PENTIUM®

P5I430TX
TITANIUM IB+

Notice

The information in this document is subject to change in order to improve reliability, design, or function without prior notice and does not represent a commitment on the part of this company. In no event will we be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or the possibility of such damages.

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

Declaration of conformity

CE (EC conformity marking)

QUANTUM DESIGNS(HK) LTD.
5/F Somerset House, TaiKoo Place 979 Kings Road,
Quarry Bay, Hong Kong

declare that the product

Pentium® Motherboard
P5I430TX TITANIUM IB+

is in conformity with
(reference to the specification under which conformity is declared in accordance with 89/336 EEC-EMC Directive)

☑	EN 55022	Limits and methods of measurements of radio disturbance characteristics of information technology equipment
☑	EN 50081-1	Generic emission standard part 1: Residual, commercial and light industry
☑	EN 50082-1	Genetic immunity standard Part 1: Residual, commercial and light industry

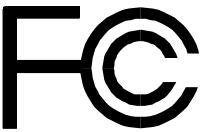
European Representative:

QDI COMPUTER (UK) LTD	QDI COMPUTER (SCANDINAVIA) A/S
QDI SYSTEM HANDEL GMBH	QDI COMPUTER (NETHERLANDS) B. V.
QDI COMPUTER (FRANCE) SARL	QDI COMPUTER HANDELS GMBH
QDI COMPUTER (ESPANA) S.A.	QDI COMPUTER (SWEDEN) AB

Signature : Place / Date : HONG KONG /1997

Printed Name : Anders Cheung Position/ Title : President

Declaration of conformity



Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	P5I430TX TITANIUM IB+
Responsible Party:	QDI Computer (U. S. A.) Inc.
Address:	41456 Christy Street Fremont, CA 94538
Telephone:	(510) 668-4933
Facsimile:	(510) 668-4966
Equipment Classification:	FCC Class B Subassembly
Type of Product:	PCI Pentium Motherboard
Manufacturer:	**Quantum Designs (HK) Inc.**
Address:	5/F, Somerset House, TaiKoo Place 979 Kings Road, Quarry Bay, HONG KONG

Supplementary Information:

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

Signature : Date : 1997

CONTENTS

ENGLISH

SpeedEasy Quick Setup

Procedures :

1. Correctly insert the CPU.
2. Plug in other configurations and restore the system.
3. Press <Del> key and power on the system to enter BIOS Setup.
4. Enter “SpeedEasy CPU Setup” menu to set up CPU speed.

Note: If CPU speed is not set, your system will run at the default setting (75MHz for Pentium and AMD CPU, 100MHz for Cyrix etc).

5. Save and exit BIOS Setup, your system will boot successfully as expected.

SpeedEasy CPU Setup Menu

Select the <SpeedEasy CPU Setup> item from the main menu and enter the sub-menu:

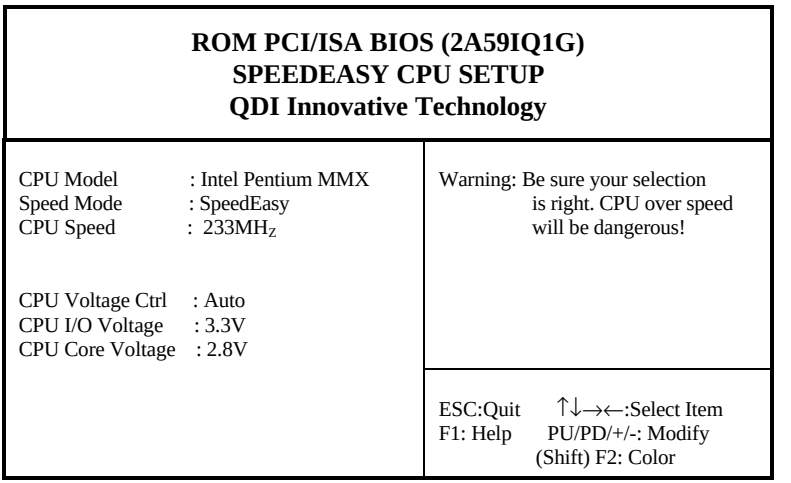


Figure - 1 SpeedEasy CPU Setup Menu

For *SpeedEasy* mainboard, BIOS will provide you with a set of basic values for your CPU selection instead of the jumper settings. To make your system run as fast as possible, you can manually select CPU speed value in "CPU Speed" item on "*SpeedEasy* CPU Setup" menu screen.

Warning:
Do not set CPU frequency higher than its working frequency. We will not be responsible for any damages caused due to this.

Note: In addition, if your system can not reboot because of wrong CPU settings, you can hold down the hot-key<Del> while powering on the system, the system will reboot and run at the basic values.

Schneller Überblick über die Einstellungen:

Vorgehensweise:

1. Setzen Sie die CPU richtig ein.

2. Stecken Sie weitere Komponenten ein und vervollständigen Sie das System.

3. Drücken < DEL > oder < ENTF > und schalten Sie das System ein, um in das BIOS-Setup zu gelangen.

4. Wählen Sie das Menü „Speed Easy CPU Setup“, um die CPU-Taktfrequenz einzustellen.

Anmerkung: Wenn Sie die CPU-Taktfrequenz nicht einstellen, wird Ihr System in der Grundeinstellung laufen (75 MHz bei Intel Pentium® und AMD CPUs, 100 Mhz bei Cyrix 6x86 CPUs usw.).

5. Wählen Sie die Option „Save and Exit BIOS Setup“, um die vorgenommen Änderungen abzuspeichern. Anschließend können Sie wie erwartet das System erfolgreich hochfahren.

Menü für die SpeedEasy CPU-Einstellungen

Wählen Sie das Menü < SpeedEasy CPU Setup > aus und gehen Sie in das folgende Untermenü:

ROM PCI/ISA BIOS (2A59IQ1G)
SPEEDEASY CPU SETUP
QDI Innovative Technology

CPU Model : Intel Pentium MMX Speed Mode : SpeedEasy CPU Speed : 233MHz CPU Voltage Ctrl : Auto CPU I/O Voltage : 3.3V CPU Core Voltage : 2.8V	Warning: Be sure your selection is right. CPU over speed will be dangerous! ESC:Quit ↑↓→←:Select Item F1: Help PU/PD/+/-: Modify (Shift) F2: Color

Bild 1 „SpeedEasy CPU Setup Menu“

Beim den *SpeedEasy*-Mainboard stellt Ihnen das BIOS anstelle von Jumper-Einstellungen eine Auswahl von Grundeinstellungen zur Verfügung. Um Ihr System optimal zu betreiben, können Sie von Hand die Werte für die CPU-Taktfrequenz unter der Option „CPU-Taktfrequenz unter der Option „CPU Speed“ im „*SpeedEasy* CPU Setup“ Menü einstellen.

Warnung: Sie sollten die CPU-Taktfrequenz nicht höher als die angegebene Arbeitsgeschwindigkeit einstellen. Anderfalls sehen wir uns für irgendwelche hierdurch hervorgerufene Schäden nicht verantwortlich.

Anmerkung: Falls Ihr System aufgrund einer falschen CPU-Einstellung nicht mehr hochfahren kann, halten Sie beim inschalten des Rechners die Taste < DEL > bzw. < ENTF > gedrückt. Das System wird dann mit den Grundeinstellungen neu gestartet.

Setup Rápido

Procedimiento:

1. Insertar la CPU correctamente.

2. Insertar otros dispositivos en el sistema.

3. Presionar la tecla <Del> y arrancar el sistema para entrar en BIOS setup.

4. Seleccionar el menu “SpeedEasy CPU setup” para seleccionar la velocidad de la CPU.

Nota: si no selecciona la velocidad de la CPU, el sistema funcionará a la velocidad por defecto (75 Mhz para Pentium y AMD, 100 MHz para Cyrix 6x86, etc.)

5. Grabar y salir de BIOS Setup, entonces el sistema arrancará y funcionará como Ud. espera.

Configuración de la CPU en el menu SpeedEasy

Seleccione <SpeedEasy CPU setup> en el menu principal para entrar en el siguiente menu:

ROM PCI/ISA BIOS (2A59IQ1G)
SPEEDEASY CPU SETUP
QDI Innovative Technology

CPU Model : Intel Pentium MMX Speed Mode : SpeedEasy CPU Speed : 233MHz CPU Voltage Ctrl : Auto CPU I/O Voltage : 3.3V CPU Core Voltage : 2.8V	Warning: Be sure your selection is right. CPU over speed will be dangerous! ESC:Quit ↑↓→←:Select Item F1: Help PU/PD/+/-: Modify (Shift) F2: Color

Figure -1. SpeedEasy CPU Setup Menu

Para la placa base *SpeedEasy*, la BIOS proporciona un juego de valores básicos para seleccionar el tipo de CPU, en lugar de los jumpers. Para hacer que su sistema funcione lo más rapidamente posible, Ud. puede manualmente aumentar el valor de la velocidad de frecuencia en "CPU Speed" en el menu <*SpeedEasy* CPU setup>.

