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Item Checklist

- Mainboard
- User Manual (Mainboard)
- Multi-lingual Quick Installation Guide
- Support CD
- Bundled Bonus Pack CD
- Bundled Bonus Pack Manual
- Cables
 - ATA66/100/133 IDE Cable
 - FDD Cable
 - USB Cable
 - Audio Cable (optional)
 - Printer Port Cable (optional)
 - 1394 Cable x 1 (optional)

Chapter 1 Specification

Introduction

This mainboard features an integration of the powerful VIA C3 processors and the North Bridge VIA CLE266 plus South Bridge VIA VT8235 CD, with which the whole system performance supports 133/100/66MHz system bus.

VIA CLE266 plus VT8235 CD supports on-board VIA C3 processors to implement the 133/100/66MHz Front Side Bus, the integrated UniChrome Graphics engine, the LPC Super I/O, the DDR 266/200 MHz SDRAM, the 6-channel AC'97 Audio interface, the USB 2.0 interface and ATA 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 Mainboard Layout

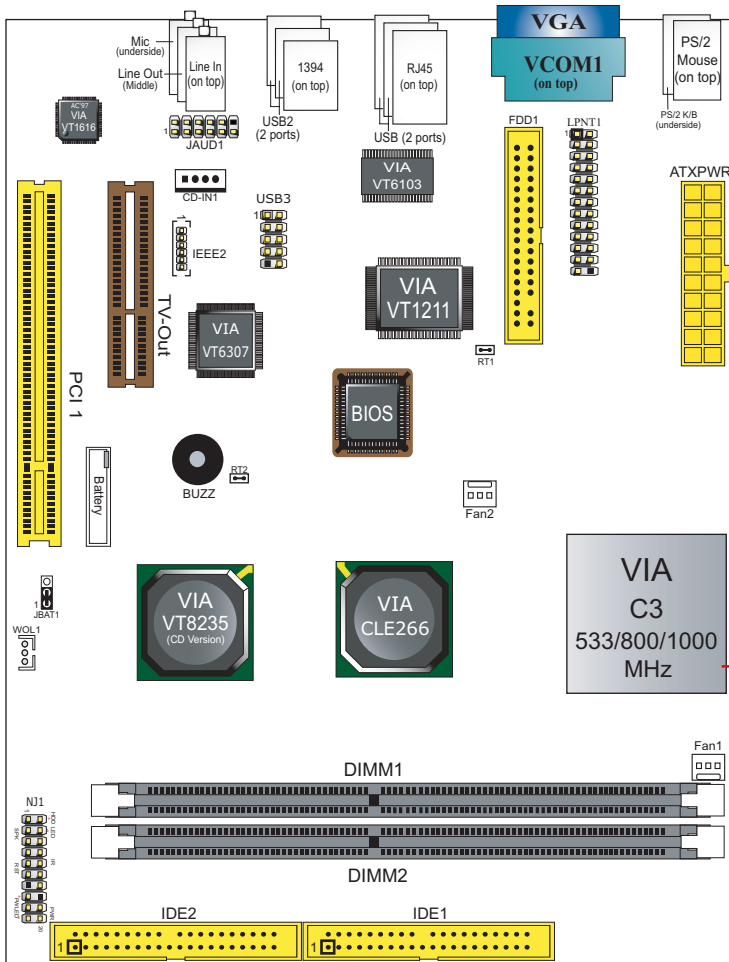
1-2 Mainboard Specifications**

1-3 Mainboard Specification Table

1-4 Chipset System Block Diagram

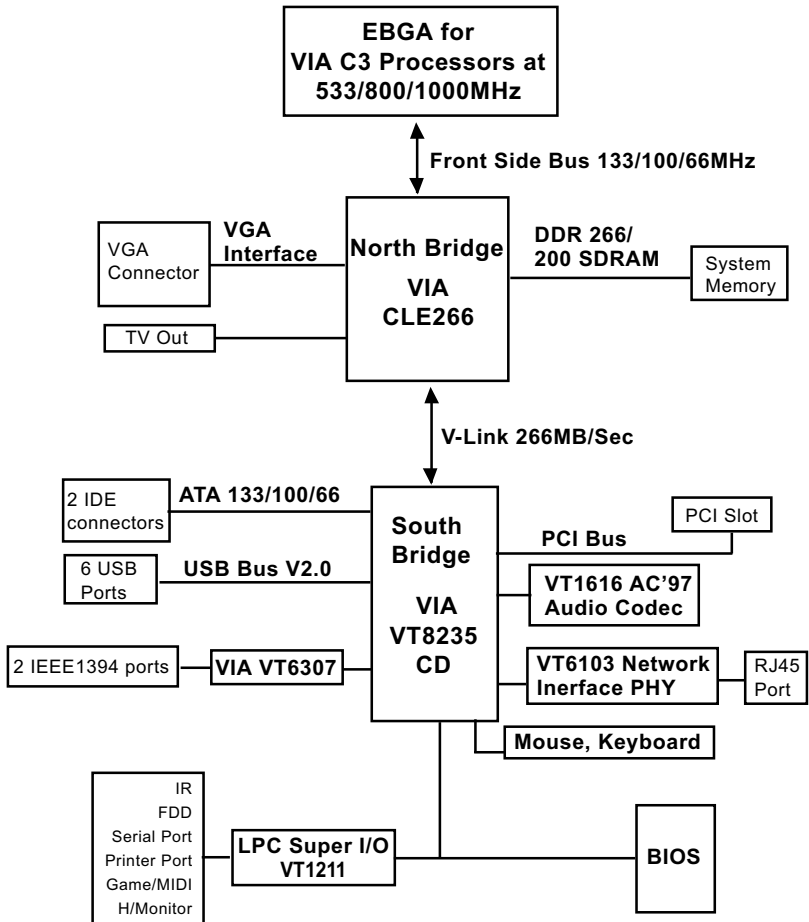
**** If any difference is found between this manual and the Mainboard you are using, please look up the ERRATA/UPDATE Slip enclosed inside for the correction or updated information, or else contact the Mainboard Dealer or visit our Web Site for the latest manual update.**

1-1 B6A-F533/800/1000 Layout



For 533/800/1000MHz CPU

1-2 Chipset System Block Diagram



VIA C3 EBGA + VIA CLE266 VIA VT8235 CD Diagram

1-3 Mainboard Specification Table

SL-B6A-F533/800/1000 Specifications and Features			
CPU	EBGA 370 for VIA C3 533/800/1000MHz CPUs		
North Bridge	VIA CLE266, supporting 133/100/66 MHz FSB		
South Bridge	VIA VT8235 CD		
BIOS	Award BIOS		
Memory	DDR 266/200 SDRAM, up to 2GB in 2 DDR DIMM slots		
I/O Chip	VIA VT1211		
Integrated VGA	S3 Graphics UniChrome 2D/3D graphics engine		
Audio	VIA VT1616 AC'97 Audio Codec on board supporting 6 channel output		
IDE Interface	2 ATA 133/100/66 IDE Connector		
PCI Slots	1 PCI Master slot on board		
I/O Connectors	6 USB V2.0, 1 FDD port, 1 COM ports, 1 LPT (optional), 1 IrDA, 1 PS/2 K/B, 1 PS/2 Mouse, 2 1394a ports		
IEEE 1394 Interface	VIA VT6307 IEEE1394 Controller on board supporting 2 IEEE1394 ports.		
Networking	VIA VT6103 Ethernet Controller on board supporting 10/100Mb data transfer rate		
Optional Features	B6A-F533	B6A-F800	B6A-F1000
CPU	533MHz	800MHz	1000MHz

1-4 Mainboard Specifications

1-4.1 CPU

CPU EBGA(Enhanced Ball Grid Array packaging) on board compatible with Socket 370, supporting Built-In VIA C3 processors with 533/800/1000MHz and implementing 133MHz system bus.

Options of built-in CPU are:

533MHz (133x4) for Model B6A-F533

800MHz (133x6) for Model B6A-F800

1000MHz (133x7.5) for Model B6A-F1000

1-4.2 System Chipsets

North Bridge VIA CLE266:

- Managing and supporting VIA V-Link Host interface, 133/100/66MHz system Bus, integrated UniChrome graphics accelerator and DDR 266/200MHz Memory Interface

South Bridge VIA VT8235 CD

- Working with North Bridge VIA CLE266 supporting VIA V-Link Client interface, LPC Super I/O, PCI interface, ATA133 interface, LAN interface, USB V2.0 interface as well as AC'97 Audio 6-channel interface

1-4.3 Memory

2 DDR DIMM 184-pin slots on board :

- Supporting unregistered, non-ECC DDR 266/200 SDRAM up to 2GB with 2 DDR DIMM slot
- DRAM interface synchronous with host CPU(133/100MHz)

1-4.4 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.)
- SmartDoc Anti-Burn Shield (CPU/System Temp., Fan speed etc.)
- CPU Ratio/Voltage Control (Voltage of CPU, DIMM, AGP etc.)

1-4.5 Integrated S3 UniChrome Graphics Accelerator

S3 Graphics UniChrome GPU is embedded on board, supporting:

- 128-bit 3D and 2D graphics engine
- 16 / 32 / 64 MB frame buffer using system memory
- Internal AGP 4X bus
- Motion compensation for full speed DVD playback
- One TV Out slot on board supported by integrated graphics accelerator
- VGA Driver enclosed in Support CD for user's installation

1-4.6 Advanced System Power Management

Advanced Configuration and Power Interface incorporated in BIOS for reducing power consumption :

- ACPI V2.0 compliant (Advanced Configuration and Power Interface), including ACPI Suspend mode support (See Power management of BIOS Setup)
- APM V1.2 compliant (Legacy Power Management)
- Real Time Clock with date alarm, month alarm, and century field

1-4.7 Multi-I/O Functions

- PCI EIDE Controller, supporting:
 - 2 ATA 133 / 100 / 66 IDE connectors supporting up to 4 IDE devices
- Dedicated IR Functions:
 - 1x5 IR connector dedicated to IR function with Infrared-IrDA (HPSIR) and ASK (Amplitude Shift Keyed) IR
- Multi-mode parallel data transfer:
 - Standard mode, high speed mode ECP and enhanced mode EPP
- Floppy Drive Connector:
 - 1 FDD connector supporting 2 floppy drives with drive swap support
- Universal Serial Bus Transfer Mode:
 - USB V2.0 compliant, 480 MB/s USB Bus, supporting Windows 98SE or later operating systems..
 - 4 built-in USB connectors and 1 more USB pin-header which requires 1 additional USB cable to provide 2 more USB ports
- PS/2 Keyboard and PS/2 Mouse
- UARTs (Universal Asynchronous Receiver / Transmitter):
 - 1 complete serial port (COM1) on board

1-4.8 Expansion Slots

- 1 PCI Bus Master slot
- 1 TV Out slot
- 2 DDR DIMM slots

1-4.9 AC'97 Audio Codec on board

VIA AC'97 Audio Codec VT1616 on board:

- Supporting 6-channel display of PCM audio output
- Fully supporting surround sound applications, along with 5 stereo and 2 mono inputs
- AC'97 Audio Codec Driver enclosed in Support CD for user's installation.

1-4.10 Hardware Monitor on board

- Hardware Monitor supported by LPC I/O VIA VT1211, providing monitoring functions on hardware voltage, temperatures and fan speeds.
- Utility Software Soltek Hardware Monitor for displaying monitor status is enclosed in Support CD for user's installation.

1-4.11 IEEE 1394 Interface

The IEEE 1394 Controller, VIA VT6307 chipset on board, providing enhanced PC connectivity for a wide range of devices, including consumer audio/video components, storage peripherals, and other portable devices.

- PCI-bus based open host controller, compliant with IEEE 1394A-2000 standard for high performance serial bus
- Supporting two fully compliant ports with Plug and Play-compatible expansion interface. The IEEE 1394 controller provides up to 400MB/sec transfer rate to fulfill various requirements of any multimedia devices.

