



5IFM User's Manual



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Code : 5IFM1.2

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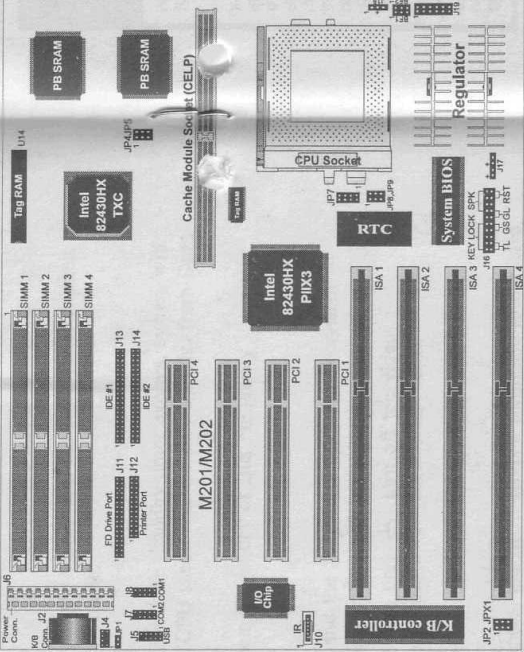
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September 1996

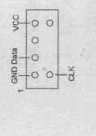
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Jumper Setting Quick Reference

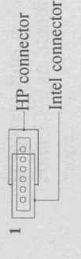
J14: Adding an extra Tag-RAM(8K*8) to expand DRAM, eachenable range up to 512MB



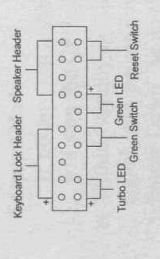
J4: PS/2 mouse connector



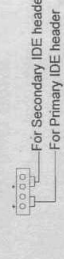
J10: IR connector



J16: Front Pannel header set



J17: Hard disk LED header



J18: CPU cooling fan header



JP1: Keyboard grounding setting jumper
Short: (default)
Open: to decrease the EMI radiation, while finishing the system assembly.

JP2: PS/2 Mouse Enable/Disable setting jumper
1-2 short: Normal (default)
2-3 short: PS/2 mouse disable

JPX1: Password bypass control jumper
1-2 short: Normal (default)
2-3 short: Password bypass

For VRT (Voltage Reduction Technology) processor (such as Intel P55C), the split power plan (CPU's core voltage ≠ CPU's I/O voltage) design is required.

JP4, JP5: External cache size jumper setting

Cache size	Cache on Board	Cache Module	JP4, JP5
256KB	32K*32 x 2	-	1 1 1 1 1 1 1 1 1 1
512KB	32K*32 x 2	32K*32 x 2	1 1 1 1 1 1 1 1 1 1

Int. CPU Speed = Speed rate x System clock	BF1	BF2
75/50/100 = 1.5 x system clock	1-2	1-2
110/120/133 = 2 x system clock	2-3	1-2
150/166 = 2.5 x system clock	2-3	2-3
180/200 = 3 x system clock	1-2	2-3

CPU-type	Spec.	CPU Power-Voltage		System clock	CPU Speed
		Vcc	JP7		
P54C-75	Q0653	3.3	J19	50	x1.5
	Q0655				
	SZ37B				
	SA657				
P54C-90	SA659	3.5	J19	60	x1.5
	Q0708				
P54C-120	Q0708	3.3	J19	60	x2
	Q0708				
P54C-150	Q0708	3.5	J19	66	x2.5
	Q0708				
P54C-180	Q0708	3.3	J19	66	x3
	Q0708				
P54C-100	Q0656	3.3	J19	66	x1.5
	Q0656				
P54C-133	Q0656	3.5	J19	66	x2
	Q0656				
P54C-166	Q0656	3.5	J19	66	x2.5
	Q0656				
P54C-200	Q0656	3.5	J19	66	x3
	Q0656				
Cyrinx	6x86-P120+ @100MHz	3.5	J19	50	x2
	6x86-P133+ @110MHz				
	6x86-P150+ @120MHz				
	6x86-P166+ @133MHz				
AMD	K5-PR75	3.5	J19	60	1.5
	K5-PR90				
	K5-PR100				

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PART I English Edition

Chapter 1

Introduction

1-1 Product Specifications :

- CPU
 - Support full series of Intel Pentium® Processors(P54C), up to 200MHz. .
 - Meet future Intel Pentium® Processors(P55C, P54CTB), Cyrix 6x86 and AMD K5 CPUs spec., up to 200MHz.
 - System Clock 50/55/60/66 MHz.
 - 321-pin ZIF Socket 7
 - ⚠ P55C is the first Intel processor to include MMX™ technology that add new instruction set to accelerate Multi-media and communication applications.
- Main Memory
 - 72-Pin SIMM Socket x 4 (4/8/16/32MB 32/36-bit 70-ns(or faster) SIMM acceptable)
 - Support EDO/FPM type DRAM
 - Support parity/single-bit ECC capability
 - Max. memory size up to 256MB
- Cache Memory
 - Support 0/256(32k*32x2)/512(64k*32x2)KB Pipelined Burst SRAM on board
 - Provide CELP socket, easy to upgrade cache size
 - One extra Tag-RAM (32/16K*8 -15) socket, easy to expand DRAM cacheable range up to 512MB.

- ❑ **I/O Slots**
 - 16-bit ISA Bus x 4
 - 32-bit PCI Bus x 4 (All are Master Modes, PCI 2.1 compliant)
- ❑ **Size**
 - 220mm x 280mm, 4-layer PCB
- ❑ **BIOS**
 - Award System BIOS
 - 1Mb Flash ROM
 - Support PnP, APM, DMI & CD-ROM booting features
 - Built in NCR SCSI BIOS
- ❑ **Chipset**
 - Intel 82430HX two chips PCISet
- ❑ **On Board Super I/O**
 - SMC (or UMC) I/O chip
 - 1FD+2S+1P
 - Meet EPP/ECP parallel port spec.
 - 16550A compatible, high speed UART
 - Support IrDA IR function, up to 115.2kbps
- ❑ **Two Enhanced-IDE Ports**
 - Support up to PIO Mode 4 Timing
 - Bus Master capability to support Multi-task OS.
- ❑ **Dual Channel USB Ports**
 - ▽ Now under testing of compatibility with different peripherals.
- ❑ **Green PC**
 - Meet EPA Green PC standard : power consumption under 30W on Doze, Standby or Suspend mode.

1-2 Product Contents

This product comes with the following components:

- ❑ Mainboard x 1
- ❑ 9-pin serial port & 25-pin parallel port ribbon cable with bracket x 1 (Figure 1-1)
- ❑ 25-pin serial port ribbon cable with bracket x 1 (Figure 1-2A), or adding a PS/2 mouse connector for Optional (Figure 1-2B)
- ❑ 40-pin IDE connector ribbon cable x 1 (Figure 1-4)
- ❑ 34-pin floppy disk drive ribbon cable x 1 (Figure 1-3)
- ❑ User's Manual x 1
- ❑ Flash EPROM Utility & Bus Master IDE Drivers Diskette x 1

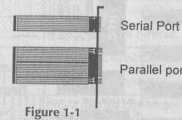


Figure 1-1

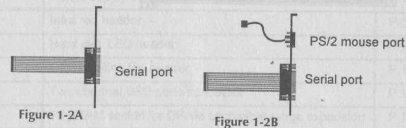


Figure 1-2A

Figure 1-2B



Figure 1-3

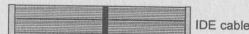
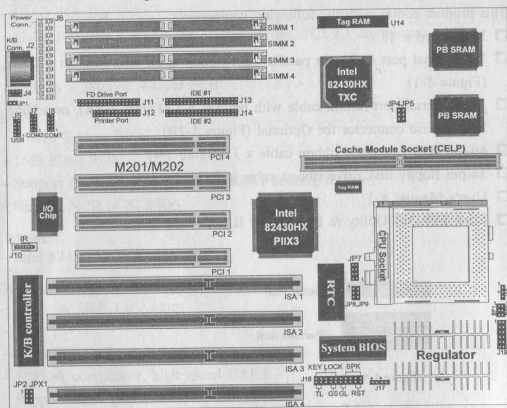


