

**AV11**

**FC-PGA Celeron/Coppermine processor  
Based AGP MAIN BOARD**

*User's Manual*

# Shuttle AV11

## PPGA Celeron/Coppermine processor based AGPset Mainboard Manual Version 3.0

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# 1 INTRODUCTION

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## 1.1 To Different Users

### First-Time DIY System Builder

Welcome to the DIY world! Building your own computer system is not as difficult as you may think. To make your first computer DIY experience a success, right from the start, we have designed the **3 Hardware Installation** section in a step-by-step fashion for all the first-time DIY system builders. Prior to installation, we also suggest you to read the whole manual carefully to gain a complete understanding of your new AV11 mainboard.

### Experienced DIY User

Congratulations on your purchase of the Shuttle AV11 mainboard. You will find that installing your new Shuttle AV11 mainboard is just that easy. Bundled with an array of onboard functions, the highly-integrated AV11 mainboard provides you with a total solution to build the most stable and reliable system. Refer to section **3.2 Jumper Settings** and **Chapter 4 Software Utility** to find out how to get the best out of your new mainboard. **Chapter 5 BIOS Setup** also contains relevant information on how to tune up your system to achieve higher performance.

### System Integrator

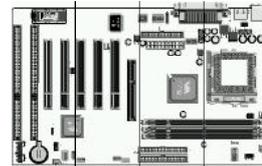
You have wisely chosen Shuttle AV11 to construct your system. Shuttle AV11 incorporates all the state-of-the-art technology of the VT82C693A chipset from VIA. It integrates the most advanced functions you can find to date in a compact ATX board. Refer to section **3.2 Jumper Settings** and **Chapter 4 Software Utility** for an in-depth view of system construction.

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## 1.2 Item Checklist

Check all items you received with your AV11 mainboard to make sure nothing is missing. The complete package should include:

- \* One Shuttle AV11 Mainboard



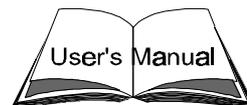
- \* One ATA/66 Ribbon Cable



- \* One Floppy Ribbon Cable



- \* This AV11 User's Manual



- \* One CD-ROM containing:
  - The AV11 user's manual on PDF format
  - The VIA 4 IN 1 Drivers
  - The Award Flashing Utility



# 2 FEATURES

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The AV11 mainboard is carefully designed for the demanding PC user who wants high performance and maximum intelligent features in a compact package.

## 2.1 Specifications

### \* CPU Support

Support Intel PPGA Celeron processors 300 ~ 500+ MHz.  
Intel Coppermine FC-PGA processors 500 ~ 933+ MHz.

### \* Chipset

Features VIA VT82C693A AGPset and VT82C596B Chipset.

### \* Jumperless CPU Configuration

Soft-configure FSB (The FSB speed is software configurable in the Chipset Features Setup menu of the BIOS Setup utility.)

### \* Versatile Memory Support

Equipped with three DIMM banks of PC66/100/133 compliant SDRAM to provide up to 768MB of system memory.  
Configurable support for EC (Error Checking) and ECC (Error Checking and Correcting)

### \* AGP Slot

Supports Accelerated Graphics Port cards for high-performance, component level interconnect directed at 3D graphical display applications.

### \* PCI and ISA (optional) Expansion Slots

Provides five 32-bit PCI slots and two 16-bit ISA slots.

### \* Super I/O Onboard

Provides a variety of I/O interfaces:

- 1 × Floppy interface for 3.5-inch FDD with 720KB, 1.44MB, 2.88MB format or for 5.25-inch FDD with 360KB or 1.2MB format.
- 1 × PS/2 mouse connector
- 1 × PS/2 Keyboard connector

- 
- 2 × USB connectors
  - 2 × DB9 Serial connectors 16550 UART compatible
  - 1 × Infrared communications port ASKIR and HPSIR compatible.  
(Serial port COM2 can also be redirected to an external IrDA Adapter for wireless connection.)
  - 1 × DB25 Parallel port supporting Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), and Extended Capabilities Port (ECP) data transmission schemes.

#### **\* PCI Bus Master IDE Controller Onboard**

Two UltraDMA 33/66 Bus Master Dual-channel IDE ports provide support to a maximum of four IDE devices (one Master and one Slave per channel). The IDE Bus implements data transfer speeds of up to 33/66 MB/sec and also supports Enhanced PIO Modes 0~ 4.

#### **\* ATX Power Supply Connector**

ATX power supply unit can connect to the onboard 20-pin ATX power connector, supporting Suspend and Soft-On/Off by dual-function power button.

#### **\* Advanced Configuration and Power Interface**

Features four power savings modes: Snoop, Suspend to Disk, and Soft-Off. ACPI provides more efficient Energy Savings Features controlled by your operating system that supports OS Direct Power Management (OSPM) functionality.

#### **\* System BIOS**

Provides licensed Award V4.51PG BIOS on 2MB Flash EEPROM.  
Supports Green PC and Desktop Management Interface (DMI).

#### **\* ATX Form Factor**

System board conforms to the ATX specification.  
Board dimensions: 305mm × 190mm

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### \* Advanced Features

- **Keyboard/Mouse Power-On** - This mainboard implements a special jumper to enable a system power-on function by PS/2 keyboard or mouse.
- **Wake-on-LAN (WOL)** - The onboard WOL connector can be attached to a network card that supports this function to wake up the system via the LAN.
- **Modem Ring Power-On** - The system can be powered on automatically by activation of the modem ring.

### \* Optional Features

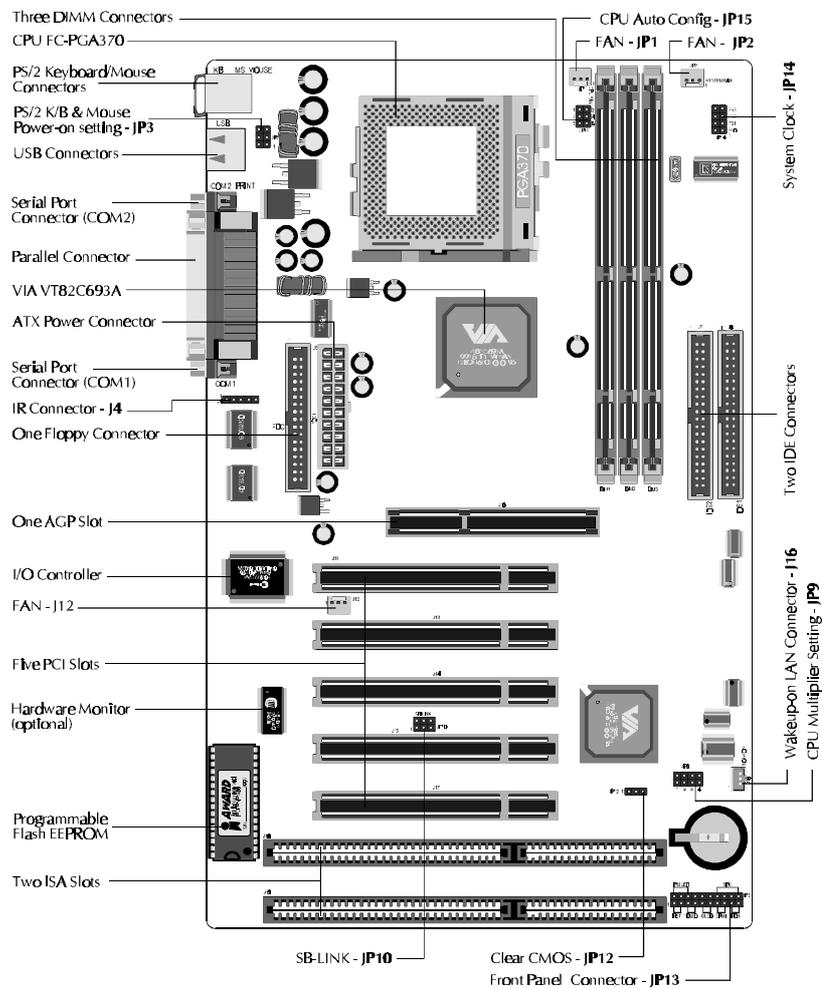
- **Voltage Monitoring** - Monitors various voltages of key elements, such as the CPU, and other critical system voltage levels to ensure stable current reach to mainboard components. System voltages include Vcore on CPU, and +5V, +12V, -5V, -12V on system etc.
- **Fan Status Monitoring** - To prevent overheating of CPU, the CPU fan is monitored for RPM and failure. (CPU Cooling FAN with RPM sensor is required.)
- **Temperature Monitoring** - This item allows users to make sure whether the CPU or system keep in a suitable temperature.

# 3 HARDWARE INSTALLATION

This section outlines how to install and configure your AV11 mainboard. Refer to the following mainboard layout to help you identify various jumpers, connectors, slots, and ports. Then follow these steps designed to guide you through a quick and correct installation of your system.

## 3.1 Step-by-Step Installation

### Accessories Of AV11

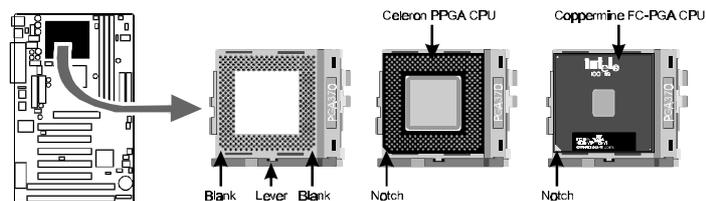


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## Step 1

### Install the CPU:

1. Locate the CPU ZIF (Zero Insertion Force) socket on the upper-right sector of your mainboard (between the back-panel connectors and the DIMM memory banks).
2. Pull the CPU ZIF socket lever slightly sideways away from the socket to unlock the lever, then bring it to an upward vertical position.
3. Place your PGA 370 Celeron or Coppermine FC-PGA processor in the ZIF socket. Note that the CPU's edges have been purposely designed non-symmetrical to prevent from inserting the processor in the wrong direction. The following diagram demonstrates the correct placement of the CPU in the ZIF socket. You can see that the two blunt-edged corners should face towards the socket-lever.



4. Slightly push the CPU into the socket without applying excessive force while making sure there is no gap between CPU and socket. Then lower the socket-lever all the way down to its horizontal position and lock it to secure the CPU in place.
5. The PGA 370 CPU or Coppermine FC-PGA CPU requires a set of heatsink/fan to ensure proper cooling of the processor. If not already mounted on your CPU, you must purchase the heatsink/fan separately and have it installed. Plug the cable from the heatsink/fan to the CPU fan power connector located at the immediate right of the ZIF socket. Note that there are several types of CPU fan connectors. Normally, if your mainboard supports the hardware monitoring function, a 3-pin fan power connector should allow your system to detect the CPU fan's speed. The CPU fan can also run with a 2-pin fan power connector, however, detection of CPU fan's speed is not supported. Another type of CPU fan may feature a large 4-pin fan power connector, which does not support CPU fan's speed detection and must connect directly to the system's power supply unit. Please refer to the following diagram.

