M7VIP

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Contents

English

M7VIP Features

✪ Use VIA VT8367 (KT333) / VT8235 Chipset, Winbond W83697HF.

✪ Contains on board I/O facilities, which include two serial ports, a parallel port, a PS/2 mouse port, a PS/2 keyboard port, audio ports, USB ports and a game port.

✪ Supports Single Socket-A for an AMD Athlon/ Duron Family processor, running at 200 or 266 MHz Front Side Bus frequency. (For Version 1.0)

✪ Supports Single Socket-A for an AMD Athlon/ Duron Family processor, running at 200, 266 or 333 MHz Front Side Bus frequency. (For Version 1.1 and above)

✪ The AMD Athlon system bus supports the 200/266 MHz high-speed, split-transaction AMD Athlon system bus interface. (For Version 1.0)

✪ The AMD Athlon system bus supports the 200/266/333 MHz high-speed, split-transaction AMD Athlon system bus interface. (For Version 1.1 and above)

✪ Supports Ultra DMA 33/66/100/133 Bus Master Modes, PIO Mode 4, Master Mode, and high performance hard disk drives.

✪ Supports USB2.0 High Speed Device, 2 ports in rear panel and 4 ports in front panel.

✪ The VT8367 (KT333) system controller is designed to support 200/266/333 MHz DDR SDRAM DIMMs.

✪ Support a maximun memory size up tp 3GB.

✪ Supports one CNR Slot (Type B only), one AGP Slot (AGP 4X), and five 32-bit PCI Bus slots.

✪ Complies with PC ATX form factor specifications.

✪ Supports popular operating systems such as Windows NT, Windows 98SE, Windows 2000, Windows ME, Windows XP and LINUX.

✪ CPU over temperature protection.

Motherboard Description

✪ Intel® AC'97 2.2 compatible. High S/N ratio meets PC 99 requirements.

✪ Line-in phonejack and Mic-in jack share with rear Audio out for 6 channels Audio.

✪ Support front audio pin head functions.

✪ Support wake up from USB keyboard/mouse.

✪ Support 3 ports firewire 1394 function (Optional).

✪ Support 2 serials and 1 parallel Serial ATA and Raid functions (Optional).

✪ Support over speed/voltage function (Optional).

✪ 1394 Features:

■ OHCI Compliant Programming Interface.

■ Compliant with 1394 Open HCI Specifications v1.0 and v1.1.

■ Descriptor based isochronous and asynchronous DMA channels for receive/transmit packets.

■ 32-Bit Power-Managed PCI Bus Interface

■ Compliant with PCI specification v2.2.

■ Integrated 400 Mbit 3-Port PHY.

■ Supports provisions of IEEE 1394-1995 Standard.

■ Fully interoperable with IEEE Std 1394-1995 devices.

✪ PDC20376 Serial ATA-Raid Features:

■ Single chip, high performance SATA-RAID implementation.

■ Built in 2 channels SATA PHY, which satisfy SATA 1.0 specification and can transfer data with 1.5GHz speed.

■ Additional one parallel ATA interface which satisfy ATA 133 specification.

■ Bus mastering design takes full advantage of multi-tasking, multi-threading operating systems and greatly improves performance.

■ Provides advance chained packet commands for independent ATA operations.

Motherboard Description

- Compatible with the latest PCI IDE, ATA 7 and enhanced IDE specifications.

- Supports ATA proprosal PIO Mode 0, 1, 2, 3, 4, Ultra DMA Mode 0, 1, 2, 3, 4, 5, 6. The IDE drive transfer rate is capable of up to 150 MB/sec.

- Automatically detects whether or not the cable is suitable for mode 3, 4, 5, 6 of Ultra DMA.

- Compliance with the PC 2000, WHQL hardware requirements.

Package contents

✪ HDD Cable X 1, FDD Cable X 1, Fully Setup Driver CD X 1

✪ Flash Memory Writer for BIOS update X 1

✪ USB Cable X 2 (Optional)

✪ Rear I/O Panelf or ATX Case X 1 (Optional)
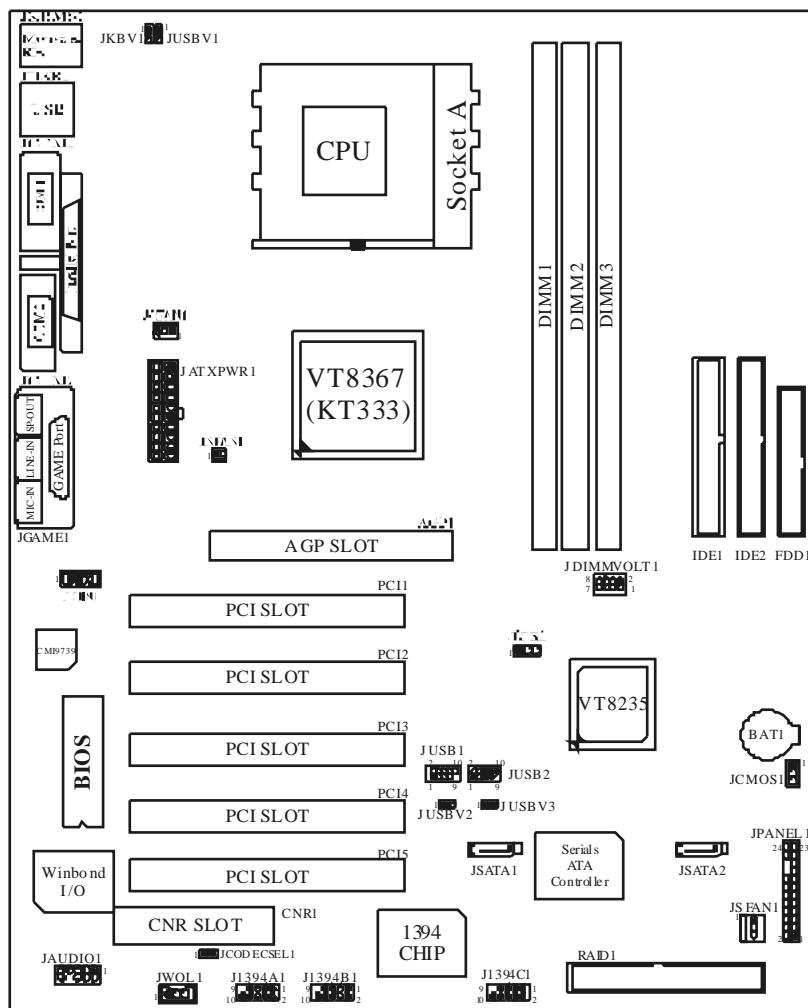
Layout of M7VIP (For Version 1.0)

Layout of M7VIP (For Version 1.1 and above)
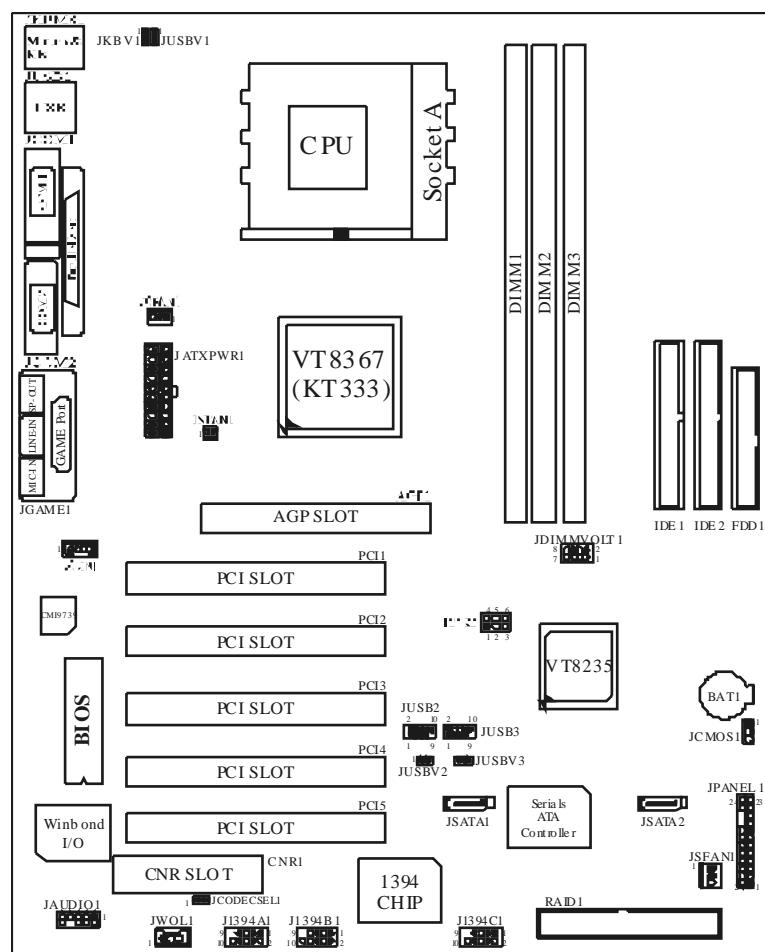
CPU Installation
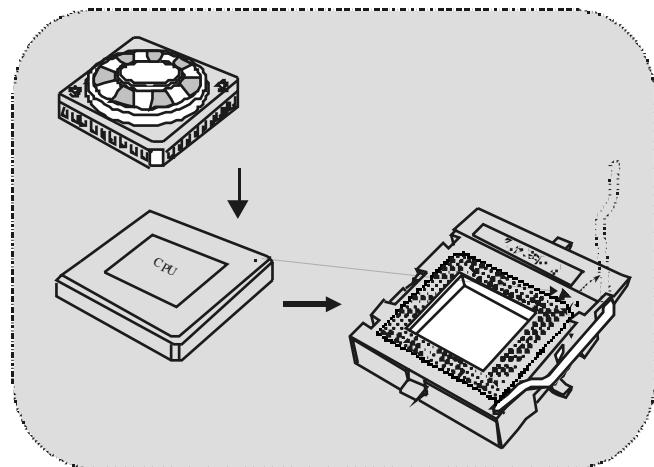
1. Pull the lever sideways away from the socket then raise the lever up to 90-degree angle.

2. Locate Pin A in the socket and lock 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. Then Put the fan on the CPU and buckle it and put the fan's power port into the JCFAN1, then to complete the installation.

CPU/ System Fan Headers: JCFAN1/ JSFAN1/ JNFAN1
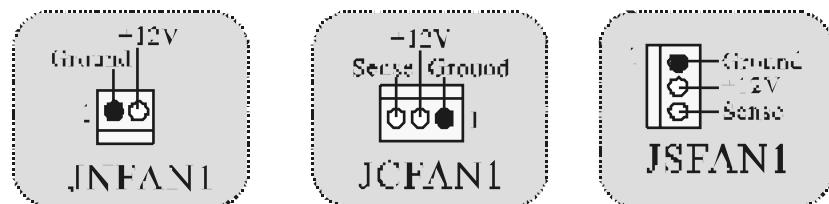
Note: *CPU Over Temperature Protection*
When the CPU temperature is over 110°C (for .13μ CPU) or 120°C (for .18μ CPU), the system will automatically shut-down. If this situation occurs, please check if your CPU fan is working properly. If not, change the CPU fan, and then restart the system.

DDR DIMM Modules: DIMM1-2-3

DRAM Access Time: 2.5V Unbuffered/ Registered DDR 1600/ 2100/ 2700 Type required.

DRAM Type: 64MB/ 128MB/ 256MB/ 512MB/ 1GB DIMM Module (184 pin)

DIMM Socket Location	DDR Module	Total Memory Size (MB)
DIMM 1	64MB/128MB/256MB/512MB/1GB *1	Max is 3GB
DIMM 2	64MB/128MB/256MB/512MB/1GB *1	
DIMM3	64MB/128MB/256MB/512MB/1GB *1	

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

✳ **If use FSB 333MHz CPU, the Memory run only at DDR333 (PC2700). (For Version 1.1 and above)**

How to install a DIMM Module

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 the place.

3. The Mounting Holes and plastic tabs should fit over the edge and hold the DIMM memory modules in place.
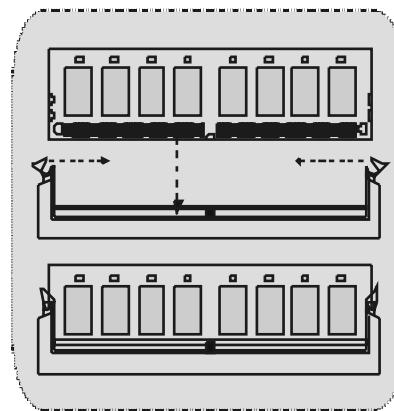
Jumpers, Headers, Connectors & Slots

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/ 66/ 100/ 133 functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).
The IDE connectors can connect a master and a slave drive, so you can connect up to four hard disk drives. The first hard drive should always be connected to IDE1.

Floppy Disk Connector: FDD1
The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.

Communication Network Riser Slot: CNR1
The CNR specification is an open Industry Standard Architecture, and it defines a hardware scalable riser card interface, which supports audio, and modem only.

Peripheral Component Interconnect Slots: PCI1-5
This motherboard is equipped with 5 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards, which has, supplanted the older ISA bus standard in most ports. This PCI slot is designated as 32 bits.

Accelerated Graphics Port Slot: AGP1
Your monitor will attach directly to that video card. This motherboard supports video cards for PCI slots, but it is also equipped with an Accelerated Graphics Port. An AGP card will take advantage of AGP technology for improved video efficiency and performance, especially with 3D graphics.

Serial ATA Connector: (JSATA1/ JSATA2) (Optional)
The motherboard has a PCI to SATA Controller with 2 channels SATA interface, it satisfies the SATA 1.0 spec and can transfer data with 1.5GHz speed. For more details, please refer to page 21(FastTrak 376).

Raid Connector: RAID1 (Optional)

This connector supports RAID0 or RAID1 configuration through the onboard Serial ATA (FastTrak 376) controller chip. You can use the IDE feature to set up a disk array configuration and to support additional IDE devices. However, it can only support master mode IDE HDD.

Power Connectors: JATXPWR1

JATXPWR1
(ATX Power Conn.)

