SOYO™

About This Guide

This User's Guide is for assisting system manufacturers and end users in setting up and installing the mainboard. Information in this guide has been carefully checked for reliability; however, no guarantee is given as to the correctness of the contents. The information in this document is subject to change without notice.

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Version 2.1

5TC0/C2/C5 SERIAL

5TCU0/U2/C5 SERIAL

5TCS0/ S2/C5 SERIAL

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Table of Contents

1 Introduction

82430FX / P54C PCI mainboard is a high-performance system board that supports Pentium P54CXfamily CPUs. You can install 256Kto 512K of external cache memory on the mainboard. The mainboard is fully compatible with industry standards, and adds many technical enhancements.

Key Features

- Supports P54CX family CPUS running at 75/90/100/120/133; 133/150; and 125/150/166/180 MHz speeds.
- **Supports SOCKET 7 &VRM** for upgrade
- Integrated Second Level (L2) Cache Controller
  - — Write Through and Write Back Cache Modes
  - – Direct Mapped Organization
  - – **Supports Pipeline Burst SRAMs Cache Slot and Async SRAMs Cache**
- Integrated DRAM Controller
  - – Concurrent Write Back
  - – CAS#-before-RAS# Transparent DRAM Refresh
  - — 256K, 512K, lM, 2M, 4M, or 16M x N 70ns Fast Page and **EDO DRAM** (72-pin SIMM)
  - – On-board memory configurations from 4 to 128 Mbytes
- Shadow RAM in Increments of 16 Kbytes
- Supports Pentium / P54C SMM Mode
- Supports CPU Stop Clock
- Supports "Table-Free" DRAM configuration
- Compliant to PCI specifications v2.0
- Four 32-bit PCI slots (Masters) and Four ISA slots, 4-layer PCB
- System BIOS built-in NCR81O SCSI Card BIOS and **"Plug and Play"** function
- On-board built-in PCI Master IDE controller and floppy controller
- On-board supports for two high speed UARTS (w/i 16550 FIFO) and Multimode parallel port for Standard, Enhanced (EPP) and high speed (ECP) modes
- On-board **supports FLASH Memory for easy upgrade BIOS**
- **5T C2/C5** supports PS/2 **mouse function.**

Unpacking the Mainboard

The mainboard package contains:

- 82430FX/P54C Mainboard
- This User's Guide

Note: DO not unpack the mainboard until you are ready to install it.

Follow the precautions below while unpacking the mainboard.

1. Before handling the mainboard, ground yourself by grasping an unpainted portion of the system's metal chassis.

2. Remove the mainboard from its anti-static packaging and place it on a grounded surface, component side up.

3. *Check the* mainboard for damage. If any chip appears loose, press carefully to seat it firmly in its socket.

Do not apply power if the mainboard appears damaged. If there is damage to the board contact your dealer immediately,

Electrostatic Discharge Precautions

Make sure you ground yourself before handling the mainboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precaution when handling the mainboard in dry or air-conditioned environments.

Take these precautions to protect your equipment from electrostatic discharge:

- Do not remove the anti-static packaging until you are ready to install the mainboard and other system components.
- Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself grasp the expansion slot covers or other unpainted portions of the computer chassis.
- Frequently ground yourself while working, or use a grounding strap.
- Handle the mainboard by the edges and avoid touching its components.

Mainboard Layout w/ default settings*

*Default settings: Pentium 100MHz CPU, 256K W/B Async cache, Address Pipeline Enabled, On-board Local Bus IDE Enabled, FDD Enabled, 2 high speed UART Enabled (w/ 16550 FIFO), 1 EPP/ECP port (standard mode).

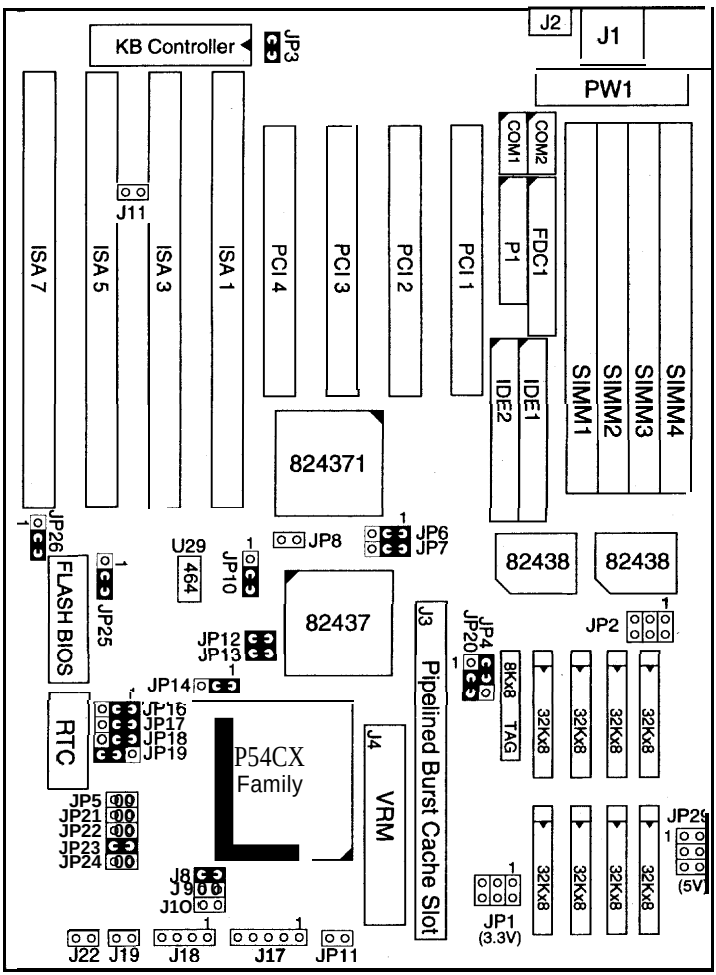


Figure 1-1. Mainboard Layout

Important Make sure the system is well ventilated to prevent overheating and ensure system stability.