Figure 1-4

1-3 Main Board Layout



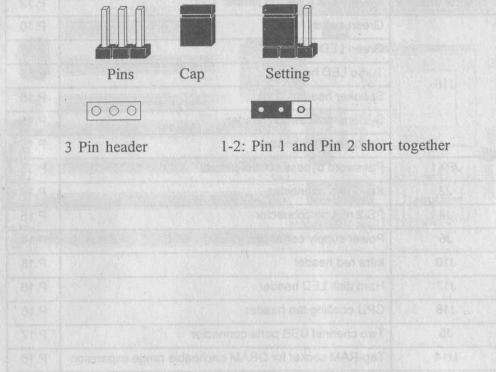
Jumper and Connector Ref. page

Jumper & Connector No.	Function	Ref. page
BF1, BF2	CPU speed setting jumper	P.12
JP2	PS/2 mouse enable/disable	P.15
JP4, JP5	External cache upgrade setting jumper	P.18
JP7, J19	CPU power voltage setting jumper	P.12
JP8, JP9	System clock Setting jumper	P.12
J16	Green switch header	P.16
	Green LED header	P.16
	Turbo LED header	P.15
	Speaker header	P.15
	System reset switch header	P.15
	Keyboard lock header	P.15
JPX1	Password bypass control jumper	P.17
J2	Keyboard connector	P.14
J4	PS/2 mouse connector	P.15
J6	Power supply connector	P.14
J10	Infra red header	P.16
J17	Hard disk LED header	P.16
J18	CPU cooling fan header	P.16
J5	Two channel USB ports connector	P.17
U14	Tag-RAM socket for DRAM cacheable range expansion	P.18

1-4 How to Set Jumper

Jumper switch is used to select between various operating modes. A jumper switch consists of two or three gold pins, which stretches out from the system board. By using the cap to cover two pins is to short those pins. If the cap is not placed on any pins at all, it indicates to leave the pins open.

This section will discuss the functions and settings for all of the user-configurable jumpers on the main board. Refer to the diagram below to find the location of the various jumpers on the main board.

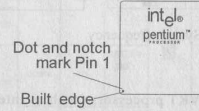


Mainboard Setup

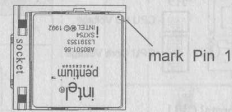
2-1 Installing a PGA type CPU in a ZIF Socket

The CPU Socket 7, incorporated in the mainboard specifications, is specially designed for the Pentium processor. While inserting the Pentium processor onto Socket 7, certain precautionary steps must be followed. The following diagrams of demonstration and explanation are worth of your note.

- To align, match the processor corner containing the blunt edge and the white dot to the socket corner with the distinctive pin arrangement.



- When the socket handle is up the processor should seat easily. No force is necessary.

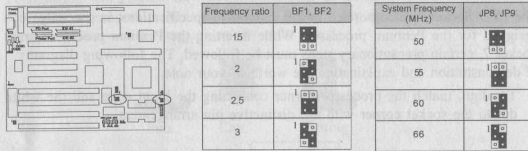


⚠ A cooling fan is strongly recommended when installing P54C/P55C/6x86/K5 processor due to possible overheat.

2-2 Different Pentium® class CPUs Installation

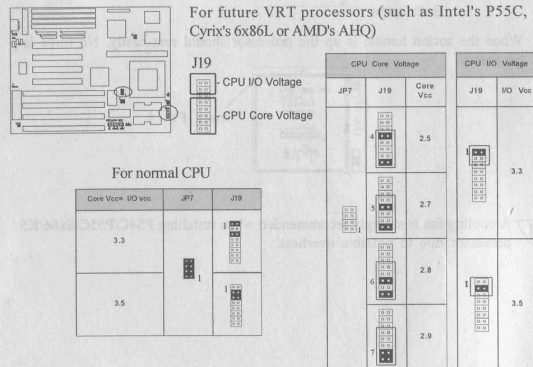
The mainboard supports Pentium class processors, up to 200MHz. If you install the CPU on this board, you must set the System (Bus) Frequency(JP8,JP9), CPU to the Bus Frequency Ratio(BF1,BF2) and CPU Power Voltage(JP7,J19) to meet variable CPU specifications.

System Frequency & CPU to Bus Frequency Ratio Configuration :



*CPU Frequency = Frequency ratio x System frequency

CPU Power Voltage Configuration :



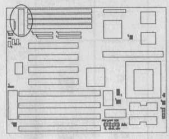
See below chart for details :

CPU-type	Spec.	CPU Power Voltage			System clock		CPU Speed				
		Vcc	J19	JP7	Mhz	JP8, JP9	Speed rate	BF1, BF2			
Intel	P54C-75	3.3	J19 	JP7 	50		x15				
	OO653 OO655 SO378 SX957 SX959										
	P54C-90	3.5	J19 	JP7 			x15				
	P54C-120	CO708	3.3	J19 			JP7 	60		x2	
	P54C-150	3.5	J19 	JP7 			60		x2.5		
	P54C-180										
	P54C-100	OO656	3.3	J19 			JP7 	66		x15	
	P54C-133	3.5	J19 	JP7 			66		x2		
	P54C-166										
	P54C-200										
Cyrix	6x86-P120 @100MHz	3.5	J19 	JP7 	50		x2				
	6x86-P133 @110MHz										
	6x86-P150 @120MHz										
	6x86-P166 @133MHz										
AMD	K5-PR75	ABQ	JP7 	JP8, JP9 	50		15				
	K5-PR90										
	K5-PR100										

2-3 Jumper Settings

Connectors are used to link the system board with other parts of the system, including the power supply, the keyboard, and the various controllers on the front panel of the system case.

Power Supply Connector (J6)



1	POWER GOOD	Orange
2	+5V	Red
3	+12V	Yellow
4	-12V	Blue
5	GROUND	Black
6	GROUND	Black
1	GROUND	Black
2	GROUND	Black
3	-5V	White
4	+5V	Red
5	+5V	Red
6	+5V	Red

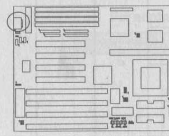
The mainboard requires a power supply with 200 watts at least. While installing the board, the power supply connector is usually the last one to be connected. Before connecting the power supply, please make sure it is not connected to power source.

Most power supplies have two sets of six-wire connectors. Plug the dual connectors onto the board connector and make sure the black leads are in the center.

Power supply requirement :

Output voltage	Regulation tolerance
+5 Vdc	± 5%
-5 Vdc	± 10%
+12 Vdc	± 5%
-12 Vdc	± 10%

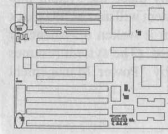
Keyboard Connector (J2)



Pin	Definition
1	Keyboard Clock
2	Keyboard Data
3	(None)
4	Ground
5	+5V DC

Keyboard Connector / Pin Definitions

PS/2 Mouse Control



PS/2 Mouse Header(J4)

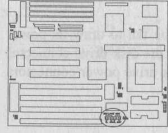
A PS/2 mouse adapter (8-pin mini-DIN) with bracket is for optional. You can connect it with the J4 header directly.

If a PS/2 mouse is used, you should assign IRQ12 to the PS/2 mouse. Otherwise, the IRQ12 will be available for other adapters(Disable PS/2 mouse function from BIOS & open the JP2).

PS/2 Mouse Enable/Disable Header(JP2)

- Short: PS/2 mouse enable (default)
- Open : PS/2 mouse disable

Front Panel Header Set



Keyboard Lock Header

Pin	Definition
1	+5V DC
2	No Connect
3	Ground
4	Keyboard
5	Ground

Power Good LED

Speaker Header

Pin	Definition
1	Speaker Signal
2	GND
3	GND
4	+5V DC

Turbo LED Header

LED On : System running in power saving mode.
LED Off : System running in normal mode.

Speed Change by keyboard

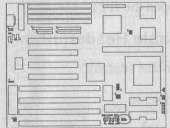
- CTRL-ALT- "-" : Set to low speed
- CTRL-ALT- "+" : Set to high speed

This mainboard has no hardware Turbo/De-turbo function. If you connect a case-mounted Turbo LED, the LED will light while the system is turned on.

Green Switch / Green LED Header

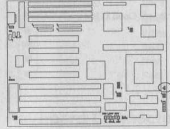
This allows the user to manually place the system into suspend (green) mode where system will make CPU clock down to zero MHz. The system is waken up whenever the keyboard or mouse is touched. (The system resumes in different ways as defined by "Power Management Setup" screen of the BIOS)

Hard Disk LED Header (J17)



For Secondary IDE header
For Primary IDE header

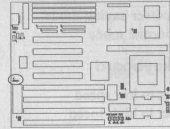
CPU Cooling Fan Header (J18)



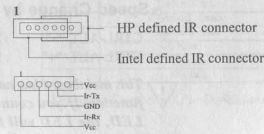
This added connector allows the fan to draw its power from the mainboard instead of the disk drive connector (some systems have all the disk drive power connectors in use).

