

ATX431

User's Manual

SMART SOFT-CPU Fast and Easy
Latest Jumperless Design

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APPLICATION OF COUNCIL DIRECTIVE(S):

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MODEL No. : ATX431

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive and Standards.



JULY, 17, 1997

DATE OF ISSUE

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INSTALLATION GUIDE

CPU - It is recommended for installation of AMD K6 MMX 233 and Cyrix M1 PR200 CPU to be installed with certified CPU Cooler (Big Cooler) from the approved suppliers. Insufficient Cooling for the CPU may render the system unstable. Our SMART SOFT capabilities BIOS will check for the ID code of the CPU and if the CPU ID code does not match your CPU marking, then return them as it is re-marked from the original marking. Check that the CPU is firmly installed on the CPU socket and CPU Cooler secured before powering up the system.

Memory - Best Recommended for 60ns EDO DRAM on SIMMs memory. Do not mix SDRAM (3.3V) with EDO 5V type of memory. Please check for re-marked 60ns EDO DRAM by visual inspection of the surface on the components. Most re-marked memory will show polished surface. We do not guarantee reliability for re-marked memory. For BIOS setting for DRAM configuration, it is advisable to set the default setting for initial checking of the system. Good performance needs all installed configuration device installed for excellent quality including memory, hard disk, VGA and others.

Hard Disk - For best performance, it is best recommended to install Ultra DMA/33 mode hard disk. It works in conjunction with Ultra DMA 33 drivers on our utility disk attached.

VGA - For best compatibility, the *ATX431* has been tested with famous VGA brand like ExpertColor VGA, Diamond, ATI, Matrox series. The VGA should be 4 layers PCB type for good display reliability with certified EMI test like CE or DOC (FCC).

BIOS - Setup the system as "Optimal Default Setting".

Cables - *ATX431* can prevent reverse connection with connector bracket. Check if each cables has been connected to their respective device before power-up.

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Static Electricity Precautions

Static electricity can easily damage your mainboard. Observing a few basic precautions can help you safeguard against damage that could result in expensive repairs. Follow the measures below to protect your equipment from static discharge:

- Keep the mainboard and other system computers in their antistatic packaging until you are ready to install them.
- Touch a grounded surface before you remove any system component from its protective anti-static packaging. A grounded surface within easy reach is the expansion slot covers at the rear of the system case. Or any other unpainted portion of the system chassis.
- During configuration and installation, touch a grounded surface frequently to discharge any static electric charge that may build up in your body. Another option is to wear a grounding wrist strap.
- When handing a mainboard or an adapter card, avoid touching its components. Handle the mainboard and adapter cards either by the edges or by the mounting bracket that attaches to the slot opening in the case.

Unpacking the Mainboard

The mainboard comes packed in a sturdy cardboard shipping carton. The carton contains:

- The Mainboard
- This User's Manual

Note: Do not remove the mainboard from its original packing until you are ready to install it.

The mainboard is easily damaged by static electricity. Observe the following precautions while unpacking and installing the mainboard.

1. Touch an unpainted area of system chassis before handling the mainboard or any component. Doing so discharge the static charge your body may have built.
2. Remove the mainboard for appearance checking. Shipping may have loosened integrated circuits from their sockets. If any integrated circuit appears loose, press carefully to seat it firmly in its socket.

Do not apply power if the mainboard appears damaged. If there is damage to the board, or items are missing, contact your dealer immediately.

Power Precautions

Before you begin configuration, make sure you are working with an unplugged mainboard. Many components are powered by low-voltage current, but there still may be a dangerous electric current coming from the leads and power supply. You should take the following precautions:

- Turn off the power supply, and unplug the power cord before you begin.
- Unplug all cables that connect the mainboard to any external devices.

Note: Before making connections to the board, make sure that power to the system is turned off.

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RMA FORM

CHAPTER 1 INTRODUCTION

Attention:

For new CPU installation, please press the “Home” key to clear the previous setting to return to Default Setting. To configure your CPU, choose the SMART SOFT Setting from the BIOS Setup Screen. You can then set the CPU frequency or others.

IMPORTANT NOTICE

After you have assembled the motherboard with its system configuration installed, check that all the cables attached are correctly connected as required before powering on the system. The first procedure you are required to do is to press the “DEL” key on the keyboard during displaying memory counting and access the “System BIOS Setup”. Select the “SMART SOFT CPU Setting” to configure the CPU speed according to the CPU installed.

SMART SOFT provides you with CPU Auto-Voltage Detection, CPU ID type and Soft frequency setting on the BIOS “SMART SOFT CPU Setting” option. You need only to setup the CPU speed type on the BIOS according to the CPU installed. In the case of wrong or over-rating setting of the CPU Frequency which exceeds your CPU speed limit, it may render the system failure to bootup, or no display at all. SMART SOFT provides you with the “Return to Default setting” for minimal CPU setting.

Press the “HOME” key on the keyboard simultaneously upon power-up for the system to return to Default setting.

This action will clear the CMOS memory for the system configuration to Default value. You can also Hardware Clear CMOS with the jumper indicated on the motherboard.

1.1 Overview

The *ATX431* motherboard optimized for MMX CPUs incorporates the latest jumperless technique “SMART SOFT” for CPU fast and easy installation. Additional built-in features include PC Doctor Monitoring for CPU overheated protection with ALARM warning and CPU slow-down to protect system crash during overheated condition. With on-board 512K L2 write-back cache, it provides workstation level computing performance at PC system level.

The *ATX431* design provides Auto-banking for memory expansion with 4x SIMMs or 2x DIMMs sockets. It can support up to 256MB of DRAM.

The *ATX431* motherboard provides outstanding I/O capabilities with 4x PCI 2.1 bus mastering slots for a high bandwidth data path for data-movement intensive functions such as graphics acceleration and its advanced features for a cost effective, high performance, and highly expandable platform.

1.2 System Features

The *ATX431* has many performance and system features integrated into the motherboard, including the following:

- Intel 430TX Pentium-based Motherboard, based upon ATX Form-Factor, using 512K Pipeline Burst SRAM Cache.
- Supports Intel Pentium Family CPU running at 90MHz~200MHz (P54C), Intel Pentium with MMX 166/200/233MHz (P55C), AMD K5 Pentium-level CPU 100/133/166, AMD K6 166/200/233 MMX CPU and Cyrix 6x86 133/150/166/200 & 6x86 MX 166/200/233 CPU.
- Provides Advanced Switching Voltage techniques to support low Thermal Power Dissipation design with Auto-voltage detection for CPUs.
- Integrated Programmable 2 fast serials (16550) / 1 Parallel (Standard/ECP/EPP) / FDC controller / PS/2 Mouse Port, 2 x PCI Bus Master (DMA/33 Mode) IDE controllers.
- Provides 3 x 16-bit ISA slot & 4 x Concurrent PCI 2.1 expansion slot.
- Supports Auto-banking 8MB~256MB Memory utilizing 4 x 72 pin EDO/FPM SIMMs or 2 x 3.3V 168-pin DIMMs for SDRAM expansion.
- Support Flash BIOS for Plug & Play/DMI/Anti-virus/LS120 technology (120MB Capacity) features to provide an easy-to-use add-on cards configuration for users.
- Supports optional Universal Serial Bus Port and Infrared IR port (115.2 Kbps/Sec) pin header ready.
- Hardware Monitor Circuit for CPU Temperature Status, CPU temperature overheated protection with alarm warning and CPU Auto slow-down feature.
- Provides "SMART SOFT" (Auto Voltage / Soft Frequency) techniques for fast and easy CPU installation and upgrade.