2 Hardware Setup

This chapter explains how to configure the mainboard's hardware. After you install the mainboard, you can set jumpers, install memory on the mainboard, and make case connections. Refer to this chapter whenever. you upgrade or reconfigure your system.

CAUTION Turn off power to the mainboard, system chassis, and peripheral devices before performing any work on the mainboard or system.

Jumpers

Factory Set Jumpers

The following jumpers are set at the factory as below.

Jumpers	Factory settings
JP13,JP25,JP26	Factory fixed at Short
JP22	Factory fixed at Open
J5,JP2, JP9,JP15	Reserved
JP6,JP7,JP14, JP18	Factory fixed at 1-2
JP19	Factory fixed at 2-3

JP3: Display Type

Set JP3 to configure the mainboard for use with either a color or monochrome monitor.

Monitor Type	JP3
Monochrome	 1 2
EGA/VGA (default)	 1 2

JP8: Sleep Switch Connector Enable/Disable

Toggle this jumper to force the system into power saving (Green) mode. Any hardware IRQ signal makes the system wakeups.

JP1O AT Bus Clock Select

This jumper sets the AT Bus clock for use with different CPUs.

Clock	JPlo
Pentium -75 MHz CPU -125 MHz CPU	(divided by **3)**  3 2 1
Other Pentium CPUS (Default)	(divided by 4)  3 2 1

JP24: L1 Write-Back /Write-Through Cache Select

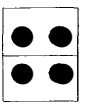
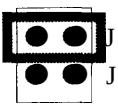
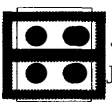
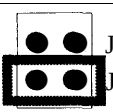
Set JP24 to configure the mainboard for L1 Write-Back/Write-Through Cache.

L1 Cache	JP24
Write Back Cache (default)	 1 2
Write Through Cache	 1 2

JP21, JP22: Bus Fraction Core/Bus Ratio Select

Set this jumper accroding to your CPU clock,

Note: For Pentium X / Y Mhz, X stands for CPU core clock, Y stands for bus clock.

Ratio	P54CX Family	JP21,JP22
3/2 (Default)	Pentium - (100/66, 90/60, 75/50)MHz	 JP21 JP22
2/1	Pentium - (100/50)MHz Pentium - (120/60, 133/66)MHz	 JP21 JP22
5/2	Pentium - (150/60)MHZ	 JP21 JP22
3/1	Pentium 180MH2	 JP21 JP22

JP23: Pipeline Select

JP23 enables or disables Address Pipelining

Address Pipelining	JP23
Disable **Address Pipelining**	
Enable Address Pipelining (default)	

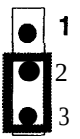
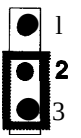
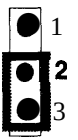
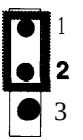
JP5: CMOS ClearJumper

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

CMOS Setting	JP5
Retain CMOS data (default)	
Clear CMOS data	

JP25, JP26: EPROM/ FLASH Memory SelectJumper

Set EPROM or FLASH memory type with jumpersJP25 and JP26.

Type	JP25	JP26
EPROM FLASH (non-program)		
FLASH memory (program)		

The default of these 2 jumpers, i.e. non-program, are both pin 2+3 of JP25 and pin 2+3 of JP26 closed. Setthe JP25and JP26atthe Program Setting toinstall anew BIOS file in the flash chip by shorting pin 2+3 of JP25 and pin 1+2 of JP26 Youneed to set these 2 jumpers by to the non-program setting after the installation is successed.

J4: VRM (Voltage Regulator Module) Socket

VRM socket is dedicated for 2.5V CPU to use. ' It converts 3.3V to 2.5V for the advance high speed P54CX.

Jll: PS/2 Mouse Function Jumper

Set PS/2 mouse function enabled or disabled.

PS/2 Mouse Function	**J11**
Disabled (default)	 1 2
Enabled	 1 2

Note: *The IRQ12* is *dedicated to PS/2 mouse when choose enabled of PS/2 Mouse Function.*

CPU Type Configuration

Set the mainboard's CPU jumpers JP12, JP13, JP21, and JP22 according to CPU type as described below, and then setJ8-J11 for the proper voltage of the CPU.