1-4.12 LAN Controller on board

Fast Ethernet Controller VIA VT6103 on board:

- Supporting 10/100Mb Fast Ethernet Base T LAN
- LAN Driver enclosed in Support CD for user's installation

1-4.13 Front Audio Out Connector

- 1 Front Audio Out connector supporting Front Panel S/PDIF Output, Front Panel Mic-In and Front Panel Line-In
- This Front Panel Audio Out requiring an S/PDIF Audio Cable to connect itself to Front Panel Audio Connectors

1-4.14 Form Factor

- Micro-ATX Form Factor, ATX Power Supply
- Mainboard size: 170mm x 220mm

Memo

Chapter 2 Hardware Setup

To Get Things Ready for Hardware Setup !

Since the VIA C3 Processor is already built on board, we recommend to install your memory module before any other components. For detailed specification of VIA C3 processor, you can also refer to the website of VIA Technologies Inc..

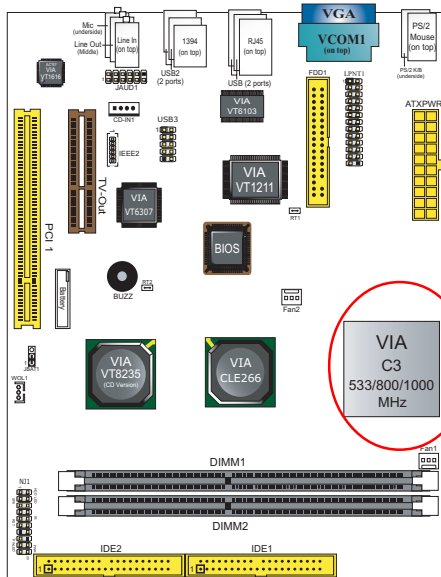
VIA Website: <http://www.via.com.tw>

The following topics are included in this chapter:

- 2-1 CPU built on board**
- 2-2 Memory Installation**
- 2-3 VGA and TV Out Slot Installation**
- 2-4 IDE Connector Installation**
- 2-5 Floppy Drive Connector (FDC) Installation**
- 2-6 ATX Power Supply Installation**
- 2-7 Jumper Settings**
- 2-8 Other Connectors Configuration**

2-1 CPU built on board

Different CPU is already mounted on different mainboard of this series. User could not and should not change the built-in CPU personally. In case of CPU problem, please contact the local dealer or distributor for the technical solution.



VIA C3 533MHz CPU is mounted on Model B6A-F533

VIA C3 800MHz CPU is mounted on Model B6A-F800

VIA C3 1000MHz CPU is mounted on Model B6A-F1000

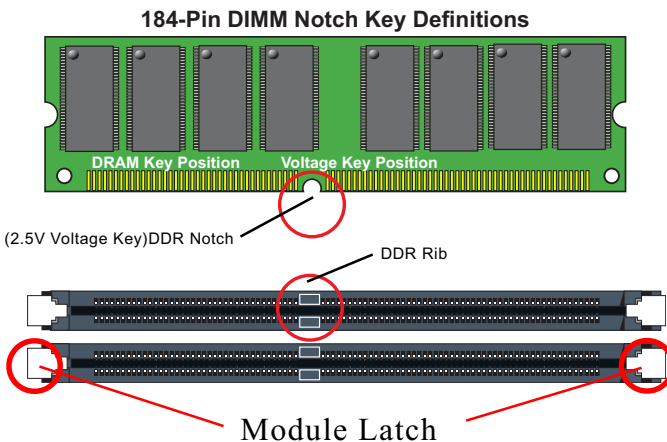
2-2 Memory Installation

How to tackle the memory Modules:

- Make sure to unplug your power supply before adding or removing memory module. Failure to do so may cause severe damage to both your mainboard and the memory module.
- Pay attention to the orientation of the DIMM slots. Forcing a DIMM into a slot improperly will damage the memory module and slot itself.
- Make sure you have the right type of memory module for your mainboard.

2-2.1 To Install DDR SDRAM Module

- This mainboard supports up to 2GB unbuffered DDR 266/200 SDRAM, with 2 DDR DIMM slots on board. Do not insert other type of modules into these slots.
- DDR DIMM slot has 184-pins and one notch. Insert a DDR SDRAM vertically into the 184-pin slot with the notch-to-rib matching. Press the Module down in a gradual way until it surely reaches the bottom and clicks straight up the two latches on the left and right of the slot. If any one of the latches has not turned up completely, you should unplug the module and press it down a bit more firmly.

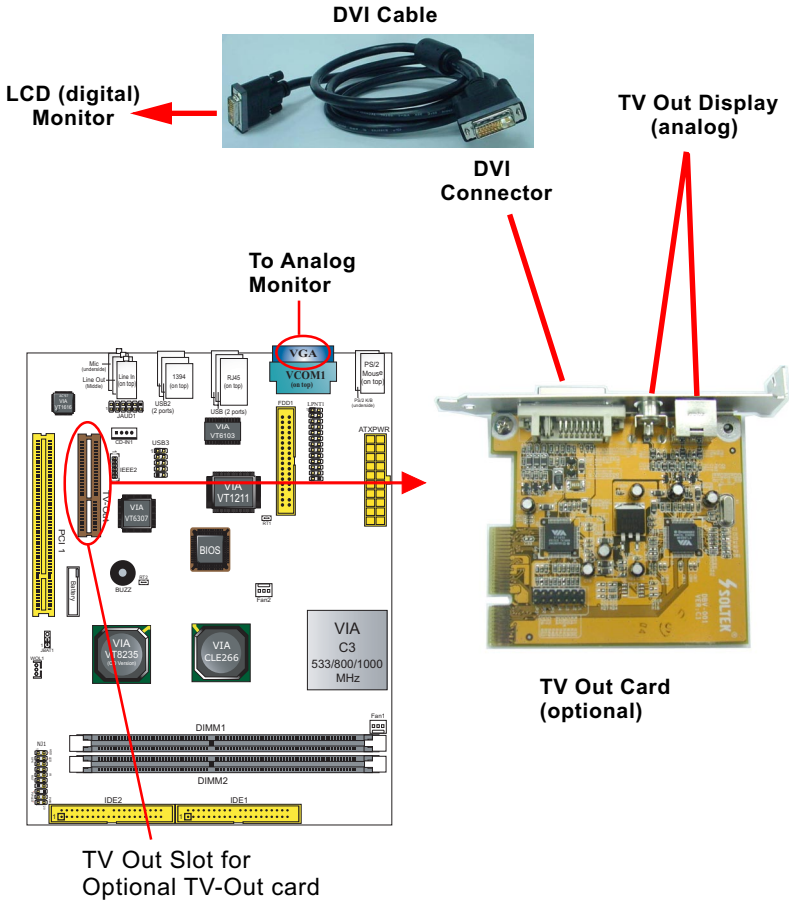


2-2.2 To Remove a DIMM

First power off system and then press down the holding latches on both sides of slot to release the module from the DIMM slot.

2-3 VGA and TV-Out Slot Installation

1. To install onboard VGA, please connect your monitor directly to the VGA connector on board.
2. For TV Out display, please insert an TV Out card (optional) into onboard TV Out slot .



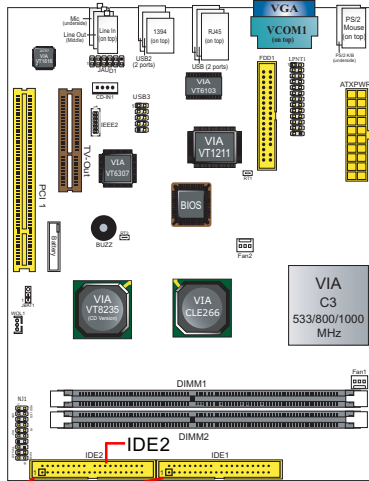
Note: The optional TV-Out card is available by clients' purchase order.

2-4 IDE Connector Installation

To install IDE Connector, you may connect the blue connector of IDE cable to the primary (IDE1) or secondary (IDE2) connector on board, and then connect the gray connector to your slave device and the black connector to your master device. If you install two hard disks, you must configure the second drive to Slave mode by setting its jumpers correctly. Please refer to your hard disk documentation for the jumper settings.

Hard Disk Drive Connector

Orient the red line on the IDE Flat Cable to Pin1.

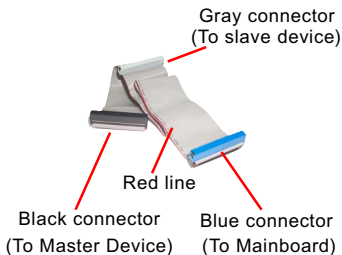


Pin 1 (to Red Line)

IDE1

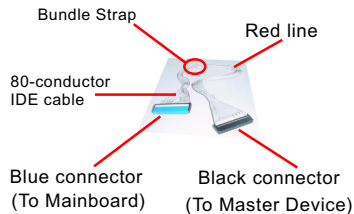
80-conductor IDE Cable (with Slave Connector)

This kind of cable is not recommended for the Mini-barebone system because the ribbon cannot be bundled up and will block the air flow in the barebone cabinet.



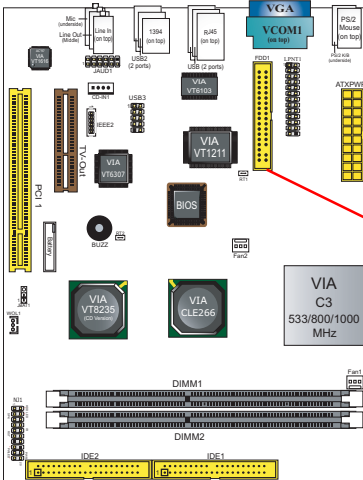
80-conductor IDE Cable (dedicated for Barebone)

This kind of cable is dedicated for Mini-barebone system because the ribbon can be bundled up and will not block the air flow in the barebone cabinet. A dedicated cable with a gray connector for a slave device is an optional item in the Mini-barebone System.



2-5 Floppy Drive Connector Installation

To install FDC, you should connect the end of FDC cable with single connector to the board, and connect the other end with two connectors to the floppy drives.



Floppy Drive Connector:

Orient the red line of the Floppy Flat Cable to Pin1.

Pin 1 (to Red Line)

34-pin FDC cable (Dedicated for Barebone)

This kind of cable is dedicated for Mini-barebone system because the ribbon can be bundled up and will not block the air flow in the barebone cabinet. A dedicated cable with 2nd connector for 2nd floppy drive is an optional item in the Mini-barebone System.

Signal Swap End

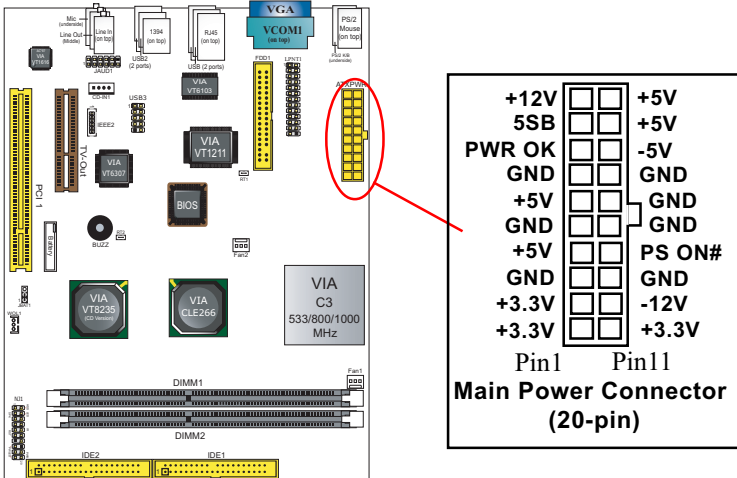
Red line



To 1st Floppy Drive

To mainboard

2-6 ATX Power Supply Installation

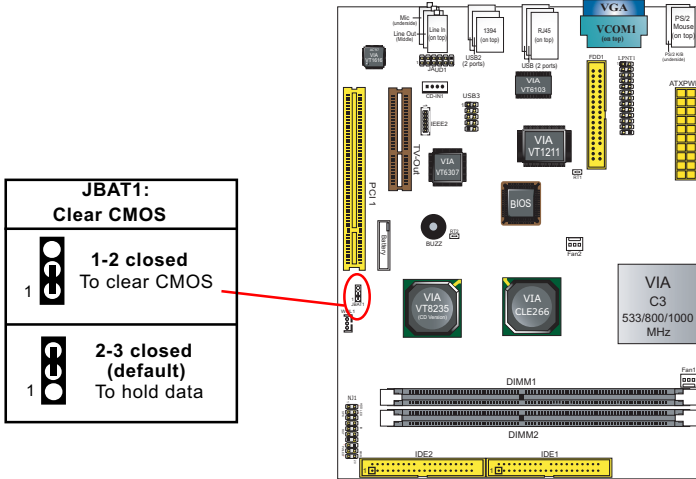


To set up Power Supply on this mainboard:

Connect the on-board Main Power Connector (20-pin) to the Main Power Connector (20-pin) of an ATX Power Supply which can be either of the latest version 2.03 or of earlier ATX model.