Aviso: es recomendable no seleccionar una frecuencia superior para la CPU a la que esta fue diseñada. En caso contrario, no nos hacemos responsables de los posibles daños que esto pueda causar.

Nota: por lo tanto, si su sistema no puede rearrancar de nuevo tras haber variado la frecuencia de trabajo de la CPU por una incorrecta, Ud. puede arrancar manteniendo apretada la tecla <Del> mientras conecta su equipo. El sistema arrancará con los valores básicos.

Mise en marche rapide

Démarche à suivre:

1) Insérer correctement le Processeur.

2) Assembler les autres éléments et mettez le système en place.

3) Appuyer sur la touche <Del> (Efface) et mettre le système en marche afin d'accéder à la configuration du BIOS.

4) Accédez au menu "SpeedEasy CPU Setup " pour mettre au point la fréquence du processeur.

Remarque : Si vous ne réglez pas la vitesse du processeur, votre système va fonctionner à la fréquence par défaut, (75Mhz pour les processeurs Pentium d'Intel et d' AMD , 100Mhz pour les processeurs 6X86 de Cyrix etc...)

5) Sauvegarder la configuration et sortir du BIOS , alors votre système peut démarrer comme vous le voulez.

Menu de configuration de processeur de SpeedEasy

Sélectionnez <SpeedEasy CPU Setup> du menu principal et accédez au sous-menu comme suit :

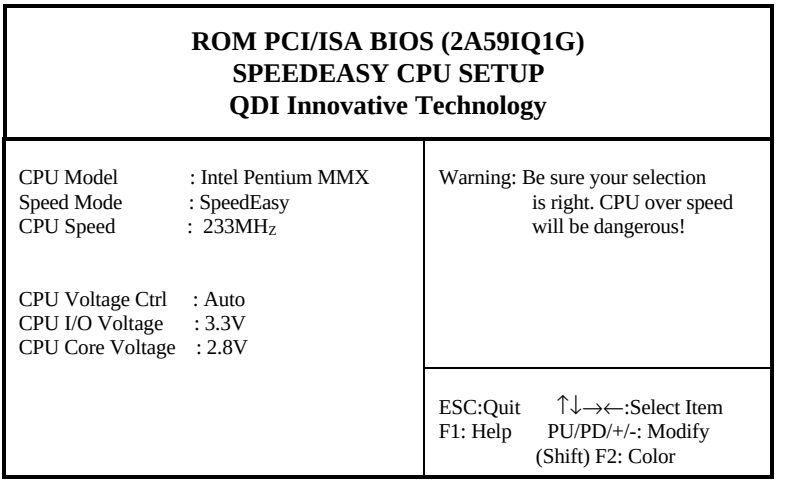


Figure -1. SpeedEasy CPU Setup Menu

Pour les cartes mère *SpeedEasy* , le BIOS va vous procurer un ensemble de paramètres de base pour le choix de votre processeur au lieu de placer des cavaliers (Jumpers). Pour faire fonctionner votre système à la plus haute fréquence possible , vous pouvez augmenter manuellement les valeurs de fréquence du processeur dans "CPU Speed" sur l'écran menu "*SpeedEasy* CPU Setup".

Avertissement : Vous avez intérêt à ne pas mettre la fréquence du processeur plus haute que celle indiquée par le manufacturier.Sinon, nous ne pourrions pas être tenu responsables des dégâts que cela peut causer.

Remarque : En plus si votre système ne peut pas redémarrer à cause du mauvais réglage du processeur, vous pouvez appuyer sur la touche clé <Del> (ou Efface) pendant que vous remettiez le système en marche. Le système va redémarrer et va fonctionner avec les paramètres de base.

Setup Rapido

Procedure:

1. Inserire la CPU correttamente.

2. Inserire gli altri componenti e ricomporre il systema.

3. Premere il tasto <Del> e accendere il sistema per entrare nel setup del Bios.

4. Entrare nel menu “SpeedEasy CPU Setup” per impostare la velocita` della CPU.

Nota: Se la velocita` di CPU non viene impostata, il sistema lavorera` alla velocita` di default (75Mhz per CPU Pentium e AMD, 100 Mhz per Cyrix 6 x 86 CPU ecc.).

5. Salvare e uscire dal Setup del Bios. Il sistema si riavviera` alla velocita` voluta.

Menu SpeedEasy per l`impostazione della CPU

Selezionare <SpeedEasy CPU Setup> dal menu principale ed entrare nel seguente sottomenu:

ROM PCI/ISA BIOS (2A59IQ1G)
SPEEDEASY CPU SETUP
QDI Innovative Technology

CPU Model : Intel Pentium MMX Speed Mode : SpeedEasy CPU Speed : 233MHz CPU Voltage Ctrl : Auto CPU I/O Voltage : 3.3V CPU Core Voltage : 2.8V	Warning: Be sure your selection is right. CPU over speed will be dangerous! ESC:Quit ↑↓→←:Select Item F1: Help PU/PD/+/-: Modify (Shift) F2: Color

Figura 1: Menu SpeedEasy per l`impostazione della CPU

Per una mainboard *SpeedEasy*, il BIOS fornisce una serie di valore base per la specifica CPU, invece di dover impostarli via jumpers. Per far lavorare il sistema in modo ottimale, si puo` impostare la velocita` di CPU manualmente, alla voce "CPU Speed" del menu "*SpeedEasy* CPU Setup".

Attenzione: QDI declina ogni responsabilita` per eventuali danni causati alla CPU da una impostazione della velocita` piu` alta di quanto indicato dal produttore della CPU stessa.

Nota: Se il sistema non completa il boot per impostazioni errate della CPU, riaccendere tenendo premuto il tasto <Del>. Il sistema si riavviera` con I valori di base.

¿ìËÙÉèÖÃµÄ²½Öè

1¡¢ÕýÈ·²×° CPU¡£

2¡¢²×°ÃÏµÍ³, ×¼±¸¿ª»ú¡£

3¡¢´ÏÂ <Del> ¼ü±£³Ö²»¶¯£¬ È»áá¿ª»ú½øÈë BIOS ÉèÖÃ³ÌÐò¡£

4¡¢½øÈë “SpeedEasy CPU Setup” Ä¿Â¼ÉèÖÃ CPU ËÙ¶È¡£

×¢Òâ£ºÈç¹ûÓÃ»§²»ÉèÖÃCPU ËÙ¶È£¬ ÔòÏµÍ³»á ÓÃÔ-Éè¶¨ÖµÔËÐÐ (Intel ±¼ÌÚºÍ AMD K5 CPU »áÓÃ75HMz ÔËÐÐ£¬Cyrix 6x86 CPU »áÓÃ100MHz ÏÂÔËÐÐ)¡£

5¡¢±£´æ¼°ÍË³öBIOSÉèÖÃ³ÌÐò£¬È»ááÏµÍ³¾Í¿ÉÔÚÉè¶¨µÄËÙ¶ÈÏÂ

Ë³ÀûÔËÐÐ¡£

SpeedEasy CPU ÉèÖÃÄ¿Â¼

ÔÚ BIOS ÉèÖÃ³ÌÐòÖ÷Ä¿Â¼ÖÐÑ¡Ôñ <SpeedEasy CPU Setup> Ò»Ïî£¬½ø ÈëÈçÏÂ×ÓÄ¿Â¼£º

ROM PCI/ISA BIOS (2A59IQ1G) SPEEDEASY CPU SETUP QDI Innovative Technology	
CPU Model : Intel Pentium MMX Speed Mode : SpeedEasy CPU Speed : 233MHz CPU Voltage Ctrl : Auto CPU I/O Voltage : 3.3V CPU Core Voltage : 2.8V	Warning: Be sure your selection is right. CPU over speed will be dangerous! ESC:Quit ↑↓→←:Select Item F1: Help PU/PD/+/-: Modify (Shift) F2: Color

Í¼£-1 SpeedEasy CPU ÉèÖÃÄ¿Â¼

¶ÔÓÚ *SpeedEasy* Ö÷°å£¬BIOS Î ª CPUÔ¤ÉèÁË Ò»Ì×»ù±¾²ÎÊý¶ø ÎÞÐëÉèÖÃ ÈÎºÎÌøÏß¡£Î ªÁË�ê¹ÏµÍ³ÔËÐÐÓÚCPU±ê×¢µÄÆµÂÊ£¬ÓÃ»§¿ÉÒÔÔÚ "*SpeedEasy* CPU Setup" Ä¿Â¼ÆÁÄ»ÉÏ×ÔÐÐÐÞ¸Ä CPU µÄËÙ¶È¡£

¾¯¸æ£º

²»Ò ª½«CPUµÄ¹¤×÷ÆµÂÊÉèÓÚ¸ß³öÆä±êÊ¶µÄÆµÂÊ£¬·ñÔòÎÒ ÃÇ¶ÔÓÉ´Ë

ÒýÆðµÄËð¹¦Å²»¸ºÔð¡£

×¢Òâ£º

Èç¹ûÏµÍ³ÒòÎ ªÓÃ»§ÉèÖÃ´íÎóµ¼ÖÂÏµÍ³²»ÄÜÔÙÆô¶¯£¬Ôò¿ÉÒÔ° ´ÏÂÈÈ ¼ü <Del> ±£³Ö²»¶¯£¬È»áá¿ª»ú £-ÏµÍ³á ÒÔÔ¤ÉèµÄ»ù±¾²ÎÊýÆô¶¯ ¼° ÔË ÐÐ¡£