Pentium - 75*/99*/100* CPU Settings (1.5x clock)

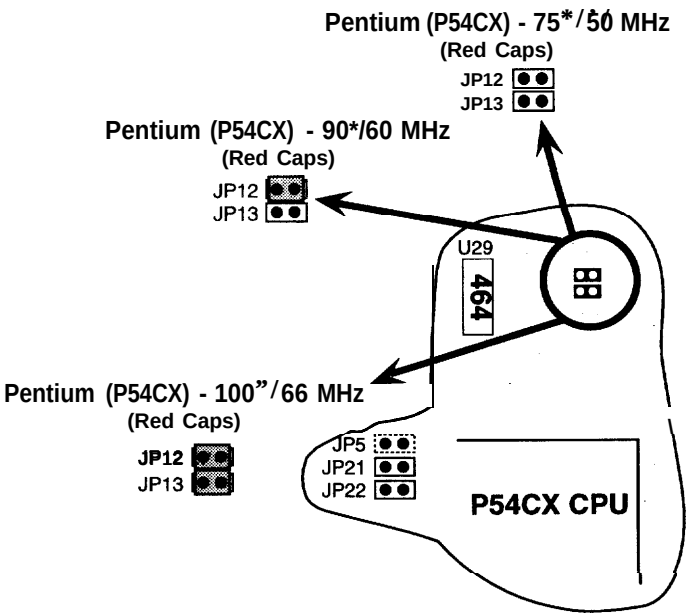


Fig 2-1-1. CPU Jumper Settings

Pentium - 100*/120*/133* CPU Settings (2.0x clock)

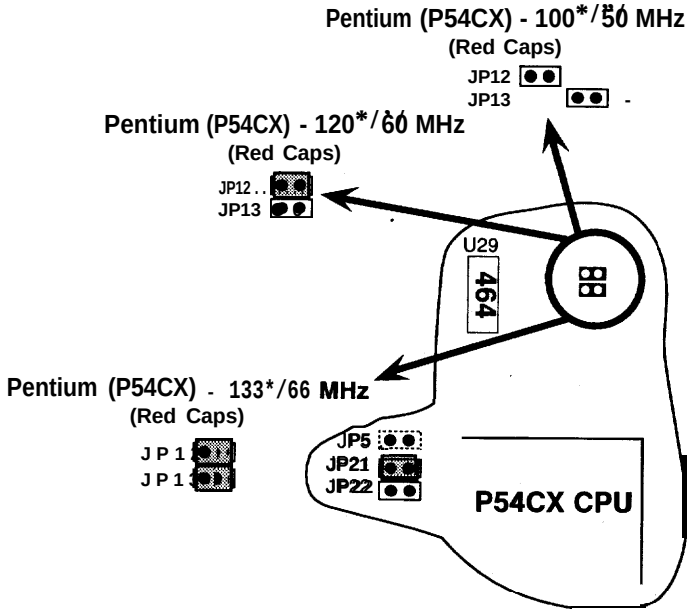


Figure 2-l–2. CPU Jumper Settings

Pentium - 150*/166* CPU Settings (2.5x clock)

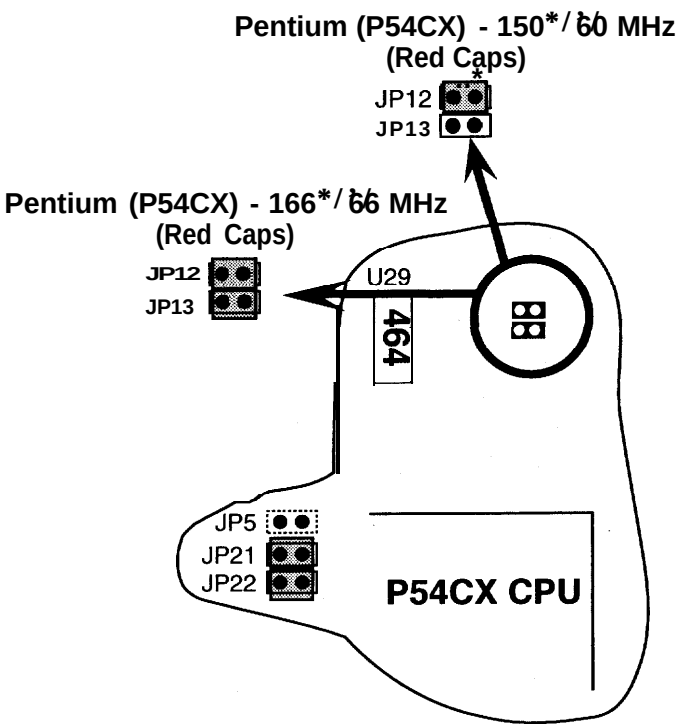
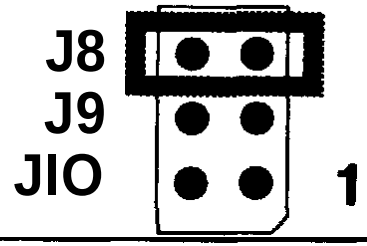
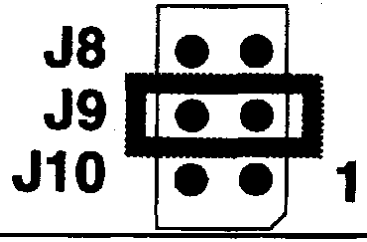
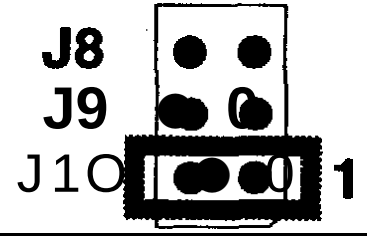


Figure 2-1-3 CPU Jumper Settings

* **You must equip the CPU with a fan and heat sink for system stability.**

J8,J9,J1O: CPU Voltage Select

Set J8-J1O to configure the proper voltage for the installed CPU,

CPU Type voltage	J8-J1O
Standard and VR P54CX CPU (3.3V + 5%) (Default)	
VRE P54CX CPU (3.45V - 3.6v)	
Reserved	

Note: Check with your CPU vendor to make *sure of the CPU type voltage.*

Memory Configuration

The mainboard supports eight banks of 72-pin SIMM or EDO DRAM (with or without parity), The mainboard requires SIMM of at least 80ns access time.