Wake On LAN Header: JWOL1
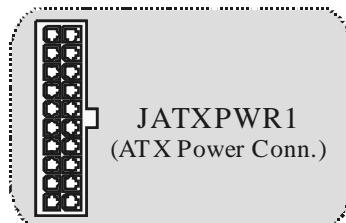
Ground
5V_SB | Wake up
1
WOL1
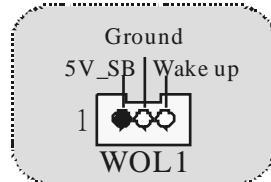
Front USB Header: JUSB1/ JUSB2/ JUSB3

JUSB1/2
(For Version 1.0)

Pin1,2 ==> +5V
Pin3,4 ==> Data(-)
Pin5,6 ==> Data(+)
Pin7,8 ==> Ground
Pin9   ==> KEY
Pin10   ==> NA

JUSB2/3
(For Version 1.1
and above)

Pin1,2 ==> +5V
Pin3,4 ==> Data(-)
Pin5,6 ==> Data(+)
Pin7,8 ==> Ground
Pin9   ==> KEY
Pin10   ==> NA
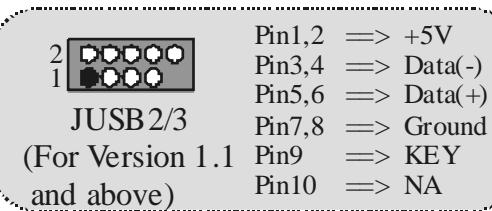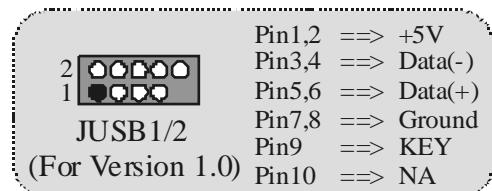
5V/ 5 VS B Selection for US B: JUS BV1/2/3

1
JUSBV1/2/3

Pin 1-2 on ==> 5V

Pin 2-3 on ==> 5V_SB

5V/ 5 VS B Selection for KB: JKBV1

1
JKBV1

Pin 1-2 on ==> 5V

Pin 2-3 on ==> 5V_SB
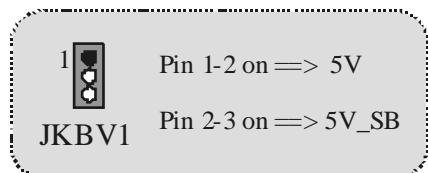
Front 1394 Header: J1394A1/ J1394B1/ J1394C1
(Optional)

1
2
J1394A 1/B1/C1

Pin1,2   ==> A+/A-
Pin3,4   ==> Ground
Pin5,6   ==> B+/ B-
Pin7,8   ==> +12V
Pin9   ==> KEY
Pin10   ==> NA
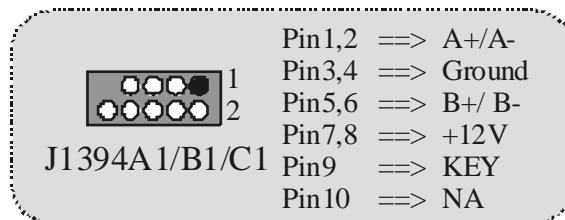
CPU Frequency Selection: JCLK1

Pin 1-2, 5-6 ==> 100 Mhz
Pin 2-3, 5-6 ==> 133 Mhz
                 (default)
Pin 2-3, 4-5 ==> 166Mhz

JCLK1
(For Version 1.1 and above)

Pin 1-2 ==> 100 Mhz

Pin 2-3 ==> 133 Mhz
             (default)

JCLK1
(For Version 1.0)
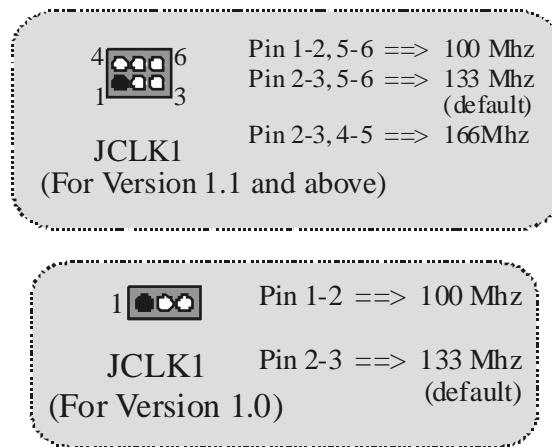
DDR DIMM Voltage: JDIMMVOLT1

Pin 1-2 on ==> 2.5V
Pin 3-4 on ==> 2.6V
Pin 5-6 on ==> 2.7V
Pin 7-8 on ==> 2.8V

JDIMMVOLT1

(Default ==> 2.5V)
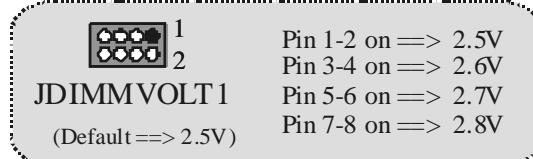
CNR Codec Primary/Secondary Selection:
JCODECSEL1

Pin 1-2 ==> On-board Primary Codec
Pin 2-3 ==> CNR Primary Codec

JCODECSEL1
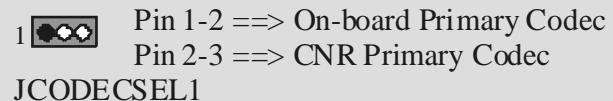
Motherboard Description

Front Panel Connector: JPANEL1

SPK	==> Speaker Conn.
HLED	==> Hard Driver LED
RST	==> Reset Button
IR	==> Infrared Conn.
SLP	==> Sleep Button
PWR_LED	==> Power LED
ON/ OFF	==> Power-on Button
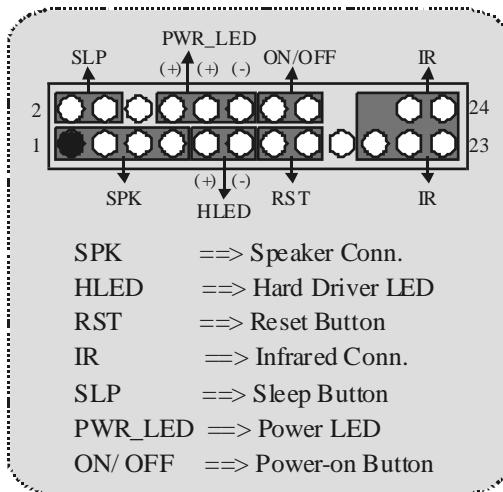
Audio Subsystem: JAUDIO1/ JCDIN1

JAUDIO1
(Front Audio Header)

JCDIN1
(CD-ROM Audio-In Header)

Pin1 ==> Mic In	Pin2 ==> Ground
Pin3 ==> Mic Power	Pin4 ==> Audio Power
Pin5 ==> RT Line Out	Pin6 ==> RT Line Out
Pin7 ==> Reserved	Pin8 ==> KEY
Pin9 ==> LFT Line Out	Pin10 ==> LFT Line Out

JAUDIO1

Front Panel Audio Connector/Jumper Block

1 2
9 10

Pin 5 and 6
Pin 9 and 10
==> Audio line out signals are routed to the back panel audio line out connector.

1 2
9 10

Audio line out and mic in signals are available for front panel audio connectors.

Clear CMOS Jumper: JCMOS1

1

JCMOS1

Pin 1-2 on ==> Normal Operation (default)
Pin 2-3 on ==> Clear CMOS Data

Back Panel Connectors

JKBMS1
PS/2 Mouse

JUSB1

JPRNT1
Parallel

JGAME1
Game Port

PS/2 Keyboard

USB

COM1
JCOM1

COM2
JCOM2

Speaker Out

Line In
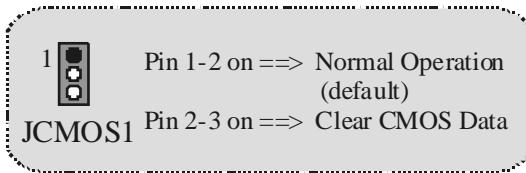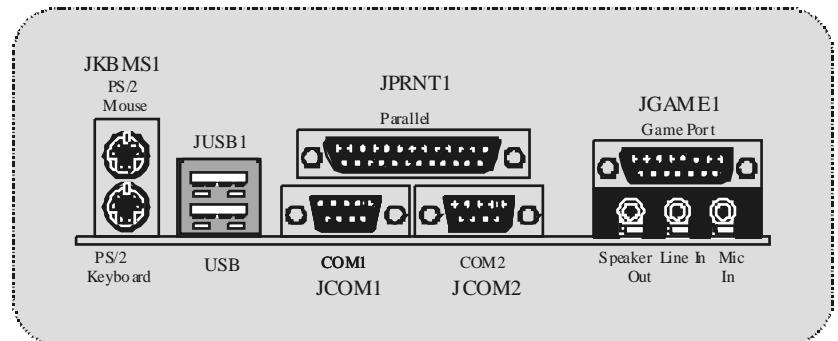
Mic In

Español

Características del M7VIP

✪ Usa Chipsets VIA VT8367 (KT333)/ VT8235 y Winbond W83697HF.

✪ Contiene facilidades I/O integrados en la placa madre en el que incluye dos puertos en serie, un puerto paralelo, un puerto para el ratón PS/2, un puerto para teclado PS/2, puertos de audio, puertos USB y puerto de juego.

✪ Soporta Single Socket-A para procesadores de la familia AMD Athlon/ Duron, corriendo a 200 o 266 MHz frecuencia Front Side Bus. (Para Versión 1.0)

✪ Soporta Single Socket-A para procesadores de la familia AMD Athlon/ Duron, corriendo a 200, 266 o 333MHz frecuencia Front Side Bus. (Para Versiones 1.1 en adelante)

✪ El sistema bus AMD Athlon soporta alta velocidad de 200/266 MHz, sistema bus split-transaction AMD Athlon de interface. (Para Version 1.0)

✪ El sistema bus AMD Athlon soporta alta velocidad de 200/266/333 MHz, sistema bus split-transaction AMD Athlon de interface. (Para Versiones 1.1 en adelante)

✪ Soporta Modos Ultra DMA 33/66/100/133 Bus Master, Modo 4 PIO, Modo Master, y alta performancia del disco duro.

✪ Soporta Dispositivo USB2.0 High Speed, 2 puertos en el panel trasero y 4 puertos en el panel frontal.

✪ El sistema controlador VT8367 (KT333) está diseñado para soportar DDR SDRAM DIMMs de 200/266/333 MHz.

✪ Soporta una memoria máxima de hasta 3GB.

✪ Soporta una ranura CNR (solamente de Tipo B), una ranura AGP (AGP 4X), y cinco ranuras de 32-bit PCI Bus.

✪ Compatible con las especificaciones del factor de forma de tamaño de PC ATX.

✪ Soporta sistemas operativos populares tales como Windows NT, Windows

98SE, Windows 2000, Windows ME, Windows XP y LINUX.

✪ Protección contra exceso de temperatura del CPU.

✪ Compatible con Intel® AC'97 2.2 High S/N ratio reune los requisitos del PC 99.

✪ Entrada del Línea phonejack y Entrada del Micrófono jack compartido con el rear Audio out para canales de 6 Audios.

✪ Soporta funciones del cabezal del audio frontal.

✪ Soporta función de reinicio desde el USB del teclado/ratón.

✪ Soporta 3 puertos de la función firewire 1394 (Opcional).

✪ Soporta 2 en serie y 1 paralelo función Serial ATA y Raid (Opcional).

✪ Soporta función over speed/voltage (Opcional).

Contenido del Paquete

✪ Cable HDD X 1, Cable FDD X 1, Configuración completa del Driver CD X 1

✪ Flash Memory Writer para actualización del BIOS X 1

✪ Cable USB X 2 (Opcional)

✪ Panel trasero I/O para caja ATX X 1 (Opcional)
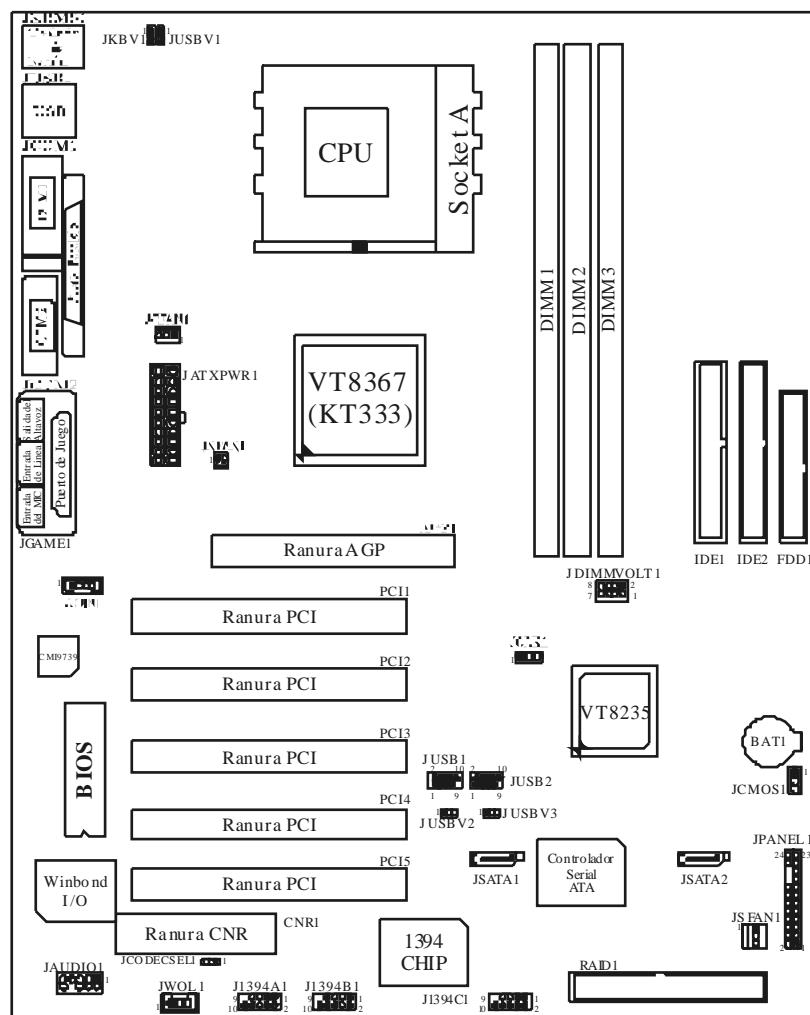
Disposición del M7VIP (Para Versión 1.0)

Disposición del M7VIP (Para Versiones 1.1 en adelante)
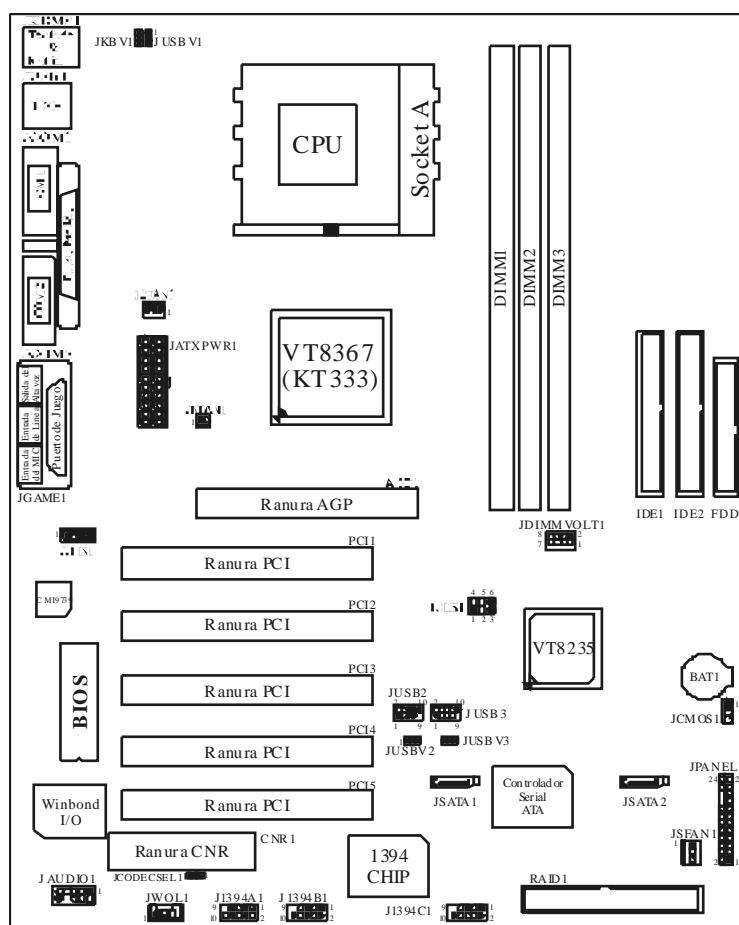
Instalación de la CPU
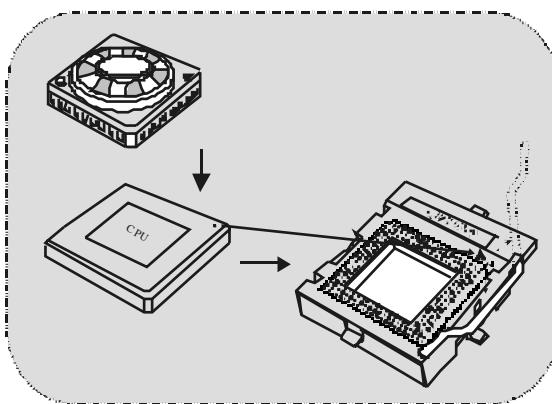
1. Tire de la palanca del lado del zócalo, luego levante la palanca hasta un ángulo de 90 grados.

2. Sitúe el contacto A del zócalo y busque el punto blanco o corte el borde en la CPU. Empareje el contacto A con el punto blanco/corte del borde, luego inserte la CPU.

3. Presione la palanca para abajo. Ponga el ventilador en la CPU y abróchelo. Luego ponga el puerto de corriente del ventilador en el JCFAN1. Y ya habrá completado su instalación.