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## **Step 2.**

### **Set Jumpers**

This mainboard is jumperless! The default jumper settings have been set for the common usage standard of this mainboard. Therefore, you do not need to reset the jumpers unless you require special adjustments as in any of the following cases:

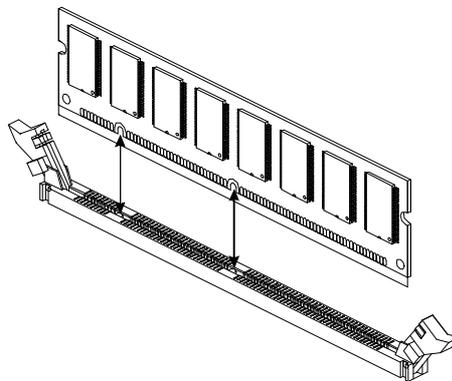
1. Over-clock your CPU
2. Clear CMOS
3. Set the wake up function by PS2 Keyboard/Mouse

For first-time DIY system builders, we recommend that you do not change the default jumper settings if you are not totally familiar with mainboard configuration procedures. The factory-set default settings are tuned for optimum system performance. For the advanced users who wish to customize their system, section **3.2 Jumper Settings** will provide detailed information on how to configure your mainboard manually.

## **Step 3**

### **Install SDRAM System Memory**

To install memory, insert SDRAM memory module(s) in any one, two or three DIMM banks. Note that SDRAM modules are directional and will not go in the DIMM slots unless properly oriented. After the module is fully inserted into the DIMM socket, lift the clips of both sides of the DIMM bank to lock the module in place.



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## **Step 4**

### **Install Internal Peripherals in System Case**

Before you install and connect the mainboard into your system case, we recommend that you first assemble all the internal peripheral devices into the computer housing, including but not limited to the hard disk drive (IDE/HDD), floppy disk drive (FDD), CD-ROM drive, and ATX power supply unit. This will greatly facilitate in making the connections to the mainboard described below.

To install IDE & FDD drives, follow this procedure:

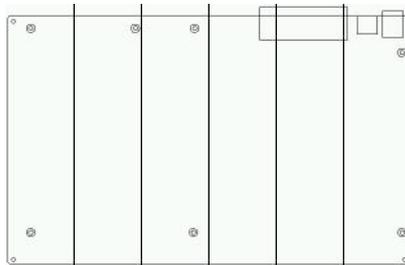
1. Set the required jumpers on each device according to the instructions provided by the manufacturer. (IDE devices, HDD and CD-ROM, have to set jumpers to Master or Slave mode depending on whether you install more than one device of each kind.)
2. Connect IDE cable and FDD cable on the back-panel of the internal peripheral devices. Note that the cable should be oriented with its colored stripe (usually red or magenta) connected to pin#1 both on the mainboard IDE or FDD connector and on the device as well.
3. Connect an available power cable from your system power supply unit to the back-panel of each peripheral device. Note that the power cable is directional and cannot fit in if not properly positioned.

---

## Step 5

### Mount the Mainboard on the Computer Chassis

1. You may find that there are a lot of different mounting hole positions both on your computer chassis and on the mainboard. To choose a correct mounting hole, the key point is to keep the back-panel of the mainboard in a close fit with your system case, as shown below.



2. After deciding on the proper mounting holes, position the studs between the frame of the chassis and the mainboard. The studs are used to fix the mainboard and to keep a certain distance between the system chassis and the mainboard, in order to avoid any electrical shorts between the board and the metal frame of the chassis. (If your computer case is already equipped with mounting studs, you will need to tighten screws to attach the mainboard.)

**Note:** In most computer housings, you will be able to find 4 or more attachment points to install mounting studs and fix the mainboard. If there aren't enough matching holes, then make sure to install at least 3 mounting studs to ensure proper attachment of the mainboard.

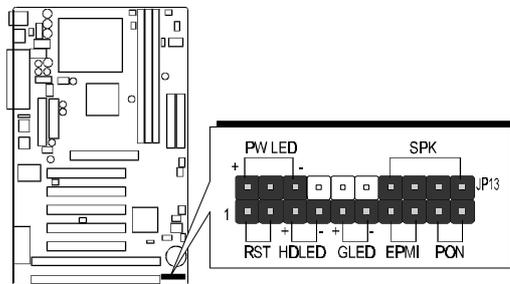
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## Step 6

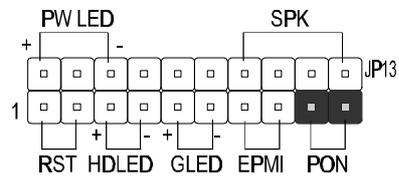
### Connect Front Panel Switches/LEDs/Speaker

You can find there are several different cables already existing in the system case and originating from the computer's front-panel devices (HDD LED, Power LED, Reset Switch, PC Speaker, etc.)

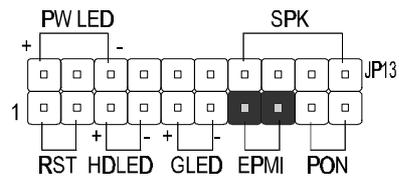
These cables serve to connect the front-panel switches and LEDs to the mainboard's front-panel connectors group, as shown below.



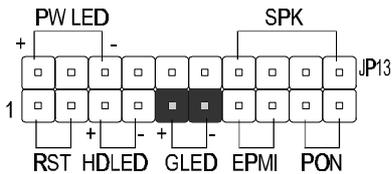
1. ATX Soft Power On/Off (PON)



2. EPMI  
(Hardware System Management Interface)

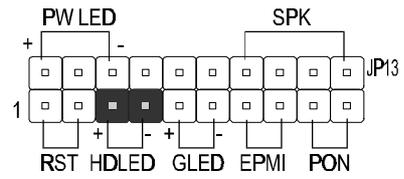


3. Green-LED (GLED)

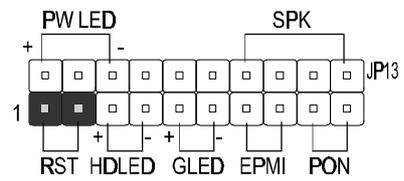


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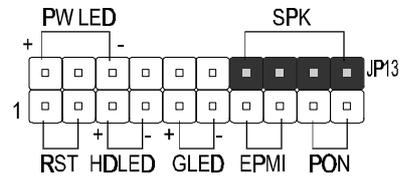
4. HDD-LED (HDLED)



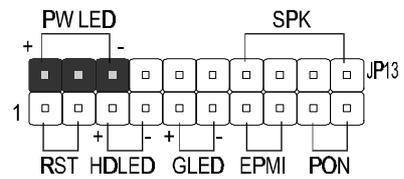
5. Hardware Reset Switch (RST)



6. PC Speaker (SPK)



7. Power-LED (PW LED)

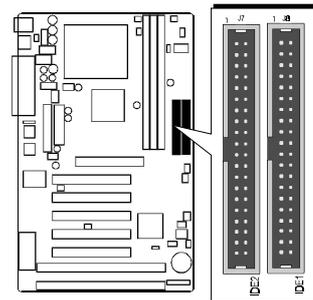


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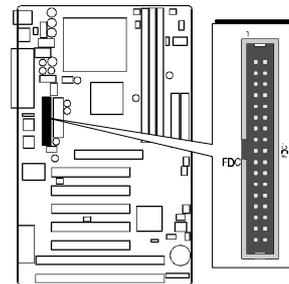
## Step 7

### Connect IDE & Floppy Disk Drives

1. IDE cable connector



2. FDD cable connector

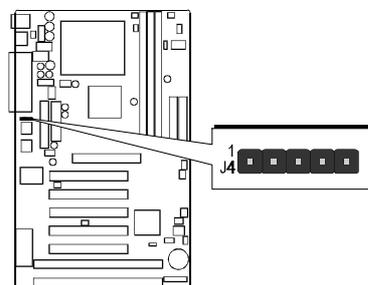


## Step 8

### Connect Other Internal Peripherals

1. IR connector

**Note:** Please refer to page 35.

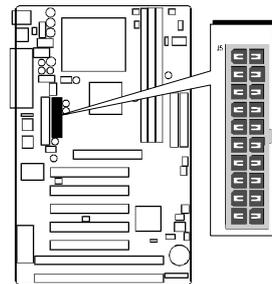


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### **Step 9**

#### **Connect the Power Supply**

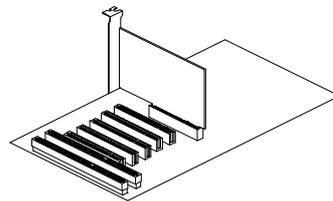
1. System power connector



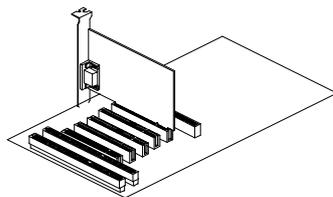
### **Step 10**

#### **Install Add-on Cards in Expansion Slots**

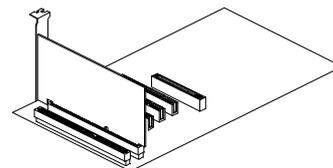
1. Accelerated Graphics Port (AGP) Card



2. PCI Card



3. ISA Card

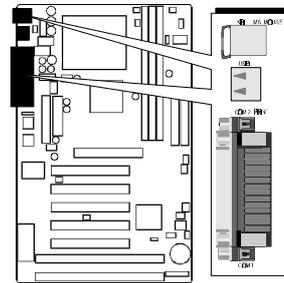


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## Step 11

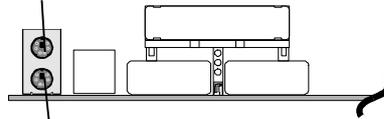
### Connect External Peripherals to Back Panel

You are now ready to put the computer case back together and get on to the external peripherals connections to your system's back-panel.



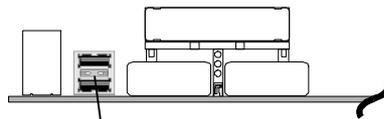
#### 1. PS/2 Mouse and Keyboard

PS/2 Mouse



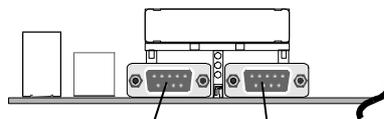
PS/2 keyboard

#### 2. USB Devices



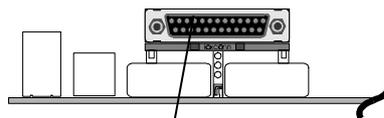
USB1 & USB2

#### 3. COM Ports



COM2 COM1

#### 4. Parallel Port



Parallel Port

---

## Step 12

### First Time System Boot Up

To assure the completeness and correctness of your system installation, you may check the above installation steps once again before you boot up your system for the first time.