2-7 Jumper Setting

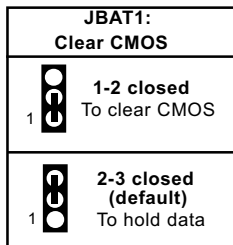
The following diagram show the location and setting of jumper block on the mainboard.



2-7.1 JBAT1: Clear CMOS

When you have problem with rebooting your system, you can clear CMOS data and restore it to default value. To clear CMOS with Jumper JBAT1, please follow the steps below:

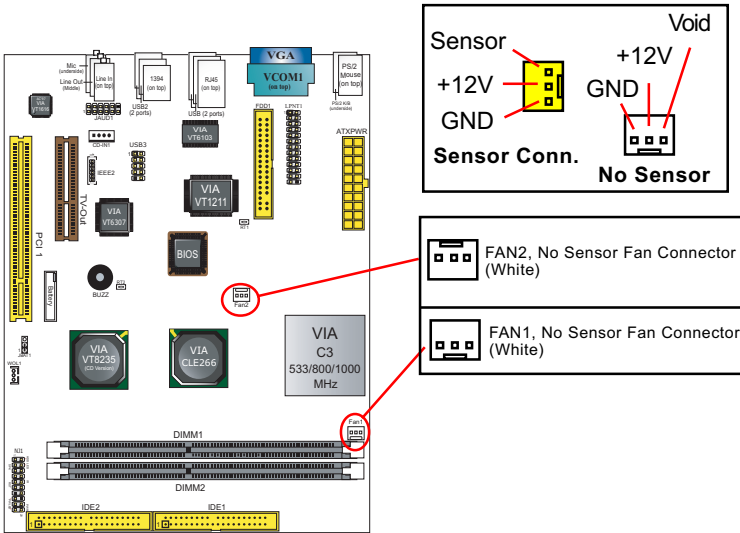
1. Power off system.
2. Set JBAT1 to Pin 1-2 closed.
3. After 2 or 3 seconds, restore the JBAT1 setting to Pin2-3 closed.
4. CMOS data are restored to default now. Remember never clear CMOS when system power is on.



2-8 Other Connectors Configuration

This section lists out all connectors configurations for users' reference.

2-8.1 Onboard FAN Connectors



Both Sensor and No-sensor Fan Connectors support CPU/AGP/System/Case cooling fan with +12V mode. When connecting the wire to any Fan Connector, user should make sure that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected to pin GND. A Hardware Monitor chipset is on board, with which user can install a Hardware Monitor Utility and read the fan speed transmitted from the sensor fan connector. Otherwise, user can read the fan speed from the “SmartDoc Anti-Burn shield” in CMOS BIOS.

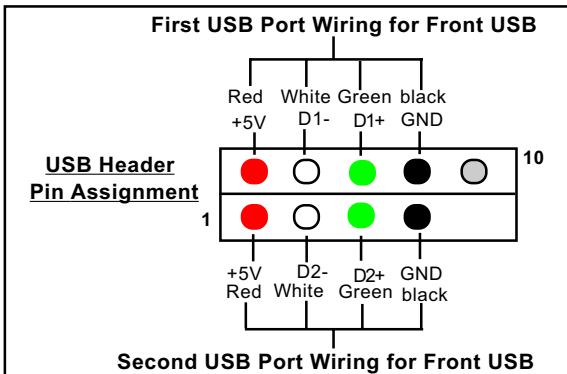
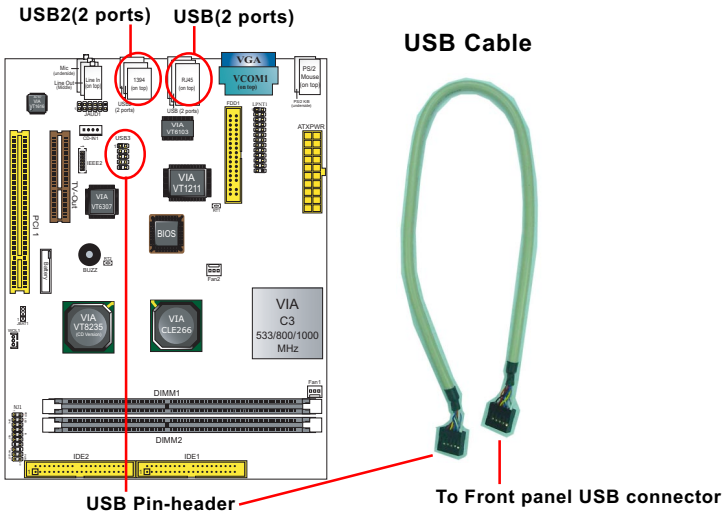
A running fan will send out 2 electric pulses per rotation of its fan blade to a Sensor Fan Connector which in turn will count the electric pulses and send the information to the System Hardware Monitor. The hardware Monitor Program will work out the fan rotation speed and display it on screen.

2-8.2 USB Ports and USB Pin-headers

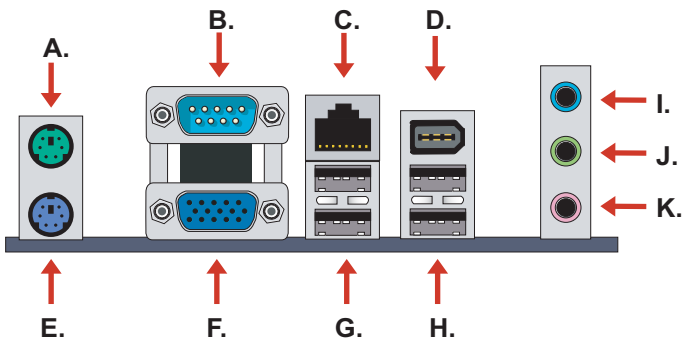
This mainboard provides four USB ports on board supporting various USB devices. In addition, one USB pin-header is added on board to provide expansion of two more optional USB ports by using one additional USB Cable.

When plugging the USB cable to USB Header, users must make sure the red wire is connected to Pin 1.

All 6 USB ports are compliant with 1.0 / 2.0 USB Bus. USB 2.0 supports Windows 98SE and above. Please see Chapter 3 for USB2.0 Installation.



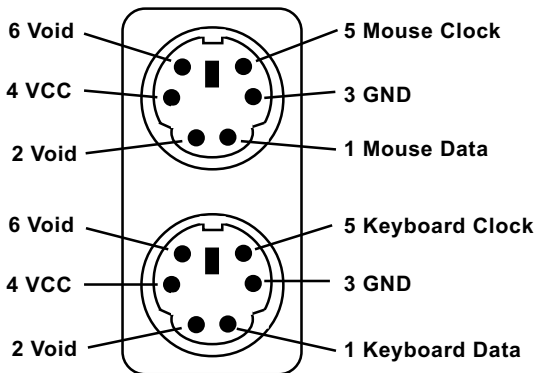
2-8.3 Chassis Panel Connectors



- | | |
|--------------------------------|--|
| A : PS/2 Mouse | G : USB 0 (middle) |
| B : COM1 Port | USB 1 (underside) |
| C : LAN Port RJ45 (Top) | H : USB 2 (middle) |
| D : IEEE1394 Connector | USB 3 (underside) |
| E : PS/2 Keyboard | I : Center/ Subwoofer Speaker Out |
| F : VGA Connector | J : Rear Speaker Out |
| | K : Front Speaker Out |

2-8.4 PS/2 Mouse And PS/2 Keyboard

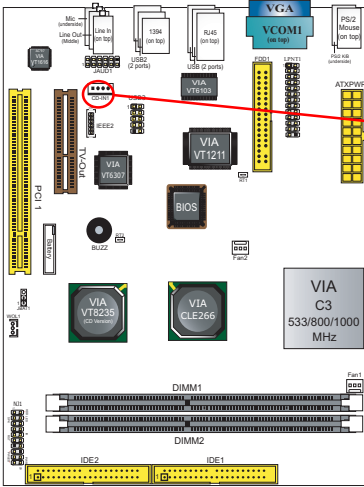
PS/2 Mouse Connector (green, on top)



PS/2 Keyboard Connector (purple, underside)

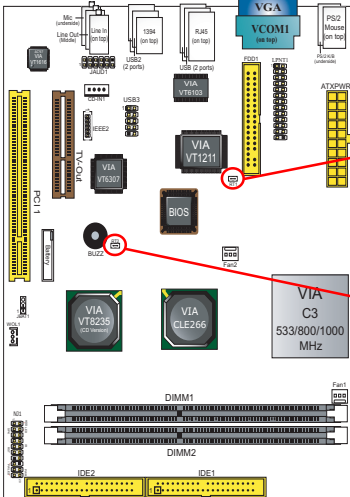
2-8.5 CD-ROM Audio Connectors

CD-IN1 is an audio connector connecting CD-ROM audio to mainboard.




CD-ROM Audio Connector	
CD-IN1 1	Pin Signal
Pin 1	Left Channel
Pin 2	GND
Pin 3	GND
Pin 4	Right Channel

2-8.6 Thermal Detectors




Thermal Detector RT1

 RT1

RT1 is mounted with Thermal Detector by default for detecting the system temperature.

Thermal Detector RT2

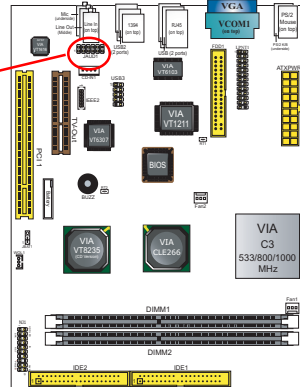
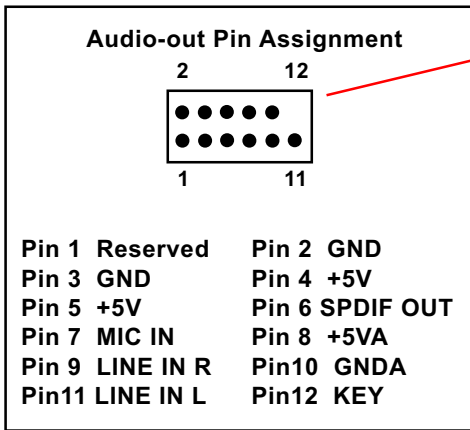
 RT2

RT2 is mounted with Thermal Detector by default for detecting the system temperature.

2-8.7 JAUD1: External Audio Out Connector

External Audio Out Connector supports Front Panel S/PDIF Output, Front Panel Mic-In and Front Panel Line-out.

This External Audio-out Connector requires an S/PDIF Audio Cable to connect itself to Front Panel Audio Connectors.

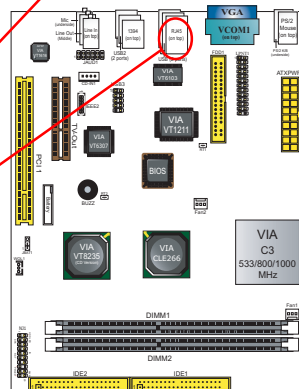
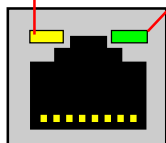


2-8.8 LAN Connector

One RJ45 connector is on board for network connection.

