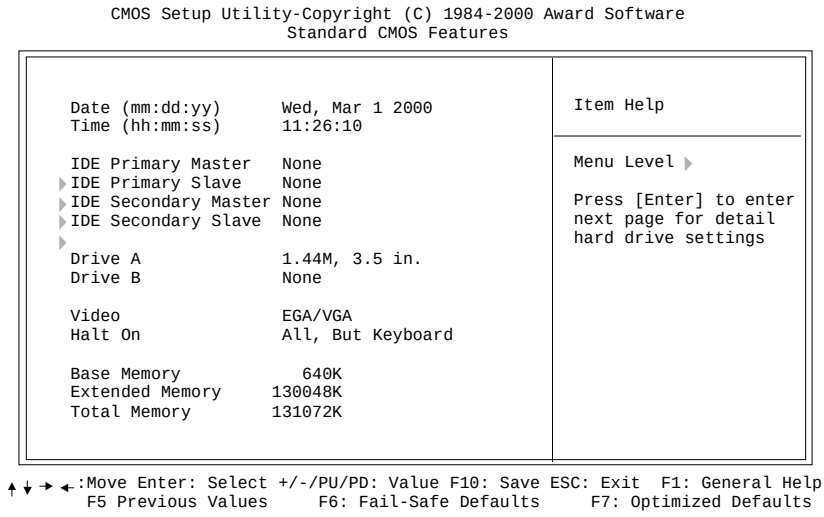
Abandon all changes made during the current session and exit setup. confirmation message will be displayed before proceeding.



2.2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the<PgUp> or <PgDn> keys to select the value you want in each item.

■ **Figure 2. Standard CMOS Setup**



Main Menu Selections

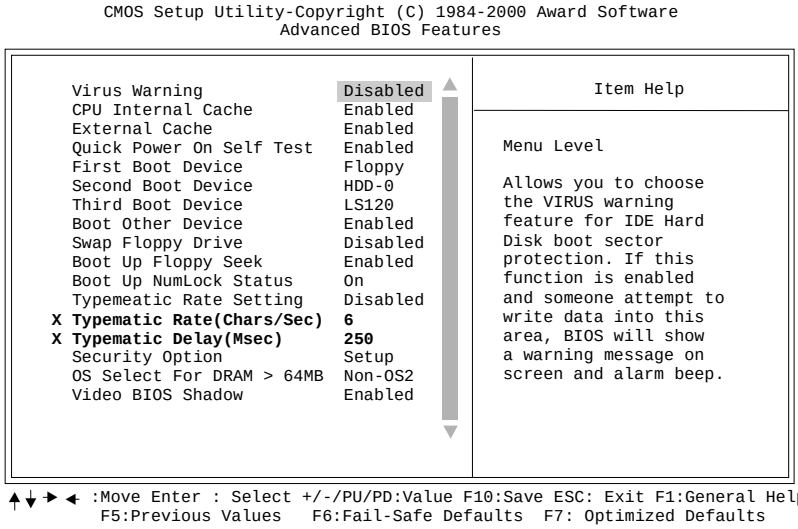
This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	MM DD YYYY	Set the system date. Note that the 'Day' automatically changes when you set the date.
IDE Primary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options
IDE Primary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Drive A Drive B	None 360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

2.3 Advanced BIOS Features

■ **Figure 3. Advanced BIOS Setup**



Virus Warning

This option allows you to choose the VIRUS Warning feature that is used to protect the IDE Hard Disk boot sector. If this function is enabled and an attempt is made to write to the boot sector, BIOS will display a warning message on the screen and sound an alarm beep.

Disabled (default)	Virus protection is disabled.
Enabled	Virus protection is activated.

CPU Internal Cache

Depending on the CPU/chipset in use, you may be able to increase memory access time with this option.

Enabled (default)	Enable cache.
Disabled	Disable cache.

Extermal Cache

This option you to enable or disable "Level 2" secondary cache on the CPU which may improve performance.

Enabled (default)	Enable cache.
Disabled	Disable cache.

Quick Power On Self Test

Enabling this option will cause an abridged version of the Power On Self-Test (POST) to execute after you power up the computer.

Enabled (default)	Enable quick POST.
Disabled	Normal POST.

First /Second/Third/ Boot Other Device

These BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choices: Floppy, LS120, HDD-0, HDD-1, HDD-2, HDD-3, SCSI, CDROM, Enabled, ZIP, LAN, HPT370, 100, Enabled Disabled.

Swap Floppy Drive

For systems with two floppy drives, this option allows you to swap logical drive assignments.

The Choices: Enabled, **Disabled** (default).

Boot Up Floppy Seek

Enabling this option will test the floppy drives to determine if they have 40 or 80 tracks. Disabling this option reduces the time it takes to boot-up.

The Choices: Enabled (default), Disabled.

Boot Up NumLock Status

Selects the NumLock. State after power on.

On (default)	Numpad is number keys.
Off	Numpad is arrow keys.

Typematic Rate Setting

When a key is held down, the keystroke will repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typermatic delay can be configured.

Enabled (default)
Disabled

Typematic Rate (Chars/Sec)

Sets the rate at which a keystroke is repeated when you hold the key down.

6 (default)**,** 8,10,12,15,20,24,30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

250 (default)**,** 500,750,1000.

Security Option

This option will enable only individuals with passwords to bring the system online and/or to use the CMOS Setup Utility.

System	A password is required for the system to boot and is also required to access the Setup Utility.
Setup (default)	A password is required to access the Setup Utility only.

This will only apply if passwords are set from the Setup main menu.

OS Select For DRAM > 64MB

A choice other than Non-OS2 is only used for OS2 systems with memory exceeding 64MB.

The Choices: Non-OS2 (default), OS2.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

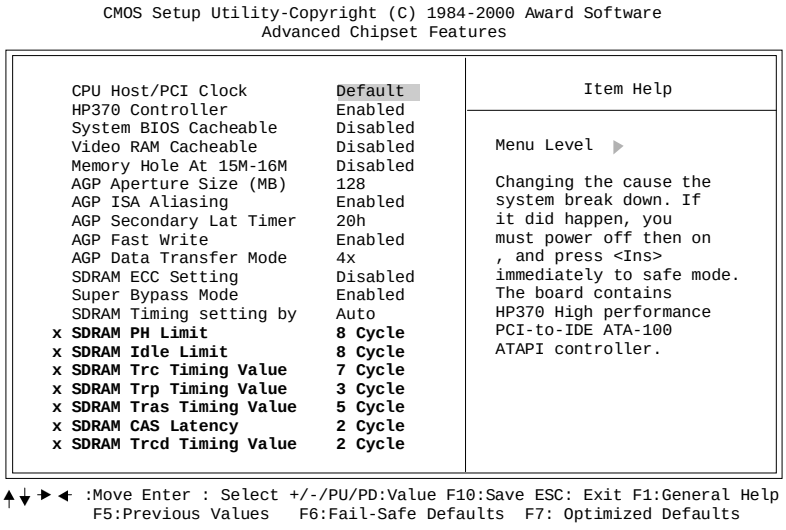
Enabled (default)	Optional ROM is enabled.

Disabled Optional ROM is disabled.

