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Item Checkup

- Mainboard
- Multi-lingual Quick Installation Guide
- User Manual (Mainboard)
- Support CD
- Bundled Bonus Pack CD
- Bundled Bonus Pack Manual
- Cable :
 - ATA66/100/133 IDE Cable
 - FDD Cable
 - Thermal Sensor Cable (Optional)
 - USB Cable (Optional)

Chapter 1 Specification

Introduction

This series features an integration of the powerful processor Intel Pentium 4 and the single-chip North Bridge of VIA Apollo P4X266E plus South Bridge VT8235, by which the whole system performance is upgraded to 533MHz system bus.

The Intel P4 processor is a rapid execution engine providing 533/400MHz quadpumped system bus, while Apollo P4X266E North Bridge plus VT8235 South Bridge supports Intel P4 processor to implement the AGP 4X external bus, the LPC I/O, the DDR SDRAM, the USB 2.0 interface and UATA 133/100/66 data transfer rate. This chapter is to introduce to users every advanced function of this high performance integration.

Topics included in this chapter are:

1-1 Component Locations

1-2 Mainboard Specifications**

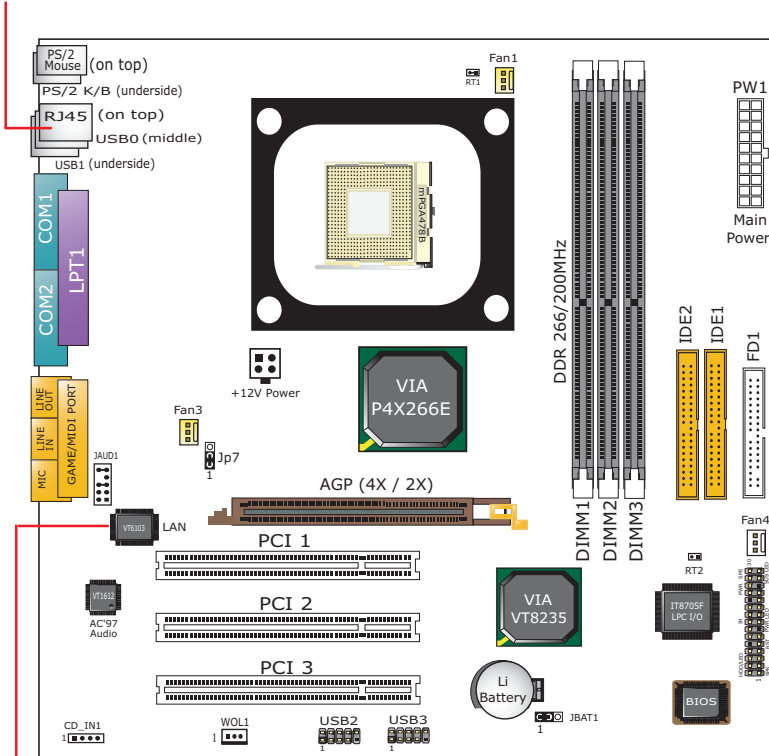
1-3 Mainboard Specification Table

1-4 Chipset Diagram

**** If any difference is found between the mainboard description and the Mainboard you are using, please look up the Errata/Update Slip enclosed inside for the correction or updated information, or else contact the mainboard Dealer or visit our Web Site for the latest manual update.**

1-1 85DIV3 / 85DIV3-L Components Locations

RJ45 LAN Connector for 85DIV3-L only



LAN Controller for 85DIV3-L only

1-2 Mainboard Specifications

1-2.1 CPU Socket

CPU Socket 478B on board, supporting Intel® Pentium 4 and Northwood processors in the 478-pin package for :

- 533 / 400 MHz System Bus;
- Hyper-pipelined technology;
- Advanced dynamic execution;
- Advanced transfer cache;

1-2.2 System Chipsets

- North Bridge VIA Apollo P4X266E for manage and support 533/400MHz system bus, DDR 266/200 SDRAM memory interface, HUB interface and AGP 4X/2X interface.
- South Bridge VT8235 working with North Bridge supporting the 4X V-Link, LPC Super I/O, Upstream Hub interface, PCI interface, IDE interface, LAN interface, USB V2.0 interface as well as the AC'97 2-channel Audio interface.

1-2.3 Memory DDR266 / 200 SDRAMs

3 DDR DIMM 184-pin slots on board for DDR266 and DDR200 SDRAMs, at 64bit data transfer rate:

- North Bridge P4X266E directly supporting pseudo-synchronous SDRAM up to 3GB unbuffered DDR SDRAMs.
- Installation of mixed volumes yet same type of DDR SDRAM modules supported .

1-2.4 BIOS

Flash Memory for easy upgrade, supporting BIOS Writing Protection, Year 2000 compliant, and supporting various hardware configuration during booting system (See Chapter 4 BIOS Setup):

- Standard CMOS Features (Times, Date, Hard Disk Type etc.)
- Advanced BIOS Features (Virus Protection, Boot Sequence etc.)
- Advanced Chipset Features (AT Clock, DRAM Timing etc.)
- Power Management Features (Sleep Timer, Suspend Timer etc.)
- PNP/PCI Configurations (IRQ Settings, Latency Timers etc.)
- Integrated Peripherals (Onboard I/O, IRQ, DMA Assign. etc.)
- Hardware Monitor Status (CPU/System Temp., Fan speed etc.)
- Frequency/Voltage Control (CPU clock, Voltage of CPU, DIMM, AGP etc.)

