Notice to End Users

This User's Guide & Technical Reference is for assisting system manufacturers and end users in setting up and installing the mainboard.

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Edition: January 1997
Version: 2.0
SL-54A2/A5 SERIAL

Contents

Chapter 1
Introduction

Features

CPU

1. Supports Intel Pentium P54C/MMX (P55C) CPUs at 75 ~ 233 MHz
2. Supports Cyrix 6x86(L) CPUs at PR120^{+} ~ PR166^{+} MHz (PR200^{+} MHz is optional)
3. Supports AMD K5, K6 CPUs at PR75 ~ PR233
4. Provides SOCKET 7 ZIF Socket
5. Supports CPU dual voltage circuit.

Chipset

1. Intel 82430VX chipset
2. PCI Rev 2.1 compliant

L2 Cache

1. Onboard supports 256K/512k write back cache with Pipelined Burst SRAMs

Main Memory

1. Memory range from 4MB (minimum) to 128MB (maximum) with DRAM Table Free configurations
2. Supports Fast Page Mode/EDO/BEDO/Synchronous DRAM with 60ns/70ns DRAM speed
3. Supports 4 pcs 72pin SIMM sockets and 2 pcs 168pin DIMM sockets (3.3V unbuffered type)

BIOS

1. AWARD Plug and Play BIOS
2. Supports Advanced Power Management Function
3. Flash Memory for easy upgrade

Giga I/O Function

1. Integrated USB (Universal Serial Bus) controller with two USB ports.
2. Supports 2 IDE channels with 4IDE devices (including 120MB IDE floppy)
3. Provides PCI IDE Bus Master function
4. One floppy port (including 3.5", 1.2MB Mode 3 function)
5. Two high speed 16550 FIFO UART ports
6. One parallel port with EPP/ECP/SPP capabilities
7. PS/2 mouse connector
8. Built-in RTC, CMOS, keyboard controller on single I/O chip

Other Functions

1. BABY AT size 22cm x 25cm
2. 4 PCI Master slots and 4 ISA slots
3. Supports SCSI/CD-ROM Boot function.

Note:

1. *Make sure that the SDRAM module not only has to be 168 pin DIMM but designed for 3.3V SDRAM as well. Double check with the SDRAM supplier before install any SDRAMs. The mainboard manufacturer has no obligation to any damage of the board by using the incorrect specification of SDRAM.*
2. *Pentium MMX (P55C), Cyrix 6x86L/M2, and AMD K6 are dual voltage CPUs. JP7 and JP9 must be set correctly (refer to page 12). Check with your CPU supplier for CPU voltage specification.*
3. *Board maker doesn't give any guarantee on compatibility and stability when using Cyrix 6x86(L) PR200+ CPU because it already is over 8340VX, 66MHz chipset specification.*

Mainboard Setting for Pentium MMX-166

The settings of the following figure is for the Pentium MMX-166 with the 256K cache. To get the best cooling effect, make sure that the airflow from the CPU fan is facing the heatsink. (MMX is dual voltage CPU, do not use this setting if CPU is not MMX or 6x86L.)

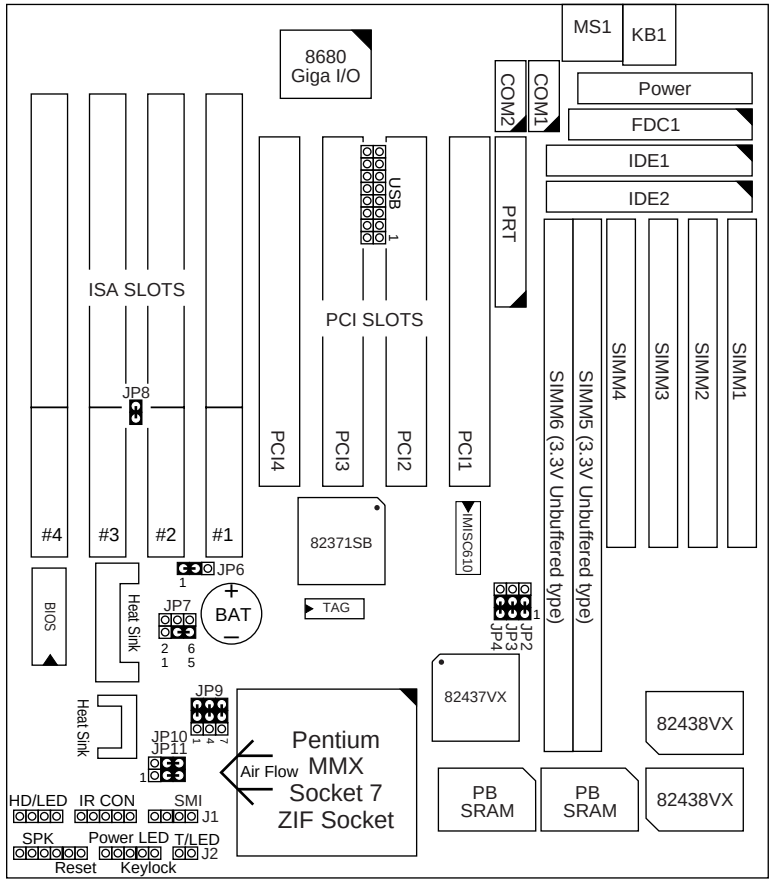


Figure 1–1. SL–54A2/A5 Motherboard Layout

Chapter 2
Hardware Setup

INTEL Pentium MMX CPUs Settings

Intel Pentium MMX–166/200/233

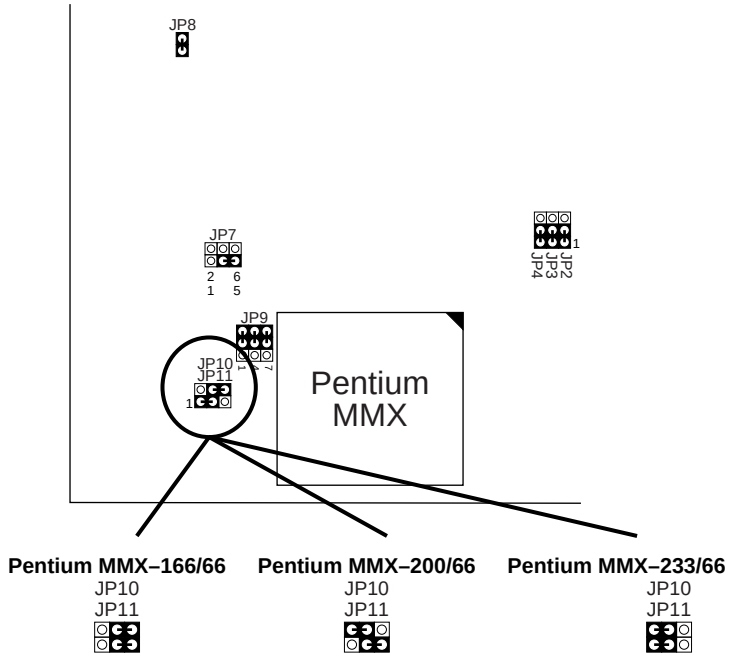


Figure 2–1. CPU Type Configuration

Note: INTEL Pentium MMX (P55C) is a dual voltage CPU. JP7 and JP9 must be set correctly (refer to page 12). Check with your CPU supplier for CPU voltage specification.

AMD K6 CPU Settings

AMD K6 – PR166/200/233

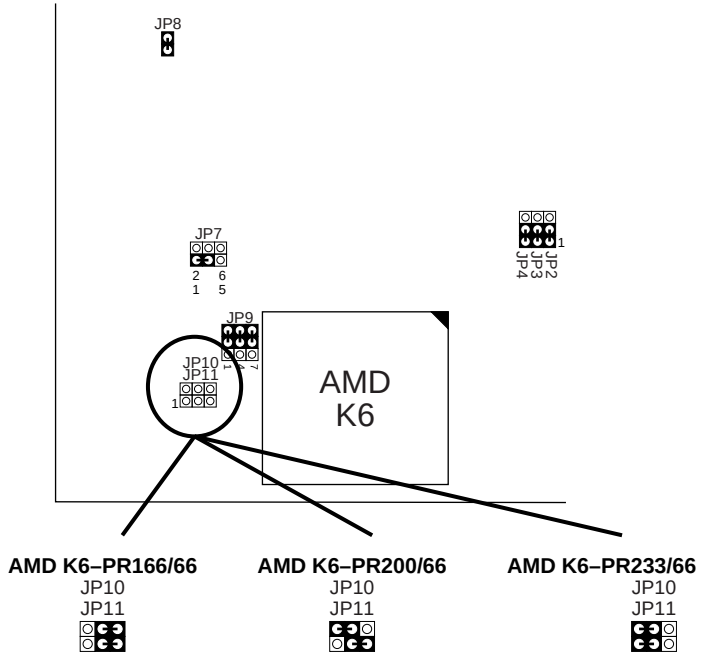


Figure 2–2. CPU Type Configuration

Note: AMD K6 is a dual voltage CPU. JP7 and JP9 must be set correctly (refer to page 12). Check with your CPU supplier for CPU voltage specification.