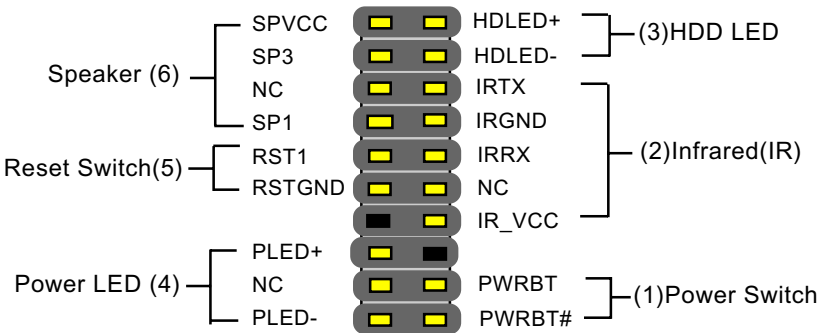
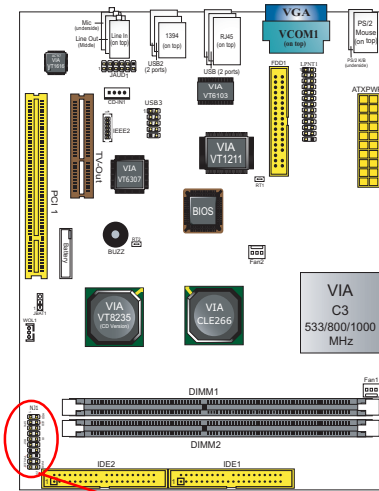
Yellow LED "On" to indicate Network hub is in connection with the system.

Green LED blinks to indicate that data transmission is undergoing in 10/100 Base T mode.



2-8.9 Complex Pin-header (Front Panel Connectors)

This complex Pin-header consists of the following connectors for various front panel supports. When you have fixed the mainboard to the case, join the connectors of this Complex Pin-header to the case Front Panel.



(1) Power Switch Connector:

Connection: Connected to a momentary button or switch.

Function: Manually switching the system between “On” and “Soft Off”. Pressing the momentary button for more than 4 seconds will also turn the system off.

(2) IR Connector (Infrared Connector):

Connection: Connected to Connector IR on board.

Function: Supporting wireless transmitting and receiving module on board.

(3) HDD LED Connector:

Connection: Connected to HDD LED.

Function: To supply power to HDD LED.

(4) Power LED Connector:

Connection: Connected to System Power LED.

Function: To supply power to “System Power LED”.

(5) Reset Switch Connector:

Connection: Connected to case-mounted “Reset Switch”.

Function: To supply power to “Reset Switch” and support system reboot function.

(6) Speaker Connector:

Connection: Connected to the case-mounted Speaker.

Function: To supply power to the case-mounted Speaker.

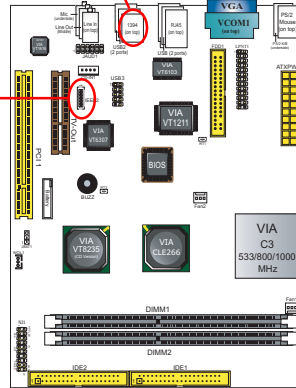
2-8.10 IEEE 1394a Port/Pin-header

Two IEEE1394a Ports are built on board for Digital Video Cameras and other devices with 1394a interface. Another IEEE 1394a Pin-header is built on board providing one more 1394a channel on the front Panel.

- When plugging the IEEE1394a cable to IEEE1394 Header, users must make sure the red wire is connected to Pin 6.

IEEE2	
Pin Assignment	
Pin 1	BPWR(+12V)
Pin 2	GND
Pin 3	TPB(0/1/2)-
Pin 4	TPB(0/1/2)+
Pin 5	TPA (0/1/2)-
Pin 6	TPA (0/1/2)+

IEEE 1394a Port



To IEEE 1394 pin-header on board for one Front Panel 1394a Port

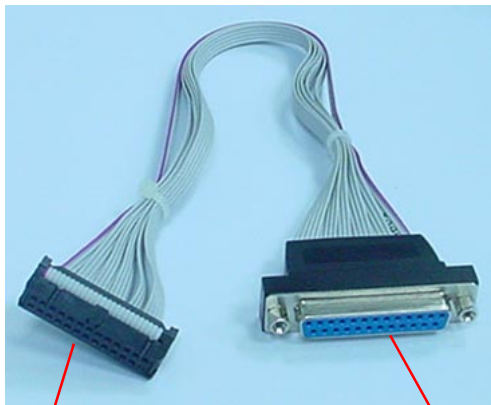
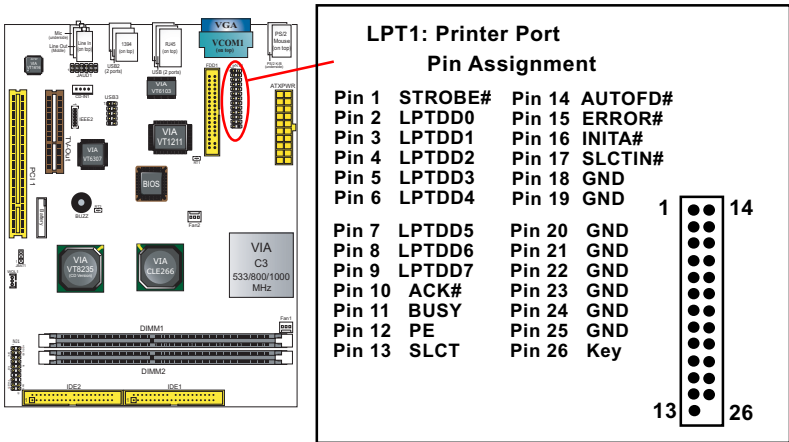
IEEE1394 Cable (optional)



To Barebone-system Front Panel 1394 connector

2-8.11 Printer Port: LPT1

LPT1 is a parallel printer port.



To Printer Connector
on board

To Printer

Printer Cable (optional)

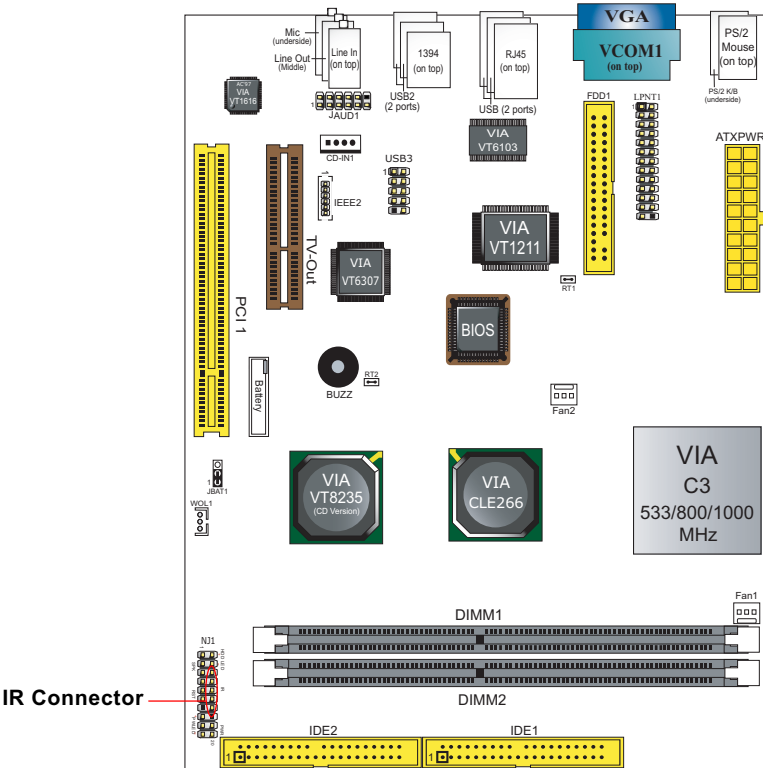
2-8.12 IR Setup

Before setting IR Devices, users should enable “Onboard Fast IR” in Super IO Device in Integrated Peripherals of BIOS.

IR Driver is added into Driver CD for IR Driver installation. This IR driver is needed to support the on-board Fast IR setup. Please take the following path to set up this IR driver:

(Support CD) \Driver\VIA\CLE266\Fir\setup.exe

For IR Driver Setup, please refer to Chapter 3 for further details.



Chapter 3 Software Setup

Drivers, Utilities and Software Installation

Support CD:

This mainboard will be shipped with a Support CD which contains those necessary driver files, Application Softwares and some helpful utilities. It is a user-friendly, auto-run CD which will open itself up in a CD-ROM automatically.

This chapter is devoted to describing the installations of all these essential drivers and utilities on Windows 98SE, Windows ME, Windows 2000 and Windows XP. The installation procedures for all these operating systems are programed into an auto-run mode. What users have to do is read and follow the pop-up instructions. We therefore take the installation on Windows XP as the general illustration hereby.

The priority of driver installation should also be noted. Users are recommended to take the following installation order:

3-1 To Open Support CD

3-2 VIA 4-in-1 Drivers Installation

3-3 Graphics Driver Installation

3-4 AC'97 Audio Driver Installation

3-5 USB 2.0 Driver Installation

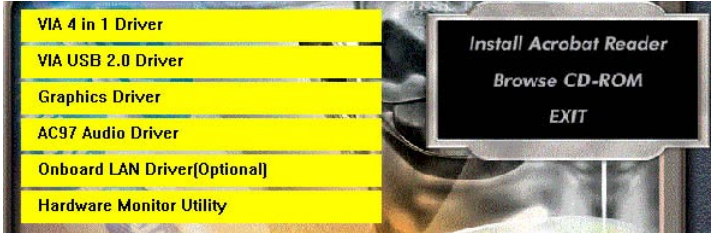
3-6 Hardware Monitor Utility Installation

3-7 LAN Driver Installation

3-8 Fast IR Driver Installation

3-1 To Open Up Support CD:

1. Please put the Support CD enclosed in your mainboard package into the CD-ROM drive. In a few seconds, the Main Menu will automatically appear, displaying the contents to be installed for this series:

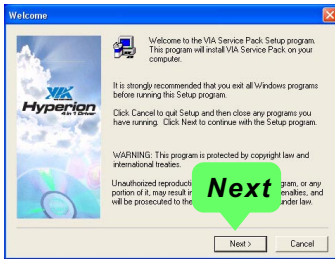


2. In case your system does not open the Support CD automatically, please click to the following path to enter the Main Installation Menu:
D:\ Autorun.exe (assuming that your CD-ROM Drive is Drive D)
3. Users are recommended to install all the drivers and utilities at a time, though they can be installed separately.
Since we are using Windows XP for driver installation, DirectX V8.1 installation is no longer necessary.
From next section, we provide detailed descriptions of all these installations with graphical illustrations.

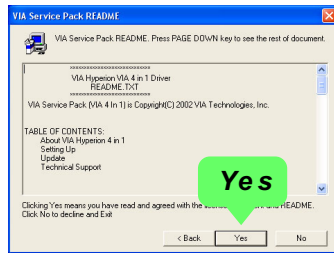
3-2 VIA 4-IN-1 Drivers Installation

1. Following the procedures of opening the Support CD, click to “VIA 4-in-1 Drivers” to proceed.

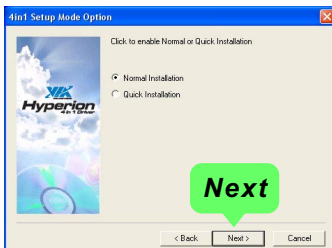
2. The VIA Service Pack InstallShield Wizard will pop up to guide you to the VIA Service pack installation. Click “Next” button to continue.



3. “VIA Service Pack README” screen will appear, please click the “Yes” button to agree with the Licence Agreement and continue.