1. Insert a bootable system floppy disk (DOS 6.2x, Windows 95/98/NT, or others) which contains FDISK and FORMAT utilities into the FDD.
2. Turn on the system power.
3. First, you must use the FDISK utility to create a primary partition of the hard disk. You can also add an extended partition if your primary partition does not use all of the available hard disk space. If you choose to add an extended partition, you will have to create one or more logical partitions to occupy all the space available to the extended partition. The FDISK utility will assign a drive letter (i.e., C:, D:, E:,...) to each partition which will be shown in the FDISK program. After FDISK procedure, reboot your system by using the same system floppy disk.

**Note:** DOS 6.2x and Windows 95A can only support up to 2.1GB of HDD partition. If you use the FDISK utility with one of the operating systems mentioned above, you can only device your HDD into partitions no larger than 2.1GB each.

4. Now, use the FORMAT utility to format all the partitions you've created. When formatting the primary partition (C:), make sure to use the FORMAT C: /S command.

**Note:** FORMAT C: /S can transfer all the necessary system files into the primary partition of your hard disk. Then, your HDD will become a bootable drive.

5. Install all the necessary drivers for CD-ROM, Mouse, etc.
6. Setup the complete operating system according to your OS installation guide.

---

### **Step 13**

#### **Install Drivers & Software Components**

Please note that all the system utilities and drivers are designed for Win 9x operating systems only. Make sure your Windows 9x operating system is already installed before running the drivers installation CD-ROM programs.

1. Insert the AV11 bundled CD-ROM into your CD-ROM drive. The auto-run program will display the drivers main installation window on screen.
2. Select the Mainboard related program.
3. Install AV11 Driver.

---

## 3.2 Jumper Settings

Several hardware settings are made through the use of jumper caps to connect jumper pins on the mainboard. Pin #1 could be located at any corner of each jumper, you just find a white right angle on the mainboard, that's pin 1#. There are several types of pin 1# shown as below:

3-pin and multi (> 3) pin jumpers show as following:

Pin #1 on the left:



Pin #1 on the top:



Pin #1 on the right:



Pin #1 on the bottom:



Jumpers with two pins are shown as  for Close [On] or  for Open [Off]. To Short jumper pins, simply place a plastic jumper cap over the desired pair of pins.

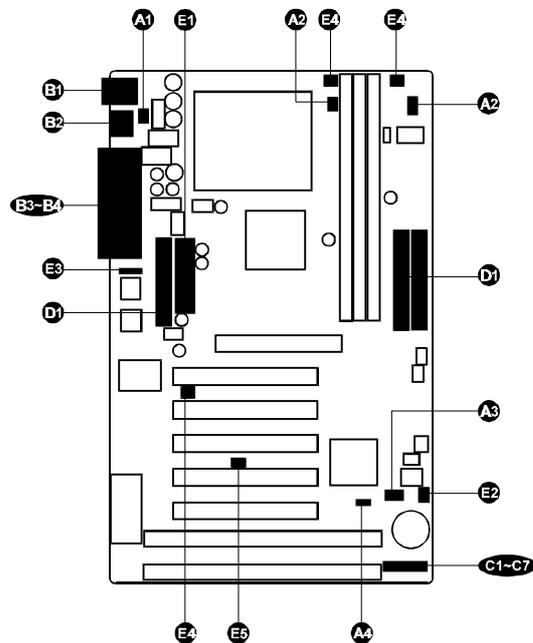
**Caution!**

1. Do not remove the mainboard from its antistatic protective packaging until you are ready to install it.
2. Carefully hold the mainboard by its edges and avoid touching its components. When putting the mainboard down, place it on top of its original packaging film, on an even surface, and components side up.
3. Wear an antistatic wrist strap or take other suitable measures to prevent electrostatic discharge (ESD) whenever handling this equipment.

---

## Jumpers & Connectors Guide

Use the mainboard layout on page 10 to locate CPU socket, memory banks, expansion slots, jumpers and connectors on the mainboard during the installation. The following list will help you identify jumpers, slots, and connectors along with their assigned functions:



### CPU/Memory/Expansion Slots

- Socket370: CPU Socket for PGA and FC-PGA processors
- DIM1/2/3 : Three DIMM Sockets for 8,16,32,64,128,256MB 3.3V SDRAM
- AGP : One AGP (Accelerated Graphics Port) Slot
- PCI : Five 32-bit PCI Expansion Slots
- ISA : Two 16-bit ISA Expansion Slots

### Jumpers

- A1** JP3 : PS/2 Keyboard & Mouse Power-On  
(requires to always set JP3 jumper in order to enable either or both PS/2 KB & mouse power-on functions. In addition, you need to set Power On Function in BIOS setup.)
- A2** JP15/JP14 : Front Side Bus (FSB) speed Auto Config Setting.

- 
- Ⓐ3 JP9 : CPU Clock Ratio setting
  - Ⓐ4 JP12 : Clear CMOS

#### **Back Panel Connectors**

- Ⓑ1 KB : PS/2 Keyboard
- Ⓑ1 MS : PS/2 Mouse
- Ⓑ2 USB : 2 × USB (Universal Serial Bus)
- Ⓑ3 COM1 : Serial Port 1 (DB9 male)
- Ⓑ3 COM2 : Serial Port 2 (DB9 male)
- Ⓑ4 PRINTER : Parallel Port (DB25 female)

#### **Front Panel Connectors (JP13)**

- Ⓒ1 PON : ATX Power On/Off Momentary Type Switch
- Ⓒ2 EPMI : Hardware System Management Interface Momentary Type switch.
- Ⓒ3 GLED : Green LED (ON when system in power savings mode)
- Ⓒ4 HDLED : IDE Drive Active LED
- Ⓒ5 RST : Hardware Reset Switch
- Ⓒ5 SPK : Housing Internal Speaker
- Ⓒ7 PW LED : System Power LED

#### **Internal Peripherals Connectors**

- Ⓓ1 FDD : Floppy Disk Drive Interface
- Ⓓ1 IDE1 : IDE Primary Interface (Dual-channel)
- Ⓓ1 IDE2 : IDE Secondary Interface (Dual-channel)

#### **Other Connectors**

- Ⓔ1 J5 : ATX Power (20-pin header) Connector
- Ⓔ2 J16 : Wake-On-LAN Connector
- Ⓔ3 J4 : IR Connector
- Ⓔ4 FAN(JP1) : CPU Fan Power Connector
- Ⓔ4 FAN (JP2) : Syster Fan Power Connector
- Ⓔ4 FAN (J12) : Housing Cooling Fan Power Connector
- Ⓔ5 JP10 : SB-LINK Connector

## Jumpers

### **A1** Set PS/2 Keyboard & Mouse Power-On (JP3)

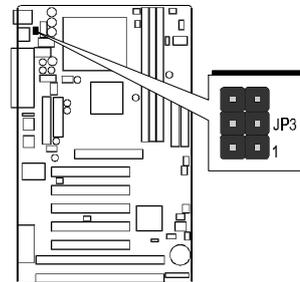
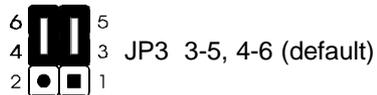
AV11 mainboard provides an easy power-on by PS/2 keyboard and mouse.

**Note:** When you enable Keyboard Power-On, you also need to configure the proper hot-key combination < Ctrl> + < function key F1 ~ F12 > in BIOS setup program.

To Power on the system by keyboard, simply strike the proper hot-key. (A hot-key is the combination of < Ctrl> + < configured function key F1 ~ F12>)

To power on the system by PS/2 mouse, you only need to double-click with the mouse. (Note that power-on by serial mouse is not supported)

To enable/disable either or both PS/2 keyboard and mouse power-on functions, follow the steps outlined below:



Step 1. Adjust the jumper group JP3 as shown in the following table.

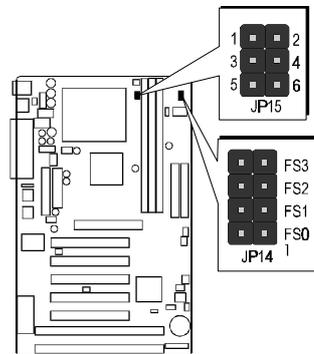
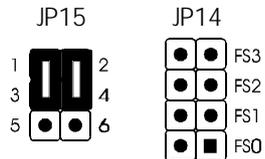
PS/2 K/B & Mouse Power-On - JP3			
PS/2 Keyboard & Mouse Power-On Enabled	PS/2 Keyboard Power-On Enabled	PS/2 Mouse Power-On Enabled	PS/2 Keyboard & Mouse Power-On Disabled

Step 2. Set the Power On field to the proper value (Hot-key or PS/2 Mouse) in Integrated Peripherals menu of BIOS setup.

## A2 Front Side Bus (FSB) Speed Auto Config Setting (JP15 and JP14)

AV11 provides jumper JP14 and JP15 to set auto configure front side bus at 66MHz, 100MHz and 133MHz. Inserting mini-jumper caps on JP15 and leave JP14 all open as below to identify automatically the FSB speed.

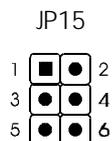
### Default



When FSB auto config. is enabled, the user may still adjust CPU Host clock on each FSB from Chipset Feature Control of BIOS Setup program.

For experienced users, AV11 mainboard provides an alternative hardware configure function to adjust front side bus manually. Before you adjust FSB frequency by jumper, you need to remove all jumper cap from JP15 and insert jumper caps properly on JP14 and set CPU Host/PCI Clock to **default** in Chipset Features control of BIOS setup program.

### Manual



### JP14

System Clock (JP14)	FS0	FS1	FS2	FS3
66 MHz	OFF	OFF	ON	ON
75 MHz	OFF	ON	ON	ON
83 MHz	ON	OFF	ON	ON
100 MHz	OFF	OFF	OFF	ON
103 MHz	ON	ON	OFF	ON
112 MHz	OFF	ON	OFF	ON
124 MHz	ON	OFF	OFF	OFF
133 MHz (Default)	OFF	OFF	OFF	OFF

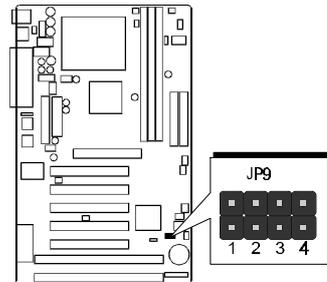
### A3 CPU Clock Ratio Setting (JP9)

AV11 mainboard also provides a jumper group JP9 to set CPU multiplier.

By inserting jumpers properly on JP9, the user can configure the CPU Clock Ratio manually.

