845GV-ISA Mainboard

User’s Manual

Rev：1.1

Date：2007.1

CONTENTS

Chapter 1 Package Contents

Your mainboard package contains the following items:

1 One mainboard

2 One 80-Pin Ultra DMA 66/100 IDE drive ribbon cable

3 One 34-Pin Floppy drive ribbon cable

4 Software install CD

5 One user’s manual

6 One I/O Backboard

Chapter 2 Introduction

This mainboard has the Intel 845 chipset that contains Intel 82845GV Memory Controller Hub and Intel 82801DB I/O Controller Hub. This mainboard has a Socket-478 support for Intel Pentium4 processors with front-side bus(FSB)speeds up to 400/533,supports DDR200/DDR266 memory bus, supports AC97 audio codec ,integrated AC97 audio that supports full surround sound with up to Two channels, front panel audio output function, provides Ultra DMA66/100 function, the integrated display function technologies without extend display card ,provides Two PCI slots. The mainboard integrated mainboard、VGA card、sound card .

Key Features:

-Chipset:

Intel 845GV chipset GMCH: Intel 82845GV; ICH4: Intel 82801DB

-Processor:

Supports Intel Celeron CPU Socket 478 CPU

Supports Intel Pentium4 (Northwood) Socket 478 CPU

Supports Intel Pentium4 (Willamette) Socket 478 CPU

Supports Intel Pentium4 (Prescott) Socket 478 CPU

Supports Intel Celeron D (Prescott) Socket 478 CPU

-Supports 400/533MHz HOST BUS Frequency

-Memory Support:

Supports DDR200/DDR266 Memory;

Two 184-pin DIMM slots for DDR SDRAM memory modules

-Integrated display function technologies without extend VGA card

Integrated 2D/3D Graphics Controller

-USB Ports

Six USB ports

Supports compliant with Universal Serial Bus Specification Revision 2.0

-IDE Port

Provides two channel connecting four IDE drives

Supports Ultra ATA66/100 synchronous DMA modes

-I/O Ports

One floppy port support format 360K/720K/1.2M/1.44M/2.88M disk driver

One serial ports

One parallel port

maximum four extra ports)

One PS/2 Keyboard port

One PS/2 Mouse

One MIDI port

One IrDA port support 115.2KB/S transfers data.

-Onboard AC’97 2.0 specification compliant

Support 16bit stereo codec

Multiple stereo input mixer

Provides onboard Line-in jack, Line-out jack, Microphone-in jack

-Expansion Slot

Two PCI slots 2.2 specification compliant

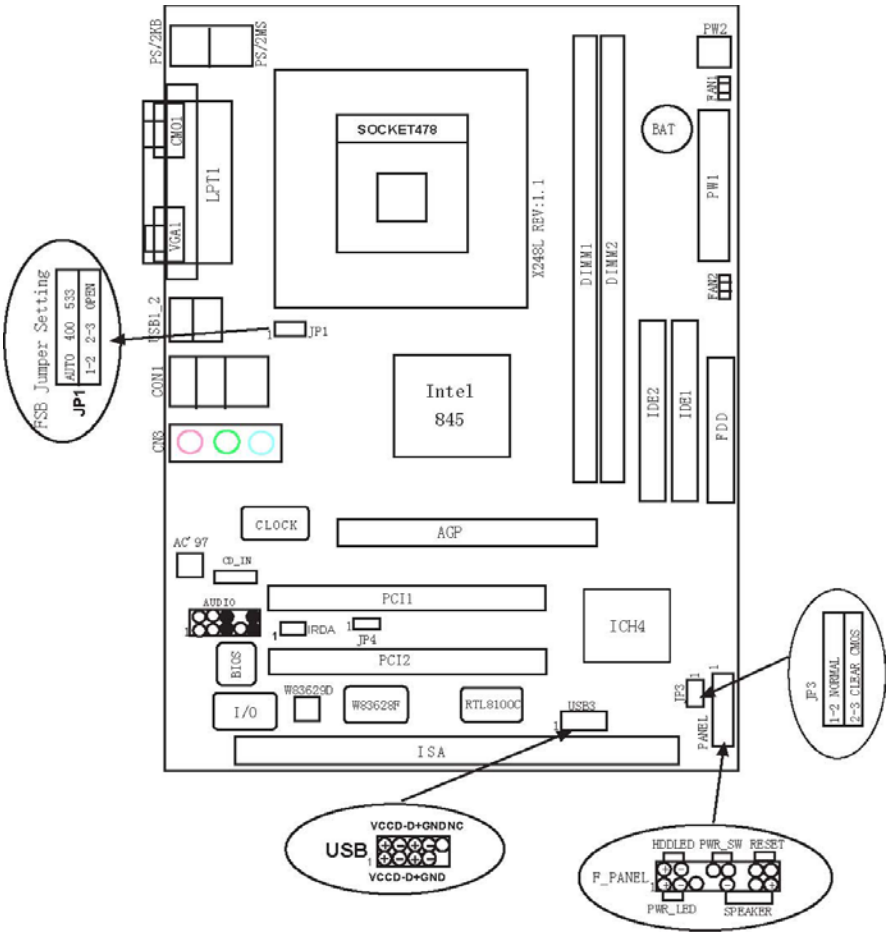
One AGP 4X

One ISA

-Dimension

Micro ATX form factor

Chapter 3 Mainboard Locations



Chapter 4 Installation

4.1 Jumper Setting and Slot

FSB CPU Frequency Jumper Setting

JUPER	AUTO (Default)	400	533
JP1	1-2	2-3	OPEN

JP3: Clear CMOS Jumper Setting

1-2 (Default)	Normal
2-3	Clear CMOS

Audio: Front panel Jumper setting

PIN	Function	PIN	Function
1	MIC+	2	Ground
3	Vbias	4	AuD_Vcc(AVCC)
5	AuD_R_Out	6	AuD_R_Out Back
7	N.C.	8	Key
9	AuD_L_Out	10	AuD_L_Out Back

