
Introduction

1

The K7T Turbo (MS-6330 v3.0) mainboard is a high-performance computer mainboard based on VIA® KT133A chipset. The K7T Turbo (MS-6330 v3.0) is designed for the AMD® Socket processor for inexpensive business/personal desktop markets.

The KT133A chipset consists of the VT8363A system controller (552 pin BGA) and the VT82C686B (352 pin BGA). The system controller provides superior performance between the CPU, DRAM, AGP bus, and PCI bus with pipelined burst, and concurrent operation.

The VT8363 supports six banks of DRAM's up to 1.5 GB and full AGP v2.0 capability for maximum bus utilization including 1x, 2x and 4x mode transfers, SBA (SideBand Addressing), Flush/Fence commands, and pipelined burst. The chip also supports enhanced PCI bus commands such as Memory-Read-Line, Memory-Read-Multiple and Memory-Write-Invalid commands to minimize snoop overhead.

The VT82C686B integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM (OS Direct Power Management) function. The VT82C686B chipset also improves the IDE transfer rate by supporting Ultra DMA-33/66/100 IDE that transfers data at the rate 33/66/100MB/sec.

This mainboard which supports KT133A chipset coupled with VT8363A and VT82C686B is ideal for high performance, high quality, high energy efficiency and high integration desktop AGP/PCI computer systems.

Chapter 1 contains the following topics:

Mainboard Specifications	1-2
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Mainboard Specifications

CPU

- Socket A for AMD® Duron™/Athlon processor.
- Support 600MHz up to 1.5GHz processor

Chipset

- VIA® KT133A chipset. (552 BGA)
 - AGP 4x and PCI Advanced high performance memory controller
 - Support PC100/133 SDRAM, & VCM technology
- VIA® 686B chipset. (352 BGA)
 - Enhanced Power Management Features
 - Integrated Super I/O (FDC, LPT, COM 1/2, and IR)
 - Dual bus Master IDE Ultra DMA33/66/100
 - Integrated Hardware Soundblaster
 - Direct Sound AC97 Audio
 - ACPI

Clock Generator

- 100MHz/133MHz clocks are supported.

Main Memory

- Support six memory banks using three 168-pin unbuffered DIMM.
- Support a maximum memory size of 1.5GB (32M x 8).
- Support 3.3v SDRAM DIMM.

Slots

- One AGP(Accelerated Graphics Port) slot.
 - AGP specification compliant
 - Support AGP 2.0 1x/2x/4x
- One CNR (Communication Network Riser) slot.
- Six 32-bit Master PCI Bus slots.
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE

- An IDE controller on the VIA[®] 686B Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100 operation modes.
- Can connect up to four IDE devices.

Promise 20265R On-Board (Optional)

- Support IDE RAID 0 or 1
- Can connect up to four IDE devices.

Audio (Optional)

- Chip Integrated
 - Direct Sound AC97 Audio

On-Board Peripherals

- On-Board Peripherals include:
 - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
 - 2 serial ports (COMA + COM B)
 - 1 parallel port supports SPP/EPP/ECP mode
 - 4 USB ports (2 Rear Connectors/USB Front Pin Header)
 - 1 IrDA connector for SIR/CIR/ASKIR/HPSIR.
 - 1 Audio/Game port

BIOS

- The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.

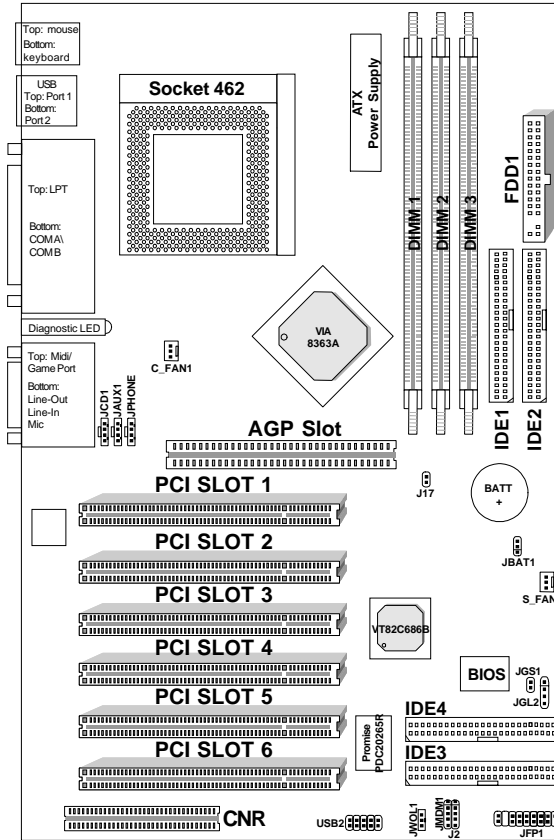
Dimension

- ATX Form Factor: 30.4cm x 23cm

Mounting

- 6 mounting holes.

Mainboard Layout



K7T Turbo (MS-6330 v3.0) Mainboard

Key Features

- ATX Form Factor
- Support Accelerated Graphic Port (AGP) Add-On Card
- Support Duron processors at 200/266MHz System Bus Frequencies
- Chip Integrated Audio (optional)
- PC Alert System Hardware Monitor
- Support DMI (Desktop Management Interface) through BIOS
- LAN Wake Up Function
- Modem (Internal/External) Ring Wake Up Function
- Support PCI 2.2
- Suspend to RAM/Disk
- Live BIOS
- Fuzzy Logic III
- Promise 20265R Onboard (optional)

Hardware Installation

2

This chapter provides you with the information about hardware setup procedures. During installation, be careful when handling the components and follow the installation procedures properly. For some components, installing it in a wrong orientation will cause it to become unstable.

Remember to use a grounded wrist strap before handling computer components. Static electricity may damage the components.

This chapter contains the following topics:

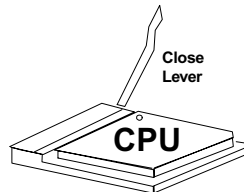
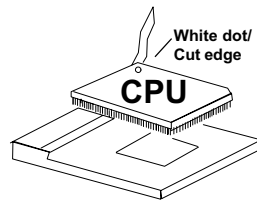
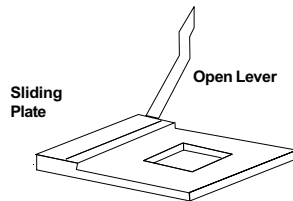
Central Processing Unit (CPU)	2-2
Memory Installation	2-4
Back Panel	2-7
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Power Supply	2-21
Jumpers	2-23
Slots	2-25

Central Processing Unit: CPU

The mainboard operates with **AMD® Duron™/Athlon processor**. The mainboard uses a CPU socket called Socket 462 for easy CPU installation. The CPU should always have a Heat Sink and a cooling fan attached to prevent overheating.

• CPU Installation Procedures

1. Pull the lever sideways away from the socket. Then, raise the lever up to a 90-degree angle.
2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot/cut edge. Then, insert the CPU. It should insert easily.
3. Press the lever down to complete the installation.



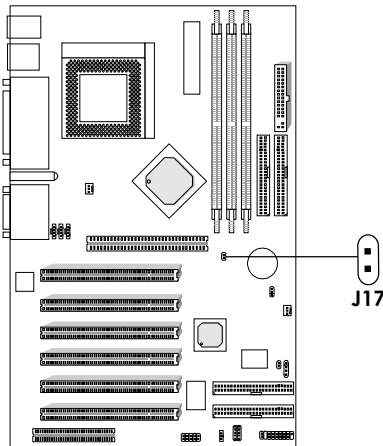
• CPU Core Speed Derivation Procedure

The BIOS can be used to set the CPU Host Bus Frequency Clock.

$$\begin{aligned}
 \text{If } & \text{CPU Clock} && = 100\text{MHz} \\
 & \text{Core/Bus ratio} && = 7 \\
 \text{then } & \text{CPU core speed} && = \text{Host Clock} \times \text{Core/Bus ratio} \\
 & && = 700\text{MHz}
 \end{aligned}$$

• CPU Front Side Bus Frequency Selector: J17

This is used to set the CPU Front Side Bus Frequencies from 100MHz to 133MHz.

