MORE THAN JUST A MAINBOARD

The *AZZA* U694 Mainboard Series

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Create High Quality Service and Technology
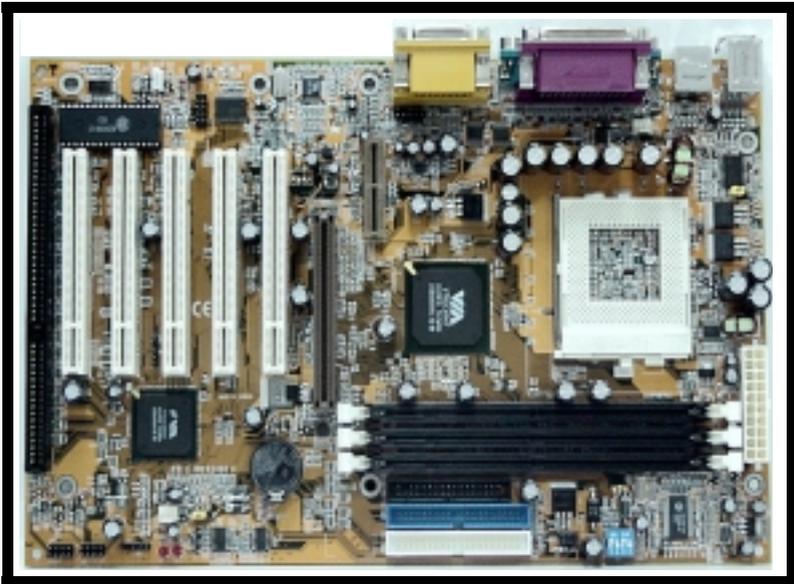
AZZA ®

U694 Mainboard Series
User Manual

SOCKET 370 ATX Mainboard

U694BC
U694BX

Version 1.x
UM-U694BXC-E4
Rev 1.0V
Creation Date: 13 September 2001

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Trademarks

Package Checklist

This package contains the following items:

- Mainboard
- Users manual
- One IDE cable
- One 34-pin floppy disk drive cable
- One Driver Utility CD

If any of these items are damaged or missing, please contact your dealer or sales representative for assistance.

Technical Support

If you require additional information or assistance during installation please contact your dealer. Your dealer will be able to provide the latest information.

Chapter 1 - Introduction

1.1. Mainboard And PC99 ATX External Connector Layout

System Panel And LED Connectors

Power LED

Speaker

CN 12: IR

CN 17: Chassis Fan
JP 9 : Clear CMOS

ISA Slot

PCI 5
PCI 4
PCI 3
PCI 2
PCI 1

CN 16: WOL

CN 21: CD Audio-in

CN 30: USB 3
CN 31: USB 4

AGP Slot
AMR Slot

DIMM 3
DIMM 2
DIMM 1

CN 10: IDE 2
CN 9 : IDE 1
CN 8 : FDC

PC 99 ATX Connector

SW 1: DIP Switch

CN 15: ATX Power Connector

CPU Socket

CN 13: CPU Fan

PC 99 ATX External Connector

CN 5: LPT

CN18: Game/MIDI Port

CN 2: PS/2 MS

CN 7: USB 2

CN 1: PS/2 KB

CN 6: USB 1   CN 3: COM 1   CN 4: COM 2   SPK-OUT   LINE-IN   MIC-IN

1.2. Overview

1.2.1. The U694 Series

There are two models in this series.
1. U694BC
2. U694BX

1.2.2. Mainboard Dimensions

Width & Length	:	305 mm x 195 mm
Height (with retention mechanism):		2.5 inches
PCB Thickness	:	4 layers (0.05 inches)
Weight	:	18 ounces

1.2.3. Environmental Limitations

Operating Temperature:	10°C to 40°C (50°F to 104°F)
Required Airflow:	50 linear feet per minute across the CPU
Storage Temperature:	-40°C to 70°C (-40°F to 158°F)
Humidity:	0 to 90% non-condensing
Altitude:	0 to 10 000 feet

1.3. Features and Specifications

Processor
Supports Intel® Socket 370 Pentium™ III Coppermine, Tualatin™ or Celeron (0.18μ)

Chipset
The U694 mainboard series supports the VIA VT82C694T (Apollo Pro133T) chipset.

CPU Switching Voltage regulator
These mainboards are equipped with a switching voltage regulator that automatically detects a DC power supply from +1.050V to +1.825V.

CPU Front Side Bus Speed Selection (optional for 694BC)
This mainboard comes with an onboard DIP Switch, **SW1**. **SW1** can be used to select the FSB.

System Memory
These mainboards each have three 168-pin DIMM modules onboard. These modules are able to support PC-133 and PC-100 SDRAM modules. A maximum memory of 1.5GB is supported.

Expansion Slots
These mainboards are equipped with five dedicated PCI slots, one 4x AGP slot, one ISA slot and one AMR slot.

Onboard Audio Features
Supports Microsoft DirectSound/ DirectSound 3D and AC97 Full Duplex.

Word Size
- Data Path: 8-bit, 16-bit, 32-bit, 64-bit
- Address Path: 32-bit

Front Side Bus Frequency (FSB)
FSB frequencies of 66MHz, 100MHz and 133MHz are supported.

BIOS
- Award BIOS, Windows 95/98 Plug and Play (PnP) compatible.
- Supports SCSI sequential boot-up.
- Flash EPROM for easy BIOS upgrades.
- Supports DMI 2.0 function

Desktop Management Interface (DMI)
The mainboard comes with DMI 2.0 built into the BIOS. The DMI utility in the BIOS will automatically record different information about your system configuration and store this information in the DMI pool, which is a part of the system board's Plug and Play BIOS. DMI, along with the appropriately networked software, is designed for easy inventory, maintenance and the simplified troubleshooting of computer systems.

WOL (Wake-On-LAN) Port
One WOL connector supports Wake-On-LAN functionality.

USB Ports
The mainboard is equipped with 4 USB ports. USB allows data exchange between your computer and a wide range of simultaneously accessible external Plug and Play peripherals. USB 1 and USB 2 are external ports. They can be found on the PC 99 ATX connector. USB 3 and USB 4 are internal connectors that can be used to connect other USB devices. (Optional cable for two connectors is sold separately)

Connectors

- One connector for IrDA interface (**optional for U694BC**).
- Two IDE connectors.
- One floppy drive interface supports up to two 2.88MB floppy drives.
- One 20-pin ATX power supply connector.
- CPU and chassis fan connectors.
- One CD audio-in connector.

ATX Double Deck Ports (PC 99 color-coded connectors)

- Two USB ports.
- Two external DB-9 serial port connector: **COM 1** and **COM 2** (UART).
- One SPP/ECP/EPP DB-25 parallel port.
- One mini-DIN-6 PS/2 mouse port.
- One mini-DIN-6 PS/2 keyboard port.
- One game/MIDI port.
- Three audio jacks: speak-out, line-in and mic-in.

PCI Bus Master IDE Controller

- Two PCI IDE interfaces support up to four IDE devices.
- Both models support ATA/33, ATA/66 and ATA100 hard drives.
- PIO Mode 3 and Mode 4 Enhanced IDE (data transfer rate up to 16.6MB/sec.).
- Bus mastering reduces CPU utilization during disk transfer.
- Supports ATAPI CD-ROM, LS-120 and ZIP.

IrDA Interface (optional for U694BC)

The mainboard is equipped with an IrDA connector for wireless connectivity between your computer and peripheral devices. It supports peripheral devices that meet the HPSIR or ASKIR standard.

1.4. System Health Monitor Functions

The mainboard is capable of monitoring the following health conditions of your system:
1. Processor temperature. It has an overheat alarm.
2. VCORE/2.5V/3.3V/5V/12V voltages and failure alarm.
3. Processor and chassis fan speeds. It has a failure alarm for these fans.
4. Read back capability that displays temperature, voltage and fan speed.

Note: Only use this utility in Windows ® 95 or Windows ® 98 operating systems.

1.4.1.   Hardware Monitoring System Utility

The mainboard comes with the Hardware Monitoring System utility contained on the CD. It is capable of monitoring the system's hardware conditions such as the temperature of the processor, voltage, and the speed of both the CPU and chassis fans. You are allowed to manually set a range to the items being monitored. If the values are over or under the set range a warning message will automatically pop up. We recommend that you use the Default Settings, which are the ideal settings that will maintain the system in a good working condition.