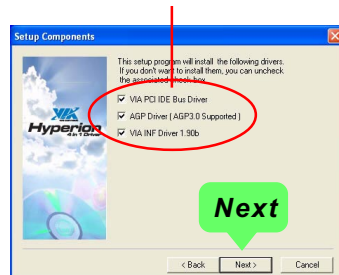


4. On the screen below, check “Normally Install” and click “Next” to continue. (If you check “Quick Install”, you will skip the detailed procedures of the VIA 4-in-1 Setup.)

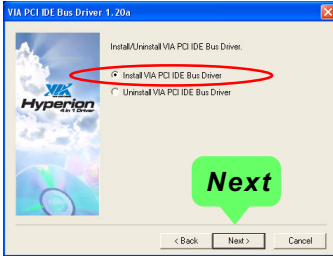


5. Select the checkbox as below and click “Next” to continue:

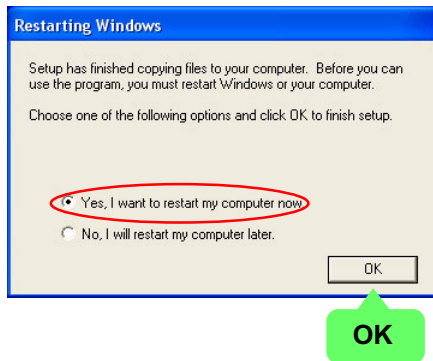
- VIA PCI IDE Bus Driver
- AGP Driver (AGP 3.0 Supported)
- VIA INF Driver 1.90b



6. Select “Install VIA PCI IDE Driver” checkbox, then click the “Next” button to continue.
7. Select “Install VIA AGP Driver” in turbo mode and press “Next” button to continue.



10. After all these setup procedures have finished, you should restart your computer by clicking on “OK” so as to put VIA 4-in-1 drivers into effect and proceed to next driver installation.



3-3 Graphics Driver Installation

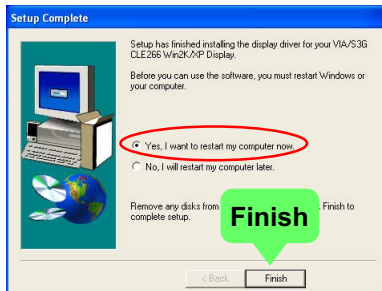
1. Following the installation of DirectX, you have to restart system so that your system can be reconfigured with the utility. When restarting procedures finish, please open the Support CD with your CD-ROM to enter the Main Installation Menu.

Then click to “Install Graphics Driver”. The Graphics Driver is specifically for on-board VGA.

2. When the screen of “VIA/S3G CLE266 Win2K/XP Display Setup Program” appears, please press “Next” button to continue.



3. After all the setup procedures have completed, click to “Finish” button to exit the Installation program and re-start your system.



3-4 To Install AC'97 Audio Driver

3-4.1 Installation

1. Following the procedures of opening the Support CD, click to “ AC'97 Audio Driver” to proceed.

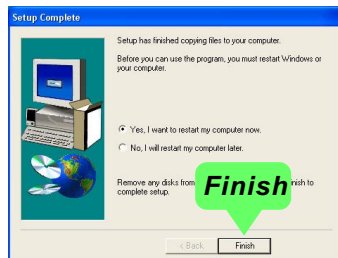
2. Instantly, the “VIA Audio Driver Setup Program” screen appears to guide you through the “VIA Audio Driver” Setup, please press “Next” button to continue.



3. Instantly, check ” Install Driver” and click “Next” to continue. (If you want to stop setup, click the “Cancel” button.)



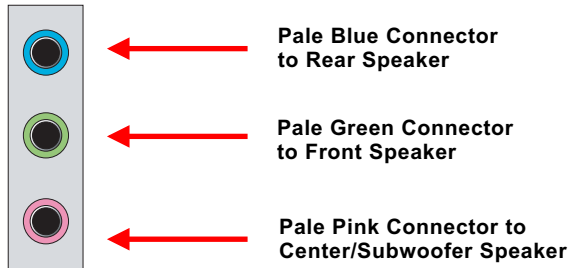
4. After the setup process is finished, please check the radial button “Yes, I want to restart my computer now.” And click “Finish” to restart your system.



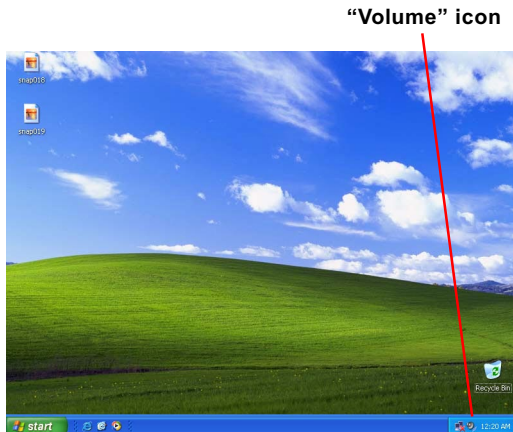
3-4.2 Verify 6-channel Audio

After installation of AC'97 6-channel Codec, you must configure the 5.1 Speaker connection to enable the 6-channel audio.

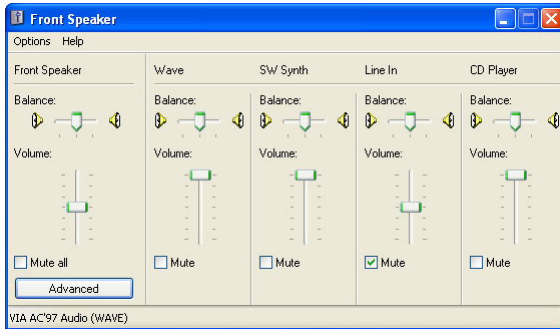
1. Connect your on-board Audio Connector to your 6-channel speakers as depicted in the figure below:



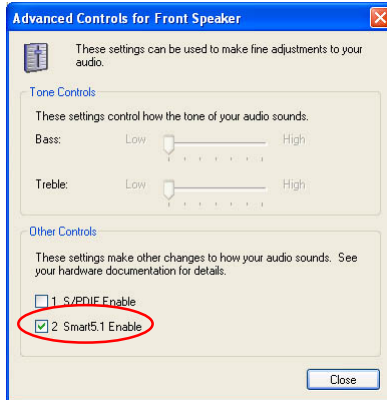
2. After Connection is done, start your Windows system and double click “volume” icon at the taskbar to enter 6-channel configuration:



3. Again click “Advanced” button to enter 6 channel configuration.



4. At the “Other Controls”, pick the item “Smart 5.1 Enable” to activate 6 channel configuration. Then click “Close” to finish configuration.



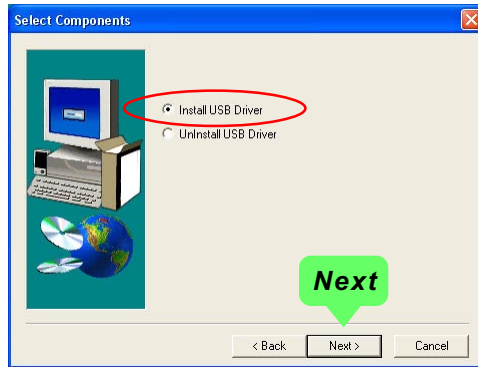
3-5 USB 2.0 Driver installation

VIA USB V2.0 is already integrated on board. Its 480Mb/s transfer rate supports operating systems Windows 98SE/Me/2000/XP. USB2.0 Driver is typically for Windows 98se/Me. For Windows 2K/XP, users can install their latest Service Pack instead of the USB2.0 driver to gain the USB2.0 support. For the Windows system which is not installed with its latest Service Pack, user must install the USB2.0 driver to activate the USB2.0 support:

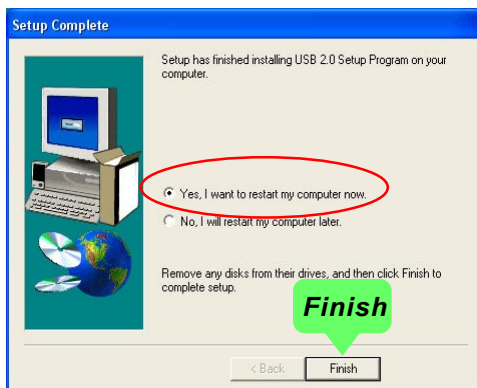
1. Following the procedures of opening the Support CD, click to choose "VIA USB 2.0 Driver" to proceed. Please notice that the USB card driver is different from the USB 2.0 driver typically for the on-board USB. Do not use the USB card driver here.
3. Instantly the "USB 2.0 Setup Program" will pop up on screen. Click "Next" to continue.



4. Instantly, next screen will pop up to prompt you to select component. Select "Install USB Driver" and click "Next" button to continue.



5. The USB 2.0 Setup Program will then guide you through the whole driver setup until the "Finish" screen appears to prompt you to restart your system. Please click "Finish" button to restart system to put the new driver into effect.



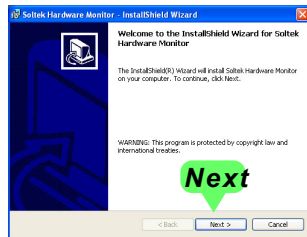
3-6 To Install Hardware Monitor Utility

3-6.1 Installation

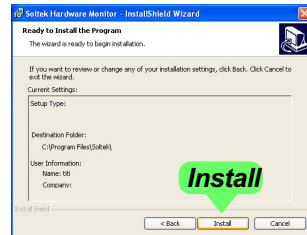
Hardware Monitor is built on this mainboard. Its installation is programmed to a fully automated mode on Windows 9X/Me/NT4/2000/XP. Users can follow the model installation below for its installation on various Windows System.

1. Following the procedures of opening the Support CD, click to “Hardware Monitor Utility” to proceed.

2. The Soltek Hardware Monitor InstallShield Wizard will pop up to guide you to the installation. Press “Next” button to continue.



3. The InstallShield Wizard screen will show the current setting, please click the “Install” button to continue.

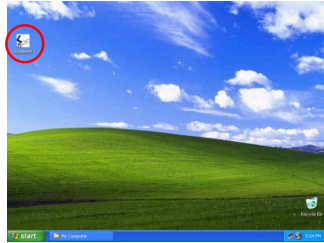


4. After all the setup process is finished, click “Finish” to exit the wizard.



3-6.2 Verification

1. After installing Soltek Hardware Monitor, double click “SoltekHM” icon on the desktop to open the main window of the Soltek Hardware Doctor.



2. Then the pop-up screen will show all information about CPU Temperature, Fan Speed and various Voltages.

Showing the Fan Speed(s) that is supported by the mainboard.

Click on “Soltek” button to display the function menu.

The screenshot shows the Soltek Hardware Monitor software interface. It features a futuristic, metallic-looking design with a central 'SOLTEK' logo. The interface is divided into several sections: 'TEMPERATURE' (CPU Die: 40, ABS II: 47, RT 2: 29), 'FAN TACHOMETER' (Fan 1: Not Found, Fan 2: 6750, Fan 3: Not Found), and 'VOLTAGE' (CPU Voltage: 1.712, DIMM Voltage: 2.512, 3.3V: 2.286, 5V: 4.919, 12V: 12.096, -12V: -12.944, 5VSB: 4.914, Battery: 7.080). A 'Soltek' button is located on the right side of the interface. A status warning LED is visible at the bottom right. Callout boxes with red lines point to these specific elements.

Showing the temperature(s), the function of which is supported by the mainboard.

Showing the Voltage(s) that is supported by the mainboard.

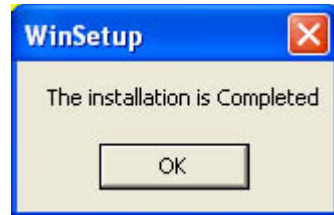
Status Warning LED

*Note: Not all items or functions showing in the above picture will show up. Only those items or functions that are supported by the mainboard will reveal themselves in the above screen.