2.4 Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications with the PCI bus. The default settings that came with your system have been optimized and therefore should not be changed unless you are suspicious that the settings have been changed incorrectly.

■ **Figure 4. Advanced Chipset Setup**



CPU Host/PCI Clock

To set the CPU Host/PCI clock.

The Choises: Default (default), 100/33 Mhz,103/34 Mhz, 105/35Mhz, 110/37 Mhz, 113/38 Mhz, 117/39 Mhz

HP370 Controller

The Choises: Enabled (default), Disabled

System BIOS Cacheable

Selecting the "Enabled" option allows caching of the system BIOS ROM at F0000h-FFFFFh which can improve system performance. However, any programs writing to this area of memory will cause conflicts and result in system errors.

The Choices: Disabled (default)**,** Enabled.

Video RAM Cacheable

Enabling this option allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

The Choices: Disabled (default)**,** Enabled.

Memory Hole At 15M-16M

When enabled, you can reserve an area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. Refer to the user documentation of the peripheral you are installing for more information.

The Choices: Disabled (default)**,** Enabled.

AGP Aperture Size (MB)

This option determines the amount of system memory that the AGP will use.

The Choices: 128Mb (default)**,** 32Mb, 64Mb, 256Mb.

AGP ISA Aliasing

When enabled, this field forces the processor to alias ISA addresses which means that address bits are not used in decoding.

The Choices: Enabled (default), Disabled.

AGP Secondary Lat Timer

This Latency Timer adheres to the Latency Timer described in the PCI Local Bus Specificaton but applies to the secondary interface of a PCI to PCI bridge.

The Choices: 20h (default), 00h, 40h, 60h, 80h, C0h, FFh.

AGP Fast Write

The Choices: Enabled (default), Disabled

AGP Date Transfer Mode

Determines AGP data transfer rate.

The Choices: 4x (default), 1x/2x.

SDRAM ECC Setting

Determines whether ECC (Error Correcting Code) mode is enabled or disabled.

The Choices: Disabled (default)**,** Check Only, Correct Errors, Correct+Scrub.

Super Bypass Mode

When enabled, the processor will internally bypass certain memory to CPU pipe stages for optimal performance.

The Choices: Enabled (default), Disabled.

SDRAM Timing setting by

Determines SDRAM timing method.

The Choices: Auto (default), Manual.

SDRAM PH Limit

This field controls the number of consecutive page hit requests to allow before choosing a nonPH request.

The Choices: 8 Cycle (default), 1 Cycle, 4 Cycle, 16 Cycle.

SDRAM Idle Limit

This field controls the number of idle cycles to wait before precharging an idle bank.

The Choices: 8 Cycle (default), 0 Cycle, 12 Cycle, 16 Cycle, 24 Cycle, 32 Cycle, 48 Cycle, Disabled.

SDRAM Trc Timing Value

Determines SDRAM Trc Timing Value which is the minimum time from activate to activation of the same bank.

The Choices: 8 Cycle (default), 3 Cycle, 4 Cycle, 5 Cycle, 6 Cycle, 7

Cycle, 9 Cycle, 10 Cycle.

SDRAM Trp Timing Value

Determines SDRAM Trp Timing Value which is the time from precharge command to when bank can be activated.

The Choices: 3 Cycle (default), 2 Cycle, 1 Cycle, 4 Cycle.

SDRAM Tras Timing Value

Determines SDRAM Tras Timing Value which is the time from activate to precharge of the same bank.

The Choices: 7 Cycle (default),2 Cycle, 3 Cycle, 4 Cycle, 5 Cycle, 6 Cycle, 8 Cycle, 9 Cycle.

SDRAM CAS Latency

Determines SDRAM CAS Latency.

The Choices: 2 Cycle (default), 2.6 Cycle.

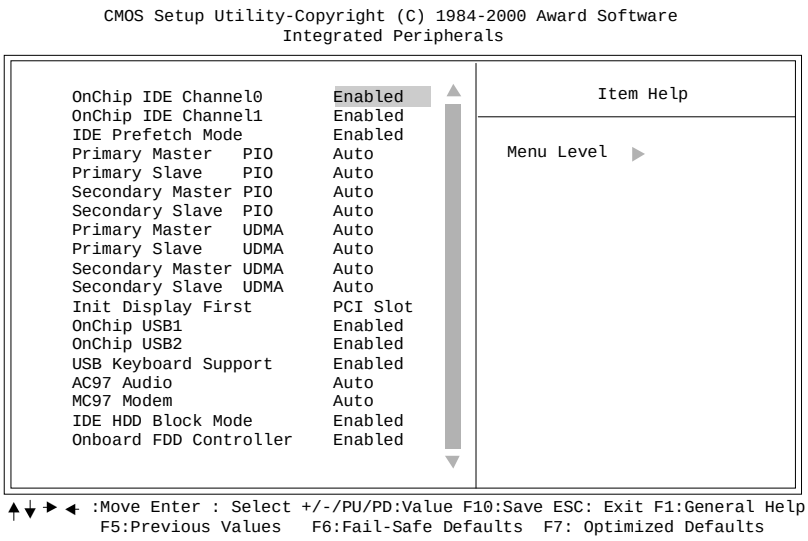
SDRAM Trcd Timing Value

Determines Trcd Timing Value which is the delay from activate to RD/WR command.

The Choices: 3 Cycle (default), 1 Cycle, 2 Cycle, 4 Cycle.

2.5 Integrated Peripherals

■ **Figure 5. Integrated Peripherals**



OnChip IDE Channel 0/1

The motherboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface.

The Choices: Enabled (default), Disabled.

IDE Prefetch Mode

The "onboard" IDE drive interfaces supports IDE prefetching for faster drive access. If the interface does not support prefetching.or if you install a primary and/or secondary add-in IDE interface, set this option to "Disabled".

The Choices: Enabled (default), Disabled.

Primary / Secondary /Master / Slave PIO

The IDE PIO (Programmed Input / Output)
fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increased performance progressively. In Auto mode, the system automatically determines the best mode for each device.

The Choices: Auto (default), Modde0, Mode1, Mode2, Mode3, Mode4.

Primary / Secondary /Master / Slave UDMA

Ultra DMA/33 functionality can only be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

The Choices: Auto (default), Disabled.

Init Display First

With systems that have multiple video cards, this option determines whether the primary display uses a PCI Slot or an AGP Slot.

The Choices: PCI Slot (default), AGP.

OnChip USB1

This option should be enabled if your system has a USB installed on the system board. You will need to disable this feature if you add a higher performance controller.

The Choices: Enabled (default), Disabled.

OnChip USB2

This option should be enabled if your system has a secondary USB installed on the system board. You will need to disable this feature if you add a higher performance controller.

The Choices: Enabled (default), Disabled.

USB Keyboard Support

Enables support for USB attached keyboards.

The Choices: Enabled (default), Disabled

AC97 Audio

This option allows you to control the onboard AC97 audio.

The Choices: Auto (default), Disabled

MC97 Modem

This option allows you to control the onboard MC97 modem.

The Choices: Auto (default), Disabled

IDE HDD Block Mode

Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do). The system will automatically determine the optimal number of blocks to read and write per sector.