1.4.2.   Installation

To install this utility, please insert the CD into the CD-ROM drive. The auto run screen (Driver Utility) will automatically appear. Click the Hardware Monitoring button, choose the chipset, model number and the OS that is installed. Please refer to the CD "Readme" file

1.5. System Intelligence

Dual Function Power Button

Depending on the setting in the Soft-Off By Power-Button field of the Power Management Setup, this switch allows the system to enter the Soft-Off or Suspend mode.

RTC Timer to Power-on the System

The RTC installed on the system board allows your system to automatically power-on at a set date and time.

Wake-On-LAN Ready

The Wake-On-LAN function allows the network to remotely wake up a Soft Power Down (Soft-Off) PC. Your LAN card must support the remote wakeup function. The 5V SB power source of your power supply must be at least 720mA.

ACPI Ready

The mainboard is designed to meet the ACPI (Advanced Configuration and Power Interface) specification. ACPI has energy saving features that support OS Direct Power Management (OSPM) for round the clock PC operation.

Chapter 2 - Hardware Installation

2.1. Installation Checklist

The following is a checklist of all the expansion slots, jumpers and connectors that should be configured on your mainboard before you can run your pc.

Installation Checklist		
Expansion Slots and Sockets		
CPU Socket	Socket 370 which supports Intel® Pentium™III Celeron or Tualatin™	
DIMM Slots	Three 168 pin slots that supports up to 1.5GB of SDRAM .	
PCI Slots	Five 32 bit PCI Slots.	
AGP Slot	One Accelerated Graphics Port Slot	
AMR Slot	One Audio Modem Riser Slot	
ISA Slot	One Industry Standard Architecture Slot	
Internal Connectors		
CN8	Floppy Disk Drive	FDC
CN9	Primary IDE	IDE1
CN10	Secondary IDE	IDE2
CN12	Infrared	IR
CN13	CPU Fan	CPU Fan
CN15	ATX Power Supply	ATX
CN16	Wake On Lan	WOL
CN17	Chassis Fan	Chassis Fan
CN21	CD Audio In	CD-In
CN30	Universal Serial Bus 3	USB3
CN31	Universal Serial Bus 4	USB4
External Connectors		
CN1	PS/2 Keyboard Connector	PS/2 KB
CN2	PS/2 Mouse Connector	PS/2 MS
CN3	Serial Port 1	COM1
CN4	Serial Port 2	COM2
CN5	Parallel Port	LPT
CN6	Universal Serial Port 1	USB1
CN7	Universal Serial Port 2	USB2
CN18	Game/Audio Port	Audio/Game

Installation Checklist (Continued)

System Panel Buttons and LED Connectors

PW	Power On/Off and Suspend Switch Connector.
SL	Standby LED Connector
HL	HDD LED Connector
RS	Reset Button LED Connector

Speaker and Power LED Connector

PWR-LED	Power LED
SPK	Speaker Connector

Jumpers

JP9	Clear CMOS

A Diagram of the Expansion Slots, Jumpers and Connectors can be seen on the following page

2.2. Installation Steps

You need to complete the following installation steps before you can use your PC.

- Check and Set the Mainboard Settings.
- Install the Central Processing Unit (CPU).
- Install the Memory Modules.
- Install the Expansion Cards.
- Connect the Ribbon Cables, Panel Wires and the Power Supply.
- Setup the system BIOS

Before you start installing your mainboard we strongly recommend that you use a grounded anti-static mat. We further recommend that you attach an anti-static wristband, which is grounded at the same location as the mat, to your wrist.

2.3. Expansion Slots, Jumpers and Internal Connectors

System Panel
Buttons and
LED Connectors

Speaker
Power LED

CN 17: Chassis Fan

CN 12: IR

JP 9
CN 9 :IDE1
CN 10:IDE2

DIMM 3
DIMM 2
DIMM 1

CN 8: FDC

SW 1: DIP Switch

CN 15: ATX Power

ISA Slot

PCI 5

PCI 4

PCI 3

PCI 2

PCI 1

AGP Slot

AMR Slot

CN 16: WOL

CN 30: USB3

CN 31: USB 4

CN 21: CD-IN

CN 13: CPU Fan
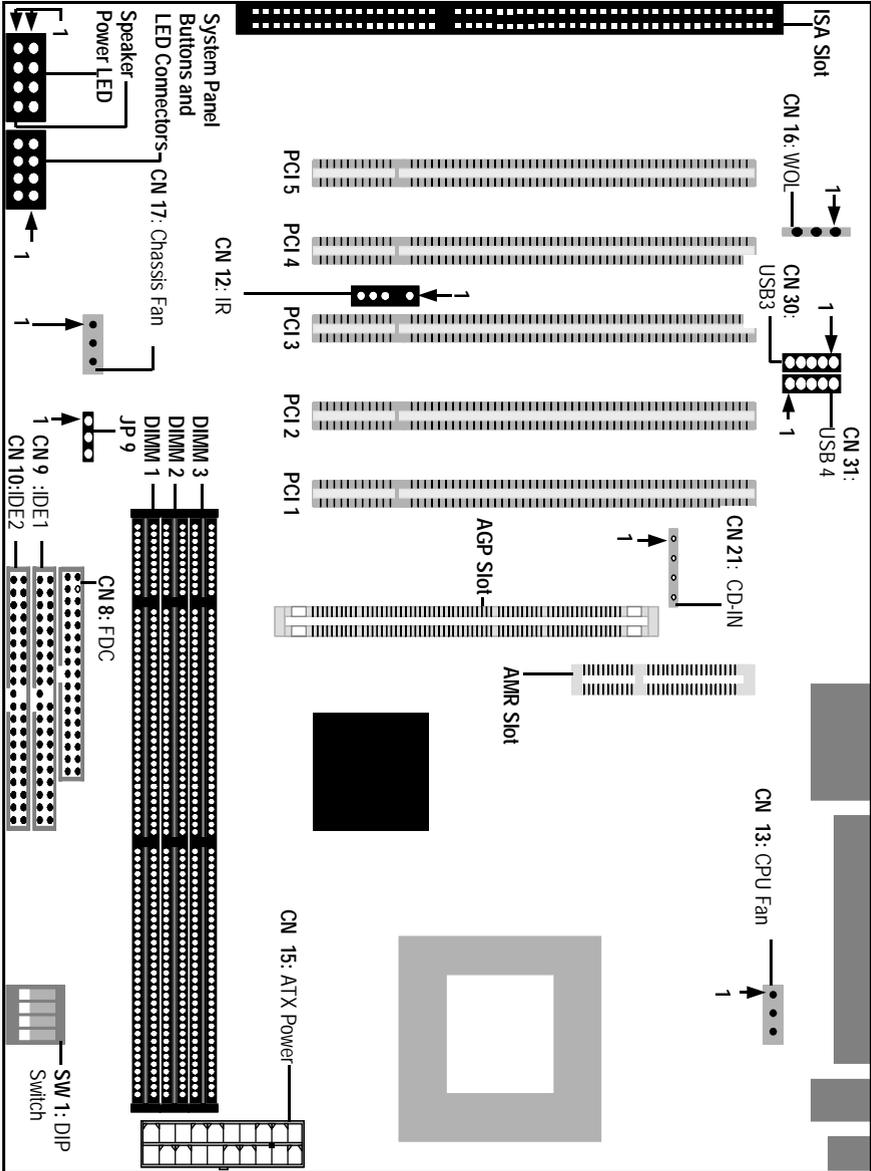
2.4. CPU, Memory and Expansion Slots

2.4.1. Installation of the CPU

To install your processor, please complete the following set of instructions

1. Locate a small dot marked on the top of the CPU. This mark indicates Pin 1 of the CPU.
2. Locate Pin 1 for the Socket on the mainboard.
3. There is a lever on the side of the socket. First push this lever sideways and then lift it to a 90-degree angle.
4. Insert the CPU into the Socket. Please make sure that Pin 1 for the CPU is inserted into Pin 1 of the Socket.
5. When the CPU is installed correctly push the lever back into place.
6. **Install a proper heat sink with cooling fan** for proper heat dissipation. Failing to install a heat sink with cooling fan may cause overheating which will burnout your CPU and damage your mainboard.

IMPORTANT: CPU COOLING FAN

Please ensure that you have an approved heat sink with cooling fan. Without a proper <u>heat sink with cooling fan</u> you will damage both the mainboard and the CPU.