Single-side SIMM	Double-side SIMM
lMB = 256K x *36(32)*	2MB = 512K x 36(32)
4MB = lMB x 36(32)	8MB = 2MB x 36(32)
16MB = 4MB x *36(32)*	32MB = 8MB x 36(32)
64MB = 16MB x *36(32)*	

The mainboard supports from 4 to 128 Mbytes with no other restrictions on memory configurations. You can install DRAM in any combination without having to rely on a memory configuration table. Memory configuration is thus "**Table-Free**."

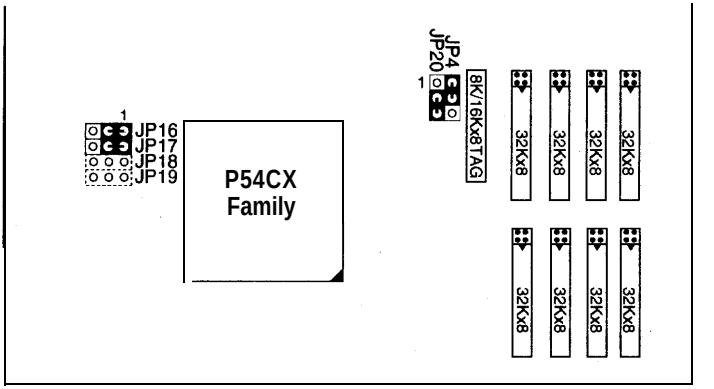
Cache Configuration

The mainboard has a write-back caching scheme. You can configure the mainboard's cache by installing cache chips in the sockets noted below and then set jumpers JP1 and JP2 to set the mainbaord for the type of SRAM installed. See Figures ***2–2-2-5*** for cache configurations.

Cache size and RAM Locations

Cache Size	Cache RAM	TAG RAM	Cacheable Range
256KB	**32KX88pcs** (or 256K module)/ U2~U5, U8~U11	8K, 16K, 32Kx8/ u16	32MB
512KB	64Kx88pcs (or 512K module)/ U2~U5, U8~U11	32Kx8/ u16	64MB

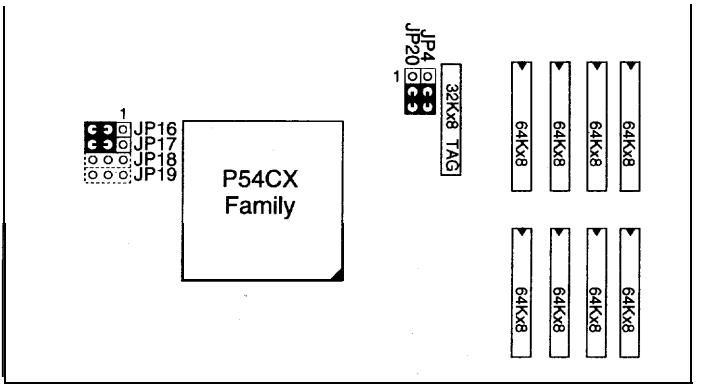
256 Async Cache(32Kx88pcs) Configuration (White Caps)



Note: *Keep JP20 as default, the BIOS will auto detect the Async* and *Pipelined Burst Cache,*

Figure 2-2, 256K Async Cache(321ZX88pcs) Configuration (white caps)

512K Async Cache (64Kx88 pcs) Configuration (White Caps)



Note: *Keep JP20 as default, the BIOS will auto detect the Async and Pipelined Burst Cache.*

Figure 2-3. 512K Async Cache(64Kx88pcs) Configuration (white caps)

256K Pipelined Burst Cache Configuration

1. Must set voltage at 3.3V (JPl orJP2 closed, JP29 opened)
2. U2~U5 and U8-Ull have to be empty.
3. U16 must be empty when the TAG RAM is on pipelined Burst Module.

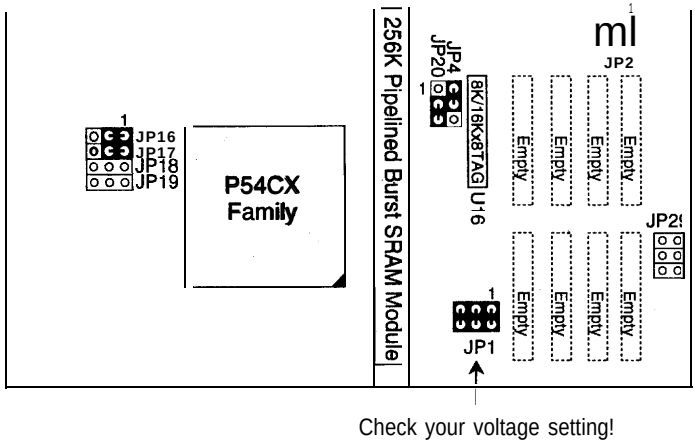


Figure 2-4. 256K Pipelined Burst Cache Configuration

512K Pipelined Burst Cache Configuration

1. Must set voltage at 3.3V (JPl orJP2 closed, JP29 opened)
2. U2~U5 and U8~U11 have to be empty.
3. U16 must be empty when the TAG RAM is on Pipelined Burst Module,