The Choices: Enabled (default), Disabled.

Onboard FDD Controller

Select "Enabled" if your system has an onboard floppy disk controller (FDC).

The Choices: Enabled (default), Disabled.

Onboard Serial Port1/Port2

These options configure the serial ports with a unique IRQ and interrupt. You can disable the serial ports, select an interrupt/IRQ or have the system auto select the interrupt/IRQ.

The Choices: Auto (default), Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3.

UART 2 Mode

This option determines which Infra Red (IR) function of the onboard I/O chip, you wish to use.

The Choices: Standard (default), HPSIR, ASKIR.

IR Function Duplex

This option determines which Infra Red (IR) function of onboard I/O chip to use. This option is only configurable when "UART2 Mode" is not set to "Standard".

The Choices: Half (default), Full.

TX, RX inverting enable

This option determines how RX(receive) and TX(transmit) will be inverted. This option is only configurable when "UART2 Mode" is not set to "Standard".

No, No
No, Yes (default)
Yes, No
Yes, Yes

Onboard Parrallel Port

This option allows you to select the IRQ and an IO address for the onboard parallel port.

The Choices: 378/IRQ7 (default), Disabled, 3BC/IRQ7, 278/IRQ5.

Onboard Parrallel Mode

This option allows you to select an operating mode for the onboard parallel (print) port.

The Choices: Normal, **EPP** (Extended Parallel Port) (default),
ECP (Extended Capabilities Port), ECP+EPP.

Select Normal unless you are certain your hardware and software both support EPP or ECP mode.

ECP Mode Use DMA

This option allows you to select a DMA channel for the parallel port for use during ECP mode.

The Choices: 3 (default), 1.

Parallel Port EPP Type

This option allows you to select a DMA Channel for the parallel port.

The Choice: EPP1.9 (default), EPP1.7.

Onboard Legacy Audio

Select an operating mode for the second serial port.
The Choice: Enabled, Disabled (default).

Sound Blaster

Hardware the SoundBlaster Pro for Windows DOS box and real-mode DOS legacy compatibility.
The Choice: Disabled (default), Enabled.

SB I/O Base Address

Change the SoundBlaster Pro Base I/O Address setting.
The Choice: 220H (default), 240H, 260H, 280H.

SB IRQ Select

Change the SoundBlaster Pro interrupt signal.
The Choice: IRQ5 (default), IRQ7, IRQ9, IRQ10.

SB DMA Select

Change the Sound Blaster Pro direct memory access setting.
The Choice: DMA1 (default), DMA0, DMA2, DMA3.

MPU-401

Enable or Disable MPU-401 option.
The Choice: Disabled (default), Enabled.

MPU-401 I/O Address

Change the Sound Blaster Pro MPU-401 I/O address.
300-303H
310-313H
320-323H
330-333H (default)

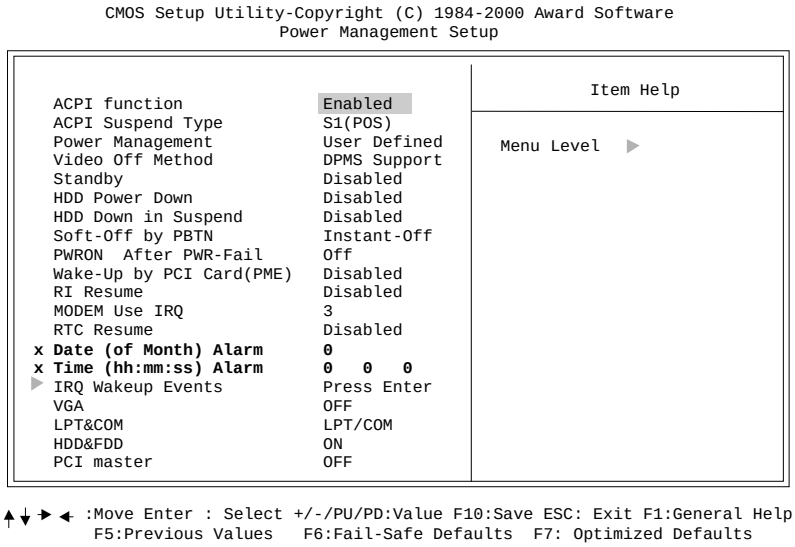
Game Port (200-207H)

Change the joystick connect port address.
The Choice: Enabled (default), Disabled.

2.6 Power Management Setup

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.

- **Figure 6. Power Management Setup**



ACPI function

This item displays the status of the Advanced Configuration and Power Management (ACPI).

The Choices: Enabled (default), Disabled.

ACPI Suspend Type

The item allows you to select the suspend type under the ACPI operating system.

S1 (POS) (default) Power on Suspend
S3 (STR) Suspend to RAM

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:
1.HDD Power Down.
2.Doze Mode.
3.Suspend Mode.

There are four options of Power Management, three of which have fixed mode settings

Min. Power Saving

Minimum power management.
Doze Mode = 1 hr.
Standby Mode = 1 hr
Suspend Mode = 1 hr.
HDD Power Down = 15 min

Max. Power Saving

Maximum power management only available for sl CPU's.
Doze Mode = 1 min
Standby Mode = 1 min.
Suspend Mode = 1 min.
HDD Power Down = 1 min.

User Defined (default)

Allows you to set each mode individually.
When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

Video Off Method

This option determines the manner in which the monitor is goes blank.

V/H SYNC+Blank

This selection will cause the system to turn (D) off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

DPMS Support (default)

Initial display power management signaling.

Standby Mode

The item allows you to select the suspend type under ACPI operating system.

The Choices: Disabled (default), 30 Sec, 1 Min, 4 Min, 10 Min, 20 Min, 30 Min, 1Hour.

HDD Power Down

When enabled, the hard disk drive will power down and after a set time of system inactivity. All other devices remain active.

The Choices: Disabled (default), 1 Min, 2 Min, 3 Min, 4 Min, 5 Min, 6 Min, 7 Min, 8 Min, 9 Min, 10 Min, 11 Min, 12 Min, 13Min, 14 Min, 15 Min.

HDD Down in Suspend

When enabled, the hard disk drive will power down and after a set time of system inactivity. All other devices remain active.

The Choices: Disabled (default), Enabled.

Soft-Off by PBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung."

The Choices: Delay 4 Sec, **Instant-Off** (default).

POWER After PWR-Fail

This field determines the action the system will automatically take when power is restored to a system that had lost power previously without any subsequent manual intervention. There are 3 sources that provide current to the CMOS area that retains these Power-On instructions; the motherboard battery (3V), the Power Supply (5VSB), and the Power Supply (3.3V). While AC is not supplying

power, the motherboard uses the motherboard batttery (3V). If AC power is supplied and the Power Supply is not turned on, 5VSB from the Power Supply is used. When the Power Supply is eventually turned on 3.3V from the Power Supply will be used.

There are 3 options: "Former-Sts", "On", "Off".
"Former-Sts" Means to maintain the last status of the CMOS when AC power is lost.

"On" Means always set CMOS to the "On" status when AC power is lost.

"Off" Means always set CMOS to the "Off" status when AC power is lost.