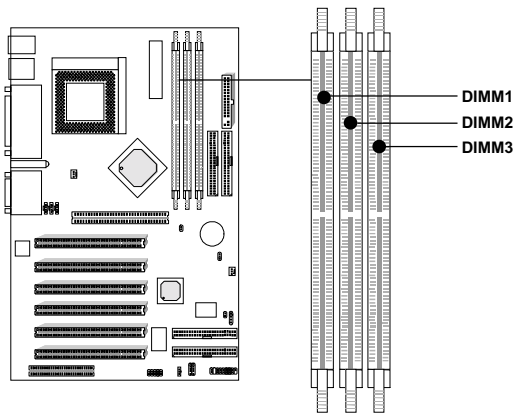


J17	Function
	For CPU FSB 100MHz (DDR 200MHz)
	For CPU FSB 133MHz (DDR 266MHz)

Memory Installation

• Memory Bank Configuration

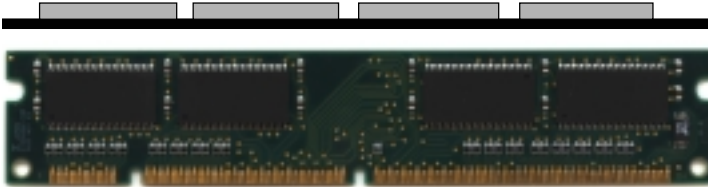
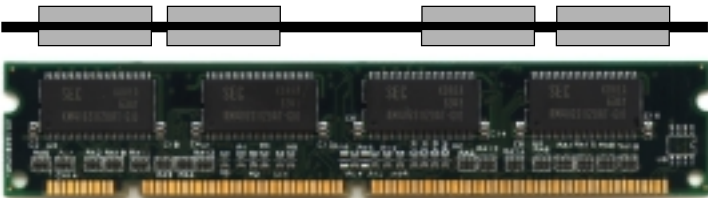
The mainboard supports a maximum memory size of 1.5 GB. It provides three 168-pin **unbuffered** DIMMs (Double In-Line Memory Module) sockets. It supports 33MB to 512MB DIMM memory module.



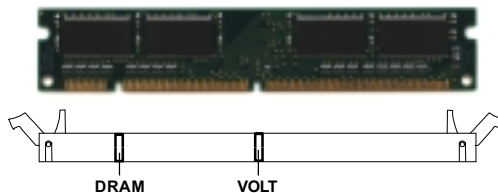
WARNING!

There are three kinds of DIMM specification supported by this mainboard: PC133 and PC100. If you use 100 MHz CPU Bus Frequency, PC100 and PC133 DIMM Specs. is supported. If you use 133MHz CPU Bus Frequency, only PC133 DIMM Specs. will be supported.

- **Memory Installation Procedures**

How to install a DIMM Module**Single Sided DIMM****Double Sided DIMM**

1. The DIMM slot has 2 Notch Keys “VOLT and DRAM”, so the DIMM memory module can only fit in one direction.
2. Insert the DIMM memory module vertically into the DIMM slot. Then push it in.



3. The plastic clip at the side of the DIMM slot will automatically close.

• Memory Population Rules

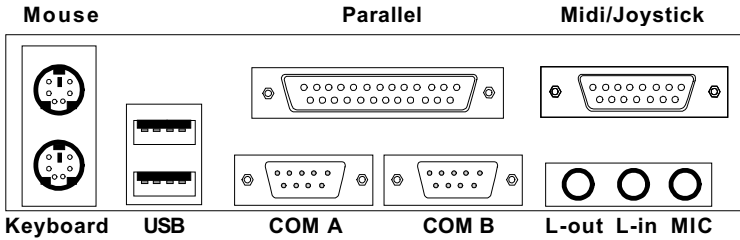
1. Supports only SDRAM DIMM.
2. To operate properly, at least one 168-pin DIMM module must be installed.
3. This mainboard supports Table Free memory, so memory can be installed on DIMM1, DIMM 2, and DIMM 3 in any order.
4. Supports 3.3 volt DIMM.

• SDRAM Memory Addressing

DRAM Tech.	DRAM Density & Width	DRAM Addressing	Address Size		MB/DIMM	
			Row	Column	Single no. Side(S) pcs.	Double no. Side(D) pcs.
16M	1Mx16	ASYM	11	8	8MBx4	16MBx8
	2Mx8	ASYM	11	9	16MBx8	32MBx16
	4Mx4	ASYM	11	10	32MB	64MB
64M	2Mx32	ASYM	11	9	32MBx2	64MBx4
	2Mx32	ASYM	12	8	16MBx2	32MBx4
	4Mx16	ASYM	11	10	32MB	64MB
	4Mx16	ASYM	13	8	32MB	64MB
	8Mx8	ASYM	13	9	64MB	128MB
	16Mx4	ASYM	13	10	128MB	256MB
64M	2Mx32	ASYM	12	8	16MB	32MB
	4Mx16	ASYM	13	8	32MB	64MB
	8Mx8	ASYM	13	9	64MB	128MB
	16Mx4	ASYM	13	10	128MB	256MB

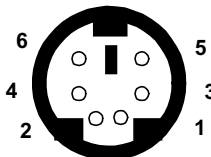
Back Panel

The mainboard provides the following back panel connectors:



Mouse Connector: JKBMS1

The mainboard provides a standard PS/2[®] mouse mini DIN connector for attaching a PS/2[®] mouse. You can plug a PS/2[®] mouse directly into this connector.

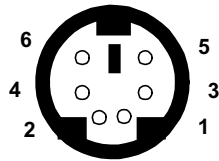


PS/2 Mouse (6-pin Female)

PIN	SIGNAL	DESCRIPTION
1	Mouse DATA	Mouse DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Mouse Clock	Mouse clock

Keyboard Connector: JKBMS1

The mainboard provides a standard PS/2® keyboard mini DIN connector for attaching a keyboard. You can plug a keyboard cable directly to this connector.

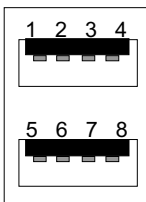


PS/2 Keyboard (6-pin Female)

PIN	SIGNAL	DESCRIPTION
1	Keyboard DATA	Keyboard DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Keyboard Clock	Keyboard clock
6	NC	No connection

USB Connectors

The mainboard provides a **UHCI (Universal Host Controller Interface) Universal Serial Bus root** for attaching USB devices like: keyboard, mouse and other USB devices. You can plug the USB device directly to this connector.

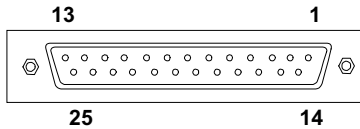


USB Ports

PIN	SIGNAL	DESCRIPTION
1	VCC	+5V
2	-Data 0	Negative Data Channel 0
3	GND	Ground
4	+Data 0	Positive Data Channel 0
5	VCC	+5V
6	+Data 1	Positive Data Channel 1
7	-Data 1	Negative Data Channel 1
8	GND	Ground

Parallel Port Connector: LPT1

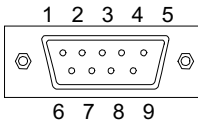
The mainboard provides a 25 pin female centronic connector for LPT. A parallel port is a standard printer port that also supports Enhanced Parallel Port (EPP) and Extended capabilities Parallel Port (ECP). See connector and pin definition below:



PIN	SIGNAL	DESCRIPTION
1	STROBE	Strobe
2	DATA0	Data0
3	DATA1	Data1
4	DATA2	Data2
5	DATA3	Data3
6	DATA4	Data4
7	DATA5	Data5
8	DATA6	Data6
9	DATA7	Data7
10	ACK#	Acknowledge
11	BUSY	Busy
12	FE	Paper End
13	SELECT	Select
14	AUTO FEED#	Automatic Feed
15	ERR#	Error
16	INIT#	Initialize Printer
17	SLIN#	Select In
18	GND	Ground
19	GND	Ground
20	GND	Ground
21	GND	Ground
22	GND	Ground
23	GND	Ground
24	GND	Ground
25	GND	Ground1

Serial Port Connectors: COM A and COM B

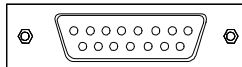
The mainboard provides two 9-pin male DIN connectors for serial port COM A & COM B. These port are 16550A high speed communication port that send/receive 16 bytes FIFOs. You can attach a mouse or a modem cable directly into this connector.