1.3 System Specification

Multi-Processor Support:	Intel Pentium 90~200MHz, Intel Pentium with MMX 166~233MHz AMD-K5 (90-166MHz), AMD-K6 (166~233MHz) Cyrix 6x86 (120+~200+ MHz) & Cyrix 6x86MX (166-233 MHz)
CPU Clock Speed:	55/60/66/75 MHz
DRAM:	8MB to 256MB (Auto Banking)
SRAM:	512K L2 Cache
BIOS type:	AMI BIOS with built-in SMART SOFT capabilities
Slot types:	Three 16-bit ISA slots + four 32-bit PCI 2.1 slots
Dimension:	30.5 x 19 cm (ATX form factor)
Utilities Disk:	DMI for LAN management, Ultra DMA/33 Drivers, TX ID setup

Additional Features

Miscellaneous Button:	Reset button, Turbo LED, HDD LED
Temperature monitoring:	A heat sensor under CPU location to monitor and detect system overheat to prevent damage.
Board Design:	4-layer Implementation for low noise operation.
Remote Ring on:	Turn on the computer remotely through a modem. It works only in Standby mode.

Installing Ultra DMA/33 Drivers

Ultra DMA is a new protocol for the ATA/IDE hard disk drive interface that doubles the current burst data transfer rate to 33 megabytes (MB) per second. The protocol is a Quantum Corporation patented technology that will be implemented in industry standard hard drive products. The *ATX431* provides a utility disk to install the Ultra DMA/33 capability onto the system to support hard disk with Ultra DMA/33 mode. Run "Setup" on the utility disk sub-directory "BMIDE_95" or "Tsetup" to install the drivers.

Running TX ID Drivers

The TX chipset driver helps Windows 95 identify the chipset and appear with no warning message in the Control Panel System option.

1.4 System Performance

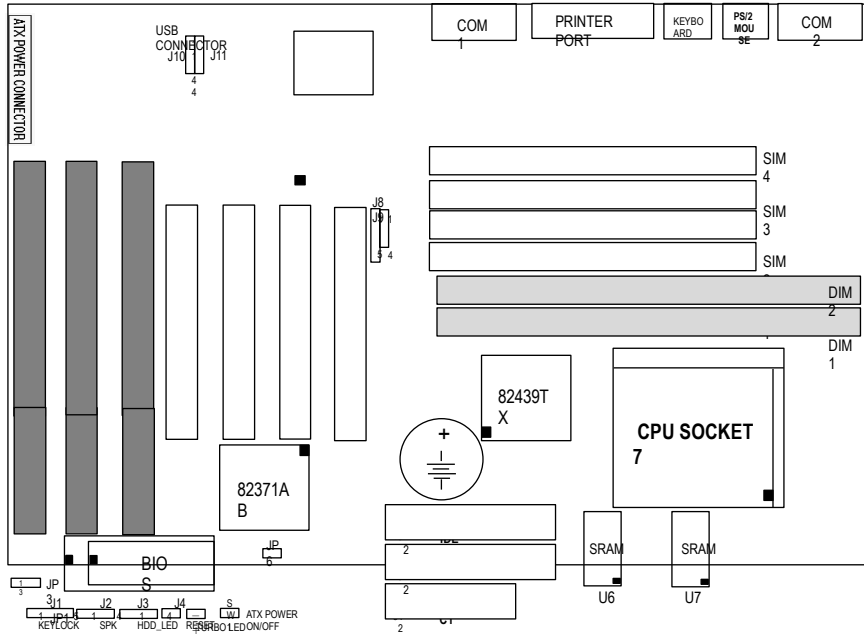
The following CPU benchmark programs provide a wide range of performance indexes, which do not reveal the true speed that the motherboard can provide.

This test is performed on most types of CPUs which are installed on the *ATX431* motherboard.

SOFTWARE E CPU TYPE	LANDMARK V2.0	POWER METER V1.8 MIPS	NORTON V8.0 CPU SPEED
PENTIUM 133	771.33 MHz	67.7 MIPS	423.5
PENTIUM 150	878.06 MHz	74.8 MIPS	482.1
PENTIUM 166	964.23 MHz	86.2 MIPS	529.2
PENTIUM 200	1157.09 MHz	98.1 MIPS	635.3
PENTIUM MMX 166	1093.12 MHz	86.2 MIPS	567.1
PENTIUM MMX 200	1311.76 MHz	101.6 MIPS	680.6
PENTIUM MMX 233	1530.37 MHz	123.6 MIPS	794.0
CYRIX 6x86-133 [†]	1353.98 MHz	74.8 MIPS	761.2
CYRIX 6x86-150 [†]	1469.25 MHz	81.3 MIPS	826
CYRIX 6x86-166 [†]	1613.31 MHz	88.9 MIPS	907
CYRIX 6x86-200 [†]	1860.62 MHz	101.6 MIPS	1018.0
CYRIX 6x86 MX 166	1860 MHz	98.1 MIPS	1018.2
CYRIX 6x86 MX 200	2072.54 MHz	109.4 MIPS	1133.9
CYRIX 6x86 MX 233	2326.25 MHz	123.6 MIPS	1272.7
AMD K5-PR133	892.59 MHz	66.1 MIPS	430.5
AMD K5-PR166	1047.37 MHz	79.0 MIPS	505.2
AMD K6-PR166	1687.52 MHz	123.6 MIPS	991.9
AMD K6-PR200	2025.07 MHz	149.7 MIPS	1190.3
AMD K6-PR233	2362.58 MHz	177.7 MIPS	1388.7

1.5 ATX431 Board Layout

The general layout of the *ATX431* motherboard is shown in the following diagram:



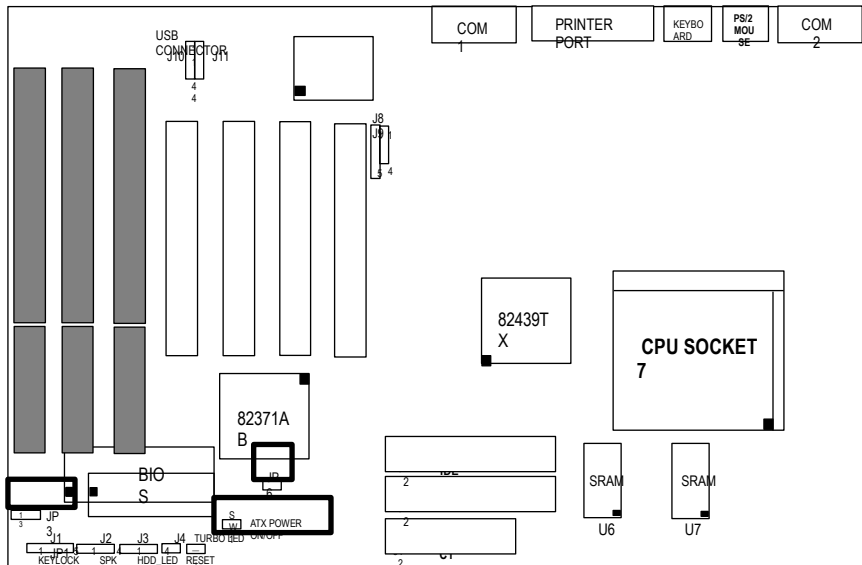
Soft-Off Support:

It requires ATX Power supply.

ACPI Ready:

The "Advanced Configuration Power Interface" standard ready is for PC'97 compliance.