¿ìËÙÉèÖÃµÄ²½Öè

1¡¢ÕýÈ·°²×° CPU¡£

2¡¢°²×°ºÃÏµÍ³, ×¼±¸¿ª»ú¡£

3¡¢°´ÏÂ <Del> ¼ü±£³Ö²»¶¯£¬ È»ºó¿ª»ú½øÈë BIOS ÉèÖÃ³ÌÐò¡£

4¡¢½øÈë “SpeedEasy CPU Setup” Ä¿Â¼ÉèÖÃ CPU ËÙ¶È¡£

×¢Òâ£ºÈç¹ûÓÃ»§²»ÉèÖÃCPU ËÙ¶È£¬ÔòÏµÍ³»á ÓÃÔ-Éè¶¨ÖµÔËÐÐ (Intel ±¼ÌÚºÍ AMD K5 CPU »á ÓÃ75HMz ÔËÐÐ£¬ Cyrix 6x86 CPU »á ÓÃ 100MHz ÏÂÔËÐÐ)¡£

5¡¢±£´æ²¢ÍË³öBIOSÉèÖÃ³ÌÐò£¬È»ºóÏµÍ³¾Í¿ÉÔÚÉè¶¨ÄËÙ¶ÈÏÂ Ë³ÀûÔËÐÐ¡£

SpeedEasy CPU ÉèÖÃÄ¿Â¼

ÔÚ BIOS ÉèÖÃ³ÌÐòÖ÷Ä¿Â¼ÖÐÑ¡Ôñ <SpeedEasy CPU Setup> Ò»Ïî£¬½ø ÈëÈçÏÂ×ÓÄ¿Â¼£º

ROM PCI/ISA BIOS (2A59IQ1G) SPEEDEASY CPU SETUP QDI Innovative Technology	
CPU Model : Intel Pentium MMX Speed Mode : SpeedEasy CPU Speed : 233MHz CPU Voltage Ctrl : Auto CPU I/O Voltage : 3.3V CPU Core Voltage : 2.8V	Warning: Be sure your selection is right. CPU over speed will be dangerous! ESC:Quit ↑↓→←:Select Item F1: Help PU/PD/+/-: Modify (Shift) F2: Color

Í¼£-1 SpeedEasy CPU ÉèÖÃÄ¿Â¼

¶ÔÓÚ*SpeedEasy*Ö÷°å£¬BIOSÎªCPUÔ¤ÉèÁËÒ»Ì×»ù±¾²ÎÊý¶ØÎÐÐëÉèÖÃÈÎºÎ ÌøÏß¡£Î³ÁËÊ¹ÏµÍ³ÔËÐÐÓÚCPU±ê×¢µÄÆµÂÊ£¬ÓÃ»§ ¿É ÒÔÔÚ"*SpeedEasy* CPU Setup" Ä¿Â¼ÆÁÄ»ÉÏ×ÔÐÐÐÞ¸Ä CPU µÄËÙ¶È¡£

¾¯¸æ£º

²»Òª½«CPUµÄ¹¤×÷ÆµÂÊÉèÓÚ¸ß³öÆä±êÊ¶µÄÆµÂÊ£¬·ñÔòÎÒÃÇ¶ÔÓÉ´Ë

ÒýÆðµÄËð¹¦Å²»¸ºÔð¡£

×¢Òâ£º

Èç¹ûÏµÍ³ÒòÎªÓÃ»§ÉèÖÃ´íÎóµ¼ÖÂÏµÍ³»ÄÜÔÙÆô¶¯£¬Ôò¿ÉÒÔ° ´ÍÂÈÈ ¼ü <Del> ±£³Ö²»¶¯£¬È»ºó¿ª»ú £- ÏµÍ³»á ÒÔÔ¤ÉèµÄ»ù±¾²ÎÊýÆô¶¯ ¼° ÔË ÐÐ.

Chapter 1
Introduction

1.1 Overview

P5I430TX TITANIUM IB+ green mainboard provides a highly integrated solution for fully compatible, high performance PC/ATX platforms, supporting Intel Pentium®, Cyrix 6x86, 6x86MX and AMD K5, K6 microprocessors. It features Write-Back Secondary Cache memory for 256KB/512KB in size. Flexible main memory size can be installed from 8MB up to 256MB DRAMs, so as to provide full play to the advantages of the Pentium , Cyrix 6x86, 6x86MX and AMD K5, K6 CPUs. The mainboard offers a wide range of interfaces to support integrated on-board IDE and on-board I/O functions. The current green function is compliant to ACPI specification and OS Directed Power Management.

1.2 Key Features

CPU	- Supports Intel Pentium 75, 90, 100, 120, 133, 150, 166, 180, 200, 233MHz, Intel Pentium Processor with MMX technology. - Supports Cyrix 6x86 100MHz (P120 Plus), 110MHz (P133 Plus), 120MHz (P150 Plus), 133MHz (P166 Plus), 150MHz (P200 Plus)*, Cyrix 6x86L and 6x86MX CPUs. - Supports AMD K5 PR75, PR90, PR100, PR120, PR133, PR166, PR200 and K6 PR166, PR200, PR233 CPUs. - Switching regulator (2.0~3.5V circuit) on board.
Chipset	- Intel's 82439 TX, PIIX4, 324 Pin BGA package chipset.
Clock Chip	- Supports I^2C clock chip on board and is conductive to reduce EMI.
Main memory	- Supports 4x72 pin SIMM modules and 2x168 pin DIMM modules. - 64-bit data path for flexible memory size expanding from 8MB up to 256MB DRAMs for SIMM socket. - Supports Fast Page mode DRAM and EDO DRAM for SIMM system.

"*": The max speed of Intel PCIset specification is 66MHz only, therefore it is recommended not by Intel SIMM system clock frequency as 75MHz.

	- Supports from 8MB to 64MB 3.3V unbuffered SDRAM DIMM or 3.3V unbuffered EDO DIMM for DIMM slot.
Cache Memory	- Provides 256KB/512KB L2 Pipelined Burst Cache on board. - Provides 2 kinds of cache chips for users: 256KB/512KB cache on board.
On-board IDE	- Supports 2 PCI Bus Master (Bus Master works as DMA Mode 2 type) IDE ports. - Supports PIO mode up to Mode 4 Timings. - Supports "Ultra DMA/33" synchronous DMA mode transfers up to 33MBytes/sec. - Supports 2 Fast IDE interfaces for up to 4 IDE devices e.g. IDE hard disks and CD ROM drives.
Green function	- Supports 3 green modes: Doze, Standby and Suspend.
ACPI Ready (requires ATX power supply)	- ACPI (Advanced Configuration and Power Interface) is also implemented on P5I430TX Titanium IB+. ACPI providing more Energy Saving Features for the future operation system (OS) supporting OS Direct Power Management (OSPM) functionality. With these features implemented in the OS, PCs can be ready around the same time everyday, yet satisfy all the energy saving standards. To fully utilize the benefits of ACPI, an ACPI-supported OS such as in the next release of Windows 9X must be used.
CPU Slows Down and Overheating Detected	- When CPU fan malfunctions, the system will deactivate the CPU Clock line to decrease CPU utilization in order to speed up detection system overheating. This will prevent CPU damage caused by system overheating. The CPU utilization will resume normal operations when temperature falls below a safe level (Optional).
Auto Fan Off	- The CPU fan will power off automatically even in sleep mode. This function reduces both energy consumption and system noise, and is an important feature in implementing silent PC systems.
Dual Function Power Button (requires ATX power supply)	- The system can be in one of two states, one is Sleep mode and the other is the Soft-Off mode. Pushing the power button for less than 4 seconds places the system into Sleep mode. When the power button is pressed for more than 4 seconds, it enters the Soft-Off mode.
Remote Ring On	- This allows a computer to be turned on remotely

(requires ATX power supply	through a modem (internal modem card or external modem), so that any user can access vital information from their computer from anywhere in the word.
On-board I/O	- 3 x ISA Slots and 4 x PCI Slots. - Uses NS Plug & Play IO chip PC87309. - Supports up to two 3.5" or 5.25" floppy drives 360K/720K/1.2M/1.44M/2.88M format. - Supports 120MB floppy drive & zip drive. - All I/O ports can be enabled or disabled in BIOS. - Two high speed 16550 compatible UARTs (COM1/COM2/COM3/COM4 selectable) with 16-byte send/receive FIFOs , supports MIDI compliant. - One parallel port at the I/O address 378H/278H/3BCH with additional bi-direction I/O capability and multi-mode selection (SPP/EPP/ECP) (IEEE 1284 compliant). - Provides protection circuit to prevent damages to the parallel port when a connected printer is powered up or operates at a higher voltage. - Supports PS/2 mouse and PS/2 keyboard (optional). - Supports IrDA TX/RX Header. - Supports USB (Universal Serial Bus) in specification.
BIOS	- Licensed advanced AWARD BIOS. Supporting Flash ROM BIOS, Plug and Play ready and DMI ready. Built-in NCR810 SCSI BIOS.
Board size	- 220mm x 250mm

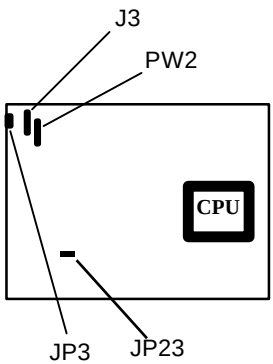
-- This page is intentionally left blank --

Chapter 2
Connector Configuration

This section lists all connector pin assignments and port description on the mainboard. The situations of the connectors and ports are illustrated in the following figures. Before inserting these connectors, please pay attention to the directions.