For example: If set to "Former-Sts" and AC power is lost when system is live, then after AC power is restored, the system will automatically power on. If AC power is lost when system is not live, system will remain powered off.

The Choices: Off (default), On, Former Sts.

Wake-Up by PCI Card (PME)

When you select Enabled, a PME signal from PCI card returns the system to Full ON state.

The Choices: Disabled (default), Enabled.

RI Resume

This option enables an input signal on the serial Ring Indicator (RI) line (in otherwords, an incoming call on the modem) to awaken the system from a soft off state.

The Choices: Disabled (default), Enabled.

Modem Use IRQ

This determines the IRQ, which can be applied in MODEM use.

3 (default)
4 / 5 / 7 / 9 / 10 / 11 / NA

RTC Resume

When Enabled, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

The Choices: Disabled (default), Enabled.

Date (of Month) Alarm

You can choose which month the system will boot up. This field is only configurable when "RTC Enabled" is set to "Enabled".

Date (hh:mm:ss) Alarm

You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Enabled" is set to "Enabled".

IRQ Wakeup Events

Press Enter to access another sub menu used to configure the different wake up events (i.e. wake on LPT & COMM activity).

IRQs Activity	Primary
IRQ3 (COM2)	Enabled
IRQ4 (COM1)	Enabled
IRQ5 (LPT2)	Enabled
IRQ6 (Disk)	Enabled
IRQ7 (LPT1)	Enabled
IRQ8 (RTC Alarm)	Disabled
IRQ9 (IRQ2 Redir)	Enabled
IRQ10 (Reserved)	Enabled
IRQ11 (Reserved)	Enabled
IRQ12 (PS/2 Mouse)	Emabled
IRQ13 (Coprocessor)	Enabled
IRQ14 (Hard Disk)	Enabled
IRQ15 (Reserved)	Disabled

VGA

When set to **On**, any event occurring at a VGA Port will awaken a system which has been powered down.

The Choices: Off (default), On.

LPT & COM

When this option is set to **On**, any event occurring at a COM(serial)/LPT (printer)

port will awaken a system which has been powered down.

The Choices: LPT/COM (default), COM, LPT, NONE.

HDD & FDD

When this option is set to **On**, any event occurring on a hard drive or a floppy drive will awaken a system which has been powered down.

The Choices: On (default), Off.

PCI Master

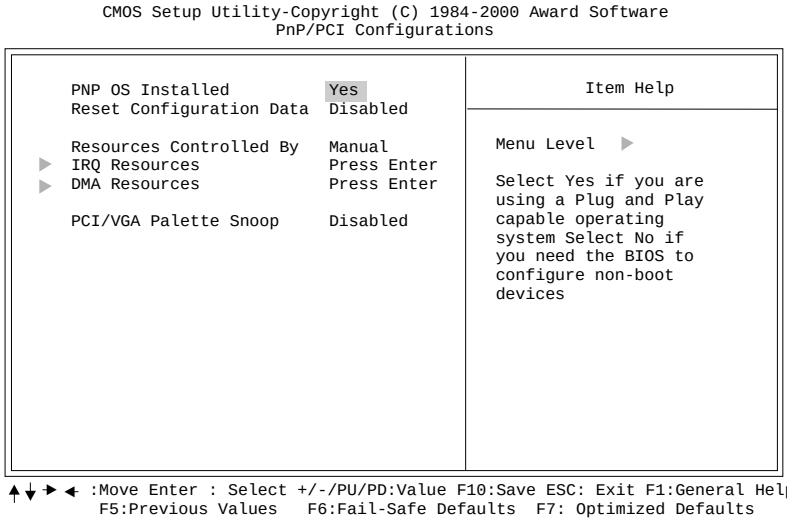
When set to **On**, you need a LAN add-on card which supports the power function. It should also support the wake-up on LAN jump.

The Choices: Off (default), On.

2.7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

■ **Figure 7. PnP/PCI Configurations**



PNP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Window™ 95. When set to NO, BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware™), this option must set to NO.

The Choices: No, **Yes** (default).

Reset Configuration Data

The system BIOS supports the PnP feature which requires the system to record which resources are assigned and protects resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved in the system BIOS. If the Disabled (default) option is chosen, the system's ESCD will update only when the new configuration varies from the last one. If the Enabled option is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

IRQ-3	assigned to: PCI / ISA PnP
IRQ-4	assigned to: PCI / ISA PnP
IRQ-5	assigned to: Legacy ISA
IRQ-7	assigned to: PCI / ISA PnP
IRQ-9	assigned to: PCI / ISA PnP
IRQ-10	assigned to: Legacy ISA
IRQ-11	assigned to: Legacy ISA
IRQ-12	assigned to: Legacy ISA
IRQ-14	assigned to: PCI / ISA PnP
IRQ-15	assigned to: Legacy ISA
DMA-0	assigned to: PCI / ISA PnP
DMA-1	assigned to: PCI / ISA PnP
DMA-3	assigned to: PCI / ISA PnP
DMA-5	assigned to: PCI / ISA PnP
DMA-6	assigned to: PCI / ISA PnP
DMA-7	assigned to: PCI / ISA PnP

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term, which signifies that a resource is assigned to the ISA Bus and provides non-PnP ISA add-on cards. PCI / ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

The Choices: Disabled (default), Enabled.

Resources Controlled By

By Choosing "**Auto**", the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral.
By Choosing "**Manual**" (default), the user will need to assign IRQ & DMA for

add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

IRQ Resources

This submenu will allow you to assign each system interrupt a type, depending on the type of device using the interrupt. When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to configure the system interrupts. This is only configurable when "Resources Controlled By" is set to "Manual".

When you press the "Press Enter" tag, you will be directed to a submenu that will allow you to make configuration changes the the system DMA channels. This is only configurable when "Resources Controlled By" is set to "Manual".

DMA Resources

When resources are controlled manually, assign each system DMA channel a type, depending on the type of device using the DMA channel.

PCI / VGA Palette Snoop

Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

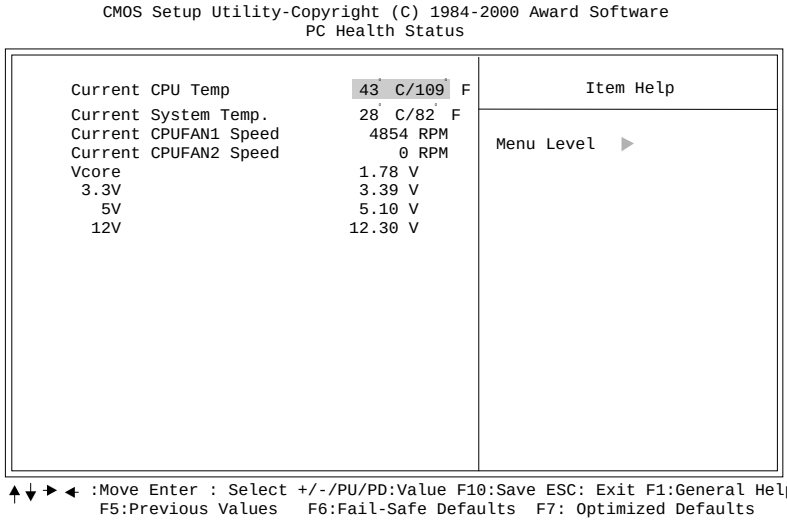
However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for Write access to the VGA palette and registers the snoop data. In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write. It should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

Disabled (default)	Disables the function.
Enabled	Enables the function.