USB: Expansion Connector

PIN	Function	PIN	Function
1	VCC: Power	2	VCC: Power
3	D-: Data - Signal	4	D-: Data - Signal
5	D+: Data + Signal	6	D+: Data + Signal
7	GND: Ground	8	GND: Ground
9	KEY	10	NC

Expansion Slots

DDR1/DDR2	184 Pin DDR Memory Slots
PCI1/PCI2	32 bit PCI BUS Expansion Slots
AGP	AGP Expansion Slots
ISA	ISA Expansion Slots

Connectors

PS/2 (Bottom)	PS/2 Keyboard(Down Purple)
PS/2 (Top)	PS/2 Mouse Header(Up Green)
USB1/2	USB1/2 Connector Port
USB3	USB3 Connector Port
LPT	Printer Connector Port
VGA	VGA Display Connector Port
COM1	Serial Ports COM1 Connector Port
MIDI	MIDI Port
LINE OUT/LINE IN/MIC	Audio Output/Audio Input/Microphone
CD_IN	CD-ROM Audio Input Port
IDE1/IDE2	Primary IDE/Secondary IDE Port
FDD	Floppy Disk Drive Connector Port
PW1	ATX_20 Power Supply Connector Port
PW2	ATX_4 Power Supply Connector Port
FAN 1/2	CPU System Fan Port
IrDA	IrDA Infrared Port

Function Port Panel

Power Supply LED	Pin 1:Power Supply Anode; Pin 3、5: Ground
HDD LED	Pin 2:Power Supply Anode; Pin 4: LED Signal
ATX Power Supply Switch	Pin 10:Switch Signal; Pin 8: Power Supply Anode
Reset Switch	Pin 14:Ground;Pin 16:Reset Signal
Speaker Input	Pin 9:Speaker Audio Input; Pin 15: Power Supply Anode

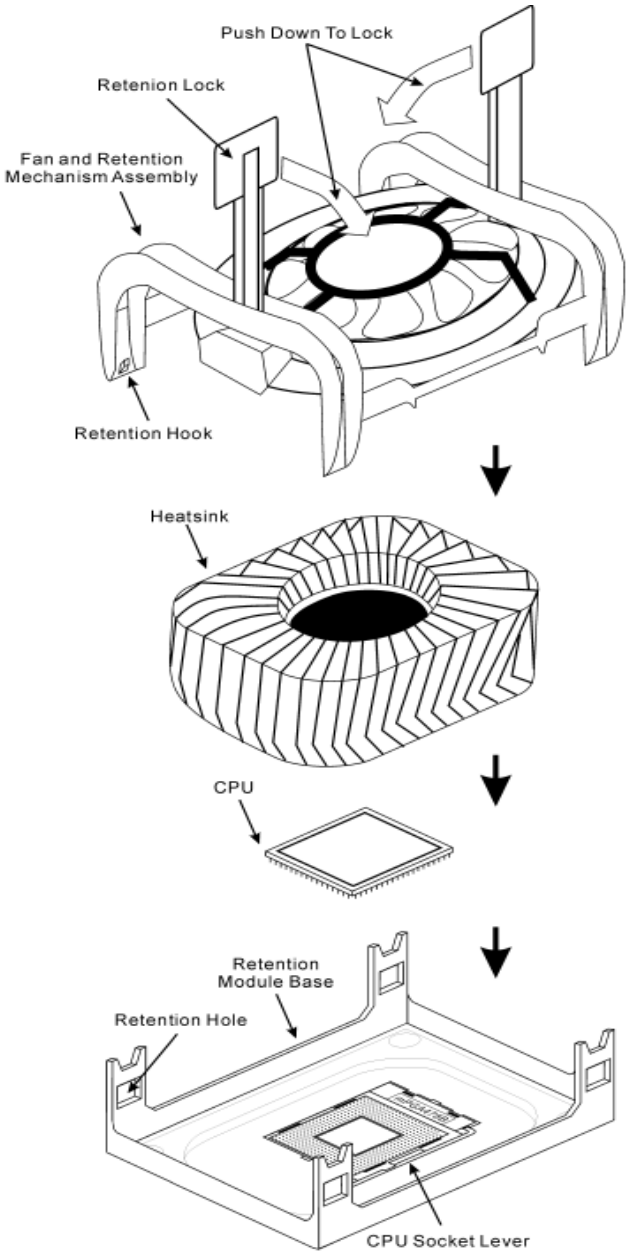
4.2 CPU Installation

This mainboard has a socket478 processor socket. Follow these instructions to install the CPU:

1. Unhook the CPU socket’s locking lever by pulling it away from socket and raising it to the upright position.
2. Match the pin 1 corner of CPU socket to the one of processor, and insert the processor into the socket. Do not use force.
3. Push the locking lever down and hook it under the latch on the edge of

socket.

4. Apply thermal grease to the top of the CPU.
5. Lower the CPU fan/ heatsink unit onto the CPU and CPU socket, and then use the retention module clamps to snap the fan/heatsink into place.
6. Plug the CPU fan power cable into the CPU cooling fan power supply connector on the mainboard.