2.1 Power Connector (J3)

PIN NUMBER	FUNCTION
1	POWER GOOD
2	+5V
3	+12V
4	-12V
5	GND
6	GND
7	GND
8	GND
9	-5V
10	+5V
11	+5V
12	+5V



2.2 Modem Ring on Connector (JP23)

PIN NUMBER	FUNCTION
1	GND
2	INST-ON
3	5VSB

2.3 ATX Power Connector (PW2)

2.4 Power Switch (JP20)

If a standby Power supply or an ATX Power supply is used, the Power Switch supports the function as illustrated in the figures below.
1. When powering up your system, turn on the mechanical switch of the Standby Power supply first, then push once the button connected to Power Switch connector.
2. When powering off your system, it is not necessary to turn off the mechanical switch of the Standby Power supply, just push the button connected to Power Switch connector for four seconds or longer.

2.5 Keyboard Connector (JP3)

PIN NUMBER	FUNCTION
1	CLOCK
2	DATA
3	NC
4	GND
5	+5V

2.6 Hard Disk LED Connector (JP12)

PIN NUMBER	FUNCTION
1	VCC
2	IDE ACT
3	IDE ACT
4	VCC

2.7 Power LED (JP9)

PIN NUMBER	FUNCTION
1	+5V
2	NC
3	GND

2.8 Speaker Connector (JP16)

PIN NUMBER	FUNCTION
1	SPKDATA
2	NC
3	GND
4	VCC

2.9 IrDA Connector (JP17)

PIN NUMBER	FUNCTION
1	VCC

2	NC
3	IRRX
4	GND
5	IRTX
6	VCC

2.10 Turbo LED Connector (JP13)

PIN NUMBER	FUNCTION
1	GND
2	VCC

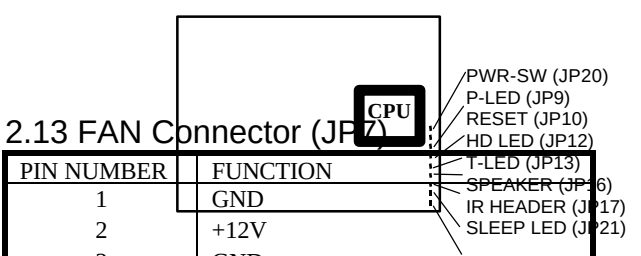
2.11 Reset Switch (JP10)

SETTING	FUNCTION
CLOSE ONCE	RESET THE SYSTEM
OPEN	NORMAL

2.12 USB1/USB2 Connector (USB1/USB2)

PIN NUMBER	FUNCTION
1	VCC
2	Key
3	DATA -
4	DATA +
5	GND

2.13 FAN Connector (JP7)



PIN NUMBER	FUNCTION
1	GND
2	+12V
3	GND

2.14 Hardware SMI (JP8)

PIN NUMBER	FUNCTION
Close	HARDWARE GREEN (Close once)
Open	NORMAL

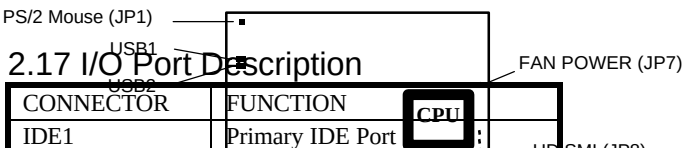
2.15 PS2 Mouse (JP1)

PIN NUMBER	FUNCTION
1	DATA
2	CLOCK
3	GND
4	NC
5	+5V

2.16 Sleep LED (JP21)

PIN NUMBER	FUNCTION
1	GND
2	VCC

Note: If you choose to use PS/2 Mouse, please contact your vendor for optional PS/2 Mouse cable.

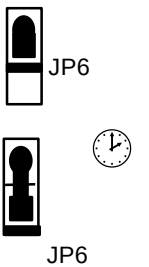


2.17 I/O Port Description

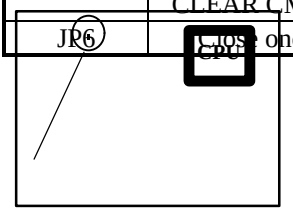
CONNECTOR	FUNCTION
IDE1	Primary IDE Port
IDE2	Secondary IDE Port
FLOPPY	Floppy Drive Port
PRINTER	Parallel Port

CN2	COM1/COM2/COM3/COM4
CN3	COM2/COM3/COM4/COM1

2.18 Clear CMOS



JP6



	CLEAR CMOS	*Normal
JP6	Close once	Open

Clear CMOS

"*": Represents default jumper settings.

2.19 Memory Configuration

The P5I430TX Titanium IB+ mainboard provides 4 SIMM slots and 2 DIMM slots for providing flexible memory size from 8MB up to 256MB main memory. Please do not plug two different brands of SIMM on a bank simultaneously.

Note: Power down the AC supply(110/220V) when wanting to clear CMOS, the jumper(JP6) should be set back to normal (open) before you turn on the system.

If using DIMM together with SIMM, you must install the DIMM and SIMM as shown in the following table.

DIMM1	DIMM2	SIMM1&2	SIMM3&4
None	Don't care	Single row or double row SIMM	Don't care
Single row DIMM	Don't care	Single row SIMM	Don't care
Double row DIMM	Don't care	None	Don't care

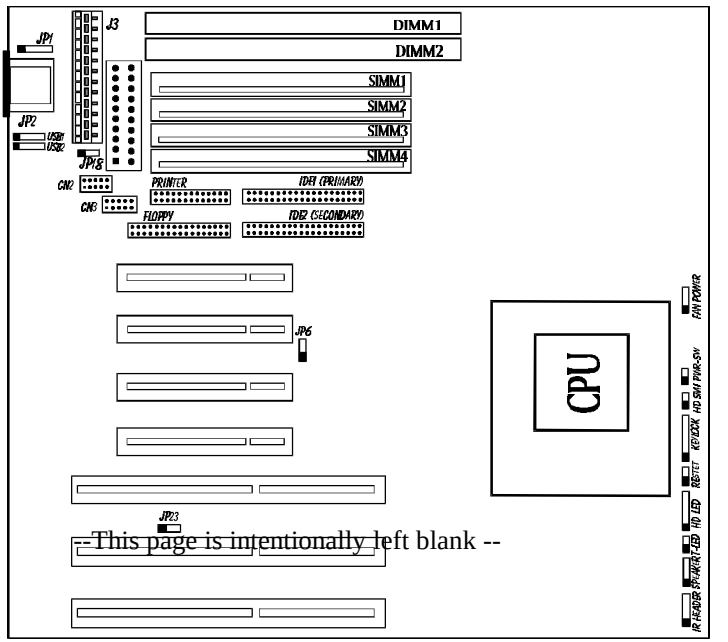
If using DIMM or SIMM only, you can install the DIMM and SIMM as shown in the following table.

Total Memory	SIMM1&2	SIMM3&4	DIMM1	DIMM2
8MB	4MB x 2	----	----	----
	----	----	8MB	----
16MB	8MB x 2	----	----	----
	4MB x 2	4MB x 2	----	----
	----	----	16MB	----
	----	----	8MB	8MB
24MB	8MB x 2	4MB x 2	----	----
32MB	8MB x 2	8MB x 2	----	----
	16MB x 2	----	----	----
	----	----	16MB	16MB
	----	----	32MB	----
48MB	16MB x 2	8MB x 2	----	----
	----	----	32MB	16MB
64MB	16MB x 2	16MB x 2	----	----
	32MB x 2	----	----	----
	----	----	32MB	32MB
72MB	32MB x 2	4MB x 2	----	----
80MB	32MB x 2	8MB x 2	----	----
96MB	32MB x 2	16MB x 2	----	----
128MB	32MB x 2	32MB x 2	----	----
128MB	-----	-----	64MB	64MB
256MB	64MB x 2	64MB x 2	----	----

Remark

1. If DIMM1 and/or DIMM2 has 64MB or 128MB with 64bit SDRAM cells, SIMM1, 2, 3, 4 must be empty.
2. DRAM and SDRAM modules can be installed in a variety of configurations. Please note not all possible combinations of installation are list here.