1.6 Setting Other Jumpers & Connectors



Jumper Description

Jumper	Description	
JP3	 ○ ● 5V Flash ♣ ● 2 3	 ● 1 2 ○ 3 12V Flash
JP6	 ○ CLEAR CMOS ● 2	 ● 1 ● 2 NORMAL ♣
SW1	ATX POWER (ON/OFF)	

♣ Default Setting

CONNECTOR DESCRIPTION

Connector	Pin Out	Signal Name
J1 KEYLOCK & POWER LED CONNECTOR	1	+5V DC
	2	NC
	3	GROUND
	4	KEYBOARD DATA
	5	GROUND
J2 SPEAKER CONNECTOR	1	+5V DC
	2	GROUND
	3	NC
	4	DATA OUT
J3 HDD LED	1	+5V DC
	2	DATA OUT
	3	DATA OUT
	4	+5V DC
J4 RESET	1	GROUND
	2	RESET IN
J8 IR CONNECTOR	1	+5V DC
	2	FIRRX
	3	IRRX
	4	GROUND
	5	IRTX
J9 CONSUMER IR CONNECTOR	1	+5V DC
	2	IRTX
	3	CIRRX
	4	GROUND
J10, J11 USB CONNECTOR	1	+5V DC
	2	DATA OUT
	3	DATA OUT
	4	GROUND
JP1 TURBO LED	1	+5V DC
	2	GROUND

1. **Message LED Lead (TB LED)**

This indicates whether a message has been received from a fax/modem. The LED will remain lit when there is no signal and blink when there is data transfer or waiting in the inbox).

2. **Reset Switch Lead (RESET)**

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply.

3. **Keyboard Lock Switch Led & System Power LED (KEYLOCK)**

This 5-pin connector connects to the case-mounted keyboard lock switch for locking the keyboard and also to connect the system power LED. The system power LED lights when the system is powered on and blinks in sleep mode.

4. **Speaker Connector (SPEAKER)**

This 4-pin connector connects to the case-mounted speaker.

5. **PS/2 Mouse, USB, Infrared Connector (18-pin block)**

If you are using a PS/2 mouse, USB, or Infrared devices, you must purchase an optional external connector set. The external connector set connects to the 18 pin block and mounts to an open slot on your computer's chassis. The system will direct IRQ12 to the PS/2 mouse if one is detected. If not detected, expansion cards can use IRQ12. See "PS/2 Mouse Control" in BIOS Features Setup and "USB Function" in PnP and PCI Setup of the BIOS SOFTWARE. See "Second Infrared" connector for details on the infrared connector. **Red wire of the connector must be connected to the pin 1 of the J10, J11 USB on board.**

6. **Second Infrared (IrDA) & Fast IR-Compliant Infrared Connector (IR)**

This is a second connector that supports the optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. You must also configure the setting through "UART2 Use Infrared" in Chipset Features Setup to select whether UART2 is directed for use with COM2 or IrDA. Use the five pins as shown on the Back View and connect a ribbon cable from the module to the motherboard according to the pin definitions.

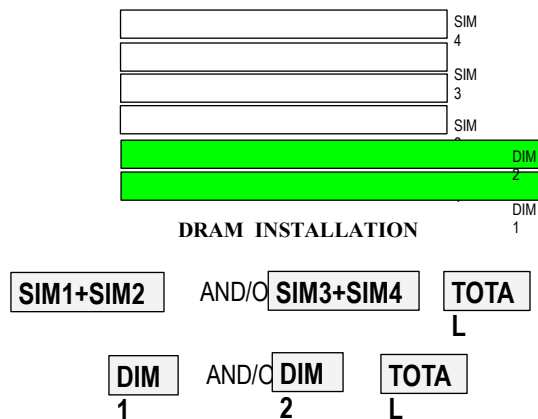
CHAPTER 2 INSTALLATION

The hardware must be set up for a variety of functions before the system is ready to operate. It is easy to set up the *ATX431* motherboard. The user only has to adjust a few jumpers, connectors, and sockets.

2.1 Installing DRAM

The *ATX431* motherboard can support extended memory of 8MB to 256MB.

■ The layout of the DRAM memory banks on board is shown below:



The 72-pin group includes four SIMMs; each SIMM can be 4, 8, 16, or 32MB in size. The 168-pin group includes two DIMMs; each DIMM can be 8, 16, 32, or 64MB in size. Please use the RAM modules of the same size in the group. Auto-banking memory features are supported for SIMMs or DIMMs.

System Memory (SIMM & DIMM)

This motherboard supports four 72-pin, 32-bit SIMMs (Single Inline Memory Modules) of 4, 8, 16, 32, or 64 MB to form a memory size between 8MB and 256MB. The SIMMs can be either 60ns or 70ns Fast Page Mode (FPM) (Asymmetric or Symmetric), or Enhanced Data Out (EDO) (BEDO & Parity are not supported). SIMMs must be installed in pairs so that each Row (see Map of Motherboard for Row locations) contains 64-bits of the same size and type of memory chips. One side (with memory chips) of the SIMM module takes up half a Row on the motherboard.

Dual Inline Memory Modules (DIMM's) can be used when the SIMM sockets are not used. Two sockets are available for 3.3 Volt (power level) Unbuffered Synchronous DRAMs (SDRAM) or EDO DRAM of either 8, 16, 32, 64, or 128MB to form a memory size between 8MB to 256MB. One side (with memory chips) of the DIMM module takes up one Row on the motherboard.

IMPORTANT: Memory speed is set up through "DRAM Configuration" in BIOS Chipset Setup of the BIOS SOFTWARE. If both 60ns and 70ns memory are used, set "DRAM Configuration" to 70ns. Do not use memory modules with more than 24 chips per module. Modules with more than 24 chips exceed the design specifications of the memory subsystem and will be unstable.

2.2 Possible Memory Configurations

■ **TABLE1 (SIMM)**

BANK 0		BANK 1		TOTAL MEMORY
SIMM1	SIMM2	SIMM3	SIMM4	
4MB	4MB	None	None	8MB
4MB	4MB	4MB	4MB	16MB
8MB	8MB	None	None	16MB
4MB	4MB	8MB	8MB	24MB
8MB	8MB	4MB	4MB	24MB
8MB	8MB	8MB	8MB	32MB
16MB	16MB	None	None	32MB
4MB	4MB	16MB	16MB	40MB
16MB	16MB	4MB	4MB	40MB
8MB	8MB	16MB	16MB	48MB
16MB	16MB	8MB	8MB	48MB
16MB	16MB	16MB	16MB	64MB
32MB	32MB	None	None	64MB
4MB	4MB	32MB	32MB	72MB
32MB	32MB	4MB	4MB	72MB
8MB	8MB	32MB	32MB	80MB
32MB	32MB	8MB	8MB	80MB
16MB	16MB	32MB	32MB	96MB
32MB	32MB	16MB	16MB	96MB
32MB	32MB	32MB	32MB	128MB
64MB	64MB	None	None	128MB

■ **TABLE2 (DIMM)**

DIMM1 (BANK0)	DIMM2 (BANK1)	Total Memory
8MB	---	8MB
8MB	8MB	16MB
16MB	---	16MB
16MB	16MB	32MB
32MB	---	32MB
32MB	32MB	64MB
64MB	---	64MB
64MB	64MB	128MB
128MB	---	128MB
128MB	128MB	256MB

Note :DIMM and SIMM can't be installed together

SIMM Memory Installation

1. The SIMM memory modules will only fit in one orientation as shown because of a "Plastic Safety Tab" on one end of the SIMM sockets which requires the "Notched End" of the SIMM memory modules.