PIN	SIGNAL
1	DCD (Data Carry Detect)
2	SIN (Serial In or Receive Data)
3	SOUT (Serial Out or Transmit Data)
4	DTR (Data Terminal Ready)
5	GND
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI (Ring Indicate)

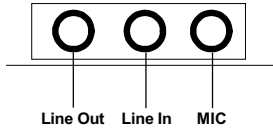
Joystick/Midi Connectors

You can connect a joystick or game pad to this connector.



Audio Port Connectors

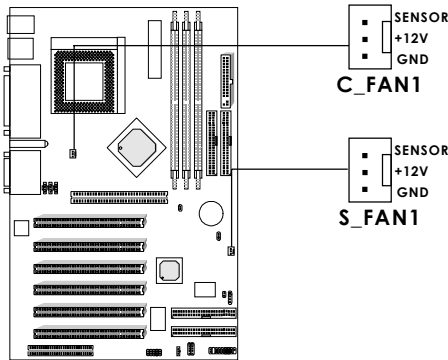
Line Out is a connector for Speakers or Headphones. **Line In** is used for external CD player, Tape player, or other audio devices. **Mic** is a connector for the microphones.



Connectors

Fan Power Connectors: C_FAN1 & S_FAN1

These connectors support system cooling fan with +12V. It supports three pin head connector. When connecting the wire to the connector, always take note that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND.



C_FAN1: Processor Fan

S_FAN1: System Fan

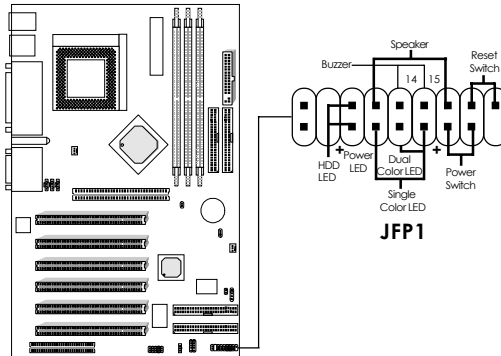
For fans with fan speed sensor, every rotation of the fan will send out 2 pulses. System Hardware Monitor will count and report the fan rotation speed. If your mainboard has System Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of this function.

Note:

1. Always consult your reseller for proper CPU cooling fan.
2. CPU FAN supports the FAN control. You can install PC Alert utility. This will automatically control the CPU FAN Speed according to the actual CPU temperature.

Case Connector: JFP1

The Power Switch, Reset Switch, Power LED, Speaker, and HDD LED are all connected to the JFP1 connector block.



Power Switch

Connect to a 2-pin push button switch. This switch has the same feature with JRMS1.

Reset Switch

Reset switch is used to reboot the system rather than turning the power ON/OFF. Avoid rebooting while the HDD LED is lit. You can connect the Reset switch from the system case to this pin.

Power LED

The Power LED is lit while the system power is on. Connect the Power LED from the system case to this pin.

There are two types of LED that you can use: 3-pin single color LED or 2-pin dual color LED(ACPI request).

- a. 3 pin single color LED connect to pin 4, 5, & 6. This LED will lit when the system is on.
- b. 2 pin dual color LED connect to pin 5 & 6.
 - GREEN** Color: Indicate the system is in full on mode.
 - ORANGE** Color: Indicate the system is in suspend mode.

Speaker

Speaker from the system case is connected to this pin.

If on-board Buzzer is available:

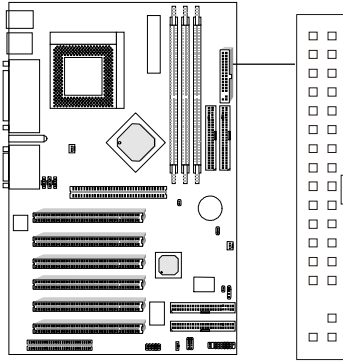
- Short pin 14-15: On-board Buzzer Enabled.
- Open pin 14-15: On-board Buzzer Disabled.

HDDLED

HDD LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD led is lit. You can connect the HDD LED from the system case to this pin.

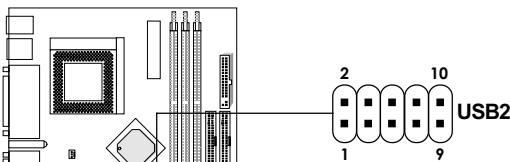
Floppy Disk Connector: FDD1

The mainboard also provides a standard floppy disk connector FDD that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.



USB Front Connector: USB2

The mainboard provides a **front Universal Serial Bus connector**. This is an optional USB connector for Front Panel.

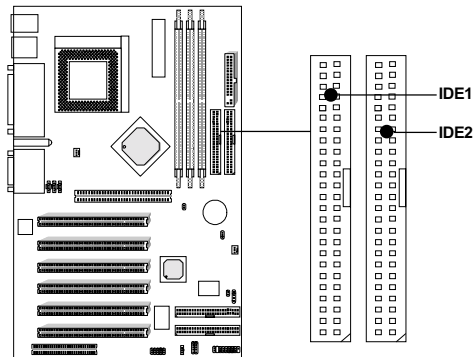


Pin	Signal	Pin	Signal
1	VCC	6	USBD2+
2	GND	7	GND
3	USBD3-	8	USBD2-
4	GND	9	GND
5	USBD3+	10	VCC

Hard Disk Connectors:

• IDE1 & IDE2

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



IDE1 (Primary IDE Connector)

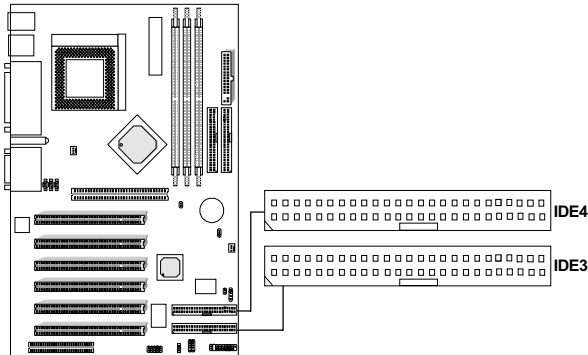
The first hard drive should always be connected to IDE1. IDE1 can connect a Master and a Slave drive. You must configure second hard drive to Slave mode by setting the jumper accordingly.

IDE2 (Secondary IDE Connector)

IDE2 can also connect a Master and a Slave drive.

• IDE3 & IDE4 (optional)

For the usage procedure, please refer to the “Promise Raid” manual provided with this mainboard.