Cyrix M2 Settings (Pending)

Cyrix M2 – PR166/200/233

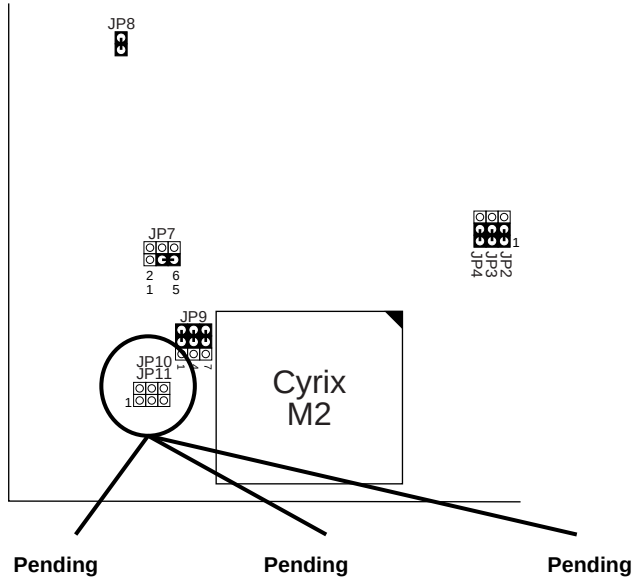


Figure 2–3. CPU Type Configuration (Pending)

Note: Cyrix M2 is a dual voltage CPU. JP7 and JP9 must be set correctly (refer to page 12). Check with your CPU supplier for CPU voltage specification.

Cyrix 6x86L CPUs Setting

Cyrix 6x86L – PR120+/PR133+/PR150+/PR166+/PR200+ CPUs

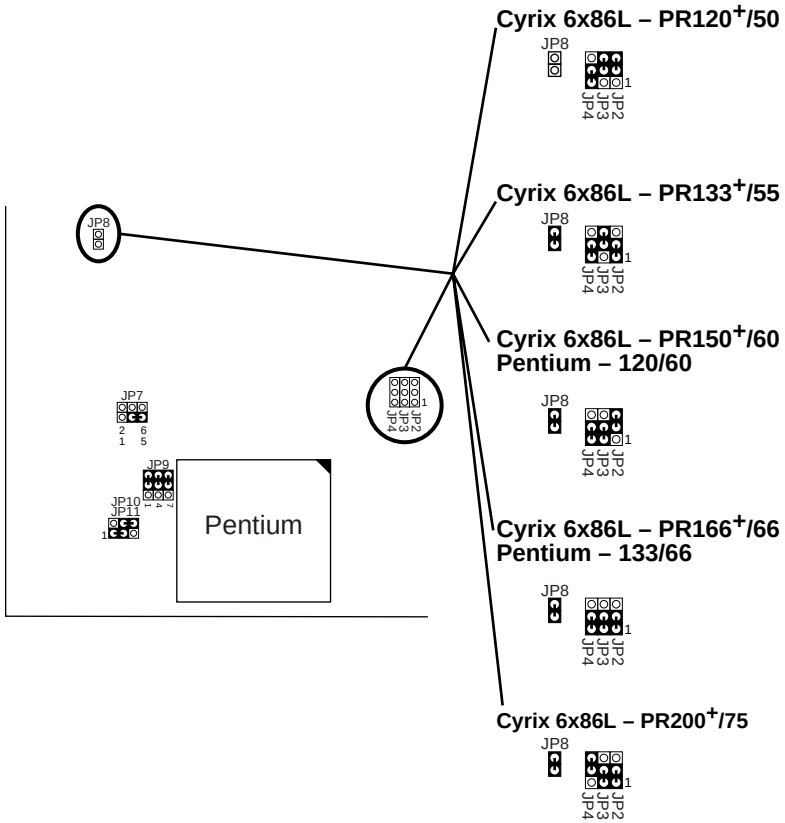


Figure 2–4. CPU Type Configuration

Notes:
1. ***Cyrix 6x86L is a dual voltage CPU. JP7 and JP9 must be set correctly (refer to page 12). Check with your CPU supplier for CPU voltage specification.***
2. ***The board maker doesn't give any guarantee on compatibility and stability when using Cyrix 6x86(L) PR200+ CPU because it already is over the 82430VX, 66MHz chipset specification.***

Intel Pentium CPUs

CPU 1.5X Clock Setting (Red Caps)

Intel Pentium – 75/90/100 CPUs

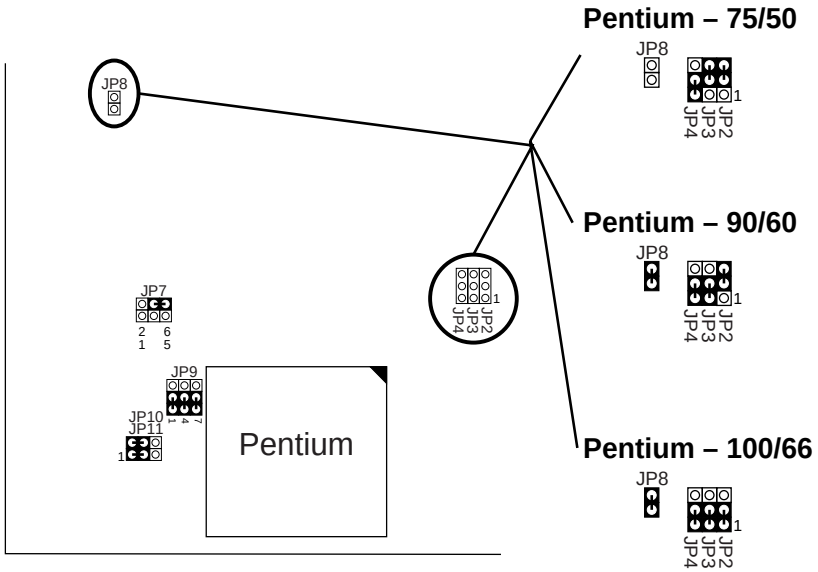


Figure 2–5. CPU Type Configuration

CPU 2.0X Clock Setting (Red Caps)

Intel Pentium – 120/133 CPUs

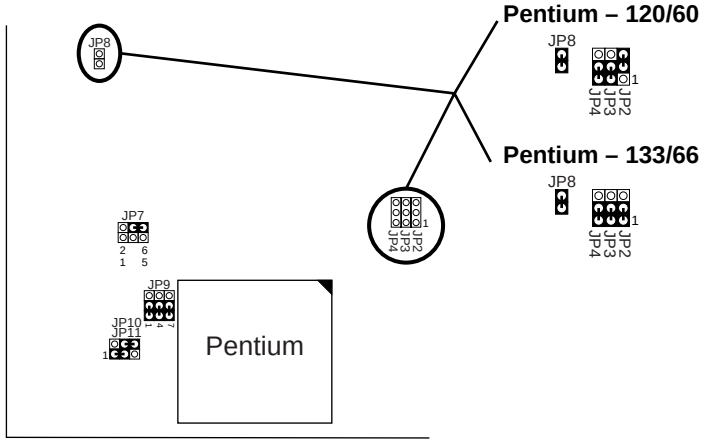


Figure 2–6. CPU Type Configuration

CPU 2.5X Clock Setting (Red Caps)