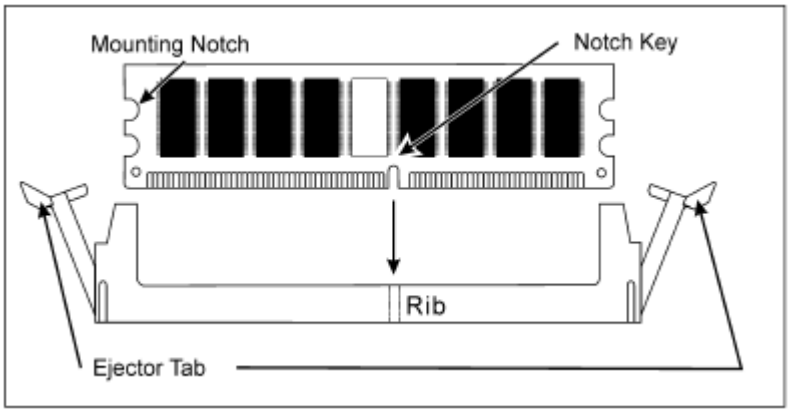

Push Down To Lock
Retenion Lock
Fan and Retention
Mechanism Assembly
Retention Hook
Heatsink
CPU
Retention
Module Base
Retention Hole
CPU Socket Lever

4.3 Memory installation

This mainboard supports DDR200/DDR266 DDR memory, you may install 64/128/256/512MB 184 pin DDR memory。DDR SDRAM uses additional power and ground lines and requires 184-pin 2.5V unbuffered DIMM module rather than the 168-pin 3.3V unbuffered DIMM used by SDRAM.

Follow these instructions to install the Memory:

1. Push the latches on each side of the DIMM slot down.
2. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
3. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
4. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
5. Install any remaining DIMM modules.



4.4 IDE Devices Installation

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among othes.

The mainboard ships with and IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

4.5 Other Device Installation

4.5.1 Floppy Disk Drive Installation

The mainboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5” or 5.25” wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector floppy.

4.5.2 Sound Connector Port Installation

This mainboard has three audio ports connect audio device.

The left side jack(green) is for a stereo line-out signal. The middle jack (blue)is for a stereo line-in signal. The right side jack (red)is for a microphone.

4.5.3 Clear CMOS (JP3)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The RAM data in CMOS, that include system setup information such as system passwords, is powered by the onboard button cell battery.

1、 Turn OFF the computer and unplug the power cord.

2、 Move the jumper cap from pin 1-2(default) to pin 2-3.Keep the cap on pin 2-3 for about 5-10 seconds, then move the cap back to pins1-2.

3、 Plug the power cord and turn ON the computer.

4、 Hold down the<DEL> key during the boot process and enter BIOS setup to re-enter data.

Note1: Except when clearing RTC RAM, never remove the cap on CLRTC1 jumper default position. Removing the cap will cause system boot failure!
Note2: You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the C.P.R. (CPU Parameter Recall) feature. Shut down and reboot the system so BIOS can automatically reset parameter settings to default values.

4.5.4 ATX Power connectors (20-pin ATXPWR1,4-pin ATX 12V1)

These connectors connect to an ATX 12V power supply. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit. In addition to the 20-pin ATXPWR1 connector, connect the 4-pin ATX +12V power plug to provide sufficient power to the CPU.

Note1: Make sure that you ATX 12V power supply can provide at least 15A on the +12V lead and at least 2A on the +5-volt standby lead (+5VSB).The minimum recommended wattage is 300W or above for a fully configured system. The system may become unstable and may experience difficulty powering up if the power supply is inadequate.

Note2: Do not forget to connect the 20-pin ATXPWR1 and 4-pin ATX12V1 power plugs. Failure to do so may cause severe damage to the CPU or motherboard!

Chapter 5 Driver Installation

5.1 Installation Directory

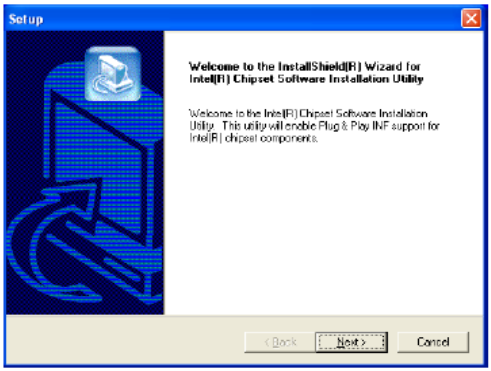
The utility CD is supplied with that mainboard the connects contained in it are showed as below:

Directory	Driver	OS
INTEL\INF\XXX	Intel chipset software	Windows 9x Windows 2000/XP Windows NT4.0
SOUND\REALTEK\XXX	Realtek AC'97 Audio driver	Windows 9x Windows 2000/XP Windows NT4.0
INTEL\USB2.0\845	USB 2.0 driver setup	Windows 9x Windows 2000/XP Windows NT4.0
INTEL\VGA\845	VGA driver setup	Windows 9x Windows 2000/XP Windows NT4.0

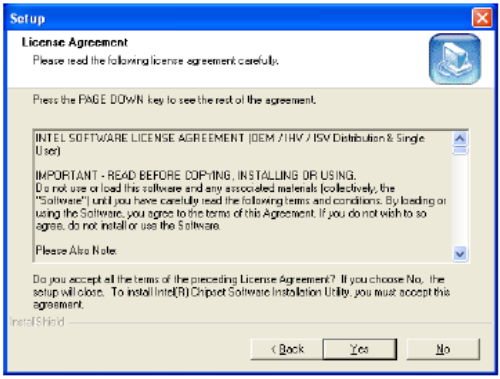
Before installing audio driver, you must identify the mode of AC'97 codec. Fox example: If you use Realtek serial codec, you need to enter into the Realtek directory installing.

5.2 Intel Chipset Software Setup

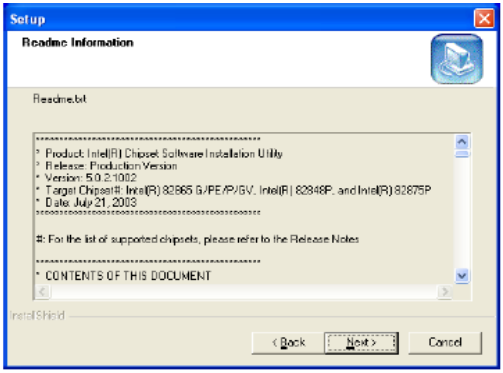
Insert the driver CD, running driver software CD, choose the directory :\ CD-ROM:\INTEL\INF\XXX