IDE 3 (Third IDE Connector) (optional)/

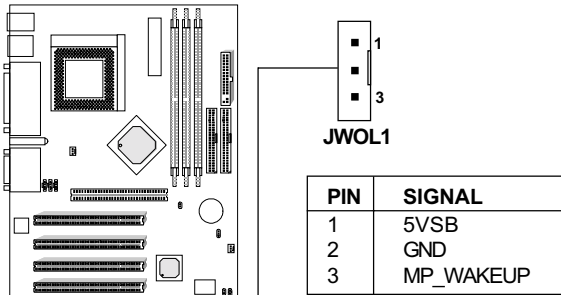
IDE 4 (Fourth IDE Connector) (optional)

- Supports RAID 0 (striping) or RAID 1 (mirroring), RAID 0 & RAID 1 non-coexist.
- Offers double sustained data transfer rate of attached drive (RAID 0).
- Supports Ultra ATA/100 drives and backward compatible with Ultra ATA/66/33 & EIDE drives (identical drives recommended).
- Supports “hot” swap or failed drive (RAID 1).
- Data handling optimizations include tagged command queuing, elevator seek and load balancing.
- Offers transparent data recovery and rebuilds drive in background.
- Arrays are bootable with built-in BIOS.
- RAID 0 or RAID 1 function is supported by the Master channel of PROMISE ATA RAID.

Note: *The HDD connects to the Slave channel of PROMISE ATA RAID are to be as ATA HDD.*

Wake-Up on LAN Connector: JWOL1

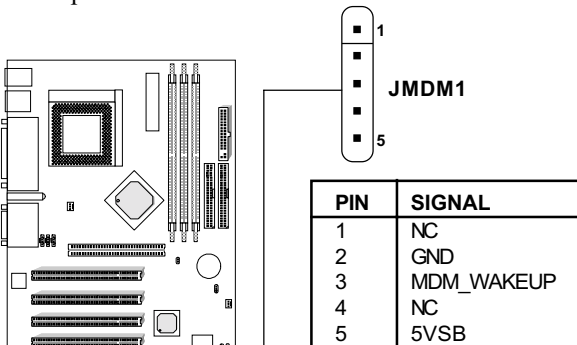
The JWOL1 connector is for use with LAN add-on cards that supports Wake Up on LAN function. To use this function, you need to set the “Wake-Up on LAN” to enable at the BIOS Power Management Setup.



Note: LAN wake-up signal is active “high”. To be able to use this function, you need a power supply that provide enough power for this feature. (Power supply with 750mA 5V Stand-by)

Modem Wake Up Connector: JMDM1

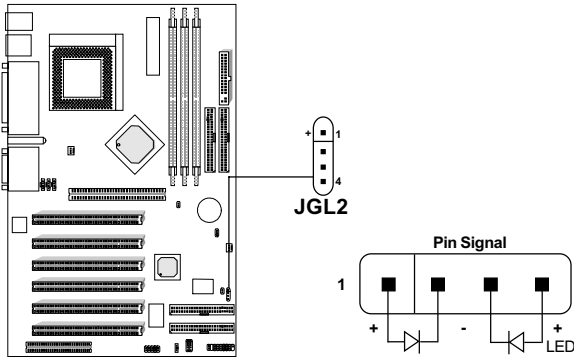
The JMDM1 connector is for use with Modem add-on card that supports the Modem Wake Up function.



Note: Modem wake-up signal is active “low”. To be able to use this function, you need a power supply that provide enough power for this feature. (Power supply with 750mA 5V Stand-by)

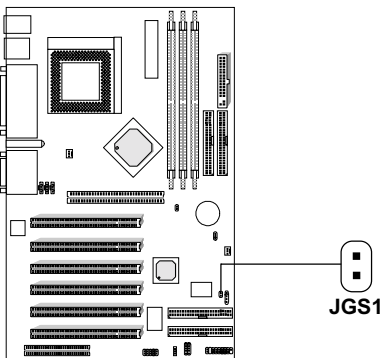
IDE3/IDE4 HDD LED Connector: JGL2

The HDD LED shows the activity of the IDE3/IDE4 hard disk drive. Avoid turning the power off while the HDD LED is lit. You can connect the IDE3/IDE4 HDD LED from the system case to this pin.



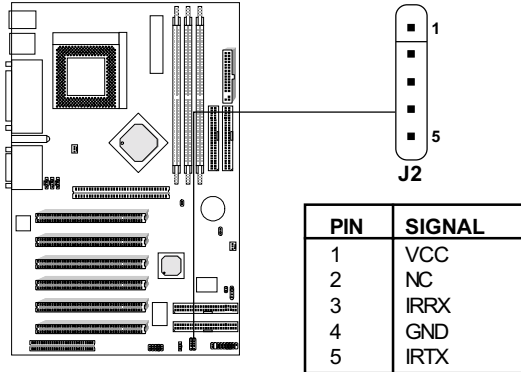
Power Saving Switch Connector: JGS1

Attach a power saving switch to JGS1. When the switch is pressed, the system immediately goes into suspend mode. Press any key and the system wakes up.



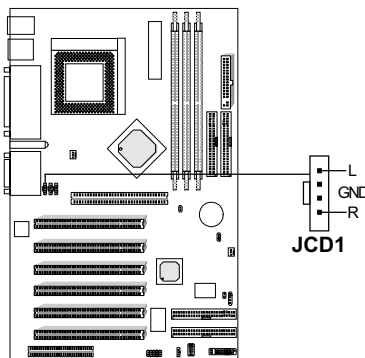
IrDA Infrared Module Connector: J2

The mainboard provides one infrared (J2) connector for IR modules. This connector is for optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.



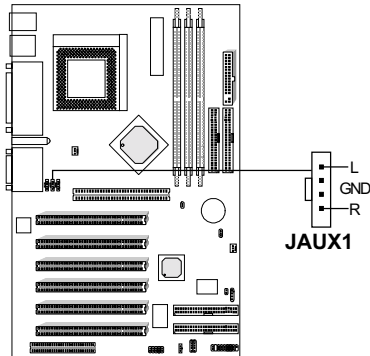
CD-In Connector: JCD1

This connector is for CD-ROM audio connector.



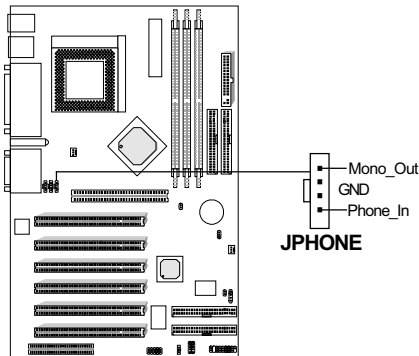
AUX Line In Connector: J AUX1

This connector is used for DVD Add on Card with Line In connector.



Modem-In: JPHONE

The connector is for Modem with internal voice connector.

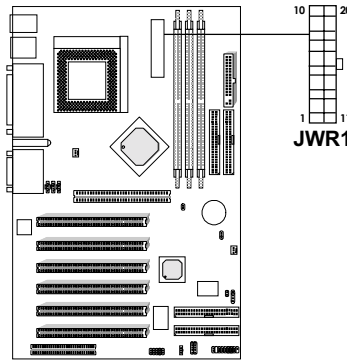


Mono_Out is connected to the Modem Speaker Out connector.
Phone_In is connected to the Modem Microphone In connector.

Power Supply

ATX 20-pin Power Connector: JWR1

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



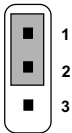
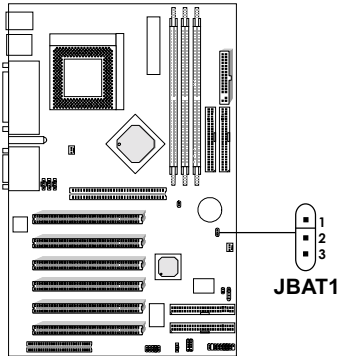
PIN	SIGNAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS_ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

Warning: Since the mainboard has the instant power on function, make sure that all components are installed properly before inserting the power connector to ensure that no damage will be done.

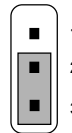
Jumpers

Clear CMOS Jumper: JBAT1

A battery must be used to retain the mainboard configuration in CMOS RAM. Short 1-2 pins of JBAT1 to store the CMOS data.