Intel Pentium – 150/166 CPUs

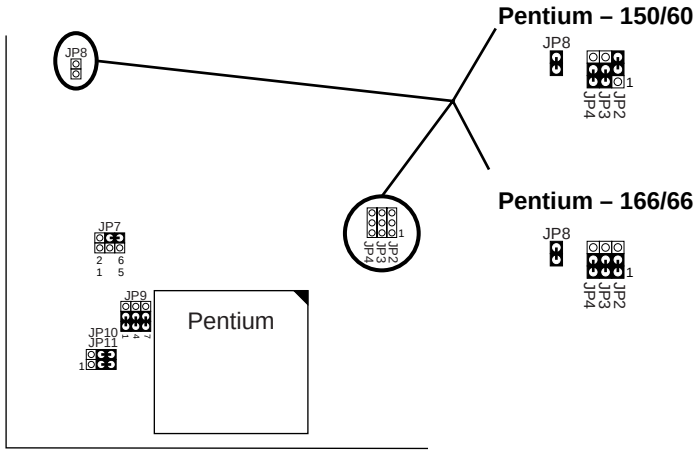


Figure 2–7. CPU Type Configuration

CPU 3.0X Clock Setting (Red Caps)

Intel Pentium – 180/200 CPUs

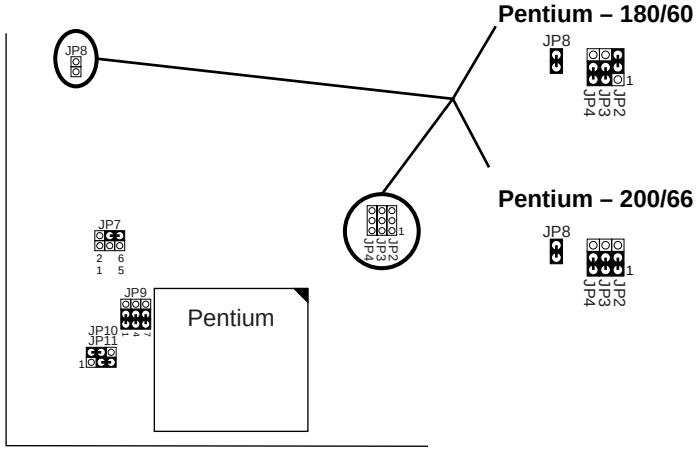


Figure 2–8. CPU Type Configuration

CPU 2.0X Clock Setting (Red Caps)

Cyrix 6x86 – PR120+/PR133+/PR150+/PR166+/PR200+ CPUs

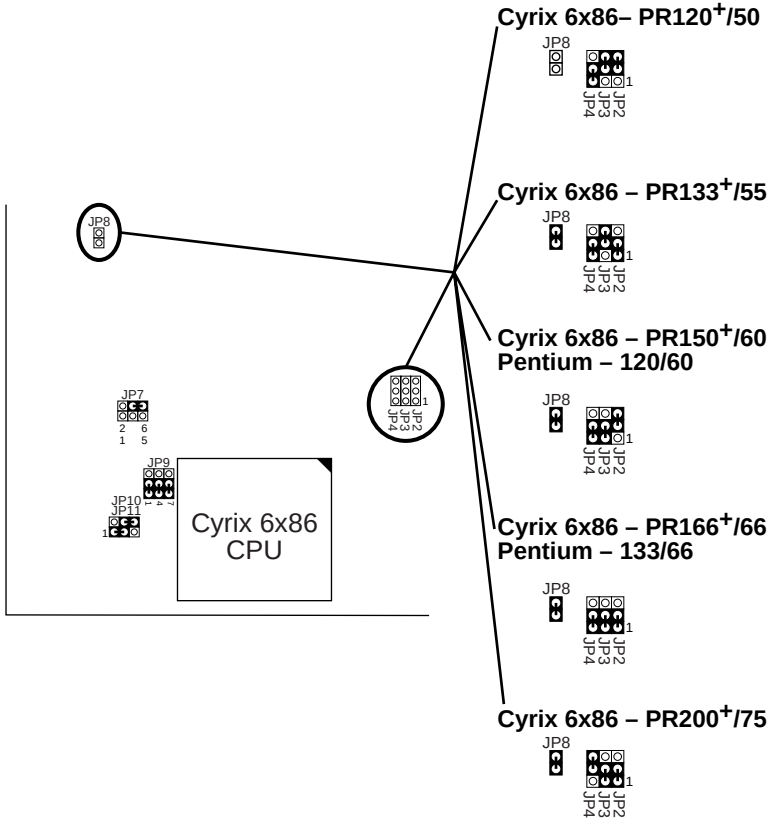


Figure 2–9 CPU Type Configuration

> ***Note:*** ***The board maker doesn't give any guarantee on compatibility and stability when using Cyrix 6x86(L) PR200+ CPU because it already is over the 82430VX, 66MHz chipset specification.***

AMD CPUs

AMD K5 – PR75/PR90/PR100/PR120/PR133 CPUs (Red Caps)

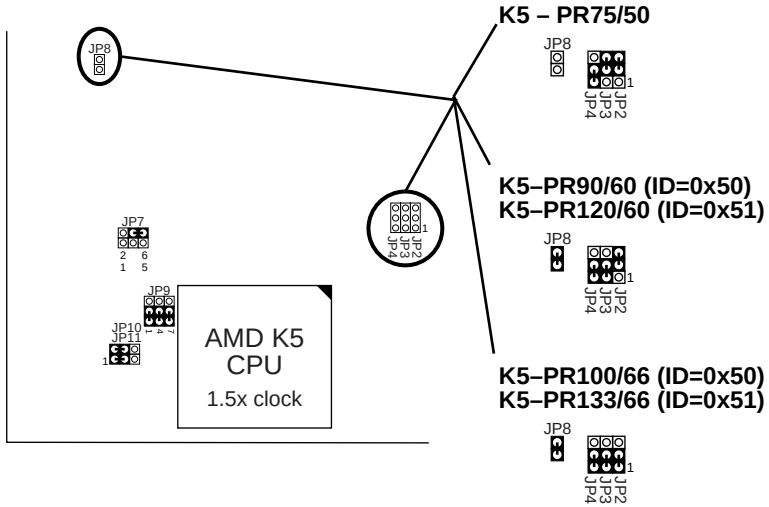


Figure 2–10. CPU Type Configuration

AMD K5 – PR150/PR166 CPUs (Red Caps)

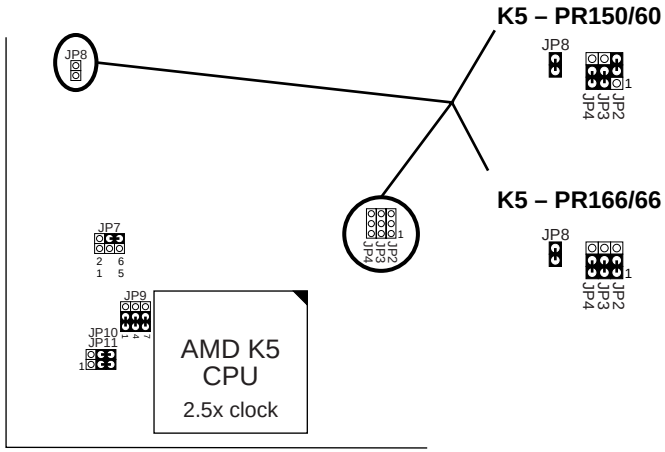
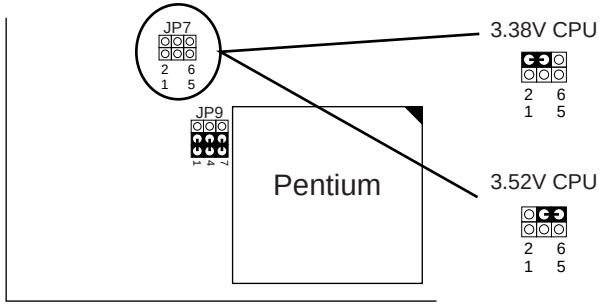


Figure 2–11. CPU Type Configuration

CPU Voltage Setting

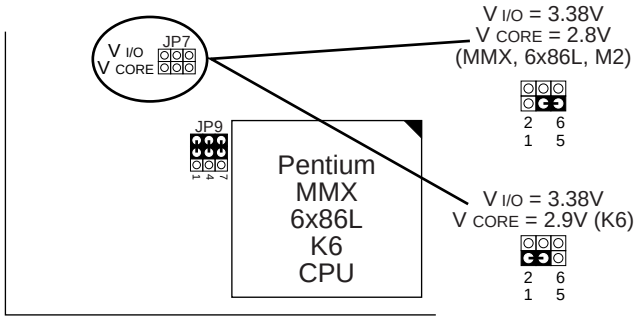
Single Voltage Settings (Green Caps)

For Intel Pentium P54C Family, Cyrix 6x86 Family, AMD K5 (PR75 ~ PR166) Family



Dual Voltage Settings (Green Caps)

For Intel Pentium MMX (P55C) Family, Cyrix 6x86L/M2 Family, AMD K6 Family



Note: Make sure that CPU voltage setting is correct, otherwise, CPU might get damaged.