2.8 PC Health Status

■ **Figure 8. PC Health Status**



Current CPU Temp.

This field displays the *current* CPU temperature.

Current System Temp.

This field displays the *current* system temperature.

Current CPUFAN Speed

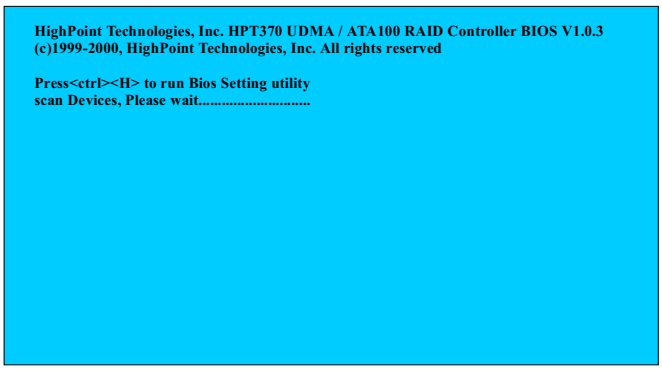
This field displays the current speed of up to three CPU fans.

Current CPU Vcore 2.5C, 3.3V, 5V, 12V

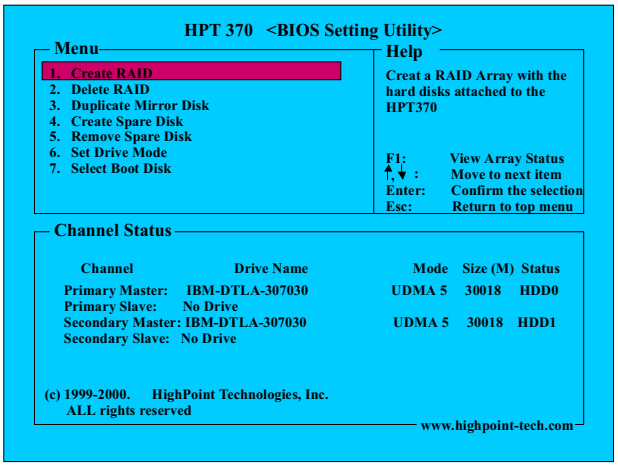
Detect the system's voltage status automatically.

3. RAID BIOS Setting

When you boot your system, the onboard **"HPT370"** BIOS will show the following the screen:



Press <Ctrl><H> the first option screen when entering the **"HPT370"** Setup.



1. Create RAID
2. Delete RAID
3. Duplicate Mirror Disk
4. Create Spare Disk
5. Remove Spare Disk
6. Set Drive Mode
7. Select Boot Disk

 To create a new array, follow the steps under **"Create RAID"** on page 3-3.

 To delete an array, select **"Delete RAID"**.

 To duplicate mirror disk, select **"Duplicate Mirror Disk"** (RAID 1 or RAID 0+1 only), see page 3-9.

 To create spare disk, select **"Create Spare Disk"** (RAID1 or RAID 0+1 only), see page 3-9.

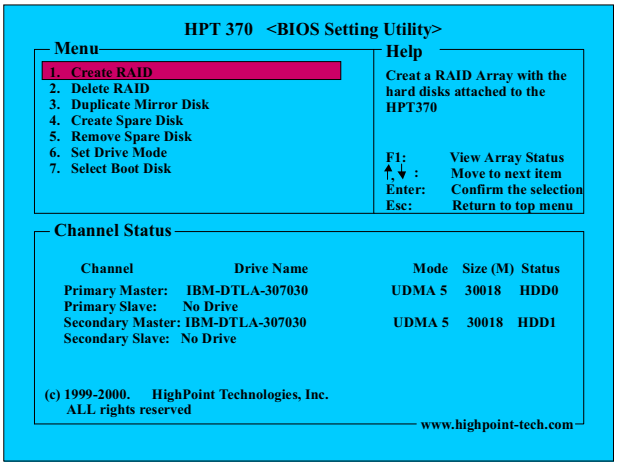
 To remove spare disk, select **"Remove Spare Disk"**.

 To set drive mode, select **"Set Drive Mode"**, the **HPT370** supports PIO 0~4, MWDMA 0~2, UDMA 0~5 depend on your disk can run. (Check your HDD manual, to set proper mode).

 To select Boot disk, select **"Select Boot Disk"** (For Non-RAID use).

3.1 Create RAID 0

To create a RAID array with the hard disks attached to the **HPT370**, Press <Enter>



In **"Array Mode"** to select whether you want Performance (RAID 0), Security (RAID 1 or RAID 0+1), or Capacity (Span).

Performance (RAID 0 : Striping) to see page 3-5.

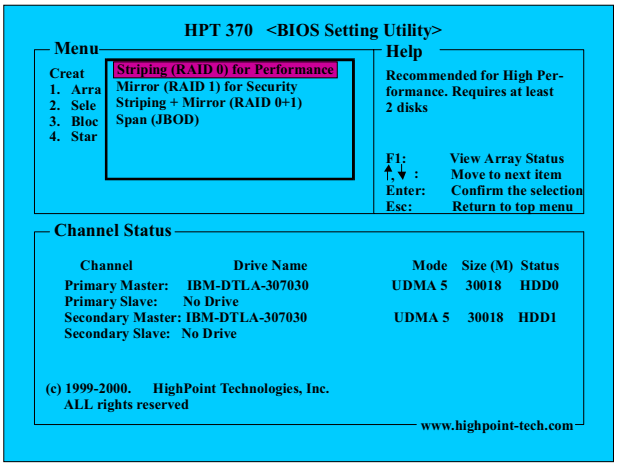
Supports the maximum performance, Requires at least 2 disks.
(Recommended same type HDD)

Security (RAID 1: Mirroring or RAID 0+1 : Striping + Mirroring) (Recommended same type 2 disks) to see page 3-6.

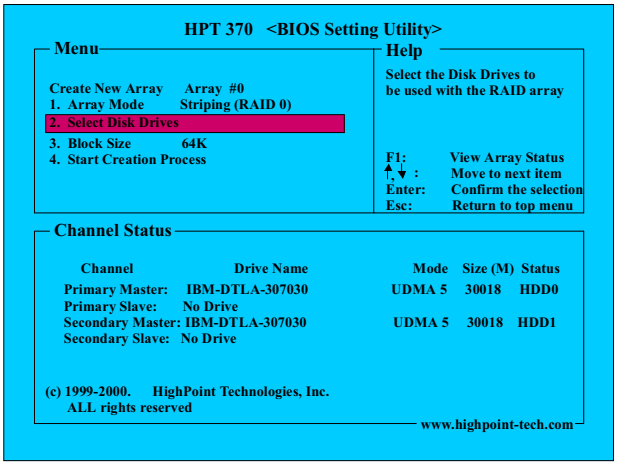
Creates a mirrored array for data security.