Keep Data



Clear Data

	<p><i>You can clear CMOS by shorting 2-3 pin, while the system is off. Then, return to 1-2 pin position. Avoid clearing the CMOS while the system is on, it will damage the mainboard. Always unplug the power cord from the wall socket.</i></p>
--	---

Slots

AGP Slot (Accelerated Graphics Port)

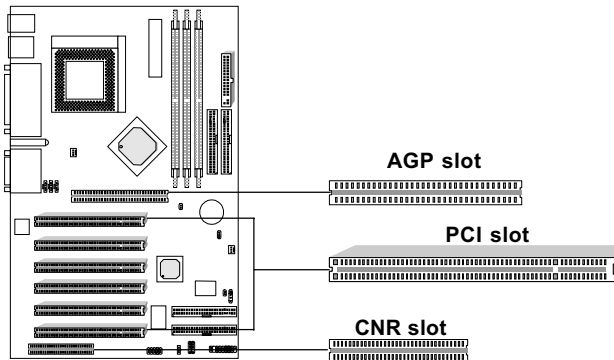
The mainboard provides an AGP slot which you can install the AGP card.

PCI (Peripheral Component Interconnect) Slots

The mainboard provides 6 PCI slots which you can insert the expansion cards according to your needs.

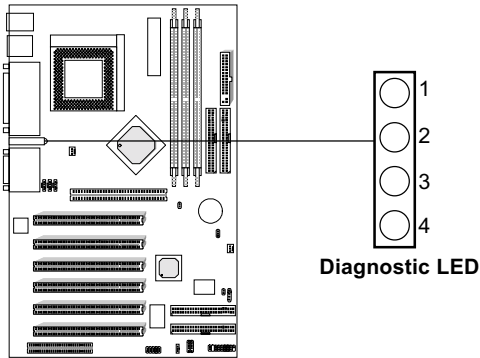
CNR (Communication Network Riser)

The Communication Network Riser specification is an open industry-standard specification that defines a hardware scalable Original Equipment Manufacturer (OEM) mainboard riser board and interface, which supports audio and modem only.



Diagnostic LED

The mainboard provides a Special Diagnostic LED for users to be aware of their mainboard conditions. The LED helps user determine the problem of the mainboard. Please refer to chapter 2-25 for the Diagnostic LED table.



Diagnostic LED Function Table

D-LED 1 2 3 4	DESCRIPTION	POSSIBLE PROBLEM
0 0 0 0	System Power ON This will start the BIOS Initialization	<i>The processor might be damaged or not installed properly</i>
1 0 0 0	Early Chipset Initialization	<i>Please check your local vendor</i>
0 1 0 0	Memory Detection Test Testing Onboard memory size	<i>The memory module might be damaged or not installed properly</i>
1 1 0 0	Decompressing BIOS image to RAM for fast booting	<i>Please check your local vendor</i>
0 0 1 0	Initializing Keyboard Controller	<i>The keyboard might be damaged or not plug-in properly</i>
1 0 1 0	Test shadow memory	<i>Please check your local vendor</i>
0 1 1 0	Processor Initialization This will show information regarding the processor e.g. brand name, system bus, etc.,	<i>Please check your local vendor</i>
1 1 1 0	Testing RTC (Real Time Clock)	<i>Low lithium battery</i>
0 0 0 1	Initializing Video Interface This will start detecting CPU clock, checking type of video onboard. Then detect and initialize the video adapter	<i>The VGA card might be damaged or not installed properly</i>
1 0 0 1	BIOS sign ON This will start showing information about logo, processor, brand name, etc.,	<i>Please check your local vendor</i>
0 1 0 1	Testing base and Extended memory Testing base memory from 240K to 640K and extended memory above 1MB using various patterns	<i>Please check your local vendor</i>
1 1 0 1	Assign Resources to all ISA	<i>Please check your local vendor</i>
0 0 1 1	Initializing Hard Drive Controller This will initialize IDE drive and controller	<i>Check IDE cable for proper installation</i>
1 0 1 1	Initializing Floppy Drive Controller This will initialize Floppy Drive and controller	The Floppy Drive Cable might not be installed
0 1 1 1	Assign IRQs to PCI devices	Stop
1 1 1 1	Operating System Booting	<i>System Available</i>

1 = GREEN 0 = RED**Note:** The system D-LED will hang when problem occurs during operation

*AWARD® BIOS Setup***3**

Award® BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM (CMOS RAM), so that it retains the Setup information when the power is turned off.

Chapter 3 contains the following topics:

Entering Setup	3-2
Getting Help	3-2
The Main Menu	3-3
Standard CMOS Setup	3-5
Advanced BIOS Features	3-8
Advanced Chipset Features	3-12
Integrated Peripherals	3-17
Power Management Setup	3-21
PnP/PCI Configuration Setup	3-27
PC Health Status (Optional)	3-30
Frequency/Voltage Control	3-32
Load Fail-Safe/Optimized Defaults	3-34
Set Supervisor/User Password	3-35

Entering Setup

Power on the computer and press immediately to allow you to enter Setup. The other way to enter Setup is to power on the computer. When the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT, PRESS <CTRL-ALT-ESC>
OR KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC>
OR TO ENTER SETUP

Getting Help

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from twelve setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

CMOS Setup Utility - Copyright(C) 1984-2000

Standard CMOS Features	Frequency/Voltage Control
Advanced BIOS Features	Load Fail-Safe Defaults
Advanced Chipset Features	Load Optimized Defaults
Integrated Peripherals	Set Supervisor Password
Power Management Setup	Set User Password
PnP/PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving
Esc : Quit	- - @ - : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

Standard CMOS Setup

Use this Menu for basic system configurations.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configuration

This entry appears if your system supports PnP/PCI.

PC Health Status (Optional)

This entry shows your PC health status. If Hardware Monitor Chipset is installed.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

Supervisor/User Password

Use this menu to set User and Supervisor Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Setup

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.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Standard CMOS Setup

Date(mm:dd:yy):	Fri,May 5,2000	Item Help
Time(hh:mm:ss):	00:00:00	
IDE Primary Master	Press Enter27326MB	Menu Level >
IDE Primary Slave	Press Enter None	
IDE Secondary Master	Press Enter None	
IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Based Memory	640K	
Extended Memory	64512K	
Total Memory	1024K	
- - @ - - Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe Defaults F7:Optimized Defaults		

Date

The date format is <day><month> <date> <year>.

Day	Day of the week, from Sun to Sat, determined by BIOS. (Read-only)
Month	The month from Jan. through Dec.
Date	The date from 1 to 31 can be keyed by numeric function keys.
Year	The year, depends on the year of the BIOS

Time

The time format is <hour> <minute> <second>.

PrimaryMaster/PrimarySlave**SecondaryMaster/Secondary Slave**

Press PgUp/<+> or PgDn/<-> to select Manual, None, Auto type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Manual to define your own drive type manually.

If you select Manual, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is **SCSI** and **CD-ROM**, the selection should be set to "None".

Access Mode	The settings are Auto, Normal, Large,LBA.
Cylinder	Number of cylinders
Head	Number of heads
Precomp	Write precom
Landing Zone	Landing zone
Sector	Number of sectors

Advanced BIOS Features

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
 Advanced BIOS Features

Anti-Virus Protection	Disabled	Item Help	
CPU Internal Cache	Enabled		
External Cache	Enabled	Menu Level >	
CPU L2 Cache ECC Checking	Enabled		
Quick Power On Self Test	Enabled		
First Boot device	Floppy		
Second Boot device	HDD-0		
Third Boot device	LS/ZIP		
Boot other device	Enabled		
Swap Floppy Drive	Disabled		
Boot Up Floppy Seek	Disabled		
Boot Up Numlock Status	On		
Gate A20 Option	Normal		
Typematic Rate Setting	Disabled		
Typematic Rate (Chars/Sec)	6		
Typematic Delay (Msec)	250		
Security Option	Setup		
OS Select for DRAM > 64MB	Non-OS2		
Video BIOS Shadow	Enabled		
C8000-CBFF Shadow	Disabled		
CC000-CFFF Shadow	Disabled		
D0000-D3FF Shadow	Disabled		
D4000-D7FF Shadow	Disabled		
D8000-DBFF Shadow	Disabled		
DC000-DFFF Shadow	Disabled		
- - @ - Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe D0efaults F7:Optimized Defaults			

Anti-Virus Protection

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write date into this area, BIOS will show a warning message on screen and alarm beep.