+12V
GND

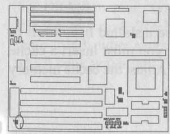
Infra Red Connector (J10)



If you set the BIOS's item "Infra Red(IR) Function", to "HP SIR" or "ASK IR", the COM2 port will switch to support IR function.



CMOS Data Control



Password Bypass Control Jumper (JPX1)

When you power on the system, it will go directly to system boot, no any attention to password checking. (This function is useful which you forget the password)

- : Normal (default)
- : Bypass the password checking

USB(Universal Serial Bus) Connector (J5)

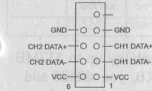


USB is an open industry standard, providing a simple and inexpensive way to connect up to 125 devices to a single computer port. Keyboards, mice, tablets, digitizers, scanners, bar-code readers, modems, printers and many more can all run at the same time.

USB is a dynamically reconfigurable serial bus with an elementary data rate of 12Mbps, based on off the shelf, low cost micro-controller technology. Its modular layered software protocol supports sophisticated devices and application programs.

This board contains a USB Host controller and includes the root hub with two USB ports (meet USB Rev 1.0 spec.), which permits the connection of two USB peripherals or hub devices directly.

Now under testing of compatibility with different peripherals.



2-4 Upgrade External Cache Memory Configuration

Upgrade Cache Size

There are two external cache memory on board that may be installed from 0KB to 512KB in size. When you want to upgrade the cache size, you must insert a cache module, which meets COAST 3.x spec., on the CELP socket. Adjust the cache memory size setting (JP4, JP5) for the system.

Cache size	Cache on Board	Cache Module	JP4, JP5
256K	32K*32 x 2	---	JP4 JP5
512KB	32K*32 x 2	32K*32 x 2	JP4 JP5

* If you want to upgrade the cache module by yourself, please consult your vender, who may provide more detailed information.

Expand DRAM Cacheable Range :

We simplify the upgrade paths as following table:



Cache size	DRAM Cacheable Range	Cache On Board		Cache Module	
		Data RAM	Tag RAM	Data RAM	Tag RAM
256KB	64MB	32K*32x2	32/16K*8x1	--	--
	512MB	32K*32x2	32/16K*8x2	--	--
512KB	64MB	32K*32x2	32/16K*8x1	32K*32x2	--
	512MB	32K*32x2	32/16K*8x2	32K*32x2	--

To expand DRAM cacheable capability up to 512MB or enlarge cache size up to 512KB, you should add an extra 32/16K*8, 15ns tag-RAM into U14 socket and plug a non-tag 256KB cache module into CELP socket. Please contact your original dealer to get more detailed information.

2-5 Main Memory Configuration

The DRAM memory system on board consists of bank0 and bank1, and the memory size ranges from 8-256 MBytes. You must install 2 pcs DRAM modules (same size, same speed, either single or double side) for each bank at a time, and regardless which bank you install first.

	Bank0	Bank1
SIMM 1	S/S	----
SIMM 2	S/S	S/S
SIMM 3	S/S	D/S
SIMM 4	----	S/S
	D/S	----
	D/S	S/S
	D/S	D/S
	----	D/S

"S/S" - Single side
 "D/S" - Double side
 "----" - no use

DRAM Specifications :

- DRAM type : FP(Fast Page) or EDO(Extended Data Output) DRAM
- Module size : single-sided - 4/16 MBytes.
 Double-sided - 8/32 MBytes.
- DRAM speed : 70-ns or faster for system clock 50 or 60MHz,
 60-ns for system clock 66MHz.
- Parity : Either parity or non-parity.

! 64MB SIMM is still testing now.

Memo

Chapter 3

Award BIOS Setup Program

The system BIOS has built-in BIOS for PCI NCR810 and Adaptec AHA-7850. In case one of these PCI cards is installed, the system BIOS will auto-scans the ROM address and install the BIOS in the first available address.

Award's BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This content of information is stored in CMOS RAM so that it can retain the Setup information when the power is turned off.

To turn on (or reboot) the system and press the [DEL] key to enter the Award BIOS setup screen as following.

ROM PCI / ISA BIOS (2A59FC39)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING

ESC : Quit
 F10 : Save & Exit Setup

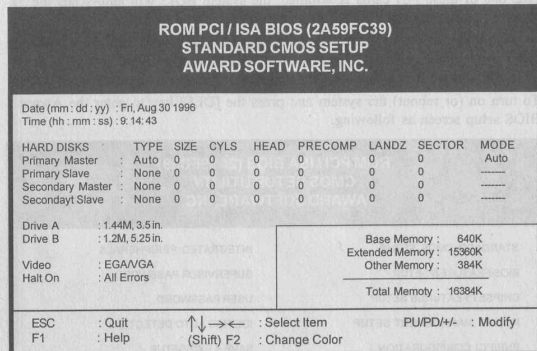
↑ ↓ → ← : Select Item
 (Shift) F2 : Change Color

Time, Date, Hard Disk Type...

Figure 3-1 Setup Program Initial Screen

3-1 Standard CMOS Setup

To choose the "STANDARD CMOS SETUP" option from the "CMOS SETUP UTILITY" menu (Figure 3-1) and the below screen is displayed. This "Standard CMOS Setup" Menu allows users to configure system components such as date, time, hard disk drive, floppy disk drive, display and memory. When a field is highlighted, on-line help information is displayed in the left bottom of the Menu screen.



Standard CMOS Setup Screen

Primary/secondary Master/Slave TYPE:

The categories identify the types of 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type User is user-definable.

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 category. 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", you will need to know the information listed below. Enter the information directly from the keyboard and press <Enter>. This information should be included in the documentation from your hard disk vendor or the system manufacturer.

TYPE	drive type
CYLS.	number of cylinders
HEADS	number of heads
PRECOMP	write precomp
LANDZONE	landing zone
SECTORS	number of sectors
MODE	mode type

If you select Type "Auto", BIOS will Auto-Detect the HDD & CD-ROM Drive at the POST stage and showing the IDE for HDD & CD-ROM Drive.

If the controller of HDD interface is ESDI the selection shall be "Type 1".

If the controller of HDD interface is SCSI the selection shall be "None".

If a hard disk has not been installed select "None" and press <Enter>.

Write Pre compensation - The size of a sector gets progressively smaller as the track diameter diminishes, but each sector must still hold 512byte. Write Pre compensation circuitry on the hard disk compensates for the physical difference in sector size by boosting the write current for sectors on inner track.

Landing Zone - The cylinder location where the heads will normally park when the system is shut down.

Capacitor = (Number of heads) x (Number of cylinders) x (Number of sectors per track) x (512 Bytes per sector)

Mode:

For IDE hard drives, the BIOS provides three modes to support both normal IDE hard disks and also drives larger than 528MB:

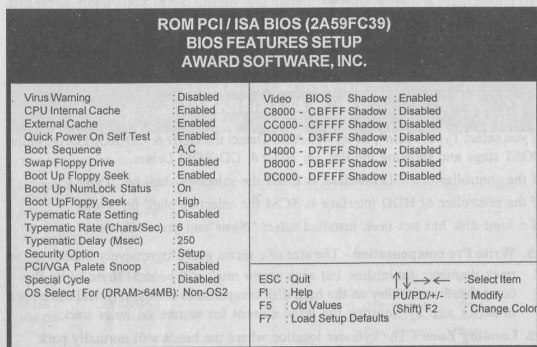
Normal mode - for IDE drives smaller than 528MB.

LBA mode - provide LBA (Large Block Addressing) function for mass capacity hard disk that larger than 528MB and up to 8.4GB (Giga Bytes).

Large mode - some mass capacity hard disk operate in large mode and does not support LBA function for above mass capacity hard disk. Large mode is new specifications which may not be fully supported by all operation systems (MS-DOS is OK right now, but is uncommon.)

3-2 BIOS Features Setup

By choosing the "BIOS FEATURES SETUP" option from the "CMOS SETUP UTILITY" menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.



BIOS Feature Setup Screen

A. VIRUS PROTECTION

Virus Warning:

When Enabled, BIOS activates a warning message to the user when any program attempts to access the boot sector or hard disk partition table and allows the user to intervene.

B. CACHE CONTROL

CPU Internal Cache/External Cache

These fields allow you to enable or disable the CPUs "Level 1" built-in cache and "Level 2" secondary cache.

C. BOOT UP FEATURES

After power on the system, BIOS will perform a series of device initializations and diagnostic tests.

Quick Power On Self Test

If it set to Enabled, BIOS will skip some check items during POST.

Boot Sequence

This option sets the sequence of boot drives (either floppy drive A; or hard disk drive C;) that BIOS attempts to boot from after POST completes.