2.4.2. Memory Modules

These mainboards all have three 168-pin DIMM slots and are able to support a maximum memory of 1.5 GB. The DIMM slots are located on the right hand side of the board. To install the DIMM's into these slots, make sure the white lever at each side of the slot has been pulled down to an angle of approximately 45°. Make sure that the DIMM is in the correct orientation. Place the DIMM on the slot and push down firmly.The white levers will come back up and lock the module in place.

Top View of a 168-pin DIMM Slot

Important: The DIMM's can only be fitted into the slots in one orientation. Make sure that the DIMM's are in the correct orientation and the pins are correctly aligned before you insert them.

NOTE: "Out Of Memory" Error Message

If you have installed more than 512 MB of RAM and are running Microsoft Windows Millennium Edition, Windows 98 Second Edition, Windows 98 or Windows 95 you may experience memory problems. Two symptoms of these problems are being unable to run an MS-DOS session while you are running Windows or the computer may stop responding while Windows is starting.

There are three possible solutions to this problem:
1) Reduce the amount of memory Vcache uses to 512 MB or less by altering the MaxFileCache setting in the System.ini file.
2) Use the System Configuration Utility to reduce the amount of memory Windows uses to 512 MB or less.
3) Reduce the memory installed on your computer to 512 MB or less.

This problem can also occur if you are using an Advanced Graphic Port (AGP) video adapter.

2.4.3. PCI Slots

These boards come with five PCI slots. They are located on the left hand side of the board. Both PCI and PCI expansion cards may require IRQ's. This mainboard complies with Plug and Play (PnP) specifications. Whenever a PnP compliant card is added the system will automatically be configured and the IRQ's will be assigned automatically.

When you are inserting your PCI card make sure that the pins are correctly aligned. When the pins are properly aligned with the hole's in the slot, push down gently.

Top View of PCI Slot

11 pins   49 pins
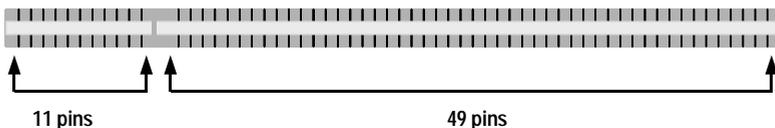
2.4.4. AGP (Accelerated Graphics Port) Slot

AGP is a dedicated bus slot. It operates at 66 MHz and transfers data at a rate up to 106 MB/s. This allows 3D applications to run more smoothly. The U694 mainboards each come with one AGP slot. These slots are able to support 1x, 2x and 4x AGP cards.

Top View of an AGP Slot

66 pins
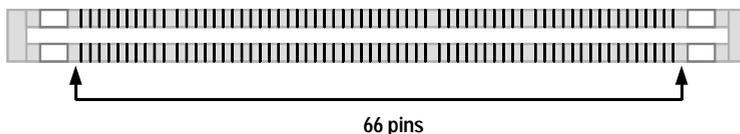
2.4.5. AMR (Audio/Modem Riser) Slot.

An AMR card is a small board that can be plugged directly into the onboard AMR slot. It packages analog I/O audio functions with a codec chip. The codec chip converts back and forth from analog to digital.

Top View of an AMR Slot

11 pins   **12 pins**
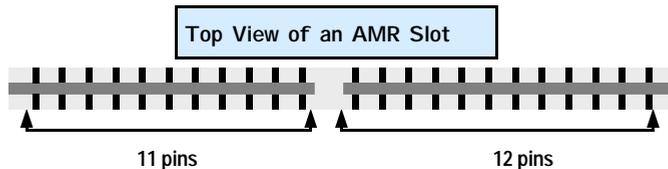
2.4.6. ISA (Industry Standard Architecture) Slot

ISA is a widely compatible 8-bit and 16-bit onboard bus.

Top View of an ISA Slot

18 pins   **31 pins**
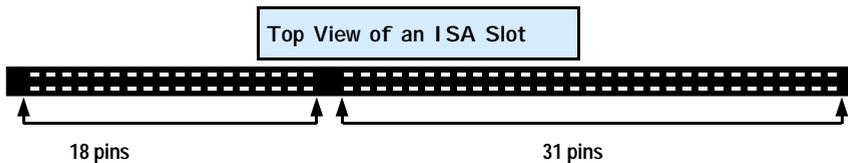
2.5. Internal Connectors

2.5.1. Floppy Disk Drive (FDD)

Connector: CN 8
Type: 34 pin block

The FDD connector can support two Floppy drives. It is located at the front of the main-board. To connect, use the ribbon-cable that has been provided. Make sure that the red strip is connected to PIN 1 of the connector.

Top View of a Floppy Disk Drive Connector

PIN 1 →

17 Pins
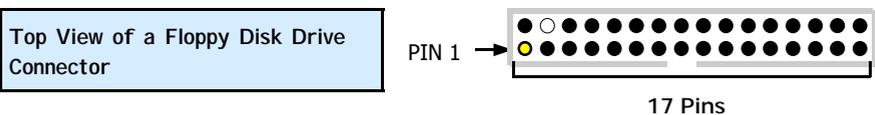
2.5.2. Primary and Secondary IDE connectors

Connector: CN 9 (primary)/ CN 10 (secondary)
Type: 40 pin blocks

The U694 mainboards all have two IDE connectors: a primary and secondary. Each IDE connector can support two IDE drives. These mainboards can therefore support up to four IDE devices each. If you install two hard drives, you need to configure the second drive to slave mode in the BIOS setup. Please refer to your hard drive manual for the appropriate jumper settings.

PIN 1 →

20 PINS

Top View of an IDE Connector
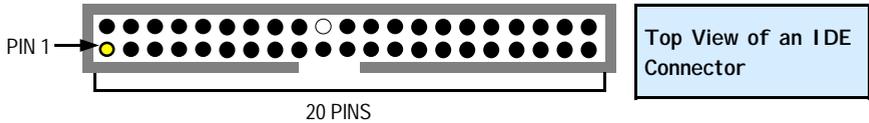
2.5.3. Standard Infrared Connector (Optional for U694BC)

Connector: CN 12
Type: 5 pin

The SIR connector supports an optional wireless transmitting and receiving module. You must configure UART 2 to select whether UART 2 is directed for use with COM 2 or IrDA.

Top View of an IR Connector	Front View of an IR Connector
1 5V DC 2 No Connection 3 IR Reciever 4 Ground 5 IR Transmitter	IR Receiver Ground IR Transmitter 5V DC
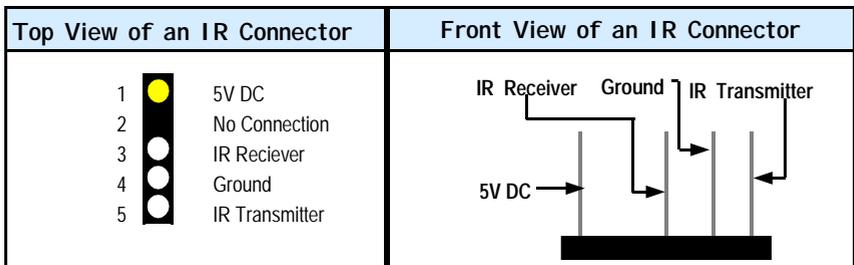
2.5.4. CPU Fan and Chassis Fan Connector

Connector: CN 13 (CPU Fan)/CN 17 (Chassis Fan)
Type: 3 pin

The cooling fans must be connected to their respective power connectors. If you have installed the hardware-monitoring feature you will be able to monitor the rotating speed of the CPU cooling fan in your Windows operating system.

Top View of a Fan Connector	Front View of a Fan Connector
1 Ground 2 +12V DC 3 Fan Signal	+12V DC Fan Signal Ground
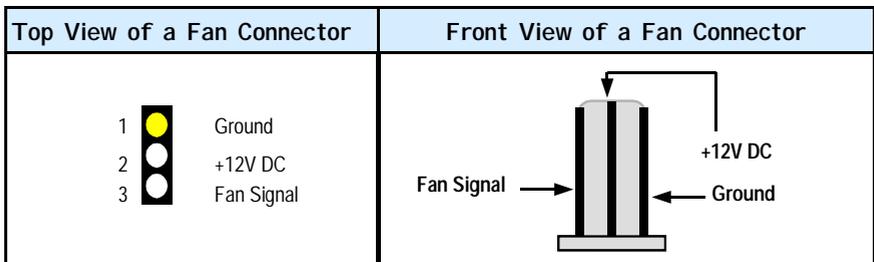
2.5.5. ATX Power Supply Connector

Connector: CN 15
Type: 20 pin block

This must be connected to an ATX power supply. The plug from the power supply can only be inserted in one orientation. Make sure the pins are correctly aligned. Find the correct orientation and push the plug down firmly.