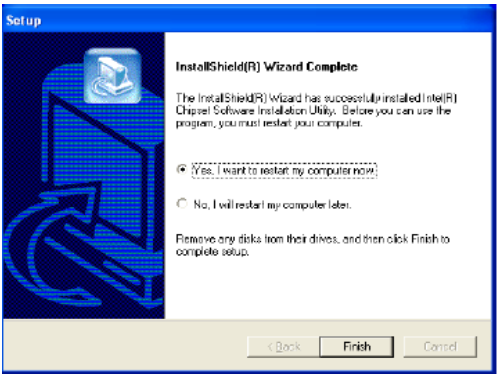
Click “NEXT” to continue



Select “YES” to continue



Select “NEXT” to continue



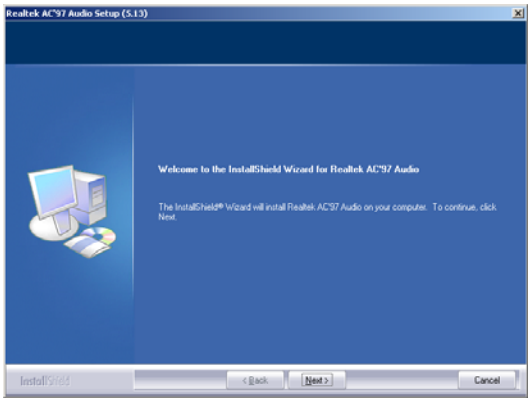
Select “FINISH” to complete the installation.

Select “Finish” to complete the installation

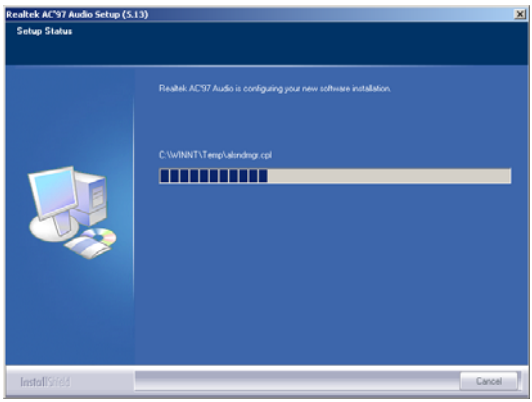
5.3 Sound Driver Setup

5.3.1 Sound driver setup

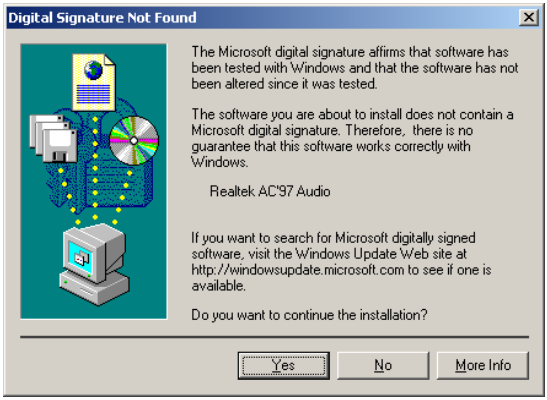
Insert the driver CD, running driver software CD, choose the directory:\CD-ROM:\SOUND\REALTEK\Setup.exe



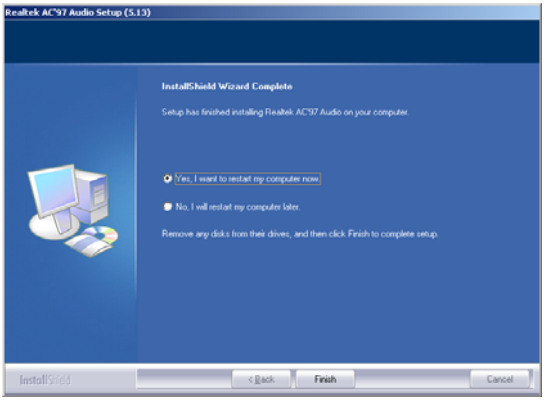
Select “Next” to continue



Continue



Select “YES” to continue



Select “Finish” to complete the installation

6-Channel Sound Output Support

Please follow the steps below for operation (optional):

1. After install sound driver, click “Sound effect”, “AC97 Audio configuration” options;

2. Click “Sound configuration”, select “6 Channel mode for 5.1 speakers output” options。

3. Click “Sound effect” menu “Environment”, you must choose one Sound

effect realization 6-Channel sound output。

5.3.2 Uninstalltion Sound Driver (For Realtek of WIN98 operation system)

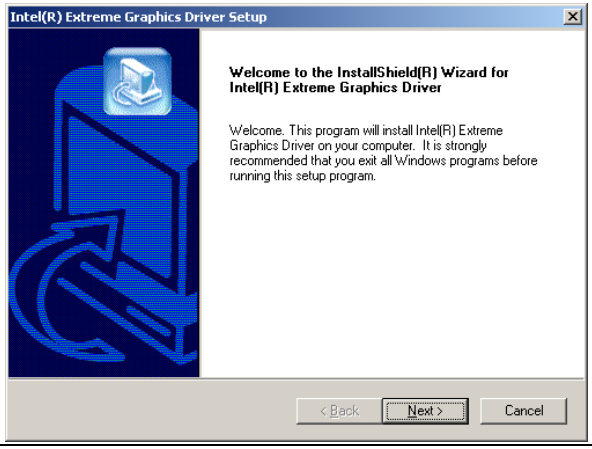
Startup to WINDOWS desktop, select “Setup” / “Control Panel”, select “Add/Delete” menu select “Avance AC’97 Audio Driver and Applications”, click “Add/Delete”, select “language”, “confirm” “GO”, select “Complete”, restart system and program auto delete。

5.4 USB 2.0 driver Setup

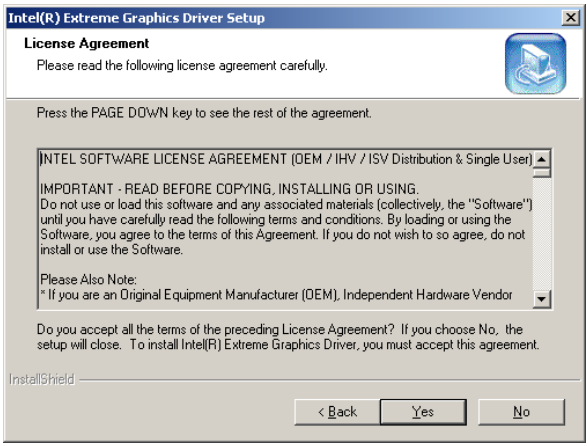
USB (Universal Serial Bus) ,the mainboard implements the new Universal Serial Bus(USB)2.0 specification, extending the connection speed from 12Mbps on USB1.1 to a fast 480Mbps on USB2.0.