CD-ROM drive is becoming a standard device on computer systems. It has a large storage capacity advantage to store different operating system on it and will need boot-up of the system via CD-ROM. Now, we provides CD-ROM boot-up function that allows the user to select booting from A:, C: or CD-ROM. No matter if the CD-ROM is IDE or SCSI, the system will look for the first available bootable device for the operating system.

Swap Floppy Drive

Enabled - The system will swap the floppy drive assignment so that drive A will function as drive B, drive B will function as drive A.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. (360K type drive is 40 tracks and the 720K, 1.2M and 1.44M are 80 tracks)

Boot Up NumLock Status

Define the keyboard as number keys or arrow keys.

Boot Up System Speed

This option selects the speed of CPU at system boot time.

D. KEYBOARD INTERFACE

Typematic Rate Setting

When Enabled, you can set the following two typematic control items.

Typematic Rate (Chars/Sec)

The typematic rate is sets the rate at which characters on the screen repeat when a key is pressed and held down.

Typematic Delay (Msec)

Choose how long after you press a key that a character begins repeating.

E. Security Option

System: When entering wrong password, the system will not boot and deny to access the BIOS Setup.

Setup: When entering wrong password, the system can boot, but deny any access to the BIOS Setup.

F. PCI/VGA Palette Snoop

A system may have two display devices present in the system : a VGA-compatible interface and another graphics controller. In this case, both devices implement the color palette registers at the same I/O addresses. The configuration software must program one of the devices to actively act as the target, while the other device is programmed to quietly "snoop" the write data from the bus as it flies by on its way to the other device.

Some non-standard VGA cards or MPEG video cards may not show colors properly. You can leave this setting to **Enable** that could correct this problem.

G. OS Select (For DRAM > 64MB)

If system memory size is large than 64MB and the system running OS/2 software, please select "OS/2" item.

H. Shadow Memory

BIOS can copy adapter's ROM from address C0000h through DFFFFh to RAM for faster execution. Shadow setting are chipset specific and dependent on system hardware.

3-3 Chipset Features Setup

By choosing the "CHIPSET FEATURES SETUP" option from the CMOS SETUP UTILITY menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

ROM PCI / ISA BIOS (2A59FC39) CHIPSET FEATURE SETUP AWARD SOFTWARE, INC.			
AUTO Configuration	: Enabled	Memory Parity/ECC Check	: Disabled
DRAM RAS# Precharge Time	: 4	L2 Cache Cacheable Size	: 64MB
DRAM R/W Leadoff Timing	: 7/6	Chipset NA# Asserted	: Enabled
Fast RAS# To CAS# Delay	: 3	Pipeline Cache Timing	: Faster
DRAM Read Burst (EDO/FPM)	: x333/x444		
DRAM Write Burst Timing	: x333		
Turbo Read Leadoff	: Disabled		
DRAM Speculative Leadoff	: Disabled		
Turn-Around Insertion	: Disabled		
ISA Bus Clock	: PCICLK/4		
System BIOS Cacheable	: Disabled		
Video BIOS Cacheable	: Disabled		
8 Bit I/O Recovery Time	: 3	ESC : Quit	↑ ↓ → ← : Select Item
16 Bit I/O Recovery Time	: 2	F1 : Help	PU/PD+/- : Modify
Memory Hole At 15M-16M	: Disabled	F5 : Old Values	(Shift) F2 : Change Color
Pear Concurrency	: Enabled	F7 : Load Setup Defaults	
Chipset Special Features	: Enabled		

Chipset Features Setup Screen

▲ Above all the entries on the screen are the optimal settings for this mainboard and you should NOT change them unless necessary.

▣ If professional engineers or customers would make some adjustments to gain even better system stability and performance, please visit URL://www.award.com to search for helpful relative information.

A. 8-bit I/O Recovery Time & 16-bit I/O recovery Time

This category is used to add additional recovery delay between CPU or PCI master 8-bit (or 16-bit) I/O cycles to the ISA Bus. The options are 1 to 8 and N/A.

B. L2 Cache Cacheable Size

Adding one extra Tag-SRAM(8K*8-15) into U14 will expand the cacheability of L2 cache, up to 512MB.

C. Memory Parity/ECC Check

This item allow you to support parity or non-parity type SIMM. If you use non-parity type SIMM, please **Disable** this function.

D. Memory Hole at 15M-16M

Enabling this features reserves 15MB to 16MB memory address space to ISA expansion cards that specify this setting. This makes the memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB. The default is Disabled.

3-4 Power Management Setup

This section provides informations of functioning the Green PC power management features. For enabling the power management function, please select "POWER MANAGEMENT SETUP" option from the "CMOS SETUP UTILITY" menu (Figure 3-1).

ROM PCI / ISA BIOS (2A59FC39) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.			
Power Management	: Disabled	** Power Down & Resume Events**	
PM Control by APM	: Yes	IRQ3 (COM 2)	: ON
Video Off Method	: V/H SYNC+Blank	IRQ4 (COM 1)	: ON
MODEM Use IRQ	: 3	IRQ5 (LPT 2)	: ON
Doze Mode	: Disable	IRQ6 (Floppy Disk)	: OFF
Standby Mode	: Disable	IRQ7 (LPT 1)	: ON
Suspend Mode	: Disable	IRQ8 (RTC Alarm)	: OFF
HDD Power Down	: Disable	IRQ9 (IRQ2 Redir)	: ON
		IRQ10 (Reserved)	: ON
		IRQ11 (Reserved)	: ON
** Wake Up Events In Doze & Standby **		IRQ12 (PS/2 Mouse)	: ON
IRQ3 (Wake-Up Event)	: ON	IRQ13 (Coprocessor)	: ON
IRQ4 (Wake-Up Event)	: ON	IRQ14 (Hard Disk)	: ON
IRQ8 (Wake-Up Event)	: ON	IRQ15 (Reserved)	: ON
IRQ12 (Wake-Up Event)	: ON		
		ESC : Quit	↑ ↓ → ← : Select Item
		F1 : Help	PU/PD+/- : Modify
		F5 : Old Values	(Shift) F2 : Change Color
		F7 : Load Setup Defaults	

Power Management Setup Screen

A. Selecting "Power Management" Mode:

Power Management

User Define - Allows user to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

Disabled - Disable the power management features.

Min. Saving - All timers are in their min value.

Doze - 1hr, Standby - 1hr, suspend- 1hr.

Max. Saving - all timers are in their max value.

Doze - 1min, Standby - 1min, suspend- 1min.

PM Control by APM

APM(Advanced Power Management) support the Intel and Microsoft INT 15h BIOS function which creates an interface to allow the OS to communicate with the CPU SMM code. If APM is not installed, this option has no effect.

▣ APM(Advanced Power Management) should be installed to keep the time updated when the computer enters suspend mode activated by the BIOS Power Management. For DOS environments, you need to add DEVICE=C:\DOS\POWER.EXE. For Windows 3.1x and Windows 95, you need to install Windows using the APM feature.

Video Off Method

Blank -BIOS will only blanks off the screen when disabling video.

V/H SYNC+Blank - BIOS will blanks off the screen and turn off V/H SYNC signals to turn off the V-SYNC and H-SYNC signals from VGA cards to monitor.

▣ If Green monitors detecting the V/H-SYNC signals are turned off, it automatically cuts the electron gun to save power consumption.

B. Modem Use IRQ

While modem ring up, that will wake up the system from green mode (Certainly, you should connect the Modem to COM2 (default INT=3) and turn on the resume event in green mode.

C. PM Time Setting

Doze Mode :

If no any PM events happen to the system and the Doze timer expires. System will enter CPU to Doze mode.

Standby Mode

If System runs in Doze mode and the Standby timer expires, system will enter CPU to Standby mode (CPU speed = CPUCLK / 3 MHz) from Doze mode.

The CPUCLK means System Frequency or Bus Frequency mentioned in this manual.

Suspend Mode

If no any activity continues and the Suspend times out, the system will stop the CPU clock (CPU speed = 0 MHz).

Within Standby or Suspend, system may also turn off the video signal and power down the hard disk driver (depend on "HDD Power Down" setting).

HDD Power Down

When the HDD idle time elapses, the BIOS sends a command to the hard disk to enter sleep mode (turn off the motor). This function is only valid for IDE HDDs that support power saving function.

D. PM Events Mask Control

Individual IRQ wake up Event :

If an interrupt request is generated by using a device, it will wake up the system to normal mode. (support by any green modes)

Power Down Activities:

the system runs at Suspend mode:

If any event happens, the system will return to normal mode.

the system runs at Doze or Standby mode:

If any event happens, the timer will recount from zero.