**Note:** Normally, JP9 is not functional for processor's ratio setting is unavailable.

Multiplier (JP9)	1-6	2-7	3-8	4-9	(66) MHz	(100) MHz	(133) MHz
3.5X	ON	OFF	ON	OFF		350	
4X	OFF	ON	ON	ON		400	533
4.5X	OFF	ON	ON	OFF	300	450	600
5X	OFF	OFF	ON	ON	333	500	667
5.5X	OFF	OFF	ON	OFF	366	550	733
6X	ON	ON	OFF	ON	400	600	800
6.5X	ON	ON	OFF	OFF	433	650	866
7X	ON	OFF	OFF	ON	466	700	933
7.5X	ON	OFF	OFF	OFF	500	750	
8X	OFF	ON	OFF	ON		800	



Processor	66MHz	75MHz	83MHz	100MHz	103MHz	112MHz	124MHz	133MHz
System Clock JP14								

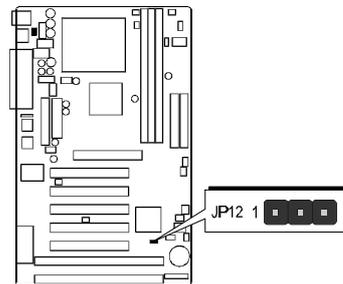
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#### **A4 Clear CMOS (JP12)**

JP12 is used to clear CMOS data. Clearing CMOS will result in permanently erasing the previous system configuration settings and restoring the original (factory-set) system settings.

1  Pin 1-2 (Default)

1  Pin 2-3 (Clear CMOS)



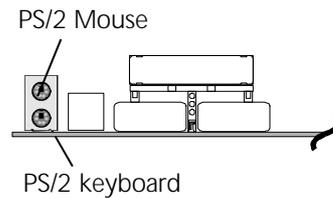
- Step 1. Turn off the system power (PC-> Off)
- Step 2. Remove jumper cap from JP12 pin 1-2
- Step 3. Place the jumper cap on JP12 pin 2-3 for a few seconds
- Step 4. Return the jumper cap to pin 1-2
- Step 5. Turn on the system power (PC-> On)

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## 🔧 Back Panel Connectors

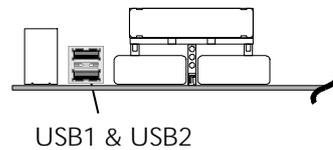
### Ⓔ PS/2 Keyboard & PS/2 Mouse Connectors

Two 6-pin female PS/2 keyboard & Mouse connectors are located at the rear panel of the mainboard. Depending on the computer housing you use (desktop or minitower), the PS/2 Mouse connector is situated at the top of the PS/2 Keyboard connector when the mainboard is laid into a desktop, as opposed to a minitower where the PS/2 Mouse connector is located at the right of the PS/2 Keyboard's. Plug the PS/2 keyboard and mouse jacks into their corresponding connectors.



### Ⓕ USB1/USB2 Port Connectors

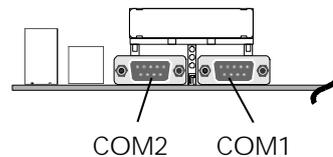
Two female connectors USB1/USB2 share the same USB (Universal Serial Bus) bracket at the rear panel of your mainboard. Plug each USB device jack into an available USB1/USB2 connector.



### Ⓖ COM1 / COM2 Connector

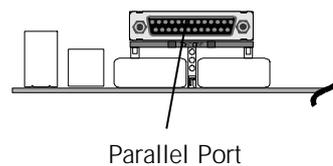
This mainboard can accommodate two serial device on COM1/COM2 .

Attach a serial device cable to the DB9 serial port COM1/COM2 at the back panel of your computer.



### Ⓖ Parallel Port Connector

One DB25 female parallel connector is located at the rear panel of the mainboard. Plug the connection cable from your parallel device (printer, scanner, etc.) into this connector.

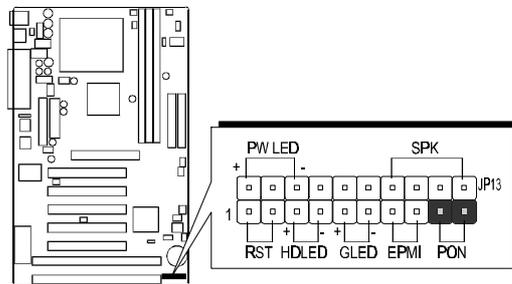


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## 🔧 Front Panel Connectors

### ① ATX Power On/Off Switch Connector (PON)

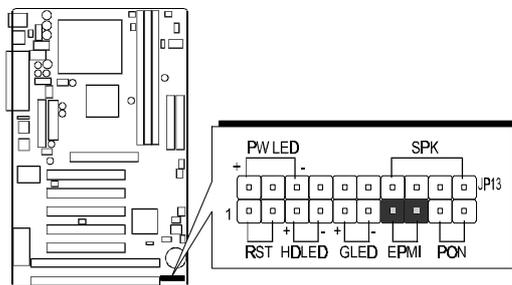
The Power On/Off Switch is a momentary type switch used for turning on or off the system's ATX power supply. Attach the connector cable from the Power Switch to the 2-pin PWON header on the mainboard.



**Note :** Please notice the Speaker and all the LED connector is directional. If your chassis's LED does not light during running, please simply change to the opposite direction.

### ② EPMI Connector (EPMI)

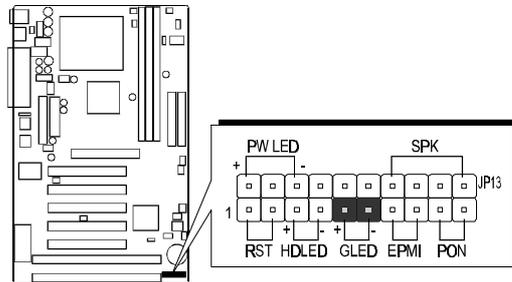
Hardware System Management Interface (EPMI) header may attach to a 2-pin momentary switch. Press the EPMI switch to force the system into power savings mode; press again to resume normal operation.



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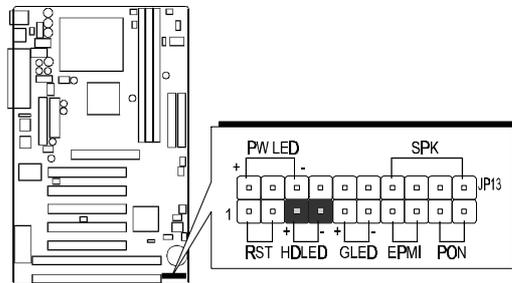
### ③ Green LED Connector (GLED)

The Green LED (GLED) indicates that the system is currently in one of the power savings mode (Doze/Standby/Suspend). When the system resumes to normal operation, mode, the Green LED will go off. Attach a 2-pin Green LED cable to GLED header.



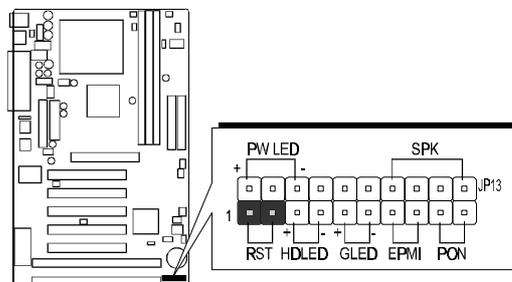
### ④ HDD LED Connector (HDLED)

Attach the connector cable from the IDE device LED to the 2-pin HDD LED header. The HDD LED lights up whenever an IDE device is active.



### ⑤ Hardware Reset Connector (RST)

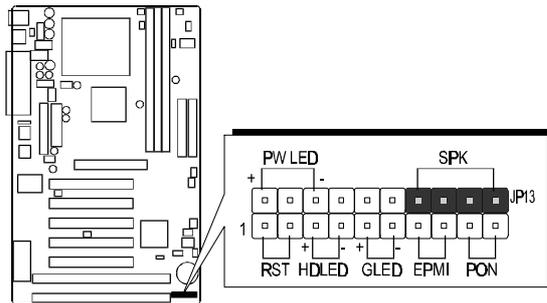
Attach the 2-pin hardware reset switch cable to the RST header. Pressing the reset switch causes the system to restart.



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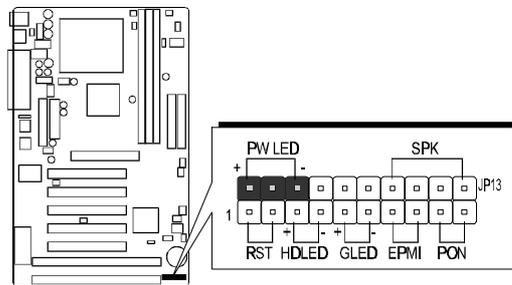
**66 Speaker Connector (SPK)**

Attach the PC speaker cable from the case to the 4-pin speaker connector (SPK).



**67 PWR LED Connector (PW LED)**

Attach the 3-pin Power-LED connector cable from the housing front panel to the PWR header on the mainboard. The power LED stays lit while the system is running.



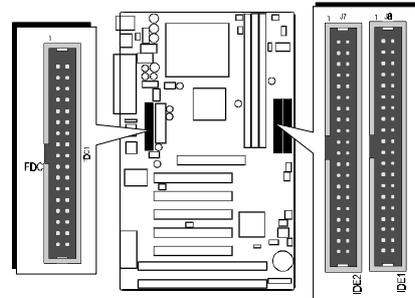
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## ☞ **Internal Peripherals Connectors**

### Ⓛ **Enhanced IDE Ports and Floppy Connectors**

The AV11 mainboard features two 40-pin dual-channel IDE device connectors (IDE1/IDE2) providing support for up to four IDE devices, such as CD-ROM and Hard Disk Drives (H.D.D.). This mainboard also includes one 34-pin floppy disk controller (FDC) to accommodate the Floppy Disk Drive (F.D.D.). Moreover, this mainboard comes with one 40pin ribbon cable to connect to IDE H.D.D. and one 34-pin ribbon cable for F.D.D. connection.

**Note :** Please connect your system H.D.D. on IDE 1.



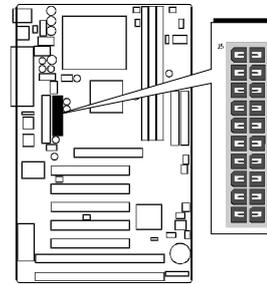
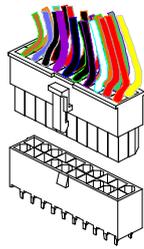
**Important:** Ribbon cables are directional, therefore, make sure to always connect with the red cable stripe on the same side as pin #1 of the IDE1/IDE2 or FDC connector on the mainboard.

---

## Other Connectors

### E1 ATX Power Supply Connector (J5)

Locate the 20-pin male header ATX power connector (J5) on your mainboard. Plug the power cable from the ATX power supply unit directly into J5 ATX power supply connector.