2. Press the memory module firmly into place starting from a 45 degree angle making sure that all the contacts are aligned with the socket.
3. With you finger tips, rock the memory module into a vertical position so that it clicks into place.
4. The plastic guides should go through the two “Mounting Holes” on the sides and the “Metal Clips” should snap on the other side.
5. To release the memory module, squeeze both “Metal Clips” outwards and rock the module out of the “Metal Clips”.

DIMM Memory Installation

Insert the module(s) as shown. Because the number of pins are different on either side of the breaks. The module will only fit in the orientation as shown. SIMM modules have the same pin contact on both sides. DIMM modules are longer and have different pin contact on each side and therefore have a higher pin density.

The notch on the DIMM module will shift between left, center, or right to identify the type and also to prevent the wrong type of DIMM to be inserted into the DIMM socket on the motherboard. Four clock signals are supported on this motherboard. You must ask your retailer for the specifications before purchasing memory modules.

2.3 Installing CPU with SMART SOFT Feature

The *ATX431* motherboard provides the jumperless setting for Auto-detection of CPU voltage, CPU ID and BIOS soft-configure CPU frequency. After you install the CPU to the *ATX431* motherboard properly, you can operate the CPU without setting the

related jumpers manually. The CPU's type, frequency, clock and temperature are determined by the CPU Configuration Setup screen of the BIOS Setup program.

The following shows you how to configure CPU from the CPU configuration setup screen, as follows:

AMIBIOS SETUP — CPU CONFIGURATION SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
CPU Type	Pentium	Available Options:
CPU Frequency (MHz)	233 (66*3.5)	90 (60*1.5)
CPU Voltage (V)	3.3	100 (66*1.5)
CPU Temperature Setup (°C)	50	120 (60*2)
CPU Current Temperature (°C)	0	133 (66*2)
Thermal Slow Clock Ratio	37.5%	150 (60*2.5)
		166 (66*2.5)
		180 (60*3)
		200 (66*3)
		▶ 233 (66*3.5)
		ESC:Exit ↑↓:Sel
		PgUp/PgDn:Modify
		F2/F3:Color

The Smart Soft CPU Setting can let you simply change the CMOS BIOS setting to attain your goal - the CPU's working speed and the auto CPU Voltage.

- **CPU Type (Auto-detection)**

This option will auto detect CPU ID Type and display what's the type of CPU installed in the motherboard.

- ***CPU Frequency (Manual setting)***

This option lets you choose the CPU speed according to the CPU installed. Over-rating of CPU may render the system failure to power-up. Press "HOME" key simultaneously to return to default setting upon power-on.

- ***CPU Voltage (Auto-Voltage Detection for all types of CPU)***

This option specifies the CPU Voltage used by the CPU. All Pentium-based processor use two power supplies; one supply is for the CPU core, and the other is for the I/O interface. Some CPU vendor provide the same voltage for the core and I/O, it is called "SINGLE VOLTAGE CPU". If the core and I/O use different voltages, it is called "DUAL VOLTAGES CPU". Instead of setting the CPU as "single" or "dual" voltage by jumper, "SMART DETECT" will automatic detect the CPU is "single" or "dual" voltage when system power-on.

- ***CPU Thermal Setup***

This option specifies the limit of the temperature under which CPU is operating. If the limit exceeded, a warning alarming can be head from the PC speaker. A utility is provided to work in conjunction with this feature to monitor critical hardware components of the PC. The utility provides the user with a PC health meter with GREEN indicator for normal operation and Red for abnormal operation for effective troubleshooting. A Graphical User Interface (GUI) display overall system conditions. The utility also constantly monitors key elements (temperature and voltages) to produce alerts if problem area exceeds predefined configurable threshold constantly monitors key elements (temperature and voltages) to produce alerts if problem area exceeds predefined configurable threshold.

- ***CPU Current Temperature***

This option shows the current CPU temperature detected by the built-in heat sensor.

- ***Thermal Slow Clock Ratio***

This option specifies when the temperature is overheat the CPU will slow clock ratio. It works in-conjunction with CPU Thermal option and if it exceeds the predefined configurable threshold, the CPU frequency will slow-down to the clock ratio predefined.

2.4 Installing Flash ROM Utility

Please check the utility software included with your motherboard. This is the Flash Memory writer utility that updates the BIOS by uploading a new BIOS file to the programmable Flash ROM chip on the motherboard.

Flash ROM Writer Utility AMIFLASH.COM

AMIFLASH Version 5.30 - Flash EPROM Programming Utility Copyright (C) 1992-1996 American Megatrends Inc. Release Date : 05/12/96
Enter BIOS Filename: _____
Enter the BIOS Filename from which Flash EPROM ^{message} will be programmed. The Format:- [Drv:\Pathname\Filename.Ext] The Filename must end with a <ENTER>.

You cannot run this utility from the Windows 95 MS-DOS box. Please run it in real mode. The method is :

1. Restart your computer.
2. Press F8 to show the multiboot menu as soon as the "Starting Windows 95..." message appears on the screen.
3. Choose 6 (Command prompt only).
4. Run "AMIFLASH" to write the updated content to your BIOS if necessary.

Another method is: Create a bootable system floppy diskette by typing "FORMAT A:/S" from the DOS environment without creating AUTOEXEC.BAT and CONFIG.SYS, then save the AMIFLASH utility and the BIOS file to the diskette. Note that you should have a BIOS file ready to update your BIOS chip if you really want to change the original content of your BIOS.

Notice : *If the flashing of the BIOS content fails to boot-up, we recommend you to refer to your nearest Technical support site for replacement or have a qualified technician to do the updates for your system.*

CHAPTER 3 SYSTEM BIOS SETUP

This chapter discusses AMIBIOS Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored into battery-backed RAM so that it contains the Setup program when the power is turned off.

The AMIBIOS has been customized by adding important, but non-standard features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The Setup utility provided by AMIBIOS is accessed by pressing at the appropriate time during system boot. Setup configures data in CMOS RAM.

The following screen shows the types of AMIBIOS Setup:

AMIBIOS HIFLEX SETUP UTILITY — VERSION 1.16 (C)1996 American Megatrends, Inc. All Rights Reserved
Standard CMOS Setup Advanced CMOS Setup Advanced Chipset Setup Power Management Setup PCI / Plug and Play Setup Peripheral Setup Smart Soft CPU Setting Auto-Detect Hard Disks Change User Password Change Supervisor Password Change Language Setting Auto Configuration with Optimal Settings Auto Configuration with Fail Safe Settings Save Settings and Exit Exit Without Saving
Standard CMOS setup for change time, date, hard disk type, etc. ESC: Exit ↑↓: Sel F2/F3: Color F10: Save & Exit

3.1 Standard CMOS Setup

The AMIBIOS Setup options described in this section are displayed by choosing the Standard Setup icon from the Setup section on the AMIBIOS Setup main menu. All Standard Setup options are described in this section.

AMIBIOS SETUP — STANDARD CMOS SETUP							
(C)1996 American Megatrends, Inc. All Rights Reserved							
Date (mm-dd-yyyy): Tue Jul 01, 1997				Base Memory: 0 KB			
Time (hh-mm-ss) : 14: 39: 00				Extd Memory: 0 KB			
Floppy Driver A:		1.44 MB 3½					
Floppy Driver B:		Not Installed					
	Type	Size	Cyln	Head	WPcom	LBA BIK	PIO 32Bit
		Mode			Sec	Mode	Mode
Pri Master	:	Auto					On
Pri Slave	:	Auto					On
Sec Master	:	Auto					On
Sec Slave	:	Auto					On
Boot Sector Virus Protection		Disabled					
32-bit transfer (should be enabled only if supported by controller)				ESC: Exit ↑↓: Sel			
				PgUp/PgDn: Modify			
				F2/F3: Color			

- **Date/Time**

Select the Date/Time option to change the date or time. The current date and time are displayed. Enter new values through the displayed window.