3-5 PNP/PCI CONFIGURATION

**ROM PCI / ISA BIOS (2A59FC39)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.**

Resources Controlled By Reset Configuration Data	Manual : Disabled	PCI IRQ Activated By PCI IDE IRQ Map To	Level : ISA
IRQ-3 assigned to	: Legacy ISA	Used MEM base addr	: N/A
IRQ-4 assigned to	: Legacy ISA		
IRQ-5 assigned to	: PCI/ISA PnP		
IRQ-7 assigned to	: PCI/ISA PnP		
IRQ-9 assigned to	: PCI/ISA PnP		
IRQ-10 assigned to	: PCI/ISA PnP		
IRQ-11 assigned to	: PCI/ISA PnP		
IRQ-12 assigned to	: Legacy ISA		
IRQ-14 assigned to	: Legacy ISA		
IRQ-15 assigned to	: Legacy ISA		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP		
DMA-3 assigned to	: PCI/ISA PnP		
DMA-5 assigned to	: PCI/ISA PnP		
DMA-6 assigned to	: PCI/ISA PnP		
DMA-7 assigned to	: PCI/ISA PnP		

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

PNP/PCI Configuration Screen

A. Resource Control

Manual : The system BIOS will not refer to the ESCD for IRQ & DMA information. Instead, it will refer to these items in the setup menu for assigning IRQ & DMA.

Auto : The system BIOS will reference the ESCD all legacy information.
 ESCD(Extended System Configuration Data) provides a detailed format of the configuration data structures stored in flash memory. Each data structure defines the resources used by a device or a card in the system. This includes legacy and PCI/ISA PnP devices.

B. Reset Configuration Data

Enable : The system BIOS will clear/reset the ESCD during the POST.

After clearing the ESCD, the BIOS will then change this item's value to "Disabled", otherwise, the ESCD data will become useless.

C. IRQ#/DMA# assign to

When resource are controlled manually, you can assign each system interrupt & DMA channel for "Legacy ISA" or "PCI/ISA PnP" card used.

While using Legacy ISA Card(non-PnP ISA card), please set its necessary corresponding resources (INT#, DMA#) from "PCI/ISA PnP" to "Legacy ISA".

IRQ-3/4/7/12/14/15 have been set as default for on board devices (COM2, COM1, PS/2 mouse, Printer port, IDE1 and IDE2).

3-6 Load Setup Defaults

"LOAD SETUP DEFAULTS" loads the default system values directly from "CMOS SETUP UTILITY" menu (Figure3-1). If the stored record created by the setup program becomes corrupted (and therefore unusable), these defaults will be loaded automatically when you turn the computer on.

**ROM PCI / ISA BIOS (2A59FC39)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.**

STANDARD CMOS SETUP	INTERGRAED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FE	Load SETUP Defaults <Y/N>? N
POWER MAN	
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
ESC : Quit	↑ ↓ → ← : Select Item
F10: Save & Exit Setup	(Shift) F2 : Change Color

Load SETUP Defaults except Standard CMOS SETUP

Load Setup Defaults Screen

3-7 INTEGRATED PERIPHERALS

**ROM PCI / ISA BIOS (2A59FC39)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.**

IDE HDD Block Mode	: Enabled	
PCI Slot IDE 2nd Channel	: Enabled	
On-Chip Primary PCI IDE	: Enabled	
On-Chip Secondary PCI IDE	: Enabled	
IDE Primary Master PIO	: Auto	
IDE Primary Slave PIO	: Auto	
IDE Secondary Master PIO	: Auto	
IDE Secondary Slave PIO	: Auto	
USB Controller	: Disabled	
Onboard FDD Controller	: Enabled	
PS/2 Mouse Function	: Enabled	
Onboard Serial Port 1	: COM1/3F8	
Onboard Serial Port 2	: COM2/2F8	
Infra Red (IR) Function	: Disabled	
Onboard Parallel Port	: 378/IRQ7	
Onboard Parallel Mode	: SPP	

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

Integrated Peripherals Setup Screen

A. On Board IDE Control

IDE HDD Block Mode

Specify the max. number of sector and transfer at a time.

PCI Slot IDE 2nd Channel

If you designate a higher performance IDE board into the physical PCI slot (certainly, you must disable On-chip IDE controller), this item allows you to turn on the 2nd channel of this external board.

On-chip Primary/Secondary PCI IDE

You might choose to disable the On-chip IDE controller, if you were to add a higher performance IDE board.

IDE Primary/Secondary Master/Slave PIO

The four IDE PIO (programmed Input/Output) filed let you set a PIO mode (0-4) for each IDE devices that the internal PCI IDE interface supports. Modes 0 through 4 provide successively increased performance.

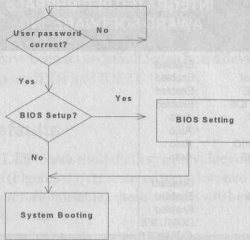
In Auto mode, the system automatically determines the best mode for each device.

B. Infra Red (IR) Function

To enable this function, the COM2 port will redirected to support IR function.

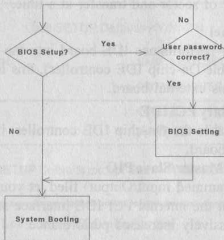
3-8 Supervisor Password & User Password Setting

A. Set "User password" Only

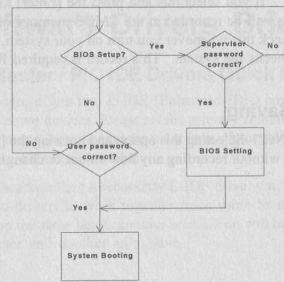


If "Security Option" (locate in BIOS features Setup Screen) is set to "System"

If "Security Optional" is set to "Setup"



B. Set both "Supervisor password" and "User password"



3-9 IDE HDD Auto Detection

This utility can AUTO DETECT IDE hard disk type .

**ROM PCI / ISA BIOS (2A59FC39)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.**

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :								
Select Secondary Slave Option (N=Skip) : Y								
OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
2 (Y)	547	530	32	0	1059	63	LBA	
1	547	1060	16	65535	1059	63	NORMAL	
3	547	530	32	65535	1059	63	LARGE	

Note: Some OSes (like SCO-UNIX) must use "NORMAL" for installation
ESC: Skip

IDE HDD Auto Detection Screen

3-10 Save and Exit Setup

"SAVE & EXIT SETUP". If you select this and press the [Enter] key, the values entered in the setup utilities will be recorded in the CMOS memory of the chip set. The microprocessor will check this whenever you turn on your system, and compare this to what it finds as it checks the system. This record is required for the system operation.

3-11 Exit Without Saving

"EXIT WITHOUT SAVING". Selecting this option and pressing the [Enter] key let you exit the Setup program without recording any new values or changing old ones.

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :								
Select Secondary Slave Option (N=Skip) : Y								
OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
2 (Y)	547	530	32	0	1059	63	LBA	
1	547	1060	16	65535	1059	63	NORMAL	
3	547	530	32	65535	1059	63	LARGE	

Chapter 4

Software Drivers Brief Guide

4-1 Bus Master / PIO IDE Drivers Quick Installation

⚠ This board offers two E-IDE (Enhanced IDE) connectors, each of which can take two devices. Please set the primary channel for E-IDE hard disks and set the secondary channel for slow throughput ATAPI compliant peripherals. (such as ATAPI CD-ROM)

⚠ If you are installing a secondary E-IDE drive, you may have difficulty getting the two drivers to work together since some brands of E-IDE drivers won't work on the same bus as another brand. You will have to designate one drivers as master and another as a slave.

⚠ If you want to get decent performance from your CD-ROM drive. You'll need to load SmartDrive (V5.0 or later version) to cache your CD. Please load the CD-ROM driver and MSCDEX before loading SmartDrive so the CD-ROM can cache.

1. Windows NT3.5

- Unpack & copy drivers into C:\PIIXIDE
 - Boot up Windows NT.
 - Insert the "Bus Master IDE Drivers Diskette" into drive A(or B).
 - In Windows program manager screen, choose "File" item.
 - In "File Item List", choose "RUN" item.
 - In "Run" screen, key in "A(or B):\WinNT\Setup.EXE" and <Return>
 - Follows the directions appeared on the screen to unpack the drivers files into C:\PIIXIDE directory.
- Install the Bus Master Drivers
 - Form the Program Manager, double click on "Windows NT Setup" in the Main group.
 - Select "Options/Add/Remove SCSI Adapters..."
 - Click on Add.
 - The "Select SCSI Adapter Option" dialog will appear; select "Other (Requires a disk from a hardware manufacturer)" from the "Adapter:" list box.