5.5 VGA driver setup

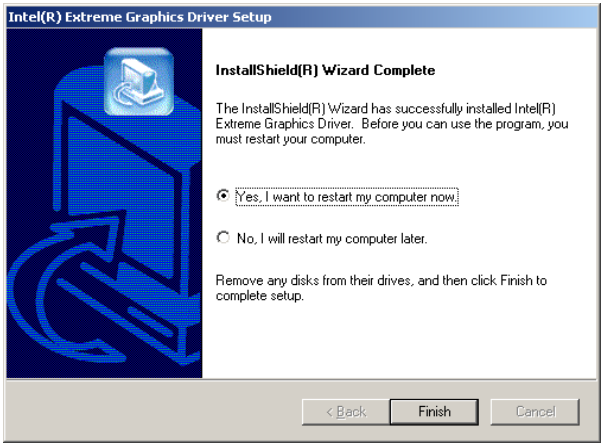
Insert the driver CD, running driver software CD, choose the directory:\CD-ROM:\VGA\845 Setup.exe



Select “NEXT” to continue



Select “YES” to continue



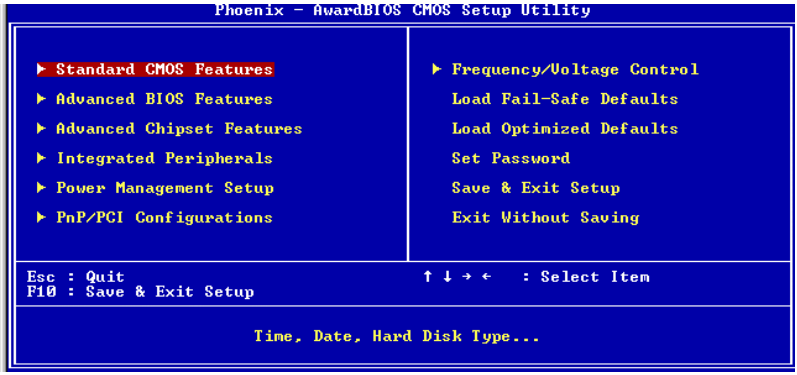
Select “Finish” to complete the installation

Chapter 6 BIOS Setup

The BIOS Setup Utility record settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies those information to initialize all the components when booting up and basic function of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop you computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the Page Up key while rebooting your computer. Holding down the Page Up key also clears the setup information,

6.1 Main menu



You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option.

Press the **Escape** key to leave the setup utility. Press the **F9** key to go back to menu in BIOS.

Some options on the main menu page lead to tables of items with installed

value that you can use cursor arrow keys to highlight on item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that

item. The other options on the main menu page lead to dialog boxes that require your answer Yes or No by hitting the Y or N keys.

If you have already changed the setup utility, press F10 to save those changes and exit the utility.

- ✧ **Standard CMOS Features**

  Setup date、time、floppy type

- ✧ **Advanced BIOS Features**

  Setup BIOS provides function, for example virus、boot-strap induct

- ✧ **Advanced Chipset Features**

  Setup mainboard chipset parameter, for example DRAM Timing

- ✧ **Integrated Peripherals**

  Setup include mainboard all peripherals drive

- ✧ **Power Management Setup**

  Setup CPU、Hard disk、Monitor drive power save mode

- ✧ **PnP/PCI Configurations**

  Setup PnP and PCI interface parameter

- ✧ **Load Fail-Safe Defaults**

  Setup the default values in system

- ✧ **Load Optimized Defaults**

  Setup the best performance values in system

- ✧ **Set Password**

  Setup password in system

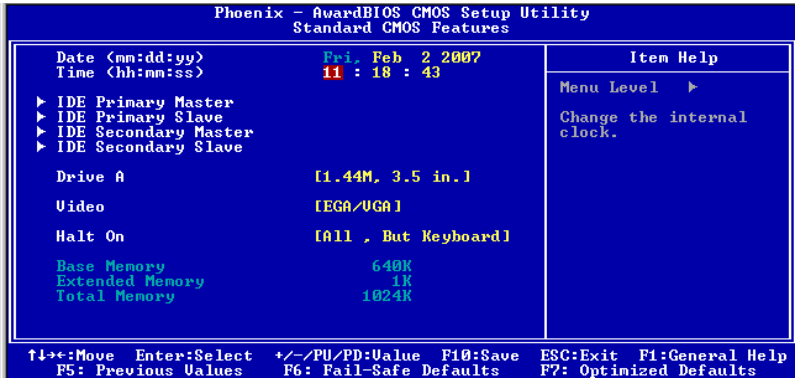
- ✧ **Save & Exit Setup**

  Setup save and exit, press Y to save and exit

- ✧ **Exit Without Save Setup**

  Setup without save and exit, press N to without save and exit

6.2 Standard CMOS Features



✧ Date (mm: dd: yyyy)

These items set up system date

✧ Time (hh: mm: ss)

These items set up system time

✧ Pri/Sec Master/Slave

These items configure devices connected to the Primary and Secondary IDE channels. To configure an IDE hard disk drive, choose Auto. If the Auto setting fails to find a hard disk drive, set it to User, and then fill in the hard disk characteristics manually. If you have a CD-ROM drive, select the setting CD-ROM. If you have an ATAPI device with removable media, select Floptical.