CPU/ Cabezal del Sistema de Ventilación: JCFAN1/ JSFAN1/ JNFAN1
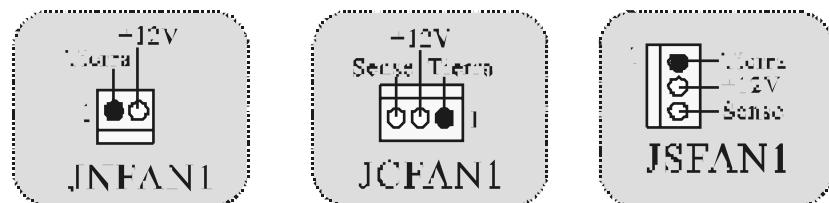
Nota: *Protección contra el exceso de temperatura*

Cuando la temperatura de la CPU esté sobre los 100°C (para CPU .13μ) o 110°C (para CPU .18μ), el sistema se apagará automáticamente. Si esta situación ocurre, por favor asegúrese que el ventilador de la CPU esté funcionando correctamente. Si no, cambie el ventilador de la CPU y vuelva a iniciar el sistema.

Módulos DDR DIMM: DIMM1-2-3

DRAM Tiempo de Acceso: 2.5V Unbuffered/ Registered DDR 1600/ 2100/ 2700 Tipo requerido.

DRAM Tipo: 64MB/ 128MB/ 256MB/ 512MB/ 1GB Módulo DIMM (184 contactos)

Localización del Zócalo DIMM	Módulo DDR	Total del Tamaño de la Memoria (MB)
DIMM 1	64MB/128MB/256MB/512MB/1GB *1	Máximo de 3GB
DIMM 2	64MB/128MB/256MB/512MB/1GB *1	
DIMM3	64MB/128MB/256MB/512MB/1GB *1	

● La lista de arriba para la configuración DRAM es solamente para referencia.

∗ **Si utiliza FSB 333MHz CPU, la memoria corre solamente a DDR333 (PC2700). (Para versiones 1.1 en adelante)**

Cómo instalar un Módulo DIMM

1. El zócalo DIMM tiene una lengüeta plástica de seguridad y el módulo de memoria DIMM tiene una muesca asimétrica, así el módulo de memoria DIMM puede caber solamente en la ranura de una sóla dirección.

2. Tire la lengüeta hacia afuera. Inserte los módulos de memoria DIMM en el zócalo a los 90 grados, luego empuje hacia abajo verticalmente de modo que encaje en el lugar.

3. Los agujeros de montaje y las lengüetas plásticas deben caber por sobre el borde y sostenga los módulos de memoria DIMM en el lugar.
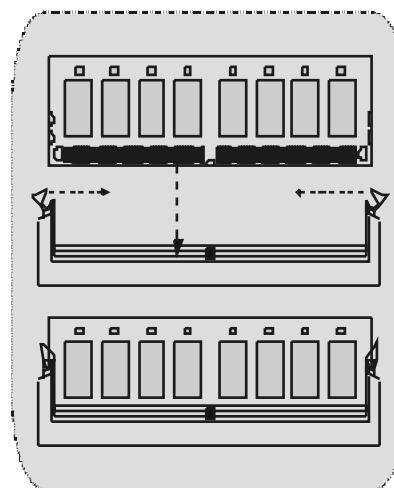
Puentes, Cabezales, Conectores y Ranuras

Conectores del Disco Duro: IDE1/ IDE2

La placa madre tiene un controlador de 32-bit PCI IDE que proporciona Modo PIO 0~4, Bus Master, y funcionalidad Ultra DMA / 33/ 66/ 100. Tiene dos conectores HDD IDE1 (primario) y IDE2 (secundario).

El conector IDE puede conectar a un master y un drive esclavo, así puede conectar hasta cuatro discos rígidos. El primer disco duro debe estar siempre conectado al IDE1.

Conector para Disquete: FDD1

La placa madre proporciona un conector estándar del disquete (FDC) que soporta 360K, 720K, 1.2M, 1.44M y 2.88M tipos de disquete. Éste conector utiliza los cables de cinta proporcionados por el disquete.

Ranura de la Banda de Suspensión de Comunicación y Red: CNR1

La especificación CNR es una abierta Industria de Arquitectura Estándar, que define una tarjeta de interface escalable del hardware en el que soporta audio y modem.

Ranura de Interconexión del Componente Periférico: PCI1-5

Ésta placa madre está equipada con 5 ranuras estándar PCI. PCI es la sigla para Interconexión del Componente Periférico, y es un bus estándar para tarjetas de expansión en el que suplanta a la antigua bus estándar ISA, en su mayoría de las partes. Ésta ranura PCI está diseñado con 32 bits.

Ranura del Puerto Acelerado para Gráficos: AGP1

Su monitor se fijará directamente a la tarjeta de video. Ésta placa madre soporta tarjetas de video para ranuras PCI, y también está equipado con un Puerto Acelerado para Gráficos. Ésta tarjeta AGP tomará ventaja de la tecnología del AGP para el mejoramiento de la eficiencia y funcionamiento del video, especialmente con gráficos 3D.

Conector Serial ATA: (JSATA1/ JSATA2) (Opcional)

Ésta placa madre contiene un PCI junto a un controlador SATA con 2 canales de interface SATA, que satisface el spec de SATA 1.0 y también puede transferir datos de hasta una velocidad de 1.5GHz.

Para más información, por favor refiérase a la página 21 (FastTrak 376).

Raid Connector: RAID1 (Opcional)

Éste conector soporta configuración RAID0 o RAID1 por medio del chip controlador Serial ATA (FastTrak 376) integrado en la placa madre. Usted puede usar las características del IDE para configurar la configuración de un disk array y para soportar dispositivos adicionales del IDE. Sin embargo, solamente puede soportar modo master del IDE HDD.

Conector de Corriente: JATXPWR1

JATXPWR1
(Conector de
Corriente ATX)

Cabezal Wake On LAN: JWOL1

Tierra
5V_SB | Wake up
1
WOL1
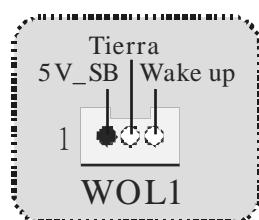
Cabezal Frontal USB: JUSB1/ JUSB2/ JUSB3

2
1
JUSB2/3
(Para Versiones 1.1
en adelante)

Contacto1,2   ==> +5V
Contacto3,4   ==> Dato(-)
Contacto5,6   ==> Dato(+)
Contacto7,8   ==> Tierra
Contacto9   ==> KEY
Contacto10   ==> NA

Contacto1,2   ==> +5V
Contacto3,4   ==> Dato(-)
Contacto5,6   ==> Dato(+)
Contacto7,8   ==> Tierra
Contacto9   ==> KEY
Contacto10   ==> NA

JUSB1/2
(Para Version 1.0)
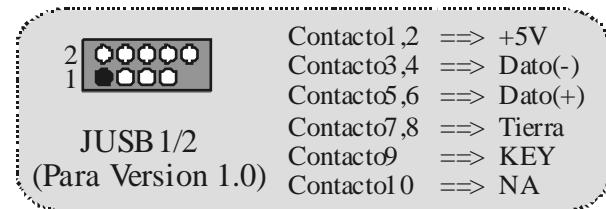
5V/ 5VSB Selección para USB: JUSBV1/2/3

Contacto 1-2 on ==> 5V

JUSBV1/2/3   Contacto 2-3 on ==> 5V_SB

5V/ 5VSB Selección para KB: JKBV1

Contacto 1-2 on ==> 5V

JKBV1   Contacto 2-3 on ==> 5V_SB

Cabezal Frontal 1394: J1394A1/ J1394B1/ J1394C1
(Opcional)

Contacto1,2   ==> A+/A-
Contacto3,4   ==> Tierra
Contacto5,6   ==> B+/ B-
Contacto7,8   ==> +12V
Contacto9   ==> KEY
Contacto10   ==> NA

J1394A1/B1/C1
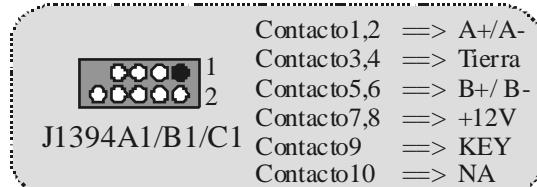
Selección de la Frecuencia del CPU: JCLK1

4 [••] 6
1 [••] 3
JCLK1
(Para Versiones 1.1
en adelante)

Contacto 1-2, 5-6 ==> 100 Mhz
Contacto 2-3, 5-6 ==> 133 Mhz
                          (default)
Contacto 2-3, 4-5 ==> 166Mhz

1 [■□□]
JCLK1
(Para Version 1.0)

Contacto 1-2 ==> 100 Mhz
Contacto 2-3 ==> 133 Mhz
                    (default)
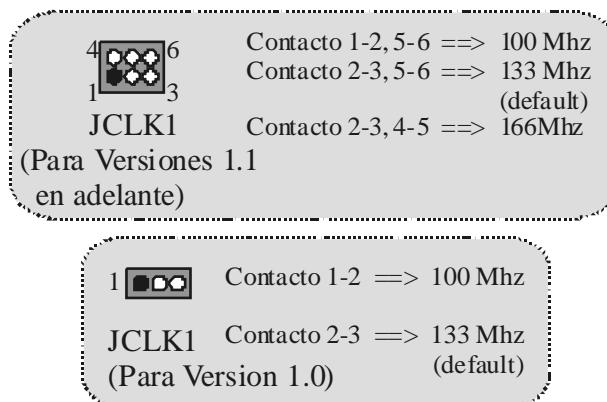
Voltaje DDR DIMM: JDIMMVOLT1

[••••] 1
[••••] 2
JDIMMVOLT1
(Default ==> 2.5V)

Contacto 1-2 on ==> 2.5V
Contacto 3-4 on ==> 2.6V
Contacto 5-6 on ==> 2.7V
Contacto 7-8 on ==> 2.8V
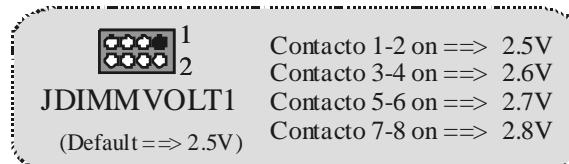
Selección Codec Primario/Secundario CNR: JCODECSEL1

1 [■□□]
JCODECSEL1

Contacto 1-2 ==> Codec Primario On-board
Contacto 2-3 ==> Codec Primario CNR
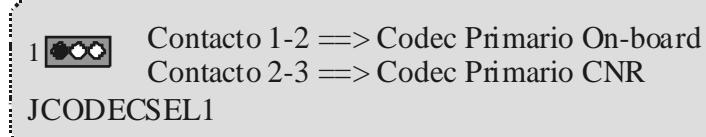
Conector del Panel Frontal: JPANEL1

SLP   PWR_LED ON/OFF   IR

2   24
1   23

SPK   HLED   RST   IR

SPK   ==> Conector de Altavoz
HLED   ==> LED del Disco Duro
RST   ==> Botón de Reinicio
IR   ==> Conector Infrarojo
SLP   ==> Botón de Suspension
PWR_LED ==> Corriente LED
ON/OFF   ==> Botón de Encendido
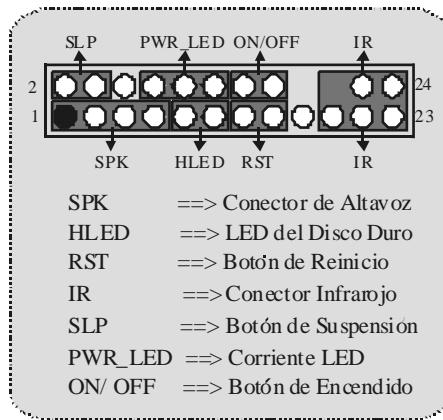
Subsistema de Audio: JAUDIO1/ JCDIN1

JAUDIO1
(Cabezal de Audio Frontal)

JCDIN1
(Cabezal de Entrada de Audio CD-ROM)

Pin1 ==> Entrada del Mic   Pin2 ==> Tierra
Pin3 ==> Corriente del Mic   Pin4 ==> Corriente del Audio
Pin5 ==> RT Salida de Linea   Pin6 ==> RT Salida de Linea
Pin7 ==> Reservado   Pin8 ==> KEY
Pin9 ==> LFT Salida de Linea Pin10 ==> LFT Salida de Linea

JAUDIO1
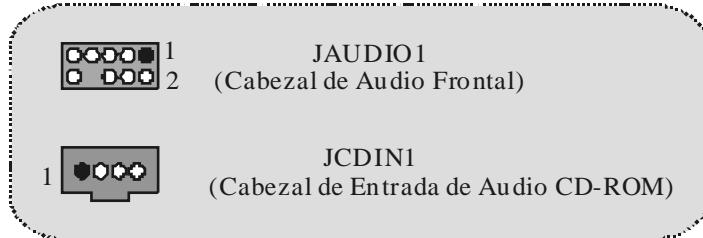
Conector del Panel Frontal de Audio/ Jumper Block

1 2
9 10

Pin 5 y 6

Pin 9 y 10
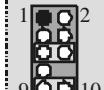
==> La señal de salida de línea del Audio encamina al conector de la salida de línea del Audio ubicado en el panel trasero.

1 2
9 10

La señal de salida de línea del Audio y la señal de Entrada del Mic estan disponibles desde el conector de Audio del panel frontal.

Puente de Borrar CMOS: JCMOS1

1

Contacto 1-2 on ==> Operación Normal (default)
Contacto 2-3 on ==> Borrar Datos CMOS

JCMOS1

Conectores del Panel Trasero

JKBMS1
Ratón
PS/2

JUSB1

JPRNT1

Paralelo

JGAME1
Puerto de Juego

Teclado
PS/2

USB

COM1
JCOM1

COM2
JCOM2

Salida del
Altavoz

Entrada
de Línea

Entrada
del MIC

Serial ATA Chip - FastTrak 376

Step 1: Installing the Hard Drives

Important

If you wish to include your current bootable Serial or Parallel ATA drive using the Windows NT 4.x, Windows 2000, or Windows XP operating system on your FastTrak 376 Controller.

You MUST install the Windows NT4, 2000, or XP driver software first onto this drive while it is still attached to your existing hard drive controller.

1. Configure the jumpers of the *Parallel* ATA hard drive you're preparing to connect to the FastTrak 376 controller using the proper Master, Slave, or Cable-Select settings. For more information, refer to the manual that came with your hard drive.

2. Install all of the hard drives into the hard drive bays of your system, including their power cables.

3. Attach the *Parallel* ATA cable to the hard drive(s) and to the Parallel ATA Port connector on the FastTrak 376 controller. The colored edge of the cable indicates pin 1. The blue cable connector attaches to the FastTrak 376.

4. Attach *Serial* ATA data cable to each hard drive. Then attach the other ends of the cables to one of the Serial ATA ports on the FastTrak 376 controller. All of the connectors are keyed so they will only attach one way.

Note

FastTrak 376 is a PCI Plug-n-Play (PnP) device. No changes are necessary in the Motherboard CMOS Setup for resources or drive types in most applications.

Step 2: Auto Setup FastBuild™ Configuration Utility

WARNING: *Before installing the driver into an existing system, backup any necessary data. Failure to follow this accepted PC practice could result in data loss.*

Creating Your Disk Array

You will now use the FastBuild™ Configuration utility to create your array using the attached drives. There are three different scenarios in creating this array. You can create an array for performance, you can create a Security array using new hard drives (recommended), or you can create a Security array using an existing hard drive and a new hard drive.

WARNING: *If creating a Security array using an existing hard drive, backup any necessary data. Failure to follow this accepted PC practice could result in data loss.*

1. Boot your system. If this is the first time you have booted with the FastTrak 376 and drives installed, the Promise onboard BIOS will display the following screen.

FastTrak 376 (tm) BIOS Version 1.00.0.XX
(c) 2002-2005 Promise Technology, Inc. All Rights Reserved.

  No array defined . . .

Press <Ctrl-F> to enter FastBuild (tm) Utility
Or press <ESC> key to continue booting the system.