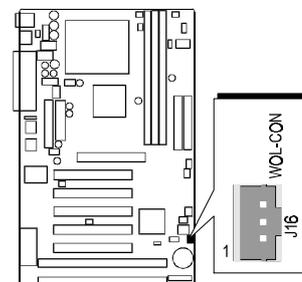
**Note 1:** The ATX power connector is directional and will not go in unless the guides match perfectly making sure that pin#1 is properly positioned.

**Note 2:** Make sure the latch of the ATX power connector clicks into place to ensure a solid attachment.

**Note 3:** For the requirement of CPU power consumption, AV11 needs the power supply which with 250W minimum load and minimum 20A DC output current on +5V.

### E2 Wake-on LAN Connector (J16)

Attach a 3-pin connector from the LAN card which supports the Wake-On-LAN (WOL) function. This function lets users wake up the connected system through the LAN card.



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### **E3 IR Connector (J4)**

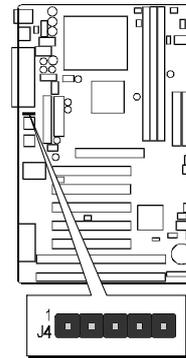
If you have an Infrared device, this mainboard can implement IR transfer function. To enable the IR transfer function, follow these steps:



IR Pin Assignments:

- 1 = VCC    2 = NC
- 3 = IRRX   4 = GND
- 5 = IRTX

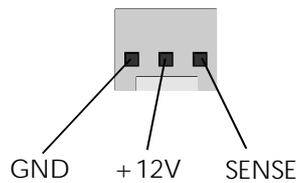
**Note:** Please make sure to refer on board IR Pin Assignments to match your IR devices cable. Unmatchable Pin Assignment may cause damage to your IR device.



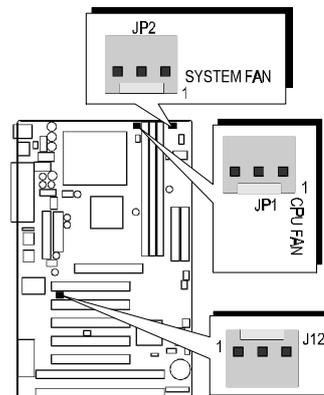
- Step 1.** Attach the 5-pin infrared device cable to J4 connector. (Refer to the above diagram for IR pin assignment.)
- Step 2.** Configure the Infrared transfer mode in the UR2 Mode field of integrated Peripherals menu in BIOS Setup. This mainboard supports IrDA, ASKIR, Normal transfer modes.

### **E4 CPU, System, Cooling Fan Connectors (JP1, JP2, J12)**

The mainboard provides four onboard 12V cooling fan power connectors to support CPU (JP1), System (JP2), and (J12) cooling fans.



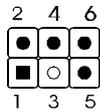
**Note:** Both cable wiring and type of plug may vary depending on the fan maker. Keep in mind that the red wire should always be connected to the +12V header and the black wire to the ground (GND) header.



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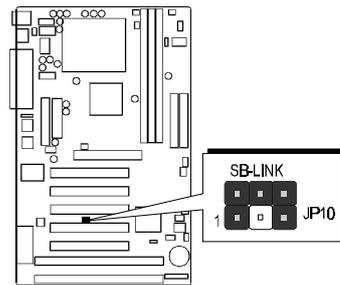
## ⑤ SB-Link Connector (JP10)

The main board provides a 2x3 pin SB-Link header accepts the Creative CT4600 series PCI sound cards with PCI solution to connect the legacy Sound Blaster compatible audio to the PCI bus.



SB-Link Pin Assignments:

- 1 = GNT#A
- 2 = GND
- 3 = Empty
- 4 = REQ#A
- 5 = GND
- 6 = SERIRQ



---

### 3.3 System Memory Configuration

The AV11 mainboard has three 168-pin DIMM sockets that allow you to install from 16MB up to 768MB of system memory with PC66/100/133 SDRAM (Synchronous DRAM). Each DIMM (Dual In-line Memory Module) socket can accommodate 16MB, 32MB, 64MB, 128MB, and 256MB 3.3V single or double side 64 or 72-bit wide data path SDRAM modules.

The AV11 mainboard supports data integrity algorithms including EC (Error Checking) and ECC (Error Checking and Correction) in the memory array. In EC mode, single and multiple bit error detection is provided. In ECC mode, when the memory is being read from DRAM, the AV11 provides both error checking and correction of the data.

#### Install Memory:

Install memory in any or all of the banks and in any combination, as follows.

DIMM Socket	Memory Modules	Module Quantity
DIMM 1	16MB, 32MB, 64MB, 128MB, 256MB 168-pin 3.3V SDRAM DIMM	x 1
DIMM 2	16MB, 32MB, 64MB, 128MB, 256MB 168-pin 3.3V SDRAM DIMM	x 1
DIMM 3	16MB, 32MB, 64MB, 128MB, 256MB 168-pin 3.3V SDRAM DIMM	x 1

**Note:** You do not need to set any jumper to configure memory since the BIOS utility can detect the system memory automatically. You can check the total system memory value in the BIOS Standard CMOS Setup menu.

#### Upgrade Memory:

You can easily upgrade the system memory by inserting additional SDRAM modules in available DIMM banks. The total system memory is calculated by simply adding up the memory in all DIMM banks. After upgrade, the new system memory value will automatically be computed and displayed by the BIOS Standard CMOS Setup menu.

# 4 SOFTWARE UTILITY

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## 4.1 AV11 Mainboard CD Overview

**Note:** The AV11 mainboard attachment CD contents are subject to change without notice.

To start your mainboard CD, just insert it into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click or run D:\Autorun.exe (assuming that your CD-ROM drive is drive D:)

### Navigation Bar Description:

- ☞ **Install Mainboard Software** - Installing Mainboard Drivers for Windows
- ☞ **Manual** - AV11 series mainboard user's manual in PDF format.
- ☞ **Link to Shuttle Homepage** - Link to shuttle website homepage.
- ☞ **Browse this CD** - Allows you to see the contents of this CD.
- ☞ **Quit** - Close this CD.



---

## 4.2 Install Mainboard Driver

Insert the attachment CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in **My Computer** to bring up **Shuttle Mainboard Software Setup** screen.

Select using your pointing device (e.g. mouse) on the "Install Mainboard Software" bar.



Once you made your selection, it may install VIA 4 In 1 driver on your system.

When the files are done copying make sure you **reboot** the system to insure that the files are installed correctly.

**Note :** The mainboard software includes four VIA 4 In 1 driver, (VIA Registry (ACPI) Driver, VIA AGP VxD driver, VIA ATAPI Vendor support Driver and VIA PCI IRQ Miniport Driver).

The user may install the appropriate drivers according to the operation system you use, please make a reference to list table:

	Windows 2000	Windows 98/SE	Windows 95	Windows NT
<b>VIA Registry Driver</b>	Not Require	Not Require	Require	Not Require
<b>VIA AGP VxD Driver</b>	Not Require	Suggest	Require	Not Require
<b>VIA ATAPI Vendor Support Driver</b>	Not Require	Not Require	Require	Suggest
<b>VIA PCI IRQ Miniport Driver</b>	Not Require	Suggest	Require	Not Require

---

### 4.3 To View the User's Manual

Insert the attachment CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the "Manual" bar.



Then Online Information windows will appear on your screen. Click on the "Install Acrobat Reader 3.0" bar if you need to install acrobe reader.



Then click on "AV11 Manual" bar to view AV11 user's manual.

# 5 BIOS SETUP

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AV11 BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This information is stored in battery-backed RAM so that it retains the Setup information even if the system power is turned off.

The system BIOS is managing and executing a variety of hardware related functions in the system, including:

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

## 5.1 Entering BIOS

To enter the BIOS (Basic Input / Output System) utility, follow these steps:

- Step 1.** Power on the computer and the system will perform its POST (Power-On Self Test) routine checks.
- Step 2.** Press < Del > key immediately or at the following message:  
"Press DEL to enter SETUP"  
or simultaneously press < Ctrl > , < Alt > , < Esc > keys

**Note 1.** If you miss the train (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the < RESET > switch located at the computer's front panel. You may also reboot by simultaneously pressing the < Ctrl > , < Alt > , < Del > keys.

**Note 2.** If you do not press the keys in time and system does not boot, the screen will prompt an error message and you will be given the following options:

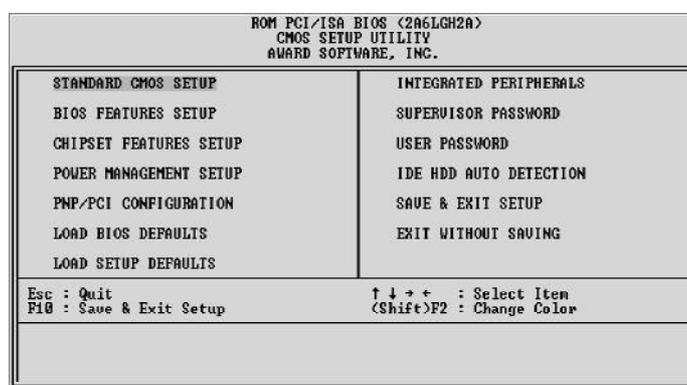
**"Press F1 to Continue, DEL to Enter Setup"**

**Step 3.** As you enter the BIOS program, the CMOS Setup Utility will prompt you the Main Menu, as shown in the next section.

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## 5.2 The Main Menu

Once you enter the AwardBIOS(tm) CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press < Enter > to accept and enter the sub-menu.



Note that a brief description of each highlighted selection appears at the bottom of the screen.

### **Standard CMOS Setup**

This setup page includes all items in a standard compatible BIOS.

### **BIOS Features Setup**

This setup page includes all items of Award special enhanced features.

### **Chipset Features Setup**

This setup page includes all items of chipset features.

### **Power Management Setup**

This setup page includes all items of Power Management features.

### **PnP/PCI Configuration setup**

This item specifies the value (in units of PCI bus blocks) of the latency timer for the PCI bus master and the IRQ level for PCI device. Power-on with BIOS defaults

---

***Load BIOS Defaults***

BIOS defaults loads the values required by the System for the maximum performance. However, you can change the parameter through each Setup Menu.

***Load Setup Defaults***

Setup defaults loads the values required by the system for the O.K. performance. However, you can change the parameter through each Setup Menu.

***Integrated Peripherals***

This setup page includes all items of peripheral features.

***Supervisor Password***

Change, set, or disable supervisor password. It allows you to limit access to the system and Setup, or just to Setup.

***User Password***

Change, set, or disable user password. It allows you to limit access to the system and Setup, or just to Setup.

***IDE HDD Auto Detection***

Automatically configure IDE hard disk drive parameters.

***Save & Exit Setup***

Save CMOS value change to CMOS and exit setup

***Exit Without Saving***

Abandon all CMOS value changes and exit setup.