Disabled (default)	No warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Enabled	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

CPU Internal Cache

The default value is Enabled.

Enabled (default) Enable cache

Disabled Disable cache

Note: The internal cache is built in the processor.

External Cache

Choose Enabled or Disabled. This option enables the level 2 cache memory.

CPU L2 Cache ECC Checking

Choose Enabled or Disabled. This option enables the level 2 cache memory ECC (Error Check Correction).

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power on the computer. If this is set to Enabled, BIOS will shorten or skip some check items during POST.

Enabled Enable quick POST

Disabled (default) Normal POST

First/Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The settings are Floppy, LS/ZIP, HDD-0/HDD-1/HDD-2/HDD-3, SCSI, CDROM, LAN, and Disabled.

Swap Floppy Drive

Switches the floppy disk drives between being designated as A and B. Default is Disabled.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 760K, 1.2M and 1.44M are all 80 tracks.

Boot Up NumLock Status

Toggle between On or Off to control the state of the NumLock key when the system boots. When toggled On, the numeric keypad generates numbers instead of controlling cursor operations.

Gate A20 Option

Gate A20 refers to the way the system addresses memory above 1MB (extended memory). When set to Fast, the system chipset controls Gate A20. When set to Normal, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to Fast improves system speed, particularly with OS/2 and Windows.

Typematic Rate Setting

Key strokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected. The settings are Enabled and Disabled.

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a key stroke when you hold the key down. The settings are 6, 8, 10, 12, 15, 20, 24 and 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke. The settings are 250, 500, 750 and 1000.

Security Option

If you have set a password, select whether the password is required every time the System boots, or only when you enter Setup. The default setting is Setup.

System The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

Setup The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

OS Selection for DRAM > 64MB

Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on your system.

Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

Choose the “ADVANCED CHIPSET FEATURES” from the Main Menu and the following screen will appear.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Advanced Chipset Features

DRAM Timing by SPD	No	Item Help
SDRAM Cycle Length	3	
DRAM Clock	100MHz	Menu Level >
Memory Hole	Disabled	
P2C/C2P Concurrency	Enabled	
Fast R-W Turn Around	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
AGP Aperture Size	64M	
AGP 4X Mode	Enabled	
AGP Driving Control	Auto	
AGP Driving Value	DA	
OnChip USB	Enabled	
USB Keyboard Support	Enabled	
USB Mouse Support	Enabled	
OnChip Sound	Auto	
OnChip Modem	Auto	
CPU to PCI Write Buffer	Enabled	
PCI Dynamic Bursting	Enabled	
PCI Master 0 WS Write	Enabled	
PCI Delay Transaction	Enabled	
PCI#2 Access #1 Retry	Disabled	
AGP Master 1 WS Write	Enabled	
AGP Master 1 WS Read	Enabled	
Memory Parity/ECC Check	Disabled	
~ @ ~ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Note: Change these settings only if you are familiar with the chipset.

DRAM Timing by SPD

The DRAM timing is controlled by the DRAM Timing Registers. The Timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to support loose layouts or slower memory.

SDRAM Cycle Length

This field sets the CAS latency timing. The settings are 2 or 3.

DRAM Clock

The chipset support synchronous and asynchronous mode between the host clock and DIMM clock.

Host CLK (default)	DIMM clock equal to host clock
66MHz	DIMM clock equal to 66MHz

Memory Hole

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16 MB.

Enabled	Memory hole supported.
Disabled (default)	Memory hole not supported.

P2C/C2P Concurrency

This item allows you to Enable or Disable the PCI to CPU, CPU to PCI concurrency. The default setting is Enabled.

Fast R-W Turn Around

This item controls the DRAM timing. It allows the user to Enable or Disable the fast read, write turn around. The settings are Enabled or Disabled. The default setting is Disabled.

System BIOS Cacheable

Selecting *Enabled* allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. The settings are: Enabled and Disabled.

Video RAM Cacheable

Select Enabled allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result. The settings are: Enabled and Disabled.

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.

AGP-4X Mode

This item is used to Enabled or Disabled the AGP support for AGP 4x mode.

AGP Driving Control

This item allows you to adjust the AGP driving force. Choose Manual to key in a AGP Driving Value in the next selection. This field is recommended to set in Auto for avoiding any error in your system. The default setting is Auto.

AGP Driving Value

This item allows you to adjust the AGP driving force.

Onchip USB

Set this option to Enable or Disable the onchip USB controller. The default setting is Enabled.

USB Keyboard Support

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

OnChip Sound

This item allows you to control the onboard AC 97 audio.

OnChip Modem

This item allows you to control the onboard MC 97 Modem.

CPU to PCI Write Buffer

When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another cycle. The default setting is Enabled.

PCI Dynamic Bursting

When Enabled, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and non burstable transactions do not.

PCI Delay Transaction

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

PCI#2 Access #1 Retry

When Disabled, PCI#2 will not be disconnected until access finishes (default). When Enabled, PCI#2 will be disconnected if max retries are attempted without success. The default setting is Enabled.

AGP Master 1 WS Write

When Enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait states. The default setting is Enabled.

AGP Master 1 WS Read

When Enabled, reads to the AGP (Accelerated Graphics Port) are executed with one wait states. The default setting is Enabled.

Memory Parity/ECC Check

Select Enabled, Disabled, or Auto. In Auto mode, the BIOS enables the memory checking automatically when it detects the presence of ECC or parity DRAM.

Integrated Peripherals

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
 Integrated Peripherals

Onchip IDE Channel0	Enabled	Item Help
Onchip IDE Channel1	Enabled	
IDE Prefetch Mode	Enabled	Menu Level >
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	
Init Display First	PCI Slot	
IDE HDD Block Mode	Enabled	
Onboard FDD Controller	Enabled	
Onboard Serial Port 1	Auto	
Onboard Serial Port 2	Auto	
UART 2 Mode	Standard	
X IR Function Duplex	Half	
X TX,RX inverting enable	No, Yes	
Onboard Parallel Port	378/IRQ7	
Onboard Parallel Mode	Normal	
ECP Mode Use DMA	3	
Parallel Port EEP Type	EEP 1.9	
Onboard Legacy Audio	Enabled	
Sound Blaster	Disabled	
SB I/O Base Address	220H	
SB IRQ Select	IRQ 5	
SB DMA Select	DMA1	
MPU-401	Disabled	
MPU-4-1 I/O Address	330-333H	
Game Port (200-207H)	Enabled	
- @ ~ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

OnChip IDE Channel0/Onchip IDE Channel1

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select *Enabled* to activate each channel separately. The settings are: Enabled and Disabled.

IDE Prefetch Mode

This item is used to Enabled or Disabled the IDE Read/Write Prefetch buffer. This buffer is used to store data for faster performances.

Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Primary/Secondary Master/Slave UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software supports Ultra DMA/33, Ultra DMA/66 and Ultra DMA/100, select Auto to enable BIOS support. The settings are: Auto, Disabled.

Init Display First

This item allows you to decide to activate whether PCI Slot or AGP Slot. The settings are: PCI Slot, AGP Slot.

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 read/writes per sector the drive can support. The settings are: Enabled, Disabled.