System Memory Configuration

This 82430VX motherboard supports 72-pin SIMMs of 4MB, 8MB, 16MB, or 32MB to form a memory size between 8MB to 128MB. Follow the chart below to install the memory modules.

Bank 0 SIMM 3 & 4 or 6	Bank 1 SIMM 1 & 2 or5	Total Memory
4MB x 2	None	8MB
8MB x 2	None	16MB
16MB x 2	None	32MB
32MB x 2	None	64MB
None	4MB x 2	8MB
None	8MB x 2	16MB
None	16MB x 2	32MB
None	32MB x 2	64MB
4MB x 2	4MB x 2	16MB
4MB x 2	8MB x 2	24MB
4MB x 2	16MB x 2	40MB
4MB x 2	32MB x 2	72MB
8MB x 2	4MB x 2	24MB
8MB x 2	8MB x 2	32MB
8MB x 2	16MB x 2	48MB
8MB x 2	32MB x 2	80MB
16MB x 2	4MB x 2	40MB
16MB x 2	8MB x 2	48MB
16MB x 2	16MB x 2	64MB
16MB x 2	32MB x 2	96MB
32MB x 2	4MB x 2	72MB
32MB x 2	8MB x 2	80MB
32MB x 2	16MB x 2	96MB
32MB x 2	32MB x 2	128MB

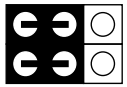
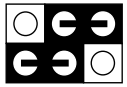
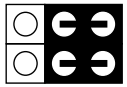
Notes: 1. You can't install any RAM module in SIMM 5 or 6 when there are RAM modules already installed in the same bank.

2. The 82430VX chipset supports "table free" function and the above table is just a reference.

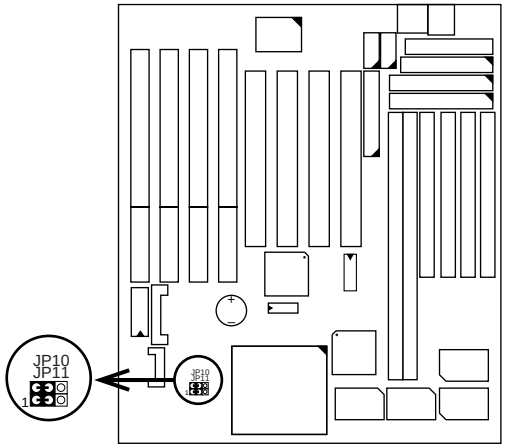
Jumper Settings

JP10, JP11: Bus Ratio Select

Set these jumpers according to your CPU clock.

Ratio	JP10 JP11
1.5X (default)	
2X	
2.5X	
3X	

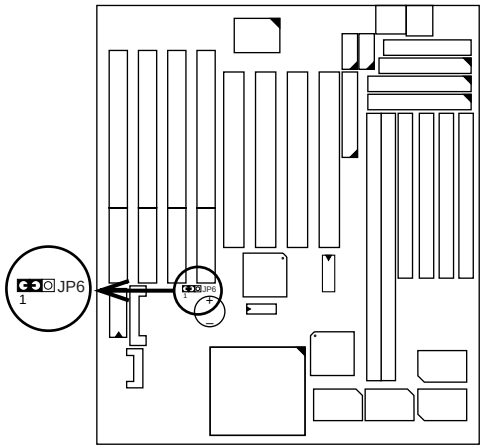
Notice that the color of the cap is RED.



JP6: Clear CMOS Data

Clear the CMOS memory by shorting this jumper momentarily; then remove the cap to retain new settings.

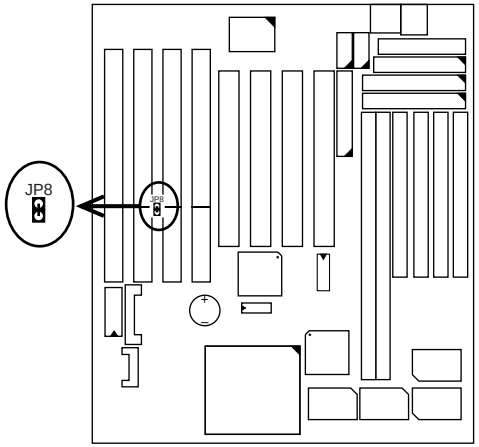
COMS Data	JP6
Clear Data	 1
Retain Data (default)	 1



JP8: ISA Clock Select

This jumper sets the ISA clock of different CPUs.

ISA Clock	JP8
PCI Clock/3 (for Bus Clock = 50 MHz CPU)	Open
PCI Clock/4 (for Bus clock = 60/66 MHz CPU)	Close (default)

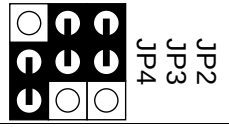
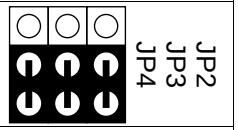
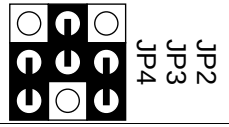
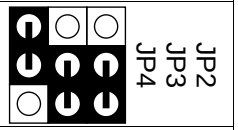
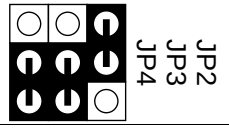


Note: 1. ISA clock is controlled when the BIOS finishes chipset initial.

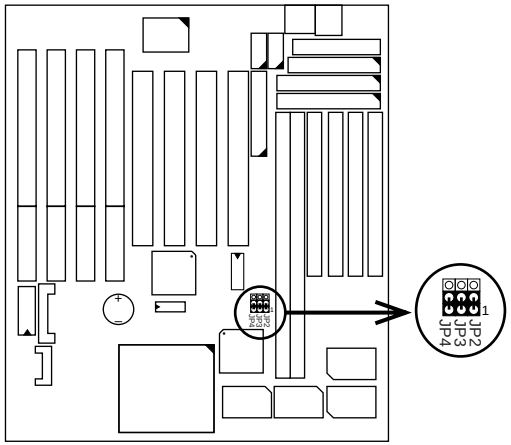
2. ISA clock can be changed only when BIOS Auto Configuration is disabled and the default setting is 8.33MHz, no matter what the PCI clock is.

JP2, JP3, JP4: External Bus Frequency Select

These 3 jumpers tells the clock generator what frequency to send to the CPU. Set these jumpers as shown, according to the CPU's internal clock speed.

Settings		Settings	
50MHz		66MHz (default)	
55MHz		75MHz	
60MHz			

Notice that the color of the cap is RED.



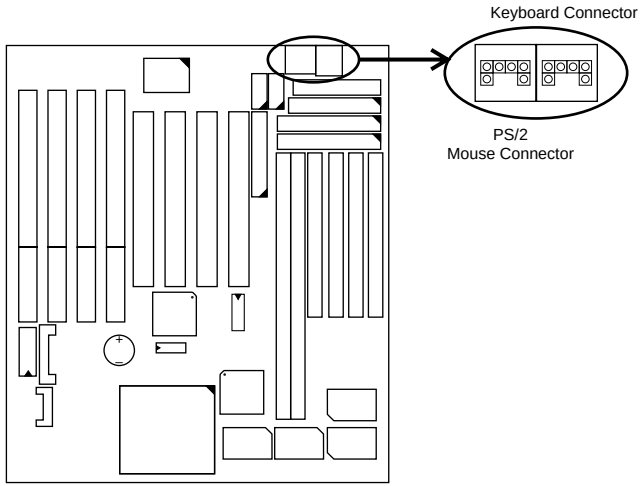
Connectors

KB1: Keyboard Connector

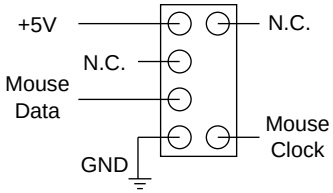
A 5-pin female DIN keyboard connector is located at the upper right corner of the motherboard. Plug the keyboard jack direct to this connector.

MS1: PS/2 Mouse Connector

Attach PS/2 mouse cable to this 6-pin connector.