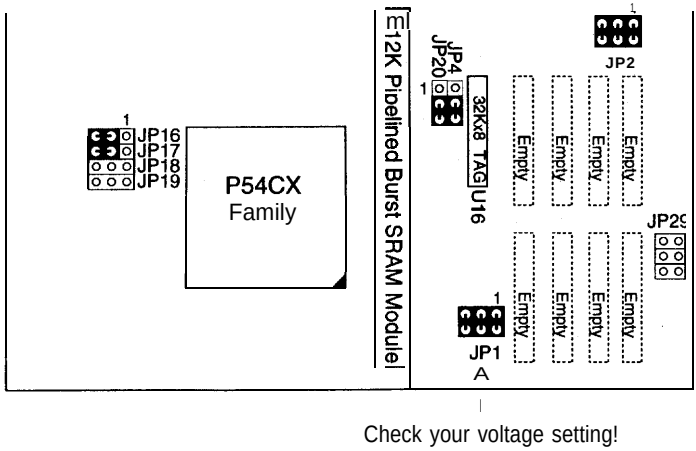


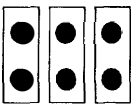
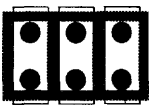
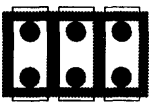
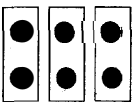
Figure 2-.5. 512K Pipelined Burst Cache configuration

JP1,JP29: SRAM Type Select (Factory Setting)

The mainboard is set at the factory for either 3.3V SRAM **only** or for **Mixed SRAM.** Only one setting at a time is possible.

3.3V SRAM consists of 3.3V Power and 3.3V 1/0 interface.

Mixed SRAM consists of 5V Power and 3.3V 1/0 interface.

Setting	JP29	JP1
3.3V SRAM		
Mixed SRAM		

CAUTION ***These two groups of jumpers are set at the factory. DO not change the settings on your mainboard, otherwise you may damage the mainboard's SRAM.***

Multi 1/0 Port Addresses

Default settings for multi-I/O port addresses are shown in the table below.

Port	1/0 Address	IRQ	Status
LPT1*	3BCH	7	Standard Parallel Port
COM1	**3F8H**	**4**	
COM2	2F8H	3	

* LPT1 is default for standard mode. If you want ECP/EPP functions you must use the BIOS or driver settings and set JP4, JP5 and JP23~JP26 to configure DRQ/DACK. If default 1/0 port addresses conflict with other 1/0 cards (e.g. sound cards or 1/0 cards), you must adjust one of the 1/0 addresses to avoid address conflict, (You can adjust these 1/0 addresses from the BIOS.

Note: *Some sound cards have* **a** *default IRQ setting for IRQ7, which may conflict with printing functions. If this occurs do not use sound card functions at the same* time *you print,*

Connectors

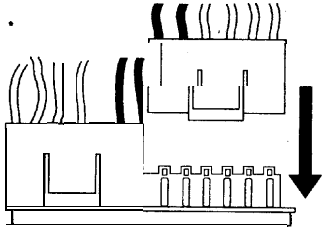
Attach the mainboard to case devices, or an external battery, via connectors on the mainboard. Refer to Figure 1-1 for connector locations and connector pin positions.

J1 - Keyboard Connector

A five-pin female DIN keyboard connector is located at the rear of the board. Plug the keyboard jack into this connector.

PWl - Power Supply Connectors

The mainboard requires a power supply with at least 200" watts and a "power good" signal, PW1 has two six-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.



J17 - Keylock & Power LED Connector

J17 is a connector for a lock that may be installed on the system case for enabling or disabling the keyboard. J17 also attaches to the case's Power LED.

J18 - Speaker Connector

Attach the system speaker to connector J18.

J19 - Hardware Reset Control.

Attach the Reset switch to J19. Closing the Reset switch restarts the system.

J2 - PS/2 Mouse Connector

attach PS/2 mouse cable to this connector.

J22 - Turbo LED Connector

Attach the sleep LED to J22. The LED lights when the system is in Turbo mode.

IDE1/IDE2 - On-board Primary/Secondary IDE HDD Connectors

Attach on-board hard disk drives to these connectors.

JPll - HDD LED Connectors

Attach on-board hard disk drive LEDs to this connector. The LED lights when an HDD is active.

COM1/COM2 Connectors

Attach COM1/COM2 cable to these connectors.

FDCl Connector

Attach floppy cable to this connector.

PRT1 Connector

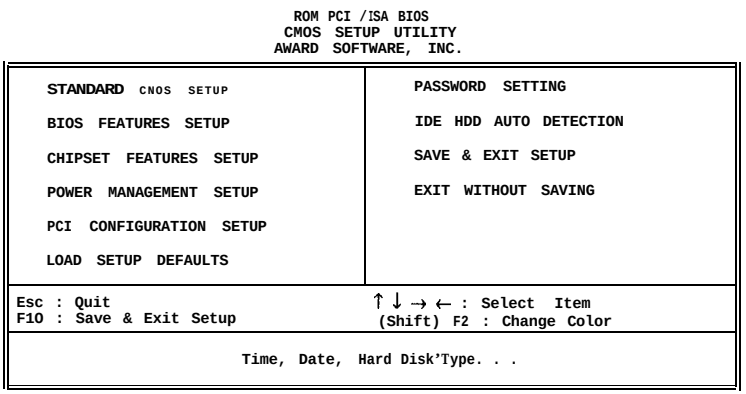
Attach parallel port cable to this connector.

3 BIOS Setup

The mainboard's BIOS setup program is the ROM PCI/ISA 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, you are asked to press DEL to enter Setup.

2. Press the <DEL> key to enter the Award BIOS program and the main screen appears:



3. Choose an option and press <Enter> .Modify the system parameters to reflect the options installed in the system. (See the following sections.)