3-7 LAN Driver Installation

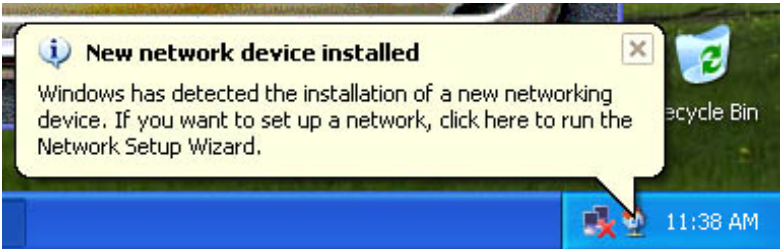
3-7.1 Installation

1. Following the procedures of opening the Support CD, click to “Onboard LAN Driver” to proceed.
2. Instantly, “The installation is completed” screen appears, indicating that LAN Driver setup is finished.



3-7.2 Verification

1. After LAN Driver setup, a new networking icon will appear at the corner of the “Start” screen of your system, indicating that a network channel has been set up.



3-8 Fast IR Driver Installation

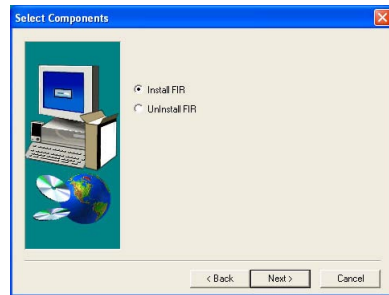
Before installing Fast IR Driver, you must enable “Onboard Fast IR” function in SuperIO Device in Integrated Peripherals of BIOS.

1. To set up IR Driver, please enter support CD to find out IR Driver Installation Program. The actual path where IR Driver is located:
(Support CD)\Driver\VIA\CLE266\FIR\setup.exe

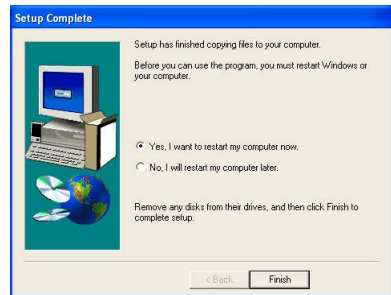
2. Execute “Setup.exe” and The VIA FIR Install Program will pop up to guide you to the installation. Press “**Next**” button to continue.



3. The **InstallShield Wizard** screen will show the current setting, please click the “**Install FIR**” button to continue.



4. After all the setup process is finished, click “**Finish**” to exit the program.



Chapter 4 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 upgrade BIOS

4-6 BIOS Setup

Attention: The BIOS Setup is subject to constant update without further notice to users. It is necessary for users to update the onboard BIOS by the latest BIOS version provided in our web site: www.soltek.com.tw