Illustration of Connectors on board



-- This page is intentionally left blank --

Figure 2-1 Illustration of All Connectors on Board

Chapter 3
AWARD BIOS Description

3.1 Entering BIOS Setup

Power on the computer, when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test), press the <Del> key or simultaneously press the <Ctrl> + <Alt> + <Esc> keys.

Press <Del> to enter SETUP

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

ROM PCI/ISA BIOS (2A59IQ1G) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP SPEEDEASY CPU SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP PNP/PCI CONFIGURATION LOAD SETUP DEFAULTS	INTEGRATED PERIPHERALS PASSWORD SETTING IDE HDD AUTO DETECTION SAVE & EXIT SETUP EXIT WITHOUT SAVING
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

Figure 3-1. Main Menu

3.2 Standard CMOS Setup

Use the arrow keys to highlight the item, then use the < PgUp> or <PgDn> keys to select the value you want in each item.

ROM PCI/ISA BIOS (2A59IQ1G)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Thu, Jul 17 1997
Time (hh:mm:ss) : 00:00:00

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0	0	0	0	0	0	Auto
Primary Slave	: Auto	0	0	0	0	0	0	Auto
Secondary Master	: Auto	0	0	0	0	0	0	Auto
Secondary Slave	: Auto	0	0	0	0	0	0	Auto

Drive A : 1.44M, 3.5 in.
Drive B : None

Video : EGA/VGA
Halt On : All Errors

Base Memory : 640K
Extended Memory : 7168K
Other Memory : 384K
Total Memory : 8192K

ESC : Quit ↑↓→←:Select Item PU/PD/+/- :Modify
F1 : Help (Shift)F2 :Change Color

Figure 3-2. Standard CMOS Setup Menu

3.2.1 Hard Disk

Primary Master/Primary Slave/Secondary Master/Secondary Slave

The categories identify the types of 2 IDE channels installed in the computer. Type "User" is user-definable. If your hard disk drive type does not match with the drive table or listed in it, use Type "User" to define your own drive type manually.

If Type **"Auto"** is selected, BIOS will Auto-Detect the HDD & CD-ROM drive at the POST stage and show the IDE for HDD & CD-ROM drives. If Type **"User"** is selected, related information is request to be entered into the following items. Enter the information directly from the keyboard and press **<Enter>**.

If an additional ESDI HDD Controller interface is ESDI, on-chip Primary and/or Secondary has to be disabled. If the controller of HDD interface is SCSI, the type shall be set to "Auto".

CYLS	number of cylinders	HEAD	number of heads
PRECOMP	write precom	LANDZ	landing zone
SECTOR	number of sectors	MODE	HDD access mode

3.2.2 Video

There are two ways to boot up the system:

I. When VGA is used as primary and monochrome is used as secondary, the selection of the video type is **"VGA Mode"**.

II. When monochrome is used as primary and VGA is used as secondary, the selection of the video type is **"Monochrome Mode"**.

EGA/ VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.

3.2.3 Halt on

This category determines whether the computer will stop or not if an error is detected during powering up.

No errors	The system boot will not stop for any error that may be detected.
All errors	Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.
All, But Keyboard	The system boot will not stop for a keyboard error, but it will stop for all the other errors.
All, But Diskette	The system boot will not stop for a disk error; but it will stop for all the other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, but it will stop for all the other errors.

3.2.4 Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory	The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.
Extended Memory	The BIOS determines that how much extended memory is presented during the POST.
Other Memory	This is the memory that can be used for different applications. Most use for this area is Shadow RAM.
Total Memory	Total memory of the system is the sum of the above memory.

3.3 SpeedEasy CPU Setup

ROM PCI/ISA BIOS (2A59IQ1G)
SPEEDEASY CPU SETUP
QDI Innovative Technology

Warning: System may hang or CPU may be damaged if you wrongly set CPU voltage. It is strongly recommended not to change "Auto" to "Manual".

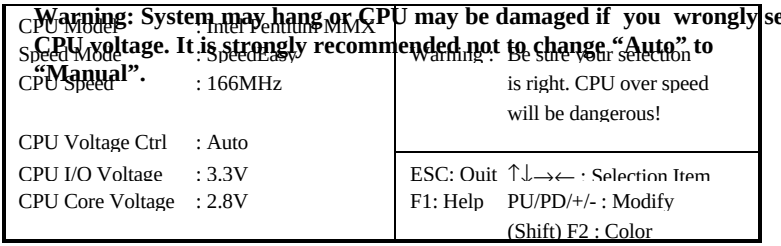
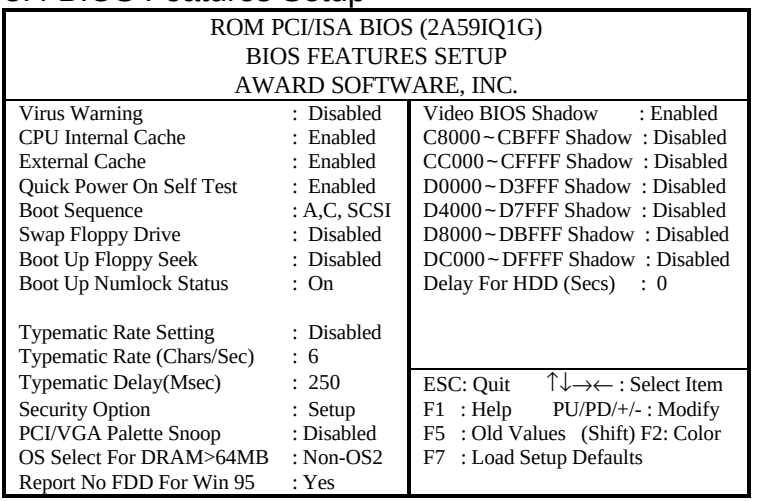


Figure 3-3. SpeedEasy CPU Setup

The following indicates the options of each item and describe their meaning.

Item	**Option**	**Description**
CPU Model		BIOS can automatically detect known CPU model, so this item is shown only.
Speed Model	*SpeedEasy*	Select the CPU speed according to your CPU brand and type.
	Jumper Emulation	This item is only for users who understand all the CPU parameter. (Such as CPU voltage, clock frequency and clock multiplier.)
Bus Clock	*50MHz* *55MHz* *60MHz* *66MHz* *66+MHz* *75MHz*	
Multiplier	*x1.5,BF1/BF0=1/1* *x2,BF1/BF0=1/0* *x2.5,BF1/BF0=0/0* *x3, BF1/BF0=0/1*	The left table is only for Pentium CPU. Your CPU Vendor should refer the other CPU Manufacturers' definitions of BF1/BF0.
CPU Speed	*75MHz~233MHz*	For Intel Pentium CPU.
	P120+~P200+	For Cyrix CPU.
	PR75~PR200	For AMD K5 CPU.
	166MHz~233MHz	For AMD K6 CPU.
CPU Voltage Ctrl	*Auto*	BIOS can automatically set CPU voltage.
	Manual	Users can set CPU voltage according to the CPU brand and type.

3.4 BIOS Features Setup



ROM PCI/ISA BIOS (2A59IQ1G)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000~CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000~CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000~D3FFF Shadow	: Disabled
Boot Sequence	: A,C, SCSI	D4000~D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000~DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled	DC000~DFFFF Shadow	: Disabled
Boot Up Numlock Status	: On	Delay For HDD (Secs)	: 0
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay(Msec)	: 250	ESC: Quit	↑↓→← : Select Item
Security Option	: Setup	F1 : Help	PU/PD/+/- : Modify
PCI/VGA Palette Snoop	: Disabled	F5 : Old Values	(Shift) F2: Color
OS Select For DRAM>64MB	: Non-OS2	F7 : Load Setup Defaults	
Report No FDD For Win 95	: Yes		

Figure 3-3 BIOS Features Setup Menu

The following indicates the options of each item and describe their meaning.

Item	**Option**	**Description**
• Virus Warning	*Enabled*	Activates automatically when the system boots causing a warning message to appear when anyt attempts to access the boot sector or hard partition table.
	Disabled	No warning message appears when anything attempts to access the boot sector or hard disk partition table. **Note: This function is available only for DOS and other OS that do not trap INT13.**
• CPU Internal Cache	*Enabled* *Disabled*	This item speeds up memory access. However, it depends on CPU/chipset design. The default value is enabled.
• External Cache	*Enabled*	Enables external cache.
	Disabled	Disables external cache.
• Quick Power On Self Test	*Enabled*	Enables quick POST. BIOS will shorten or skip some check items during POST to speed up POST after you power on the computer.
	Disabled	Normal POST.
• Boot Sequence	*A,C,SCSI...*	Any search sequence can be chosen for bootup.