MS1 Top View

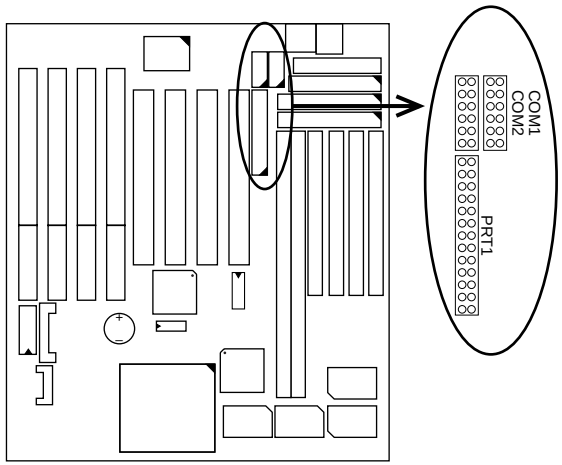


PRT: Parallel Port

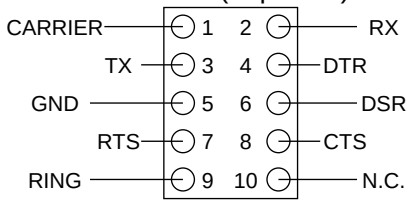
The system board provides a 2x13-pin parallel port connector, PRT. Attach parallel port cable to this connector.

COM1 /COM2: Serial Port Connectors

The system board has two 2x5-pin serial port connectors, COM1 and COM2. Attach COM1/COM2 cables to these connectors.



COM1/2 (Top View)

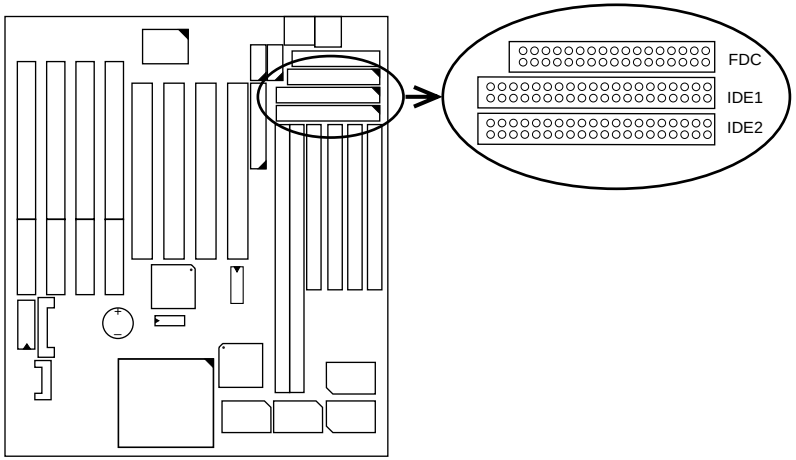


FDC: Floppy Drive Connector

The system board has a 2x17-pin floppy drive connector, FDC. Connect one end of a floppy drive cable to this connector and the other end to a floppy drive.

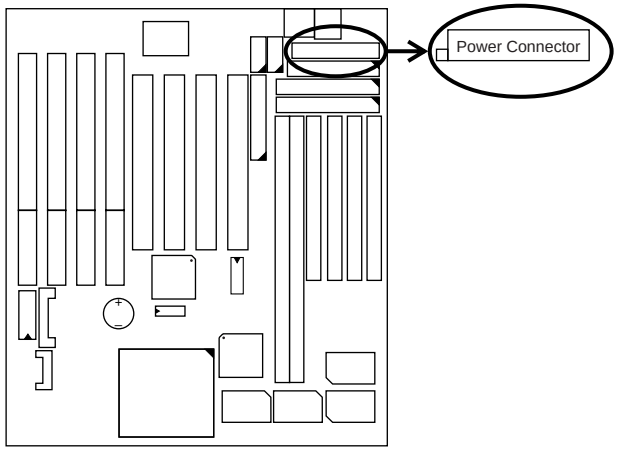
IDE1/IDE2: Primary/Secondary IDE Connectors

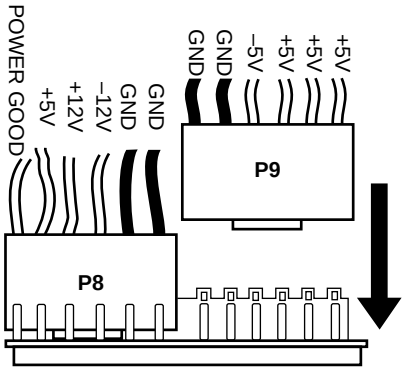
The system board has a 32-bit Enhanced PCI IDE Controller that provides for two HDD connectors, IDE1 (primary) and IDE2 (secondary).



Power Connector

The power connector has two 6-pin male header connectors. Plug the dual connectors from the power directly onto the board connector while making sure the black leads are in the center.





IDE LED Activity Light: (J1 pin1–4)

This connector connects to the hard disk activity indicator light on the case.

Infrared Port Module Connector (J1 pin6–10)

The system board provides a 5-pin infrared connector—IR1 as an optional module for wireless transmitting and receiving. **Pin 1 through 5 are Transmit, GND, Receive (low speed), Receive (high speed), and Vcc, respectively.**

J1 pin12, 13: Reserved

SMI Switch (J1 pin14, 15)

Toggle this jumper forces the system to sleep and the system won't wake up until the hardware event is coming. (The BIOS Power Management setting muse be Enabled.)

Speaker Connector (J2 pin1–4)

The speaker connector is a 4-pin connector for connecting the system and the speaker. (See the following drawing for jumper position.)

Reset Switch (J2 pin5, 6)

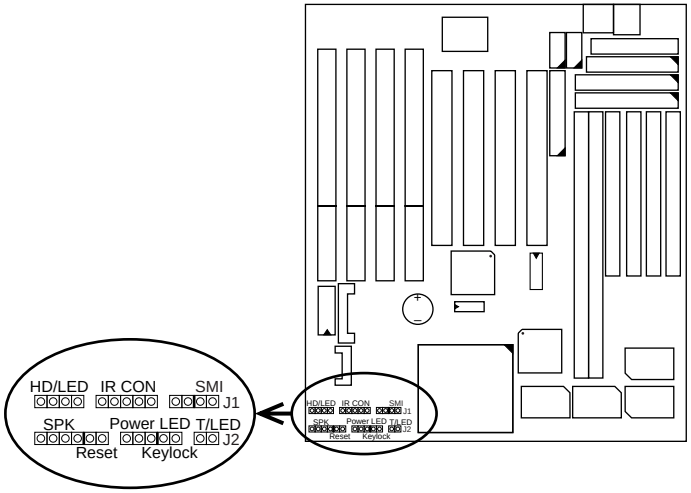
The system board has a 2-pin connector for rebooting your computer without having to turn off your power switch. This prolongs the life of the system's power supply.

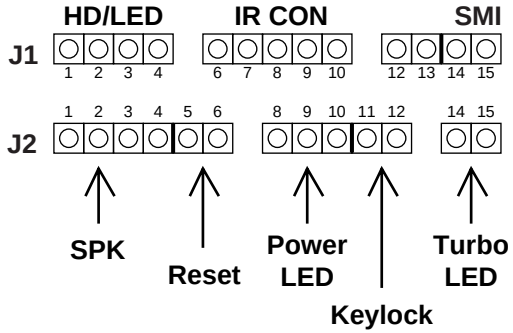
Power LED and Keylock Switch (J2 pin8–12)

The keylock switch is a 5-pin connector for locking the keyboard for security purposes. (See the following drawing for jumper position, and pin1~3 is connected to power LED and pin 4~5 is connected to keylock switch.)

Turbo LED (J2 pin14, 15)

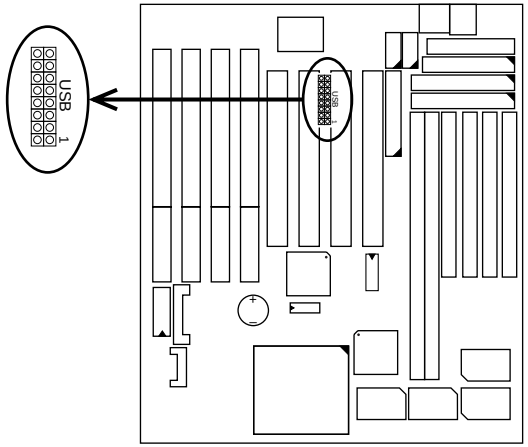
Connect the case's turbo LED to this connector.