1-2.5 AGP (Accelerated Graphics Port) interface

AGP Controller is embedded on board, supporting:

- 1.5V (4x) / 3.3V (2x) power mode
- 2x/ 4x AD and SBA signalling, AGP pipelined split-transection long-burst transfers up to 1GB/sec
- One AGP Slot on board, AGP v2.0 compliant

1-2.6 Advanced System Power Management

- ACPI 1.0B compliant (Advanced Configuration and Power Interface), including ACPI Suspend mode support (See Power management of BIOS Setup)
- APM V1.2 compliant (Legacy Power Management)
- Wake On LAN supported (See “Power management Features” in BIOS Setup)
- Real Time Clock (RTC) with date alarm, month alarm, and century field

1-2.7 Multi-I/O Functions:

- PCI EIDE Controller, supporting:
 - 2x Ultra ATA 133/100 / 66 / 33 IDE Connectors supporting up to 4 IDE devices;
- Dedicated IR Functions:
 - Third serial port dedicated to IR function either through the two complete serial ports or the third dedicated port Infrared-IrDA (HPSIR) and ASK (Amplitude Shift Keyed) IR.
- Multi-mode parallel Data transfer:
 - Standard mode, ECP and EPP support;
- Floppy Disk connector:
 - One FDD connector with drive swap support;
- Universal Serial Bus Transfer Mode:
 - USB V2.0 compliant, 480 Mb/s USB Bus, supporting Win 98 and later operating systems; USB drivers provided in Support CD for installation
 - 2 built-in USB connectors and two USB Headers which require two additional USB cables to provide 4 more optional USB ports;
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
 - 2x Serial Ports COM1 and COM2 on board;

1-2.8 Expansion Slots

- 3 PCI Bus Master slots
- One AGP 4X/2X slot
- 3 DDR DIMM slots

1-2.9 Hardware Monitor on board

- Hardware Monitor in IT8705F, providing monitoring and alarm for flexible desktop management of hardware voltage, temperatures and fan speeds.
- Utility Software SmartGuardian for displaying Monitoring status is enclosed in Support CD for user's installation.

1-2.10 AC'97 Audio Codec on board

AC'97 Audio Codec on board

- Supporting 2-channel PCM audio output
- AC'97 Audio Codec Driver enclosed in Support CD for user's installation

1-2.11 LAN on board (for 85DIV3-L only)

PCI local bus single-chip Fast Ethernet Controller VT6103 on board:

- Supporting 10/100Mb data transfer
- Supporting Wake On LAN function through the on-board RJ45 LAN Connector

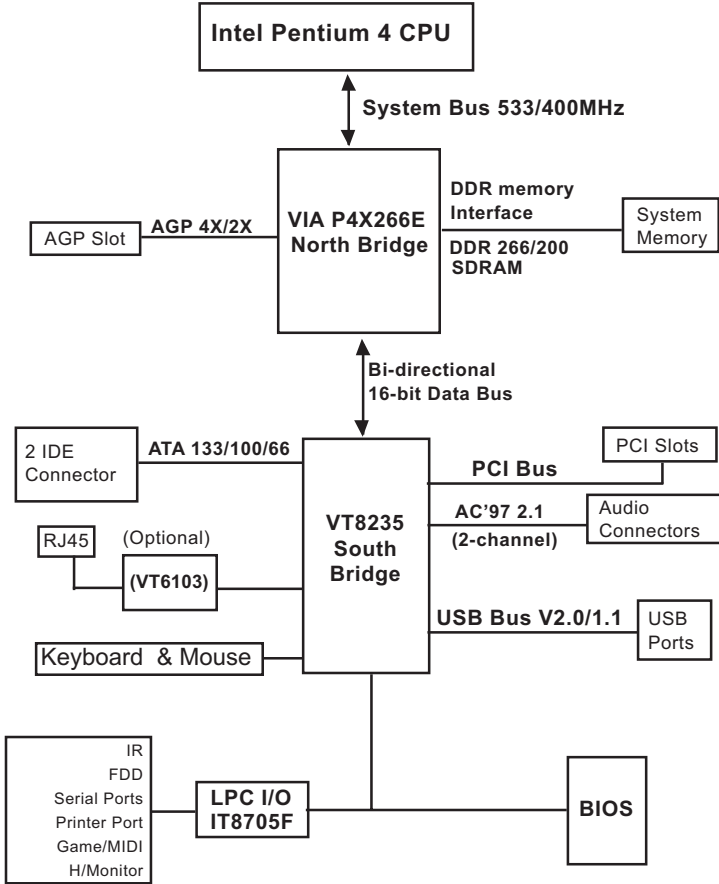
1-2.12 Form Factor

- Micro-ATX Form Factor, Power Supply ATX spec. version 2.03 compliant, supported by one Main Power Connector, one +12V Power Connector,
- Mainboard size: 245mm x 245mm