Motherboard Description

2.   Press <Ctrl-F> keys to display the FastBuild™ Utility Main Menu.

```
FastBuild (tm) Utility 2.xx (c) 2002-2005 Promise Technology, Inc.
                          [ Main Menu ]

        Auto Setup………..……….…………..…… [ 1 ]
        View Drive Assignments…..………….… [ 2 ]
        View Array………..……….…………..…… [ 3 ]
        Delete Array ………..……….…………..… [ 4 ]
        Rebuild Array………..……….…………..… [ 5 ]


                         [ Keys Available ]


        Press 1...5 to Select Option            [ESC] Exit
```
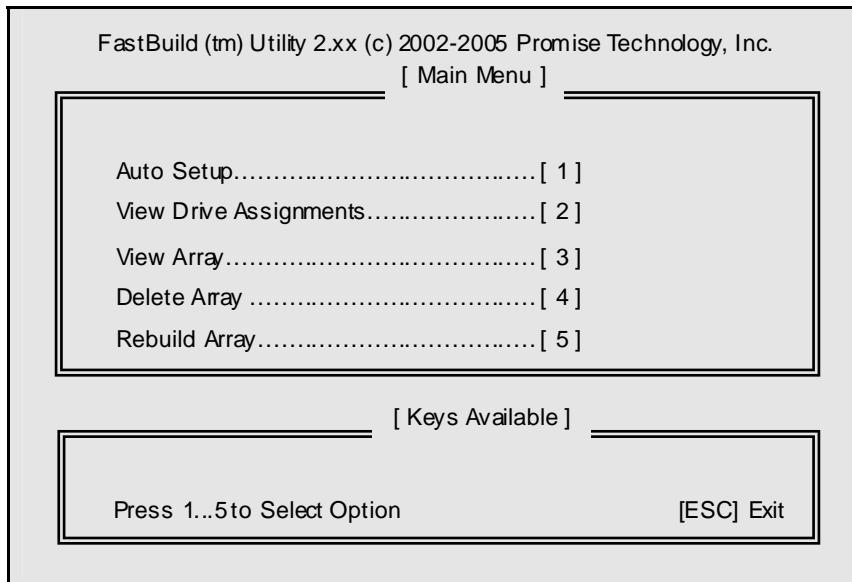
3.   Press "1" to display the Auto Setup Menu below. This is the fastest and
      easiest method to creating your first array.

```
FastBuild (tm) Utility 2.xx (c) 2002-2005 Promise Technology, Inc.
                     [Auto Setup Options Menu]
Optimize Array for:                              Performance

                   [ Array Setup Configuration ]

        Mode ……..……….…………..…… Stripe
        Spare…..……….…………..…………0
        Drives used in Array…………..……….2
        Array Disk Capacity……….…..… 16126
```

30

```
============================= [ Keys Available ] =============================

   [↑] Up [↓] Down      [←, →, Space] Change Option      [ESC] Exit
                            [Ctrl-Y] Save
```
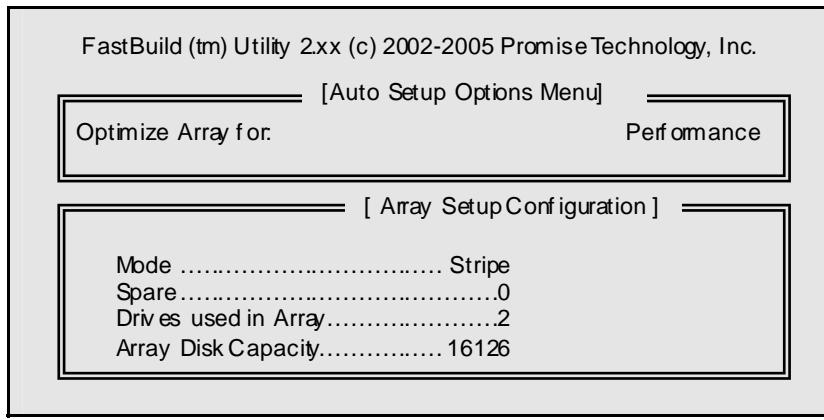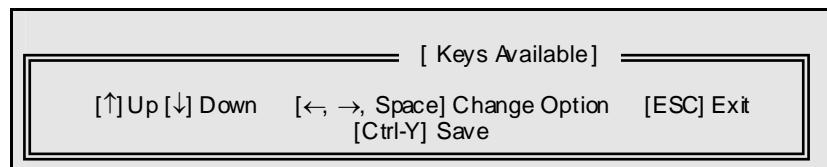
Creating an Array for Performance

NOTE: FastTrak 376 allows users to create striped arrays with 1, 2 drives.

To create an array for best performance, follow these steps:

Using the Spacebar, choose "Performance" under the **Optimize Array for** section.

Press <Ctrl-Y> keys to Save and create the array.

Reboot your system.

Once the array has been created, you will need to FDISK and format the array as if it were a new single hard drive.

Proceed to Installing Drivers section of the manual (see page 28).

Creating a Security Array With New Drives

NOTE: FastTrak 376 permit only two drives to be used for a single Mirrored array in Auto Setup.

To create an array for data protection using new hard drives, follow these steps:

1. Using the Spacebar, choose "Security" under the **Optimize Array for** section.

2. Press <Ctrl-Y> keys to Save your selection.

3. The window below will appear.

```
Do you want the disk image to be duplicated to another? (Yes/No)
Y - Create and Duplicate
N - Create Only
```

4. Press "N" for the Create Only option.

---

5. A window will appear almost immediately confirming that your Security array has been created. Press any key to reboot the system

> Array has been created.
> <Press Any Key to Reboot>

6. Proceed with normal FDISK and format procedures as if you had just installed a new hard drive.

7. Once the arrayed drives have been formatted, proceed to the **Installing Driver** chapter on page 28 to install your operating system and/or FastTrak 376 driver.

Creating a Security Array With An Existing Data Drive

NOTE: *FastTrak 376 permits only two drives to be used for a single Mirrored array in Auto Setup.*

You would use this method if you wish to use a drive that already contains data and/or is the bootable system drive in your system. You will need another drive of identical or larger storage capacity.

WARNING: Backup any necessary data before proceeding. Failure to follow this accepted PC practice could result in data loss.

WARNING: If you wish to include your current bootable drive using the Windows NT 4.x or Windows 2000 operating system as part of a bootable Mirrored (RAID 1) array on your FastTrak 376, do NOT connect the hard drive to the FastTrak 376 controller yet. You MUST install the Windows NT4 or 2000 driver software first (see page 28) to this drive while it is still attached to your existing hard drive controller. For all other Operating Systems, proceed here.

Follow these steps:

1. Using the Spacebar, choose "Security" under the **Optimize Array for** section.

2. Press <Ctrl-Y> keys to Save your selection. The window below will appear.

```
Do you want the disk image to be duplicated to another? (Yes/No)
Y - Create and Duplicate
N - Create Only
```

3. Press "Y" for the Create and Duplicate option. The window below will appear asking you to select the Source drive to use. FastBuild will copy all data from the Source drive to the Target drive.

```
================ [Source Disk] ================
  Channel:ID          Drive Model          Capacity (MB)

================ [Target Disk] ================
  Channel:ID          Drive Model          Capacity (MB)

=========== [Please Select A Source Disk] ===========
  Channel:ID              Drive Model      Capacity (MB)
  1 :Master             QUANTUMCR8.4A            8063
  2 :Master             QUANTUMCR8.4A            8063

================ [ Keys Available ] ================
       [↑] Up [↓]    [ESC] Exit    [Enter] Select
```
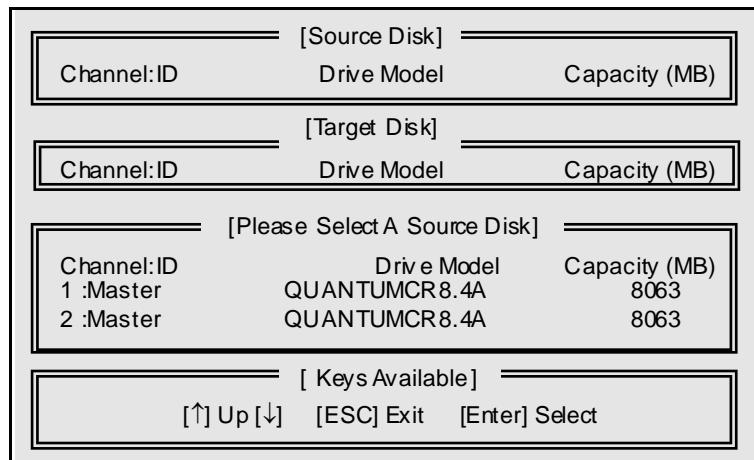
4. Use the arrow keys to choose which drive contains the existing data to be copied.

5. Press Enter key to Save selection and start duplication. The following progress screen will appear.

```
Start to duplicate the image . . .
Do you want to continue? (Yes/No)
Y – Continue    N – Abort
```

6. Select "Y" to continue. If you choose "N", you will be returned to step 1.

7. Once complete, the following screen will appear confirming that your Security array has been created. Press any key to reboot the system.

> Array has been created.
> <Press Any Key to Reboot>

8.   Proceed to the **Installing Driver** chapter on page 28 to install the FastTrak 376 driver and/or operating system.

Step 3: Installing Software Drivers

This section details the FastTrak 376 driver installation when used with various operating systems. The software includes the driver necessary to identify FastTrak 376 to the operating system.

● For Windows 2000/XP, see below.

● For Windows 98/Me, see page 30.

● For Windows NT 4.x, see page 32

---

*NOTE: 1.*The device driver is included in the Driver CD with the directory root of X:\Driver\SerATA (X is your CD-ROM).
    2. To create a "FastTrak 376 driver diskette", please copy the controller driver files from the driver CD that comes with the motherboard. The path is " X:\Driver\SerATA".

Windows 2000/XP

Installing Driver During New Windows 2000 Installation

1a. Floppy Install: Boot the computer with the Windows 2000 installation diskettes.

1b. Floppyless Install: Boot from floppy and type "WINNT". After files have been copied, the system will reboot. On the reboot, press <F6> after the message "Setup is inspecting your computer's hardware configuration..." appears.

1c CD-ROM Install: Boot from the CD-ROM. Press <F6> after the message "Press F6 if you need to install third party SCSI or RAID driver" appears.

2. When the "Windows 2000 Setup" window is generated, press "S" to Specify an Additional Device(s)

3. Press "O" to select "Other" and press the "Enter" key.

4. Insert the Promise Technology® driver diskette into drive A: and press "Enter" key.

5. Choose "Win2000 Promise FastTrak 376 (tm) Controller" from the list that appears on screen, then press the "Enter" key.

6. The Windows 2000 Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include

---

"Win2000 Promise FastTrak 376 (tm) controller".

NOTE: If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to step 7.

7. From the Windows 2000 Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows 2000 installation.

Installing Driver in Existing Windows 2000 System

WARNING: If you will be moving the boot drive containing the existing Windows 2000 operating system to a mirrored RAID 1 array on the FastTrak 376 , the FastTrak 376 driver MUST be loaded to the hard drive while it is still attached to your existing hard drive controller. Do not attach this drive or any other hard drive to the FastTrak 376 controller before completing this step.

After installing the FastTrak 376 and rebooting your system, Windows 2000 setup will show a "New Hardware Found" dialog box. Under Windows 2000, the "PCI RAID Controller" will be displayed.

1. In the dialog box, choose "Driver from disk provided by hardware manufacturer" button.
2. In the A: drive, insert the FastTrak 376 driver diskette.
3. Type "A:\WIN2000" in the text box. Press "Enter".
4. Choose "Win2000 Promise FastTrak 376 (tm) Controller" from the list that appears on screen, then press the "Enter" key.
5. The Windows 2000 Setup screen will appear again saying "Setup will load support for the following mass storage devices – Win2000 Promise FastTrak 376 (tm) controller". The FastTrak 376 driver will now be copied on to the system and entered into the Windows 2000 driver database.
6. When the "System Settings Change" dialog box appears, remove the floppy diskette and click on "Yes" to restart the system. Windows 2000 will then restart for the driver installation to take effect.
7. Power off your system, then attach your hard drives to the FastTrak 376 controller.

Confirming Windows 2000 Installation

1. From Windows 2000, open the Control Panel from "My Computer" followed by the System icon.

2. Choose the "Hardware" tab, then click the "Device Manager" tab.

3. Click the "+" in front of "SCSI & RAID Controllers hardware type." The driver "Win2000 Promise FastTrak 376 (tm) Controller" should appear.

Windows 98/Me

Installing Drivers During Windows 98/Me Installation

The following three sections detail the installation of the FastTrak 376 drivers while installing Windows 98/Me (with the FastTrak 376 controller already in place). If you're installing the FastTrak 376 drivers on a system with Windows 98/Me already installed, see "Installing Drivers with Existing Windows 98/Me" on page 31.

Windows 98/Me

1. After installing the FastTrak 376 controller and configuring the hard drive(s), partition and format your hard drive(s), if necessary.

2. Install Windows 98/Me normally.

3. After installation, go the "Start" menu and choose "Settings."

4. From the "Settings" menu, choose "Control Panel."

5. In the "Control Panel" window, double-click on the "System" icon.

6. In the "System" window, choose the "Device Manager" tab.

7. In the hierarchical display under "Other Devices" is a listing for "PCI RAID Controller." Choose it and then press the "Properties" button.

8. Choose the "Driver" tab in the "Properties" window, choose "Update Driver," and then press "Next."

9. Choose "Search for a better driver than the one your device is using now (recommended)," then press "Next."

10. Choose "Specify Location," and then type "A:\WIN98" in the text box.

11. Insert the FastTrak 376 Driver diskette into the A: drive.

12. Press the "Next" button. A message informing you that Windows 98 has found "Win98-ME Promise FastTrak 376 (tm) Controller" should appear.

13. Press "Next," then "Finish," then "Yes" when asked if you want to restart your computer. Be sure to remove the diskette from drive A:.

Installing Drivers with Existing Windows 98/Me

The following three sections detail the installation of FastTrak 376 drivers on a system that has Windows 98/Me already installed. If you're installing the FastTrak 376 drivers on a system during a Windows 98/Me installation, see "Installing Drivers During Windows 98/Me Installation" on page 30.

Windows 98/Me

1. After installing the FastTrak 376 controller and configuring the hard drives, power up the system and boot Windows.

2. The "Add New Hardware Wizard" will appear, informing you that it has found a "PCI RAID Controller."

3. Check the "Search for the best driver for your device" box and click the Next button.

4. Check the "Specify a Location" box and click Next button.

5. Type "A:\WIN98" in the text box that appears.

6. Insert the FastTrak 376 Driver diskette in drive A:.

7. Click on "Next." The Add New Hardware wizard will say it has found "Win98-ME Promise FastTrak 376 (tm) controller".

8. Click on "Next," and then on "Finish."

9. Choose "Yes" when asked if you want to restart your computer. Be sure to eject the diskette from drive A:.

Confirming Driver Installation in Windows 98/Me

To confirm that the driver has been properly loaded in Win 98/Me, perform the following steps:

1. Choose "Settings" from the "Start" menu.

2. Choose "Control Panel," and then double-click on the "System" icon.

3. Choose the "Device Manager" tab, and then click the "+" in front of "SCSI & RAID controllers." "Win98-ME Promise FastTrak 376 (tm) controller" should appear.

Windows NT4

Installing Drivers During Windows NT 4.0 Installation

1. Start the system installation by booting from the Windows NT disk:

    a) Floppy install: boot the system with the FastTrak 376 driver diskette.
    b) Floppyless install: boot from floppy and type "WINNT /B". After files have been copied, the system will reboot. On the reboot, press the "F6" key when the message "Setup is inspecting your computer's hardware configuration…" appears.
    c) CD-ROM disk install boot from the CD-ROM disk and press the "F6" key when the message "Setup is inspecting your computer's hardware configuration…" appears.

2. When the "Windows NT Setup" window is generated, press "S" to Specify an Additional Device(s).

3. Press "O" to select "Other" and press the "Enter" key.

4. Insert the FastTrak 376 driver diskette into drive A: and press the "Enter" key.

5. Choose "Win NT Promise FastTrak 376 (tm) Controller" from the list that appears on screen, then press the "Enter" key.