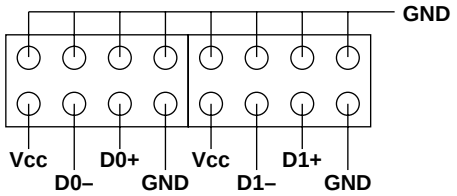




USB1: USB Connector

This jumper connects to the USB cable to provide USB device.





J1 Switch Signal Summary

J1	Pin	Signal Description
HDD LED Connector	1	+5V
	2	HDD LED Signal
	3	HDD LED Signal
	4	+5V
N.C.	5	No Connection
Infrared Connector	6	Infrared Transmit Signal
	7	GND
	8	Infrared Receive Signal (low speed)
	9	Infrared Receive Signal (high speed)
	10	+5V
N.C.	11	No Connection
N.C.	12	GND
	13	No Connection
SMI	14	GND
	15	SMI Signal

J2 Switch Signal Summary

J2	Pin	Signal Description
Speaker Connector	1	Speaker Signal
	2	No Connection
	3	Ground
	4	+5V
Reset Switch	5	Reset Signal
	6	Ground
N.C.	7	No Connection
Power LED Connector	8	+5V
	9	No Connection
	10	Ground
Keylock Connector	11	Keylock Signal
	12	GND
N.C.	13	No Connection
Turbo LED Connector	14	Turbo LED Connector
	15	Ground

Power Connector

Pin	Description
1	Power Good
2	+5V
3	+12V
4	–12V
5	Ground
6	Ground
7	Ground
8	Ground
9	–5V
10	+5V
11	+5V
12	+5V

Chapter 3
Award BIOS Setup

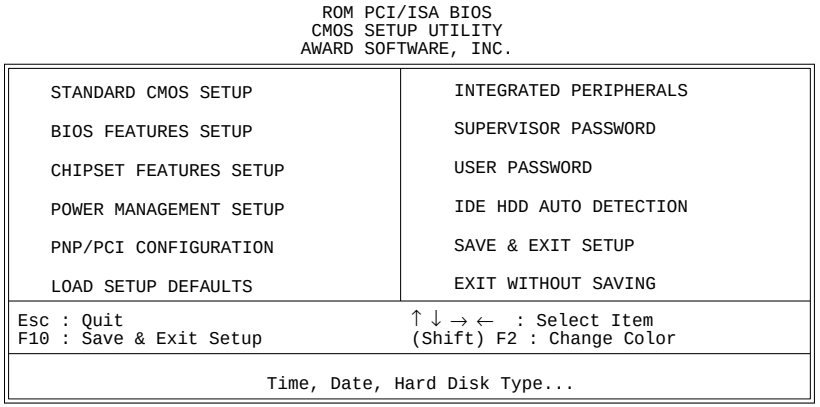
This 82430VX motherboard comes with the AWARD BIOS from AWARD Software Inc. Enter the Award BIOS program's Main Menu as follows:

1. Turn on or reboot the system.

   After a series of diagnostic checks, the following message will appear:

   PRESS <DEL> TO ENTER SETUP

2. Press the <DEL> key and the main program screen appears as in the following page.



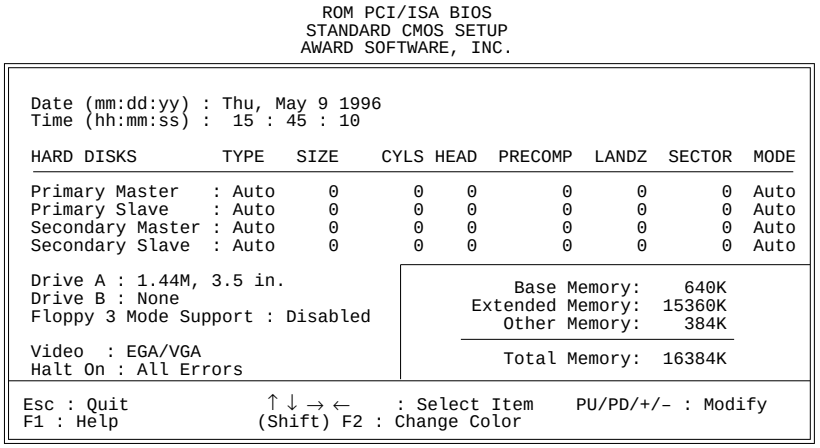
3. Using one of the arrows on your keyboard to select an option and press <Enter>. Modify the system parameters to reflect the options installed in the system.
4. You may return to the Main Menu anytime by press <ESC> .
5. In the Main Menu, "SAVE AND EXIT SETUP" saves your changes and reboots the system, and "EXIT WITHOUT SAVING" ignores your changes and exits the program.

Standard CMOS Setup

Standard CMOS Setup allows you to record some basic system hardware configuration and set the system clock and error handling. You only need to modify the configuration values of this option when you change your system hardware configuration or the configuration stored in the CMOS memory got lost or damaged.

Run the Standard CMOS Setup as follows:

1. Choose "STANDARD CMOS SETUP" from the Main Menu and a screen with a list of options appears.



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/– keys.

A short description of screen options follows:

Date (mm:dd:yy) **Time (hh:mm:ss)**	Set the current date and time.
Primary (Secondary) Master/Slave	This field records the specifications for all non-SCSI hard disk drives installed in your system. Refer to the respective documentation on how to install the drivers.
Drive A/B	Set this field to the types of floppy disk drives installed in your system. The choices are: 360KB, 5.25 in., 1.2MB, 5.25 in., 720KB, 3.5 in., 1.44M, 3.5 in. (default), 2.88MB, 3.5 in., or None 120MB, 3.5in., IDE Floppy Drive (Auto detect).
Floppy 3 Mode Support	Drive A/B, Both: Enabled 3.5-inch, 1.2MB function. Disabled (default): Disabled 3.5-inch, 1.2MB function.
Video	Set this field to the type of video display card installed in the system. The choices are: Monochrome; Color 40x25; VGA/EGA (default); or Color 80x25
Halt On	Set this filed to the type of errors that will cause the system to halt. The choices are: All Errors (default); No Errors; All, But Keyboard; All, But Diskette; or All, But Disk/Key

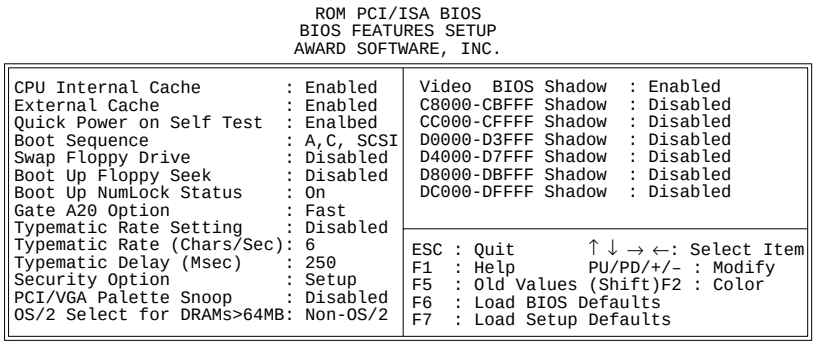
3. Press <ESC> to return to the Main Menu when you finish setting up in the “Standard CMOS Setup”.

BIOS Features Setup

BIOS Features Setup allows you to improve your system performance or set up some system features according to your preference.

Run the BIOS Features Setup as follows:

1. Choose "BIOS FEATURES SETUP" from the Main Menu and a screen with a list of options appears.



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

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

   Shift <F2>: Change color.

   <F5> : Get the previous values. These values are the values with which the user started the current session.

   <F6>: Load all options with the BIOS default values.

   <F7>: Load all options with the Setup default values.

A short description of screen options follows:

CPU Internal Cache	Choose Enabled (default) or Disabled. This option allows you to enable or disable the CPU's internal cache.
External Cache	Choose Enabled (default) or Disabled. This option allows you to enable or disable the external cache memory.
Quick Power On Self Test	Choose Enabled (default)or Disabled. This option allows you to speed up the Power On Self Test routine.
Boot Sequence	Default is "A, C, SCSI". This option determines which drive to look for first for an operating system.
Swap Floppy Drive	Choose Enabled or Disabled (default). This option swaps floppy drive assignments when it is enabled.
Boot Up Floppy Seek	Enabled: During POST, BIOS checks the track number of the floppy disk drive to see whether it is 40 or 80 tracks. Disabled (default): During POST, BIOS will not check the track number of the floppy disk drive.
Boot Up NumLock Status	Choose On (default) or Off. This option lets user to activate the NumLock function at boot-up.