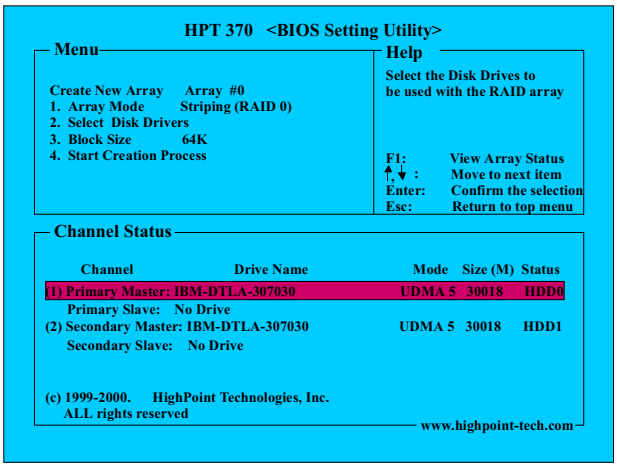
Capacity (Span).
Achieves the maximum amount of capacity by adding the sum of all attached

drives.

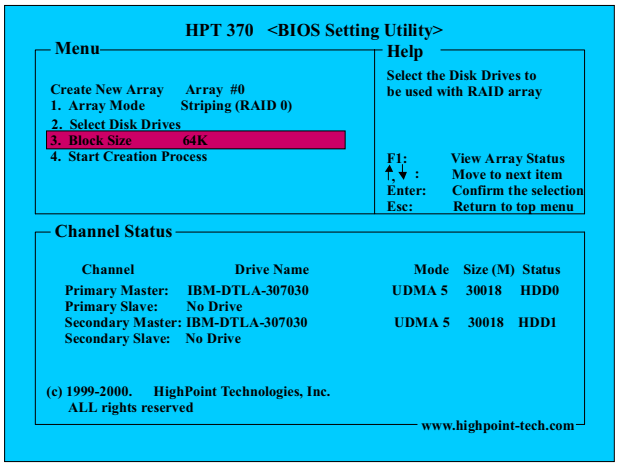


To select which drives you want to do RAID 0 array.



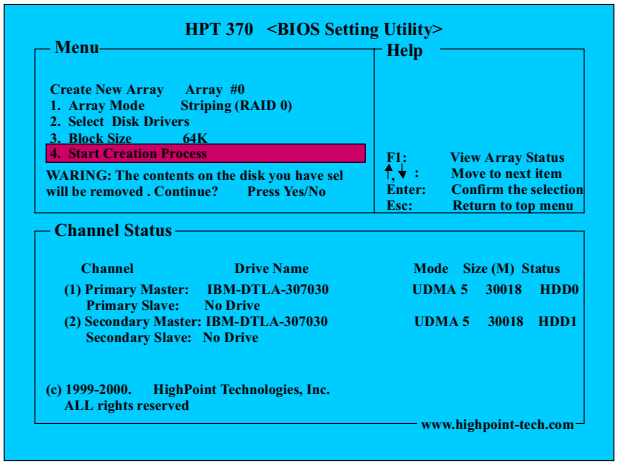


Selecting stripe Block size. For RAID 0 striped arrays only. Use the arrow key to choices the size (4K, 8K, 16K, 32K, 64K)



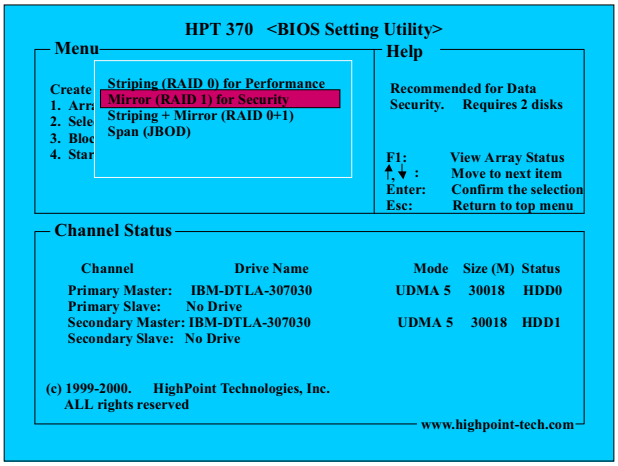
The size selected affects how HPT370 sends and retrieves data blocks from the drives. In general, a large block size is beter when handing large data transfers (such as in AV editing or graphics). **The default is 64K.**

To start creation process.

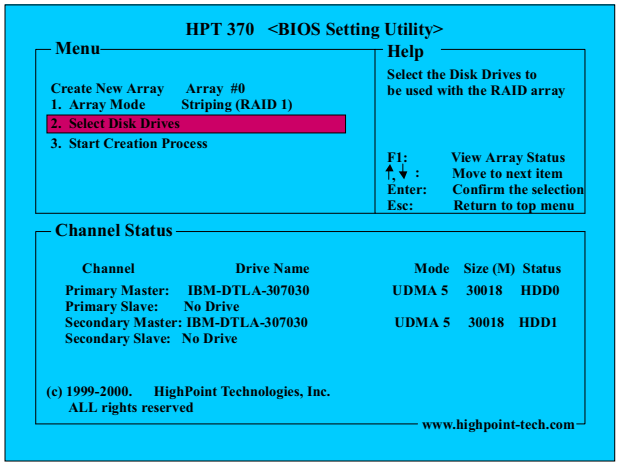


3.2 Create RAID 1

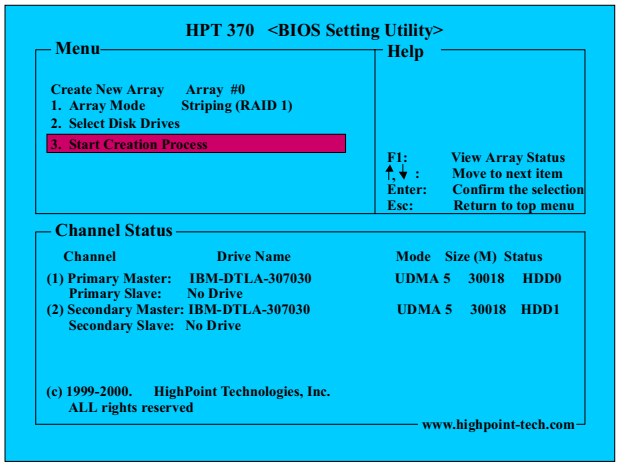
To create the RAID1 array. Recommended same type 2 disks.



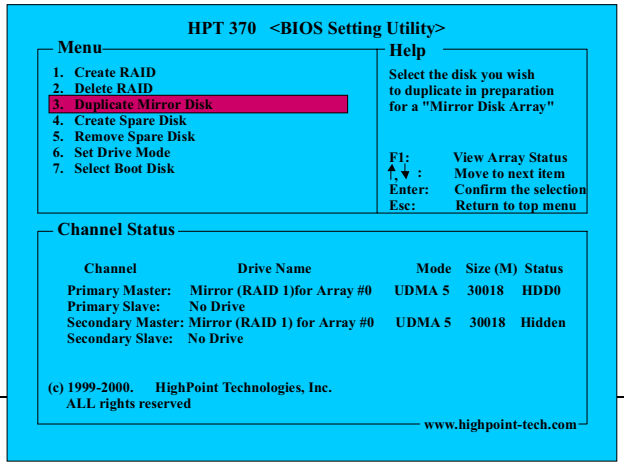
To select which drives you want to do RAID 1 array.