	C, CDROM,A	
• Swap Floppy Drive	*Enabled*	Exchanges the assignment of A&B floppy drives.
	Disabled	The assignment of A&B floppy drives are normal.
• Boot Up Floppy Seek	*Enabled*	BIOS searches for floppy disk drive to determine if the drive is ready for diskette read/write during booting.
	Disabled	Skips drive seeking to speed up system booting.
• Boot Up Numlock Status	*On*	Keypad is used as number keys.
	Off	Keypad is used as arrow keys.
• Gate A20 Option	*Normal*	The A20 signal is controlled by the keyboard controller or chipset hardware.
	Fast	Default, the A20 signal is controlled by Port 92 or chipset specific method.
•Typematic Rate Setting	*Enabled*	Enables typematic rate and typematic delay programming.
	Disabled	Disables typematic rate and typematic delay programming. The system BIOS will use the default value of these two items.
• Typematic Rate Chars/Sec)	6~30	Sets the speed of the typematic rate (characters per second).
• Typematic Delay (Msec)	*250~1000*	Sets the time of the typematic delay.
• Security Option	*System*	The system will not boot and access to Setup will be denied if the correct password is not entered when prompted.
	Setup	The system will boot up, but access to Setup will be denied if the correct password is not entered when prompted. **Note: To disable security, select the Password Settings (refer to pages 3-14) in Main Menu then you will be asked to enter the password. Do not type anything just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.**
• PCI/VGA Palette Snoop	*Enabled*	Enables PCI/VGA palette snoop.
	Disabled	Disables PCI/VGA palette snoop.
• OS Select For DRAM>64MB	*Non-OS2*	If your operating system is not OS/2, please select this item.
	OS2	If the system DRAM is more than 64MB and operating system is OS/2, please select this item.
• Video BIOS Shadow	*Enabled*	Video BIOS will be copied to RAM. Video Shadow increases the video speed.
	Disabled	Video shadow is disabled.

• C8000~CBFFF Shadow ... DC000~DFFFF Shadow:	*Enabled*	Optional ROM will be copied to RAM by 16K bytes per unit.
	Disabled	The shadow function is disabled.
• Delay For HDD (Secs)	*0 ~ 15*	Sets the predelay time for hard disk to be ready for accessing the system.

3.5 Chipset Features Setup

ROM PCI/ISA BIOS (2A59IQ1G)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	Pipeline Cache Timing	: Faster
DRAM Timing	: 60ns	Chipset NA# Asserted	: Enabled
		Mem Drive Str. (MA/RAS)	: Auto
DRAM Leadoff Timing	: 10/6/3	DRAM Refresh Rate	: 15.6us
DRAM Read Burst (EDO/FP)	: x444/x444		
DRAM Write Burst Timing	: x222		
Fast EDO Leadoff	: Disabled		
Refresh RAS# Assertion	: 4 Clks		
Fast RAS To CAS Delay	: 3		
DRAM Page Idle Timing	: 2 Clks		
DRAM Enhanced Paging	: Enabled		
Fast MA to RAS# Delay	: 2 Clks		
System BIOS Cacheable	: Disabled		
Video BIOS Cacheable	: Disabled		
8 Bit I/O Recovery Timing	: 1	ESC: Quit	↑↓→← : Select Item
16 Bit I/O Recovery Timing	: 1	F1 : Help	PU/PD/+/- : Modify
Memory Hole At 15M-16M	: Disabled	F5 : Old Values	(Shift)F2: Color
PCI 2.1 Compliance	: Enabled	F7 : Load Setup Defaults	

Figure 3-4 Chipset Feature Setup

The following indicates the options of each item and describe their meaning.

Item	**Option**	**Description**
• Auto Configuration	*Enabled*	Automatically configures DRAM Timing according to the value of "DRAM Speed Selection".
	Disabled	Manually configures. **Warning: Do not set DRAM timing too fast this may affect your system stability.**
• DRAM Timing	*60ns, 70ns*	This item is of selected DRAM read/write timing. Ensure your SIMMs are as fast as 60ns, otherwise you have to select 70ns.
• RAM Leadoff		These items are regarding DRAM Timing

Timing ... Fast MA to RAS# Delay		configurations.
• System BIOS Cacheable	*Enabled*	Other than conventional memory, the system BIOS area is also cacheable.
	Disabled	The system BIOS area is not cacheable.
• Video BIOS Cacheable	*Enabled*	Besides conventional memory, video BIOS area is also cacheable.
	Disabled	Video BIOS area is not cacheable.
• 8 Bit I/ O Recovery Time	*1~ 8*	Defines the ISA Bus 8 bit I/O operating recovery time.
	NA	8 bit I/O recovery time does not exist.
• 16 Bit I / O Recovery Time	*1~ 4*	Defines the ISA Bus 16 bit I/O operating recovery time.
	NA	16 bit I/O recovery time does not exist.
• Memory Hole At 15M-16M	*Enabled*	Memory Hole at 15-16M is reserved for expanded PCI card.
	Disabled	Do not set this memory hole.
• Pipeline Cache Timing	*Faster*	This item allows you to select two timings of pipeline cache, faster and fastest.
	Fastest	
• Chipset NA# Asserted	*Enabled*	This item allows you to select between two methods of chipset NA# asserted during CPU with cycles/CPU line fills Enabled or Disabled.
	Disabled	
• Mem Drive Str. (MA/RAS)	*10mA/16mA*	This item allows you to select the memory drive strength. If high loading SIMM RAM is used (the number of memory Chips are more than 64), you should select 16mA/16mA.
	10mA/10mA	
	16mA/16mA	
	16mA/10mA	
• DRAM Refresh Rate	*15.6us*	For SDRAM and/or EDO/FPM memory subsystem.
	31.2us	For EDO/FPM only memory subsystem.
	64.4us	
	125us	
	256us	
	Disabled	Refresh disabled.

3.6 Power Management Setup

ROM PCI/ISA BIOS (2A59IQ1G)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management	: Disabled	** Reload Global Timer Events **	
PM Control by APM	: Yes	IRQ [3-7, 9-15], NMI	: Enabled
Video Off Method	: V/H SYNC + Blank	Primary IDE 0	: Disabled
Video Off After	: Suspend	Primary IDE 1	: Disabled
Modem Use IRQ	: NA	Secondary IDE 0	: Disabled
Doze Mode	: Disabled	Secondary IDE 1	: Disabled
Standby Mode	: Disabled	Floppy Disk	: Disabled
Suspend Mode	: Disabled	Serial Port	: Enabled
HDD Power Down	: Disabled	Parallel Port	: Disabled

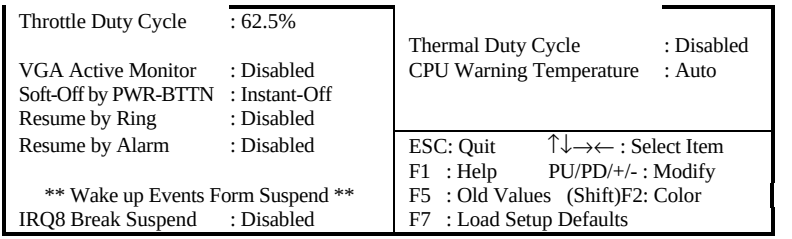


Figure-5 Power Management Setup Menu

The following indicates the options of each item and describe their meaning.

Item	Option	Description
• Power Management	*Disabled*	Global Power Management (PM) will be disabled.
	User Define	Users can configure their own Power Management Timer.
	Min Saving	Pre - defined timer values are used so that all timers are in their MAX values.
	Max Saving	Pre - defined timer values are used so that all timers are in their MIN values.
• PM Control by APM	*No*	System BIOS will ignore APM when Power Management is enabled.
	Yes	System BIOS will wait for APM's prompt before it enters any PM mode e.g. Standby or Suspend.
• Video Off Method	*Blank Screen*	The system BIOS will only blank off the screen when disabling video.
	V / H SYNC + Blank	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.
	DPMS	This function is enabled only for the VGA card supporting DPMS.
• Video Off After	*N/A*	System BIOS will never turn off the screen.
	Suspend	Screen off when system is in Suspend mode.
	Standby	Screen off when system is in Standby mode.
	Doze	Screen off when system is in Doze mode.
• Doze mode	*Disabled*	The system will never enter Doze mode.
	1Min ~ 1 Hr	Defines the continuous idle time before the system enters Doze mode. If any item defined in "Wake Up Events In Doze & Suspend" is On and activated, the system will be waken up.
• Standby Mode	*Disabled*	The system will never enter Standby mode.
	1 Min ~ 1Hr	Defines the continuous idle time before the system enters Standby mode. If any item defined in "Wake Up Events In Doze & Suspend" is On and activated, the system will be waken up.
• Suspend Mode	*Disabled*	The system will never enter Suspend mode.
	1 Min ~ 1Hr	Defines the continuous idle time before the system enters

		Suspend mode. If any item defined in "Wake Up Events In Suspend" is On and activated, the system will be waken up.
• HDD Power Down	*Disabled*	HDD's motor will not be off.
	1 ~15 Min	Defines the continuous HDD idle time before the HDD enters power saving mode (motor off).
• Throttle Duty Cycle	*12.5%*	Enables clock throttling
	25%	
	37.5%	
	50%	
	62.5%	
	75%	
	87.5%	
* • Soft-Off by PWR-BTTN	*Delay 4 sec.*	If the user presses the power button for more than four seconds while the system is in the working state, a hardware event is generated and the system will divert to the self off state.
	Instant-Off	If the user presses the power button, the system will power off immediately.
* • Resume By Ring	*Enabled*	Allows the system to be powered on when a Ring Indicator signal comes to UART1 or UART2 from an external modem.
	Disabled	Does not allow Ring Power-On.
* • Resume By Alarm	*Enabled*	RTC alarm can be used to generate a wake event when the system is in power off.
	Disabled	RTC no alarm function.
• IRQ8 Break Suspend	*Enabled*	Generates a clock event.
	Disabled	Does not generate a clock event.
• IRQ(3~7, 9~15), NMI	*Enabled*	Reloads global timer.
	Disabled	Does not influence the global timer.
• Thermal Duty Cycle	*Disabled*	Disabled thermal control function.
	25%	CPU speed will fall 25 percent when overheating.
	50%	CPU speed will fall 50 percent when overheating.
	75%	CPU speed will fall 75 percent when overheating.
• CPU Warning Temperature	*Auto*	CPU temperature is shown according to autodetect.
	65°C	System alarms when CPU boundary temperature is over 65° C.
	70°C	System alarms when CPU boundary temperature is over 70° C.
	75°C	System alarms when CPU boundary temperature is over 75° C.
	80°C	System alarms when CPU boundary temperature is over 80° C.