1-3 Mainboard Specification Table

SL-85DIV3 / 85DIV3-L Specifications and Features	
CPU	Socket 478B for Intel Pentium 4 CPUs
North Bridge	VIA Apollo P4X266E
South Bridge	VIA VT8235
BIOS	AMI BIOS
Memory	Supporting DDR 266/200 SDRAM, up to 3GB in three DDR DIMM slots
I/O Chip	ITE IT8705F
AGP interface	AGP4X / 2X Mode; 1 AGP Slot on board
Audio	AC'97 Audio V2.1 compliant, 2-channel audio
IDE Interface	2 UATA 33/66/100/133 IDE ports
Networking	Fast Ethernet Controller, RJ45 on board (Optional)
PCI Slots	3 PCI Master slots on board
I/O Connectors	6xUSB ports (V2.0), 1xFDD port, 2xCOM ports, 1xLPT, 1xIrDA, 1xPS/2 K/B, 1xPS/2 Mouse
Other Features	BIOS Writing Protection Hardware Monitoring in IT8705F ATX 2.03 Power Supply Micro-ATX Form Factor PS/2 Keyboard/Mouse Power On by BIOS

1-4 Chipset System Block Diagram



Intel Pentium 4 + VIA P4X266E + VT8235 Diagram

Chapter 4 AMI BIOS Setup

THE BIOS

BIOS stands for Basic Input and Output System. It was once called ROM BIOS when it was stored in a Read-Only Memory (ROM) chip. Now manufacturers would like to store BIOS in EEPROM which means Electrically Erasable Programmable Memory. BIOS used in this series of mainboard is stored in EEPROM, and is the first program to run when you turn on your computer.

BIOS performs the following functions:

1. Initializing and testing hardware in your computer (a process called "POST", for Power On Self Test).
2. Loading and running your operating system.
3. Helping your operating system and application programs manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

This Chapter includes the following topics :

4-1 About BIOS Setup

4-2 To Run BIOS Setup

4-3 About CMOS

4-4 The POST (Power On Self Test)

4-5 To Update BIOS

4-6 BIOS Setup

4-1 About BIOS Setup

BIOS setup is an interactive BIOS program that you need to run when:

1. Changing the hardware of your system. (For example: installing a new Hard Disk etc.)
2. Modifying the behavior of your computer. (For example: changing the system time or date, or turning special features on or off etc.)
3. Enhancing your computer's behavior. (For example: speeding up performance by turning on shadowing or cache)

4-2 To Run BIOS Setup

First access BIOS setup menu by pressing < DEL > key after "POST" is complete (before OS is loaded). BIOS will then display the following message:

DEL : SETUP

4-3 About CMOS

CMOS is the memory maintained by a battery. CMOS is used to store the BIOS settings you have selected in BIOS Setup. CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS Looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery runs out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and check and configure the BIOS Setup for the new start.

4-4 The POST (Power On Self Test)

POST is an acronym for Power On Self Test. This program will test all things the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

4-5 To Update BIOS

- System BIOS is incorporated into a Flash memory component. Flash BIOS allows user to upgrade BIOS without the need to replace an EPROM component.
- The Upgrade Utility can be loaded on a floppy diskette for upgrading saving, and verifying the system BIOS. The Update Utility can also be run from a hard disk drive or a network drive.
- It is highly recommended that you save a copy of the original mainboard BIOS along with a Flash EPROM Programming utility (AMIXXX.EXE) to a bootable floppy disk so that you can reinstall the BIOS when in need.
- Normally, to update BIOS is unnecessary if the system is working fine. Users should only update BIOS when incompatible problems are encountered or new features have to be added to system.
- “AMIFLASH.EXE” is a Flash EPROM Programming utility that updates the BIOS by uploading a new BIOS file to the programmable flash ROM on the mainboard. This program only works in ***DOS environment, the utility can not be executed in win95/98, ME, NT WINDOWS 2000 or Windows XP environment.***

• **Please follow the steps below for updating the system BIOS:**

Step 1. Please visit the board maker’s website, download the zip files which contain the latest BIOS file and AMI update utility. After unzipping, the file name of AMI update utility will be “AMIXXX.EXE” of which “XXX” stands for the version number of the file. The BIOS file format will be *.ROM, of which “*” stands for the specific BIOS file name.

Step 2. Create a bootable diskette. Then copy the BIOS file and AMI flash utility “AMIXXX.EXE” into the diskette.

Step 3. Insert the diskette into drive A, boot your system from the diskette.

Step 4. Under “ A “ prompt, type “ **AMIXXX.EXE *.ROM** “ and then press <Enter> to run BIOS update program. Please note that there should be a space between AMIXXX.EXE and *.ROM. (*.ROM depends on your mainboard model and version code. Instead of typing “*”, you should type the specific file name for your specific mainboard).

Step 5. When the message “Flash ROM Update Completed - Pass.” appears, please restart your system.

Step 6. You will see a message “CMOS Memory Size Wrong” during booting the system. Press or <F1> to run CMOS setup utility, then reload “LOAD SETUP DEFAULTS” or “**Load Optimal Defaults**” and save this change.