✧ Drive A/B

✧ Video Default: EGA/VGA

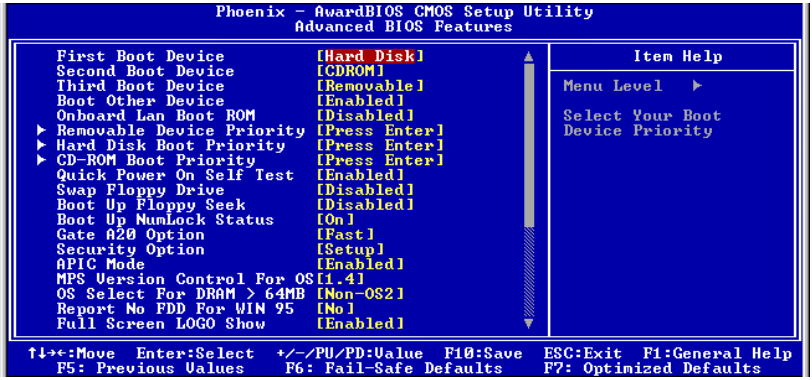
✧ Halt On Default: All, But Keyboard

✧ Base Memory

✧ Expanded Memory

✧ Total Memory

6.3 Advanced BIOS Features



✧ First Boot Device Default: Hard Disk

When system boot-strap first time detect device.

✧ Second/Third Boot Device Default: CDROM/Removable

When system boot-strap first time detect device.

✧ Boot Other Device Default: Enabled

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.

✧ Onboard Lan Boot ROM Default: Disabled

✧ Hard Disk Boot Priority Default: Press Enter

1. Pri.Master:
2. Bootable Add-in Cards

✧ Quick Power On Self Test Default: Enabled

✧ Swap Floppy Drive

If you have two diskette drives installed and you enable this item, drive A becomes drive B and drive B becomes drive A.

✧ Boot Up Floppy Seek Default: Disabled

✧ Boot Up NumLock Status Default: On

✧ Gate A20 Option Default: Fast

✧ Security Option Default: Setup

✧ APIC Mode Default: Enabled

✧ MPS Version Control For OS Default: 1.4

✧ OS Select For DRAM > 64MB Default: Non-OS2

✧ Report No FDD For WIN 95 Default: No

✧ Full Screen Logo Show Default: Enabled

✧ Small Logo (EPA) Show Default: Enabled

✧ CPU L1 & L2 Cache Default: Enabled

Leave these items enabled since all the processors that can be installed on this board have internal L2 cache memory.

✧ CPU Feature Default: Press Enter

Limit CPUID MaxVal Default: Disabled

Thermal Management Default: Thermal Monitor 1

✧ BIOS ROM Write Protect Default: Enabled

✧ Video BIOS Shadow Default: Enabled

✧ C8000-CBFFF Shadow Default: Disabled

✧ CC000-CFFFF Shadow Default: Disabled

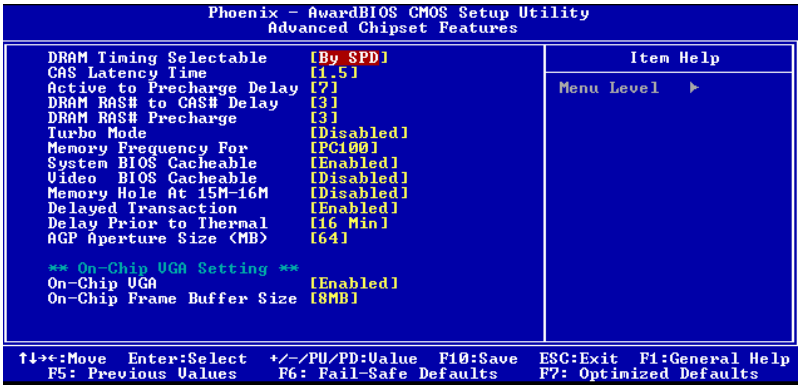
✧ D0000-D3FFF Shadow Default: Disabled

✧ D4000-D7FFF Shadow Default: Disabled

✧ D8000-DBFFF Shadow Default: Disabled

✧ DC000-DFFFF Shadow Default: Disabled

6.4 Advanced Chipset Features



✧ DRAM Timing Selectable Default: By SPD

X CAS Latency Time 2

X Active to Precharge Delay 6

X DRAM RAS# to CAS# Delay 2

X DRAM RAS# Precharge 2

✧ Memory Frequency For Default: DDR266

Memory frequecce enabled select DDR200/DDR266

✧ System BIOS Cacheable Default: Enabled

If enable system BIOS read cache

✧ Video BIOS Cacheable Default: Disabled

If enable Video BIOS read cache

✧ Memory Hole At 15M-16M Default: Disabled

✧ Delayed Transaction Default: Enabled

✧ Delay Prior to Thermal Default: 16Min

Enable system detect DRAM temperature time

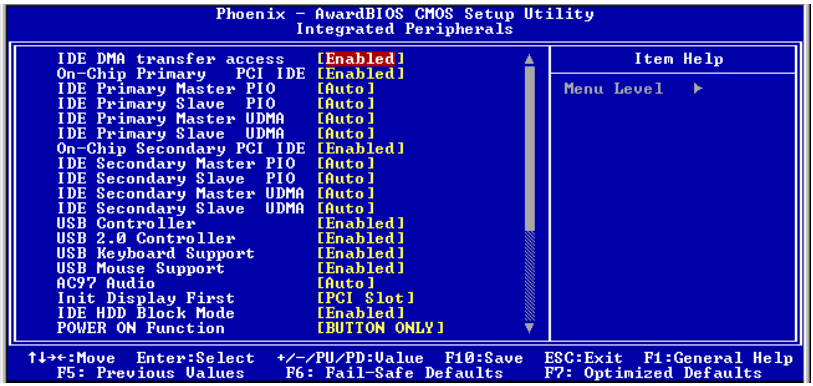
✧ AGP Aperture Size (MB) Default: 64MB

On-Chip VGA Setting

On-Chip VGA Default: Enabled

On-Chip Frame Buffer Size Default: 8MB

6.5 Integrated Peripherals



- ✧ IDE DMA transfer access Default: Enabled
- ✧ On-Chip Primary/ Secondary PCI IDE Default: Enabled