---

## **Standard CMOS Setup**

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the < PgUp > or < PgDn > keys to select the value you want in each item.

ROM PCI/ISA BIOS (2A6LGH2A)									
STANDARD CMOS SETUP									
AWARD SOFTWARE, INC.									
Date (mm:dd:yy) : Wed, Mar 8 2000									
Time (hh:mm:ss) : 14 : 13 : 27									
HARD DISKS		TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master		: AUTO	0	0	0	0	0	0	AUTO
Primary Slave		: AUTO	0	0	0	0	0	0	AUTO
Secondary Master		: AUTO	0	0	0	0	0	0	AUTO
Secondary Slave		: AUTO	0	0	0	0	0	0	AUTO
Drive A : 1.44M, 3.5 in.				Base Memory : 640K					
Drive B : None				Extended Memory : 130048K					
Video : EGA/UGA				Other Memory : 512K					
Halt On : All Errors				Total Memory : 131200K					
ESC : Quit		↑ ↓ → ← : Select Item			PU/PD/+/- : Modify				
F1 : Help		⟳ : Change Color							

### **Date**

The date format is < day > , < month > < date > < year > .  
Press < F3 > to show the calendar.

### **Time**

The time format is < hour > < minute > < second > . The time is calculated base on the 24-hour military-time clock. For example. 5 p.m. is 17:00:00.

### **Hard Disks Type**

This item identify the types of hard disk drives that has been installed in the computer. There are 46 predefined types and a user definable type.

Press PgUp or PgDn to select a numbered hard disk type or type the number and press < Enter > . Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this item. If your hard disk drive type is not matched or listed, you can use Type User to

---

define your own drive type manually.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press < Enter > . Those information should be provided in the documentation from your hard disk vendor or the system manufacturer.

The user may also set those items to AUTO to auto configure hard disk drives parameter when system power-on.

If a hard disk drive has not been installed select NONE and press < Enter > .

#### ***Drive A type/Drive B type***

This item specifies the types of floppy disk drive A or drive B that has been installed in the system.

#### ***Video***

This item selects the type of adapter used for the primary system monitor that must matches your video display card and monitor. Although secondary monitors are supported, you do not have to select the type in Setup.

#### ***Halt On***

This item determines if the system will stop, when an error is detected during power up.

#### ***Memory***

This item is display-only. It is automatically detected by POST (Power On Self Test) of the BIOS.

##### **Base Memory**

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the mainboard, or 640K for systems with 640K or more memory installed on the mainboard.

##### **Extended Memory**

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the CPU's memory address map.

---

## BIOS Features Setup

ROM PCI/ISA BIOS (2A6LGH2A) BIOS FEATURES SETUP AWARD SOFTWARE, INC.		
Virus Warning	: Disabled	Video BIOS Shadow : Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow : Disabled
External Cache	: Enabled	CC000-CFFFF Shadow : Disabled
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow : Disabled
Processor Number Feature	: Enabled	D4000-D7FFF Shadow : Disabled
Quick Power On Self Test	: Enabled	D8000-DBFFF Shadow : Disabled
Boot Sequence	: A,C,SCSI	DC000-DFFFF Shadow : Disabled
Swap Floppy Drive	: Disabled	
Boot Up Floppy Seek	: Enabled	
Boot Up NumLock Status	: On	
IDE HDD Block Mode	: Enabled	
Gate A20 Option	: Fast	
Memory Parity/ECC Check	: Disabled	
TypeMatic Rate Setting	: Disabled	
TypeMatic Rate (Chars/Sec)	: 6	
TypeMatic Delay (Msec)	: 250	ESC : Quit            F10 : Select Item
Security Option	: Setup	F1 : Help            F11/PD/+/- : Modify
PCI/AGA Palette Snoop	: Disabled	F5 : Old Values (Shift)F2 : Color
OS Select For DRAM > 64MB	: Non-OS2	F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

### **Virus Warning**

When this item is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt it made, the BIOS will halt the system and the following error message will appear. Afterwards, if necessary, you will be able to run an anti-virus program to locate and remove the problem before any damage is done.

!WARNING!  
Disk boot sector is to be modified  
Type "Y" to accept write or "N" to abort write  
Award Software, Inc.

➤ The choice: Enabled, Disabled.

### **CPU Internal Cache**

This item enables CPU internal cache to speed up memory access.

➤ The choice: Enabled, Disabled.

### **External Cache**

This item enables CPU secondary cache to speed up memory access.

➤ The choice: Enabled, Disabled.

---

### **CPU L2 Cache ECC Checking**

When you select Enabled, memory checking is enable when the external cache contains ECC SRAMs.

- The choice: Enabled, Disabled.

### **Processor Number Feature**

Allows you to Enabled/Disabled, the processor serial number.

- The choice: Enabled, Disabled.

### **Quick Power On Self Test**

This item speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enabled, BIOS will shorten or skip some check items during POST.

- The choice: Enabled, Disabled.

### **Boot Sequence**

This item determines which drive computer searches first for the disk operating system. Default setting is A, C, SCSI.

BIOS also support system boot from CD-ROM drive or SCSI hard disk drive.

- The choice: A,C,SCSI, C,A,SCSI, C,CDROM,A, CDROM,C,A, D,A,SCSI, E,A,SCSI, F,A,SCSI, SCSI,A,C, SCSI,C,A, C only, LS/ZIP,C

### **Swap Floppy Drive**

When this item enables, the BIOS will swap floppy drive assignments so that Drive A: will function as Drive B: and Drive B: as Drive A:.

- The choice: Enabled, Disabled.

### **Boot Up Floppy Seek**

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks.

- The choice: Enabled, Disabled.

### **Boot Up NumLock Status**

When this option enables, BIOS turns on **Num Lock** when system is powered on.

- The choice: On, Off.

---

### ***IDE HDD Block Mode***

This item is used to set IDE HDD Block Mode. If your IDE Hard Disk supports block mode, then you can enable this function to speed up the HDD access time. If not, please disable this function to avoid HDD access error.

- The choice: Enabled, Disabled.

### ***Gate A20 Option***

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 MByte. Initially, the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common, and much faster, set to Fast for the system chipset to provide support for gate A20.

- The choice: Normal, Fast.

### ***Memory Parity/ECC Check***

This item allows you to Enable/Disable memory error checking and correction (ECC). In order for ECC to function, 9-chip (8 memory chips + 1 ECC chip) SDRAM modules must be installed on the mainboard.

- The choice: Enabled, Disabled.

### ***Typematic Rate Setting***

This determines if the typematic rate is to be used. When disabled, continually holding down a key on your keyboard will generate only one instance. In other words, the BIOS will only report that the key is down. When the typematic rate is enabled, the BIOS will report as before, but it will then wait a moment, and, if the key is still down, it will begin the report that the key has been depressed repeatedly.

For example, you would use such a feature to accelerate cursor movements with the arrow keys.

- The choice: Enabled, Disabled.

### ***Typematic Rate (Chars/Sec)***

When the typematic rate is enabled, this selection allows you select the rate at which the keys are accelerated.

- The choice: 6, 8, 10, 12, 15, 20, 24, 30.

---

### ***Typematic Delay (Msec)***

When the typematic rate is enabled, this selection allows you to select the delay between when the key was first depressed and when the acceleration begins

- The choice: 250, 500, 750, 1000.

### ***Security Option***

This item allows you to limit access to the System and Setup, or just to Setup. When **System** is selected, the System will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

When **Setup** is selected, the System will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

- The choice: Setup, System.

### ***PCI / VGA Palette Snoop***

This item must be set to enabled if there is a MPEG ISA card installed in the system, and disabled if there is no MPEG ISA card installed in the system.

- The choice: Enabled, Disabled.

### ***OS Select For DRAM > 64MB***

This item allows you to access the memory that over 64 MB in OS/2.

- The choice: Non-OS2, OS2.

### ***Video BIOS Shadow***

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

- The choice: Enabled, Disabled.

### ***C8000-CBFFF Shadow/DC000-DFFFF Shadow***

These categories determine whether option ROMs will be Chipset Features Setup Auto Configuration copied to RAM. An example of such option ROM would be support of on-board SCSI.

- The choice: Enabled, Disabled.

---

## **Chipset Features Setup**

ROM PCI/ISA BIOS (2a6LGH2A) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Bank 0/1 DRAM Timing	: SDRAM 10ns	CPU Warning Temperature	: 60
Bank 2/3 DRAM Timing	: SDRAM 10ns	Current CPU1 Temperature	: XX°C/XX°F
Bank 4/5 DRAM Timing	: SDRAM 10ns	Current CPUFAN1 Speed	: XXXXRPM
SDRAM Cycle Length	: 3	Current CPUFAN2 Speed	: XXXXRPM
DRAM Clock	: Host CLK	Current CPUFAN3 Speed	: XXXXRPM
Memory Hole	: Disabled	Vcore	: XX.XV +3.30 : XX.XV
Read Around Write	: Disabled	+ 5 V	: XX.XV +12 V : XX.XV
Concurrent PCI/Host	: Disabled	-12 V	: -XX.XV - 5 V : -XX.XV
System BIOS Cacheable	: Disabled	Shutdown Temperature	: Disabled
Video RAM Cacheable	: Disabled		
AGP Aperture Size	: 64M		
AGP-2X Mode	: Enabled		
OnChip USB	: Enabled		
USB Keyboard Support	: Disabled		
Wake Up On LAN	: Disabled		
Auto Detect DIMM/PCI Clk	: Disabled	ESC : Quit	↑↓+ : Select Item
Spread Spectrum	: Disabled	F1 : Help	PU/PD/+/- : Modify
CPU Host/PCI Clock	: Default	F5 : Old Values (Shift)F2 : Color	
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

### **Bank x/x DRAM Timing**

This value in this field is set by the system board manufacturer, depending on whether the board has paged DRAMS or EDO DRAMS.

- The choice: SDRAM 10ns, SDRAM 8ns, Normal, Medium, Fast, Turbo.

### **SDRAM Cycle Length**

This field allows you to set the SDRAM latency timer.

- The choice: 2, 3.

### **DRAM Clock**

This item set the DRAM Read/Write timings that the system uses.

- The choice: Host CLK, HCLK-33M, HCLK + 33M.

### **Memory Hole**

In order to improve performance, some space in memory can be reserved for ISA cards.

- The choice: Disabled, 15M-16M.

### **Read Around Write**

This is a new cache technology for the video memory of the processor. It can greatly improve the display speed by caching the display data.

You must leave this on the default setting of Disabled if your display card cannot support this feature or else your system may not boot.

- The choice: Enabled, Disabled.

---

### **Concurrent PCI/Host**

This item disable CPU bus will be occupied during the entire PCI operation period.

- The choice: Enabled, Disabled.