Onboard FDD Controller

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

Onboard Serial Port 1/Port 2

Select an address and corresponding interrupt for the first and second serial ports. The settings are: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART 2 Mode

This item allows you to select which mode for the Onboard Serial Port 2. The settings are: Standard, HPSIR, ASKIR.

IR Function Duplex

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. If no infrared port is present in the system, select Disabled.

TX, RX inverting enable

This item allows you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

Onboard Parallel Port

Select a logical LPT port address and corresponding interrupt for the physical parallel port.

Onboard Parallel Mode

To operate the onboard parallel port as Standard Parallel Port only, choose “SPP.” To operate the onboard parallel port in the ECP and SPP modes simultaneously, choose “ECP/SPP.” By choosing “ECP”, the onboard parallel port will operate in ECP mode only. Choosing “ECP/EPP” will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: “ECP Mode Use DMA” At this time the user can choose between DMA channels 3 or 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: “EPP Mode Select.” At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

SPP: Standard Parallel Port
EPP: Enhanced Parallel Port
ECP: Extended Capability Port

ECP Mode Use DMA

Select a DMA channel for the parallel port for use during ECP mode. The settings are 3 or 1. The default setting is 3.

Parallel Port EEP Type

Select EPP port type 1.7 or 1.9, as required by your parallel peripheral.

Onboard Legacy Audio

This fields controls the onboard legacy audio.

- Sound Blaster
- SB I/O Base Address
- SB IRQ Select
- SB DMA Select
- MPU-401
- MPU-401 I/O Address
- Game Port (200-207H)

Power Management Setup

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
 Power Management Setup

IPCA Function	Enabled	Item Help
Power Management	Press Enter	
ACPI Suspend Type	S1(POS)	Menu Level >
PM Control by APM	Yes	
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	Auto	
LED In Suspend	Blink	
Wake Up Events	Press Enter	
- © ↵ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe Defaults F7:Optimized Defaults		

IPCA Function

This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI). The Settings are Enabled and Disabled.

Power Management

This option allows you to select the type (or degree) of power saving for Doze, Standby, and Suspend modes. This table describes each power management mode:

Max Saving	Maximum power savings. Only available for SL CPU's
User Define	Set each mode individually.
Min Saving	Minimum power savings.

ACPI Suspend Type

This item will set which ACPI suspend type will be used.

S1 (POS)	The S1 sleeping state is low wake-up latency sleeping state. In this state, no system context is lost(CPU or chip set) and hardware maintains all system context.
S3 (STR)	The S3 state is a low wake-up latency sleeping state where all system context is lost except system memory. CPU, cache, and chipset context are lost in this state. Hardware maintains memory context and restores some CPU and L2 configuration context.

PM Control by APM

If Advanced Power Management (APM) is installed on your system, selecting Yes gives better power savings.

Video Off Option

Selects the power-saving modes during which the monitor goes blank:

Always On	Monitor remains on during power-saving modes.
Suspend Off	Monitor blanked when system enters Suspend mode.
Susp, Stby Off	Monitor blanked when system enters either Suspend or Standby mode.
All Modes Off	Monitor blanked when system enters any power saving mode.

Video Off Method

Determines the manner in which the monitor is blanked.

V/H SYNC+Blank	System turns off vertical and horizontal synchronization ports and writes blanks to the video buffer.
DPMS Support	Initial display power management signaling.
Blank Screen	This option only writes blanks to the video buffer.

Modem Use IRQ

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

Soft-Off by PWR-BTTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state. The settings are Delay 4 Sec and Instant-Off.

State After Power Failure

This option will determine how the system will power on after a power failure.

Wake Up Events

VGA	Off	Item Help	
LPT & COM	LPT/COM		
HDD & FDD	On	Menu Level >	
PCI Master	Off		
Power On by PCI Card	Disabled		
Wake Up On LAN/Ring	Disabled		
RTC Alarm Resume	Disabled		
Date (of Month)	0		
Resume Time	0:0:0		
IRQs Wake Up Event	On		
IRQs Activity Monitoring	Press Enter		
-- @ ~ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults			

VGA

When Enabled, you can set the VGA to awaken the system.

LPT & COM

When LPT & COM is On, any activity from one of the listed system peripheral devices or IRQs wakes up the system

HDD & FDD

When HDD & FDD is On, any activity from one of the listed system peripheral devices or IRQs wakes up the system

PCI Master

When PCI Master is On, any activity from one of the listed system peripheral devices or IRQs wakes up the system

Wake Up On LAN/Ring

To use this function, you need a LAN add-on card or Modem which supports power on functions. During Disabled, the system cannot be boot up through LAN and ignores any incoming call from the modem. During Enabled, the system can be boot up through LAN and modem.

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. Set to 0, to boot every day.

Time(hh:mm:ss) Alarm You can choose what 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.

IRQs Wake Up Event

When this is set to On, any event occurring at will awaken a system which has been powered down.

IRQs Activity Monitoring

IRQ3 (COM 2)	Enabled	Item Help	
IRQ4 (COM 1)	Enabled		
IRQ5 (LPT 2)	Enabled	Menu Level >	
IRQ6 (Floppy Disk)	Enabled		
IRQ7 (LPT 1)	Enabled		
IRQ8 (RTC Alarm)	Disabled		
IRQ9 (IRQ2 Redir)	Disabled		
IRQ10 (Reserved)	Disabled		
IRQ11 (Reserved)	Disabled		
IRQ12 (PS/2 Mouse)	Enabled		
IRQ13 (Coprocessor)	Enabled		
IRQ14 (Hard Disk)	Enabled		
IRQ15 (Reserved)	Disabled		
- @ ~ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults			

The following is a list of IRQ's, **I**nterrupt **R**e**Q**uests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service.

When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

- IRQ3 (COM 2)
- IRQ4 (COM 1)
- IRQ5 (LPT 2)
- IRQ6 (Floppy Disk)
- IRQ7 (LPT 1)
- IRQ8 (RTC Alarm)
- IRQ9 (IRQ2 Redir)
- IRQ10 (SCSI1)
- IRQ11 (SCSI2)
- IRQ12 (PS/2 Mouse)
- IRQ13 (Coprocessor)
- IRQ14 (Hard Disk)
- IRQ15 (Reserved)

PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed 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.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PnP/PCI Configuration Setup

PnP OS Installed	No	Item Help
Reset Configuration Data	Disabled	
Resources Controlled By	Auto (ESCD)	Menu Level >
IRQ Resources	Press Enter	
DMA Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	
Assign IRQ for VGA	Enabled	
Assign IRQ for USB	Enabled	
INT Pin 1 Assignment	Auto	
INT Pin 2 Assignment	Auto	
INT Pin 3 Assignment	Auto	
INT Pin 4 Assignment	Auto	
- @ ~ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

PnP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows® 95 or 98. When set to NO, BIOS will initialize all the PnP cards. So, for non-PnP operating system (DOS, Netware®), this option must set to Yes.

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

The settings are: Enabled and Disabled .

Resource Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows® 95/98. If you set this field to “manual” choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a “>”). The settings are: Auto(ESCD), Manual.

IRQ Resources

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

DMA Resources

This sub menu can let you control the DMA resource.

PCI/VGA Palette Snoop

Leave this field at Enabled. The settings are Enabled and Disabled.

Assign IRQ for VGA

Leave this field at Enabled. The settings are Enabled and Disabled.

Assign IRQ for USB

Leave this field at Enabled. The settings are Enabled and Disabled.

PC Health Status (Optional)

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages. It is recommended that you contact with your motherboard supplier to get proper value about your setting of the CPU temperature.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PC Health Status

Current CPU Temp.	33°C/91°F	Item Help
Current System Temp.	23°C/73°F	
Current CPUFan Speed	6124Rpm	
Current SYSFan Speed	0Rpm	
Vcore	1.70V	Menu Level >
3.3V	3.30V	
5V	4.92V	
12V	11.40V	
- @ - Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Current CPU Temp.