- **Floppy Drive A, B**

Choose the Floppy Drive A or B icon to specify the floppy drive type. The settings are 360 KB 5¼", 1.2 MB 5¼", 720 KB 3½", 1.44 MB 3½", or 2.88 MB 3½".

- **IDE Device Auto-detection for Primary/Secondary Hard Disk/CD-ROM Drives/LS-120 device.**

- **Configuring IDE Drives**

If the hard disk drive to be configured is an IDE drive, select the appropriate drive icon (Pri Master, Pri Slave, Sec Master, or Sec Slave). Choose the **Type** parameter and select Auto.

AMIBIOS automatically detects the IDE drive parameters and displays them. Click on the OK button to accept these parameters.

Click on **LBA/Large Mode** and choose On to enable support for IDE drives with capacities greater than 528 MB. Note that hard disk with LBA mode formatted on other system may not bootup and you needs to do a “sys c:” for system bootup.

Click on **Block Mode** and choose On to support IDE drives that use Block Mode.

Click on **32Bit Mode** and choose On to support IDE drives that permit 32-bit accesses.

- ***Configuring a CD-ROM Drive***

Select the appropriate drive icon (Pri Master, Pri Slave, Sec Master, or Sec Slave). Choose the **Type** parameter and select CD ROM. You can boot the computer from a CD-ROM drive.

- ***Configuring a LS-120 device***

The LS-120 device will be auto-detected by BIOS. To create LS-120 device boot able Disc, format the LS-120 disk under Windows 95 or for data storage. Do not format LS-120 disk under DOS environment.

- ***Anti-Virus Option***

Do not enable this option during operating system installation like OS/2 and Windows 95. This may render your system unable to install.

3.2 Advanced CMOS Setup

The AMIBIOS Setup options described in this section are displayed by choosing the Advanced Setup icon from the Setup section on the AMIBIOS Setup main menu. All Advanced Setup options are described in this section.

AMIBIOS SETUP — ADVANCED CMOS SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
1st Boot Device	IDE-0	Available Options:
2nd Boot Device	FLOPPY	Disabled
3rd Boot Device	CDROM	▶ IDE-0
4th Boot Device	Disabled	IDE-1
Try Other Boot Devices	Yes	IDE-2
S.M.A.R.T. for Hard Disks	Disabled	IDE-3
Quick Boot	Disabled	FLOPPY
BootUp Num-Lock	On	FLOPTICAL
Floppy Driver Swap	Disabled	CDROM
Floppy Driver Seek	Disabled	SCSI
PS/2 Mouse Support	Disabled	
System Keyboard	Present	
Primary Display	VGA/EGA	
Password Check	Setup	
Boot To OS/2	No	
Wait For "F1" If Error	Disabled	
Hit "DEL" Message Display	Disabled	
External Cache	Disabled	ESC: Exit ↑↓ : Sel
System BIOS Cacheable	Enabled	PgUp/PgDn : Modify
C000, 16K Shadow	Cached	F2/F3 : Color

- **xxx Boot Device**

Priority of Device pre-defined in-sequence for Booting.

- **S.M.A.R.T. Feature**

S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) is a technology developed to manage the reliability of the hard disks by predicting some (but NOT ALL) of the future device failures. This feature helps BIOS warn the user of the possible device failure thereby giving user a chance to back up the device and replace the device before actual failure happens. S.M.A.R.T. capable devices should predict an impending failure and return that information through the Return S.M.A.R.T. Status command. Note that S.M.A.R.T. can not predict all future device failures and it should be used as an warning tool, not as a tool to predict the device reliability.

- **Quick Boot**

Set this option to *Enabled* to permit AMIBIOS to boot within 5 seconds. This option replaces the old **Above 1 MB Memory Test** option. The Optimal and Fail-Safe default settings are *Disabled*.

Setting	Description
Disabled	AMIBIOS tests all system memory. AMIBIOS wait up to 40 seconds for a READY signal from the IDE drive. AMIBIOS waits up to .5 seconds after sending a RESET signal to the IDE drive to permit the IDE drive to send a READY signal. AMIBIOS checks if the key was pressed. AMIBIOS Setup is executed if was pressed.
Enabled	AMIBIOS does not test any system memory above 1 MB. AMIBIOS does not wait for a READY signal from the IDE drive. If a READY signal is not received immediately, AMIBIOS does not configure the drive. AMIBIOS does not wait .5 seconds after sending a RESET signal to the IDE drive. AMIBIOS does not check if the key was pressed. <i>You cannot run AMIBIOS Setup at system boot if this setting is selected.</i>

- ***Boot Up Num Lock***

When this option is set to *On*, AMIBIOS turns off the *Num Lock* key when the system is powered on so the end user can use the arrow keys on both the numeric keypad and the keyboard. The settings are *On* or *Off*. The Optimal default and Fail-Safe default settings are *On*.

- ***Floppy Drive Swap***

Set this option to *Enabled* to specify that floppy drives A: and B: are swapped. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***Floppy Drive Seek***

When this option is set to *Enabled*, AMIBIOS performs a Seek command on floppy drive A: before booting the system. The settings are *Enabled* or *Disabled*. The Optimal default setting is *Disabled*. The Fail-Safe default setting is *Enabled*.

- ***PS/2 Mouse Support***

When this option is set to *Enabled*, AMIBIOS supports a PS/2-type mouse. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***System Keyboard***

This option configures the keyboard. The settings are *Present* or *Absent*. If you select *Absent*, AMIBIOS does not report keyboard errors. The Optimal and Fail-Safe default settings are *Present*.

- **Primary Display**

This option configures the primary display subsystem in the computer. The settings are *Absent*, *Mono (monochrome)*, *40CGA*, *80CGA*, or *VGA/EGA*. The Optimal and Fail-Safe default settings are *VGA/EGA*.

- **Password Check**

This option specifies the type of AMIBIOS password protection that is implemented. The Optimal and Fail-Safe default settings are *Setup*. The settings are:

Setting	Description
Setup	The password prompt appears only when an end user attempts to run AMIBIOS Setup.
Always	A password prompt appears every time the computer is powered on or rebooted.

The AMIBIOS password does not have to be enabled. The end user sets the password by choosing the Password icon on the AMIBIOS Setup screen.

- **Boot to OS/2**

Set this option to *Yes* to permit AMIBIOS to run properly if OS/2 or any other operating system that does not support Plug and Play is to be run on this computer. If running OS/2 in a computer with 64 MB or more of system memory, set this option to *Yes*. The settings are *Yes* or *No*. The Optimal and Fail-Safe default settings are *No*.

- **Wait for "F1" If Error**

AMIBIOS POST runs system diagnostic tests that can generate a message followed by:

Press <F1> to continue

If this option is set to *Enabled*, AMIBIOS waits for the end user to press <F1> before continuing. If this option is set to *Disabled*, AMIBIOS continues the boot process without waiting for <F1> to be pressed. The settings are *Enabled* or *Disabled*. The Optimal default and Fail-Safe default settings are *Enabled*.

- **Hit "DEL" Message Display**

Disabling this option prevents the display of the message.

Hit if you want to run Setup

from appearing when the system boots. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

- **External Cache**

This option selects the type of caching algorithm used by AMIBIOS and the CPU to access L2 secondary (external) cache memory. The settings are:

Setting	Description
WriteBack	A write-back algorithm is used.
Disabled	AMIBIOS does not specify the type of caching algorithm.