ATX Power Supply Connector		
+12V		+5VDC
5VSB		+5VDC
PWR_OK		-5VDC
GND		GND
+5VDC		GND
GND		GND
+5VDC		PS_ON#
GND		GND
+3.3VDC		-12VDC
+3.3VDC		+3.3VDC

Pin 1   Pin 11
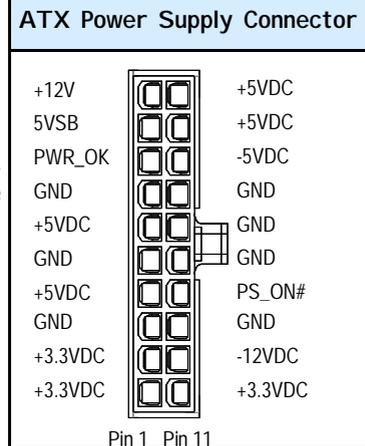
2.5.6. WOL (Wake On LAN) Connector

Connector: CN 16 (WOL)
Type: 3 pin

The WOL connector must be connected to a LAN card that has Wake-On-LAN (WOL) output. This connector powers up the system when a wakeup packet or signal is received through the LAN card.

In order to use the WOL LAN card or the modem to trigger the power on the PC system, the switching power supply must have the ability to provide a driving current of at least 720 mA and be connected to a "5V standby" voltage.

Top View of a WOL Connector	Front View of a WOL Connector
1 5V_SB 2 Ground 3 WOL	Ground 5V_SB → ← WOL
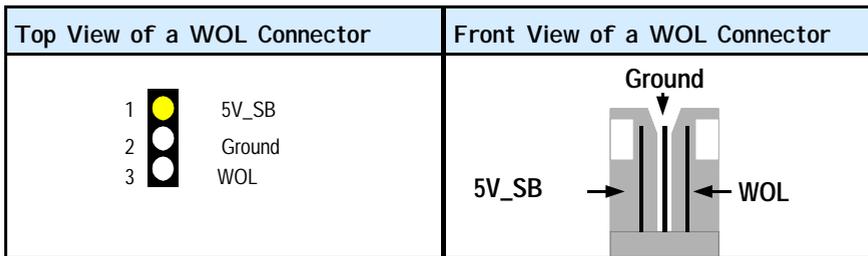
2.5.7. CD Audio-in Connector

Connector: CN 21
Type: 4 pin un-housed

This mainboard has one CD Audio-in connectors. This connector is used to connect the CD ROM audio out.

Top View of a CD Audio In Connector	Front View of a CD Audio In Connector
1 ⬤ Left Channel Audio In 2 ⬤ Ground 3 ⬤ Ground 4 ⬤ Right Channel Audio In	Left Channel Audio In Ground Right Channel Audio In
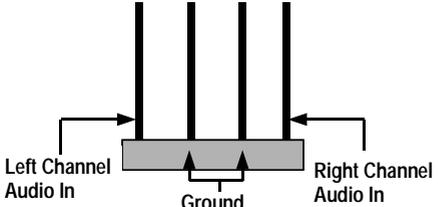
2.5.8. USB 3 and USB 4 Connectors

Connector: CN 30 (USB 3)/CN 31 (USB 4)
Type: 5 pin / 5 pin

You already have two USB ports available, USB 1 and 2 (see external connectors). USB3 and USB4 connectors allow you to add on an optional kit to expand the total number of USB ports available. These connectors allow you to use an extra 2 USB devices.

Note: These are not the standard USB connectors you find on the ATX PC99 connector. To connect USB devices you need to use an expansion cable (purchased separately) that ends in a standard USB connector. Ask your retailer for more details.

Top View of a USB Port	Front View of a USB Port
1 ⬤ 5V DC 2 ⬤ Data- 3 ⬤ Data+ 4 ⬤ Ground 5 ⬤ Ground	Ground Data + Data - Ground 5V DC
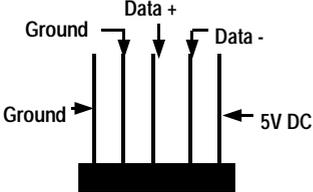
2.6. System Panel Buttons and LED Connectors

PIN 1

The following System Panel Buttons and LED Connectors can be found at the front of the mainboard on the left hand side.

PW= Power On/Off and
　　　Suspend Switch Connector
SL = Standby LED Connector
HL = HDD LED Connector
RS = Reset Button Connector

PW:+5V DC Pull Up　　　　　Ground

SL:Standby DC pull up　　　Ground

HL: +5V DC Pull Up　　　　　Ground

RS: Reset Control　　　　　　Ground

Top View of the System Panel and LED Connectors

2.6.1 PW: Power On / Off and External Suspend Switch Connector

The Power On/Off connector has two functions. It can be the Power Switch or Suspend Switch of your PC system. You can either choose "**Delay 4 Sec**" or "**Instant OFF**" (Please refer to the Award BIOS setup instructions in Chapter 3).

Option 1: If you choose "**Delay 4 Sec.**" In the BIOS CMOS Setup, the function of "PW" will be:
- A.　When the system power is "OFF", press this switch, the system will power on.
- B.　When system power is "ON", you can select two different modes: -

Mode 1: Press and hold the Power ON button for less than 4 seconds and then release it. The system will be turned into Suspend mode (turned into the GREEN mode) When the system is in the Suspend mode:-
- Press the Power on button (less than 4 seconds), the system will return to Full-ON mode.
- Press and hold the Power On Button for more than 4 seconds, the system will be powered off.

Mode 2: Press and hold the Power ON button for more than 4 seconds, the system will be completely powered off.

Option 2: If you choose "**Instant OFF.**" In the BIOS CMOS Setup, the power switch will operate like a normal ON / OFF Power button.

2.6.2. SL LED Connector

When the AC power is "ON" the mainboard will always have a standby voltage of +5V and the SL LED will be on. If this LED is off it means that the AC power is "OFF" or has been disconnected or Full on.

2.6.3. IDE HDD LED Connector

Any read and write activity by the HDD will turn this LED on.

2.6.4. Reset Button Connector

If you connect this connector, you will be able to reset you computer by pressing the reset button at the front of the chassis.

2.7. Speaker and Power LED Connectors

2.7.1. Speaker Connector

Connect your chassis speaker to this four pin connector. It allows you to hear systems beeps and warnings sound.

2.7.2. Front Panel Power LED

The chassis Power LED connector can be connected to the four pin connector. When you turn your system on, this LED will also be turned on.

SPEAKER			
+5V DC	No Connector	No Connector	Speaker Signal
1 → 🟡	⚪	⚪	⚪
1 → 🟡	⚪	⚪	⚪
+5V DC	No Connector	Ground	No Connector
POWER LED			
Top View of the Speaker and Power LED Connector			

2.8. External Connectors

CN 5: LPT   CN18: Game/MIDI Port

CN 2: PS/2 MS

CN 7: USB 2

CN 1: PS/2 KB

CN 6: USB 1   CN 3: COM 1   CN 4: COM 2   SPK-OUT   LINE-IN   MIC-IN
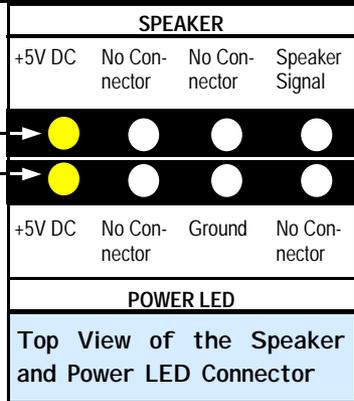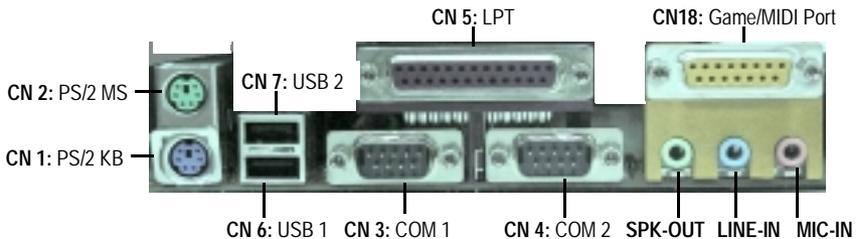
2.8.1. PS/2 Keyboard connector.