5. Next, the "Insert Diskette" dialog box will appear and type in "C:\PIIXIDE" and click "OK".
6. Next, the "Select OEM Option" dialog box will appear; select "PIIX Bus Mastering IDE Driver" and click "OK".
7. Next, the "Select SCSI Adapter Option" dialog box will appear; click on the "Install" button in the dialog box.
8. Next, the "Windows NT Setup" screen will appear prompting for the path of the installation files, type in "C:\PIIXIDE" and click on "Continue" button. If installation is successful, the "SCSI Adapter Setup" dialog box will reappear, and "PIIX Bus Mastering IDE Driver" will be listed. That means the driver is installed.
9. Reboot your system to load the driver.
After installation, the PIIXIDE.SYS file is stored in the C:\<Win NT directory>\System32\Drivers directory.

2. Windows 95

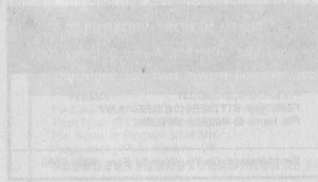
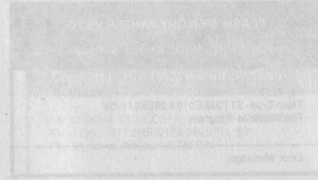
The installation procedures described here are based on the Windows 95 Final Beta Release version.

- 1) Insert the floppy disk containing the driver file into drive A(or B).
 - 2) Run the installation utility in drive A(or B).
 1. Double click the "My Computer" icon on the Desktop screen.
 2. Double click the drive A(or B) icon.
 3. Run the INSTALL.EXE applet in drive A (or B):\Win95
 4. Follow the advise showed on the screen to complete the installation.
 - 3) When system prompted to reboot Windows95, select "Yes".
 - 4) Restart Windows95 will detect Intel 82371SB PCI IDE Controllers and install the primary and secondary Bus Master IDE Drivers by sequence.
 - 5) Restart Windows95 again.
- ⊗ The IDEATAPI.MPD driver will be installed and used as long as the PIIXIDE interface is enabled. After installation, the IDEATAPI.MPD file is stored in the C:\<Windows 95 directory>\System\IOSubSys directory. The IDEATAPI.INF information on the install floppy is integrated into the Windows 95 device database for automatic support of the PIIX Bus Master IDE driver and is stored in the C:\<Windows 95 directory>\INF directory as one of the file named OEM<x>.INF (name varies with system).

3. OS/2 2.0 and WARP 3.X

- 1) Run the install utility (INSTALL.EXE) in drive A(or B):\OS2
INSTALL.EXE will copy PIIXIDE.ADD from the source directory (A (or B):\OS2) to the target directory and change the CONFIG.SYS file to install it.
- 2) Reboot the system.

⊗ For more information (like parameter settings, driver de-installation, Supported Devices...etc.), please refer to the README.TXT file on the diskette.

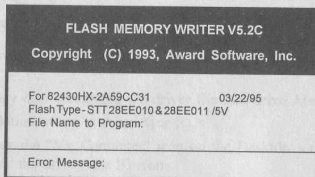


4-2 Update your system BIOS

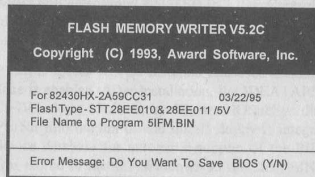
System provides the Flash ROM to allow users to update the BIOS of newer version without changing components.

⚠ Please remove (or remark) any installed Memory Management Utility (such as EMM386.EXE, QEMM.EXE...etc.) in the CONFIG.SYS files, before running this utility.

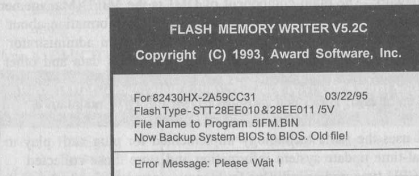
1. Insert the Flash Utility Diskette in Drive A(or B).
2. Type "A(orB):\AWDFLASH" at DOS command line and press [Enter] key.
3. You will see the following setup on screen.
4. Please key in BIOS file name . (The filename will be released from your dealer when a new updated BIOS is released).



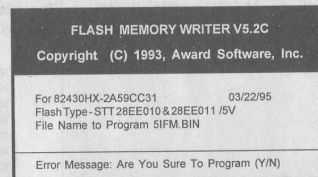
5. If you don't want to save the previous BIOS data to the diskette, please key in [N].



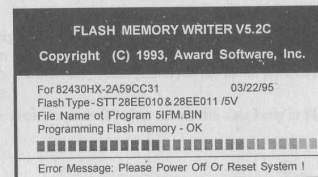
If you want to save the previous BIOS data to the diskette, please key in [Y].



6. Type [Y], then you will start program.



7. As programming finished, the system will auto restart.



4-3 DMI Utility

DMI (Desktop Management Interface) is a new method of managing computers in an enterprise network. The main component of DMI is the MIFD (Management Information Format database). This database contains all the information about the computing system and its components. Using DMI, a system administrator can obtain the types, capabilities, operational status, installation data and other information about the system components.

We support DMI features in BIOS and provide a DMI utility to maintain a MIFD file.

The system BIOS uses the same technology implemented for plug and play to allow dynamic real-time update system information and store those collected information (e.g. CPU type and speed, Bus frequency, memory size and speed) block in the motherboard's Flash EPROM.

We also provides the user with a friendly DMI utility (DMICFG.EXE) to allow the system integrator or end user to place necessary information in MIFD such as the serial number on the motherboard and-on cards, monitor, etc. Those information is not detected by the system BIOS and has to be manually input through the DMI utility.

The DMICFG.EXE (DMI Configuration Utility for modifying/reviewing the MIFD) contained in Drivers Disk that comes with your mainboard.

⚠ Please remove (or remark) any installed Memory Management Utility (such as EMM386.EXE, QEMM.EXE...etc.) in the CONFIG.SYS files, before running this utility.

Type A: DMICFG, the following screen will prompt:

Award DMI Configuration Utility v1.03u, Copyright Award Software Inc. 1996
[Edit DMI] [Add DMI] [Load DMI FILE] [Save DMI FILE]

BIOS System	== Display Component ==
Enclosure/Chassis	Type: BIOS Information
Processor	Handle: 0000
Memory Controller	Vendor Name : Award software International, Inc.
Memory Module	BIOS Version: 4.51 PG
Memory Module	BIOS Starting Address Segment : E000
Memory Module	BIOS Build Date : 08/22/96
Memory Module	BIOS Characteristics : Press [Enter] for detail
Cache	Size of BIOS ROM : 0128K
Cache	
Port Connector	
Port Connector	
Port Connector	
Port Connector	
Port Connector	
Port Connector	
Port Connector	
System Slots	
System Slots	

-Move cursor Enter-Accept DEL-Delete ESC-Abort&Exit

Use the ←→ (left-right) cursors to move the top menu items and the ↑ (up-down) cursor to move between the left hand menu items. The bottom of the screen will show the available keys for each screen. Press [Enter] at the menu item to enter the right hand screen for editing.

If you have made change, press [F10] to ensure the data keep in Flash ROM.

PART II German Edition

Chapter 1

1-1 Produktspezifikationen

☐ CPU

- Passend für die ganze Serie der Intel Pentium® Prozessoren bis zu 200 MHz.
- Passend für zukünftige Pentium® Prozessoren (P55C, P45CTB), Cyrix 6x86 und AMD K5 bis 200 MHz.
- Systemuhr 50/55/60/66 MHz
- 321-Pin ZIF-Buchse 7

⚡ P55C ist der erste Intel-Prozessor, der MMX™ Technologie bietet, die neue Dimensionen bei der Beschleunigung von Multimedia und Kommunikationsprogrammen bietet.

⚠ Die gespaltene Stromebene unterstützt zukünftige VRT (Voltage Reduction Technology) Prozessoren wie Intels P55C, Cyrix' 6x86L und AMDs K5-AHQ-Teile. Da diese Teile aber noch nicht in Serie produziert werden, übernehmen wir **KEINE** Garantie für Kompatibilitätstests.

☐ Hauptspeicher

- 72-Stift SIMM-Buchse x 4 (4/8/16/32MB 32/36 Bit 70-ns (oder schneller) SIMM akzeptabel
- Unterstützt EDO/FR-Typ RAM
- Unterstützt Paritäts/Einzelbit ECC Funktionen
- Maximale Speichergröße bis zu 256 MB

☐ Cachespeichergröße

- Unterstützt 0/256/512(32k*32x2/64k*32x2)KB Pipelined Burst SRAM eingebaut
- Bietet CELP Buchse (entspricht COAST 3.x Spezifikationen), leichte Aufrüstung der Cachespeichergröße möglich
- Ein extra Tag-RAM (32/16K*8-15) Buchse für einfache Aufrüstung des cachebaren DRAM-Umfangs auf bis zu 512 MB.