4. Press <ESC> at anytime to return to the Main Menu,

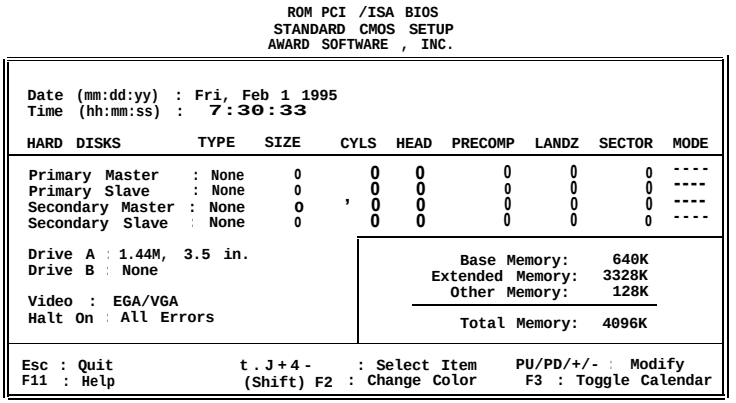
5. In the Main Menu, choose ``SAVE AND EMT SETUP" to save your changes and reboot the system. Choosing "EXIT WITHOUT SAVING" ignores your changes and exits the program,

The Main Menu options of the Award BIOS are described in the sections that follow.

Standard CMOS Setup

Run the Standard CMOS Setup as follows.

1. Choose "STANDARD CMOS SETUP"" from the Main Menu. A screen appears.



2. Use arrow keys to move between items and select values. Modify selected fields usingPgUp/PgDn/+/- keys. Some fields let you enter values directly.

Date (mm/dd/yy) Type the current date.

Time(hh:rmmss) Type the current time.

Primary (Secondary) Master & Slave — Choose from the standard hard disk types 1 to 46 Type 47 is user definable. Ifaharddisk isnot installed choose "Not installed."" (default)

Drive A&B — Choose 360KB,51/4 in.,
1.2MB,51/4 in.,
720KB,31/2 in.,
1.4M, 3 1/2 in.(default),
2.88 MB, 3 1/2 in. or
Not installed

Vi&o — Choose Monochrome,
Color 40x25,
VGA/EGA (default),
Color 80x25

3. When you finish, press the <ESC> key to return to the Main Menu.

BIOS Features Setup

Run the BIOS Features Setup as follows.

1. Choose "BIOS FEATURES SETUP" from the Main Menu and a screen with a list of items appears. (The screen below shows the BIOS default settings.)

```
                    ROM PCI /ISA BIOS
                  BIOS FEATURES SETUP
                 AWARD SOFIWARE , INC.

CPU Internal Cache          : Enabled     Video BIOS Shdow    : Enabled
External Cache              : Enabled     C8000-CBFFF Shadow  : Disabled
Quick Power on Self Test    : Enabled     CCOOO-CFFFF Shadow  : Disabled
Boot Sequence               : A,C         DOOOO-D3FFF Shadow  : Disabled
Swap Floppy Drive           : Disabled    D4000-D7FFF Shadow  : Disabled
Boot Up NumLock Status      : On          D8000-DBFFF Shadow  : Disabled
Gate A20 Option             : Fast        DC000-DFFFF Shadow  : Disabled
Memory Parity Check         : Disabled
Typematic Rate Setting      : Disabled
Typematic Rate (Chars/See): 6
Typematic Delay (Msec)      : 250
Security option             : Setup

                                          ESC : Quit        _l.J+-:  Select Itme
                                          F1  : Help        PU/PD/+/-  :  Modify
                                          F5  : Old Values (Shift)F2 : Color
                                          F6  : Load BIOS Defaults
                                          F7  : Load Setup Defaults
```

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/− keys. <F>keys are explained below:

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

Shift<F2>: Change color.

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

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

<F7>: Load all options with the Power-On default values.

A short description of screen items follows:

CPU Internal Cache	This option enables/disables the CPU's internal cache. (The Default setting is Enabled.)
External Cache	This option enables/disables the external cache memory. (The Default setting is Enabled.)
Quick Power On Self Test	Enabled provides a fast POST at boot-up.
Boot Sequence	The default setting attempts to first boot from drive A: and then from hard disk C: You can reverse this sequence with "C: A", but then drive A: cannot boot directly.
Swap Floppy Drive	Enabled changes the sequence of the A: and B: drives. (The Default setting is Disabled.)
Boot Up Num Lock Status	Choose On or Off. On puts numeric keypad in Num Lock mode at boot-up. Off puts this keypad in arrow key mode at boot-up.
Gate A20 Option	Choose Fast (default) o Normal. Fast allows RAM accesses above lMB using the fast gate A20 line.
Memory Parity Check	Choose Enabled or Disabled (default), This item enables/disables the Memory Parity check option. Do not enable this setting if SIMM modules are without parity RAM.
Typematic Rate setting	Enable this option to adjust the keystroke repeat rate.
Typematic Rate (chars/see)	Choose the rate a character keeps repeating.
Typematic Delay (Msec)	Choose how long after you press a key that a character begins repeating.

Security Option	Choose Setup or System. Use this feature to prevent unauthorized system boot-up or use of BIOS Setup. "System" - Each time the system is booted the password prompt appears. "Setup" - If a password is set, the password prompt only appears if you attempt to enter the Setup program,
Video or Adaptor BIOS **Shadow**	BIOS shadow copies BIOS code from slower ROM to faster **RAM.** BIOS can then execute from RAM. These 32K segments can be shadowed from ROM to RAM. BIOS is shadowed in a 32K segment if it is enabled and it has BIOS present.