Connector: CN 1
Type: 6 pin female

This connector only supports a PS/2 keyboard plug. If you have a standard AT size (large DIN) keyboard plug, you need to use a mini DIN adapter.

2.8.2. PS/2 Mouse Connector.

Connector: CN 2
Type: 6 pin female.

This connector only supports a PS/2 mouse plug. If a PS/2 mouse is detected then IRQ 12 will be directed to **CN 2**.

2.8.3. Serial Port 1 (COM 1) and Serial Port 2 (COM 2)

Connector: CN 3 (COM 1)/ CN 4 (COM 2)
Type: 9 pin male/9 pin male

One serial port is available for a mouse and other serial devices.
(I/O addresses used are 3F8H/2F8H/3E8H/2E8H and IRQ3/IRQ4, selected by CMOS setup.)

2.8.4.   Parallel Port Connector (LPT)

Connector: CN 5
Type: 25 pin female.

This parallel port is used by printers which support the SPP, EPP and ECP modes IRQ7 or IRQ5 can be selected. The ECP mode will use either DMA 3 or DMA 1 (which can be selected by the BIOS setup program).

2.8.5. Universal Serial Bus (USB) Port 1 & 2

Connector: CN 6 (USB 1)/ CN 7 (USB 2)
Type: 4 pin female

Two USB ports are available for connecting USB devices. The mainboard is also equipped with an expansion connector that supports two additional USB external connectors. (The USB cable is not included with the mainboard).

2.8.6. Audio/Game Port Connector

Connector: CN 18
Type: 15 pin female

The Game/MIDI port connector is a dual purpose connector. It can either be used to connect a joystick to the computer for game participation, or it can be used to attach an external MIDI device. All these motherboards have 3D audio interfaces onboard.

2.9. Clear CMOS Memory

Jumpers are built on the mainboard to allow the user flexibility to configure the mainboard settings to meet their specific requirements. The mainboards in this series has a single three pin jumper. On a three pin jumper if a jumper cap is inserted on pins 1 and 2 we say **PIN 1** and **PIN 2** are **SHORT**. When the jumper cap is inserted on pin 2 and 3, we say **PIN 2** and **PIN 3** are **SHORT** (see the diagrams below).

Three Pin Jumpers	
PIN: 1 2 3	PIN: 1 2 3
SHORT PIN 1/PIN 2	PIN2/PIN 3
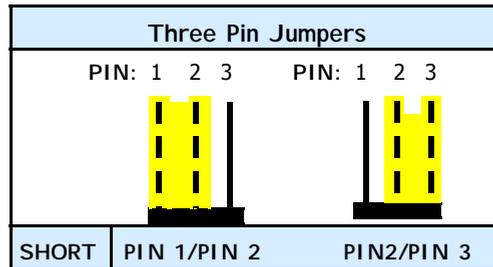
If you have made an improper setting in the BIOS setup and your computer is not functioning, or if you have forgotten your password, you can use this jumper, JP 9, to clear the CMOS memory and to reconfigure your system.

To clear the CMOS, please follow these instructions:
1. Turn the system power "OFF" and unplug your computer.
2. Insert the jumper cap on Pin 2 and Pin 3 for 3 ~ 5 seconds.
3. Pull out the jumper cap and replace it on Pin 1 and Pin 2.
5. Turn your PC on and run the BIOS setup program.

2.10. DIP Switch (optional for U694BC)

These mainboards are all fitted with a single switch, **SW1**. On this switch there are four toggle switches that you can select as **OFF** or **ON**. The default has toggle switch 1 and 3 set to **ON** and toggle switch 2 and 4 set to **OFF**. If you toggle any of these switches to **ON**, you will alter the processing speed of your CPU. The increase in the processing speed is a multiple of the original processing speed. The table (see **below**) shows the different combinations of the toggle switches and the multiple increase in the processing speed.

DIP Switch and DIP Switch Settings					
ON	Ratio	Switch 1	Switch 2	Switch 3	Switch 4
	Auto	ON	OFF	ON	OFF
	66MHz	OFF	ON	OFF	ON
1 2 3 4	100MHz	OFF	OFF	OFF	ON
	133MHz	OFF	OFF	OFF	ON
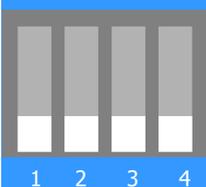
Chapter 3 - Managing the PC BIOS

3.1. Award BIOS CMOS Setup Utility

Once you have installed the mainboard you still need to setup the BIOS before you can run your PC. The EEPROM on the mainboard stores the AWARD BIOS CMOS Setup Utility, which allows you to configure your system. When you want to configure or make any changes to the configuration of your system BIOS you must run the BIOS CMOS Setup Utility.

GETTING STARTED

Every time you start your computer, the system provides you with an opportunity to run the BIOS CMOS Setup Utility. As soon as you turn on your system, press the <Delete> button to activate the BIOS CMOS Setup Utility.

If your computer finishes the POST (Power-On-Self-Test) the BIOS CMOS Setup Utility will **not** be activated. If your computer completes the POST you need to restart the system to activate the BIOS CMOS Setup Utility. To restart the system, you can either turn the power off, press the reset button on your chassis or press the <Ctrl> + <Alt> + <Delete> button. In all three cases the system will restart and, to activate the BIOS CMOS Setup Utility, you must immediately press the <Delete> button.

3.2. Main Menu

Once you have called up the BIOS CMOS Setup Utility, the following screen will appear:

CMOS Setup Utility – Copyright（C）1984 - 2001 Award Software	
▶ Standard CMOS Features	▶ Frequency/Voltage Control
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power Management Setup	Save & Exit Setup
▶ PNP/PCI Configuration	Exit Without Saving
▶ PC Health Status	
Esc : Quit F10 : Save and Exit Setup	←↑↓→ : Select Item
Time, Date, Hard Disk Type ...	

Note! BIOS software is continuously updated therefore the BIOS menus and the descriptions that are given in this manual are for reference purposes only.

Navigation Keys

You will notice a legend bar at the bottom of the main menu. The keys in this legend bar show you how to navigate through the setup menus. The table below lists the control keys with their corresponding functions: -

Control Key	Function
Up Arrow	Moves to the previous item.
Down Arrow	Moves to the next item.
Left Arrow	Moves to the item on the left.
Right Arrow	Moves to the item on the right.
Enter	Selects the desired item.
F1	Displays the help screen for the selected feature.
Esc key	Exits to the previous screen.
PgUp(-)/PgDn(+)	Modifies or changes the content of the highlighted item.
F5	Restores the previous CMOS values to the current page setup. This will not restore the previous values for any other pages.
F7	Loads the SETUP default values from BIOS default table, (only the current page setup will be loaded).
F10	Saves changes to the CMOS and exits the setup.

3.3. Standard CMOS Setup (*This menu is on page 25*)

Date (mm : dd : yy)

Sets your system to the date that you specifiy (usually the current date). The format is month, day, and year. Press the right or left arrow key to move to the desired field (month, date, year). Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

Time (hh : mm : ss)

Sets your system to the time you specify (usually the current time). The format is hour, minute, second. The time format is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Press the right or left arrow key to move to the desired field. Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

IDE Primary / Secondary Master / Slave

This mainboard supports four IDE Hard Drives. These fields allow you to set your Hard Drive parameters. Move the selection bar to the IDE Hard Drive you want to configure. Press the "ENTER" key. If you select "AUTO" the system BIOS will detect the HDD type automatically.

```
CMOS Setup Utility - Copyright ( C ) 1984 - 2001 Award Software
                    Standard CMOS Features

Date (mm : dd : yy)      Tue, Sep 13, 2001      Item Help
Time (hh : mm : ss)      13 : 39 : 52
                                               Menu Level  ▶
▶ IDE Primary Master     Press Enter  1316MB
▶ IDE Primary Slave      Press Enter  None      Change the day, month,
▶ IDE Secondary Master   Press Enter  None      year and century
▶ IDE Secondary Slave    Press Enter  None

Drive A                  1.44, 3.5 in
Drive B                  None

Video                    EGA/VGA
Halt On                  All Errors

Base Memory              640K
Extended Memory          130048K
Total Memory             131072K
```

Drive A /B

The U694 mainboard series can support up to two floppy disk drives. These two selection fields allow you to select the floppy drives that are installed on your computer. Select the correct specifications for the diskette drive(s) installed on your computer.