  Chipset inside the first/second channel of PCI IDE interface
- ✧ IDE Primary/Secondary Master/Slave PIO Default: Auto

  The first/second IDE primary master/primary slave control PIO mode
- ✧ IDE Primary/ Secondary Master/Slave UDMA Default: Auto
- ✧ USB Controller Default: Enabled

  Setup USB controller
- ✧ USB 2.0 Controller Default: Enabled
- ✧ USB Keyboard Support Default: Enabled

  Setup support USB keyboard
- ✧ USB Mouse Support Default: Enabled
- ✧ AC97 Audio Default: Auto

  If use AC97 sound chipset
- ✧ Init Display First Default: PCI Slot
- ✧ IDE HDD Block Mode Default: Enabled
- ✧ POWER ON Function Default:BUTTON ONLY
- ✧ Onboard FDC Controller Default: Enabled

  Setup onboard FDC controller

✧ Onboard Serial Port 1 Default: 3F8/IRQ4

✧ Onboard Serial Port 2 Default: 2F8/IRQ3

✧ UART Mode Select Default: IrDA

Setup UART mode select

✧ RxD .TxD Active Default: Hi.Lo

✧ IR Transmission Delay Default: Enabled

✧ UR2 Duplex Delay Default: Half

✧ Use IR Pins Default: IR-Rx2Tx2

✧ Onboard Parallel Port Default: 378/IRQ7

Setup select paralled port

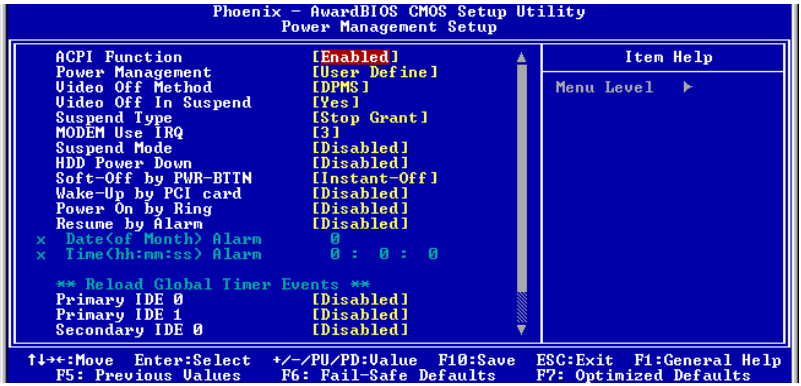
✧ Parallel Port Mode Default: SPP

Setup paralled port mode

X EPP Mode Select Default: EPP1.7

X ECP Mode Use DMA Default: 3

6.6 Power Management Setup



✧ ACPI Function

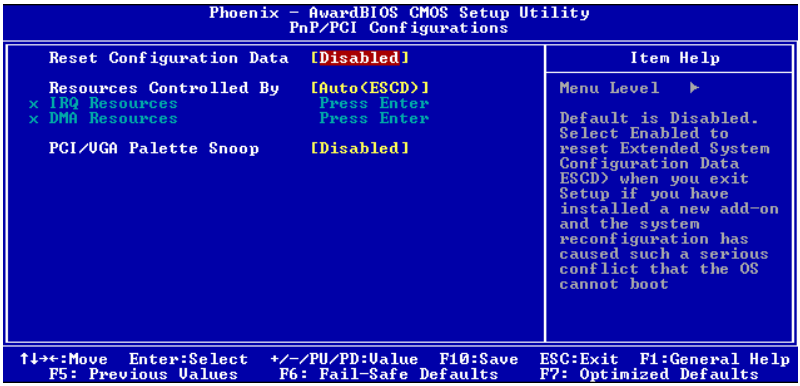
Setup if use ACPI function Default: Enabled

✧ Power Management Default: User Define

✧ Video off Method

	Setup video off method	Default: DPMS
✧	Video off In Suspend	
	Setup when video off in suspend	Default: Yes
✧	Suspend Type	
	Setup suspend type	Default: Stop Grant
✧	MODEM Use IRQ	
	Setup modem use IRQ	Default: 3
✧	Suspend Mode	Default: Disabled
✧	HDD Power Down	Default: Disabled
✧	Soft-Off by PWR-BTTN	
	Setup soft-off type	Default: Instant-Off
✧	Wake-Up by PCI card	Default: Disabled
✧	Power On by Ring	
	Setup if use modem wake up	Default: Enabled
✧	Resume by Alarm	Default: Disabled
	X Date (of Month)	Default: 0
	X Resume Time (hh:mm:ss)	Default: 0:0:0
	Reload Global Timer Events	
✧	Primary/ Secondary IDE 0/1	Default: Disabled
✧	FDD,COM,LPT Port	Default: Disabled
✧	PCI PIRQ [A-D] #	Default: Disabled

6.7 PnP/PCI Configurations



✧ Reset Configuration Data

When select Enabled the BIOS restart write system configuration data

Default: Disabled

✧ Resources Controlled By

System resources parameter setup Default: Auto(ESCD)

X IRQ Resources Default: Press Enter

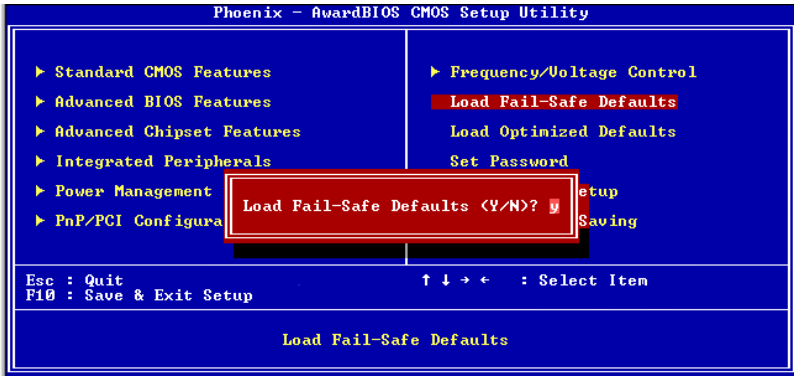
X DMA Resources Default: Press Enter

✧ PCI/VGA Palette Snoop

PCI/VGA card color setup Default: Disabled

Note: The mainboard auto detect CPU frequency, so you needn't setup CPU frequency by yourself, the CPU can display normal.