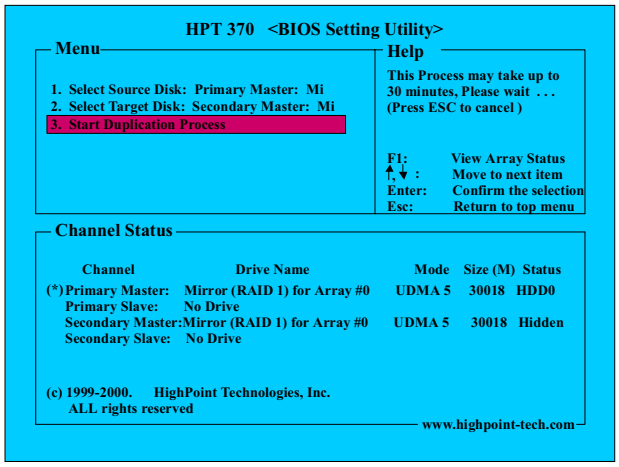


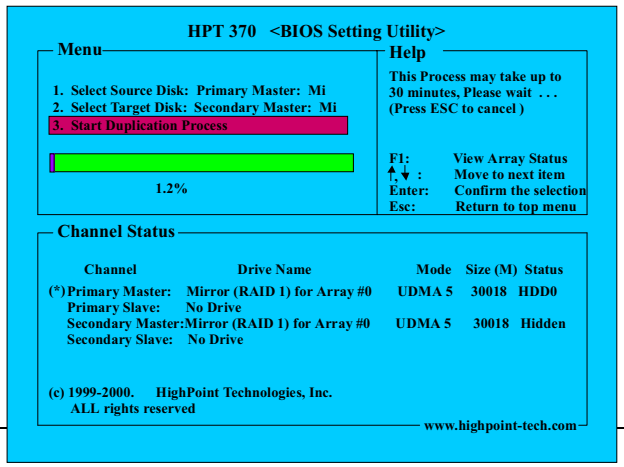
To start creation process.



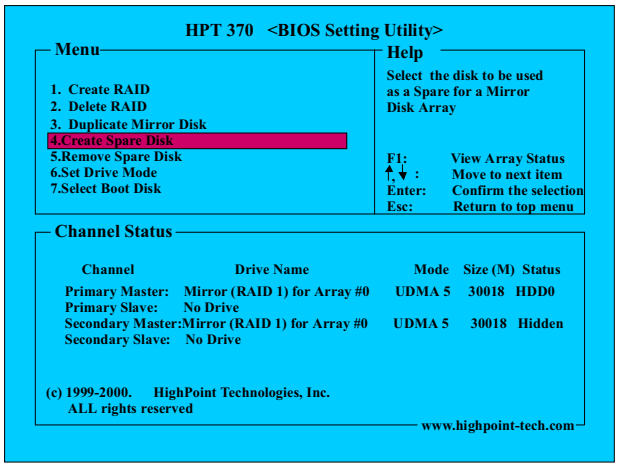
To duplicate the mirror disk, and select the source / target disk to start duplication process.

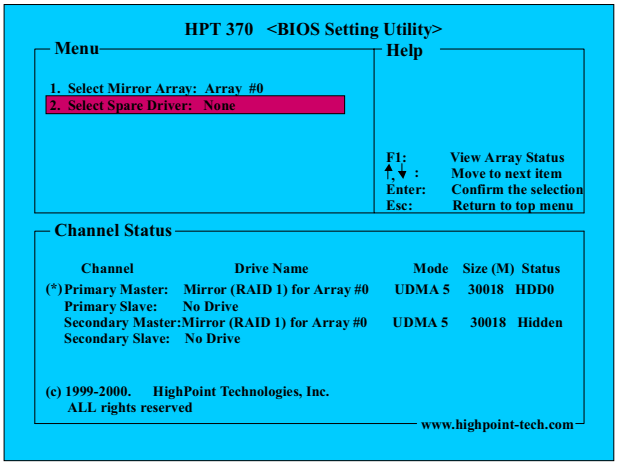



HPT 370 <BIOS Setting Utility>
Menu
1. Select Source Disk: Primary Master: Mi
2. Select Target Disk: Secondary Master: Mi
3. Start Duplication Process
Help
This Process may take up to
30 minutes, Please wait . . .
(Press ESC to cancel)
F1: View Array Status
↑,↓ : Move to next item
Enter: Confirm the selection
Esc: Return to top menu
Channel Status
Channel Drive Name Mode Size (M) Status
(*)Primary Master: Mirror (RAID 1) for Array #0 UDMA 5 30018 HDD0
Primary Slave: No Drive
Secondary Master:Mirror (RAID 1) for Array #0 UDMA 5 30018 Hidden
Secondary Slave: No Drive
(c) 1999-2000. HighPoint Technologies, Inc.
ALL rights reserved
www.highpoint-tech.com

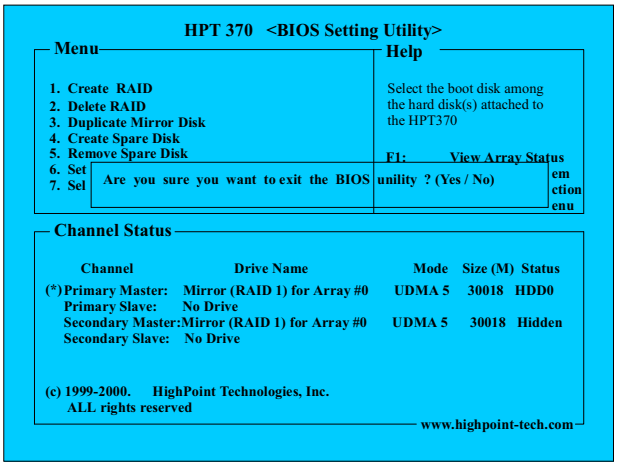

HPT 370 <BIOS Setting Utility>
Menu
1. Select Source Disk: Primary Master: Mi
2. Select Target Disk: Secondary Master: Mi
3. Start Duplication Process
1.2%
Help
This Process may take up to
30 minutes, Please wait . . .
(Press ESC to cancel)
F1: View Array Status
↑,↓ : Move to next item
Enter: Confirm the selection
Esc: Return to top menu
Channel Status
Channel Drive Name Mode Size (M) Status
(*)Primary Master: Mirror (RAID 1) for Array #0 UDMA 5 30018 HDD0
Primary Slave: No Drive
Secondary Master:Mirror (RAID 1) for Array #0 UDMA 5 30018 Hidden
Secondary Slave: No Drive
(c) 1999-2000. HighPoint Technologies, Inc.
ALL rights reserved
www.highpoint-tech.com

Select the disk to be used as a spare for a mirror disk array (RAID 1).





To exit the BIOS utility.



※After finish RAID 0 / RAID 1 / RAID 0+1 HDD setup, you need <FDISK>, <FORMAT> HDD to achieve RAID setup.