4-6 BIOS SETUP --- CMOS Setup Utility

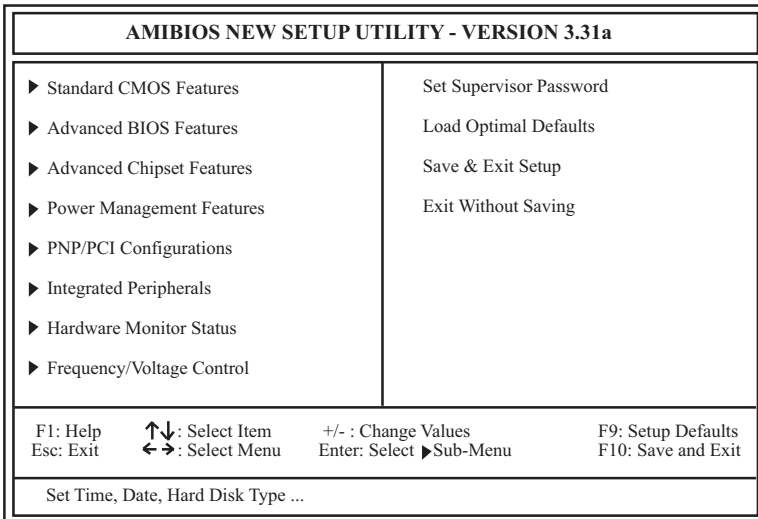
4-6.1 CMOS Setup Utility

This mainboard comes with the AMI BIOS from American Megatrends Inc. Enter the CMOS Setup Utility Main Menu by:

1. Turn on or reboot your system. After a series of diagnostic checks, the following message will appear:

PRESS TO RUN SETUP

2. Press the key and the main program screen will appear as follows.



3. Use the arrow keys on your keyboard to select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, "Save & Exit Setup" saves your changes and reboots the system, and "Exit Without Saving" ignores your changes and exits the program.

4-6.2 Standard CMOS Setup

Standard CMOS Setup records some basic system hardware configuration and sets the system clock and error handling. Modify the configuration values of this option if you want to change your system hardware configuration or after you clear CMOS data.

Run the Standard CMOS Setup as follows:

1. Choose "Standard CMOS Setup" from the Main Menu and a screen with a list of options will appear:

Standard CMOS Features	Setup Help
System Time 00 19 29 System Date Dec 05 2001 Wed ▶ Floppy options. ▶ IDE Devices Config	
F1: Help ↑↓: Select Item +/- : Change Values Esc: Previous Menu Enter: Select ▶Sub-Menu	F9: Setup Defaults F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

System Time The BIOS shows the time of the day in the format: hh:mm:ss. Choose the field with the Arrow keys and change the time with the Page Up/Page Down +/- keys.

System Date The BIOS shows the date of the day in the format: mm:dd:yy :day of the Week. Choose the field with the Arrow keys and change the value with the Page Up/Page Down +/- keys.

Floppy options Press Enter on “Floppy options” will let you select this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
 1.2MB, 5.25 in.
 720KB, 3.5 in.
 1.44MB, 3.5 in.
 2.88MB, 3.5 in.
 Not Installed

IDE Device Config Press Enter on IDE Device Config will let you configure the IDE devices on board and the following menu will reveal the following submenu for your configuration of the hard Disk you have installed:

Primary IDE Master : Not Installed	Setup Help
Type Auto Cylinders Heads Write Precompensation Sectors Maxium Capacity 0 Mb LBA Mode Off Black Mode Off Fast Programmed I/O Modes 0 32 Bit Transfer Mode On	

F1: Help ↑↓: Select Item
 Esc: Previous Menu

+/- : Change Values
 Enter: Select ► Sub-Menu

F9: Setup Defaults
 F10: Save and Exit

Type This option shows the types of configuration for the IDE devices:

1-50: Predefined types

USER: set Parameters by User

Auto: Set parameters automatically

CD-ROM: Use for ATAPI CD-ROM drives

Double click [Auto] to set all HDD parameters automatically, including “Cylinders, Heads, Write Precompensation, Sectors, Maximum Capacity and 32 Bit Transfer Mode.

4-6.3 Advanced BIOS Features

Advanced BIOS Features improves your system performance or sets up system features according to your preference.

Run the Advanced BIOS Features as follows:

1. Choose “Advanced BIOS Features” from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Advanced BIOS Features	Setup Help
Quick Boot	Enabled
Delay for Hard Drive (Sec.)	2
Boot Device Priority	
1st Floppy: 1.44 MB 3.5	
2nd CD-ROM	
3rd Disabled	
Try Other Boot Devices	Yes
Initial Display Mode	Silent
Display Mode at Add-On ROM Init	Force BIOS
S.M.A.R.T for Hard Disks	Disabled
Bootup Num-lock	On
Floppy Drive Swap	Disabled
Floppy Drive Seek	Disabled
PS/2 Mouse Support	Enabled
Primary Display	VGA/EGA
Password Check	Setup
Boot To OS/2	No
CPU Microcode Update	Enabled
L1 Cache	Enabled
L2 Cache	Enabled
System BIOS Cacheable	Enabled
C000,32K Shadow	Cached
C800,16K Shadow	Disabled
CC00,16K Shadow	Disabled
D000,16K Shadow	Disabled
D400,16K Shadow	Disabled
D800,16K Shadow	Disabled
DC00,16K Shadow	Disabled

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ► Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide.
-