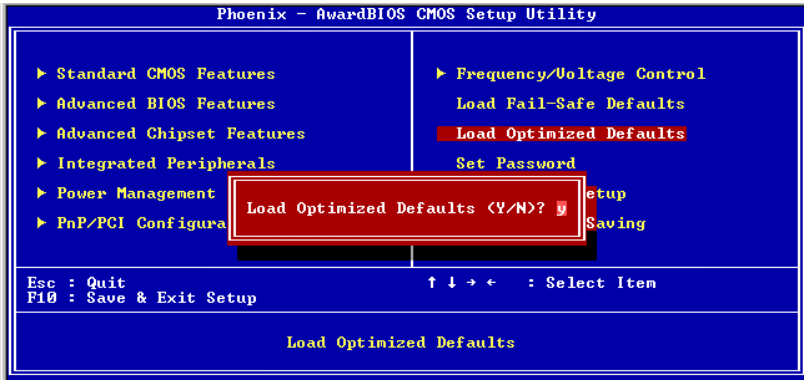
6.8 Load Fail-Safe Defaults



If you select this item and press enter a dialog box appears. If you press Y, and then Enter, the setup utility loads a set of fail-safe default values. These default values are not very demanding and they should allow your system to function with most kinds of hardware and memory chips.

Note: It is highly recommended that uses enter this option to load optimal values for accessing the best performance.

6.9 Load Optimized Defaults

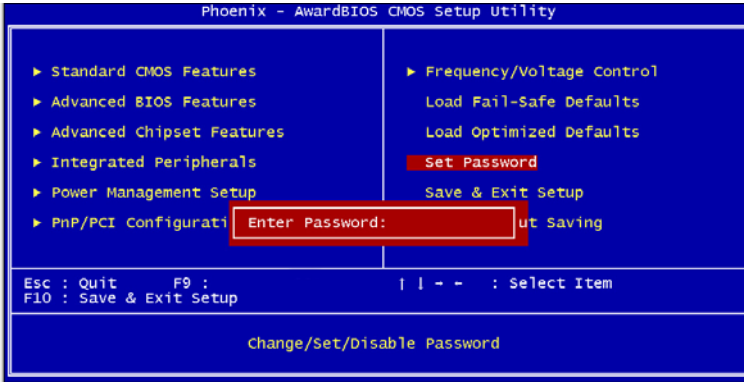


If you select this item and press enter a dialog box appears.

If you press Y, and then Enter, the setup utility loads a set of best-

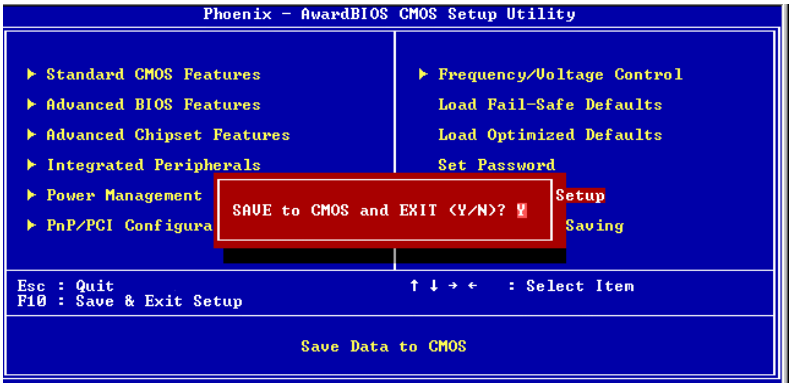
performance default values. These default values are quite demanding and your system might not function properly if you are using slower memory chips or other low-performance components.

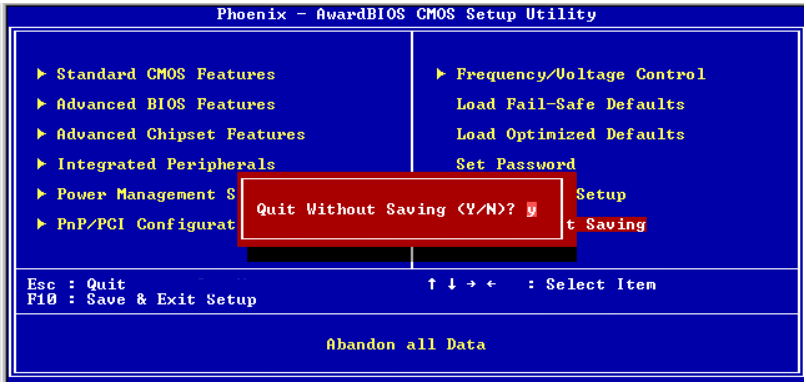
6.10 Change Password



If you highlight this item and press Enter, a dialog box appears that you can enter a supervisor password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. There will be the second dialog box asking you to retype the password for confirmation. Press Enter after you have retyped it correctly. Then the password is required for the access to the setup utility or for it at start-up, depending on the setting of the password check item in advanced setup.

6.11 Save Exit & Without Save Exit Setup





Highlight this item and press Enter to save the changes that you have made in the setup utility configuration and exit the program. When the save and exit dialog box appears, press Y to save and exit, or press N to exit without saving.