Gate A20 Option	Choose Normal or Fast (default). This option allows the RAM to access the memory above 1MB by using the fast gate A20 line.
Typematic Rate Setting	Choose Enabled or Disabled (default). Enable this option to adjust the keystroke repeat rate.
Typematic Rate (Chars/Sec)	Range between 6 (default) and 30 characters per second. This option controls the speed of repeating keystrokes.
Typematic Delay (Msec)	Choose 250 (default), 500, 750, and 1000. This option sets the time interval for displaying the first and the second characters.
Security Option	Choose System or Setup (default). This option is to prevent unauthorized system boot-up or use of BIOS Setup.
PCI/VGA palette Snoop	Choose Enabled or Disabled (default). It determines whether the MPEG ISA cards can work with PCI/VGA or not.
Video BIOS Shadow	Enabled (default): Map the VGA BIOS to system RAM. Disabled: Don't map the VGA BIOS to system RAM.
C8000-CBFFF to DC000-DFFF Shadow	These options are used to shadow other expansion card ROMs.

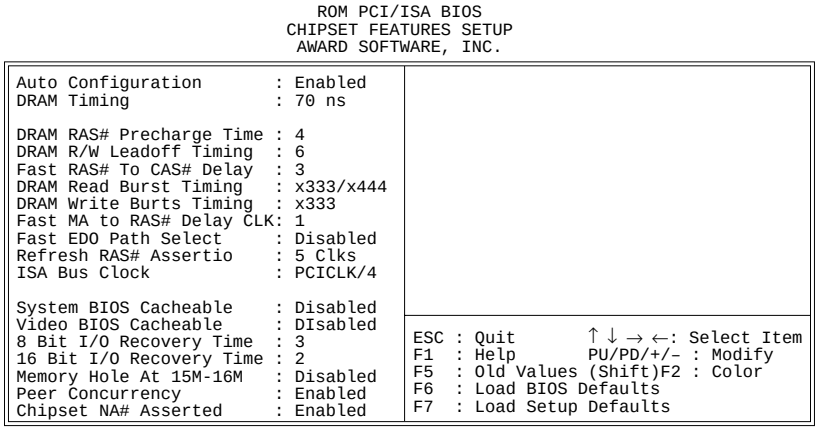
3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Chipset Features Setup

Chipset Features Setup changes the values of the chipset registers. These registers control the system options.

Run the Chipset Features Setup as follows:

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and a screen with a list of options appears.



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/– keys.

A short description of screen options follows:

Auto Configuration — Choose Enabled (default) or Disabled. The system sets all options on the left side of the screen automatically when choose Enabled.

DRAM Timing — Choose 60ns or 70ns (default). Do not change this setting unless you know the DRAM access time spec.

DRAM RAS# Precharge Time	Use the default setting. This option allows you to determine the number of the CPU clocks allocated for the RAS to accumulate/charge it before the DRAM is refreshed.
DRAM R/W Leadoff Timing	Use the default setting. This sets the point of time that the CPU is allowed to read and write to DRAM and then perform.
Fast RAS To CAS Delay	Use the default setting. This setup option allows you to determine the delay time in completing the transition from RAS to CAS.
DRAM Read Burst DRAM Write Burst Timing (EDO/FPM)	Use the default setting. Burst read/write requests are generated by the CPU in four separate parts. The 1st part provides the location within the DRAM where the read or write is to take place while the remaining three parts provide the actual data. The lower the timing number is, the faster the system memory will be addressed.
Fast MA to RAS# Delay CLK	Use the default setting. This item allows you to determine the timing of the transition from ROW Address Strobe (RAS) to Column Address Strobe (CAS).
Fast EDO Path Select	Choose Enabled or Disabled (default).
Refresh RAS# Assertion	Use the default setting.

ISA Bus Clock	Default is PCICLK/4. The best value is as close to 8MHz as possible.
System BIOS Cacheable	Choose Enabled or Disabled (default). When Enabled, the access to the system BIOS ROM addressed at F0000H-FFFFFH is cached.
Video BIOS Cacheable	Choose Enabled or Disabled (default). When Enabled, the access to the VGA BIOS ROM addressed at C0000H-C7FFFH is cached.
8 Bit I/O Recovery Time Select Item **16 Bit I/O Recovery Time Select Item**	This delay happens when the CPU is running so much faster than the I/O bus that the CPU must be delayed to allow for the completion of the I/O. The choices for 8 bit I/O are NA, 1 to 8 CPU clock. Default is 3. The choices for 16 bit I/O are NA, 1 to 4 CPU clock. Default is 2.
Memory Hole At 15M-16M	Choose Enabled or Disabled (default). In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.
Peer Concurrency	Choose Enabled (default)or Disabled. Peer concurrency means that more than one PCI device can be active at a time.

Chipset NA# Asserted Enabled (default) : Enable CPU pipeline function.
Disabled: Disable CPU pipeline function.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Power Management Setup

Power Management Setup sets the system's power saving functions.

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of options appears.

```
                    ROM PCI/ISA BIOS
                POWER MANAGEMENT SETUP
                 AWARD SOFTWARE, INC.

Power Management      : Disabled          ** Power Down & Resume Events **
PM Control by APM     : No                IRQ 3  (COM 2)        : ON
Video Off Method      : V/H SYNC+Blank    IRQ 4  (COM 1)        : ON
Modem Use IRQ         : 3                 IRQ 5  (LPT 2)        : ON
                                          IRQ 6  (Floppy Disk)  : ON
Doze Mode             : Disabled          IRQ 7  (LPT 1)        : ON
Standby Mode          : Disabled          IRQ 8  (RTC Alarm)    : OFF
Suspend Mode          : Disabled          IRQ 9  (IRQ2 Redir)   : ON
HDD Power Down        : Disabled          IRQ 10 (Reserved)     : ON
                                          IRQ 11 (Reserved)     : ON
                                          IRQ 12 (PS/2 mouse)   : ON
** Wake Up Events In Doze & Standby **    IRQ 13 (Coprocessor)  : ON
IRQ3  (Wake-Up Event) : ON                IRQ 14 (Hard Disk)    : ON
IRQ4  (Wake-Up Event) : ON                IRQ 15 (Reserved)     : ON
IRQ8  (Wake-Up Event) : ON
IRQ12 (Wake-Up Event) : ON          ESC : Quit       ↑ ↓ → ←: Select Item
                                    F1  : Help       PU/PD/+/- : Modify
                                    F5  : Old Values (Shift)F2 : Color
                                    F6  : Load BIOS Defaults
                                    F7  : Load Setup Defaults
```

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/– keys.

A short description of screen options follows:

Power Management	Choose Max. Saving, User Define, Disabled (default), or Min Saving.
PM Control by APM	Choose Yes or No (default). You need to choose Yes when the operating system has the APM functions, choose No otherwise.
Video Off Method	Choose Blank , DPMS, or V/H Sync+Blank (default). You can chose either DPMS or V/H Sync+Blank when the monitor has the Green function. You need to choose Blank when the monitor does not have the Green function. *Note: Some VGA cards don't allow V/H Sync to be turned off directly.*
Modem Use IRQ	Assign the IRQ number to the modem which is being used so that the ring signal can wakeup the system. The default setting is 3 (COM2).
Doze Mode	This option sets the CPU speed down to 33MHz during this mode.
Standby Mode **Suspend Mode**	These two options allow you to choose the mode for the different timers. The Standby Mode turns off the VGA monitor, and the Suspend Mode turns off the CPU and saves the energy of the system.

HDD power Down Time is adjustable from 1 to 15 minutes. When the set time has elapsed, the BIOS sends a command to the HDD to power down, which turns off the motor.

IRQx (Wake-Up Event) Set these IRQs individually. Activity detected from any enabled IRQ channel (ON) will wake up the system.