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:

```
Press "DEL" to enter "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 do some proper settings in BIOS Setup.

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 Upgrade 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 to execute saving, verifying, and updating the system BIOS. The Upgrade Utility can also be run from a hard disk drive or a network drive.

4-5.1 Before Upgrading BIOS

- It is highly recommended that you save a copy of the original mainboard BIOS along with a Flash EPROM Programming utility (AWDFLASH.EXE) to a bootable floppy disk so that you can reinstall the BIOS when needed.

4-5.2 Upgrade Process

- Normally, to upgrade BIOS is unnecessary if the system is working fine. Users should only upgrade the BIOS when you experience incompatible problems or need to create new features.
- “AWDFLASH.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 Windows 95/98, ME, NT, WINDOWS 2000 or Windows XP environment.**
- Please follow the steps below for upgrading the system BIOS:

Step 1. Please visit the board maker’s website, download the zip file which contains the latest BIOS file and Award Flash Utility “AWDFLASH.EXE”. After unzipping, the BIOS file format will be *.bin, of which “*” stands for the specific BIOS file name.

Step 2. Create a bootable diskette. Then copy the BIOS file and Award Flash Utility “AWDFLASH.EXE” into the diskette.

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

Step 4. Type **awdflash *.bin /sn/py/cc** and then press <Enter> to run BIOS upgrade program. (*.bin depends on your mainboard model and version code. Instead of typing “*”, you should type specific file name for your specific mainboard).

Step 5. Please press <F1> or <F10> to exit or reset your system.

Warning ! If the message “ **Write Fail** ” appears while Award “FLASH MEMORY WRITER” is verifying Flash memory, just repeat the process. Please DO NOT reset or turn off the system. If the award memory flash utility is not able to update the BIOS successfully, your system may not be able to boot up.

Step 6. You will need a message “CMOS checksum error-Default loaded” during booting the system. Press to run CMOS setup utility, then reload “LOAD SETUP DEFAULTS” or “**Load Optimized Defaults**” and save this change.

The parameters of AWDFLASH.EXE

/sn: No original BIOS backup

/py: Program flash memory

/cc: Clear CMOS data (and update data automatically) after programming

NOTE: Users can type AWDFLASH /? to get further details about the parameters. Incorrect usage of the parameter will damage the BIOS information, so we strongly recommend users to leave parameters alone unless you fully understand their function.

BIOS Update Illustration:

- (1) Executing the “awdflash.exe pt880.bin” in DOS system, Award Flash Memory Writer Start Screen appears: To input BIOS file name.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For PT880-8237-6A7L2SN9C-00 Date: 09/18/2003 File Name to Program : PT880.BIN
Message: Input the (BIOS) file name





- (2) Press Y if you want to back up your old BIOS. Otherwise, press N to go on without saving.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For PT880-8237-6A7L2SN9C-00 Date: 09/18/2003 File Name to Program : PT880.BIN
Message: Do You Want To Save BIOS (Y/N)





- (3) Press Y to write the latest BIOS into system.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved
For PT880-8237-6A7L2SN9C-00 Date: 09/18/2003 File Name to Program : PT880.BIN
Message: Press “Y” to Program or “N” to Exit

(4) Updating is in progress. Do not turn off power at this moment.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved		
For PT880-8237-6A7L2SN9C-00	Date: 09/18/2003	
Flash Type - SST 39SF020 /5V		
File Name to Program : pt880.bin		
Writing Flash Memory - 0FE00 OK		
		
 Write OK	 No Update	 Write Fail
Warning: Don't Turn Off Power Or Reset System !		

(5) When the process is complete, remove the Floppy Diskette and press F1 to restart the system to put the new BIOS into effect.

AwardBIOS Flash Utility V8.24F (C)Phoenix Technologies Ltd. All Rights Reserved		
For PT880-8237-6A7L2SN9C-00	Date: 09/18/2003	
Flash Type - SST 39SF020 /5V		
File Name to Program : pt880.bin		
Flashing Complete		
Remove Floppy Diskette & Hit <F1> to Continue		
		
 Write OK	 No Update	 Write Fail
F1 Reset		

4-6 BIOS SETUP --- CMOS Setup Utility

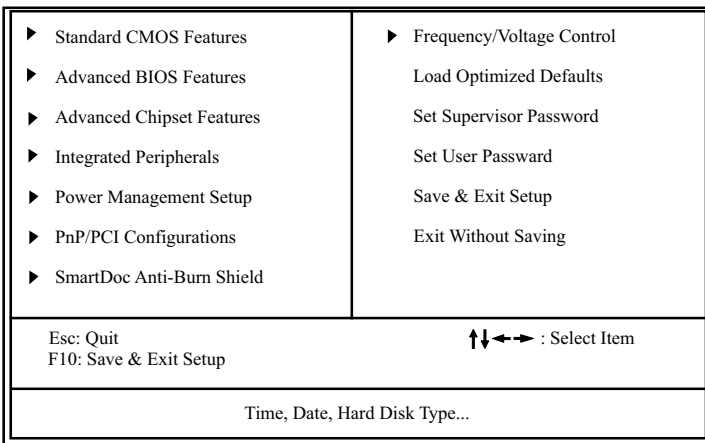
Warning and Tips: If changing CMOS Configuration causes difficulty in rebooting system, you can take the following measures:

1. At pressing the power button to reboot, press the “Insert” key at the same time. As soon as the screen displays the booting message, release the “Insert” key and press “Delete” key to enter CMOS Setup Utility . Then choose the “Load Optimized (Optimal) Defaults” menu to restore the default values for a new start. Or,
2. Open your machine cabinet and clear CMOS with jumper setting. Please refer to the Jumper Setting Section of this User manual.

4-6.1 CMOS Setup Utility

1. Power on your system.
2. At the initial screen, enter CMOS Setup Utility by pressing < Del > key before POST(Power on Self Test) is complete and the main program screen will appear as follows.

Phoenix - AwardBIOS CMOS Setup Utility



3. When one main item of the Main Menu is chosen and clicked on, its submenu will appear to display the related items and options. On the other hand, a list of operation guide will appear at the end of the submenu as below:

↑↓ ←→ :Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- (1) 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.
 - (2) Press <Enter> to select item or option.
 - (3) +/- /PU/PD: To adjust or select value.
 - (4) F10: Save configuration.
 - (5) Esc: Press <Esc> key to get out of the menu on screen.
 - (6) F1: Press F1 to display General Help List.
 - (7) F5: Press F5 to restore the Previous Value.
 - (8) F6: Press F6 to load the Fail-Safe default values.
 - (9) F7: Press F7 to load the Optimized Default Values.
4. You may return to the Main Menu anytime by pressing <ESC>.
 5. In the Main Menu, "SAVE AND EXIT SETUP" saves your changes and reboots the system, and "EXIT WITHOUT SAVING" ignores your changes and exits the program.

Attention: The BIOS Setup is subject to constant update without further notice to users. It is necessary for users to update the onboard BIOS by the latest BIOS version provided in our web site: www.soltek.com.tw

4-6.2 Standard CMOS Setup

Standard CMOS Setup records some basic system hardware configuration and sets the system clock and error handling. You only need to modify the configuration values of this option if you want to change your system hardware configuration or when the data stored in the CMOS memory gets lost or damaged.

Run the Standard CMOS Setup as follows:
 Choose "Standard CMOS Setup" from the Main Menu and a screen with a list of options will appear:

**Phoenix - AwardBIOS CMOS Setup Utility
 Standard CMOS Features**

Date (mm:dd:yy)	Wed, Nov 19 2003	Item Help
Time (hh:mm:ss)	9 : 41 : 11	
IDE Primary Master	WDC WD400BB-00DEA0	Menu Level ▶
IDE Primary Slave	None	Change the day, month, year and century
IDE Secondary Master	None	
IDE Secondary Slave	None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	252928K	
Total Memory	253952K	

↑ ↓ ← → :Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Date (mm:dd:yy) The BIOS determines the day of the week from the other date information. This field is for information only.
 Press the left or right arrow key to move to the desired field (date, month, year). Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

Time (hh:mm:ss) The time format is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Press the left or right arrow key to move to desired field. Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

Primary / Secondary Master / Slave This field records the specifications for all non-SCSI hard disk drives installed in your system. Refer to the respective documentation on how to install the drives.

Phoenix - AwardBIOS CMOS Setup Utility
 IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master Access Mode	Auto Auto	Menu Level ►
Capacity	40022MB	To auto-detect the HDD's size, head... on this channel
Cylinder	19158	
Head	16	
Precomp	0	
Landing Zone	19157	
Sector	255	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Drive A / Drive B Select this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
360KB, 5.25 in.
1.2MB, 5.25 in.
720KB, 3.5 in.
1.44MB, 3.5 in.
2.88MB, 3.5 in.
None

Video Select the type of primary video subsystem in your computer. The BIOS usually detects the correct video type automatically. The BIOS supports a secondary video subsystem, but you do not select it in setup.

Halt On During the power-on self-test (POST), the computer stops if the BIOS detects a hardware error. You can tell the BIOS to ignore certain errors during POST and continue the boot-up process.

Base Memory Typically 640KB. Also called conventional memory. The DOS operating system and conventional applications use this area.

Extended Memory Above the 1MB boundary. Early IBM personal computers could not use memory above 1MB, but current PCs and their software can use extended memory.

Total Memory This option shows system memory capacity.

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:

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

**Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features**

Virus Warning	Disabled	Item Help
CPU Internal Cache	Enabled	
External Cache	Enabled	Menu Level ▶ Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this functions is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep
CPU L2 Cache ECC Checking	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	CDROM	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	
Video BIOS Shadow	Enabled	

↑↓←→ : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Virus Warning When enabled, you receive a warning message if a program (specifically, a virus) attempts to write to the boot sector or the partition table of the hard disk drive.

You should then run an antivirus program. Keep in mind that this feature protects only the boot sector, not the entire hard drive.

NOTE: Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you disable the virus warning.

CPU Internal / External Cache Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type up contain internal cache memory (L1), and most, but not all, modern PCs have additional (external) cache memory (L2). When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for faster access by the CPU.

CPU L2 Cache ECC Checking To enable/disable Error Checking and Correcting Code on CPU L2 Cache.

Quick Power On Self Test Select Enabled to reduce the amount of time required to run the power-on self-test (POST). A quick POST skips certain steps. We recommend that you normally enable quick POST.

First/Second/Third/Boot Other Device The BIOS attempts to load the operating system from the devices in the sequence selected in these items. Choices: Floppy; LS/ZIP; HDD; SCSI; CDROM; USB; LAN; Disabled

Swap Floppy Drive When enabled, floppy drives A and B will be exchanging without any physical connection and modification on the cables.

- Boot Up Floppy Seek** When enabled, the BIOS tests (seeks) floppy drives to determine whether they have 40 or 80 tracks. Only 360-KB floppy drives have 40 tracks; drives with 270KB, 1.2MB, and 1.44MB capacity all have 80 tracks. Because very few modern PCs have 40-track floppy drives, we recommend that you set this field to disabled to save time.
- Boot Up NumLock Status** Toggle between On or Off to control the state of the NumLock key when the system boots. If On, the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.
- Gate A20 Option** Gate A20 refers to the way the system addresses memory above 1MB (extended memory). When set to *Fast*, the system chipset controls Gate A20. When set to *Normal*, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to *Fast* improves system speed, particularly with OS/2 and Windows.
- Typematic Rate Setting** When *Disabled*, the following two items (Typematic Rate and Typematic Delay) are irrelevant. Keystroke repeats at a rate determined by the keyboard controller in your system.
When *Enabled*, you can select a typematic rate and typematic delay.
- Typematic Rate (Chars / Sec)** When the typematic rate setting is enabled, you can select a typematic rate (the rate at which character repeats when you hold down a key) of 6, 8, 10, 12, 15, 20, 24, or 30 characters per second.
- Typematic Delay (Msec)** Choices: 250; 500; 750; 1000. This option sets the time interval for displaying the first and the second characters. If enabled, the time interval is optional.
- Security Option** If you have set a password, select whether the password is required every time the System boots, or only when you enter setup.
Choices: System; Setup

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

Video BIOS Shadow Selecting Enabled allows copying Video BIOS to shadow RAM, resulting in better video performance.

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:

Choose "Advanced Chipset Features" from the Main Menu and a list of option will appear:

Phoenix - AwardBIOS CMOS Setup Utility
Advanced Chipset Features

		Item Help
<ul style="list-style-type: none"> ▶ DRAM Clock/Drive Control ▶ CPU & PCI Bus Control Memory Hole System BIOS Cacheable Video RAM Cacheable VGA Share Memory Size Select Display Device TV_type TV_Connector TV_Layout Panel Type 	<ul style="list-style-type: none"> Press Enter Press Enter Disabled Disabled Disabled 32M CRT NTSC CVBS Default 07 	<div style="border: 1px solid black; padding: 5px;"> Menu Level ▶ </div>

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

4-6.4.1 DRAM Clock/Drive Control

Choose “DRAM Clock/Drive Control” in “Advanced Chipset Features” and press <Enter>. The following sub-screen will appear for DRAM Control configuration:

DRAM Clock/Drive Control		Item Help
Current FSB Frequency	133MHz	Menu Level ▶▶
Current DRAM Frequency	133MHz	
DRAM Clock	By SPD	
DRAM Timing	By SPD	
x DRAM CAS Latency	2,5	
x Bank Interleave	Disabled	
x Precharge to Active(Trp)	3T	
x Active to Precharge(Tras)	6T	
x Active to CMD(Trcd)	3T	
DRAM Command Rate	2T Command	

Current FSB Frequency This item is to show the current FSB Frequency.

Current DRAM Frequency This item is to show the current DRAM Frequency.

DRAM Clock This item allows you to set the DRAM Clock. SPD (Serial Presence Detect) is located on the memory modules, BIOS reads information coded in SPD during system boot up. Choices: By SPD; 133Mhz

DRAM Timing This item allows you to set the DRAM Timing. Choices: By SPD; Manual

DRAM CAS Latency With SDRAM Timing by SPD disabled, you can select the SDRAM CAS# (Column Address Strode)l- latency manually. Choices: 2.0; 2.5

Bank Interleave This value appears when “DRAM Timing” is set at “Manual”. Choices: 2 Bank; 4 Bank; Disabled

Precharge to Active (Trp) This value appears when “DRAM Timing” is set at “Manual”. Choices: 2T; 3T

Active to Precharge (Tras) This value appears when “DRAM Timing” is set at “Manual”. Choices: 5T; 6T

Active to CMD(Trcd) This value appears when “DRAM Timing” is set at “Manual”. Choices: 2T; 3T

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

4-6.4.2 CPU & PCI Bus Control

Choose “CPU & PCI Bus Control” in “Advanced Chipset Features” and press <Enter>. The following sub-screen will appear for CPU & PCI Bus Control configuration:

CPU & PCI Bus Control

CPU to PCI Write Buffer Enabled PCI Master 0 WS Write Enabled	Item Help
	Menu Level ▶▶

CPU to PCI Write Buffer When this field is Enabled, writing from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.
 Choices: Enabled; Disabled

PCI Master 0 WS Write When Enabled, writing to the PCI bus are executed with zero wait states.
 Choices: Enabled, Disabled

Memory Hole In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB.
The choices: 15M-16M; Disabled

System BIOS Cacheable Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance.

Video RAM Cacheable Selecting Enabled allows caching of the video memory (RAM) at A0000h-AFFFFh, resulting in better video performance. However, check your AGP manual to find out if any compatibility problem exists.

VGA Share Memory Size This item is to specify the system memory to be allocated for Video memory.
Choices: 64M; 32M; 16M

Select Display Device This item is to specify the display device.
Choices: CRT; LCD; CRT+LCD; TV; CRT+TV; LCD+TV; DVI; CRT+DVI; TV+DVI

TV_type This item is to specify the TV type.
Choices: NTSC; PAL; PALM; PALN; PALNc

TV_Connector This item is to specify the TV connector.
Choices: CVBS; S-Video 0; R/G/B; Cr/Y/Cb; SDTV-R/G/B; SDTV-Pr/Y/Pb; S-Video 1