The Optimal default setting is WriteBack. The Fail-Safe default setting is *Disabled*.

- **System BIOS Cacheable**

AMIBIOS always copies the system BIOS from ROM to RAM for faster execution. Set this option to *Enabled* to permit the contents of the F0000h RAM memory segment to be written to and read from cache memory. The settings are *Enabled* or *Disabled*. The Optimal default setting is *Enabled*. The Fail-Safe default setting is *Disabled*.

C000,16K Shadow

C400,16K Shadow

These options specify how the contents of the video ROM at C0000h are handled. The settings are:

Setting	Description
Disabled	The Video ROM is not copied to RAM.
Cached	The contents of the video ROM area from C0000h - C7FFFh are not only copied from ROM to RAM, the contents of the C0000h - C7FFFh RAM area can be written to or read from cache memory.
Enabled	The contents of the video ROM area from C0000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.

The Optimal and Fail-Safe default settings are *Cached*.

C800,16K Shadow
CC00,16K Shadow
D000,16K Shadow
D400,16K Shadow
D800,16K Shadow
DC00,16K Shadow

These options specify how the contents of the adapter ROM named in the option title are handled. The ROM area that is not used by ISA adapter cards will be allocated to PCI adapter cards. The settings are:

Setting	Description
Disabled	The specified ROM is not copied to RAM.
Cached	The contents of the ROM area are not only copied from ROM to RAM for faster execution, the contents of the RAM area can be written to or read from cache memory.
Enabled	The contents of the ROM area are copied from ROM to RAM for faster execution.

The Optimal and Fail-Safe default settings are *Cached*.

3.3 Advanced Chipset Setup

Choose the Chipset Setup icon from the Setup section on the AMIBIOS Setup main menu. All Chipset Setup options are then displayed and are described in this chapter.

AMIBIOS SETUP — ADVANCED CHIPSET SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
DRAM Speed	70ns	Available Options: Manual
DRAM Read Burst Timing	x3EDO x4FPM	
DRAM Write Burst Timing	x3EDO x3FPM	60ns
DRAM Lead off Timing	10/6/4	▶ 70ns
Memory Address Driver Strength	16mA, 16mA	
Enhanced Paging	12	
Memory Hole	Disabled	
USB Function	Disabled	
USB Keyboard/Mouse Support	Disabled	
		ESC: Exit ↑↓: Sel PgUp/PgDn: Modify F2/F3: Color

- **DRAM Speed**

This option specifies the RAS Access Time parameter for the installed DRAM SIMMs. The settings are *Manual*, *60 ns*, or *70 ns*. The Optimal and Fail-Safe default settings are 70ns.

For Cyrix / IBM PR200 MHz or 233 MHz MMX CPUs, it is recommended to configure the setting as “70ns” for reliability.

- **DRAM Read Burst Timing**

This option specifies the access timings for DRAM system memory read operations. The settings are *x4EDO x4FPM*, *x3EDO x4FPM*, or *x2EDO x3FPM*. The Optimal default settings are *x3EDO x4FPM*.

- **DRAM Write Burst Timing**

This option specifies the access timings for DRAM system memory write operations. The settings are *x4EDO x4FPM*, *x3EDO x3FPM*, or *x2EDO x2FPM*. The Optimal and Fail-Safe default settings are *x3EDO x3FPM*.

- **DRAM Lead off Timing**

This option sets the leadoff timings for system memory access. The settings are *11/7/3*, *10/6/5*, *11/7/4*, or *10/6/4*. The Optimal and Fail-Safe default settings are *11/7/3*.

- **Memory Address Drive Strength**

This option specifies the current strength (in milliamps) for system memory. The settings are “*10mA, 10mA*”, “*10mA, 16mA*”, “*16mA, 10mA*”, or “*16mA, 16mA*”. The Optimal default setting is *10mA, 16mA*. The Fail-Safe default setting is *16mA, 16mA*.

- **Enhanced Paging Disable**

Set this option to *Enabled* to enable enhanced paging. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

- **Memory Hole**

This option allows the end user to specify the location of a memory hole for ISA card with firm ware ROM. The settings are *Disabled*, *512-640K*, *14-16 MB*, or *15-16M* (from 15 MB to 16 MB). The Optimal and Fail-Safe default settings are *Disabled*.

- **USB Function**

Set this option to *Enabled* to enable the system BIOS USB (Universal Serial Bus) functions. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

- **USB Keyboard/Mouse Legacy Support**

Set this option to *Enabled* to provide support for older non-USB keyboard and mice. The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Disabled*.

- **Memory Specification Notice**

The problem with EDO RAM when looking in the future is that it hardly works with any bus speed higher than 66MHz, which is already reached. As CPUs demand higher bus speeds and the Cyrix 6x86 already needing 75MHz, it is not recommended to use EDO Memory on the **AXT431** for system clock frequency of above 66MHz or install SDRAM DIMMs memory which supports current Intel and AMD CPUs (100~133MHz) require 66MHz system clock.

3.4 Power Management Setup

The AMIBIOS Setup options described in this section are selected by choosing the Power Management Setup icon from the Setup section on the AMIBIOS Setup main menu.

AMIBIOS SETUP — POWER MANAGEMENT SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
Power Management/APM	Enabled	Available Options:
Green PC Monitor Power State	Stand By	▶ N/A
Video Power Down Mode	Disabled	3
Hard Disk Power Down Mode	Disabled	4
Hard Disk Time Out (Minute)	Disabled	5
Standby Time out (Minute)	Disabled	7
Suspend Time Out (Minute)	Disabled	9
Slow Clock Ratio	37.5-50%	10
Display Activity	Ignore	11
Serial port 1	Monitor	
Serial port 2	Monitor	
Parallel port	Monitor	
Floppy disk	Monitor	
Primary IDE 0	Monitor	
Primary IDE 1	Monitor	
Secondary IDE 0	Monitor	
Secondary IDE 1	Monitor	
System Thermal	Monitor	
Resume on Ring	Disabled	
Modem Use IO Port	N/A	
Modem Use IRQ	N/A	ESC : Exit ↕ : Sel
Soft-Off by PWR-BTTN	Instant-off	PgUp/PgDn: Modify
RTC Alarm Resume From Soft off	Disabled	F2/F3: Color

-

- **Power Management/APM**

Set this option to *Enabled* to enable the Intel 430TX power management features and APM (Advanced Power Management). The settings are *Enabled* or *Disabled*. The Optimal and Fail-Safe default settings are *Enabled*.

This option works in conjunction with the CPU overheated warning alarm. Disabling it may render the warning alarm off.

-

-

- **Green PC Monitor Power State**

This option specifies the power state that the green PC-compliant video monitor enters when AMIBIOS places it in a power savings state after the specified period of display

inactivity has expired. The settings are *Off*, *Standby*, *Suspend*, or *Disabled*. The Optimal and Fail-Safe default settings are *Standby*.