☐ I/O Erweiterungssteckpl_tze

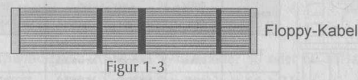
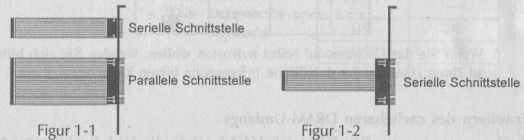
- 16 Bit ISA Bus x 4
- 32 Bit PCI Bus x 4 (alle im Master Modus, passend für PCI 2.1)

- Größe**
- 220mm x 280mm, 4-lagiges PCB
- BIOS**
- Award System BIOS
- 1 MB Flash ROM
- Unterstützt PnP, APM, DMI & CD-ROM Bootfunktionen
- Eingebauter NCR SCSI BIOS
- Chipsatz**
- Intel 82430HX 2-Chip PCI Satz
- Eingebautes Super I/O**
- SMC (oder UMC) I/O Chip
- 1 FD+2S+1P
- Passend für Spezifikationen von EPP/ECP parallelen Schnittstellen
- Kompatibel mit 16550A, Hochgeschwindigkeits-UART
- Unterstützt IrDA IR Funktionen bis 115.2 Kbps
- Zwei verbesserte IDE Schnittstellen**
- Unterstützt bis Timing bis zu PIO Modus
- Bus Master Funktionen zur Unterstützung von Multitask-OS
- Zweikanal USB Schnittstellen**
- Z.Z. unter Kompatibilitätstest mit verschiedenen Zusatzgeräten.
- Green PC**
- Entspricht dem EPA Green PC Standard: Stromverbrauch unter 30 Watt im Schlaf- Standby- oder Suspensionsmodus.

1-2 Produktinhalt

Dieses Produkt wird zusammen mit den folgenden Komponenten geliefert:

- Hauptplatine
- 9-Pin serielle Schnittstelle und 25-Pin Parallelschnittstellen-Bandkabel mit Anschlu_ (Figur 1-1)
- 25-Pin Bandkabel für serielle Schnittstelle mit Anschlu_ (Figur 1-2)
- 40-Pin IDE Anschlu_bandkabel (Figur 1-4)
- 34-Pin Bandkabel für Floppydiskettenlaufwerk (Figur 1-3)
- Benutzerhandbuch
- Diskette mit Flash EPROM und Bus Master IDE Treibern.



1-3 Konfiguration zur Aufrüstung des externen Cachespeichers

Aufrüsten der Cachegröße

Es gibt zwei eingebaute externe Cachespeicher, die von 0 KB bis 512 KB installiert werden können. Wenn Sie die Cachespeichergröße aufrüsten wollen, müssen Sie ein Cachemodul einfügen, das den COAST 3.x Spezifikationen auf der CELP Buchse entspricht. Justieren Sie die Einstellung der Cachespeichergröße (JP4, JP5) für das System.

Cache size	Cache on Board	Cache Module	JP4	JP5
256KB	32K*32 x 2	...	JP4	JP5
512KB	32K*32 x 2	32K*32 x 2	JP4	JP5

* Wenn Sie das Cachemodul selbst aufrüsten wollen, wenden Sie sich bitte an Ihren Händler, der detaillierte Information bieten kann.

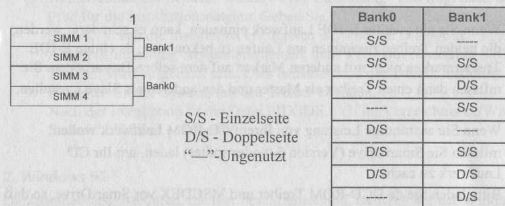
Erweitern des cachebaren DRAM-Umfangs

Zufügung eines extra Tag-RAM (32/16K*8-15) in die U14 Buchse, um den cachebaren DRAM-Umfang von 64MB bis 512MB zu erweitern.

Cache size	DRAM Cacheable Range	Cache On Board		Cache Module	
		Data RAM	Tag RAM	Data RAM	Tag RAM
256KB	64MB	32K*32x2	32/16K*8x1	---	---
	512MB	32K*32x2	32/16K*8x2	---	---
512KB	64MB	32K*32x2	32/16K*8x1	32K*32x2	---
	512MB	32K*32x2	32/16K*8x2	32K*32x2	---

1-4 Hauptspeicherkonfiguration für diese Platine.

Das DRAM systeminterne Speichersystem besteht aus Bank0 und Bank1, und die Speichergröße reicht von 8 bis 256 Megabytes. Sie müssen 2 DRAM Module installieren (selbe Größe und Geschwindigkeit, entweder einzel- oder doppelseitig) für jeweils eine Bank, egal welche Bank zuerst.



DRAM Daten:

DRAM Typ : FP (Fast Page) oder EDO (Extended Data Output) Typ DRAM
SIMM Modul Größe: einseitig - 4/16 MB
doppelseitig - 8/32 MB

DRAM Geschwindigkeit: 70-ns für Systemtakt 50 oder 60 MHz,
60-ns für Systemtakt 66 MHz.

Parität: Entweder paritätisch oder nicht- paritätisch.

1-5 Schnellinstallation für Bus Master/PIO IDE Treiber

! Diese Platine bietet zwei E-IDE (Enhanced IDE) Anschlüsse, welche beide je zwei Geräte aufnehmen können. Bitte stellen Sie den Primärkanal auf E-IDE Festplatten ein, und den Sekundärkanal auf ATAPI-kompatible Zusatzteile mit langsamen Durchlaß (wie ATAPI CD-ROM).

! Wenn Sie ein zweites E-IDE Laufwerk einbauen, kann es schwierig werden, die beiden Treiber zusammen ans Laufen zu bekommen, da einige E-IDE Treibermarken nicht mit anderen Marken auf dem selben Bus arbeiten. Sie müssen dann einen Treiber als Master und den anderen als Slave einstellen.

⊗ Wenn Sie anständige Leistung von Ihrem CD-ROM Laufwerk wollen, müssen Sie SmartDrive (Version 5.0 oder später) laden, um Ihr CD Laufwerk zu cachen.
Bitte laden Sie die DCD-ROM Treiber und MSCDEX vor SmartDrive, so daß die CD-ROM cachen kann.

1.Windows NT 3.5

- 1) Packen Sie die Treiber aus und kopieren Sie sie nach C:/PIIXIDE.
 1. Booten Sie Windows NT.
 2. Schieben Sie die "Bus Master IDE Drivers" Diskette in Laufwerk A oder B.
 3. Wählen Sie "Datei" unter Windows Programmmanager.
 4. Wählen Sie "Ausführen" in "Dateiliste".
 5. Unter "Ausführen", geben Sie A(oder B):/WinNT/setup.exe ein, dann Eingabe.
 6. Folgen Sie den Anweisungen auf dem Bildschirm, um die Treiberdateien in das Verzeichnis C:/PIIXIDE auszupacken
- 2) Installation der Bus Master Treiber
 1. Im Programmmanager, doppel-klicken Sie auf Windows NT Einstellung in der Hauptgruppe.
 2. Wählen Sie Optionen/Hinzufügen/Entfernen SCSI Adapter
 3. Klicken Sie Hinzufügen.
 4. Die Dialogbox "SCSI Adapter Option Wählen" erscheint, wählen Sie "Andere" (hierzu brauchen Sie eine Diskette vom Hardwarehersteller) von der Liste "Adapter".

5. Nun erscheint die Dialogbox "Diskette einschieben", geben Sie C:/PIIXIDE ein und klicken Sie OK.
6. Dann erscheint die Dialogbox "OEM Option Auswahl", wählen Sie "PIIX Bus Mastering IDE Treiber" und klicken Sie OK.
7. Nun erscheint die Dialogbox "SCSI Adapter Option auswählen", klicken Sie auf die Fläche "Installieren".
8. Nun erscheint der Schirm "Windows NT Einstellung" und fragt nach dem Pfad für die Installationsdateien. Geben Sie "C:/PIIXIDE" 3ein und klicken Sie OK. Wenn die Installation erfolgreich ist, wird die Dialogbox "SCSI Adapter Einstellung" wieder erscheinen, und "PIIX Bus Mastering IDE Treiber" wird aufgelistet sein. Dies bedeutet, daß der Treiber installiert ist.
9. Rebooten Sie Ihr System, um den Treiber zu laden.
Nach der Installation ist die Datei PIIXIDE.SYS im Verzeichnis C:/WinNT/Szstem32/Treiber gespeichert.