### **System BIOS Cacheable**

This item allows the user to set whether the system BIOS F000~ FFFF areas are cacheable or non-cacheable.

- The choice: Enabled, Disabled.

### **Video RAM Cacheable**

This is a new cache technology for the video memory of the processor. It can greatly improve the display speed by caching the display data. You must leave this on the default setting of **Disabled** if your display card cannot support this feature or else your system may not boot.

- The choice: Enabled, Disabled.

### **AGP Aperture Size**

This item allows the user to set memory-mapped, graphics data structures can reside in Graphics Aperture.

- The choice: 4M, 8M, 16M, 32M, 64M, 128M.

### **AGP-2X Mode**

This item allows you to enable/disable AGP-2X function. See [www.apgforum.org](http://www.apgforum.org) for AGP information.

- The choice: Enabled, Disabled.

### **On Chip USB**

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

- The choice: Enabled, Disabled.

### **USB Keyboard Support**

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

- The choice: Enabled, Disabled.

---

### **Wake Up On LAN**

This item determine the system will resume by activity of LAN. If enabled this feature system will power-on itself from power off when the activity of LAN.

- The choice: Enabled, Disabled.

### **Auto Detect DIMM/PCI Clock**

Enabling this item allows system auto detect and close clock signal to empty DIMM/PCI slot to reduce EMI.

- The choice: Enabled, Disabled.

### **Spread Spectrum**

This item allows the user to enable Spread Spectrum Modulated to reduce the EMI.

- The choice: Enabled, Disabled.

### **CPU Host /PCI Clock**

This item allows the user to adjust CPU Host Bus Clock from BIOS when JP14 is set to Default.

The user may adjust CPU Host Clock from 66 MHz to 83 MHz when 66 MHz based Celeron processor is used, from 100 MHz to 112 MHz when 100 MHz based Pentium II/III processor is used, and from 124 MHz to 150 MHz when 133 MHz based Pentium III processor is used. This item will not show up when JP14 is set to Manual.

- The choice: 66/33MHz, 68/34MHz, 75/37MHz, 83/41MHz, 95/31MHz, 100/33MHz, 103/34MHz, 112/37MHz, 124/31MHz, 133/33MHz, 138/34MHz, 140/35MHz, 150/37MHz, 160/40MHz, 166/41MHz,Default.

### **CPU Warning Temperature (optional)**

Since the mainboard supports CPU temperature monitoring and over-heat alert. This item allows the user to set the threshold of CPU warning temperature. When CPU temperature is over the threshold, an error message will appear.

- The choice: 45°C ~ 70°F.

### **Current CPU1 Temperature (optional)**

Since the mainboard support System and CPU temperature monitoring and overheat alert. This item indicate the current Processor temperature.

---

**Current CPUFAN1/2/3 Speed (optional)**

The mainboard can detect three fan's rotation speed for CPU cooler and system.

**Vcore, 3.3V, +5V, -5V, +12V, -12V (optional)**

The mainboard support CPU and mainboard voltages monitoring. The onboard hardware monitor is able to detect the CPU voltage (Vcore) and the voltage output from power supply.

**Shutdown Temperature (optional)**

Select the combination of lower and upper limits for the system shutdown temperature, if your computer contains an environmental monitoring system. If the temperature extends beyond either limit, the system shuts down.

➤ The choice: 60°C/140°F, 65°C/149°F, 70°C/158°F, Disabled.

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## Power Management Setup

ROM PCI/ISA BIOS (206LGH2A) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.			
ACPI Function	: Enabled	Primary INTR	: ON
Power Management	: User Define	IRQ3 (COM 2)	: Primary
PM Control by APM	: Yes	IRQ4 (COM 1)	: Primary
Video Off After	: Suspend	IRQ5 (LPT 2)	: Primary
Video Off Method	: U/H SYNC+Blank	IRQ6 (Floppy Disk)	: Primary
MODEM Use IRQ	: 3	IRQ7 (LPT 1)	: Primary
Soft-Off by PWRBTN	: Instant-Off	IRQ8 (RTC Alarm)	: Disabled
CPU Fan In Suspend	: Off	IRQ9 (IRQ2 Redir)	: Secondary
HDD Power Down	: Disable	IRQ10 (Reserved)	: Secondary
Doze Mode	: Disable	IRQ11 (Reserved)	: Secondary
Suspend Mode	: Disable	IRQ12 (PS/2 Mouse)	: Primary
UGA	: OFF	IRQ13 (Coprocessor)	: Primary
LPT & COM	: LPT/COM	IRQ14 (Hard Disk)	: Primary
HDD & FDD	: ON	IRQ15 (Reserved)	: Disabled
DMA/master	: OFF		
Modem Ring Resume	: Disabled	ESC : Quit	F10+ : Select Item
RTC Alarm Resume	: Enabled	F1 : Help	PU/PD/+/- : Modify
Date (of Month)	: 0	F5 : Old Values (Shift)	F2 : Color
Timer (hh:mm:ss)	: 7: 0: 0	F6 : Load BIOS Defaults	
PowerOn by PCI Card	: Disabled	F7 : Load Setup Defaults	

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

### **ACPI Function**

This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI)

- The choice: Enabled, Disabled.

### **Power Management**

This item determines the options of the power management function. *Max Saving* puts the system into power saving mode after a brief period of system inactivity; *Min Saving* is the same as *Max Saving* except the time of the system inactivity period is longer; *Disabled* disables the power saving feature; *User Defined* allows you to set power saving options according to your preference.

- The choice: User Define, Min Saving, Max Saving.

### **PM Control by APM**

If this item set to *No*, system BIOS will be ignored and APM calls the power to manage the system.

If this item setup to *Yes*, system BIOS will wait for APM's prompt before it enter any PM mode e.g. *DOZE*, *STANDBY* or *SUSPEND*.

- The choice: Yes, No.

---

### **Video Off After**

This item define when to activate the video off feature for monitor power management.

- The choice: Suspend, Doze, N/A.

### **Video Off Method**

This item define the video off features - *V/H SYNC + Blank*, *DPMS*, and *Blank Only*. The first option, which is the default setting, blanks the screen and turns off vertical and horizontal scanning; *DPMS* allows the BIOS to control the video display card if it supports the *DPMS*.

- The choice: V/H SYNC + Blank, DPMS Support, Blank Screen.

### **MODEM Use IRQ**

This item determines the IRQ in which the MODEM can use.  
The choice: 3, 4, 5, 7, 9, 10, 11, N/A.

### **Soft-Off by PWRBTN**

The setting of **Instant-Off** allows the ATX switch to function as a normal system power off button when pressed for less than 4 seconds. The setting of **Delay 4 Sec.** Allows the button to have a dual function where to press the button for less than 4 seconds will place the system in suspend mode, and pressing the button for more than 4 seconds will shut place the system off.

- The choice: Instant-Off, Delay 4 Sec.

### **CPU Fan in Suspend**

This item defines the CPU FAN to On or Off when Suspend.

- The choice: On, Off.

### **HDD Power Down**

This item defines the continuous HDD idle time before the HDD enters power saving mode (motor off). The options are from 1 min to 15 min and Disabled.

- The choice: Disabled, 1 Min ~ 15 Min.

### **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.

- The choice: 10 Sec, 20 Sce, 30 Sec, 40 Sec, 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 1 Hour, Disabled.

---

### ***Suspend Mode***

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

- The choice: 10 Sec, 20 Sce, 30 Sec, 40 Sec, 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 1 Hour, Disabled.

### ***\*\* PM Events \*\****

PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything occurs to a device which is configured as On, even when the system is a power down mode.

### ***VGA***

When set to On, any event occurring at a VGA port will awaken a system which has been powered down.

- The choice: On, Off.

### ***LPT & COM***

When set to LPT/COM (default), any event occurring at a COM (Serial) / LPT port will awaken a system which has been powered down.

- The choice: LPT/CON, NONE, LPT, COM.

### ***HDD & FDD***

When set to On (default), any event occurring at a hard or floppy drive port will awaken a system which has been powered down.

- The choice: On, Off.

### ***DMA/master***

This item Enabled/Disabled the DMA Master Function.

- The choice: On, Off.

### ***Modem Ring Resume***

When set to Enabled, any event occurring Modem Ring/activity of LAN will awaken a system which has been powered down.

- The choice: Enabled, Disabled.

---

### **RTC Alarm Resume**

When set to Enabled RTC Alarm Resume, you could set the date (of month) and timer (hh:mm:ss), any event occurring at RTC will awaken system which has been powered down.

➤ The choice: Enabled, Disabled.

### **Date (of Month) Alarm**

This item select the alarm date.

➤ Key in a DEC number:Min=0, Max=31.

### **Time (hh:mm:ss) Alarm**

This item select the alarm time.

### **Power on by PCI Card**

This item Enabled/Disabled the power on function of PCI Card.

➤ The choice: Enabled, Disabled.

### **Primary INTR**

When set to On (default), any event occurring at will awaken a system which has been powered down.

This following is a list of IRQ, Interrupt ReQuests, which can be exemplified much as the COM ports and LPT port 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 operation system is ready to respond to the request, it interrupts itself and performs the service.

As above, the choices are On and Off.

When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

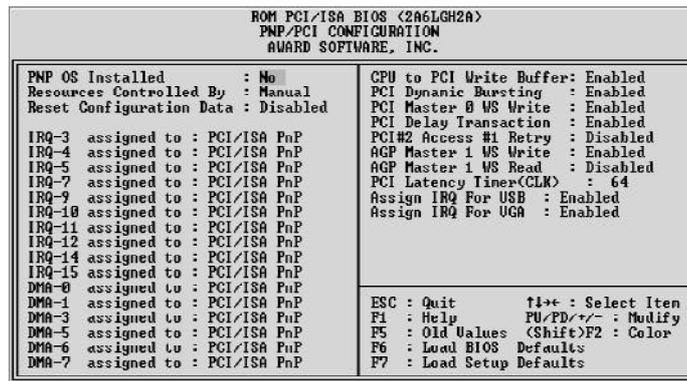
➤ The choice: On, Off.

- |                        |                      |
|------------------------|----------------------|
| - IRQ3 (COM2)          | - IRQ4 (COM1)        |
| - IRQ5 (LPT2)          | - IRQ6 (Floppy Disk) |
| - IRQ7 (LPT1)          | - IRQ8 (RTC Alarm)   |
| - IRQ9 (IRQ2 Redir)    | - IRQ10 (Reserved)   |
| - IRQ11 (Reserved)     | - IRQ12 (PS/2 Mouse) |
| - IRQ 13 (Coprocessor) | - IRQ14 (Hard Disk)  |
| - IRQ15 (Reserved)     |                      |

➤ The choice: Primary, Secondary, Disabled.