4. Software Setup

NOTE: The mark * means it can be installed directly from CD by using CD Installation Utility (i.e. START.EXE).

4.1 Software List

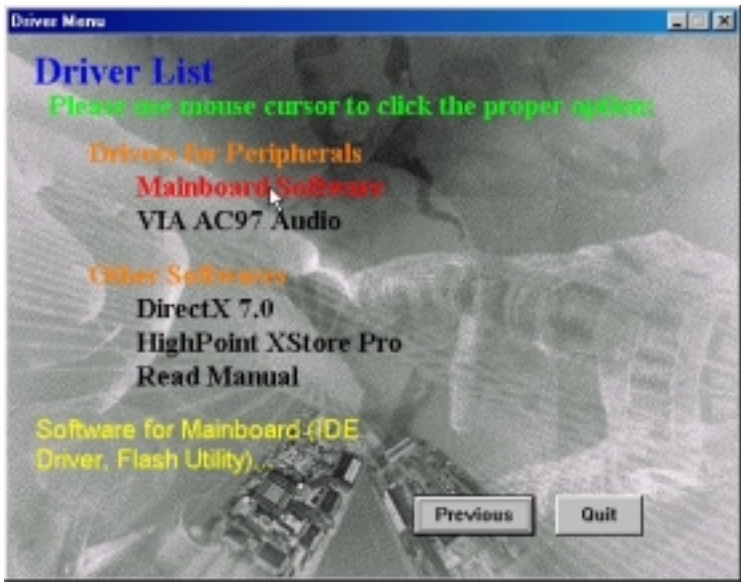
Category	Description	Platform	Location in CD
AMD AGP Miniport	Motherboard with AMD-761System Controller	Windows 98/98SE/ME/2000	\Mb_drv\AGP
HighPoint XStore Pro	Drivers that support Ultra DMA mode Hard Drive.	Windows 95/98	\Mb_drv\XStore
Award Flash Utility	Used for updating BIOS. (Please refer to chapter - Application Software.)	Need to be run under **DOS** environment.	\Flash
VIA PCI Audio	Drivers for VIA AC97 Audio	Windows 95/98/ME/NT4.0/2000	\Audio\VIA
Creative SB PCI128 Audio	Install the driver to enable the VIA AC97 Audio Device	Windows 95/98/ME/2000 /NT 4.0	\Audio\Creative
Microsoft DirectX	Microsoft DirectX runtime library	Windows 95/98	\DirectX

4.2 Software Installation

We provide a Wizard with User Interface, Driver CD Installation Utility (START.EXE), located in the root of Driver CD to let you install drivers conveniently.

The Wizard can automatically detect OS and switch to the proper page, so you don't need to worry about installing the wrong drivers.

You can simply put Driver CD into CD-ROM drive and the Installation Utility will autorun or you can launch the Driver CD Installation Utility manually.



There are two kinds of Installation Procedure:

- **Automatically Install drivers from CD by using CD Installation Utility:**

  Use mouse cursor to click the proper option on the page. Utility will invoke other applications to complete the rest of installation.

- **When the drivers CAN NOT be installed directly from CD by using CD Installation Utility, please do the following procedure :**

  Please read the README.TXT located in the root directory on Multimedia CD to get drivers‘ location and then refer to the INSTALL.TXT or README.TXT files located in each driver directory on the Driver CD to install drivers.

4.3 Software Usage

- **Note: In general, you can get more detailed information in the on-line help or readme for the software.**

(Dear Vivian:
加入光濤的HPT370 SOFTWARE Installation parts即可 接續4.4 HPT370 Software Installation (optional))
請記得確認是否加optional
betty

5. Trouble Shooting

PROBLEM

No power to the system at all. Power light does not illuminate, fan inside power supply does not turn on. Indicator light on keyboard does not turn on.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Power cable is unplugged.	Visually inspect power cable.	Make sure power cable is securely plugged in.
Defective power cable.	Visually inspect the cable; try another cable.	Replace cable.
Power supply failure.	Power cable and wall socket are OK, but system is still dead.	Contact technical support.
Faulty wall outlet; circuit breaker or fuse blown.	Plug in device known to work in socket and test	Use different socket, repair outlet, reset circuit breaker or replace fuse.

PROBLEM

System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is spinning.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Memory DIMM is partially dislodged from the slot on the motherboard.	Turn off computer. Take cover off system unit. Check the DIMM to ensure it is securely seated in the slot.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

PROBLEM

System does not boot from hard disk drive, can be booted from CD-ROM drive.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Connector between hard drive and system board unplugged.	When attempting to run the FDISK utility you get a message, INVALID DRIVE SPECIFICATION.	Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup.
Damaged hard disk or disk controller.	Format hard disk; if unable to do so the hard disk may be defective.	Contact technical support.
Hard disk directory or FAT is scrambled.	Run the FDISK program, format the hard drive. Copy data that was backed up onto hard drive.	Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.

PROBLEM

System only boots from CD-ROM. Hard disk can be read and applications can be used but booting from hard disk is impossible.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Hard Disk boot program has been destroyed.	A number of causes could be behind this.	Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

PROBLEM

Error message reading "SECTOR NOT FOUND" or other error messages not allowing certain data to be retrieved.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
A number of causes could be behind this.	Use a file by file backup instead of an image backup to backup the hard disk.	Back up any salvageable data. Then low level format, partition, and high level format the hard drive. Re-install all saved data when completed.

PROBLEM

Screen message says "Invalid Configuration" or "CMOS Failure."

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Incorrect information entered into the configuration (setup) program.	Check the configuration program. Replace any incorrect information.	Review system's equipment . Make sure correct information is in setup.

PROBLEM

Screen is blank.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
No power to monitor.		Check the power connectors to monitor and to system. Make sure monitor is connected to display card.
Monitor not connected to computer.		See instructions above.

PROBLEM

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Memory problem.		Reboot computer. Reinstall memory, make sure that all memory modules are installed in correct sockets.
Computer virus.		Use anti-virus programs to detect and clean viruses.

PROBLEM

Screen goes blank periodically.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Screen saver is enabled.		Disable screen saver.

PROBLEM

Keyboard failure.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Keyboard is disconnected.		Reconnect keyboard. Check keys again, if no improvement replace keyboard.

PROBLEM

No color on screen.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Faulty Monitor.		If possible, connect monitor to another system. If no color replace monitor.
CMOS incorrectly set up.		Call technical support.

PROBLEM

C: drive failure.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Hard drive cable not connected properly.		Check hard drive cable.

PROBLEM

Cannot boot system after installing second hard drive.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Master/slave jumpers not set correctly.		Set master/slave jumpers correctly.
Hard drives not compatible / different manufacturers.		Run SETUP program and select correct drive types. Call drive manufacturers for compatibility with other drives.

PROBLEM

Missing operating system on hard drive.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
CMOS setup has been changed.		Run setup and select correct drive type.

PROBLEM

Certain keys do not function.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Keys jammed or defective.		Replace keyboard.

PROBLEM

Keyboard is locked, and no keys function.

PROBABLE CAUSE	DIAGNOSIS	SOLUTION
Keyboard is locked.		Unlock keyboard.

11/21/2000
MADE IN TAIWAN
R.O.C.