"*": These features require an ATX Power Supply, effect will not be taken until BIOS completes system configuration prior to starting the Operating System.

3.7 PNP/PCI Configuration Setup

ROM PCI/ISA BIOS (2A59IQ1G) PNP/PCI CONFIGURATION SETUP AWARD SOFTWARE, INC	
PNP OS Installed : No	PCI IDE IRQ Map To : PCI-AUTO
Resources Controlled By : Manual	Primary IDE INT# : A
Force Update ESCD : Disabled	Secondary IDE INT# : B
IRQ-3 assigned to : Legacy ISA	Used MEM base addr : N/A
IRQ-4 assigned to : Legacy ISA	
IRQ-5 assigned to : PCI/ISA PnP	
IRQ-7 assigned to : PCI/ISA PnP	
IRQ-9 assigned to : PCI/ISA PnP	
IRQ-10 assigned to : PCI/ISA PnP	
IRQ-11 assigned to : PCI/ISA PnP	
IRQ-12 assigned to : PCI/ISA PnP	
IRQ-14 assigned to : Legacy ISA	
IRQ-15 assigned to : Legacy ISA	
DMA-0 assigned to : PCI/ISA PnP	
DMA-1 assigned to : PCI/ISA PnP	
DMA-3 assigned to : PCI/ISA PnP	
DMA-5 assigned to : PCI/ISA PnP	ESC: Quit ↑↓→← : Select Item
DMA-6 assigned to : PCI/ISA PnP	F1 : Help PU/PD/+/- : Modify
DMA-7 assigned to : PCI/ISA PnP	F5 : Old Values (Shift)F2: Color
	F7 : Load Setup Defaults

Figure 3-6 PNP/PCI Configuration Setup Menu

The following indicates the options of each item and describe their meaning.

Item	Option	Description
• PNP OS Installed	*Yes*	Device resource assigned by PnP OS.
	No	Device resource assigned by BIOS. **Remark: It is strongly recommended to choose "Yes" when using PnP OS, i.e. Windows 95.**
• Resources Controlled By	*Manual*	Assigns system resources (IRQ and DMA) manually by users.
	Auto	Assigns system resources (IRQ and DMA) automatically by BIOS.
• Force Updating ESCD	*Enabled*	The system BIOS forces updating ESCD once, then automatically sets this item as disabled.

	Disabled	Disable forces updating ESCD function.
• IRQ-3 ~ IRQ-15 assigned to	*Legacy ISA*	The specified IRQ-x will be assigned to ISA only.
	PCI/ISA PnP	The specified IRQ-x will be assigned to ISA or PCI.
• DMA-0 ~ DMA-7 assigned to	*Legacy ISA*	The specified DMA-x will be assigned to ISA only.
	PCI/ISA PnP	The specified DMA-x will be assigned to ISA or PCI.
• PCI IDE IRQ Map To	*PCI-AUTO*	BIOS will scan for PCI IDE devices and determine the location of the PCI IDE device.
	PCI - SLOT 1~4	BIOS will scan IRQ14 for primary IDE INT# and IRQ15 for secondary IDE INT# at the specified slot.
	ISA	BIOS will not assign any IRQs even if PCI IDE card is found, because some IDE cards connect the IRQ14&15 directly from ISA slot through a card.
• Primary IDE INT#	*A ~ D*	Indicates which INT# the PCI IDE card uses for its interrupting 1st IDE channel.
• Secondary IDE INT#	*A ~ D*	Indicates which INT# the PCI IDE card uses for its interrupting 2nd IDE channel.
• Used MEM Base Addr/Used MEM Length	*C800/8 ~ 64K*	Claims a memory space occupied by legacy ISA card.
	N/A	Invalidates this feature.

3.8 Load Setup Defaults

The Setup Default settings are common and efficient.

3.9 Integrated Peripherals

ROM PCI/ISA BIOS (2A59IQ1G)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled	ECP mode use DMA	: 1
IDE Primary Master PIO	: Auto		
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		

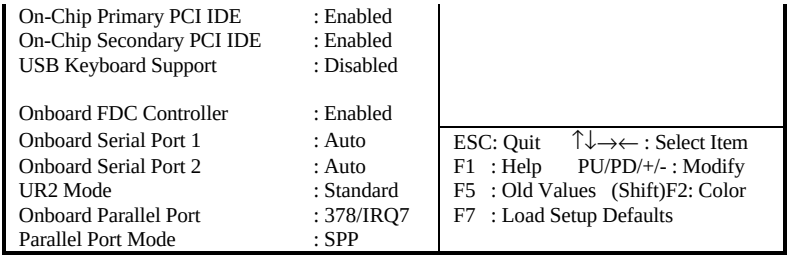


Figure 3-7 Integrated Peripherals Menu

The following indicates the options of each item and describe their meaning.

Item	Option	Description
• IDE HDD Block Mode	*Enabled*	Allows IDE HDD to read/write several sectors once.
	Disabled	IDE HDD only reads/writes a sector once.
• IDE Primary/Secondary Master/Slave PIO/UDMA	*Mode 0 - 4*	Defines the IDE primary/secondary master/ slave PIO mode.
	Auto	The IDE PIO mode is defined according to auto – detect.
• On-chip Primary/Secondary PCI IDE	*Enabled*	On-chip primary/secondary PCI IDE port is enabled.
	Disabled	On-chip primary/secondary PCI IDE port is disabled.
• Onboard FDC Controller	*Enabled*	Onboard floppy disk controller is enabled.
	Disabled	Onboard floppy disk controller is disabled.
• Onboard Serial Port 1/2	*3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3,*	Defines onboard serial port address and required interrupt number.
	Disabled,	Onboard serial port is disabled.
	Auto	Sets address and interrupt number automatically.
• UR2 Mode	*Standard Sharp IR IrDA SIR*	Defines UR2 mode.
• Onboard Parallel Port	*378/IRQ7, 278/IRQ5, 3BC/IRQ7*	Defines onboard parallel port address and IRQ channel.
	Disabled	Onboard parallel port is disabled.
• ECP Mode Use DMA	*1 3*	Define channel 1 used for DMA.
• EPP Version	*1.7 1.9*	Defines EPP version.

3.10 Password Setting

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

ENTER PASSWORD

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

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

PASSWORD DISABLED

If you select "**System**" at "Security Option" of "BIOS Features Setup" Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter "CMOS Setup".

If you select "**Setup**" at "Security Option" of "BIOS Features Setup" Menu, you will be prompted for the password only when you try to enter "CMOS Setup".

3.11 IDE HDD Auto Detection

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

ROM/PCI/ISA BIOS (2A59IQ1G)
IDE HDD AUTO DETECTION
AWARD SOFTWARE, INC.

HARD DISKS TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE

Primary Master:

Select Primary Master Option (N=Skip): N

OPTION	SIZE	CYLS	HEADS	PRECOMP	LANDZ	SECTORS	MODE
2(Y)	541	525	32	0	1049	67	LBA
1	541	1050	16	65535	1049	63	NORMAL
3	541	525	32	65535	1049	63	LARGE

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

Figure 3-9 IDE HDD Auto Detection Menu

3.11.1 Setup **Changes**

With auto-detection

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

With Standard CMOS Setup

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

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

3.11.2 **HDD Modes**

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

NORMAL

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

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

LBA (Logical Block Addressing) mode

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

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

LARGE mode

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

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

Auto detect

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

3.11.3 Remark

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

3.12 Power - On Boot

If you have made all the changes to the CMOS values and the system can not boot with the CMOS values selected in Setup, restart the system by turning it OFF then ON or press the "RESET" button on the system case. You may also restart the system by simultaneously pressing the < Ctrl >, < Alt > and < Del > keys.

Appendix A.
Utility Diskette

Use this diskette to update your BIOS when necessary.