This item shows the current CPU temperature.

Current System Temp.

This item shows the current system temperature.

Current CPUFAN1 Temp.

This item shows the current CPUFAN1 speed.

Current CPUFAN2 Temp.

This item shows the current CPUFAN2 speed.

Vcore

This item shows the current system voltage.

Frequency/Voltage Control

This section is for setting CPU Frequency/Voltage Control.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Frequency/Voltage Control

CPU Vcore Select	Default	Item Help
CPU Vio Select	3.3V	
Auto Detect DIMM/PCI Clk	Enabled	Menu Level >
Spread Spectrum Modulated	Enabled	
Clock By Slight Adjust	100	
CPU Clock Ratio	Default	
- @ ~ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults		

Auto Detect DIMM/PCI CLK

To reduce the occurrence of electromagnetic interference (EMI), the BIOS detects the presence or absence of components in DIMM and PCI slots and turns off system clock generator pulses to empty slots.

Spread Spectrum Modulated

When the system clock generator pulses, the extreme values of the pulse generate excess EMI. Enabling pulse spectrum modulation changes the extreme values from spikes to flat curves, thus reducing EMI. This benefit may in some cases be outweighed by problems with timing-critical devices, such as a clock-sensitive SCSI device.

Clock By Slight Adjust

This item allows the user to increment the clock by 1(MHz) per clock adjustment. During OverClocking, if the system hangs up. The Watch Dog Timer will automatically reboot the system and set the Clock by Slight Adjust to its default setting (100MHz).

CPU Clock Ratio

This item allows you to select the CPU Clock Ratio.

Default	CPU Clock Ratio default setting.
5.5 to 12.5	Allows user to over ratio the CPU.

Note: We do not guarantee that the Motherboard or other components will work properly after overclocking.

Load Fail-Safe/Optimized Defaults

CMOS Setup Utility - Copyright(C) 1984-2000

Standard CMOS Features	Frequency/Voltage Control
Advanced BIOS Features	Load Fail-Safe Defaults
Advanced Chipset Features	Load Optimized Defaults
Integrated Peripherals	Set Supervisor Password
Power Manag	Load Fail-Safe Defaults (Y/N)? N
PnP/PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving
Esc : Quit - ~ @ ~ : Select Item	
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

Load Fail-Safe Defaults

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

VIA Chipset Driver

4

The K7T Turbo (MS-6330 v3.0) is paired with the VIA VT82C686B south bridge. Highly advanced, the south bridge combines an integrated 2D/3D engine with DVD hardware acceleration, AC-97 audio support for SoundBlaster Pro and FM synthesis legacy audio.

Chapter 4 contains the following topics:

Audio Features (Optional)	4-2
System Requirements	4-2
Driver Setup & Usage Procedures for Windows® 98	4-3
Driver Setup & Usage Procedures for Windows® NT	4-5

Audio Features (Optional)

- AC'97 audio support for SoundBlaster Pro
- FM synthesis legacy audio

System Requirements

This section describes system requirements for the VIA Driver installation and Usage.

Computer	AMD® Duron™/Athlon® processor or higher
Monitor	VGA Support, minimum 640x480 resolution
Operating system	DOS 5.0 or higher, Windows® 95/98, Windows® NT 3.51 or 4.0, or OS/2®
CD-ROM	Double Speed or Higher
Chipset	VIA®K T133A/VT82C686B chipset

Driver Setup & Usage Procedures for Windows® 98

Insert the CD-title into your CD-ROM drive. The CD will auto-run and will display the four icons in the monitor “VIA Chipset Drivers”, “VIA AC97 PCI Sound Drivers” and “Download VIA Drivers”. In order to install the drivers correctly, you must install the “Via Chipset Drivers” first, and then install the “VIA AC97 PCI Sound Drivers”.

VIA Chipset Drivers installation procedure:

- Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.
- Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon. This will show the setup screen.
- Step 3:** Click on “Via Chipset Drivers” icon and the screen will show “VIA Service Pack 4.XX”.
- Step 4:** Click “Next” and the screen will show four drivers “VIA Atapi Vendor Support Driver”, “AGP VxD Driver”, “VIA Chipset Function’s Registry” and “IRQ Routing Miniport Driver”. Select all four drivers and click on “Next”.
- Step 5:** The setup program will request you to choose “Install VIA Atapi Vendor Support Driver”. Please select “Install” and click “Next” to continue.
- Step 6:** Click to enabled DMA Mode, Please select “Install” and click “Next” to continue.
- Step 7:** The setup program will request you to choose “Install VIA AGP VxD in turbo mode”, “Install VIA AGP VxD in normal mode” or “Uninstall VIA AGP VxD”. Please select “Install VIA AGP VxD in turbo mode” and click on “Next”.

- Step 8:** The setup program will let you choose between “Install VIA Chipset Functions Registry” or “Uninstall VIA Chipset Functions Registry”. Please select “Install VIA Chipset Functions Registry” and then click “Next”.
- Step 9:** The setup program will let you choose between “Install VIA IRQ Routing Miniport Driver” or “Uninstall VIA IRQ Routing Miniport Driver”. Please select “Install VIA IRQ Routing Miniport Driver”
- Step 10:** The setup program will request you to choose whether to restart the computer or not. Please select “Yes, I want to restart my computer now” and click Finish. The computer will restart and finish the VIA Chipset Drivers installation.

VIA AC97 PCI Sound Drivers installation procedure:

- Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.
- Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon. This will show the setup screen.
- Step 3:** Click on “VIA AC97 PCI Sound Drivers” icon and the screen will show “VIA AC97 PCI Sound Drivers”.
- Step 4:** Click “Next” to proceed and the screen will show “Install”, or “Remove”. Select “Install” and then click on “Next”.
- Step 5:** The setup program will request you to choose whether to restart the computer or not. Please select “Yes, I want to restart my computer now” and click Finish. The computer will restart and finish the AC97 Audio Drivers Installation.

Driver Setup & Usage Procedures for Windows® NT

Install Windows® NT 4.0 Service Pack 3 or the latest version before installing the VIA drivers.

Insert the CD-title in the CD-ROM drive. The CD will auto-run and will display four icons on the screen “VIA Chipset Drivers”, “VIA AC97 PCI Sound Drivers” and “Download VIA Drivers”. In order to install the drivers properly, install the “VIA Chip Drivers” first and then install the “VIA AC97 PCI Sound Drivers”.

VIA Chipset Drivers Installation Procedure:

- Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.
- Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon. This will show the setup screen.
- Step 3:** Click on “VIA Chipset Drivers” icon and the screen will show “VIA Service Pack 4.XX”.
- Step 4:** Click “Next” to proceed and the screen will show “Install”, “Uninstall” or “Enable/Disable Ultra DMA for IDE Driver”. Select “Install” and then click on “Next”.
- Step 5:** Please click on “Yes, I want to restart my computer”.

VIA AC97 PCI Sound Drivers Installation Procedure:

- Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.
- Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon. This will show the setup screen.
- Step 3:** Click on “VIA AC97 PCI Sound Drivers” icon and the screen will show the “VIA PCI Audio Drivers” setup screen. Click “Next” to continue
- Step 4:** The setup program will show “Install” or “Remove” in the screen. Select “Install” and click “Next”
- Step 5:** The setup program will show the following on the screen:

Please choose “Add” from the next window and add the following device:
VIA AC97 PCI Audio Device
VIA MIDI External Port

Then click “OK”.

- Step 6:** Follow the steps shown in **Step 5** to finish the VIA AC97 PCI Audio Drivers Installation.

5

AGP Retention Module

How To Uninstall AGP Card From AGP slot

1. Pull the lever to release the AGP card.



2. Remove AGP card from AGP slot.