Diskette Drive	Type of Disk Drive	Capacity
None	No diskette drive installed	
360K 5.25 in	5-1/4 inch PC-type standard drive	360 KB
1.2M 5.25 in	5-1/4 inch AT-type high-density drive	1.2 MB
720K 3.50 in	3-1/2 inch single-sided drive	720 KB
1.44M 3.50 in	3-1/2 inch double-sided drive	1.44 MB
2.88M 3.50 in	3-1/2 inch double-sided drive	2.88 MB

Video

This field selects the type of primary video subsystem that is on your computer. The BIOS CMOS Setup Utility will automatically detect the correct video type.

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

Halt On

This field allows you to decide which errors, detected during the Power On Self Test (POST), will halt the system.

Base Memory / Extended Memory / Total Memory

This field displays the amount of memory detected by the system during boot up. This is a display only field. You cannot make any changes to this field.

Base Memory: Indicates the memory installed below the conventional 1MB
                          space.
Extended Memory: Indicates the memory installed above the 1MB space.
Total Memory: Indicates the total memory installed in the PC system.

3.4. Advanced BIOS Features (*This menu is on page 27*)

Virus Warning

When you enable the virus warning you will receive a warning message whenever a program (specifically, a virus) attempts to write to the boot sector or the partition table of the hard disk drive. If you receive such a message you should immediately run an anti-virus program. Keep in mind that this feature **only** protects the boot sector and 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 first disable the virus warning.

CPU Internal Cache / 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, and most, but not all, modern PCs have an additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for faster access by the CPU.

CMOS Setup Utility - Copyright （C）1984 – 2001 Award Software.
Advanced BIOS Features

		Item Help
Virus Warning	:Disabled	
CPU Internal Cache	:Enabled	Menu Level ▶
External Cache	:Enabled	
CPU L2 Cache ECC Checking	:Enabled	Allows you to choose
Processor Number Feature	:Disabled	the VIRUS warning
Quick Power On Self Test	:Enabled	feature for IDE Hard
First Boot Device	:Floppy	disk boot sector
Second Boot Device	:HDD-0	protection. If this
Third Boot Device	:LS/ZIP	function is enabled
Boot Other Device	:Enabled	and someone attempts
Swap Floppy Drive	:Disabled	to write data into this
Boot Up Floppy Seek	:Enabled	area, BIOS will show
Boot Up NumLock Status	:On	a warning message on
Gate A20 Option	:Fast	screen and alarm
Typematic Rate Setting	:Disabled	beep.
X Typematic Rate (Chars/Sec)	:6	
X Typematic Delay (Msec)	:250	
Security Option	:Setup	
PS/2 Mouse Function Control	:Enabled	
OS Select For DRAM > 64 MB	:Non-OS2	
HDD S.M.A.R.T. Capability	:Disabled	
Video BIOS Shadow	:Enabled	
C8000 - CBFFF Shadow	:Disabled	
CC000 - CFFF Shadow	:Disabled	
D0000 - D3FFF Shadow	:Disabled	
D4000 - D7FFF Shadow	:Disabled	
D8000 - DBFFF Shadow	:Disabled	
DC000 - DFFFF Shadow	:Disabled	

CPU L2 Cache ECC Checking

When you select Enabled, the ECC checking will ensure that the data stored on the L2 cache is accurate.

Processor Number Feature

If you have a Pentium processor onboard you should enable this option. This will alow the serial code of the Pentium processor to be published on certain applications.

Quick Power On Self Test

If enabled the amount of time required to run the power-on self-test (POST) will decrease. A quick POST skips certain steps. We recommend that you disable quick POST. It is better to find a problem during POST than to lose data during your work.

First / Second / Third Boot Device

These fields allow you to decide the boot sequence of your bootable devices such as Floppy Drive, Hard Drive, CD ROM...etc

Boot Other Device

When this field is enabled you will be able Boot your computer from a another device, not your HDD or FDD.

Swap Floppy Drive

This field is effective only in systems with two floppy drives. When Enabled is selected physical drive B is assigned to logical drive A, and physical drive A is assigned to logical drive B.

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 720 KB, 1.2 MB, and 1.44 MB capacity all have 80 tracks. Very few modern PCs have 40-track floppy drives so we therefore recommend that you set this field to Disabled to save time.

Boot Up NumLock Status

This controls the state of the NumLock key when the system boots. This field is toggled between On or Off. When it is on the numeric keypad generates numbers instead of controlling the cursor operations. When it is off the numeric keypad controls cursor operations and does not generate numbers.

Gate A20 Option

Gate A20 is a signal that gives the system access to addresses higher than A19. If you select Fast the chipset will control this signal. If you select normal a pin in the keyboard controller will control the signal.

Typematic Rate Setting

The keyboard controller determines the rate at which the keystrokes from the keyboard are repeated. If you enable this option then the typematic rate and the typematic delay can be selected.

Typematic Rate

This is the rate a character will repeat itself on the screen when you hold down a key.

Typematic Delay

This is the delay time (Msec) before the repetition of characters starts.

Security Option

This field allows you to select the "Setup" or "System" security option. It works concurrently with the " Set Supervisor Password" in the main menu.

When the "Setup" option is selected, you will be prompted to enter your "Password" before you can start the BIOS CMOS Setup Utility. When you select "System" option, you will be prompted to enter your password in order to load the Operating System.

TIP: Forgot your password then clear the RTC RAM
If you happen to forget your password you can use Jumper 9 (JP9) to clear the password by erasing the CMOS Real Time Clock (RTC) Ram. For further details on how to do this please see section 2.9. On page 22.

OS Select For DRAM > 64MB

Only select OS2 if you are running an OS/2 operating system with a RAM greater than 64 Mb. Otherwise, for all other operating systems, use the default setting "Non-OS2"

HDD S.M.A.R.T Capability

You may "enable" this option if your Hard Drive supports the S.M.A.R.T. technology (Self Monitoring Analysis Reporting Technology) feature. S.M.A.R.T. will monitor and report your Hard Drive health status. Ask your Hard Drive Vendor for further information.

Note! Using this feature may decrease system performance.

Video BIOS Shadow

These fields allow you to change the Video BIOS location from ROM to RAM. Information access is faster through RAM than ROM. Therefore when you enable this option you will enhance your system performance.

3.5. Advanced Chipset Features

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software	
Advanced Chipset Features	

		Item Help
DRAM Timing By SPD	:Disabled	
DRAM Clock	:CPU Clk	Menu Level ▶
SDRAM Cycle Length	:3	
Memory Hole	:Disabled	
P2C/C2P Concurrency	:Enabled	
Fast R-W Turn Around	:Disabled	
System BIOS Cacheable	:Disabled	
Video RAM Cacheable	:Disabled	
AGP Aperture Size	:64M	
AGP 4x Mode	:Disabled	
AGP Driving Control	:Auto	
AGP Driving Value	:DA	
AGP Fast Write	:Disabled	
OnChip USB	:Enabled	
USB Keyboard Support	:Disabled	
USB Mouse Support	:Disabled	
OnChip Sound	:Auto	
OnChip Modem	:Auto	
CPU to PCI Write Buffer	:Enabled	
PCI Dynamic Bursting	:Enabled	
PCI Master 0 WS Write	:Enabled	
PCI Delay Transaction	:Enabled	
PCI #2 Access #1 Retry	:Enabled	
AGP Master 1 WS Write	:Enabled	
AGP Master 1 WS Read	:Disabled	
Memory Parity/ECC Check	:Disabled	

DRAM Timing By SPD

When you select enabled, the system BIOS will read the DRAM parameters from the SPD chip on the DIMM module and set the DRAM timing automatically.

DRAM Clock

This field allows you to select the DRAM access speed control to the memory perform-ance. For DRAM clock selection you have the following choices:

> CPU CLk
> CPU −33M
> CPU +33M

SDRAM Cycle Length

Before SDRAM can execute a read command that it receives, there is a delay time, which is measured in clock cycles (CLK). The lower the delay time the faster the execution of commands will be. It is therefore desirable to minimize this cycle length. Some memory modules are unable to deal with short delay times. We recommend that you set this delay time between 2 and 3 CLK's (the default is 3). If your system becomes unstable we recommend that you increase the delay time.