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## PnP/PCI Configuration



This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

### **PNP OS Installed**

When this item is set to Yes, it will allow the PnP OS (Windows 95) control the system resources except PCI devices and PnP boot devices. Default setting is **No**.

- The choice: Yes, No.

### **Resources Controlled By**

The Award Plug and Play BIOS has the capability 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 as Windows 95.

- The choice: Auto, Manual.

### **Reset Configuration Data**

This item allows you to determine whether to reset the configuration data or not.

- The choice: Enabled, Disabled.

---

***IRQ 3/4/5/7/9/10/11/12/14/15, assigned to***

These items allow you to determine the IRQ assigned to the ISA bus and is not available for PCI slot.

- The choice: Legacy ISA, PCI/ISA PnP.

***DMA 0/1/3/5/6/7 assigned to***

These items allow you to determine the DMA assigned to the ISA bus and is not available for PCI slot.

- The choice: Legacy ISA, PCI/ISA PnP.

***CPU to PCI Write Buffer***

When enabled, up to four Dwords of data can be written to the PCI bus without interrupting the CPU. When disabled, a write buffer is not used and the CPU read cycle will not be completed until the PCI bus signals that it is ready to receive the data.

- The choice: Enabled, Disabled.

***PCI Dynamic Bursting***

When Enabled, data transfers on the PCI bus, where possible, make use of the high performance PCI burst protocol, in which greater amounts of data are transferred at a single command.

- The choice: Enabled, Disabled.

***PCI Master 0 WS Write***

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

- The choice: Enabled, Disabled.

***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.

- The choice: Enabled, Disabled.

***PCI #2 Access #1 Retry***

This item allows you enable/disable the PCI #2 Access #1 Retry.

- The choice: Enabled, Disabled.

---

### ***AGP Master 1 WS Write***

This implements a single delay when writing to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.

- The choice: Enabled, Disabled.

### ***AGP Master 1 WS Read***

This implements a single delay when reading to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.

- The choice: Enabled, Disabled.

### ***PCI Latency Timer (CLK)***

The number of clocks programed in the PCI Latency Timer represents the guaranteed time slice allocated to the AV11, after which it must complete the current data transfer phase and surrender the bus as soon as its bus grant is removed.

The PCI Latency Timer is used to guarantee to the PCI agents a minimum amount of the system resource.

- The choice: 0 ~ 255.

### ***Assign IRQ For USB***

This item allows the user the option to assign an IRQ to on-board USB controller.

Since the on-board controller is always enabled, if no IRQ is assigned to it, there will be a question mark report on the system device under Windows 95/98.

- The choice: Enabled, Disabled.

### ***Assign IRQ For VGA***

This item allows the user to set VGA IRQ Routing table Enabled or Disabled.

- The choice: Enabled, Disabled.

---

 **Load BIOS Defaults**

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

Load BIOS Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

 **Load SETUP Defaults**

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

Load SETUP Defaults (Y/N) ? N

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

---

## **Integrated Peripherals**

ROM PCI/ISA BIOS (206LGH2A) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.	
OnChip IDE Channel0 : Enabled	UART Mode Select : Standard
OnChip IDE Channel1 : Enabled	UART2 Duplex Mode : Half
IDE Prefetch Mode : Enabled	RxD , TxD Active : Hi,Lo
Primary Master PIO: Auto	IR Transmission delay : Enabled
Primary Slave PIO: Auto	Onboard Parallel Port : 378/IRQ
Secondary Master PIO: Auto	Parallel Port Mode : SPP
Secondary Slave PIO: Auto	ECP Mode Use DMA : 3
Primary Master UDMA: Auto	EPP Mode Select : EPP1.7
Primary Slave UDMA: Auto	
Secondary MasterUDMA: Auto	
Secondary Slave UDMA: Auto	
Init Display First : PCI Slot	
POWER ON Function : BUTTON_ONLY	
KB Power ON Password : Enter	
Hot Key Power ON : Ctrl-F1	ESC : Quit f1++ : Select Item
KBC input clock : 8 MHz	F1 : Help PU/PD/+/- : Modify
Onboard FDC Controller: Enabled	F5 : Old Values (Shift)F2 : Color
Onboard Serial Port 1 : 3F8/IRQ4	F6 : Load BIOS Defaults
Onboard Serial Port 2 : Auto	F7 : Load Setup Defaults

### **OnChip IDE Channel0**

This item is used to defined on chip Primary PCI IDE controller is Enable or Disable setting.

- The choice: Enabled, Disabled.

### **OnChip IDE Channel1**

This item is used to defined on chip Secondary PCI IDE controller is Enable or Disable setting.

- The choice: Enabled, Disabled.

### **IDE Prefetch Mode**

Enable prefetching for IDE drive interfaces that support its faster drive accesses. If you are getting disk drive errors, change the setting to omit the drive interface where the errors occur. Depending on the configuration of your IDE subsystem, this field may not appear, and it does not appear when the Internal PCI/IDE field, above is Disabled.

- The choice: Enabled, Disabled.

### **Primary Master / Slave PIO**

In this items, there are five modes defined in manual mode and one automatic mode. There are 0, 1, 2, 3, 4, and AUTO is the default settings for on board Primary Master / Slave PIO timing.

- The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

---

### **Secondary Master / Slave PIO**

In this items, there are five modes defined in manual mode and one automatic mode. There are *0*, *1*, *2*, *3*, *4*, and *AUTO* is the default settings for on board Secondary Master / Slave PIO timing.

➤ The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### **Primary Master / Slave UDMA**

On this mainboard, AV11 PCIsset improves IDE transfer rate using Bus Master UltraDMA 33/66 IDE which can handle data transfer up to 33MB/sec. *Auto* is the default settings for on board Primary Master / Slave *UltraDMA 33/66*.

**Note :** Your hard drive must also support UDMA for this feature to work.

➤ The choice: Auto, Disabled.

### **Secondary Master / Slave UDMA**

On this mainboard, AV11 PCIsset improves IDE transfer rate using Bus Master UltraDMA 33/66 IDE which can handle data transfer up to 33MB/sec. *Auto* is the default settings for on board Secondary Master / Slave *UltraDMA 33/66*.

**Note :** Your hard drive must also support UDMA for this feature to work.

➤ The choice: Auto, Disabled.

### **Init Display First**

This item is used to determine initial device when system power on.

➤ The choice: AGP, PCI Slot.

### **POWER ON Function**

This item is used to defined Keyboard & PS/2 mouse power-on function enabled or disabled.

➤ The choice: Password, Hot KEY, Mouse Left, Mouse Right, Button Only, keyboard 98.

**Note:1.** When item of PS/2 Mouse or HOT-Key is selected, please also adjust jumper JP3 to the proper position.

**2.** USB keyboard, USB Mouse and Serial Mouse are not supported to this function.

---

### **KB Power On Password**

Power-on by soft-on/off

- The choice: Enter.

### **Hot Key Power ON**

Power-on by soft-on/off button and keyboard are available.

- The choice: < Ctrl > < F1 > to < Ctrl > < F12 > .

### **KBC Input Clock**

This item to set the input clock to onboard keyboard controller.

- The choice: 6MHz, 8MHz, 12MHz, 16MHz.

### **Onboard FDC Controller**

This item specifies onboard floppy disk drive controller. This setting allows you to connect your floppy disk drives to the onboard floppy connector. Choose the "Disabled" settings if you have a separate control card.

- The choice: Enabled, Disabled.

### **Onboard Serial Port 1**

This item is used to define onboard serial port 1.

- The choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto, Disabled.

### **Onboard Serial Port 2**

This item is used to define onboard serial port 2.

- The choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto, Disabled.

### **UART Mode Select**

The main board support IrDA(HPSIR) and Amplitudes Shift Keyed IR(ASKIR) infrared through COM 2 port.

Note : FIR is not available currently.

- The choice: IrDA, ASKIR, Normal.

### **UART2 Duplex Mode**

This item specifies onboard infrared transfer mode to full-duplex. This item will not show up when IrDA, ASKIR modes are selected.

- The choice: Full, Half.

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**RxD, TxD Active**

This item specifies the Active level for RxD & TxD signal.

- The choice: Hi, Hi, Hi, Lo, Lo, Hi, Lo, Lo.

**IR Transmission delay**

This item enable/disable the delay of the IR state change from Rx to Tx mode or Tx to Rx mode.

- The choice: Enabled, Disabled.

**Onboard Parallel Port**

This item specifies onboard parallel port address to *378H*, *278H*, *3BCH* or *Disabled*.

**Parallel Port Mode**

This item specifies onboard parallel port mode. The options are *SPP* (Standard Parallel Port), *EPP*(Enhanced Parallel Port), *ECP* (Extended Capabilities Port), and *EPP+ECP*.

**ECP Mode Use DMA**

This item specifies *DMA* (Direct Memory Access) channel when ECP device is in use. The options are *DMA 1* and *DMA 3*. This item will not show up when SPP and EPP printer mode is selected.

- The choice: 1, 3

**EPP Mode Select**

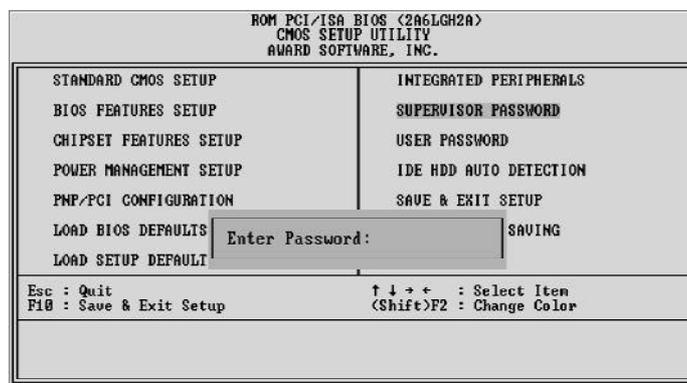
This item select the EPP Mode.

- The choice: EPP1.7, EPP1.9.

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## Supervisor/User Password Setting

You can set either supervisor or user password, or both of them. The differences between are:



### Supervisor Password and User Password

The options on the Password screen menu make it possible to restrict access to the Setup program by enabling you to set passwords for two different access modes: Supervisor mode and User mode.

In general, Supervisor mode has full access to the Setup options, whereas User mode has restricted access to the options. By setting separate Supervisor and User password, a system supervisor can limit who can change critical Setup values.

### Enter Password

Type the password, up to eight characters, and press < Enter > . The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press < Enter > . You may also press < Esc > to abort the selection and not enter a password.

To disable password, just press < Enter > when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

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### Password Disable

If you select System at Security Option of BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup. If you select Setup at Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

**Warning :** Retain a record of your password in a safe place. If you forget the password, the only way to access the system is to clear CMOS memory, please refer to page 28 "Clear CMOS".

### Save & Exit Setup

Pressing < Enter > on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus in CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

### Exit Without Saving

Pressing < Enter > on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.