- Quick Boot** Allows you to enable / disable quick boot of your system.
- Delay for Hard Drive (Sec.)** Allows you to adjust the time of detecting hard disk on board at booting system.
Choices: Disabled; 1~10 sec. in 1 sec. stepping.
- 1st/2nd/3rd Boot Device** Allows you to set floppy or IDE devices already installed on board to be the 1st/2nd/3rd boot device.
Choices: Disabled; Device(s) installed
- Try Other Boot Devices** Allows you to enable/disable system to try to boot with other boot devices.
Choices: Yes; No
- Initial Display Mode** If option is "Silent", the initial display mode will be set to one with Soltek logo. If option is "BIOS", the normal BIOS display mode will be shown.
Choices: silent (default); BIOS
- Display Mode at Add-On ROM Init** If the item "Initial Display Mode" is set to "Silent", two sub-modes are provided for the initial display mode. If "Force BIOS" is chosen, the vendor's logo screen will be followed by the "Add-on ROM" initial screen (the screen showing the add-on card BIOS message). If "Keep Current" is chosen, no "Add-On ROM" screen is followed.
- S.M.A.R.T. for Hard Disks** Allows you to enable / disable the Self Monitoring Analysis and Reporting Technology (SMART) for the hard disk.
Choices: Enabled; Disabled

- Bootup Num-lock** Allows you to toggle between On or Off to control the state of the NumLock keys when the system boots. If On, the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.
- Floppy Drive Swap** Disabled (default), Floppy Drive A will not be changed to B, nor B to A. Enabled, Floppy Drive A and B will change position.
- Floppy Drive Seek** Disabled (default), Floppy Drives will not be checked and diagnosed at system bootup; Enabled, Floppy Drives will be checked and diagnosed at system bootup.
- PS/2 Mouse Support** Enabled (default), PS/2 mouse is supported. Disabled, PS/2 Mouse is not supported
- Primary Display** Allows you to choose the primary display for the system. Choices: VGA/EGA (default); CGA40x25; CGA80x25; Mono; Absent
- Password Check** Allows you to set BIOS to check up password with a password prompt at BIOS Setup or whenever re-starting system. Choices: Setup; Always
- Boot to OS/2** Allows you to set your system to OS/2 operating system. Choices: Yes; No (default)
- CPU Microcode Update** Allows you to enable/disable the CPU Microcode Update function. Choices: Disabled; Enabled (default)
- L1 /L2 Cache** Allows you to set the Internal/External Cache Mode. Choices: WriteBack (default); WriteThru; Disabled
- System BIOS Cacheable** Allows you to enable / disable the System BIOS Cacheable function.
- C000, 32K Shadow** Allows you to set these addresses cached, Enabled or Disabled. Default: Cached
- C800,CC00,D000,D400, D800,DC00 16K Shadow** Allows you to set these addresses cached, Enabled or Disabled. Default: Disabled

4-6.4 Advanced Chipset Features

Advanced Chipset Features is used to modify the values of chipset buffers. These buffers control the system options.

Run the Advanced Chipset Features as follows:

1. Choose “Advanced Chipset Features” from the Main Menu and a list of option will appear:

AMBIOS NEW SETUP UTILITY - VERSION 3.31a

Advanced Chipset Features	Setup Help
*****DRAM Timing*****	
Configure SDRAM timing by SPD	Enabled
SDRAM Frequency	Auto
SDRAM CAS# Latency	2.5
SDRAM Bank Interleave	Disabled
SDRAM Burst Length	4
SDRAM Command Rate	2T
Memory Hole	Disabled
Auto Precharge for TLB/WB	Disabled
Write Recovery time	2T
CPU Read DRAM Fast Ready	Disabled
AGP Mode	4X
AGP Read Synchronization	Disabled
AGP Fast Write	Disabled
AGP Comp. Driving	Auto
Manual AGP Comp. Driving	CB
AGP Aperture Size	64MB
AGP Master 1 W/S Write	Disabled
AGP Master 1 W/S Read	Disabled
USB Controller	6 USB Ports
USB 1.1 Device Legacy Support	Disabled
USB 1.1 Port 64/60 Emulation	Disabled

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
 Esc: Previous Menu Enter: Select ► Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

- <F1>: “Help” gives options available for each item.
- <F9>: Setup BIOS default values.
- <F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Configure SDRAM Timing by SPD SPD (Serial presence detect) is a device in memory module for storing the module information such as DRAM timing and chip parameters. If this option is enabled, BIOS will access SPD automatically to configure module timing. If disabled, DRAM timing can be configured manually (as in following box).

SDRAM Frequency	Allows you to set the SDRAM frequency. Choices: Auto; 200MHz; 266MHz
SDRAM CAS# Latency	With SDRAM Timing by SPD disabled, you can select the SDRAM CAS# (Column Address Strode) signal latency time manually. A shorter time means a shorter wait time after the CAS signal. Choices: 2Clocks; 2.5 Clocks
SDRAM Bank Interleave	This item allows you to enable / disable SDRAM Bank Interleave function (between different memory modules). Choices: Disabled (default); Enabled

SDRAM Burst Length With SDRAM Timing by SPD disabled, you can select the SDRAM Burst length manually.
Choices: 8; 4

SDRAM Command Rate Allows you to set the SDRAM Command Rate.
Choices: 1T; 2T

Memory Hole Allows you to enabled / disabled (default) the support of Memory Hole which is reserved for ISA card.