- ***Video Power Down Mode***

This option specifies the power conserving state that the VESA VGA video subsystem enters after the specified period of display inactivity has expired. The settings are *Disabled*, *Standby*, or *Suspend*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***Hard Disk Power Down Mode***

This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The settings are *Disabled*, *Standby*, or *Suspend*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***Hard Disk Time out (Minutes)***

This option specifies the length of a period of hard disk drive inactivity. When this length of time expires, the computer enters power-conserving state specified in the **Hard Disk Power Down Mode** option (see the previous page). The settings are *Disabled*, *1 min*, *2 min*, *3 min*, *4 min*, *5 min*, *6 min*, *7 min*, *8 min*, *9 min*, *10 min*, *11 min*, *12 min*, *13 min*, *14 min*, or *15 min*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***Standby Time out (Minute)***

This option specifies the length of a period of system inactivity while in Full power on state. When this length of time expires, the computer enters Standby power state. The settings are *Disabled*, *1 min*, *2 min*, *3 min*, *4 min*, *5 min*, *6 min*, *7 min*, *8 min*, *9 min*, *10 min*, *11 min*, *12 min*, *13 min*, *14 min*, or *15 min*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***Suspend Time out (Minute)***

This option specifies the length of a period of system inactivity while in Standby state. When this length of time expires, the computer enters Suspend power state. The settings are *Disabled*, *1 min*, *2 min*, *3 min*, *4 min*, *5 min*, *6 min*, *7 min*, *8 min*, *9 min*, *10 min*, *11 min*, *12 min*, *13 min*, *14 min*, or *15 min*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***Slow Clock Ratio***

This option specifies the speed at which the system clock runs in power saving states. The settings are expressed as a percentage of the standard clock speed. The settings are 0-12.5%, 12.5-25%, 25-37.5%, 37.5-50%, 50-62.5%, 62.5-75%, or 75-87.5%. The Optimal and Fail-Safe defaults are 12.5-25%.

- ***Display Activity***

When set to *Monitor*, this option enables event monitoring on the video display monitor. If set to *Monitor* and the computer is in a power saving state, AMIBIOS watches for video display activity. The computer enters the full on power state if any activity occurs. AMIBIOS reloads the Standby and Suspend timeout timers if activity occurs on the specified IRQ line. If set to *Ignore*, video display monitor activity is not monitored. The settings are *Ignore* or *Monitor*. The Optimal and Fail-Safe default settings are *Ignore*.

IRQ3

IRQ4

IRQ5

IRQ7

IRQ9

IRQ10

IRQ11

IRQ12

IRQ13

IRQ14

IRQ15

When set to *Monitor*, these options enable event monitoring on the specified hardware interrupt request line. If set to *Monitor* and the computer is in a power saving state, AMIBIOS watches for activity on the specified IRQ line. The computer enters the full on power state if any activity occurs. AMIBIOS reloads the Standby and Suspend timeout timers if activity occurs on the specified IRQ line.

No monitoring activity occurs if the option is set to *Ignore*.

The settings for each of these options are *Monitor* or *Ignore*. The Optimal and Fail-Safe default settings are *Ignore*.

- ***Modem Use (IO Port /IRQ)***

This item determines the IRQ and IO Port in which the MODEM can be used. Note that the MODEM Ring on can wake up your computer only when in Standby mode.

- ***Soft-Off by PWR-BTTN***

This option allows you to determine the time to enter Soft-off mode when Power-on for ATX Power Supply.

- ***RTC xx***

This option sets the RTC Alarm. The format is Date/Hour/Minute/Second.

3.5 PCI/PnP Setup

Choose the PCI/PnP Setup icon from the AMIBIOS Setup screen to display the PCI and Plug and Play Setup options, described below.

AMIBIOS SETUP — PCI / PLUG PLAY SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
Plug and Play Aware O/S	No	Available Options: ▶ No Yes
PCI Slot1 IRQ Priority	Auto	
PCI Slot2 IRQ Priority	Auto	
PCI Slot3 IRQ Priority	Auto	
PCI Slot4 IRQ Priority	Auto	
DMA Channel 0	PnP	
DMA Channel 1	PnP	
DMA Channel 3	PnP	
DMA Channel 5	PnP	
DMA Channel 6	PnP	
DMA Channel 7	PnP	
IRQ3	PCI/PnP	
IRQ4	PCI/PnP	
IRQ5	PCI/PnP	
IRQ7	PCI/PnP	
IRQ9	PCI/PnP	
IRQ10	PCI/PnP	
IRQ11	PCI/PnP	
IRQ12	PCI/PnP	
		ESC : Exit ↵ : Sel PgUp/PgDn: Modify F2/F3 : Color

- **Plug and Play-Aware O/S**

Set this option to *Yes* if the operating system in this computer is aware of and follows the Plug and Play specification. Currently, only Windows 95 is PnP-aware. The settings are *Yes* or *No*. The Optimal and Fail-Safe default settings *No*.

- **PCI Slot 1 IRQ Priority**
- **PCI Slot 2 IRQ Priority**
- **PCI Slot 3 IRQ Priority**
- **PCI Slot 4 IRQ Priority**

These options specify the priority IRQ to be used for any PCI devices installed in PCI expansion slots 1 through 4. The settings are *Auto* (AMIBIOS automatically determines the priority IRQ), (*IRQ*) 3, 4, 5, 7, 9, 10, 11, or 12. The Optimal and Fail-Safe default settings are *Auto*.

- DMA Channel 0
- DMA Channel 1
- DMA Channel 3
- DMA Channel 5
- DMA Channel 6

DMA Channel 7

These options specify if the named DMA channel is available for use on the ISA/EISA bus or for PnP (Plug and Play). The settings are *ISA/EISA* or *PnP*. The Optimal and Fail-Safe default settings are *PnP*.

IRQ3

IRQ4

IRQ5

IRQ7

IRQ9

IRQ10

IRQ11

IRQ12

IRQ14

IRQ15

These options specify the bus that the specified IRQ line is used on. These options allow you to reserve IRQs for legacy ISA adapter cards. These options determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these options to reserve the IRQ by assigning an *ISA/PCI* setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured as *PCI/PnP*. IRQ14 and 15 will not be available if the onboard PCI IDE is enabled. If all IRQs are set to *ISA/EISA* and IRQ14 and 15 are allocated to the onboard PCI IDE, IRQ9 will still be available for PCI and PnP devices, because at least one IRQ must be available for PCI and PnP devices. The settings are *ISA/PCI* or *PCI/PnP*. The Optimal and Fail-Safe default settings for IRQ3 through 7 are *ISA/PCI*. The Optimal and Fail-Safe default settings *PCI/PnP*.

- **Reserved Memory Size**

This option specifies the size of the memory area reserved for legacy ISA adapter cards. The settings are *Disabled*, *16K*, *32K*, or *64K*. The Optimal and Fail-Safe default settings are *Disabled*.

- ***Reserved Memory Address***

This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards.

The settings are *C0000*, *C4000*, *C8000*, *CC000*, *D0000*, *D4000*, *D8000*, or *DC000*. The Optimal and Fail-Safe default settings are *C8000*.

3.6 *Peripheral Setup*

Choose the Peripheral Setup icon from the AMIBIOS Setup screen to display the Peripheral Setup options, described below.

AMIBIOS SETUP — PERIPHERAL SETUP (C)1996 American Megatrends, Inc. All Rights Reserved

OnBoard FDC	Enabled	Available Options: Auto Disabled ▶ Enabled
OnBoard Serial PortA	3F8h/COM1	
OnBoard Serial PortB	2F8h/COM2	
IR Port Support	Disabled	
IR Base Address Select	2E8	
IR IRQ Select	3	
OnBoard Parallel Port	378	
Parallel Port Mode	Normal	
EPP Version	N/A	
Parallel Port IRQ	7	
Parallel Port DMA Channel	N/A	
Onboard IDE	Both	
		ESC : Exit ↵ : Sel PgUp/PgDn : Modify F2/F3 : Color

- **Onboard FDC**

This option enables the FDC (Floppy Drive Controller) on the motherboard. The settings are *Auto* (*AMIBIOS* automatically determines if the floppy controller should be enabled), *Enabled*, or *Disabled*. The Optimal and Fail-Safe default settings are *Auto*.