6. The Windows NT Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "Win NT Promise FastTrak 376 (tm) controller".
    NOTE: *If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to step 7.*

7. From the Windows NT Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows NT installation.

8. After a successful installation, the "SCSI Adapter Setup" box will show that the "Win NT Promise FastTrak 376 (tm) Controller" driver has been installed.

Installing Driver with Existing Windows NT 4.0

WARNING: If you plan to move your boot drive to a mirrored RAID 1 FastTrak array, hard drives should NOT be connected to the FastTrak 376 controller before performing the following procedure. The FastTrak 376 drivers must be loaded on the system hard drive (running under the existing hard drive controller) before any hard drives are connected to the FastTrak 376 controller.

1. Choose "Settings" from the "Start" menu.

2. Choose "Control Panel" from the "Settings" menu.

3. Double-click on the "SCSI Adapters" icon, which generates the "SCSI Adapters" dialog box.

4. Choose "Drivers," and then press "Add."

5. In the "Install Drivers" dialog box, press "Have Disk..."

6. When the "Install From Disk" appears, insert the "FastTrak 376 Driver" diskette in drive A:.

7. Type "A:\NT4" in the text box window, then choose "OK."

8. When the "Install Driver" dialog box appears, select "Win NT Promise FastTrak 376 (tm) Controller" and then press "OK."

9. When the "Select SCSI Adapter Option" dialog box appears, press "Install."

10. After a successful installation, the "SCSI Adapter Setup" box will show that the "Win NT Promise FastTrak 376 (tm) Controller" has been installed.

11. Power off your system.

12. If moving the boot drive to the FastTrak 376, now attach the hard drives otherwise reboot.

Removing the Driver from Windows NT 4.x

1. In "Start" Button choose "Control Panel" in "Setup" group.

2. In "Control Panel," select "SCSI Adapter," next choose "Drivers" label

3. Choose "Remove" button.

4. After successful removing, the "SCSI Adapter Setup" box will show that "Win NT FastTrak 376 RAID Controller" has been removed.

Step 4: Install PAM Utility

PAM (Promise Array Management™) Installation

This section outlines the installation procedure for a component of the PAM software package.

NOTE: *If you are re-installing PAM, you must first stop the services for the Message Server and Message Agent for installation to work.*

1) The main PAM component installation menu will come up as seen below.

PAM Component Installation Menu

2) Select SuperTrak, FastTrak… or Custom installation by clicking it. Then click the "Next" button to display the installation you have chosen.

3) Review the installation settings. If the settings are correct, click "Finish" and proceed to the license agreement window; otherwise click "Back" and return to Step 2.

4)   You must click "Yes" and agree to the licensing terms to the use the PAM utility. Clicking "No" will exit the PAM setup.
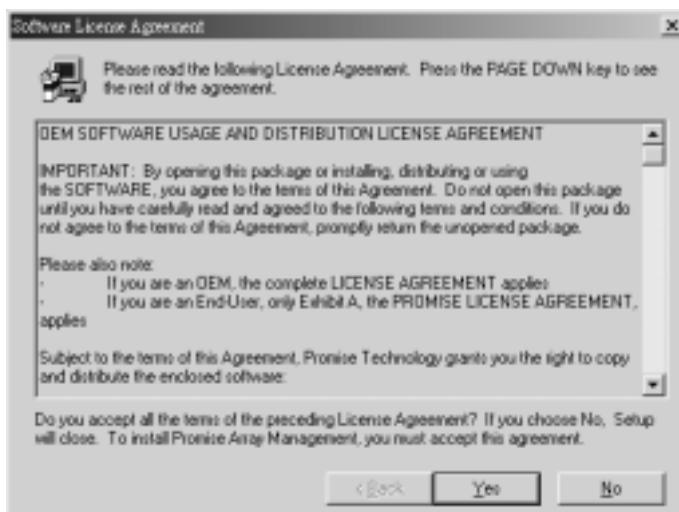
5) When the "Choose Destination Location" window comes up, choose a directory to install this component.

6) Click "Browse" to select a Destination folder other than the folder suggested by default. Click the "Next" button to accept the location selected.

Choose Destination Location Window

7) The "Select Program Folder" window comes up next. Choose a Start menu folder to list this item under by entering a folder name, and selecting a parent folder from the list under which this new folder's contents will reside. Click the "Next" button to proceed.

Motherboard Description

Select Program Folder Window

8) The "Start Copying Files" window will then be displayed. Verify that the proper component(s), destination folder, and program folder you selected for installation are correct, then click on the "Next" button to proceed, otherwise, click the "Back" button to go back and make changes.

Start Copying Files Window

9) At the "Install Message for Monitoring Utility," shown in 0, enter an appropriate name f or the "Serv er Description" and complete the "IP address" information and then click "Next". Click "Next" if the information is already correct. Contact y our system administrator if you do no know the IP address.

Note: *When asked for an IP address during the installation or log process, always use the IP address for the system that contains the remote PAM compatible array that you wish to monitor. If you are installing PAM on the same workstation that contains a PAM compatible array then use the default IP address (127.0.0.1).*

Install Message Serv er for Monitoring Utility Window

10) Complete the "Add User Account f or Administration" information, see 0. You may accept the def ault name or y ou may enter a new name in the "Name" f ield. Enter a password in the "Password" f ield and enter the same password in the "Conf irm Password" field. Click "Next" after you have completed all of the fields.

Add User Account for Administration

11) Select "View readme.txt now" to read the latest product release information and select "launch Promise Array Management now" if you wish to run utility directly from setup. Click on the "Finish" button to complete the install process.

Setup Finished

Using FastBuild™ Configuration Utility

The FastBuild™ Configuration Utility offers several menu choices to create and manage the drive array on the Promise FastTrak 376. For purposes of this manual, it is assumed you have already created an array in the previous chapter and now wish to make a change to the array or view other options.

Navigating the FastBuild™ Setup Menu Viewing
FastTrak 376 BIOS Screen

When you boot your system with the FastTrak 376 and drives installed, the Promise onboard BIOS will detect the drives attached and show the following screen.
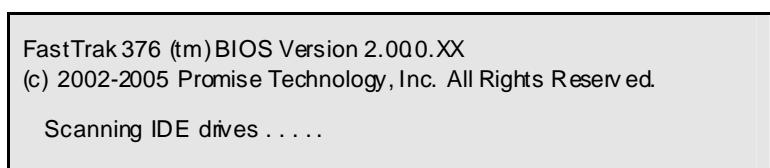
```
FastTrak 376 (tm) BIOS Version 2.000.XX
(c) 2002-2005 Promise Technology, Inc. All Rights Reserved.

    Scanning IDE drives . . . . .
```

If an array exists already, the BIOS will display the following screen showing the BIOS version and status of the array.

```
FastTrak 376 (tm) BIOS Version 2.000.xx
(c) 2002-2005 Promise Technology, Inc. All Rights Reserved.

    ID          MODE     SIZE     TRACK-MAPPING     STATUS

    1 *      2+0 Stripe 16126M       611/128/32          Functional

    Press <Ctrl-F> to enter FastBuild (tm) Utility....
```

The array status consists of three possible conditions: Functional, Critical, Offline.

Functional - The array is operational.

Critical - A mirrored array contains a drive that has failed or disconnected. The remaining drive member in the array is functional. However, the array has

temporarily lost its ability to prov ide fault tolerance. The user should identify the failed drive through the FastBuild™ Setup utility, and then replace the problem driv e.

Offline - A striped array has 1 drive that has failed or been disconnected. When the array condition is "offline," the user must replace the f ailed drive(s), then restore data from a backup source.

Navigating the FastBuild™ Setup Menu

When using the menus, these are some of the basic navigation tips: Arrow keys highlights through choices; [Space] bar key allows to cycle through options; [Enter] key selects an option; [ESC] key is used to abort or exit the current menu.

Using the Main Menu

This is the first option screen when entering the FastBuild™ Setup.

```
┌──────────────────────────────────────────────────────────────┐
│    FastBuild (tm) Utility  2.xx (c) 2002-2005 Promise Technology, Inc. │
│                         [ Main Menu ]                          │
│  ┌──────────────────────────────────────────────────────────┐ │
│  │                                                            │ │
│  │                                                            │ │
│  │     Auto Setup…………..………..………..…… [ 1 ]                    │ │
│  │     View Drive Assignments…..…………..…… [ 2 ]              │ │
│  │     View Array…………..………..………..…… [ 3 ]                   │ │
│  │     Delete Array ………..………..………..…… [ 4 ]                │ │
│  │     Rebuild Array………..………..………..…… [ 5 ]                │ │
│  │                                                            │ │
│  └──────────────────────────────────────────────────────────┘ │
│                                                                │
│                       [ Keys Available ]                       │
│  ┌──────────────────────────────────────────────────────────┐ │
│  │                                                            │ │
│  │     Press 1...5 to Select Option            [ESC] Exit     │ │
│  └──────────────────────────────────────────────────────────┘ │
└──────────────────────────────────────────────────────────────┘
```
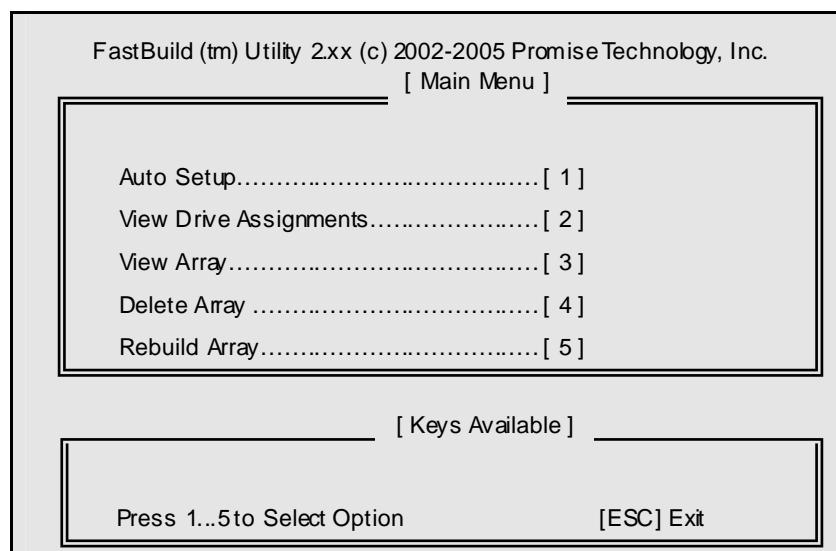
To create a new array automatically, f ollow the steps under "Creating Arrays Automatically" on page 22. Promise recommends this option for most users.

To view drives assigned to arrays, see "Viewing Drive Assignments" on page 44.

To delete an array (but not delete the data contained on the array), select "Deleting An Array" on page 45.

To rebuild a mirrored array, see "Rebuilding an Array" on page 47.

NOTE: After configuring an array using FastBuild™, you should FDISK and format the arrayed drive(s) if you are using new, blank drives. Depending on the type of array you are using.

Creating Arrays Automatically

The Auto Setup <1> selection from the Main Menu can intuitively help create your disk array. It will assign all available drives appropriate for the disk array you are creating. After making all selections, use Ctrl-Y to Save selections. FastBuild™ will automatically build the array.

```
          FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.

  ═══════════════════════ [Auto Setup Options Menu] ═══════════════════════

   Optimize Array for:              Performance


  ═══════════════════════ [Array Setup Options Menu] ══════════════════════

      Mode …..………..…………..… Stripe
      Spare Drive………..…………..………1
      Drives used in Array…………..………2
      Array Disk Capacity……………..… 16126

  ═══════════════════════════ [ Keys Available ] ══════════════════════════

   [↑] Up[↓] Down    [←, →, Space] Change Option    [ESC] Exit    [Ctrl-Y] Save
```

Optimize Array For

Select whether you want Performance (RAID 0), Security (RAID 1) under the "Optimize Array for" setting.

Performance (RAID 0 Striping)

Supports the maximum performance. The storage capacity equals the number of drives times the capacity of the smallest drive in the disk array.

NOTE: FastTrak 376 permits striped arrays using 1, 2 drive attached in Auto Setup mode.

Security (RAID 1 Mirroring)

Creates a mirrored (or fault tolerant) array for data security.

NOTE: Under the Security setting, FastTrak 376 permits two drives to be used for a single Mirrored array only.

NOTE: If you wish to customize the settings of individual disk arrays (such as block size), you must manually create disk arrays with the Define Array <3> option from the Main Menu.

Viewing Drive Assignments

The View Drive Assignments <2> option in the Main Menu displays whether drives are assigned to a disk arrays or are unassigned.

The menu also displays the data transfer mode that relates to speed used by each drive (U6 refers to 133MB/sec transfers, U5 refers to 100MB/sec transfers, U4 refers to 66MB/sec transfers, etc...)

```
  FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
                      [ View Drive Assignments ]

  Channel:ID   Drive Model       Capacity(MB)   Assignment   Mode
  1 : Master   QUANTUMCR8.4A        8063          Array 1      U5
  2 : Master   QUANTUMCR8.4A        8063          Array 1      U5


                        [ Keys Available ]

       [↑] Up [↓] Down    [ESC] Exit     Mode (D=DMA, U=UDMA)
```

How FastTrak 376 Orders Arrays

During startup, the disk arrays on the FastTrak 376 are recognized in this order: 1) The array set to bootable in the FastBuild™ Setup, and 2) the Array number (i.e. Array 0, Array 1…). This would be involved in determining which drive letters will be assigned to each disk array.

How FastTrak 376 Saves Array Information

All disk array data is saved into the reserved sector on each array member. Promise suggests that users record their disk array information for future reference.

Another feature of the FastTrak 376 disk array system is to recognize drive members even if drives are moved between different FastTrak 376 controller connectors. Since each drive's array data identifies itself to the array, it is possible to move or swap drives without modifying the array setup. This is valuable when adding drives, or during a rebuild.

Deleting An Array

The Delete Array <4> Menu option allows for deletion of disk array assignments. This is not the same as deleting data from the drives themselves. If you delete an array by accident (and before it has been used again), the array can normally be recovered by defining the array identically as the deleted array.

WARNING: Deleting an existing disk array could result in its data loss. Make sure to record all array information including the array type, the disk members, and stripe block size in case you wish to undo a deletion.

Motherboard Description

```
FastBuild (tm) Utility 2.xx (c) 2002-2005 Promise Technology, Inc.

========================= [ Delete Array Menu ] =========================

Array No    RAID Mode    Total Drv    Capacity(MB)    Status
Array 1     Stripe       2            16126           Functional
Array 2     ——           ——           ——              ——
Array 3     ——           ——           ——              ——
Array 4     ——           ——           ——              ——

========================= [ Keys Available ] =========================

        [↑] Up [↓] Down        [ESC] Exit        [Del] Delete
```
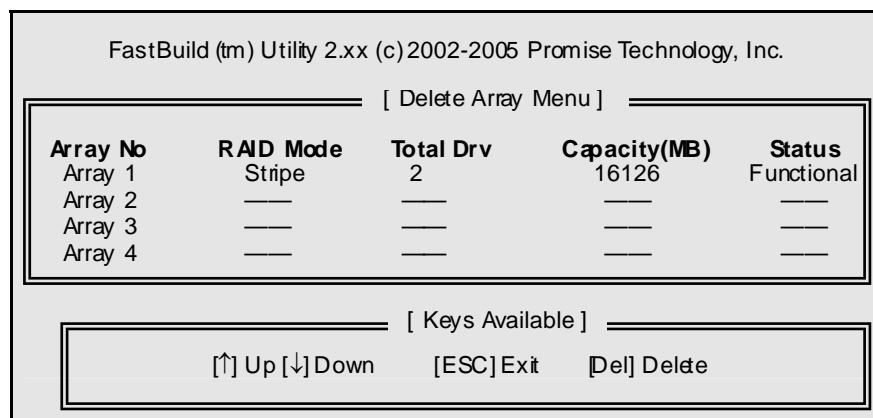
1. To delete an array, highlight the Array you wish to delete and press the [Del] key.