Auto precharge for TLB/WB If enabled, Auto precharge (refresh charge) is enabled for the TLB (Translation Lookaside Buffer) or Write Back for the system memory access.
Choices: Disabled (default); Enabled

Write Recovery Time If Auto Precharge for TLB/WB is enabled, this option is for setting the Write Recovery Time.
Choices: 1T; 2T

CPU Read DRAM Fast Ready This item allows you to enable/disable the CPU Read DRAM Fast function.
Choices: Disabled (default); Enabled

- AGP Mode** Allows you to see the AGP Mode on board.
Choices: 4X; 2X; 1X
- AGP Read Synchronization** Allows you to enable / disable (default) the AGP Read Synchronization function.
- AGP Fast Write** Allows you to enable / disable the AGP Fast Write function
- AGP Comp. Driving** Allows you to Auto or manually set the AGP Compensation Driving Strength.
- Manual AGP Comp. Driving** If AGP Comp. Driving is set to Manual, this item allows you to set AGP Compensation Drive Strength.
Choices: 00h ~ FFh
- AGP Aperture Size** Allows you to set aside a space from the system memory for the storage of AGP element.
Choices: 4MB; 8MB; 16MB; 32MB; 64MB; 128MB; 256MB;
- AGP Master 1 W/S Write** Allows you to enable / disable (default) the support of AGP Master 1 Waite State Write.
- AGP Master 1 W/S Read** Allows you to enable / disable (default) the support of AGP Master 1 Waite State Read.
- USB Controller** Allows you to set the USB Controller on the USB port(s).
Choices: 6 USB Ports; 4 USB Ports; 2 USB Ports; disabled
- USB 1.1 Device Legacy Support** Allows you to select the USB Device Legacy support.
Choices: No Mice; all Devices; Disabled
- USB 1.1 Port 64/60 Emulation** Allows you to enable / disable (default) the trap 64/60 Emulation of USB 1.1 port Registers.

4-6.5 Power Management Features

Power Management Features allows you to set the system's power saving functions.

Run the Power Management Features as follows:

1. Choose "Power Management Features" from the Main Menu and a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Power Management Features	Setup Help
ACPI Standby State	S1/POS
Power Management/APM	Enabled
Video Power Down Mode	Suspend
Hard Disk Power Down Mode	Stand By
Standby Time Out (Minute)	Disabled
Suspend Time Out (Minute)	Disabled
Power Button Function	On/Off
Restore on AC/Power Loss	Last State
Resume On Ring/WOL	Disabled
Resume On PME#	Disabled
Resume On KBC	Disabled
Wake-Up Key	Any Key
Resume On PS/2 Mouse	Disabled
Resume On RTC Alarm	Disabled
RTC Alarm Date	15
RTC Alarm Hour	12
RTC Alarm Minute	30
RTC Alarm Second	30

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
 Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

- ACPI Standby State** The Standby mode supported on this mainboard is S1 (POS) for Power on Suspend under Windows 98 or later O/S ACPI mode.
- Power Management/ APM** Allows you to enable / disable the Power management / Advanced Power Management function.
- Video Power Down Mode** Allows you to select the Video Power Down Mode.
Choices: Disabled; Standby; Suspend
- Hard Disk Power Down Mode** Allows you to select the Hard Disk Power Down Mode.
Choices; Disabled; Standby; Suspend
- Standby Time Out (Minute)** To set the duration of Standby Time Out.
Choices: 1; 2; 4; 8; 10; 20; 30; 40; 50; 60
- Suspend Time Out (Minute)** To set the duration of Suspend Time Out.
Choices: 1; 2; 4; 8; 10; 20; 30; 40; 50; 60
- Power Button Function** allows you to set power Button function.
Choices: On/Off; Suspend
- Restore on AC/Power Loss** Allows you to set the restore state from AC/Power Loss.
Choices: Last State; Power Off; Power On
- Resume on Ring/WOL** Allows you to enable / disable the Resume on Ring/WOL Signal function.
An input signal on the serial Ring Indicator (RI) Line (in other words, an incoming call on the modem) awakens the system from a soft off state.

- Resume on PME#** Allows you to enable / disable the Resume on PME function.
- Resume on KBC** Allows you to select S4/S5 mode or disable the Resume on Keyboard clock function.
- Wake Up Key** If Resume On KBC is set at S4/S5 mode, this item allows you to select any key to wake up system.
- Resume on PS/2 Mouse** Allows you to S4/S5 mode or disable the Resume on PS/2 Mouse function.
- Resume On RTC Alarm** Allows you to enable / disable the Resume On RTC Alarm function.
- RTC Alarm Date / Hour / Minute / Second** If resume On RTC Alarm is enabled, this field allows you to set the Alarm date Hour, Minute and second.
Date Choices: Every Day; 01 ~ 31
Hour Choices: 00 ~ 23
Minute Choices: 00 ~ 59
Second Choices: 00 ~ 59

4-6.6 PNP / PCI Configurations

PNP/PCI Configuration allows you to modify the system's power saving functions.