- **Onboard Serial PortA**

This option specifies the base I/O port address of serial port 1. The settings are *Auto* (*AMIBIOS* automatically determines the correct base I/O port address), *Disabled*, *3F8h*, *2F8h*, *2E8h*, or *3E8h*. The Optimal and Fail-Safe defaults are *3F8H*.

- **Onboard Serial PortB**

This option specifies the base I/O port address of serial port 2. The settings are *Auto* (*AMIBIOS* automatically determines the correct base I/O port address), *Disabled*, *3F8h*, *2F8h*, *2E8h*, or *3E8h*. The Optimal and Fail-Safe defaults are *2F8H*.

This option works in conjunction with the Infrared (IR) device option. If you can installing IR device, you needs to set this option as “Auto” for IRQ sharing for COM 2 device and IR device.

- **Serial PortB Mode**

This option is not available if the setting of the **Onboard Serial PortB** option is *Disabled*. This option specifies the serial PortB mode. The settings are *Standard*,

IrDA, or *ASK IR* (the *ASK Computer infrared specification*). The Optimal and Fail-Safe default settings are *Standard*.

- ***IR Port Support***

This option enables the IR (Infra Red) function on the motherboard. The settings are Disabled or Enabled.

- ***IR Base Address Select***

This option specifies the base I/O Port address of IR port. Please select the appropriate base I/O port address.

- ***IR IRQ Select***

This option specifies the IRQ number of the IR device. Note that the IRQ number can not be in conflict with those of the existing devices.

- ***Onboard Parallel Port***

This option specifies the base I/O port address of the parallel port on the motherboard. The settings are *Auto* (*AMIBIOS automatically determines the correct base I/O port address*), *Disabled*, *378h*, *278h*, or *3BCh*. The Optimal and Fail-Safe default settings are *378H*.

- ***Parallel Port Mode***

This option specifies the parallel port mode. The Optimal and Fail-Safe default settings are *Normal*. The settings are:

Setting	Description
Normal	Specify this option to use the standard 8-bit IBM PC/AT-compatible Centronics parallel port.
EPP	The parallel port can be used with devices that adhere to the Enhanced Parallel Port (EPP) specification. EPP uses the existing parallel port signals to provide asymmetric bidirectional data transfer driven by the host device.
ECP	The parallel port can be used with devices that adhere to the Extended Capabilities Port (ECP) specification. ECP uses the DMA protocol to achieve data transfer rates up to 2.5 Megabits per second. ECP provides symmetric

	bidirectional communication.
--	------------------------------

The Optimal and Fail-Safe default settings are *Normal*.

- ***EPP Version***

This option is only valid if the **Parallel Port Mode** option is set to *EPP*. This option specifies the version of the Enhanced Parallel Port specification that will be used by AMIBIOS. The settings are *1.7* or *1.9*. The Optimal and Fail-Safe default settings are *N/A*.

- ***Parallel Port IRQ***

This option is only valid if the **Onboard Parallel Port** option is not set to *Disabled*. This option sets the IRQ used by the parallel port. The settings are *5*, *7*, or *Auto* (*AMIBIOS automatically sets the correct parallel port IRQ*). The Optimal and Fail-Safe default settings are *Auto*.

- ***Parallel Port DMA Channel***

This option is only available if the setting of the **Parallel Port Mode** option is *ECP*. This option sets the DMA channel used by the ECP-capable parallel port. The settings are *None*, *0 (DMA Channel 0)*, *1 (DMA Channel 1)*, or *3 (DMA Channel 3)*. The Optimal and Fail-Safe default settings are *3*.

- ***Onboard IDE***

This option specifies the channel used by the IDE controller on the motherboard. The settings are *Disabled*, *Primary*, *Secondary*, or *Both*. The Optimal and Fail-Safe default settings are *Primary*.

For Fast Configuration

- ***Optimal Defaults (Default setting)***

The Optimal default values provide optimum performance settings for all devices and system features.

- ***Fail-Safe Defaults***

The Fail-Safe default settings consist of the safest set of parameters. Use them if the system is behaving erratically. They should always work but do not provide optimal system performance characteristics.

3.7 Smart Soft CPU Setting

The SMART Soft CPU setting can let you simply change the CMOS BIOS Setting to set the CPU type, working speed, frequency, and temperature control. See section 2.3 for more information on this.

AMIBIOS SETUP — CPU CONFIGURATION SETUP (C)1996 American Megatrends, Inc. All Rights Reserved		
CPU Type	Pentium	Available Options:
CPU Frequency (MHz)	233 (66*3.5)	90 (60*1.5)
CPU Voltage (V)	3.3	100 (66*1.5)
CPU Temperature Setup (°C)	50	120 (60*2)
CPU Current Temperature (°C)	0	133 (66*2)
Thermal Slow Clock Ratio	37.5%	150 (60*2.5)
		166 (66*2.5)
		180 (60*3)
		200 (66*3)
		▶ 233 (66*3.5)
		ESC:Exit ↑↓:Sel PgUp/PgDn:Modify F2/F3:Color

LIMITED WARRANTY

Congratulations on your purchase of an the Motherboard . This product is engineered to give many years of trouble free performance. This limited warranty is provided for your protection.

The warrants this product to be in good working order for a period of one year from date of purchase as a new product. In the event of failure of any part(s) due to defects in material or workmanship occurring within that one year period, *DataExpert* will, at its option, either repair or replace the defective product or part thereof at no charge for the parts or labor.

The limited warranty described above is in addition to whatever implied warranties may be granted to purchaser by law. To the extent permitted by applicable law, ALL IMPLIED WARRANTIES INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE PERIOD FROM THE DATE OF PURCHASE FOR ONE YEAR. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

The limited warranty is non-transferable and does not apply if the product has been damaged by abuse, misuse, modification, accident, misapplication, or shipment to *DataExpert*. Service by anyone other than an authorized *DataExpert* service agent will also render this limited warranty void. It is the purchaser's responsibility to determine the suitability of this product for your purposes. *DataExpert* does not warrant that this product will meet your requirements.

LIABILITY DISCLAIMER

The product described in this manual is warranted in accordance with the terms of the applicable *DataExpert* product specifications. Product performance is affected by system configuration, software, application, customer data, operator control, and other factors.

RMA FORM

If the motherboard does not work fine, please fill up this form to describe related situations. If the space is not enough, you can attach a separate paper.

MODEL:

MODEL NO:

HARDWARE

CPU: Brand _____, Model _____, Speed _____ MHz

CD-PROCESSOR: Brand _____, Model _____, Speed _____ MHz

SIMM: Brand _____, Speed _____ ns, Q'ty _____ pcs, Total _____ MB

CACHE: Brand _____, Speed _____ ns, Total _____ K

TAG RAM: Brand _____, Speed _____ ns

BIOS DATA CODE: _____

SYSTEM SPEED RUNNING _____ MHz

VIDEO CARD: Chip _____, RAM _____, VGA Mode _____
Bus _____ (ISA, VESA or PCI)

OTHER ADD-ON CARDS:

SOFTWARE

OPERATING SYSTEM _____ VERSION _____

SOFTWARE PROGRAM _____

BIOS SETUP: DRAM Wait State _____ CACHE Wait State _____

If you change BIOS SETUP, please describe the changes:

<A>ERROR

- HANG UP NO SCREEN FLOPPY R/W ERROR
 HARD DISK R/W ERROR PARITY MEMORY ERROR
 OTHER _____

ERROR MESSAGES ON YOUR SCREEN (PLEASE SHOW US THE WHOLE SENTENCE)

<C>PROBLEM DESCRIPTION