2. The View Array Definition menu will appear (see below) showing which drives are assigned to this array.

```
FastBuild (tm) Utility 2.xx (c) 2002-2005 Promise Technology, Inc.

========================= [ Define Array Menu ] =========================

Array No    RAID Mode Total Drv    Capacity(MB)    Status
Array 1     ——        ——           ——              ——

Stripe Block:   64 KB

========================= [ Drive Assignments ] =========================

Channel:ID    Drive Model        Capacity (MB)    Assignment
1 : Master    QUANTUMCR8.4A      8063             Y
2 : Master    QUANTUMCR8.4A      8063             Y
```
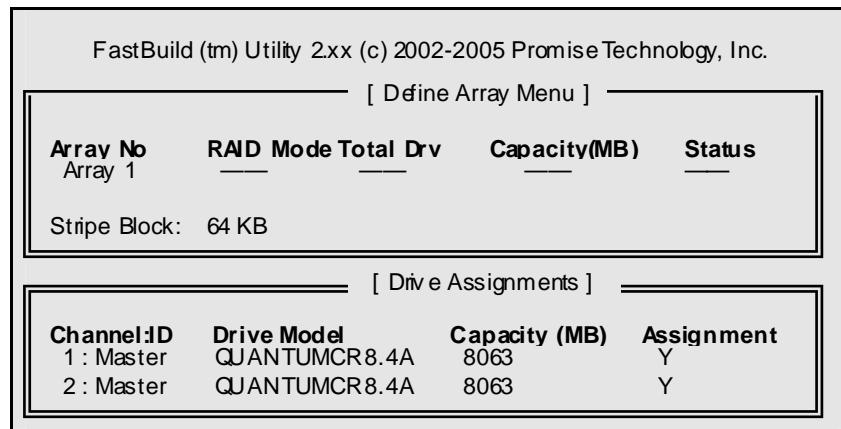
3. Confirm yes to the following warning message with the <Ctrl-Y> key to continue array deletion:

> Are you sure you want to delete this array?
> Press Ctrl-Y to Delete, others to Abort

4. After deleting the array, you should create a new array using Auto Setup or the Define Array menu from the FastBuild Main Menu.

Rebuilding A Mirrored Array

The Rebuild Array <5> Menu option is necessary to recover from an error in a mirrored disk array. You will receive an error message when booting your system from the FastTrak BIOS.

NOTE: Drives MUST be replaced if they contain any physical errors.

Follow these steps BEFORE using the Rebuild Array menu option:

1. On bootup, the FastTrak 376 Startup BIOS will display an error message identifying which drive has failed.

2. Press <Ctrl-F> keys to enter FastBuild Main Menu.

3. Select submenu Define Array <3>.

4. Select the failed array and identify the Channel and ID of the failed drive.

5. Power off and physically remove the failed drive.

6. Replace the drive with an identical model.

7. Reboot the system and enter the FastBuild Main Menu.

8. Select the <5> Rebuild Array option. The following screen will appear.

```
FastBuild (tm) Utility  2.xx (c) 2002-2005 Promise Technology, Inc.

                            [ Rebuild Array Menu ]

    Array No     RAID Mode    Total Drv    Capacity(MB)    Status
    Array 1      Mirror       2            16126           Critical
    Array 2      ——           ——           ——              ——
    Array 3      ——           ——           ——              ——
    Array 4      ——           ——           ——              ——

                             [ Keys Available ]

         [↑] Up [↓] Down      [ESC] Exit     [Enter] Select
```
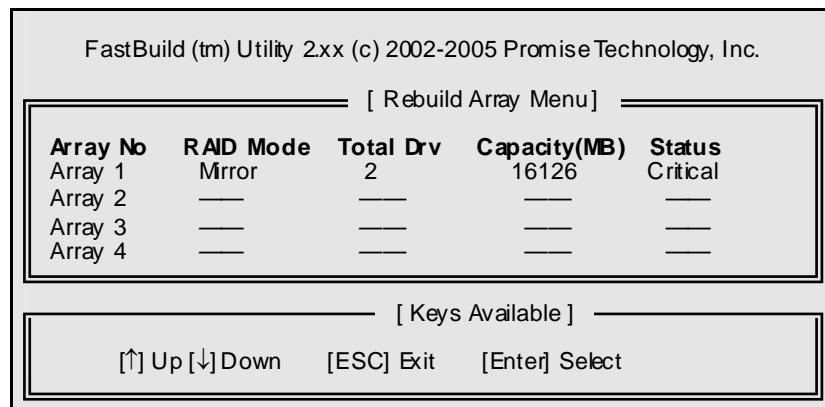
9.   Highlight the array whose Status is "Critical".

10. Press [Enter]. The following screen will then appear (see below).

```
FastBuild (tm) Utility  2.xx (c) 2002-2005 Promise Technology, Inc.

                            [ Rebuild Array Menu ]

    Array No     RAID Mode    Total Drv    Status
    Array 2      Mirror       2            Critical

       Stripe Block: Not Available

                          [ Select Drive for Rebuild ]

    Channel:ID         Drive Model              Capacity (MB)
    1 : Slave          QUANTUMCR 8.4A           8063

                             [ Keys Available ]

         [↑] Up [↓] Down      [ESC] Exit     [Enter] Select
```
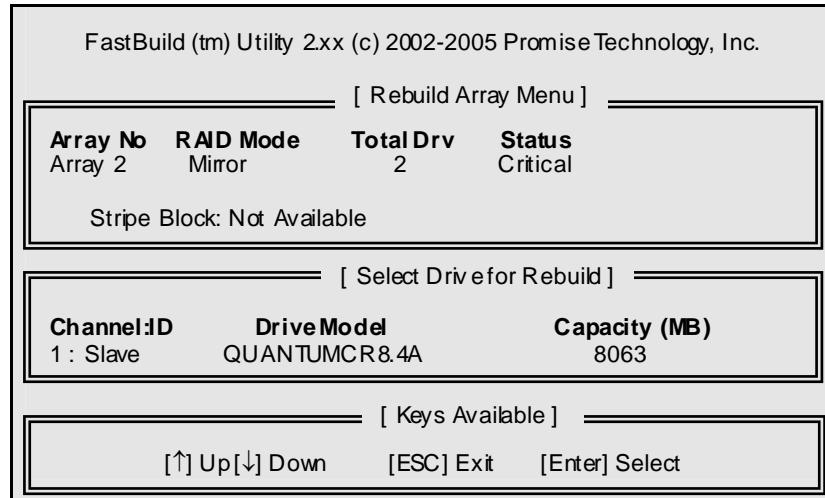
11.   Under [Select Drive for Rebuild], highlight the replacement drive.

12. Press [Enter] and confirm that the data will be copied on to the selected drive. All data on the replacement drive will be written over with mirrored information from the array drive. A progress bar will appear as below.

Please Wait While Duplicating The Image
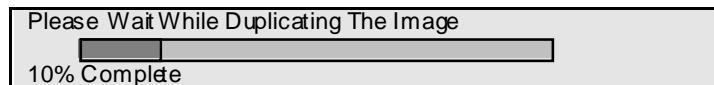
10% Complete

13. Once the rebuild process is complete, the user will be asked to reboot the system.

WarpSpeeder

Introduction

[WarpSpeeder™], a new powerful control utility, features three user-friendly functions including Overclock Manager, Overvoltage Manager, and Hardware Monitor.

With the Overclock Manager, users can easily adjust the frequency they prefer or they can get the best CPU performance with just one click. The Overvoltage Manager, on the other hand, helps to power up CPU core voltage and Memory voltage. The cool Hardware Monitor smartly indicates the temperatures, voltage, CPU fan speed as well as the chipset information. Also, in the About panel, you can get the detailed descriptions about BIOS model and chipsets. In addition, the frequency statuses of CPU, memory, AGP, and PCI along with the CPU speed are synchronically shown on our main panel.

Moreover, to protect users' computer systems if the setting is not appropriate when testing and results in system fails or hangs, [WarpSpeeder™] technology assures the system stability by automatically rebooting the computer and then restart to a speed that is either the original system speed or a suitable one.

System Requirement

OS Support: Windows 98 SE, Windows Me, Windows 2000, Windows XP

DirectX: DirectX 8.1 or above. (The Windows XP operating system includes DirectX 8.1. If you use Windows XP, you do not need to install DirectX 8.1.)

Installation

1. Execute the setup execution file, and then the following dialog will pop up. Please click "Next" button and follow the default procedure to install.

2. When you see the following dialog in setup procedure, it means setup is completed. If the "Launch the WarpSpeeder Tray Utility" checkbox is checked, the Tray Icon utility and [WarpSpeeder™] utility will be automatically and immediately launched after you click "Finish" button.
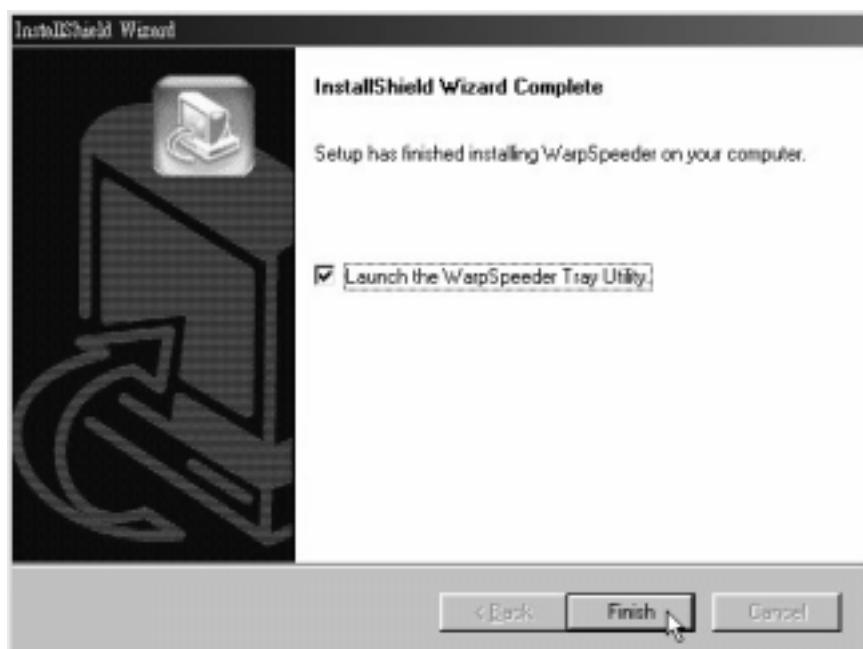
Usage

The following figures are just only for reference, the screen printed in this user manual will change according to your motherboard on hand.

[WarpSpeeder™] includes 1 tray icon and 5 panel:

1. Tray Icon:

Whenever the Tray Icon utility is launched, it will display a little tray icon on the right side of Windows Taskbar.
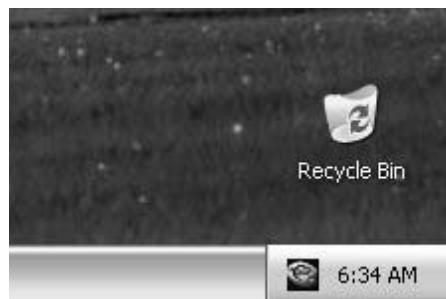
This utility is responsible for conveniently invoking [WarpSpeeder™] Utility. You can use the mouse by clicking the left button in order to invoke [WarpSpeeder™] directly from the little tray icon or you can right-click the little tray icon to pop up a popup menu as following figure. The "Launch Utility" item in the popup menu has the same function as mouse left-click on tray icon and "Exit" item will close Tray Icon utility if selected.
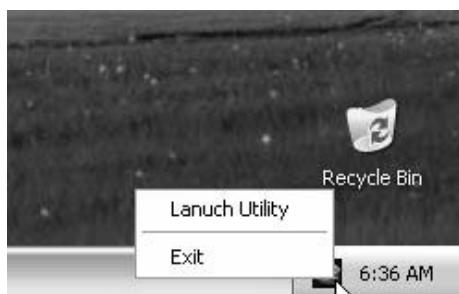
2. Main Panel

If you click the tray icon, [WarpSpeeder™] utility will be invoked. Please refer to the following figure; the utility's first window you will see is Main Panel.

Main Panel contains features as follows:

   a. Display the CPU Speed, CPU external clock, Memory clock, AGP clock,

and PCI clock information.

b. Contains About, Voltage, Overclock, and Hardware Monitor Buttons for invoking respective panels.

c. With a user-friendly Status Animation, it can represent 3 overclock percentage stages:

Man walking => overclock percentage from 100% ~ 110 %

Panther running => overclock percentage from 110% ~ 120%

Car racing => overclock percentage from 120% ~ above
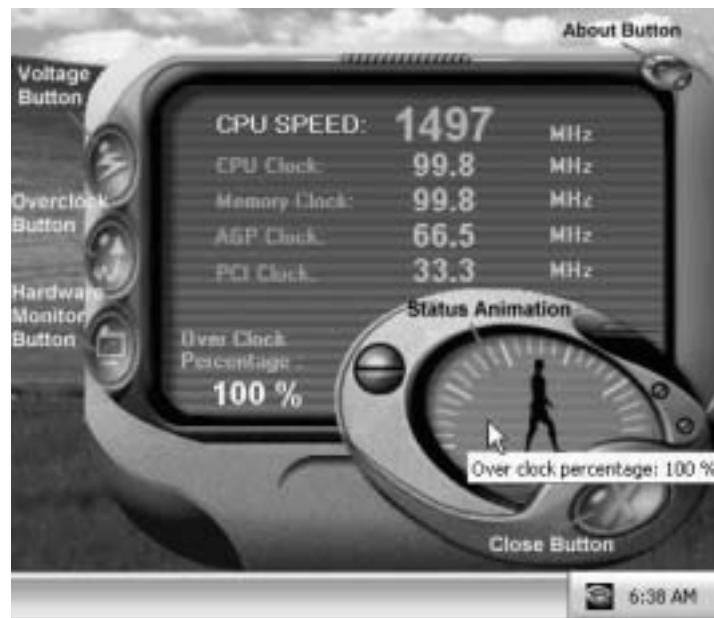
3. Voltage Panel

Click the Voltage button in Main Panel, the button will be highlighted and the Voltage Panel will slide out to up as the following figure.

In this panel, you can decide to increase CPU core voltage and Memory voltage

or not. The default setting is "No". If you want to get the best performance of overclocking, we recommend you click the option "Yes".

4. Overclock Panel

Motherboard Description

Click the Overclock button in Main Panel, the button will be highlighted and the Overclock Panel will slide out to left as the following figure.

Overclock panel contains the following features:

a. "–3MHz button", "-1MHz button", "+1MHz button", and "+3MHz button": provide user the ability to do real-time overclock adjustment.

> *Warning: Manually overclock is potentially dangerous, especially when the overdocking percentage is over 110 %. We strongly recommend you verify every speed you overclock by click the Verify button. Or, you can just click Auto overclock button and let [WarpSpeeder™] automatically gets the best result for you.*

b. "Recovery Dialog button": Pop up the following dialog. Let user select a restoring way if system need to do a fail-safe reboot.
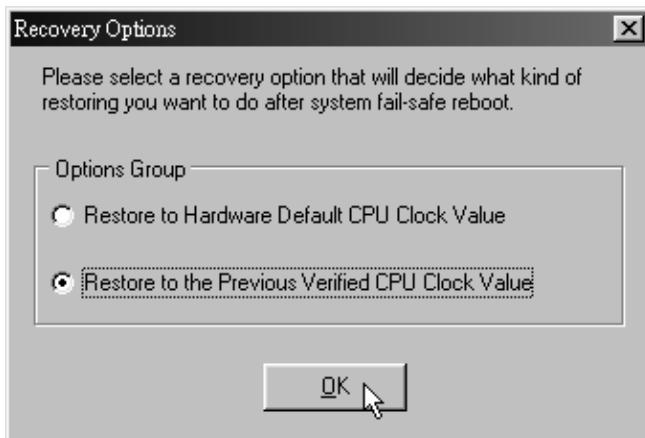
c. "Auto-overclock button": User can click this button and [WarpSpeeder™] will set the best and stable performance frequency automatically. [WarpSpeeder™] utility will execute a series of testing until system fails. Then system will do fail-safe reboot by using Watchdog function. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery

Dialog's setting.

d. "Verify button": User can click this button and [WarpSpeeder™] will proceed a testing for current frequency. If the testing is ok, then the current frequency will be saved into system registry. If the testing fails, system will do a fail-safe rebooting. After reboot, the [WarpSpeeder™] utility will restore to the hardware default setting or load the verified best and stable frequency according to the Recovery Dialog's setting.