2. Windows 95

Die Installationsprozeduren, die hier beschrieben sind, basieren auf der Windows 95 Final Beta Version.

- 1) Schieben Sie die Diskette mit der Treiberdatei ins Laufwerk A (oder B).
- 2) Führen Sie das Installationsprogramm auf Laufwerk A (oder B) aus.
 1. Doppelklicken Sie auf "Mein Computer" auf der Desktopoberfläche.
 2. Doppelklicken Sie die Schaltfläche für Laufwerk A (oder B).
3. Führen Sie das Programm INSTALL.EXE in Laufwerk A (oder B) aus: A(B):/Win95
4. Folgen Sie den Anweisungen auf dem Bildschirm, um die Installation zu beenden.
- 3) Wenn das System Sie fragt, ob Sie rebooten möchten, wählen Sie "Ja".
- 4) Ein Neustart von Windows95 wird die Intel 82371SB PCI Controller entdecken und den primären sowie den sekundären Bus Master Treiber in Reihenfolge installieren.
- 5) Starten Sie Windows95 erneut.

⊗ Der IDEATAPI.MPD Treiber wird installiert und benutzt, so lange die PIIXIDE Oberfläche aktiv ist. Nach der Installation wird die Datei IDEATAPI.MPD im Verzeichnis C:/Windows95/System/IOSubsys.
Die IDEATAPI.INF Information auf der Installationsdiskette ist in die Windows95 Gerätedatenbank integriert, zur automatischen Unterstützung des PIIX Bus Master Treibers, und ist im Verzeichnis C:/Windows95/INF als eine der Dateien namens OEMx.INF (Namen variieren mit jeweiligem System)

3. OS/2 und WARP 3.x

- 1) Führen Sie das Installationsprogramm im Laufwerk A (oder B) aus: A(B):/OS2 INSTALL.EXE wird PIIXIDE.ADD aus dem Quellverzeichnis (A oder B:/OS2) ins Zielverzeichnis kopieren und zur Installation Änderungen in der CONFIG.SYS Datei vornehmen.
 - 2) Rebooten Sie das System.
- ⊗ Für mehr Information (wie Parameterzeilen, Re-installation von Treibern, Unterstützte Geräte etc.) sehen Sie bitte die README.TXT Datei auf der Diskette.

1-6 Rüsten Sie Ihr BIOS auf

Das System bietet Flash ROM, welches dem Benutzer erlaubt, das BIOS einer neueren Version aufzurüsten, ohne Komponenten auszuwechseln.

! Bitte entfernen Sie alle installierten Speichermanagementeinheiten (wie EMM386.EXE, QEMM.EXE etc.), bevor Sie diese Programm ausführen.

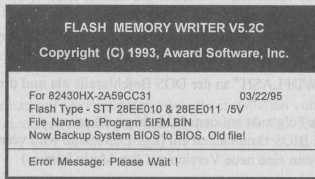
1. Geben Sie "AWDFLASH" an der DOS Befehlszeile ein und drücken Sie Eingabe.
2. Sie werden das Folgende auf dem Bildschirm sehen:
3. Geben Sie den BIOS Dateinamen ein (Der Dateiname wird vom Händler ausgegeben, wenn eine neue Version auf den Markt kommt).

FLASH MEMORY WRITER V5.2C	
Copyright (C) 1993, Award Software, Inc.	
For 82430HX-2A59CC31	03/22/95
Flash Type - STT 28EE010 & 28EE011 /5V	
File Name to Program:	
Error Message:	

4. Falls Sie die alten BIOS Daten nicht auf Diskette speichern wollen, geben Sie bitte N ein.

FLASH MEMORY WRITER V5.2C	
Copyright (C) 1993, Award Software, Inc.	
For 82430HX-2A59CC31	03/22/95
Flash Type - STT 28EE010 & 28EE011 /5V	
File Name to Program 5IFM.BIN	
Error Message: Do You Want To Save BIOS (Y/N)	

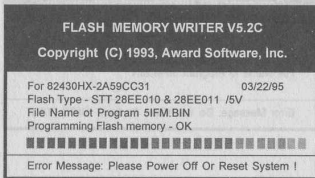
Falls Sie die alten BIOS Daten auf Diskette speichern wollen, geben Sie bitte J ein.



5. Geben Sie J ein, um das Programm zu starten.



6. Wenn das Programm beendet ist, startet das System von neuem.



1-7 DMI Arbeitsprogramm

DMI (Desktop Management Interface) ist eine neue Methode, Computer in einem Firmennetzwerk zu managen. Der Hauptteil von DMI ist die MIFD (Management Information Format Database). Diese Datenbank enthält alle Information über das Computersystem und seine Bestandteile. Mit DMI hat ein Systembetreiber Zugang zu Typen, Fähigkeiten, Betriebsstatus, Installationsdaten und andere Information über die Systemkomponenten.

Wir unterstützen DMI Funktionen im BIOS und bieten ein DMI Arbeitsprogramm, um eine MIFD Datei aufrecht zu erhalten.

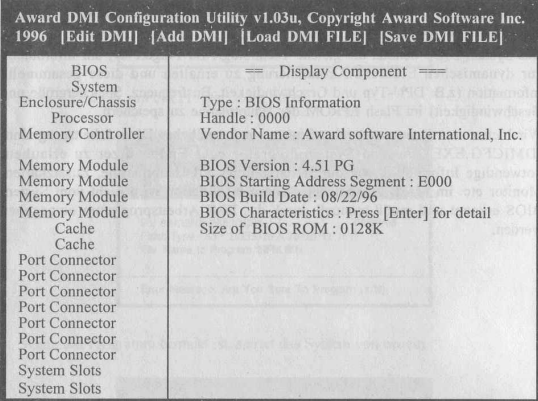
Das System BIOS benutzt die gleiche Technologie für Plug&Play, um Information zur dynamischen Echtzeits-Aktualisierung zu erhalten und diese gesammelte Information (z.B. DPU-Typ und Geschwindigkeit, Busfrequenz, Speichergröße und Geschwindigkeit) im Flash EPROM der Hauptplatine zu speichern.

Wir bieten dem Benutzer darüber hinaus ein freundliches DMI Arbeitsprogramm (DMICFG.EXE), um dem Systemintegrator oder Endbenutzer zu erlauben, notwendige Information wie die Seriennummer auf Hauptplatine, Zusatzkarten, Monitor etc. im MIFD zu speichern. Diese Information wird nicht vom System BIOS erkannt und mußß manuell durch das DMI Arbeitsprogramm eingegeben werden.

Das DMICFG.EXE (DMI Konfigurationsprogramm zur Modifikation und Übersicht des MIFD) ist auf der Treiberdiskette enthalten, die Ihrer Hauptplatine beiliegt.

Bitte entfernen (oder umbenennen) Sie alle Speichermanagementprogramme (we z.B. EMM386.EXE, QEMM.EXE etc.) in der CONFIG.SYS Datei, bevor Sie dieses Programm laufen lassen.

Geben Sie A:DMICFG ein, und das Folgende wird auf dem Bildschirm erscheinen:



-Move cursor Enter-Accept DEL-Delete ESC-Abort&Exit

Bewegen Sie den Cursor mit den ← (Pfeilen, um die Artikel des oberen Menüs zu bewegen, und die ↑ (Pfeile, um zwischen den Artikeln auf dem linken Menü zu wechseln. Der untere Rand des Bildschirms zeigt die verfügbaren Tasten für jeden Bildschirm. Drücken Sie EINGABE am Menüartikel, um in den rechten Bearbeitungsschirm zu wechseln.

Nachdem Sie Änderungen vorgenommen haben, drücken Sie F10, um die Daten im Flash ROM zu speichern.

Appendix I

On Board I/O Address & IRQ Maps

System Resource	IRQ	I/O Address
1. Timer	IRQ0	040~043
2. Keyboard	IRQ1	060~064
3. Programmable INT Controller	IRQ2	0020~0021, 00A0~00A1
4. COM2(B)	IRQ3	2F8~2FF
5. COM1(A)	IRQ4	3F8~3FF
6. Floppy	IRQ6	3F0~3F7
7. LPT1	IRQ7	378~37F
8. Real Time Clock	IRQ8	070~071
9. PS/2 Mouse	IRQ12	
10. Math coprocessor	IRQ13	0F0~0FF
11. IDE 1	IRQ14	1F0~1F7
12. IDE 2	IRQ15	170~177

⚠ IRQ 5, 9, 10 and 11 will be available for other interface card.