3. After you have finished with the BIOS Features Setup program, press the <ESC> key and follow the screen instructions to save or disregard your settings.

Chipset Features Setup

The Chipset Features Setup option changes the values of the chipset registers. These registers control system options in the computer.

Note: Change these settings only if you are familiar with the Chipset.

Run the Chipset Features Setup as follows.

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and the following screen appears, (The screen below shows default settings.)

```
                    ROM PCI/ISA BIOS
                CHIPSET FEATURES SETUP
                AWARD SOFTWARE , INC.

DRAM HAS Precharge Time  : 4              PCI  Concurrency          : Enabled
DRAM R/W Leadoff Timing  : 8/6            PCI  Streaming            : Enabled
DRAM RAS to CAS Delay    : 3              PCI  Bursting             : Enabled
DRAM Read Burst Timing   : x2222          Onboard FDC Control       : Enabled
DRAM Write Burst Timing  : x3333          Onboard Serial Port 1     : COM1
System BIOS Cacheable    : Disabled       Onboard Serial Port 2     : COM2
Video BIOS Cacheable     : Disabled       Onboard Parallel Port     : 3BCH
Memory Hole At 15M-16M   : Disabled       Onboard Printer Mode      : Normal
IDE HDD Block Mode         Enabled        ECP Mode DMA Select       : DMA1
IDE Primary Master PIO   : Auto
IDE Primary Slave PIO    : Auto
IDE Secondary Master PIO : Auto
IDE Secondary Slave PIO  : Auto
On-chip Primary PCI IDE  : Enabled
On-chip Secondary PCI IDE: Enabled
PCI Slot IDE 2nd Charnel : Enabled

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 the arrow keys tomove between items and select values. Modify selected fields using the PgUp/PgDn/+/-keys.

A short description of screen items follows:

DRAM RAS Precharge Time Usethe default setting.

DRAM R/W Leadoff Timing Usethedefauk setting.

DRAM RAS to CAS Delay Use the default setting.

DRAM Read Burst Timing Use the default setting.

DRAM Write Burst Timing Use the default setting.

System BIOS Cacheable	Disabled:	The ROM area FOOOOH-FFFFFH is not cached.
	Enabled:	The ROM area FOOOOH-FFFFFH is cacheable if cache controller is enabled.
Video BIOS Cacheable	Disabled:	The video BIOS COOOOH-C7FFFH is not cached.
	Enabled:	The video BIOS COOOOH-C7FFFH is cacheable if cache controller is enabled.

Memory Hole At **15M-16M** — Choose Enabled or Disabled (default). Some interface cards will map their ROM address to this area. If this occurs, you should select Enabled, otherwise use Disabled.

IDE HDD Block Mode — Choose Enabled (default) or Disabled, Enabled invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.

IDE Primary Master PIO
IDE Primary Slave PIO
IDE Secondary **Master PIO**
IDE Secondary Slave PIO — Choose Auto (default) or mode O-4. Mode O is the slowest speed, and HDD mode 4 is the fastest speed. For better performance and stability, we suggest you use the Auto setting to set the HDD control timing.

On-chip Primary PCI IDE — Enabled: Use the on-board IDE (default)

On-chip Secondary PCI IDE — Disabled: Turn off the on-board IDE

PCI Slot IDE 2nd Channel — Choose Enabled (default) or Disabled. When Enabled is set, IRQ15 is dedicated for secondary IDE use. When Disabled is set, IRQ15 is released for other devices.

PCI Concurrency — Use the default setting.

PCI Streaming — Use the default setting.

PCI Bursting	Use the default setting.
Onboard FDC Control	Enabled: Use the on-board floppy controller (default). Disabled: Turn off the on-board floppy controller.
Onboard Serial Port 1 Onboard Serial Port 2	Choose serial port 1&2's I/O address. Donoset port 1 & 2 to the same value except for Disabled. COM 1/3F8H I COM3/3E8H COM 2/2F8H I COM4/2E8H (default) I
Onboard Parallel Port	Choose the printer 1/0 address: 3BCH/IRQ7 (default), 278H/IRQ7, 278H/IRQ5
Onboard Printer Mode	Choose Compatible (default), Extend or EPP, ECP mode. The mode depends on your external device that connects to this port.
ECP Mode DMA Select	Choose DMA1 (default) or DMA3, This setting only works when the Onboard Printer Mode is set at the ECP mode.

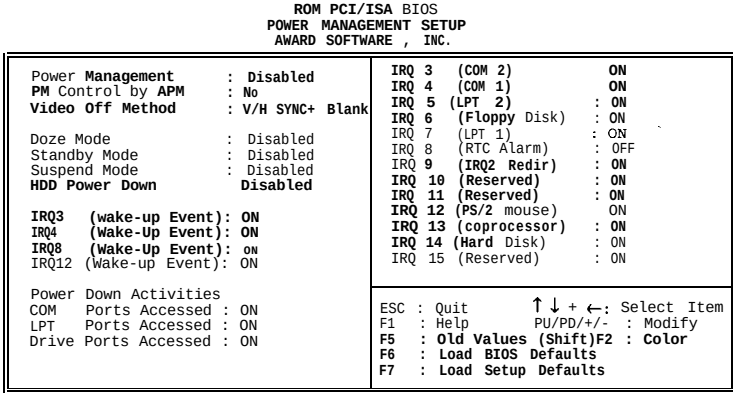
3. After you have finished with the Chipset Features Setup, press the <ESC> key and follow the screen instructions to save or disregard your settings.

Power Management Setup

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

Run the Power Management Setup as follows,

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



2. Use the arrow keys to move between items and to select values . Modify the selected fields using the PgUp/PgDn/+/- keys.

A short description of selected screen items follows:

PowerManagement Options are as follows:

User Define	Let's you definethe HDDandsystem power down times.
Disabled	Disables the Green PC Features.
Min Saving	Dozetimer=lHour Standbytimer=l Hour Suspendtimer=l Hour HDDPowerDown =15Min
Max Saving	Doze timer=lMin Standby timer=lMin Suspendtimer=l Min HDDPowerDown =lMin

PM Control by APM	Choose Yes or No (default). APM stands for Advanced Power Management. To use APM you must run "power.exe" under DOS V6.0 or later version.
Video Off Method	Choose V/H Sync+Blank (default), Blank screen, or DPMS for the selected PM mode.
Doze Mode	When the set time has elapsed, the BIOS sends a command to the system to enter doze mode (system clock drops to 33MHz). Time is adjustable from 1 Min to 1 Hour.
Standby Mode	The default is Disabled. Time is adjustable from 1 Min to 1 Hour.
suspend Mode	The default is Disabled. Only an SL-Enhanced (or SMI) CPU can enter this mode. Time is adjustable from 1Min to 1 Hour. Under Suspend mode, the CPU stops completely (no instructions are executed.)
HDD Power Down	When the set time has elapsed, the BIOS sends a command to the HDD to power down, which turns off the motor. Time is adjustable from 1 to 15 minutes. The default setting is Disabled. Some older model HDDs may not support this advanced function.
IRQx (Wake-Up Events)	The BIOS monitors these items for activity. If activity occurs from the Enabled item the system wakes up.
Power Down Activities	The BIOS monitors these items for no activity. If no activity occurs from the Enabled item the system will enter power saving mode (Doze/Standby/Suspend/ HDD Power Down mode).

3. After you have finished with the Power Management Setup, press the <ESC> key to return to the Main Menu.

PCI Configuration Setup

This option sets the mainboard's PCI Slots. Run this option as follows:

1. Choose "PCI CONFIGURATION SETUP"" from the Main Menu and the following screen appears. (The screen below shows default settings.)

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

PnP BIOS Auto Con fig        : Disabled
SLOT 1 Using" INT #          : AUTO
SLOT 2 Using INT #           : AUTO
SLOT 3 Using INT #           : AUTO
SLOT 4 Using INT #           : AUTO

1st Available IRQ*           :9
2nd Available IRQ*           : 10
3rd Available IRQ*           : 11
4th Available IRQ*           : 12
PCI IRQ Activated By         : Level
PCI IDE IRQ Map To           : PCI-AUTO
 Primsry IDE INT#            : A
 Secondary IDE INT#          :B

                             ESC : Quit        ↑ ↓ → ←: Select Item
                             F1  : Help        PU/PD/+/-  : Modify
                             F5  : Old Values (Shift)F2 : Color
                             F6  : Load BIOS Defaults
                             F7  : Load Setup Defaults
```