Memory Hole

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

P2C/C2P Concurrency

Sets CPU & PCI transfer as synchronous.

Fast R-W Turn Around

This item controls the DRAM timing. It allows you to enable/ disable the fast read/write turn around.

System BIOS Cacheable

Selecting "Enabled" allows caching of the system BIOS ROM. This results system performance. However, if any program writes to this memory area, a system error may occur.

Video RAM Cacheable

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may occur.

AGP Aperture Size
This field selects the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. The default is 64MB. You may increase this memory when you need to have faster access for 3D graphics applications (e.g. games).

AGP-4X Mode

This item allows you to enable / disable the AGP-4X Mode. Before you enable this option please make sure your AGP card supports the 4X AGP display mode.

AGP Driving Control

The recommended setting for this field is the default "Auto". If you have an unstable AGP card you may use this field to choose the appropriate settings. If you do need to tune the timing, please consult your AGP Card manual or Vendor.

AGP Driving Value

This item allows you to adjust the AGP driving force.

AGP Fast Write

Some AGP cards, like G-Force, support AGP fast write. If you have an AGP card that supports this mode you can enable this field. If your AGP card does not support the fast write mode then leave this field "disabled".

OnChip USB

This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

USB mouse Support

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

USB Keyboard Support

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

OnChip Sound

This item allows you to control the onboard AC 97 audio.

OnChip Modem

This item allows you to control the onboard MC 97 Modem.

CPU to PCI Write buffer

When this field is *Enabled,* writes 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.

PCI Dynamic Bursting

When *Enabled*, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and nonburstable transactions don't.

PCI Master 0 WS Write

When *Enabled,* writes to the PCI bus are executed with zero wait states.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.1.

PCI#2 Access #1 Retry

When disabled, PCI#2 will not be disconnected until access finishes (difault). When enabled, PCI#2 will be disconnected if max retries are attempted without success.

AGP Master 1 WS Write

When *Enabled,* writes to the AGP(Accelerated Graphics Port) are executed with one wait states.

AGP Master 1 WS Read

When *Enabled,* read to the AGP (Accelerated Graphics Port) are executed with one wait states.

Memory Parity/ ECC Check

This item *enabled* to detect the memory parity and Error Checking & Correcting.

3.6. Integrated Peripherals (The menu is on page 34)

OnChip IDE Channel 0/1

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface.

IDE Prefetch Mode

The onboard IDE drive interfaces supports IDE prefetching for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support prefetching.

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software
Integrated Peripherals

OnChip IDE Channel0	:Enabled	Item Help
OnChip IDE Channel1	:Enabled	
IDE Prefetch Mode	:Enabled	Menu Level ▶
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	
Init Display First	:PCI Slot	
IDE HDD Block Mode	:Enabled	
Onboard FDC Controller	:Enabled	
Onboard Serial Port 1	:Auto	
Onboard Serial Port 2	:Auto	
UART 2 Mode	:Standard	
IR Function Duplex	:Half	
TX, RX Inverting Enable	:No, Yes	
Onboard Parallel Port	:378/IRQ7	
Onboard Parallel Mode	:Normal	
ECP Mode Use DMA	: 3	
Parallel Port EPP Type	: EPP 1.9	
Onboard Legacy Audio	:Enabled	
Sound Blaster	:Disabled	
SB I/O Base Address	:220H	
SB IRQ Select	:IRQ 5	
SB DMA Select	:DMA 1	
MPU-401	:Disabled	
MP-401 I/O Address	:330-333H	
Game Port (200—207H)	:Enabled	

Primary/Secondary, Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

Primary/Secondary, Master/Slave UDMA

Ultra DMA/66 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 98 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/66, select Auto to enable BIOS support.

Init Display First

This field allows you to decide to active whether PCI Slot of VGA card or AGP first.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

Onboard FDD Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on 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/Port 2

These two selection fileds allow you to select the I/O address and corresponding interrupt for the first and second serial ports.

UART 2 Mode

Your system may offer a variety of infrared modes on the second serial port. The options are Standard, HPSIR or ASKIR.

IR Function Duplex

This item allows you to select the IR half/full duplex function.

TX,RX inverting enable

This item allow you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

Onboard Parallel Port

This item allows you to determine onboard parallel port controller I/O address setting.

Onboard Parallel Port Mode

Select an operating mode for the onboard parallel (printer) port. Select *Normal, Compatible,* or *SPP* unless you are certain your hardware and software both support one of the other available modes.

ECP Mode Use DMA

This item allows you to select a DMA channel for the parallel port for use during ECP mode.

EPP Mode Select

This field allows you to select EPP port type between 1.7 or 1.9.

Onboard Legacy Audio

This field controls the onboard legacy audio.
> Sound Blaster
> SB I/O Base Address
> SB IRQ Select
> SB DMA Select
> MPU-401
> MPU-401 I/O Address
> Game Port (200-207H)

3.7. Power Management Setup

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software
Power Management Setup

ACPI Function	:Disabled	Item Help
Power Management	:Press Enter	
PM Control By APM	:Yes	Menu Level ▶
Video Off Option	:Suspend > Off	
Video Off Method	:Blank Screen	
Modem Use IRQ	:3	
Soft-Off by PWRBTN	:Instant-Off	
Wake-Up Events	:Press Enter	

ACPI function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

Power Management

When click the "Enter" key on this selection field, the following setup screen will be triggered:

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software Power Management		
Power Management	:User Defined	**Item Help**
HDD Power Down	:Disabled	**Menu Level** ▶
Doze Mode	:Disabled	
Suspend Mode	:Disabled	

Power Management

Min. Power Saving	Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management -- **ONLY AVAILABLE FOR SL CPU**. Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

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.

Doze Mode
When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

Suspend Mode
When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

PM Control by APM

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock. If Advance Power Management (APM) is installed on your system, selecting Yes gives better power savings.

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 systems enters the Suspend mode.
All Modes --> Off	Monitor blanked when the system enters any power saving mode.

Video Off Method

This determines the manner in which the monitor goes blank.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes 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

This determines the IRQ which the MODEM can use for power saving purposes. This mainboard has the ACPI feature designed on the board and it will "wakeup" automatically when it detects an incoming modem Ring-in signal. Before you can use the Ring-in signal to wakeup your PC system, you have to install the "External" modem to your PC system and tell the PC system which serial port connects to the modem by selecting the IRQ in this field, (officially, COM 1 uses IRQ4, and COM 2 uses IRQ3)

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung".

Wake-Up Events

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software		
Wake-Up Events		
VGA	:OFF	**Item Help**
LPT & COM	:LPT/COM	
HDD & FDD	:ON	Menu Level ▶
PCI Master	:OFF	
Lan Resume	:Disabled	
RTC Alarm Resume	:Disabled	
Date (of Month)	:0	
Resume Time (hh : mm : ss)	:0 0 0	
Primary INTR	:ON	
IRQs Activity Monitoring	:Press Enter	

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

LPT & COM
When this field is "ON" any activity from these devices, or their IRQ's will wake up the system.

HDD & FDD
When this field is "ON" any activity from the HDD or the FDD will wake up the system.

PCI Master
When you enable the PCI Master mode, any activity from one of the listed system peripheral devices wakes up the system.

Lan Resume
An input signal from the LAN will wake up the system from a soft off state.

Date (of Month)/Resume Time (hh:mm:ss)
When RTC Alarm Resume is enabled, your can setthe date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

IRQs 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.

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software IRQs Activity Monitoring		
Primary INTR	[ON]	**Item Help**
IRQ3 (COM 2)	[Enabled]	
IRQ4 (COM 1)	[Enabled]	Menu Level ➤➤➤
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]	

3.8. PNP/PCI CONFIGURATION

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software
PNP/PCI Configurations

		Item Help
PnP OS Installed	: No	
Reset Configuration Data	:Disabled	Menu Level ➢
Resources Controlled By	:Auto (ESCD)	Select Yes if you are us-
x IRQ Resources	:Press Enter	ing
x DMA Resources	:Press Enter	a Plug and Play capable
		operating system. Select
PCI/VGA Palette Snoop	:Disabled	No
Assign IRQ For VGA	:Enabled	if you need the BIOS to
Assign IRQ For USB	:Enabled	configure non-boot de-
		vices.