Run the PNP/PCI Configurations as follows:

1. Choose "PNP/PCI Configurations" from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

PNP/PCI Configurations	Setup Help
Plug and Play Aware O/S	No
Clear NVRAM	No
PCI Latency Timer (PCI Clocks)	32
Primary Graphics Adapter	PCI
PCI IDE Busmaster	Disabled
PCI Slot1 IRQ Priority	Auto
PCI Slot2 IRQ Priority	Auto
PCI Slot3 IRQ Priority	Auto

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ▶ Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Plug and Play Aware O/S Allows BIOS to recognize the Plug and Play Aware Operating System.
Choices: No (default); Yes

Clear NVRAM Allows BIOS to clear the NVRAM data.
Choices: No (default); Yes

PCI Latency Timer (PCI Clocks) Allows you to set the PCI Latency Time.
Choices: 32; 64; 96; 192; 128; 160; 192; 224; 248;

Primary Graphics Adapter Allows you to select the primary Graphics Adapter.
Choices: PCI; AGP

PCI IDE BusMaster Allows you to enable / disable the PCI IDE Bus Master function.

PCI Slot 1/2/3 IRQ Priority Allows you to specify the IRQ for the PCI slots.
Choices: Auto; 3; 4; 5; 7; 9; 10; 11

4-6.7 Integrated Peripherals

Integrated Peripherals option allows you to get some information inside your system when it is working.

Run the Integrated Peripherals as follows:

1. Choose “Integrated Peripherals” from the Main Menu and a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Integrated Peripherals	Setup Help
Onboard FDC	Auto
Onboard Serial Port 1	Auto
Onboard Serial Port 2	Auto
Serial Port 2 Mode	Normal
Onboard Parallel Port	Auto
Parallel Port Mode	ECP
Parallel Port IRQ	Auto
Parallel Port DMA Channel	Auto
Onboard MIDI Port	Disabled
MIDI Port IRQ	5
Onboard Game Port	200
Onboard IDE	Both
Onboard LAN (Optional)	Enabled
OnBoard LAN P.M.E(Optional)	Enabled
Onboard AC'97 Audio	Enabled

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
 Esc: Previous Menu Enter: Select ▶ Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.
 <F9>: Setup BIOS default values.
 <F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

- OnBoard FDC** Allows you to enable / disable the Onboard FDC.
Choices: Auto; Enabled; disabled
- Onboard Serial Port 1** Allows you to set the Onboard Serial Port A.
Choices; auto; Disabled; 3F8/COM1; 2F8/COM2;
3E8/COM3; 2E8/COM4;
- Onboard Serial Port 2** Allows you to set the Onboard Serial Port B.
Choices; auto; Disabled; 3F8/COM1; 2F8/COM2;
3E8/COM3; 2E8/COM4;
- Serial Port 2 Mode** Allows you to set the Serial Port B Mode.
Choices: Normal; 1.6 uS; 3/16 Baud; ASKIR;
- OnBoard Parallel Port** Allows you to configure onboard Parallel port .
Choices: auto; Disabled; 378; 278; 3BC;
- Parallel Port Mode** If Parallel Port is not disabled, this item allows you
to configure parallel port mode.
Choices: ECP; EPP + ECP; Normal; EPP
- Parallel Port IRQ** If Parallel Port Mode is set at EPP, this item allows
you to set the Parallel Port IRQ.
Choices: 5; 7
- Parallel Port DMA Channel** If Parallel Port Mode is set at ECP, this item allows
you to set the DMA Channel.
Choices: 0; 1; 3
- OnBoard MIDI Port** Allows you to configure onboard MIDI port address.
The choices: Disabled; 300h; 330h
- MIDI IRQ** If the onboard MIDI port is set at 300h or 330h, this
item shows up to allow you to configure the MIDI
Port IRQ to IRQ 5.
- OnBoard Game Port** Allows you to configure Onboard Game port
address.
The choices: Disabled; 200h; 208h

Onboard IDE Allows you to choose the Onboard IDE Mode.
Choices: Disabled; Primary; Secondary; Both

(Optional) Onboard LAN If your mainboard is LAN on board, this item allows you to enable / disable onboard LAN.
Choices: Enabled; Disabled

(Optional) Onboard LAN P.M.E. If your mainboard is LAN on board and enabled, this item allows you to enable / disable onboard LAN P.M.E. signal function (for LAN Wake-up).
Choices: Enabled; Disabled

Onboard AC'97 Audio Allows you to disable AC' 97 Audio.
Choices: Auto; Disabled

4-6.8 Hardware Monitor Status

This menu helps you to read only and get more information on the working CPU temperature, FAN speed and voltage.

1. Choose “Hardware Monitor Status” from the Main Menu and a screen with a list of current status of your working system will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Hardware Monitor Status		Setup Help
CPU Vcore	(+1.680 V)	
+2.5V	(+2.504 V)	
+3.3V	{+3.408 V}	
+5.0V	(+5.126 V)	
+12.0V	(+11.187V)	
-12.0V	(-11.972V)	
5V SB	(+5.164V0)	
Battery	(+3.296V)	
Fan 1 Speed	(0 RPM)	
Fan 3 Speed	(4905 RPM)	
Temperature 1	(0 °C/32 °F)	
Temperature 2	(31 °C/87 °F)	
Temperature 3	(38 °C/100 °F)	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
 Esc: Previous Menu Enter: Select ► Sub-Menu F10: Save and Exit

2. Press <ESC> to return to the Main Menu. In case any irregular reading appears about your system, it indicates that a problem exists therein. To solve the problem, a hardware engineer or your dealer is recommended.

CPU Vcore Shows CPU core actual voltage value.