*: These items will disappear when PnP BIOS Auto Config. is enabled.

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

PnP BIOS Auto Config.	Disabled: BIOS doesn't manage ISA PnP card (i.e. IRQ) but PCI card. Enabled: BIOS auto manage PCI and ISA PnP card.
slot 1 (2) (3) (4) using INT#	Choose AUTO or assign PCI INT# number A, B, C, or D. The default setting is AUTO.
1st (2nd) (3rd) (4th) Available IRQ	If slot 1-4 is set to AUTO in the item above, then the BIOS automatically routes the INT# to the specified IRQ following the 1st (2nd) (3rd) (4th) IRQ order you assign.'
PCI IRQ Activated By	Choose Edge or Level. Most PCI trigger signals are Level. This setting must match the PCI card.
PCI IDE IRQ Map To	Select PCI-AUTO, ISA, or assign a PCI SLOT number (depending on which slot the PCI IDE is inserted). The default setting is PCI-AUTO. If PCI-AUTO does not work, then assign an individual PCI SLOT number.
Primary IDE INT#	Choose INTA#, INTB#, INTC#, or INTD#. The default setting is INTA#.
Secondary IDE IN'W	Choose INTA#, INTB#, INTC#, or INTD#. The default setting is INTB#.

3, After you have finished with the PCI Slot Configuration, press the <ESC> key and follow the screen instructions to save or disregard your settings.

Load Setup Defaults

This item loads the system values you have previously saved. Choose this item and the following message appears:

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

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

This item is recommended if you need to reset the system setup.

Password Setting

This Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. Change the password as follows:

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

   "Enter Password"

2, Enter a password and press <Enter>.

   (If you do not wish to use the password function, you can just press <Enter> and a "Password disabled" message appears,)

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

   "Confirm Password:"

4. Re-enter your password and then Press <ESC> to exit to the Main Menu.

Important If you forget or lose **the password, the only way to access the system is to set jumper JP32 to clear the** CMOS RAM. All setup information is lost and you must run the BIOS setup program again.

IDE HDD Auto Detection

This Main Menu item automatically detects the hard disk type and configures the STANDARD CMOS SETUP accordingly.

Note: This function is only valid for IDE hard disks.