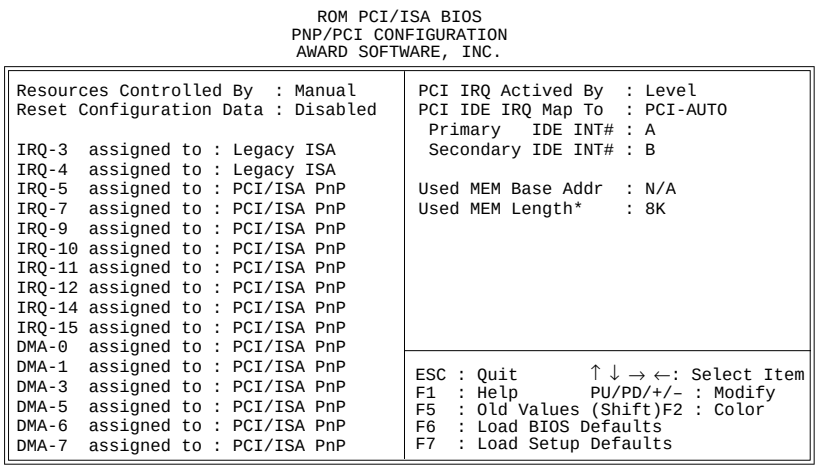
3. Press <ESC> and follow the screen instructions to save or disregard your settings.

PnP/PCI Configuration Setup

PnP/PCI Configuration Setup configures the PCI bus slots.

Run the Chipset Features Setup as follows:

1. Choose "PnP/PCI CONFIGURATION SETUP" from the Main Menu and a screen with a list of options appears.



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/– keys.

A short description of screen options follows:

Resources Controlled By	Choose Manual (default) or Auto. The BIOS checks the IRQ/DMA channel number on the ISA and PCI card manually if chose Manual and the IRQ/DMA channel number will be checked automatically if choose Auto.
Reset Configuration Data	Choose Enabled or Disabled (default). Disabled means to retain PnP configuration data in BIOS and Enabled means to reset PnP configuration data in BIOS.
IRQ-x assigned to DMA-x assigned to	Legacy ISA: Manually assigns IRQ/DMA to device. PCI/ISA PnP: BIOS assigns IRQ/DMA to device automatically.
PCI IRQ Actived By	Choose Edge or Level (default). Most PCI trigger signals are Level.
PCI IDE IRQ Map To	Select PCI-AUTO (default), ISA, or assign a PCI SLOT number (depending on which slot the PCI IDE is inserted). If PCI-AUTO does not work, then assign an individual PCI SLOT number.
Primary/ IDE INT#	Choose A (default), B, C, or D.
Secondary IDE INT#	Choose A, B (default), C, or D.
Used MEM Base Addr	Choose N/A (default) or ISA legacy card requests to have memory start address.

Used MEM Length*

Choose 8K, 16K, 32K, or 64K.

With the above two functions, users can define where the used memory address is located and its corresponding length of the legacy area. BIOS will skip the UMB area which is used by the legacy device to avoid memory space conflict.

* This function actives only when the "Used MEM Base Addr" is chosen.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Load Setup Defaults

Load Setup Defaults option loads the default system values to the system configuration fields. If the CMOS is corrupted the defaults are loaded automatically. Choose this option and the following message appears:

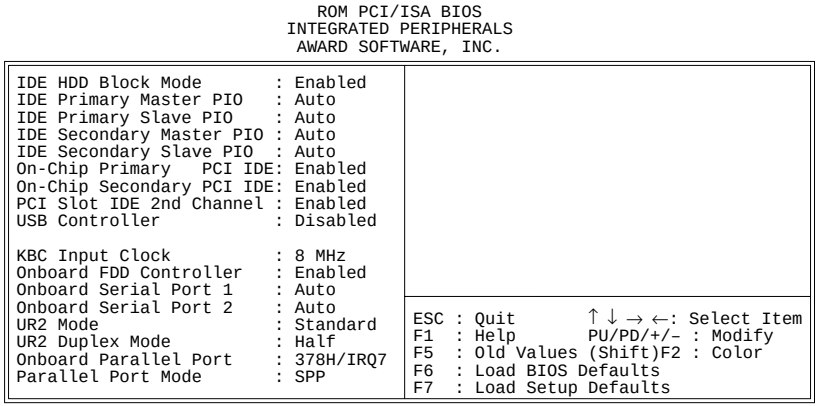
```
"Load Setup Defaults (Y/N)? N"
```

To use the Setup defaults, change the prompt to "Y" and press <Enter>.

Integrated Peripherals

Integrated Peripherals option changes the values of the chipset registers. These registers control system options in the computer.

1. Choose "INTEGRATED PERIPHERALS" from the Main Menu and a screen with a list of options appears.



2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/– keys.

A short description of screen options follows:

IDE HDD Block Mode Choose Enabled (default) or Disabled. If your hard disk size is larger than 540MB, choose Enabled, and, if you are using the IDE HDD Auto Detection option, the BIOS will choose this option automatically. (Note: Some old HDD models don't provide this feature.)

IDE Primary Master/Slave PIO **IDE Secondary Master/Slave PIO**	Choose Auto (default) or Mode 0~4. The BIOS will detect the HDD Mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.
On-Chip Primary/ Secondary PCI IDE	Enabled (default): Turn on the onboard IDE function. Disabled: Turn off the onboard IDE function.
PCI Slot IDE 2nd Channel	Enabled (default) : Reserved IRQ15 for secondary IDE device. Disabled: Release IRQ15 for other devices.
USB Controller	Enabled: Enable USB function and it will occupy one IRQ, usually the IRQ11. Disabled (default): Disable USB function and it will not occupy IRQ. **Choose Disabled when it is not connect to an USB device.**
KBC Input Clock	Choose 8 MHz (default) or 12 MHz.
Onboard FDD Controller	Choose Enabled (default) or Disabled. Choose Disabled when you use an ISA card with FDD function, or , choose Enabled to use the onboard FDD connector.
Onboard Serial Port 1	Choose Auto (default), 3F8/IRQ4 , 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Disabled. **Do no set port 1 & 2 to the same value except for Disabled.**

Onboard Serial Port 2
Choose Auto (default), 3F8/IRQ4 , 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Disabled.

UR2 Mode
Choose Standard (default), IrDA1.0, ASKIR, MIR 0.57M, MIR 1.15M, or FIR.

UR2 Duplex Mode*
Choose Half (default), or Full.
Half: Doesn't transmit and receive activities at the same time.
Full: Transmit and receive activities at the same time.

**: This option won't work unless UR2 Mode IrDA/AASKIR/MIR/FIR is selected.*

Onboard Parallel Port
Choose the printer I/O address: 378H/IRQ7 (default), 3BCH/IRQ7, 278H/IRQ5

Onboard Parallel Mode
Choose SPP (default), ECP + EPP, EPP, or ECP mode. The mode depends on your external device that connects to this port.

ECP Mode Use DMA*
Choose DMA3 (default) or DMA1. Most sound cards use DMA1. Check with your sound card configuration to make sure that there is no conflict with this function.

**: This option will not be displayed unless the EPP/ECP function is selected..*

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Supervisor/User Password

These two options allows you to set your system passwords. Normally, supervisor has a higher right to change the CMOS setup option than the user. The way to set up the passwords for both Supervisor and User are as follow:

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

   `"Enter Password:"`

2. The first time you run this option, enter your password up to only 8 characters and press <Enter>. The screen does not display the entered characters.

3. After you enter the password, the following message appears prompting you to confirm the password:

   `"Confirm Password:"`

4. Enter exact the same password you just typed again to confirm the password and press <Enter>.

5. Move the cursor to Save & Exit Setup to save the password.

6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.

7. Move the cursor to Save & Exit Setup to save the option you did, otherwise the old password will still be there when you turn on your machine next time.

8. Press <ESC> to exit to the Main Menu.

Note: If you forget or lose the password, the only way to access the system is to clear the CMOS RAM by setting JP6 All setup information will be lost and you need to run the BIOS setup program again.

IDE HDD Auto Detection

IDE HDD Auto Detection detects the parameters of an IDE hard disk drive and automatically enters them to the Standard CMOS Setup screen.

The screen will ask you to select a specific hard disk for Primary Master after you select this option. If you accept a hard disk detected by the BIOS, you can enter "Y" to confirm and then press <Enter> to check next hard disk. This function allows you to check four hard disks and you may press the <ESC> after the <Enter> to skip this function and go back to the Main Menu.

Save & Exit Setup

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

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

Press <Enter> key to save the configuration changes.

Exit Without Saving

Exit Without Saving allows you to exit the Setup utility without saving the modifications that you have specified. Highlight this option on the Main Menu and the following message appears:

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

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