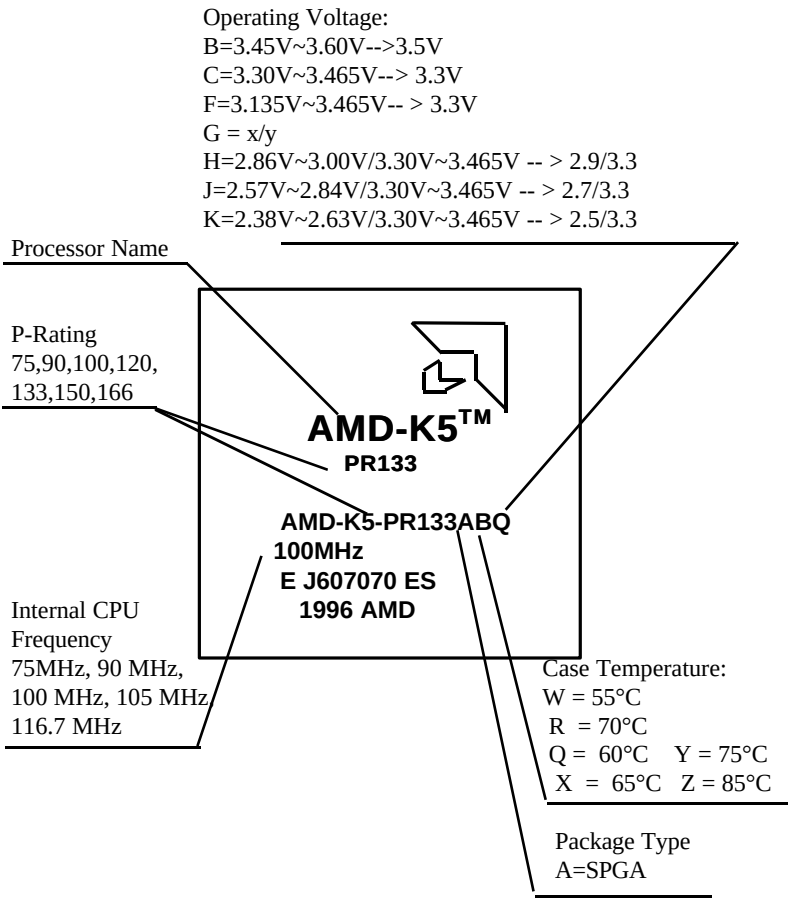
For the updates and additional information regarding BIOS upgrades, please refer to "README" in the "Utility Diskette ".

Warning:

1. **We strongly recommend you only upgrade BIOS when encountering problems.**
2. **Before updating your BIOS, review over the “README” file to avoid making mistakes.**

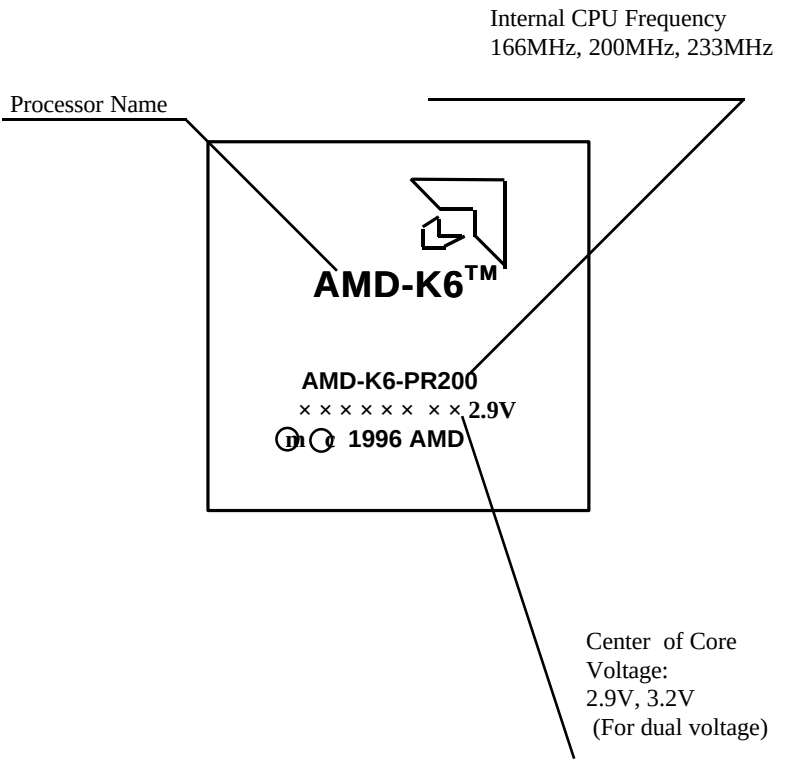
Appendix B.

Introducing AMD-K5 CPU markings:



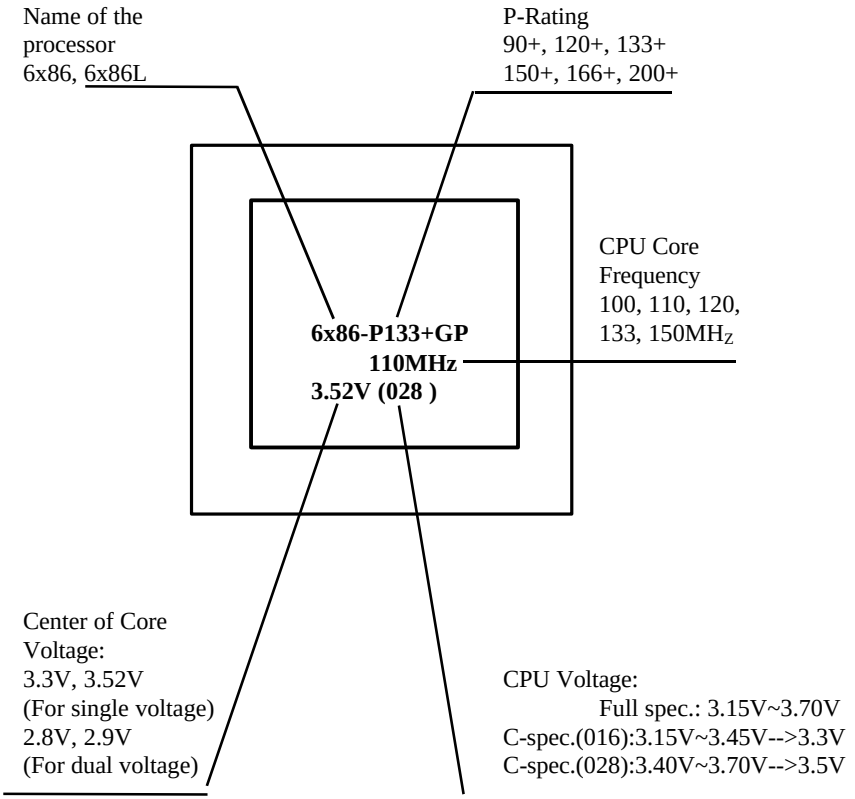
Appendix C.

Introducing AMD-K6 CPU markings:



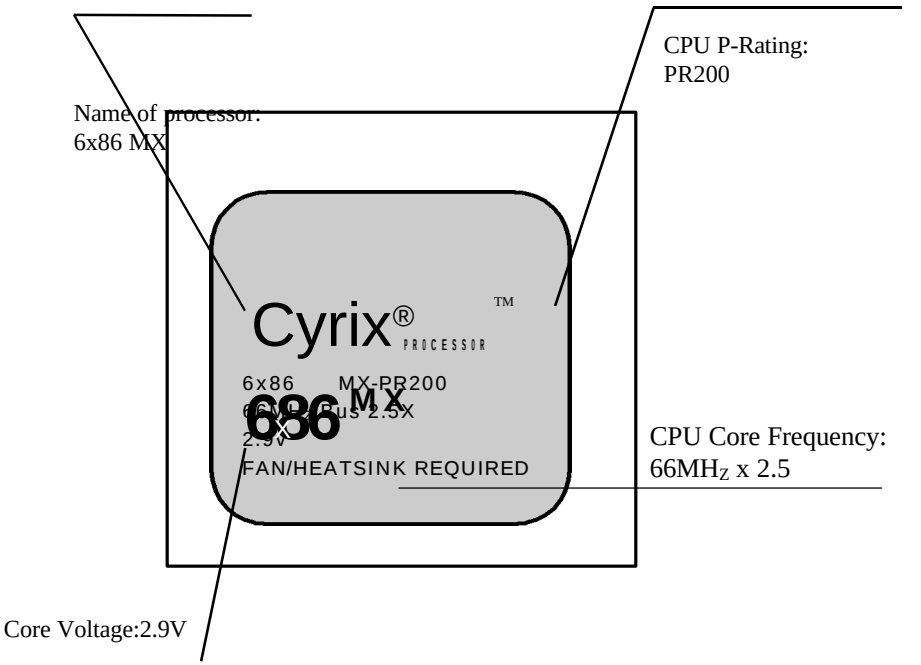
Appendix D.

Introducing Cyrix 6x86 CPU markings:



Appendix E.

Introducing Cyrix 6x86MX CPU markings:



P/N: 430-01011-002

Manual TITANIUM IB+ Ver 2. 0