PNP OS Installed

This item allows you to determine if a PnP OS is installed or not.

Resources controlled By

Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 98.

PCI/VGA Palette Snoop

Leave this field at *Disabled* all the time

Assign IRQ For VGA/USB

A system's IRQs are limited. Sometimes you may need to use more IRQ signals for your add-on cards. BIOS allows you to disable the IRQ which is supposed to be connected to the VGA and USB ports. If you choose to disable the IRQ on the VGA or USB port, the IRQ will be released and becomes available for other devices. Please make sure that you have a USB or VGA adapter that does not need an IRQ before you select Disabled.

3.9. PC Health Status

The PC Health Status menu allows you to monitor the health status of your PC system.
You can select a field of interest and monitor it's status.

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software		
PC Health Status		
Current CPU Temp.	:52°C/125°F	**Item Help**
Current CPU Fan Speed	:5041RPM	
Current Chassis Fan Speed	:0RPM	**Menu Level ➤**
Vcore	:1.39V	
2.5V	:2.44V	
3.3V	:3.443V	
5V	:4.92V	
12V	:11.70V	

Current CPU Temp.

This field will show you the current CPU temperature

Current CPU FAN Speed

This field will show you the current CPU Cooling FAN1 speed.

Current Chassis FAN Speed

This field will show you the current Chassis Fan speed.

Vcore

This field and the files show you the current system voltage.

3.10. Frequency/Voltage Control

CMOS Setup Utility - Copyright (C) 1984 - 2001 Award Software		
Frequency/Voltage Control		
Auto Detect Dimm/PCI Clk	:Enable	**Item Help**
Spread Spectrum	:Disabled	**Menu Level ➤**
CPU Host/PCI Clock	:133/33MHz	
CPU Vcore Select	:Default	

Auto Detect DIMM/PCI Clk

When "Enabled" is selected, the mainboard will detect the presence of devices on DIMM and PCI slots. When there is no device present on some of the PCI or DIMM connectors, the clock on the related DIMM and PCI slot will be disabled to reduce the Electro-Magnetic Interference (EMI).

Spread Spectrum

When Spread Spectrum is enabled, the EMI radiation on this mainboard will be reduced.

CPU Host / PCI Clock

According to different CPU installed on this mainboard, you will see different clock frequency available for your choice in this field. This field allows to select the CPU FSB and PCI clock speed.

CPU Vcore Select (optional for U694BC)

If you want to over-clock your CPU you need to adjust the core voltage. When you press enter a menu with a range of voltage selections will appear. Before you change the voltage please refer to the previous menu PC Health Status (section 3.9) to check what the Vcore Voltage is for your CPU. If this field is made too high or too low it will cause damage to your CPU. If you have set this voltage too low you may not be able to start your PC. To overcome this problem use the Ins key.

3.11. Load Optimized Defaults

CMOS Setup Utility – Copyright（C）1984 - 2001 Award Software	
▶ Advanced BIOS Features	▶ Frequency/Voltage Control
▶ Advanced BIOS Features	Load Optimized Values
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power Management Setup	Save & Exit Setup
▶ PNP/PCI Configuration	Exit Without Saving
▶ Health Status	
ESC : Quit ←↑↓→ : Select Item	
F10 : Save & Exit Setup	
Load Optimized Defaults	

There is CMOS memory on the mainboard that can be used to store the system settings. If you don't know how to use the Award BIOS CMOS Setup Utility to select the settings, you may use this field to load the optimized defaults which are defined in the system BIOS. **Our engineer recommends the Optimized Defaults**. If this option is selected it will give a series of parameters that will ensure the reliability and performance of your PC.

If you lose your CMOS data or you don't know how to complete the setup procedure, you may use this option to load the Optimized default values from the BIOS default table.

If the CMOS data is corrupted, or if you selected some CMOS settings and find that the PC system becomes very unstable, you should try to load the optimized default values first and then re-configure the BIOS.

3.12. Set Supervisor Password

```
          CMOS Setup Utility – Copyright （C）1984 - 2001 Award Software

      ▶ Advanced  BIOS  Features          ▶ Frequency/Voltage Control

      ▶ Advanced  BIOS  Features            Load Optimized Values

      ▶ Advanced  Chipset  Features         Set  Supervisor  Password

      ▶ Integrated  Peripherals             Set  User  Password

      ▶ Power  Management  Setup            Save  &  Exit  Setup

      ▶ PNP/PCI  Configuration              Exit  Without  Saving

      ▶ Health  Status

      ESC : Quit                    ←↑↓→ : Select  Item
      F10 : Save  &  Exit  Setup

                      Load Optimized Defaults
```

The "SUPERVISOR PASSWORD" is for you to control unauthorized access to your BIOS CMOS Setup or Booting into the your PC system. The Supervisor Password option is used together with the Security Option in section 3.5.

When "Setup" is selected in the Security Option:
If you want to change any BIOS setting, you will have to key-in the Supervisor Password so that you can start the BIOS CMOS Setup Utility and change the system setting.

When "System" is selected in Security Option:
Whenever you turn on the PC, it will request the user to enter the Password in order to boot up your system. Without the correct password, the PC system will stop and the oper-

3.13. Set User Password

```
        CMOS Setup Utility – Copyright（C）1984 - 2001 Award Software

   ▶ Advanced  BIOS  Features        ▶ Frequency/Voltage Control

   ▶ Advanced  BIOS  Features          Load Optimized Values

   ▶ Advanced  Chipset  Features       Set  Supervisor  Password

   ▶ Integrated  Peripherals           Set User Password

   ▶ Power  Management  Setup          Save  &  Exit  Setup

   ▶ PNP/PCI  Configuration            Exit  Without  Saving

   ▶ Health  Status

   ESC : Quit                      ←↑↓→ : Select  Item
   F10 : Save  &  Exit  Setup

                      Load Optimized Defaults
```

The User Password can be used to check the user's authority. However, this password entry is different from the "SUPERVISOR PASSWORD". The User Password has a different function to the "Supervisor Password" and the "Security Option" setup in Section 3.5:

A. When there is the password stored in the "SUPERVISOR PASSWORD"

1. When "Setup" is selected in the Security Option:
When you use the "User Password" to log into the BIOS setup program, you can only view the BIOS settings, but you cannot change any settings. The only setting you can change is the "User Password" and you can also select "SAVE & EXIT SETUP" and "EXIT WITH-OUT SAVING" from the main menu. (If you use the Supervisor Password to log into the PC system, you will have the complete rights to all the BIOS settings.

2. When "System" is selected in Security Option:
When you turn on the PC system, it will request that you enter the Password. Without the correct password, the PC system will stop and the operating system won't be loaded.

B. When there is no password stored in the "SUPERVISOR PASSWORD"

1. When "Setup" is selected in Security Option:
Users can use the "User Password" to log into the BIOS setup program, and they can change any of the BIOS settings.

2. When "System" is selected in Security Option:
When you turn on your PC, you will be requested to enter the Password. Without the cor-

3.14. Save & Exit Setup/ Exit Without Saving

```
        CMOS Setup Utility – Copyright ( C ) 1984 - 2001 Award Software

    ▶  Advanced  BIOS  Features        ▶  Frequency/Voltage Control

    ▶  Advanced  BIOS  Features           Load Optimized Values

    ▶  Advanced  Chipset  Features        Set  Supervisor  Password

    ▶  Integrated  Peripherals            Set User Password

    ▶  Power  Management  Setup           Save  &  Exit  Setup

    ▶  PNP/PCI  Configuration             Exit  Without  Saving

    ▶  Health  Status

    ESC : Quit                    ←↑↓→ : Select Item
    F10 : Save  &  Exit  Setup

                    Load Optimized Defaults
```

Save & Exit Setup

This option will save all the setup values to CMOS RAM and exit the SETUP utility. Move the selection bar to "SAVE & EXIT SETUP" and press the "Enter" key, then type "Y" and press the "Enter" key again. The values you have entered will be saved and all the information stored in the CMOS memory.

Exit Without Saving

This option will exits the setup utility without saving any of the values you changed in the CMOS RAM. If you do not want to save any of the changes, or settings you selected in the BIOS SETUP utility, move the selection bar to the "EXIT WITHOUT SAVING" option. Press

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