Note: Because the testing programs, invoked in Auto-overclock and Verify, include DirectDraw, Direct3D and DirectShow tests, the DirectX 8.1 or newer runtime library is required. And please make sure your display card's color depth is High color (16 bit) or True color(24/32 bit) that is required for Direct3D rendering.

5. Hardware Monitor Panel

Motherboard Description

Click the Hardware Monitor button in Main Panel, the button will be highlighted and the Hardware Monitor panel will slide out to left as the following figure.

In this panel, you can get the real-time status information of your system. The information will be refreshed every 1 second.

6.   About Panel

Click the About button in Main Panel, the button will be highlighted and the About Panel will slide out to up as the following figure.

In this panel, you can get model name and detailed information in hints of all the chipset that are related to overclocking. You can also get the mainboard's BIOS model and the Version number of [WarpSpeeder™] utility.

Note: Because the overclock, overvoltage, and hardware monitor features are controlled by several separate chipset, [WarpSpeeder™] divide these features to separate panels. If one chipset is not on board, the correlative button in Main panel will be disabled, but will not interfere other panels' functions. This property can make [WarpSpeeder™] utility more robust.

Trouble Shooting

PROBABLE	SOLUTION
No power to the system at all Power light don't illuminate, fan inside power supply does not turn on. Indicator light on keyboard does not turn on	* Make sure power cable is securely plugged in * Replace cable * Contact technical support

PROBABLE	SOLUTION
System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is spinning.	* Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

PROBABLE	SOLUTION
System does not boot from hard disk drive, can be booted from CD-ROM drive.	* 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. * Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.

PROBABLE	SOLUTION
System only boots from CD-ROM Hard disk can be read and applications can be used but booting from hard disk is impossible.	* Backup data and applications files. Reforma the hard drive. Re-instal applications and data using backup disks.

PROBABLE	SOLUTION
Screen message says "Invalid Configuration" or "CMOS Failure."	* Review system's equipment . Make sure correct informaton is in setup.

PROBABLE	SOLUTION
Cannot boot system after installing second hard drive.	* Set master/slave jumpers correctly. * Run SETUP program and select correct drive types. Call drive manufacturers for compatibility with other drives.

Solución de Problemas

CAUSA PROBABLE	SOLUCIÓN
No hay corriente en el sistema. La luz de corriente no ilumina, ventilador dentro de la fuente de alimentación apagada. Indicador de luz del teclado apagado.	* Asegúrese que el cable de transmisión esté seguramente enchufado. * Reemplace el cable. * Contacte ayuda técnica.

CAUSA PROBABLE	SOLUCIÓN
Sistema inoperativo. Luz del teclado encendido, luz de indicador de corriente iluminado, disco rígido está girando.	* Presione los dos extremos del DIMM, presione para abajo firmemente hasta que el módulo encaje en el lugar.

CAUSA PROBABLE	SOLUCIÓN
Sistema no arranca desde el disco rígido, puede ser arrancado desde el CD-ROMdrive.	* Controle el cable de ejecución desde el disco hasta el disco del controlador. Asegúrese de que ambos lados estén enchufados con seguridad; controle el tipo de disco en la configuración estándar CMOS. * Copiando el disco rígido es extremadamente importante. Todos los discos rígidos son capaces de dañarse en cualquier momento.

CAUSA PROBABLE	SOLUCIÓN
Sistema solamente arranca desde el CD-ROM. Disco rígido puede leer y aplicaciones pueden ser usados pero el arranque desde el disco rígido es imposible.	* Copie datos y documentos de aplicación. Vuelva a formatear el disco rígido. Vuelva a instalar las aplicaciones y datos usando el disco de copiado.

CAUSA PROBABLE	SOLUCIÓN
Mensaje de pantalla "Invalid Configuration" o "CMOS Failure."	* Revise el equipo del sistema. Asegúrese de que la información configurada sea correcta.

CAUSA PROBABLE	SOLUCIÓN
No puede arrancar después de instalar el segundo disco rígido.	* Fije correctamente el puente master/esclavo. * Ejecute el programa SETUP y seleccione el tipo de disco correcto. Llame a una manufacturación del disco para compatibilidad con otros discos.

09/24/2002

M7VIP BIOS Setup

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 Intel Pentium ® 4 processor 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.

ACPI Support

Award ACPI BIOS support Version 1.0 of Advanced Configuration and Power interface specification (ACPI). It provides ASL code for power management and device configuration capabilities as defined in the ACPI specification, developed by Microsoft, Intel and Toshiba.

M7VIP BIOS Setup

PCI Bus Support

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

DRAM Support

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

Supported CPUs

This AWARD BIOS supports the AMD 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)
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

M7VIP BIOS Setup

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 1,2,3,4,5,6,7,8,9**) is just for reference, please refer to the BIOS installed on board, for update information.

■ **Figure 1. Main Menu**

```
┌──────────────────────────────────────────────────────────────┐
│           Phoenix - AwardBIOS CMOS Setup Utility               │
├────────────────────────────────┬─────────────────────────────┤
│ ► Standard CMOS Features        │ ► Frequency Control          │
│                                 │                              │
│ ► Advanced BIOS Features        │   Load Optimized Defaults    │
│                                 │                              │
│ ► Advanced Chipset Features     │   Set Supervisor Password    │
│                                 │                              │
│ ► Integrated Peripherals        │   Set User Password          │
│                                 │                              │
│ ► Power Management Setup        │   Save & Exit Setup          │
│                                 │                              │
│ ► PnP/PCI Configurations        │   Exit Without Saving        │
│                                 │                              │
│ ► PC Health Status              │   Upgrade BIOS               │
├────────────────────────────────┴─────────────────────────────┤
│ Esc : Quit       F9 : Menu in BIOS      ↑ ↓ → ←  : Select Item │
│ F10 : Save & Exit Setup                                        │
├────────────────────────────────────────────────────────────── │
│                Time, Date, Hard Disk Type...                   │
└──────────────────────────────────────────────────────────────┘
```

Standard CMOS Features

This submenu contains industry standard configurable options.

Advanced BIOS Features

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

M7VIP BIOS Setup

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.

Frequency Control

This submenu allows you to change CPU Vcore Voltage and CPU/PCI clock. **(However, this function is strongly recommended not to use. Not properly   change the voltage and clock may cause CPU or M/B damage!)**

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.

```
Load Optimized Defaults (Y/N)? N
```

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.

```
Enter Password:
```

M7VIP BIOS Setup

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.

```
Enter Password:
```

Save & Exit Setup

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

```
SAVE to CMOS and EXIT (Y/N)? Y
```

Exit Without Saving

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

```
Quit Without Saving (Y/N)? N
```

Upgrade BIOS

This submenu allows you to upgrade bios.

```
BIOS UPDATE UTILITY (Y/N)? N
```

M7VIP BIOS Setup

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**

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                        Standard CMOS Features
┌──────────────────────────────────────────────────┬────────────────────────┐
│  Date (mm:dd:yy)          Fri, Jul 19 2002         │      Item Help         │
│  Time (hh:mm:ss)          10 : 32 : 54             ├────────────────────────┤
│                                                    │  Menu Level    ▶       │
│  ▶ IDE Primary Master                              │                        │
│  ▶ IDE Primary Slave                               │  Change the day, month,│
│  ▶ IDE Secondary Master                            │  year and century      │
│  ▶ IDE Secondary Slave                             │                        │
│                                                    │                        │
│  Drive A                  [1.44M, 3.5 in.]         │                        │
│  Drive B                  [None]                   │                        │
│                                                    │                        │
│  Video                    [EGA/VGA]                │                        │
│  Halt On                  [All , But Keyboard]     │                        │
│                                                    │                        │
│  Base Memory                  640K                 │                        │
│  Extended Memory            65472K                 │                        │
│  Total Memory                1024K                 │                        │
│                                                    │                        │
├──────────────────────────────────────────────────┴────────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
│            F5:Previous Values              F7: Optimized Defaults            │
└─────────────────────────────────────────────────────────────────────────────┘
```

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Main Menu Selections

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

Item	Options	Description
Date	mm : dd : yy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	hh : mm : ss	Set the system internal clock.
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	360K, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

M7VIP BIOS Setup

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.

M7VIP BIOS Setup

3 Advanced BIOS Features

■ **Figure 3. Advanced BIOS Setup**

```
            Phoenix - AwardBIOS CMOS Setup Utility
                   Advanced BIOS Features
 ┌──────────────────────────────────────────┬──────────────────────┐
 │ Virus Warning              [Disabled]     │      Item Help       │
 │ ▶ Boot Seq/Floppy Setup    [Press Enter]  ├──────────────────────┤
 │ CPU Internal Cache         [Enabled]      │ Menu Level    ▶      │
 │ External Cache             [Enabled]      │                      │
 │ CPU L2 Cache ECC Checking  [Enabled]      │ Allows you to choose │
 │ Quick Power On Self Test   [Enabled]      │ the VIRUS warning    │
 │ Boot Up NumLock Status     [On]           │ feature for IDE Hard │
 │ Gate A20 Option            [Fast]         │ Disk boot sector     │
 │ Typematic Rate Setting     [Disabled]     │ protection. If this  │
 │ x Typematic Rate (Chars/Sec) 6            │ function is enabled  │
 │ x Typematic Delay (Msec)     250          │ and someone attempt to│
 │ Security Option            [Setup]        │ write data into this │
 │ APIC Mode                  [Enabled]      │ area , BIOS will show │
 │ MPS Version Control For OS[1.4]           │ a warning message on │
 │ OS Select For DRAM > 64MB [Non-OS2]       │ screen and alarm beep │
 │ Video BIOS Shadow          [Enabled]      │                      │
 │ Summary Screen Show        [Disabled]     │                      │
 └──────────────────────────────────────────┴──────────────────────┘
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
           F5:Previous Values         F7: Optimized Defaults
```

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.

Boot Seq & Floppy Setup

This item allows you to setup boot seq & Floppy.

First/ Second/ Third/ Boot Other Device
These BIOS attempt to load the operating system from the devices in the sequence selected in these items.
The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, LAN, Disabled.

Swap Floppy Drive
For systems with two floppy drives, this option allows you to swap logical drive assignments.
The Choices: Disabled (default), Enabled.

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.

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.

External Cache

This option enables or disables "Level 2" secondary cache on the CPU, which may improve performance.

Enabled (default)	Enable cache.
Disabled	Disable cache.

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC Checking.
The Choices: Enabled (default), Disabled.

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.

Boot Up NumLock Status

Selects the NumLock. State after power on.

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

Gate A20 Option

Select if chipset or keyboard controller should control Gate A20.

Normal	A pin in the keyboard controller controls Gate A20.
Fast (default)	Lets chipset control Gate A20.

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 typematic delay can be configured.

M7VIP BIOS Setup

Disabled (default)
Enabled

Typematic Rate (Chars/Sec)
Sets the rate at which a keystroke is repeated when you hold the key down.
The Choices: 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.
The Choices: 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.

APIC Mode
By selecting Enabled enables ACPI device mode reporting from the BIOS to the operating system.
The Choices: Enabled (default), Disabled.

MPS Version Control For OS

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.
Select version supported by the operation system running on this computer.
The Choices: 1.4 (default), 1.1.

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.

Summary Screen Show

This item allows you to enable/ disable display the Summary Screen Show.
The Choices: Disabled (default), Enabled.

M7VIP BIOS Setup

4 Advanced Chipset Features

This submenu allows you to configure the specific features of the chipset installed on your system. This chipset manage 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**

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                         Advanced Chipset Features

  ► DRAM Clock/Drive Control    [Press Enter]          Item Help
  ► AGP & P2P Bridge Control     [Press Enter]
  ► CPU & PCI Bus Control        [Press Enter]     Menu Level    ►
    Memory Hole                  [Disabled]
    System BIOS Cacheable        [Disabled]
    Video RAM Cacheable          [Disabled]




  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
             F5:Previous Values              F7: Optimized Defaults
```

DRAM Clock/Drive Control

To control the Clock/Drive. If you highlight the literal "Press Enter" next to the "DRAM Clock/Drive Control" label and then press the enter key, it will take you a submenu with the following options:

DRAM Clock
This item determines DRAM clock following 100MHz, 133MHz, 166MHz or By SPD.
The Choices: 100MHz, 133MHz, **By SPD** (default), 166MHz.

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DRAM Timing
This item determines DRAM clock/ timing follow SPD or not.
The Choices: By SPD (default), Manual.

DRAM CAS Latency
When DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.
The Choices: **2.5** (default), 2.

Bank Interleave
This item allows you to enable or disable the bank interleave feature.
The Choices: Disabled (default), 2 bank, 4 bank.

Precharge to Active (Trp)
This items allows you to specify the delay from precharge command to activate command.
The Choices: 2T, **3T** (default).

Active to Precharge (Tras)
This items allows you to specify the minimum bank active time.
The Choices: **6T** (default), 5T.

Active to CMD (Trcd)
Use this item to specify the delay from the activation of a bank to the time that a read or write command is accepted.
The Choices: 2T, **3T** (default).

DRAM Burst Length
The Choices: 4 (default), 8.

DRAM Queue Depth
This item permits to place the depths of the memory.   The deeper the depth is, the better is this function.
The Choices: 4 level (default), 2 level, 3 level.

DRAM Command Rate
This item controls clock cycle that must occur between the last valid write operation and the next command.
The Choices: 1T Command, **2T Command** (default).

AGP & P2P Bridge Control

If you highlight the literal "Press Enter" next to the "AGP & P2P Bridge Control" label and then press the enter key, it will take you a submenu with the following options:

AGP Aperture Size
Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is

a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.
The Choices: 64M (default), 256M, 128M, 32M, 16M, 8M, 4M.

AGP Mode
This item allows you to select the AGP Mode.
The Choices: 4X (default), 2X, 1X.

AGP Driving Control
By choosing "Auto" the system BIOS will the AGP output Buffer Drive strength P Ctrl by AGP Card. By choosing "Manual", it allows user to set AGP output Buffer Drive strength P Ctrl by manual.
The Choices: Auto (default), Manual.

AGP Driving Value
While AGP driving control item set to "Manual", it allows user to set AGP driving.
The Choices: DA (default).

AGP Fast Write
The Choices: Enabled, **Disabled** (default).

AGP Master 1 WS Write
When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one-wait states.
The Choices: Disabled (default), Enabled.

AGP Master 1 WS Read
When Enabled, read to the AGP (Accelerated Graphics Port) are executed with one wait states.
The Choices: Disabled (default), Enabled.

CPU & PCI Bus Control

If you highlight the literal "Press Enter" next to the "CPU & PCI Bus Control" label and then press the enter key, it will take you a submenu with the following options:

PCI1 Master 0 WS Write
When enabled, writes to the PCI bus are executed with zero-wait states.
The Choices: Enabled (default), Disabled.

PCI2 Master 0 WS Write
When enabled, writes to the AGP bus are executed with zero-wait states.
The Choices: Enabled (default), Disabled.

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PCI1 Post Write
When Enabled, CPU writes are allowed to post on the PCI bus.
The Choices: Enabled (default), Disabled.

PCI2 Post Write
When Enabled, CPU writes are allowed to post on the AGP bus.
The Choices: Enabled (default), Disabled.

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.
The Choices: Enabled (default), Disabled.

Memory Hole

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), 15M – 16M.