+2.5V Shows current voltage against the +2.5V power supply.

+3.3V Shows current voltage against the +3.3V power supply.

+5.0V Shows current voltage against the +5.0V power supply.

+12V Shows current voltage against the +12V power supply.

-12V Shows current voltage against the -12V power supply.

-5.0V Shows current voltage against the -5.0V power supply.

+5V SB Shows current voltage against the +5V SB power supply.

Battery Shows current voltage against battery power supply.

Fan 1 / 2 Displays the current speed of CPU Fan, and other onboard device which user has connected to the onboard Fan Connectors.

Temperature 1 Shows current system temperature.

Temperature 2 Shows current CPU external temperature.

Temperature 3 Shows current CPU internal temperature.

4-6.9 Frequency/Voltage Control

Run the “Frequency/Voltage Control” as following:

1. Choose “Frequency/Voltage Control” from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

Frequency/Voltage Control	Setup Help
RedStorm Overclocking Tech (optional) CPU Linear Frequency Disabled CPU Clock (100 MHz)	
Spread Spectrum Disabled Auto Detect PCI Slot Disabled CPU Ratio Selection 24.0X	

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
Esc: Previous Menu Enter: Select ▶Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: “Help” gives options available for each item.
<F9>: Setup BIOS default values.
<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

(Optional) Redstorm Overclocking Tech Press <Enter> to start *RED STORM OVERCLOCKING TECH*. This option gives user an easy way to overclocking. It will increase CPU external clock automatically. When CPU external clock increases to an unacceptable value, BIOS will restart your system, then run at an acceptable CPU external clock.

CPU Linear Frequency This item allows you to enable / disable this setting function.

CPU Clock If CPU Linear Frequency is set at Enabled, this item allows you to set CPU Clock.
Choices: 100MHz ~200MHz in 1MHz stepping.

Spread Spectrum Selection Use this item to enable/disable Spread Spectrum Selection. This function will reduce the EMI (Electromagnetic Interference) in your system. If you do not have an EMI problem, leave this item disabled.

Auto Detect AGP Slot Use this item to enable/disable the auto-detect AGP slot.
The choices: Disabled(default); Enabled

CPU Ratio Selection If CPU onboard is one with an adjustable or unlocked CPU ratio, this item allows you to adjust the CPU Ratio. If your CPU is one with the CPU Ratio locked, this item will be invalid.
Choices: 8X ~ 24X in 1X stepping.

4-6.10 Set Supervisor Password

This option allows you to set a Supervisor password for the system:

1. Choose "Set Supervisor Password" in the Main Menu and press <Enter>. Then the following message appears:

[Enter new supervisor password]

2. The first time you run this option, enter your password up to 8 characters and press <Enter>. (The screen does not display the entered characters.)
3. After you enter the password, the following message appears prompting you to confirm the password:

[Retype new supervisor Password]

4. Enter the same password "exactly" the same as you have just typed to confirm the password and press <Enter>.
5. The following message appears to confirm the new password setup.

[New supervisor password installed]

Any Key to Continue

6. Then press any key to continue your CMOS Setup. To save the password setup, you should press "Save & Exit Setup" and choose "yes" to exit and save setup.
7. After the Supervisor password is set, you have to choose whether the password is for entering the system or only for entering BIOS Setup program. To make the choice, please enter BIOS Setup and choose "Advanced BIOS Features" in the main menu. (At entering BIOS Setup, you have to enter the password now.) In "Advanced BIOS Features", choose "Password Check" and change the option. The "Setup" option is to set the password only for entering BIOS Setup. The "Always" option is to set the password for entering the system.

8. To change or remove a current supervisor password, choose "Set Supervisor Password" and press <Enter>. An instruction box appears on the screen, prompting you to enter the current password first:

```
[ Enter current supervisor password ]  
  
[ ]
```

9. Type the current password with keyboard and then press <Enter>. An instruction box appears, prompting you to enter new supervisor password:

```
[ Enter new supervisor password ]  
  
[ ]
```

10. If you enter a new password into the box, you will be using this new password after you have finished and saved this new setup. Instead, if you press <Enter> before you enter any new password into the instruction box, another message box appears, telling you that you have disabled the Supervisor password. That means, no password is set for either entering BIOS Setup or system:

```
[ Supervisor password disabled ]  
  
Any Key to Continue
```

NOTE: If you forget or lose a supervisor password, the only way to access the system is to clear the CMOS. All setup informations will then be cleared including the password and you need to run the BIOS setup program again so as to reconfigure BIOS.

4-6.11 Load Optimized Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

[Load Optimized Settings]

Press [Enter] to continue
or [ESC] to abort

Press <Enter> now to load Optimal values for all the Setup options.

4-6.12 Save & Exit Setup

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and press <Enter>. The following message appears:

[Saving current settings and exit]

Press [Enter] to continue
or [ESC] to abort

Press <Enter> key to save the configuration changes and exit CMOS Setup to restart your system.

4-6.13 Exit Without Saving

Exit Without Saving option allows you to exit the Setup Utility without saving the modifications that you have specified. Highlight this option on the Main Menu and press <Enter>. The following message appears:

[Quit Without Saving Changes]

Press [Enter] to continue
or [ESC] to abort

Follow the message and press <Enter> key to exit CMOS Setup and restart system.