TV_Layout This item is to specify the TV layout.
Choices: Default; COMP. + S-Video; S-Video+S-Video; COMP. +R/G/B; COMP. +Y/Cb/Cr; COMP. +SDTV-R,G,B; COMP. +SDTV-Y,Pb,Pr

Panel Type This item is to specify the Panel Type. Please leave it at default.

4-6.5 Integrated Peripherals

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

Run the Integrated Peripherals as follows:

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

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals

<ul style="list-style-type: none"> ▶ VIA OnChip IDE Device ▶ VIA OnChip PCI Device ▶ SuperIO Device Init Display First 	<p>Press Enter Press Enter Press Enter Onboard</p>	<p>Item Help</p>
--	--	------------------

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

4-6.5.1 VIA OnChip IDE Device

Choose "VIA OnChip IDE Device" in "Integrated Peripherals" and press <Enter>. The following sub-screen will appear for VIA OnChip IDE Device configuration:

**Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip IDE Device**

OnChip IDE Channel0	Enabled	Item Help
OnChip IDE Channel1	Enabled	
IDE Prefetch Mode	Enabled	
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	
IDE HDD Block Mode	Enabled	

OnChip IDE Channel 0/1 The chipset contains a PCI IDE interface with support from two IDE channels. Select Enabled to activate the first and/or the second IDE interface. Select Disabled to inactivate an interface if you install a primary and/or second add-on IDE interface.

IDE Prefetch Mode The on-board IDE drive supports IDE prefetching for faster drive accesses. If the IDE device doesn't support prefetching, set this field to Disabled.

Primary Master / Slave PIO Choose Auto or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose
Secondary Master / Slave PIO Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.

Primary Master / Slave UDMA Ultra DMA33/66/100/133 implementation is possible only if your IDE hard drive supports it, if the operating environment includes a DMA drive, and if your system software supports Ultra DMA33/66/100/133.
Secondary Master / Slave UDMA Select "Auto" to enable BIOS support.

IDE HDD Block Mode Block mode is also called block transfer, multiple commands, or multiple sector read/write. Select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support.

4-6.5.2 VIA OnChip PCI Device

Choose "VIA OnChip PCI Device" in "Integrated Peripherals" and press <Enter>. The following sub-screen will appear for VIA OnChip PCI Device configuration:

Phoenix - AwardBIOS CMOS Setup Utility
VIA OnChip PCI Device

		Item Help
VIA-3058 AC'97 Audio	Auto	
VIA-3043 OnChip LAN	Enabled	
Onboard Lan Boot ROM	Disabled	
OnChip USB Controller	All Enabled	
OnChip EHCI Controller	Enabled	
USB Keyboard Support	Disabled	
USB Mouse Support	Disabled	

VIA-3058 AC'97 Audio Select "Auto" to use the on-chip audio capability of your system. Most of the field do not appear when this field is "Disabled", for user who wants to use add-on sound card, this item must be disabled.

VIA-3043 OnChip LAN Allows you to enable/disable the Onchip LAN.
Choices: Enabled; Disabled

Onboard Lan Boot ROM Allows you to enable/disable the Onchip LAN Boot ROM.
Choices: Enabled; Disabled

OnChip USB Controller Allows you to enable/disable the Onchip USB controller.
Choices: All Disabled; All Enabled; 1&2 USB Port; 1&3 USB; 1 USB Port

OnChip EHCI Controller Allows you to enable/disable the Onchip EHCI (Enhanced Host Controller Interface) controller.
Choices: Enabled; Disabled

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

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

4-6.5.3 SuperIO Device

Choose “SuperIO Device” in “Integrated Peripherals” and press <Enter>. The following sub-screen will appear for SuperIO Device configuration:

Phoenix - AwardBIOS CMOS Setup Utility
SuperIO Device

	Item Help
Onboard FDC Controller	Enabled
Onboard Serial Port 1	Auto
Onboard Serial Port 2	Auto
Onboard Parallel Port	378/IRQ7
Parallel Port Mode	SPP
x EPP Mode Select	EPP 1.9
x ECP Mode Use DMA	3
Onboard Fast IR	Disabled
Fast IR IRQ	11
Fast IR DMA	6

Onboard FDC Controller Select Enabled if your system has a floppy drive controller (FDC) installing in the system board and you want to use it. If you install add-in FDC or the system has no floppy drive, select Disabled in this field.

Onboard Serial Port 1/2 Select a logical COM port name and matching address for the first and second serial ports. Select an address and corresponding interrupt for the first and second serial ports.
Choices: Disabled; Auto;
3F8/IRQ4; 2F8/IRQ3;
3E8/IRQ4; 2E8/IRQ3

Onboard Parallel Port This item allows you to determine onboard parallel port controller I/O address setting.
Choices: 378H/IRQ7; 278H/IRQ5; 3BC/IRQ7; Disabled

Parallel Port Mode Select an operating mode for the on-board parallel (printer) port. Select Normal, Compatible, or SPP unless you are sure your hardware and software both support one of the other available modes.
Choices: SPP; EPP; ECP; ECP+EPP;

EPP Mode Select Select EPP Mode when you choose EPP or ECP+EPP mode in the Parallel Port Mode.
Choices: EPP1.7; EPP1.9

ECP mode Use DMA Select a DMA channel for the port when you choose ECP or ECP+EPP mode for the Parallel Port Mode.
Choices: 1; 3

Fast IR IRQ Allows you to assign IRQ for infrared port.
Choices: 11; 5; 3; 4

Fast IR DMA Allows you to assign DMA for infrared port.
Choices: 5; 6

Init Display First Allows you to select the initial Graphics Adapter.
Choices: PCI Slot; Onboard

4-6.6 Power Management Setup

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

Run the Power Management Setup as follows:

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

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

		Item Help
ACPI function	Enabled	
ACPI Suspend Type	S1(POS)	
Power Management Option	User Define	
HDD Power Down	Disabled	
Suspend Mode	Disabled	
Video Off Option	Suspend -> Off	
Video Off Method	V/H SYNC+Blank	
MODEM Use IRQ	3	
Soft-off by PWRBTN	Instant-off	
Run VGABIOS if S3 Resume	Auto	
Ac Loss Auto Restart	Off	
▶ IRQ/Event Activity Detect	Press Enter	

↑↓←→ : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

- ACPI Function** Select Enabled(default) only if your computer's operating system supports the Advanced Configuration and Power Interface (ACPI) specification. Currently, Windows 98SE/ME, Windows 2000 and Windows XP supports ACPI.
- ACPI Suspend Type** This item allows you to select the ACPI Suspend type. You can select S3(STR) for Suspending To RAM if your system supports this mode. Or you can select S1(POS) for Power On Suspend under ACPI mode. Please note that S3 Mode is not supported on Windows 98SE in this mainboard.
Choices: S1(POS); S3(STR);
- Power Management Option** This option allows you to select the type (or degree) of power saving for Doze, Standby, and Suspend modes. Choices:
User Define: To set the Suspend mode time by user.
Max Saving: Maximum power savings. Inactivity period is 1 minute in each mode.
Min Saving: Minimum power savings. Inactivity period is 1 hour in each mode (except the hard drive).
- HDD Power Down** When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.
- Suspend Mode** Allows you to set a suspend time for HDD inactivity.
- Video Off Option** When enabled, this feature allows the VGA adapter to operate in a power saving mode.
Always On: Monitor will remain on during power saving modes.
Suspend -> Off: Monitor blanked when the system enter the suspend mode.

- Video Off Method** This determines the manner by which the monitor is blanked.
V/H SYNC+Blank: To turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen: To write blanks to the video buffer.
DPMS Support: Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards to select video power management values.
- MODEM Use IRQ** Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.
The choices: 3; 4; 5; 7; 9; 10; 11; NA.
- Soft-Off by PBTN** When Enabled, turning the system off by pressing the on/off button places the system in a very low-power-usage state.
- Run VGABIOS If S3 Resume** This item is to set the mode to run the VGA BIOS when S3 (Suspend to RAM) resumes.
Choices: Auto; Yes; No
- AC Loss Auto Restart** Allows you to automatically restart from AC/Power Loss.
Choices: On; Off; Auto

4-6.6.1 IRQ/Event Activity Detect

Choose "IRQ/Event Activity Detect" in "Power Management Setup" and press <Enter>. The following sub-screen will appear for IRQ/Event Activity Detect configuration:

Phoenix - AwardBIOS CMOS Setup Utility
IRQ/Event Activity Detect

		Item Help
PS2KB Wakeup Select	Hot key	
PS2KB Wakeup from S3/S4/S5	Disable	
Power Button Lock	Disabled	
PS2MS Wakeup from S3/S4/S5	Disabled	
USB Resume from S3	Enabled	
VGA	Off	
LPT & COM	LPT/COM	
HDD & FDD	ON	
PCI Master	OFF	
PowerOn by PCI Card	Disabled	
Modem Ring Resume	Disabled	
RTC Alarm Resume	Disabled	
x Date (of Month)	0	
x Resume Time (hh:mm:ss)	0: 0: 0	
▶ IRQs Activity Monitoring	Press Enter	

PS2KB Wakeup Select Allows you to set the way to awake the system by PS/2 keyboard.

PS2KB Wakeup from S3/S4/S5 Allows you to awake the system from S3/S4/S5 by PS/2 keyboard.

Power Button Lock Allows you to enable/disable to lock the power button.

PS2MS Wakeup from S3/S4/S5 Allows you to awake the system from S3/S4/S5 by PS/2 mouse.

USB Resume from S3 Allows you to awake the system from S3 by USB devices.

VGA When Enabled, you can set the VGA awakens the system

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

HDD & FDD When HDD & FDD is ON, any activity from one of the listed system peripheral devices wakes up the system.

PCI Master When PCI Master is ON, any activity from one of the listed system peripheral devices wakes up the system.

PowerOn by PCI Card This item allows system wake up by PCI Device.

Modem Ring Resume 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.

RTC Alarm Resume When Enabled, you can set the data and time at which the RTC (Real Time Clock) alarm awakens the system from suspend mode.
Choices: Disabled; Enabled

Date (of Month) Set a certain date when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Resume Time option.

Resume Time (hh:mm:ss) Set a certain time when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Date option.

IRQ Activity Monitoring

Choose "IRQ Activity Monitoring" in "IRQ/Event Activity Detect" and press <Enter>. The following sub-screen will appear for IRQ Activity Monitoring configuration:

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
IRQ Activity Monitoring		
Primary INTR	ON	
IRQ3 (COM 2)	Enabled	
IRQ4 (COM 1)	Enabled	
IRQ5 (LPT 2)	Enabled	
IRQ6 (Floppy Disk)	Enabled	
IRQ7 (LPT 1)	Enabled	
IRQ8 (RTC Alarm)	Disabled	
IRQ9 (IRQ2 Redir)	Disabled	
IRQ10 (Reserved)	Disabled	
IRQ11 (Reserved)	Disabled	
IRQ12 (PS/2 Mouse)	Enabled	
IRQ13 (Coprocessor)	Enabled	
IRQ14 (Hard Disk)	Enabled	
IRQ15 (Reserved)	Disabled	

IRQ Activity Monitoring - The following is a list of IRQ's (Interrupt Requests), which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

4-6.7 PnP / PCI Configuration

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

Run the PnP/PCI Configuration as follows:

Choose "PnP/PCI Configuration" from the Main Menu and a screen with a list of options will appear:

Phoenix - AwardBIOS CMOS Setup Utility
PnP PCI Configurations

		Item Help
PNP OS Installed	No	
Reset Configuration Data	Disabled	
Resources Controlled by	Auto(ESCD)	
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
↑↓←→ : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help		
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

PNP OS Installed Select Yes if the system operating environment is Plug-and-Play aware (e.g., Windows95).

NOTE: BIOS will automatically disable all PnP resources except the boot device card when you select Yes on Non-PnP operating system.

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

Resource Controlled By The Plug and Play Award BIOS can automatically configure all the boot and Plug and Play compatible devices. If you select *Auto*(default), all the interrupt request (IRQ) and DMA assignment fields will not appear, as the BIOS automatically assigns them. If you select *Manual*, the IRQ Resources item will appear for your configuration (see below).

IRQ Resources Press Enter. Please refer to the list below:

Phoenix - AwardBIOS CMOS Setup Utility
IRQ Resources

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

↑↓←→ : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

PCI/VGA Palette Snoop This option allows the BIOS to preview VGA status, and to modify the information delivered from the feature Connector of the VGA card to MPEG card. This option can solve the display inversion to black after you have used a MPEG card.

Assign IRQ for VGA Select *Enabled* if you system has a VGA controller and you have one or more VGA devices connected. If you are not using your system's VGA controller, select *Disabled* to free the IRQ resource.

Assign IRQ for USB Select *Enabled* if you system has a USB controller and you have one or more USB devices connected. If you are not using your system's USB controller, select *Disabled* to free the IRQ resource.

4-6.8 SmartDoc Anti-Burn Shield

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

Run the “SmartDoc Anti-Burn Shield” as follows:

Choose “SmartDoc Anti-Burn Shield” from the Main Menu and a screen with a list of options will appear:

**Phoenix - AwardBIOS CMOS Setup Utility
SmartDoc Anti-Burn Shield**

	Item Help
Current CPU Temp.	41°C/ 105°F
Current System Temp.	38°C/ 100°F
CPU Vcore	1.179 V
3.3V	3.348 V
+12V	12.077 V

↑↓←→ : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Current CPU Temp. Shows current CPU temperature.

Current System Temp. Shows current system temperature.

CPU Vcore Shows CPU core actual voltage value.

3.3V, +12V Shows actual voltage value of all these default voltage value on board.

4-6.9 Frequency/Voltage Control

Run the “Frequency/Voltage Control” as following:

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

Phoenix - AwardBIOS CMOS Setup Utility
CPU Ratio/Voltage Control

	Item Help
VIA C3 Clock Ratio	Default
Auto Detect DIMM/PCI Clk	Enabled
Spread Spectrum	Disabled
CPU Clock	133

↑↓←→ : Move Enter: Select +/-/PU/PD: Value F10: Save Esc: Exit F1: General Help
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

VIA C3 Clock Ratio If CPU onboard is one with an adjustable or unlocked CPU ratio, this item allows you user to adjust the CPU Ratio. If your CPU is one with the CPU Ratio locked, this item will be invalid.

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

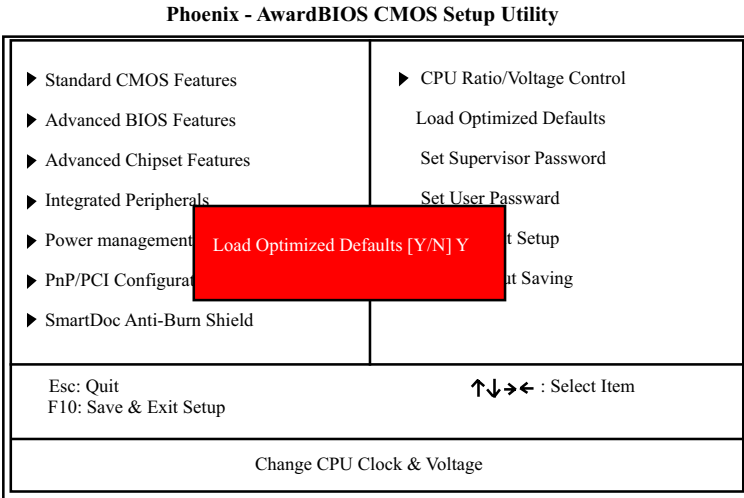
Spread Spectrum When the system clock generator pulses, the extreme values of the pulse generate excess EMI. Enabling pulse spectrum spread modulation changes the extreme values from spikes to flat curves, thus reducing EMI. This benefit may in some cases be outweighed by problems with timing-critical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

CPU Clock This items allows users to adjust CPU frequency by in 1 unit stepping only.

4-6.10 Load Optimized Defaults

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

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



"Y" is for "Yes", and "N" is for "No".

Pressing "Y" loads the BIOS Optimized default values to restore the BIOS to its original status.

4-6.11 SET SUPERVISOR / USER PASSWORD

These two options allow you to set your system passwords. Normally, the supervisor has a higher priority to change the CMOS setup option than the users. The way to set up the passwords for both Supervisor and Users are as follows:

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

"Enter 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:

"Confirm Password : "

4. Enter the same password "exactly" the same as you have just typed to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you have entered before.
7. Move the cursor to Save & Exit Setup to save the option you have just configured; otherwise the old password will still be there the next time you turn your system on.
8. Press <Enter> to exit to the Main Menu.

NOTE: If you forget or lose the password, the only way to access the system is to clear the CMOS RAM. All setup information will be lost and you need to run the BIOS setup program again.

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 the following message appears:

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

"Y" is for "Yes", and "N" is for "No".

Press <Enter> key to save the configuration changes.

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 the following message appears:

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

"Y" is for "Yes", and "N" is for "No".

You may change the prompt to "Y" and press <Enter> key to leave this option .