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

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

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5 Integrated Peripherals

■ **Figure 5. Integrated Peripherals**

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                          Integrated Peripherals
 ┌──────────────────────────────────────────────┬──────────────────────┐
 │ ► OnChip IDE Control        [Press Enter]      │      Item Help       │
 │ ► OnChip PCI Device         [Press Enter]      │                      │
 │ ► SuperIO Device            [Press Enter]      │ Menu Level     ►     │
 │   Init Display First        [PCI Slot]         │                      │
 │   OnChip USB Controller     [All Enabled]      │                      │
 │   USB Keyboard Support      [Disabled]         │                      │
 │                                                │                      │
 │                                                │                      │
 └──────────────────────────────────────────────┴──────────────────────┘
  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
            F5:Previous Values            F7: Optimized Defaults
```
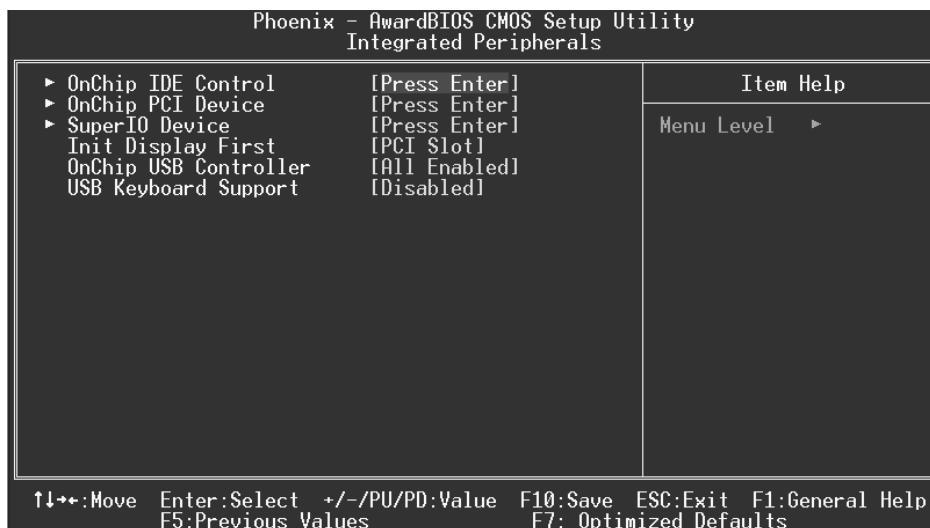
OnChip IDE Control

The chipset contains a PCI IDE interface with support for two IDE channels.
Select "Enabled" to activate the first and / or second IDE interface. If you install a primary and / or secondary add-in IDE interface, select "Disabled" to deactivate an interface. If you highlight the literal "Press Enter" next to the "Onchip IDE Control" label and then press the enter key, it will take you a submenu with the following options:

On-Chip Primary / Secondary PCI IDE
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.
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. If you install a primary and/or secondary add-in IDE interface, set this option to "Disabled".
The Choices: Enabled (default), Disabled.

IDE 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

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through 4 provides successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
The Choices: Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

IDE Primary / Secondary   Master / Slave UDMA
Ultra DMA/100 functionality can 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/100, select Auto to enable BIOS support.
The Choices: Auto (default), Disabled.

IDE HDD Block Mode
Block mode is also called block transfer, multiple commands, or multiple sector read / write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read / write per sector where the drive can support.
The Choices: Enabled (default), Disabled.

OnChip PCI Device

If you highlight the literal "Press Enter" next to the "OnChip PCI Device" label and then press the enter key, it will take you a submenu with the following options:

VIA-3058 AC97 Audio
This option allows you to control the onboard AC97 audio.
The Choices: Auto (default), Disabled.

VIA-3068 MC97 Modem
This option allows you to control the onboard MC97 modem.
The Choices: Auto (default), Disabled.

Onboard 1394 Chip
This option allows you to enable or disable the onboard VT6306 1394 Chip.
The Choices: Enabled (Default), Disabled.

Onboard Serial ATA Chip
This option allows you to enable or disable the onboard Promise 376 Serial ATA Chip.
The Choices Enabled (Default), Disabled.

Super IO Device

If you highlight the literal "Press Enter" next to the "Super IO Device" label and then press the enter key, it will take you a submenu with the following options:

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Onboard FDC Controller
Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If install and FDC or the system has no floppy drive, select Disabled in this field.
The Choices: Enabled (default), Disabled.

Onboard Serial Port 1
Select an address and corresponding interrupt for the first and second serial ports.
The Choices: Disabled, **3F8/IRQ4** (default), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

Onboard Serial Port 2
Select an address and corresponding interrupt for the first and second serial ports.
The Choices: Disabled, **2F8/IRQ3** (default), 3F8/IRQ4, 3E8/IRQ4, 2E8/IRQ3, Auto.

UART Mode Select
This item allows you to determine which Infra Red (IR) function of onboard I/O chip.
The Choices: Normal (default), AS KIR, IrDA.

RxD, TxD Active
This item allows you to determine which Infrared (IR) function of onboard I/O chip.
The Choices: Hi / Lo (default), Hi / Hi, Lo / Hi, Lo / Lo.

IR Transmission Delay
This item allows you to enable/disable IR transmission delay.
The Choices: Enabled (default), Disabled.

UR2 Duplex Mode
Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time.
The Choices: Half (default), Full.

Use IR Pins
Consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals.
The Choices: IR-Rx2Tx2 (default), RxD2, TxD2.

Onboard Parallel Port
This item allows you to determine access onboard parallel port controller with which I/O Address.
The Choices: 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7, Disabled.

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Parallel Port Mode
The default value is SPP.
The Choices:
SPP(default)	Using Parallel port as Standard Printer Port.
EPP	Using Parallel Port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilities Port.
ECP+EPP	Using Parallel port as ECP & EPP mode.

EPP Mode Select
Select EPP port type 1.7 or 1.9.
The Choices: EPP 1.7(default), EPP1.9.

ECP Mode Use DMA
Select a DMA Channel for the port.
The Choices: 3 (default), 1.

Game Port Address
Game Port I/O Address.
The Choices: 201 (default), 209, Disabled.

Midi Port Address
Midi Port Base I/O Address.
The Choices: 330 (default), 300, 290**,** Disabled.

Midi Port IRQ
This determines the IRQ in which the Midi Port can use.
The Choices: 5, **10** (default)

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 USB Controller

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: All Enabled (default), All Disabled, 1&2 USB Port, 2&3 USB Port, 1&3 USB Port, 1 USB Port, 2 USB Port, 3 USB Port.

USB Keyboard Support

Enables support for USB attached keyboards.
The Choices: Disabled (default), Enabled.

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**

```
            Phoenix - AwardBIOS CMOS Setup Utility
                    Power Management Setup

  ACPI function              [Enabled]              Item Help
  ACPI Suspend Type          [S1(POS)]
  Power Management Option    [User Define]      Menu Level    ►
  HDD Power Down             [Disable]
  Suspend Mode               [Disable]
  Video Off Option           [Suspend -> Off]
  Video Off Method           [V/H SYNC+Blank]
  MODEM Use IRQ              [3]
  Soft-Off by PWRBTN         [Instant-Off]
  State After Power Failure  [Off]
► Wake Up/Power On Control   [Press Enter]
► Reload Global Timer Event  [Press Enter]



  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
            F5:Previous Values            F7: Optimized Defaults
```

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.
> **The Choices: 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. Suspend Mode.

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

Min. Power Saving

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

Max. Power Saving

Maximum power management only available for sl CPU's.
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.

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, 13 Min, 14 Min, 15Min.

Suspend Mode

The item allows you to select the suspend type under ACPI operating system.
The Choices: Disabled (default), 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30
Min, 40 Min, 1 Hour.

Video Off Option

This field determines when to activate the video off feature for monitor power
management.
The Choices: Suspend→Off (default), Always on.

Video Off Method

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

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V/H SYNC+Blank (default)

This selection will cause the system to turn 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

Initial display power management signaling.
The Choices: Stop Grant (default), PwrOn Suspend.

Modem Use IRQ

This determines the IRQ, which can be applied in MODEM use.
The Choices: 3 (default),4 / 5 / 7 / 9 / 10 / 11 / NA.

Soft-Off by PWR-BTTN

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).

State After Power Failure

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 battery (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.
The Choices: Off (default), Auto, On.

Wake Up/ Power On Control

If you highlight the literal "Press Enter" next to the "Wake Up/ Power On Control" label and then press enter key, it will take you to a submenu with the following options:
Power On by PCI card

When you select Enabled, a PME signal from PCI card returns the system to Full On state.
The Choices: Disabled (default), Enabled.
Wake Up on LAN/Ring

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.
The Choices: Disabled (default), Enabled.

RTC Alarm Resume

This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, Choose the Date and Time Alarm:

Date (of Month) Alarm You can choose which month the system will boot up.

Time (hh:mm:ss) Alarm You can choose shat hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work

Reload Global Timer Events

Reload Global Timer Events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything, which occurs to a device, which is configured as *Enabled*, even when the system is in a power down mode.

VGA   **off** (default), on.
LPT & COM   **LPT/COM** (default), COM, LTP, None.
HDD & COM   **On** (default), off.
PCI Master   **Off** (default), on

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**

```
            Phoenix - AwardBIOS CMOS Setup Utility
                    PnP/PCI Configurations
┌──────────────────────────────────────────┬─────────────────────┐
│ PNP OS Installed          [No]            │     Item Help       │
│ Reset Configuration Data  [Disabled]      ├─────────────────────┤
│                                           │ Menu Level    ►     │
│ Resources Controlled By   [Auto(ESCD)]    │                     │
│ x IRQ Resources            Press Enter    │ Select Yes if you are│
│                                           │ using a Plug and Play│
│ PCI/VGA Palette Snoop     [Disabled]      │ capable operating   │
│ Assign IRQ For VGA        [Enabled]       │ system Select No if  │
│ Assign IRQ For USB        [Enabled]       │ you need the BIOS to │
│                                           │ configure non-boot  │
│                                           │ devices             │
│                                           │                     │
│                                           │                     │
│                                           │                     │
│                                           │                     │
├──────────────────────────────────────────┴─────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save ESC:Exit F1:General Help│
│         F5:Previous Values          F7: Optimized Defaults      │
└──────────────────────────────────────────────────────────────┘
```

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 (default), Yes.

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.

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

IRQ-3	assigned to	PCI Device
IRQ-4	assigned to	PCI Device
IRQ-5	assigned to	PCI Device
IRQ-7	assigned to	PCI Device
IRQ-9	assigned to	PCI Device
IRQ-10	assigned to	PCI Device
IRQ-11	assigned to	PCI Device
IRQ-12	assigned to	PCI Device
IRQ-14	assigned to	PCI Device
IRQ-15	assigned to	PCI Device

PCI / VGA Palette Snoop

Choose Disabled or Enabled. 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 the 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.

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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.

Assign IRQ For VGA

This item allows the users to choose which IRQ to assign for the VGA.
The Choices: Enabled (default), Disabled.

Assign IRQ For USB

This item allows the users to choose which IRQ to assign for the USB.
The Choices: Enabled (default), Disabled.

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8 PC Health Status

■ **Figure 8. PC Health Status**

```
          Phoenix - AwardBIOS CMOS Setup Utility
                    PC Health Status
 ┌──────────────────────────────────────────┬─────────────────────────┐
 │ Current CPU Temperature                    │       Item Help         │
 │ Current CPUFAN Speed                       ├─────────────────────────┤
 │ Current SYSFAN Speed                       │ Menu Level      ►       │
 │ CPU Voltage                                │                         │
 │ 3.3 V                                      │ Enable/Disable show     │
 │ + 5 V                                      │ HardWare Monitor Value  │
 │ +12 V                                      │                         │
 │ -12 V                                      │                         │
 │ - 5 V                                      │                         │
 │ Show H/W Monitor in POST   [Enabled]       │                         │
 │                                            │                         │
 │                                            │                         │
 │                                            │                         │
 │                                            │                         │
 │                                            │                         │
 │                                            │                         │
 └──────────────────────────────────────────┴─────────────────────────┘
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
           F5:Previous Values            F7: Optimized Defaults
```
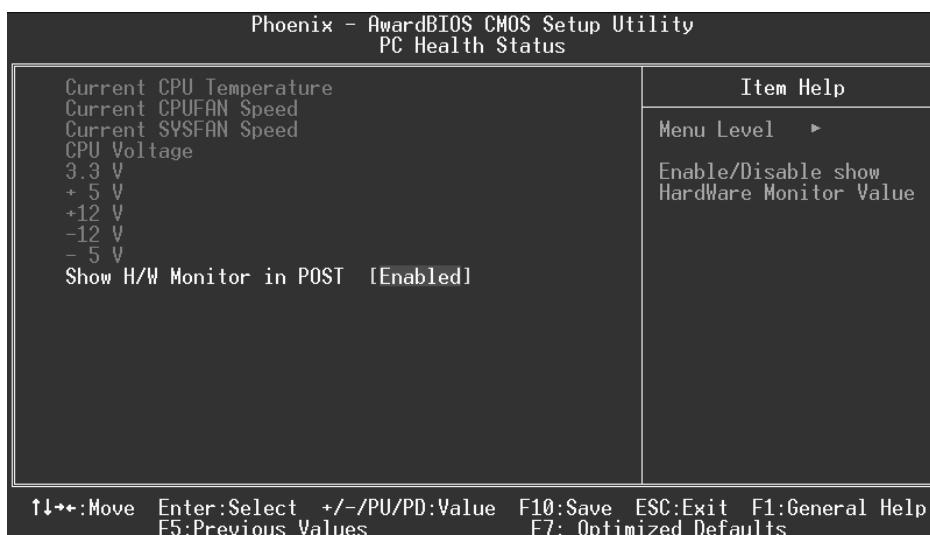
Current CPU Temperature

This field displays the current temperature of the CPU.

Current CPUFAN Speed

This field displays the current speed of CPU fan.

Current SYSFAN Speed

This field displays the current speed SYSTEM fan.

CPU Voltage/ 3.3V/+5V/+12V/-12V/-5V

Detect the system's voltage status automatically.

Show H/W Monitor in POST

If your computer contains a monitoring system, it will show PC health status during POST stage. The item offers several delay time for you to choose.
The Choices: Enabled (default), Disabled.

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9 Frequency Control

■ **Figure 9. Frequency Control**

```
         Phoenix - AwardBIOS CMOS Setup Utility
                 Frequency/Voltage Control
┌─────────────────────────────────────────────┬──────────────────┐
│ CPU Ratio                  [Default]         │    Item Help     │
│ Auto Detect DIMM/PCI Clk   [Enabled]         ├──────────────────┤
│ Spread Spectrum            [+/-0.25%]        │ Menu Level   ►   │
│ CPU Host/PCI Clock         [Default]         │                  │
│ CPU Voltage Regulator      [Default]         │                  │
│ AGP Voltage Regulator      [1.5 V]           │                  │
│ DRAM Voltage Regulator     [2.5 V]           │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
├─────────────────────────────────────────────┴──────────────────┤
│ ↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help │
│       F5:Previous Values        F7: Optimized Defaults          │
└─────────────────────────────────────────────────────────────────┘
```

CPU Ratio

This item allows you to select the CPU Ratio.
The Choices: Default (default), X11, X11.5, X12, X12.5, X5, X5.5, X6, X6.5, X7, X7.5, X8, X8.5, X9, X9.5, X10.

CPU Host/ PCI Clock

This item allows you to select CPU Clock, and CPU over clocking.

> ⚠ If unfortunately, the system's frequency that you are selected is not functioning, there are two methods of booting-up the system.
>
> Method 1: Clear the COMS data by setting the JCOMS1 ((2-3) closed)) as "ON" status. All the CMOS data will be loaded as defaults setting.
>
> Method 2: Press the <Insert> key and Power button simultaneously, after that keep-on pressing the <Insert> key until the power-on screen showed. This action will boot-up the system according to FSB of the processor.
>
> ※ **It's strongly recommended to set CPU Vcore and clock in default setting. If the CPU Vcore and clock are not in default setting, it may cause CPU or M/B damage.**

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CPU Voltage Regulator

    The Choices: Default (default), -0.025V, -0.050V, -0.075V, -0.100, +0.025V, +0.050V, +0.075V.

AGP Voltage Regulator

    The Choices: 1.5V (Default), 1.8V, 1.7V, 1.6V

DRAM Voltage Regulator

    The Choices: 2.5V (Default), 2.8V, 2.7V, 2.6V.